Statement of Basis

PERMITTEE:	United States General Services Administration
FACILITY:	Denver Federal Center (DFC) Municipal Separate Storm Sewer System (MS4)
PERMIT NO.:	CO-R042004
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Facility Background Information:

The DFC is located on part of the site of the former Denver Ordnance Plant within the City of Lakewood, Colorado in the SE ¼ of Section 9, T 4S, R 69W. This plant was built and operated by the U.S. Government in the early 1940s for the production of small arms ammunition. A number of ammunition manufacturing buildings still remain on the DFC property and have been converted for use as office, laboratory, and storage space.

After World War II, the Denver Ordnance Plant site became Federal surplus property transferred to the General Services Administration (GSA), and was converted into space for Federal agencies. Many of the original buildings were renovated during the late 1940s and early 1950s to accommodate the new uses.

The DFC is home to about 6,000 employees, most of which are employed by the federal government. The DFC encompasses an area of about 670 acres (2.7 km^2) and has 90 buildings comprising over 4,000,000 square feet (400,000 m^2) of office, warehouse, lab and special use space. There are 26 different Federal agencies on-site, making it one of the largest concentrations of federal agencies outside of Washington, DC. The major employers at the Denver Federal Center include the United States Department of the Interior (and its Bureau of Land Management, Bureau of Reclamation, and United States Geological Survey) and the GSA.

Prior to the issuance of this permit, stormwater discharges from the DFC MS4 were regulated under EPA's General Permit for Storm Water Discharges from Federal Facility Small Municipal Separate Storm Sewer Systems in Colorado (COR42000F). This permit was issued on June 23, 2003 and expired on June 22, 2008. This general permit was not reissued. The eight facilities covered under the general permit have been or will be issued individual permits for discharges from their MS4s. This approach is being taken so that terms specific to the operations, industrial

activities, and receiving water conditions of each facility can be included in each individual permit. It is believed that this approach will result in a permit with more streamlined conditions specifically tailored to the goal of reducing pollutant loading in stormwater runoff.

As part of the process of issuing an individual permit for stormwater discharges from the DFC MS4, representatives from EPA Region 8 conducted a facility audit of the MS4 program at DFC. The audit team reviewed contracts, regulations, annual reports from the previous permit, and facility operating procedures. Oversight inspections of industrial activities and interviews of program staff were also performed. A summary of the significant findings from this audit are as follows:

- The DFC maintains an adequate stormwater program, under which training is provided to staff and tenants, and there are several well-documented procedures in place to address potential spills and contamination from reaching receiving waters.

- The centerpiece of environmental compliance and performance at the DFC is the Environmental Management System (EMS). This EMS is nationally recognized and works in conjunction with sustainable design guidelines which are being utilized to meet the mission of becoming the "most sustainable campus in the nation by 2020."

- Management of soils is a significant issue at the Federal Center as there is asbestos contamination present. Excavated soils are covered prior to testing and potential disposal as specified in the dig permit. The dig permit process is a very well known and is routinely applied. Therefore, the EMS, in combination with the dig permit, provide excellent tools through which all aspects of the stormwater program can be managed.

- The DFC and part of the surrounding areas are in the process of being re-developed. Currently, several areas upstream of the Federal Center which are under re-development, do not have stormwater controls. When these areas are re-developed, there will be a great opportunity to minimize peak-flow discharges and re-define the character and quality of McIntyre Gulch.

- Based on interviews and review of documents during the audit, it was apparent that McIntyre Gulch is currently not thought of and is not managed as an amenity. During a meeting with Lakewood Engineering Staff, plans to change the geometry of the stream to make it a more effective stormwater conveyance were reviewed. These plans would compromise the quality of the stream for aquatic and riparian life, since they would reduce vegetative cover and create a trapezoidal channel for stormwater conveyance which does not provide the heterogeneity necessary for maintaining the diversity of aquatic and riparian life which is normal in a more natural setting.

Recommendations from the facility audit were used to develop specific permit conditions for DFC. This audit is available as part of the administrative record for this permit. A summary of the recommendations from the DFC MS4 audit is as follows:

- DFC staff should build upon the success provided through the EMS and include all applicable requirements as referenced in this permit into the EMS as action items.

- The EMS and dig permit should contain the appropriate requirements and procedures related to the implementation of the Energy and Independence and Security Act of 2007, which requires new federal projects to meet pre-development hydrology.

- A vision for McIntyre Gulch needs to be created whereby McIntyre Gulch is viewed as an amenity in the sustainable design guidelines for the DFC. This should include methods by which the riparian corridor along McIntyre Gulch and the associated wetlands can be enhanced.

Each of these recommendations, as well as more specific findings from the facility MS4 audit are included as permit conditions in this permit. These supplement the previous conditions laid out in EPA's General Permit for Storm Water Discharges from Federal Facility Small Municipal Separate Storm Sewer Systems in Colorado (COR42000F).

Receiving Waters:

The DFC lies within the larger South Platte River watershed. Specifically, discharges at the DFC enter McIntyre Gulch, a perennial waterbody which drains to the South Platte River downstream of the facility boundary. Given the history of the DFC as a large-scale ordnance producer in the past, there are several plumes of contamination, one of which is permitted to discharge by the EPA and includes limitations for 1,1,1-trichloroethane, 1,1-dichloroethene, and 1,1-dichloroethane released by a former leaking underground storage tank. However, as the DFC gets re-developed these sources of contamination are being minimized over time, and McIntyre Gulch, with its perennial flows and minimal upstream areas for potential impacts, has the potential to become a valuable amenity to the DFC. Currently, McIntyre Gulch is not exceeding water quality standards as applied by the State of Colorado.

Under Colorado Regulation 5CCR 1002-38, *Classification and Numeric Standards for South Platte River Basin, Laramie River Basin, Republican River Basin, Smoky Hill River Basin*, McIntyre Gulch is given the stream classification number COSPUS16c, and is described as:

"All tributaries to the South Platte River, including all lakes, reservoirs and wetlands, from the outlet of Chatfield Reservoir, to a point immediately below the confluence with Big Dry Creek, except for specific listings in the subbasins of the South Platte River, and in Segments 16a, 16b, 16d, 16e, 16f, 16g, 17a, 17b, and 17c."

This segment (COSPUS16c) is use-protected and has water quality standards for Aquatic Life Warm Water Class 2, Recreation 1a, and Agriculture. "Use-protected" means "waters that the Commission has determined do not warrant the special protection provided by the outstanding waters designation or the antidegradation review process."

The water quality standards for the receiving water are described in both Colorado Regulation No. 38, *Classifications and Numeric Standards South Platte River Basin, Laramie River Basin, Republican River Basin, Smoky Hill River Basin* (5CCR 1002-38) and Colorado Regulation No. 31, *Basic Standards and Methodologies for Surface Water (5 CCR 1002-31).*

Endangered Species

Coverage under this permit is available only if the stormwater discharges, allowable non-storm water discharges, and discharge-related activities are not likely to:

- Jeopardize the continued existence of any species that are listed as endangered or threatened ("listed") under the ESA or result in the adverse modification or destruction of habitat that is designated as critical under the ESA ("critical habitat"); or

- Cause a prohibited "take" of endangered or threatened species (as defined under Section 3 of the Endangered Species Act and 50 CFR 17.3), unless such takes are authorized under sections 7 or 10 of the Endangered Species Act.

"Discharge-related activities" include activities which cause, contribute to, or result in stormwater point source pollutant discharges and measures to control stormwater discharges; including the citing, construction, and operation of Best Management Practices (BMPs) to control, reduce, or prevent stormwater pollution.

Upon its initial certification for MS4 permit coverage in 2003, DFC, working with the U.S. Fish and Wild Life Service (FWS) and the State of Colorado, certified in its Notice of Intent (NOI) application, that stormwater discharges and discharge-related activities from the DFC MS4 would not jeopardize the continued existence of any species that are listed as endangered or threatened ("listed") under the ESA or result in the adverse modification or destruction of habitat that is designated as critical under the ESA ("critical habitat"). DFC continues to work with FWS and the State to update its endangered species lists and is required to evaluate the potential affects of every new construction project through a formal impact analysis. These analyses require that all new projects are designed and maintained such that the existence of listed species cannot be jeopardized and critical habitat cannot be adversely modified or destroyed.

No species that are federally-listed as endangered or threatened ("listed") under the Endangered Species Act (ESA) have been found or are expected to be present on DFC. According to the U.S. Fish & Wildlife Service there is no critical habitat designated on or near DFC. Therefore, plans

to address impacts from stormwater discharges at the DFC are not expected to affect endangered or threatened species.

Historic Properties

Coverage under this permit is available only if the stormwater discharges, allowable non-stormwater discharges, and discharge-related activities are:

- Not likely to affect a property that is listed or is eligible for listing on the National Register of Historic Places as maintained by the Secretary of the Interior; or

- In compliance with a written agreement with the State Historic Preservation Officer (SHPO) that outlines all measures the MS4 operator will undertake to mitigate or prevent adverse effect to the historic property.

Upon its initial certification for MS4 permit coverage in 2003, DFC, working with State Historic Preservation Officers (SHPOs), certified in its Notice of Intent (NOI) application, that stormwater discharges and discharge-related activities from the DFC MS4 would not affect a property that is listed or is eligible for listing on the National Register of Historic Places as maintained by the Secretary of the Interior. Spurred by World War II, the U.S. Government purchased what is the DFC property in the early 1940s, and developed it into the Denver Ordnance Plant. Other buildings were built after the war was over. Currently, most of the buildings constructed on the DFC have been renovated, thus making them ineligible for National Historic designation. Only two buildings have maintained enough structural and physical integrity to meet the criteria for consideration for National Register designation: the original Office of Civil Defense Building adjacent to Building 50, and Building 710. Both of these buildings are underground. They are well clear of, and would not be affected by, DFC's stormwater discharges, allowable non-stormwater discharges, and discharge-related activities.

Technology Based Effluent Limits

NPDES permit coverage for these discharges is required in accordance with the 1987 Amendments to the Clean Water Act (CWA) and final EPA regulations for Phase II stormwater discharges (64 FR 68722, December 8, 1999). The 1987 Water Quality Act (WQA) amended the Clean Water Act (CWA) by adding section 402(p) which requires that NPDES permits be issued for various categories of stormwater discharges. Section 402(p)(2) requires permits for the following five categories of stormwater discharges:

1. Discharges permitted prior to February 4, 1987;
2. Discharges associated with industrial activity;
3. Discharges from large municipal separate storm sewer systems (MS4s) (systems serving a population of 250,000 or more);

4. Discharges from medium MS4s (systems serving a population of 100,000 or more, but less than 250,000); and
5. Discharges judged by the permitting authority to be significant sources of pollutants or which contribute to a violation of a water quality standard.

The five categories listed above are generally referred to as Phase I of the stormwater program. In Colorado, Phase I MS4 permits have been issued by the Colorado Department of Public Health and Environment (CDPHE) to the cities of Denver, Lakewood, Aurora, Colorado Springs, and the highway system operated by the Colorado Department of Transportation within those cities. In Colorado, NPDES permitting authority for Federal Facilities has not been delegated to CDPHE. Therefore, EPA maintains NPDES primacy for those facilities.

Phase II stormwater regulations were promulgated by EPA on December 8, 1999 (64 FR 68722). These regulations set forth the additional categories of discharges to be permitted and the requirements of the program. The additional stormwater discharges to be permitted include:

1. Small MS4s (DFC is considered a small Phase II MS4);
2. Small construction sites (i.e., sites which disturb one to five acres); and
3. Industrial facilities owned or operated by small municipalities which were temporarily exempted from the Phase I requirements in accordance with the provisions of the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991.

The 1987 CWA amendments clarified the fact that industrial storm water discharges are subject to the best available technology (BAT) / best conventional technology (BCT) requirements of the CWA, and applicable water quality standards. For MS4s, the CWA specifies a new technology-related level of control for pollutants in the discharges - control to the maximum extent practicable (MEP). However, the CWA is silent on the issue of compliance with water quality standards for MS4 discharges. In September 1999, the Ninth Circuit Court addressed this issue and ruled that water quality standards compliance by MS4s is discretionary on the part of the permitting authority (Defenders of Wildlife v. Browner, No. 98-71080).

The technology based effluent limits for this permit are largely based on the implementation of a Stormwater Management Plan (SWMP) which addresses six minimum measures. The SWMP and additional measures included in this permit are the means through which DFC complies with the CWA's requirement to control pollutants in the discharges to the maximum extent practicable (MEP) and comply with the water quality related provisions of the CWA. EPA considers MEP to be an iterative process in which an initial SWMP is proposed and then periodically upgraded as new BMPs are developed or new information becomes available concerning the effectiveness of existing BMPs (64 FR 68754). The Phase II regulations at 40 CFR §122.34 require the following six minimum pollution control measures to be included in the SWMP:

1. Public Education and Outreach on Storm Water Impacts;

2. Public Involvement/Participation;
3. Illicit Discharge Detection and Elimination;
4. Construction Site Storm Water Runoff Control;
5. Post-Construction Storm Water Management in New Development and Redevelopment; and
6. Pollution Prevention/Good Housekeeping for Municipal Operations.

The regulations specify required elements for each minimum measure and also include guidance which provides additional information recommended for an adequate program. The permit includes nearly verbatim the required program elements for each minimum measure. The permit also includes a number of additional requirements for each minimum measure which were derived from the recommendations of the regulations and from findings recognized during the facility audit which could affect the implementation of an effective stormwater program.

A summary of technology based effluent limits and a rationale for these limits follows:

General Requirements

- DFC must continue to develop, implement, and enforce a SWMP. The SWMP must include management practices, control techniques, system design, engineering methods, and other provisions the permittee or EPA determines appropriate for the control of pollutants in discharges from the MS4;

- DFC must fully implement the SWMP; including meeting its measurable goals. Implementation should take place in approximate equal intervals throughout the permit and progress will be tracked in the annual report;

- The SWMP must include each of the minimum control measures; and

- DFC must conduct an annual review of the SWMP in conjunction with preparation of the annual report.

Fundamental to these general requirements is a need to develop a Stormwater Management Plan. The purpose of this SWMP is to meet the goals of this permit and to prevent deleterious effects to downstream resources from stormwater runoff. These goals should not be mutually exclusive. If they start to become mutually exclusive, the permit should be re-evaluated upon reissuance to incorporate more effective conditions.

Nowhere in the permit is there a specific requirement to create a formal stormwater management plan. This was not written into the permit as there is a concern that a formal stormwater management plan could be contracted out and written into a formal document which may not always be kept current. DFC is encouraged to develop a stormwater management plan or aggregation of products (e.g., a database which documents existing activities with reporting

functions) to provide a place where both EPA and stormwater management personnel at the DFC can show what activities are taking place to prevent deleterious effects to downstream water resources from stormwater runoff. The most important goal is that the stormwater management plan is effective and necessary activities are taking place. A static document which meets all of the permit conditions when developed, but does not allow for changes to the program to be readily addressed, does not meet that goal.

It is expected that the SWMP should be an evolving program which changes over time to include new Best Management Practices (BMPs), contracting mechanisms, and training protocols. Outside of the annual report requirements in this permit, how DFC chooses to document the activities of this program is best left to their own judgment.

Public Education and Outreach on Stormwater Impacts

There are three target audiences for public education and outreach at the DFC:

1. Contracting Officer Representatives (CORs);
2. Project Managers (PMs); and
3. Building and Property Managers.

The education and training aspects of the DFC stormwater management plan have helped achieve zero non-planned discharges to the storm sewer. This is one of the measures by which the EMS defines success for stormwater management. The continued achievement of no non-planned discharges is the DFCs method of evaluating the success of the program.

GSA personnel and contractors receive, via E-mail, the updated DFC Stormwater Brochure annually. Tenants are not educated regularly unless there is an incident. Incident-based training was provided to food service personnel in response to illicit discharges. The training included targeted education documented through the EMS.

All DFC tenants are Federal Agencies and so are governed by the same laws and regulations as GSA, including the Clean Water Act and the requirement to have their own Environmental Management System (EMS), which would direct their stormwater management. There are some standing tenant committees, and most tenants have a central point of contact.

Stormwater awareness brochures were created for years 2006-2007, 2008-2009, and a new brochure is being created for 2010. In addition, public education and outreach posters have been provided to building managers which note spill response requirements and procedures. There are research labs at the Federal Center. It is important that these educational materials be provided to the necessary personnel at research labs so that they may be made aware of procedures that are in place to prevent contamination from spills of oil and hazardous wastes. This applies to the Army Reserve site as well. Despite the fact that it is operated separately from the DFC, there is concern that not providing the Army Reserve with information on how to deal with contaminated soils and illicit discharges could result in contamination or pollutants being discharged to McIntyre

Gulch.

The Environmental Management System at the DFC is a key component to compliance with the stormwater permit. The EMS covers all applicable environmental regulations, including stormwater. Part of the EMS includes training. At the DFC, the Environmental Programs Group (EPG) is responsible for implementing the EMS. The last training provided to the EPG was in 2006 and covered all areas of compliance with environmental regulations, including stormwater.

Therefore, as part of any evaluation or audit from EPA, a key component should be reviewing the EMS. Also, when changes are made to the EMS, EPA should be made aware of these where it may affect compliance with permit terms and conditions.

Permit conditions require that the DFC must:

- Establish a central point of contact for each tenant at the DFC for the purposes of communication and training. This should include both the research labs at the DFC and the Army Reserve center;

- Provide annual training to all building managers and tenant points of contact related to the applicable requirements of the EMS, the dig permit, and how to recognize and report spills and illicit discharges. This training may be incorporated into a larger program to educate tenants and building managers related to environmental compliance or environmental awareness;

- Create and distribute a stormwater awareness brochure with information specific to the Federal Center and include contact information on the brochure for reporting illicit discharges, spills, and/or stormwater concerns;

- Continue an education and outreach program for the DFC which targets project Contracting Office Representatives (CORs), Project Managers, Building/Property Managers, and environmental staff;

- Document education and outreach activities in the EMS or other appropriate tracking mechanism (e.g., database or SWMP), including documents created for distribution and a training schedule which notes the dates that trainings occurred and the target audiences reached; and

- Within four years of the effective date of this permit, provide and document training to all planning staff and contracting officers to learn about Low Impact Development (LID) practices, green infrastructure practices, and to communicate the expectations for meeting pre-development hydrology within the context of the Energy and Independence Security Act of 2007.

The permit requires additional training on the topic of Low Impact Development (LID). This additional requirement is included in the permit because there is a new requirement in the permit to design, build, and maintain newly developed impervious surfaces in a manner which mimics pre-development hydrology. For this requirement to be met, it will be necessary for all the people involved in overseeing contracts, developing contracts, and maintaining permanent stormwater control features to have a basic understanding of why and how to implement LID practices.

Public Involvement and Participation

There are several mechanisms by which employees are involved in decision making processes which can impact environmental resources. It is not necessary to create new internal processes for environmental review. However, documenting the existing processes to ensure that they meet the goals of this permit and educating employees and contracting officials to recognize the goals of the MS4 program will be critical to ensuring that pollutants in stormwater runoff are minimized.

There are several mechanism by which the DFC communicates and works with EPA and the City of Lakewood. During the facility audit, it was not recognized that public participation efforts needed to be prescribed outside of required public notice and participation which is mandated under the Clean Water Act and other environmental statutes. However, when significant planning documents are created and significant modifications to the facility EMS are made, EPA, the State of Colorado, and the City of Lakewood should be informed as appropriate.

Permit conditions require that DFC must:

- Maintain a log of public participation and outreach activities performed using an appropriate mechanism such as the facility EMS or a Stormwater Management Plan (SWMP); and

- When significant additions or modifications are made to the federal center EMS which could impact compliance with the terms of this permit, provide EPA staff the opportunity to review those modifications or additions as necessary.

Illicit Discharge Detection and Elimination

An illicit discharge is any discharge to a MS4 that is not composed entirely of stormwater and is not authorized by this permit. The permit authorizes several non-stormwater discharges and provides requirements to detect, eliminate, and prevent illicit discharges.

Legal authority to prohibit illicit discharges and illegal dumping to the MS4 at the DFC includes State of Colorado Consent Orders, Federal Facilities Compliance Agreement with the EPA, and

the Clean Water Act. There are no exemptions for these authorities.

Field screening is not a regular planned activity at the DFC. It is usually performed in response to a specific project (e.g., inspecting plumbing connections, dewatering associated with construction) or in response to a report of a discharge of water from an unknown source. When an illicit discharge is reported, the EPG is notified, and the source is investigated immediately. Building, Property and Project Managers all carry updated Emergency Spill contact cards.

There is a Spill Prevention Control & Countermeasures (SPCC) plan for the DFC. Spill response kits are available for use by the Environmental Team. This is the protocol for spills or line breaks, and it includes the ability to contract for Emergency Response Services.

Hazardous waste training has been provided to the contractor through training manuals, workbooks, and qualified off-site instruction classes for proper identification, containment, safety, and cleanup procedures when suspected asbestos is found. Certificates of training, licenses, and permits are kept current and are provided by the contractor to GSA upon completion of this training. Documentation is kept on file.

Training consists of hazardous waste communications to identify hazardous waste and safety requirements in handling hazardous waste. In addition, the contract defines contractor responsibilities, procedures, disposal, and record keeping requirements when hazardous wastes are found.

To reduce the presence of unused or expired chemicals, a chemical roundup is also performed once per year and all building managers are notified.

Given the presence of contaminated groundwater plumes at the DFC, discharging contaminated dewatering without coverage under a separate NPDES permit should be specifically addressed as an illicit discharge with the potential to contaminate McIntyre Gulch in any outreach materials, training, or reporting databases.

Permit conditions require that the DFC must:

- Provide a mechanism for reporting of illicit discharges and provide this number on appropriate outreach materials;

- Provide emergency spill contact cards to all building managers, property managers, and project managers;

- Maintain an Illicit Discharge Detection and Elimination (IDDE) database for the purpose of recognizing trends in the location and type of illicit discharges which occur at the DFC. This may be included into a larger system such as the facility EMS;

- Develop a protocol for addressing construction dewatering and the options available for permitting discharges of excavated groundwater and communicate the terms of this protocol to the EPG and contract office representatives. A sample dewatering plan should be maintained at the DFC for reference by construction contractors, so that expectations on the frequency and protocols for testing of dewatering discharges can be more easily communicated; and

- Conduct dry weather screening annually at each of the major outfalls for the presence of non-stormwater discharges, to determine if there are significant erosion issues which need to be addressed.

Construction Site Stormwater Runoff Control

There are not many large projects at the Federal Center, so there isn't a template process for review of projects by stormwater managers. However, review is generally not pre-bid and is done after the design process by the stormwater manager. The architect/engineer is relied on post-award to execute the design for BMPs. The City of Lakewood stormwater criteria manual is used for construction BMP specifications.

Most projects at the DFC are design-bid-build, which allows for sufficient review of permit terms and proposed BMPs by the EPG and contract officer representatives. The current utilities infrastructure project (UIP) is design-build, but that is not the norm at the Federal Center. The UIP was design-build for the purpose of spending available ARRA funds more quickly.

Two tools which are very effective in preventing pollution from reaching receiving waters are the dig permit and the EMS. The EPG provided initial training on dig permit/EMS requirements and procedures when the dig permit process began several years ago. Guidance has also been provided on a case-by-case basis by the EPG as the need arises for clarification and evaluation of soils, etc. All relevant contracts contain language requiring compliance with NPDES permit requirements.

Management of soils is a significant issue at the DFC as there is asbestos contamination present. Excavated soils are covered prior to testing and potential disposal as specified in the dig permit.

There is a process for stormwater program managers to effectively provide input regarding contract performance, but this is an informal process. Stop-work orders can and have been used, but this is not commonplace. There is not significant training or oversight from the DFC specifically related to compliance with stormwater permits. However, inspections of construction projects are performed daily by the City of Lakewood.

There is not an extensive formal process for review and enforcement of stormwater permit requirements on construction sites. The DFC does not need to create a significant internal process given the limited number of large projects currently occurring on site, but there should be

some sort of process created to deal with stormwater non-compliance, and in that process, EPA could be relied on as an enforcement authority.

Permit conditions require that the DFC must:

- Maintain a list of policies and procedures which can be used to enforce construction site compliance within the DFC. This may include working with the City of Lakewood and utilizing the EPA for enforcement of construction stormwater violations;

- Create a general plan for inspection and enforcement of construction site stormwater BMPs which specifies any appropriate sanctions, stop work orders, penalties, enforcement procedures and inspection schedules.

- The scope of work for all construction projects shall be reviewed by environmental staff (e.g., the EPG) to assess whether proposed BMPs are realistic and to ensure compliance with the stormwater construction permit requirements for developing a stormwater pollution prevention plan;

- Provide training to contracting office representatives which perform daily inspections on a biannual basis regarding the maintenance and installation of Best Management Practices for construction stormwater control and the terms of the construction stormwater permit;

- Maintain and utilize a closure process whereby environmental staff (e.g., the EPG) or contracting office representatives who are knowledgeable and have expertise in the area of stormwater management evaluate whether 70% vegetative cover has been met at all areas of the site prior to closing out construction stormwater permits. This process could be incorporated into the dig permit process; and

- Consider requiring emergency response BMPs or other equipment available in the back of response trucks to prevent the flow of sediment laden or contaminated water from reaching storm drains, since the DFC plays a role as a first responder in dealing with stormwater emergencies.

Post-construction Stormwater Management for New Development and Redevelopment

The DFC and part of the surrounding areas are in the process of being re-developed. When these areas are re-developed, there will be a great opportunity to minimize peak-flow discharges and re-define the character and quality of McIntyre Gulch.

McIntyre Gulch is currently not thought of and is not managed as an amenity. During a meeting with Lakewood Engineering Staff, plans to change the geometry of the stream to make it a more effective stormwater conveyance were reviewed. These plans would compromise the quality of the stream for aquatic and riparian life, since they would reduce vegetative cover and create a

trapezoidal channel for stormwater conveyance which does not provide the heterogeneity necessary for maintaining the diversity of aquatic and riparian life which is normal in a more natural setting.

There are existing stormwater BMPs such as detention ponds at the DFC. As-builts and maintenance specifications do not exist for these. These should be cataloged into a management system, so that inspections and repairs are made sufficient to retain the designed hydraulic capacity.

There is a process at the DFC for reviewing contracts as they relate to post-construction hydrology, though this is an informal process, and there are not facility-specific regulations regarding stormwater permitting for construction sites. However, other regulations are relied on for stormwater requirements such as those provided by the City of Lakewood. It will not be necessary to amend facility regulations to include a specific post-construction criterion, but contracts will need to be reviewed in the context of EISA requirements to meet pre-development hydrology.

The "dig permit" is relied on heavily at the DFC. For projects that are not very large, the DFC Service Center is relied on for contracting, and the process by which stormwater requirements are included into projects is through the dig permit. The dig permit is very strictly adhered to as there is a RCRA Consent Order which specifies the implementation of a materials handling plan related to the excavation and use of fill due to the presence of asbestos contaminated soils. No excavations occur without first getting a dig permit and analyzing soils for potential asbestos contamination. Thus, the dig permit provides an ideal place to include post-construction requirements in addition to in the contract, where post-construction controls designed to mimic pre-development hydrology will need to be funded pre-award.

The EMS defines what goes into contracts and is incident based. Therefore post-construction BMP maintenance could also be addressed in terms of incidents in the federal center EMS. The EMS should include information related to maintaining pre-development hydrology. Where possible, the EMS should include goals for how receiving waters are supposed to be managed and maintained at the Federal Center.

A GIS system could also be created to manage the location of stormwater BMPs, but there is not a high degree of complexity of stormwater management structures to be managed at this point and time, so management of a GIS system for that purpose may not provide significant return on the effort.

At the closeout of construction projects, there is a "contract closure" process. There is an O/M manual that is included for new construction, but stormwater is not usually a part of that manual. The post-construction BMPs are not tracked, but there is a Facilities Maintenance Plan which does include maintenance of new structures.

Permit conditions require that the DFC must:

- Include in contracts and requests for funding (e.g., a "prospective package") a requirement to design for and provide funding for the installation of permanent stormwater control measures designed to retain, detain, infiltrate or treat runoff from newly developed impervious surfaces in a manner which mimics pre-development hydrology for all new projects and redevelopment which disturb greater than or equal to 5,000 square feet. This should include a line item for costs associated with the installation and design of permanent stormwater control measures along with a specific performance specification (i.e., maintaining pre-development hydrology) or BMP specification;

- Include or reference in the dig permit, applicable requirements and available guidance to design post-construction stormwater features or low impact development practices designed to mimic pre-development hydrology;

- Incorporate a procedure such that closure of contracts includes the handoff of maintenance specifications and as-built drawings for post-construction BMPs; and

- Develop and maintain a system to track the location, design, and maintenance specifications of permanent stormwater features. This could be incorporated into a GIS system or other internal process such as the Facilities Maintenance Plan or EMS.

Pollution Prevention and Good Housekeeping for Municipal Operations

For the purposes of this permit, "municipal operations" at the DFC include grounds and facilities maintenance. There are minimal activities which could be considered industrial activities at the DFC. There are no fleet maintenance activities at the DFC; therefore the bulk of "industrial" permitting requirements would include day-to-day activities such as grounds maintenance.

Maintenance activities at the DFC include street and parking lot sweeping, grounds maintenance, herbicide/pesticide application, snow removal, and underground utility repairs. All of these activities are performed by on-site contractors. The Army Reserve has fleet maintenance activities as well. Industrial activities are not a large concern at the DFC since they are minimal. Where grounds maintenance activities do occur, such as at the Joppa Yard, these do not drain to McIntyre Gulch, and there are secondary controls in place.

Permit conditions require that the DFC must:

- Provide and document annual training for all grounds maintenance and facilities maintenance contractors on an annual basis covering the topics of stormwater runoff impacts and controls and the maintenance of onsite pollution control measures. These trainings can be provided to a single point of contract for each facility for further

distribution;

- Conduct an annual snow meeting at the beginning of each year to discuss strategies to prevent the misuse and over-application of chemical deicers;

- Conduct an annual street sweeping and storm sewer system maintenance meeting or training to discuss procedures for disposing of material and priorities/schedules for cleaning out stormwater BMPs and street sweeping;

- Consider deicing training if available to minimize the use of and runoff from chemical deicers and traction aggregates;

- Inventory the DFC for locations of all stormwater features such as detention basins, drop structures, and trash racks. Where these facilities are noted, provide a schedule for their inspection and procedures for when these need to be cleaned out and/or modified. Include these activities in maintenance contracts, specifications for maintenance of instream BMPs (sediment basins, drop structures, trash racks);

- Provide the grounds contractors or other parties responsible for pesticide and herbicide application with training related to the requirements for NPDES permitting (given the requirements in EPA's new pesticide application general permit) and in the area of chemical disposal and stormwater runoff at least once during the effective term of this permit;

- Track pesticide and herbicide records for each site for each chemical. Contractors should keep a daily log in a format which can be provided for assessment by the EPG or other entities if necessary;

- Evaluate the activities at the Army Reserve Base to determine whether industrial permitting is necessary; and

- Consider adding specifications for use in construction project re-vegetation or for use in training materials related to procedures related to the application of pesticides and herbicides. Such specifications would specify procedures for disposing of excess chemical residuals, procedures for storage and maintenance of herbicides and pesticides, maintenance of MSDS's for all herbicides/pesticides used, use of backflow protection systems to prevent contamination of domestic water sources, procedures for routing water and chemical residuals away from storm drains, and any applicable requirements as prescribed in the dig permit.

The SWMP and additional measures included in this permit are the means through which the DFC complies with the Clean Water Act requirement to control pollutants in the discharges to the maximum extent practicable (MEP) and comply with the water quality related provisions of

the CWA. It is expected that compliance with the conditions in this permit, including the technology based effluent limits, will result in discharges that are controlled as necessary to meet applicable water quality standards. Part 1.3.5 of the permit includes eligibility restrictions for discharges to water quality impaired waterbodies. As written in Part 1.3.5 of the permit, EPA will notify MS4 operators whose discharges are likely to cause or contribute to a water quality impairment, or whose discharges contribute directly or indirectly to a 303(d) listed waterbody. If EPA determines that discharges from the MS4 are causing or contributing to a water quality impairment, that MS4's SWMP must include a section describing how the program will control the discharge of the pollutants of concern and ensure discharges from the MS4 will not cause or contribute to instream exceedances of the water quality standards. This documentation must specifically identify measures and BMPs that will collectively control the discharge of the pollutants of concern.

Monitoring

The Phase II stormwater regulations at 40 CFR §122.34(g) require that small MS4s evaluate program compliance, the appropriateness of the BMPs in their SWMPs and progress towards meeting their measurable goals. Monitoring and assessment activities are included as part of each of the minimum measures of the permit. In addition, the DFC is required to implement a monitoring program which can be used to assess the effectiveness of the MS4 program as whole. The terms of the monitoring program are left open-ended so that the DFC can work with existing internal programs or external programs developed by City of Lakewood or the Urban Drainage and Flood Control District to leverage resources.

Permit conditions require that the DFC must:

- Not later than three years from the effective date of this permit, develop a program to evaluate the water quality in McIntyre Gulch, as it both enters and leaves the DFC. This program shall at a minimum include evaluations of streambank stabilization, and water quality; and

- The water quality monitoring program may include indicators such as chemical monitoring, assessment of macro invertebrates or other aquatic life, or watershed assessment of river stability and sediment supply, provided that the monitoring program provides meaningful data to evaluate the effectiveness of the stormwater management plan. The permittee is responsible for evaluating data for analysis of trends; and

- Provide a description of the water quality monitoring program description to EPA with the Annual Report for year 3 of this permit term. Programs will be assessed by EPA Region 8 to determine whether the program meets the goals of this permit and whether the data is being collected and reported in compliance with EPA test procedures approved under 40 CFR Part 136.

Master Planning

The DFC has developed sustainable design guidelines to meet its vision of becoming the "most sustainable campus in the nation by 2020." This includes several goals applicable to this permit such as zero emissions of stormwater and wastewater reuse, waste reduction, and chemical use reduction. Ideally, this document could also include plans for the vision of McIntyre Gulch. Where possible, every effort should be made to not only conserve the portions of McIntyre Gulch but improve the structure, habitat, and flow patterns to create a more sustainable wildlife and riparian community or organisms.

As part of the master planning efforts at the DFC, there needs to be a vision provided for McIntyre Gulch which outlines how it can be restored to a high functioning water body which serves as an amenity to the DFC. This could be similar to the process of creating the architectural design guidelines which are referenced in the sustainable design guide.

Permit conditions require that the DFC must:

- Develop a vision and/or design guidelines for McIntyre Gulch which define how it can be re-configured, conserved, and managed as a high quality receiving water and as an amenity for the DFC. This could include a vision for how to reconstruct channels to include meanders, drop structures, and to utilize and enhance the function of the existing wetlands. This could also include a vision of how to connect McIntyre Gulch to existing pedestrian corridors or to provide alternative access points so it could be utilized as a recreational amenity for the DFC if so desired.

Administrative Record

The administrative record for this permit may be obtained upon request by contacting Amy Clark at 303-312-7014 or clark.amy@epa.gov or by writing or E-mailing to the address listed below:

Donna Roberts
EPA Region 8
Mailcode: 8P-W-WW
1595 Wynkoop Street
Denver, CO 80202-1129
303-312-6371

_____

Amy Clark
Wastewater Unit
EPA Region 8
Drafted: August 27, 2010
Edited: June 21, 2011

Comments received and addressed below:

Response to Comments, GSA MS4 Permit (CO-R042004)

Comments were received from the Geosyntec Consultants on behalf of GSA. A summary of the comments and the responses to those comments are given below:

GSA had the following overall comments on the permit:

1. Comment:

GSA would like to request that the Permit be more specific in terms of the action items needed rather than be generic.

Response:

EPA has tried to be more specific with regards to action items, timeframes, and compliance deadlines.

2. Comment:

GSA would also like the Permit to specify the timeframes of when a particular action item that is required needs to be initiated and completed upon issuance of the Final Permit.

Response: See response to comment #1.

3. Comment:

GSA would also like to be aware of what standards would apply to storm water run-off or other inputs into stream waters on the DFC.

Response:

There are no numeric effluent limits associated this permit. At this time, GSA is only required to monitor and report the results to EPA. It is expected that compliance with the conditions in this permit, including the technology based effluent limits (implementation of the SWMP and the six minimum control measures), will result in discharges that are controlled as necessary to meet applicable water quality standards.

GSA had the following major comments on the permit:

4. Comment:

Regarding Part 1.3.2 of the permit, there is low contaminated groundwater infiltration entering the drainage system that eventually discharges to the McIntyre Gulch. This infiltration may be difficult to near impractical to contain site-wide. There are known groundwater plumes that currently reach the McIntyre Gulch. GSA requests that low contamination groundwater infiltration be included in the allowable non stormwater discharges. These are both sources from within the DFC (generally VOCs) and from properties upstream/up-gradient of the DFC (generally PAHs).

Response:

EPA has added a groundwater infiltration monitoring requirement to the permit (see Part 1.3.3) to determine the extent of the groundwater infiltration into the MS4 and to determine if the groundwater is contaminated. GSA shall report this data to EPA on an annual basis for entire permit term.

5. Comment:

Regarding Part 2.6.1 of the permit, the DFC is required to meet the pre-development hydrology requirements under the Energy Independence and Security Act, Section 438 (EISA) for 5,000 square feet of new or redevelopment. However, the draft permit language requires meeting pre-development hydrology for one acre or more of new development. DFC would request clarification on the basis of this requirement that is different from EISA. Also, the pre-development should be defined as the condition when GSA took ownership of the property and not the conditions prior to that i.e. prairie land. Also, the draft permit language does not specify the requirements for redevelopment. GSA requests that redevelopment must be sufficiently defined if the permit language is revised to include requirements for redevelopment.

Response:

At GSA's requests, EPA has modified the permit to require pre-development hydrology be mimicked for sites 5,000 square feet or more. To provide flexibility, EPA has allowed GSA to define pre-development hydrology for the DFC in their SWMP. For the purposes of this permit only, redevelopment shall mean any construction, alteration, or improvement, excluding projects comprised solely of the addition of vegetative cover, that disturbs a total of 5,000 square feet including disturbances of less than 5,000 square feet that are part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than 5,000 square feet where the existing, or prior within the last 10 years, land use is commercial, industrial, institutional, governmental, or multifamily residential.