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# Stormwater Management Plan Lot 1 The Rock Commerce Center Subdivision Filing No. 1

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## QUALIFIED STORMWATER MANAGER

Name: \_\_\_\_\_  
Company: \_\_\_\_\_  
Address: \_\_\_\_\_

## CONTRACTOR

Name: \_\_\_\_\_  
Company: \_\_\_\_\_  
Address: \_\_\_\_\_

PPR2329  
1<sup>st</sup> Submittal: July 28, 2023  
4<sup>th</sup> Submittal: December 15, 2023  
Project No. 23009.001

## **Engineer's Statement**

This SWMP was prepared under my direction and supervision and is correct to the best of my knowledge and belief. If such work is performed in accordance with the SWMP, the work will not become a hazard to life and limb, endanger property, or adversely affect the safety, use, or stability of a public way, drainage channel, or other property.

Printed Name: Mark Cevaal Date: \_\_\_\_\_

Phone Number: 720-283-6783

Seal

## **Contractor's Statement**

I will comply with the requirements of the Grading and Erosion Control Plan/SWMP including Construction Control Measure inspection requirements and final stabilization requirements. I acknowledge the responsibility to determine whether the construction activities on these plans require Colorado Discharge Permit System (CDPS) permitting for stormwater discharges associated with construction activity.

Name of Contractor: \_\_\_\_\_

Authorized Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Title: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Address: \_\_\_\_\_

Email Address: \_\_\_\_\_

**Owner's Statement**

The owner will comply with the requirements of the County's Stormwater Management Plan including Construction Control Measure inspection requirements and final stabilization requirements according to the County of El Paso Construction and Design Manuals. I acknowledge the responsibility to determine whether the construction activities on these plans require Colorado Discharge Permit System (CDPS) permitting for stormwater discharges associated with construction activity.

Owner Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Name of Owner: Jeremy Records Phone: 303.628.0200

Title: Principal Email: Jeremy@centraldevelopment.com

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## Project Description

### INTRODUCTION

This Stormwater Management Plan presents an analysis for the proposed grading and erosion control measures for the Rock Commerce Center. The information presented pertains to the overall site grading, utility infrastructure parking lot construction, and Building construction in accordance with the County of El Paso standards.

The SWMP Report should be viewed as a “living document” the is continuously being reviewed and modified as a part of the overall process of evaluation and managing SW quality issues at the site. The QSM shall amend the SWMP when there is a change in design, construction, O&M of the site which would require the implementation of new or revised BMPs or if the SWMP proves to be ineffective in achieving the general objectives of controlling pollutants in SW discharges associated with construction activity or when BMPs are no longer necessary and are removed.

### Project Description

The property is a 11.61-acre lot that is currently undeveloped. The Site is located on unplatted land in the Northwest Quarter of Section 11, Township 11 South, Range 67 West of the 6th Principal Meridian, El Paso County, Colorado. The site is bordered on the west side by Monument Hill Road and I-25, Palmer Ridge High School to the north and west, and 18950 Base Camp Road to the south. The site will have two connections onto Monument Hill Road and one connection to the southeast to Base Camp Road. This project will be phased as initial, interim, and final construction. Water quality and detention is provided on site for this project

### Nature and Purpose of Construction Activity

The construction activities covered in this plan include earthwork, building construction, utility construction, paving, landscaping, and other work required to complete the proposed project. The major construction activities that may impact stormwater runoff include overlot grading, final grading, building construction, site work and installation of utilities. The project will consist of approximately 162,778 square foot building with parking, sidewalk, curb and gutter and landscaping.

### Construction Sequence

The expected sequence of activities is to be as follows:

1. Overlot Grading – April 2024  
This phase includes installation of erosion control devices, staging area, overlot grading and excavation of material.

2. Utility Installation – May 2024

This phase includes storm sewer, sanitary sewer service, water line services and dry utility installation.

- Sanitary Sewer
- Storm Sewer
- Water Lines
- Dry Utilities

3. Building Construction – May 2024 – December 2024

This will include the construction of the foundations, building walls, and entry-ways.

4. Site Improvements – May 2024 – October 2024

This phase includes final grading, irrigation, landscaping, curb and gutter, sidewalk, lighting, signage and paving

All disturbed, graded areas will be surface roughened to reduce erosion potential, slow runoff velocity and promote infiltration. Seeding and mulching shall take place after the completion of grading activities.

## Areas and Volumes Statement

The platted site includes one lot which covers 11.6 acres. Total disturbed area for the project is 12.30 acres.

Unadjusted earthwork volume to finished grade for the project includes

Cut of 129,229 cy

Fill of 49,621 cy

The maximum cut depth for the grading plan is approximately 31 ft and the maximum fill is approximately 15 feet.

## Existing Site Conditions

The site encompasses approximately 11.61 acres and is currently undeveloped. Native grasses and weeds currently cover the site with a few small trees. The site generally falls north to south but has a ridge running diagonally from the northwest corner toward Monument Hill Road splitting the site north and south. The northern section of site slopes at about 12% from west to east. The middle of the site slopes at about 4% from the northeast to the southwest. The southern section of site slopes at about 4% from the west to east. With a total fall of about 60 feet across the site from the north east corner to the southwest corner.

## Existing Vegetative Ground Cover

The total existing vegetative ground cover relative to the entire site before development is 95% which was found by subtracting the existing impervious areas on-site by the total site area. None of the existing vegetative ground cover will be maintain and will have to be reestablished after construction.

## Non-Stormwater Discharges

Discharges to the ground, as in the case of unlined pits, of concrete washout water are allowed as a non-stormwater discharge provided the above CCM's are practiced and that these discharges do not leave the site as surface runoff or to surface waters. See "Concrete Washout/Liquid Waste Washout" and "Groundwater and Stormwater Dewatering" sections of the report for additional details.

## Receiving Waters

The Site is located within the Crystal Creek Drainage Basin. The Crystal Creek Basin outfalls to Monument Lake. The Site is included in the *Dirty Woman Creek and Crystal Creek Drainage Basin Planning Study, prepared by Kiowa Engineering Corporation, dated September 1993*. The Final Drainage Report for Palmer ridge High School, prepared by Tetra Tech, dated July 3, 2007 also includes a small portion of the site. Both of these previous drainage reports focus primarily on the flows entering and flowing through Crystal Creek. The flows from the site prior to construction primarily flow west crossing under I-25 before flowing southwest in an undefined channel towards Crystal Creek and eventually Monument Lake. The stormwater during and after construction will be collected and treated on-site by a sediment basin and, when final stabilization is in-place, a full spectrum pond; both located near the southwest corner of the site. These flows will be discharged to the existing roadside ditch next to Monument Hill Road. The stormwater will then enter the existing 24" storm sewer with outfalls west of I-25. From there the stormwater flows in an undefined channel southwest towards Crystal Creek and eventually Monument Lake. There are not any stream crossing associated with this project.

## Final Stabilization and Long-term Stormwater Management

The condition will be reached when all ground surface disturbing activities at the site have been completed, and for all areas of ground surface disturbing activities where a uniform vegetative cover has been established with an individual plant density of at least 70 percent of pre-disturbance levels, or equivalent permanent, physical erosion reduction methods have been employed. Also includes installation of permanent roads, structural Permanent Control Measures, and removal of all temporary Construction Control Measures.

## Adjacent Areas

The Site is located on unplatted land in the Northwest Quarter of Section 11, Township 11 South, Range 67 West of the 6th Principal Meridian, El Paso County, Colorado. The site is bordered on the west side by Monument Hill Road and I-25, Palmer Ridge High School to the north and west, and 18950 Base Camp Road to the south. The site will have two connections onto Monument Hill Road and one connection to the southeast to Base Camp Road.

This project will not rely on control measures owned or operated by another entity.

## Soils

The NRCS soil survey indicates that the soil on site is primarily Tomah-Crowfoot loamy sands and Tomah-Crowfoot complex, whose hydrologic soil group is Type B. A soil map has been included in the appendix for reference. The erosion potential factor K for the site is 0.17. This rating is relatively low with the K factor ranging from 0.02 to 0.69. With this lower erosion potential factor, the standard erosion control BMPs implemented will effectively manage the erosion from the Site.

## Description of Potential Pollutants

Potential pollution sources at the project site may include sediment, vehicle maintenance and fueling, paint, solvents, wood treated products, asphalt (bituminous) paving, concrete, metal, petroleum products, waste storage and disposal, portable toilets, dust or particulate generating processes and offsite sediment transport from vehicle tracking. Many chemicals typically associated with construction activities are considered potential pollutants. Additionally, this project does not anticipate utilizing masonry mix station, asphalt batch plant, or concrete batch plant on-site which would contribute to the harmful pollutants.

On-site storage of potential pollution sources will be at the stabilized staging area, except for soil stockpiles whose location shall be noted on the SWMP. Stockpiles shall be surface roughened with surrounding areas protected with silt fence, earthen berm or other approved sediment control device(s).

The following table provides a broad list of potential pollutants from a range of construction-related activities. Inclusion of a chemical in the table does not necessarily imply that the chemical will be used as a part of the development construction activities.



## Chemicals Potentially Associated With Construction Activities

Potential Pollutant	Sources	Location
Gasoline (benzene, toluene, ethyl benzene, xylene tetraethyl leads, methyl tertiary butyl ether [MTBE] and other compounds)	Construction vehicles, gas cans, and generators	Job site, access roads, tanks onsite, and fuel sites. However any fueling shall take place in the Stabilized Staging Area.
Diesel fuel (and associated constituents)	Heavy construction equipment	Job site, access roads, and fuel sites. However any fueling shall take place in the Stabilized Staging Area.
Oil, grease, and hydraulic fluids	Construction vehicles, heavy construction equipment, generators, small containers and lift equipment	Job site, access roads, fuel sites, storage areas, and lift houses. However any maintenance shall occur in the Stabilized Staging Area.
Solvents (TCE, TCA, and others)	Small containers	Job site but stored in the Stabilized Staging Area.
Paints, stains and varnishes	Small containers, bulk containers and spray equipment	Job site but stored in the Stabilized Staging Area.
Glues and waterproofing compounds	Small containers and bulk containers	Job site but stored in the Stabilized Staging Area.
Fertilizers	Bulk containers	Job site but stored in the Stabilized Staging Area.
Chlorine (hypochlorite)	Disinfections of water line	Job site but stored in the Stabilized Staging Area.
Cement	Bulk containers	Job site but stored in the Stabilized Staging Area.
Metals, paint chips, wood chips, insulation, asbestos and plastics	Construction debris	Job site but stored in the Stabilized Staging Area.
Microbiological contaminants (coliform, giardia, etc.)	Sanitary wastewater	Septic tank/leach field systems, broken sewer lines, portalettes.
Glycol	Construction vehicles and equipment, small containers and bulk containers	Job site, access roads, and compressor site but stored in the Stabilized Staging Area.
Tackifiers	Bulk containers and spray equipment	Job site but stored in the Stabilized Staging Area.

## **Soil Borings/Tests and Groundwater**

A geotechnical report is not currently available for this project. When a geotechnical report is available it will be added to this report.

## Construction Control Measures (CCM's)

The initial phase of construction includes installation of underground utilities, and overlot grading the site. CCM measures during the initial phase of construction include silt fence, a stabilized staging area, concrete washout area, vehicle tracking control, sediment control logs, curb socks, inlet protection, and temporary sediment trap.

Subsequent phases of construction will included the installation of curb and gutter, sidewalks, street paving, hardscape and landscaping, and building foundation and vertical construction. CCM measures during these phases also include silt fence, a stabilized staging area, concrete washout area, vehicle tracking control, sediment control logs, curb socks, inlet protection, and temporary sediment trap.

CCMs for stormwater pollution prevention include structural and non-structural practices intended to reduce the amount of pollutants entering stormwater runoff and leaving the job site. All personnel responsible for implementation and maintenance of CCM's should review and understand the CCM's identified herein and on the Site Plan (Erosion Control Plans/Details).

Four basic approaches used for mitigating erosion and sediment loss from stormwater runoff in construction areas are as follows:

- Minimize onsite erosion from occurring at the outset. Install CCM's (e.g. silt fence) up-gradient of significant surface disturbances to reduce the volume and velocity of run-on entering disturbed areas. Stage construction to minimize the amount of time in which soil is left bare. Surface roughen, temporarily seed and mulch areas when practical to protect open disturbances. These practices help reduce the area of land susceptible to erosion.
- Reduce sediment from stormwater runoff. Use a combination of temporary structural sediment controls to manage runoff onsite such as rock socks, silt fence and inlet protection. These measures encourage sediment in stormwater runoff to be deposited and accumulate, reducing the total amount of sediment in runoff.
- Detain stormwater runoff for frequently occurring events. Use the water quality pond to detain runoff, encourage further sedimentation, and protect against downstream sediment transport.
- Release stormwater runoff in a controlled manner. However, the water quality pond that will serve as a sediment trap (i.e. limited release) during construction.

The erosion and sediment control strategy for a construction project is dynamic. As phases of construction progress, the strategy and measures implemented must evolve to remain effective.

### **Phased CCM Implementation**

The site construction will proceed in two basic phases with CCM's implemented in three phases (**Initial**, **Interim** and **Final**). The **Initial phase** is prior to site construction activities and includes the installation of Inlet Protection (existing and newly constructed inlets), Vehicle Tracking Control, Stabilized Staging Area, Concrete Washout, Silt Fence, Good Housekeeping, Materials Handling and Spill Prevention, and Waste Management and Disposal.

The **Interim phase** will consist of site grading, utility construction, foundation and vertical (building) construction, curb, gutter and walk construction, and asphalt paving. The CCM's required during the Interim phase will include Inlet Protection (existing and newly constructed inlets), Rock Socks, Vehicle Tracking Control, Stabilized Staging Area, Concrete Washout, Silt Fence, Good Housekeeping, Materials Handling and Spill Prevention, and Waste Management and Disposal.

The **Final phase** includes final stabilization measures consisting of site landscaping installation. CCM's required during the final stage will consist of Final Landscaping, Inlet Protection (all inlets), Rock Socks, and Good Housekeeping, Materials Handling and Spill Prevention, and Waste Management and Disposal.

### **Implementation of Control Measures**

Structural CCM's are measures to reduce runoff and/or remove pollutants from runoff. Those designed for use during construction activities and removed after final stabilization are considered temporary measures. Those designed for use after construction as an integral part of the final stabilization strategy are considered permanent measures. Locations for each CCM are identified within the Grading and Erosion Control Plans.

The following temporary structural measures, at a minimum, are anticipated for the site construction and building activities:

<b>IP- Inlet Protection</b>	
<b>Intended Use/Purpose:</b>	Inlet protection consists of a small reinforced rock berm and cinder block frame placed in front of (but not blocking) a curb inlet or around an area inlet to reduce sediment in runoff entering the storm sewer system.
<b>Appropriate Installation Timing:</b>	Prior to earth disturbing activities.
<b>Maintenance Procedures:</b>	<ul style="list-style-type: none"> <li>• Interim configuration of inlet protection in streets (before paving) shall be installed within 48 hours of pouring inlet. Inlet protection (after paving) shall be installed within 48 hours after paving is placed.</li> <li>• Inlet protection at area inlets shall be installed within 48 hours of pouring inlet.</li> <li>• Crushed rock shall be fractured face (all sides) and shall comply with gradation shown on the GESC Plan Standard Notes and Details (1-1/2" minus). Recycled concrete meeting this gradation may be used.</li> <li>• Wire mesh shall be fabricated of 10-gauge wire twisted into a mesh with a maximum opening of 1.0 inch (commonly termed "Chicken Wire"). Roll width shall be 48 inches.</li> <li>• Wire mesh shall be secured using "Hog Rings" or wire ties at 6-inch centers along all joints and at 2-inch centers on ends of berm.</li> <li>• Reinforced rock berm shall be constructed in one piece or shall be constructed using the joint detail in the GESC Plan Standard Notes and Details.</li> <li>• The top of reinforced rock berm shall be ½ - 1" below top of curb.</li> <li>• Tubular markers shall meet requirements of <i>Manual on Uniform Traffic Control Devices (MUTCD)</i>, as amended.</li> <li>• Reinforced rock berm shall be placed tightly against curb fence.</li> <li>• The GESC Manager shall inspect inlet protection weekly and during and after any storm event and make repairs or clean out as necessary. More frequent inspections and repairs shall be required during winter conditions due to freeze/thaw problems.</li> </ul>
<b>Appropriate Removal Timing:</b>	Inlet protection is to remain in place until the upstream disturbed area is stabilized and grass cover approved, unless the County of Weld approves earlier removal of inlet protection in street

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## CF- Construction Fence

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<b><i>Intended Use/Purpose:</i></b>	Construction fence consists of orange plastic fencing or other County of Mead-accepted material attached to support posts and used to delineate limits of construction and to control access to the construction site.
<b><i>Appropriate Installation Timing:</i></b>	Prior to any work beginning on-site.
<b><i>Maintenance Procedures:</i></b>	Any damaged fence or markers shall be repaired on a daily basis.
<b><i>Appropriate Removal Timing:</i></b>	At the end of construction or once the site is secure enough to warrant the fence's removal.
<b><i>Appropriate Removal Timing:</i></b>	Inlet protection is to remain in place until the upstream disturbed area is stabilized and grass cover approved, unless the County of Weld approves earlier removal of inlet protection in street

**CW – Concrete Washout**

<p><b>Description</b></p>	<p>Concrete washout areas consist of either an excavated pit or a prefabricated haul-away container designed to contain concrete and concrete waste water.</p>
<p><b>Purpose</b></p>	<p>Used to contain concrete and concrete waste water when the chutes of concrete mixers and hoppers of concrete pumps are rinsed out after delivery.</p> <p>Concrete washout areas consolidate solids for easier disposal and prevent runoff of concrete waste water, which is alkaline and contains high levels of chromium.</p>
<p><b>Implementation</b></p>	<p>Locate at least 50 feet away from State Waters, measured horizontally. Unlined concrete washout areas must be located at least 400 feet away from State Waters, and at least 1000 feet away from wells or drinking water sources.</p> <p>Do not locate in areas where shallow groundwater may be present, such as near natural drainages, springs, or wetlands.</p> <p>Do not place in areas subject to run-on.</p> <p>Label areas with appropriate signage.</p> <p>The addition of solvents, flocculents, or acid to wash water is prohibited.</p>
<p><b>Timing</b></p>	<p>Install prior to concrete activities.</p> <p>Remove after concrete activities have concluded.</p>
<p><b>Maintenance</b></p>	<p>Clean out facilities once they are 2/3 full, or construct new facilities for additional capacity.</p> <p>Concrete waste must be permanently disposed of off-site in an appropriate manner.</p>

<b>RS – Rock Sock</b>	
<b>Description</b>	A rock sock consists of gravel that has been wrapped by wire mesh or a geotextile to form an elongated cylindrical filter.
<b>Purpose</b>	Used to slow down the velocity of runoff to filter runoff and to promote sedimentation.  Rock socks are typically used as either perimeter control or as a part of inlet protection.
<b>Implementation</b>	Rock socks do not require trenching or staking, and are able to be placed on hard surfaces where trenching or staking would be impossible.  The maximum tributary drainage area per 100 linear feet of rock socks is 1/4 acre.  When placed in a gutter adjacent to a curb, rock socks should protrude no more than two feet from the curb in order for traffic to pass safely.  Proprietary rock socks can be used in place of wire mesh rock socks.
<b>Timing</b>	Install prior to land disturbing activities, or immediately after inlet installation.  Remove and properly dispose of inlet protection after the contributing drainage area has been permanently stabilized.
<b>Maintenance</b>	Remove and properly dispose of sediment when it has accumulated to 1/2 of the height of the rock sock.  Inspect for and replace damaged or displaced rock socks.



## SCL – Sediment Control Log

<b>Description</b>	A sediment control log is a temporary sediment barrier consisting of a linear roll of natural materials such as straw, compost, excelsior or coconut fiber.
<b>Purpose</b>	<p>Used to intercept sheet flow prior to leaving a construction site.</p> <p>May be used around the perimeter of a construction site.</p> <p>Placed on long slopes to slow down flows.</p>
<b>Implementation</b>	<p>Install sediment control logs to intercept sheet flow runoff from disturbed areas.</p> <p>Install sediment control logs along the contour of slopes or in a manner to avoid creating concentrated flow.</p> <p>Place sediment control logs against sidewalk or back of curb when adjacent to these features.</p> <p>The maximum tributary drainage area per 100 liner feet of sediment control logs is 1/4 acre.</p> <p>Sediment control logs shall consist of straw, compost, excelsior or coconut fiber, and shall be free from any noxious weed seeds or defects.</p>
<b>Timing</b>	<p>Install prior to land disturbing activities.</p> <p>Remove sediment control logs after the upstream area has been permanently stabilized.</p>
<b>Maintenance</b>	<p>Remove and properly dispose of sediment when it has accumulated to 1/2 of the height of the exposed sediment control log.</p> <p>Inspect for and repair or replace damaged sediment control logs.</p>

<b>SF –Silt Fence</b>	
<b>Description</b>	Silt fence is a temporary sediment barrier consisting of woven geotextile fabric attached to supporting posts and trenched into the soil.
<b>Purpose</b>	Used to intercept sheet flow prior to leaving a construction site.  May be used around the perimeter of a construction site.
<b>Implementation</b>	Install silt fence to intercept sheet flow runoff from disturbed areas.  Silt fence is not designed to be used as a filter fabric.  Do not install silt fence across streams, channels, swales, ditches, or other drainageways.  Install silt fence along the contour of slopes or in a manner to avoid creating concentrated flow (i.e. “Jhook” installation).  The maximum tributary drainage area per 100 liner feet of silt fence is 1/4 acre.  Properly installed silt fence should not be easily pulled out by hand and there should be no gaps between the ground and fabric.
<b>Timing</b>	Install prior to land disturbing activities.  Remove silt fence after the upstream area has been permanently stabilized.
<b>Maintenance</b>	Remove and properly dispose of sediment when it has accumulated to 1/2 of the height of the exposed silt fence.  Inspect for and repair or replace damaged silt fence.

## SM – Seeding & Mulching

<b>Description</b>	The preparation of soil, application of much, and application of seed to disturbed areas.
<b>Purpose</b>	<p>Used to control runoff and erosion on disturbed areas by establishing vegetative cover.</p> <p>Used to control runoff and erosion on disturbed areas by establishing vegetative cover.</p> <p>Provides permanent stabilization in disturbed areas.</p>
<b>Implementation</b>	<p>All soil testing, soil amendment and fertilizer documentation, and seed load and bag tickets must be added to the SWMP.</p> <p>Properly prepare soil prior to seeding and mulching.</p> <p>Apply seed mixes as specified in El Paso County Stormwater Construction Manual. Alternative seed mixes are acceptable if included in an approved Landscaping Plan.</p> <p>Mulch seeded areas using hay or straw mulch, hydraulic mulching, or install erosion control blanket.</p>
<b>Timing</b>	<p>Seed and mulch disturbed areas after final grading.</p> <p>Seeding and mulching may also be used as a temporary erosion control measure during construction.</p>
<b>Maintenance</b>	<p>Repair and reseed bare areas as necessary.</p> <p>Restrict vehicle access to seeded areas.</p>

## SR – Surface Roughening

<b>Description</b>	Surface roughening is a practice where the soil surface is roughened by the creation of grooves and depressions that run parallel to the contour of the land.
<b>Purpose</b>	<p>Used to create variations in the soil surface that slow down the velocity of runoff, increase infiltration, reduce erosion, and trap soil.</p> <p>May be used to help establish vegetative cover by reducing runoff velocity and giving seed an opportunity to take hold.</p>
<b>Implementation</b>	<p>Roughen soil in areas flatter than 3:1.</p> <p>Surface roughening may be completed by furrowing, scarifying, ripping, or disking soil.</p> <p>Grooves must be installed along contours to avoid concentrating flow.</p> <p>Do not use in areas with extremely sandy or rocky soils.</p>
<b>Timing</b>	<p>Install after overlot grading activities when area is in an interim condition or at final grade.</p> <p>Remove prior to permanent stabilization during soil preparation.</p>
<b>Maintenance</b>	<p>Inspect roughened areas for signs of erosion. Repeat surface roughening as needed.</p> <p>Do not allow vehicles to drive over surface roughened areas.</p>

## SSA – Stabilized Staging Area

<p><b>Description</b></p>	<p>A stabilized staging area is a clearly designated area where construction equipment and vehicles, stockpiles, waste bins, and other construction-related materials are stored. The contractor office trailer may also be located in this area. Depending on the size of the construction site, more than one staging area may be necessary</p>
<p><b>Purpose</b></p>	<p>A stabilized staging area consists of stripping topsoil and spreading a layer of 1-1/2-inch gravel in the area to be used for a trailer, parking, storage, unloading and loading. A stabilized staging area reduces the likelihood that the vehicles most frequently entering a site are going to come in contact with mud.</p>
<p><b>Implementation</b></p>	<p>Appropriate space to contain storage and provide for loading/unloading operations, as well as parking if necessary.</p> <p>A stabilized surface, either paved or covered, with 3-inch diameter aggregate or larger.</p> <p>Perimeter controls such as silt fence, sediment control logs, or other measures.</p> <p>Construction fencing to prevent unauthorized access to construction materials.</p> <p>A stabilized construction entrance/exit to accommodate traffic associated with material delivery and waste disposal vehicles</p>
<p><b>Timing</b></p>	<p>To be installed prior to any job site construction activity.</p> <p>To be removed after construction activities that require the stabilized staging area have been completed.</p>
<p><b>Maintenance</b></p>	<p>Inspected weekly and during and after any storm event and repaired (by adding more granular material) or enlarged as necessary.</p>

## VTC – Vehicle Tracking Control

<b>Description</b>	Vehicle tracking control consists of a pad of coarse stone aggregate placed on a geotextile filter fabric.
<b>Purpose</b>	<p>Used to reduce the tracking of sediment onto roadways by construction vehicles.</p> <p>As vehicles drive over the VTC device, mud and sediment is removed from the tires.</p>
<b>Implementation</b>	<p>Locate at construction entrance/exit.</p> <p>Organize site to ensure that all vehicles use the vehicle tracking control device.</p> <p>Where possible, grade VTC device to drain to construction site rather than to street.</p> <p>Proprietary VTC devices may be used if approved as an alternative Construction Control Measure.</p>
<b>Timing</b>	<p>Install prior to land disturbing activities.</p> <p>Remove when the potential for sediment migration onto adjacent roadways no longer exists (typically after site has been stabilized). Permanently stabilized area after vehicle tracking control is removed.</p>
<b>Maintenance</b>	<p>Roughen, replace, and/or add rock as needed to maintain a consistent depth and to prevent sediment tracking onto adjacent street.</p> <p>Sediment tracked onto the adjacent road shall be removed daily, by sweeping or shoveling, and never washed down storm drains.</p>

Disturbed areas must be properly mulched or seeded and mulched within 14 days after final grade is achieved on any portion of the site not otherwise permanently stabilized, unless a sequential construction activity immediately follows the previous activity within 14 days. Soil surface stabilization should also be applied within 14 days to disturbed areas that may not be at final grade but will remain inactive for more than 30 days.

Soil stockpiles at the site perimeter, or within 100 feet of a drainageway, shall have perimeter sediment controls at all times. Stockpiles expected to be in place longer than 30 days shall be temporarily seeded and mulched within 14 days after stockpile construction.

### **Non-Structural Practices for Erosion and Sediment Control**

Non-structural CCM's are practices aimed at preventing and reducing the amount of pollutants from entering runoff. Practices include good housekeeping, materials handling and spill prevention, and waste management and disposal. Please see refer to the Waste Management and Disposal section of this report for specific practices.

The most effective first steps towards preventing pollution in stormwater from construction sites simply involve using good sense to improve the facility's basis housekeeping methods. Poor housekeeping practices result in more waste being generated than necessary and an increased potential for stormwater contamination where a clean and orderly site reduces the possibility of stormwater mixing with pollutants.

Refer to the CCM details provided in the Appendix for additional requirements related to Non-Structural CCM's.

### **Vehicle Tracking Control**

Practices implemented at the site to control potential sediment discharges from vehicle tracking include, Vehicle Tracking Control (VTC), minimizing site access and street sweeping or scraping.

Vehicle access to the site shall be minimized through the use of construction fence.

Streets/Parking lots will be scraped, swept or both, and gutters will be cleaned as necessary and following the completion of foundation excavation and backfilling, water and sewer connection work, and/or concrete flat work and evaluated for cleaning a minimum of every seven (7) days and within twenty-four (24) hours of a precipitation event.

Parking for production staff and sub-contractors will be allowed only on paved or otherwise stabilized areas. During wet weather, vehicle access to the site will be minimized to the extent practical.

## **Waste Management and Disposal**

The site shall implement CCM's to control stormwater pollution from site wastes, such as building waste (liquid or solid).

### **Construction Waste**

Additional provisions of the erosion and sediment control plan relating to waste disposal are as follows:

- The contractor shall remove all sediment, mud, and construction debris that may accumulate in the flow lines and public rights-of-way as a result of the site development. This shall be performed a minimum of every seven (7) days and within twenty-four (24) hours of a precipitation event.
- The contractor shall control sediment, debris and all other pollutants from entering the storm sewer system as a result of construction operations.
- The owner and designated agents shall ensure that all loads of cut and fill material imported or exported from the site shall be properly covered to prevent loss of the material during transport on public rights-of-way.
- Blow trash will be picked up and disposed of on building sites as necessary.
- Where possible, trash bins will be located at least 50 feet away from storm sewer inlets. They will be located in level locations, but not in drainage paths, curb and gutter, or on sidewalks or drives. Downstream perimeter controls shall be installed to prevent contaminants in stormwater from entering the storm sewer system.

### **Concrete Washout/Liquid Waste Washout**

Washout areas shall be provided in locations reasonable to encourage compliance. As such, multiple washout's may be implemented if required. An earth berm and silt fence in accordance with the CCM specification shall enclose the washout area. Additionally, a VTC will be required at the entrance of Concrete Washouts, where there is a paved road used to access the washout area. The SWMP shall be updated to indicate all washout locations. To prevent an impact from unlined pits to groundwater, the following CCM's should be in place:

- The use of the washout site should be temporary (less than one year).
- The washout site should not be located in an area where shallow groundwater may be present, such as near natural drainages, springs or wetlands.



Discharges to the ground, as in the case of unlined pits, of concrete washout water are allowed as a non-stormwater discharge provided the above CCM's are practiced and that these discharges do not leave the site as surface runoff or to surface waters. Where adequate CCM's are not followed, CDPHE and El Paso County may require discharges to unlined pits to cease, or the entity to obtain alternate regulatory approval through notice by either the Water Quality Control Division or the Hazardous Materials and Waste Management Division.

This SWMP does not authorize onsite permanent disposal of concrete washout waste, rather only permits temporary containment of concrete washout water from washing of tools and concrete mixer chutes. Upon termination of use of the washout site, accumulated solid waste, including concrete waste and contaminated soils, must be removed from the site to prevent onsite disposal of solid waste.

### **Groundwater and Stormwater Dewatering**

The dewatering of groundwater or groundwater mixed with stormwater from excavations will be an allowed non-stormwater discharge providing the following conditions are met. The source water shall not contain pollutants in concentrations exceeding the State groundwater standards in Regulations 5 CCR 1002-41 and 42, proper CCM's are implemented, and these discharges are to the ground and do not leave the site as surface runoff or to surface waters.

The contractor shall use an appropriate filter when pumping water from the excavation and discharge in a manner that does not cause erosion or surface runoff. This land application can be accomplished through using an energy dissipater such as spraying over a large portion of land, or discharging onto riprap which drains into a sediment basin or sediment trap. The SWMP must be updated to indicate locations of dewatering land applications and the proposed CCM's shall be reviewed and approved by El Paso County. In no case will this water be allowed into flow lines or otherwise enter a storm sewer system.

The permittee must apply for coverage under a separate CDPS discharge permit, such as the Construction Dewatering general permit, if there is a potential for discharges to surface waters.

### **Fugitive Dust and Wind Erosion Controls**

Erosion control measures will be used to mitigate erosion caused by wind. Watering exposed and un-vegetated areas with potable water will control fugitive dust during dry and windy conditions. Surface roughening and the use of watering trucks to disturbed areas can help reduce fugitive dust and wind erosion while perimeter silt fence will help catch windblown sand and soil.

### **Contractor SWMP Enforcement Policy of Subcontractors**

The contractor shall require the subcontractor(s) to specifically represent that it has had an opportunity to review this Stormwater Management Plan (SWMP). The SWMP shall be available at any time to the subcontractor(s) at the project site. The SWMP is subject to changes, modifications, and adjustments based upon job site conditions and it is the obligation of both the contractor and subcontractor(s) to inform itself of any changes or modifications in the subject plan and to comply with all such requirements at all times. The means and methods of complying with the SWMP is the obligation of both the contractor and subcontractor(s) and may require the contractor and/or subcontractor(s) to construct, modify, or move containment or barrier facilities and to provide chemical storage and spill response materials and all other necessary materials or labor reasonably inferable from the SWMP.

### **Materials Handling**

Areas where potential spills can occur (e.g. stabilized storage area) shall have the following prevention and response procedures in place:

Materials used at construction sites can present a potential for contamination of stormwater runoff. These include fuel, oil, lubricants, paints, solvents, concrete-curing compounds and other liquid chemicals such as fertilizers, herbicides and pesticides. Practices that can be used to prevent or minimize toxic materials in runoff from a construction site are described in this section.

A list of all potentially toxic or hazardous chemicals used shall be maintained on the site. Warning labels must be attached to all potentially toxic or hazardous chemicals. Material safety data sheets (MSDS) and other safety information for a potentially toxic or hazardous substance will be on file and accessible (on the site) during all periods in which the substance is used or stored.

In addition to maintaining an inventory of potentially toxic and/or hazardous materials and associated safety information, the following materials management practices must be followed:

- Materials will be handled in accordance with Occupational Safety and Health Administration (OSHA) requirements and manufacturer's instructions.
- Chemicals regulated under the *Comprehensive Environmental Response, Compensations and Liability Act* (CERCLA) will be reported and handled in accordance with relevant regulations.
- Materials stored at the construction site will be covered or otherwise protected from the elements.
- The quantity of fuel and lubricants stored at the construction site will be limited to the amount that is reasonable to support the specific construction or maintenance activity. Offsite storage of fuel, hydraulic oil and form oil are preferable.

- Bulk storage areas for materials not consumed on a daily basis will be enclosed and protected from the elements and contained in a manner to prevent release to the environment.
- Petroleum products and fertilizers will be stored at separate facilities or isolated by impermeable barriers.
- Hypochlorite and other chlorine compounds will be stored separately from other materials and kept dry.
- Areas at the construction site that are used for storage of toxic materials and petroleum products shall be designed with an enclosure, container or dike located around the perimeter of the storage area to prevent discharge of these materials in runoff from the construction site. These barriers will also function to contain spilled materials from contact with surface runoff.
- Measures to prevent spills or leaks of fuel, gear oil, lubricants, antifreeze and other fluid from construction vehicles and heavy equipment shall be considered in order to protect groundwater and runoff quality. All equipment maintenance shall be performed in the Stabilized Staging Area and measures, such as drip pans, shall be used to contain petroleum products. Spills of construction-related materials, such as paints, solvents or other fluids and chemicals, shall be cleaned up immediately and disposed of properly.
- Concrete trucks and other concrete coated equipment shall be cleaned only in designated concrete washout areas.
- Hazardous materials and wastes shall be stored in covered, leak-proof containers.
- When fueling must take place onsite, it shall be located within the Stabilized Staging Area. Fueling areas shall be protected from stormwater run-on and runoff and shall be a minimum of 50 feet away from drainage courses and inlets. The area is to be protected with secondary containment such as berms and dikes. Drop cloths or drain pans can be used to catch spills if necessary. If a small spill does occur, the operator shall use absorbent materials to remove as much of the spilled material as possible. The spent absorbent material shall be disposed of properly and promptly. There will be no bulk storage of fuel onsite.
- Portable toilets shall be located at least 50 feet away from storm sewer inlets. They shall be located in level locations, but not in drainage paths, swales, curb and gutter or on sidewalks or drives. They shall also be stabilized to minimize the risk of tipping over. Downstream perimeter controls, consisting of a 6" high containment earth berm, shall be installed to prevent leaks from entering the storm sewer system.

### **Spill Prevention and Control Plan**

Whenever significant quantities of fuels, materials, vehicle fluids, or other pollutants are to be used on site, specific procedures for material containment and spill prevention shall be developed and implemented and shall meet the requirements of El Paso County and CDPHE.

## **Materials On-Site**

Spill control procedures will be implemented when materials are stockpiled or when chemicals and/or fluids are used in the construction area.

## **Stockpiles of Dry Materials**

The following spill prevention procedures shall be implemented:

All materials shall be stockpiled in designated areas, with CCMs used to reduce and minimize the runoff of contaminants. CCMs such as silt fence and sediment control logs will be installed according to County criteria using the details shown in the Erosion Control plans. Loading and unloading operations shall be performed in a manner to limit materials from being spilled. Any spilled materials shall be swept up immediately after the operations are performed.

## **Vehicle Fueling**

The following spill prevention procedures shall be implemented:

All vehicle fueling will be done off-site as much as possible. All on-site fueling operations, if required, will be performed in the Stabilized Staging Area. Measures will be taken where necessary to reduce and minimize spills during vehicle fueling operations. These measures may include the placement of a temporary berm around the fueling area, covering the fueling area under a temporary portable structure, and/or the placement of drip pans under valves and tank openings. Berms will be constructed around all fueling areas. An adequate supply of absorbents will also be stockpiled at each fueling area.

## **Routine Vehicle and Equipment Maintenance**

The following spill prevention procedures shall be implemented:

All vehicle maintenance will be performed off-site when possible. However, there may be occasions where construction equipment and vehicles may break down at the site and on-site repairs are more feasible. On-site vehicle and equipment maintenance, if needed, will be performed in designated areas, where practical, and enclosed by earthen berms. All maintenance areas will maintain an adequate supply of drip pans. These pans will be placed underneath vehicles as needed and absorbents will be used in the event of a minor spill or leak.

## **Spill Response**

**NOTE: IN CASE OF FIRE, EVACUATE ALL PERSONNEL FROM THE IMMEDIATE AREA, RENDER FIRST AID TO ANYONE WHO IS INJURED, AND DIAL 911 IMMEDIATELY. TAKE APPROPRIATE STEPS TO PROTECT HUMAN LIFE AND TO CONTROL FIRES FIRST. SPILL CONTROL IS A SECONDARY CONCERN.**

### **Cleanup and Removal Procedures**

- Upon detection of any spill, the first action to be taken is to ensure personal safety. All possible ignition sources, including running engines, electrical equipment (including cellular telephones, etc.), or other hazards will be immediately turned off or removed from the area. The extent of the spill and the nature of the spilled material will be evaluated to determine if remedial actions could result in any health hazards, escalation of the spill, or further damage that would intensify the problem. If such conditions exist, a designated employee will oversee the area of the spill and the construction supervisor will be notified immediately.
- The source of the spill will be identified and if possible the flow of pollutants stopped if it can be done safely. However, no employee will attend to the source or begin cleanup of the spill until ALL emergency priorities (fire, injuries, etc.) have been addressed.

### **Small Spills**

Small spills (usually <5 gallons) consist of minor quantities of gasoline, oil, anti-freeze, or other materials that can be cleaned up by a single employee using readily available materials.

The following procedures shall be used for cleanup of small spills:

1. Ensure personal safety, evaluate the spill, and if possible, stop the flow of pollutants.
2. Contain the spread of the spill using absorbents, portable berms, sandbags, or other available measures.
3. Spread absorbent materials on the area to soak up as much of the liquid as possible and to prevent or minimize infiltration into the soil.
4. Once the liquids have been absorbed, remove all absorbents from the spill and place the materials in a suitable storage container. On paved areas, wipe any remaining liquids from the surface and place the materials in a storage container. Do not spray or wash down the area using water. For open soil areas, excavate any contaminated soil as soon as possible and place the soil in a suitable storage container. All materials will then be transported off-site for disposal.

5. If immediate transfer and storage of the contaminated soil is not practical, excavate and place the contaminated soil on a double thickness sheet of 3-mil or higher polyethylene film. In addition, a small berm should be formed around the outer edges of the soil stockpile, underneath the polyethylene film, to ensure that contaminants are not washed from the site during precipitation events and that materials do not seep through the berm.
6. Record all significant facts and information about the spill, including the following:
  - Type of pollutant
  - Location
  - Apparent source
  - Estimated volume
  - Time of discovery
  - Actions taken to clean up spill
7. Notify the supervisor of the spill and provide the information from Item #6. The supervisor will then contact El Paso County.

### **Medium to Large Spills**

Medium to large spills consist of larger quantities of materials (usually >5 – 25 gallons) that are used on site that cannot be controlled by a single employee. Generally, a number of facility personnel will be needed to control the spill and a response may require the suspension of other facility activities.

The following procedure shall be used for the cleanup of medium to large spills:

1. Ensure personal safety, evaluate the spill, and if possible, stop the flow of pollutants.
2. Immediately dispatch a front-end loader or similar equipment to the spill and construct a berm or berms down gradient of the spill to minimize the spread of potential pollutants. On paved surfaces, portable berms, sandbags, booms, or other measures will be used to control the lateral spread of the pollutants.
3. When the spread of the spill has been laterally contained, contact the supervisor or designated facility employee and provide them information on the location, type, and amount of spilled material, and a briefing on the extent of the spread and measures undertaken to contain the contaminants.
4. Depending on the nature of the spill, mobilize additional resources as needed to contain the contaminants.
5. Cleanup will commence when the lateral spread has been contained and the notification to the supervisor has been made.
6. Freestanding liquid will be bailed or pumped into 55-gallon storage drums, steel tanks, or other suitable storage containers. When all the liquid has been removed

from the pavement or soil layer, absorbents will be applied to the surface and transferred to the storage containers when they have soaked up as much of the spill as possible.

7. On paved surfaces, the remaining contaminants will be removed to the extent possible, with rags, sweeping, or similar measures. The area of the spill will not be sprayed or washed down using water. Any contaminant soaked materials will be placed into the storage containers with the other absorbents.
8. The remaining contaminated soils will be excavated and loaded into a dump truck(s) for disposal off-site at a designated facility. If transport off-site is not immediately available, the remaining soils will be stockpiled on a double thickness sheet of 3-mil or higher polyethylene film. In addition, a small berm will be formed around the outer edges of the soil stockpile, underneath the polyethylene film, to ensure that contaminants are not washed from the site during precipitation and do not seep through the berm.
9. Record all significant facts and information about the spill, including the following:
  - Type of pollutant
  - Location
  - Apparent source
  - Estimated volume
  - Time of discovery
  - Actions taken to clean up spill
10. Provide the supervisor (or designated employee) with the information from Item #9. The supervisor will then contact El Paso County.

### **Spill Notification**

Notification to the Colorado Department of Public Health & Environment (CDPHE) is required if there is any release or suspected release of any substance, including oil or other substances that spill into or threaten State waters. Unless otherwise noted, notifications are to be made by the supervisor and only after emergency responses related to the release have been implemented. This will prevent misinformation and assures that notifications are properly conducted.

The notification requirements are as follows:

1. **Spills into/or Threatens State Waters:** Immediate notification is required for releases that occur beneath the surface of the land or impact or threaten waters of the State of threaten the public health and welfare. Notifications that will be made are:



- a. For any substance, regardless of quantity, contact CDPHE at 1-877-518-5608. State as follows:
    - i. Give you name.
    - ii. Give location of spill (name of city).
    - iii. Describe the nature of the spill, type of products, and estimate size of spill.
    - iv. Describe type of action taken thus far, type of assistance or equipment needed.
  - b. For any quantity of oil or other fluids, call the National Response Center at 1-800-424-8802. State as follows:
    - i. Give your name.
    - ii. Give location of spill (name of city and state).
    - iii. Describe the nature of the spill, type of product, and estimate size of spill.
    - iv. Describe type of action taken thus far, type of assistance or equipment needed.
2. **Reportable Quantity Spill on Land Surface**: Immediate notification is required of a release upon the land surface of an oil in quantity that exceeds 25 gallons, or of a hazardous substance that equals or exceeds 10 pounds or its reportable quantity under Section 101(14) of the Comprehensive Environmental Response, Compensation Liability Act (CERCLA) of 1980 as amended (40 CFR Part 302) and Section 329 (3) of the Emergency Planning and Community Right to Know Act of 1986 (40 CFR Part 355) whichever is less. This requirement does apply at a minimum to the substances listed in Table A below.

**TABLE A**

Substances Requiring Notification

<b>SUBSTANCE</b>	<b>REPORTABLE QUANTITY</b>
Motor Oil	25 Gallons
Hydraulic Oil	25 Gallons
Gasoline/Diesel Fuel	25 Gallons

The notification procedures to be followed are:

- a. Give your name.
- b. Give location of spill (name of city and state).
- c. Describe nature of the spill, type of product, and estimate size of spill.
- d. Describe type of action taken thus far, type of assistance or equipment needed.



- e. Give name of land owner
  - f. Specify department responsible for any facilities that may be impacted
3. Notification is not required for release of oil upon the land surface of 25 gallons or less that will not constitute a threat to public health and welfare, the environmental or a threat of entering the waters of the State.
  4. Notification, as required in paragraphs 1 and 2 above, will be made to the CDPHE using the 24-hour telephone number to report environmental spills. All information known about the release at the time of discovery is to be included, such as the time of occurrence, quantity and type of material, location and any corrective or clean-up actions presently being taken. Table B lists these phone numbers.

### Spill Response Contacts

**TABLE B**

Emergency Notification Contacts

<b>Name/Agency</b>	<b>Number</b>
Tri-Lakes Fire Department	911
El Paso County Police Department	911
Ambulance	911
Hospital	911
National Response Center	1-800-424-8802
CDPHE – Report Environmental Spills (24 hrs/day)	1-877-518-5608
Colorado Emergency Planning Committee	303-273-1622

It is the responsibility of the supervisor to contact the El Paso County, CDPHE, and/or the National Response Center.

- The National Response Center is to be contacted when a release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR 110, 4- DFR 117, or 40 CFR 302 occurs during a 24-hour period.
- Notification to the CDPHE is required if there is any release or suspected release of any material, including oil or hazardous substances that spill into or threaten state waters.

## Reports

The CDPHE requires written notification of a spill or discharge of oil or other substance that may cause pollution of the waters of the State of Colorado. A written report must be submitted to the Water Quality Control District (WQCD) within five days after becoming aware of the spill or discharge.

The CDPHE requires a written final report within 15 days for all releases of an oil or hazardous substance that require implementation of a contingency plan. The CDPHE may also require additional reports on the status of the clean up until any required remedial action has been complete.

Written notification of reports must contain at a minimum:

1. Date, time, and duration of the release.
2. Location of the release.
3. Person or persons causing and responsible for the release.
4. Type and amount of oil or substance released.
5. Cause of the release.
6. Environmental damage caused by the release.
7. Actions taken to respond, contain, and clean up the release.
8. Location and method of ultimate disposal of the oil or other fluids.
9. Actions taken to prevent a reoccurrence of the release.
10. Any known or anticipated acute or chronic health risks associated with the release.
11. When appropriate advice regarding medical attention necessary for exposed individuals.

## Project Completion

### Timing and Schedule

Construction for the project is expected to begin in January 2024. Initial work will include installation of CCM's and erosion protection measures. This will be followed by site grading and utility construction. Once grading has been completed curb and gutter, pans and other hardscape will be constructed. Building construction will occur concurrently with site work once the pad is ready; this is expected in March of 2024. Final stabilization and turnover is anticipated to occur in December of 2024. If conditions do not allow for vegetation and final landscaping erosion control CCM's shall remain in place until landscaping is finalized and stabilized.

Sequencing of construction activities should progress as rapidly as practical to minimize the amount of time that portions of the site are disturbed. Areas that will be inactive for more than 7 days will be surface roughened to reduce erosion potential, slow runoff velocity and promote infiltration. Inactive areas will be seeded with an approved temporary native seed mix within fourteen (14) calendar days after final grading and earth disturbance activities have been completed or when work is suspended for longer than thirty (30) days. However, seeding will not occur during the winter months when snow fall precludes planting

### Permanent Stabilization

Final stabilization of the site will occur when all walks and roads are paved, when all ground surface disturbing activities at the site have been completed and when a uniform vegetative cover has been established with a density of at least 70 percent of pre-disturbance levels or equivalent permanent physical erosion reduction methods have been employed.

Final stabilization practices for obtaining a vegetative cover should include following the permanent landscaping vegetation.

All temporary erosion and sediment control measures shall be removed and disposed within 30 days after final site stabilization is achieved or after the temporary measures are no longer needed, whichever occurs earliest, or as authorized by the local governing jurisdiction. Trapped sediment and disturbed soil areas resulting from the disposal of temporary measures must be returned to final grades and permanently stabilized to prevent further soil erosion.

Stormwater quality is mitigated in a water quality pond as defined in the The Rock Commerce Center Final Drainage report prepared by Redland. The pond provides a 41 hour release for the 80<sup>th</sup> percentile event from onsite tributary watersheds. The pond is sized in compliance with the El Paso County requirements.

## **Owner Inspection and Maintenance of Construction CCM's**

All temporary and permanent erosion and sediment control practices shall be maintained and repaired by the contractor during the construction phases as needed to ensure continued performance of their intended function. All disturbed surface areas are to be stabilized in accordance with the approved SWMP/Erosion Control Plan or approved amendments and shall be reviewed onsite by the SWMP Administrator.

The SWMP Administrator, or their representative, shall observe each CCM that is shown on the approved SWMP/Erosion Control Plan or approved amendments. This review shall include completing an Inspection Report (to be kept in Appendix C) for each review, to be signed by the SWMP Administrator. Any deviation from the approved plan shall be noted on the report. The reviewer shall especially note any CCM that is not in compliance with the approved plan/approved amendment. Deficiencies that are not immediately repairable should be reported to the construction superintendent, the owner, or their designee for instructions on how to proceed. The review shall also include recommended courses of action based on the field review. CCM's shall be reviewed in accordance with the CCM specifications and criteria listed in the plans.

### Inspection Frequency

Permittee shall self-inspect the site at least every 14 calendar days and within 24-hours after the end of any precipitation event or snowmelt event that results in runoff and causes surface erosion. Additionally, the designated GEC administrator must submit documentation of the self-inspections. These self-inspections must also be made available either physically or electronically at the construction site at all times throughout the duration of the project. For sites or portions of sites where construction activities have been completed and final stabilization measures installed but final stabilization has not yet been achieved, the GEC Administrator shall make a thorough inspection of their Control Measures at least once every month. The GEC Plan must be amended to indicate those areas where construction activities have been completed but final stabilization has not yet been achieved that will be inspected once a month Refer to the El Paso County Manual and the CCDPS General Permit for specific inspection frequency requirements throughout the various phases of construction. When construction activity is stopped, the Permittee shall notify the County and shall document the stoppage in the SWMP, stating the change in frequency of inspections and why the change (e.g. a particular phase was completed).

The following inspection guidelines and maintenance practices should be used to conduct walk around field inspections and to maintain erosion and sediment control CCM's:

- CCM's on the site shall match the SWMP
- CCM's detailed on the SWMP shall be installed
- CCM's shall be appropriately applied
- CCM's shall be installed correctly
- CCM's shall include the appropriate details associated with them
- Work practices shall be executed to preserve CCM installations
- Inspect for any releases or evidence of possible past off-site releases
- All measures will be maintained in good working order. If a repair is necessary, it will be initiated immediately.
- Built up sediment will be removed from the silt fence when it has reached one-third the height of the fence, or the silt fence is no longer functioning properly
- Built up sediment will be removed from structural CCM's when sediment has reached one half the height of the CCM, or the CCM is no longer functioning properly
- Silt fence will be inspected for depth of sediment, tears, to see if the fabric is securely attached to the fence posts, and to see that the fence posts are firmly in the ground

## References

### **REFERENCES**

1. *Drainage Criteria Manual Volumes 1 & 2*, El Paso County. October 2018.
2. *Engineering Criteria Manual*, El Paso County. October 2020.
3. *Colorado Department of Public Health and Environmental Guidelines, Water Quality Control Division*, Denver, Colorado, May 1995.



**Redland**  
WHERE GREAT PLACES BEGIN

720.283.6783 Office  
1500 West Canal Court  
Littleton, Colorado 80120  
[REDLAND.COM](http://REDLAND.COM)

## Appendix A - Vicinity Map and Soils Maps



**Redland**

WHERE GREAT PLACES BEGIN

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1500 West Canal Court  
Littleton, Colorado 80120

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## Appendix B - Permit, Certification, and Application Forms



## Appendix C - Inspection Report Forms, Activity Log, Photos

## Appendix D - CCM Details & SWMP Map

The following CCM's may be used during the construction of this project, but are not specifically required unless as indicated in the SWMP Narrative of this report and as shown on the SWMP Map