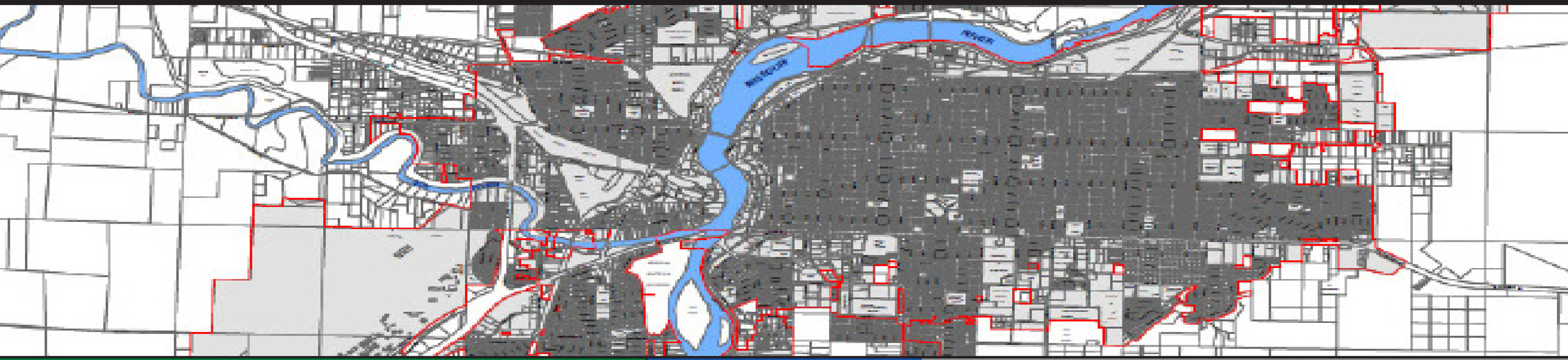
MS4 Storm Water Management Plan (SWMP)



City of Great Falls, Montana

Worksheets

April 2017

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CITY OF GREAT FALLS

PUBLIC WORKS

STORM WATER MANAGEMENT PLAN (SWMP) WORKSHEETS

MS4 Permit Term 2017 through 2022

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MCM#5-Worksheet 4 Post-Construction Stormwater Management Control Site Visit Inspection Log

MCM#5-Worksheet 5 Post-Construction Stormwater Management Control Inspection Frequency Determination Protocol

Control Measure#6-Pollution Prevention/Good Housekeeping for Permittee Operations

MCM#6-Worksheet 1

The permittee shall implement a storm water public education program to develop, distribute, and evaluate educational materials and outreach activites to audiences.

Public Outreach Audiences and Formats

Key Target Audiences	Description & Rational for Selection	Pollutants								Outreach Formats							Schedule			Item Distributed and Placement	Successfulness	Notes
		Sediments	Nutrients	Metals	Concrete Wash-out	Animal/Pet Wast	Fertilizer/Pesticides/Chemicals	Auto Fluid (oil & grease)	Other	Audio	Video	Advertisements	Social Media	Presentation	Direct Mail	Other	Annual	Semi-annual	Monthly			
Public																						
Contractors/Developers/Realtors																						
Industrial/Commercial																						
Homeowners																						
Landscape Companies																						
Snow Removal Companies																						
Municipal Personnel																						

Permit Year - 2017, 2018, 2019, 2020, 2021

2. PUBLIC INVOLVEMENT AND PARTICIPATION

The permittee shall develop a strategy to involve key target audiences in the development and implementation of the SWMP.

Target Audiences	Documented Collaboration Efforts	Successfulness/Notes
Realtors		
approach		
target date(s)		
purpose		
organizations		
partnering		
Architecture/Engineering		
approach		
target date(s)		
purpose		
organizations		
partnering		
Local/State Organizations		
approach		
target date(s)		
purpose		
organizations		
partnering		

Target Audiences	Documented Collaboration Efforts	Successfulness/Notes
Contractors		
approach		
target date(s)		
purpose		
organizations		
partnering		
Event Participants		
approach		
target date(s)		
purpose		
organizations		
partnering		
Commercial/Residential Businesses		
approach		
target date(s)		
purpose		
organizations		
partnering		

3. ILLICIT DISCHARGE DETECTION AND ELIMINATION

The permittee shall develop, implement and enforce a program to detect and eliminate illicit discharges into the permitted Small MS4.

MS4 significant contributors of pollutants

Pollutant Contributors	*Yes, an issue*	*No, not an issue*	*Why/why not and Associated Pollutants*	*Local controls/conditions placed on these discharges*
water line flushing				
landscape irrigation				
diverted stream flows				
rising ground waters,				
uncontaminated ground water infiltration				
as defined in ARM 17.30.1102(8)				
uncontaminated pumped ground water				
discharges from potable water sources				
foundation drains				
air conditioning condensation				
irrigation water				
springs				
water from crawl space pumps				
footing drains				
lawn watering				
individual residential car washing				
flows from riparian habitats and wetlands				
dechlorinated swimming pool discharges				
street wash water				
discharges or flows from firefighting activities				

3. ILLICIT DISCHARGE DETECTION AND ELIMINATION

The permittee shall develop, implement and enforce a program to detect and eliminate illicit discharges into the permitted Small MS4.

MS4 occasional incidental non-storm water discharges

Potential incidental non-storm water discharges	*Yes, an issue*	*Associated Pollutant*	*No, not an issue*	*Local controls/conditions placed on these discharges*

ILLICIT DISCHARGE INVESTIGATION AND CORRECTIVE ACTION PLAN WITHIN THE CITY OF GREAT FALLS, MONTANA

March 2017

Introduction

In accordance with the General Permit for Storm Water Discharge Associated with Small Municipal Separate Storm Sewer System (MS4), issued by the Montana Department of Environmental Quality (DEQ), the City of *Great Falls* is required to develop and implement an illicit discharge investigation and corrective action plan. Illicit discharge as defined in the Administrative Rules of Montana (ARM) 17.30.1102(7) "means any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to an MPDES permit (other than the MPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities." This plan provides guidelines for tracking potential illicit discharges and criteria by which City personnel can determine the most appropriate corrective action to eliminate an illicit discharge. *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments*, developed by the Center for Watershed Protection (CWP), was utilized to guide the development of this plan. The complete document is available at https://greatfallsmt.net/publicworks for reference.

This plan has been developed with the following objectives in mind:

- Identify the source of an illicit discharge
- Determine appropriate corrective actions
- Abate damages following detection of illicit discharge
- Prevent recurrence of illicit discharge violations

1. Source Detection and Investigation Procedures

Potential illicit discharges can be revealed through various sources such as outfall inspections, reports from staff, or public complaints. If the source of a potential illicit discharge is not immediately clear the City of Great Falls will begin an official illicit discharge investigation to trace the source of the illicit discharge following the procedures outlined in this section.

The City of Great Falls currently has two technicians that respond to suspected violations of the IDDE program. The City maintains a hotline to receive calls that citizens can call during business hours and another line to call if it is after business hours. There is also an alternative method on the website by reporting a discharge via internet complaint form.

Hotline Phone Numbers:

- (406) 727-8390 business hours
- (406) 727-8637 after hours partner hotline

In cases where the source of an illicit discharge is immediately known (e.g. when an illegal dumping or illicit discharge problem is directly observed by a member of the City staff) it is generally not necessary to follow investigation procedures. In such cases the Environmental Division Compliance Technician will complete the steps outlined in Sections 1.1 - 1.4 and will then refer to the corrective action procedures provided in Section 2.

1.1 Documentation

When a potential illicit discharge is identified the Environmental Division Compliance Technician will start an investigation file. An Illicit Discharge Investigation and Corrective Action Form which includes a creation date, case description, and any information related to the observed or suspected problem will be filled out. The Environmental Division Compliance Technician will keep an accurate log of labor, materials and costs associated with the investigation for invoicing the responsible party, if necessary. The form will be started prior to completing any additional field work unless the nature of the discharge necessitates an immediate response. As the investigation proceeds, any field investigations, photographs, corrective actions, or other activities associated with the suspected problem area will be documented and saved on file as this becomes the City's official record of the illicit discharge detection and elimination (IDDE) investigation. Additional documentation may include the following:

- Copy of Outfall Inspection Report
- Photographs
- Additional field notes
- Lab testing results
- Compliance letters sent and responses received
- Correspondence (mail, email, telephone logs)
- Proof of corrected problems (contract and invoice or clean field investigation report)

1.2 Site Visit

In cases where the City's Environmental Division did not discover the potential illicit discharge (e.g. the City was made aware via a public complaint), the Environmental Division Compliance Technician will conduct a site visit to confirm the nature of the problem and determine the prioritization of the investigation.

1.3 Prioritization

Each suspected illicit discharge has the potential to cause damage to the MS4 and receiving waters; however, certain situations may warrant more immediate attention than others and each investigation must be prioritized in order to protect public health and avoid serious threats to the environment or damage to property. The following items will be considered when determining the immediacy of the investigation:

- Discharges posing an immediate threat to human health
- Discharges within 100 feet of a surface or drinking water source
- Discharges containing substances with significant potential to cause immediate damage to the environment
- Large volume (25 gallons) or continuous flow (3 gallons per minute)
- Potential threat of contaminating groundwater

1.4 Notification of Appropriate Agencies

Threat to Human Heath:

Discharges and/or activities which are believed to be an immediate threat to human health or the environment will be reported to Montana DEQ. DEQ's Enforcement Division may assist in the investigation and corrective action process if necessary. The phone number and website to access a Complaint/Spill Form are as follows:

Phone: (406) 444-0379

Website: http://deq.mt.gov/enf/spill.mcpx

The local health department protects people from health threats such as food-borne illnesses, natural and man-made disasters, toxic exposures, and preventable illness and injury. This includes hazardous spills near drinking water sources, parks with dogs and children, and potential to contaminant soils and groundwater.

The health department phone number is:

Phone: (406) 454-6950

Hazardous Materials:

The City Fire Department will be contacted for situations requiring hazardous materials response. When hazardous materials are suspected the Environmental Division Compliance Technician will be contacted to determine if hazardous materials response is necessary:

Phone: (406) 727-8070

1.5 Select Appropriate Investigation Method

The four investigation methods which may be used to trace and identify the source of a suspected illicit discharge are as follows:

- Storm Drain Network Investigations
- Drainage Area Investigations
- On-Site Investigations
  - Locating the spill/discharge
  - Identifying possible source(s)
  - Identifying substance(s) involved in the spill/discharge
  - Collection of sample and pictures of the spill/discharge
  - Identifying the responsible person
- Septic System Investigations

The Environmental Division Compliance Technician will review available information (e.g. initial documentation, previous investigations conducted in the vicinity, etc.) and select the appropriate method. Each method, as described by the CWP, is briefly discussed below. Once the appropriate method is selected Chapter 13 of the CWP's *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments* will be consulted, which contains detailed guidance on how to efficiently conduct each investigation.

After the appropriate investigation method has been selected, the Environmental Division Compliance Technician will coordinate the appropriate resources to begin the investigation to trace and identify the source of the illicit discharge.

i.) Storm Drain Network Investigations

City personnel inspect manholes within the area of the suspected illicit discharge and examine the manhole contents for chemical or physical indicators of contaminants in an effort to narrow the illicit discharge location to an isolated pipe segment between two manholes. Indicators may include odor, color, staining, unusual films, floatables, or samples which may be taken for chemical testing in a laboratory. The City's storm drainage system map will be helpful in determining which manholes to visit and inspect. After the pipe segment has been isolated, on-site investigations may be used to locate the exact location of the illicit discharge.

ii.) Drainage Area Investigations

When there is strong evidence that suggests a specific and known contaminant or if the known contaminant points towards a short list of potential discharge sources, it is often most effective to survey the drainage area and focus on sites which are known to produce and/or contain the contaminant which has been identified within the storm drain network. The primary methods for conducting drainage area investigations include windshield surveys and mapping analyses. While conducting the investigation it is recommended to consult the mapped pipe network and compare this to maps of high priority businesses, land use types and zoning, and on-going construction projects.

iii.) On-Site Investigations

The on-site investigation diagnoses the exact location and source of an illicit discharge and should be performed after the illicit discharge has been isolated to a specific section of the storm drain network. Techniques such as dye testing the plumbing systems of households

and buildings, video testing, and smoke testing may be necessary for this type of investigation. It is important to understand when a technique would work best for the application and to understand limitations that may deem the technique unusable.

iv.) Septic System Investigations

Some residential watersheds do not have sanitary sewer systems or stormwater conveyance piping, but rather have septic systems and alternative practices for dealing with stormwater volumes. Stormwater conveyance systems consisting of swales, ditches, and ponds are common in these watersheds and the illicit discharges often come from failing septic systems and illegal dumping. Two separate types of analyses are typically employed in these areas: on-site septic investigations and detailed system inspections. On-site septic investigations typically include homeowner system audits or surface condition analyses. Detailed system inspections are more thorough, typically involve the use of infrared imagery, and are usually appropriate if the on-site investigations are not successful in locating the source of an illicit discharge.

1.6 Document Investigation Findings

Once the source of an illicit discharge has been identified, the Environmental Division Compliance Technician will document the findings and progress towards the corrective action process. Documentation may include but are not limited to:

- Investigation method(s)
- Photographs
- Additional field notes
- Lab testing results
- Attachment A: Illicit Discharge Investigation and Corrective Action Plan Form

2. Corrective Action Process and Procedures

After the source of an illicit discharge has been identified, the Environmental Division Compliance Technician will begin the corrective action process to eliminate the discharge. Where applicable, corrective actions will focus first on education to promote voluntary compliance and escalate to increasingly severe enforcement actions as needed.

2.1 Determine Type of Illicit Discharge

The type of an illicit discharge can be generalized as either behavioral or structural, each of which is discussed below.

i.) Behavioral

The nature of the illicit discharge is an action, operation, or conduct and the illicit discharge will be eliminated when this behavior is modified.

ii.) Structural

The illicit discharge is caused by a physical configuration or connection which requires modification of the system in order to eliminate the discharge.

2.2 Assign Responsibility

The party responsible to fix the illicit discharge will be identified based on the nature and location of the illicit discharge.

i.) Private Property Owner

Discuss criteria for which a private property owner will be responsible to fix the illicit discharge and discuss how/if the City will work with the property owner to fix the problem.

ii.) Municipality

Discuss criteria for which the City will be responsible to fix the illicit discharge.

iii.) Other Public Entity

Discuss criteria for which a separate public entity will be responsible to fix the illicit discharge (e.g. MDT, a public university, etc.).

2.3 Select Appropriate Corrective Action

If deemed to be safe and within the Environmental Division Compliance Technician authority and capabilities the illicit discharge may be eliminated immediately using appropriate and available methods. For situations requiring proper authorization and/or expertise, a work order will be generated and sent to Environmental Division Compliance Technician for approval.

For cases where a private property owner is responsible the Environmental Division Compliance Technician will coordinate with the Responsible Party to determine an appropriate method to eliminate the illicit discharge. If necessary, enforcement actions such as a compliance schedule will be created to ensure that the illicit discharge is eliminated in a timely manner (refer to the Enforcement Response Plan (ERP) to determine appropriate enforcement actions).

Chapters 8 and 14 of the CWP's *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments* provides a list of methods to remove and eliminate illicit discharges and will be used, if necessary, to determine the appropriate corrective action.

2.4 Confirm and Document Elimination of Contamination Source

A site visit may be necessary to confirm the source has been eliminated, the corrected operations are sufficient, and/or the structural problem has been fixed according to the approved corrective action. In other cases, it may be sufficient to allow a verbal confirmation from the property owner, a photograph of the modification, as-built drawings, or simply verify that all signs of the illicit discharge are gone. Once confirmed, the Environmental Division Compliance Technician will close the investigation and correction file by noting the elimination of the discharge within the Illicit Discharge Investigation and Corrective Action Form. The city of Great Falls Engineering Division will take the appropriate steps necessary to document response and closure.

The City will evaluate its IDDE program annually, documenting actions taken to locate and repair illicit discharges. Documentation information includes: complaints received and investigated, number of outfalls inspected, and the number of illicit discharges detected and eliminated. Specific evaluations will include:

- Evaluation of effectiveness of illicit discharge detection and tracing methods,
- Any changes in flow and water quality data at ongoing sampling sites within the areas where illicit discharge have been detected and eliminated,
- The efficiency and feasibility of various procedures or the practical difficulties encountered with a particular approach.

2.5 Enforcement Actions

In circumstances where the responsible party does not volunteer compliance, refuses compliance, or disputes responsibility, the City will take enforcement actions consistent with the Enforcement Response Plan in order to ensure that the discharge is eliminated. Note that voluntary compliance in eliminating an illicit discharge may not preclude the responsible party from enforcement actions.

ATTACHMENT A
ILLICIT DISCHARGE INVESTIGATION & CORRECTIVE ACTION FORM

City Personnel Involved | Date

Type of Initial Notification (e.g. Phone call from public, result of City inspection, Dry weather screening, etc.)

Location of Illicit Discharge (Address)

Responsible Party Name/Company | ( ) - Telephone | ☐ *Repeat Offender* | ☐ *High Priority Site*

Street | City | Zip

Description of Investigations Conducted and Investigation Findings:

Description of Corrective Action:

Enforcement Action (if applicable):

Level of Response | Selected Remedy | Date for Follow-Up

Additional Notes:

Confirmation of Resolution:

City Personnel | Date

Public Works Department
Environmental Division
1025 25th Avenue NE
P.O. Box 5021
Great Falls, MT 59404
406-727-8390

For Office Use Only:
Date Received: _____
Permit #: _____

EROSION CONTROL PERMIT CHECKLIST

(Complete all applicable items)

Project Information:

Site Address: _____

Description of Work: _____

Lot Number: _____ **Subdivision (if applicable):** _____

General Submittal Components

Component	Complete	Comment
Erosion Control Permit Application	❑ Yes	
Design Waivers or Variances (if Applicable)	❑ Yes ❑ NA	

Construction Stormwater Management Site Plan

Requirement	Addressed	Comment
Project name (e.g., subdivision name)	❑ Yes ❑ NA	
Developer and landowner name if different	❑ Yes ❑ NA	
Preparation date	❑ Yes ❑ NA	
Name of preparer	❑ Yes ❑ NA	
North arrow	❑ Yes ❑ NA	
Graphic scale	❑ Yes ❑ NA	
Legal description	❑ Yes ❑ NA	
Municipal boundaries	❑ Yes ❑ NA	
Property boundaries (bearings, lengths, curve data)	❑ Yes ❑ NA	
Easements/rights-of-ways (location, width, purpose, ownership)	❑ Yes ❑ NA	
Dedication for public use (boundaries, area, purpose)	❑ Yes ❑ NA	
No build/alteration zones	❑ Yes ❑ NA	
No ingress/egress zones	❑ Yes ❑ NA	
Adjacent land uses within 150' of subject parcel	❑ Yes ❑ NA	
Roads (names, ownership, etc)	❑ Yes ❑ NA	

Driveways and road access onto public and private roads	❑ Yes ❑ NA	
Requirement	**Addressed**	**Comment**
Sidewalks / trails	❑ Yes ❑ NA	
Existing and proposed buildings/structures within 150' of project area	❑ Yes ❑ NA	
Fences, buffers, and berms	❑ Yes ❑ NA	
Pervious and impervious surface by type	❑ Yes ❑ NA	
Existing and Proposed Utilities (type & location)	❑ Yes ❑ NA	
Existing and Proposed Permanent Stormwater Facilities	❑ Yes ❑ NA	
Irrigation canals including diversion point(s), etc.	❑ Yes ❑ NA	
Wetlands	❑ Yes ❑ NA	
Existing vegetation (including woodlands)	❑ Yes ❑ NA	
Wildlife habitat, including critical wildlife habitat	❑ Yes ❑ NA	
Environmentally sensitive features	❑ Yes ❑ NA	
Water resources (rivers, ponds, etc.) within 200' of project area	❑ Yes ❑ NA	
Floodplains	❑ Yes ❑ NA	
Ground contours when the average slopes exceed 10 percent	❑ Yes ❑ NA	
Existing and Proposed Construction Stormwater Management BMPs	❑ Yes ❑ NA	
Limits of clearing and grading	❑ Yes ❑ NA	
Existing and proposed site topography	❑ Yes ❑ NA	
Existing and proposed runoff direction	❑ Yes ❑ NA	
Protection of waterways, receiving surface waters and natural resources	❑ Yes ❑ NA	
Stockpile locations, staging areas and access points defined	❑ Yes ❑ NA	
Construction Stormwater Management Plan is phased with construction	❑ Yes ❑ NA	
Erosion and Sediment Control Requirements Erosion and sediment control BMPs are designed and specified to:		
Control stormwater volume and velocity within the site to minimize soil erosion through use of controls such as check dams, fiber rolls, etc.	❑ Yes ❑ NA	
Control stormwater discharges, including both peak flowrates and total stormwater volume, to minimize erosion at outlets and to minimize downstream channel and streambank erosion through use of controls such as stilling basins, fiber rolls, etc.	❑ Yes ❑ NA	
Minimize the amount of soil exposed during construction	❑ Yes ❑ NA	

activity		

Requirement	Addressed	Comment
Minimize the disturbance of steep slopes	❑ Yes ❑ NA	
Minimize sediment discharges from the site through use of perimeter controls such as silt fence, fiber rolls, diversion berms, etc.	❑ Yes ❑ NA	
Provide and maintain natural buffers around surface waters, direct stormwater to vegetated areas to increase sediment removal and maximize stormwater infiltration, unless infeasible	❑ Yes ❑ NA	
Minimize soil compaction and, unless infeasible, preserve topsoil	❑ Yes ❑ NA	
Soil Stabilization Requirements The following soil stabilization requirements are clearly communicated:		
Stabilization of disturbed areas must be initiated immediately whenever any clearing, grading, excavating or other earth disturbing activities have permanently ceased on any portion of the site, or temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days *Identify where this is communicated within the comment box (e.g. Site Plan, Page __ of SWPPP, etc.)*	❑ Yes ❑ NA	
If initiating vegetative stabilization measures immediately is infeasible, alternative stabilization measures must be specified	❑ Yes ❑ NA	
Pollution Prevention Measures Pollution prevention measures are specified to:		
Specify treatment of wash waters in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge	❑ Yes ❑ NA	
Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials present on the site to precipitation and to storm water	❑ Yes ❑ NA	
Minimize the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures	❑ Yes ❑ NA	
Prohibited Discharges		
Wastewater from washout of concrete is prohibited or managed by appropriate controls *Identify where this is communicated within the comment box*	❑ Yes ❑ NA	
A statement (or statements) prohibits discharges of the following: *Identify where these requirements are communicated within the comment box*		
Wastewater from washout and cleanout of stucco, paint, from release oils, curing compounds and other construction materials	❑ Yes ❑ NA	
Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance	❑ Yes ❑ NA	
Soaps or solvents used in vehicle and equipment washing	❑ Yes ❑ NA	

Dewatering Requirements		
Requirement	**Addressed**	**Comment**
If applicable, discharges from dewatering activities are managed by appropriate controls such as sedimentation basins, sediment traps, etc. *Note: This does not preclude the contractor from the requirement to obtain a dewatering permit from MT DEQ.*	❑ Yes ❑ NA	
Surface Outlets		
Requirement	**Addressed**	**Comment**
When discharging from basins and impoundments, outlet structures that withdraw water from the surface are used (unless infeasible)	❑ Yes ❑ NA	
Stormwater Pollution Prevention Plan Requirements *For sites not subject to the Montana DEQ Construction General Permit.* *Sites subject to the Montana DEQ Construction General Permit shall submit a SWPPP consistent with the Montana DEQ Construction General Permit Requirements.*		
Requirement	**Addressed**	**Comment**
Description of project activity	❑ Yes ❑ NA	
Total disturbed area	❑ Yes ❑ NA	
Existing impervious area	❑ Yes ❑ NA	
List surface waters and storm conveyance systems within 200' of project	❑ Yes ❑ NA	
Description of outfall and receiving surface waters	❑ Yes ❑ NA	
Description of site soil	❑ Yes ❑ NA	
Description of watershed tributary to site	❑ Yes ❑ NA	
A sequence of construction of the development site, including stripping and clearing; rough grading; construction of utilities, infrastructure, and buildings; and final grading and landscaping. Sequencing shall identify the expected date on which clearing will begin, the estimated duration of exposure of cleared areas, areas of clearing, installation of temporary erosion and sediment control measures, and establishment of permanent vegetation.	❑ Yes ❑ NA	
Seeding mixtures and rates, types of sod, method of seedbed preparation, expected seeding dates, type and rate of lime and fertilizer application, and kind and quantity of mulching for both temporary and permanent vegetative control measures.	❑ Yes ❑ NA	
Provisions for maintenance of control facilities, including easements and estimates of the cost of maintenance.	❑ Yes ❑ NA	

Certified By: _____ Date: _____

Signature: _____

CITY OF GREAT FALLS
Public Works Department
CONSTRUCTION STORMWATER
SITE VISIT INSPECTION FORM

General Information

Project Name:

Location:

Date of Inspection: | Start/End Time:

Inspector's Name(s):

Inspector's Title(s):

Inspector's Contact Information (phone):

Describe Present Phase of Construction:

Type of Inspection:

❑ Beginning of Construction ❑ Pre-storm event ❑ During rain event

❑ Post-rain event ❑ Conclusion of Project ❑ Response to violation or complaint

Weather Information

Has it rained since the last inspection? ❑Yes ❑No

If yes, provide:

Storm Start Date & Time: Storm Duration (hrs): Approximate Rainfall (in):

Weather at time of this inspection:

❑ Clear ❑ Cloudy ❑ Raining ❑ Sleet ❑ Fog ❑ Snowing ❑ High Winds

❑ Other: Temperature:

Do you suspect that discharges may have occurred since the last inspection?

❑Yes ❑No

Are there any stormwater discharges at the time of inspection? ❑Yes ❑No

If yes, provide location(s) and a description of stormwater discharged from the site (presence of suspended sediment, turbid water, discoloration, and/or oil sheen:

Prohibited Discharges

Are there any prohibited discharges at the time of inspection? ❑Yes ❑No

If yes, provide location(s) and a description:

	BMP/Activity	Implemented?	Maintained?	Corrective Action Needed & Notes
Erosion and Sediment Controls				
1	Are stormwater volume and velocity controls being used to minimize soil erosion within the site? (e.g. check dams, fiber rolls, etc.)	❑Yes ❑No ❑ N/A	❑Yes ❑No ❑ N/A	
2	Are stormwater volume and velocity controls being used to minimize soil erosion at discharge locations? (e.g. stilling basins, fiber rolls, etc.)	❑Yes ❑No ❑ N/A	❑Yes ❑No ❑ N/A	
3	Are efforts being made to minimize the amount of soil exposed throughout the site?	❑Yes ❑No ❑ N/A	❑Yes ❑No ❑ N/A	
4	Are efforts being made to minimize the disturbance of steep slopes?	❑Yes ❑No ❑ N/A	❑Yes ❑No ❑ N/A	
5	Are perimeter controls and sediment barriers (e.g. silt fence) adequately installed (keyed into substrate) and maintained?	❑Yes ❑No ❑ N/A	❑Yes ❑No ❑ N/A	
6	Are storm drain inlets properly protected?	❑Yes ❑No ❑ N/A	❑Yes ❑No ❑ N/A	
7	Are discharge points and receiving waters free of sediment deposits? If no, provide locations.	❑Yes ❑No ❑ N/A	❑Yes ❑No ❑ N/A	
8	Is there evidence of sediment being tracked into the street?	❑Yes ❑No ❑ N/A	❑Yes ❑No ❑ N/A	
9	Are natural resource areas (e.g., streams, wetlands, mature trees, etc.) protected by natural buffers, barriers, or similar BMPs?	❑Yes ❑No ❑ N/A	❑Yes ❑No ❑ N/A	
10	Are efforts being made to minimize soil compaction and preserve topsoil?	❑Yes ❑No ❑ N/A	❑Yes ❑No ❑ N/A	

	BMP/Activity	Implemented?	Maintained?	Corrective Action Needed & Notes
Soil Stabilization				
11	Are all slopes and disturbed areas not actively being worked properly stabilized?	❑Yes ❑No ❑ N/A	❑Yes ❑No ❑ N/A	
Dewatering				
12	Are discharges from dewatering activities being managed by appropriate controls?	❑Yes ❑No ❑ N/A	❑Yes ❑No ❑ N/A	
Pollution Prevention Measures				
13	Are non-stormwater discharges (e.g., wash water, dewatering) properly controlled?	❑Yes ❑No ❑ N/A	❑Yes ❑No ❑ N/A	
14	Are materials that are potential stormwater contaminants stored inside or under cover?	❑Yes ❑No ❑ N/A	❑Yes ❑No ❑ N/A	
15	Is trash/litter from work areas collected and placed in covered dumpsters?	❑Yes ❑No ❑ N/A	❑Yes ❑No ❑ N/A	
16	Are washout facilities (e.g., paint, stucco, concrete) available, clearly marked, and maintained?	❑Yes ❑No ❑ N/A	❑Yes ❑No ❑ N/A	
17	Are vehicle and equipment fueling, cleaning, material storage, and maintenance areas free of spills, leaks, or other harmful materials?	❑Yes ❑No ❑ N/A	❑Yes ❑No ❑ N/A	
Surface Outlets and Miscellaneous				
18	When discharging from basins and impoundments, are outlet structures that withdraw water from the surface being used?	❑Yes ❑No ❑ N/A	❑Yes ❑No ❑ N/A	
19	Are there locations where additional BMPs appear to be necessary?	❑Yes ❑No ❑ N/A	❑Yes ❑No ❑ N/A	
Describe any incidents of non-compliance not described above:				

Inspector's Signature

Date

CITY OF GREAT FALLS
Public Works Department
CONSTRUCTION SITE STORMWATER INSPECTION FREQUENCY DETERMINATION PROTOCOL

NAME OF PROJECT	PROJECT FILE NO.	ADDRESS
TOTAL PROJECT ACRES		TOTAL DISTURBED ACRES
OWNER	ADDRESS	PHONE NUMBER

Construction Site Rating Table

Criteria	Rating System	Rating Value (L, M, H)	Applied Rating for Each Criteria
Pre-determined priority of the control (if applicable)	Non High-Priority		
	High-Priority		
Project size	Less than 1 acre		
	1 to 5 acres		
	5+ acres		
Proximity to a surface water	1,000+ feet from site's outfall		
	200 to 1,000 feet from site's outfall		
	Direct discharge to surface water		
Steepness of project site slopes	Mostly Flat Ground		
	Slopes of 3:1		
	Slopes of 2:1 or steeper		
Discharge to a waterbody impaired for pollutants expected from active construction projects	No		
	Yes		
History of operator compliance	No history of non-compliant		
	Once non-compliant		
	2+ non-compliant		
Risk of Hazardous Material Spills/ Leaks	Low Risk: No hazardous materials stored on site		
	Medium Risk: Non-liquid hazardous materials stored on site		
	High Risk: Liquid hazardous materials stored on site		

Inspection Frequency Determination Table

Priority	Inspection Frequency
Low	1. Once at commencement of construction after BMPs have been implemented.
	2. Once within 48-hours after one rain event of 0.25 inches or greater.
	3. Once at the conclusion of the project prior to finalization.
Medium	1. Once at commencement of construction after BMPs have been implemented.
	2. Once within 48-hours after one rain event of 0.25 inches or greater.
	3. Once at the conclusion of the project prior to finalization.
High	1. Once at commencement of construction after BMPs have been implemented.
	2. Once within 48-hours after one rain event of 0.25 inches or greater. 3. Once within 48-hours after each occurrence of runoff from snowmelt.
	4. Once at the conclusion of the project prior to finalization. 5. If recidivism occurs. 6. As a disincentive. 7. At non-compliant operator's sites.

Inspection Frequency for Construction Site

Site Priority: _____

Inspection Frequency:

Public Works Department
Environmental Division
1025 25th Avenue NE
P.O. Box 5021
Great Falls, MT 59404
406-727-8390

For Office Use Only:
Date Received: _____
Permit #: _____

POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN CHECKLIST

(Complete all applicable items)

Project Information:

Site Address: _____

Description of Work: _____

Subdivision (if applicable): _____

General Submittal Components

Component	Complete	Comment
Stormwater Management Permit Application	❑ Yes ❑ NA	
CSMP Permit Submittal Package	❑ Yes ❑ NA	
Stormwater Management Plan Drainage Report *See Appendix B of City of Great Falls Storm Drainage Design Manual for Requirements*	❑ Yes ❑ NA	
Geotechnical/Hydrogeology Report *See Appendix C of City of Great Falls Storm Drainage Design Manual for Requirements*	❑ Yes ❑ NA	
Design Waivers or Variances (if Applicable)	❑ Yes ❑ NA	

Drainage Plan

Requirements	Addressed	Comment
Project name (e.g., subdivision name)	❑ Yes ❑ NA	
Developer and landowner name if different	❑ Yes ❑ NA	
Preparation date	❑ Yes ❑ NA	
Name of preparer	❑ Yes ❑ NA	
North arrow	❑ Yes ❑ NA	
Graphic scale	❑ Yes ❑ NA	
Legal description	❑ Yes ❑ NA	
Municipal boundaries	❑ Yes ❑ NA	
Property boundaries (bearings, lengths, curve data)	❑ Yes ❑ NA	
Easements/rights-of-ways (location, width, purpose, ownership)	❑ Yes ❑ NA	
Roads (names, ownership, etc)	❑ Yes ❑ NA	

Requirements	Addressed	Comment
Existing and proposed buildings/structures within 150' of project area	❑ Yes ❑ NA	
Fences, buffers, and berms	❑ Yes ❑ NA	
Existing and proposed utilities (type & location)	❑ Yes ❑ NA	
Irrigation canals including diversion point(s), etc.	❑ Yes ❑ NA	
Existing vegetation (including woodlands)	❑ Yes ❑ NA	
Wildlife habitat, including critical wildlife habitat	❑ Yes ❑ NA	
Environmentally sensitive features (e.g. wetlands)	❑ Yes ❑ NA	
Water resources (rivers, ponds, etc.) within 200' of project area	❑ Yes ❑ NA	
FEMA Floodplains	❑ Yes ❑ NA	
Existing and proposed site topography (2' maximum contour intervals)	❑ Yes ❑ NA	
Pervious and impervious surface by type	❑ Yes ❑ NA	
Existing and proposed permanent stormwater facilities (Storm drain, inlets, manholes, etc.)	❑ Yes ❑ NA	
Invert elevations, slopes, and lengths of stormwater facilities	❑ Yes ❑ NA	
Location of permanent stormwater control(s)	❑ Yes ❑ NA	
Plan and profile of each permanent stormwater control	❑ Yes ❑ NA	
Discharge points clearly labeled	❑ Yes ❑ NA	
Operation and Maintenance Manual for Each Permanent Stormwater Management Control		
The stormwater management control owner	❑ Yes ❑ NA	
The party responsible for long-term O&M with contact information	❑ Yes ❑ NA	
An inspection checklist to be used for routine inspections	❑ Yes ❑ NA	
A schedule of inspection and maintenance for routine and non-routine inspections and maintenance tasks to be conducted	❑ Yes ❑ NA	
A list of source controls	❑ Yes ❑ NA	
System failure and replacement criteria to define the post-constructions stormwater management control's performance requirements	❑ Yes ❑ NA	
A copy of the recorded Operation and Maintenance Agreement with the City	❑ Yes ❑ NA	

Certified By: _____ Date: _____

Signature: _____

CITY OF GREAT FALLS
PUBLIC WORKS
OFFSITE TREATMENT EVALUATION FORM

Project Information					
Project name:					
Description of work:					
Subdivision name (if applicable):					
Site area (acres): Impervious surface created or altered (acres):					
Runoff reduction volume (acre feet): Runoff reduction flow (cfs):					
Project classification (check all that apply): ❑ New Development ❑ Redevelopment ❑ Residential ❑ Commercial					
Regional Facility Considerations					
Basin name:					
Regional treatment facility to be utilized:					
Design capacity of regional treatment facility:					
Does the regional treatment facility have adequate capacity? ❑Yes ❑No					
Technical Considerations (Are following criteria considered within the technical report to provide reasoning for use of offsite treatment)					
Topography (Steep Slopes)	❑Yes	❑No	Space available	❑Yes	❑No
Soil infiltration rate	❑Yes	❑No	Shallow bedrock	❑Yes	❑No
Contaminated soils	❑Yes	❑No	Prohibitive costs	❑Yes	❑No
High groundwater	❑Yes	❑No	Down-gradient structures	❑Yes	❑No
City code/ordinance	❑Yes	❑No	Community development rules	❑Yes	❑No
Water quality benefits	❑Yes	❑No	Decrease community heath risks	❑Yes	❑No
Additional Information					

CITY OF GREAT FALLS
Public Works Department
POST-CONSTRUCTION SITE VISIT
STORMWATER MANAGEMENT
CONTROL INSPECTION FORM

General Information	
Site Name (if Applicable):	Type of Control:
Location:	
Site Owner:	Phone Number:
Responsible Party:	Phone Number:
Date of Inspection:	Start/End Time:
Inspector's Name:	Inspector's Title:
Inspector's Contact Information (phone):	
Type of Inspection: ❑ Routine, Dry Weather ❑ Routine, Wet Weather ❑ Complaint Response ❑ Other _____	

Weather Information
Weather at time of this inspection: ❑ Clear ❑ Cloudy ❑ Raining ❑ Sleet ❑ Fog ❑ Snowing ❑ High Winds ❑ Other: Temperature:
Do you suspect that any physical changes or damages to the stormwater management control may have occurred since the last inspection? ❑Yes ❑No
Are there any stormwater discharges at the time of inspection? ❑Yes ❑No If yes, provide location(s) and a description of stormwater discharged from the site (presence of suspended sediment, turbid water, discoloration and/or oil sheen, odor, etc…)

Prohibited Discharges
Are there any prohibited discharges at the time of inspection and/or any signs of prohibited discharges since the last inspection? ❑Yes ❑No If yes, provide location(s) and a description:

	Desired Conditions	Findings	Corrective Action Needed & Notes
1	There is no excessive sediment deposition.	❑Yes ❑No ❑N/A	
2	Slopes are well stabilized and are not contributing sediment to the stormwater management control.	❑Yes ❑No ❑N/A	
3	There is no scour in swales or other vegetated areas.	❑Yes ❑No ❑N/A	
4	Trash racks, inlets, outlets, and low flow orifices are clear of trash, debris, and sediment.	❑Yes ❑No ❑N/A	
5	There is no woody vegetation impeding the performance of any structural component of the stormwater management control.	❑Yes ❑No ❑N/A	
6	Outfall structures do not show signs of settling, cracking, bulging, misalignment or other structural deterioration.	❑Yes ❑No ❑N/A	
7	Embankments, emergency spillways, side slopes or inlet/outlet structures show no signs of erosion.	❑Yes ❑No ❑N/A	
8	Pipes going into and/or out of any stormwater management control are unclogged and unobstructed.	❑Yes ❑No ❑N/A	
9	There is no evidence of animal burrows.	❑Yes ❑No ❑N/A	
10	There is no trash or debris in the stormwater management control.	❑Yes ❑No ❑N/A	
11	There are no encroachments on the stormwater management control.	❑Yes ❑No ❑N/A	
12	All necessary repairs to safety devices such as fences, gates, covers or locks are complete.	❑Yes ❑No ❑N/A	

	Desired Conditions	Findings	Corrective Action Needed & Notes
13	There is not excessive algae or vegetation in the pond/ditch.	❑Yes ❑No ❑N/A	
14	The ground surface stabilization is retaining any highly erosive or unstable soils, seed germination is being properly facilitated, and any netting or blankets are properly fastened to obtain full contact with the ground.	❑Yes ❑No ❑N/A	
15	Stormwater control appears to be functioning properly.	❑Yes ❑No ❑N/A	
16	Are there locations where additional stormwater management controls appear to be necessary?	❑Yes ❑No ❑N/A	
17	Mosquito Control	❑Yes ❑No ❑N/A	
18	(Other)	❑Yes ❑No ❑N/A	
Describe any incidents of non-compliance or need for maintenance not described above:			
Follow-up inspection required? ❑Yes ❑No			

Inspector's Signature

Date

CITY OF GREAT FALLS
PUBLIC WORKS
POST-CONSTRUCTION STORMWATER MANAGEMENT CONTROL
SITE VISIT INSPECTION LOG

SITE NAME (IF APPLICABLE)	TYPE OF STORMWATER CONTROL	PROJECT FILE NO.

❑Yes ❑No

IS THIS A HIGH PRIORITY CONTROL?

REQUIRED INSPECTION FREQUENCY

LATITUDE: LONGITUDE:

GPS LOCATION

OWNER	ADDRESS	PHONE NUMBER

Site Inspection Log

Date	Inspector	Inspection Type	Follow-Up Required?	Date of Follow-Up Inspection
			❑Yes ❑No	
			❑Yes ❑No	
			❑Yes ❑No	
			❑Yes ❑No	
			❑Yes ❑No	
			❑Yes ❑No	
			❑Yes ❑No	
			❑Yes ❑No	
			❑Yes ❑No	

Supplemental Site Inspection Log

Date	Inspector	Inspection Type	Follow-Up Required?	Date of Follow-Up Inspection
			❑Yes ❑No	
			❑Yes ❑No	
			❑Yes ❑No	
			❑Yes ❑No	
			❑Yes ❑No	
			❑Yes ❑No	
			❑Yes ❑No	
			❑Yes ❑No	
			❑Yes ❑No	
			❑Yes ❑No	
			❑Yes ❑No	
			❑Yes ❑No	
			❑Yes ❑No	
			❑Yes ❑No	
			❑Yes ❑No	
			❑Yes ❑No	
			❑Yes ❑No	
			❑Yes ❑No	
			❑Yes ❑No	

CITY OF GREAT FALLS PUBLIC WORKS
POST-CONSTRUCTION STORMWATER MANAGEMENT CONTROL INSPECTION FREQUENCY DETERMINATION PROTOCOL

NAME OF STORMWATER CONTROL	PROJECT FILE NO.	ADDRESS
Latitude:	***Longitude:***	
	GPS LOCATION	
RESPONSIBLE PARTY		**PHONE NUMBER**

Instructions:

To determine the suggested inspection frequency of a given stormwater management control, begin by filling out the Post-Construction Stormwater Management Control Rating Table. Then utilize the Inspection Frequency Determination Table to determine the priority and minimum inspection frequency for the site.

Post-Construction Stormwater Management Control Rating Table

Criteria	Rating System	Rating Value (L, M, H)	Applied Rating for Each Criteria
Pre-determined priority of the control (if applicable)	Not High-Priority		
	High-Priority		
Proximity to a surface water	1,000+ feet from site's outfall		
	200 to 1,000 feet from site's outfall		
	Direct discharge to surface water		
Drainage Area Treated	Less than 1 acre(s)		
	1 to 5 acres		
	5+ acres		
Land Use Type	Residential		
	Commercial		
	Industrial		
Discharge to a waterbody impaired for pollutants expected from stormwater runoff	No		
	Yes		
[other]			

L=Low, M=Medium, H=High

Inspection Frequency Determination Table

Priority	Inspection Frequency[(1)]
Low	Once every 5 years
Medium	Once every 3 years
High	1. Annually
	2. After a rainfall event of 0.5-inches or greater

[(1)] Note: Consult the Operation and Maintenance (O&M) Plan/Manual for the given stormwater management control for additional inspection frequency requirements or recommendations. Compare O&M Manual/Plan to the results of the above table and select the inspection frequency which is more frequent for the given control.

Inspection Frequency for Post-Construction Stormwater Management Control

Site Priority: _____

Inspection Frequency: _____

	SOP ID#	POTENTIAL POLLUTANTS						
		TSS	Nutrients	Metals	Bacteria	Salainity	Oil&Grease	Chemicals
			Phosphorus/ Nitrogen					
PUBLIC WORKS								
Environmental								
Materials management / Chemical storage	6	X	X	X	X	X	X	X
Illicit Discharge Detection & Elimination	24	X	X	X	X	X	X	X
Annual review of existing SOPs/BMPs	25	X	X	X	X	X	X	X
Construction and post-construction inspections	26	X	X	X	X	X	X	
Outfall Inspections	27	X	X	X	X	X	X	
Sampling (Outfall, Post-Construction Controls, MS4 Permit Part IV Monitoring, Dry Weather Screening, TMDL, Etc.)	28	X	X	X	X	X	X	
Annual review of storm water management plan/erosion control permit	29	X	X	X	X	X	X	
Utility Systems								
Track-out management	1	X		X		X	X	
Hydrant flushing	4	X					X	Chlorine
Materials management / Chemical storage	6	X	X	X	X	X	X	X
Snow removal / Storage	9	X		X			X	
Inlet/catch basin & storm drain system cleaning	40	X	X	X	X	X	X	
Materials hauling	41	X	X	X	X		X	
Ditch / pond maintenance	42	X	X	X	X	X	X	
Drying Beds	43	X	X	X	X	X	X	
Sanitary Sewer Overflow (SSO's)	44	X	X	X	X	X	X	
Water Main Breaks & Repairs	45	X	X		X		X	
Street Division								
Track-out management	1	X		X		X	X	
Materials management / Chemical storage	6	X	X	X	X	X	X	X
Snow removal / Storage	9	X		X			X	
Chip / Crack sealing & pothole patching	32	X					X	
Paving & milling / Overlay procedures	33	X					X	
Hauling and dumping street waste	34	X	X	X	X	X	X	
Salt storage	35					X		
Street sweeping	36	X	X	X	X	X	X	
Vehicle storage and equipment maintenance	37	X		X		X	X	
Parking Lot maintenance (Municipal Buildings)	38	X	X	X	X	X	X	
Traffic								
Materials management / Chemical storage	6	X	X	X	X	X	X	X
Striping procedures	39							Paint

		POTENTIAL POLLUTANTS						
		TSS	Nutrients	Metals	Bacteria	Salainity	Oil&Grease	Chemicals
	SOP ID#		Phosphorus/ Nitrogen					
Central Garage								
Garbage covering / Transportation	5	X	X	X	X		X	Chlorine
Metals recycling	19		X				X	
Oil cleanup procedure (minor spills)	20			X			X	
Oil filter recycling	21			X			X	
Spent fluids storage and disposal	22			X			X	X
Vehicle washing	23	X	X	X		X	X	
Sanitation								
Garbage covering / Transportation	5	X	X	X	X		X	Chlorine
Materials management / Chemical storage	6	X	X	X	X	X	X	X
Christmas tree pickup	30	X	X	X	X			
Refuse storage containers	31	X	X	X	X			
PARKS AND RECREATION								
Copper sulfate storage & handling	14							Copper Sulfate
River's Edge Trail management	15	X					X	
Wadsworth Reservoir procedures	16	X	X				X	
Recreation Center	18		X	X	X			X
Golf Course								
Equipment fueling	2	X					X	
Fertilizer storage, handling, application, & cleanup	3		X					
Materials management / Chemical storage	6	X	X	X	X	X	X	X
Mowing procedures / Grass disposal	7	X	X					
Pesticide and herbicide storage, handling, application, & cleanup	8		X					
Irrigation	47	X	X				X	
Aquatic								
Swimming pool drain-down	12		X					Chlorine
Chlorine storage & handling	13							Chlorine
Natural Resource / Forestry								
Pesticide and herbicide storage, handling, application, & cleanup	8		X					
Grass, leaf and branch storage and disposal	10	X	X				X	

	SOP ID#	POTENTIAL POLLUTANTS						
		TSS	Nutrients Phosphorus/ Nitrogen	Metals	Bacteria	Salainity	Oil&Grease	Chemicals
Parks								
Equipment fueling	2	X					X	
Fertilizer storage, handling, application, & cleanup	3		X					
Mowing procedures / Grass disposal	7	X	X					
Pesticide and herbicide storage, handling, application, & cleanup	8		X					
Grass, leaf and branch storage and disposal	10	X	X				X	
Pet waste management	17		X				X	
Open space management	46		X		X		X	
GF HOUSING AUTHORITY								
Hydrant flushing	4	X					X	Chlorine
Garbage covering / Transportation	5	X	X	X	X		X	Chlorine
Grass, leaf and branch storage and disposal	10	X	X				X	
Refuse storage containers	31	X	X	X	X			
Striping procedures	39							Paint
Open space management	46		X		X		X	
FIRE DEPARTMENT								
Hydrant flushing	4	X					X	Chlorine
Chemical control at Training Center	11	X					X	
Vehicle washing	23							
Illicit Discharge Detection & Elimination	24	X	X	X	X	X	X	X
WATER DEPARTMENT								
Materials Management / Chemical Storage	#1							X
Sludge Removal Procedures	#2	X	X		X		X	
Water Tower Discharge	#3	X						