

APPENDIX F

CONSTRUCTION SITE STORMWATER RUNOFF CONTROL PROGRAM

Priority Site Identification

Plan Review Checklist

DWQ Construction Stormwater Inspection Form



TECHNICAL MEMORANDUM

SALT LAKE COUNTY CONSTRUCTION SITE PRIORITY INSPECTION AREAS

INTRODUCTION

This memorandum was developed in accordance with the County's Stormwater Management Plan (2008), Chapter 4.0. This chapter requires the development of a priority list for construction site inspections with the intent to reduce the discharge of stormwater pollutants caused by construction activities. The purpose of this memo is to provide guidance to Salt Lake County construction site inspectors so that areas with particular concerns for water quality and watershed protection are identified as needing additional oversight during construction activities.

CRITERIA FOR PRIORITY AREAS

Priority areas identified in unincorporated Salt Lake County are based upon criteria that have the potential to cause an increase in the discharge of stormwater pollutants or to further impact impaired waterbodies. These criteria are defined below and are presented in the attached maps.

1. Impaired waterbodies

The Utah Division of Water Quality determines whether or not designated beneficial uses are supported in surface waters of the state. If these uses are not supported due to exceedances of water quality standards, these waterways are considered to be impaired, and placed on the 303(d) list. Additional studies and possible implementation strategies may be necessary. For this reason, the drainage basins of the impaired waterbodies in Salt Lake County are on this priority list for site inspections, with the intent to minimize further degradation of water quality. The following rivers in Salt Lake County are on the 303(d) list:

- a. Big Cottonwood Creek
- b. Emigration Creek
- c. Jordan River
- d. Little Cottonwood Creek
- e. Parley's Canyon Creek

In the case of the Jordan River, those basins that drain directly to the River have been identified as priority areas.

2. Areas with severe and very severe erosion potential

Construction activities in areas with increased erosion potential are of particular concern. The implementation and maintenance of best management practices to minimize erosion is of special importance in these areas. Areas classified as having severe or very severe erosion potential were identified in the Salt Lake Countywide Water Quality Stewardship Plan (2009) by utilizing NRCS soil maps and an erosion hazard rating for each soil type. The erosion hazard rating is based on the slope and soil erodibility K-factor of a surface that has 50 to 75 percent of its area exposed by logging, grazing, mining, or other kinds of

disturbance. For the purposes of prioritizing construction sites, the ratings of severe and very severe erosion potential are applied. These categories are defined as follows:

- ♦ Severe erosion hazard is defined as, “erosion is very likely and that erosion-control measures, including re-vegetation of bare areas, are advised.”
- ♦ Very severe erosion hazard is defined as, “Significant erosion is expected, loss of soil productivity and off-site damage are likely, and erosion-control measures are costly and generally impractical.”

3. Foothills and Canyons Overlay Zone

Salt Lake County ordinance Title 19.72 and 19.73 establishes the Foothills and Canyons Overlay Zone (FCOZ) was established for the following purpose:

The general purpose of the foothills and canyons overlay zone is to promote the health, safety, and public welfare of the residents of the county, and while being cognizant of private property rights, to preserve the natural character of the foothills and canyons by establishing standards for foothill and canyon development proposed in the unincorporated areas of the county.

This ordinance sets standards for development in these areas to accomplish several purposes, including the prevention of degradation of fragile soils, steep slopes and water quality. For this reason, the areas encompassed under FCOZ are identified as priority areas for construction site inspections.

INSPECTION FREQUENCY

It is recommended that inspections of construction sites in these priority areas be conducted by County personnel in accordance with the following schedule:

1. Once every two weeks during active construction.
2. Once a month if site has been temporarily stabilized or runoff is unlikely due to winter conditions.
3. Within 24 hours of a storm event of 0.2 inches or greater.
4. Frequency may be reduced upon the judgment of the inspector that BMPs are well maintained and the site has a low probability of causing stormwater pollution.

INSPECTION FORM

It is recommended that County stormwater inspectors utilize the DWQ Inspection Form, found at www.waterquality.utah.gov/UPDES/stormwatercon.htm



Salt Lake County Planning and Development

Stormwater Discharges from Construction Activity (UTR 3000000)

Stormwater Pollution Prevention Plan Review Checklist



Project Name:	<input type="checkbox"/> Basic SWPPP (E&SC Plan)	<input type="checkbox"/> Full SWPPP
Site Address:	Municipality:	Reviewer:
	County:	
Owner/Operator:	Phone:	Date:
Address:	Fax:	UPDES General Permit ID Number: UTR

SWPPP checked below: _____

- 1) Owner/Operator name, legal address, phone number
- 2) Copy of signed Notice of Intent (NOI)
- 3) Signature of SWPPP Preparer on NOI (must be a Professional Engineer for SWPPPs with engineered practices)
- 4) Contractor (and subcontractors if applicable) certification statement(s)
- 5) Site address and legal description of site
- 6) Vicinity Map, showing project boundary and receiving water(s)
- 7) MS4 SWPPP Acceptance Form (for projects located in regulated MS4s)

Comments:

Existing and proposed mapping and plans (recommended scale of 1" = 50') which illustrate at a minimum:

SWPPP as checked below: _____

- 1) Existing and proposed topography (minimum 2-foot contours recommended)
- 2) Location of perennial and intermittent streams
- 3) Mapping and description of soils from USDA Soil Survey, including hydrologic soil group, as well as location of any site-specific borehole investigations that may have been performed
- 4) Boundaries of existing predominant vegetation and proposed limits of clearing
- 5) Location and boundaries of resource protection areas such as wetlands, lakes, ponds and other setbacks (e.g. stream buffers, drinking water well setbacks, septic setbacks)
- 6) Boundary and acreage of upstream watershed
- 7) Location of existing and proposed roads, lot boundaries, buildings and other structures
- 8) Location and size of staging areas, equipment storage areas, borrow pits, waste areas and concrete washout areas
- 9) Existing and proposed utilities (e.g. water, sewer, gas, electric) and easements
- 10) Location and flow paths of existing and proposed conveyance systems such as channels, swales, culverts and storm drains
- 11) Location of floodplain/floodway limits
- 12) Location and dimensions of proposed channel modifications, such as bridge or culvert crossings
- 13) Location, size, maintenance access and limits of disturbance of proposed temporary and permanent stormwater management and erosion and sediment control practices, including timing and duration of temporary practices
- 14) Documentation from State of Utah Historic Preservation Office that the project has no effect on property on or eligible for historic registers
- 15) Plans stamped and signed by qualified professional (must be a licensed professional on plans with engineered practices)

Comments:

Erosion and Sediment Control Plans and Vegetative Measures:

SWPPP as checked below: _____

- 1) Description of temporary and permanent structural and vegetative measures for soil stabilization, runoff control and sediment control for each stage of the project from initial land clearing and grubbing to project close-out
- 2) Material specifications, dimensions, installation details and operations and maintenance requirements for erosion and sediment control practices, including the location and sizing calculations for any temporary sediment basins
- 3) Site map/construction drawing(s) showing the specific locations, sizes, and lengths of each erosion and sediment control practice
- 4) Identification of any design elements not in conformance with the State of Utah and Salt Lake County

And the reason for the deviation or alternative design, and demonstration that the alternative is equivalent to the technical standard



- 5) Inspection and Maintenance schedule to ensure continuous and effective operation of the erosion and sediment control practices, in accordance with the Salt Lake County
- 6) Description of structural practices to divert flows from exposed soils, store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site to the degree attainable
- 7) Construction phasing plan and sequencing plan describing the intended sequence of construction activities, including clearing and grubbing; excavation and grading; implementation, timing and duration of temporary and permanent erosion and sediment control practices; installation of utilities and infrastructure; any other soil disturbing activity; and acreage to be disturbed in each phase
- 8) Final landscaping plans for structural stormwater management practices and any reforestation or vegetation
- 9) Description of pollution prevention measures to control construction litter, construction chemicals and debris
- 10) Description and location of any stormwater discharges associated with industrial activity other than construction at the site, including but not limited to, stormwater discharges from asphalt plants and concrete batch plants on the construction site

Comments:

For construction activities listed

Hydrologic and hydraulic analysis for all structural components of stormwater system (e.g. storm drains, open channels, swales, stormwater management practices, manufactured treatment systems, etc.) for applicable design storms including:

SWPPP checked below:

- 1) Existing and Proposed condition analyses for time of concentrations, runoff rates, volumes, velocities, water surface elevations and routing showing methodologies used and supporting calculations
- 2) Channel Protection Volume and detention time calculations
- 3) Comparison summary of post-development stormwater runoff conditions with pre-development conditions for 1-year, 10-year, 100-year design storms in accordance with Salt Lake County.
- 4) Stormwater management practice sizing calculations using the Enhanced Phosphorus Removal Standards (TMDL watersheds)
- 5) Pollutant removal efficiencies of stormwater treatment practices, to protect water quality and reduce discharge of pollutants to the MS4.
- 6) Infiltration/percolation tests, where required

Comments:

Representative cross-section and profile drawings and details of structural stormwater management practices and conveyances (e.g. storm drains, open channels, swales, etc.) which include:

SWPPP as checked below:

- 1) Existing and proposed structural elevations (e.g. invert of pipes, manholes, etc.)
- 2) Construction drawing(s) identifying the specific locations and sizes of each post-construction stormwater control practice
- 3) Description, dimensions, material specifications and installation details for each post-construction stormwater control practice, including outlet structures, embankments, spillways, settling basins, grade control structures, conveyance channels, etc.
- 4) Logs of borehole investigations and supporting geotechnical report, if borings have been taken

Comments:

SWPPP as checked below:

- 1) Post-construction maintenance schedule to ensure continuous and effective operation of each post-construction stormwater control practice, including monitoring and maintenance frequency, identification of responsible parties, description of applicable easements, vegetative requirements, access and safety issues, and testing and disposal of sediments as they are removed
- 2) Weekly or twice-weekly inspection checklist identifying measures to be inspected by a qualified site inspector
- 3) Request to disturb greater than five acres at any given time including justification for disturbance, additional erosion and sediment control measures to mitigate disturbance, phasing plan, cuts and fills plan, and total acreage to be disturbed in each phase
- 4) Documentation of downstream analysis or discharge to request waiving controls of Channel Protection.
- 5) Identification of any stormwater management practices that deviate from Salt Lake County and the reason for the deviation and demonstration that the alternative practice or deviation is equivalent to the technical standard



UPDES STORM WATER INSPECTION EVALUATION FORM FOR SWPPP COMPLIANCE

BACKGROUND INFORMATION

Site Name: _____ UPDES Permit #: _____
 Site Address: _____
 Local Jurisdiction or County: _____ Permit Effective Date: _____
 Total Project Area: _____ Total Disturbed Area: _____ Permit Expiration Date: _____
 Project Type: (check) Subdivision Commercial Industrial Linear (Road/Pipe/Power) Land Disturbance

OPERATOR CONTACT INFORMATION

NAMES	PHONE NUMBERS	E-MAIL
Operator: _____	_____	_____
Onsite Facility Contact: _____	_____	_____
Important Contacts: _____	_____	_____
Important Contacts: _____	_____	_____

SWPPP PRE-SITE REVIEW INFORMATION

	YES	NO
1. Has a pre-construction review of the SWPPP been conducted by the appropriate municipal agency?	<input type="checkbox"/>	<input type="checkbox"/>
2. Are contact names and telephone numbers listed in the SWPPP?	<input type="checkbox"/>	<input type="checkbox"/>
3. Does the SWPPP have an estimate of the area to be disturbed, a sequence of construction activities, the SW runoff coefficient for after completion, a description of the soil types, controls for discharges from (asphalt/concrete) batch plants if any, show wetland areas, and have a description of the nature of the construction activity?	<input type="checkbox"/>	<input type="checkbox"/>
4. Does the SWPPP and site map show erosion and sediment controls placement & details (e.g. erosion blankets, mulch, slope drains, check dams, sediment basins, grass-lined channels, fiber rolls, sediment traps, silt fence, inlet protection, curb cut-back, dust control, etc)?	<input type="checkbox"/>	<input type="checkbox"/>
5. Does the SWPPP and site map show and describe good housekeeping controls (e.g. track out pad, street sweeping, material storage, construction waste containment and removal, sanitary waste, concrete washout pits, etc)	<input type="checkbox"/>	<input type="checkbox"/>
6. Are post-construction elements included in the SWPPP? (i.e. grass swales, detention basins, vegetated filter strips, infiltration, depression storage, landscaping/xeriscaping, discontinuous concrete or hard surface SW conveyance, etc.)	<input type="checkbox"/>	<input type="checkbox"/>
7. Does the SWPPP address endangered species and historic preservation?	<input type="checkbox"/>	<input type="checkbox"/>
8. Is the SWPPP signed by a responsible corporate officer with the certification statement (see permit part 5.16.c.)?	<input type="checkbox"/>	<input type="checkbox"/>
9. Does the SWPPP include a site map showing storm drains, slopes/surface drainage patterns, SW discharge points, construction boundaries, limits of disturbance, surface waters (name of receiving water), structural controls, and does it define/explain non-structural controls?	<input type="checkbox"/>	<input type="checkbox"/>
10. Are the NOI and a copy of the State permit in the SWPPP?	<input type="checkbox"/>	<input type="checkbox"/>

NOTICE OF TERMINATION (NOT) INSPECTION

Site Name: _____ Date Evaluation: _____
 Site Address: _____
 Inspected by: _____ Title/Organization _____

	YES	NO	COMMENTS:
1. Has the site been properly stabilized according to permit requirements?	<input type="checkbox"/>	<input type="checkbox"/>	
2. Have all temporary BMPs been removed?	<input type="checkbox"/>	<input type="checkbox"/>	
3. Have post-construction (permanent storm water system) elements been constructed and inspected in accordance with approved project drawings?	<input type="checkbox"/>	<input type="checkbox"/>	
4. Is the site acceptably clean?	<input type="checkbox"/>	<input type="checkbox"/>	

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 gathered and evaluated 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.

Inspector (Print Name) _____ Title: _____ Signature: _____ Date: _____
 Operator: (Print Name) _____ Title: _____ Signature: _____ Date: _____

