CHAPTER 8

CONSTRUCTION STORMWATER MANAGEMENT PROGRAM

8.1 INTRODUCTION AND INTENT

The intent of the Construction Stormwater Management Program is to reduce or prevent the discharge of pollutants in runoff from construction sites to the city's drainage system, creeks, and the Yampa River.

The program is required by the city's Municipal Separate Storm Sewer System (MS4) Permit issued by the Colorado Department of Public Health and Environment (CDPHE). The MS4 includes all drainage systems, creeks, and the Yampa River within the city. Controlling stormwater runoff from construction sites is also required by the Steamboat Springs Revised Municipal Code.

The Engineering Standards govern erosion and sediment control on all construction sites and establish the minimum requirements. Construction sites vary from single family, multi-family, commercial, industrial, and large subdivision projects. For most projects, the Engineering Standards are requirements which shall not be varied. For some projects, a more successful outcome may be achieved by allowing some flexibility in applying the Engineering Standards. When project conditions require a variance from the Engineering Standards, a licensed engineer representing the applicant shall request a variance along with the initial submittal of the building permit application. Approval of the Stormwater Management Plan (SWMP), City of Steamboat Springs Construction Stormwater Permit (SSCSP), or Construction Site Management Plan (CSMP) will serve as approval of the requested variance.

8.2 CONSTRUCTION SITE CLASSIFICATION

All construction sites in the city are required to implement erosion and sediment control measures to reduce or prevent the discharge of pollutants from the site. The type of permit and plan requirements for a site are dependent on the site classification. Each construction site is classified as either an MS4 Applicable Site or a Non-MS4 Applicable Site.

MS4 Applicable Site

An MS4 Applicable Site is a construction site with:

1. A land disturbance of greater than or equal to one acre, or
2. A land disturbance less than one acre, but is part of a larger common plan of development.

An MS4 Applicable Site requires an approved SSCSP, SWMP, a traffic control plan (TCP), if applicable, and Colorado Discharge Permit System (CDPS) General Permit for Stormwater Discharges Associated with Construction Activity (Permit No. COR400000) prior to issuance of a construction permit.

Non-MS4 Applicable Site

A construction site not classified as an MS4 Applicable Site is considered a Non-MS4 Applicable Site. A Non-MS4 Applicable Site requires a CSMP (instead of both an SSCSP and SWMP) and a TCP, if applicable, prior to issuance of a construction permit.

8.3 STEAMBOAT SPRINGS CONSTRUCTION STORMWATER PERMIT (SSCSP)

An MS4 Applicable Site requires an approved SSCSP prior to the issuance of a construction permit. An MS4 Applicable Site also requires a CDPS General Permit for Stormwater Discharges Associated with Construction Activity (Permit No. COR400000). Refer to CDPHE for additional information.

The SSCSP application requires the preparation of a SWMP. Additional application information for an SSCSP is available on the city's website. The SSCSP application is submitted and processed through the CityView portal. After approval of the SSCSP, the applicant is referred to as the permittee. The SSCSP shall remain open until all construction activities are complete and the site meets final stabilization requirements.

8.4 STORMWATER MANAGEMENT PLAN (SWMP)

8.4.1 GENERAL

An SWMP is required when applying for an SSCSP. This section sets forth the required elements of an SWMP and specific control measure requirements for sites within the city. The SWMP consists of a narrative, site plans, specifications, and details which describe all control measures to be implemented to reduce erosion at the source and prevent pollutants from leaving the construction site. The SWMP shall be prepared by a Qualified Stormwater Manager.

8.4.2 CONTROL MEASURE SELECTION

8.4.2.1 GENERAL

Control measures described in the SWMP shall comply with the criteria in this section. Control measures include both structural and non-structural control measures. Control measures shall be selected, designed, installed, implemented, and maintained in accordance with good engineering, hydrologic, and pollution control practices.

Control measures shall be selected for the specific construction activity, the applicable pollutant sources, and the phase of construction. Control measures shall control all potential pollutants, including sediment, dust, construction site waste, trash, discarded building materials, concrete truck washout, chemicals, sanitary waste, and contaminated soils.

Control measures shall be installed per the specifications provided in the SWMP prior to the start of construction activities, during each phase of construction, and continue to be implemented, inspected, and maintained until final stabilization is achieved.

8.4.2.2 CITY-REQUIRED CONTROL MEASURES

The control measures listed below shall be implemented on construction sites when site conditions warrant their use:

1. Perimeter sediment controls.
2. Waste receptacles.
3. Vehicle Tracking Controls (VTC) at all site access locations.
4. Stabilized staging areas where vehicles, equipment, waste receptacles, and construction materials are stored.
5. Lined concrete washout pit or other washout container. All wash water shall be retained onsite and prohibited from discharging from the construction site.
6. Sediment basins on construction sites with a disturbed area of two acres or more.
7. Sediment traps on construction sites with a disturbed area of less than two acres.
8. Check dams in drainage ways.
9. Erosion control blankets on slopes 3H:1V or steeper.

10. Temporary soil stabilization on any portion of the site where grading and land disturbing activities are complete and on any portion of the site that is inactive for 14 days.
11. Hazardous fluid storage in manufacturers' containers within secondary containment at least 50 feet away from the MS4 or drainage way.
12. Spill cleanup kits.
13. Site winterization.

8.4.3 SWMP NARRATIVE

The SWMP Narrative describes the project site, proposed construction activities, and the control measures which will be installed and implemented onsite for erosion control, sediment control, site management, and materials management. The SWMP Narrative shall include:

1. Project name, location, owner, operator, and CDPHE certification number
2. Name of Qualified Stormwater Manager
3. Total area of ground disturbance, including staging and storage areas
4. Project description and construction activity
5. A description of the drainage patterns from the site, including the immediate receiving water
6. The proposed sequence of major activities and schedule (approximate dates)
7. Description of the control measures for each stage of construction (e.g., clearing, grading, utilities, vertical, final stabilization)
8. Description of how the project will be phased
9. Description of the existing site, existing site vegetation, and percent vegetation coverage
10. Description of non-stormwater discharges, including construction dewatering covered under a CDPS General Permit for Discharges from Short-Term Construction Dewatering Activities (Permit No. COG80000).
11. Description of potential pollutant sources. At a minimum, structural and non-structural control measures shall be selected, described, and evaluated for each of the below pollution sources:
    a. Land disturbance and storage of soils
    b. Vehicle tracking
    c. Loading and unloading operations
    d. Outdoor storage of construction site materials, building materials, fertilizers, and chemicals
    e. Bulk storage of materials
    f. Vehicle and equipment maintenance and fueling
    g. Significant dust or particulate-generating processes
    h. Routine maintenance activities involving fertilizers, pesticides, detergents, fuels, solvents, and oils
    i. Onsite waste management practices (construction waste, liquid wastes, trash)
    j. Concrete truck/equipment washing, including concrete truck chute and associated fixtures and equipment
    k. Dedicated asphalt and concrete batch plants
    l. Other areas or operations where spills can occur

m. Other non-stormwater discharges, including construction dewatering not covered under the Construction Dewatering Discharges general permit and wash water that may contribute pollutants to the MS4

12. Installation and implementation specifications for all structural control measures selected for the above potential pollutant sources
13. Description of control measures used to achieve temporary and final stabilization of all disturbed areas at the site (e.g., hydromulching, erosion control blankets, turf reinforcement mats, tracking)
14. Approximate schedule for temporary and final stabilization control measures (disturbed areas must be stabilized by November 1)
15. Description of permanent site stabilization and revegetation, including seed mix and schedule
16. Program and schedule for regular inspection and maintenance of control measures by a Qualified Stormwater Manager

8.4.4 SWMP SITE PLAN REQUIREMENTS

SWMP Site Plans are construction plans which locate and identify the control measures described in the SWMP narrative. Separate SWMP Site Plans are required for the initial and final phases of construction. SWMP Site Plans shall show and annotate the following:

1. Property lines and adjacent roadways
2. Construction site boundaries and fencing, including haul roads, offsite staging areas, and borrow and fill areas
3. Flow arrows that depict stormwater flow directions onsite and runoff direction
4. Receiving waters and drainages
5. Site access locations
6. Staging areas, including portable toilets, concrete washout locations, fueling, and hazardous material storage
7. Existing and proposed contours
8. Locations of structural and non-structural control measures
9. Soil stockpile areas
10. Waste accumulation areas, including areas for liquid storage, masonry mixing, and asphalt
11. Locations of springs, streams, wetlands, and other state waters, including areas that require preexisting vegetation be maintained within 50 feet of a receiving water
12. Locations of all stream crossings located within the construction site boundary
13. Locations of dedicated asphalt and concrete batch plants

SWMP Site Plans shall include a title block and a legend with abbreviations, symbols, and line types used to represent the various control measures. Each symbol and line type shall be labeled at least once on each sheet on which it is used. Text on SWMP Site Plans shall be legible when printed on 11” x 17” sheets.

<u>SWMP Site Plan</u>

The SWMP Site Plan shall show the location and type of all control measures which will be installed before land disturbing activities begin. Required initial control measures include perimeter controls,

inlet protection, VTC, stabilized staging areas, sediment basins, check dams, sediment traps, and concrete washout stations.

Final SWMP Site Plan

The Final SWMP Site Plan shall show the location and type of all control measures used to permanently stabilize disturbed soils after surfaces have received final grading and construction is complete. Sites shall implement final stabilization control measures as soon as possible, but no later than two years after final grading. Typical final control measures include sodding, seeding, hydromulching, erosion control blankets, turf reinforcement mats, and landscaping.

8.4.5 SWMP SPECIFICATIONS AND CONSTRUCTION DETAILS

The SWMP shall include a section with installation and implementation specifications and details required for the proper installation of the control measures described in the SWMP Narrative and shown on the SWMP Site Plans. The text on details shall be legible when printed on 8.5" x 11" and 11" x 17" sheets. The specifications used shall be from the City-Specific Requirements for Control Measures section, found later in this chapter, and other recognized resources, such as Colorado Department of Transportation (CDOT) or Mile High Flood District (MHFD).

8.4.6 SWMP UPDATES

The SWMP shall be periodically updated to reflect current site conditions. Typical SWMP updates include attaching inspection reports, showing revised locations of control measures, showing additional control measures, adding specifications and details for new control measures, and identifying additional pollution sources. Hand-written notations, initialed and dated, are adequate for most plan updates.

The SWMP shall be kept onsite and available to the construction superintendent and city inspector until the project is complete and the SSCSP is terminated. The SWMP shall be available electronically when requested.

8.4.7 SMALL SITE SWMP REQUIREMENTS

MS4 Applicable Sites that are part of a common plan of development are considered small sites and may use the Small Site Construction Stormwater Management Form which is a simplified version of a SWMP. The Small Site Construction Stormwater Management Form is included in the appendix.

8.5 INSPECTION

8.5.1 INSPECTION REQUIREMENTS

As designated in the SWMP, a Qualified Stormwater Manager is required to inspect the construction site. The purpose of the inspections is to determine if the control measures are adequate and to identify required maintenance needs. Inspections shall begin immediately after installation of the initial control measures and prior to any land disturbing activity. Inspections shall continue on the following minimum frequency until all ground disturbing activities are complete:

1. Once every seven calendar days, or
2. Once every 14 calendar days, provided post-storm event inspections are conducted within 24 hours after the end of any precipitation or snowmelt event which produces runoff from the project.

Once construction is complete and all ground disturbing activities have ceased, inspections of the site, or portions thereof, may be reduced to once every 30 days.

The Qualified Stormwater Manager shall keep a record of all inspections, including the date and time of the inspection, weather conditions, phase of the project, control measures in need of maintenance, identification of inadequate control measures in need of corrective actions, identification of areas needing additional control measures, and location of pollutant discharges.

8.5.2 MAINTENANCE OF CONTROL MEASURES

Maintenance of control measures is required throughout construction until final stabilization is achieved. Control measures shall be maintained by the contractor as referenced in the SWMP and as identified during inspections. Maintenance needs identified in an inspection report shall be completed within 72 hours of observation.

8.5.3 INADEQUATE CONTROL MEASURES

A control measure is considered inadequate and in need of corrective actions when it is not designed, implemented, or operating to control pollutants from leaving the construction site as intended. Control measures can be identified as inadequate either by a routine inspection report or as evidenced by poor performance during or after a storm event. Corrective action needs identified in an inspection report shall be completed immediately.

8.5.4 CITY INSPECTIONS

Routine city-conducted inspections of construction sites occur every 45 days, unless the site is determined to be high risk, wherein inspection frequency may be increased at the discretion of the city's stormwater inspector. Follow up compliance inspections may occur within 14 days when a pollutant discharge occurs, or an inadequate control measure is identified. Inspections are to assess if installation, maintenance, and function of the control measures are adequate, and to ensure compliance with the project's SSCSP, SWMP, and Steamboat Springs Revised Municipal Code.

Maintenance needs identified in an inspection report shall be completed within 72 hours of observation to prevent further enforcement. Corrective action needs identified in an inspection report shall be completed immediately to prevent further enforcement. Sites not in compliance are subject to enforcement actions, including Notice of Violation, Stop Work Order, and Summons to Municipal Court.

8.6 CONSTRUCTION SITE MANAGEMENT PLAN (CSMP)

The CSMP shall show the appropriate construction control measures to prevent the discharge of pollutants from the site. The CSMP is submitted with the construction permit application. For single family and duplex sites that are classified as Non-MS4 Applicable Sites, the construction control measures can be shown on the grading and drainage site plan. Control measures shall be maintained until final stabilization is achieved. Refer to the Construction Site Management Plan Checklist included in the appendix.

8.7 CITY-SPECIFIC REQUIREMENTS FOR CONTROL MEASURES

Due to the mountainous terrain, soil types, and proximity to mountain streams, which are tributaries to the Yampa River, there are city-specific requirements for selected control measures. The city-specific requirements supersede other agency specifications for the same control measure. When the city does

not have specific requirements for a control measure, the requirements shall meet MHFD's *Urban Storm Drainage Criteria Manual (USDCM) Volume 3* specifications and maintenance requirements. The following control measures have city-specific requirements.

8.7.1 SEDIMENT BASINS

A sediment basin is an impoundment which captures sediment laden runoff and releases it slowly, providing prolonged settling times to capture coarse and fine-grained soil particles.

Applicability

1. Sediment basins shall be installed on construction sites with a disturbed area of two acres or more.
2. Sediment basins should not be used as stand-alone sediment controls. Erosion control and other sediment controls should also be implemented upstream for effective management of construction site run off.

Design Criteria

1. For sites with 40 acres or less of disturbance,
    a. Sixty-six percent of disturbed area shall drain to a sediment basin.
    b. Multiple basins may be used to achieve the 66 percent requirement.
    c. Each sediment basin shall provide 1,600 cubic feet of storage per acre of tributary area, provided it is not used as a control measure during the months of March, April, or May.
    d. Each sediment basin shall provide 3,600 cubic feet of storage per acre of tributary area when used as a control measure during the months of March, April, or May.
    e. Each sediment basin shall have the means to drain detained runoff, as well as an emergency overflow for runoff more than the sediment basin design volume.
    f. Sediment basins should drain passively through an outlet structure designed to drain the full basin volume within 24 hours.
2. For sites with more than 40 acres of disturbance, forty acres of the overall site shall abide by the criteria set forth for areas of disturbance of 40 acres or less. Additionally, 100 percent of every acre of disturbance more than 40 acres shall drain to a sediment basin. For example, a site with 45 acres of disturbance would be required to drain 66 percent of 40 disturbed acres (or 26.4 acres) and all the remaining 5 disturbed acres, for a total of 31.4 acres, to a sediment basin.
3. Sediment basin design and maintenance requirements shall meet SC-7 criteria in MHFD's *USDCM Volume 3*.

Maintenance and Removal

1. Inspect sediment basins after significant rain events and repair as needed.
2. Sediment basins shall be maintained to provide the design storage volume. Sediment shall be removed when the design storage volume is no more than one-third filled with sediment.
3. Sediment basins shall not be removed until one of the following conditions are met:
    a. The upstream area has achieved final stabilization.

b. The upstream area has a low potential for erosion and has been final graded, seeded, and stabilized with hydromulch, erosion control blankets or turf reinforcement mats.

4. Sediment basins may be drained by pumping their contents through sediment bags when one of the following conditions are met:
    a. The basin volume reaches 50 percent of capacity.
    b. Rain is forecasted within the next 24 hours.

8.7.2 CHECK DAMS

Check dams may be used to slow runoff in drainage ways to limit erosion and sediment transport. Check dams are typically constructed from rock, gravel bags, sandbags, or straw wattles. Silt fence and straw bales are not allowed for use as check dams.

Design Criteria and Installation

1. Spacing between check dams is determined by the slope of the drainage way. Check dams shall be spaced so the top elevation of the downstream dam is equal to the bottom elevation of the next upstream dam.
2. Rock sizing and check dam height is dependent on the flow velocities, runoff volumes, and slope of the drainage way. The smallest rock specified shall be D50 = 9 inches
3. Rock check dams shall be embedded into the underlying ground to a depth equal to D50.
4. Each rock check dam shall be constructed with a low point in the center to prohibit flow from eroding soil at the ends of the dam.
5. Reinforced rock check dams, typically constructed with wire gabion, should be used in areas subject to high flows.
6. Straw wattle check dams shall be embedded at least one-third the height of the wattle into the soil and stakes shall be embedded at least 12 inches.
7. Specifications and a construction detail of the check dam, including a plan view and typical section, shall be included in the SWMP.

Maintenance and Removal

1. Inspect check dams after significant rain events and repair as needed.
2. Remove accumulated sediment behind the check dam before the sediment depth reaches one-half the height of the check dam.
3. Check dams constructed in permanent swales shall be removed when revegetation has been achieved or immediately prior to installation of a non-erodible lining. All accumulated sediment and check dam materials shall be removed.

8.7.3 VEHICLE TRACKING CONTROLS (VTC)

VTC, including aggregate tracking pads and reusable tracking mats, help minimize sediment tracking onto roadways and into drainage ways. VTC are required at all site access locations. All vehicles and equipment accessing the site shall use only the identified, stabilized access locations.

1. Aggregate Tracking Pads
    a. For commercial, industrial, and multifamily sites, aggregate tracking pads shall be constructed of three-inch to eight-inch angular aggregate. For all other sites,

aggregate tracking pads shall be constructed of a minimum 1 3/4" angular aggregate.
    b. A layer of non-woven geotextile fabric shall be installed underneath the aggregate.
    c. Replace the coarse aggregate when sediment has accumulated, and the pad is no longer effective.
2. Reusable Tracking Mats
    a. If using a manufactured, reusable tracking mat, the mats shall be installed and maintained per the manufacturer's guidelines and specifications.
    b. Manufactured tracking mats may be used in conjunction with aggregate tracking pads.
3. General
    a. Construction fencing, or other barriers, shall be installed to direct all traffic over the VTC and prohibit vehicles from using unauthorized access locations.
    b. The minimum dimensions for each VTC are 20 feet wide by 50 feet long. Additional length may be required if the minimum length does not provide adequate performance. Aggregate tracking pads shall be a minimum of six inches thick.
    c. VTC shall be installed as an initial control measure, prior to any construction activities.
    d. VTC shall be inspected during use to determine if they are performing as intended and adequately preventing sediment from leaving the construction site.
    e. Street sweeping shall be conducted when there is noticeable sediment accumulation on roadways adjacent to the site.
    f. Specifications and a construction detail of the VTC shall be included in the SWMP or CSMP.

8.7.4 STABILIZED STAGING AREA

A stabilized staging area (SSA) is a designated area where construction equipment, vehicles, and construction materials are stored. An SSA helps control generation and transport of sediment on equipment tires and tracks. Therefore, an SSA shall be designated for all areas where loading, unloading, and storage of construction materials and waste bins occur; equipment is stored; and vehicles are parked.

The SSA shall be constructed of non-erosive granular material at least three inches thick. Onsite granular material may be used for construction of the SSA if the material provides adequate stabilization. The SSA shall be sized to accommodate the site's operations. The SSA may need to be enlarged or moved as construction proceeds. If rutting occurs, or if the underlying subgrade becomes exposed, additional granular material shall be installed. The SSA shall be installed as an initial control measure, prior to other construction activities. Specifications and a construction detail of the SSA shall be included in the SWMP.

8.7.5 TEMPORARY SOIL STABILIZATION

Temporary soil stabilization is required on all portions of the site where grading and land disturbing activities are complete and on any portion of the site that is inactive for at least 14 days. Examples of temporary soil stabilization include temporary seeding, hydroseeding, tackifier application, mulching, hydromulching, compacting, surface roughening, tarping, and installing erosion control blankets.

The 14-day stabilization requirement may be exceeded when the function of the specific area of the site requires it to remain disturbed or physical characteristics of the terrain and climate prevent stabilization. The SWMP shall document the constraints necessitating the alternative schedule, provide the alternate stabilization schedule, and identify all locations where the alternative schedule is applicable on the site plan.

8.7.6 SITE WINTERIZATION

Winterization of a construction site is required to minimize the potential for sediment discharges during spring snow melt. Winterization includes performing required maintenance of existing control measures, temporary or permanent stabilization of disturbed areas, and installation of new control measures which will be needed to control sediment. Permittees and Qualified Stormwater Managers shall complete and inspect site winterization prior to November 1, unless otherwise approved by city staff.

8.7.7 EROSION CONTROL BLANKETS

An erosion control blanket (ECB) is a fibrous blanket of straw, jute, excelsior, or coconut material, which biodegrades over time, used to provide seedbed protection from wind and water erosion during revegetation. ECBs shall be installed on all embankments, cuts, and fill slopes with a slope of 3H:1V or steeper.

The type of ECB shall be selected according to MHFD's *USDCM Volume 3*. ECBs shall be installed within 14 days of completion of final grading. Installation shall be in accordance with the manufacturer's details and specifications which shall be included in the SWMP.

8.8 COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT (CDPHE) PERMITS, STEAMBOAT SPRINGS REVISED MUNICIPAL CODE, AND COMMUNITY DEVELOPMENT CODE

CDPHE Permits

The city's CDPS General Permit for Stormwater Discharges Associated with Municipal Separate Storm Sewer Systems (Permit No. COR090000) requires the city to "implement a program to reduce or prevent the discharge of pollutants to the MS4 from applicable construction activities." MS4 Applicable Sites require a CDPS General Permit for Stormwater Discharges Associated with Construction Activity (Permit No. COR400000). For activities involving dewatering operations, a CDPS General Permit for Discharges from Short-Term Construction Dewatering Activities (Permit No. COG80000) is required prior to discharging to the MS4 or other surface waters. Refer to CDPHE for additional information on these permits.

Steamboat Springs Revised Municipal Code

Steamboat Spring Revised Municipal Code, Sec. 20-122 states "No person shall discharge or cause to be discharged into the MS4 or watercourses any materials, including, but not limited to, pollutants or waters containing any pollutants that cause or contribute to a violation of applicable water quality standards, other than stormwater, including, but not limited to: Trash; yard waste; landscaping materials; lawn chemicals; pet waste; oil; petroleum products; cleaning products, paint products, hazardous waste, sediment," etc.

Steamboat Spring Revised Municipal Code, Sec. 20-118 through 20-121 outlines permitting requirements for land disturbing activities conducted by public agencies and utility providers resulting in

construction activities greater than or equal to one acre, including sites less than one acre which are part of a common plan of development.

Community Development Code

Section 404 of the Community Development Code sets for the requirements for revegetation.

8.9 DEFINITIONS OF TERMS

Common plan of development: A contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules but remain related. Construction activities within one-quarter mile of each other shall be considered contiguous.

Construction activity: Any ground surface disturbance and associated activities, including clearing, grading, excavation, demolition, installation of new or improved haul roads and access roads, staging areas, stockpiling of fill materials, and borrow areas. Activities related to performing repairs, which are not part of regular maintenance, and activities that are for replacement are considered construction activities. Repaving activities where underlying or surrounding soil is cleared, graded, or excavated as part of the repaving operation are construction activities. Construction activity occurs from initial groundbreaking to final stabilization, regardless of ownership of the construction activities. Activities that include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility are not considered construction activities.

Control measure: A best management practice or other method used to prevent or reduce the discharge of pollutants from a construction site to state waters.

Disturbed area: The measurement of the disturbed area of a site, including the site access, staging area, haul roads, stockpile areas, and material storage areas.

Final stabilization: Final stabilization is reached when all surface disturbing activities at the site are complete and the site has been permanently stabilized with building structures, permanent pavement, landscape rock, landscape pavers, sod, or vegetated areas. Final stabilization of all remaining disturbed and exposed areas requires establishment of a uniform vegetative cover, generally free of weeds, of at least 70 percent of the pre-disturbance level.

Good engineering, hydrologic, and pollution control practices: Methods, procedures, and practices that are based on basic scientific fact, reflect best industry practices and standards, are appropriate for the conditions and pollutant sources, and provide appropriate solutions to minimize pollutant discharges to the city's MS4 and watercourses.

Land disturbing activity: An activity that results in a change to the existing land (both vegetative and non-vegetative). Land disturbing activities include, clearing, grading, excavation, demolition, installation of new or improved haul roads and access roads, staging areas, stockpiling of fill materials, and borrow areas. Compaction that is associated with stabilization of structures and road construction is also considered a land disturbing activity.

Non-structural control measures: The implementation of methods, practices, and procedures to prevent or reduce the discharge of pollutants from a construction site to state waters, including construction sequencing, protecting existing vegetation, preventative maintenance procedures, and street sweeping.

Permittee: The property owner or operator who holds the City of Steamboat Springs Construction Stormwater Permit and is responsible for complying with the terms of the permit and the SWMP.

Pollutant: Any substance that is harmful to humans, animals, public health, the environment, or that can degrade the quality of receiving waters, cause the receiving waters to violate the stream standards established by the State of Colorado, or affect beneficial uses of water. The term includes, sediment; trash; dredged spoil; rock; sand; silt; incinerator residue; ash; solid waste; sewage; wastes from industrial, commercial, domestic, or agricultural sources; litter; garbage or food waste; landscaping materials; lawn clippings; leaves; branches or other landscaping and yard debris; medical waste; wrecked or discarded equipment; radioactive materials; wastes that contain bacteria, viruses, or other pathogens that pose a threat to human health; pet wastes; heat; surfactants; soaps and cleaning products; and wastes and residues from washing operations, including those that are biodegradable; oil and grease; petroleum hydrocarbons and antifreeze; metals; and toxic or hazardous wastes as defined by federal, state, or local laws and regulations, including biocides and pesticides.

Qualified Stormwater Manager: The individual responsible for implementing the SWMP who is knowledgeable in the principles and practices of erosion and sediment control and pollution prevention, and with the skills to assess conditions at construction sites which could impact stormwater quality and to assess the effectiveness of stormwater controls implemented to meet the requirements of the permit.

Stormwater: Precipitation runoff, snow melt runoff, and surface runoff and drainage.

Structural control measures: A physical device used to prevent or reduce the discharge of pollutants from a construction site to state waters, including straw wattles, sediment traps, silt fence, and vehicle track pads.

Appendix 8 A – Steamboat Springs Construction Stormwater Permit

Link to standalone, fillable PDF document

Contact and Site Information

Property Owner:			**Project Operator/Contractor:**		
Contact Name:			**Contact Name:**		
Address:			**Address:**		
City:	**State:**	**Zip:**	**City:**	**State:**	**Zip:**
Phone:			**Phone:**		
Email:			**Email:**		
Qualified Stormwater Manager:			**Total Area of Disturbance:**		
Phone:			**CDPHE CDPS Certification No.**		
Email:			**Building Permit No.**		
Project Description:					

Terms and Conditions of Permit

1. **Applicability:** A City of Steamboat Springs Construction Stormwater Permit is required whenever construction occurs within city limits that will result in a land disturbance of greater than or equal to one acre, or that is less than one acre, but is part of a larger common plan of development or sale that would disturb, or has disturbed, one acre or more, unless the disturbed areas have been finally stabilized.
2. **Control Measures:** All stormwater discharges must be controlled through the use of properly installed, operated and maintained control measures to prevent pollutants including trash from entering the City's drainageways and other surface waters within City limits. Inadequate or unmaintained control measures must be corrected immediately.
3. **Compliance:** The project shall not violate City Municipal Code, City Engineering Standards, or other applicable state and federal requirements.
4. **SWMP:** All work must conform to the approved Stormwater Management Plan (SWMP). The SWMP shall be updated as necessary to reflect current site conditions and maintained on site.
5. **Enforcement:** Any violation in any terms or conditions of this permit or the provisions of the City of Steamboat Springs Municipal Code shall be subject to enforcement actions.
6. **Permit Modification:** If the operator is replaced by a different contractor, City Stormwater staff must be notified and a new stormwater permit shall be completed. Transfer of property ownership of discrete subparcels within an area permitted for construction activities by an original permittee does not in and of itself constitute grounds for transfer of a City Stormwater Permit. Until a permit for construction activity is issued for the discrete subparcel, the original, primary permittee is still responsible for management of stormwater within the area encompassed by the original permit.
7. **Permit Termination:** Before this permit can be terminated, the site must have achieved final stabilization as determined by the City Stormwater Staff, and all temporary non-biodegradable control measures no longer needed must be removed.
8. **Right of Entry:** The City, its authorized agents and employees may enter the permitted site in order to determine compliance with the terms and conditions of this permit.
9. **Upset**: Is an exceptional incident in which there is unintentional and temporary noncompliance with the permit terms and conditions because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.
10. **Notification:** The permittee shall notify the City as soon as practicable, but no later than 24 hrs after becoming aware of any significant spill, or discharge of pollutants.

By signing below Owner and Contractor certify that the information provided on this application is factual to the best of their knowledge. Owner and Contractor understand that this permit is granted under terms and conditions listed above and special provisions as noted. The Contractor agrees that all applicable City and State permits have been obtained. Permit is not valid until signed by City staff.

Property Owner:	Date:	Project Contractor:	Date:

This section to be completed by City Stormwater Staff

Permit Type: Large Site ☐ Small Site ☐	Area of Disturbance:	COSS Permit No.
Review Date:		
Comments or Special Conditions:		
Permit is not valid until signed by City Stormwater Staff		
City Stormwater Staff:		Permit Issue Date:

Appendix 8 B – Small Site Construction Stormwater Management Form

Link to standalone, fillable PDF document

Submission of a Stormwater Construction Permit Application along with a SWMP to the Routt County Building Department, is required for any "applicable construction activities" prior to the issuance of a building permit or grade and fill permit from the City. Applicable construction activities include *construction activities that result in a land disturbance of greater than or equal to one acre or that is less than one acre, but is part of a larger common plan of development or sale that would disturb, , one acre or more, unless the disturbed areas have been finally stabilized*.

Project owners and operators of applicable sites disturbing **less than 1 acre** and within a common plan of development, have the option to utilize this Small Site SWMP form. The form is provided by the City to assist smaller private developments in complying with the City's stormwater regulations. It is the responsibility of the project owner and/or operator, to accurately complete this form and update it as necessary to maintain compliance with City stormwater regulations. The form is **NOT** to be used for sites disturbing more than one acre where a more comprehensive SWMP is required. The City may, in its sole discretion, require the development of a Large Site SWMP, if the site is determined to be a high risk to water quality such as sites in close proximity to waterways.

Control measure specifications sheets from the Colorado Department of Transportation (CDOT) for commonly used control measures such as silt fences, straw wattles, and vehicle tracking pads are provided. It is the responsibility of the project operator to install and maintain these control measures per these specifications. If other control measure specifications sheets are used, it is the responsibility of the owner and/or operator to include the sheets with the SWMP.

This Small Site SWMP form does not meet the Colorado Department of Public Health and Environment (CDPHE) Construction Site Permit No. COR400000 SWMP requirements. If your development is permitted by CDPHE under Permit No. COR400000, you are required by that permit to develop a SWMP meeting the requirements of Permit No. COR400000.

This Small Site SWMP form is intended to provide guidance and meet minimum requirements to comply with stormwater control needs associated with work occurring within a larger common area covered by a large site SWMP. The owner and operator are responsible for the accuracy and implementation of the SWMP and must update the SWMP as needed to reflect the current site conditions. If control measures are determined to be inadequate or if additional measures are needed, it is the responsibility of the owner and operator to install the additional measures.

Temporary Control Measure Requirements

The below table includes control measures that could potentially be used to control pollutants during each phase of construction and will be continued to be implemented until final stabilization is achieved. Selected control measures will be installed and maintained per the attached specification sheets. Additional control measures may be added to the bottom of the table as necessary to reflect current site conditions.

Potential Pollutants	Control Measure	Implemented?	Applicable?
Land disturbance and storage of soils	Straw wattle		
	Silt Fence		
	Rock socks		
	Tarping		
	Storm drain inlet protection		
Vehicle tracking	Vehicle tracking control pad		
	sweeping		
Loading and unloading operations	Check loading and unloading equipment regularly for leaks		
	Cleanup spills and leaks from materials immediately		
Outdoor storage of construction site materials, trash, chemicals, fertilizers, paint, vehicle/equipment fluids	Place waste materials and trash in proper receptacles with lids that do not leak		
	Securely store materials in enclosed containers within the site away from stormwater drainages		
	Pick up trash as needed		
Bulk Storage of materials	Store materials in designated areas away from stormwater drainages. If hazardous store within secondary containment under cover		
Vehicle and equipment maintenance and fueling	Maintain vehicles and equipment only if necessary at least 50 feet away from stormwater drainages		
Significant dust	Phase projects to preserve existing vegetation		
	Apply water when needed		
Routine maintenance activities involving fertilizers, pesticides, detergents, fuels, solvents, and oils	Store materials in properly marked containers within an enclosed space at least 50 feet away from stormwater drainages		
Concrete truck/equipment washout	Washout to a lined excavation or to a mobile container at least 50 feet away from stormwater drainages		
Grout Mixing	Contained and lined area at least 50 feet away from stormwater drainages		

Construction dewatering	Dewatering not covered under a CDPHE Construction Dewatering general permit will be contained on site and not allowed to enter stormwater drainages without prior approval.		
Additional Control Measures			

Revegetation and Permanent Soil Stabilization

Permanent control measures including sod, rock, landscaping or other measures, will be installed once land disturbing activities and construction is complete. If seeding or mulch is used to provide stabilization, 70% of the pre-existing vegetated condition will be achieved prior to removing any of the previously installed control measures within the contributing area.

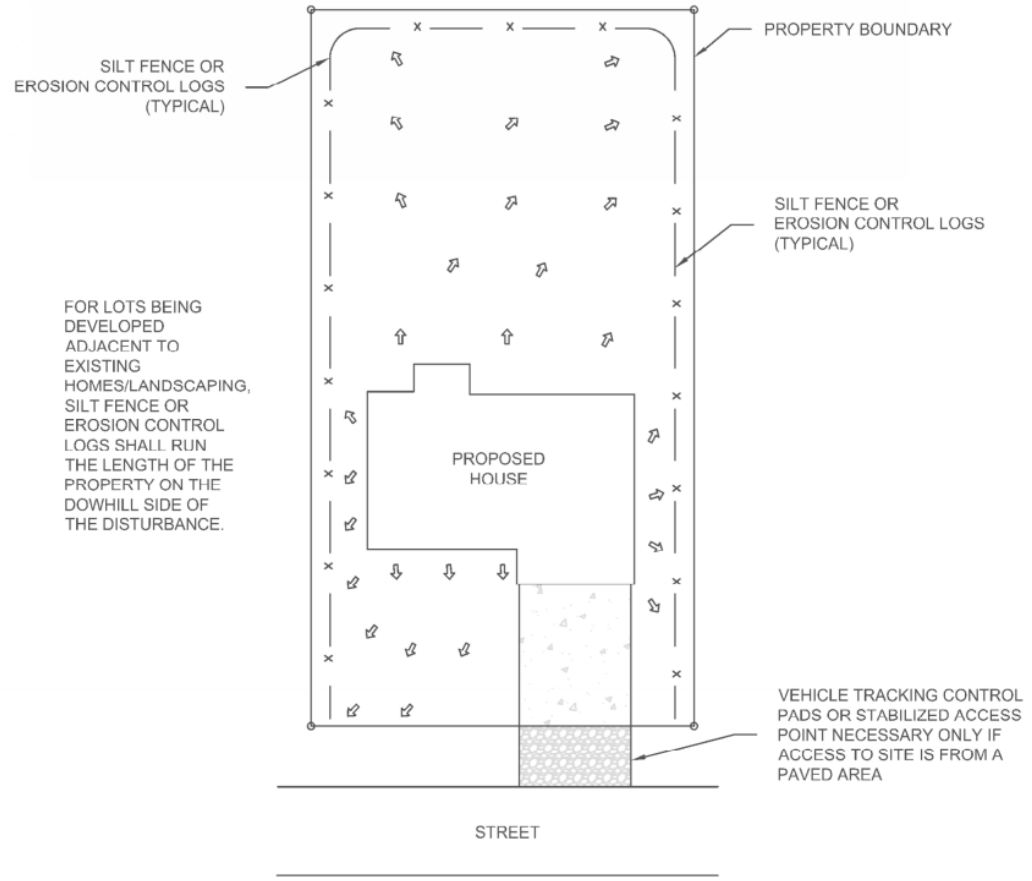
Example Site Map

The attached site map shows the general layout of the site and includes the following (see attached examples):

1. Property and area of disturbance boundaries
2. Proposed and/or existing structures
3. Drainage direction arrows
4. Locations of control measures, staging areas, vehicle tracking controls, portable toilets, concrete wash out areas, material storage areas, soil stockpile areas, and water bodies.

City of Steamboat Springs

EXAMPLE SITE MAP - SINGLE FAMILY LOT



NOTE:
AN EQUIVALENT CONTROL MEASURE MAY BE USED FOR SILT FENCE OR EROSION CONTROL LOG IF APPROVED BY THE STORMWATER INSPECTOR

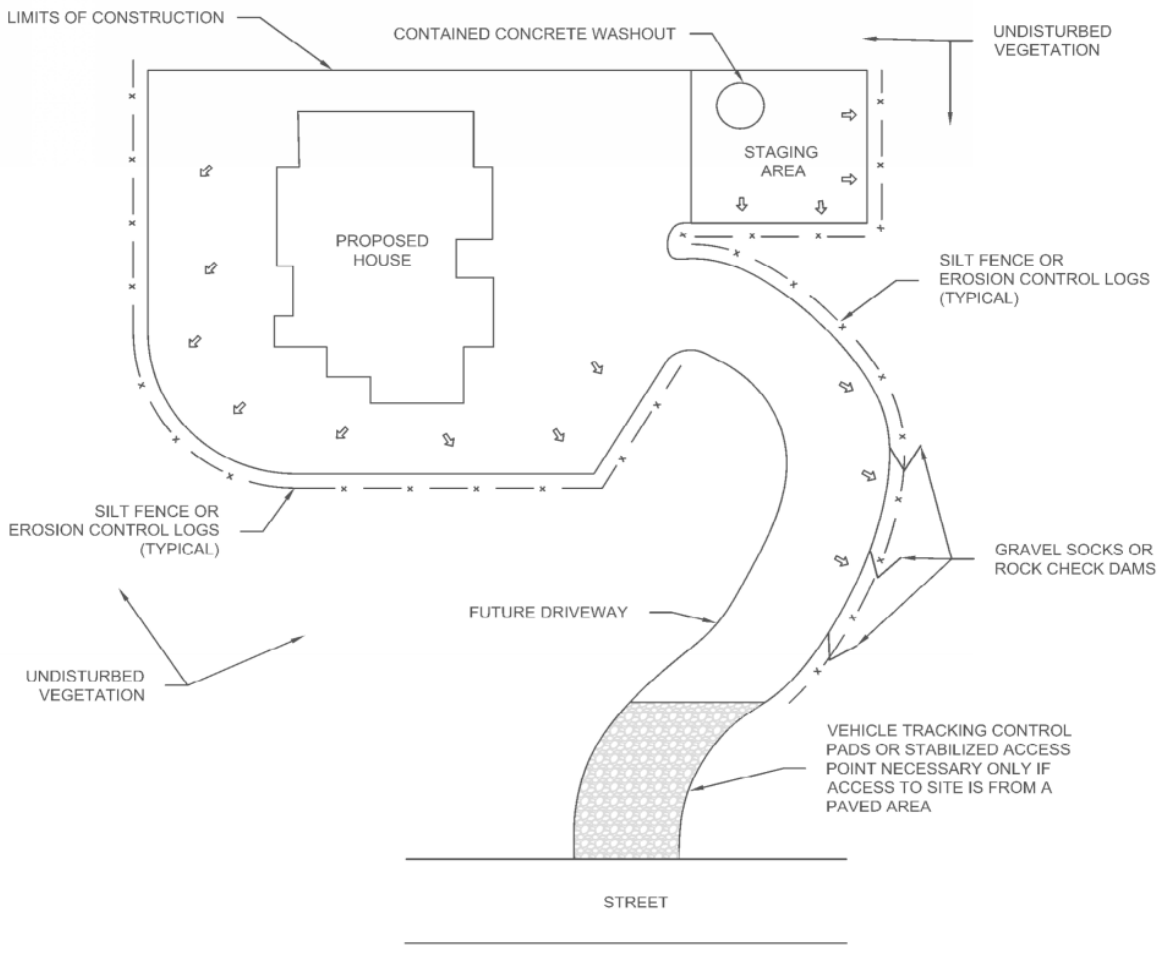
— x — SILT FENCE / EROSION CONTROL LOG

DIRECTION OF SURFACE WATER RUN OFF

VEHICLE TRACKING CONROL PAD OR STABILIZED ACCESS POINT

City of Steamboat Springs

EXAMPLE SITE MAP - LARGE SINGLE FAMILY LOT



— x — SILT FENCE / EROSION CONTROL LOG

DIRECTION OF SURFACE WATER RUN OFF

VEHICLE TRACKING CONROL PAD OR STABILIZED ACCESS POINT

NOTE:
THIS PLAN MAY BE USED WHEN ONLY A PART OF THE LOT IS DISTURBED

Appendix 8 C – Stormwater Management Plan Checklist

Link to standalone, fillable PDF document

City of Steamboat Springs

Stormwater Management Plan Checklist

Applicability: Prior to the issuance of a building permit or grade and fill permit for any "Applicable Construction Activities" the project must submit a Stormwater Management Plan (SWMP) to the Routt County Building Department as part of their development package. The City's Stormwater Staff shall review the SWMP to confirm that appropriate control measures for all stages of construction, including Final Stabilization, are included and that installation and implementation specifications are also included.

"Applicable Construction Activities" definition: construction activities that result in a land disturbance of greater than or equal to one acre or that is less than one acre, but is part of a larger common plan of development or sale that would disturb, or has disturbed since March 2, 2001, one acre or more, unless the disturbed areas have been finally stabilized.

This *Applicant Checklist for City Stormwater Management Plan(s) (SWMP)* is provided for applicants to ensure that the required information is included in the SWMP submittal. Additional information may be required based on site-specific conditions. The applicant is required to sign the affidavit on the bottom of the checklist, accepting responsibility for any incomplete submittal and thus possible result of a delayed review time. For additional information regarding a particular requirement, please contact the City's Stormwater Specialist at (970) 871-8236.

Project Name:	**Building Permit #:**
Applicant Name:	**CDPHE Construction Permit#:**
Applicant Phone#:	**Applicant Email:**

	Check		
	Yes	No	N/A
1. General SWMP Information			
a. Project Name, Location, Owner, Operator, CDPHE Cert. No.			
b. Qualified Stormwater Manager			
c. Total area of ground disturbance (including staging and storage areas)			
d. Project description and construction activity			
e. Name of receiving water			
f. The proposed sequence of major activities and schedule (approximate dates)			
g. Description of the control measures for each stage of construction (e.g.: clearing, grading, utilities, vertical, final stabilization)			
h. Description of how the project will be phased			

i. A description and percent of existing vegetation			
j. A description of non-structural control measures			
2. Site Map			
a. Site maps identifying the control measures to be used during each stage of construction (e.g.: clearing, grading, utilities, vertical, final stabilization)			
b. Property boundaries			
c. Construction site boundaries including staging and borrow and fill areas			
d. Locations of structural and non-structural control measures			
e. Areas used for storage of soil			
f. Hazardous material storage areas, concrete washout, grout mixing stations, porta-lets			
g. Arrows depicting stormwater flow directions			
h. Receiving waters and drainages			
3. Potential Pollutant Assessment: ***At a minimum, structural and non-structural control measures shall be selected, described, and evaluated for each of the below potential pollution sources and activities.***			
a. Land disturbance and storage of soils			
b. Vehicle tracking			
c. Loading and unloading operations			
d. Outdoor storage of construction site materials, building materials, fertilizers, and chemicals			
e. Bulk storage of materials			
f. Vehicle and equipment maintenance and fueling			
g. Significant dust or particulate generating processes			
h. Routine maintenance activities involving fertilizers, pesticides, detergents, fuels, solvents, and oils			
i. Concrete truck/equipment washing, including the concrete truck chute and associated fixtures and equipment			
j. Dedicated asphalt and concrete batch plants			
k. Other areas or operations where spills can occur			
l. Other non-stormwater discharges including construction dewatering not covered under the Construction Dewatering Discharges general permit and wash water that may contribute pollutants to the Municipal Separate Storm Sewer (MS4)			
m. Installation and implementation specifications for all structural control measures selected for the above potential pollutants			

4. Final and Temporary Soil Stabilization			
a. Description of control measures used to achieve temporary and final stabilization of all disturbed areas at the site (e.g., hydro mulching, erosion control blankets, turf reinforcement mats, tracking)			
b. Approximate schedule for temporary and final stabilization control measures (disturbed areas need to be stabilized by November 1)			
c. Seed mix used for revegetation			

I _____accept responsibility for the accuracy and completeness of the contents of this Stormwater Management Plan submittal and accept responsibility for any associated delays in City review due to incompleteness.

Applicant Signature: **Date:**

Appendix 8 D – Construction Site Management Plan Checklist

Link to standalone, fillable PDF document

Construction Site Management Plan Checklist

Prior to the approval of a building/ROW permit, any commercial, multi-family, or applicable single family/duplex project must complete an approved Construction Site Management Plan (CSMP). Below are the required items to be included in the CSMP. Please check "yes" if the item is included, "no" if it is not, and "N/A" if not-applicable. Please provide an explanation for any "No" answers at the bottom of the checklist.

Project Name: **Date:**

Estimated Construction Start Date: **End Date:**

Individual responsible for CSMP monitoring and compliance

Name: **Phone # (local):**

	Yes	No	N/A
1. General			
a. CSMP is shown on the proposed site plan			
b. Schedule Pre-Construction Meeting *(required only for commercial, industrial, and multifamily projects)*			
c. Right of Way permit (i.e. work or obstruction within ROW). *If required, describe below and include estimated start and stop dates.*			
2. Erosion and Sedimentation Control Plan showing			
a. Topographic Information – including sufficient detail to characterize the site			
b. Areas and extent of soil disturbance (show any phasing)			
c. Location of all on site and adjacent water bodies, wetlands, drainages, and storm water systems			
d. Vehicle tracking control measures (vehicle track pad, vehicle wash station, etc.)			
e. Inlet protection			
f. Perimeter control measures (BMPs)			
g. Standard details for all proposed control measures			
3. Site Construction Facilities (Identify the following):			
a. Staging areas			
b. Stockpile areas			
c. Dumpsters and trash receptacles			
d. Material recycling (wood, metal, plastics, etc.)			
e. Sanitary facilities			
f. Loading/Unloading areas			

g. Trailers and field offices (show access)			
4. Parking:			
a. Location and number of onsite and any offsite stabilized parking areas			
b. Is project located downtown or at ski resort base area? *If so, describe below where contractor parking will occur:*			
5. External Traffic Control Plan showing:			
a. Show/label all traffic control devices (MUTCD compliant)			
b. Site access points; show existing adjacent streets and driveways; identify any changes and associated signage			
c. Sidewalks and trails; identify any changes and associated signage			
d. Use of the public Right of Way (ROW) - generally not permitted (for constrained sites show any proposed use of ROW)			
e. Crane use details, including but not limited to, ROW encroachment, swing radius, loading locations (Crane will require ROW permit from the City)			
6. Internal Access Control showing			
a. Emergency access- 24' wide all weather surface for emergency access thru site (to be maintained at all times)			
7. CSMP Standard Notes:			
a. Standard CSMP notes included on the site plan or Civil Plan Sheets			
8. Dust Control			
Provide narrative describing efforts to reduce fugitive dust from construction activities:			
Provide explanation for any "No" or "N/A" answers:			

**** Plans shall be phased and updated as the project evolves and site conditions change.**

**** Please notify adjacent property owners prior to mobilization.**

**** Refer to chapter 36 of the Community Development Code for more information.**

Standard Notes for Construction Site Management Plans:

1. This plan shall be kept on site at all times and updated to reflect any changes.
2. Clearing or grading shall not begin until all control measures have been installed.
3. Contractor is responsible for installing and maintaining temporary erosion and sediment control measures during construction and establishing any required permanent control measures to prevent release of pollutants from the project site.
4. Control measures shall be used, modified, and maintained whenever necessary to reflect current conditions. Control measures shall be inspected weekly and after every precipitation event. Accumulated sediment shall be removed from control measures when the sediment level reaches ½ the height of the control measure.
5. The contractor shall promptly remove all sediment, mud, and construction debris that may accumulate in the right of way, private property, or water ways as a result of the construction activities.
6. All ingress and egress access points on to the disturbed site must be stabilized with a vehicle tracking control pad. Access shall only be via approved locations as shown on approved CSMP.
7. Temporary soil stabilization measures shall be implemented where ground disturbances have temporarily or permanently ceased for 14 days or for areas of land disturbance within one growing season.
8. Concrete waste and washout water from mixing trucks shall be contained on site, removed from the site, and properly disposed. Materials shall not be allowed to enter state waters.
9. Contractor is responsible for complying with all local, state, and federal laws. In addition contractor must obtain required permits.
10. Emergency access must be kept obstacle free and passable at all times.
11. For any work to be done in the Right of Way, coordinate with the City ROW Manager regarding special permitting. No work shall be conducted in the ROW between November 1 and May 1 without prior approval from the director of Public Works.
12. Where required as part of the ROW permit or where site work affects the pedestrian or vehicle travel way, traffic control shall be installed. All traffic control shall be in accordance with the Manual on Uniform Traffic Control Devices, latest edition.
13. Sidewalks adjacent to construction sites shall be maintained, for public use, by the contractor. In areas where construction is taking place next to the sidewalk and overhead hazards are possible, site is responsible for installing and maintaining sidewalk protection.