



**1.0 Purpose & Scope**

The purpose of this procedure is to protect the Nation’s waterways and wetland areas, into which storm sewers ultimately drain. This is achieved by requiring the use of protective measures, to prevent contaminated storm water or other types of water, which may contain chemicals, silts or soils generated during projects from entering waterways and wetland areas.

**2.0 Activities & Departments Affected**

2.1 Every person entering a GSA facility owned and/or operated by GSA (e.g. DFC Campus) has the potential to impact the Storm Sewer System.

2.2 This procedure is to be followed by all personnel conducting landscaping, site demolition, building construction, maintenance, remediation, underground line repair/replacement and/or intrusive subsurface activities at a GSA facility owned and/or operated by GSA.

**3.0 Exclusions**

Magnesium chloride used in snow removal activities.

**4.0 Forms Used & Permits Required: (include reporting requirements)**

**Federal and State Forms and Permits:**

PERMIT / FORM / REPORT	SUBMITTED TO: FEDERAL OR STATE AGENCY	SUBMITTAL FREQUENCY
Municipal Separate Storm Sewer System (MS4) Permit <sup>(1)</sup>	U.S. Environmental Protection Agency (EPA) and/or appropriate state agency	5 years; facility specific
Stormwater Management Plan	EPA and/or appropriate state agency	As needed
MS4 Annual Report	EPA and/or appropriate state agency	annual
Notice of Intent as spelled out by MS4	EPA and/or appropriate state agency	As needed

(1) The GSA Denver Federal Center (DFC) Campus has a small Municipal Separate Storm Sewer System (MS4) Permit, issued by the U.S. Environmental Protection Agency (EPA) under the National Pollution Discharge Elimination System (NPDES), as a requirement of the Clean Water Act, Section 402(p)(2). This requires that no liquid, other than stormwater, may be discharged directly to a storm sewer. Therefore, any activity which may impact water quality entering the storm sewer system or where other types of water must be diverted from the storm sewer system is addressed in this procedure.

**In-house GSA Region 8 and Contractor Forms:**

- Excavation Permit Request Form (*GSA Region 8 Excavation ‘Dig’ Permit Environmental Procedure*)
- Environmental Programs Group Storm Water Inspection form (Attachment C)



## STORMWATER MANAGEMENT

### Region 8 Sustainability & Environmental Management System

#### 5.0 Acronyms, Abbreviations, and Definitions

Acronyms	Meaning
CDPHE	Colorado Department of Public Health and Environment
CO	Contracting Officer
COR	Contracting Officer Representative
DFC	Denver Federal Center
EO	Executive Order
EPA	U.S. Environmental Protection Agency
EPG	Environmental Programs Group of GSA, PBS, Region 8
GSA	U.S. General Services Administration
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollution Discharge Elimination System
NOI	Notice of Intent
RCRA	Resource Conservation & Recovery Act
RFI	RCRA Facility Investigation
SEMS	Sustainability & Environmental Management System
SPCC	Spill Prevention Control & Countermeasures

#### Definitions:

Municipal Separate Storm Sewer Systems (MS4s): May be required to obtain authorization to discharge stormwater (EPA); EPA requires that the DFC have an MS4.

#### National Pollutant Discharge Elimination System (NPDES) Stormwater Program:

Regulates stormwater discharges from three potential sources: municipal separate storm sewer systems (MS4s), construction activities, and industrial activities (EPA).

Outfall: The mouth of a drain or sewer

Predevelopment Hydrology: The runoff volume, rate, temperature, and duration of flow that typically existed on the site before human-induced land disturbance occurred (EISA).

#### 6.0 Procedure

**State Specific Procedures & Requirements** [refer to individual State Legal Reviews for details on Statues, Laws, and Rules]: Most states administer their own stormwater programs.

STATE	REQUIREMENTS / PROCEDURES
Colorado	In Colorado, the <a href="#">Stormwater Management Program</a> is regulated by the EPA and the State. Water Quality is regulated by the Colorado Department of Public Health and Environment (CDPHE) Water Quality Control Division. The program is referred to as the Colorado Discharge Permit System (CDPS) for non-federal property instead of NPDES. State stormwater requirements are mirrored after the federal NPDES program, requiring that stormwater be treated to the maximum extent practicable (MEP). CDPS requires that all construction sites disturbing more than one-acre, and all designated Municipal Separate Storm



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STATE	REQUIREMENTS / PROCEDURES
	<p>Sewer Systems (MS4s) to obtain permit coverage. Each permitted MS4 will be responsible for establishing a Stormwater Management Program (SWMP) under either the Phase I, or under Phase II of the CDPS. Additional permitting requirements may be required at the county and municipal level.</p> <p>No numeric requirements for stormwater pollutant removal have been established at the state level, but many stringent regional and municipal regulations are in place. Many municipalities reference the suggested requirements in the Denver Urban Drainage and Flood Control Manual, which was originally developed for the Denver metro area.</p>
Montana	<p>In Montana, the Montana Department of Environmental Quality (MDEQ) is authorized to administer the National Pollutant Discharge Elimination System (NPDES) Program through the <a href="#">Montana Pollutant Discharge Elimination System (MPDES) Program</a>. Permits are developed and issued under:</p> <ul style="list-style-type: none"> <li>• Phase I of the NPDES storm water program applies to construction activities affecting more than 5 acres.</li> <li>• Phase II of the NPDES storm water program covered smaller construction activities disturbing between 1 and 5 acres. [Administrative Rules of Montana (ARM), Title 17, Chapter 30, Subchapters 11, 12, and 13].</li> </ul>
North Dakota	<p>The North Dakota Department of Health &amp; Environmental Division of Water Quality (DHEWQ) is responsible for administering the state's National Pollution Discharge Elimination System (NPDES) <a href="#">Storm Water Program</a>. North Dakota's stormwater program is closely modeled after the federal NPDES program. At the state level, all construction sites disturbing more than one acre, many industrial sites, and all designated Municipal Separate Storm Sewer Systems (MS4s) are required to obtain and meet the requirements of NPDES permit coverage. In addition to state, regional, and local regulations there are a number of established and proposed TMDLs impacting North Dakota's watersheds, which often impact stormwater treatment requirements. To ensure compliance with all applicable stormwater regulations, the municipality where the project is to take place needs to be contacted.</p>
South Dakota	<p>The South Dakota Department of Environment &amp; Natural Resources (DENR) is responsible for administering the state's <a href="#">Stormwater Management Program</a>. South Dakota's stormwater program is closely modeled after the federal National Pollution Discharge Elimination System (NPDES) program, which requires stormwater be treated to the maximum extent practicable. This program establishes permitting requirements for construction sites disturbing more than one acre, industrial sites, and Municipal Separate Storm Sewer Systems (MS4s). All MS4s should currently be permitted, or in the permit process. Each permitted MS4 will be responsible for establishing a Stormwater Management Program (SWMP). Be advised that there may be additional permitting requirements at the county and municipal level.</p>
Utah	<p>The <a href="#">Storm Water Program</a> is regulated by the Utah Department of Environmental Quality (UTDEQ) through the Division of Water Quality. The Utah storm water program is closely modeled after the federal National Pollution Discharge Elimination System (NPDES) program. The Utah DEQ water program establishes permitting requirements for construction sites disturbing more than one acre, industrial sites, and Municipal Separate Storm Sewer Systems (MS4s). Each permitted MS4 will be responsible for establishing a Storm Water Management Program (SWMP). Be advised that there may be additional permitting requirements at the county and municipal level, especially where TMDLs are in place.</p>



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STATE	REQUIREMENTS / PROCEDURES
	Utah does have a Storm Water Advisory Committee. The Advisory Committee serves as an agent to address a variety of stormwater issues statewide, including implementation of Phase I and II regulations.
Wyoming	<p>The Wyoming Department of Environmental Quality (DEQ) regulates the state's Wyoming Pollutant Discharge Elimination System (WYPDES) <a href="#">Storm Water Program</a>. Wyoming's stormwater program is closely modeled after the federal National Pollution Discharge Elimination System (NPDES) program, which requires stormwater be treated to the maximum extent practicable (MEP). Numeric treatment requirements specific to stormwater have not been established at the state level, but water quality parameters will be established on a site-by-site basis when the risk of contamination is present.</p> <p>Wyoming's stormwater program establishes permitting requirements for construction sites disturbing more than one acre, industrial sites, and Municipal Separate Storm Sewer Systems (MS4s). All MS4s should currently be permitted, or in the permit process. Each permitted MS4 will be responsible for establishing a Stormwater Management Program (SWMP).</p> <ul style="list-style-type: none"> <li>• <a href="#">Large construction permit</a> - surface disturbance of 5 acres or more</li> <li>• <a href="#">Small construction permit</a> - disturbance of at least 1 acre, but less than 5</li> </ul> <p><a href="#">A Guide to Temporary Erosion-Control Measures for Contractors, Designers and Inspectors</a>  <a href="#">Erosion and Sedimentation Control Plans, and BMP Fact Sheets</a></p> <p>Wyoming water quality regulations require that when discharging stormwater to a live water body (such as lakes, streams, and rivers), levels of turbidity may not increase by more than 10-15 NTU's over background levels. When discharging to non-live waterways, the state's goal is to reduce sediment loads in order to avoid aesthetic and habitat degradation.</p>

[StormwaterAuthority.org](http://StormwaterAuthority.org); <http://204.202.251.206/>

### Standardized Procedure:

#### 6.1 Stormwater Regulations & Contracting

- Comply with all federal regulations, and where applicable state regulations and local ordinances. Where required obtain permits and comply with reporting requirements.
- Follow requirements set forth in any Municipal Separate Storm Sewer System (MS4) permit that may exist, issued by the State and/or EPA where required. The Denver Federal Center (DFC) has its own MS4 permit, follow this permit at the DFC.
- Incorporate language requiring adherence to all Stormwater environmental requirements into all GSA contracts where the potential exists to impact the Storm Sewer System.
- GSA Project Managers and Contracting Officer Representatives (CORs) are responsible for overseeing contractors' performance and compliance.



- The signature of the COR or Project Manager on the Receiving Report contained in the contract file, implies that all contract requirements relating to this Stormwater Environmental Procedure have been met.

## **6.2 Stormwater Awareness & Training**

- Contractors are responsible for knowing that only rainwater may go down a stormwater sewer drain. Contractors train their staff in Stormwater compliance measures, required by law, their contracts and defined by this GSA, SEMS Environmental Procedure.
- CORs are responsible for overseeing that this has been completed and is effective.
- The SEMS Project Team is responsible for disseminating Stormwater Awareness information throughout GSA Region 8:
  - posters                      training modules                      newsletters
  - brochures                      huddle topics                      presentations
- GSA is responsible for placing curb markers beside each storm drain catch basin.
- The SEMS Action Team Lead for Stormwater is responsible for reviewing, updating, reporting and implementing, at least annually, all federal, state and local regulatory requirements.
- The DFC, EPG, Stormwater Program Manager will ensure that the DFC Storm Sewer System Map is current, showing the location of all outfalls.

## **6.3 Construction Site Stormwater Design, Runoff Control and Post Construction Stormwater Management**

- a. Project Managers will assess proposed new projects for their potential to impact stormwater, whether by soil disturbance or discharge.

Employ design and construction strategies that reduce stormwater runoff and discharges of polluted site water runoff (Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings [Federal Leadership in High Performance and Sustainable Buildings Memorandum of Understanding, January 2006; “High Performance and Sustainable Buildings Guidance”, Interagency Sustainability Working Group (ISWG), Dec. 2008]; GSA Region 8 Sustainability Requirements for High Performance Green Buildings - New Construction, Major Renovations & Existing Buildings Environmental Procedure).

Federal agencies are instructed to *"use site planning, design, construction, and maintenance strategies for the property to maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property with regard to the temperature, rate,"* for any project with a footprint that exceeds 5,000 square feet; approximately 71 feet by 71 feet (Section 438 of Energy Independence and Security



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Act of 2007 (EISA); EPA, Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act, EPA 841-B-09-001, December 2009). Promote the use of decentralized stormwater management design strategies to maintain or restore site hydrology to pre-development conditions and promote water-efficient landscaping and irrigation strategies.

If stormwater impact potential exists, appropriate contracting documents need to address this concern:

- The Scope of Work, for construction projects
- The Performance Work Statement, for service contracts, such as the Grounds Maintenance and Snow Removal contract.

If needed, this information will be placed into any Change Request for Modification, if a contract needs modified.

- b. Project Managers will include an Erosion Control Plan where storm drains could be impacted. This plan is required for DFC projects and may be applicable for Leadership in Energy & Environmental Design (LEED) projects. An Erosion Control Plan is part of the DFC Excavation Permit commonly called the DFC Dig Permit, and is required for DFC projects: See *GSA Region 8 Excavation 'Dig' Permit Environmental Procedure*:

“All excavations and associated dirt handling activities, internal or external to a building, shall require a permit from the EPG prior to the commencement of excavation activities”.

Exclusions to the DFC Dig Permit:

- Landscaping work associated with removal of old landscapes, constructing new landscapes, planting flowers and bushes, repairing and installing new sprinkler heads, lines and other activities that do not exceed 18 inches in depth.
- Paving and 8-10 inch road base under-pavement
- Existing RCRA Facility Investigation projects do not require a Dig Permit (i.e. the DFC environmental investigations pursuant to Consent Orders issued by the Colorado Department of Public Health & Environment (CDPHE)).

The DFC Dig Permit documents the project title, purpose, date, contractor and GSA Project Manager, number and extent of excavations, material handling methods, erosion control plan and map location (i.e. DFC).

- c. The GSA Project Manager is responsible for the following aspects, relating to the DFC Dig Permit:
- Submitting a completed Excavation Permit Request Form (see *GSA Region 8 Excavation 'Dig' Permit Environmental Procedure*) to the EPG DFC Dig Permit coordinator, prior to the disturbance of any earth.



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- Conveying the information in the DFC Dig Permit to the contractor performing the excavation work and all other parties who may be involved with the excavation.
  - Delivering a copy of the DFC Dig Permit to the Contracting Officer, for the Contracting Project files.
- d. The EPG DFC Dig Permit coordinator will research and assess the potential for soil and groundwater contamination and then prepare the permit, detailing the depth to water and any necessary precautions. The permit is assigned a number, logged in the database, filed and a copy is provided to the GSA Project Manager.
- e. Once it is determined that a project will disturb soils of any amount, the Contractor is required to initiate precautionary measures, as detailed in the Erosion Control Plan, to prevent discharge of potentially contaminated storm water or other non-storm related waters directly into a storm drain. Precautionary measures include, but are not limited to, the installation of silt fencing, absorbent material such as fiber rolls, straw bales, gravel bags (see examples at the EPA “National Menu of Stormwater Best Management Practices” website; Attachment B).

Projects involving soil disturbance of one acre or more require that the Contractor prepare a stormwater management plan and submit the Notice of Intent (NOI) form to the EPA. The Contractor must comply with the NOI requirements, including the Stormwater Prevention Plan, for the duration of the project. The contractor is required to submit the NOI number to the SEMS Project Team for recording. EPG will conduct and record inspections of these projects on a regular basis.

- f. Discharged water shall be directed away from all curbs and other areas where storm drains may exist.
- g. Discharging non-storm water to lawn areas, open areas, or into a Baker tank truck, is considered acceptable practice. However, the contractor must install protection around all of the storm drains which could be impacted.
- h. GSA Project Managers will maintain oversight and conduct weekly inspections on any project requiring storm drain protection measures, to check the integrity of the protective measures and to ensure at the completion of the project that any observable material is removed from the storm drain area. Inspections are documented on the EPG, Excavation Permit: Excavation Inspection Report form (see *GSA Region 8 Excavation ‘Dig’ Permit Environmental Procedure*).
- i. Upon completion of the project requiring the discharge of water, storm drain protection should be removed and it should be noted in the project file.
- j. Contractors are required to adhere to the project design criteria for the control,



retention and detention of post construction runoff during storms and the removal of suspended solids from runoff.

**6.4 Accidental and Deliberate Discharge Detection and Elimination:**

- a. Contract language dictates the preventive measures required to be implemented by Contractors working at GSA facilities in order to avoid non-storm water discharges entering the storm sewer system.
- b. The Contractor is responsible for ensuring that their personnel are appropriately trained and compliant with these requirements. GSA Project Managers and CORs are responsible for monitoring contractors' performance and compliance.
- c. Prevention of discharges:
  - Deliberate dumping into the stormwater system is illegal under the Federal Clean Water Act and is punishable by law.
  - The Building Manager, or assigned Contractor or individual inspects every mechanical room of all buildings monthly. If any spills or discharges are discovered, the Building Manager is notified and then the EPG is notified of any problems or potential problems.
  - Security measures are maintained at federal facilities. This reduces the potential for accidental or deliberate spills.
- d. Contractors are governed by the Green Buildings and Grounds Maintenance elements of the SEMS, thereby reducing the use of hazardous chemicals which can impact the Storm Sewers.
- e. Detection measures for non-stormwater discharges are performed:
  - By being observant;
  - Upon receipt of information from anyone at a federal facility reporting an observation or something suspicious;
  - As a result of a reported spill;
  - Where an MS4 permit or a Consent Order is in place, such as at the DFC: quarterly surface water sampling is performed as part of the Long Term Monitoring Program, and
    - Stormwater outfalls are inspected annually, during dry weather, for the presence of non stormwater discharges
- f. Response to Accidental / illegal release:

In the event of a non-stormwater (i.e., solvents, fuels, lubricants, dirt/sediment from a construction project, etc.) release indoors or outdoors into a Storm Sewer system notify the Building Manager or Supervisor. This material is not permitted to enter a storm drain.



At the DFC if no supervisor can be found, then call 303-236-2911. The Environmental Procedure for Spill Response is followed for a non-stormwater release into a Storm Sewer system.

The level of response varies according to toxicity. GSA CORs, Project Managers, Building and Property Managers all carry the Emergency Spill Cards, with contact details. The Spill Prevention Control and Countermeasure (SPCC) Plan is followed.

## **7.0 Records Management**

The EPG are responsible for retaining the completed:

- DFC Excavation Permit Documents
- Inspection forms
- GSA Staff Training records
- Copies of completed NOI forms

## **8.0 References**

EPA, Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act, EPA 841-B-09-001, December 2009

Executive Order 13423 (Federal Register, Vol. 72, No. 17): "Strengthening Federal Environmental, Energy, and Transportation Management", signed by President George W. Bush on 24 January 2007

Executive Order 13514 (Federal Register, Vol. 74, No. 194): "Federal Leadership in Environmental, Energy, and Economic Performance", signed by President Barack Obama on 5 October 2009

Federal Leadership in High Performance and Sustainable Buildings Memorandum of Understanding, January 2006

H.R. 6--110th Congress [Public Law 110--140]: Energy Independence and Security Act (EISA) of 2007, Dec. 19, 2007

Interagency Sustainability Working Group (ISWG), as a subcommittee of the Steering Committee established by EO 13423, "High Performance and Sustainable Buildings Guidance", Final (12/1/08)

## **9.0 Appendices**

**Attachment A:** Flowchart

**Attachment B:** Table 1: Examples of Control Measures and Table 2: Maintenance for

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Control Measures

**Attachment C: Construction Site Inspection Form**

<b>Document Control Information:</b>	<b>Approved &amp; Dated:</b>
Stormwater Management "Month-Date-Year".doc	<i>Robert Melvin</i> 10/18/2010

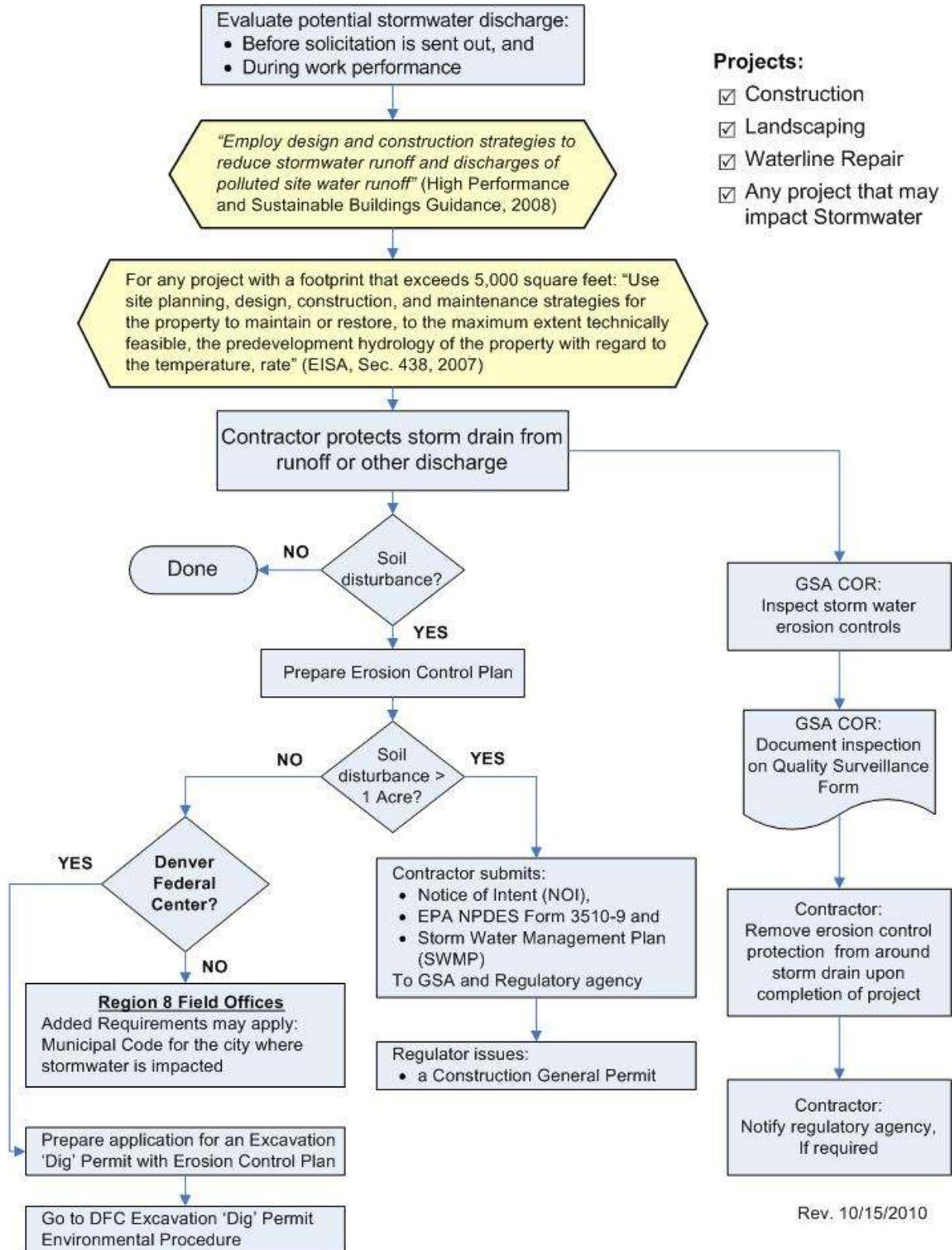
<b>Document Revision and Update:</b>		
<b>Revision Date</b>	<b>Nature of Revision</b>	<b>Revision made by:</b>
11/29/2005	Working Draft	Elizabeth B. Roberts
03/13/2006	Original Release	Elizabeth B. Roberts
09/14/2007	Updated - New Regulations	Sue Grant
7/21/2008	Updated	Sue Grant & Robert Melvin
10/10/2009	Add ISO 14001 Document Controls,	Robert Melvin
01/25/2010 to 10/18/2010	Add state regulations, add Flowchart, outline Region 8 requirements, and update to address new federal regulations (i.e. EISA).	Robert Melvin, William Fieselman



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### ATTACHMENT A: Stormwater Flowchart





**ATTACHMENT B**

**Table 1: Examples of Control Measures**

<b>Source Area or Activity</b>	<b>Potential Pollutants</b>	<b>Control Measures</b>
Pavement removal activities	Asphalt, concrete, sediment, oil and grease	Storm Drain protection: silt fence, fiber rolls, straw bales
Grading activities including stockpiling and hauling	Asphalt, concrete, sediment, oil and grease	Storm Drain protection: fiber rolls and / or straw bales
Underground utility earthwork activities/ remediation	Sediment	Storm Drain protection: silt fence / fiber rolls / straw bales
Vehicle and equipment use, storage and maintenance	Oil, grease, fuels, coolants, detergents and sediment	Earthen berms, drip pans, absorbent materials, covering, straw bales
Solid Waste	Construction and domestic waste (floatables), and leachate	Water-tight and/or covered dumpsters

**Table 2: Maintenance for Control Measures**

<b>Control Measure</b>	<b>Maintenance/Repair Measures</b>
Storm Drain Protection	Replace torn/damaged filtering or absorbent materials, remove accumulated sediment, and adjust as necessary.
Fiber rolls / straw bales, silt fences	Replace damaged sections, remove accumulated sediment and debris, re-position as necessary.
Street Sweeping	Perform as needed.

**STORMWATER MANAGEMENT***Region 8 Sustainability & Environmental Management System***ATTACHMENT C: Construction Site Inspection Form**

	<b>OVERALL CONDITION (Good, Fair, Poor)</b>	<b>NEED REPAIR? (Yes, No)</b>	<b>COMMENTS</b>
<b><i>STRUCTURAL MEASURES</i></b>			
Sediment Containment Systems			
Hay Bale Barriers			
Silt Fence Barriers			
Rock Barriers			
Inserts			
Vehicle Tracking Pad			
<b><i>NON-STRUCTURAL MEASURES and/or Swales</i></b>			
Diversion Dikes and/or Swales			
Slope Drains			
Temporary Vegetation			
Perennial Vegetation			
Mulch and/or BFM Protection			
Soil Binder Protection			
Hillside RECPs			
Drainage Channel TRMs			
Riprap and/or Gabions			

Will existing BMPs need to be modified or removed or additional BMPs installed?      Y/N

If Yes, list the action items to be completed on the following table.

<b>ACTIONS TO BE COMPLETED</b>	<b>DATE COMPLETED</b>



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Weather information since the last inspection was held.

EVENT	DATE BEGAN	DURATION (Hours)	AMOUNT (Inches)

Are uncontrolled releases of mud or muddy water from the site and/or deposits of sediment evident? Y/N  
If yes, where and what corrective actions are to occur?

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Are non compliance incidents evident? Y/N  
If yes, describe:

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Additional Comments:

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Signature: \_\_\_\_\_

Adapted from Denver Federal Center, Draft 1 Storm Water Management Plan Chapter 5, May 2005