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: The Fourmile Canyon Drive South section (approximately 3600 feet long) starts a mile west of Boulder Canyon Road and extends to Paororn Road. The Fourmile North section (approximately 3,300 feet long) begins at approximately 40°02'44" N, 105°21'54" W and ends just south of Salina Junction. The proposed project limits will be defined between Sections 17, 21, and 28 Township 1 North, Range 71 West of the 4th Principal Meridian.

B. PROJECT SITE DESCRIPTION: The proposed construction activities would require and improve the roadway and drainage along Fourmile Canyon Drive resulting in increased safety for vehicle and pedestrian traffic. The home owners in the area. Lower Fourmile Canyon Drive project limits extend along Fourmile Canyon Drive (CR 118) from the CR 118 Intersection with County Road 119 to Salina Junction. Fourmile Canyon Drive (CR 118) is approximately 5 miles in length with a paved 20 foot wide roadway and a 7 foot wide shoulder. In addition, there will be several walls constructed to retain the roadway above Fourmile Creek. Roadside drainage design will be incorporated as well, conveying runoff into ditches and culverts/storm sewer systems that outfall into Fourmile Creek. Drainage project improvements will includes adding, replacing and resizing the existing drainage culverts with slope protection.

C. PROPOSED SEQUENCING FOR MAJOR CONSTRUCTION ACTIVITIES: Construction of the project will come in phases, as laid out by the contractor. Sequencing for the construction of the project shall include the following steps: cleaning and grubbing, retaining wall, curvets, roadway, grading and stabilization in the areas and locations of disturbance. All traffic phasing and planning before, during and after the completion of the project shall be coordinated with Boulder County and the contractor.

D. ACRS OF DISTURBANCE: The total area of disturbance includes areas of grading and stabilization, stockpiling of fill material, demolition of roads, excavation, areas with heavy equipment traffic, and staging areas. The sum of the areas includes both segments (north and south) of Fourmile Canyon Drive. For the purposes of this project:

1. Total area of construction site (LOC): 12.6 acres
2. Total area of proposed disturbance (ΔA): 11.5 acres
3. Total area of seeding: 5.9 acres
4. Total area of riparian: 5.7 acres
5. Total area of new impervious: 4.7 acres

E. EXISTING SOIL DATA: According to the Soil Survey of Boulder County, Colorado the site consists of 7 soil types. The information was collected from the USDA (http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx). The soil types are:

1. Jut-Rock outcrop complex
2. Typic Haplustolls-Cathedral family-Rock outcrop complex
3. Pachic Argustolls-Aquic Argultolls complex

F. EXISTING VEGETATION, INCLUDING PERCENT COVER:
During design the SWMP Administrator for Design in consultation with the Engineer will determine if the SWMP Administrator for Design or the SWMP Administrator will conduct the Vegetation Transects as outlined in Chapter 4.11.2 of the Erosion Control and Stormwater Quality Guide.

Design Date of Survey: December 22, 2015

Percent of Vegetation: 40%

Description of existing vegetation: Elevation within the project area range from 6,590 ft to 7,723 ft msl. Dominant trees and shrubs within the project area includes Ponderosa pine (Pinus ponderosa), Douglas fir (Pseudotsuga menziesii), lodgepole pine (Pinus contorta), whitebark pine (Pinus albicaulis), aspen (Populus tremuloides), mountain alder (Alnus tenuifolia), and several species of willow (Salix sp.). Common herbaceous vegetation within the project area included downy brone (Bromus tectorum), western wheatgrass (Pascopyrum smithii), bull thistle (Cirsium vulgare), common mulefoot (Eysuxus tatus), yucca, smooth brome (Bromus inermis), and woods rose (Rosco woodsii). Existing vegetation takes up approximately 40% of the existing ground cover within the project area.

Pre-Construction Date of survey: %Density: %

Post-Construction Date of survey: %Density: %

G. Potentially Pollutant 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 07.25.

H. RECEIVING WATER:

<table>
<thead>
<tr>
<th>Drainage System</th>
<th>Size</th>
<th>Type</th>
<th>Location</th>
<th>Ultimate Receiving Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-S-100</td>
<td>24&quot;</td>
<td>RCP</td>
<td>Culvert</td>
<td>S-2+25</td>
</tr>
<tr>
<td>A-S-101</td>
<td>30&quot; x 9&quot;</td>
<td>RCP</td>
<td>Culvert</td>
<td>56+46</td>
</tr>
<tr>
<td>A-S-104</td>
<td>30&quot; x 9&quot;</td>
<td>RCP</td>
<td>Culvert</td>
<td>62+49</td>
</tr>
<tr>
<td>A-S-106</td>
<td>18&quot;</td>
<td>RCP</td>
<td>Culvert</td>
<td>65+23</td>
</tr>
<tr>
<td>A-S-107</td>
<td>30&quot; x 9&quot;</td>
<td>RCP</td>
<td>Culvert</td>
<td>68+63</td>
</tr>
<tr>
<td>A-S-108</td>
<td>30&quot;</td>
<td>RCP</td>
<td>Culvert</td>
<td>77+90</td>
</tr>
<tr>
<td>A-S-110</td>
<td>24&quot;</td>
<td>RCP</td>
<td>Culvert</td>
<td>79+66</td>
</tr>
<tr>
<td>A-S-113</td>
<td>23&quot; x 14&quot;</td>
<td>RCP</td>
<td>Culvert</td>
<td>90+03</td>
</tr>
<tr>
<td>A-N-100</td>
<td>42&quot;</td>
<td>RCP</td>
<td>Culvert</td>
<td>217+25</td>
</tr>
<tr>
<td>A-N-103</td>
<td>18&quot;</td>
<td>RCP</td>
<td>Culvert</td>
<td>223+86</td>
</tr>
<tr>
<td>A-N-104</td>
<td>24&quot;</td>
<td>RCP</td>
<td>Culvert</td>
<td>228+85</td>
</tr>
<tr>
<td>A-N-106</td>
<td>24&quot;</td>
<td>RCP</td>
<td>Culvert</td>
<td>228+87</td>
</tr>
<tr>
<td>A-N-108</td>
<td>36&quot;</td>
<td>RCP</td>
<td>Culvert</td>
<td>235+54</td>
</tr>
<tr>
<td>A-N-109</td>
<td>23&quot; x 14&quot;</td>
<td>RCP</td>
<td>Culvert</td>
<td>236+81</td>
</tr>
<tr>
<td>A-N-110</td>
<td>20&quot;</td>
<td>RCP</td>
<td>Culvert</td>
<td>240+57</td>
</tr>
<tr>
<td>A-N-111</td>
<td>38&quot; x 24&quot;</td>
<td>RCP</td>
<td>Culvert</td>
<td>241+78</td>
</tr>
<tr>
<td>A-N-112</td>
<td>24&quot;</td>
<td>RCP</td>
<td>Culvert</td>
<td>242+51</td>
</tr>
<tr>
<td>A-N-115</td>
<td>8&quot; x 9&quot;</td>
<td>RCP</td>
<td>Culvert</td>
<td>250+49</td>
</tr>
<tr>
<td>A-N-116</td>
<td>24&quot;</td>
<td>RCP</td>
<td>Culvert</td>
<td>250+61</td>
</tr>
<tr>
<td>A-N-117</td>
<td>24&quot;</td>
<td>RCP</td>
<td>Culvert</td>
<td>252+86</td>
</tr>
</tbody>
</table>

I. NON-STORMWATER DISCHARGES: Potential non-stormwater discharges for this project include construction or development water used for grading, dust suppression and erosion control seeding (water will be temporary) within the entire site.

2. Name of receiving water(s) on site: Fourmile Canyon Creek
3. Ultimate receiving water: St. Vrain Creek
4. Horizontal distance nearest water of the site is from project approximately 0.1 mile.

5/4/18

9/18/18

11/18/18

5/31/18
1. 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 stormwater combined with stormwater that does not contain pollutants.
      b. the source and BMP/Control Measures are identified in the SWMP.
      c. discharges do not leave the site at 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.

2. SITE MAP COMPONENTS:
Pre-construction

A. PROJECT CONSTRUCTION POTENTIAL SITE BOUNDARIES - See Stormwater Management Plan

B. ALL AREAS OF GROUND SURFACE DISTURBANCE - See Stormwater Management Plan

C. AREAS OF CUI AND HIL - See Stormwater Management Plan

D. LOCATION OF ALL STRUCTURAL BMP/CONTROL MEASURES IDENTIFIED IN THE SWMP - See Stormwater Management Plan

E. LOCATION OF NON-STRUCTURAL BMP/CONTROL MEASURES AS APPLICABLE IN THE SWMP - See Stormwater Management Plan

F. SPRINGS, STREAMS, WETLANDS AND OTHER SURFACE WATER - See Stormwater Management Plan

G. PROTECTION OF TREES, SHRUBS, CULTURAL RESOURCES AND NATIVE VEGETATION - See Stormwater Management Plan

H. AREAS USED FOR STORING AND STOCKPILING OF MATERIALS, STAGING AREAS [field trailer, fueling, etc.] and BATCH PLANTS - See Stormwater Management Plan

3. SWMP ADMINISTRATOR:
A. SWMP ADMINISTRATOR FOR DESIGN:

<table>
<thead>
<tr>
<th>Name/Title</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jo Ann Murray, P.E.</td>
<td>720-479-3157, <a href="mailto:joann.murray@bouldercounty.org">joann.murray@bouldercounty.org</a></td>
</tr>
</tbody>
</table>

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 project SWMP. (Update the information below for each new SWMP Administrator) (Copy of TECS Certification must also be included in the SWMP Notebook.)

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.)

4. STORMWATER MANAGEMENT CONTROLS FIRST CONSTRUCTION ACTIVITIES
THE CONTRACTOR SHALL PERFORM THE FOLLOWING:
A. POTENTIAL POLLUTANT SOURCES
   Evaluate, identify, locate and describe all potential sources of pollutants at the site in accordance with subsection 107.25. BMPs/SCP and place in the SWMP notebook. All BMPs/Control Measures related to potential pollutants shall be shown on the SWMP site map by the Contractor’s SWMP Administrator.

B. OFFSITE DRAINAGE (RUN ON WATER)
   1. Describe and record BMP/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.

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 surface water.
   2. Perimeter control may consist of vegetation buffers, berms, silt fences, erosion logs, existing drainages, or other SWMP/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.

A. STOCUTE MANAGEMENT: Shall be done in accordance with Subsection 107.25 and 208.

B. CONCRETE WASHOUT: Concrete wash out water or waste from field laboratories and equipment shall be contained in accordance with subsection 208.05.

C. ERWORIYER HHPHPPNHE (HHEE HHHEH HHHEH HHHEH HHHEH)
C. SAW CUTTING: Shall be done in accordance with subsection 107.25, 208.04, 208.05.

D. STREET SWEETING: 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 STABILIZATION
A. SEEDING PLAN

Soil preparation, soil conditioning or topsoil, seeding (native), mulching (weed-free) and mulch tackifier will be required for an estimated (200) acres of disturbed area within the right-of-way limits which are not surfaced. The following types and rates shall be used:

Foothills Mix (5,000 Feet to 7,000 Feet Elevation)

<table>
<thead>
<tr>
<th>COMMON NAME</th>
<th>BOTANICAL NAME</th>
<th>Variety</th>
<th>LBS. / ACRE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Side Oat Grama</td>
<td>Bouteloua curtipendula</td>
<td>Vaughn</td>
<td>1.22</td>
</tr>
<tr>
<td>Blue Grama</td>
<td>Bouteloua gracilis</td>
<td>Native, Alma or Ichita</td>
<td>0.63</td>
</tr>
<tr>
<td>Slender Wheatgrass</td>
<td>Elymus trachycaulus</td>
<td>San Luis</td>
<td>4.20</td>
</tr>
<tr>
<td>Junegrass</td>
<td>Koeleria tephrodes</td>
<td>Native</td>
<td>0.15</td>
</tr>
<tr>
<td>Western Wheatgrass</td>
<td>Pascopyrum smithii</td>
<td>Anilis</td>
<td>3.17</td>
</tr>
<tr>
<td>/ Switchgrass</td>
<td>Panicum virgatum</td>
<td>Blackwell or Nebraska 28</td>
<td>0.63</td>
</tr>
<tr>
<td>Little Bluestem</td>
<td>Schizachyrium scoparium</td>
<td>Cimarron or Pastura</td>
<td>1.27</td>
</tr>
<tr>
<td>Green Needlegrass</td>
<td>Stipa viridula</td>
<td>Lecom or Native</td>
<td>1.23</td>
</tr>
</tbody>
</table>

TOTAL

Mountain Mix (7,000 Feet and Above Elevation)

<table>
<thead>
<tr>
<th>COMMON NAME</th>
<th>BOTANICAL NAME</th>
<th>Variety</th>
<th>LBS. / ACRE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Grama</td>
<td>Bouteloua gracilis</td>
<td>Native, Alma or Ichita</td>
<td>0.84</td>
</tr>
<tr>
<td>Curly Wheatgrass</td>
<td>Elymus repens</td>
<td>Native</td>
<td>0.23</td>
</tr>
<tr>
<td>Thickspike Wheatgrass</td>
<td>Elymus lanceolatus</td>
<td>Cirtola</td>
<td>5.38</td>
</tr>
<tr>
<td>Slender Wheatgrass</td>
<td>Elymus trachycaulus</td>
<td>San Luis</td>
<td>5.48</td>
</tr>
<tr>
<td>Junegrass</td>
<td>Koeleria tephrodes</td>
<td>Native</td>
<td>0.15</td>
</tr>
<tr>
<td>Sandberg’s Bluegrass</td>
<td>Poa secundula</td>
<td>Native</td>
<td>0.38</td>
</tr>
</tbody>
</table>

TOTAL

B. SEEDING APPLICATION: Drill seed 0.25 inch to 0.5 inch in the soil. In small areas not accessible to a drill, hand broadcast or hydroseeded at double site rate and raise 0.22 inch to 0.5 inch to the soil per subsection 212.

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 steep slopes (2:1), hydropseding will be allowed on this project for permanent stabilization. Hydropseding rate shall be at double the seeding rate. Hydropsed shall be applied in two applications. The first application is a slurry which contains seed, organic amendment and fertilizer, the second application is a slurry of mulch and tackifier. Both slurry applications shall be applied from top of slope downward, in 50’ vertical lift, unless otherwise approved by the Engineer.

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

<table>
<thead>
<tr>
<th>Soil conditioner</th>
<th>Rate (lbs/acre)</th>
<th>Compaction (cy/acre)</th>
<th>Impact Area (&lt;2.1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humate Base</td>
<td>200</td>
<td>300</td>
<td>65</td>
</tr>
<tr>
<td>Fertilizer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spray Amendment</td>
<td>350</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Biological nutrient shall not exceed 8-8-8 (N-P-K).

Humate Base material shall be in accordance with Standard Special Provision 212 and compactor shall be in accordance with Standard Special Provision 212.

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

G. RESEEDING OPERATIONS/CORRECTIVE STABILIZATION
Prior to partial acceptance.
1. All seedbed areas shall be reviewed during the 14 day inspections by the SWMP Administrator and Erosion Control Inspector for bare soils caused by surface washout or windaction. Bare areas caused by surface 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/trim, 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 of 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 logos (or equivalent) or permanent rip-rap.
C. All storm drains shall be cleaned prior to the Final Acceptance of the project. Work will be included in 224 Clean Culvert.
### BMP Matrix:

1. M-standards have been included along with standard BMP narratives. If a non-standard BMP will be used or the standard narrative does not apply, the SWMP Administrator shall write a Non-Standard BMP narrative placed in the column and complete a Non-Standard BMP Specification and Narrative for the SWMP notebook.

2. The SWMP Administrator shall place M-1 in this column to indicate use of M-1 if BMP/Control Measure has been installed.

3. Place an "X" in the column BMP/Control Measure to be located by SWMP administrator if the SWMP Administrator shall locate the BMP/Control Measure during construction. These BMP/Control Measures are not currently located on SWMP Plans but are anticipated to be used during construction (i.e., Vehicle Tracking Tool, Batch Plants, etc.). The SWMP Administrator shall locate these prior to or during construction and reflect on SWMP Map.

4. Place an "X" in the column for BMP/Control Measure Pre-Construction if the BMP/Control Measure is to be installed prior to construction activity.

### 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:

<table>
<thead>
<tr>
<th>APPLICATION, BMP/CONTROL MEASURE</th>
<th>NARRATIVE</th>
<th>M-STANDARD NON-STANDARD</th>
<th>IN USE ON SITE</th>
<th>BMP/CONTROL MEASURE TO BE LOCATED BY SWMP ADMINISTRATOR</th>
<th>INSTALLATION BMP/CONTROL MEASURE PRIOR TO CONSTRUCTION</th>
<th>BMP/CONTROL MEASURE PHASING</th>
<th>FIRST/INITIAL CONSTRUCTION ACTIVITIES</th>
<th>INTERIM CONSTRUCTION ACTIVITIES</th>
<th>PERMANENT STABILIZATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROTECTION OF EXISTING WETLANDS</td>
<td>Fence (plastic) and erosion logs 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.</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PROTECTION OF EXISTING TREES/LANDSCAPING</td>
<td>Fence (plastic) shall be used in areas indicated in the plans to prevent encroachment of construction traffic and sediment for the protection of mature trees and/or existing landscaping prior to start of construction disturbances.</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHECK DAM/DITCH/SPILLER</td>
<td>Erosion log, silt fence, silt dikes, rock check, check dam</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TYPE 1 AND TYPE 15 INLET PROTECTION</td>
<td>Storm drain inlet protector (Type 1, 2, and 3)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CULVERT INLET/OUTLET PROTECTION</td>
<td>Erosion logs, aggregate bags</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TYPE C, TYPE D AND TYPE 13 PROTECTION</td>
<td>Erosion logs, aggregate bags, erosion bales</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STOCKPILE PROTECTION</td>
<td>Temporary berm, erosion logs, aggregate bags*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOE OF FILL PROTECTION</td>
<td>Erosion logs, temporary berm, silt fence, topsoil window*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PERIMETER CONTROL</td>
<td>Erosion logs, silt fence, temporary berm, topsoil window*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SEDIMENT CONTROL</td>
<td>Silt fence, erosion bags</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** * indicates that these BMPs are new to the project and require additional planning and implementation.
<table>
<thead>
<tr>
<th>Utility</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TEMPORARY SEDIMENT TRAP</strong>&lt;br&gt;(SWMP Administra or shall add locations to SWMP site mops)</td>
</tr>
<tr>
<td><strong>PERMANENT SEDIMENT BASIN</strong>&lt;br&gt;Extended detention basin or other Permanent Water Quality features</td>
</tr>
<tr>
<td><strong>EMBANKMENT PROTECTION OR TEMPORARY SLOPE DRAIN</strong></td>
</tr>
<tr>
<td><strong>OUTLET PROTECTION</strong>&lt;br&gt;Ramps, or approved other</td>
</tr>
<tr>
<td><strong>CONCRETE WASHOUT</strong>&lt;br&gt;In-ground or fabricated</td>
</tr>
<tr>
<td><strong>VEHICLE TRACKING PAD</strong></td>
</tr>
<tr>
<td><strong>SWEEPING</strong></td>
</tr>
<tr>
<td><strong>DEWATERING</strong>&lt;br&gt;(Contractor is responsible for obtaining a permit from Colorado Department of Health and Environment)</td>
</tr>
<tr>
<td><strong>TEMPORARY STREAM CROSSING</strong>&lt;br&gt;(SWMP Administra or shall add locations to SWMP site mops)</td>
</tr>
<tr>
<td><strong>CLEAN WATER DIVERSION</strong>&lt;br&gt;Placed to divert clean surface or ground water around disturbance area to prevent it from mixing with construction runoff.</td>
</tr>
</tbody>
</table>

**NOTES:**
- AD SET
- AD SET
- FOURMILE CANYON DR
- 226
- 5/4/18
- 9/18/18
<table>
<thead>
<tr>
<th>APPLICATION, BMP/CONTROL MEASURE</th>
<th>NARRATIVE</th>
<th>M-STANDARD</th>
<th>IN USE ON SITE</th>
<th>BMP/CONTROL MEASURE TO BE REPORTED TO SWMP ADMINISTRATOR</th>
<th>INSTALLATION BMP/CONTROL MEASURE PRIOR TO CONSTRUCTION</th>
<th>BMP/CONTROL MEASURE PRIOR TO CONSTRUCTION</th>
<th>FIRST/INITIAL CONSTRUCTION ACTIVITIES</th>
<th>INTERIM CONSTRUCTION ACTIVITIES</th>
<th>PERMANENT STABILIZATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>VEGETATIVE BUFFER STRIP Fence (plastic)</td>
<td>Filter sediment laden runoff from disturbance area. Area to be identified on SWMP prior to construction starting.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LANDFORM (SWMP Administrator shall add locations to SWMP site maps)</td>
<td>Existing landforms may be used as BMP/Control Measure if they prevent sediment from entering or leaving the disturbance area. If a landform directs flow of water to a concentrational outfall point, the outfall point shall be protected to prevent erosion. Area to be identified on SWMP prior to construction starting.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOPSOIL MANAGEMENT STOCKPILE/SALVAGE Window or stockpile</td>
<td>Prior to embankment work commencing, existing topsoil shall be scraped to a depth of 4 inches, and placed in stockpiles or windows. Upon completion of slope work/finish grading, topsoil shall be evenly distributed over embankment to a depth of 4 inches.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SURFACE ROUGHENING / GRADING TECHNIQUES Blading, Backhoe, Dozing, Combination Loader</td>
<td>Temporary stabilization of disturbance and to minimize wind and erosion.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SEEDING (TEMPORARY)</td>
<td>Temporary stabilization used for over wintering of disturbance or used to control erosion for areas scheduled for future construction.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BONDED FIBER MATRIX/HYDRAULIC MULCH</td>
<td>Not to be used in areas of concentrated flows, i.e., ditch lines. To be used in combination with surface roughening for temporary stabilization of disturbed soils when work is temporarily halted and as approved by the Engineer. May be used as surface cover for temporary topsoil stockpiles.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MULCH/MULCH TACKIFIER</td>
<td>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.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPRAY-ON MULCH BLANKET (Not to be used in areas of concentrated flows, i.e., ditch lines)</td>
<td>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.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SEEDING PERMANENT (NATIVE)</td>
<td>Final Stabilization of disturbance and to reduce runoff and control erosion on disturbed areas.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOIL RETENTION BLANKET (SRB)</td>
<td>Final Stabilization of disturbance and to reduce runoff and control erosion on disturbed areas.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TURF REINFORCEMENT MAT (TRM)</td>
<td>Final Stabilization of disturbance and to reduce runoff and control erosion on disturbed areas. Placed in channels or on slopes for erosion control, channel liner and seeding establishment.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OTHER</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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 Measures.

B. It is estimated that 1/6 hours of labor, blasting (200 horsepower), dozing (104 horsepower), combination loader (13 horsepower) and/or backhoes (93 horsepower) may be required for miscellaneous erosion control work as directed by the Engineer. Work shall be paid for as: 203 Labor, 203 Blasting, 203 Dozing, 203 Combination Loader or 203 Backhoe.

C. Establishment of seeded areas shall be paid for as: 212 Seeding (native). This shall include mowing, weed control, reseeding/mulch/fertilizer.

<table>
<thead>
<tr>
<th>Spec.</th>
<th>Pay Item</th>
<th>Description</th>
<th>Pay Unit</th>
<th>Initial Cont.</th>
<th>Initial Const.</th>
<th>Permanent Stabilization</th>
<th>Total Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSP 203-0150</td>
<td>Blasting</td>
<td>Hour</td>
<td>20</td>
<td>10</td>
<td>30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SSP 203-01510</td>
<td>Backhoe</td>
<td>Hour</td>
<td>5</td>
<td>5</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SSP 203-01550</td>
<td>Dozing</td>
<td>Hour</td>
<td>5</td>
<td>15</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSP 203-01394</td>
<td>Combination Loader</td>
<td>Hour</td>
<td>10</td>
<td>10</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SSP 203-02330</td>
<td>Laborer</td>
<td>Hour</td>
<td>10</td>
<td>10</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSP 207-00005</td>
<td>Topsoil</td>
<td>CY</td>
<td>1435</td>
<td>1435</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSP 207-00010</td>
<td>Stockpile Topsoil</td>
<td>CY</td>
<td>125</td>
<td>125</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SSP 208-00000</td>
<td>Erosion Log Type 1 (12 Inch)</td>
<td>LF</td>
<td>360 4305</td>
<td>4455</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SSP 208-00020</td>
<td>Silt Fence</td>
<td>LF</td>
<td>144</td>
<td>140</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SSP 208-00033</td>
<td>Aggregate Bag</td>
<td>LF</td>
<td>95</td>
<td>95</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SSP 208-00041</td>
<td>Rock Check Dam</td>
<td>Each</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SSP 208-00044</td>
<td>Concrete Washout Structure</td>
<td>Each</td>
<td>6</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*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, see subsection 208.03 and 208.04. Quantities for all BMPs/Control Measures shown above are estimated, and have been increased for unforeseen conditions and normal BMP/Control Measure life expectancy. Quantities shall be adjusted according to the conditions encountered in the field as directed and approved by the Engineer. Payment shall be by the actual work completed and material used.

13. BILOGIC IMPACTS

A. ENVIROMENTAL IMPACTS:

1. Wetland Impacts: NO
2. Stream Impacts: NO
3. Threatened and Endangered Species: NO
4. If YES to any of the above items, are any permits required or additional actions needed (404, etc.)

A. NO Permit will be required.

14. NOTES
ADVANCE BEFORE YOU DIG, GRADE, UTILITIES
CALL 2-BUSINESS DAYS IN CALL UTILITY NOTIFICATION CENTER OF COLORADO
OF UNDERGROUND MEMBER OR EXCAVATE FOR THE MARKING
REVISIONS:
NO.
SHEET NO:
PROJECT NO:
DATE:
UTILITY:
DATE:
FILE:
REVISION:
DATE:
HORIZONTAL SCALE: 1"=50'
UTILITIES OF UNDERGROUND MEMBER OR EXCAVATE FOR THE MARKING
ADVANCE BEFORE YOU DIG, GRADE, CALL 2-BUSINESS DAYS IN
CALL UTILITY NOTIFICATION CENTER OF COLORADO
PLASTIC FENCE 50 FT ROW
SOIL RETENTION BLANKET CHECKED:
AGGREGATE BAG SEEDING AND MULCHING
PF EAV

PROTECT IN PLACE

PROTECT IN PLACE

SILT FENCE

LIMITS OF CONSTRUCTION (UPDATE AS NECESSARY)

EROSION LOG FOR CULVERT

VEHICLE TRACKING PAD

CONCRETE WASHOUT STRUCTURE

SOIL RIPRAP/RIPRAP

CREED FLOW ARROW

FLOW ARROW

JAM 238

BOULDER COUNTY TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION

SWMP PLANS (1 OF 7)

FOURMILE CANYON DR (NORTH)