

US HIGHWAY NO. 50 / STATE HIGHWAY NO.9 RESURFACING PROJECT SWMP

1. SITE DESCRIPTION

The Contractor shall comply with all CDOT contractual requirements and all requirements associated with the CDPS-SCP on this project. The SWMP Administrator shall update to reflect current project site conditions.

A. PROJECT SITE LOCATION:

US Highway 50 from approximately mile marker 261.0 east to mile marker 270.0. State Highway 9 from mile marker 0 (junction with US 50) north to approximately mile marker 18.6.

Construction office address (to be determined by Contractor):

B. PROJECT SITE DESCRIPTION:

The project consists of mill and overlay of approximately 28 miles of roadway along US Hwy 50 and State Hwy 9, northwest of Cañon City. US Hwy 50 is an arid region that runs parallel to the Arkansas River. Hwy 9 rises in elevation as the road travels to the north and ultimately settles into the mountainous climate. Drainage within the project area is generally conveyed from east to west into the drainages along the corridor. Construction activities include mill and overlay of asphalt, widening of asphalt to accommodate 5 snowplow turnarounds and shoulders with safety edges, bridge maintenance and rehabilitation for 4 structures (J-15-A, K-15-G, K-15-H, K-15-W), replacement of guardrail, replacement of sign panels, and replacement of delineators. Roadway runoff will be conveyed through existing roadside ditches.

The project area is located within the Foothill Shrublands and Crystalline Mid-Elevation Forests ecoregions as defined by the Environmental Protection Agency (EPA). The area has an average high temperature of 89°F in the summer. The area receives 13.5" annual precipitation with historic rainfall totals of 7.75" between May- September, with a majority of the rainfall occurring in afternoon thunderstorm events dropping an average of 1.55" per event. In winter, the project area experiences 29" of snow. The average lows are 25°F October-March. While the average winter temperatures are below freezing, it is possible that warmer temperatures may lead to snowmelt runoff. The contractor should have BMPs available to address potential runoff. It is anticipated that there will be 345 working days where the ground is not frozen.

C. PROPOSED SEQUENCING FOR MAJOR CONSTRUCTION ACTIVITIES:

- BMP installation
- Traffic diversion
- Existing road will be milled
- Guardrail, signage, and delineators will be removed and replaced
- Road shall be resurfaced
- Bridge maintenance and rehabilitation
 - Curb and asphalt mat removal
 - Saw cutting at expansion joints
 - Removal and repair of expansion joints
 - Install waterproof membrane
- Culverts to be cleaned
- Seeding and mulching if areas are disturbed by contractor

D. ACRES OF DISTURBANCE:

1. Total area of proposed disturbance (LDA): 2.5 acres
2. Total area of seeding: 0.0 acres
3. Total area of impervious surface: 119 acres
4. Total area of NEW impervious surface: 5.1 acres

E. EXISTING SOIL DATA:


The site is mainly composed of Type D rated soils as defined by the Natural Resources Conservation Service Web Soil Survey. Type D soils have a moderately high runoff potential and moderately low infiltration rate. Specifically, the site is composed of Ustic Torriorthents and Boyle very gravelly sandy loam.

F. EXISTING VEGETATION:

The construction SWMP Administrator will conduct the Vegetation Transects as outlined in Chapter 4.11.2 of the Erosion Control and Stormwater Quality Guide.

A survey including general description of existing vegetation shall be conducted by the construction SWMP Administrator prior to any ground disturbance on the project. The construction SWMP Administrator shall photo-document existing vegetation where all work will be occurring. The construction SWMP Administrator shall also perform the vegetation survey transect(s) including photo documentation as outlined in Chapter 4.11.2 of CDOT's Erosion Control and Stormwater Quality Guide.

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Print Date: 2/1/2017	0000	Sheet Revisions			 <p>Colorado Department of Transportation 1480 Quail Lake, Suite A Colorado Springs, CO 80906 Phone: 719-634-2323 FAX: 719-227-3298 Region 2</p>	As Constructed			STORMWATER MANAGEMENT PLAN			Project No./Code	
File Name: 21255SWMP_Narrative1.dgn		Date:	Comments	Init.		No Revisions:			Designer: JSR			Structure Numbers	
Horiz. Scale: 1:1 Vert. Scale: N/A						Revised:			Detailer: JSR			21255	
 <p>TRANSPORTATION AECOM Technical Services, Inc. 2315 Bluffgate Parkway, Suite 150 Colorado Springs, CO 80920 T 719.531.0001 www.aecom.com</p>					Void:			Subset: SWMP			Subset Sheets: 1 of 8		Sheet Number 81

Pre-Construction Date of survey: _____ %Density: _____

Description of existing vegetation:

Map or table showing transect locations in SWMP notebook tab 17:

Post-Construction Date of survey: _____ %Density: _____

Description of existing vegetation:

Date of CDPS-SCP Closure: _____

Map or table showing transect locations in SWMP notebook tab 17:

G. POTENTIAL POLLUTANTS SOURCES: See First Construction Activities under Potential Pollutant Sources. The SWMP Administrator shall prepare a list of all potential pollutants and their locations in accordance with subsection 107.25.

H. RECEIVING WATER:

1. Outfall locations: There are 132 outfalls along SH 9 and 79 outfalls along US 50. The locations are included on the project site maps.

2. Names of receiving water(s) on site: Arkansas River, Baker Gulch, Currant Creek, Horsethief Gulch, Lucero Canyon, Newberry Gulch, Sand Gulch, Seymour Gulch, Smith Gulch

3. Ultimate receiving water: Arkansas River

4. Distance nearest water of the state is from project: Arkansas River is adjacent to US 50. The tributaries listed pass under or adjacent to US 50 and SH 9.

I. NON-STORMWATER DISCHARGES:

ALLOWABLE:

1. Groundwater and stormwater dewatering: Discharges to the ground of water from construction dewatering activities may be authorized provided that:

a. The source is groundwater and/or groundwater combined with stormwater that does not contain pollutants.

b. The source and BMPs/Control Measures are identified in the SWMP.

c. Discharges do not leave the site as surface runoff or to surface waters.

d. The contractor shall protect all work areas and facilities from water at all times. Areas and facilities subject to flooding, regardless of the source of water, shall be promptly dewatered and restored at no cost to the owner. This shall include removal of any debris caused by flooding. Any dewatering shall be done in accordance with Subsection 107.25.

CONTAMINATED:

1. If discharges do not meet the above criteria a separate CDPS permit shall be obtained by the Contractor from the CDPHE.

2. SITE MAP COMPONENTS:

Pre-construction

A. PROJECT CONSTRUCTION POTENTIAL SITE BOUNDARIES

US Highway 50 from approximately mile marker 261.0 east to mile marker 270.0. State Highway 9 from mile marker 0 (junction with US 50) north to approximately mile marker 18.6.

B. ALL AREAS OF GROUND SURFACE DISTURBANCE

Existing pullout areas may be disturbed as part of construction staging. Appropriate BMPs will be installed to minimize impact to pullout areas. Silt fence to be installed separating pullout area from nearby drainage prior to any staging.

C. AREAS OF CUT AND FILL

There will be no cut and fill as part of this project.

D. LOCATION OF ALL STRUCTURAL BMPs/CONTROL MEASURES IDENTIFIED IN THE SWMP

Any hydraulic structures that are disturbed by the contraction will require BMP placement. This includes culverts and inlets adjacent to the roadway, and any structure that does not have established vegetation between the structure and edge of road.

E. LOCATION OF NON-STRUCTURAL BMPs/CONTROL MEASURES AS APPLICABLE IN THE SWMP

No seeding is anticipated as part of this project.

F. SPRINGS, STREAMS, WETLANDS AND OTHER SURFACE WATER


Arkansas River, Baker Gulch, Currant Creek, Horsethief Gulch, Lucero Canyon, Newberry Gulch, Sand Gulch, Seymour Gulch, Smith Gulch

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Colorado Department of Transportation



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Colorado Springs, CO 80906
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Region 2

As Constructed
No Revisions:
Revised:
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STORMWATER MANAGEMENT PLAN			
Designer:	JSR	Structure Numbers	
Detailer:	JSR		
Subset:	SWMP	Subset Sheets: 2 of 8	

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21255
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A. PROTECTION OF TREES, SHRUBS, CULTURAL RESOURCES AND MATURE VEGETATION

No trees will be disturbed as part of this project.

B. AREAS USED FOR STORING AND STOCKPILING OF MATERIALS, STAGING AREAS (field trailer, fueling, etc.) and BATCH PLANTS

Contractor to determine.

3. SWMP ADMINISTRATOR:

A. SWMP ADMINISTRATOR FOR DESIGN:

Name/Title	Contact Information
Joseph S. Roerkohl, PE, CFM Senior Water Resources Engineer	719-531-0001 Joseph.roerkohl@aecom.com AECOM 2315 Briargate Parkway, Suite 150 Colorado Springs, CO 80920

B. SWMP ADMINISTRATOR FOR CONSTRUCTION: (As defined in Subsection 208) The Contractor shall designate a SWMP Administrator for Construction upon ownership of the SWMP. The SWMP Administrator shall become the owner/operator and assume responsibility for all design changes to the SWMP implementation and maintenance in accordance to 208.03. The SWMP Administrator shall be responsible for implementing, maintaining and revising SWMP, including the title and contact information. The activities and responsibilities of the SWMP administrator shall address all aspects of the projects SWMP. (Update the information below for each new SWMP Administrator) (Copy of TECS Certification must also be included in the SWMP Notebook.)

Name/Title	Contact Information	Certification #	Start Date

C. EROSION CONTROL INSPECTOR: (As defined in Subsection 208) The Contractor may designate an Erosion Control Inspector. The Erosion Control Inspector shall complete duties in accordance with subsection 208.03 (c) (Copy of TECS Certification must also be included in the SWMP Notebook.)

Name/Title	Contact Information	Certification #	Start Date

4. STORMWATER MANAGEMENT CONTROLS FIRST CONSTRUCTION ACTIVITIES

THE CONTRACTOR SHALL PERFORM THE FOLLOWING:

A. POTENTIAL POLLUTANT SOURCES

- Sediment accumulation from guardrail and sign replacement.
- Equipment maintenance and fueling activities
- Paving activities

B. OFFSITE DRAINAGE (RUN ON WATER)

1. Describe and record BMPs/Control Measures on the SWMP site map that have been implemented to address off site run-on water in accordance with subsection 208.03.

C. VEHICLE TRACKING PAD/VEHICLE TRACKING CONTROL

1. BMPs/Control Measures shall be implemented in accordance with subsection 208.04.

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Print Date: 2/1/2017 File Name: 21255SWMP_Narrative3.dgn Horiz. Scale: 1:1 Vert. Scale: N/A		Sheet Revisions <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Date:</th> <th style="width: 55%;">Comments</th> <th style="width: 30%;">Init.</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	Date:	Comments	Init.										 Colorado Department of Transportation 1480 Quail Lake, Suite A Colorado Springs, CO 80906 Phone: 719-634-2323 FAX: 719-227-3298 Region 2	As Constructed No Revisions: Revised: Void:	STORMWATER MANAGEMENT PLAN Designer: JSR Structure Detailer: JSR Numbers Subset: SWMP Subset Sheets: 3 of 8	Project No./Code STA 0503-089 21255 Sheet Number 83
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D. PERIMETER CONTROL

1. Perimeter control shall be established as the first item on the SWMP to prevent the potential for pollutants leaving the construction site boundaries, entering the stormwater drainage system, or discharging to state waters.
2. Perimeter control may consist of vegetation buffers, berms, silt fence, erosion logs, existing landforms, or other BMPs/Control Measures as approved.
3. Perimeter control shall be in accordance with subsection 208.04

5. DURING CONSTRUCTION

RESPONSIBILITIES OF THE SWMP ADMINISTRATOR DURING CONSTRUCTION

The SWMP should be considered a "living document" that is continuously reviewed and modified. During construction, the following items shall be added, updated, or amended as needed by the SWMP Administrator in accordance with subsection 208.

During construction, indicate how items that have not been addressed during design are being handled in construction. If items are covered in the template or other sections of the SWMP notebook indicate below what section the discussion takes place.

- A. **STOCKPILE MANAGEMENT:** Shall be done in accordance with subsection 107.25 and 208.07
- B. **CONCRETE WASHOUT:** Concrete wash out water or waste from field laboratories and paving equipment shall be contained in accordance with subsection 208.05.
- C. **SAW CUTTING:** Shall be done in accordance with subsection 107.25, 208.04, 208.05 Saw cutting will occur on structures K-15-G, K-15-H, and K-15-W. Use capture and collect techniques for slurry.
- D. **STREET SWEEPING:** Shall be done in accordance with subsection 208.04

6. INSPECTIONS

- A. Inspections shall be in accordance with subsection 208.03 (c).

7. BMP/CONTROL MEASURE MAINTENANCE

- A. Maintenance shall be in accordance with subsection 208.04 (f).

8. RECORD KEEPING

- A. Records shall be kept in accordance with subsection 208.03 (d).

9. INTERIM AND PERMANENT STABILIZATON


A. SEEDING PLAN

It is anticipated that no seeding will be required as part of this project due to the nature of the work being performed. In the event that seeding is required, the following types and rates shall be used:

COMMON NAME	BOTANICAL NAME	LBS. PLS PER ACRE
Blue grama	Bouteloua gracilis v. Hachita	2.0
Western wheatgrass	Pascopyrum smithii v arriba	6.0
Sideoats grama	Bouteloua curtipendula v. Vaughn	3.0
Little bluestem	Schizachyrium scoparium 'Pastura'	3.0
Green needlegrass	Stipa viridula v. Lordom	3.0
Buffalo grass	Bouteloua dactyloides 'Plains'	4.0
Junegrass	Koeleria macrantha	0.2
Prairie coneflower	Ratibida columnifera	0.3
Blue Flax	Linum lewisii	0.5
Gaillardia	Gaillardia aristata	1.0
Oats	Avena sativa	3.0
TOTAL		26.0

- B. **SEEDING APPLICATION:** Drill seed 0.25 inch to 0.5 inch into the soil. In small areas not accessible to a drill, hand broadcast at double the rate and rake 0.25 inch to 0.5 inch into the soil per subsection 212.

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C. **MULCHING APPLICATION:** Apply a minimum of 2 tons of certified weed free hay or 2 1/2 tons of certified weed free straw per acre and in accordance with Section 213, and mechanically crimp it into the soil in combination with an organic mulch tackifier.

1. Prior to winter shutdown or the summer seeding window closure: Uncompleted slopes shall be mulched with 2 tons of mulching (weed free) per acre, mechanically crimped into the topsoil in combination with an organic mulch tackifier per subsections 208 and 213.

D. **SPECIAL REQUIREMENTS:**

1. Due to high failure rates, hydroseeding will not be allowed for permanent stabilization.

E. **SOIL CONDITIONING AND FERTILIZER REQUIREMENTS:** Minimum requirements for all disturbances to receive seeding (native).

Soil conditioner paid for as Item 212- Soil Conditioning (Acre)		
Biological nutrient organic based fertilizer (lbs/acre)*	Humate (lbs/acre)	Compost (cys/acre All areas <2:1 [1/2 inch depth]
300	200	65

*Biological nutrient shall not exceed 8-8-8 (N-P-K).
Humate based material shall be in accordance to Standard Special Provision 212 and compost shall be in accordance to Standard Special Provision 212.

F. **SOIL RETENTION COVERING:** On slopes and ditches requiring a blanket or turf reinforcement mat (trm), the blanket/trm shall be placed in lieu of mulch and mulch tackifier and placed after seeding (native). See SWMP site map for blanket/trm locations.

G. **RESEEDING OPERATIONS/CORRECTIVE STABILIZATION**

Prior to partial acceptance.

1. All seeded areas shall be reviewed during the 14 day inspections by the SWMP Administrator and or Erosion Control Inspector for bare soils caused by surface or wind erosion. Bare areas caused by surface or gully erosion, blown away mulch, etc. shall be re-graded, seeded, and have the designated mulching applied as necessary, at no additional cost to the project.
2. The Contractor shall maintain seeding/mulch/tackifier/blanket/TRM, mow to control weeds or apply herbicide to control weeds in the seeded areas until Partial Acceptance of the stormwater construction work.

10. PRIOR TO PROJECT FINAL ACCEPTANCE

- A. Partial Acceptance shall be in accordance with subsection 107.25 (d), 208.10 and 214.04 at the Partial Acceptance of the project, it shall be determined by the SWMP Administrator and the Engineer which temporary BMPs/Control Measures shall remain until 70% revegetation is established or which shall be removed.
- B. At the end of the project, all ditch checks shall either consist of temporary erosion logs (or equivalent) or permanent rip-rap.
- C. All storm drains shall be cleaned prior to the Final Acceptance of the project. Work shall be included in 203 Clean Culvert.

11. NARRATIVES:

A. **ADDITIONAL BMPs/CONTROL MEASURES AND NARRATIVES:**

BMP/Control Measure details and narratives not covered by the SWMP or CDOT Standard Plan M-208, M-216 shall be added to the SWMP notebook by the SWMP Administrator.

STRUCTURAL BMPs/Control Measures that may be potentially used on the project for erosion and sediment control; practices may include, but are not limited to:

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APPLICATION. BMP/CONTROL MEASURE	NARRATIVE	CDOT M-STANDARD	BMP/CONTROL MEASURE AS DESIGNED	IN USE ON SITE	BMP/CONTROL MEASURE TO BE LOCATED BY SWMP ADMINISTRATOR	INSTALLATION BMP/CONTROL MEASURE PRE-CONSTRUCTION	BMP/CONTROL MEASURE PHASING		
							FIRST/INITIAL CONSTRUCTION ACTIVITIES	INTERIM CONSTRUCTION ACTIVITIES	FINAL STABILIZATION
PROTECTION OF EXISTING WETLANDS <i>Fence (plastic) and erosion logs</i>	Fence (plastic) shall be placed in combination with erosion logs to prevent encroachment of construction traffic and sediment into state waters prior to start of construction disturbances. Fence (plastic) shall be placed adjacent to the wetlands; erosion logs shall be placed between the plastic fence and disturbance area. Logs shall be placed to direct flows away from or filter water running into wetlands from disturbance areas.	N/A							
CHECK DAM/DITCH CHECK <i>Erosion log, silt berm, silt dike, rock check dam</i>	Placed in ditches immediately upon completion of ditch grading to reduce velocity of runoff in ditch. For existing ditches, place prior to start of construction disturbances.	M-208					C	C	
CULVERT INLET/OUTLET PROTECTION <i>Erosion logs, aggregate bags</i>	Placed at mouth of culvert inlets and over top of culvert at inlet and outlet where disturbance may be occurring adjacent to pipe to prevent sediment laden water from entering pipe or drainage. Place prior to start of construction disturbances.	M-208					C	C	C
TYPE C, TYPE D AND TYPE 13 PROTECTION <i>Erosion logs, aggregate bags, erosion bales</i>	Placed around inlet grate or slope and ditch paving to prevent sediment from entering inlet. Place prior to start of construction disturbances.	M-208					C	C	
STOCKPILE PROTECTION <i>Temporary berm, erosion logs, aggregate bags*</i>	Placed within specified distance, in accordance with subsection 208.06, from toe to contain sediment around stockpile. *Aggregate bags are easily moved and replaced for access during the work day. Place prior to start of stock pile, increase control as stock pile increases size.	M-208						C	
TOE OF FILL PROTECTION <i>Erosion logs, temporary berm, silt fence, topsoil windrow*</i>	Place prior to slope/embankment work to capture sediment and protect and delineate undisturbed areas. *Can be used to stockpile topsoil for salvage.	M-208							
PERIMETER CONTROL <i>Erosion logs, silt fence, temporary berm, topsoil windrow*</i>	Placed prior to construction commencing to address potential run-on water from off site, and to divert around disturbed area. *Can be used to stockpile topsoil for salvage.	M-208					C	C	
SEDIMENT CONTROL/ SLOPE CONTROL <i>Silt fence, erosion logs</i>	Placed on the contour of a slope to contain and slow down construction runoff. Place prior to start of construction disturbances.	M-208							
OUTLET PROTECTION <i>Riprap, or approved other</i>	Material placed as energy dissipater to prevent erosion at outlet structure.	N/A							
CONCRETE WASHOUT <i>In-ground or fabricated</i>	Construction control, used for waste management of concrete and concrete equipment cleaning. Place prior to start of concrete activities.	M-208					X	X	
VEHICLE TRACKING PAD	Source control, placed to prevent tracking of sediment from disturbed area to offsite surface. Place prior to start of construction disturbances.	M-208							
SWEEPING	Source control, used to remove sediment tracked onto paved surfaces and to prevent sediment from entering drainage system. Sweep daily and at the end of the construction shift as needed. Kick brooms shall not be permitted.	N/A					X	X	


C – Use of BMP to be determined by Contractor.

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NON-STRUCTURAL BMPs/Control Measures that may be potentially used on the project for erosion and sediment control; practices may include, but are not limited to:
 Erosion control devices are used to limit the amount of soil loss on site
 Sediment control devices are designed to capture sediment on the project site.
 Construction controls are BMPs/Control Measures related to construction access and staging.
 BMP/Control Measure locations are indicated on the SWMP site map.

APPLICATION, BMP/CONTROL MEASURE	NARRATIVE	M-STANDARD	BMP/CONTROL MEASURE AS DESIGNED	IN USE ON SITE	BMP/CONTROL MEASURE TO BE LOCATED BY SWMP ADMINISTRATOR	INSTALLATION BMP/CONTROL MEASURE PRE-CONSTRUCTION	BMP/CONTROL MEASURE PHASING		
							FIRST/INITIAL CONSTRUCTION ACTIVITIES	INTERIM CONSTRUCTION ACTIVITIES	FINAL STABILIZATION
TOPSOIL MANAGEMENT STOCKPILE/SALVAGE <i>Windrow or stockpile</i>	Prior to embankment work commencing, existing topsoil shall be scraped to a depth of 4 inches, and placed in stockpiles or windrows. Upon completion of slope work/final grading (less 4 inches), topsoil shall be evenly distributed over embankment to a depth of 4 inches.	N/A							
SURFACE ROUGHENING / GRADING TECHNIQUES <i>Blading, Backhoe, Dozing, Combination Loader</i>	Temporary stabilization of disturbance and to minimize wind and erosion.	N/A							
SEEDING (TEMPORARY)	Temporary stabilization used for over wintering of disturbance or used to control erosion for areas scheduled for future construction.	N/A							
MULCH/MULCH TACKIFIER	Temporary or Final Stabilization placed as a surface cover for erosion control and or seeding establishment. To be installed as temporary surface cover when work is temporarily halted and as approved by the Engineer	N/A							
SEEDING PERMANENT (NATIVE)	Final Stabilization of disturbance and to reduce runoff and control erosion on disturbed areas.	N/A							
SOIL RETENTION BLANKET (SRB)	Final Stabilization of disturbance and to reduce runoff and control erosion on disturbed areas.	M-216							

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12. TABULATION OF STORMWATER QUANTITIES

- A. BMP/Control Measure sediment removal and disposal shall be paid for as: 208 Removal and Disposal of Sediment (Equipment) and 208 Removal and Disposal of Sediment (Labor). All other BMP/Control Measure maintenance shall be included in the cost of the BMP/Control Measure.
- B. It is estimated that labor, blading, dozing, combination loader and/or backhoe may be required for miscellaneous erosion control work as directed by the Engineer. Work shall not be paid for separately but shall be included in the cost of BMP installation.
- C. Establishment of seeded areas shall be paid for as: 212 Seeding (native). This shall include mowing, weed control, reseeding/mulch/tackifier.

Item List	Item Description	Pay Unit	Initial Const.	Interim Const.	Permanent Stabilization	*Total Quantity
203-01622	Sweeping (With Pickup Broom)	Hour		64	32	96
208-00002	Erosion Log Type 1 (12 Inch)	LF	100	100		200
208-00020	Silt Fence	LF	200			200
208-00045	Concrete Washout Structure	Each		6		6
208-00053	Storm Drain Inlet Protection (Type 1)	Each	5	5		10
208-00070	Vehicle Tracking Pad	Each	2			2
208-00103	Removal and Disposal of Sediment (Labor)	Hour	100	100		200
208-00105	Removal and Disposal of Sediment (Equipment)	Hour	40	40		80
208-00106	Sweeping (Sediment Removal)	Hour		96	48	144
208-00107	Removal of Trash	HR	10	10		20
208-00207	Erosion Control Management	Day		75	75	150
607-11525	Fence (Plastic)	LF	200			200

*It is anticipated that additional BMPs/Control Measures and BMP/Control Measure quantities not shown on the SWMP Site Maps shall be required on the project for unforeseen conditions and replacement of items that are beyond their useful service life. **Quantities for all BMPs/Control Measures shown above are estimated, and do not include increased quantities to account for unforeseen project conditions.** Quantities shall be adjusted according to the conditions encountered in the field as directed and approved by the Engineer. Payment shall be for the actual work completed and material used.


13. BIOLOGIC IMPACTS

- A. ENVIRONMENTAL IMPACTS:
 - 1. Wetland Impacts: YES NO
 - 2. Stream Impacts: YES NO
 - 3. Threatened and Endangered Species: No species are anticipated to be impacted by the project.

14. NOTES

- A. Sediment (mud and dirt), construction debris, and trash transported onto a public road, regardless of the size of the site, shall be cleaned immediately. Paved surfaces which are adjacent to the construction site must be swept as often as needed throughout the day to keep adjacent streets clean when sediment and other materials are tracked and discharged onto them. Either sweeping by hand or use of a street sweeper is acceptable. Spoils from guardrail work shall not be broadcast off the roadway surface, but shall be disposed of properly.
- B. Soil erosion control measures for any disturbed land area shall be completed within twenty-one (21) calendar days after final earth disturbance has been completed. Disturbed areas and stockpiles which are not at final grade but will remain dormant for longer than thirty (30) days shall also be mulched within twenty-one (21) days after interim grading. An area that is going to remain in an interim state for more than sixty (60) days shall also be seeded. All temporary soil erosion control measures and BMP's shall be maintained until permanent soil erosion control measures are implemented.
- C. Material from pavement saw cutting operations shall be cleaned from the roadway surface during operations using a vacuum on a daily basis. A BMP such as a berm shall be placed to contain slurry from joint flushing operations until the residue can be removed from the soil surface. Concrete wash water shall not be discharged to or allowed to runoff to State Waters, including any storm drainage system or facilities. Concrete washout locations to be determined by contractor.
- D. Location of stabilized staging areas and stockpile areas will be determined during construction and will be placed by the contractor with approval in the field by the inspector.
- E. Storm Drain Inlet Protection shall also include bridge drains.
- F. All wetlands shall be protected by placement of plastic fence.

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Print Date: 2/1/2017		Sheet Revisions	Colorado Department of Transportation	As Constructed	STORMWATER MANAGEMENT PLAN	Project No./Code
File Name: 21255SWMP_Narrative8.dgn		Date: Comments Init.	 1480 Quail Lake, Suite A Colorado Springs, CO 80906 Phone: 719-634-2323 FAX: 719-227-3298	No Revisions:		STA 0503-089
Horiz. Scale: 1:1 Vert. Scale: N/A	0000		Region 2	Revised:	Designer: JSR Structure	21255
TRANSPORTATION AECOM Technical Services, Inc. 2315 Bluffgate Parkway, Suite 150 Colorado Springs, CO 80920 T 719.531.0001 www.aecom.com				Void:	Detailer: JSR Numbers	88
					Subset: SWMP Subset Sheets: 8 of 8	Sheet Number