

**GRADING, EROSION AND STORMWATER
QUALITY CONTROL PLAN**

for

WINDERMERE FILING NO. 2

N. Marksheffel Road
El Paso County, Colorado

August 2022

PCD File No.: SP-22-003

Prepared For:

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**GRADING, EROSION AND STORMWATER QUALITY CONTROL PLAN
WINDERMERE**

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SOILS INFORMATION

SITE MAP

CONSTRUCTION STORMWATER SITE INSPECTION REPORT

1.0 STORMWATER QUALITY STATEMENT & OBJECTIVES

Stormwater quality best management practices shall be implemented to minimize soil erosion, sedimentation, increased pollutant loads and changed water flow characteristics resulting from land disturbing activity, to the maximum extent practicable, so as to minimize pollution of receiving waters.

Per Appendix A of the Colorado Department of Health, Water Quality Control Division's (the Division) "General Permit Application for Stormwater Discharge Associated with Construction Activities", the goal of the Stormwater Management Plan (SWMP) is:

"To identify possible pollutant sources that may contribute pollutants to stormwater, and identify Best Management Practices (BMPs) that, when implemented, will reduce or eliminate any possible water quality impacts. The SWMP must be completed and implemented at the time the project breaks ground, and revised if necessary as construction proceeds to accurately reflect the conditions and practices at the site."

This document is not intended to address training, site specific operational procedures, logistics, or other "means and methods" required to construct this project.

This document must be kept at the construction site at all times. Inspections are to be made at least every 14 days and after any precipitation event. El Paso County requires that the inspector be contacted 48 hours prior to initial and final inspections. An inspection log entry shall be completed with each inspection performed. The inspection log shall be kept with the SWMP. The conditions of the SWMP and General Permit for Stormwater Discharges associated with the construction activity will remain in effect until final stabilization is achieved, and a notice of inactivation is sent to CDPHE Stormwater Quality Division. All pertinent records must be kept for at least 3 years from the date the site is stabilized.

Drexel, Barrell & Co. has been retained to provide civil engineering services for the design of this project. Drexel, Barrell & Co. is not responsible for implementation and maintenance of the Stormwater Management Plan.

2.0 SITE DESCRIPTION

2.1 DESCRIPTION OF CONSTRUCTION ACTIVITIES

The project involves the development of Windermere Filing No. 2 in El Paso County, CO, a multi-family and commercial subdivision. The proposed development consists of approximately 4.9 acres of residential multi-family development (80 units) and 4.3 acres of commercial mini-warehouse storage. Overlot grading is proposed at this time, with detailed grading to come as the final site design progresses. The entire project area will be disturbed. The current area of disturbance is required to be updated by the Contractor on the SWMP as changes occur.

2.2 EXISTING SITE CONDITIONS

The site has recently been overlot graded and reseeded. 90% of the site is undeveloped as determined by visual site inspection. There are no stream crossings located within the project area.

2.3 ADJACENT AREAS

The site is bound on the west by Antelope Ridge Dr., on the north by the Windermere Filing No. 1 subdivision, on the east by Marksheffel Rd., and on the south by N. Carefree Cir. All of the construction activities are to take place on the site. The surrounding areas should not be affected by the land disturbing and stabilization activities.

2.4 SOILS

From the Natural Resources Conservation Service (NRCS), the soils on the site as mapped by the Soil Conservation Service (SCS) are of the Truckton sandy loam, which is a hydrologic soil group A soil. This soil has an erosion K factor of 0.28, which indicates that it has a moderate erosion potential. Hydrologic Soil Group A soils have a high infiltration rate when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission. Potential effects of soil erosion include compaction, loss of soil structure, nutrient degradation, soil salinity and increased sediment load downstream.

2.5 AREAS AND VOLUME STATEMENT

The project site consists of approximately 9.3 acres. Unadjusted overlot earthwork volumes within the construction site are approximately 18,000 CY of cut to fill.

2.6 CONTROLS AND MEASURES DURING CONSTRUCTION

Stabilization activities are anticipated to begin in the fall/winter of 2022. A construction schedule will be prepared by the contractor prior to land disturbing activities. Installation of stabilization measures will be completed in one phase. The general sequence of major construction activities is as follows:

1. Temporary Erosion Control Measures – Temporary erosion control measures, such as silt fence and construction of the vehicle tracking pad and staging area will be completed prior to any other large scale activity. The vehicle tracking pad will ensure a reduction of tracking of soil on and off the construction site. The staging area will house the materials, petroleum product storage (if any), trash dumpster, sanitary facilities and hazardous spill clean-up areas. These are all potential pollutants that are not sediment related.
2. Trash and Debris Removal – Existing trash and debris shall be removed from the site and hauled to designated receiving facility.
3. Site Clearing – The area to be disturbed for construction will be cleared and grubbed, as necessary to the perimeter of erosion control. The sequence of the areas to be cleared and grubbed are subject to the contractor's means and methods of construction of the site; however, the general plan is to work towards where the vehicle tracking pads are located in order to eliminate backtracking over areas that have already been completed.
4. Overlot Grading – Overlot grading will occur to bring the site to the proposed sub-grade elevations in paved areas, and to finished grade elevations in the landscape and detention areas. Spoils from the site will be removed from the site and hauled to a designated receiving facility or location.

5. Utility Installation – Utility installation will consist of water, sanitary sewer, electric, and telephone and natural gas service lines. Storm drain lines will also be installed. Utility locations will be obtained prior to commencement of construction activities.
6. Final Grading – The site will be brought to final elevations with the installation of the proposed paving and final blending to existing grades on the perimeter of the improvement area.
7. Permanent Re-vegetation – Erosion control blanket will be installed at all areas graded to a 3:1 slope and greater. Areas not paved will be re-vegetated and/or landscaped by the contractor or owner on an as-needed basis. Vegetation and stabilization of soil will aid in the trapping of sediment and reducing soil erosion.
8. Removal of Temporary BMP's – Temporary erosion control measures may be removed once the site has achieved final 70 percent of pre disturbance levels and vegetation cover is capable of reducing soil erosion. All permanent BMPs shall be cleaned and functioning before any temporary BMPs are removed.
9. Housekeeping – The best BMP for a job site is good housekeeping around the site. Routine site trash pickup and routine BMP inspection and maintenance are paramount for keeping a job site clean and tidy. All petroleum storage areas in the staging area should be checked daily for leaks. Any leaks shall be reported to the site foreman for clean up. All personnel on site for both the contractor and subcontractors should be briefed on spill cleanup and containment procedures. Employees shall also be briefed as to where the spill cleanup materials can be found if a spill should occur. The spill plan shall be produced by the general contractor for the project and remain onsite for the duration of the project. Contractor shall coordinate with the County to obtain the necessary contacts in the case that a spill occurs.

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

2.7 POTENTIAL POLLUTION SOURCES

Any substances with the potential to contaminate either the ground or ground surface water shall be cleaned up immediately following discovery, or contained until appropriate cleanup methods can be employed. Manufacturer's recommended methods for cleanup shall be followed, along with proper disposal methods. All waste and debris created by construction at the site or removed from the site shall be disposed of in accordance with all laws, regulations and ordinances of the Federal, State and local agencies. The following is a summary of potential pollution sources and their associated measures intended to minimize the risk of pollution for this project.

- 1) Disturbed and stored soils: Straw wattles/fiber rolls, straw bale check dams and gravel bag check dams.
- 2) Vehicle tracking and sediments: VTC and Street Sweeping
- 3) Vehicle and equipment maintenance and fueling: Spill prevention procedures.
- 4) Dust or particulate generation from earthmoving activities and vehicle movement: water trucks for site watering.
- 5) On site waste management of solid wastes (construction debris): Waste container placement, covering and disposal.
- 6) Worker trash and portable toilets: Container placement, covering and disposal.
- 7) Equipment repair or maintenance beyond normal fueling operations: Spill prevention procedures.

The following items are not anticipated to be potential pollution sources for this project:

- 1) Management of contaminated soils.
- 2) Outdoor storage of fertilizers, chemicals or potentially polluting construction material.

- 3) Dedicated asphalt or concrete batch plants.

2.8 NON-STORMWATER DISCHARGES

Non-stormwater discharges possibly encountered during construction may include: watering down of the site to minimize dust, construction staging area, and excess dirt storage during high winds to minimize wind erosion and water utilized in soil compaction efforts.

2.9 RECEIVING WATER

Runoff generated by the proposed project will be passed to the onsite storm sewer system and detention ponds prior to discharging into the existing storm sewer system that continues to Sand Creek to the south. The Extended Detention Basins will provide for both stormwater detention and water quality for the site.

3.0 SITE MAP

Attached as part of this plan is a Site Map (See Appendix C). The drawing identifies the following:

- 1) Project area boundary
- 2) Area used for staging area
- 3) Location of erosion control facilities or structures (BMP's)
- 4) Boundaries of 100-year floodplains (if applicable)

The following items may not be indicated on the attached drawings, but will be determined by the individual contractors prior to and during construction activities:

- 1) Areas used for storage of construction materials, soils, or wastes
- 2) Location of portable toilets and waste receptacles (required to be a minimum of 50 feet from state waters. They shall be adequately staked and cleaned on a weekly basis. They will be inspected daily for spills).

- 3) Location of additional BMP's that may become necessary as work progresses

These items shall be added to the Site Map by the Contractor.

4.0 BMP's FOR STORMWATER POLLUTION PREVENTION

Best management practices (BMPs) used throughout the site shall include: surface roughening, silt fence, inlet protection, vehicle tracking control, temporary sediment basins, straw bale check dams, mulching and reseeding and concrete washout.

4.1 EROSION CONTROL – STRUCTURAL PRACTICES

A list of the Structural BMP's for erosion and sediment control implemented on the site to minimize erosion and sediment are as follows. Refer to the SWMP Drawings for installation and maintenance requirements and location for each structural BMP.

- a) Concrete Washout Area (CWA): A shallow excavation with a small perimeter berm to isolate concrete truck washout operations.
- b) Erosion Control Blanket (ECB): Slopes steeper than or equal to 3 (horizontal) to 1 (vertical) shall be protected with an erosion control blanket.
- c) Inlet Protection (IP): Installed to filter stormwater before entering any watercourses.
- d) Temporary Sediment Basin (TSB): An impoundment that captures sediment laden runoff and releases it slowly, providing prolonged settling times to capture coarse and fine grained soil particles.
- e) Straw Bale Check Dams (CD): Consists of straw bales designed to form a semi-porous filter able to withstand overtopping.
- f) Seeding and Mulching (SM): Temporary seeding and mulching can be used to stabilize disturbed areas that will be inactive for an extended period of time. Permanent seeding should be used to stabilize areas at final grade that will not otherwise be stabilized.
- g) Silt Fence (SF): A temporary sediment barrier constructed of woven fabric stretched across supporting posts.

- h) Stabilized Staging Area (SSA): Consists of stripping the topsoil and spreading a layer of granular material in the area to be used for a trailer, parking, storage, unloading and loading.
- i) Temporary Stockpile Areas (SP): Temporary stockpiles of excess excavated material and stockpiles for imported materials. Slopes shall not be steeper than 3 to 1.
- j) Vehicle Tracking Control (VTC): Consists of a rock pad that is intended to help strip mud from tires prior to vehicles leaving the construction site. Installed at all entrance/exit points to the site. The number of access points shall be minimized.
- k) Full-spectrum Extended Detention Basin: There is an existing EDB on site, in the southeast corner of the site, that is designed to capture the flows produced by a rainfall event, then provide water quality before slowly releasing the flows back into the existing storm sewer system.

Minimal clearing and grubbing may be necessary prior to installing the initial erosion control features.

No clearing, grading, excavation, filling or other land disturbing activities shall be permitted until signoff and acceptance of the Grading and Erosion Control Plan is received from the County.

Once signoff and acceptance is received the approved erosion and sediment control measures must be installed before land-disturbing activities are initiated so that no adverse effect of site alteration will impact surrounding property.

4.2 EROSION CONTROL – NON-STRUCTURAL PRACTICES

Non-structural practices for erosion and sediment control to be used to minimize erosion and sediment transport are:

- a) Seeding and mulching and landscape installation in areas that will not be hard surfaced, while minimizing the amount of vegetation to be removed during construction, leaving native vegetation in place when possible.

- b) Street sweeping around the construction site will be utilized when tracking of mud occurs on paved streets. The sweeping will be required after any significant tracking has occurred; significant meaning any visible amount that cannot be completely cleaned by hand. The adjacent offsite paved drive surfaces will be cleaned at the end of each day of construction activities. Sweeping efforts will continue as necessary until construction operations are completed.

4.3 MATERIALS HANDLING & SPILL PREVENTION

The SWMP administrator will inspect daily to ensure proper use and disposal of materials on site including building materials, paints, solvents, fertilizers, chemicals, waste materials and equipment maintenance or fueling procedures. All materials stored onsite will be stored in a neat and orderly manner in the original containers with the original manufacturer's label, and if possible under a roof or other enclosure to prevent contact with stormwater. Chemicals should be stored within berms or other secondary containment devices to prevent leaks and spills from contacting stormwater runoff. Before disposing of the container, all of a product will be used up whenever possible and manufacturer's recommendations for proper disposal will be followed according to state and local regulations.

Material and equipment necessary for spill cleanup will be kept in the material storage area on site. Manufacturer's recommendations for spill cleanup will be posted and site personnel will be made aware of the procedures along with the location of the information and cleanup supplies.

The contractor shall have spill prevention and response procedures that include the following:

- a) Notification procedures to be used in the event of an accident. At the very least, the SWMP administrator should be notified. Depending on the nature of the spill and the material involved, the Colorado Department of Public Health and Environment (24-hour spill reporting line (877) 518-5608), downstream water users or other agencies may also need to be informed.
- b) Instructions for clean up procedures and identification of spill kit location(s).

- c) Provisions for absorbents to be made available for use in fuel areas and for containers to be available for used absorbents.
- d) Procedures for properly washing out concrete truck chutes and other equipment in a manner and location so that the materials and wash water cannot discharge from the site and never into a storm drain system or stream.

4.4 DEDICATED CONCRETE OR ASPHALT BATCH PLANTS

No dedicated concrete or asphalt batch plants will be used.

4.5 GROUNDWATER & STORMWATER DEWATERING

In the event that groundwater is encountered or stormwater enters an excavation and dewatering is necessary, a separate CDPHE construction discharge (dewatering) permit will be required for groundwater dewatering and shall be obtained by the SWMP administrator. During groundwater or stormwater dewatering, locations and practices to be implemented to control stormwater pollution from excavations, etc., must be noted on the SWMP. Construction dewatering cannot be discharged to surface water or to storm sewer systems without separate permit coverage. The discharge of Construction Dewatering water to the ground, under specific conditions, may be allowed by the Stormwater Construction Permit when appropriate BMP's are implemented. Refer to USDCM Volume III (UDFCD) for County acceptable means of dewatering.

5.0 TIMING SCHEDULE

The project is anticipated to begin construction in the Fall of 2024 and be completed by fall/winter of 2025. The contractor shall be responsible for producing a schedule that will show at a minimum: start and completion times including site grading operations, utility construction and the removal of the temporary erosion and sediment control measures.

6.0 FINAL STABILIZATION AND LONG-TERM STORMWATER MANAGEMENT

Final stabilization shall not be considered complete until 70% of new vegetated cover is established on areas not to be hard-surfaced. Temporary sediment and erosion control measures listed in Section 4.0 installed prior to the construction phase will remain in place until this time. Any sediment that collects within the site's drainage system is

considered unstabilized soil and must be removed prior to the site being considered finally stabilized.

At final stabilization, stormwater pollutants will be controlled by on site landscaping and by the detention and water quality facilities located at the north end of the site and southeast corner.

7.0 INSPECTION AND MAINTENANCE

A site inspection of all erosion control facilities will be conducted by the Qualified Stormwater Manager every 14 days and within 24 hours after every precipitation event or snowmelt event that causes surface erosion. The entrance to the construction site shall be inspected daily and existing street cleaned, as necessary, of all materials tracked out of the site.

The construction site perimeter, disturbed areas, and areas used for material storage that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. Erosion and sediment control measures identified in the SWMP shall be observed to ensure that they are operating correctly.

All temporary and permanent erosion and sediment control facilities shall be maintained and repaired per manufacturer's specifications to assure continued performance of their intended function. Repairs should be completed within 24 to 48 hours. Silt fences may require periodic replacement.

Based on the results of the inspection, the description of potential pollutant sources and the pollution prevention and control measures that are identified in this plan shall be revised and modified as appropriate as soon as practicable after such inspection. Modification to control measures shall be implemented in a timely manner, but in no case more than seven (7) calendar days after the inspection.

The Qualified Stormwater Manager shall be responsible for documenting inspections, maintaining records and signing the inspection logs. Uncontrolled releases of mud or muddy water or measurable quantities of sediment found off the site shall be recorded with a brief explanation as to the measures taken to prevent future releases as well as

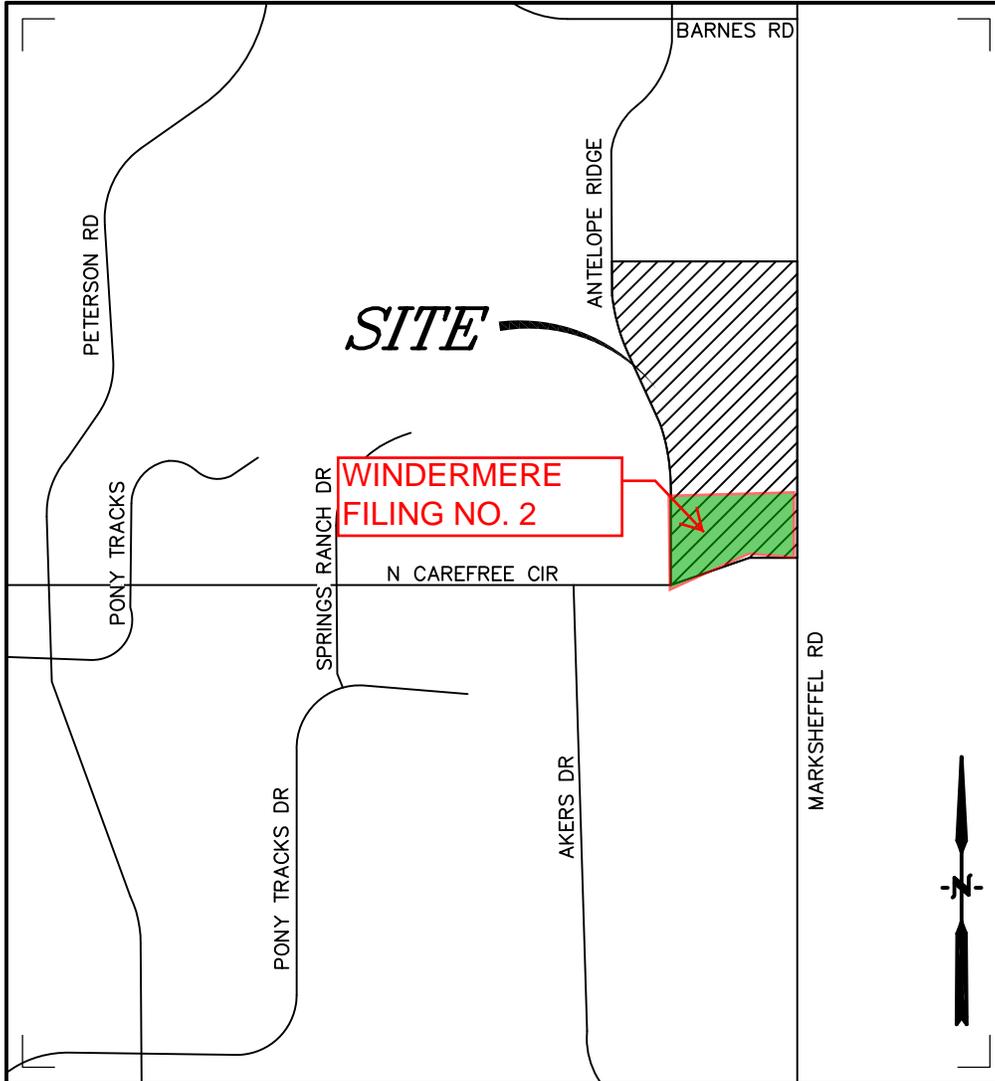
any measure taken to clean up the sediment that has left the site. All signed inspection record/logs should be kept on site and made available to the El Paso County or CDPHE personnel upon request. Per ECM Appendix I.5, all inspections will be performed by the Qualified Stormwater Manager. The Qualified Stormwater Manager shall have documentation of their credentials (PE, certified erosion control inspector/specialist, certified in a City-approved inspection training program, etc.), which will be provided and attached to the SWMP once the Qualified Stormwater Manager has been determined.

The inspection logs shall be kept with the SWMP onsite (the exact location is TBD). This document is to be viewed as a "living document" and shall be updated regularly and kept currently accurate. It is to be revised and maintained in order to evaluate and manage the ongoing stormwater quality issues at the site. The Qualified Stormwater Manager shall amend the SWMP when there is a change in design, construction, operation or maintenance of the site which would require the implementation of new or revised BMPs or if this document proves to be ineffective in achieving the general objectives of controlling pollutants in stormwater discharges associated with construction activity of when BMPs are no longer necessary and are removed

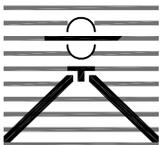
8.0 REFERENCES

- [1] General Permit Application and Stormwater Management Plan Preparation Guidance for Stormwater Discharges Associated with Construction Activities. Prepared by the Colorado Department of Health, Water Quality Control Division. Revised 7/2009.
- [2] City of Colorado Springs– Drainage Criteria Manual, Volume 2 “Stormwater Quality Procedures and Best Management Practices (BMPs). November 1, 2002, amended August 10, 2010.
- [3] NRCS Web Soil Survey, www.websoilsurvey.nrcs.usda.gov

APPENDIX



Vicinity Map
Not to scale



**WINDERMERE
COLORADO SPRINGS, CO
VICINITY MAP**

Drexel, Barrell & Co.
Engineers • Surveyors

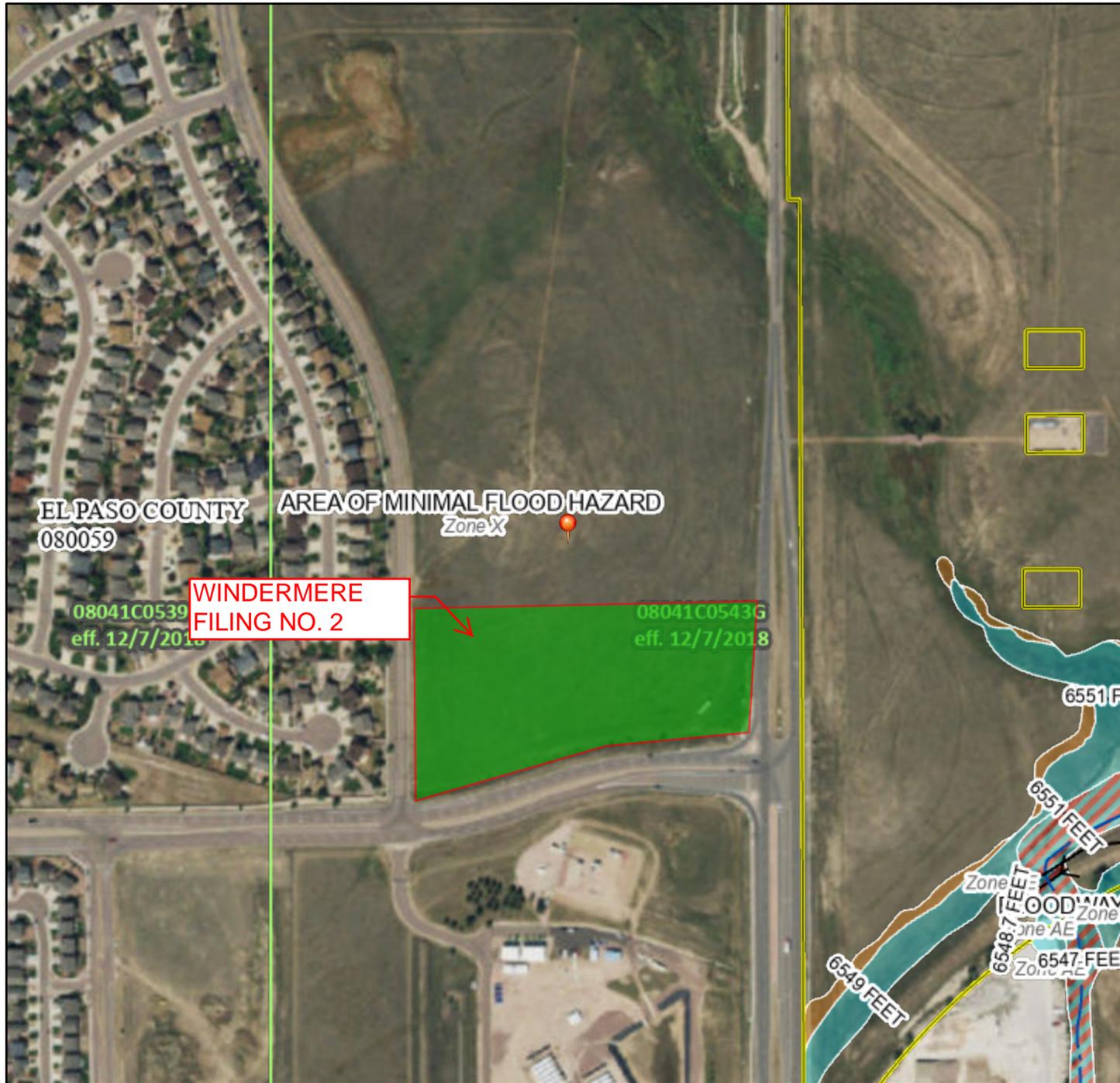
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21187-00CSCV

DWG. NO.
VMAP
PAGE 123
SHEET 1 OF 1

National Flood Hazard Layer FIRMMette



104°41'24"W 38°53'34"N



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

- | | | |
|------------------------------------|--|--|
| SPECIAL FLOOD HAZARD AREAS | | Without Base Flood Elevation (BFE)
<i>Zone A, V, A99</i> |
| | | With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i> |
| | | Regulatory Floodway |
| OTHER AREAS OF FLOOD HAZARD | | 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i> |
| | | Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i> |
| | | Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i> |
| | | Area with Flood Risk due to Levee <i>Zone D</i> |
| OTHER AREAS | | NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i> |
| | | Effective LOMRs |
| GENERAL STRUCTURES | | Area of Undetermined Flood Hazard <i>Zone D</i> |
| | | Channel, Culvert, or Storm Sewer |
| OTHER FEATURES | | Levee, Dike, or Floodwall |
| | | 20.2 Cross Sections with 1% Annual Chance Water Surface Elevation |
| MAP PANELS | | 17.5 Coastal Transect |
| | | Base Flood Elevation Line (BFE) |
| OTHER FEATURES | | Limit of Study |
| | | Jurisdiction Boundary |
| OTHER FEATURES | | Coastal Transect Baseline |
| | | Profile Baseline |
| OTHER FEATURES | | Hydrographic Feature |
| | | Digital Data Available |
| MAP PANELS | | No Digital Data Available |
| | | Unmapped |

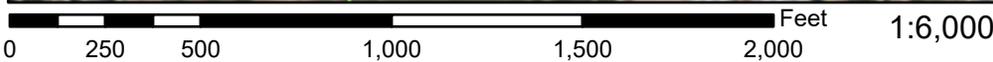


The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 9/8/2021 at 3:46 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

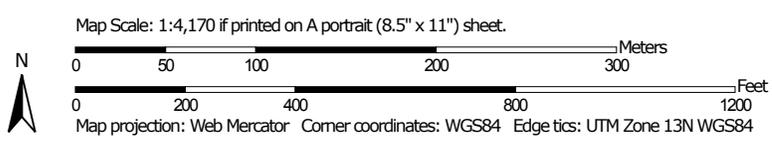


104°40'46"W 38°53'6"N

Hydrologic Soil Group—El Paso County Area, Colorado



Soil Map may not be valid at this scale.



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

Soil Rating Polygons

-  A
-  A/D
-  B
-  B/D
-  C
-  C/D
-  D
-  Not rated or not available

Soil Rating Lines

-  A
-  A/D
-  B
-  B/D
-  C
-  C/D
-  D
-  Not rated or not available

Soil Rating Points

-  A
-  A/D
-  B
-  B/D

-  C
-  C/D
-  D
-  Not rated or not available

Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: El Paso County Area, Colorado
 Survey Area Data: Version 15, Oct 10, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 15, 2011—Jun 17, 2014

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
97	Truckton sandy loam, 3 to 9 percent slopes	A	56.4	100.0%
Totals for Area of Interest			56.4	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

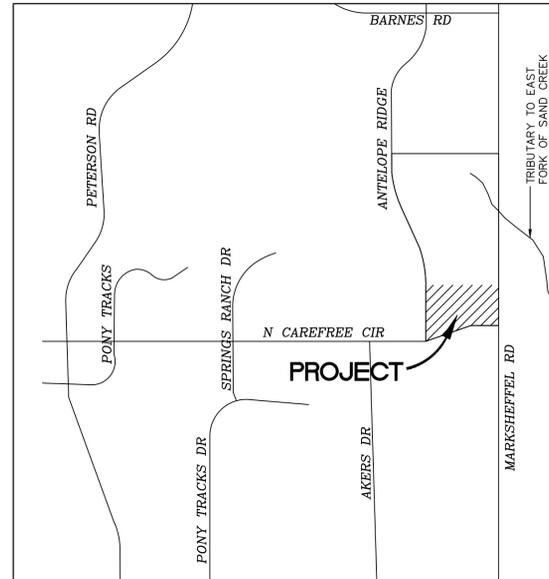
Component Percent Cutoff: None Specified



WINDERMERE FILING NO. 2

EROSION CONTROL AND STORMWATER QUALITY PLAN

E 1/2 OF SECTION 29, T13S, R65W OF THE 6TH P.M. EL PASO COUNTY, COLORADO



VICINITY MAP
NOT TO SCALE



AGENCY CONTACTS

<p>COUNTY EL PASO COUNTY PLANNING & COMMUNITY DEVELOPMENT KARI PARSONS, PROJECT MANAGER/PLANNER II 2880 INTERNATIONAL CIRCLE, SUITE 110 COLORADO SPRINGS, CO 80910 (719) 520-6300</p> <p>FIRE CIMARRON HILLS FIRE DEPARTMENT STEVE CONNER, FIRE CHIEF 1835 TUSKEGEE PL COLORADO SPRINGS, CO 80915 (719)591-0960</p> <p>WATER CHEROKEE METROPOLITAN DISTRICT JONATHAN SMITH, SUPERINTENDENT OF WATER & WASTEWATER 6250 PALMER PARK BLVD COLORADO SPRINGS, CO 80915 (719) 597-5080</p> <p>WASTEWATER CHEROKEE METROPOLITAN DISTRICT JONATHAN SMITH, SUPERINTENDENT OF WATER & WASTEWATER 6250 PALMER PARK BLVD COLORADO SPRINGS, CO 80915 (719) 597-5080</p>	<p>ELECTRIC MOUNTAIN VIEW ELECTRIC ASSOCIATION LES ULFERS 11140 E. WOODMEN ROAD FALCON, CO 80831 (719) 495-2283</p> <p>GAS COLORADO SPRINGS UTILITIES TODD STURTEVANT 1521 HANCOCK EXPRESSWAY COLORADO SPRINGS, CO 80947 (719) 668-3556</p> <p>TELEPHONE CENTURY LINK PATTY MOORE (719) 636-6096 (LOCATORS) (719) 597-8418 AT&T (LOCATORS) (719) 635-3674</p> <p>CABLE COMCAST DALE STEWART 213 N. UNION BLVD COLORADO SPRINGS, CO 80909 (719) 442-4733</p>
--	---

ESTIMATED COST OF TEMPORARY + PERMANENT BMPs INCLUDING INSTALLATION AND MAINTENANCE UNTIL FINAL STABILIZATION (FINAL + INTERIM STAGE)

Description	Quantity	Units	Unit Cost	Total	(with Pre-Plant Construction)	
					% Complete	Remaining
SECTION 1 - GRADING AND EROSION CONTROL (Construction and Permanent BMPs)						
* Earthwork:						
less than 1,000; \$5,300 min		CY	\$ 8.00	\$ -		\$ -
1,000-5,000; \$8,000 min		CY	\$ 9.00	\$ -		\$ -
5,001-20,000; \$30,000 min	18,000	CY	\$ 5.00	\$ 90,000.00		\$ 90,000.00
20,001-50,000; \$100,000 min		CY	\$ 3.50	\$ -		\$ -
50,001-200,000; \$175,000 min		CY	\$ 2.50	\$ -		\$ -
greater than 200,000; \$500,000 min		CY	\$ 2.00	\$ -		\$ -
* Permanent Seeding (inc. noxious weed mgmt.)		AC	\$ 828.00	\$ -		\$ -
* Mulching		AC	\$ 777.00	\$ -		\$ -
* Permanent Erosion Control Blanket		SY	\$ 6.00	\$ -		\$ -
* Permanent Pond/EMP Construction (south)		CY	\$ 21.00	\$ -		\$ -
* Permanent Pond/EMP (north - see attached estimate)		EA	\$ -	\$ -		\$ -
* Permanent Pond/EMP (south - see attached estimate)		EA	\$ -	\$ -		\$ -
Safety Fence		LF	\$ 3.00	\$ -		\$ -
Temporary Erosion Control Blanket		SY	\$ 3.00	\$ -		\$ -
Vehicle Tracking Control	1	EA	\$ 2,453.00	\$ 2,453.00		\$ 2,453.00
Silt Fence	1,265	LF	\$ 2.60	\$ 3,289.00		\$ 3,289.00
Temporary Seeding	9	AC	\$ 850.00	\$ 5,850.00		\$ 5,850.00
Temporary Mulch	9	AC	\$ 777.00	\$ 6,993.00		\$ 6,993.00
Erosion Bales	90	EA	\$ 26.00	\$ 2,340.00		\$ 2,340.00
Erosion Logs/Straw Waddle		LF	\$ 5.00	\$ -		\$ -
Rock Check Dams		EA	\$ 518.00	\$ -		\$ -
Inlet Protection	6	EA	\$ 173.00	\$ 1,038.00		\$ 1,038.00
Sediment Basin		EA	\$ 1,824.00	\$ -		\$ -
Concrete Washout Basin		EA	\$ 932.00	\$ -		\$ -
Pond outlet pipe replacement		EA	\$ 2,000.00	\$ -		\$ -
<i>(insert items not listed but part of construction plans)</i>						
MAINTENANCE (35% of Construction BMPs)				\$ 7,687.05		\$ 7,687.05
Section 1 Subtotal				\$ 119,650.05		\$ 119,650.05

* Subject to defect warranty/financial assurance. A minimum of 20% shall be retained until final acceptance (MAXIMUM OF 90% COMPLETE ALLOWED).

SHEET INDEX

CVR	COVER SHEET
NTS	NOTES
EC1	INITIAL GEC PLAN
EC2	INTERIM GEC PLAN
EC3	FINAL GEC PLAN
DT1	EROSION CONTROL DETAILS
DT2	EROSION CONTROL DETAILS

DESIGN ENGINEER'S STATEMENT

THIS GRADING AND EROSION CONTROL PLAN WAS PREPARED UNDER MY DIRECTION AND SUPERVISION AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. SAID PLAN HAS BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR GRADING AND EROSION CONTROL PLANS. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARING THIS PLAN.

TIM D. MCCONNELL DATE
P.E.# 33797

OWNER'S STATEMENT

I, THE OWNER/DEVELOPER HAVE READ AND WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN

JAMES TODD STEPHENS DATE
OWNER

EL PASO COUNTY

COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH THE APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT.

FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA MANUAL VOLUMES 1 AND 2, AND ENGINEERING CRITERIA MANUAL, AS AMENDED.

IN ACCORDANCE WITH EGM SECTION 1.12, THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY THE EL PASO COUNTY ENGINEER. IF CONSTRUCTION HAS NOT STARTED WITHIN THOSE 2 YEARS, THE PLANS WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF REVIEW FEES AT THE PLANNING AND COMMUNITY DEVELOPMENT DIRECTOR'S DISCRETION.

JOSHUA PALMER, P.E. DATE
COUNTY ENGINEER

PREPARED BY:

DREXEL, BARRELL & CO.
Engineers • Surveyors
3 SOUTH 7TH STREET
COLORADO SPGS, COLORADO 80905
CONTACT: TIM D. MCCONNELL, P.E.
(719)260-0887
BOULDER • COLORADO SPRINGS • GREELEY

CLIENT:

COLO WINDERMERE #2, LLC
4164 AUSTIN BLUFFS FWY, #361
COLORADO SPRINGS, CO 80918
(719) 200-9594
CONTACT: JAMES TODD STEPHENS

WINDERMERE FILING 2
GRADING & EROSION CONTROL
N. MARKSHEFFEL ROAD
EL PASO COUNTY, COLORADO

ISSUE	DATE
INITIAL ISSUE	4/1/22
RESUBMITTAL	11/30/23

DESIGNED BY: KGV
DRAWN BY: KGV
CHECKED BY: TDM
FILE NAME: 21187-03ECCV

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF DREXEL, BARRELL & CO.

DRAWING SCALE:
HORIZONTAL: N/A
VERTICAL: N/A

COVER SHEET

PROJECT NO. 21187-03CSCV
DRAWING NO.

CVR

PREPARED BY:

DREXEL, BARRELL & CO.
 Engineers • Surveyors
 3 SOUTH 7TH STREET
 COLORADO SPGS, COLORADO 80905
 CONTACT: TIM D. McCONNELL, P.E.
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WINDERMERE FILING 2
GRADING & EROSION CONTROL
 N. MARKSHEFFEL ROAD
 EL PASO COUNTY, COLORADO

ISSUE	DATE
INITIAL ISSUE	4/1/22
RESUBMITTAL	11/30/23

DESIGNED BY:	KGV
DRAWN BY:	KGV
CHECKED BY:	TDM
FILE NAME:	21187-03EC1

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF
DREXEL, BARRELL & CO.

DRAWING SCALE:
 HORIZONTAL: 1" = 50'
 VERTICAL: N/A

INITIAL EROSION CONTROL PLAN

PROJECT NO. 21187-03CSCV
 DRAWING NO.

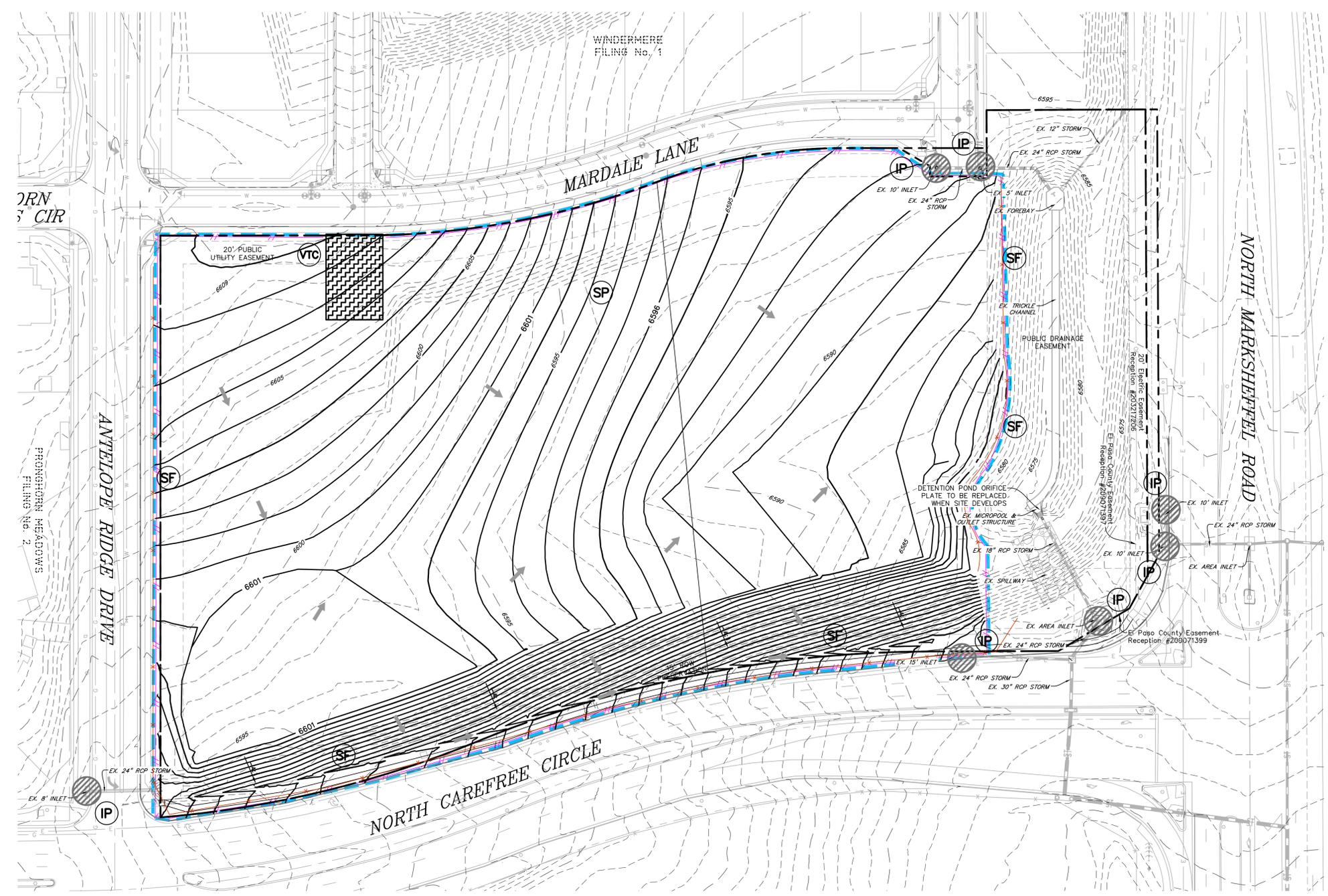
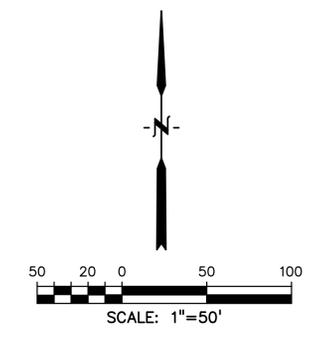
EC1

SHEET: # OF 6

LEGEND

- PROPOSED INTERMEDIATE CONTOUR 5522
- PROPOSED INDEX CONTOUR 5520
- EX. INTERMEDIATE CONTOUR 5364
- EX. INDEX CONTOUR 5365
- DIRECTION OF FLOW ←
- HIGH POINT HP
- LOW POINT LP
- PROPOSED INLET [Symbol]
- PROPOSED MANHOLE [Symbol]
- LIMITS OF DISTURBANCE/
CONSTRUCTION SITE BOUNDARY [Symbol]
- CUT/FILL LINE [Symbol]
- INITIAL STOCKPILE [Symbol]
- INITIAL INLET PROTECTION [Symbol]
- INITIAL SILT FENCE [Symbol]
- INITIAL CONSTRUCTION FENCE [Symbol]
- INITIAL VEHICLE TRACKING CONTROL [Symbol]
- INITIAL STABILIZED STAGING AREA
TO BE LOCATED BY CONTRACTOR [Symbol]

- NOTES:
- WASTE DISPOSAL BIN LOCATIONS ARE TBD AND WILL BE ADDED TO THE SWMP ONCE DETERMINED BY THE CONTRACTOR.
 - ONSITE LOCATION OF THE SSA IS TBD AND WILL BE ADDED TO THE SWMP ONCE DETERMINED BY THE CONTRACTOR.
 - THE NEED FOR DEWATERING IS NOT ANTICIPATED. IN THE EVENT THAT DEWATERING BECOMES NECESSARY THE CONTRACTOR, WITH INPUT FROM THE COUNTY STORMWATER INSPECTOR, WILL DESIGN THE LOCATIONS OF DIVERSION, PUMP & DISCHARGES.
 - NO BATCH PLANTS WILL BE UTILIZED ONSITE.



811 Know what's below.
 Call before you dig.
 CALL 3-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

COUNTY FILE NO.: SP-22-003

PREPARED BY:

DREXEL, BARRELL & CO.
 Engineers • Surveyors
 3 SOUTH 7TH STREET
 COLORADO SPGS, COLORADO 80905
 CONTACT: TIM D. MCCONNELL, P.E.
 (719)260-0887
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CLIENT:
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 COLORADO SPRINGS, CO 80918
 (719) 200-9594
 CONTACT: JAMES TODD STEPHENS

WINDERMERE FILING 2
GRADING & EROSION CONTROL
 N. MARKSHEFFEL ROAD
 EL PASO COUNTY, COLORADO

ISSUE	DATE
INITIAL ISSUE	4/1/22
RESUBMITTAL	11/30/23

DESIGNED BY: KGV
 DRAWN BY: KGV
 CHECKED BY: TDM
 FILE NAME: 21187-03EC1

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF
DREXEL, BARRELL & CO.

DRAWING SCALE:
 HORIZONTAL: 1" = 50'
 VERTICAL: N/A

INTERIM EROSION CONTROL PLAN

PROJECT NO. 21187-03CSCV
 DRAWING NO.

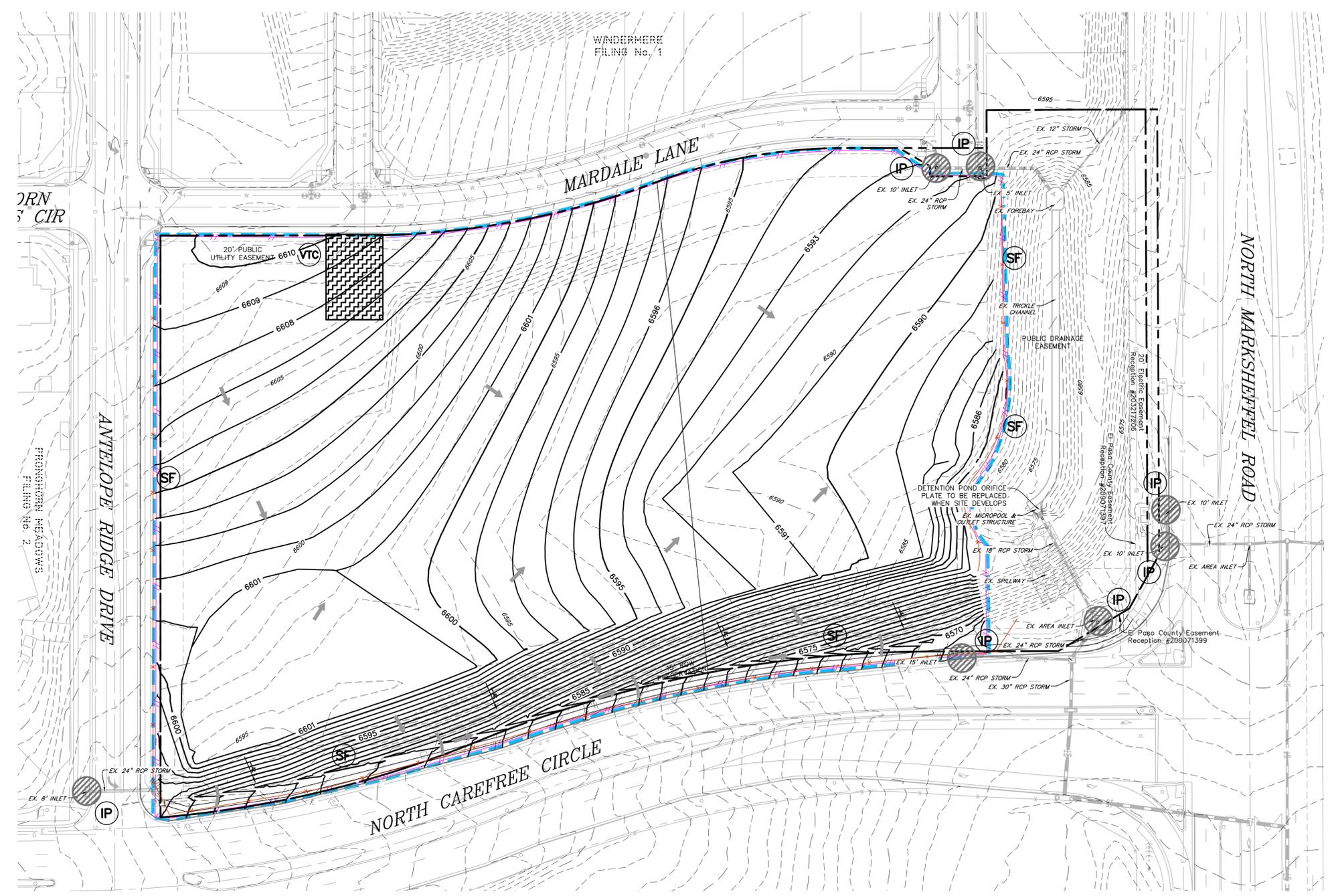
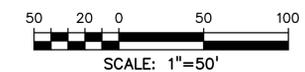
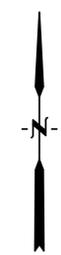
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SHEET: # OF 6

LEGEND

- PROPOSED INTERMEDIATE CONTOUR 5522
- PROPOSED INDEX CONTOUR 5520
- EX. INTERMEDIATE CONTOUR 5364
- EX. INDEX CONTOUR 5365
- DIRECTION OF FLOW ←
- HIGH POINT HP
- LOW POINT LP
- PROPOSED INLET [Symbol]
- PROPOSED MANHOLE [Symbol]
- LIMITS OF DISTURBANCE/ CONSTRUCTION SITE BOUNDARY [Symbol]
- INTERIM INLET PROTECTION [Symbol]
- INTERIM SILT FENCE [Symbol]
- INTERIM CONSTRUCTION FENCE [Symbol]
- INTERIM VEHICLE TRACKING CONTROL [Symbol]
- INTERIM STRAW BALE CHECK DAM [Symbol]
- INTERIM STABILIZED STAGING AREA TO BE LOCATED BY CONTRACTOR [Symbol]

- NOTES:
- WASTE DISPOSAL BIN LOCATIONS ARE TBD AND WILL BE ADDED TO THE SWMP ONCE DETERMINED BY THE CONTRACTOR.
 - ONSITE LOCATION OF THE SSA IS TBD AND WILL BE ADDED TO THE SWMP ONCE DETERMINED BY THE CONTRACTOR.
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 - NO BATCH PLANTS WILL BE UTILIZED ONSITE.
 - THE DETENTION FACILITY IS TO BE CHECKED FOR SEDIMENT AND CLEANED ON A MONTHLY BASIS AND AFTER EVERY RAIN EVENT.



COUNTY FILE NO.: SP-22-003

PREPARED BY:

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 3 SOUTH 7TH STREET
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**WINDERMERE FILING 2
 GRADING & EROSION CONTROL**
 N. MARKSHEFFEL ROAD
 EL PASO COUNTY, COLORADO

ISSUE	DATE
INITIAL ISSUE	4/1/22
RESUBMITTAL	11/30/23
DESIGNED BY:	KGV
DRAWN BY:	KGV
CHECKED BY:	TDM
FILE NAME:	21187-03EC1

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF DREXEL, BARRELL & CO.

DRAWING SCALE:
 HORIZONTAL: 1" = 50'
 VERTICAL: N/A

**FINAL
 EROSION CONTROL
 PLAN**

PROJECT NO. 21187-03CSCV
 DRAWING NO.

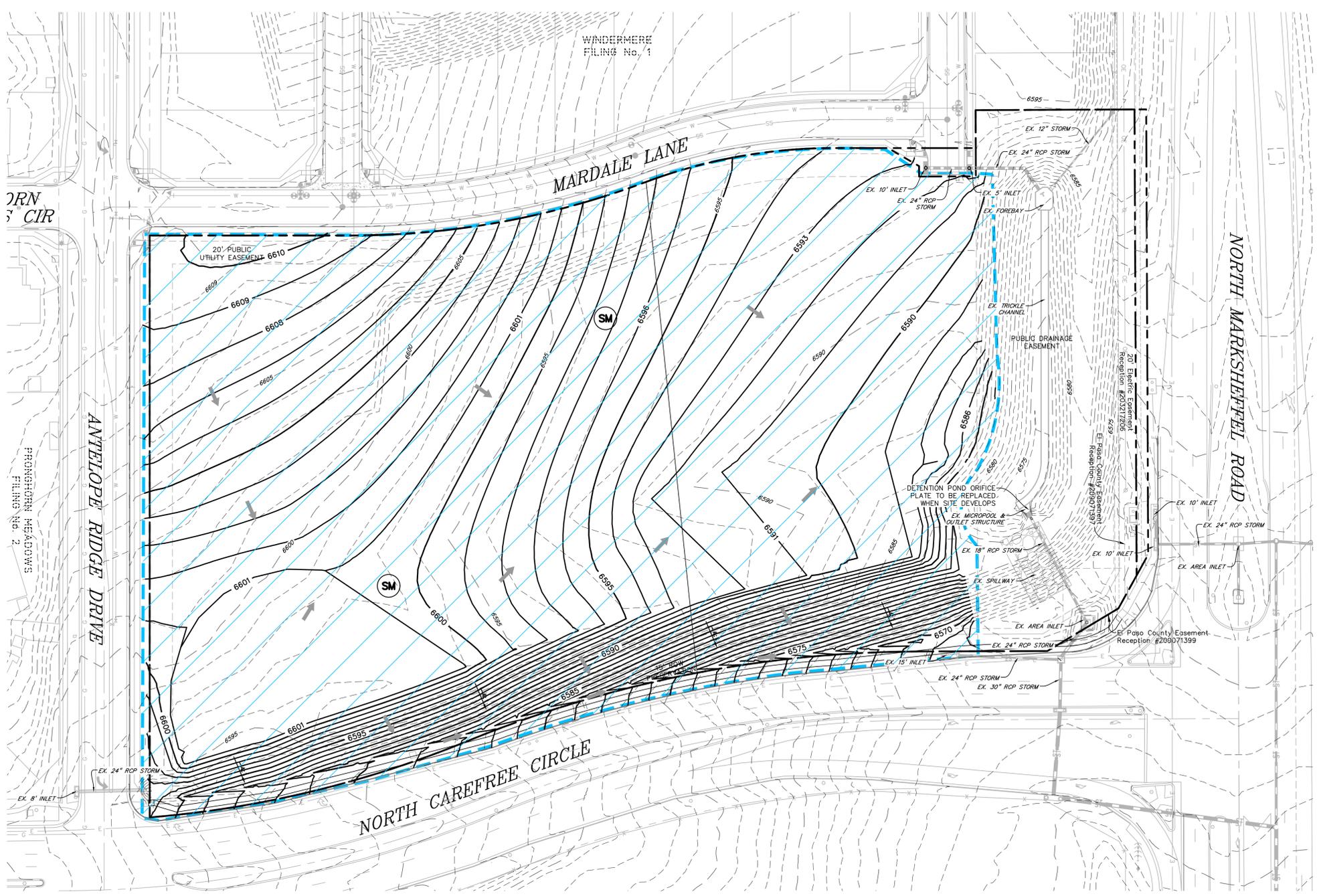
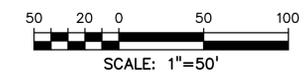
EC2

SHEET: # OF 6

LEGEND

- PROPOSED INTERMEDIATE CONTOUR 5522
- PROPOSED INDEX CONTOUR 5520
- EX. INTERMEDIATE CONTOUR 5364
- EX. INDEX CONTOUR 5365
- DIRECTION OF FLOW ←
- HIGH POINT HP
- LOW POINT LP
- PROPOSED INLET ■
- PROPOSED MANHOLE ●
- LIMITS OF DISTURBANCE/
CONSTRUCTION SITE BOUNDARY ■■■■■
- FINAL SEEDING/MULCHING (SM) ■■■■■

- NOTES:
- WASTE DISPOSAL BIN LOCATIONS ARE TBD AND WILL BE ADDED TO THE SWMP ONCE DETERMINED BY THE CONTRACTOR.
 - ONSITE LOCATION OF THE SSA IS TBD AND WILL BE ADDED TO THE SWMP ONCE DETERMINED BY THE CONTRACTOR.
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 CALL 3-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

COUNTY FILE NO.: SP-22-003

PREPARED BY:



DREXEL, BARRELL & CO.
Engineers • Surveyors
3 SOUTH 7TH STREET
COLORADO SPGS, COLORADO 80905
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CONTACT: JAMES TODD STEPHENS

WINDERMERE FILING 2
GRADING & EROSION CONTROL
N. MARKSHEFFEL ROAD
EL PASO COUNTY, COLORADO

Table with 2 columns: ISSUE, DATE. Rows: INITIAL ISSUE (4/1/22), RESUBMITTAL (11/30/23)

DESIGNED BY: KGV
DRAWN BY: KGV
CHECKED BY: TDM
FILE NAME: 21187-03ECOT

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF DREXEL, BARRELL & CO.

DRAWING SCALE:
HORIZONTAL: N/A
VERTICAL: N/A

EROSION CONTROL DETAILS

PROJECT NO. 21187-03CSCV
DRAWING NO.

DT1

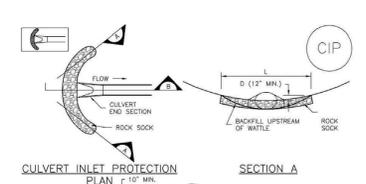
SHEET: 6 OF 6



Know what's below. Call before you dig.
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

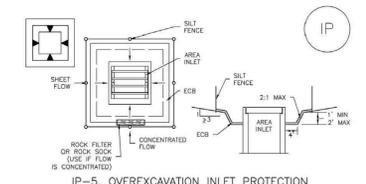
COUNTY FILE NO.: SP-22-003

SC-6 Inlet Protection (IP)



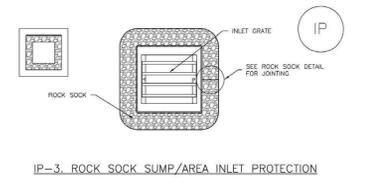
GENERAL INLET PROTECTION INSTALLATION NOTES
1. SEE PLAN VIEW FOR:
- LOCATION OF INLET PROTECTION
- TYPE OF INLET PROTECTION (IP-1, IP-2, IP-3, IP-4, IP-5, IP-6)
2. INLET PROTECTION SHALL BE INSTALLED PROMPTLY AFTER INLET CONSTRUCTION OR PAVING IS COMPLETE (TYPICALLY WITHIN 48 HOURS IF A RAINFALL/STORM EVENT IS FORECAST). INSTALL INLET PROTECTION PRIOR TO ONSET OF EVENT.
3. MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM USDO STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

SC-6 Inlet Protection (IP)



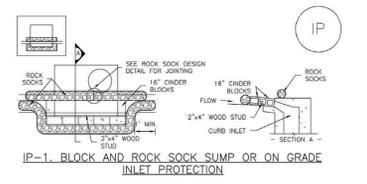
OVEREXCAVATION INLET PROTECTION INSTALLATION NOTES
1. THIS FORM OF INLET PROTECTION IS PRIMARILY APPLICABLE FOR SITES THAT HAVE NOT YET REACHED FINAL GRADE AND SHOULD BE USED ONLY FOR INLETS WITH A RELATIVELY SMALL CONTRIBUTING DRAINAGE AREA.
2. WHEN USING FOR CONCENTRATED FLOW, SHAPE BASIN IN 2:1 RATIO WITH LENGTH ORIENTED TRANSVERSE DIRECTION OF FLOW.
3. SEDIMENT MUST BE PERIODICALLY REMOVED FROM THE OVEREXCAVATED AREA.
CIP-1. CULVERT INLET PROTECTION
1. SEE PLAN VIEW FOR:
- LOCATION OF CULVERT INLET PROTECTION.
2. SEE ROCK SOCK DESIGN DETAIL FOR ROCK GRADATION REQUIREMENTS AND JOINTING DETAIL.

SC-6 Inlet Protection (IP)



ROCK SOCK SUMP/AREA INLET PROTECTION INSTALLATION NOTES
1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
2. STRAW MATS/SEDIMENT CONTROL LOSS MAY BE USED IN PLACE OF ROCK SOCKS FOR INLETS IN PREVIOUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL.
3. SEDIMENT MUST BE PERIODICALLY REMOVED FROM THE OVEREXCAVATED AREA.
IP-4. SILT FENCE FOR SUMP INLET PROTECTION
1. SEE SILT FENCE DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
2. POSTS SHALL BE PLACED AT EACH CORNER OF THE INLET AND AROUND THE EDGES AT A MAXIMUM SPACING OF 3 FEET.
3. STRAW MATS/SEDIMENT CONTROL LOSS MAY BE USED IN PLACE OF SILT FENCE FOR INLETS IN PREVIOUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL.

Inlet Protection (IP) SC-6

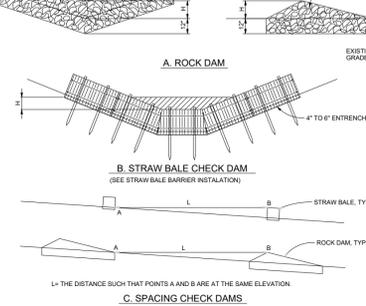


BLOCK AND CURB SOCK INLET PROTECTION INSTALLATION NOTES
1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
2. CONCRETE 'CINDER' BLOCKS SHALL BE Laid ON THEIR SIDES AROUND THE INLET IN A SHAPE NOW, JOINING ONE ANOTHER WITH THE OPEN END FACING AWAY FROM THE CURB.
3. GRAVEL BASE SHALL BE PLACED AROUND CONCRETE BLOCKS, CLOSELY ABUTTING ONE ANOTHER AND JOINED TOGETHER IN ACCORDANCE WITH ROCK SOCK DESIGN DETAIL.
IP-2. CURB ROCK SOCKS UPSTREAM OF INLET PROTECTION
1. SEE ROCK SOCK DESIGN DETAIL INSTALLATION REQUIREMENTS.
2. PLACEMENT OF THE SOCK SHALL BE APPROXIMATELY 30 DEGREES FROM PERPENDICULAR IN THE OPPOSITE DIRECTION OF FLOW.
3. SOCKS ARE TO BE FLUSH WITH THE CURB AND SPACED A MINIMUM OF 1/2 FEET APART.
4. AT LEAST TWO CURB SOCKS IN SERIES ARE REQUIRED UPSTREAM OF ON-GRADE INLETS.

SC-6 Inlet Protection (IP)

IP-1. BLOCK AND ROCK SOCK SUMP OR ON GRADE INLET PROTECTION
BLOCK AND CURB SOCK INLET PROTECTION INSTALLATION NOTES
1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
2. CONCRETE 'CINDER' BLOCKS SHALL BE Laid ON THEIR SIDES AROUND THE INLET IN A SHAPE NOW, JOINING ONE ANOTHER WITH THE OPEN END FACING AWAY FROM THE CURB.
3. GRAVEL BASE SHALL BE PLACED AROUND CONCRETE BLOCKS, CLOSELY ABUTTING ONE ANOTHER AND JOINED TOGETHER IN ACCORDANCE WITH ROCK SOCK DESIGN DETAIL.
IP-2. CURB ROCK SOCKS UPSTREAM OF INLET PROTECTION
1. SEE ROCK SOCK DESIGN DETAIL INSTALLATION REQUIREMENTS.
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3. SOCKS ARE TO BE FLUSH WITH THE CURB AND SPACED A MINIMUM OF 1/2 FEET APART.
4. AT LEAST TWO CURB SOCKS IN SERIES ARE REQUIRED UPSTREAM OF ON-GRADE INLETS.

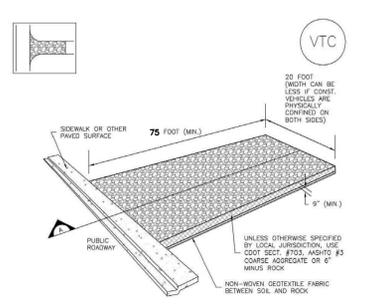
EC-12 Check Dams (CD)



CHECK DAM INSTALLATION NOTES
1. SEE PLAN VIEW FOR:
- LOCATION OF CHECK DAMS
- CHECK DAM TYPE (CHECK DAM OR REINFORCED CHECK DAM)
- LENGTH (L), CREST LENGTH (CL), AND DEPTH (D).
2. CHECK DAMS INDICATED ON INITIAL SWAMP SHALL BE INSTALLED AFTER CONSTRUCTION FINISH, BUT PRIOR TO ANY UPSTREAM LAND DISTURBING ACTIVITIES.
3. RIPRAP UTILIZED FOR CHECK DAMS SHOULD BE OF APPROPRIATE SIZE FOR THE APPLICATION. TYPICAL TYPES OF RIPRAP USED FOR CHECK DAMS ARE TYPE 'M' (D50 12") OR TYPE 'L' (D60 8").
4. RIPRAP PVD SHALL BE TRENCHED INTO THE GROUND A MINIMUM OF 1'.
5. THE ENDS OF THE CHECK DAM SHALL BE A MINIMUM OF 1' 6" HIGHER THAN THE CENTER OF THE CHECK DAM.
CHECK DAM MAINTENANCE NOTES
1. INSPECT BMPs EACH WORKDAY AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. SEDIMENT ACCUMULATED UPSTREAM OF THE CHECK DAMS SHALL BE REMOVED WHEN THE SEDIMENT DEPTH IS MORE THAN 1/2 OF THE HEIGHT OF THE CREST.
5. CHECK DAMS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.
6. WHEN CHECK DAMS ARE REMOVED, PLEASANTON SHALL BE FILLED WITH SUITABLE COMPACTED BACKFILL. DISTURBED AREA SHALL BE SEED, SOIL MULCHED, AND COVERED WITH GEOTEXTILE OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.
INSTALLATION REQUIREMENTS
1. STRAW BALES USED AS CHECK DAMS ARE TO MEET THE REQUIREMENTS STATED IN FIGURE CD-2.
2. THE 'W' DIMENSION SHALL BE SELECTED TO PROVIDE WEIR FLOW CONVEYANCE FOR 2 YEAR FLOW OR GREATER.
MAINTENANCE REQUIREMENTS
1. REGULAR INSPECTIONS ARE TO BE MADE OF ALL CHECK DAMS, ESPECIALLY AFTER STORM EVENTS.
2. REPLACE STONE AS NECESSARY TO MAINTAIN THE CORRECT HEIGHT OF THE DAM.
3. CHECK DAMS ARE TO REMAIN IN PLACE AND OPERATIONAL UNTIL THE DRAINAGE AREA AND CHANNEL ARE PERMANENTLY STABILIZED.
4. WHEN CHECK DAMS ARE REMOVED THE CHANNEL LINING OR VEGETATION IS TO BE RESTORED.

CHECK DAM NOTES
INSTALLATION REQUIREMENTS
1. STRAW BALES USED AS CHECK DAMS ARE TO MEET THE REQUIREMENTS STATED IN FIGURE CD-2.
2. THE 'W' DIMENSION SHALL BE SELECTED TO PROVIDE WEIR FLOW CONVEYANCE FOR 2 YEAR FLOW OR GREATER.
MAINTENANCE REQUIREMENTS
1. REGULAR INSPECTIONS ARE TO BE MADE OF ALL CHECK DAMS, ESPECIALLY AFTER STORM EVENTS.
2. REPLACE STONE AS NECESSARY TO MAINTAIN THE CORRECT HEIGHT OF THE DAM.
3. CHECK DAMS ARE TO REMAIN IN PLACE AND OPERATIONAL UNTIL THE DRAINAGE AREA AND CHANNEL ARE PERMANENTLY STABILIZED.
4. WHEN CHECK DAMS ARE REMOVED THE CHANNEL LINING OR VEGETATION IS TO BE RESTORED.

SM-4 Vehicle Tracking Control (VTC)



STABILIZED CONSTRUCTION ENTRANCE/EXIT INSTALLATION NOTES
1. SEE PLAN VIEW FOR:
- LOCATION OF CONSTRUCTION ENTRANCE(S)/EXIT(S)
- TYPE OF CONSTRUCTION ENTRANCE(S)/EXIT(S) (WITH/WITHOUT WHEEL WASH, CONSTRUCTION MAT OR TRM).
2. CONSTRUCTION MAT OR TRM STABILIZED CONSTRUCTION ENTRANCES ARE ONLY TO BE USED ON SHORT DURATION PROJECTS (TYPICALLY RANGING FROM A WEEK TO A MONTH) WHERE THERE WILL BE LIMITED VEHICULAR ACCESS.
3. A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE LOCATED AT ALL ACCESS POINTS WHERE VEHICLES ACCESS THE CONSTRUCTION SITE FROM PAVED RIGHT-OF-WAYS.
4. STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
5. A NON-WOVEN GEOTEXTILE FABRIC SHALL BE PLACED UNDER THE STABILIZED CONSTRUCTION ENTRANCE/EXIT PRIOR TO THE PLACEMENT OF ROCK.
6. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.
STABILIZED CONSTRUCTION ENTRANCE/EXIT MAINTENANCE NOTES
1. INSPECT BMPs EACH WORKDAY AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. ROCK SHALL BE REAPPLIED OR REGRASSED AS NECESSARY TO THE STABILIZED ENTRANCE/EXIT TO MAINTAIN A CONSISTENT DEPTH.
5. SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED THROUGHOUT THE DAY AND AT THE END OF THE DAY BY SHOVELING OR SHEEPING. SEDIMENT MAY NOT BE WASHED DOWN STORM SEWER DRAINS.
NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM USDO STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.
(VTCs ADAPTED FROM CITY OF DENVER, COLORADO, NOT AVAILABLE IN AUTODO)

SM-4 Vehicle Tracking Control (VTC)

VTC-1. AGGREGATE VEHICLE TRACKING CONTROL
INSTALLATION NOTES
1. SEE PLAN VIEW FOR:
- LOCATION OF CONSTRUCTION ENTRANCE(S)/EXIT(S)
- TYPE OF CONSTRUCTION ENTRANCE(S)/EXIT(S) (WITH/WITHOUT WHEEL WASH, CONSTRUCTION MAT OR TRM).
2. CONSTRUCTION MAT OR TRM STABILIZED CONSTRUCTION ENTRANCES ARE ONLY TO BE USED ON SHORT DURATION PROJECTS (TYPICALLY RANGING FROM A WEEK TO A MONTH) WHERE THERE WILL BE LIMITED VEHICULAR ACCESS.
3. A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE LOCATED AT ALL ACCESS POINTS WHERE VEHICLES ACCESS THE CONSTRUCTION SITE FROM PAVED RIGHT-OF-WAYS.
4. STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
5. A NON-WOVEN GEOTEXTILE FABRIC SHALL BE PLACED UNDER THE STABILIZED CONSTRUCTION ENTRANCE/EXIT PRIOR TO THE PLACEMENT OF ROCK.
6. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.
MAINTENANCE NOTES
1. INSPECT BMPs EACH WORKDAY AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. ROCK SHALL BE REAPPLIED OR REGRASSED AS NECESSARY TO THE STABILIZED ENTRANCE/EXIT TO MAINTAIN A CONSISTENT DEPTH.
5. SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED THROUGHOUT THE DAY AND AT THE END OF THE DAY BY SHOVELING OR SHEEPING. SEDIMENT MAY NOT BE WASHED DOWN STORM SEWER DRAINS.
NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM USDO STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.
(VTCs ADAPTED FROM CITY OF DENVER, COLORADO, NOT AVAILABLE IN AUTODO)

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City of Colorado Springs
Stormwater Quality
Figure CD-1
Check Dam
Construction Detail and Maintenance Requirements

VTC-6 Urban Drainage and Flood Control District
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VTC-3 Urban Drainage and Flood Control District
Urban Storm Drainage Criteria Manual Volume 3
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WINDERMERE FILING 2
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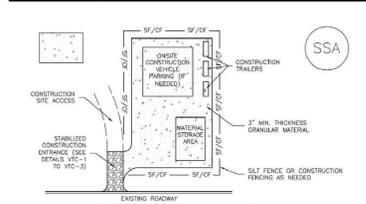
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PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF
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DRAWING SCALE:
 HORIZONTAL: N/A
 VERTICAL: N/A
EROSION CONTROL DETAILS
 PROJECT NO. 21187-03CSCV
 DRAWING NO.

DT2
 SHEET: 7 OF 6

Stabilized Staging Area (SSA) SM-6



SSA-1. STABILIZED STAGING AREA

STABILIZED STAGING AREA INSTALLATION NOTES

- SEE PLAN VIEW FOR:
 - LOCATION OF STAGING AREA.
 - CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.
- STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE. OVERSIZING RESULTS IN A LARGER AREA TO STABILIZE FOLLOWING CONSTRUCTION.
- STAGING AREA SHALL BE STABILIZED PRIOR TO OTHER OPERATIONS ON THE SITE.
- THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM 3" THICK GRANULAR MATERIAL.
- UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SPEC #703 MIXED BY CONCRETE AGGREGATE OR 4" UNWASHED ROCK.
- ADDITIONAL PERIMETER BARS MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SOFT FENCE AND CONSTRUCTION FENCING.

STABILIZED STAGING AREA MAINTENANCE NOTES

- INSPECT BARS EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BARS SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BARS AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BARS IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- WHERE BARS HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
- ROCK SHALL BE REPAIRED OR REGRANDED AS NECESSARY IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.

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SM-6 Stabilized Staging Area (SSA)

STABILIZED STAGING AREA MAINTENANCE NOTES

- STABILIZED STAGING AREA SHALL BE ENLARGED IF NECESSARY TO CONTAIN PARKING, STORAGE, AND UNLOADING/LOADING OPERATIONS.
- THE STABILIZED STAGING AREA SHALL BE REMOVED AT THE END OF CONSTRUCTION. THE GRANULAR MATERIAL SHALL BE REMOVED OR, IF APPROVED BY THE LOCAL JURISDICTION, USED ON SITE, AND THE AREA COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.

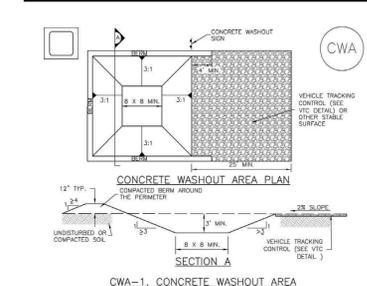
NOTE: MANY JURISDICTIONS PROHIBIT THE USE OF RECYCLED CONCRETE AS GRANULAR MATERIAL FOR STABILIZED STAGING AREAS DUE TO DIFFICULTIES WITH RE-ESTABLISHMENT OF VEGETATION IN AREAS WHERE RECYCLED CONCRETE WAS PLACED.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM USDC STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

(DETAILS ADAPTED FROM BOULDER COUNTY, COLORADO, NOT AVAILABLE IN AUSTIN)

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Concrete Washout Area (CWA) MM-1



CWA-1. CONCRETE WASHOUT AREA

CWA INSTALLATION NOTES

- SEE PLAN VIEW FOR:
 - CWA REGULATION LOCATION.
- DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATERBODIES. DO NOT LOCATE WITHIN 100' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFEASIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (1.5 MIL THICKNESS) OF SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINER ABOVE CRACKING STORAGE AREAS SHOULD BE USED.
- THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
- CWA SHALL INCLUDE A FLAT SUBSURFACE THAT IS AT LEAST 8" BY 8" SLOPES. LEADING OUT OF THE SUBSURFACE IT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.
- BEFORE SUBSURFACING SIDES AND BACK OF THE CWA SHALL HAVE MINIMUM HEIGHT OF 1'.
- VEHICLE TRACKING PITS SHALL BE SLOPED 2% TOWARDS THE CWA.
- SOILS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP TRUCKS.
- USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

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MM-1 Concrete Washout Area (CWA)

CWA MAINTENANCE NOTES

- INSPECT BARS EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BARS SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BARS AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BARS IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- WHERE BARS HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
- THE CWA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE. CONCRETE MATERIALS ACCUMULATED IN PIT, SHALL BE REMOVED ONCE THE MATERIALS HAVE REACHED A DEPTH OF 2'.
- CONCRETE WASHOUT WATER, WASTED PIECES OF CONCRETE AND ALL OTHER DEBRIS IN THE SUBSURFACE PIT SHALL BE TRANSPORTED FROM THE JOB SITE IN A WATER-TIGHT CONTAINER AND DISPOSED OF PROPERLY.
- THE CWA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.
- WHEN THE CWA IS REMOVED, COVER THE DISTURBED AREA WITH TOP SOIL, SEED AND MULCH OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION. (DETAILS ADAPTED FROM BOULDER COUNTY, COLORADO AND THE CITY OF AUSTIN, COLORADO, NOT AVAILABLE IN AUSTIN)

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM USDC STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

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TEMPORARY SEEDING NOTES

- SOIL IS TO BE CONDITIONED FOR PLANT GROWTH BY APPLYING TOPSOIL, FERTILIZER OR LIME.
- SOIL IS TO BE TILLED IMMEDIATELY PRIOR TO APPLYING SEEDS. COMPACT SOILS ESPECIALLY NEED TO BE LOOSENEED.
- SEEDBED DEPTH IS TO BE 4 INCHES FOR SLOPES FLATTER THAN 2:1 AND 1 INCH FOR SLOPES STEEPER THAN 2:1.
- ANNUAL GRASSES LISTED IN THE TABLE BELOW ARE TO BE USED FOR TEMPORARY SEEDING. SEED MIXES ARE NOT TO CONTAIN ANY NOXIOUS WEED SEEDS INCLUDING RUSSIAN OR CANADIAN THISTLE, KNAPWEED, PURPLE LOOSESTRIPE, EUROPEAN BINDWEED, JOHNSON GRASS, AND LEAFY SPURGE.
- THE TABLE BELOW ALSO PROVIDES REQUIREMENTS FOR SEEDING RATES, SEEDING DATES, AND PLANTING DEPTHS FOR THE APPROVED TYPES OF ANNUAL GRASSES.
- SEEDING IS TO BE APPLIED USING MECHANICAL TYPE DRILLS EXCEPT WHERE SLOPES ARE STEEP OR ACCESS IS LIMITED THEN HYDRAULIC SEEDING MAY BE USED.
- ALL SEEDED AREAS ARE TO BE MULCHED.
- IF HYDRAULIC SEEDING IS USED THEN HYDRAULIC MULCHING SHALL BE DONE SEPARATELY TO AVOID SEEDS BECOMING ENCAPSULATED IN THE MULCH.

MULCHING NOTES

INSTALLATION REQUIREMENTS

- MATERIAL USED FOR MULCH CAN BE CERTIFIED CLEAN, WEED-AND SEED-FREE LONG STEMMED FIELD OR MARSH HAY, OR STRAW OF OATS, BARLEY, WHEAT, RYE, OR TRITICALE CERTIFIED BY THE COLORADO DEPARTMENT OF AGRICULTURE WEED FREE FORGE CERTIFICATION PROGRAM.
- HYDRAULIC MULCHING MATERIAL SHALL CONSIST OF VIRGIN WOOD FIBER MANUFACTURED FROM CLEAN WHOLE WOOD CHIPS. WOOD CHIPS CANNOT CONTAIN ANY GROWTH OR GERMINATION INHIBITORS OR BE PRODUCED FROM RECYCLED MATERIAL.
- MULCH IS TO BE APPLIED EVENLY AT A RATE OF 2 TONS PER ACRE.
- MULCH IS TO BE ANCHORED EITHER BY CRIMPING (TUCKING MULCH FIBERS 4 INCHES INTO THE SOIL), USING NETTING (USED ON SMALL AREAS WITH STEEP SLOPES) OR WITH A TACKIFIER.
- HYDRAULIC MULCHING AND TACKIFIERS ARE NOT TO BE USED IN THE PRESENCE OF FREE SURFACE WATER.

MAINTENANCE REQUIREMENTS

- REGULAR INSPECTIONS ARE TO BE MADE OF ALL MULCHED AREAS.
- MULCH IS TO BE REPLACED IMMEDIATELY IN THOSE AREAS IT HAS BEEN REMOVED, AND IF NECESSARY THE AREA SHOULD BE RESEEDED.

SEEDING PLAN

NATIVE SEEDING MIX

SOIL PREPARATION, FERTILIZER, SEEDING, MULCHING AND MULCH TACKIFIER WILL BE REQUIRED FOR DISTURBED AREAS EXCLUDING THE RIGHT-OF-WAYS.

THE FOLLOWING TYPES AND RATES SHALL BE USED:

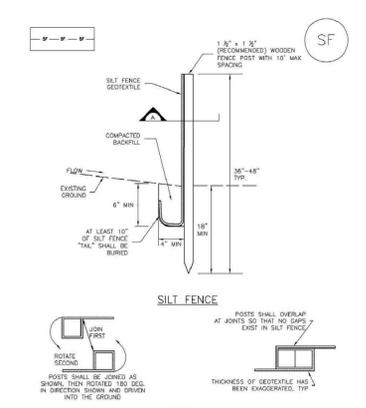
COMMON NAME	SCIENTIFIC NAME	LBS PLS/ACRE
SAND BLUESTEM V. ELIDA	ANDROPOGON HALLII	2.0
WESTERN WHEATGRASS V. ARRIBA	PASCOPYRUM SMITHII	7.0
SIDEOATS GRAMA V. VAUGHN	BOUTELOUA CURTIPENDULA	4.0
GALLETA V. VIVA (CARYOPSIS)	HILARIA JAMESII	1.0
LITTLE BLUESTEM V. PASTURA	SCHIZACHYRIUM SCOPARIUM	3.0
PRARIE SANDREED V. GASHEN	CALAMOVILFA LONGIFOLIA	2.0
SWITCHGRASS V. NEBR 28	PANICUM VIRGATUM	1.0
BLANKETFLOWER	GALLIARDIA ARISTATA	1.0
PRARIE CONEFLOWER	RATIBIDA COLUMNIFERA	0.5
BLUE FLAX	LINUM LEWISII	1.0
OATS	AVENA SATIVA	3.0
WINTER WHEAT	TRITICUM AESTIVUM	3.0
TOTAL/POUNDS/ACRE		28.5

FERTILIZER	RATE PER ACRE
NITROGEN	27
PHOSPHORUS (P205)	69

SEEDING APPLICATION: DRILL SEED 0.25"-0.5" INTO TOPSOIL. AREA NOT ACCESSIBLE TO A DRILL SEEDER AND SLOPES STEEPER THAN 2:1 SHALL BE HAND BROADCAST AND DOUBLE THE ABOVE SEED RATE AND RAKED AT 1/4 TO 1/2 INTO THE TOPSOIL.

MULCHING APPLICATION: 1 1/2 TONS CERTIFIED WEED FREE NATIVE HAY PER ACRE MECHANICALLY CRIMED IN TOPSOIL IN COMBINATION WITH AN ORGANIC MULCH TACKIFIER.

Silt Fence (SF) SC-1



SF-1. SILT FENCE

SILT FENCE INSTALLATION NOTES

- SILT FENCE MUST BE INSTALLED AWAY FROM THE TOE OF THE SLOPE TO ALLOW FOR WATER FLOWING. SILT FENCE AT THE TOE OF A SLOPE SHOULD BE INSTALLED IN A FLAT LOCATION AT LEAST 50 FEET (15.24 M) FROM THE TOE OF THE SLOPE TO ALLOW ROOM FOR FLOODING AND DEPOSITION.
- A MINIMUM 6" x 4" ANCHOR TRENCH SHALL BE EXCAVATED USING TRENCHER OR SILT FENCE INSTALLATION DEVICE. NO ROCKS, GRINDERS, BRICKS, OR SIMILAR EQUIPMENT SHALL BE USED.
- CONTACT ANCHOR TRENCH BY HAND WITH A "JUMPING JACK" OR BY WHEEL ROLLING. COMPACTION SHALL BE SUCH THAT SILT FENCE RESISTS BEING PULLED OUT OF ANCHOR TRENCH BY WIND.
- SILT FENCE SHALL BE PULLED TIGHT AS IT IS ANCHORED TO THE STAKES. THERE SHOULD BE NO HORIZONTAL GAP BETWEEN STAKES AFTER IT HAS BEEN ANCHORED TO THE STAKES.
- SILT FENCE FABRIC SHALL BE ANCHORED TO THE STAKES USING 1" HEAVY DUTY STAPLES OR NAILS WITH 1" HEADS. STAPLES AND NAILS SHOULD BE PLACED 3" ALONG THE FABRIC DOWN THE STAKE.
- AT THE END OF A RUN OF SILT FENCE ALONG A CONTOUR, THE SILT FENCE SHOULD BE TAPPED PERPENDICULAR TO THE CONTOUR TO CREATE A "J-HOOK". THE "J-HOOK" EXTENDING PERPENDICULAR TO THE CONTOUR SHOULD BE OF SUFFICIENT LENGTH TO KEEP RAINOFF FROM FLOODING AROUND THE END OF THE SILT FENCE (TYPICALLY 10' - 30').
- SILT FENCE SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

SILT FENCE MAINTENANCE NOTES

- INSPECT BARS EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BARS SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BARS AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BARS IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- WHERE BARS HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
- SEDIMENT ACCUMULATED UPSTREAM OF THE SILT FENCE SHALL BE REMOVED AS NEEDED TO MAINTAIN THE FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 4".
- REPAIR OR REPLACE SILT FENCE WHEN THERE ARE SIGNS OF WEAR, SUCH AS SAGGING, Tearing, OR COLLAPSE.
- SILT FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION, OR IS REPLACED BY AN EQUIVALENT PERIMETER SEDIMENT CONTROL BMP.
- WHEN SILT FENCE IS REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM USDC STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

(DETAILS ADAPTED FROM PARKER, COLORADO, NOT AVAILABLE IN AUSTIN)

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SC-1 Silt Fence (SF)

SILT FENCE INSTALLATION NOTES

- SILT FENCE MUST BE INSTALLED AWAY FROM THE TOE OF THE SLOPE TO ALLOW FOR WATER FLOWING. SILT FENCE AT THE TOE OF A SLOPE SHOULD BE INSTALLED IN A FLAT LOCATION AT LEAST 50 FEET (15.24 M) FROM THE TOE OF THE SLOPE TO ALLOW ROOM FOR FLOODING AND DEPOSITION.
- A MINIMUM 6" x 4" ANCHOR TRENCH SHALL BE EXCAVATED USING TRENCHER OR SILT FENCE INSTALLATION DEVICE. NO ROCKS, GRINDERS, BRICKS, OR SIMILAR EQUIPMENT SHALL BE USED.
- CONTACT ANCHOR TRENCH BY HAND WITH A "JUMPING JACK" OR BY WHEEL ROLLING. COMPACTION SHALL BE SUCH THAT SILT FENCE RESISTS BEING PULLED OUT OF ANCHOR TRENCH BY WIND.
- SILT FENCE SHALL BE PULLED TIGHT AS IT IS ANCHORED TO THE STAKES. THERE SHOULD BE NO HORIZONTAL GAP BETWEEN STAKES AFTER IT HAS BEEN ANCHORED TO THE STAKES.
- SILT FENCE FABRIC SHALL BE ANCHORED TO THE STAKES USING 1" HEAVY DUTY STAPLES OR NAILS WITH 1" HEADS. STAPLES AND NAILS SHOULD BE PLACED 3" ALONG THE FABRIC DOWN THE STAKE.
- AT THE END OF A RUN OF SILT FENCE ALONG A CONTOUR, THE SILT FENCE SHOULD BE TAPPED PERPENDICULAR TO THE CONTOUR TO CREATE A "J-HOOK". THE "J-HOOK" EXTENDING PERPENDICULAR TO THE CONTOUR SHOULD BE OF SUFFICIENT LENGTH TO KEEP RAINOFF FROM FLOODING AROUND THE END OF THE SILT FENCE (TYPICALLY 10' - 30').
- SILT FENCE SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

SILT FENCE MAINTENANCE NOTES

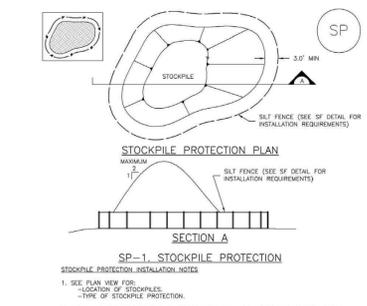
- INSPECT BARS EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BARS SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BARS AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BARS IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- WHERE BARS HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
- SEDIMENT ACCUMULATED UPSTREAM OF THE SILT FENCE SHALL BE REMOVED AS NEEDED TO MAINTAIN THE FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 4".
- REPAIR OR REPLACE SILT FENCE WHEN THERE ARE SIGNS OF WEAR, SUCH AS SAGGING, Tearing, OR COLLAPSE.
- SILT FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION, OR IS REPLACED BY AN EQUIVALENT PERIMETER SEDIMENT CONTROL BMP.
- WHEN SILT FENCE IS REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM USDC STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

(DETAILS ADAPTED FROM PARKER, COLORADO, NOT AVAILABLE IN AUSTIN)

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Stockpile Management (SP) MM-2



SP-1. STOCKPILE PROTECTION

STOCKPILE PROTECTION INSTALLATION NOTES

- SEE PLAN VIEW FOR:
 - LOCATION OF STOCKPILES.
 - TYPE OF STOCKPILE PROTECTION.
- INSTALL PERIMETER CONTROLS IN ACCORDANCE WITH THEIR RESPECTIVE DESIGN DETAILS. SILT FENCE IS SHOWN IN THE STOCKPILE PROTECTION DETAILS HOWEVER OTHER TYPES OF PERIMETER CONTROLS INCLUDING SEDIMENT CONTROL LOGS OR ROCK SOCKS MAY BE USED. DURING A RAIN EVENT, PERFORM FREQUENT INSPECTIONS FOR DETERMINING THE APPROPRIATE TYPE OF PERIMETER CONTROL. A STOCKPILE INCLUDES WHETHER THE STOCKPILE IS LOCATED ON A PERVIOUS OR IMPVIOUS SURFACE, THE RELATIVE HEIGHTS OF THE PERIMETER CONTROL AND STOCKPILE, THE ABILITY OF THE PERIMETER CONTROL TO CONTAIN THE STOCKPILE WITHOUT FAILING IN THE EVENT THAT MATERIAL FROM THE STOCKPILE SHIFTS OR SLIPS, AND OTHER FACTORS.
- STABILIZE THE STOCKPILE SURFACE WITH SURFACE BROOMING, TEMPORARY SEEDING AND MULCHING, SEDIMENT CONTROL BARRIERS, OR SOIL BINDERS. SOIL STOCKPILES FOR AN EXTENDED PERIOD (TYPICALLY FOR MORE THAN 60 DAYS) SHOULD BE SEEDED AND MULCHED WITH A TEMPORARY GRASS COVER ONCE THE STOCKPILE IS PLACED (TYPICALLY WITHIN 14 DAYS). USE OF MULCH ONLY ON A SOIL BINDER IS ACCEPTABLE IF THE STOCKPILE WILL BE IN PLACE FOR A MORE LIMITED TIME PERIOD (TYPICALLY 30-60 DAYS).
- FOR TEMPORARY STOCKPILES ON THE INTERIOR PORTION OF A CONSTRUCTION SITE, WHERE OTHER DOMINANT CONTROLS INCLUDING PERIMETER CONTROL, ARE IN PLACE, STOCKPILE PERIMETER CONTROLS MAY NOT BE REQUIRED.

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MM-2 Stockpile Management (SM)

STOCKPILE PROTECTION MAINTENANCE NOTES

- INSPECT BARS EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BARS SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BARS AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BARS IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- WHERE BARS HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
- IF PERIMETER PROTECTION MUST BE USED TO ACCESS SOIL STOCKPILE, REPLACE PERIMETER CONTROLS BY THE END OF THE WORKDAY.
- STOCKPILE PERIMETER CONTROLS CAN BE REMOVED ONCE ALL THE MATERIAL FROM THE STOCKPILE HAS BEEN USED.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM USDC STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

(DETAILS ADAPTED FROM PARKER, COLORADO, NOT AVAILABLE IN AUSTIN)

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811 Know what's below.
 Call before you dig.
 CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.
 COUNTY FILE NO.: SP-22-003

CONSTRUCTION STORMWATER SITE INSPECTION REPORT

Facility Name		Permittee					
Date of Inspection		Weather Conditions					
Permit Certification #		Disturbed Acreage					
Phase of Construction		Inspector Title					
Inspector Name							
Is the above inspector a qualified stormwater manager? (permittee is responsible for ensuring that the inspector is a qualified stormwater manager)			<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">YES</td> <td style="width: 50%; text-align: center;">NO</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table>	YES	NO	<input type="checkbox"/>	<input type="checkbox"/>
YES	NO						
<input type="checkbox"/>	<input type="checkbox"/>						

INSPECTION FREQUENCY					
Check the box that describes the minimum inspection frequency utilized when conducting each inspection					
At least one inspection every 7 calendar days	<input type="checkbox"/>				
At least one inspection every 14 calendar days, with post-storm event inspections conducted within 24 hours after the end of any precipitation or snowmelt event that causes surface erosions	<input type="checkbox"/>				
<ul style="list-style-type: none"> • This is this a post-storm event inspection. Event Date: _____ 	<input type="checkbox"/>				
Reduced inspection frequency - Include site conditions that warrant reduced inspection frequency	<input type="checkbox"/>				
<ul style="list-style-type: none"> • Post-storm inspections at temporarily idle sites 	<input type="checkbox"/>				
<ul style="list-style-type: none"> • Inspections at completed sites/area 	<input type="checkbox"/>				
<ul style="list-style-type: none"> • Winter conditions exclusion 	<input type="checkbox"/>				
Have there been any deviations from the minimum inspection schedule? If yes, describe below.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">YES</td> <td style="width: 50%; text-align: center;">NO</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table>	YES	NO	<input type="checkbox"/>	<input type="checkbox"/>
YES	NO				
<input type="checkbox"/>	<input type="checkbox"/>				

INSPECTION REQUIREMENTS*
i. Visually verify all implemented control measures are in effective operational condition and are working as designed in the specifications
ii. Determine if there are new potential sources of pollutants
iii. Assess the adequacy of control measures at the site to identify areas requiring new or modified control measures to minimize pollutant discharges
iv. Identify all areas of non-compliance with the permit requirements, and if necessary, implement corrective action
*Use the attached Control Measures Requiring Routine Maintenance and Inadequate Control Measures Requiring Corrective Action forms to document results of this assessment that trigger either maintenance or corrective actions

AREAS TO BE INSPECTED			
Is there evidence of, or the potential for, pollutants leaving the construction site boundaries, entering the stormwater drainage system or discharging to state waters at the following locations?			
	NO	YES	If "YES" describe discharge or potential for discharge below. Document related maintenance, inadequate control measures and corrective actions Inadequate Control Measures Requiring Corrective Action form
Construction site perimeter	<input type="checkbox"/>	<input type="checkbox"/>	
All disturbed areas	<input type="checkbox"/>	<input type="checkbox"/>	
Designated haul routes	<input type="checkbox"/>	<input type="checkbox"/>	
Material and waste storage areas exposed to precipitation	<input type="checkbox"/>	<input type="checkbox"/>	
Locations where stormwater has the potential to discharge offsite	<input type="checkbox"/>	<input type="checkbox"/>	
Locations where vehicles exit the site	<input type="checkbox"/>	<input type="checkbox"/>	
Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	

REPORTING REQUIREMENTS

The permittee shall report the following circumstances orally within twenty-four (24) hours from the time the permittee becomes aware of the circumstances, and shall mail to the division a written report containing the information requested within five (5) working days after becoming aware of the following circumstances. The division may waive the written report required if the oral report has been received within 24 hours.

All Noncompliance Requiring 24-Hour Notification per Part II.L.6 of the Permit		
a. Endangerment to Health or the Environment Circumstances leading to any noncompliance which may endanger health or the environment regardless of the cause of the incident (See Part II.L.6.a of the Permit) <i>This category would primarily result from the discharge of pollutants in violation of the permit</i>		
b. Numeric Effluent Limit Violations <ul style="list-style-type: none"> o Circumstances leading to any unanticipated bypass which exceeds any effluent limitations (See Part II.L.6.b of the Permit) o Circumstances leading to any upset which causes an exceedance of any effluent limitation (See Part II.L.6.c of the Permit) o Daily maximum violations (See Part II.L.6.d of the Permit) <i>Numeric effluent limits are very uncommon in certifications under the COR400000 general permit. This category of noncompliance only applies if numeric effluent limits are included in a permit certification.</i>		

Has there been an incident of noncompliance requiring 24-hour notification?	NO	YES	
	<input type="checkbox"/>	<input type="checkbox"/>	If "YES" document below

Date and Time of Incident	Location	Description of Noncompliance	Description of Corrective Action	Date and Time of 24 Hour Oral Notification	Date of 5 Day Written Notification *

*Attach copy of 5 day written notification to report. Indicate if written notification was waived, including the name of the division personnel who granted waiver.

After adequate corrective action(s) and maintenance have been taken, or where a report does not identify any incidents requiring corrective action or maintenance, the individual(s) designated as the Qualified Stormwater Manager, shall sign and certify the below statement:

"I verify that, to the best of my knowledge and belief, all corrective action and maintenance items identified during the inspection are complete, and the site is currently in compliance with the permit."

Name of Qualified Stormwater Manager

Title of Qualified Stormwater Manager

Signature of Qualified Stormwater Manager

Date

Notes/Comments