

STORMWATER ANNUAL REPORT FORM

This form is for regulated small MS4s (Municipal Separate Storm Sewer Systems) and may be used to meet the annual reporting requirements for regulated small MS4s as outlined in 40 CFR§122.34g(3). While it is not required for MS4 operators to use this form to meet federal regulations, MS4s are encouraged to use this format to allow for more efficient recordkeeping and to minimize paper consumption.

PLEASE NOTE: This form may not include all of the information required to be submitted in your annual report. Please review your MS4 permit to ensure all required information is reported. Include supplemental pages to this form, if needed.

Completed forms should be emailed to:

Email: maybach.amy@epa.gov

AND/OR mailed to:

Amy Maybach
EPA Region 8 Stormwater Coordinator
Mailcode: 8WD-CWW
1595 Wynkoop Street
Denver, CO 80202-1129

All sections of this form must be completed and Item I on Page 31 must be signed and certified.

Please print or type.

A. Permittee Information

Permittee (Agency Name): United States General Services Administration
Public Buildings Service

Mailing Address: DFC Service Center,
1 Denver Federal Center
Building 41
P.O. Box 25546

City, State and Zip Code: Denver, CO 80225-0546

Contact Phone Number: (303) 941-6838

Permit Certification Number: COR-042004

Have any areas been added to the MS4 due to annexation or other legal means? NO

B. Reporting Period (e.g., January 1, 2023, to December 31, 2023).

C. Construction Program Contact:

The following information will be provided on EPA's web site to assist construction site operators in determining municipality-specific requirements for their projects:

Have you assigned an appropriate contact person/work unit to address questions regarding your municipality's construction and post-construction requirements?

If Yes:

Contact name: David S. Williams
Position/work group title: DFC Business Center Manager/GSA-PBS
Contact phone number: (303) 941-6838-cell.
Contact E-mail address: davids.williams@gsa.gov

If a web site has been created with information on complying with your municipality's construction and/or

post-construction requirements, list the address: <https://www.gsa.gov/about-us/gsa-regions/region-8-rocky-mountain/sustainability-in-action/storm-water-wetland-management>

D. Implementation of EPA’s Stormwater Management Program

The purpose of the annual report is to report on the status of your implementation of the permit requirements, including compliance with the standard of reducing the discharge of pollutants from your MS4 to the Maximum Extent Practicable (MEP). Address each of the following items for **each** of the six program areas:

1. Public education and outreach on stormwater impacts;
2. Public participation/involvement;
3. Illicit discharge detection and elimination;
4. Construction site stormwater runoff control;
5. Post-construction stormwater management in new development and redevelopment; and
6. Pollution prevention/good housekeeping for municipal operations

As the permittee, you must collect and maintain adequate information to demonstrate implementation of the six program areas as per your stormwater management program. Note that although the annual report only requires the submittal of certain information as outlined below, additional information may be requested by EPA to audit the implementation of your stormwater management program. For example, construction site inspection reports, outreach materials, and records of maintenance activities performed may be requested by EPA in addition to the annual report.

If another entity does not have its own permit but is instead covered under your permit, the annual report information under Section D of this form must also be provided for each such entity.

E. General Requirements

Provide the status of any measurable goal scheduled for completion during the reporting period or for which activities have begun. For program elements started, but not completed, any milestones that have been met must be indicated. If a change will be proposed to a BMP or measurable goal as part of the annual report, this must be stated and the proposed changes discussed. For each change proposed, you must provide information on:

1. The BMP/measurable goal for which a change is proposed;
2. Any proposed changes to the BMP description;
3. Any proposed changes to the measurable goals (including specific dates and measures); and
4. The rationale for the proposed changes.

Describe any measurable goal(s) for public education and outreach on stormwater impacts for the reporting period; including dates and numeric measures:

Measurable Goal(s) Including dates and numeric measures, as previously submitted	Status: Including dates and numeric measures	Changes proposed to BMP and/or Measurable Goal? (Yes/No). If yes, provide information on proposed changes and rationale.
Permittee must continue to develop, implement, and enforce a stormwater management plan (SWMP). The SWMP must include management practices, control techniques, system design, engineering methods, and other provisions appropriate for the control of pollutants discharged from the MS4. The Permittee must update their existing SWMP to comply with the new requirements of this Permit within one year after the effective date of this Permit.	GSA began updating/rewriting the SWMP in 2023. There have been a couple revisions to the SWMP due to new requirements in the permit and ongoing negotiations with the FHWA about operation of the onsite groundwater treatment systems. The DFC will operate under the most current revision of the SWMP, while details continue to be worked out.	Yes.

The Permittee must develop a written SWMP. This plan must specifically describe how the Permittee is complying with each of the elements required by this Permit. The SWMP does not need to be a comprehensive document which describes all procedures. However, the plan shall reference policies, procedures, or other documents which provide additional details used to comply with the terms of this Permit.	See Status above.	Yes.
The Permittee must fully implement the SWMP, including meeting its measurable goals. Progress must be tracked in the annual report.	The DFC is fully implementing the SWMP and is incorporating new requirements as soon as possible.	Yes.
The Permittee must conduct an annual review of the SWMP in conjunction with preparation of the annual report.	Review will be conducted annually after SWMP is updated.	No.

1. Public Education and Outreach on Stormwater Impacts

Provide the status of any measurable goal scheduled for completion during the reporting period or for which activities have begun. For program elements started, but not completed, any milestones that have been met must be indicated. If a change will be proposed to a BMP or measurable goal as part of the annual report, this must be stated and the proposed changes discussed. For each change proposed, you must provide information on:

1. The BMP/measurable goal for which a change is proposed;
2. Any proposed changes to the BMP description;
3. Any proposed changes to the measurable goals (including specific dates and measures); and
4. The rationale for the proposed changes.

Describe any measurable goal(s) for public education and outreach on stormwater impacts for the reporting period; including dates and numeric measures:

Measurable Goal(s) Including dates and numeric measures, as previously submitted	Status: Including dates and numeric measures	Changes proposed to BMP and/or Measurable Goal? (Yes/No). If yes, provide information on proposed changes and rationale.
Define target audiences to be reached by the Public Education and Outreach Program which include but are not limited to grounds maintenance personnel, facility managers, non-staff residents, contract managers, workers engaging in industrial activities, and food service personnel.	The target audiences have been defined during the last permit term. They will remain the same during this term.	No.
Disseminate informational material to the defined target audiences on both the general water quality goals of the Permit and provide education specific to the target audiences defined in Part 2.2.1 which addresses their potential pollutant sources, impacts of stormwater discharges on water bodies and the steps that the target audience can take to reduce pollutants in stormwater runoff. Inform the target audience of the impacts	Informational brochure updated as needed & distributed to GSA & contract personnel involved in building and grounds management, operations, and maintenance. Brochure is distributed annually. Target audience is the GSA employees and tenant agency points of contact. The informational brochure will be updated during the current permit term. A copy of the informational brochure can be viewed at the following web address: https://www.gsa.gov/about-us/gsa-regions/region-8-rocky-	Yes. Due to the hybrid work model at the DFC following the pandemic, GSA is investigating alternative methods to provide outreach and training, virtually and electronically, to accomplish this control measure during the upcoming permit term.

<p>associated with illicit discharges and improper disposal of waste, GSA's evacuation (dig) permit, and any policies and/or procedures that shall be implemented to minimize the discharge of the defined pollutants in stormwater runoff. Informational materials shall be updated and distributed as necessary throughout the duration of this Permit and should provide a location where all annual reports and/or SWMP updates as required by this Permit may be viewed.</p>	<p>mountain/sustainability-in-action/storm-water-wetland-management or a can be submitted to EPA upon request.</p>	
<p>Provide and document annual training to building managers, maintenance workers, and tenants on how to minimize, report, and recognize 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.</p>	<p>GSA continues to conduct training related directly to stormwater through on-line training and training provided by outside contractors. Records of the training can be submitted to EPA upon request.</p> <p>Training on the dig permit requirements, which includes a portion on stormwater, is provided at least annually and often more frequent as new project and building managers are hired. In addition, GSA has initiated a PreCon for each project for which a dig permit has been issued to discuss the dig permit and all its requirements.</p> <p>A Stormwater Management SOP (SOP 33) has also been created and is now a requirement for all applicable work.</p> <p>The online training can be viewed at the following web address: https://www.gsa.gov/about-us/gsa-regions/region-8-rocky-mountain/sustainability-in-action/storm-water-wetland-management</p>	<p>No.</p>
<p>Provide and document the grounds contractors or other parties responsible for pesticide and herbicide application with training related to the requirements for NPDES permitting and chemical disposal and stormwater runoff at least once during the effective term of this Permit or within one year of beginning a new contract, whichever is sooner.</p>	<p>Grounds maintenance contractors conduct annual training to discuss appropriate application and disposal of excess pesticides and herbicides.</p>	<p>No.</p>
<p>Nutrients: As part of their public education program, the Permittee must specifically address the reduction of water quality impacts associated with nitrogen and phosphorus in discharges from the MS4. This program component must address both nitrogen and phosphorus.</p> <p>For both nitrogen and phosphorus, the Permittee must determine the</p>	<p>GSA has begun sampling discharge from outfalls that have dry weather flow, and from select surface water sample locations around the DFC, for nitrogen and phosphorus to help better understand the contribution of the DFC MS4 to nitrogen and phosphorus concentrations.</p> <p>Results from the most recent sampling events are provided in Attachment 3. GSA is also in the process of compiling all of the sampling results to date to help</p>	<p>Yes.</p>

<p>targeted sources (e.g., residential, industrial, agricultural, or commercial) that are contributing to, or have the potential to contribute these constituents to the waters receiving the discharge authorized under this Permit. Targeted sources may include but are not limited to the use of deicers containing phosphorus, application of fertilizers, and pet waste.</p> <p>The Permittee must prioritize which targeted sources are likely to obtain a reduction in nutrient discharges through education and outreach. The Permittee must distribute educational materials or equivalent outreach to the prioritized targeted sources. Educational materials or equivalent outreach, individually or as a whole, must describe stormwater quality impacts associated with nitrogen and phosphorus in stormwater runoff and illicit discharges, the behaviors of concern, and actions that the target source can take to reduce nutrients. Examples of education efforts include encouraging responsible fertilizer application, encouraging xeriscaping, proper disposal of leaves and lawn waste, and evaluating alternatives to deicers containing phosphorus.</p>	<p>evaluate nitrogen and phosphorus concentrations.</p> <p>Additionally, GSA will distribute educational materials and provide outreach to the DFC campus population concerning responsible fertilizer application, alternatives to deicers containing phosphorus, encouraging proper disposal of leaves and landscaping waste, xeriscaping.</p>	
<p>The name or title of the person(s) responsible for coordination and implementation of the stormwater public education and outreach program.</p>	<p>Bill Fieselman, CPG Project Manager, Stormwater Manager, CLEAR LINCS LLC in Support of GSA Region 8 PBS.</p>	<p>No.</p>

Public Education and Outreach on Stormwater Impacts (continued)

Narrative description. Provide any descriptions which may further describe the implementation of this minimum measure. Such narrative may include descriptions of efforts which overlap several minimum measures or descriptions of documents or programs which have been created in an effort to implement this minimum measure:

The GSA DFC Stormwater Program has conducted annual stormwater training directed at project contracting officer representatives (CORs), project managers, building/property managers, and environmental staff. GSA plans to revise the annual training program under this new MS4 permit.

Annual dig permit training is also provided to project managers, building/property managers and contractors. The DFC informational brochure will be updated and distributed to GSA & contract personnel involved in building and grounds management, operations, and maintenance.

GSA is in the process of evaluating the DFC campus contribution to nitrogen and phosphorus concentrations within McIntyre Gulch and develop appropriate methods to reduce this contribution. GSA will also educate the DFC campus population on the responsible use, or elimination, of nitrogen and phosphorus containing products.

2. Illicit Discharge Detection and Elimination

Provide the status of any measurable goal scheduled for completion during the reporting period or for which activities have begun. For program elements started, but not completed, any milestones that have been met must be indicated. If a change will be proposed to the BMP or measurable goal as part of the annual report, this must be stated and the proposed changes discussed. For each change proposed, you must provide information on:

1. The BMP/Measurable goal for which a change is proposed;
2. Any proposed changes to the BMP description;
3. Any proposed changes to the measurable goals (including specific dates and measures); and
4. The rationale for the proposed changes.

Describe any measurable goal(s) for illicit discharge detection and elimination for the reporting period; including dates and numeric measures:

Measurable Goal(s) Including dates and numeric measures, as previously submitted	Status: Including dates and numeric measures.	Changes proposed to BMP and/or Measurable Goal? (Yes/No). If yes, provide information on proposed changes and rationale.
Implement a program to detect and eliminate illicit discharges into its MS4. The program shall include procedures for detection, tracing and identification of sources, and removal of non-stormwater discharges from the storm sewer system. This program shall address dry weather discharges and illegal dumping into the storm sewer system and include training for staff on how to respond to reports of illicit discharges.	The program implemented to help detect and eliminate illicit discharges into the MS4 include: Maintain existing storm sewer map. Plug or reroute floor drains connected to the storm sewer as they are discovered. Perform annual dry-weather screening survey on storm sewer outfalls along McIntyre Gulch and the Agricultural Ditch for the presence of non-stormwater discharges. Developed contract language prohibiting non-storm water discharges by contractors conducting work on the DFC. Assess non-storm water discharges as they are discovered. Documentation of these activities can be submitted to EPA upon request.	No.
Maintain and implement an enforcement policy which effectively prohibits, through ordinance or other regulatory or contractual mechanism available under the legal authorities of the MS4, non-stormwater discharges into the storm sewer system and implement appropriate enforcement procedures and actions. The enforcement policy shall include a description of the range of actions to be taken by the Permittee in response to an illicit discharge.	GSA has no means of enacting enforcement actions on its tenants (i.e., other government agencies). If illicit discharges are identified by GSA, the responsible party will be required (through Reimbursable Work Authorization (RWA), or contractual methods) to appropriately respond to the discharge. If that party does not respond, GSA may resort to other regulatory mechanisms available which include, but is not limited to, notifying EPA, and entering into a Federal Facility Compliance Agreements with the federal agencies.	No.
Provide a mechanism for reporting of illicit discharges to the Permittee and provide this number on any outreach materials as appropriate. For each of the illicit discharges identified, the Permittee shall document a brief description that outlines how that illicit discharge was identified and the procedures taken to characterize and/or eliminate the illicit discharge.	The DFC Emergency Hotline (303-236-2911) can be used to report illicit discharges, as well as contacting the DFC Environmental Programs Group (EPG) Manager (303-868-0795) or the DFC Stormwater Manager at (303-356-5669). This information is also provided on all outreach materials.	No.

<p>Provide emergency spill contact information to all building managers, project managers, and tenants.</p>	<p>Spill Prevention, Control, and Countermeasure (SPCC) training, which includes emergency spill contact information, is provided to all GSA DFC building managers and project managers.</p> <p>Emergency spill contact information is also provided in the Stormwater Informational Brochure. The brochure is provided to building managers who distribute it to their appropriate tenant points of contact.</p>	<p>No.</p>
<p>Investigate any illicit discharge within two (2) business days of its detection and take action to eliminate the source of the discharge within forty-five (45) business days of its detection (or obtain permission from the delegated EPA official for such longer periods as may be necessary in particular instances).</p>	<p>Upon detection of an illicit discharge, it is DFC EPG protocol to investigate immediately. Investigation into the source of an illicit discharge starts within the 2-business day requirement and stopping the discharge also occurs within in this time frame.</p> <p>Action is taken to eliminate the source of the discharge as soon as possible, but is funding dependent. If eliminating the source requires significant funding; the project is placed on a list and prioritized based other needs of the facility. This may be longer than 45 days.</p> <p>EPA shall be notified when eliminating the source of the discharge is anticipated to be greater than 45 days.</p>	<p>Yes.</p>
<p>Maintain an information management system which tracks dry weather screening efforts, illicit discharge reports, enforcement actions and the location and any remediation efforts to address identified illicit discharges.</p>	<p>Dry weather screening efforts, illicit discharge reports, and the location and any remediation efforts to address identified illicit discharges are maintained on the GSA Region 8 DFC MS4 files.</p> <p>Documentation of these activities can be submitted to EPA upon request.</p>	<p>No.</p>
<p>If an illicit discharge is detected, an assessment of that discharge shall be made. The assessment should first be used to determine the source of the dry weather discharge and if it can be readily remedied (e.g., landscape watering). Field sampling should be used when it is not possible to eliminate a dry weather discharge. Sampling could include field tests of selected chemical parameters as indicators of discharge sources where dry weather flows are detected. Screening level tests may utilize less expensive “field test kits” using test methods not approved by the EPA under 40 CFR Part 136, provided the manufacturer’s published detection ranges are adequate for the illicit discharge detection purposes.</p>	<p>GSA conducts dry weather screening annually at outfalls for the presence of non-stormwater discharges and to determine if there are significant discharge or erosion issues. Illicit discharges may also be detected while conducting other work throughout the campus, reporting to the emergency spill contact information line or directly to the Environmental Programs Group.</p>	<p>Yes.</p>

<p>Develop and maintain an updated map of the stormwater drainage system within the Denver Federal Center showing the location of all outfalls and the names and location of all waters of the United States that receive discharges from those outfalls.</p>	<p>Updating of the DFC storm sewer system map began in 2023 and revisions are continuing into 2024.</p> <p>Several new stormwater control measures have been added due to building renovations. Additionally, several of the outfalls along the Agricultural Ditch that no longer serve a purpose have been abandoned.</p> <p>A copy of the revised map can be submitted to EPA upon request.</p>	<p>Yes.</p>
<p>A description of the program used to detect and eliminate illicit discharges into the MS4; including procedures for detection, tracing and identification of sources, and removal of non-stormwater discharges from the storm sewer system.</p>	<p>The program implemented to help detect and eliminate illicit discharges into the MS4 include:</p> <p>Maintain existing storm sewer map. Plug or reroute floor drains connected to the storm sewer as they are discovered. Perform annual dry-weather screening survey on storm sewer outfalls along McIntyre Gulch and the Agricultural Ditch for the presence of non-stormwater discharges. Developed contract language prohibiting non-storm water discharges by contractors conducting work on the DFC. Assess non-storm water discharges as they are discovered, utilizing appropriate detection or tracing technologies for the situation. Once the sources are identified, GSA begins working toward removal of that source, if possible. Building footing drains, discharging to the storm sewer system, and causing non-storm water discharges, is one example of where eliminating the discharge would not be possible.</p>	<p>No.</p>
<p>A description of the location and method of dry weather screening performed.</p>	<p>The dry weather screening is performed by physically visiting each stormwater outfall where it discharges to McIntyre Gulch and the Agricultural Ditch. The screening is normally conducted in September-November of each year, after a minimum of no measurable precipitation event 96 hours prior to the screening event. For the outfalls that have continuous discharge, the discharge flow rate is measured.</p> <p>Additionally, in August of each year, as part of the site-wide long-term monitoring event, dissolved oxygen, conductivity, temperature, pH, salinity, and turbidity are measured from the outfall discharge using portable field instrumentation.</p> <p>Analyses of the outfall discharge for 1,4-Dioxane and nitrogen/phosphorus has been added to the analytical suite since this permit became effective in 2022.</p> <p>Documentation of these activities can be submitted to EPA upon request.</p>	<p>Yes.</p>

<p>A description of illicit discharges detected, and all actions taken to eliminate sources of illicit discharges.</p>	<p>DFC has investigated the constant flow observed in three of the storm sewer outfalls. In all three outfalls building footing drains (allowable non-stormwater discharge) were found to be contributing flow to the storm sewer lines. The report detailing this investigation can be provided to EPA upon request.</p> <p>Also, as buildings on the campus are remodeled or renovated, interior building drains can be found to be connected to the storm sewer system. Upon discovery they are re-routed and connected to the sanitary sewer system. Work on these cross-connections is ongoing, as they are discovered. Currently there are no other known illicit discharges to the MS4.</p> <p>No illicit discharges have been detected during this reporting period.</p>	<p>No.</p>
<p>A description or citation of the established ordinance or other regulatory mechanism used to prohibit illicit discharges into the MS4.</p>	<p>GSA has no means of enforcing actions on its tenants (i.e., other government agencies). If illicit discharges are identified by GSA, the responsible party will be required (through Reimbursable Work Authorization (RWA), or contractual methods) to appropriately respond to the discharge. If that party does not respond, GSA may resort to other regulatory mechanisms available which include, but is not limited to, notifying EPA, and entering into a Federal Facility Compliance Agreements with the federal agencies.</p>	<p>No.</p>
<p>A copy or excerpt from the information management system used to track illicit discharges showing all information required by Part 2.3.6 for the year.</p>	<p>Eight small spill events occurred during the January 1, 2023, to December 31, 2023, reporting period. These spills predominately included hydraulic fluid or coolant from broken hoses on equipment. One spill involved flow fill material spilled onto the ground surface. All spills were immediately cleaned up and there were no illicit discharges that the MS4. Documentation of these spills can be submitted to EPA upon request.</p>	<p>Yes.</p>
<p>A description of the categories of non-stormwater discharges evaluated as potentially being significant contributors of pollutants to the MS4 and any local controls placed on these discharges.</p>	<p>DFC has investigated the constant flow observed in three of the storm sewer outfalls. In all three outfalls building footing drains (allowable non-stormwater discharge) were found to be contributing flow to the storm sewer lines. These discharges are not potential significant contributors of pollutants because building operations are not tied to the</p>	<p>Yes.</p>

	<p>building footing drains and the buildings are not located within the area of a contaminated groundwater plume. The report detailing this investigation can be provided to EPA upon request.</p> <p>GSA is also investigating 1,4-Dioxane detected in two outfalls. See the section on Storm Sewer and Outfall Monitoring later in this report.</p>	
A description of the schedule and/or progress in creating a complete storm sewer map.	<p>Updating of the DFC storm sewer system map began in 2023 and revisions are continuing into 2024. This map is a living document and will be updated as needed throughout the permit term.</p> <p>Several new stormwater control measures have been added due to building renovations. Additionally, several of the outfalls along the Agricultural Ditch that no longer serve a purpose have been abandoned.</p> <p>A copy of the revised map can be submitted to EPA upon request.</p>	Yes.
The name or title of the person(s) responsible for the illicit discharge detection and elimination program.	<p>Bill Fieselman, CPG Project Manager, Stormwater Manager, CLEAR LINCS LLC in Support of GSA Region 8 PBS.</p>	No.

Illicit Discharge Detection and Elimination (continued)

Narrative description. Provide any descriptions which may further describe the implementation of this minimum measure. Such narrative may include descriptions of efforts which overlap several minimum measures or descriptions of documents or programs which have been created in an effort to implement this minimum measure:

Upon detection of an illicit discharge, it is DFC EPG protocol to investigate immediately. Investigation into the source of an illicit discharge starts within the 2-business day requirement and stopping the discharge also occurs within in this time frame.

Action is taken to eliminate the source of the discharge as soon as possible but is funding dependent. If eliminating the source requires significant funding; the project is placed on a list and prioritized based other needs of the facility. This may be longer than 45 days.

EPA shall be notified when eliminating the source of the discharge is anticipated to be greater than 45 days.

The DFC storm sewer system map began being updated in 2023 and will continue to be updated throughout the permit term as facilities are renovated and stormwater control measures are added or abandoned. A copy of the map can be provided upon request.

3. Construction Site Stormwater Runoff Control

Provide the status of any measurable goal scheduled for completion during the reporting period or for which activities have begun. For program elements started, but not completed, any milestones that have been met must be indicated. If a change will be proposed to the BMP or measurable goal as part of the annual report, this must be stated and the proposed changes discussed. For each change proposed, you must provide information on:

1. The BMP/Measurable goal for which a change is proposed;
2. Any proposed changes to the BMP description;
3. Any proposed changes to the measurable goals (including specific dates and measures); and
4. The rationale for the proposed changes.

Describe any measurable goal(s) for construction site stormwater runoff control for the reporting period; including dates and numeric measures:

Measurable Goal(s) Including dates and numeric measures, as previously submitted	Status: Including dates and numeric measures	Changes proposed to BMP and/or Measurable Goal? (Yes/No). If yes, provide information on proposed changes and rationale.
A description of construction activities which disturbed greater than or equal to one acre of land or were part of a larger common plan of development or sale that would disturb one acre or more.	<p>During the reporting period for this report (1/1/23 – 12/31/23), no new construction activities which disturbed greater than or equal to one acre of land began work. However, three projects were ongoing:</p> <p>Bldg 48 Renovation - A project to convert an existing warehouse building into a state-of-the-art office building. Remodeling of this building required additional parking. Therefore, greater than 5,000 square feet of land was converted from a permeable to a non-permeable surface. Project design included construction of rain gardens, and a retention basin to manage stormwater from the additional non-permeable surfaces. Construction was completed in late 2023. The rain gardens, and retention basin will be added to the inventory of permanent BMPs on the DFC. Revegetation of disturbed areas and new BMPs will be extending into 2024. The contractor holds the NOI for this project.</p> <p>Bldg 53 Renovation – A project to renovate a large portion of an existing building for a new tenant. Most of the work is interior, however a new parking area was constructed. Retention basins were incorporated into the design to infiltrate stormwater from the new parking area. Construction is ongoing. The contractor holds the NOI for this project.</p> <p>Preparation of a building site for a new FDA laboratory -A project to excavate asbestos containing material (ACM) from an area where a new building will be constructed disturbed greater than 5,000 square feet of land. This project was completed in 2023 and the contractor filed an NOI after completing the work.</p>	Yes.
A description or citation of the established ordinance or other regulatory mechanisms used to require erosion and sediment controls.	GSA maintains several policies to enforce construction site compliance. The GSA Region 8 Stormwater Management Environmental Procedure is included as a requirement in every DFC contract that has the potential to disturb soil. The DFC Dig Permit contains procedures that are required for all projects that disturb any amount of soil. SOP 33-Stormwater Management & Revegetation, provides technical guidance	No.

	<p>and methods that will be used to manage stormwater and re-vegetate disturbed areas at the DFC.</p> <p>The GSA/PBS Office of the Chief Architect issued a guidance memorandum titled Compliance with Section 438 (Stormwater) Requirements of the Energy Independence & Security Act of 2007, dated 6/20/19.</p> <p>Documentation of these procedures can be submitted to EPA upon request.</p>	
<p>A description of the compliance mechanisms the Permittee used to ensure that construction activities disturbing equal to or greater than one acre of land were in compliance with the terms of the EPA General Permit for Discharges from Construction Activities.</p>	<p>GSA Region 8 Stormwater Management Environmental Procedure and SOP 33-Stormwater Management & Re-vegetation. Also, the requirement for stormwater runoff controls is included in each contract. For appropriate size contracts the contractor is required apply for EPA Notice of Intent (NOI) and EPA General Permit for Discharges from Construction Activities (CGP). If the contractor does not comply with contract requirements, a show cause letter or termination of the contract may take place.</p>	<p>No.</p>
<p>A description of the procedures for site plan review, including the review of pre-construction site plans.</p>	<p>GSA Region 8 Office of Facilities Management (OFM) reviews plans and specifications on all construction projects on the DFC. This review is facilitated via an online system named Kahua. Kahua routes design plans and specifications, comments, and responses through all subject matter technical experts for review. These OFM reviews include EPG personnel who review the projects to ensure compliance with the stormwater permit requirements and the SWMP.</p>	<p>No.</p>
<p>A description of the procedures for site inspection.</p>	<p>GSA conducts routine inspections at projects disturbing more than 1 acre (i.e., those projects where a contractor has submitted a CGP) at least every 45 days. GSA reviews the contractors CGP and SWPPP. GSA then walks the entire site to ensure that all requirements from Section 2.4 of the MS4 permit are being met; and comparing what the site SWPPP says will be done to manage stormwater versus what is actually taking place on the site. Photos and notes are taken, and a Construction Site Inspection Form is completed. GSA then meets with the site representative to discuss any findings from the inspection and review the contractors own inspection records. A copy of the inspection form and photos are provided to the contractor. Any findings from the inspection are expected to be corrected within 24 hours. If it is anticipated that it will take longer than 24 hours to address the findings, GSA expects the findings to be addressed as soon as possible thereafter, and to notify GSA when the work will take place. This</p>	<p>No.</p>

	<p>procedure continues throughout the construction and revegetation period of the project.</p> <p>GSA maintains inspection records in MS4 files. Documentation of the inspections can be submitted to EPA upon request.</p> <p>For projects smaller than 1 acre, GSA inspects the site prior to the start of construction to ensure that appropriate BMPs have been installed. Inspections continue, at least every 14 days until the project is complete. Note that most of these smaller projects are completed within a few days and usually only require an initial or a final inspection.</p>	
Documentation of training provided to contracting office representatives regarding the maintenance and installation of BMPs for construction stormwater control and the terms of the EPA General Permit for Discharges from Construction Activities.	<p>GSA and DFC contractor’s personnel attended a 2-day training on November 1 & 2, 2022, titled “Stormwater Management and Erosion Control Training”, presented by Altitude Training Associates, LLC.</p> <p>Seventy-two people attended this training. Documentation of the attendees can be submitted to EPA upon request.</p> <p>A formal training session was not conducted in 2023. However, new personnel and contractors were encouraged to review the online training on the GSA.gov website. Additionally, numerous training opportunities were provided to road & grounds and contractor personnel during the reporting period. GSA plans to conduct another formal training session in 2024.</p>	No.
The name or title of the person(s) responsible for the illicit discharge detection and elimination program.	<p>Bill Fieselman, CPG Project Manager, Stormwater Manager, CLEAR LINCS LLC in Support of GSA Region 8 PBS.</p>	No.

Construction Site Stormwater Runoff Control (continued)

Narrative description. Provide any descriptions which may further describe the implementation of this minimum measure. Such narrative may include descriptions of efforts which overlap several minimum measures or descriptions of documents or programs which have been created in an effort to implement this minimum measure:

GSA Region 8 Office of Facilities Management (OFM) reviews plans and specifications on all construction projects on the DFC. These OFM reviews include EPG personnel who review the projects to ensure compliance with the MS4 permit requirements and the SWPPP.

The GSA Region 8 Stormwater Management Environmental Procedure is included as a requirement in every DFC contract that has the potential to disturb greater than 1 acre of land surface and impact stormwater runoff.

The DFC Dig Permit procedure is required for all projects that disturb any amount of soil. As part of this Dig Permit procedure, appropriate erosion control BMPs is required.

For projects disturbing one or more acres, contractors must obtain coverage under the 2022 Construction General Permit (CGP) and are responsible for submitting a Notice of Intent (NOI) and Notice of Termination (NOT).

GSA EPG personnel inspect construction sites to ensure that contractors are correctly and fully implementing the BMPs specified in dig permits and CGPs.

4. Post-construction Stormwater Management in New Development and Redevelopment

Provide the status of any measurable goal scheduled for completion during the reporting period or for which activities have begun. For program elements started, but not completed, any milestones that have been met must be indicated. If a change will be proposed to the BMP or measurable goal as part of the annual report, this must be stated and the proposed changes discussed. For each change proposed, you must provide information on:

1. The BMP/Measurable goal for which a change is proposed;
2. Any proposed changes to the BMP description;
3. Any proposed changes to the measurable goals (including specific dates and measures); and
4. The rationale for the proposed changes.

Describe any measurable goal(s) for post-construction stormwater management in new development and redevelopment for the reporting period; including dates and numeric measures:

Measurable Goal(s) Including dates and numeric measures, as previously submitted.	Status: Including dates and numeric measures.	Changes proposed to BMP and/or Measurable Goal? (Yes/No). If yes, provide information on proposed changes and rationale.
<p>A description of the process used to ensure that all the Permittee's contracts initiated after the effective date of this Permit contain language which requires the installation of permanent stormwater control measures and an excerpt of applicable contract language</p>	<p>When a GSA scope of work (SOW) is developed for a project, the Contracting Officer is required to attach all applicable procedures to the SOW. When the project is awarded; the SOW and all attachments become part of the contract requirements.</p> <p>Subject matter experts review the SOWs prior to solicitation to ensure that they require the installation of permanent stormwater control measures. Each project has unique requirements for these permanent stormwater control measures.</p> <p>Additionally, the GSA Region 8 Stormwater Management Environmental Procedure (Section 6.3) discusses construction site stormwater design, runoff control and post construction stormwater management. Also, in June 2019, the GSA Public Buildings Service Office of the Chief Architect issued a memo providing guidance on compliance with the requirements of EISA Section 438.</p>	<p>No.</p>
<p>A description of the inspection and recordkeeping procedures and the assumptions provided to ensure the long-term operation and maintenance of permanent stormwater control measures</p>	<p>GSA Region 8 Office of Facilities Management (OFM) personnel review plans and specifications on all construction projects on the DFC. These OFM reviews include EPG personnel who ensure the projects compliance with stormwater control measures</p> <p>Information on the location, design, and maintenance specifications and "as-builts" (when available) of permanent stormwater features are</p>	<p>Yes. Incorporating location and maintenance information into MAXIMO is moving forward.</p>

	<p>maintained in the GSA Region 8 project files or the MS4 permit files. Documentation of these records can be submitted to EPA upon request.</p> <p>GSA is in the process of incorporating the location and maintenance specifications and maintenance tracking of permanent stormwater features into MAXIMO. MAXIMO is a Computerized Maintenance Management System (CMMS) utilized by GSA Public Buildings Service (PBS) to manage the maintenance requirements of their properties.</p>	
<p>Documentation of training provided to contracting officers regarding low impact development and green infrastructure</p>	<p>In February of 2015, LID training (<i>Green Infrastructure and Low Impact Development</i>; by Colorado Stormwater Center at Colorado State University) was provided to planning staff, project managers, GSA DFC managers, DFC O&M personnel, and DFC environmental staff. Additional low impact development (LID) and green infrastructure training has not taken place during this reporting period. When DFC environmental and stormwater staff become aware of technical information and reports concerning LID and green infrastructure, they share this information with the DFC Design & Construction, Road & Grounds, and contractor personnel; and encourage them to adopt applicable procedures.</p>	<p>No.</p>
<p>Include or reference in the evacuation (dig) permit, applicable requirements, and available guidance to design post-construction stormwater features or low impact development practices designed to comply with Section 2.5.9.</p>	<p>Dig permits are prepared on a site/project specific basis. When post-construction stormwater features or low impact development practices are pertinent to the site/project, applicable requirements and available guidance is included in the dig permit.</p>	<p>No.</p>

The name or title of the person(s) responsible for coordination and implementation of the post-construction stormwater management program.	Bill Fieselman, CPG Project Manager, Stormwater Manager, CLEAR LINCS LLC in Support of GSA Region 8 PBS.	No.
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Post-construction Stormwater Management in New Development and Redevelopment (continued)

Narrative description. Provide any descriptions which may further describe the implementation of this minimum measure. Such narrative may include descriptions of efforts which overlap several minimum measures or descriptions of documents or programs which have been created in an effort to implement this minimum measure:

GSA EPG conducts annual inspections of permanent stormwater BMPs on the facility. These inspections help determine the performance of the BMP and the need for maintenance activities. BMPs that require maintenance or repair are referred to the DFC Road and Grounds Team who contract with one of the facility operation and maintenance contractors for the necessary services.

5. Pollution Prevention/Good Housekeeping for Municipal Operations

Provide the status of any measurable goal scheduled for completion during the reporting period or for which activities have begun. For program elements started, but not completed, any milestones that have been met must be indicated. If a change will be proposed to the BMP or measurable goal as part of the annual report, this must be stated and the proposed changes discussed. For each change proposed, you must provide information on:

1. The BMP/Measurable goal for which a change is proposed;
2. Any proposed changes to the BMP description;
3. Any proposed changes to the measurable goals (including specific dates and measures); and
4. The rationale for the proposed changes.

Describe any measurable goal(s) for pollution prevention/good housekeeping for municipal operations for the reporting period; including dates and numeric measures:

Measurable Goal(s) Including dates and numeric measures, as previously submitted	Status: Including dates and numeric measures	Changes proposed to BMP and/or Measurable Goal? (Yes/No). If yes, provide information on proposed changes and rationale.
A description of the contents and frequency of the training program for municipal personnel and a list of the personnel or positions trained during the term of the Permit	Stormwater training for grounds and facilities maintenance contractors is provided on an annual basis. It was most recently provided on November 1&2, 2022. The training was titled “Stormwater Management and Erosion Control Training”, presented by Altitude Training Associates, LLC. Documentation of the attendees can be submitted to EPA upon request. A formal training session was not conducted in 2023. However, new personnel and contractors were encouraged to review the online training on the GSA.gov website. Additionally, numerous training opportunities were provided to road & grounds and contractor personnel during the reporting period. GSA plans to conduct another formal training session in 2024.	No.

<p>A description of storm sewer inlet cleanout procedures and schedules, catch basin cleaning operations, and street sanding/salt practices, and any measures taken because of the evaluation to minimize negative impacts to water quality.</p>	<p>Grounds maintenance contractors conduct stormwater inlet inspections annually, in the spring of the year. The inlets identified during the inspections that requiring cleaning are cleaned of sediment and debris following the inspections. Street sweeping is performed twice per year, and more frequently, as needed.</p> <p>Grounds maintenance contractors also conduct annual training during the fall to discuss appropriate use of, and plan for street sanding, salting, and chemical deicers.</p>	<p>No.</p>
<p>A description of any changes to control measures installed to prevent the discharge of pollutants from areas described in Part 2.6.1 of the permit.</p>	<p>Control measures to prevent the discharge of pollutants to the MS4 have not changed since the previous reporting period, and they continue to be implemented. During development of the new SWMP, GSA will be evaluating all control measures, and changing them as necessary.</p> <p>Additionally, they will be modifying control measures, as needed, pending the results of the phosphorus and nitrogen, and 1,4-dioxane monitoring.</p>	<p>No.</p>
<p>A description of how maintenance activities are tracked for permanent stormwater control measures.</p>	<p>Currently, stormwater control measures and maintenance are managed by inspecting the measure at least annually. If problems are identified, GSA contracts to have the appropriate maintenance or repair performed. GSA is working toward incorporating maintenance of stormwater features into MAXIMO. MAXIMO is a Computerized Maintenance Management System (CMMS) utilized by GSA Public Buildings Service (PBS) to manage the maintenance requirements of their properties.</p>	<p>Yes. Incorporating location and maintenance information into MAXIMO is moving forward.</p>
<p>The name or title of the person(s) responsible for coordination and implementation of the post-construction stormwater management program.</p>	<p>Bill Fieselman, CPG Project Manager, Stormwater Manager, CLEAR LINCS LLC in Support of GSA Region 8 PBS.</p>	

Pollution Prevention/Good Housekeeping for Municipal Operations (continued)

Narrative description. Provide any descriptions which may further describe the implementation of this minimum measure. Such narrative may include descriptions of efforts which overlap several minimum measures or descriptions of documents or programs which have been created in an effort to implement this minimum measure:

GSA DFC utilizes a combination of education/training, inspections and grounds maintenance contractor's contract requirements to achieve pollution prevention and good housekeeping.

Also, since 2015, GSA has been conducting a McIntyre Gulch water quality monitoring and corrective measures project. The purpose of this ongoing project is to determine flow characteristics of the gulch, identify area of particular concern with regard to erosion and sediment control, and develop a prioritized list of projects. Eight projects have been identified along the reach of the gulch through the DFC. Development of designs for these projects have been finalized and the projects on this list will be implemented to minimize bank erosion and prevent sediment accumulation within the gulch flow regime on the DFC campus. The projects will be implemented as funding is available. Also, a capital funding request is being put together to request 2026 funding for these projects.

6. Public Involvement and Participation

Provide the status of any measurable goal scheduled for completion during the reporting period or for which activities have begun. For program elements started, but not completed, any milestones that have been met must be indicated. If a change will be proposed to the BMP or measurable goal as part of the annual report, this must be stated and the proposed changes discussed. For each change proposed, you must provide information on:

1. The BMP/Measurable goal for which a change is proposed;
2. Any proposed changes to the BMP description;
3. Any proposed changes to the measurable goals (including specific dates and measures); and
4. The rationale for the proposed changes.

Describe any measurable goal(s) for public participation and involvement on stormwater impacts for the reporting period; including dates and numeric measures:

Measurable Goal(s) Including dates and numeric measures, as previously submitted	Status: Including dates and numeric measures.	Changes proposed to BMP and/or Measurable Goal? (Yes/No). If yes, provide information on proposed changes and rationale.
The Permittee must follow its own public notice requirements to provide opportunities for public involvement that reach a majority of the public and staff within the permittee's jurisdictional boundary through the notification process.	"Public" with regards to the DFC includes all of the tenant agencies leasing space within the campus. As a result, there are no "applicable public notice requirements" on the DFC. GSA attempts to notify DFC tenant of any stormwater related issues through building manager points of contact within the various agencies, the DFC newsletter, DFC Facebook page, and campus functions, such as the Farmers Market.	Yes. GSA has utilized in-person, virtual and electronic methods to provide public participation and involvement. With the new hybrid work environment many of the past in-person methods (Farmers Market) used for public participation are not available GSA is investigating alternate methods to accomplish this measure.
The Permittee shall provide a mechanism and process that allows for review of the SWMP by the public without charge, which may be met by providing electronic copies via electronic mail or posting it on a public website for download. In addition, the Permittee's website must provide a statement that the SWMP is publicly available for review and comment. The SWMP available to the public must reflect all updates made prior to the previous 30 days.	Annual reports can be viewed at: https://www.gsa.gov/about-us/gsa-regions/region-8-rocky-mountain/sustainability-in-action/storm-water-wetland-management The SWMP on the web site will be updated as changes are made.	Yes. The SWMP has been revised and is continuing to undergo some revisions. It will be added to the website when it is finalized.
The Permittee must have the ability to accept and respond (in accordance with this Permit requirements) to information submitted by the public, including but not limited to information on illicit discharges or failure to implement or meet control measure requirements associated with	The DFC Emergency Hotline (303-236-2911) can be used by the public to submit any information including illicit discharges, failure to implement or meet control measure requirements, construction activities, or any other permittee operations. The public may also contact the DFC Environmental Programs Group (EPG) Manager	No.

applicable construction activities, applicable development sites, or Permittee operations.	(303-868-0795) or the DFC Stormwater Manager at (303-356-5669). This information is also provided on all outreach materials.	
The Permittee must maintain copies of the documents used to provide public notice and any public comment received as part of the public notice process.	All public notice materials and any public comments received are maintained in the MS4 permit files.	No.
The Permittee must maintain documentation of the mechanism used to allow the public to provide input.	All records associated with this MS4 permit are maintained in the MS4 permit files.	No.
The Permittee must maintain records of information submitted by the public in accordance with Part 2.7.1.3. and any actions the permittee took to address the information.	All records associated with this MS4 permit are maintained in the MS4 permit files.	No.

Public participation/involvement (continued)

Narrative description. Provide any descriptions which may further describe the implementation of this minimum measure. Such narrative may include descriptions of efforts which overlap several minimum measures or descriptions of documents or programs which have been created in an effort to implement this minimum measure:

The main community engagement events for the DFC stormwater program are participation in campus-wide events, and distribution of information at the DFC Farmers Market and Earth Day activities. However, with the new hybrid work environment GSA has not been able to have the Farmers Market or Earth Day activities. Distribution of information is also accomplished via the quarterly DFC newsletter and the DFC Facebook page.
GSA is investigating alternative methods to provide outreach and encourage participation virtually, electronically, and in-person to accomplish these control measures during the upcoming permit term.

7. Total Maximum Daily Loads (TMDLs)

Provide the status of any measurable goal scheduled for completion during the reporting period or for which activities have begun. For program elements started, but not completed, any milestones that have been met must be indicated. If a change will be proposed to the BMP or measurable goal as part of the annual report, this must be stated and the proposed changes discussed. For each change proposed, you must provide information on:

1. The BMP/Measurable goal for which a change is proposed;
2. Any proposed changes to the BMP description;
3. Any proposed changes to the measurable goals (including specific dates and measures); and
4. The rationale for the proposed changes.

Describe any measurable goal(s) for public participation and involvement on stormwater impacts for the reporting period; including dates and numeric measures:

Measurable Goal(s) Including dates and numeric measures, as previously submitted	Status: Including dates and numeric measures.	Changes proposed to BMP and/or Measurable Goal? (Yes/No). If yes, provide information on proposed changes and rationale.

<p>The Permittee is required to perform dry weather outfall phosphorus monitoring on outfalls that discharge to McIntyre Gulch. Dry weather outfall discharges are flows greater than 5 gallons per minute (gpm) and a discharge not resulting from surface runoff from stormwater.</p>	<p>GSA identified outfalls that contain dry weather flows greater than 5 gpm during the last permit term. GSA began collecting samples for nitrogen and phosphorus in September 2023 at the two outfall locations that showed dry weather flows, and at 5 other surface water locations, in an attempt to determine baseline nitrogen and phosphorus concentrations at the DFC. GSA also collected samples for nitrogen and phosphorus in December 2023 at the two outfall locations that showed dry weather flows. GSA will continue to monitor quarterly for nitrogen and phosphorus to establish the DFC contribution of nutrients in the discharge to McIntyre Gulch. Results of this sampling and analyses can be submitted to EPA upon request.</p>	<p>Yes.</p>
<p>In the first year of the permit term, the Permittee must identify which outfalls contain dry weather flows greater than 5 gpm. Upon identification of dry weather flows at outfalls, the Permittee must begin quarterly total phosphorus monitoring for a minimum of 8 quarterly samples.</p>	<p>See above status.</p>	<p>Yes.</p>
<p>The Permittee must submit the results of the quarterly monitoring with its annual report required in Part 6.2. The Permittee must either measure or estimate the outfall flow at the time the sample is collected. If flow is estimated the permittee must briefly document the method of estimation. The Permittee may remove the outfall from monitoring requirements if it meets one of the following requirements.</p>	<p>See above status. Results of the September and December 2023 monitoring events are provided in Attachment 3.</p>	<p>Yes.</p>
<p>The Permittee may use phosphorus data from previous permit terms to satisfy the requirement to collect and analyze 8 quarterly samples provided the previous samples are 10 years old or less, representative of the current dry weather discharge, and samples were analyzed in accordance with 40 CFR Part 136.</p>	<p>Previous outfall monitoring did not include phosphorus analyses.</p>	<p>Yes.</p>

8. Master Planning/Stream Restoration

Provide the status of any measurable goal scheduled for completion during the reporting period or for which activities have begun. For program elements started, but not completed, any milestones that have been met must be indicated. If a change will be proposed to the BMP or measurable goal as part of the annual report, this must be stated and the proposed changes discussed. For each change proposed, you must provide information on:

1. The BMP/Measurable goal for which a change is proposed;
2. Any proposed changes to the BMP description;
3. Any proposed changes to the measurable goals (including specific dates and measures); and
4. The rationale for the proposed changes.

Describe any measurable goal(s) for public participation and involvement on stormwater impacts for the reporting period; including dates and numeric measures:

Measurable Goal(s) Including dates and numeric measures, as previously submitted	Status: Including dates and numeric measures.	Changes proposed to BMP and/or Measurable Goal? (Yes/No). If yes, provide information on proposed changes and rationale.
Annually, the Permittee shall plan and coordinate a McIntyre Gulch planning meeting. At a minimum, the Permittee shall invite to this annual planning meeting: the Environmental Protection Agency (EPA) Region 8, City of Lakewood, the Mile High Flood District (MHFD), the Colorado Department of Transportation (CDOT), and the Colorado Department of Public Health and Environment Water Quality Control Division (CDPHE-WQCD). Under this provision, the Permittee is responsible for the invitation, not the attendance, of all identified parties and must give at least a 60-day notice regarding the date of the annual planning meeting.	The annual McIntyre Gulch planning meeting was held December 6, 2023, and was attended by representatives of the EPA, City of Lakewood, CDOT, GSA and MHFD. The meeting agenda and attendance roster can be found in Attachment 1.	Yes.
The first annual McIntyre Gulch planning meeting shall be held within 6 months of the final issuance of this Permit, and once every subsequent federal fiscal year thereafter until the next renewal of this Permit.	See status above.	Yes.
At each annual McIntyre Gulch planning meeting, the Permittee shall identify and prioritize upcoming restoration projects, if any, for that portion of McIntyre Gulch under its control.	At the annual McIntyre Gulch planning meeting in December 2023, GSA provided that the final designs for eight McIntyre Gulch restoration projects would be received in February 2024. GSA is also preparing a capital funding request to obtain funding to implement these projects.	Yes.
The Permittee's invitation and coordination attempts to hold a McIntyre Gulch Planning Meeting consistent with Part 4.2.1.	The meeting agenda and attendance roster can be found in Attachment 1.	Yes.

A prioritized list containing, at a minimum, a description of any selected restoration project(s), the timeline(s) to implement and complete these projects, the rationale for the selection and prioritization of the project(s), and a justification if a restoration project that is selected is not implemented on the timeline identified.	See the attached (Attachment 2) prioritized list of selected restoration projects.	Yes.
The coordination, if any, that will take place between the parties in Part 4.2.1 for any selected restoration projects.	To date, only the designs for the restoration projects has been completed. Coordination with the other parties will probably not be necessary until funding is obtained to implement the projects.	Yes.

9. Storm Sewer and Outfall Monitoring

Provide the status of any measurable goal scheduled for completion during the reporting period or for which activities have begun. For program elements started, but not completed, any milestones that have been met must be indicated. If a change will be proposed to the BMP or measurable goal as part of the annual report, this must be stated and the proposed changes discussed. For each change proposed, you must provide information on:

1. The BMP/Measurable goal for which a change is proposed;
2. Any proposed changes to the BMP description;
3. Any proposed changes to the measurable goals (including specific dates and measures); and
4. The rationale for the proposed changes.

Describe any measurable goal(s) for public participation and involvement on stormwater impacts for the reporting period; including dates and numeric measures:

Measurable Goal(s) Including dates and numeric measures, as previously submitted	Status: Including dates and numeric measures.	Changes proposed to BMP and/or Measurable Goal? (Yes/No). If yes, provide information on proposed changes and rationale.
1,4-Dioxane has been detected at Outfalls 02OUT1005C and 02OUT1009C. GSA must notify CDPHE of these findings as part of their clean-up activities since it would indicate the plume is possibly infiltrating into an area previous identified as “uncontaminated.” Notification to CDPHE’s Hazardous Waste Corrective Action Unit must occur within 3 months of this Permit’s effective date.	CDPHE was notified of the potential for 1,4-Dioxane detections prior to the issuance of this permit; and again, following receipt of analytical results from samples collected on 9/20/22, two months after the effective date of this permit.	Yes.
The Permittee shall monitor quarterly for 1,4-Dioxane at outfalls: 02OUT1005C, 02OUT1009C, and in the storm sewer prior to Federal Highway Administration (FHWA) discharge for two full years after the effective date of this permit using a 40 CFR Part 136 approved analytical method and one of the following additional analytical methods: 1) a solid waste (SW) method or 2) a drinking water (DW) method. One sample shall be analyzed with each of the two utilized methods. The Permittee must submit the result of the quarterly monitoring with its annual report	Results from September 2022 through June 2023 are summarized in the Organic Pollutant MS4 Reduction Plan (Attachment 4). Results from September and December 2023 are provided in Attachment 3. 1,4-Dioxane has been detected in discharge at outfalls 02OUT1005C and 02OUT1009C.	Yes.

required in Part 6.2. If the Permittee has any detectable concentrations of 1,4-Dioxane under any method described above, it must prepare, develop, and submit to EPA an Organic Pollutant MS4 Reduction Plan to address the findings or update and submit to EPA a previously developed Organic Pollutant MS4 Reduction Plan. Upon submittal to EPA, the Organic Pollutant MS4 Reduction Plan shall be implemented.		
The Organic Pollutant MS4 Reduction Plan must be submitted to EPA with the following year's annual report.	Since 1,4-Dioxane has been detected in discharge at outfalls 02OUT1005C and 02OUT1009C, an Organic Pollutant MS4 Reduction Plan has been developed. This plan is provided in Attachment 4.	Yes.

E. Results of Information Collected and Analyzed.*

If you have collected and/or analyzed information during the reporting period, including any monitoring data used to assess the success of the program at reducing the discharge of pollutants, submit a short summary of the information and any analysis completed.

Measurable Goal	Results of information collected and analyzed that must be reported for this item
MS4 Annual Water Sampling	GSA spent the first year of the previous MS4 permit term determining the outfalls that discharge non-stormwater (continuous flow) to McIntyre Gulch. Beginning with the second year of that permit, GSA has sampled the four outfalls with continuous flow (out of 13 total outfalls) for the parameters listed in Section 1.3.3.1 of the previous MS4 permit. These samples are collected annually in August of each year. Results are compared to water quality parameters to determine if there is a potential impact to the McIntyre Gulch receiving water. Additionally, visual inspections are performed along the entire reach of the gulch on the DFC campus, during the annual dry-weather outfall survey conducted during the fall of each year.
MS4 Outfall Monitoring for 1,4-Dioxane	This new permit (Section 5) requires monitoring for 1,4-Dioxane at outfalls: 02OUT1005C, 02OUT1009C, and in the storm sewer prior to Federal Highway Administration (FHWA) discharge. Samples have been collected quarterly from these locations from September 2022 through December 2023 (and continuing in 2024). Results from these sampling events show that 1,4-Dioxane was detected at outfall 02OUT1005C and outfall 02OUT1009C. It was not detected in the storm sewer upstream of the FHWA discharge. Monitoring at these locations will continue, quarterly, “for two full years after the effective date of this permit” (i.e., through September 2024).

*Data collected to audit the implementation status of a program element does not need to be reported in the annual report unless required by an established measurable goal or as a requirement or result of an inspection or enforcement action. For example, data such as street miles swept, visitors at an information booth, or visits to a web site do not need to be included in the annual report unless directly related to a measurable goal or committed to be reported and/or analyzed in a program description.

F. Summary of Inspections and Enforcement Actions.

Provide a summary of the number and nature of inspections and formal enforcement actions performed. Site-specific information may also be included, but is not required.

Program Area	Description of Enforcement Actions/ Inspections
Construction General Permit – Construction Stormwater Inspections	<p>South of Building 20 Excavation Project – Project began in early 2020. The project contractor obtained coverage under the CGP, The project involved removal of ACM and RACS. The project has been completed and the excavation stabilized. The excavation will remain open until construction of a new building commences at the location. An NOT was filed in October 2023. No formal enforcement actions were performed during this project.</p> <p>Building 48 Renovation - Project began in 2021. The project contractor obtained coverage under the CGP. The project has involved extensive ground disturbance, grading and construction of new parking areas and stormwater control measures. Exterior construction was complete in December 2023. Inspections were performed by contractor and EPG personnel during this project. No formal enforcement actions have been performed during this project.</p> <p>Building 53 Renovation - Project began in 2022. The project contractor obtained coverage under the CGP. The project has involved extensive ground disturbance, grading and construction of new parking areas and stormwater control measures. Inspections are performed by contractor and EPG personnel during this project. No formal enforcement actions have been performed during this project.</p>

G. Proposed Changes to the Stormwater Management Program.

Provide a narrative description of any changes or additions to the stormwater management program.

<p>During the upcoming MS4 permit term, GSA Region 8/DFC plan to:</p> <p>Revise the SWMP to address renewed permit requirements and eliminate items in the existing SWMP that are not applicable.</p> <p>Develop a new annual stormwater training program.</p> <p>Continue quarterly monitor of select outfall locations for 1,4-Dioxane.</p> <p>Monitor outfalls with dry weather flows quarterly for total phosphorus and nitrogen.</p> <p>Continue a baseline study of phosphorus and nitrogen sampling to determine if there is a DFC contribution to the nutrient waste load.</p> <p>Determine a system, other than the Sustainability and Environmental Management System (SEMS), to store and track MS4 permit files.</p> <p>Incorporate the use of MAXIMO to track operation and maintenance of existing and new post- construction stormwater control measures.</p> <p>Begin implementing, as funding is obtained, McIntyre Gulch erosion and sediment control projects for which final designs have been completed.</p>

H. Notice of Program Element Operation by a Second Party.

Another government entity may be relied on to perform requirements of your MS4 permit. However, as the permittee, you remain liable for compliance with the terms of the permit if the requirements are not fulfilled. You must complete this annual report for the geographic areas covered under your permit, for all program areas, even if one or more program elements/areas is being performed by another entity. (However, if you are performing a program element for another permittee, you do not need to include that activity in this report.) If you are relying on another government entity to satisfy some of your permit obligations (and if the information has not been previously provided to the EPA in earlier reports or the application), the annual report must include a statement to that effect. If the BMP and/or measurable goal will be modified in addition to the change of operator to another government entity, the change must be included in Item G, above. Example statement: "As of September 15, 2003, Monroe County is performing the construction site plan reviews for the Nixon Air Force Base in accordance with the procedures in the Base's original application."

Not Applicable.

I. Certification.

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

Signature of Permittee (legally responsible person)**

Date Signed

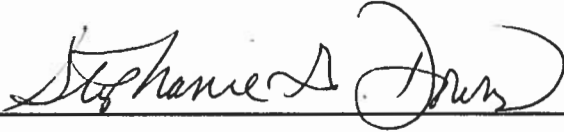
Name (printed)

Title

**This report may be signed by a duly authorized representative of the permittee in conjunction with the signatory requirements for NPDES permitting provided at 40 CFR§122.22(b).

I. Certification.

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



3/28/2024

Signature of Permittee (legally responsible person)**

Date Signed

Stephanie G. Downs Director, Rocky Mountain

Name (printed)

Title Service Center

**This report may be signed by a duly authorized representative of the permittee in conjunction with the signatory requirements for NPDES permitting provided at 40 CFR§122.22(b).

Attachment 1

McIntyre Gulch Planning Meeting

Agenda and Attendee Roster

AGENDA
Annual McIntyre Gulch Planning Meeting Denver Federal Center
(DFC) MS4 Permit Permit No. COR-042004
December 6, 2023

Purpose:

“The purpose of the McIntyre Gulch Planning Meeting is to have a structured process for coordination and consultation between participants in attendance to help ensure that the participants may be able to address the stormwater issues in and along the portions of McIntyre Gulch under their control from a holistic, watershed perspective.”

- Introductions

- Future McIntyre Gulch Projects within the DFC.

- Small stormwater projects performed in 2023.

- Upcoming CDOT projects along 6th Avenue, Kipling, or Alameda.

- Upcoming City of Lakewood projects near the DFC.

- Upcoming MHFD maintenance along McIntyre Gulch, upstream or downstream of the DFC.

- Sale of 59 acres at the northwest corner of the DFC.
 - Coordination with City of Lakewood, CDOT and GSA to manage stormwater runoff entering the DFC.

Meeting Sign-In

Annual McIntyre Gulch Planning Meeting

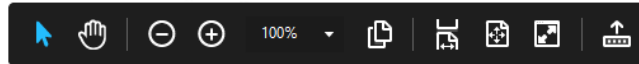
Denver Federal Center MS4 Permit

Permit No. COR-042004

December 6, 2023

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Fritz Heneman	GSA/Miracorp	720.518.9112	Frederick.heneman@gsa.gov
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Jason Hessling	GSA	303-335-5242	jason.hessling@gsa.gov
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Tony Phelps	GSA	720-625-1321	anthony.phelps@gsa.gov
Kerry Law	GSA	720-885-4395	Kerry.law@gsa.gov

Online
online
online



Attachment 2

List of Stormwater and Erosion Control Projects 2022 and 2023
and
McIntyre Gulch Restoration Projects.

List of Stormwater and Erosion Controls Projects on the DFC - 2022

- Repair Snow Melt Yard detention basin drainage pipe.
- Remove large log and miscellaneous debris from the Main St Bridge box culvert.
- Remove debris and vegetation from the Agricultural Ditch box culvert.
- Remove vegetation from around the McIntyre Gulch outfalls.
- Placement of signs identifying outfall numbers.
- Clean concrete trickle channel south of Building 810.
- Revegetate area south of Downing Reservoir.

List of Stormwater and Erosion Controls Projects on the DFC - 2023

- Repair small rip rap drainage swale east of Building 810.
- Cleanout debris and sediment from the Pond 3 concrete trickle channel.
- Repair washout adjacent to Downing Reservoir outlet, at McIntyre Gulch.
- Repair erosion rills around the perimeter of Downing Reservoir.
- Install drainage swale and area drain south of Building 16.
- Remove sediment from the Building 94 Bioretention Basins, regrade and repair basins.
- Repair the washout area upstream of the west security fence, south bank of McIntyre Gulch.
- Regrade the Snow Melt Yard.

List of McIntyre Gulch Restoration Projects.

(Designs for these projects will be completed by February 2024)

Project Number	Project Name
1	Main Avenue Culvert Bank Stabilization
2	7 th Street Culvert
3	Toe Scour Stabilization Upstream of Kipling Street
4	Bank Stabilization Upstream of Kipling Street
5	Bank Stabilization Near Irrigation Crossing
6	Bank Stabilization Upstream of 5 th Street Culvert
7	Bank Stabilization Upstream of 8 th Street Culvert.
8	Bank Stabilization Downstream of Routt Street

Attachment 3

Nutrient and 1,4-Dioxane Monitoring Results

SEPTEMBER 2023

tection Summary

Client: SS Papadopoulos & Associates Inc Project/Site: DFC Annual Long Term Monitoring
Job ID: 280-181305-1

Client Sample ID: MH-6-5

Lab Sample ID: 280-181305-1

Client Sample ID: AG_Ditch_Influent

Lab Sample ID: 280-181305-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nitrate Nitrite as N	0.17		0.10	0.044	mg/L	1		353.2	Total/NA
Nitrogen, Total	0.17		0.10	0.10	mg/L	1		Total Nitrogen	Total/NA

Client Sample ID: 101SW01A

Lab Sample ID: 280-181305-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Kjeldahl Nitrogen	3.5		2.0	1.4	mg/L	1		351.2	Total/NA
Phosphorus, Total	1.0		0.25	0.13	mg/L	5		365.1	Total/NA
Nitrogen, Total	3.5		0.10	0.10	mg/L	1		Total Nitrogen	Total/NA

Client Sample ID: 1603SP01

Lab Sample ID: 280-181305-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Kjeldahl Nitrogen	3.9		1.0	0.69	mg/L	1		351.2	Total/NA
Phosphorus, Total	0.16		0.050	0.025	mg/L	1		365.1	Total/NA
Nitrogen, Total	3.9		0.10	0.10	mg/L	1		Total Nitrogen	Total/NA

Client Sample ID: MG00ASW05A

Lab Sample ID: 280-181305-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nitrate Nitrite as N	1.9		0.10	0.044	mg/L	1		353.2	Total/NA
Phosphorus, Total	0.036	J	0.050	0.025	mg/L	1		365.1	Total/NA
Nitrogen, Total	1.9		0.10	0.10	mg/L	1		Total Nitrogen	Total/NA

Client Sample ID: 02OUT1009C

Lab Sample ID: 280-181305-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.71		0.20	0.087	ug/L	1		522	Total/NA
1,4-Dioxane	0.23	J	0.28	0.094	ug/L	1		625.1 SIM	Total/NA
Nitrate Nitrite as N	3.1		0.10	0.044	mg/L	1		353.2	Total/NA
Phosphorus, Total	0.24		0.050	0.025	mg/L	1		365.1	Total/NA
Nitrogen, Total	3.1		0.10	0.10	mg/L	1		Total Nitrogen	Total/NA

Client Sample ID: 02OUT1009C_DUP

Lab Sample ID: 280-181305-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.77		0.20	0.087	ug/L	1		522	Total/NA
1,4-Dioxane	0.20	J	0.28	0.095	ug/L	1		625.1 SIM	Total/NA
Nitrate Nitrite as N	3.1		0.10	0.044	mg/L	1		353.2	Total/NA
Phosphorus, Total	0.25		0.050	0.025	mg/L	1		365.1	Total/NA
Nitrogen, Total	3.1		0.10	0.10	mg/L	1		Total Nitrogen	Total/NA

Client Sample ID: 02OUT1005C

Lab Sample ID: 280-181305-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.63		0.20	0.087	ug/L	1		522	Total/NA
1,4-Dioxane	0.16	J	0.28	0.093	ug/L	1		625.1 SIM	Total/NA
Nitrate Nitrite as N	1.9		0.10	0.044	mg/L	1		353.2	Total/NA
Nitrogen, Total	1.9		0.10	0.10	mg/L	1		Total Nitrogen	Total/NA

No Detections.

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This Detection Summary does not include radiochemical test results.

Detection Summary

Job ID: 280-181305-1

Client Sample ID: G-1

Lab Sample ID: 280-181305-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nitrate Nitrite as N	2.2		0.10	0.044	mg/L	1		353.2	Total/NA
Phosphorus, Total	0.063		0.050	0.025	mg/L	1		365.1	Total/NA
Nitrogen, Total	2.2		0.10	0.10	mg/L	1		Total Nitrogen	Total/NA

This Detection Summary does not include radiochemical test results.

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Client: SS Papadopoulos & Associates Inc

Client Sample Results

Job ID: 280-181305-1

Project/Site: DFC Annual Long Term Monitoring

Client Sample ID: MH-6-5 Date Collected: 09/09/23 08:10 Date Received: 09/09/23 12:00

Method: EPA 522 - 1,4 Dioxane (GC/MS SIM)

Lab Sample ID: 280-181305-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.087	U	0.20	0.087	ug/L		09/18/23 14:00	09/19/23 18:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	83		46 - 130	09/18/23 14:00	09/19/23 18:17	1

Method: EPA 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.094	U	0.28	0.094	ug/L		09/15/23 15:10	09/20/23 22:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Fluoranthene-d10 (Surr)	50		30 - 187	09/15/23 15:10	09/20/23 22:43	1
Benzo(a)pyrene-d12 (Surr)	44		32 - 194	09/15/23 15:10	09/20/23 22:43	1
1-Methylnaphthalene-d10 (Surr)	49		36 - 114	09/15/23 15:10	09/20/23 22:43	1

Client Sample ID: AG_Ditch_Influent

Date Collected: 09/09/23 08:57 Date Received: 09/09/23 12:00

Lab Sample ID: 280-181305-2

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen (EPA 351.2)	0.69	U	1.0	0.69	mg/L		09/22/23 14:19	09/25/23 11:28	1
Nitrate Nitrite as N (EPA 353.2)	0.17		0.10	0.044	mg/L			09/20/23 14:45	1
Phosphorus, Total (EPA 365.1)	0.025	U	0.050	0.025	mg/L		09/12/23 12:44	09/15/23 12:39	1

Nitrogen, Total (EPA Total Nitrogen) 0.17 0.10 0.10 mg/L 09/25/23 15:36 1

Client Sample ID: 101SW01A Date Collected: 09/09/23 09:15 Date Received: 09/09/23 12:00

Lab Sample ID: 280-181305-3

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen (EPA 351.2)	3.5		2.0	1.4	mg/L		09/22/23 14:19	09/25/23 11:28	1
Nitrate Nitrite as N (EPA 353.2)	0.044	U	0.10	0.044	mg/L			09/20/23 14:59	1
Phosphorus, Total (EPA 365.1)	1.0		0.25	0.13	mg/L		09/12/23 12:44	09/15/23 12:55	5
Nitrogen, Total (EPA Total Nitrogen)	3.5		0.10	0.10	mg/L			09/25/23 15:36	1

Client Sample ID: 1603SP01 Date Collected: 09/09/23 09:35 Date Received: 09/09/23 12:00

Lab Sample ID: 280-181305-4

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen (EPA 351.2)	3.9		1.0	0.69	mg/L		09/22/23 14:19	09/25/23 11:27	1
Nitrate Nitrite as N (EPA 353.2)	0.044	U	0.10	0.044	mg/L			09/20/23 15:01	1
Phosphorus, Total (EPA 365.1)	0.16		0.050	0.025	mg/L		09/12/23 12:44	09/15/23 12:39	1
Nitrogen, Total (EPA Total Nitrogen)	3.9		0.10	0.10	mg/L			09/25/23 15:36	1

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Client: SS Papadopoulos & Associates Inc

Client Sample Results

Job ID: 280-181305-1

Project/Site: DFC Annual Long Term Monitoring

Client Sample ID: MG00ASW05A

Date Collected: 09/09/23 10:05 Date Received: 09/09/23 12:00

Lab Sample ID: 280-181305-5

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen (EPA 351.2)	0.69	U	1.0	0.69	mg/L		09/22/23 14:19	09/25/23 11:26	1
Nitrate Nitrite as N (EPA 353.2)	1.9		0.10	0.044	mg/L			09/21/23 14:03	1
Phosphorus, Total (EPA 365.1)	0.036	J	0.050	0.025	mg/L		09/12/23 12:44	09/15/23 12:40	1
Nitrogen, Total (EPA Total Nitrogen)	1.9		0.10	0.10	mg/L			09/25/23 15:36	1

Client Sample ID: 02OUT1009C

Date Collected: 09/09/23 10:35 Date Received: 09/09/23 12:00

Method: EPA 522 - 1,4 Dioxane (GC/MS SIM)

Lab Sample ID: 280-181305-6

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.71		0.20	0.087	ug/L		09/18/23 14:00	09/19/23 18:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	82		46 - 130	09/18/23 14:00	09/19/23 18:31	1

Method: EPA 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.23	J	0.28	0.094	ug/L		09/15/23 15:10	09/20/23 23:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Fluoranthene-d10 (Surr)	53		30 - 187	09/15/23 15:10	09/20/23 23:04	1
Benzo(a)pyrene-d12 (Surr)	48		32 - 194	09/15/23 15:10	09/20/23 23:04	1
1-Methylnaphthalene-d10 (Surr)	53		36 - 114	09/15/23 15:10	09/20/23 23:04	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen (EPA 351.2)	0.69	U	1.0	0.69	mg/L		09/22/23 14:19	09/25/23 11:25	1
Nitrate Nitrite as N (EPA 353.2)	3.1		0.10	0.044	mg/L			09/21/23 14:05	1
Phosphorus, Total (EPA 365.1)	0.24		0.050	0.025	mg/L		09/12/23 12:44	09/15/23 12:40	1
Nitrogen, Total (EPA Total Nitrogen)	3.1		0.10	0.10	mg/L			09/25/23 15:36	1

Client Sample ID: 02OUT1009C_DUP

Date Collected: 09/09/23 10:35 Date Received: 09/09/23 12:00

Method: EPA 522 - 1,4 Dioxane (GC/MS SIM)

Lab Sample ID: 280-181305-7

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.77		0.20	0.087	ug/L		09/18/23 14:00	09/19/23 18:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	89		46 - 130	09/18/23 14:00	09/19/23 18:44	1

Method: EPA 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.20	J	0.28	0.095	ug/L		09/15/23 15:10	09/20/23 23:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Fluoranthene-d10 (Surr)	45		30 - 187	09/15/23 15:10	09/20/23 23:26	1
Benzo(a)pyrene-d12 (Surr)	41		32 - 194	09/15/23 15:10	09/20/23 23:26	1
1-Methylnaphthalene-d10 (Surr)	44		36 - 114	09/15/23 15:10	09/20/23 23:26	1

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nt Sample Results

Client: SS Papadopoulos & Associates Inc Project/Site: DFC Annual Long Term Monitoring

Client Sample ID: 02OUT1009C_DUP

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen (EPA 351.2)	0.69	U	1.0	0.69	mg/L		09/22/23 14:19	09/25/23 11:25	1
Nitrate Nitrite as N (EPA 353.2)	3.1		0.10	0.044	mg/L			09/21/23 14:07	1
Phosphorus, Total (EPA 365.1)	0.25		0.050	0.025	mg/L		09/12/23 12:44	09/15/23 12:40	1
Nitrogen, Total (EPA Total Nitrogen)	3.1		0.10	0.10	mg/L			09/25/23 15:36	1

Date Collected: 09/09/23 10:35 Date Received: 09/09/23 12:00

Job ID: 280-181305-1

Lab Sample ID: 280-181305-7

Matrix: Water

Client Sample ID: 02OUT1005C

Date Collected: 09/09/23 11:17 Date Received: 09/09/23 12:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.63		0.20	0.087	ug/L		09/18/23 14:00	09/19/23 18:58	1

Method: EPA 522 - 1,4 Dioxane (GC/MS SIM)

Lab Sample ID: 280-181305-8

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	87		46 - 130	09/18/23 14:00	09/19/23 18:58	1

Method: EPA 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.16	J	0.28	0.093	ug/L		09/15/23 15:10	09/20/23 23:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Fluoranthene-d10 (Surr)	48		30 - 187	09/15/23 15:10	09/20/23 23:48	1
Benzo(a)pyrene-d12 (Surr)	47		32 - 194	09/15/23 15:10	09/20/23 23:48	1
1-Methylnaphthalene-d10 (Surr)	44		36 - 114	09/15/23 15:10	09/20/23 23:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen (EPA 351.2)	0.69	U	1.0	0.69	mg/L		09/22/23 14:19	09/25/23 11:24	1
Nitrate Nitrite as N (EPA 353.2)	1.9		0.10	0.044	mg/L			09/21/23 14:09	1
Phosphorus, Total (EPA 365.1)	0.025	U	0.050	0.025	mg/L		09/12/23 12:44	09/15/23 12:41	1
Nitrogen, Total (EPA Total Nitrogen)	1.9		0.10	0.10	mg/L			09/25/23 15:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen (EPA 351.2)	0.69	U F1	1.0	0.69	mg/L		09/22/23 14:19	09/25/23 11:24	1
Nitrate Nitrite as N (EPA 353.2)	2.2		0.10	0.044	mg/L			09/21/23 14:11	1
Phosphorus, Total (EPA 365.1)	0.063		0.050	0.025	mg/L		09/12/23 12:44	09/15/23 12:41	1
Nitrogen, Total (EPA Total Nitrogen)	2.2		0.10	0.10	mg/L			09/25/23 15:36	1

Client Sample ID: G-1 Date Collected: 09/09/23 11:31 Date Received: 09/09/23 12:00

Lab Sample ID: 280-181305-9

Matrix: Water
Eurofins Denver

tection Summary

Client Sample ID: 02OUT1001C

Lab Sample ID: 280-185926-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.17	J	0.20	0.092	ug/L	1		522	Total/NA
Total Kjeldahl Nitrogen	1.2		1.0	0.69	mg/L	1		351.2	Total/NA
Nitrate Nitrite as N	1.6		0.10	0.044	mg/L	1		353.2	Total/NA
Phosphorus, Total	0.26		0.050	0.025	mg/L	1		365.1	Total/NA

Client Sample ID: 02OUT1005C

Lab Sample ID: 280-185926-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.26		0.20	0.092	ug/L	1		522	Total/NA
Nitrate Nitrite as N	1.9		0.10	0.044	mg/L	1		353.2	Total/NA

Client Sample ID: 02OUT1009C

Lab Sample ID: 280-185926-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.2		0.20	0.092	ug/L	1		522	Total/NA
1,4-Dioxane	0.42		0.28	0.095	ug/L	1		625.1 SIM	Total/NA
Nitrate Nitrite as N	3.0		0.20	0.088	mg/L	2		353.2	Total/NA
Phosphorus, Total	0.37		0.050	0.025	mg/L	1		365.1	Total/NA

Client Sample ID: MH-6-5

Lab Sample ID: 280-185926-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.14	J	0.20	0.092	ug/L	1		522	Total/NA

Client Sample ID: 02OUT1009C_DUP

Lab Sample ID: 280-185926-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.3		0.20	0.092	ug/L	1		522	Total/NA
1,4-Dioxane	0.52		0.29	0.096	ug/L	1		625.1 SIM	Total/NA
Nitrate Nitrite as N	3.1		0.10	0.044	mg/L	1		353.2	Total/NA
Phosphorus, Total	0.38		0.050	0.025	mg/L	1		365.1	Total/NA

Client: SS Papadopoulos & Associates Inc Project/Site: DFC Annual Long Term Monitoring

Job ID: 280-185926-1

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This Detection Summary does not include radiochemical test results.

1/18/2024

3:28:59 PM

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Client: SS Papadopoulos & Associates Inc

Client Sample Results

Job ID: 280-185926-1

Project/Site: DFC Annual Long Term Monitoring

Client Sample ID: 02OUT1001C

Date Collected: 12/20/23 13:01 Date Received: 12/20/23 15:02

Method: EPA 522 - 1,4 Dioxane (GC/MS SIM)

Lab Sample ID: 280-185926-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.17	J	0.20	0.092	ug/L		01/11/24 10:20	01/16/24 12:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	69		46 - 130				01/11/24 10:20	01/16/24 12:11	1

Method: EPA 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.094	U	0.28	0.094	ug/L		12/23/23 07:40	12/28/23 14:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Fluoranthene-d10 (Surr)	59		30 - 187				12/23/23 07:40	12/28/23 14:16	1
Benzo(a)pyrene-d12 (Surr)	37		32 - 194				12/23/23 07:40	12/28/23 14:16	1
1-Methylnaphthalene-d10 (Surr)	65		36 - 114				12/23/23 07:40	12/28/23 14:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen (EPA 351.2)	1.2		1.0	0.69	mg/L		01/08/24 14:48	01/10/24 14:19	1
Nitrate Nitrite as N (EPA 353.2)	1.6		0.10	0.044	mg/L			01/05/24 14:07	1
Phosphorus, Total (EPA 365.1)	0.26		0.050	0.025	mg/L		01/04/24 11:37	01/09/24 15:57	1

Client Sample ID: 02OUT1005C

Date Collected: 12/20/23 13:52 Date Received: 12/20/23 15:02

Method: EPA 522 - 1,4 Dioxane (GC/MS SIM)

Lab Sample ID: 280-185926-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.26		0.20	0.092	ug/L		01/11/24 10:20	01/16/24 12:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	88		46 - 130				01/11/24 10:20	01/16/24 12:25	1

Method: EPA 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.096	U	0.29	0.096	ug/L		12/23/23 07:40	12/28/23 14:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Fluoranthene-d10 (Surr)	72		30 - 187				12/23/23 07:40	12/28/23 14:38	1
Benzo(a)pyrene-d12 (Surr)	69		32 - 194				12/23/23 07:40	12/28/23 14:38	1
1-Methylnaphthalene-d10 (Surr)	63		36 - 114				12/23/23 07:40	12/28/23 14:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen (EPA 351.2)	0.69	U	1.0	0.69	mg/L		01/08/24 14:48	01/10/24 14:19	1
Nitrate Nitrite as N (EPA 353.2)	1.9		0.10	0.044	mg/L			01/05/24 14:17	1
Phosphorus, Total (EPA 365.1)	0.025	U	0.050	0.025	mg/L		01/04/24 11:37	01/09/24 15:57	1

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Client: SS Papadopoulos & Associates Inc

Client Sample Results

Job ID: 280-185926-1

Project/Site: DFC Annual Long Term Monitoring

Client Sample ID: 02OUT1009C

Date Collected: 12/20/23 12:11 Date Received: 12/20/23 15:02

Method: EPA 522 - 1,4 Dioxane (GC/MS SIM)

Lab Sample ID: 280-185926-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed
1,4-Dioxane	1.2		0.20	0.092	ug/L		01/11/24 10:20	01/16/24 12:38
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed
1,4-Dioxane-d8 (Surr)	89		46 - 130				01/11/24 10:20	01/16/24 12:38

Method: EPA 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed
1,4-Dioxane	0.42		0.28	0.095	ug/L		12/23/23 07:40	12/28/23 15:00
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed
Fluoranthene-d10 (Surr)	72		30 - 187				12/23/23 07:40	12/28/23 15:00
Benzo(a)pyrene-d12 (Surr)	64		32 - 194				12/23/23 07:40	12/28/23 15:00
1-Methylnaphthalene-d10 (Surr)	60		36 - 114				12/23/23 07:40	12/28/23 15:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed
Total Kjeldahl Nitrogen (EPA 351.2)	0.69	U	1.0	0.69	mg/L		01/08/24 14:48	01/10/24 14:17
Nitrate Nitrite as N (EPA 353.2)	3.0		0.20	0.088	mg/L			01/05/24 14:03
Phosphorus, Total (EPA 365.1)	0.37		0.050	0.025	mg/L		01/04/24 11:37	01/09/24 15:57

Client Sample ID: MH-6-5 Date Collected: 12/20/23 11:10 Date Received: 12/20/23 15:02

Method: EPA 522 - 1,4 Dioxane (GC/MS SIM)

Lab Sample ID: 280-185926-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed
1,4-Dioxane	0.14	J	0.20	0.092	ug/L		01/11/24 10:20	01/16/24 13:19
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed
1,4-Dioxane-d8 (Surr)	91		46 - 130				01/11/24 10:20	01/16/24 13:19

Method: EPA 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed
1,4-Dioxane	0.094	U	0.28	0.094	ug/L		12/23/23 07:40	12/28/23 15:23

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed
Fluoranthene-d10 (Surr)	73		30 - 187	12/23/23 07:40	12/28/23 15:23
Benzo(a)pyrene-d12 (Surr)	69		32 - 194	12/23/23 07:40	12/28/23 15:23
1-Methylnaphthalene-d10 (Surr)	65		36 - 114	12/23/23 07:40	12/28/23 15:23

Client Sample ID: 02OUT1009C_DUP

Date Collected: 12/20/23 12:11 Date Received: 12/20/23 15:02

Method: EPA 522 - 1,4 Dioxane (GC/MS SIM)

Lab Sample ID: 280-185926-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed
1,4-Dioxane	1.3		0.20	0.092	ug/L		01/11/24 10:20	01/16/24 13:33

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed
1,4-Dioxane-d8 (Surr)	86		46 - 130	01/11/24 10:20	01/16/24 13:33

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nt Sample Results

Client: SS Papadopulos & Associates Inc Project/Site: DFC Annual Long Term Monitoring

Client Sample ID: 02OUT1009C_DUP

Date Collected: 12/20/23 12:11 Date Received: 12/20/23 15:02

Job ID: 280-185926-1

Lab Sample ID: 280-185926-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed
1,4-Dioxane	0.52		0.29	0.096	ug/L		12/23/23 07:40	12/28/23 15:45

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed
Fluoranthene-d10 (Surr)	84		30 - 187	12/23/23 07:40	12/28/23 15:45
Benzo(a)pyrene-d12 (Surr)	73		32 - 194	12/23/23 07:40	12/28/23 15:45
1-Methylnaphthalene-d10 (Surr)	71		36 - 114	12/23/23 07:40	12/28/23 15:45

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed
Total Kjeldahl Nitrogen (EPA 351.2)	0.69	U	1.0	0.69	mg/L		01/08/24 14:48	01/10/24 14:20
Nitrate Nitrite as N (EPA 353.2)	3.1		0.10	0.044	mg/L			01/05/24 14:18
Phosphorus, Total (EPA 365.1)	0.38		0.050	0.025	mg/L		01/04/24 11:37	01/09/24 15:57

Method: EPA 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

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Attachment 4

Organic Pollutant MS4 Reduction Plan

Organic Pollutant MS4 Reduction Plan
Denver Federal Center
December 2023

1.0 INTRODUCTION.

The Municipal Separate Storm Sewer System (MS4) permit for the Denver Federal Center (DFC) (Permit No. COR-042004), Section 5, requires that an Organic Pollutant MS4 Reduction Plan (OPRP) be developed if the Permittee has any detectable concentrations of 1,4-Dioxane from outfalls 02OUT1005C, 02OUT1009C or a storm sewer manhole upgradient of the Federal Highway Administration (FHWA) treatment plant discharge into the storm sewer system on the DFC.

This OPRP is the result of 1,4-Dioxane being detected in dry weather discharges from outfalls 02OUT1005C and 02OUT1009C during quarterly monitoring.

2.0 MS4 PERMIT REQUIREMENTS.

This section presents the sections from the MS4 permit requiring outfall monitoring and development of the OPRP. From Section 5 of the MS4 permit:

5 STORM SEWER AND OUTFALL MONITORING

5.1 1,4-Dioxane Monitoring and Organic Pollutant MS4 Reduction Plan

- 5.1.1 As described in the Section 7.2 of the Statement of Basis, 1,4-Dioxane has been detected at Outfalls 02OUT1005C and 02OUT1009C. Due to these findings, GSA must notify CDPHE of these findings as part of their clean-up activities since it would indicate the plume is possibly infiltrating into an area previous identified as "uncontaminated." Notification to CDPHE's Hazardous Waste Corrective Action Unit must occur within 3 months of this Permit's effective date.
- 5.1.2 The Permittee shall monitor quarterly for 1,4-Dioxane at outfalls: 02OUT1005C, 02OUT1009C, and in the storm sewer prior to Federal Highway Administration (FHWA) discharge (authorized under NPDES CO-0034860) for two full years after the effective date of this permit using a 40 CFR Part 136 approved analytical method **and** one of the following additional analytical methods: 1) a solid waste (SW) method or 2) a drinking water (DW) method. One sample shall be analyzed with each of the two utilized methods. The Permittee must submit the result of the quarterly monitoring with its annual report required in Part 6.2. If the Permittee has any detectable concentrations of 1,4-Dioxane under any method described above, it must prepare, develop, and submit to EPA an Organic Pollutant MS4 Reduction Plan to address the findings or update and submit to EPA a previously developed Organic Pollutant MS4 Reduction Plan. Upon submittal to EPA, the Organic Pollutant MS4 Reduction Plan shall be implemented.
- 5.1.3 The Organic Pollutant MS4 Reduction Plan must be submitted to EPA with the following year's annual report.

- 5.1.4 The Organic Pollutant MS4 Reduction Plan shall address, at a minimum, the steps and time frames to identify the source location(s) of 1,4-Dioxane and the steps and time frames to address and eventually reduce 1,4-Dioxane concentrations below method detection limits.
- 5.1.5 The Organic Pollutant MS4 Reduction Plan could include measures being conducted through a new or revised CDPHE RCRA corrective action
- 5.1.6 If after two full years of all non-detectable concentrations of 1,4-Dioxane, the Permittee make request approval to terminate quarterly sampling from EPA. The Permittee may only terminate sampling upon written approval from EPA.

3.0 OUTFALL MONITORING HISTORY

In September 2022, after the August 1, 2022, effective date of the MS4 permit, GSA began quarterly monitoring for 1,4-Dioxane at outfalls: 02OUT1005C, 02OUT1009C, and in the storm sewer upgradient of the FHWA treatment system discharge (Figure 3-1).

Samples were collected from each of the locations and analyzed by Method 625.1 SIM (a 40 CFR Part 136 approved analytical method) and by Method 522 (a drinking water method).

Quarterly monitoring samples were also collected from these locations on December 27, 2022, February 7, 2023, June 28, 2023, and September 9, 2023 (analytical results from the September 9, 2023, sampling event are not yet available).

Figure 3-1



4.0 OUTFALL MONITORING RESULTS

1,4-Dioxane was detected during the quarterly monitoring events as shown in the following table.

Table 4-1

Date	Sample Location	Analyte	Result	RL	MDL	Standard	Units	Method
9/20/22	Manhole	1,4-Dioxane	ND	0.20	0.077	0.35	ug/l	522
			ND	0.28	0.093	0.35	ug/l	625.1 SIM
9/20/22	02OUT1009C	1,4-Dioxane	1.1	0.20	0.077	0.35	ug/l	522
			0.32	0.28	0.093	0.35	ug/l	625.1 SIM
9/20/22	02OUT1005C	1,4-Dioxane	1.4	0.20	0.077	0.35	ug/l	522
			0.45	0.29	0.097	0.35	ug/l	625.1 SIM
12/27/22	Manhole	1,4-Dioxane	1.1	0.20	0.077	0.35	ug/l	522
			0.25	0.28	0.093	0.35	ug/l	625.1 SIM
12/27/22	02OUT1009C	1,4-Dioxane	2.2	0.20	0.077	0.35	ug/l	522
			0.42	0.28	0.093	0.35	ug/l	625.1 SIM
12/27/22	02OUT1005C	1,4-Dioxane	0.3	0.20	0.077	0.35	ug/l	522
			<0.28	0.28	0.097	0.35	ug/l	625.1 SIM
2/07/23	Manhole	1,4-Dioxane	ND	0.20	0.087	0.35	ug/l	522
			ND	0.29	0.096	0.35	ug/l	625.1 SIM
2/07/23	02OUT1009C	1,4-Dioxane	1.5	0.20	0.087	0.35	ug/l	522

			0.72	0.30	0.10	0.35	ug/l	625.1 SIM
2/07/23	02OUT1005C	1,4-Dioxane	0.19	0.20	0.087	0.35	ug/l	522
			0.11	0.30	0.099	0.35	ug/l	625.1 SIM

6/28/23	Manhole	1,4-Dioxane	ND	0.20	0.077	0.35	ug/l	522
			ND	0.28	0.092	0.35	ug/l	625.1 SIM
6/28/23	02OUT1009C	1,4-Dioxane	0.63	0.20	0.087	0.35	ug/l	522
			0.33	0.28	0.095	0.35	ug/l	625.1 SIM
6/28/23	02OUT1005C	1,4-Dioxane	0.99	0.20	0.087	0.35	ug/l	522
			0.41	0.28	0.093	0.35	ug/l	625.1 SIM

9/9/23	Manhole	1,4-Dioxane	*	*	*	0.35	ug/l	522
			*	*	*	0.35	ug/l	625.1 SIM
9/9/23	02OUT1009C	1,4-Dioxane	*	*	*	0.35	ug/l	522
			*	*	*	0.35	ug/l	625.1 SIM
9/9/23	02OUT1005C	1,4-Dioxane	*	*	*	0.35	ug/l	522
			*	*	*	0.35	ug/l	625.1 SIM

* - results not yet received.

RL – Reporting Limit

MDL – Method Detection Limit

ug/l – micrograms per liter

ND – Not detected

Note that 1,4-Dioxane was detected in the sample from the storm sewer manhole upgradient of the FHWA treatment system discharge during the 12/27/22 sampling event. This detection was unexpected and led to further evaluation as to why the contaminant would be detected at an upgradient location. It was speculated that the sampling apparatus used to collect samples from all of the locations was contaminating the manhole sample location (even though the sampling apparatus was being appropriately decontaminated between sample locations). The sampling apparatus was changed to be a dedicated apparatus for each sample location. All samples collected from the manhole location, after this change in sampling methodology, have been non-detect.

5.0 ORGANIC POLLUTANT MS4 REDUCTION PLAN

This section presents a two-phase approach to evaluate the source of 1,4-Dioxane infiltration into the storm sewer system and determine a method to eliminate discharge of 1,4-Dioxane from outfall 02OUT1005C.

5.1 Phase 1

During Phase 1, GSA will evaluate the source and quantity of 1,4-Dioxane contaminated continuous flow in the storm sewer piping associated with outfall 02OUT1005C.

Outfall 02OUT1005C

GSA will collect samples from storm sewer manholes along 2nd St and 3rd St to determine where 1,4-Dioxane begins to be detected in the continuous flow in the storm sewer piping.

It is believed that 1,4-Dioxane, contained within the contaminated groundwater plume, is infiltrating the storm sewer piping somewhere along the locations highlighted on Figure 5-1. The infiltrated contaminated groundwater then flows down the storm sewer piping until it discharges at outfall 02OUT1005C. The additional sampling will help confirm this hypothesis.

Additionally, In 2018 GSA determined that a source of some of the continuous flow was a footing drain at Building 48 located in the northern portion of the campus (SSPA, 2018). This footing drain discharged to the storm sewer that eventually discharges at outfall 02OUT1005C. Since that time Building 48 has undergone extensive interior and exterior renovation, which should be completed in early 2024. GSA will investigate if this renovation had any impact on the quantity of continuous flow in the storm sewer.

Outfall 02OUT1009C

The continuous flow observed at outfall 02OUT1009C is made up of discharge from a footing drain at Building 67, and discharge from the FHWA groundwater treatment system at Building 52a. Sampling for 1,4-Dioxane has shown that the discharge from the FHWA treatment system is the source of 1,4-Dioxane detections at outfall 02OUT1009C (see Table 4-1).

Figure 5-1



The FHWA groundwater treatment system at Building 52a is permitted and operated by the FHWA. Therefore, GSA has no control over the discharge of treated groundwater from this facility.

GSA is currently in negotiations with FHWA to assume control and operation of the Building 52a treatment system and associated appurtenances. However, a resolution from these negotiations could be months away.

Note that if GSA were to assume control and operation of the Building 52a treatment system, it is very likely that the treatment system would be shut down and discharge from the system would cease. GSA would then rely on the Groundwater Treatment System (GWTS) located near Downing Reservoir (Permit No. CO-0035033) to handle its obligation to treat contaminated groundwater.

5.2 Phase 2

Outfall 02OUT1005C

Once GSA has determined where the contaminated groundwater is infiltrating the storm sewer piping, they will investigate and determine the feasibility of lining the interior surface of the piping to prevent infiltration into the piping. Assuming that this is a viable option, GSA may then pursue performing this pipe lining procedure.

Additionally, GSA is considering evaluating daylighting the constant flow in the storm sewer before it reaches outfall 02OUT1005C. This flow would be routing through a constructed long, open, riffled channel. This experiment would attempt to utilize natural UV and aeration to eliminate 1,4-Dioxane in the water before it discharges to McIntyre Gulch.

Outfall 02OUT1009C

The FHWA will continue to operate the treatment system discharging to outfall 02OUT1009. If an agreement is reached between FHWA and GSA, for GSA to be responsible for operation of the treatment system, but FHWA would retain Environmental Liability for the treatment, it is likely that GSA will be shut down the treatment system, plug the outlet pipe and eliminate discharge to the storm sewer system.

If an agreement isn't reached and/or it is delayed, then GSA would need to work with FHWA, EPA and CDPHE to determine if FHWA's Treatment System will need to be modified to treat groundwater for 1,4-Dioxane.

6.0 SELECTED OPTION

Following implementation of Phase 1 and Phase 2, GSA will select the most appropriate and cost-effective method to reduce discharge of 1,4-Dioxane from outfall 02OUT1005C.

If GSA becomes responsible for operation of the FHWA treatment system, they will select the most appropriate and cost-effective method to eliminate discharge of 1,4-Dioxane from outfall 02OUT1009C. Should the agreement not be reached and/or delayed then GSA will need to work with FHWA, EPA and CDPHE to determine the next steps.

Upon selection of an option to address 1,4-Dioxane discharge from outfalls 02OUT1005C and 02OUT1009C, EPA will be notified of the selected remedy and GSA will immediately begin implementation of the remedies.

7.0 ANTICIPATED TIMELINE FOR INVESTIGATION AND IMPLEMENTATION

Outfall 02OUT1005C

GSA has begun implementation of Phase 1 at Outfall 02OUT1005C (Section 5.1) by awarding a new contract to collect environmental monitoring samples sitewide around the DFC. Currently GSA is developing a scope of work and sampling strategy to collect samples from storm sewer manholes along 2nd St and 3rd St. It is anticipated that results from this sampling will be available in the 1st/ 2nd quarter of 2024.

Results of this sampling will help guide the location and extent of potential storm sewer pipe lining to prevent infiltration. Interpretation of results, soliciting and award of a pipe lining contract is anticipated to occur in the 3rd and 4th quarters of 2024. Implementation of the pipe lining could then occur in the 1st and/or 2nd quarter of 2025.

Outfall 02OUT1009C

Discussions with FHWA concerning assuming operation and maintenance of the Building 52a treatment system are ongoing. Potentially, agreement could be reached in the 2nd quarter of 2024.

8.0 REFERENCES

SSPA (2018) Stormwater Sewer Investigations at the Denver Federal Center. S.S. Papadopoulos & Associates, Inc., April 2, 2018.