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The Cottages at Mesa Ridge Stormwater Management Plan (SWMP) For El Paso County Improvements

**ACCEPTED for FILE
Engineering Review**
02/22/2023 4:51:21 PM
Elizabeth Nijkamp, PE
EPC Department of Public Works



February 2023

HR Green Project No: 200541

Prepared For (Applicant):

Goodwin Knight

Contact: Dave Morrison, MLA, RLA

8605 Explorer Drive, Suite 250

Colorado Springs, CO 80920

SWMP Preparer:

HR Green Development, LLC

Contact: Ken Huhn, PE

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(720) 602-4965

SWMP Administrator / Qualified Stormwater

Manager/Contractor:

Goodwin Knight

Contact: Trevit Smith

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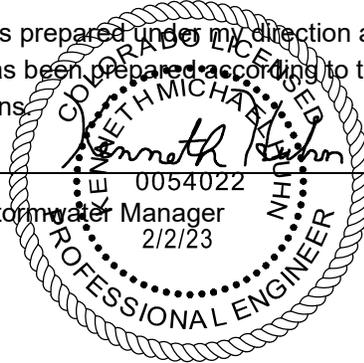
- A. Vicinity Map & NRCS Soil Survey
- B. GEC Plans
- C. BMP Details & Specification
- D. Erosion and Stormwater Quality Control Permit (ESQCP) Application

Applicant Certification

The Stormwater Management 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 and State for Stormwater Management Plans.

_____ Date: _____

Engineer of Record and/or Qualified Stormwater Manager



Review Engineer Certification

The Stormwater Management Plan was reviewed and found to meet the checklist requirements except where otherwise noted or allowed by an approved deviation request.

_____ Date: _____

Review Engineer

I. Site Location & Description

The Cottages at Mesa Ridge, referred to as ‘the site’ herein, is in a portion of the northeast quarter of section 29, the southeast quarter of section 20, the southwest quarter of section 21, and the northwest quarter of section 28, township 15 south, range 65 west of the 6th P.M., County of El Paso, Colorado. The site is bound by S. Powers Boulevard to the east, multi-family residential development to the south, single-family residential development to the west and undeveloped land to the north. Surrounding platted developments include Mesa Ridge Filing 8 and 9 to the south, Sunrise Ridge to the west and the Glen at Widefield to the east. A vicinity map is presented in Appendix A.

The site is approximately 10.22 acres of undeveloped land with existing vegetation consisting of 90% native grasses, determined through field observation. Once developed, the site will include 122 dwelling units, a club house and open space tracts. The site will be platted as a single lot. In general, the site slopes south towards the Fountain Mutual Irrigation Co canal. Onsite elevations range from 5750’ - 5795’ with slopes ranging 1 – 33%. Per a NRCS soil survey, the site is made up of Type B Stoneham sandy loam and Type B Nelson-Tassel fine sand loams. The NRCS soil survey is presented in Appendix A.

There are no major drainageways that traverse the site nor does the site fall within the Streamside Overlay Zone. Onsite, existing utilities include water, sewer, fiberoptic, underground gas and underground electric/telecommunication.

Name(s) of ultimate receiving waters; size, type and location of stormwater outfall or storm sewer system discharge: Jimmy Camp Creek, south of Hale Reservoir

II. Construction Phasing

The construction activity associated with this CSWMP is the overlot grading of 122 dwelling units, onsite utility main extensions including storm sewer, sanitary sewer and water, and the construction of roadway and parking. The anticipated total disturbance area is 11.33 acres. There are no control measures located outside the construction limits. The proposed sequence of major construction activities and Construction Control Measures for the project as are follows:

1. Install VTC, SSA and other perimeter erosion and stormwater control measures (i.e. silt fence, construction fence etc.) (March 2023)
2. Clear, grub and grade site for improvements. Install SCL and ECB per GEC plans. (April 2023)
3. Excavate and install improvements including underground piping and drainage structures. (May - October 2023)
4. Asphalt paving & curb and gutter installation. (October 2023 – November 2023)
5. Landscaping, restoration and final stabilization. Ensure final stabilization achieved prior to site closure. (April 2024 – June 2024)

III. Self-Inspections

Self-inspections of the Construction Control Measures must be completed by the certified GEC Administrator. The below provides the minimum to satisfy the El Paso County self-inspection requirements. A more frequent self-inspection schedule may be required to ensure Control Measures are operating in compliance with the approved GEC plan.

1. Inspection Schedules:

- a. The SWMP Administrator shall make a thorough inspection of the Control Measures:
 - i. At least once every fourteen (14) calendar days.
 - ii. Within 24 hours following any precipitation event (i.e. rain, snow, hail etc.) that causes surface erosion.
 - Alternatively, the SWMP Administrator can perform a thorough inspection of the Control Measures once every seven (7) days and forego post-precipitation inspections.
- b. For sites where construction activities have completed and final stabilization measures installed but final stabilization has not yet been achieved, the SWMP Administrator shall make a thorough inspection of the Control Measures:
 - i. At least once every month
 - ii. Within 72 hours following any precipitation event that causes surface erosion

2. Inspection Procedures:

- a. Site Inspection & Observation Items:
 - i. Limits of disturbance perimeter and stormwater discharge points
 - ii. All disturbed areas to ensure necessary Construction Control Measures are in place to control potential stormwater runoff
 - iii. Areas used for material/waste storage
 - iv. Any areas having a signification potential for storm water pollution (i.e site entrances, concrete washout areas etc.)
 - v. All Construction Control Measures identified on the GEC plans.
- b. Inspection Requirements:
 - i. Determine any locations, or potential locations, where pollutants and stormwater may be exiting the site/entering the receiving waters
 - ii. Evaluate Construction Control measures and determine if they are constructed in accordance with the latest revision of the approved GEC plan and operating effectively
 - iii. Provide recommendations for the need of additional Construction Control measures and the maintenance of existing measures in disrepair to ensure complication with the El Paso County Stormwater Construction Manual.
- c. Construction Control Measure Maintenance/Replacement:
 - i. The SWMP Administrator shall ensure sediment has been removed from perimeter controls and relocated to an area without the potential for sediment to discharge from the site
 - ii. The SWMP Administrator shall ensure diversion ditches and temporary sediment ponds have not accumulated excess sediment that impedes their functionality.
 - iii. The SWMP Administrator shall ensure that failed Control Measures are repaired/reinstalled within three (3) calendar days, according to the Stormwater Control Measure details, to ensure pollutants and/or sediment do not discharge from the site. GEC details are provided in Appendix B.
- d. Documentation:
 - i. Update the GEC plan to document the installation/revision of Control Measures
 - ii. Identify Control Measure deficiencies and that noncompliance is resolved within three (3) calendar days.
 - iii. Identify Self-Inspection schedule in most recent inspection form

- iv. Complete and submit Self-Inspection forms to the El Paso County within five (5) business days of the completed inspection
- v. Ensure Self-Inspections are available, either physically or electronically, throughout the duration of the project
- vi. Self-Inspection Report shall contain at least the following:
 - Inspection Date
 - Name and title of the SWMP Administrator performing inspection
 - Location(s) of illicit discharges of stormwater, sediment, or pollutants from the site
 - Location(s) of Construction Control Measures in need of maintenance/repair
 - Location(s) of Construction Control Measures that failed to operate as designed or proved inadequate
 - Location(s) of additional Construction Control Measures not shown on the latest, approved revision of the GEC plan
 - Any deviations from the minimum inspection schedule

IV. Materials Handling

1. General Materials Handling Practices:
 - a. Potential pollutants shall be stored and used in a manner consistent with the manufacturer's instructions in a secure location. To the extent practical, material storage areas should be located away from storm drain inlets and should be equipped with covers, roofs or secondary containment as required to prevent stormwater from contacting stored materials. Chemicals that are not compatible shall be stored in segregated areas so that spill materials cannot combine and react.
 - b. Disposal of materials shall be in accordance with the manufacturer's instructions and applicable local, state, and federal regulations.
 - c. Materials no longer required for construction shall be removed from the site as soon as possible.
 - d. Adequate garbage, construction waste, and sanitary waste handling and disposal facilities shall be provided as necessary to keep the site clear of obstruction and Control Measures clear and functional.
2. Specific Materials Handling Practices:
 - a. All pollutants, including waste materials and demolition debris, that occur onsite during construction shall be handled in a way that does not contaminate stormwater.
 - b. All chemicals including liquid products, petroleum products, water treatment chemicals, and wastes stored onsite shall be covered and protected from vandalism.
 - c. Maintenance, fueling, and repair of all equipment and vehicles involving oil changes, hydraulic system drain down, degreasing operation, fuel tank drain down and removal, and other activities which may result in the accidental release of contaminants, shall be conducted under cover during wet weather and on an impervious surface to prevent release of contaminants onto the ground. Materials spilled during maintenance operations shall be cleaned up immediately and properly disposed of.
 - d. Wheel wash water shall be settled and discharged onsite by infiltration.
 - e. Application of agricultural chemicals, including fertilizers and pesticides, shall be conducted in a manner and at application rates that will not result in loss of chemical to stormwater runoff. Follow manufacturer's recommendations for application rates and procedures.

- f. pH-modifying sources shall be managed to prevent contamination of runoff and stormwater collected onsite. The most common sources of pH-modifying materials are bulk cement, cement kiln dust (CKD), fly ash, new concrete washing and curing waters, waste streams generated from concrete grinding and sawing, exposed aggregate processes, and concrete pumping and mixer washout waters.

V. Spill Prevention & Response Plan

1. The primary objective in responding to a spill is to quickly contain the material and prevent or minimize their mitigation into stormwater runoff and conveyance systems. If the release has impacted onsite stormwater, it is critical to contain the released materials onsite and prevent their release into receiving waters.
2. Spill Response Procedures:
 - a. Notify site superintendent immediately when a spill, or the threat of a spill, is observed. The superintendent shall assess the situation and determine the appropriate response
 - b. If spills represent an imminent threat of escaping onsite facilities and entering the receiving waters, site personnel shall respond immediately to contain the release and notify the superintendent once the situation has stabilized.
 - c. The site superintendent shall be responsible for completing a spill reporting form and for reporting the spill to the appropriate agency.
 - d. Spill response equipment shall be inspected and maintained as necessary to replace any materials used in spill response activities.
3. Spill kits shall be on-hand at all fueling sites. Spill kit locations shall be reported to the SWMP Administrator.
4. Absorbent materials shall be on-hand at all fueling areas for use in containing advertent spills. Containers shall be on-hand at all fueling sites for disposal of used absorbents.
5. Recommended components of spill kits include the following:
 - a. Oil absorbent pads
 - b. Oil absorbent booms
 - c. 55-gallon drums
 - d. 9-mil plastic bags
 - e. Personal protective equipment including gloves and goggles
6. Concrete wash water: unless confined in a pre-defined, bermed containment area, the cleaning of concrete truck delivery chutes is prohibited at the job site.
7. Notification procedures:
 - a. In the event of an accident or spill, the SWMP Administrator shall be notified.
 - b. Depending on the nature of the spill and material involved, the Colorado Department of Public Health and Environment, downstream water users, or other agencies may also need to be notified.
 - c. Any spill of oil which 1) violates water quality standards, 2) produces a "sheen" on a surface water, or 3) causes a sludge or emulsion, or any hazardous substance release, or hazardous waste release which exceeds the reportable quantity, must be reported immediately by telephone to the National Response Center Hotline at (800) 424-8802.

VI. Potential Sources of Pollution

1. Potential sources of pollution from construction activities include
 - a. Disturbed or stored soils
 - b. Management of contaminated soils
 - c. Vehicle tracking of sediment
 - d. Loading & unloading operations
 - e. Outdoor Storage activities
 - f. Vehicle and Equipment Maintenance/Fueling
 - g. Dust or Particulate Generating Processes
 - h. Routine maintenance activities involving fertilizers, pesticides, detergents, fuels, solvents etc.
 - i. On-site waste management (waste piles, liquid wastes, dumpsters)
 - j. Concrete truck/equipment washing (washing truck chute and associated fixtures)
 - k. Dedicated asphalt, concrete batch plants and masonry mixing stations
 - l. Non-industrial waste (worker trash and portable toilets)

VII. Implementation of Control Measures

Stormwater control measures must be installed according to BMP Details & Specification, presented in Appendix C, and the approved Grading and Erosion Control plan this report supports. Within the context of this CSWMP's construction activities the following control measures, at a minimum, are required:

- Perimeter Silt Fence
- Vehicle Tracking Control
- Stabilized Staging Area
- Inlet Protection
- Erosion Control Blanket
- Temporary Sediment Basin
- Seeding & Mulching

Additional control measures may be required at the discretion of the County Stormwater Inspector.

VIII. Final Stabilization & Long-Term Stormwater Management Plan

1. Temporary seeding and mulching will be installed to provide interim stabilization prior to final landscaping installation. See approved landscaping plans for final stabilization details. Final stabilization is met when 70% of pre disturbance levels, not including noxious weeds, are stabilized. Final stabilization must be achieved prior to removal of temporary stormwater control measures. Anticipated date of final stabilization is April 2024; however, this is subject to change. Long term stormwater management will be provided in the onsite, private full spectrum detention pond. See below for seeding and mulching details:
 - a. Prior to seeding, fill any eroded rills and gullies with topsoil.
 - b. Ensure all areas are seeded and mulched per the City Stormwater Construction Manual.
 - c. Continue monthly self-inspections of final stabilization methods and the stormwater management system to ensure proper function. If repairs are needed, reseed and re-mulch as needed.
 - d. Control noxious weeds in a manner acceptable to the GEC inspector.
 - e. Seed Mix: See Appendix C for approved seed mixes.
 - f. Seeding Requirements:

- i. Drill seed whenever possible, seed depth must be 1/3 to 1/2 inch when drill-seeding. Cross drilling should be used whenever possible with the seed divided between the two operations. The second drilling should be perpendicular to the first.
 - ii. When drill seeding is not possible or on slopes greater than 3:1, hydro-seeding with tackifier may be substituted at the discretion of the GEC inspector. Hydro-seeding must be lightly raked into soil. Seeding rates are presented in Appendix C.
 - iii. All seeded areas must be mulched.
- g. Mulching Requirements:
- i. Mulching shall be completed as soon as practical after seeding but no more than fourteen (14) days after planting. Erosion control blanket can be used in place of the below mulching methods.
 - ii. Hay or straw mulch:
 1. Only certified weed-free and certified-seed free mulch may be used. Must be applied at 2 tons/acre and adequately secured.
 2. Crimping shall not be used on slopes greater than 3:1, tackifier must be used in place.
 - iii. Hydraulic mulching:
 1. Allowable on steep slopes or areas with limited access
 2. If hydro-seeding is used, mulching must be applied secondly.
 3. Wood cellulose fibers mixed with water must be applied at a rate of 2,000-2,500 lbs/acre, and tackifier applied at a rate of 100 lbs/acre.

IX. Inspection and Record Keeping

1. The project is subject to inspections by the Colorado Division of Public Health and Environment (CDPHE), the Environmental Protection Agency (EPA), and El Paso County at any time. Inspection of the stormwater management system shall be performed, by the SWMP Administrator, at least every 14 calendar days and after the occurrence of precipitation or snow melt event that may cause noticeable erosion or run-off. Time span greater than 14 calendar days is a violation of the CDPS permit.
2. SWMP Location:
On-Site
3. SWMP ADMINISTRATOR: The individual(s), position, or title responsible for developing, implementing, maintaining, and revising the SWMP is to be determined upon award of the project. The individual(s) will be sufficiently qualified for the required duties per the El Paso County ECM Appendix I.5. The individual listed as the Erosion Control Supervisor shall fill out the information below and place in the on-site copy before beginning installation of the BMPs for this site and notify the County of the appropriate contact information.

SWMP Administrator Name: Trevit Smith, Goodwin Knight

Cell Phone: 719-659-0859

Office Phone: 719.598.5190

Email: tsmith@goodwinknight.com



X. References

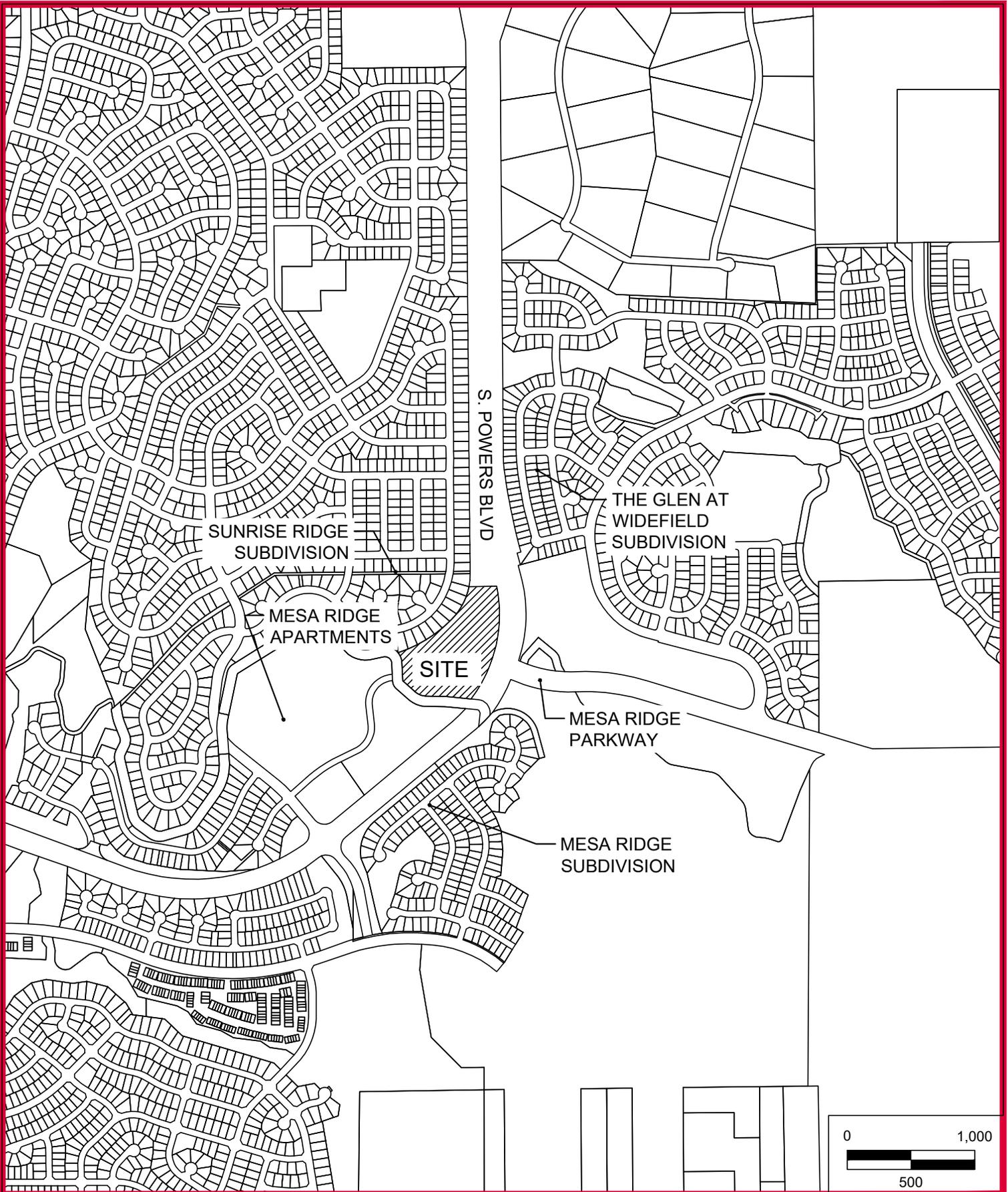
Engineering Criteria Manual (ECM), County of EL PASO, COLORADO

The City of Colorado Springs/El Paso County Drainage Criteria Manual

City of Colorado Springs – Stormwater Construction Manual, December 2020



APPENDIX A – VICINITY MAP & NRCS SOIL SURVEY



Xrefs: 8.5x11_Titleblock



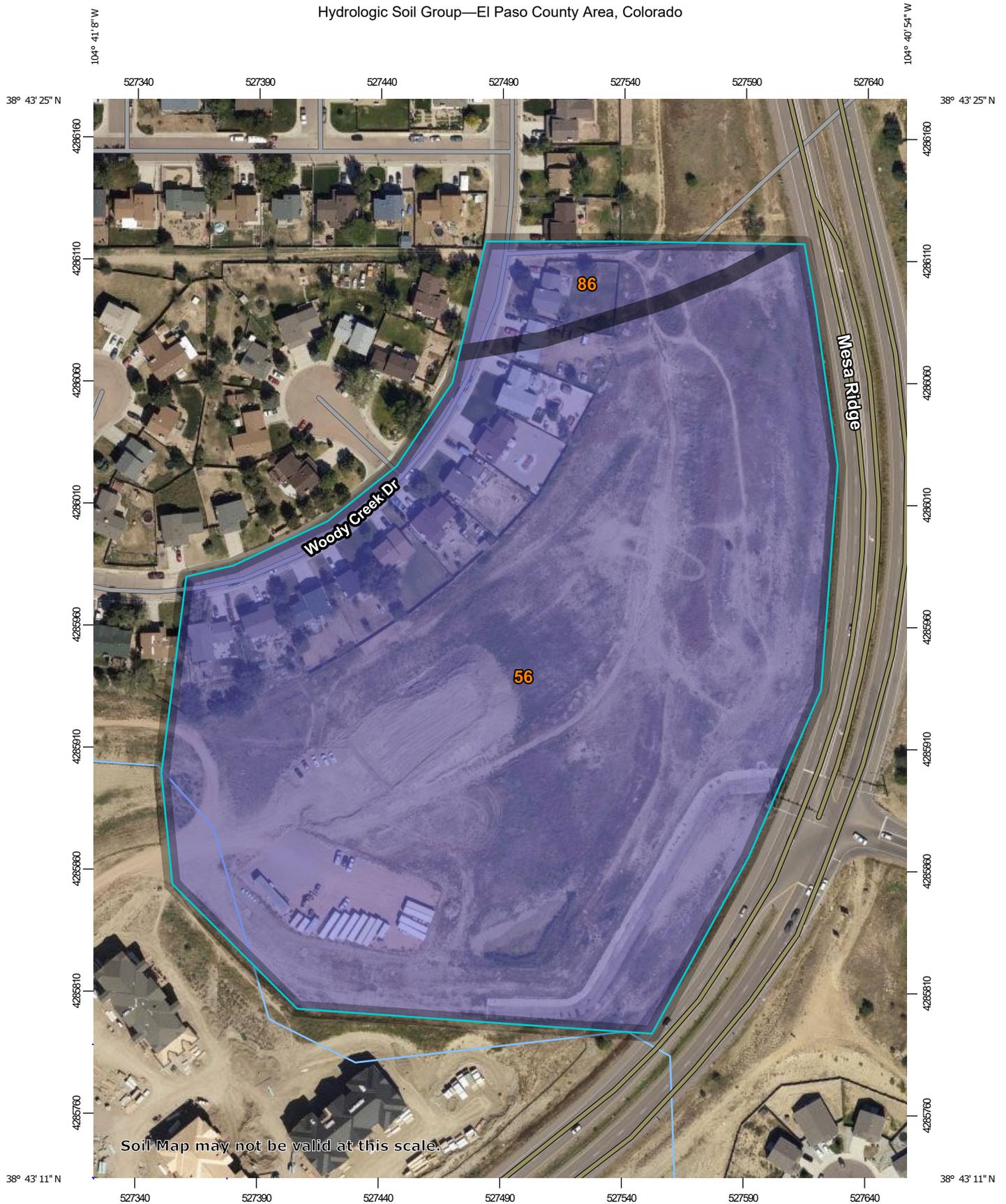
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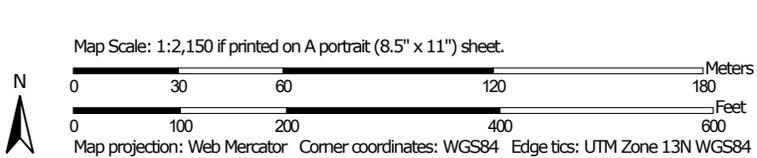
SHEET
VICINITY MAP

SCALE: 1"=1,000'
DATE: 03/29/2021

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 17, Sep 13, 2019

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

Date(s) aerial images were photographed: Aug 14, 2018—Sep 23, 2018

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
56	Nelson-Tassel fine sandy loams, 3 to 18 percent slopes	B	15.6	94.7%
86	Stoneham sandy loam, 3 to 8 percent slopes	B	0.9	5.3%
Totals for Area of Interest			16.5	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.



APPENDIX B – GEC PLANS

GRADING & EROSION CONTROL PLAN NOTES:

- SEE SHEETS 29 - 32 FOR CITY OF COLORADO SPRINGS GRADING AND EROSION CONTROL DETAILS.
- ALL STORMWATER MANAGEMENT MEASURES SHOWN ON THIS PLAN MUST BE INSTALLED AND MAINTAINED PER THE COLORADO SPRINGS STORMWATER CONSTRUCTION MANUAL; LATEST REVISIONS.
- AREA WITHIN LIMITS OF DISTURBANCE TO BE CLEARED, GRUBBED AND STOCKPILED PRIOR TO IMPORT OF ANY FILL.
- ALL 3:1 SLOPES MUST BE RECEIVE SLOPE TRACKING TREATMENT AND EROSION CONTROL BLANKET.
- STOCKPILES REQUIRED DURING ONSITE CONSTRUCTION ACTIVITIES WILL BE PLACED AT THE DISCRETION OF THE CONTRACTOR. STOCKPILING OF MATERIAL MUST NOT OCCUR OUTSIDE THE LIMITS OF DISTURBANCE SHOWN ON THIS PLAN.
- NON-STRUCTURAL CONTROLS (I.E. STREET SWEEPING) WILL BE AT THE DISCRETION OF THE PROJECT'S CERTIFIED GEC ADMINISTRATOR THROUGHOUT THE DURATION OF LAND DISTURBING ACTIVITIES.
- THERE ARE NO ANTICIPATED ASPHALT AND/OR CONCRETE BATCH PLANTS, OR MASONRY MIX STATIONS ASSOCIATED WITH THIS PROJECT. IF THE CONTRACTOR REQUIRES A ASPHALT/CONCRETE BATCH PLANTS OR MASONRY MIX STATIONS, THESE PLANS WILL BE AMENDED AS REQUIRED.
- THERE ARE NO EXISTING PRESERVATION EASEMENTS LOCATED ON SITE.
- THE SITE IS NOT LOCATED IN THE FEMA 100-YR FLOODPLAIN
- ONSITE EXISTING VEGETATION IS NATIVE GRASSES AND WEEDS. THERE IS NO NOTABLE VEGETATION OTHERWISE.
- PROPOSED VEGETATION IS FOUND IN LANDSCAPE PLANS OF THE CONSTRUCTION DRAWINGS

PROJECT INFO:

TOTAL DISTURBANCE AREA = 11.33 AC
 RECEIVING WATERS: JIMMY CAMP CREEK
 ANTICIPATED START OF CONSTRUCTION: SPRING 2023
 ANTICIPATED END OF LAND DISTURBANCE: WINTER 2023
 ANTICIPATED STABILIZATION: SPRING 2024

LEGEND:

- CWA CONCRETE WASHOUT AREA
- CF CONSTRUCTION FENCE
- DD DIVERSION DITCH
- IP INLET PROTECTION
- CIP CULVERT INLET PROTECTION
- SCL SEDIMENT CONTROL LOG
- SF SILT FENCE
- SSA STABILIZED STAGING AREA
- SP STOCKPILE MANAGEMENT
- VTC VEHICLE TRACKING CONTROL
- LOD LIMITS OF CONSTRUCTION/ DISTURBANCE
- SM SEEDING AND MULCHING
- FA FILL AREA (ALL OTHER AREAS ARE CUT)
- RS ROCK SOCK
- TSB TEMPORARY SEDIMENT BASIN
- ECB EROSION CONTROL BLANKET
- TW/BW ELEVATION OF TOP/BOTTOM OF WALL
- PROP FLOW DIRECTION
- EX FLOW DIRECTION
- EX PROPERTY LINE
- EX RIGHT OF WAY



PCD FILN NO.: SF2214 FOR CONSTRUCTION

DRAWN BY: CBM JOB DATE: 1/6/2023
 APPROVED: KMH JOB NUMBER: 200541
 CAD DATE: 1/24/2023
 CAD FILE: J:\2020\200541\CAD\DWG\IC\CD\IEI_Paso_Co\GEC\GEC_Initial

BAR IS ONE INCH ON OFFICIAL DRAWINGS.
 IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY.

NO.	DATE	BY	REVISION DESCRIPTION

HR GREEN - COLORADO SPRINGS
 7222 COMMERCE CENTER DR SUITE 220
 COLORADO SPRINGS CO 80919
 PHONE: 719.300.4140 TOLL FREE: 800.728.7805
 FAX: 844.273.1057 | HRGreen.com

THE COTTAGES AT MESA RIDGE
 GOODWIN KNIGHT
 EL PASO COUNTY, COLORADO

EL PASO COUNTY CONSTRUCTION DOCUMENTS
 GEC- INITIAL PLAN

SHEET EC 3

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 ANTICIPATED FINAL STABILIZATION: SPRING 2024

GEC LEGEND:

	CWA	CONCRETE WASHOUT AREA
	CF	CONSTRUCTION FENCE
	DD	DIVERSION DITCH
	IP	INLET PROTECTION
	CIP	CULVERT INLET PROTECTION
	SCL	SEDIMENT CONTROL LOG
	SF	SILT FENCE
	SSA	STABILIZED STAGING AREA
	SP	STOCKPILE MANAGEMENT
	VTC	VEHICLE TRACKING CONTROL
	LOD	LIMITS OF CONSTRUCTION/DISTURBANCE
	SM	SEEDING AND MULCHING
	FA	FILL AREA (ALL OTHER AREAS ARE CUT)
	RS	ROCK SOCK
	TSB	TEMPORARY SEDIMENT BASIN
	ECB	EROSION CONTROL BLANKET
	TW/BW	ELEVATION OF TOP/BOTTOM OF WALL
		PROP FLOW DIRECTION
		EX FLOW DIRECTION
		EX PROPERTY LINE
		EX RIGHT OF WAY



PCD FILE NO.: SF2214 FOR CONSTRUCTION

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THE COTTAGES AT MESA RIDGE
 GOODWIN KNIGHT
 EL PASO COUNTY, COLORADO

EL PASO COUNTY CONSTRUCTION DOCUMENTS
 GEC- INTERIM PLAN

SHEET EC 4



GRADING & EROSION CONTROL PLAN NOTES:

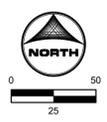
1. SEE SHEETS 29 - 32 FOR CITY OF COLORADO SPRINGS GRADING AND EROSION CONTROL DETAILS.
2. ALL STORMWATER MANAGEMENT MEASURES SHOWN ON THIS PLAN MUST BE INSTALLED AND MAINTAINED PER THE COLORADO SPRINGS STORMWATER CONSTRUCTION MANUAL; LATEST REVISIONS.
3. AREA WITHIN LIMITS OF DISTURBANCE TO BE CLEARED, GRUBBED AND STOCKPILED PRIOR TO IMPORT OF ANY FILL.
4. ALL 3:1 SLOPES MUST BE RECEIVE TRACKING TREATMENT AND EROSION CONTROL BLANKET.
5. STOCKPILES REQUIRED DURING ONSITE CONSTRUCTION ACTIVITIES WILL BE PLACED AT THE DISCRETION OF THE CONTRACTOR. STOCKPILING OF MATERIAL MUST NOT OCCUR OUTSIDE THE LIMITS OF DISTURBANCE SHOWN ON THIS PLAN.
6. NON-STRUCTURAL CONTROLS (I.E. STREET SWEEPING) WILL BE AT THE DISCRETION OF THE PROJECT'S CERTIFIED GEC ADMINISTRATOR THROUGHOUT THE DURATION OF LAND DISTURBING ACTIVITIES.
7. THERE ARE NO ANTICIPATED ASPHALT AND/OR CONCRETE BATCH PLANTS, OR MASONRY MIX STATIONS ASSOCIATED WITH THIS PROJECT. IF THE CONTRACTOR REQUIRES A ASPHALT/CONCRETE BATCH PLANTS OR MASONRY MIX STATIONS, THESE PLANS WILL BE AMENDED AS REQUIRED.
8. THERE ARE NO EXISTING PRESERVATION EASEMENTS LOCATED ON SITE.
9. THE SITE IS NOT LOCATED IN THE FEMA 100-YR FLOODPLAIN
10. ONSITE EXISTING VEGETATION IS NATIVE GRASSES AND WEEDS. THERE IS NO NOTABLE VEGETATION OTHERWISE.
11. PROPOSED VEGETATION IS FOUND IN LANDSCAPE PLANS OF THE CONSTRUCTION DRAWINGS

PROJECT INFO:

TOTAL DISTURBANCE AREA = 11.33 AC
 RECEIVING WATERS: JIMMY CAMP CREEK
 ANTICIPATED START OF CONSTRUCTION: SPRING 2023
 ANTICIPATED END OF LAND DISTURBANCE: WINTER 2023
 ANTICIPATED FINAL STABILIZATION: SPRING 2024

GEC LEGEND:

- CWA CONCRETE WASHOUT AREA
- CF CONSTRUCTION FENCE
- DD DIVERSION DITCH
- IP INLET PROTECTION
- CIP CULVERT INLET PROTECTION
- SCL SEDIMENT CONTROL LOG
- SF SILT FENCE
- SSA STABILIZED STAGING AREA
- SP STOCKPILE MANAGEMENT
- VTC VEHICLE TRACKING CONTROL
- LOD LIMITS OF CONSTRUCTION/ DISTURBANCE
- SM SEEDING AND MULCHING
- FA FILL AREA (ALL OTHER AREAS ARE CUT)
- RS ROCK SOCK
- TSB TEMPORARY SEDIMENT BASIN
- ECB EROSION CONTROL BLANKET
- TW/BW ELEVATION OF TOP/BOTTOM OF WALL
- PROP FLOW DIRECTION
- EX FLOW DIRECTION
- EX PROPERTY LINE
- EX RIGHT OF WAY



PCD FILE NO.: SF2214 **FOR CONSTRUCTION**

DRAWN BY: CBM JOB DATE: 1/6/2023
 APPROVED: KMH JOB NUMBER: 200541
 CAD DATE: 1/24/2023
 CAD FILE: J:\2020\200541\CAD\DWG\C\CD\IEI_Paso_Co\GEC\GEC_Verical

BAR IS ONE INCH ON OFFICIAL DRAWINGS.
 IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY.

NO.	DATE	BY	REVISION DESCRIPTION

HRGreen
 HR GREEN - COLORADO SPRINGS
 7222 COMMERCE CENTER DR SUITE 220
 COLORADO SPRINGS CO 80919
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THE COTTAGES AT MESA RIDGE
GOODWIN KNIGHT
 EL PASO COUNTY, COLORADO

EL PASO COUNTY CONSTRUCTION DOCUMENTS
 GEC- VERTICAL PLAN

SHEET
EC
5

PLAN VIEW OF BASE
SCALE 3/8" = 1'-0"

SECTION VIEW
SCALE 3/8" = 1'-0"

TYPICAL CHANNEL DETAILS
SCALE 1/4" = 1'-0"

TOE POCKETS DETAILS
SCALE 3/4" = 1'-0"

NOTES

- Type II manholes shall be used only with approval of the City Engineer and only when the pipe sizes are 30" or less inside diameter.
- View and Details are typical. Design Engineer shall determine manhole base configuration and dimensions for particular pipe sizes and alignment.
- Either ladder or steps shall be installed when manhole depth exceeds 30". Steps in base shall be installed in "tee pocket" (see detail this sheet). Lowest step shall be a maximum of 16" above the floor.
- Pipes shall be trimmed to final shape and set before manhole is poured.
- Bench shall be sloped toward center of manhole base (411 max., 1/2" per ft. min.).
- Floor of manhole shall be troweled to a smooth, hard surface and shall slope towards the outlet (811 max., 1/2" per ft. min.). Floor shall be shaped and channelled; see detail this sheet.

CITY OF COLORADO SPRINGS
STORM SEWER MANHOLE - TYPE II
APPROVED BY: *Jennifer E. Irvine*
SCALE: AS SHOWN DATE: JAN. 09 DRAWN: SHEET: D-20-B OF 4

SECTION VIEW
SCALE: 3/8" = 1'-0"

ECCENTRIC CONE TOP
(FOR HR > 3') SCALE: 1/2" = 1'-0"

ECCENTRIC FLAT TOP
(FOR HR < 3') SCALE: 1/2" = 1'-0"

NOTES

- All work shall be done in accordance with the standard and supplemental specifications applicable to the project.
- Precast risers shall conform to ASTM C-478.
- Steps shall be installed when manhole depth exceeds 30". Steps shall be cast iron or extruded aluminum, 1000 lb. capacity, 1 1/2" wide with non-skid grooves and drop front on safety noses, in accordance with approved OSHA requirements.

CITY OF COLORADO SPRINGS
STORM SEWER COVER & RISER
APPROVED BY: *Jennifer E. Irvine*
SCALE: AS SHOWN DATE: JAN. 09 DRAWN: SHEET: D-20D OF 4

PLAN VIEW

SECTION A-A REGULAR INLET

SECTION A-A INLET WITH DROP BOX

CURB FACE ASSEMBLY

SECTION B-B END VIEW

GENERAL NOTES

- FOR LENGTHS 6.0 FT. OR MORE, PROVIDE MAINTENANCE ACCESS AT BOTH ENDS WITH AN INTERIOR MANHOLE DOOR AND COVER.
- WHEN A TYPE II INLET IS USED WITH A TRANSITION CURB, THE TRANSITION CURB SHALL BE PAID FOR BY THE CURB AND GUTTER CONTRACTOR.
- WHEN A TYPE II INLET IS USED WITH A TRANSITION CURB, THE TRANSITION CURB SHALL BE PAID FOR BY THE CURB AND GUTTER CONTRACTOR.
- FOR A 2'-0" PAN SLOPE 2" PER FT.

COMPUTER FILE INFORMATION

STANDARD PLAN NO.
M-604-12
Standard Sheet No. 1 of 2

Pedestrian Curb Ramp Detail
Standard Drawing

DATE APPROVED: 6/23/20
DRAWN BY: Jennifer E. Irvine
SCALE: SD_2-41

GENERAL NOTES

- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CURRENT ENGINEERING CRITERIA MANUAL AND ANY REQUIREMENTS.
- CONNECTION TO EXISTING SIDEWALK OR DRIVEWAY SHALL BE MADE IN ACCORDANCE WITH THE CURRENT ENGINEERING CRITERIA MANUAL.
- PRECAST CURB RAMP CONSTRUCTION SHALL BE A MINIMUM 4.000 PSI CONCRETE WITH 1.000% STEEL REINFORCEMENT.
- PRECAST CURB RAMP LOCATIONS AND LENGTHS MUST BE DETERMINED BY THE DESIGNER. THE RAMP SHALL BE CONSTRUCTED TO MATCH THE EXISTING SIDEWALK OR DRIVEWAY. THE RAMP SHALL BE CONSTRUCTED TO MATCH THE EXISTING SIDEWALK OR DRIVEWAY. THE RAMP SHALL BE CONSTRUCTED TO MATCH THE EXISTING SIDEWALK OR DRIVEWAY.
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- THE COVERING SURFACE OF THE CURB OR RAMP AT THE FOOT OF A RAMP SHALL NOT EXCEED 24" IN LENGTH.

Parallel Pedestrian Curb Ramp Detail
Standard Drawing

DATE APPROVED: 6/23/20
DRAWN BY: Jennifer E. Irvine
SCALE: SD_2-50

GENERAL NOTES

- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CURRENT ENGINEERING CRITERIA MANUAL AND ANY REQUIREMENTS.
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TABLE ONE - BAR LIST FOR CURB INLETS, TYPE "R"

NO.	LENGTH	NO. REQS.		L = 5 FT.		L = 10 FT.		L = 15 FT.	
		REGULAR	DROP BOX	REGULAR	DROP BOX	REGULAR	DROP BOX	REGULAR	DROP BOX
3'-0"	2'-0"	1	1	1	1	1	1	1	1
3'-0"	3'-0"	1	1	1	1	1	1	1	1
3'-0"	4'-0"	1	1	1	1	1	1	1	1
3'-0"	5'-0"	1	1	1	1	1	1	1	1
3'-0"	6'-0"	1	1	1	1	1	1	1	1
3'-0"	7'-0"	1	1	1	1	1	1	1	1
3'-0"	8'-0"	1	1	1	1	1	1	1	1
3'-0"	9'-0"	1	1	1	1	1	1	1	1
3'-0"	10'-0"	1	1	1	1	1	1	1	1

TABLE TWO - BARS AND QUANTITIES VARIABLE WITH "R"

BAR BENDING DIAGRAMS - (DIMENSIONS ARE OUT-TO-OUT OF BARS)

GENERAL NOTES

- CONCRETE SHALL BE CLASS B INLET MAY BE CAST IN PLACE OR PRECAST.
- CONCRETE SHALL BE FINISHED TO BOTH SIDES AND SHALL BE 1/2" BELOW FINISH.
- INLET STOPS SHALL BE IN ACCORDANCE WITH ADR 108.
- CURB FACE ASSEMBLY SHALL BE CALVAZED AT FINISHING.
- EXPOSED CONCRETE SURFACES SHALL BE CHAMFERED 1/4" IF A 1/2" CURB AND GUTTER CONCRETE SHALL BE PROVIDED TO MATCH THE EXISTING CURB AND GUTTER BEING THE TRANSITION CURB.
- REINFORCEMENT BARS SHALL BE SET AND SHALL HAVE A 2" MINIMUM CLEARANCE ALL AROUND BARS SHALL BE 2" FROM THE CURB AND GUTTER.
- DIMENSIONS AND WEIGHTS OF TYPICAL MANHOLE RINGS AND COVERS ARE NOMINAL. MANHOLE RING AND COVERS SHALL BE CAST OR CASTLE CAST IRON IN ACCORDANCE WITH SUBSECTION 703.0.
- STEEL PIPE EXPOSED INTO THE INLET ARE AVERAGE. THE DIMENSIONS SHOWN ARE TYPICAL. ACTUAL DIMENSIONS AND QUANTITIES FOR CONCRETE AND REINFORCEMENT SHALL BE AS REQUIRED IN THE WORK QUANTITIES INCLUDE. INCLUDES OCCUPY BY PILES.
- STRUCTURAL STEEL SHALL BE GALVANIZED AND SHALL BE IN ACCORDANCE WITH SUBSECTION 703.0.
- ALL MANHOLE COVERS SHALL BE CAST WITH A "NO DUMPING DRAINS TO STREAM" MESSAGE AND A 2" CHANNEL. THE SURFACE OF THE MANHOLE COVER SHALL HAVE A NON-SLIP PATTERN.

6/22/24 4:35 PM El Paso County, CO Engineering Criteria Manual

Pedestrian Curb Ramp Detail
Standard Drawing

DATE APPROVED: 6/23/20
DRAWN BY: Jennifer E. Irvine
SCALE: SD_2-41

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Parallel Pedestrian Curb Ramp Detail
Standard Drawing

DATE APPROVED: 6/23/20
DRAWN BY: Jennifer E. Irvine
SCALE: SD_2-50

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6/22/24 4:35 PM El Paso County, CO Engineering Criteria Manual

Curb Inlet Type R
Standard Drawing

DATE APPROVED: 6/23/20
DRAWN BY: Jennifer E. Irvine
SCALE: SD_2-50

GENERAL NOTES

- CONCRETE SHALL BE CLASS B INLET MAY BE CAST IN PLACE OR PRECAST.
- CONCRETE SHALL BE FINISHED TO BOTH SIDES AND SHALL BE 1/2" BELOW FINISH.
- INLET STOPS SHALL BE IN ACCORDANCE WITH ADR 108.
- CURB FACE ASSEMBLY SHALL BE CALVAZED AT FINISHING.
- EXPOSED CONCRETE SURFACES SHALL BE CHAMFERED 1/4" IF A 1/2" CURB AND GUTTER CONCRETE SHALL BE PROVIDED TO MATCH THE EXISTING CURB AND GUTTER BEING THE TRANSITION CURB.
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- ALL MANHOLE COVERS SHALL BE CAST WITH A "NO DUMPING DRAINS TO STREAM" MESSAGE AND A 2" CHANNEL. THE SURFACE OF THE MANHOLE COVER SHALL HAVE A NON-SLIP PATTERN.

6/22/24 4:35 PM El Paso County, CO Engineering Criteria Manual

Curb Inlet Type R
Standard Drawing

DATE APPROVED: 6/23/20
DRAWN BY: Jennifer E. Irvine
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DRAWN BY: CBM JOB DATE: 1/6/2023 BAR IS ONE INCH ON OFFICIAL DRAWINGS.

APPROVED: KMH JOB NUMBER: 200541 0

CAD DATE: 1/24/2023 IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY.

CAD FILE: J:\2020\200541\CAD\Draws\C\CD\IEI_Paso_Co\Details

NO.	DATE	BY	REVISION DESCRIPTION

HR GREEN - COLORADO SPRINGS

7222 COMMERCE CENTER DR SUITE 220
COLORADO SPRINGS CO 80919

PHONE: 719.300.4140 TOLL FREE: 800.728.7805
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THE COTTAGES AT MESA RIDGE
GOODWIN KNIGHT
EL PASO COUNTY, COLORADO

EL PASO COUNTY CONSTRUCTION DOCUMENTS

DETAILS

SHEET DT 29

CLASS "A" (CONCRETE CRADLE)
L.F.=2.8

CLASS "B" (GRANULAR BASE)
L.F.=1.9

CLASS "C" (SHAPED BOTTOM)
L.F.=1.5

CLASS "D" (FLAT BOTTOM)
L.F.=1.1

PIPE BEDDING DWG-01

Drawn: MAM, Revised: 2-2003 = CLASS B GRAN. MATERIAL
Date: MARCH 2000, Revised:
Scale: NONE, Revised:

TYPICAL TRENCH CROSS SECTION DWG-02

Drawn: MAM, Revised: 3-2003 = BEDDING DEPTH
Date: MARCH 2000, Revised:
Scale: NONE, Revised:

BOTTOM OF TRENCH WIDTH		
PIPE DIAMETER	MINIMUM WIDTH	MAXIMUM WIDTH
4"	1'-5"	3'-9"
6"	1'-7"	3'-11"
8"	1'-9"	4'-1"
12"	2'-1"	4'-5"
15"	2'-6"	4'-9"
18"	2'-10"	5'-2"
24"	3'-2"	5'-6"

PRECAST CONCRETE MANHOLE DWG-03

Drawn: SKC, Revised: 3-2003 = STEPS AND MH DIAMETER
Date: MARCH 2000, Revised: 6-2017: PRECAST BASE, HMA @ RING & MH DIA
Scale: NONE, Revised: 3-2018: CONE, DIAMETERS, WATERPROOFING

- MANHOLE BARREL MINIMUM DIAMETER SHALL CONFORM TO TABLE.
- MANHOLE FLOW CHANNELS SHALL BE CONSTRUCTED BY FORMING OR SHAPING CAST-IN-PLACE CONCRETE. PIPE SHALL NOT BE LAID THROUGH MANHOLE BASE CHANNEL. DEPTH SHALL BE NO LESS THAN DIAMETER OF THE LARGEST PIPE AT MANHOLE.
- PRECAST CONCRETE AND REINFORCEMENT TO CONFORM TO ASTM C-478.
- APPLY HIGH BUILD EPOXY WATERPROOFING TO ALL EXTERIOR CONCRETE SURFACES; PRIOR DESIGN AND INSPECTION APPROVAL REQUIRED. ICS DEVCO DEVTAR 5A.
- DOUBLE EXTERIOR JOINT WRAPS, MIN. 12" WIDE, SHALL BE INSTALLED AT ALL JOINTS ON MANHOLE BARREL; HENRY CO. RUB'NEX® JOINT WRAP OR EQUIVALENT.
- PROVIDE PIPE TO MANHOLE CONNECTION, KOR-N-SEAL® OR EQUIVALENT.
- REFER TO STANDARD SPECIFICATIONS FOR RING & COVER REQUIREMENTS. CLEAR RING OPENING SHALL BE NO LESS THAN 24".
- MANHOLES SHALL NOT HAVE STEPS PERMANENTLY INSTALLED. BARREL PENETRATIONS WHERE STEPS HAVE BEEN REMOVED SHALL BE FILLED WITH EPOXY BASED GROUT, SIKAGROUT 212 OR EQUIVALENT. STEPS SHALL BE COMPLETELY REMOVED, NOT CUT OFF AT THE BARREL SURFACE.
- PLACE EACH RING, BARREL AND CONE SECTION IN FULL BED OF DOUBLE BUTYL RUBBER SEALANT, CONSEAL CS-102 OR EQUIVALENT, NO LESS THAN TWO CONTINUOUS PIECES OF SEALANT, 1"x1" WITH JOINT ON EACH PIECE OFFSET FROM THE OTHER.

MARKING CURBS ABOVE SERVICE LINES

OPTION 1 - STAMP FACE OF CURB WITH 'S' FOR WASTEWATER SERVICE LINE WHILE CONCRETE IS PLASTIC

OPTION 2 - DRILL AND EPOXY A BRONZE MARKER INTO FACE OF CURB FOR SLOPED CURB, OR HEAD OF CURB FOR VERTICAL CURB, ABOVE THE LINE LOCATION AFTER CONCRETE HAS CURED

MARKING CURBS ABOVE SERVICE LINES DWG-11B

Drawn: SKC, Revised:
Date: APRIL 2018, Revised:
Scale: NONE, Revised:

KOR-N-SEAL BOOT DETAIL DWG-3A

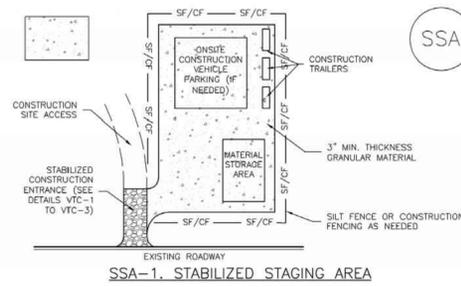
Drawn: GSM, Revised:
Date: MARCH 2003, Revised:
Scale: NONE, Revised:

SANITARY SEWER SERVICE TWO-WAY CLEAN-OUT DWG-08E

Drawn: SKC, Revised:
Date: MAY 2016, Revised:
Scale: NONE, Revised:

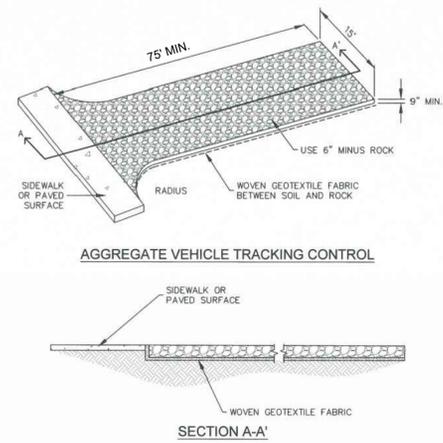
NO.	DATE	BY	REVISION DESCRIPTION

Stabilized Staging Area (SSA) SM-6



SSA-1. STABILIZED STAGING AREA

- STABILIZED STAGING AREA INSTALLATION NOTES
1. SEE PLAN VIEW FOR LOCATION OF STAGING AREA(S).
2. STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE.
3. STAGING AREA SHALL BE STABILIZED PRIOR TO OTHER OPERATIONS ON THE SITE.
4. THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM 3" THICK GRANULAR MATERIAL.
5. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, ASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.
6. ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SILT FENCE AND CONSTRUCTION FENCING.
STABILIZED STAGING AREA MAINTENANCE NOTES
1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.

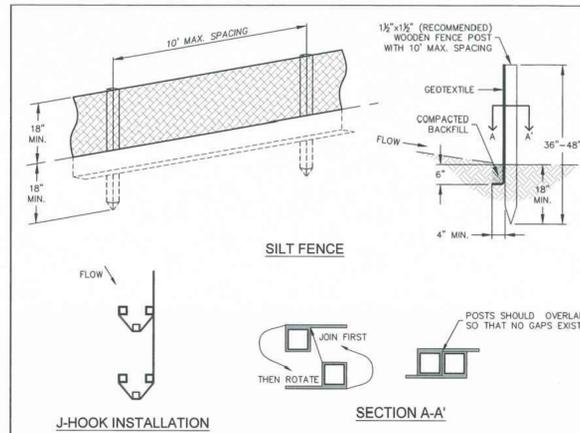


AGGREGATE VEHICLE TRACKING CONTROL

- INSTALLATION NOTES
1. A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHOULD BE LOCATED AT ALL POINTS WHERE VEHICLES EXIT THE CONSTRUCTION SITE TO ADJACENT ROADWAY.
2. STABILIZED CONSTRUCTION ENTRANCE/EXITS SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
3. RADIUS MUST BE ADEQUATE FOR INTENDED CONSTRUCTION VEHICLE TURNING.
4. ROCK SHOULD CONSIST OF 6" MINUS ROCK.
5. INSTALL CONSTRUCTION FENCE ON BOTH SIDES OF VEHICLE TRACKING CONTROL PAD WHEN NEEDED OR REQUIRED BY INSPECTOR.
MAINTENANCE NOTES
1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION.
2. SEDIMENT TRACKED ONTO THE ADJACENT ROAD SHALL BE REMOVED DAILY, BY SWEEPING OR SHOVELING, AND NEVER WASHED DOWN STORM DRAINS.
3. ROUGHEN, REPLACE AND/OR ADD ROCK AS NEEDED TO MAINTAIN CONSISTENT DEPTH AND TO PREVENT SEDIMENT TRACKING ONTO ADJACENT STREET.
4. PERMANENTLY STABILIZE AREA AFTER VEHICLE TRACKING CONTROL IS REMOVED.



STORMWATER ENTERPRISE VEHICLE TRACKING CONTROL APPROVED: [Signature] ISSUED: 10/7/19 REVISED: 8/19/2020 DRAWING NO. 900-VTC



SILT FENCE

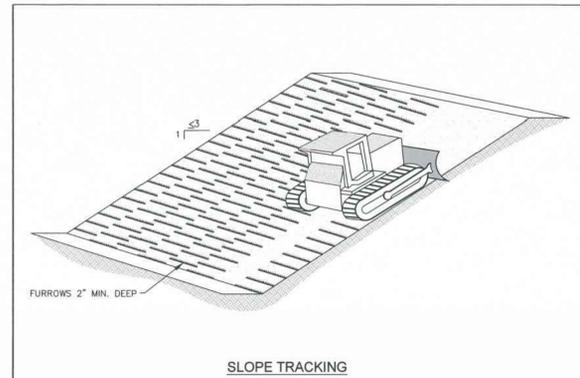
J-HOOK INSTALLATION

SECTION A-A'

- INSTALLATION NOTES
1. SILT FENCE MUST BE PLACED ON A FLAT SURFACE 2'-5' AWAY FROM TOE OF THE SLOPE TO ALLOW FOR PONDING AND DEPOSITION.
2. COMPACT THE TRENCH USING A JUMPING JACK OR WHEEL ROLLING TO THE POINT THAT THE FENCE RESISTS BEING PULLED OUT OF THE GROUND BY HAND.
3. SILT FENCE SHALL BE TAUT WITH NO SAGS AFTER IT HAS BEEN ANCHORED.
4. FABRIC SHALL BE ATTACHED TO POSTS WITH 1" HEAVY DUTY STAPLES OR 1" NAILS. THESE SHOULD BE PLACED VERTICALLY DOWN THE POST, 3" APART.
5. THE PREFERRED INSTALLATION METHOD USES A TRENCHER OR SILT FENCE INSTALLATION DEVICE.
6. INSTALL SILT FENCE ALONG THE CONTOUR OF THE SLOPES OR IN A MANNER TO AVOID CREATING CONCENTRATED FLOW (SUCH AS A "J-HOOK" INSTALLATION).
MAINTENANCE NOTES
1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION.
2. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES 1/2 OF THE DESIGN HEIGHT OF THE SILT FENCE.
3. SILT FENCE MUST REMAIN UNTIL THE UPSTREAM DISTURBANCE AREA IS STABILIZED.
4. PERMANENTLY STABILIZE AREA AFTER SILT FENCE IS REMOVED.



STORMWATER ENTERPRISE SILT FENCE APPROVED: [Signature] ISSUED: 10/7/19 REVISED: 8/19/2020 DRAWING NO. 900-SF

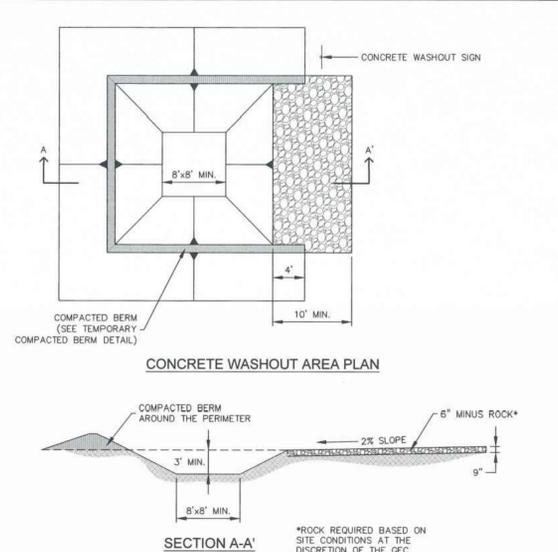


SLOPE TRACKING

- INSTALLATION NOTES
1. SLOPE TRACKING MAY BE USED ON SLOPES 3:1 OR STEEPER.
2. TRACKING GROOVES SHALL BE PERPENDICULAR TO THE SLOPE.
3. SLOPE TRACKING SHALL NOT BE USED ON EXTREMELY SANDY OR ROCKY SOILS.
MAINTENANCE NOTES
1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION.
2. VEHICLES AND EQUIPMENT SHALL NOT BE DRIVEN OVER AREAS THAT HAVE BEEN SLOPE TRACKED.



STORMWATER ENTERPRISE SLOPE TRACKING APPROVED: [Signature] ISSUED: 10/7/19 REVISED: 8/19/2020 DRAWING NO. 900-ST



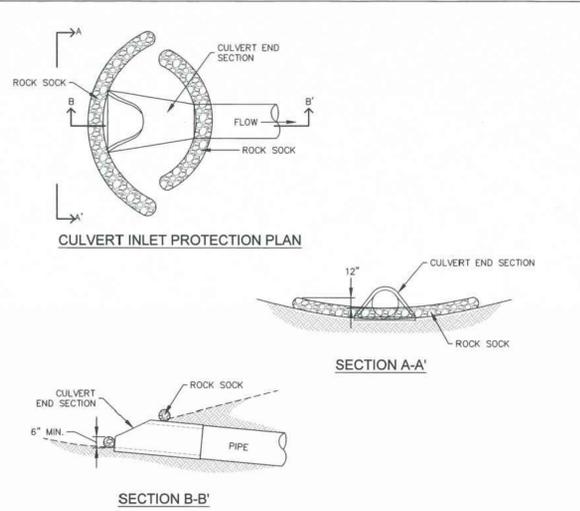
CONCRETE WASHOUT AREA PLAN

SECTION A-A'

- INSTALLATION NOTES
1. SEE PLAN VIEW FOR LOCATION OF CONCRETE WASHOUT AREA.
2. LOCATE AT LEAST 50' AWAY FROM STATE WATERS MEASURED HORIZONTALLY.
3. AN IMPERMEABLE LINER (16 MIL. MINIMUM THICKNESS) IS REQUIRED IF CONCRETE WASH AREA IS LOCATED WITHIN 400' OF STATE WATERS OR 1000' OF WELLS OR DRINKING WATER SOURCES.
4. DO NOT LOCATE IN AREAS WHERE SHALLOW GROUNDWATER MAY BE PRESENT.
5. THE CONCRETE WASH AREA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
6. CONCRETE WASH AREA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8'.
7. BERM SURROUNDING SIDES AND BACK OF CONCRETE WASH AREA SHALL HAVE A MINIMUM HEIGHT OF 2 FEET.
8. CONCRETE WASH AREA ENTRANCE SHALL BE SLOPED 2% TOWARDS THE CONCRETE WASH AREA.
9. SIGNS SHALL BE PLACED AT THE CONCRETE WASH AREA.
10. USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.
MAINTENANCE NOTES
1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION.
2. THE CONCRETE WASH AREA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE.
3. 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.
4. THE CONCRETE WASH AREA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.
5. PERMANENTLY STABILIZE AREA AFTER CONCRETE WASH AREA IS REMOVED.



STORMWATER ENTERPRISE CONCRETE WASHOUT AREA APPROVED: [Signature] ISSUED: 10/7/19 REVISED: 8/19/2020 DRAWING NO. 900-CWA-1



CULVERT INLET PROTECTION PLAN

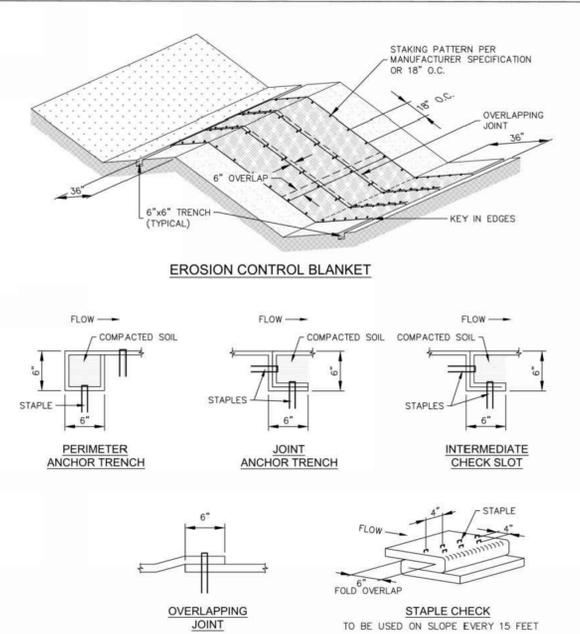
SECTION A-A'

SECTION B-B'

- INSTALLATION NOTES
1. SEE ROCK SOCK DETAIL.
MAINTENANCE NOTES
1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION.
2. ACCUMULATED SEDIMENT UPSTREAM OF THE CULVERT SHALL BE REMOVED WHEN THE SEDIMENT DEPTH IS 1/2 HEIGHT OF THE ROCK SOCK.
3. CULVERT INLET PROTECTION SHALL REMAIN UNTIL THE UPSTREAM AREA IS PERMANENTLY STABILIZED.



STORMWATER ENTERPRISE CULVERT INLET PROTECTION APPROVED: [Signature] ISSUED: 10/7/19 REVISED: 8/19/2020 DRAWING NO. 900-CIP



EROSION CONTROL BLANKET

PERIMETER ANCHOR TRENCH

JOINT ANCHOR TRENCH

INTERMEDIATE CHECK SLOT

OVERLAPPING JOINT

STAPLE CHECK



STORMWATER ENTERPRISE EROSION CONTROL BLANKET APPROVED: [Signature] ISSUED: 10/7/19 REVISED: 8/19/2020 DRAWING NO. 900-ECB-1

Table with columns: NO., DATE, BY, REVISION DESCRIPTION

INSTALLATION NOTES

- 100% NATURAL AND BIODEGRADABLE MATERIALS ARE REQUIRED FOR EROSION CONTROL BLANKETS. TRM PRODUCTS MAY BE USED WHERE APPROPRIATE AS DESIGNATED BY THE ENGINEER.
- IN AREAS WHERE EROSION CONTROL BLANKETS ARE SHOWN ON THE PLANS, THE PERMITTEE SHALL PLACE TOPSOIL AND PERFORM FINAL GRADING, SURFACE PREPARATION AND SEEDING OR MULCHING. SUBGRADE SHALL BE SMOOTH AND MOIST PRIOR TO EROSION CONTROL BLANKET INSTALLATION AND THE EROSION CONTROL BLANKET SHALL BE IN FULL CONTACT WITH THE SUBGRADE. NO GAPS OR VOIDS SHALL EXIST UNDER THE BLANKET.
- PERIMETER ANCHOR TRENCH SHALL BE USED ALONG THE OUTSIDE PERIMETER OF ALL BLANKET AREAS.
- JOINT ANCHOR TRENCH SHALL BE USED TO JOIN ROLLS OF EROSION CONTROL BLANKETS TOGETHER (LONGITUDINALLY AND TRANSVERSELY) FOR ALL EROSION CONTROL BLANKETS.
- INTERMEDIATE CHECK SLOT OR STAPLE CHECK SHALL BE INSTALLED EVERY 15' DOWN SLOPES. IN DRAINAGEWAYS, INSTALL CHECK SLOTS EVERY 25' PERPENDICULAR TO FLOW DIRECTION.
- OVERLAPPING JOINT DETAIL SHALL BE USED TO JOIN ROLLS OF EROSION CONTROL BLANKETS TOGETHER FOR EROSION CONTROL BLANKETS ON SLOPES.
- MATERIAL SPECIFICATIONS OF EROSION CONTROL BLANKETS SHALL CONFORM TO TABLE ECB-1.
- ANY AREAS OF SEEDING AND MULCHING DISTURBED IN THE PROCESS OF INSTALLING EROSION CONTROL BLANKETS SHALL BE RESEEDED AND MULCHED.
- STRAW EROSION CONTROL BLANKETS SHALL NOT BE USED WITHIN STREAMS AND DRAINAGE CHANNELS.
- COMPACT ALL TRENCHES.

MAINTENANCE NOTES

- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- EROSION CONTROL BLANKETS SHALL BE LEFT IN PLACE TO EVENTUALLY BIODEGRADE. TRM MUST BE REMOVED AT THE DISCRETION OF THE GEC INSPECTOR.
- ANY EROSION CONTROL BLANKET PULLED OUT, TORN, OR OTHERWISE DAMAGED SHALL BE REPAIRED OR REINSTALLED. ANY SUBGRADE AREAS BELOW GEOTEXTILE THAT HAVE ERODED TO CREATE A VOID UNDER THE BLANKET, OR THAT REMAIN DEVOID OF GRASS SHALL BE REPAIRED, RESEEDED AND MULCHED AND THE EROSION CONTROL BLANKET REINSTALLED.

TYPE	COCONUT CONTENT	STRAW CONTENT	EXCELSIOR CONTENT	RECOMMENDED NETTING
STRAW	-	100%	-	DOUBLE/NATURAL
STRAW-COCONUT	30% MIN.	70% MAX.	-	DOUBLE/NATURAL
COCONUT	100%	-	-	DOUBLE/NATURAL
EXCELSIOR	-	-	100%	DOUBLE/NATURAL

ECB

STORMWATER ENTERPRISE
APPROVED: [Signature]
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DRAWING NO. 900-ECB-2

CURB INLET PROTECTION

SECTION A-A'

CURB ROCK SOCKS UPSTREAM OF INLET PROTECTION

INSTALLATION NOTES

- SEE ROCK SOCK DETAIL FOR INSTALLATION REQUIREMENTS.
- PLACEMENT OF THE ROCK SOCK SHALL BE APPROXIMATELY 40 DEGREES FROM THE CURB.
- ROCK SOCKS ARE TO BE FLUSH WITH THE CURB AND SPACED A MINIMUM OF 5' APART.
- AT LEAST TWO CURB ROCK SOCKS IN SERIES ARE REQUIRED UPSTREAM OF ON-GRADIENT INLETS.
- ADDITIONAL ROCK SOCKS MAY BE REQUIRED AT GEC INSPECTOR'S DISCRETION.

MAINTENANCE NOTES

- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES 1/2 OF THE DESIGN DEPTH OF THE INLET BARRIER.
- ROCK SOCKS MUST REMAIN UNTIL THE UPSTREAM DISTURBANCE AREA IS STABILIZED.
- PERMANENTLY STABILIZE AREA BEHIND INLET AFTER ROCK SOCKS ARE REMOVED WHEN REMOVAL IS APPROPRIATE.

IP-1

STORMWATER ENTERPRISE
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ROCK SOCK SUMP INLET PROTECTION PLAN

SECTION A-A'

INSTALLATION NOTES

- SEE ROCK SOCK DETAIL FOR INSTALLATION REQUIREMENTS.
- SEDIMENT CONTROL LOGS MAY BE USED IN PLACE OF ROCK SOCKS IN PERVIOUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL.
- CONTROL MEASURES MUST BE WRAPPED AROUND INLET AS TIGHTLY AS POSSIBLE.

MAINTENANCE NOTES

- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES 1/2 OF THE DESIGN DEPTH OF THE INLET BARRIER.
- ROCK SOCKS MUST REMAIN UNTIL THE UPSTREAM DISTURBANCE AREA IS STABILIZED.
- PERMANENTLY STABILIZE AREA AROUND INLET AFTER ROCK SOCKS ARE REMOVED WHEN REMOVAL IS APPROPRIATE.

IP-2

STORMWATER ENTERPRISE
APPROVED: [Signature]
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SEEDING & MULCHING

ALL SOIL TESTING, SOILS AMENDMENT AND FERTILIZER DOCUMENTATION, AND SEED LOAD AND BAG TICKETS MUST BE ADDED TO THE CSWMP.

SOIL PREPARATION

- IN AREAS TO BE SEEDDED, THE UPPER 6 INCHES OF THE SOIL MUST NOT BE HEAVILY COMPACTED, AND SHOULD BE IN FRABLE CONDITION. LESS THAN 85% STANDARD PROCTOR DENSITY IS ACCEPTABLE. AREAS OF COMPACTION OR GENERAL CONSTRUCTION ACTIVITY MUST BE SCARIFIED TO A DEPTH OF 6 TO 12 INCHES PRIOR TO SPREADING TOPSOIL TO BREAK UP COMPACTED LAYERS AND PROVIDE A BLENDING ZONE BETWEEN DIFFERENT SOIL LAYERS.
- AREAS TO BE PLANTED SHALL HAVE AT LEAST 4 INCHES OF TOPSOIL SUITABLE TO SUPPORT PLANT GROWTH.
- THE CITY RECOMMENDS THAT EXISTING AND/OR IMPORTED TOPSOIL BE TESTED TO IDENTIFY SOIL DEFICIENCIES AND ANY SOIL AMENDMENTS NECESSARY TO ADDRESS THESE DEFICIENCIES. SOIL AMENDMENTS AND/OR FERTILIZERS SHOULD BE ADDED TO CORRECT TOPSOIL DEFICIENCIES BASED ON SOIL TESTING RESULTS.
- TOPSOIL SHALL BE PROTECTED DURING THE CONSTRUCTION PERIOD TO RETAIN ITS STRUCTURE AVOID COMPACTION, AND TO PREVENT EROSION AND CONTAMINATION. STRIPPED TOPSOIL MUST BE STORED IN AN AREA AWAY FROM MACHINERY AND CONSTRUCTION OPERATIONS, AND CARE MUST BE TAKEN TO PROTECT THE TOPSOIL AS A VALUABLE COMMODITY. TOPSOIL MUST NOT BE STRIPPED DURING UNDESIRABLE WORKING CONDITIONS (E.G. DURING WET WEATHER OR WHEN SOILS ARE SATURATED). TOPSOIL SHALL NOT BE STORED IN SWALES OR IN AREAS WITH POOR DRAINAGE.

SEEDING

- ALLOWABLE SEED MIXES ARE INCLUDED IN THE CITY OF COLORADO SPRINGS STORMWATER CONSTRUCTION MANUAL. ALTERNATIVE SEED MIXES ARE ACCEPTABLE IF INCLUDED IN AN APPROVED LANDSCAPING PLAN.
- SEED SHOULD BE DRILL-SEEDED WHENEVER POSSIBLE.
- SEED DEPTH MUST BE 1/2 TO 3/4 INCHES WHEN DRILL-SEEDING IS USED.
- BROADCAST SEEDING OR HYDRO-SEEDING MAY BE SUBSTITUTED ON SLOPES STEEPER THAN 3:1 OR ON OTHER AREAS NOT PRACTICAL TO DRILL SEED.
- SEEDING RATES MUST BE DOUBLED FOR BROADCAST SEEDING OR INCREASED BY 50% IF USING A BRILLIUM DRILL OR HYDRO-SEEDING.
- BROADCAST SEEDING MUST BE LIGHTLY HAND-RAKED INTO THE SOIL.

MULCHING

- MULCHING SHOULD BE COMPLETED AS SOON AS PRACTICABLE AFTER SEEDING, HOWEVER PLANTED AREAS MUST BE MULCHED NO LATER THAN 14 DAYS AFTER PLANTING.
- MULCHING REQUIREMENTS INCLUDE:
 - HAY OR STRAW MULCH
 - ONLY CERTIFIED WEED-FREE AND CERTIFIED SEED-FREE MULCH MAY BE USED. MULCH MUST BE APPLIED AT 2 TONS/ACRE AND ADEQUATELY SECURED BY CRIMPING AND/OR TACKIFIER.
 - CRIMPING MUST NOT BE USED ON SLOPES GREATER THAN 3:1 AND MULCH FIBERS MUST BE TUCKED INTO THE SOIL TO A DEPTH OF 3 TO 4 INCHES.
 - TACKIFIER MUST BE USED IN PLACE OF CRIMPING ON SLOPES STEEPER THAN 3:1.
 - HYDRAULIC MULCHING IS AN OPTION ON STEEP SLOPES OR WHERE ACCESS IS LIMITED.
 - IF HYDRO-SEEDING IS USED, MULCHING MUST BE APPLIED AS A SEPARATE, SECOND OPERATION.
 - WOOD CELLULOSE FIBERS MIXED WITH WATER MUST BE APPLIED AT A RATE OF 2,000 TO 2,500 POUNDS/ACRE, AND TACKIFIER MUST BE APPLIED AT A RATE OF 100 POUNDS/ACRE.
- EROSION CONTROL BLANKET
 - EROSION CONTROL BLANKET MAY BE USED IN PLACE OF TRADITIONAL MULCHING METHODS.

SM

STORMWATER ENTERPRISE
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DRAWING NO. 900-SM

SILT FENCE SUMP INLET PROTECTION PLAN

SECTION A-A'

INSTALLATION NOTES

- SEE SILT FENCE DETAIL FOR INSTALLATION REQUIREMENTS.
- POSTS SHALL BE PLACED AT EACH CORNER OF THE INLET AND AROUND THE EDGES AT A MAXIMUM SPACING OF THREE FEET.
- SILT FENCE FABRIC SHOULD HAVE A FLOW RATE IN EXCESS OF 30 GALLONS PER MINUTE PER SQUARE YARD SO AS TO ALLOW SOME WATER FLOW AND NOT DAM THE WATER. STANDARD, LOW-FLOW SILT FENCE FABRIC WILL NOT BE ALLOWED.

MAINTENANCE NOTES

- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES 1/2 OF THE DESIGN DEPTH OF THE INLET BARRIER.
- SILT FENCE MUST REMAIN UNTIL THE UPSTREAM DISTURBANCE AREA IS STABILIZED.
- PERMANENTLY STABILIZE AREA AROUND INLET AFTER SILT FENCE IS REMOVED WHEN REMOVAL IS APPROPRIATE.

IP-3

STORMWATER ENTERPRISE
APPROVED: [Signature]
ISSUED: 10/7/19
REVISION: 8/19/2020
DRAWING NO. 900-IP-3

STRAW BALE SUMP INLET PROTECTION PLAN

SECTION A-A'

INSTALLATION NOTES

- BALES SHALL BE PLACED IN A SINGLE ROW AROUND THE INLET WITH THE ENDS OF THE BALES TIGHTLY ABUTTING ONE ANOTHER.
- STRAW BALES SHALL CONSIST OF CERTIFIED WEED FREE STRAW OR HAY. LOCAL JURISDICTIONS MAY REQUIRE PROOF THAT BALES ARE WEED FREE.
- STRAW BALES SHALL CONSIST OF APPROXIMATELY 5 CUBIC FEET OF STRAW OR HAY AND WEIGH NOT LESS THAN 35 POUNDS.
- STRAW BALE DIMENSIONS SHALL BE APPROXIMATELY 36"x18"x18".
- A UNIFORM ANCHOR TRENCH SHALL BE EXCAVATED TO A DEPTH OF 4". STRAW BALES SHALL BE PACED SO THAT THE BINDING TWINE IS ENCOMPASSING THE VERTICAL SIDES OF THE BALES.
- TWO (2) WOODEN STAKES SHALL BE USED TO HOLD EACH BALE IN PLACE. WOODEN STAKES SHALL BE DRIVEN A MINIMUM OF 6" INTO THE GROUND.

MAINTENANCE NOTES

- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES 1/2 OF THE DESIGN DEPTH OF THE INLET BARRIER.
- STRAW BALES MUST REMAIN UNTIL THE UPSTREAM DISTURBANCE AREA IS STABILIZED.
- PERMANENTLY STABILIZE AREA AROUND INLET AFTER STRAW BALES ARE REMOVED WHEN REMOVAL IS APPROPRIATE.
- STRAW BALES SHALL BE REPLACED IF THEY BECOME HEAVILY SOILED, ROTTEN OR DAMAGED BEYOND REPAIR.

IP-4

STORMWATER ENTERPRISE
APPROVED: [Signature]
ISSUED: 10/7/19
REVISION: 8/19/2020
DRAWING NO. 900-IP-4

ROCK SOCK PLAN

ROCK SOCK SECTION

ROCK SOCK OVERLAP

NO. 4	MASS PERCENT PASSING SQUARE MESH SIEVES
2"	100
1 1/2"	90-100
1"	20-55
3/4"	0-15
3/8"	0-5

ROCK SOCK

INSTALLATION NOTES

- CRUSHED ROCK SHALL BE BETWEEN MAX. 1 1/2" (MINUS) IN SIZE WITH A FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH GRADATION SHOWN ON THIS SHEET AND MIN. 3/4" CRUSHED ROCK.
- WIRE MESH SHALL HAVE OPENINGS SMALLER THAN THE SMALLEST SIZE ROCK.
- WIRE MESH SHALL BE SECURED USING 1/8" RINGS OR WIRE TIES AT 6" CENTERS ALONG ALL JOINTS AND AT 2" CENTERS ON ENDS OF SOCKS.

MAINTENANCE NOTES

- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- ROCK SOCKS SHALL BE REPLACED IF THEY BECOME HEAVILY SOILED OR DAMAGED BEYOND REPAIR.
- ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN THE DEPTH REACHES 1/2 OF THE HEIGHT OF THE ROCK SOCK.
- ROCK SOCKS ARE TO REMAIN IN PLACE UNTIL DISTURBED AREA IS STABILIZED.
- PERMANENTLY STABILIZE AREA AFTER ROCK SOCKS HAVE BEEN REMOVED.

RS

STORMWATER ENTERPRISE
APPROVED: [Signature]
ISSUED: 10/7/19
REVISION: 8/19/2020
DRAWING NO. 900-RS

SEDIMENT CONTROL LOG

SECTION A-A'

SEDIMENT CONTROL LOG JOINTS

INSTALLATION NOTES

- ALL SEDIMENT CONTROL LOGS MUST BE EMBEDDED TO 1/2 OF THE HEIGHT OF THE LOG.
- LARGER DIAMETER SEDIMENT CONTROL LOGS NEED TO BE EMBEDDED DEEPER.
- PLACE SEDIMENT CONTROL LOG AGAINST SIDEWALK OR BACK OF CURB WHEN ADJACENT TO THESE FEATURES.
- SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELSIOR, COCONUT FIBER, AND SHALL BE FREE FROM ANY NOXIOUS WEED SEEDS OF DEFECTS INCLUDING RIPS, HOLES AND OBVIOUS WEAR.
- IF USING AS SLOPE PROTECTION, INSTALL SEDIMENT CONTROL LOGS ALONG THE CONTOUR.

MAINTENANCE NOTES

- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES 1/2 OF THE HEIGHT OF THE SEDIMENT CONTROL LOG.
- PERMANENTLY STABILIZE AREA AFTER SEDIMENT CONTROL LOGS HAVE BEEN REMOVED.

SCL

STORMWATER ENTERPRISE
APPROVED: [Signature]
ISSUED: 10/7/19
REVISION: 8/19/2020
DRAWING NO. 900-SCL

LEGAL DESCRIPTION:

THAT PORTION OF THE NORTHWEST QUARTER OF SECTION 28 AND THE NORTHEAST QUARTER OF SECTION 29, TOWNSHIP 15 SOUTH, RANGE 65 WEST OF THE 6TH P.M., COUNTY OF EL PASO, STATE OF COLORADO, DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: BEARINGS ARE BASED UPON THE NORTH LINE OF THE NORTHEAST QUARTER OF SAID SECTION 29, MONUMENTED AT THE WEST END WITH A 3.25" ALUMINUM CAP IN CONCRETE STAMPED "PLS 4842" AND MONUMENTED AT THE EAST END WITH A #6 REBAR AND 3.25" ALUMINUM CAP STAMPED "PLS 38141" AND ASSUMED TO BEAR S 89°57'13" E A FIELD MEASURED DISTANCE OF 2,652.37 FEET.

BENCHMARK: ELEVATIONS ARE BASED UPON THE FOUNTAIN SANITATION DISTRICT POINT N-1, BEING A 2" BRASS CAP IN CONCRETE AT THE NORTHEAST CORNER OF MESA RIDGE PARKWAY AND FOUNTAIN MESA ROAD. (ELEVATION=5750.57 NGVD 29).

BEGINNING AT THE NORTHWEST CORNER OF THE NORTHWEST QUARTER OF SAID SECTION 28; THENCE N 89°41'59" E ALONG THE NORTH LINE OF SAID NORTHWEST QUARTER, A DISTANCE OF 117.30 FEET TO A POINT ON THE WEST LINE OF POWERS BOULEVARD AS RECORDED UNDER BOOK 6788 AT PAGE 531 OF THE RECORDS OF THE EL PASO COUNTY CLERK AND RECORDERS OFFICE; THENCE ALONG THE WEST LINE OF SAID POWERS BOULEVARD, 933.14 FEET ALONG THE ARC OF A 1,096.98 FOOT RADIUS CURVE TO THE RIGHT, HAVING A CENTRAL ANGLE OF 48°44'17" AND A CHORD THAT BEARS S 12°56'23" W, 905.26 FEET TO A POINT ON THE NORTHERLY LINE OF THAT PARCEL OF LAND DESCRIBED UNDER BOOK 5506 AT PAGE 1290 OF SAID RECORDS;

THENCE OF THE FOLLOWING EIGHT (8) COURSES ALONG SAID NORTHERLY LINES AND EASTERLY LINES OF SAID PARCEL OF LAND DESCRIBED UNDER BOOK 5506 AT PAGE 1290:

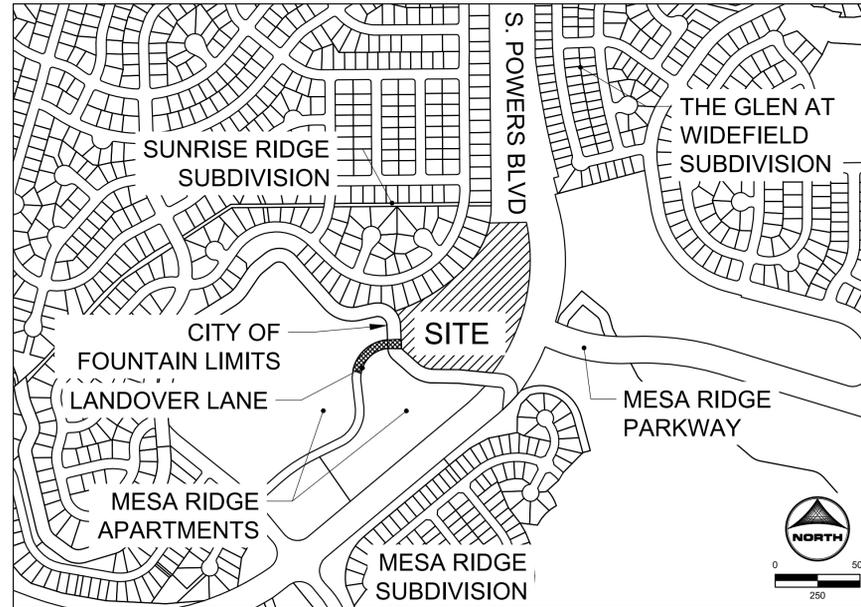
- 1) N 84°16'00" W, A DISTANCE OF 198.99 FEET;
2) 46.11 FEET ALONG THE ARC OF A 540.00 FOOT RADIUS TANGENT CURVE TO THE LEFT, HAVING A CENTRAL ANGLE OF 04°53'33" AND A CHORD THAT BEARS N 86°42'46" W, 46.10 FEET;
3) N 89°09'33" W, A DISTANCE OF 124.09 FEET;
4) 100.02 FEET ALONG THE ARC OF A 140.00 FOOT RADIUS TANGENT CURVE TO THE RIGHT, HAVING A CENTRAL ANGLE OF 40°56'07" AND A CHORD THAT BEARS N 68°41'30" W, 97.91 FEET;
5) N 48°13'27" W, A DISTANCE OF 126.77 FEET;
6) 6.49 FEET ALONG THE ARC OF AN 8.00 FOOT RADIUS TANGENT CURVE TO THE RIGHT, HAVING A CENTRAL ANGLE OF 46°29'23" AND A CHORD THAT BEARS N 24°58'45" W, 6.31 FEET;
7) N 01°44'04" W, A DISTANCE OF 137.18 FEET;
8) 87.71 FEET ALONG THE ARC OF A 135.00 FOOT RADIUS TANGENT CURVE TO THE LEFT, HAVING A CENTRAL ANGLE OF 37°13'35" AND A CHORD THAT BEARS N 20°21'02" W, 86.18 FEET TO THE SOUTHWEST CORNER OF LOT 15, BLOCK 3, SUNRISE RIDGE SUBDIVISION FILING NO. 8 AS RECORDED UNDER RECEPTION NO. 1722613 OF SAID RECORDS;

CONTAINING A CALCULATED AREA OF 445,104 SQUARE FEET (10.218 ACRES) OF LAND, MORE OR LESS.

TO BE PLATTED AS "COTTAGES AT MESA RIDGE"

THE COTTAGES AT MESA RIDGE
EL PASO COUNTY CONSTRUCTION DOCUMENTS
AND GRADING AND EROSION CONTROL PLANS

A PORTION OF THE NORTHEAST QUARTER OF SECTION 29, THE SOUTHEAST QUARTER OF SECTION 20, THE SOUTHWEST QUARTER OF SECTION 21, & THE NORTHWEST QUARTER OF SECTION 28, TOWNSHIP 13 SOUTH, RANGE 65 WEST OF THE 6TH P.M., COUNTY OF EL PASO, STATE OF COLORADO



GENERAL PROVISIONS:

- 1. STATEMENT OF INTENT: THE PURPOSE AND INTENT OF THE PUD ZONING DISTRICT IS TO CREATE A COHESIVE WELL PLANNED COMMUNITY THAT WILL ALLOW FOR A MAXIMUM OF 122 DWELLING UNITS, SINGLE FAMILY ATTACHED UNITS FOR RENT ONLY, AN AMENITY CENTER, AND OPEN SPACE.
2. AUTHORITY: THIS PUD IS AUTHORIZED BY CHAPTER 4 OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, ADOPTED PURSUANT TO THE COLORADO PLANNED UNIT DEVELOPMENT ACT OF 1972, AS AMENDED.
3. APPLICABILITY: THE PROVISIONS OF THIS PUD SHALL RUN WITH THE LAND, THE LANDOWNERS, THEIR SUCCESSORS, HEIRS, OR ASSIGNS SHALL BE BOUND BY THE DEVELOPMENT PLAN, AS AMENDED AND APPROVED BY THE PLANNING AND COMMUNITY DEVELOPMENT DEPARTMENT DIRECTOR OR BOARD OF COUNTY COMMISSIONERS.
4. ADOPTION: THE ADOPTION OF THIS DEVELOPMENT PLAN SHALL EVIDENCE THE FINDINGS AND DECISIONS OF THE EL PASO COUNTY BOARD OF COUNTY COMMISSIONERS THAT THIS DEVELOPMENT PLAN FOR THE COTTAGES AT MESA RIDGE IS IN GENERAL CONFORMITY WITH THE EL PASO COUNTY MASTER PLAN, EL PASO COUNTY POLICY PLAN, AND APPLICABLE SMALL AREA PLAN(S); IS AUTHORIZED UNDER THE PROVISIONS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE; AND THAT THE EL PASO COUNTY LAND DEVELOPMENT CODE AND THIS DEVELOPMENT PLAN COMPLIES WITH THE COLORADO PLANNED UNIT DEVELOPMENT ACT OF 1972, AS AMENDED.
5. RELATIONSHIP TO COUNTY REGULATIONS: THE PROVISIONS OF THIS DEVELOPMENT PLAN SHALL PREVAIL AND GOVERN THE DEVELOPMENT OF THE COTTAGES AT MESA RIDGE, PROVIDED, HOWEVER, THAT WHERE THE PROVISIONS OF THIS DEVELOPMENT PLAN DO NOT ADDRESS A PARTICULAR SUBJECT THE RELEVANT PROVISIONS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, AS AMENDED AND IN EFFECT AT THE TIME OF THE PUD PLAN APPROVAL (OR OWNER ACKNOWLEDGE THE PUD CHANGES WITH THE CODE), OR ANY OTHER APPLICABLE RESOLUTIONS OR REGULATIONS OF EL PASO COUNTY, SHALL BE APPLICABLE.
6. ENFORCEMENT: TO FURTHER THE MUTUAL INTEREST OF THE RESIDENTS, OCCUPANTS, AND OWNERS OF THE PUD AND OF THE PUBLIC IN PRESERVATION OF THE INTEGRITY OF THIS DEVELOPMENT PLAN, THE PROVISIONS OF THIS PLAN RELATING TO THE USE OF LAND AND THE LOCATION OF COMMON SPACE SHALL RUN IN FAVOR OF EL PASO COUNTY AND SHALL BE ENFORCEABLE AT LAW OR IN EQUITY BY THE COUNTY WITHOUT LIMITATION ON ANY POWER OR REGULATION OTHERWISE GRANTED BY LAW, WHERE THERE IS MORE THAN ONE PROVISIONS WITHIN THE DEVELOPMENT PLAN THAT COVERS THE SAME SUBJECT MATTER, THE PROVISIONS WHICH IS MORE RESTRICTIVE OR IMPOSES THE HIGHER STANDARDS OR REQUIREMENTS SHALL GOVERN.

SHEET INDEX:

- 1 - COVER
2 - GEC NOTES & TYPICAL SECTIONS
3 - GEC - INITIAL PLAN
4 - GEC - INTERIM PLAN
5 - GEC - VERTICAL PLAN
6 - 8 - ROADWAY PLAN & PROFILE
9 - 10 - CURB RAMP GRADING
11 - 19 - DETAILED GRADING
20 - NOTES WATER AND SANITARY SEWER
21 - 24 - SANITARY PLAN & PROFILE
25 - 26 - WATER DISTRIBUTION PLAN
27 - UTILITY SERVICE PLAN
28 - STORM SEWER PLAN AND PROFILE
29 - 33 - DETAILS

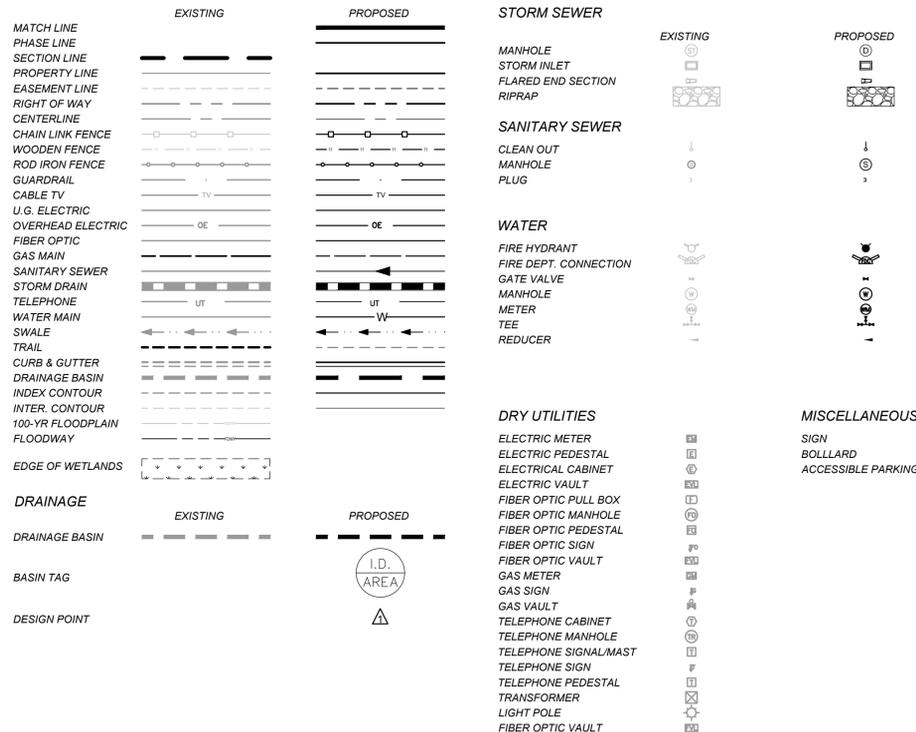
STAKEHOLDERS:

Table with columns for role (OWNER, DEVELOPER, APPLICANT, ATTN, SURVEYOR) and contact information for Goodwin Knight, LLC and Barron Land, LLC.

STANDARD NOTES:

- 1. ALL DRAINAGE AND ROADWAY CONSTRUCTION SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2, AND THE EL PASO COUNTY ENGINEERING CRITERIA MANUAL.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE NOTIFICATION AND FILED NOTIFICATION OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, BEFORE BEGINNING CONSTRUCTION. LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CALL 811 TO CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC).
3. CONTRACTOR SHALL KEEP A COPY OF THESE APPROVED PLANS, THE GRADING AND EROSION CONTROL PLAN, THE STORMWATER MANAGEMENT PLAN (SWMP), THE SOILS AND GEOTECHNICAL REPORT, AND THE APPROPRIATE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS AT THE JOB SITE AT ALL TIMES, INCLUDING THE FOLLOWING:
A. EL PASO COUNTY ENGINEERING CRITERIA MANUAL (ECM)
B. CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2
C. COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION
D. CDOT M & S STANDARDS
4. NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING. ANY MODIFICATIONS NECESSARY TO MEET CRITERIA AFTER-THE-FACT WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
5. IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ACCURATELY SHOW EXISTING CONDITIONS, BOTH ONSITE AND OFFSITE, ON THE CONSTRUCTION PLANS. ANY MODIFICATIONS NECESSARY DUE TO CONFLICTS, OMISSIONS, OR CHANGED CONDITIONS WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
6. CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT DEPARTMENT (PCD) - INSPECTIONS, PRIOR TO STARTING CONSTRUCTION.
7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND THE REQUIREMENTS OF ALL JURISDICTIONAL AGENCIES AND TO OBTAIN ALL REQUIRED PERMITS, INCLUDING BUT NOT LIMITED TO EL PASO COUNTY EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP), REGIONAL BUILDING FLOODPLAIN DEVELOPMENT PERMIT, U.S. ARMY CORPS OF ENGINEERS-ISSUED 401 AND/OR 404 PERMITS, AND COUNTY AND STATE FUGITIVE DUST PERMITS.
8. CONTRACTOR SHALL NOT DEVIATE FROM THE PLANS WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE DESIGN ENGINEER AND PCD. CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY UPON DISCOVERY OF ANY ERRORS OR INCONSISTENCIES.
9. ALL STORM DRAIN PIPE SHALL BE CLASS III RCP UNLESS OTHERWISE NOTED AND APPROVED BY PCD.
10. CONTRACTOR SHALL COORDINATE GEOTECHNICAL TESTING PER ECM STANDARDS. PAVEMENT DESIGN SHALL BE APPROVED BY EL PASO COUNTY PCD PRIOR TO PLACEMENT OF CURB AND GUTTER AND PAVEMENT.
11. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS POINTS.
12. SIGHT VISIBILITY TRIANGLES AS IDENTIFIED IN THE PLANS SHALL BE PROVIDED AT ALL INTERSECTIONS. OBSTRUCTIONS GREATER THAN 18 INCHES ABOVE FLOWLINE ARE NOT ALLOWED WITHIN SIGHT TRIANGLES.
13. SIGNING AND STRIPING SHALL COMPLY WITH EL PASO COUNTY AND MUTCD CRITERIA. [IF APPLICABLE, ADDITIONAL SIGNING AND STRIPING NOTES WILL BE PROVIDED.]
14. CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO COUNTY DPW, INCLUDING WORK WITHIN THE RIGHT-OF-WAY AND SPECIAL TRANSPORT PERMITS.
15. THE LIMITS OF CONSTRUCTION SHALL REMAIN WITHIN THE PROPERTY LINE UNLESS OTHERWISE NOTED. THE OWNER/DEVELOPER SHALL OBTAIN WRITTEN PERMISSION AND EASEMENTS, WHERE REQUIRED, FROM ADJOINING PROPERTY OWNER(S) PRIOR TO ANY OFF-SITE DISTURBANCE, GRADING, OR CONSTRUCTION.

LEGEND



DEVELOPERS STATEMENT - FOUNTAIN SANITATION DISTRICT

THE OWNER WILL COMPLY WITH THE REQUIREMENTS OF FOUNTAIN SANITATION DISTRICT REGULATIONS AND STANDARD SPECIFICATIONS. OWNER WILL COMPLY WITH THE CONSTRUCTION DRAWINGS PREPARED BY HIS/HER CIVIL ENGINEER.
DEVELOPER/OWNER SIGNATURE: Brandon Loveridge DATE: 2/13/23
NAME OF DEVELOPER/OWNER: GOODWIN KNIGHT, LLC
TITLE: Brandon Loveridge, Manager
PHONE: 719-598-5190
ADDRESS: 8605 Explorer Dr., Suite 250, Colorado Springs, CO 80920

FOUNTAIN SANITATION DISTRICT

PLANS ARE RECOMMENDED FOR USE IN CONSTRUCTION OF WASTEWATER COLLECTION SYSTEM FOR THIS PROJECT. DESIGN ENGINEER OF RECORD TAKES SOLE RESPONSIBILITY FOR ALL DESIGN ASPECTS OF THE PROJECT.
JONATHAN MOORE, P.E. DATE
FOUNTAIN SANITATION DISTRICT - DISTRICT ENGINEER

OWNER'S STATEMENT

I, THE OWNER/DEVELOPER HAVE READ AND WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN AND ALL OF THE REQUIREMENTS SPECIFIED IN THESE DETAILED PLANS AND SPECIFICATIONS.

OWNER SIGNATURE: Brandon Loveridge DATE: 2/13/23
OWNER NAME: Brandon Loveridge, Manager Goodwin Knight, LLC

EL PASO COUNTY STATEMENT

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 & ENGINEERING CRITERIA MANUAL AS AMENDED.

IN ACCORDANCE WITH ECM 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 DIRECTORS DISCRETION.

JOSHUA PALMER, P.E. DATE
COUNTY ENGINEER/ECM ADMINISTRATOR

ENGINEER'S STATEMENT

THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECTION AND SUPERVISION. SAID PLANS AND SPECIFICATIONS HAVE BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR DETAILED ROADWAY, DRAINAGE, GRADING AND EROSION CONTROL PLANS AND SPECIFICATIONS, AND SAID PLANS AND SPECIFICATIONS ARE IN CONFORMITY WITH APPLICABLE MASTER DRAINAGE PLANS AND MASTER TRANSPORTATION PLANS. SAID PLANS AND SPECIFICATIONS MEET THE PURPOSES FOR WHICH THE PARTICULAR ROADWAY AND DRAINAGE FACILITIES ARE DESIGNED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARATION OF THESE DETAILED PLANS AND SPECIFICATIONS.

Kenneth M. Huhn DATE: 01/06/23
KENNETH M. HUHN, P.E. DATE
KHUHN@HRGREEN.COM
COLORADO P.E. 0054022

PCD FILE NO.: SF2214 FOR CONSTRUCTION

Table with columns for DRAWN BY, APPROVED, CAD DATE, CAD FILE, JOB DATE, JOB NUMBER, and scale information.

Table with columns for NO., DATE, BY, and REVISION DESCRIPTION.

HRGreen logo and contact information for HR Green - Colorado Springs.

THE COTTAGES AT MESA RIDGE GOODWIN KNIGHT EL PASO COUNTY, COLORADO

GOODWIN KNIGHT logo

EL PASO COUNTY CONSTRUCTION DOCUMENTS COVER SHEET CV 1

Vertical text on the left margin: HR GREEN Xrefs, vicinity, map, legal, description; Stakeholders; typical, sections; Legend; EPC, county, statement; EPC, nec, owner, developer, statement; FSD, Signature, Block, file, road; HUH, KEN, 1/24/2023 11:19 AM

GRADING & EROSION CONTROL PLAN NOTES:

- SEE SHEETS 29 - 32 FOR CITY OF COLORADO SPRINGS GRADING AND EROSION CONTROL DETAILS.
- ALL STORMWATER MANAGEMENT MEASURES SHOWN ON THIS PLAN MUST BE INSTALLED AND MAINTAINED PER THE COLORADO SPRINGS STORMWATER CONSTRUCTION MANUAL; LATEST REVISIONS.
- AREA WITHIN LIMITS OF DISTURBANCE TO BE CLEARED, GRUBBED AND STOCKPILED PRIOR TO IMPORT OF ANY FILL.
- ALL 3:1 SLOPES MUST BE RECEIVE SLOPE TRACKING TREATMENT AND EROSION CONTROL BLANKET.
- STOCKPILES REQUIRED DURING ONSITE CONSTRUCTION ACTIVITIES WILL BE PLACED AT THE DISCRETION OF THE CONTRACTOR. STOCKPILING OF MATERIAL MUST NOT OCCUR OUTSIDE THE LIMITS OF DISTURBANCE SHOWN ON THIS PLAN.
- NON-STRUCTURAL CONTROLS (I.E. STREET SWEEPING) WILL BE AT THE DISCRETION OF THE PROJECT'S CERTIFIED GEC ADMINISTRATOR THROUGHOUT THE DURATION OF LAND DISTURBING ACTIVITIES.
- THERE ARE NO ANTICIPATED ASPHALT AND/OR CONCRETE BATCH PLANTS, OR MASONRY MIX STATIONS ASSOCIATED WITH THIS PROJECT. IF THE CONTRACTOR REQUIRES A ASPHALT/CONCRETE BATCH PLANTS OR MASONRY MIX STATIONS, THESE PLANS WILL BE AMENDED AS REQUIRED.
- THERE ARE NO EXISTING PRESERVATION EASEMENTS LOCATED ON SITE.
- THE SITE IS NOT LOCATED IN THE FEMA 100-YR FLOODPLAIN
- ONSITE EXISTING VEGETATION IS NATIVE GRASSES AND WEEDS. THERE IS NO NOTABLE VEGETATION OTHERWISE.
- PROPOSED VEGETATION IS FOUND IN LANDSCAPE PLANS OF THE CONSTRUCTION DRAWINGS

PROJECT INFO:

TOTAL DISTURBANCE AREA = 11.33 AC
 RECEIVING WATERS: JIMMY CAMP CREEK
 ANTICIPATED START OF CONSTRUCTION: SPRING 2023
 ANTICIPATED END OF LAND DISTURBANCE: WINTER 2023
 ANTICIPATED STABILIZATION: SPRING 2024

LEGEND:

- CWA CONCRETE WASHOUT AREA
- CF CONSTRUCTION FENCE
- DD DIVERSION DITCH
- IP INLET PROTECTION
- CIP CULVERT INLET PROTECTION
- SCL SEDIMENT CONTROL LOG
- SF SILT FENCE
- SSA STABILIZED STAGING AREA
- SP STOCKPILE MANAGEMENT
- VTC VEHICLE TRACKING CONTROL
- LOD LIMITS OF CONSTRUCTION/ DISTURBANCE
- SM SEEDING AND MULCHING
- FA FILL AREA (ALL OTHER AREAS ARE CUT)
- RS ROCK SOCK
- TSB TEMPORARY SEDIMENT BASIN
- ECB EROSION CONTROL BLANKET
- TW/BW ELEVATION OF TOP/BOTTOM OF WALL
- PROP FLOW DIRECTION
- EX FLOW DIRECTION
- EX PROPERTY LINE
- EX RIGHT OF WAY



PCD FILN NO.: SF2214 FOR CONSTRUCTION

DRAWN BY: CBM JOB DATE: 1/6/2023
 APPROVED: KMH JOB NUMBER: 200541
 CAD DATE: 1/24/2023
 CAD FILE: J:\2020\200541\CAD\DWG\GEC\CD\IEI_Paso_Co\GEC\GEC_Initial

BAR IS ONE INCH ON OFFICIAL DRAWINGS.
 IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY.

NO.	DATE	BY	REVISION DESCRIPTION

HR GREEN - COLORADO SPRINGS
 7222 COMMERCE CENTER DR SUITE 220
 COLORADO SPRINGS CO 80919
 PHONE: 719.300.4140 TOLL FREE: 800.728.7805
 FAX: 844.273.1057 | HRGreen.com

THE COTTAGES AT MESA RIDGE
 GOODWIN KNIGHT
 EL PASO COUNTY, COLORADO

EL PASO COUNTY CONSTRUCTION DOCUMENTS
 GEC- INITIAL PLAN

SHEET EC 3

GRADING & EROSION CONTROL PLAN NOTES:

- SEE SHEETS 29 -32 FOR CITY OF COLORADO SPRINGS GRADING AND EROSION CONTROL DETAILS.
- ALL STORMWATER MANAGEMENT MEASURES SHOWN ON THIS PLAN MUST BE INSTALLED AND MAINTAINED PER THE COLORADO SPRINGS STORMWATER CONSTRUCTION MANUAL; LATEST REVISIONS.
- AREA WITHIN LIMITS OF DISTURBANCE TO BE CLEARED, GRUBBED AND STOCKPILED PRIOR TO IMPORT OF ANY FILL.
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PROJECT INFO:

TOTAL DISTURBANCE AREA = 11.33 AC
 RECEIVING WATERS: JIMMY CAMP CREEK
 ANTICIPATED START OF CONSTRUCTION: SPRING 2023
 ANTICIPATED END OF LAND DISTURBANCE: WINTER 2023
 ANTICIPATED FINAL STABILIZATION: SPRING 2024

GEC LEGEND:

	CWA	CONCRETE WASHOUT AREA
	CF	CONSTRUCTION FENCE
	DD	DIVERSION DITCH
	IP	INLET PROTECTION
	CIP	CULVERT INLET PROTECTION
	SCL	SEDIMENT CONTROL LOG
	SF	SILT FENCE
	SSA	STABILIZED STAGING AREA
	SP	STOCKPILE MANAGEMENT
	VTC	VEHICLE TRACKING CONTROL
	LOD	LIMITS OF CONSTRUCTION/DISTURBANCE
	SM	SEEDING AND MULCHING
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		PROP FLOW DIRECTION
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NO.	DATE	BY	REVISION DESCRIPTION

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THE COTTAGES AT MESA RIDGE
 GOODWIN KNIGHT
 EL PASO COUNTY, COLORADO

EL PASO COUNTY CONSTRUCTION DOCUMENTS
 GEC- INTERIM PLAN

SHEET EC 4



GRADING & EROSION CONTROL PLAN NOTES:

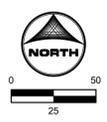
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7. THERE ARE NO ANTICIPATED ASPHALT AND/OR CONCRETE BATCH PLANTS, OR MASONRY MIX STATIONS ASSOCIATED WITH THIS PROJECT. IF THE CONTRACTOR REQUIRES A ASPHALT/CONCRETE BATCH PLANTS OR MASONRY MIX STATIONS, THESE PLANS WILL BE AMENDED AS REQUIRED.
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- TSB TEMPORARY SEDIMENT BASIN
- ECB EROSION CONTROL BLANKET
- TW/BW ELEVATION OF TOP/BOTTOM OF WALL
- PROP FLOW DIRECTION
- EX FLOW DIRECTION
- EX PROPERTY LINE
- EX RIGHT OF WAY



PCD FILE NO.: SF2214 **FOR CONSTRUCTION**

DRAWN BY: CBM JOB DATE: 1/6/2023
 APPROVED: KMH JOB NUMBER: 200541
 CAD DATE: 1/24/2023
 CAD FILE: J:\2020\200541\CAD\DWG\C\CD\IEI_Paso_Co\GEC\GEC_Vertical

BAR IS ONE INCH ON OFFICIAL DRAWINGS.
 IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY.

NO.	DATE	BY	REVISION DESCRIPTION

HRGreen
 HR GREEN - COLORADO SPRINGS
 7222 COMMERCE CENTER DR SUITE 220
 COLORADO SPRINGS CO 80919
 PHONE: 719.300.4140 TOLL FREE: 800.728.7805
 FAX: 844.273.1057 | HRGreen.com

THE COTTAGES AT MESA RIDGE
GOODWIN KNIGHT
 EL PASO COUNTY, COLORADO

EL PASO COUNTY CONSTRUCTION DOCUMENTS
 GEC- VERTICAL PLAN

SHEET
EC
5

PLAN VIEW OF BASE
SCALE 3/8" = 1'-0"

SECTION VIEW
SCALE 3/8" = 1'-0"

TYPICAL CHANNEL DETAILS
SCALE 1/4" = 1'-0"

TOE POCKETS DETAILS
SCALE 3/4" = 1'-0"

NOTES

- Type II manholes shall be used only with approval of the City Engineer and only when the pipe sizes are 30" or less inside diameter.
- View and Details are typical. Design Engineer shall determine manhole base configuration and dimensions for particular pipe sizes and alignment.
- Either ladder or steps shall be installed when manhole depth exceeds 30". Steps in base shall be installed in "tee pocket" (see detail this sheet). Lowest step shall be a maximum of 16" above the floor.
- Pipes shall be trimmed to final shape and set before manhole is poured.
- Bench shall be sloped toward center of manhole base (411 max., 1/2" per ft. min.).
- Floor of manhole shall be troweled to a smooth, hard surface and shall slope towards the outlet (811 max., 1/2" per ft. min.). Floor shall be shaped and channeled; see detail this sheet.

CITY OF COLORADO SPRINGS
STORM SEWER MANHOLE - TYPE II
APPROVED BY: *Jennifer E. Irvine*
SCALE: AS SHOWN DATE: JAN. 09 DRAWN: SHEET: D-20-B OF 4

SECTION VIEW
SCALE: 3/8" = 1'-0"

ECCENTRIC CONE TOP
(FOR HR > 3') SCALE: 1/2" = 1'-0"

ECCENTRIC FLAT TOP
(FOR HR < 3') SCALE: 1/2" = 1'-0"

NOTES

- All work shall be done in accordance with the standard and supplemental specifications applicable to the project.
- Precast risers shall conform to ASTM C-478.
- Steps shall be installed when manhole depth exceeds 30". Steps shall be cast iron or extruded aluminum, 1000 lb. capacity, 1 1/2" wide with non-skid grooves and drop front on safety noses, in accordance with approved OSHA requirements.

CITY OF COLORADO SPRINGS
STORM SEWER COVER & RISER
APPROVED BY: *Jennifer E. Irvine*
SCALE: AS SHOWN DATE: JAN. 09 DRAWN: SHEET: D-20D OF 4

PLAN VIEW

SECTION A-A REGULAR INLET

SECTION B-B END VIEW

CURB FACE ASSEMBLY

SECTION C-C & D-D

GENERAL NOTES

- FOR LENGTHS 6.0 FT. OR MORE, PROVIDE MAINTENANCE ACCESS AT BOTH ENDS WITH AN INTERIOR WALKWAY BAR ACCORDINGLY.
- MINOR TYPE II INLET IS TO BE USED ONLY ON SIDEWALKS OR DRIVEWAYS. TRANSITION SHALL BE PAID FOR BY CURB AND GUTTER.
- MINOR TYPE II INLET IS TO BE USED ONLY ON SIDEWALKS OR DRIVEWAYS. TRANSITION SHALL BE PAID FOR BY CURB AND GUTTER.
- FOR A 2'-0" PAN SLOPE 2" PER FT.

GENERAL NOTES

- CONCRETE SHALL BE CLASS B INLET MAY BE CAST IN-PLACE OR PRECAST.
- CONCRETE SHALL BE FINISHED TO BOTH SIDES AND SHALL BE BURETTS FINISH.
- INLET STOPS SHALL BE IN CONFORMANCE WITH AUSTIN W 108.
- CURB FACE ASSEMBLY SHALL BE CALVAZED AFTER FINISHING.
- EXPANDED CONCRETE CONCRETS SHALL BE CHANGED TO 1/2" OF A NON-CURB AND GUTTER CONCRETE SHALL BE PROVIDED TO MATCH THE EXISTING CURB AND GUTTER BEING THE TRANSITION AREA.
- REINFORCING BARS SHALL BE SET AND SHALL HAVE A 2" MINIMUM CLEARANCE ALL AROUND BARS SHALL BE 6" ON END TO END.
- DIMENSIONS AND WEIGHTS OF TYPICAL MANHOLE RINGS AND COVERS ARE NOMINAL. MANHOLE RINGS AND COVERS SHALL BE CAST OR CASTLE CAST IRON IN CONFORMANCE WITH SUBSECTION 703.0.
- STEEL PIPE EXPOSED INTO THE INLET ARE AVERAGE. THE DIMENSIONS SHOWN ARE TYPICAL ACTUAL DIMENSIONS AND QUANTITIES FOR CONCRETE AND REINFORCEMENT SHALL BE AS REQUIRED IN THE WORK QUANTITIES INCLUDE REINFORCEMENT OCCURRED BY PILES.
- STRUCTURAL STEEL SHALL BE GALVANIZED AND SHALL BE IN CONFORMANCE WITH SUBSECTION 703.0.
- ALL MANHOLE COVERS SHALL BE CAST WITH A "NO DUMPING DRAINS TO STREAM" MESSAGE AND A 2" CHANNEL. THE SURFACE OF THE MANHOLE COVER SHALL HAVE A NON-SLIP PATTERN.

Computer File Information

Sheet Revisions

Colorado Department of Transportation

CURB INLET TYPE R

STANDARD PLAN NO. M-604-12

Standard Sheet No. 1 of 2

Pedestrian Curb Ramp Detail
Standard Drawing

GENERAL NOTES

- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CURRENT ENGINEERING CRITERIA MANUAL AND ANY REQUIREMENTS.
- CONNECTION TO EXISTING SIDEWALK OR DRIVEWAY SHALL BE MADE BY CONCRETE PLACEMENT.
- PRECAST CURB RAMP CONSTRUCTION SHALL BE A MINIMUM 4.000 PSI CONCRETE WITH 1% MIN. AIR ENTRAINMENT.
- PRECAST CURB RAMP LOCATIONS AND LENGTHS MAY REQUIRE CORRECTIONS TO MATCH THE EXISTING SIDEWALK OR DRIVEWAY. SEE SECTION 2.03 FOR PRECAST CONSTRUCTION REQUIREMENTS.
- DETECTABLE WARNING SURFACE SHALL HAVE A MINIMUM OF 1" BUT NOT MORE THAN 2" FROM THE CORNER OF THE CURB.
- DETECTABLE WARNING SURFACE SHALL BE PRECASTED, CAST WITH EXISTING MATERIAL, FINISH AND IN ACCORDANCE WITH SD-202. THE SURFACE SHALL BE 2" TO 4" ABOVE THE FINISHED SIDEWALK OR DRIVEWAY SURFACE. THE SURFACE SHALL BE 2" TO 4" ABOVE THE FINISHED SIDEWALK OR DRIVEWAY SURFACE.
- AT ALL POINTS OF CONSTRUCTION, THE BOTTOM OF THE RAMP, INCLUDING THE FRAME SEALS, SHALL BE TOTALLY CONTAINED WITHIN THE MANHOLE.
- ALL PRECAST CURB RAMP SHALL BE PRECASTED TO MATCH WITH THE EXISTING SIDEWALK OR DRIVEWAY. SEE SECTION 2.03 FOR PRECAST CONSTRUCTION REQUIREMENTS.
- DRINKING STRUCTURES, TRAFFIC SIGNALS, UTILITIES/VEHICLE HOLES, AND OTHER OBSTRUCTIONS SHALL BE REMOVED PRIOR TO CURB RAMP CONSTRUCTION AND RECONSTRUCTION SHALL BE AS REQUIRED IN THE WORK QUANTITIES INCLUDE REINFORCEMENT OCCURRED BY PILES.
- THE COVERING SURFACE OF THE RAMP OR ROAD AT THE FOOT OF A RAMP SHALL NOT EXCEED 2%.

6/23/20
Jennifer E. Irvine
DEPARTMENT OF PUBLIC WORKS

Parallel Pedestrian Curb Ramp Detail
Standard Drawing

GENERAL NOTES

- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CURRENT ENGINEERING CRITERIA MANUAL AND ANY REQUIREMENTS.
- CONNECTION TO EXISTING SIDEWALK OR DRIVEWAY SHALL BE MADE BY CONCRETE PLACEMENT.
- PRECAST CURB RAMP CONSTRUCTION SHALL BE A MINIMUM 4.000 PSI CONCRETE WITH 1% MIN. AIR ENTRAINMENT.
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- THE COVERING SURFACE OF THE RAMP OR ROAD AT THE FOOT OF A RAMP SHALL NOT EXCEED 2%.

6/23/20
Jennifer E. Irvine
DEPARTMENT OF PUBLIC WORKS

PLAN VIEW

ELEVATION VIEW

TABLE ONE - BAR LIST FOR CURB INLETS, TYPE "R"

NO.	LENGTH	NO. REQS.		L = 5 FT.		L = 10 FT.		L = 15 FT.	
		REGULAR	DROP BOX	CONC. STEEL					
3'-0"	2'-0"	1	1	1	1	1	1	1	1
4'-0"	2'-0"	1	1	1	1	1	1	1	1
5'-0"	2'-0"	1	1	1	1	1	1	1	1
6'-0"	2'-0"	1	1	1	1	1	1	1	1
7'-0"	2'-0"	1	1	1	1	1	1	1	1
8'-0"	2'-0"	1	1	1	1	1	1	1	1
9'-0"	2'-0"	1	1	1	1	1	1	1	1
10'-0"	2'-0"	1	1	1	1	1	1	1	1
11'-0"	2'-0"	1	1	1	1	1	1	1	1
12'-0"	2'-0"	1	1	1	1	1	1	1	1
13'-0"	2'-0"	1	1	1	1	1	1	1	1
14'-0"	2'-0"	1	1	1	1	1	1	1	1
15'-0"	2'-0"	1	1	1	1	1	1	1	1
16'-0"	2'-0"	1	1	1	1	1	1	1	1
17'-0"	2'-0"	1	1	1	1	1	1	1	1
18'-0"	2'-0"	1	1	1	1	1	1	1	1
19'-0"	2'-0"	1	1	1	1	1	1	1	1
20'-0"	2'-0"	1	1	1	1	1	1	1	1

TABLE TWO - BARS AND QUANTITIES VARIABLE WITH "R"

NO.	LENGTH	NO. REQS.		L = 5 FT.		L = 10 FT.		L = 15 FT.	
		REGULAR	DROP BOX	CONC. STEEL					
3'-0"	2'-0"	1	1	1	1	1	1	1	1
4'-0"	2'-0"	1	1	1	1	1	1	1	1
5'-0"	2'-0"	1	1	1	1	1	1	1	1
6'-0"	2'-0"	1	1	1	1	1	1	1	1
7'-0"	2'-0"	1	1	1	1	1	1	1	1
8'-0"	2'-0"	1	1	1	1	1	1	1	1
9'-0"	2'-0"	1	1	1	1	1	1	1	1
10'-0"	2'-0"	1	1	1	1	1	1	1	1
11'-0"	2'-0"	1	1	1	1	1	1	1	1
12'-0"	2'-0"	1	1	1	1	1	1	1	1
13'-0"	2'-0"	1	1	1	1	1	1	1	1
14'-0"	2'-0"	1	1	1	1	1	1	1	1
15'-0"	2'-0"	1	1	1	1	1	1	1	1
16'-0"	2'-0"	1	1	1	1	1	1	1	1
17'-0"	2'-0"	1	1	1	1	1	1	1	1
18'-0"	2'-0"	1	1	1	1	1	1	1	1
19'-0"	2'-0"	1	1	1	1	1	1	1	1
20'-0"	2'-0"	1	1	1	1	1	1	1	1

6/23/20
Jennifer E. Irvine
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PLAN VIEW

ELEVATION VIEW

TABLE ONE - BAR LIST FOR CURB INLETS, TYPE "R"

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		REGULAR	DROP BOX	CONC. STEEL					
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7'-0"	2'-0"	1	1	1	1	1	1	1	1
8'-0"	2'-0"	1	1	1	1	1	1	1	1
9'-0"	2'-0"	1	1	1	1	1	1	1	1
10'-0"	2'-0"	1	1	1	1	1	1	1	1
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12'-0"	2'-0"	1	1	1	1	1	1	1	1
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18'-0"	2'-0"	1	1	1	1	1	1	1	1
19'-0"	2'-0"	1	1	1	1	1	1	1	1
20'-0"	2'-0"	1	1	1	1	1	1	1	1

TABLE TWO - BARS AND QUANTITIES VARIABLE WITH "R"

NO.	LENGTH	NO. REQS.		L = 5 FT.		L = 10 FT.		L = 15 FT.	
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5'-0"	2'-0"	1	1	1	1	1	1	1	1
6'-0"	2'-0"	1	1	1	1	1	1	1	1
7'-0"	2'-0"	1	1	1	1	1	1	1	1
8'-0"	2'-0"	1	1	1	1	1	1	1	1
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11'-0"	2'-0"	1	1	1	1	1	1	1	1
12'-0"	2'-0"	1	1	1	1	1	1	1	1
13'-0"	2'-0"	1	1	1	1	1	1	1	1
14'-0"	2'-0"	1	1	1	1	1	1	1	1
15'-0"	2'-0"	1	1	1	1	1	1	1	1
16'-0"	2'-0"	1	1	1	1	1	1	1	1
17'-0"	2'-0"	1	1	1	1	1	1	1	1
18'-0"	2'-0"	1	1	1	1	1	1	1	1
19'-0"	2'-0"	1	1	1	1	1	1	1	1
20'-0"	2'-0"	1	1	1	1	1	1	1	1

6/23/20
Jennifer E. Irvine
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: CBM JOB DATE: 1/6/2023
 APPROVED: KMH JOB NUMBER: 200541
 CAD DATE: 1/24/2023
 CAD FILE: J:\2020\200541\CAD\Draws\C\CD\IEI_Paso_Co\Details

BAR IS ONE INCH ON OFFICIAL DRAWINGS.
 IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY.

NO.	DATE	BY	REVISION DESCRIPTION

HR GREEN - COLORADO SPRINGS
 7222 COMMERCE CENTER DR SUITE 220
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THE COTTAGES AT MESA RIDGE
GOODWIN KNIGHT
 EL PASO COUNTY, COLORADO

EL PASO COUNTY CONSTRUCTION DOCUMENTS
DETAILS

GOODWIN KNIGHT

SHEET DT 29

CLASS "A" (CONCRETE CRADLE)
L.F.=2.8

CLASS "B" (GRANULAR BASE)
L.F.=1.9

CLASS "C" (SHAPED BOTTOM)
L.F.=1.5

CLASS "D" (FLAT BOTTOM)
L.F.=1.1

PIPE BEDDING DWG-01

Drawn: MAM, Revised: 2-2003 = CLASS B GRAN. MATERIAL
Date: MARCH 2000, Revised:
Scale: NONE, Revised:

TYPICAL TRENCH CROSS SECTION DWG-02

Drawn: MAM, Revised: 3-2003 = BEDDING DEPTH
Date: MARCH 2000, Revised:
Scale: NONE, Revised:

PIPE DIAMETER	MINIMUM WIDTH	MAXIMUM WIDTH
4"	1'-5"	3'-9"
6"	1'-7"	3'-11"
8"	1'-9"	4'-1"
12"	2'-1"	4'-5"
15"	2'-6"	4'-9"
18"	2'-10"	5'-2"
24"	3'-2"	5'-6"

PRECAST CONCRETE MANHOLE DWG-03

Drawn: SKC, Revised: 3-2003 = STEPS AND MH DIAMETER
Date: MARCH 2000, Revised: 6-2017: PRECAST BASE, HMA @ RING & MH DIA
Scale: NONE, Revised: 3-2018: CONE, DIAMETERS, WATERPROOFING

MARKING CURBS ABOVE SERVICE LINES

OPTION 1 - STAMP FACE OF CURB WITH 'S' FOR WASTEWATER SERVICE LINE WHILE CONCRETE IS PLASTIC

OPTION 2 - DRILL AND EPOXY A BRONZE MARKER INTO FACE OF CURB FOR SLOPED CURB, OR HEAD OF CURB FOR VERTICAL CURB, ABOVE THE LINE LOCATION AFTER CONCRETE HAS CURED

MARKING CURBS ABOVE SERVICE LINES DWG-11B

Drawn: SKC, Revised:
Date: APRIL 2018, Revised:
Scale: NONE, Revised:

KOR-N-SEAL BOOT DETAIL DWG-3A

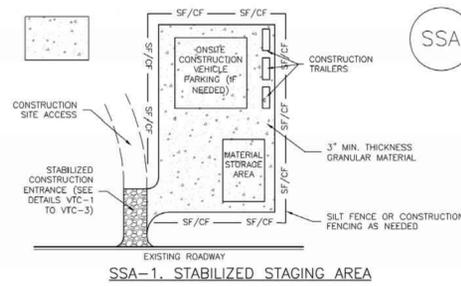
Drawn: GSM, Revised:
Date: MARCH 2003, Revised:
Scale: NONE, Revised:

SANITARY SEWER SERVICE TWO-WAY CLEAN-OUT DWG-08E

Drawn: SKC, Revised:
Date: MAY 2016, Revised:
Scale: NONE, Revised:

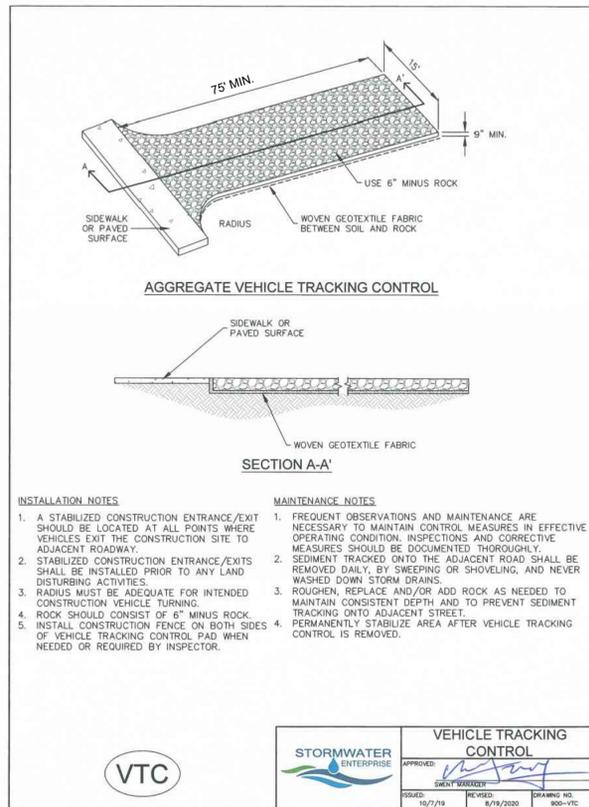
NO.	DATE	BY	REVISION DESCRIPTION

Stabilized Staging Area (SSA) SM-6



- STABILIZED STAGING AREA INSTALLATION NOTES**
- SEE PLAN VIEW FOR LOCATION OF STAGING AREA(S). 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 SECT. #703, ASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.
 - ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SILT FENCE AND CONSTRUCTION FENCING.
- STABILIZED STAGING AREA MAINTENANCE NOTES**
- 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.
 - FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
 - WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
 - ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.

November 10 Urban Drainage and Flood Control District
Urban Storm Drainage Criteria Manual Volume 3 SSA-3

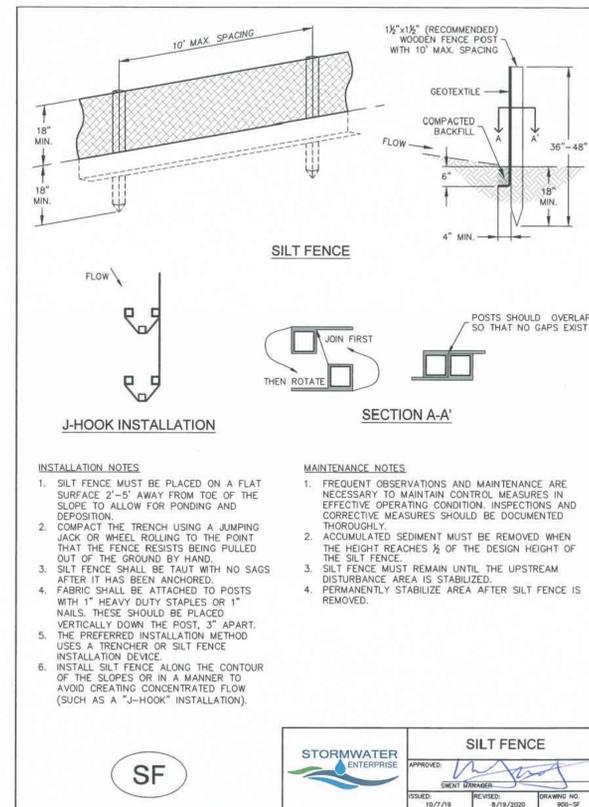


VTC

STORMWATER ENTERPRISE

APPROVED: [Signature]

ISSUED: 10/7/19 REVISED: 8/19/2020 DRAWING NO. 900-VTC

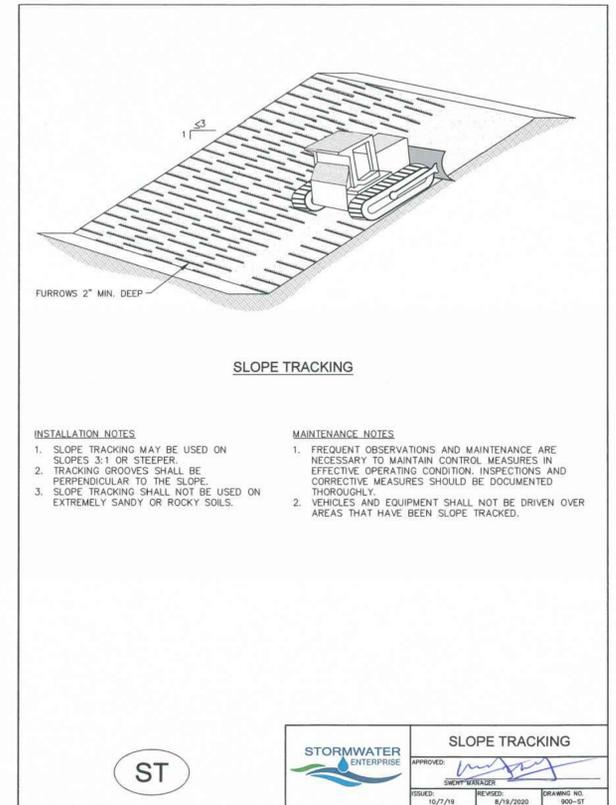


SILT FENCE

STORMWATER ENTERPRISE

APPROVED: [Signature]

ISSUED: 10/7/19 REVISED: 8/19/2020 DRAWING NO. 900-SF

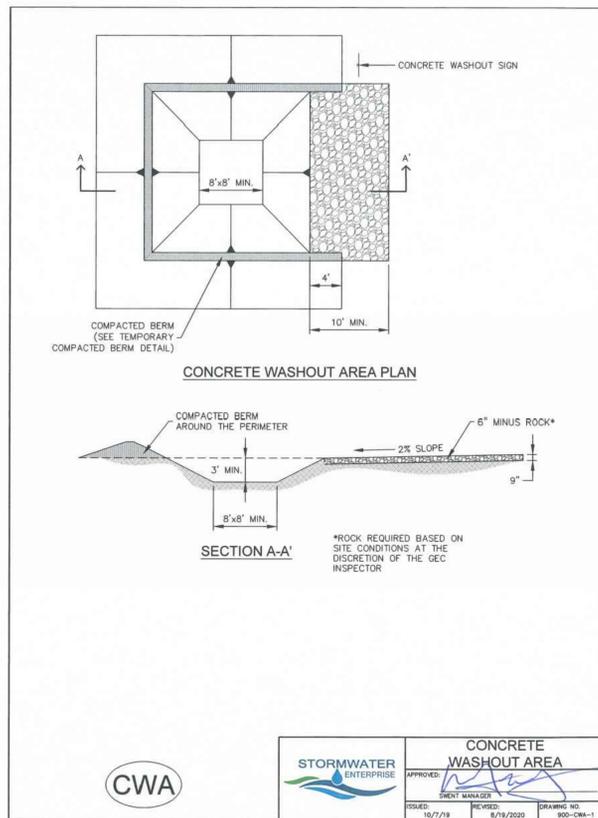


SLOPE TRACKING

STORMWATER ENTERPRISE

APPROVED: [Signature]

ISSUED: 10/7/19 REVISED: 8/19/2020 DRAWING NO. 900-ST

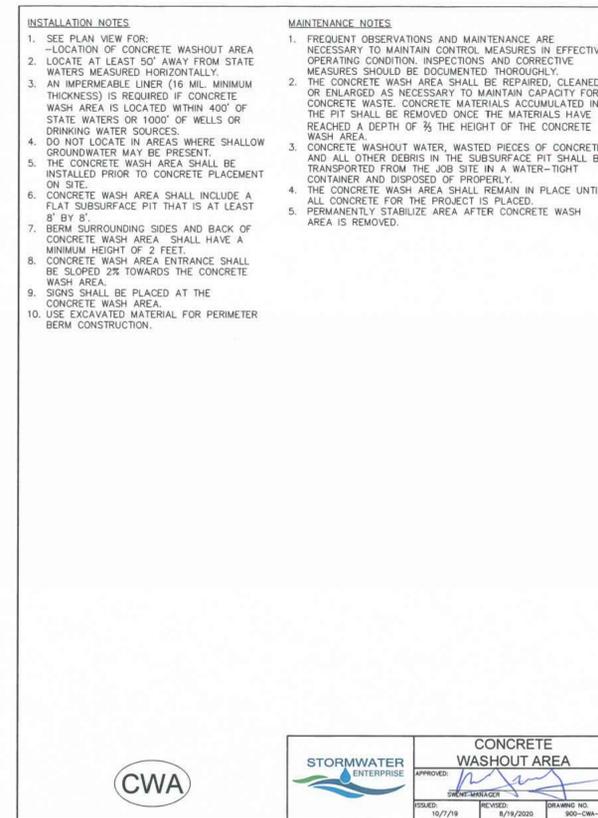


CONCRETE WASHOUT AREA

STORMWATER ENTERPRISE

APPROVED: [Signature]

ISSUED: 10/7/19 REVISED: 8/19/2020 DRAWING NO. 900-CWA-1

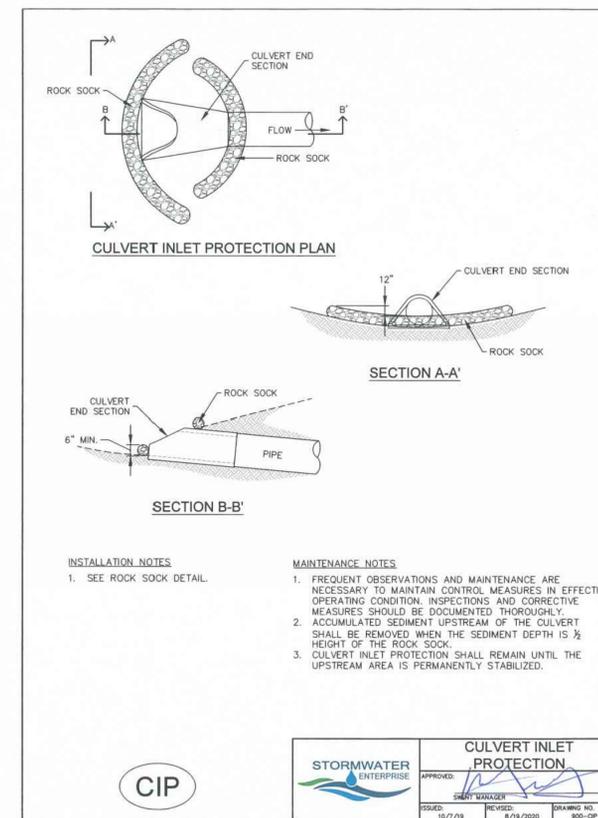


CULVERT INLET PROTECTION

STORMWATER ENTERPRISE

APPROVED: [Signature]

ISSUED: 10/7/19 REVISED: 8/19/2020 DRAWING NO. 900-CIP

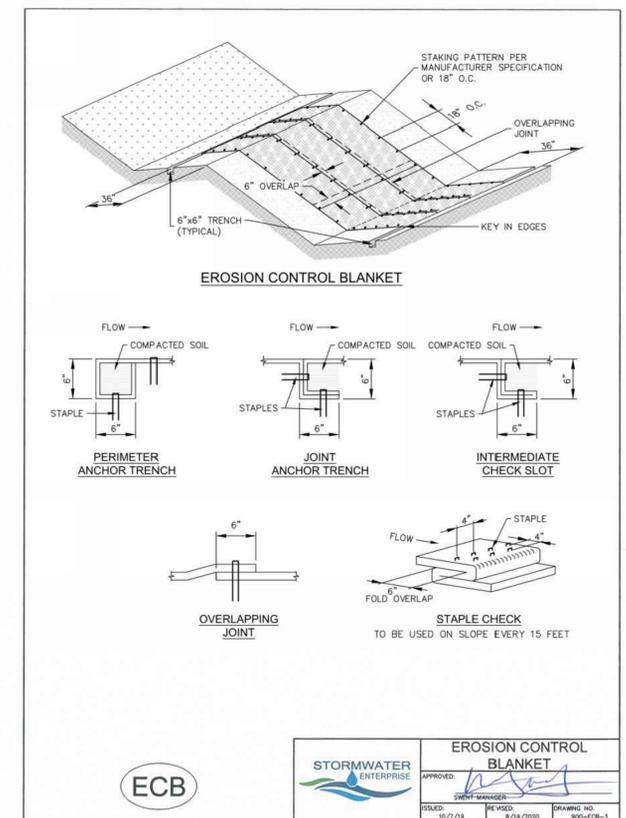


EROSION CONTROL BLANKET

STORMWATER ENTERPRISE

APPROVED: [Signature]

ISSUED: 10/7/19 REVISED: 8/19/2020 DRAWING NO. 900-ECB



CONCRETE WASHOUT AREA

STORMWATER ENTERPRISE

APPROVED: [Signature]

ISSUED: 10/7/19 REVISED: 8/19/2020 DRAWING NO. 900-CWA-1

NO.	DATE	BY	REVISION DESCRIPTION

INSTALLATION NOTES

- 100% NATURAL AND BIODEGRADABLE MATERIALS ARE REQUIRED FOR EROSION CONTROL BLANKETS. TRM PRODUCTS MAY BE USED WHERE APPROPRIATE AS DESIGNATED BY THE ENGINEER.
- IN AREAS WHERE EROSION CONTROL BLANKETS ARE SHOWN ON THE PLANS, THE PERMITTEE SHALL PLACE TOPSOIL AND PERFORM FINAL GRADING, SURFACE PREPARATION AND SEEDING OR MULCHING. SUBGRADE SHALL BE SMOOTH AND MOIST PRIOR TO EROSION CONTROL BLANKET INSTALLATION AND THE EROSION CONTROL BLANKET SHALL BE IN FULL CONTACT WITH THE SUBGRADE. NO GAPS OR VOIDS SHALL EXIST UNDER THE BLANKET.
- PERIMETER ANCHOR TRENCH SHALL BE USED ALONG THE OUTSIDE PERIMETER OF ALL BLANKET AREAS.
- JOINT ANCHOR TRENCH SHALL BE USED TO JOIN ROLLS OF EROSION CONTROL BLANKETS TOGETHER (LONGITUDINALLY AND TRANSVERSELY) FOR ALL EROSION CONTROL BLANKETS.
- INTERMEDIATE CHECK SLOT OR STAPLE CHECK SHALL BE INSTALLED EVERY 15' DOWN SLOPES. IN DRAINAGEWAYS, INSTALL CHECK SLOTS EVERY 25' PERPENDICULAR TO FLOW DIRECTION.
- OVERLAPPING JOINT DETAIL SHALL BE USED TO JOIN ROLLS OF EROSION CONTROL BLANKETS TOGETHER FOR EROSION CONTROL BLANKETS ON SLOPES.
- MATERIAL SPECIFICATIONS OF EROSION CONTROL BLANKETS SHALL CONFORM TO TABLE ECB-1.
- ANY AREAS OF SEEDING AND MULCHING DISTURBED IN THE PROCESS OF INSTALLING EROSION CONTROL BLANKETS SHALL BE RESEEDED AND MULCHED.
- STRAW EROSION CONTROL BLANKETS SHALL NOT BE USED WITHIN STREAMS AND DRAINAGE CHANNELS.
- COMPACT ALL TRENCHES.

MAINTENANCE NOTES

- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- EROSION CONTROL BLANKETS SHALL BE LEFT IN PLACE TO EVENTUALLY BIODEGRADE. TRM MUST BE REMOVED AT THE DISCRETION OF THE GEC INSPECTOR.
- ANY EROSION CONTROL BLANKET PULLED OUT, TORN, OR OTHERWISE DAMAGED SHALL BE REPAIRED OR REINSTALLED. ANY SUBGRADE AREAS BELOW GEOTEXTILE THAT HAVE ERODED TO CREATE A VOID UNDER THE BLANKET, OR THAT REMAIN DEVOID OF GRASS SHALL BE REPAIRED, RESEEDED AND MULCHED AND THE EROSION CONTROL BLANKET REINSTALLED.

TYPE	COCONUT CONTENT	STRAW CONTENT	EXCELSIOR CONTENT	RECOMMENDED NETTING
STRAW	-	100%	-	DOUBLE/NATURAL
STRAW-COCONUT	30% MIN.	70% MAX.	-	DOUBLE/NATURAL
COCONUT	100%	-	-	DOUBLE/NATURAL
EXCELSIOR	-	-	100%	DOUBLE/NATURAL

ECB

STORMWATER ENTERPRISE
APPROVED: [Signature]
ISSUED: 10/7/19
REVISION: 8/19/2020
DRAWING NO. 900-ECB-2

CURB INLET PROTECTION

SECTION A-A'

CURB ROCK SOCKS UPSTREAM OF INLET PROTECTION

INSTALLATION NOTES

- SEE ROCK SOCK DETAIL FOR INSTALLATION REQUIREMENTS.
- PLACEMENT OF THE ROCK SOCK SHALL BE APPROXIMATELY 40 DEGREES FROM THE CURB.
- ROCK SOCKS ARE TO BE FLUSH WITH THE CURB AND SPACED A MINIMUM OF 5' APART.
- AT LEAST TWO CURB ROCK SOCKS IN SERIES ARE REQUIRED UPSTREAM OF ON-GRADIENT INLETS.
- ADDITIONAL ROCK SOCKS MAY BE REQUIRED AT GEC INSPECTOR'S DISCRETION.

MAINTENANCE NOTES

- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES 1/2 OF THE DESIGN DEPTH OF THE INLET BARRIER.
- ROCK SOCKS MUST REMAIN UNTIL THE UPSTREAM DISTURBANCE AREA IS STABILIZED.
- PERMANENTLY STABILIZE AREA BEHIND INLET AFTER ROCK SOCKS ARE REMOVED WHEN REMOVAL IS APPROPRIATE.

IP-1

STORMWATER ENTERPRISE
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REVISION: 8/19/2020
DRAWING NO. 900-IP-1

ROCK SOCK SUMP INLET PROTECTION PLAN

SECTION A-A'

INSTALLATION NOTES

- SEE ROCK SOCK DETAIL FOR INSTALLATION REQUIREMENTS.
- SEDIMENT CONTROL LOGS MAY BE USED IN PLACE OF ROCK SOCKS IN PERVIOUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL.
- CONTROL MEASURES MUST BE WRAPPED AROUND INLET AS TIGHTLY AS POSSIBLE.

MAINTENANCE NOTES

- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES 1/2 OF THE DESIGN DEPTH OF THE INLET BARRIER.
- ROCK SOCKS MUST REMAIN UNTIL THE UPSTREAM DISTURBANCE AREA IS STABILIZED.
- PERMANENTLY STABILIZE AREA AROUND INLET AFTER ROCK SOCKS ARE REMOVED WHEN REMOVAL IS APPROPRIATE.

IP-2

STORMWATER ENTERPRISE
APPROVED: [Signature]
ISSUED: 10/7/19
REVISION: 8/19/2020
DRAWING NO. 900-IP-2

SEEDING & MULCHING

ALL SOIL TESTING, SOILS AMENDMENT AND FERTILIZER DOCUMENTATION, AND SEED LOAD AND BAG TICKETS MUST BE ADDED TO THE CSWMP.

SOIL PREPARATION

- IN AREAS TO BE SEEDDED, THE UPPER 6 INCHES OF THE SOIL MUST NOT BE HEAVILY COMPACTED, AND SHOULD BE IN FRABLE CONDITION. LESS THAN 85% STANDARD PROCTOR DENSITY IS ACCEPTABLE. AREAS OF COMPACTION OR GENERAL CONSTRUCTION ACTIVITY MUST BE SCARIFIED TO A DEPTH OF 6 TO 12 INCHES PRIOR TO SPREADING TOPSOIL TO BREAK UP COMPACTED LAYERS AND PROVIDE A BLENDING ZONE BETWEEN DIFFERENT SOIL LAYERS.
- AREAS TO BE PLANTED SHALL HAVE AT LEAST 4 INCHES OF TOPSOIL SUITABLE TO SUPPORT PLANT GROWTH.
- THE CITY RECOMMENDS THAT EXISTING AND/OR IMPORTED TOPSOIL BE TESTED TO IDENTIFY SOIL DEFICIENCIES AND ANY SOIL AMENDMENTS NECESSARY TO ADDRESS THESE DEFICIENCIES. SOIL AMENDMENTS AND/OR FERTILIZERS SHOULD BE ADDED TO CORRECT TOPSOIL DEFICIENCIES BASED ON SOIL TESTING RESULTS.
- TOPSOIL SHALL BE PROTECTED DURING THE CONSTRUCTION PERIOD TO RETAIN ITS STRUCTURE AVOID COMPACTION, AND TO PREVENT EROSION AND CONTAMINATION. STRIPPED TOPSOIL MUST BE STORED IN AN AREA AWAY FROM MACHINERY AND CONSTRUCTION OPERATIONS, AND CARE MUST BE TAKEN TO PROTECT THE TOPSOIL AS A VALUABLE COMMODITY. TOPSOIL MUST NOT BE STRIPPED DURING UNDESIRABLE WORKING CONDITIONS (E.G. DURING WET WEATHER OR WHEN SOILS ARE SATURATED). TOPSOIL SHALL NOT BE STORED IN SWALES OR IN AREAS WITH POOR DRAINAGE.

SEEDING

- ALLOWABLE SEED MIXES ARE INCLUDED IN THE CITY OF COLORADO SPRINGS STORMWATER CONSTRUCTION MANUAL. ALTERNATIVE SEED MIXES ARE ACCEPTABLE IF INCLUDED IN AN APPROVED LANDSCAPING PLAN.
- SEED SHOULD BE DRILL-SEEDED WHENEVER POSSIBLE.
- BROADCAST SEEDING OR HYDRO-SEEDING IS USED
 - SEED DEPTH MUST BE 1/2 TO 3/4 INCHES WHEN DRILL-SEEDING IS USED.
 - BROADCAST SEEDING OR HYDRO-SEEDING MAY BE SUBSTITUTED ON SLOPES STEEPER THAN 3:1 OR ON OTHER AREAS NOT PRACTICAL TO DRILL SEED.
 - SEEDING RATES MUST BE DOUBLED FOR BROADCAST SEEDING OR INCREASED BY 50% IF USING A BRILLIUM DRILL OR HYDRO-SEEDING.
 - BROADCAST SEEDING MUST BE LIGHTLY HAND-RAKED INTO THE SOIL.

MULCHING

- MULCHING SHOULD BE COMPLETED AS SOON AS PRACTICABLE AFTER SEEDING, HOWEVER PLANTED AREAS MUST BE MULCHED NO LATER THAN 14 DAYS AFTER PLANTING.
- MULCHING REQUIREMENTS INCLUDE:
 - HAY OR STRAW MULCH
 - ONLY CERTIFIED WEED-FREE AND CERTIFIED SEED-FREE MULCH MAY BE USED. MULCH MUST BE APPLIED AT 2 TONS/ACRE AND ADEQUATELY SECURED BY CRIMPING AND/OR TACKIFIER.
 - CRIMPING MUST NOT BE USED ON SLOPES GREATER THAN 3:1 AND MULCH FIBERS MUST BE TUCKED INTO THE SOIL TO A DEPTH OF 3 TO 4 INCHES.
 - TACKIFIER MUST BE USED IN PLACE OF CRIMPING ON SLOPES STEEPER THAN 3:1.
 - HYDRAULIC MULCHING IS AN OPTION ON STEEP SLOPES OR WHERE ACCESS IS LIMITED.
 - IF HYDRO-SEEDING IS USED, MULCHING MUST BE APPLIED AS A SEPARATE, SECOND OPERATION.
 - WOOD CELLULOSE FIBERS MIXED WITH WATER MUST BE APPLIED AT A RATE OF 2,000 TO 2,500 POUNDS/ACRE, AND TACKIFIER MUST BE APPLIED AT A RATE OF 100 POUNDS/ACRE.
- EROSION CONTROL BLANKET
 - EROSION CONTROL BLANKET MAY BE USED IN PLACE OF TRADITIONAL MULCHING METHODS.

SM

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REVISION: 8/19/2020
DRAWING NO. 900-SM

SILT FENCE SUMP INLET PROTECTION PLAN

SECTION A-A'

INSTALLATION NOTES

- SEE SILT FENCE DETAIL FOR INSTALLATION REQUIREMENTS.
- POSTS SHALL BE PLACED AT EACH CORNER OF THE INLET AND AROUND THE EDGES AT A MAXIMUM SPACING OF THREE FEET.
- SILT FENCE FABRIC SHOULD HAVE A FLOW RATE IN EXCESS OF 30 GALLONS PER MINUTE PER SQUARE YARD SO AS TO ALLOW SOME WATER FLOW AND NOT DAM THE WATER. STANDARD, LOW-FLOW SILT FENCE FABRIC WILL NOT BE ALLOWED.

MAINTENANCE NOTES

- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES 1/2 OF THE DESIGN DEPTH OF THE INLET BARRIER.
- SILT FENCE MUST REMAIN UNTIL THE UPSTREAM DISTURBANCE AREA IS STABILIZED.
- PERMANENTLY STABILIZE AREA AROUND INLET AFTER SILT FENCE IS REMOVED WHEN REMOVAL IS APPROPRIATE.

IP-3

STORMWATER ENTERPRISE
APPROVED: [Signature]
ISSUED: 10/7/19
REVISION: 8/19/2020
DRAWING NO. 900-IP-3

STRAW BALE SUMP INLET PROTECTION PLAN

SECTION A-A'

INSTALLATION NOTES

- BALES SHALL BE PLACED IN A SINGLE ROW AROUND THE INLET WITH THE ENDS OF THE BALES TIGHTLY ABUTTING ONE ANOTHER.
- STRAW BALES SHALL CONSIST OF CERTIFIED WEED FREE STRAW OR HAY. LOCAL JURISDICTIONS MAY REQUIRE PROOF THAT BALES ARE WEED FREE.
- STRAW BALES SHALL CONSIST OF APPROXIMATELY 5 CUBIC FEET OF STRAW OR HAY AND WEIGH NOT LESS THAN 35 POUNDS.
- STRAW BALE DIMENSIONS SHALL BE APPROXIMATELY 36"x18"x18".
- A UNIFORM ANCHOR TRENCH SHALL BE EXCAVATED TO A DEPTH OF 4". STRAW BALES SHALL BE PACED SO THAT THE BINDING TWINE IS ENCOMPASSING THE VERTICAL SIDES OF THE BALES.
- TWO (2) WOODEN STAKES SHALL BE USED TO HOLD EACH BALE IN PLACE. WOODEN STAKES SHALL BE DRIVEN A MINIMUM OF 6" INTO THE GROUND.

MAINTENANCE NOTES

- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES 1/2 OF THE DESIGN DEPTH OF THE INLET BARRIER.
- STRAW BALES MUST REMAIN UNTIL THE UPSTREAM DISTURBANCE AREA IS STABILIZED.
- PERMANENTLY STABILIZE AREA AROUND INLET AFTER STRAW BALES ARE REMOVED WHEN REMOVAL IS APPROPRIATE.
- STRAW BALES SHALL BE REPLACED IF THEY BECOME HEAVILY SOILED, ROTTEN OR DAMAGED BEYOND REPAIR.

IP-4

STORMWATER ENTERPRISE
APPROVED: [Signature]
ISSUED: 10/7/19
REVISION: 8/19/2020
DRAWING NO. 900-IP-4

ROCK SOCK PLAN

ROCK SOCK SECTION

ROCK SOCK OVERLAP

NO. 4	MASS PERCENT PASSING SQUARE MESH SIEVES
2"	100
1 1/2"	90-100
1"	20-55
3/4"	0-15
3/8"	0-5

INSTALLATION NOTES

- CRUSHED ROCK SHALL BE BETWEEN MAX. 1 1/2" (MINUS) IN SIZE WITH A FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH GRADATION SHOWN ON THIS SHEET AND MIN. 3/4" CRUSHED ROCK.
- WIRE MESH SHALL HAVE OPENINGS SMALLER THAN THE SMALLEST SIZE ROCK.
- WIRE MESH SHALL BE SECURED USING 10G RINGS OR WIRE TIES AT 6" CENTERS ALONG ALL JOINTS AND AT 2" CENTERS ON ENDS OF SOCKS.

MAINTENANCE NOTES

- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- ROCK SOCKS SHALL BE REPLACED IF THEY BECOME HEAVILY SOILED OR DAMAGED BEYOND REPAIR.
- ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN THE DEPTH REACHES 1/2 OF THE HEIGHT OF THE ROCK SOCK.
- ROCK SOCKS ARE TO REMAIN IN PLACE UNTIL DISTURBED AREA IS STABILIZED.
- PERMANENTLY STABILIZE AREA AFTER ROCK SOCKS HAVE BEEN REMOVED.

RS

STORMWATER ENTERPRISE
APPROVED: [Signature]
ISSUED: 10/7/19
REVISION: 8/19/2020
DRAWING NO. 900-RS

SEDIMENT CONTROL LOG JOINTS

SECTION A-A'

INSTALLATION NOTES

- ALL SEDIMENT CONTROL LOGS MUST BE EMBEDDED TO 1/2 OF THE HEIGHT OF THE LOG.
- LARGER DIAMETER SEDIMENT CONTROL LOGS NEED TO BE EMBEDDED DEEPER.
- PLACE SEDIMENT CONTROL LOG AGAINST SIDEWALK OR BACK OF CURB WHEN ADJACENT TO THESE FEATURES.
- SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELSIOR, COCONUT FIBER, AND SHALL BE FREE FROM ANY NOXIOUS WEED SEEDS OF DEFECTS INCLUDING RIPS, HOLES AND OBVIOUS WEAR.
- IF USING AS SLOPE PROTECTION, INSTALL SEDIMENT CONTROL LOGS ALONG THE CONTOUR.

MAINTENANCE NOTES

- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES 1/2 OF THE HEIGHT OF THE SEDIMENT CONTROL LOG.
- PERMANENTLY STABILIZE AREA AFTER SEDIMENT CONTROL LOGS HAVE BEEN REMOVED.

SCL

STORMWATER ENTERPRISE
APPROVED: [Signature]
ISSUED: 10/7/19
REVISION: 8/19/2020
DRAWING NO. 900-SCL



APPENDIX C – BMP DETAILS & SPECIFICATIONS

CHECK DAM

CD



1.0 DESCRIPTION

- Check dams are small temporary rock dams constructed across a swale or drainage ditch.

2.0 PURPOSE

- Used to slow down the velocity of concentrated flow to limit erosion and to promote sedimentation.
- Placed in areas of concentrated flow, such as a ditch or swale.

3.0 IMPLEMENTATION

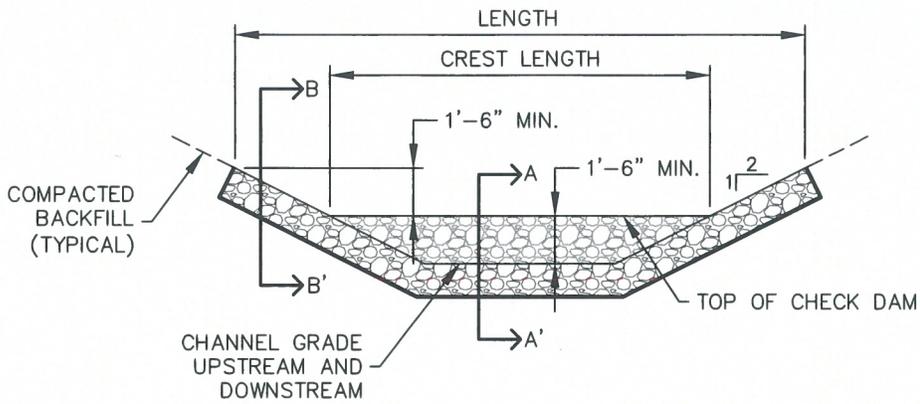
- Place check dams at regular intervals perpendicular to the direction of flow.
- Use check dams on mild or moderately steep slopes.
- Install wide enough check dams to reach from bank to bank of the ditch or swale.
- In general, the maximum spacing between check dams should be such that the toe of the upstream check dam is at the same elevation as the top of the downstream check dam.
- During installation, place rock mechanically or by hand.

4.0 TIMING

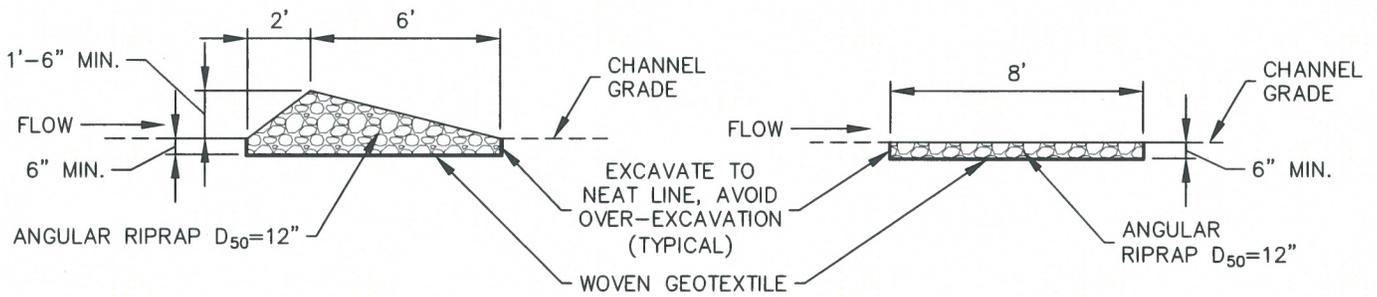
- Install prior to land disturbing activities.
- Remove after surrounding area has been permanently stabilized, or immediately prior to installation of a non-erodible lining. Permanently stabilize bare areas caused by check dams after removal.

5.0 MAINTENANCE

- Remove and properly dispose of sediment when it has accumulated to 1/2 of the height of the check dam crest.
- Replace missing rocks causing voids in the check dam.
- Inspect for erosion along the ends of check dams and repair when necessary.

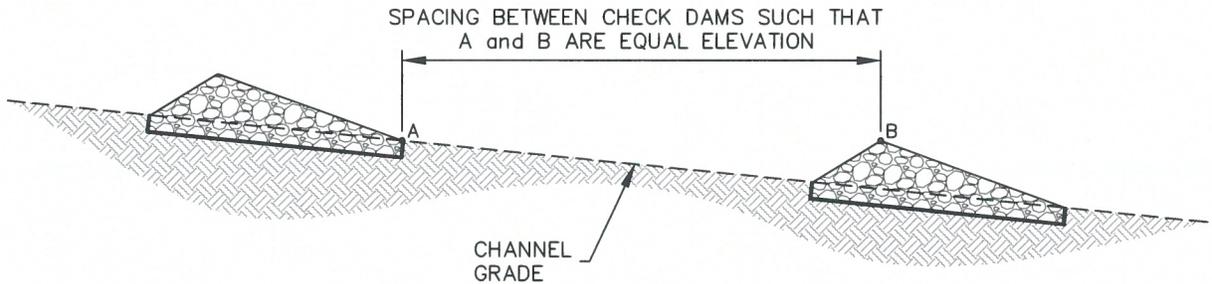


CHECK DAM ELEVATION VIEW



SECTION A-A'

SECTION B-B'



PROFILE

INSTALLATION NOTES

1. CHECK DAMS SHOULD BE INSTALLED BEFORE UPSTREAM LAND DISTURBING ACTIVITIES.
2. RIPRAP PAD SHOULD BE TRENCHED INTO GROUND BY A MINIMUM OF 6".

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES 1/2 THE HEIGHT OF THE CHECK DAM CREST.
3. CHECK DAMS MUST REMAIN UNTIL THE UPSTREAM DISTURBANCE AREA IS STABILIZED.
4. PERMANENTLY STABILIZE AREA AFTER CHECK DAMS ARE REMOVED IF REMOVAL IS REQUIRED.



CHECK DAM		
APPROVED: 		
SWENT MANAGER		
ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO. 900-CD

CONCRETE WASHOUT AREA

CWA



1.0 DESCRIPTION

- Concrete washout areas consist of either an excavated pit or a prefabricated haul-away container designed to contain concrete and concrete waste water.

2.0 PURPOSE

- Used to contain concrete and concrete waste water when the chutes of concrete mixers and hoppers of concrete pumps are rinsed out after delivery.
- Concrete washout areas consolidate solids for easier disposal and prevent runoff of concrete waste water, which is alkaline and contains high levels of chromium.

3.0 IMPLEMENTATION

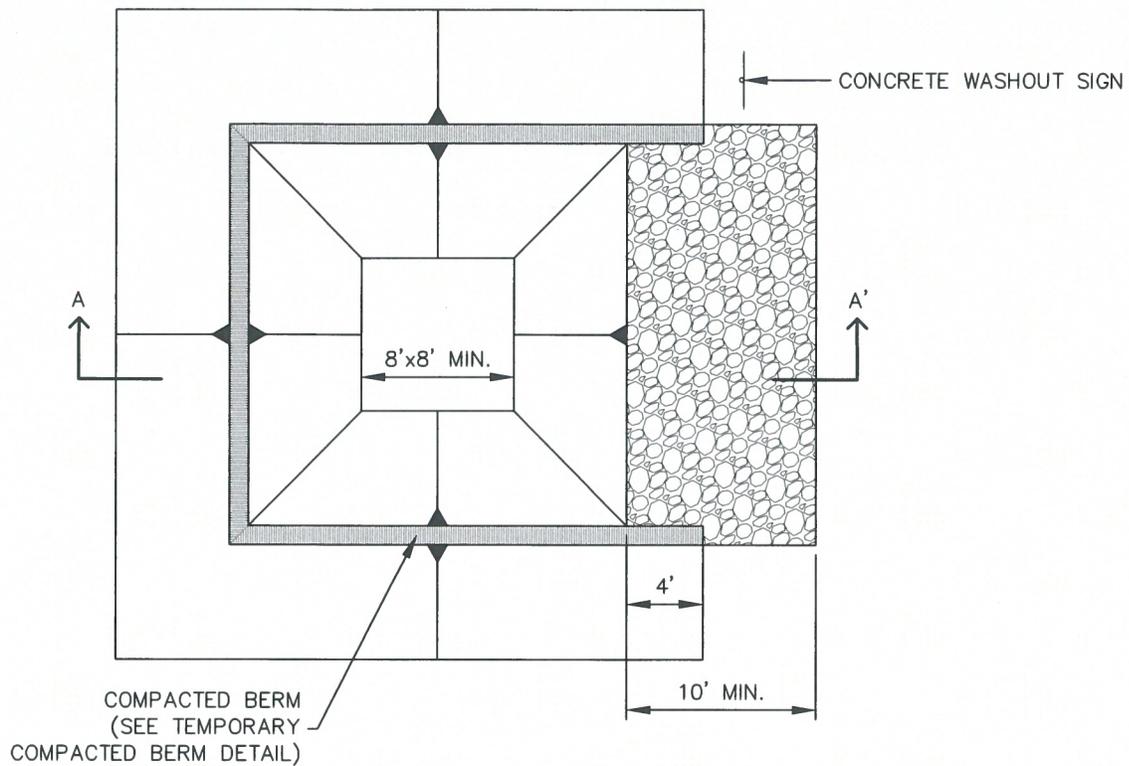
- Locate at least 50 feet away from State Waters, measured horizontally. Unlined concrete washout areas must be located at least 400 feet away from State Waters, and at least 1000 feet away from wells or drinking water sources.
- Do not locate in areas where shallow groundwater may be present, such as near natural drainages, springs, or wetlands.
- Do not place in areas subject to run-on.
- Label areas with appropriate signage.
- The addition of solvents, flocculents, or acid to wash water is prohibited.

4.0 TIMING

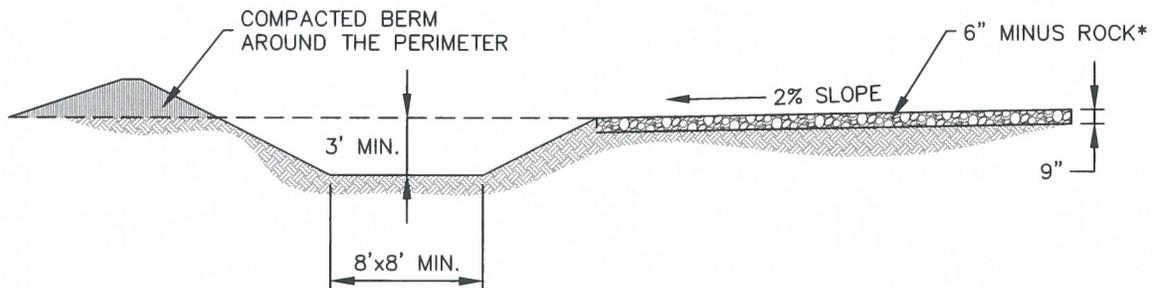
- Install prior to concrete activities.
- Remove after concrete activities have concluded.

5.0 MAINTENANCE

- Clean out facilities once they are 2/3 full, or construct new facilities for additional capacity.
- Concrete waste must be permanently disposed of off-site in an appropriate manner.



CONCRETE WASHOUT AREA PLAN



SECTION A-A'

*ROCK REQUIRED BASED ON
SITE CONDITIONS AT THE
DISCRETION OF THE GEC
INSPECTOR



CONCRETE WASHOUT AREA		
APPROVED:		
SWENT MANAGER		
ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO. 900-CWA-1

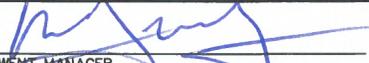
INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
-LOCATION OF CONCRETE WASHOUT AREA
2. LOCATE AT LEAST 50' AWAY FROM STATE WATERS MEASURED HORIZONTALLY.
3. AN IMPERMEABLE LINER (16 MIL. MINIMUM THICKNESS) IS REQUIRED IF CONCRETE WASH AREA IS LOCATED WITHIN 400' OF STATE WATERS OR 1000' OF WELLS OR DRINKING WATER SOURCES.
4. DO NOT LOCATE IN AREAS WHERE SHALLOW GROUNDWATER MAY BE PRESENT.
5. THE CONCRETE WASH AREA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
6. CONCRETE WASH AREA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8'.
7. BERM SURROUNDING SIDES AND BACK OF CONCRETE WASH AREA SHALL HAVE A MINIMUM HEIGHT OF 2 FEET.
8. CONCRETE WASH AREA ENTRANCE SHALL BE SLOPED 2% TOWARDS THE CONCRETE WASH AREA.
9. SIGNS SHALL BE PLACED AT THE CONCRETE WASH AREA.
10. USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. THE CONCRETE WASH AREA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE. CONCRETE MATERIALS ACCUMULATED IN THE PIT SHALL BE REMOVED ONCE THE MATERIALS HAVE REACHED A DEPTH OF $\frac{2}{3}$ THE HEIGHT OF THE CONCRETE WASH AREA.
3. 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.
4. THE CONCRETE WASH AREA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.
5. PERMANENTLY STABILIZE AREA AFTER CONCRETE WASH AREA IS REMOVED.



CONCRETE WASHOUT AREA		
APPROVED: 		
SWENT MANAGER		
ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO. 900-CWA-2

CULVERT INLET PROTECTION

CIP



1.0 DESCRIPTION

- Culvert inlet protection consists of a permeable sediment barrier installed upstream of a flared end section entrance to a culvert or storm sewer.

2.0 PURPOSE

- Used to prevent sediment and debris from entering a culvert or storm drainage system prior to permanent stabilization of the contributing disturbed area.
- Culvert inlet protection slows down runoff velocity to filter runoff and to promote sedimentation prior to entry into a culvert or storm drainage system.

3.0 IMPLEMENTATION

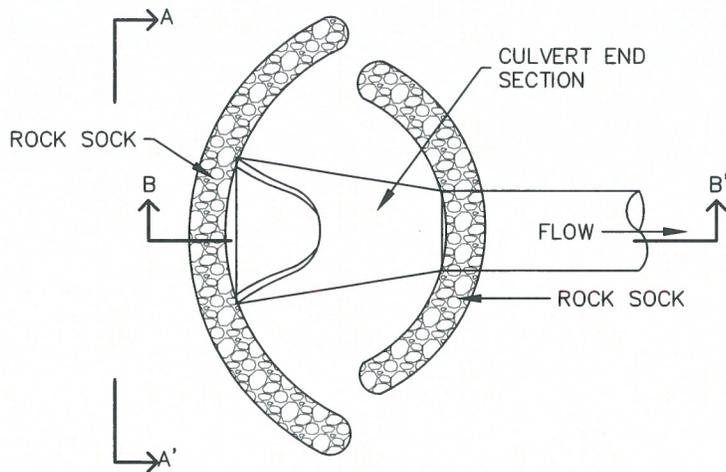
- Install culvert inlet protection at flared end section inlets to culverts and storm sewers that are operable and receiving runoff from disturbed areas during construction.
- Culvert inlet protection is not a stand-alone control measure and should be used in conjunction with other upgradient control measures. Culvert inlet protection with a contributing drainage area including of one acre or more of disturbed area must be part of a treatment train.

4.0 TIMING

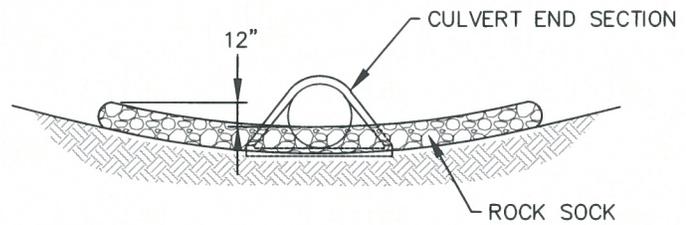
- Install prior to land disturbing activities, or immediately after pipe installation.
- Remove and properly dispose of culvert inlet protection after the contributing drainage area has been permanently stabilized.

5.0 MAINTENANCE

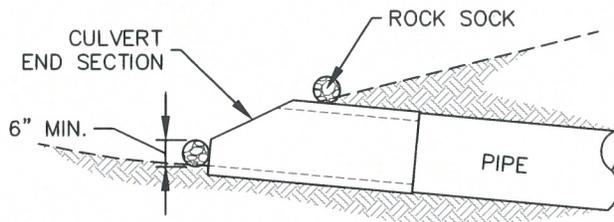
- Remove and properly dispose of sediment when it has accumulated to 1/2 of the height of the rock sock.
- Inspect for displaced rock socks that are no longer protecting the inlet.



CULVERT INLET PROTECTION PLAN



SECTION A-A'



SECTION B-B'

INSTALLATION NOTES

1. SEE ROCK SOCK DETAIL.

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. ACCUMULATED SEDIMENT UPSTREAM OF THE CULVERT SHALL BE REMOVED WHEN THE SEDIMENT DEPTH IS $\frac{1}{2}$ HEIGHT OF THE ROCK SOCK.
3. CULVERT INLET PROTECTION SHALL REMAIN UNTIL THE UPSTREAM AREA IS PERMANENTLY STABILIZED.



**STORMWATER
ENTERPRISE**

CULVERT INLET PROTECTION		
APPROVED: 		
SWENT MANAGER		
ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO. 900-CIP

EROSION CONTROL BLANKET

ECB



1.0 DESCRIPTION

- Woven blankets made of natural and biodegradable materials placed on disturbed areas and secured to the ground with staples or stakes.

2.0 PURPOSE

- Used to control erosion, retain sediment resulting from sheet flow, and protect newly seeded areas.

3.0 IMPLEMENTATION

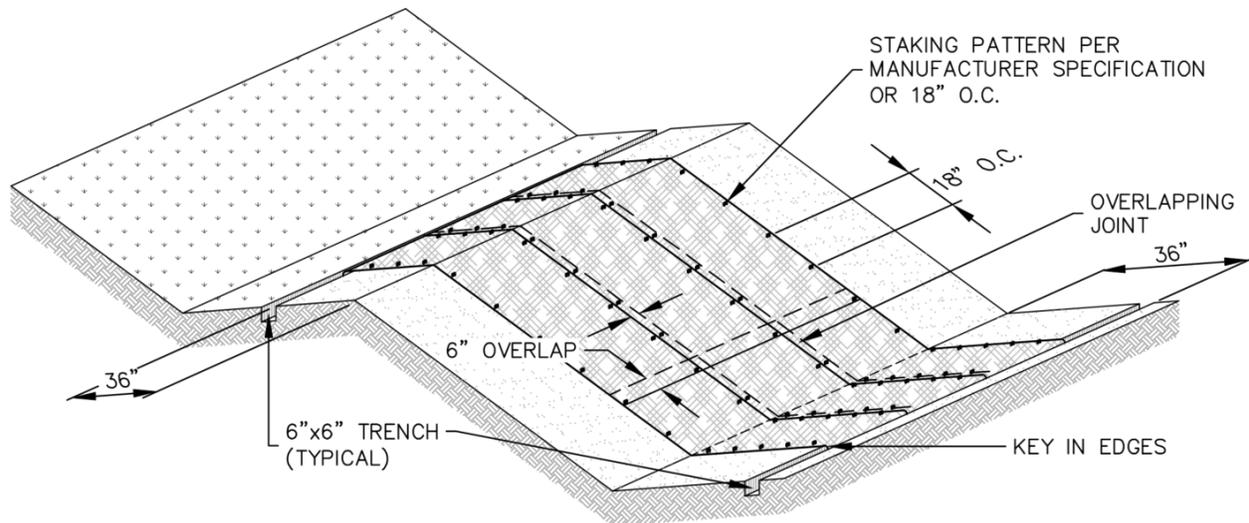
- Install erosion control blankets over uniform surfaces, with no large rocks, vegetation, or rills.
- Properly prepare topsoil and apply seed prior to blanket installation.
- Erosion control blankets must be made from 100% natural and biodegradable materials.
- Turf reinforcement mats may be used in place of erosion control blankets when specified by engineer.

4.0 TIMING

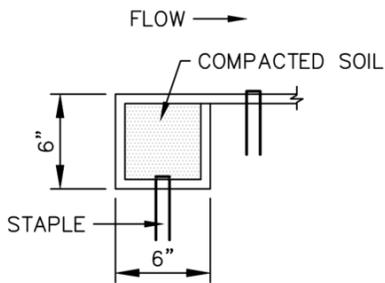
- Install in disturbed areas after final grading and seeding has been completed.
- Leave erosion control blankets in place to biodegrade, or remove if required by the GEC Inspector.

5.0 MAINTENANCE

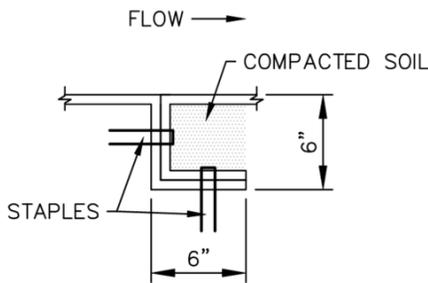
- Any erosion control blanket pulled out, torn, or otherwise damaged shall be repaired or reinstalled.
- Any subgrade areas below the geotextile that have eroded to create a void under the blanket, or that remain devoid of grass shall be repaired, reseeded and mulched and the erosion control blanket reinstalled.
- Broken or damaged staking must be repaired immediately when identified.



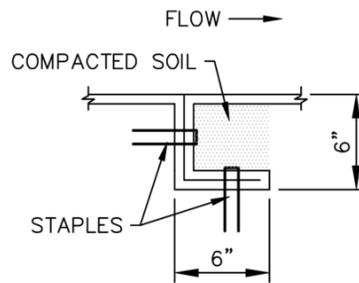
EROSION CONTROL BLANKET



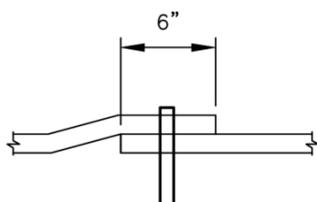
PERIMETER ANCHOR TRENCH



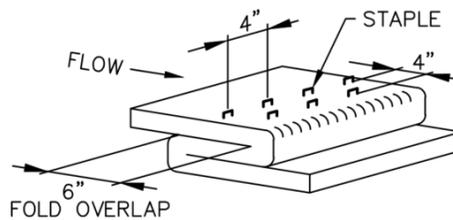
JOINT ANCHOR TRENCH



INTERMEDIATE CHECK SLOT



OVERLAPPING JOINT



STAPLE CHECK
TO BE USED ON SLOPE EVERY 15 FEET



EROSION CONTROL BLANKET

APPROVED: 
SWENT MANAGER

ISSUED: 10/7/19

REVISED: 8/19/2020

DRAWING NO. 900-ECB-1

INSTALLATION NOTES

1. 100% NATURAL AND BIODEGRADABLE MATERIALS ARE REQUIRED FOR EROSION CONTROL BLANKETS. TRM PRODUCTS MAY BE USED WHERE APPROPRIATE AS DESIGNATED BY THE ENGINEER.
2. IN AREAS WHERE EROSION CONTROL BLANKETS ARE SHOWN ON THE PLANS, THE PERMITTEE SHALL PLACE TOPSOIL AND PERFORM FINAL GRADING, SURFACE PREPARATION, AND SEEDING AND MULCHING. SUBGRADE SHALL BE SMOOTH AND MOIST PRIOR TO EROSION CONTROL BLANKET INSTALLATION, AND THE EROSION CONTROL BLANKET SHALL BE IN FULL CONTACT WITH THE SUBGRADE. NO GAPS OR VOIDS SHALL EXIST UNDER THE BLANKET.
3. PERIMETER ANCHOR TRENCH SHALL BE USED ALONG THE OUTSIDE PERIMETER OF ALL BLANKET AREAS.
4. JOINT ANCHOR TRENCH SHALL BE USED TO JOIN ROLLS OF EROSION CONTROL BLANKETS TOGETHER (LONGITUDINALLY AND TRANSVERSELY) FOR ALL EROSION CONTROL BLANKETS.
5. INTERMEDIATE CHECK SLOT OR STAPLE CHECK SHALL BE INSTALLED EVERY 15' DOWN SLOPES. IN DRAINAGEWAYS, INSTALL CHECK SLOTS EVERY 25' PERPENDICULAR TO FLOW DIRECTION.
6. OVERLAPPING JOINT DETAIL SHALL BE USED TO JOIN ROLLS OF EROSION CONTROL BLANKETS TOGETHER FOR EROSION CONTROL BLANKETS ON SLOPES.
7. MATERIAL SPECIFICATIONS OF EROSION CONTROL BLANKETS SHALL CONFORM TO TABLE ECB-1.
8. ANY AREAS OF SEEDING AND MULCHING DISTURBED IN THE PROCESS OF INSTALLING EROSION CONTROL BLANKETS SHALL BE RESEEDED AND MULCHED.
9. STRAW EROSION CONTROL BLANKETS SHALL NOT BE USED WITHIN STREAMS AND DRAINAGE CHANNELS.
10. COMPACT ALL TRENCHES.

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. EROSION CONTROL BLANKETS SHALL BE LEFT IN PLACE TO EVENTUALLY BIODEGRADE. TRM MUST BE REMOVED AT THE DISCRETION OF THE GEC INSPECTOR.
3. ANY EROSION CONTROL BLANKET PULLED OUT, TORN, OR OTHERWISE DAMAGED SHALL BE REPAIRED OR REINSTALLED. ANY SUBGRADE AREAS BELOW GEOTEXTILE THAT HAVE ERODED TO CREATE A VOID UNDER THE BLANKET, OR THAT REMAIN DEVOID OF GRASS SHALL BE REPAIRED, RESEEDED AND MULCHED AND THE EROSION CONTROL BLANKET REINSTALLED.

TABLE ECB-1, EROSION CONTROL BLANKET MATERIAL SPECIFICATIONS

TYPE	COCONUT CONTENT	STRAW CONTENT	EXCELSIOR CONTENT	RECOMMENDED NETTING
STRAW	-	100%	-	DOUBLE/NATURAL
STRAW-COCONUT	30% MIN.	70% MAX.	-	DOUBLE/NATURAL
COCONUT	100%	-	-	DOUBLE/NATURAL
EXCELSIOR	-	-	100%	DOUBLE/NATURAL



EROSION CONTROL BLANKET

APPROVED: 
SWENT MANAGER

ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO. 900-ECB-2
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INLET PROTECTION

IP



1.0 DESCRIPTION

- Inlet protection consists of a permeable sediment barrier installed around a storm inlet.

2.0 PURPOSE

- Used to minimize the amount of sediment and debris entering a storm drainage system prior to permanent stabilization of the contributing disturbed area.
- Inlet protection slows down runoff velocity to filter runoff and to promote sedimentation prior to entry into a storm drainage system.

3.0 IMPLEMENTATION

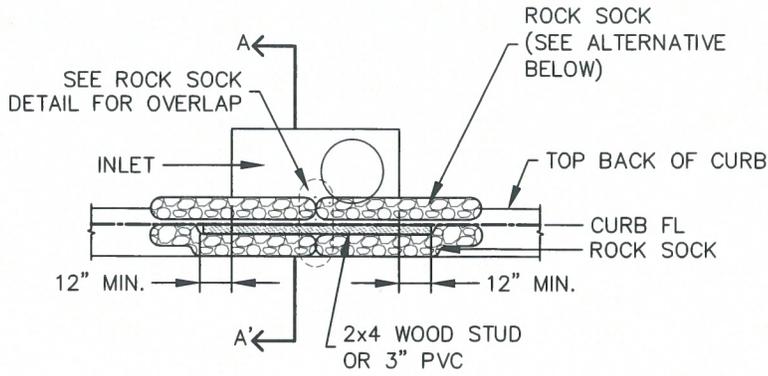
- Install inlet protection at storm sewer inlets that are operable and receiving runoff from disturbed areas during construction.
- Place inlet protection to allow the inlet to function without completely blocking flows into the inlet in a manner than causes localized flooding.
- Inlet protection is not a stand-alone control measure and should be used in conjunction with other upgradient control measures. Inlet protection in areas with a contributing drainage area of one acre or larger must be part of a treatment train.
- When selecting the type of inlet protection, consider factors such as type of inlet, traffic, anticipated flows, ability to secure the inlet protection, safety, and other site-specific conditions.

4.0 TIMING

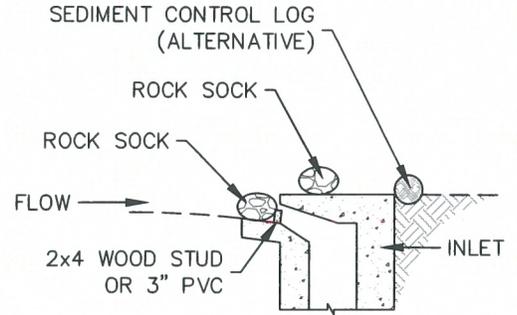
- Install prior to land disturbing activities, or immediately after inlet installation.
- Remove and properly dispose of inlet protection after the contributing drainage area has been permanently stabilized.

5.0 MAINTENANCE

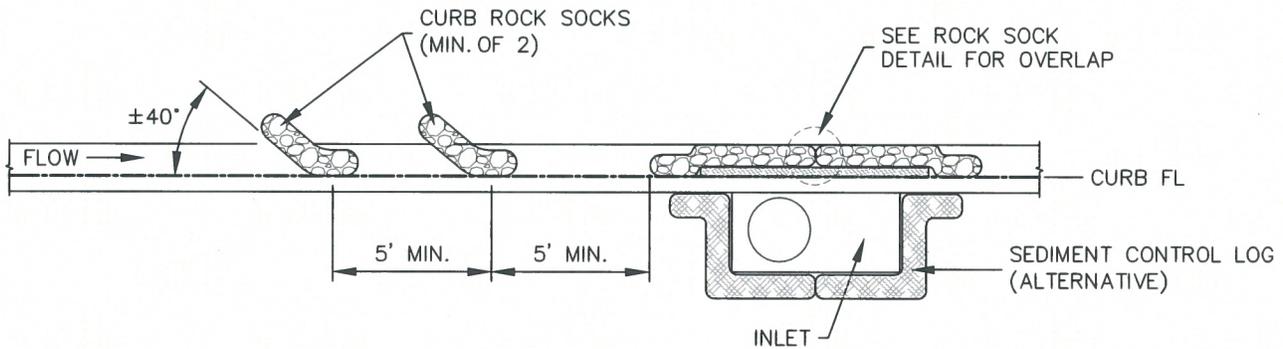
- Remove and properly dispose of sediment when it has accumulated to 1/2 of the design depth of the inlet barrier.
- Inspect for holes or tears that can result in sediment directly entering the inlet.
- Inspect for displaced inlet protection that is no longer protecting the inlet.



CURB INLET PROTECTION PLAN



SECTION A-A'



CURB ROCK SOCKS UPSTREAM OF INLET PROTECTION

INSTALLATION NOTES

1. SEE ROCK SOCK DETAIL FOR INSTALLATION REQUIREMENTS.
2. PLACEMENT OF THE ROCK SOCK SHALL BE APPROXIMATELY 40 DEGREES FROM THE CURB.
3. ROCK SOCKS ARE TO BE FLUSH WITH THE CURB AND SPACED A MINIMUM OF 5' APART.
4. AT LEAST TWO CURB ROCK SOCKS IN SERIES ARE REQUIRED UPSTREAM OF ON-GRADE INLETS.
5. ADDITIONAL ROCK SOCKS MAY BE REQUIRED AT GEC INSPECTOR'S DISCRETION.

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES 1/2 OF THE DESIGN DEPTH OF THE INLET BARRIER.
3. ROCK SOCKS MUST REMAIN UNTIL THE UPSTREAM DISTURBANCE AREA IS STABILIZED.
4. PERMANENTLY STABILIZE AREA BEHIND INLET AFTER ROCK SOCKS ARE REMOVED WHEN REMOVAL IS APPROPRIATE.

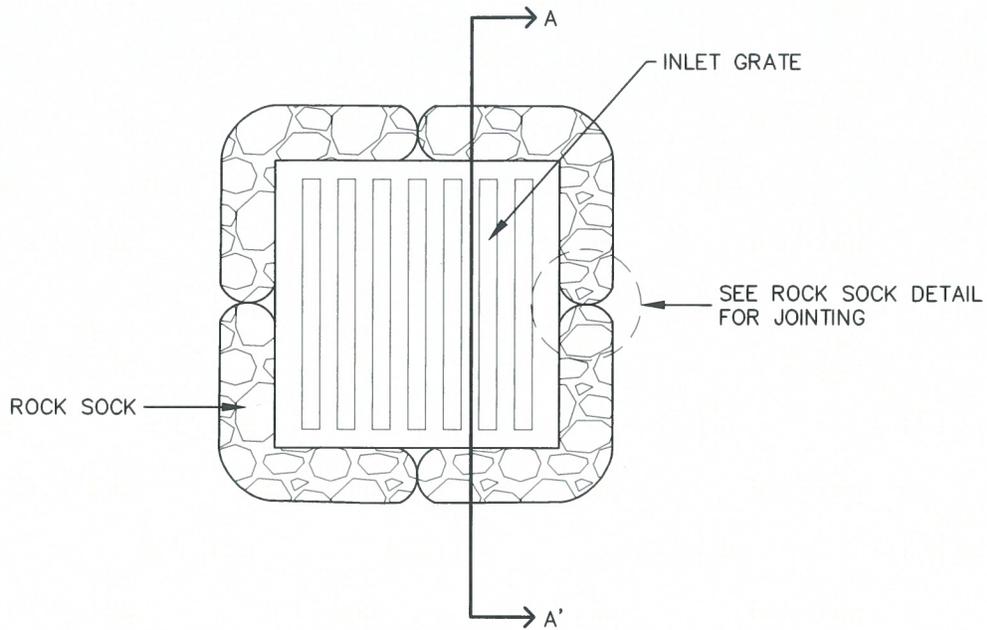
IP-1



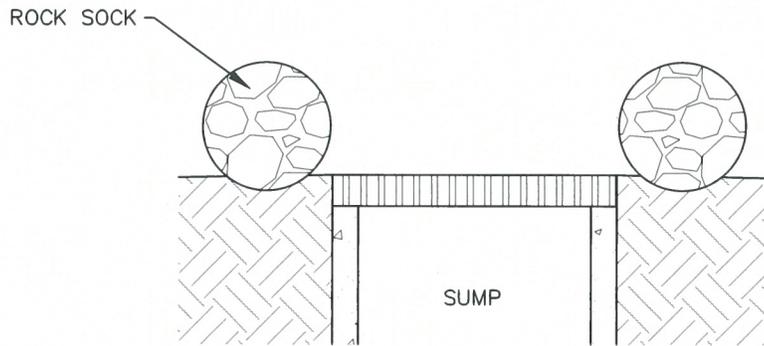
ON-GRADE INLET PROTECTION

APPROVED: *[Signature]*
SWENT MANAGER

ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO. 900-IP-1
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ROCK SOCK SUMP INLET PROTECTION PLAN



SECTION A-A'

INSTALLATION NOTES

1. SEE ROCK SOCK DETAIL FOR INSTALLATION REQUIREMENTS.
2. SEDIMENT CONTROL LOGS MAY BE USED IN PLACE OF ROCK SOCKS IN PERVIOUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL
3. CONTROL MEASURES MUST BE WRAPPED AROUND INLET AS TIGHTLY AS POSSIBLE.

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES 1/2 OF THE DESIGN DEPTH OF THE INLET BARRIER.
3. ROCK SOCKS MUST REMAIN UNTIL THE UPSTREAM DISTURBANCE AREA IS STABILIZED.
4. PERMANENTLY STABILIZE AREA AROUND INLET AFTER ROCK SOCKS ARE REMOVED WHEN REMOVAL IS APPROPRIATE.

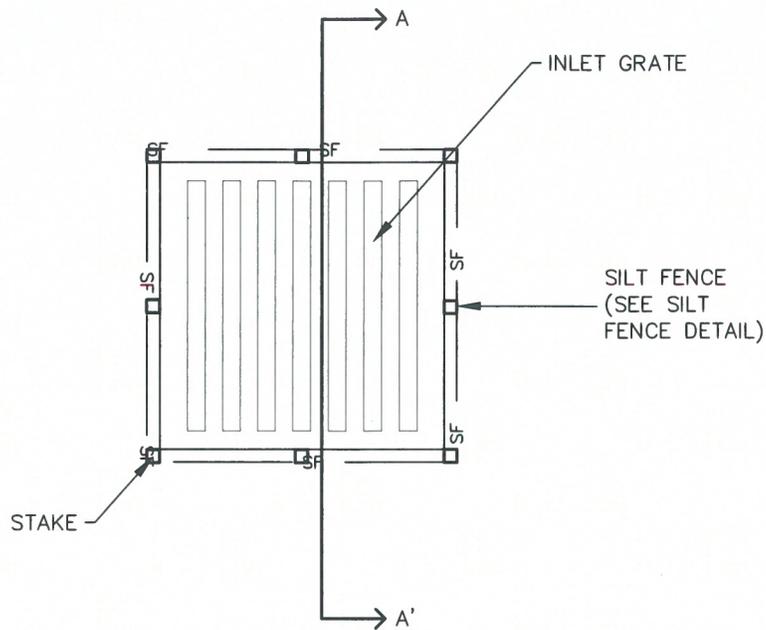
IP-2



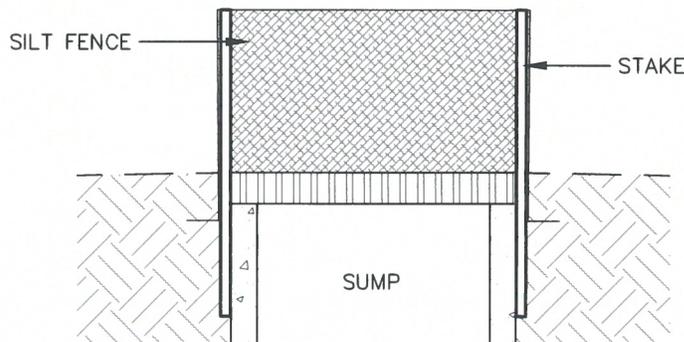
SUMP INLET PROTECTION

APPROVED: 
SWENT MANAGER

ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO. 900-IP-2
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SILT FENCE SUMP INLET PROTECTION PLAN



SECTION A-A'

INSTALLATION NOTES

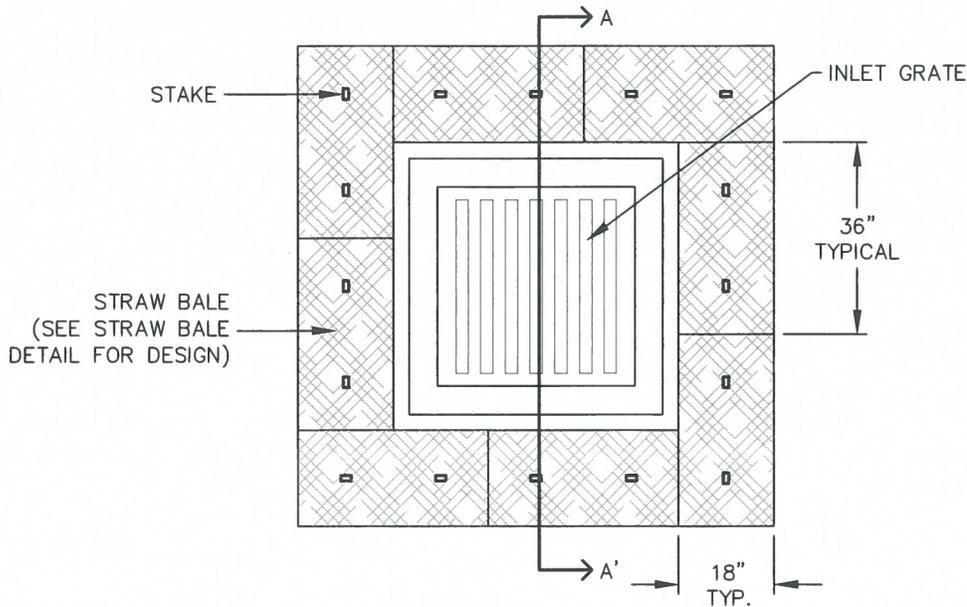
1. SEE SILT FENCE DETAIL FOR INSTALLATION REQUIREMENTS.
2. POSTS SHALL BE PLACED AT EACH CORNER OF THE INLET AND AROUND THE EDGES AT A MAXIMUM SPACING OF THREE FEET.
3. SILT FENCE FABRIC SHOULD HAVE A FLOW RATE IN EXCESS OF 30 GALLONS PER MINUTE PER SQUARE YARD SO AS TO ALLOW SOME WATER FLOW AND NOT DAM THE WATER. STANDARD, LOW-FLOW SILT FENCE FABRIC WILL NOT BE ALLOWED.

MAINTENANCE NOTES

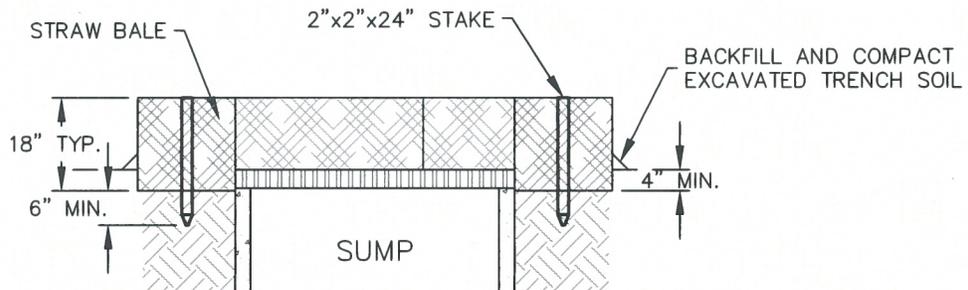
1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES 1/2 OF THE DESIGN DEPTH OF THE INLET BARRIER.
3. SILT FENCE MUST REMAIN UNTIL THE UPSTREAM DISTURBANCE AREA IS STABILIZED.
4. PERMANENTLY STABILIZE AREA AROUND INLET AFTER SILT FENCE IS REMOVED WHEN REMOVAL IS APPROPRIATE.

IP-3

	SUMP INLET PROTECTION	
	APPROVED:	
	SWENT MANAGER	
ISSUED:	REVISED:	DRAWING NO.
10/7/19	8/19/2020	900-IP-3



STRAW BALE SUMP INLET PROTECTION PLAN



SECTION A-A'

INSTALLATION NOTES

1. BALES SHALL BE PLACED IN A SINGLE ROW AROUND THE INLET WITH THE ENDS OF THE BALES TIGHTLY ABUTTING ONE ANOTHER.
2. STRAW BALES SHALL CONSIST OF CERTIFIED WEED FREE STRAW OR HAY. LOCAL JURISDICTIONS MAY REQUIRE PROOF THAT BALES ARE WEED FREE.
3. STRAW BALES SHALL CONSIST OF APPROXIMATELY 5 CUBIC FEET OF STRAW OR HAY AND WEIGH NOT LESS THAN 35 POUNDS.
4. STRAW BALE DIMENSIONS SHALL BE APPROXIMATELY 36"x18"x18".
5. A UNIFORM ANCHOR TRENCH SHALL BE EXCAVATED TO A DEPTH OF 4". STRAW BALES SHALL BE PACED SO THAT THE BINDING TWINE IS ENCOMPASSING THE VERTICAL SIDES OF THE BALE(S).
6. TWO (2) WOODEN STAKES SHALL BE USED TO HOLD EACH BALE IN PLACE. WOODEN STAKED SHALL BE 2"x2"x24 (MIN.)". WOODEN STAKES SHALL BE DRIVEN A MINIMUM OF 6" INTO THE GROUND.

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES 1/2 OF THE DESIGN DEPTH OF THE INLET BARRIER.
3. STRAW BALES MUST REMAIN UNTIL THE UPSTREAM DISTURBANCE AREA IS STABILIZED.
4. PERMANENTLY STABILIZE AREA AROUND INLET AFTER STRAW BALES ARE REMOVED WHEN REMOVAL IS APPROPRIATE.
5. STRAW BALES SHALL BE REPLACED IF THEY BECOME HEAVILY SOILED, ROTTEN OR DAMAGED BEYOND REPAIR.

IP-4



SUMP INLET PROTECTION

APPROVED: 
SWENT MANAGER

ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO. 900-IP-4
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PORTABLE TOILET

PT



1.0 DESCRIPTION

- The portable toilet detail provides requirements for portable toilet use on construction sites.

2.0 PURPOSE

- Used to minimize the risk of pollutant migration to State Waters.

3.0 IMPLEMENTATION

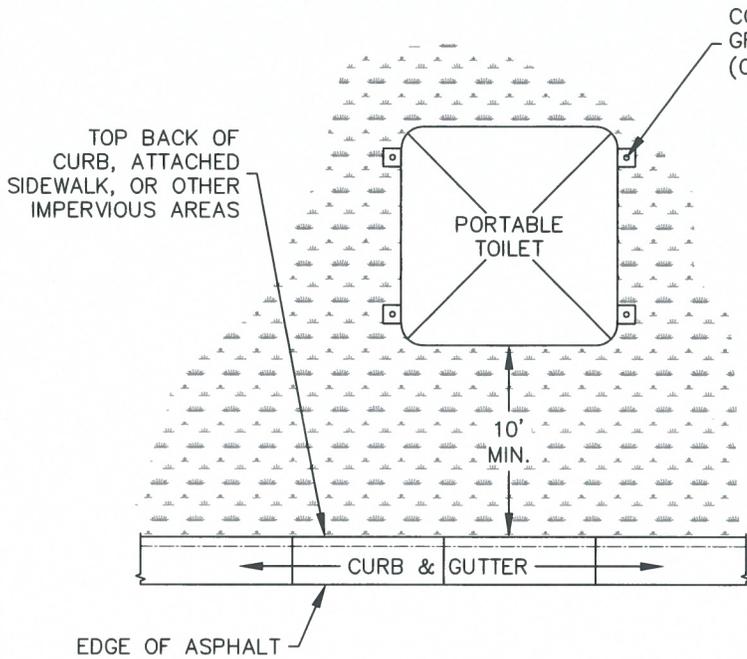
- Place portable toilet a minimum of 10 feet from the back of curb or on a trailer for road projects or sites that are mostly paved.
- Anchor portable toilet to the ground, at a minimum of two opposing corners (on a diagonal) using U-shaped rebar stakes.

4.0 TIMING

- Install as needed.
- Remove prior to the end of construction. Permanently stabilize any disturbed areas associated with the installation, maintenance, and/or removal of the toilets.

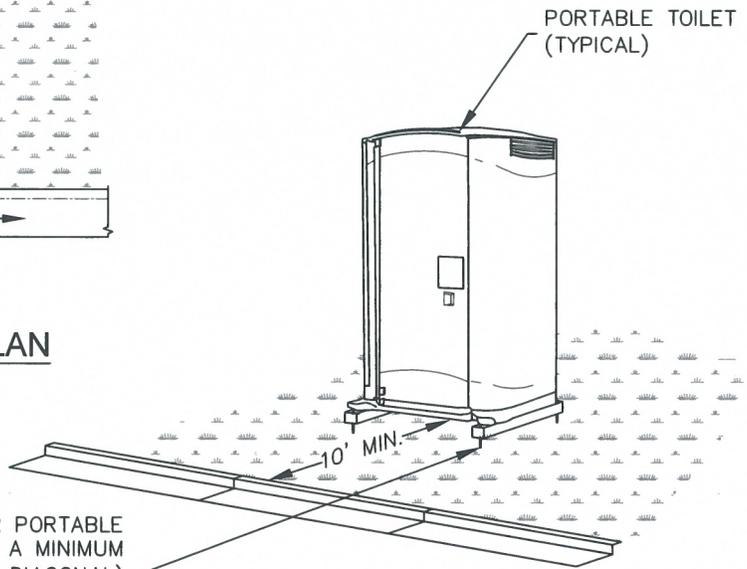
5.0 MAINTENANCE

- Portable toilets shall be serviced at the necessary intervals to eliminate the possibility of overflow.



PORTABLE TOILET PLAN

CONTRACTOR SHALL ANCHOR PORTABLE TOILET TO THE GROUND, AT A MINIMUM OF TWO OPPOSING CORNERS (ON A DIAGONAL) USING U-SHAPED REBAR STAKES



ISOMETRIC

CONTRACTOR SHALL ANCHOR PORTABLE TOILET TO THE GROUND, AT A MINIMUM OF TWO OPPOSING CORNERS (ON A DIAGONAL) USING U-SHAPED REBAR STAKES OR OTHER EFFECTIVE ANCHORING

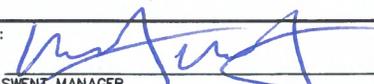
INSTALLATION NOTES

1. PORTABLE TOILETS SHALL BE PLACED A MINIMUM OF 10 FEET BEHIND ALL CURBS, SIDEWALKS, AND OTHER IMPERVIOUS AREAS; 50 FEET FROM STORM INLETS, AND 100 FEET FROM WATERWAYS.
2. PORTABLE TOILETS IN THE RIGHT-OF-WAY ARE REQUIRED TO BE PLACED ON MOBILE TRAILERS AND MUST BE ANCHORED OR WEIGHTED DOWN. PORTABLE TOILETS MAY BE INSTALLED IN ACCORDANCE WITH NOTE #1 IN STAGING AREAS/YARDS.
3. PORTABLE TOILETS SHALL BE SECURELY ANCHORED TO THE GROUND USING U-SHAPED REBAR STAKES, OR OTHER EFFECTIVE ANCHORING.
4. ANCHORING SHALL BE POSITIONED ON AT LEAST TWO OPPOSING (DIAGONAL) CORNERS.
5. TOILET CONTAINMENT PANS MAY BE USED IN PLACE OF A TRAILER AT THE GEC INSPECTOR'S DISCRETION. TOILET CONTAINMENT PANS MUST BE ANCHORED IN PLACE AND MUST NOT BE USED WITHIN THE CITY R.O.W.



MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. PORTABLE TOILETS SHALL BE SERVICED AT THE NECESSARY INTERVALS TO ELIMINATE THE POSSIBILITY OF OVERFLOW.
3. WHEN THE PORTABLE TOILETS ARE REMOVED, ANY DISTURBED AREAS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, AND/OR REMOVAL OF THE TOILETS MUST BE PERMANENTLY STABILIZED.

PORTABLE TOILET		
APPROVED: 		
SWENT MANAGER		
ISSUED: 2/19/19	REVISED: 8/19/2020	DRAWING NO. 900-PTM

ROCK SOCK

RS



1.0 DESCRIPTION

- A rock sock consists of gravel that has been wrapped by wire mesh or a geotextile to form an elongated cylindrical filter.

2.0 PURPOSE

- 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.

3.0 IMPLEMENTATION

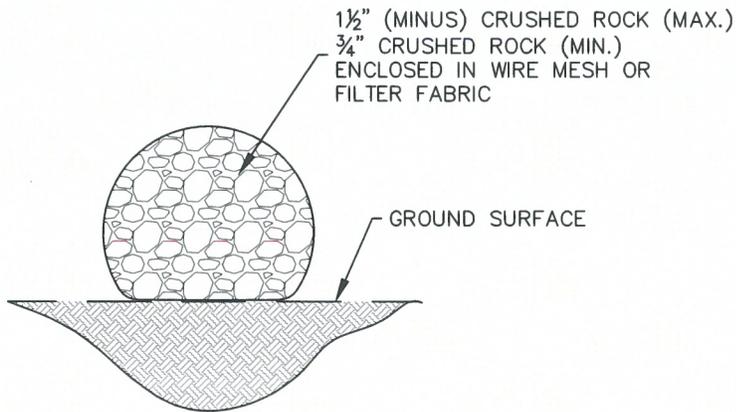
- Rock socks do not require trenching or staking, and are able to be placed on hard surfaces where trenching or staking would be impossible.
- The maximum tributary drainage area per 100 liner feet of rock socks is 1/4 acre.
- When placed in a gutter adjacent to a curb, rock socks should protrude no 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.

4.0 TIMING

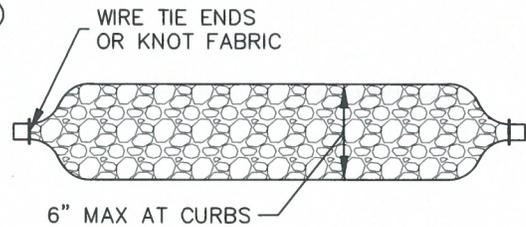
- Install prior to land disturbing activities, or immediately after inlet installation.
- Remove and properly dispose of inlet protection after the contributing drainage area has been permanently stabilized.

5.0 MAINTENANCE

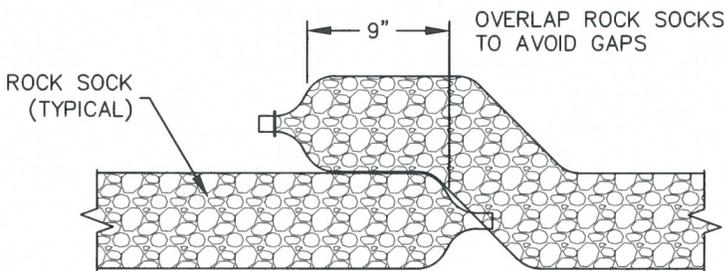
- Remove and properly dispose of sediment when it has accumulated to 1/2 of the height of the rock sock.
- Inspect for and replace damaged or displaced rock socks.



ROCK SOCK SECTION



ROCK SOCK PLAN



ROCK SOCK OVERLAP

GRADATION TABLE

	MASS PERCENT PASSING SQUARE MESH SIEVES
	No. 4
2"	100
1 1/2"	90-100
1"	20-55
3/4"	0-15
3/8"	0-5

MATCHES SPECIFICATIONS FOR
No. 4 COARSE AGGREGATE FOR
CONCRETE PER AASHTO M-43.
ALL ROCK SHALL BE FRACTURED
FACE, ALL SIDES

INSTALLATION NOTES

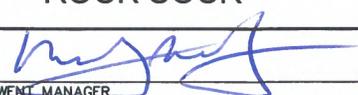
1. CRUSHED ROCK SHALL BE BETWEEN MAX. 1 1/2" (MINUS) IN SIZE WITH A FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH GRADATION SHOWN ON THIS SHEET AND MIN. 3/4" CRUSHED ROCK.
2. WIRE MESH SHALL HAVE OPENINGS SMALLER THAN THE SMALLEST SIZE ROCK.
3. WIRE MESH SHALL BE SECURED USING 'HOG RINGS' OR WIRE TIES AT 6" CENTERS ALONG ALL JOINTS AND AT 2" CENTERS ON ENDS OF SOCKS.

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. ROCK SOCKS SHALL BE REPLACED IF THEY BECOME HEAVILY SOILED OR DAMAGED BEYOND REPAIR.
3. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN THE DEPTH REACHES 1/2 OF THE HEIGHT OF THE ROCK SOCK.
4. ROCK SOCKS ARE TO REMAIN IN PLACE UNTIL DISTURBED AREA IS STABILIZED.
5. PERMANENTLY STABILIZE AREA AFTER ROCK SOCKS HAVE BEEN REMOVED.



ROCK SOCK

APPROVED: 
SWEMT MANAGER

ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO. 900-RS
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SEDIMENT CONTROL LOG

SCL



1.0 DESCRIPTION

- 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.

2.0 PURPOSE

- Used to intercept sheet flow prior to leaving a construction site.
- May be used around the perimeter of a construction site.
- Placed on long slopes to slow down flows.

3.0 IMPLEMENTATION

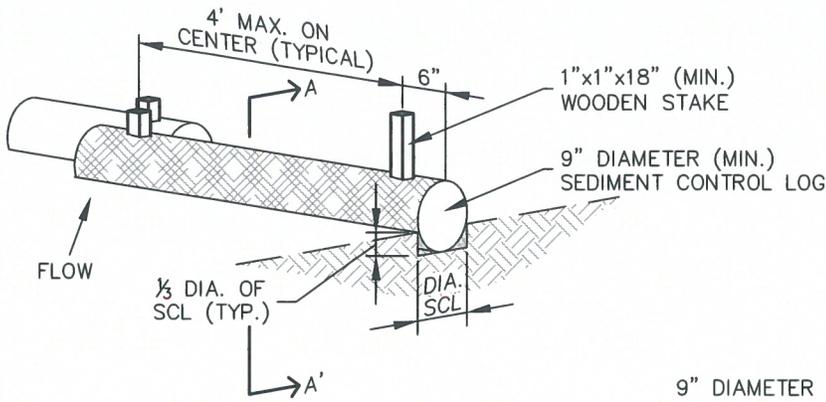
- Install sediment control logs to intercept sheet flow runoff from disturbed areas.
- Install sediment control logs along the contour of slopes or in a manner to avoid creating concentrated flow.
- Place sediment control logs against sidewalk or back of curb when adjacent to these features.
- The maximum tributary drainage area per 100 liner feet of sediment control logs is 1/4 acre.
- Sediment control logs shall consist of straw, compost, excelsior or coconut fiber, and shall be free from any noxious weed seeds or defects.

4.0 TIMING

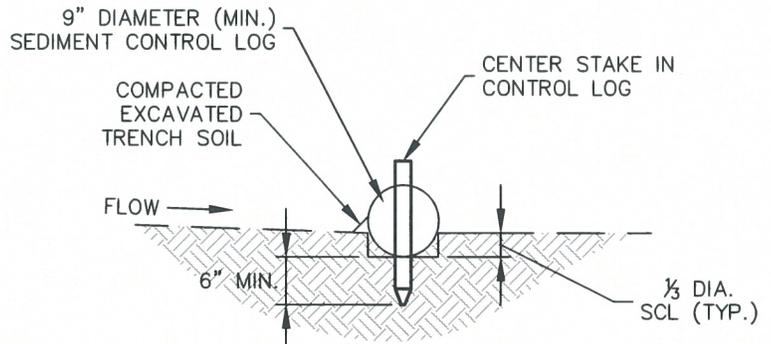
- Install prior to land disturbing activities.
- Remove sediment control logs after the upstream area has been permanently stabilized.

5.0 MAINTENANCE

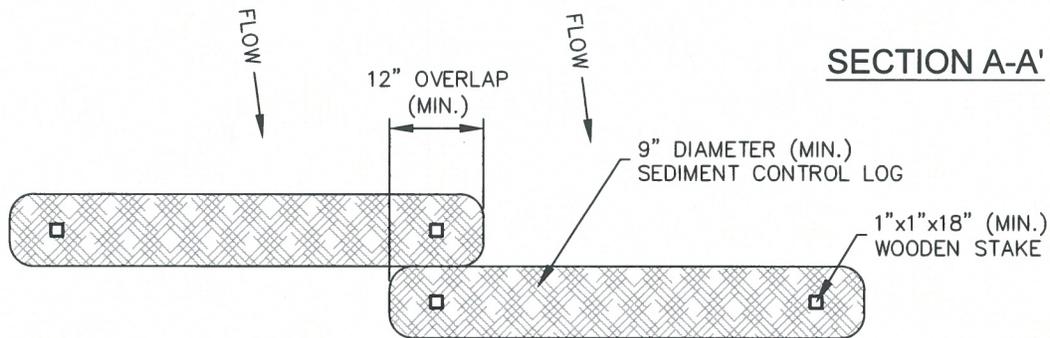
- Remove and properly dispose of sediment when it has accumulated to 1/2 of the height of the exposed sediment control log.
- Inspect for and repair or replace damaged sediment control logs.



SEDIMENT CONTROL LOG



SECTION A-A'



SEDIMENT CONTROL LOG JOINTS

INSTALLATION NOTES

1. ALL SEDIMENT CONTROL LOGS MUST BE EMBEDDED TO $\frac{1}{3}$ OF THE HEIGHT OF THE LOG
2. LARGER DIAMETER SEDIMENT CONTROL LOGS NEED TO BE EMBEDDED DEEPER.
3. PLACE SEDIMENT CONTROL LOG AGAINST SIDEWALK OR BACK OF CURB WHEN ADJACENT TO THESE FEATURES.
4. SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELSIOR OR COCONUT FIBER, AND SHALL BE FREE FROM ANY NOXIOUS WEED SEEDS OR DEFECTS INCLUDING RIPS, HOLES AND OBVIOUS WEAR.
5. IF USING AS SLOPE PROTECTION, INSTALL SEDIMENT CONTROL LOGS ALONG THE CONTOUR.

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES $\frac{1}{2}$ OF THE HEIGHT OF THE SEDIMENT CONTROL LOG.
3. PERMANENTLY STABILIZE AREA AFTER SEDIMENT CONTROL LOGS HAVE BEEN REMOVED.



SEDIMENT CONTROL LOGS

APPROVED: 
SWENT MANAGER

ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO. 900-SCL
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Table 5-1. El Paso County Conservation District All-Purpose Mix for Upland, Transition and Permanent Control Measure Areas

Common Name	Scientific Name	Growth Season / Form	% of Mix	Pounds PLS		
				<ul style="list-style-type: none"> • Irrigated broadcast • Irrigated hydroseeded 80 seeds/sq ft	<ul style="list-style-type: none"> • Non-irrigated broadcast • Non-irrigated hydroseeded • Irrigated drilled 40 seeds/sq ft	<ul style="list-style-type: none"> • Non-irrigated drilled 20 seeds/sq ft
Bluestem, big	<i>Andropogon gerardii</i>	Warm, sod	20	4.4	2.2	1.1
Gramma, blue	<i>Bouteloua gracilis</i>	Warm, bunch	10	0.5	0.25	0.13
Green needlegrass ²	<i>Nassella viridula</i>	Cool, bunch	10	2	1	0.5
Wheatgrass, western ²	<i>Pascopyrum smithii</i>	Cool, sod	20	6.4	3.2	1.6
Gramma, sideoats	<i>Bouteloua curtipendula</i>	Warm, bunch	10	2	1	0.5
Switchgrass ²	<i>Panicum virgatum</i>	Warm, bunch/sod	10	0.8	0.4	0.2
Prairie sandreed	<i>Calimovilfa longifolia</i>	Warm, sod	10	1.2	0.6	0.3
Yellow indiagrass ²	<i>Sorghastrum nutans</i>	Warm, sod	10	2	1	0.5
Seed rate (lbs PLS/acre)				19.3	9.7	4.8

¹For portions of facilities located near or on the bottom or where wet soil conditions occur. Planting of potted nursery stock wetland plants 2-foot on-center is recommended for sites with wetland hydrology.

²Species that will do well in the bottom of pond areas.

Table 5-2. El Paso County All-Purpose Low Grow Mix for Upland and Transition Areas

Common Name	Scientific Name	Growth Season / Form	% of Mix	Pounds PLS		
				<ul style="list-style-type: none"> • Irrigated broadcast • Irrigated hydroseeded 80 seeds/sq ft	<ul style="list-style-type: none"> • Non-irrigated broadcast • Non-irrigated hydroseeded • Irrigated drilled 40 seeds/sq ft	<ul style="list-style-type: none"> • Non-irrigated drilled 20 seeds/sq ft
Buffalograss	<i>Buchloe dactyloides</i>	Warm, sod	25	9.6	4.8	2.4
Grama, blue	<i>Bouteloua gracilis</i>	Warm, bunch	20	10.8	5.4	2.7
Grama, sideoats	<i>Bouteloua curtipendula</i>	Warm, bunch	29	5.6	2.8	1.4
Green needlegrass	<i>Nassella viridula</i>	Cool, bunch	5	3.2	1.6	0.8
Wheatgrass, western	<i>Pascopyrum smithii</i>	Cool, sod	20	12	6	3
Dropseed, sand	<i>Sporobolus cryptandrus</i>	Warm, bunch	1	0.8	0.4	0.2
Seed rate (lbs PLS/acre)				42	21	10.3

SEEDING AND MULCHING

SM



1.0 DESCRIPTION

- The preparation of soil, application of much, and application of seed to disturbed areas.

2.0 PURPOSE

- Used to control runoff and erosion on disturbed areas by establishing vegetative cover.
- Reduces erosion and sediment loss.
- Provides permanent stabilization in disturbed areas.

3.0 IMPLEMENTATION

- All soil testing, soil amendment and fertilizer documentation, and seed load and bag tickets must be added to the CSWMP.
- Properly prepare soil prior to seeding and mulching.
- Apply seed mixes as specified in the City of Colorado Springs Stormwater Construction Manual. Alternative seed mixes are acceptable if included in an approved Landscaping Plan.
- Mulch seeded areas using hay or straw mulch, hydraulic mulching, or install erosion control blanket.

4.0 TIMING

- Seed and mulch disturbed areas after final grading.
- Seeding and mulching may also be used as a temporary erosion control measure during construction.

5.0 MAINTENANCE

- Repair and reseed bare areas as necessary.
- Restrict vehicle access to seeded areas.

SEEDING & MULCHING

ALL SOIL TESTING, SOILS AMENDMENT AND FERTILIZER DOCUMENTATION, AND SEED LOAD AND BAG TICKETS MUST BE ADDED TO THE CSWMP.

SOIL PREPARATION

1. IN AREAS TO BE SEEDED, THE UPPER 6 INCHES OF THE SOIL MUST NOT BE HEAVILY COMPACTED, AND SHOULD BE IN FRIABLE CONDITION. LESS THAN 85% STANDARD PROCTOR DENSITY IS ACCEPTABLE. AREAS OF COMPACTION OR GENERAL CONSTRUCTION ACTIVITY MUST BE SCARIFIED TO A DEPTH OF 6 TO 12 INCHES PRIOR TO SPREADING TOPSOIL TO BREAK UP COMPACTED LAYERS AND PROVIDE A BLENDING ZONE BETWEEN DIFFERENT SOIL LAYERS.
2. AREAS TO BE PLANTED SHALL HAVE AT LEAST 4 INCHES OF TOPSOIL SUITABLE TO SUPPORT PLANT GROWTH.
3. THE CITY RECOMMENDS THAT EXISTING AND/OR IMPORTED TOPSOIL BE TESTED TO IDENTIFY SOIL DEFICIENCIES AND ANY SOIL AMENDMENTS NECESSARY TO ADDRESS THESE DEFICIENCIES. SOIL AMENDMENTS AND/OR FERTILIZERS SHOULD BE ADDED TO CORRECT TOPSOIL DEFICIENCIES BASED ON SOIL TESTING RESULTS.
4. TOPSOIL SHALL BE PROTECTED DURING THE CONSTRUCTION PERIOD TO RETAIN ITS STRUCTURE AVOID COMPACTION, AND TO PREVENT EROSION AND CONTAMINATION. STRIPPED TOPSOIL MUST BE STORED IN AN AREA AWAY FROM MACHINERY AND CONSTRUCTION OPERATIONS, AND CARE MUST BE TAKEN TO PROTECT THE TOPSOIL AS A VALUABLE COMMODITY. TOPSOIL MUST NOT BE STRIPPED DURING UNDESIRABLE WORKING CONDITIONS (E.G. DURING WET WEATHER OR WHEN SOILS ARE SATURATED). TOPSOIL SHALL NOT BE STORED IN SWALES OR IN AREAS WITH POOR DRAINAGE.

SEEDING

1. ALLOWABLE SEED MIXES ARE INCLUDED IN THE CITY OF COLORADO SPRINGS STORMWATER CONSTRUCTION MANUAL. ALTERNATIVE SEED MIXES ARE ACCEPTABLE IF INCLUDED IN AN APPROVED LANDSCAPING PLAN.
2. SEED SHOULD BE DRILL-SEEDED WHENEVER POSSIBLE
 - SEED DEPTH MUST BE $\frac{1}{2}$ TO $\frac{1}{4}$ INCHES WHEN DRILL-SEEDED IS USED
3. BROADCAST SEEDING OR HYDRO-SEEDED WITH TACKIFIER MAY BE SUBSTITUTED ON SLOPES STEEPER THAN 3:1 OR ON OTHER AREAS NOT PRACTICAL TO DRILL SEED.
 - SEEDING RATES MUST BE DOUBLED FOR BROADCAST SEEDING OR INCREASED BY 50% IF USING A BRILLION DRILL OR HYDRO-SEEDED
 - BROADCAST SEEDING MUST BE LIGHTLY HAND-RAKED INTO THE SOIL

MULCHING

1. MULCHING SHOULD BE COMPLETED AS SOON AS PRACTICABLE AFTER SEEDING, HOWEVER PLANTED AREAS MUST BE MULCHED NO LATER THAN 14 DAYS AFTER PLANTING.
2. MULCHING REQUIREMENTS INCLUDE:
 - HAY OR STRAW MULCH
 - ONLY CERTIFIED WEED-FREE AND CERTIFIED SEED-FREE MULCH MAY BE USED. MULCH MUST BE APPLIED AT 2 TONS/ACRE AND ADEQUATELY SECURED BY CRIMPING AND/OR TACKIFIER.
 - CRIMPING MUST NOT BE USED ON SLOPES GREATER THAN 3:1 AND MULCH FIBERS MUST BE TUCKED INTO THE SOIL TO A DEPTH OF 3 TO 4 INCHES.
 - TACKIFIER MUST BE USED IN PLACE OF CRIMPING ON SLOPES STEEPER THAN 3:1.
 - HYDRAULIC MULCHING
 - HYDRAULIC MULCHING IS AN OPTION ON STEEP SLOPES OR WHERE ACCESS IS LIMITED.
 - IF HYDRO-SEEDED IS USED, MULCHING MUST BE APPLIED AS A SEPARATE, SECOND OPERATION.
 - WOOD CELLULOSE FIBERS MIXED WITH WATER MUST BE APPLIED AT A RATE OF 2,000 TO 2,500 POUNDS/ACRE, AND TACKIFIER MUST BE APPLIED AT A RATE OF 100 POUNDS/ACRE.
 - EROSION CONTROL BLANKET
 - EROSION CONTROL BLANKET MAY BE USED IN PLACE OF TRADITIONAL MULCHING METHODS.



SEEDING & MULCHING		
APPROVED: 		
SWENT MANAGER		
ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO. 900-SM

SILT FENCE

SF



1.0 DESCRIPTION

- Silt fence is a temporary sediment barrier consisting of woven geotextile fabric attached to supporting posts and trenched into the soil.

2.0 PURPOSE

- Used to intercept sheet flow prior to leaving a construction site.
- May be used around the perimeter of a construction site.

3.0 IMPLEMENTATION

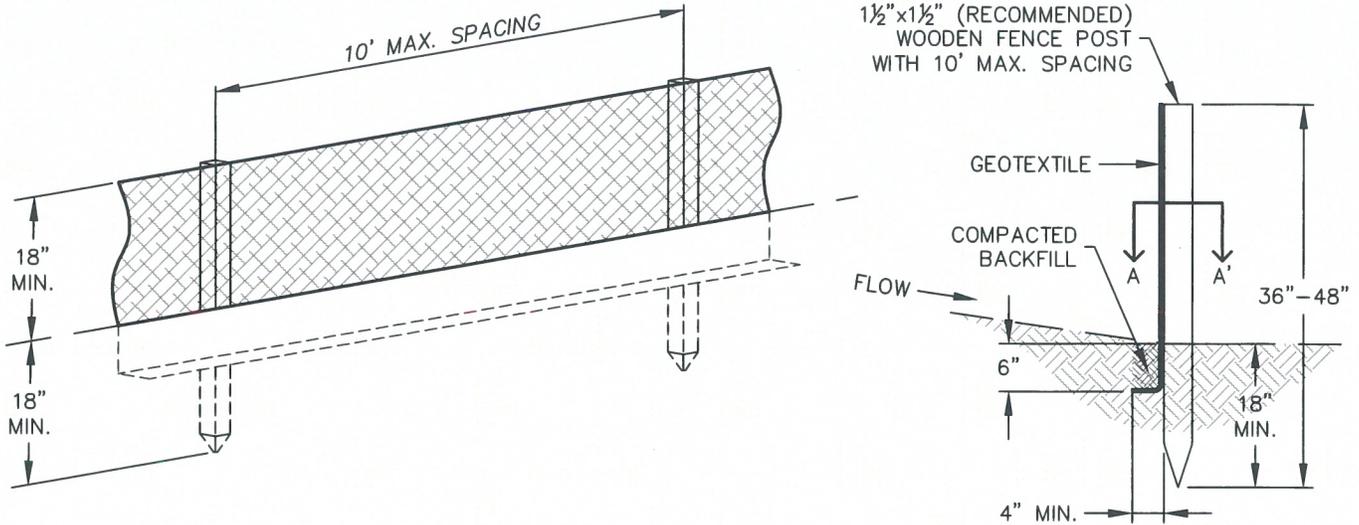
- Install silt fence to intercept sheet flow runoff from disturbed areas.
- Silt fence is not designed to be used as a filter fabric.
- Do not install silt fence across streams, channels, swales, ditches, or other drainageways.
- Install silt fence along the contour of slopes or in a manner to avoid creating concentrated flow (i.e. "J-hook" 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.

4.0 TIMING

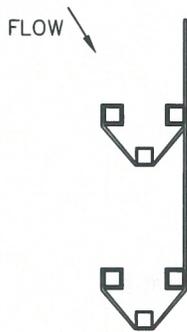
- Install prior to land disturbing activities.
- Remove silt fence after the upstream area has been permanently stabilized.

5.0 MAINTENANCE

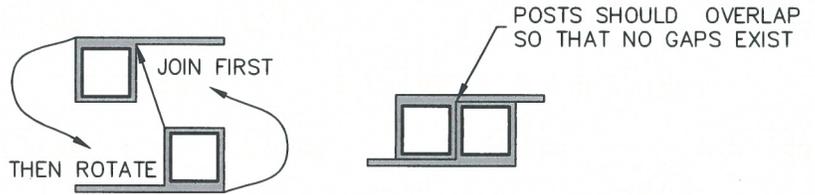
- Remove and properly dispose of sediment when it has accumulated to 1/2 of the height of the exposed silt fence.
- Inspect for and repair or replace damaged silt fence.



SILT FENCE



J-HOOK INSTALLATION



SECTION A-A'

INSTALLATION NOTES

1. SILT FENCE MUST BE PLACED ON A FLAT SURFACE 2'-5' AWAY FROM TOE OF THE SLOPE TO ALLOW FOR PONDING AND DEPOSITION.
2. COMPACT THE TRENCH USING A JUMPING JACK OR WHEEL ROLLING TO THE POINT THAT THE FENCE RESISTS BEING PULLED OUT OF THE GROUND BY HAND.
3. SILT FENCE SHALL BE TAUT WITH NO SAGS AFTER IT HAS BEEN ANCHORED.
4. FABRIC SHALL BE ATTACHED TO POSTS WITH 1" HEAVY DUTY STAPLES OR 1" NAILS. THESE SHOULD BE PLACED VERTICALLY DOWN THE POST, 3" APART.
5. THE PREFERRED INSTALLATION METHOD USES A TRENCHER OR SILT FENCE INSTALLATION DEVICE.
6. INSTALL SILT FENCE ALONG THE CONTOUR OF THE SLOPES OR IN A MANNER TO AVOID CREATING CONCENTRATED FLOW (SUCH AS A "J-HOOK" INSTALLATION).

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES 1/2 OF THE DESIGN HEIGHT OF THE SILT FENCE.
3. SILT FENCE MUST REMAIN UNTIL THE UPSTREAM DISTURBANCE AREA IS STABILIZED.
4. PERMANENTLY STABILIZE AREA AFTER SILT FENCE IS REMOVED.



	SILT FENCE	
	APPROVED:	
	SWENT MANAGER	
ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO. 900-SF

SLOPE TRACKING

ST



1.0 DESCRIPTION

- Slope tracking is a practice where construction equipment is used to create grooves and depressions that run parallel to the contour of the land on slopes.

2.0 PURPOSE

- Used to create variations in the soil surface that slow down the velocity of runoff, increase infiltration, reduce erosion, and trap soil.

3.0 IMPLEMENTATION

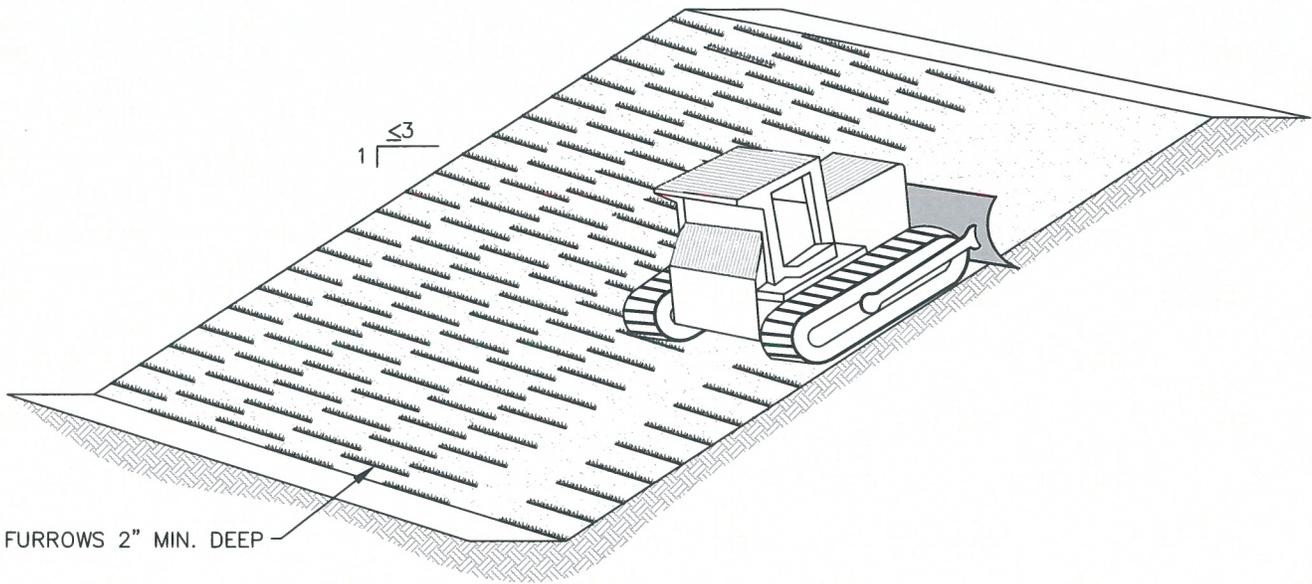
- Use slope tracking on slopes 3:1 or steeper.
- Grooves must be installed along contours to avoid concentrating flow.
- Do not use in areas with extremely sandy or rocky soils.

4.0 TIMING

- Install after land disturbing activities when area is in an interim condition or at final grade.
- Remove prior to permanent stabilization during soil preparation.

5.0 MAINTENANCE

- Inspect areas with tracking for signs of erosion. Repeat slope tracking as needed.
- Do not allow vehicles to drive over tracked areas.



SLOPE TRACKING

INSTALLATION NOTES

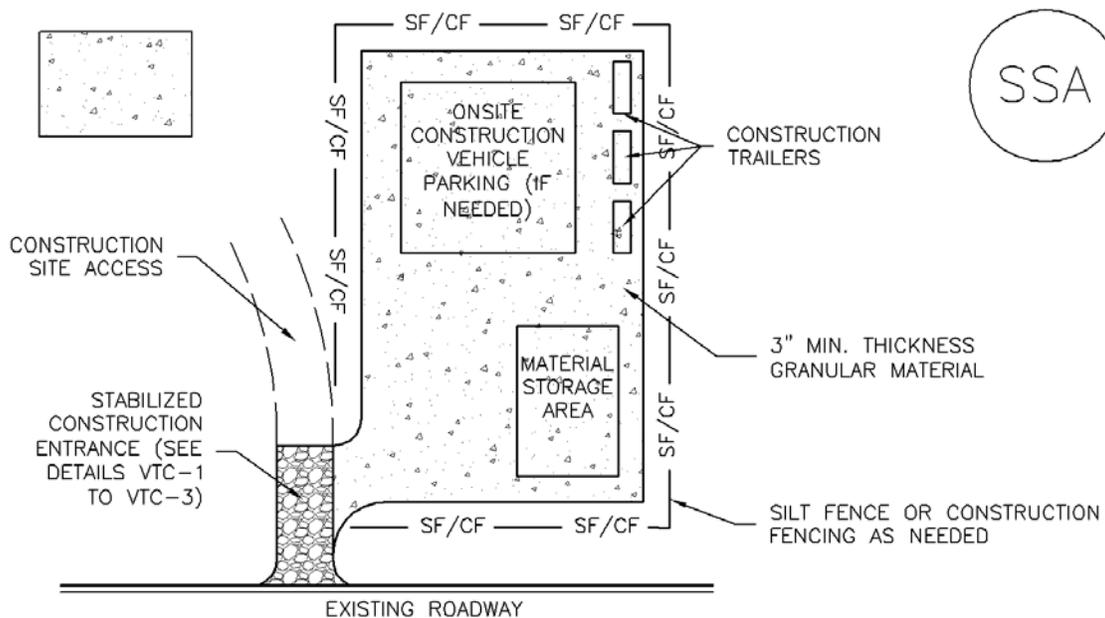
1. SLOPE TRACKING MAY BE USED ON SLOPES 3:1 OR STEEPER.
2. TRACKING GROOVES SHALL BE PERPENDICULAR TO THE SLOPE.
3. SLOPE TRACKING SHALL NOT BE USED ON EXTREMELY SANDY OR ROCKY SOILS.

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. VEHICLES AND EQUIPMENT SHALL NOT BE DRIVEN OVER AREAS THAT HAVE BEEN SLOPE TRACKED.



 <p>STORMWATER ENTERPRISE</p>	SLOPE TRACKING	
	APPROVED: 	
	<small>SWENT MANAGER</small>	
<small>ISSUED:</small> 10/7/19	<small>REVISED:</small> 8/19/2020	<small>DRAWING NO.</small> 900-ST



SSA-1. STABILIZED STAGING AREA

STABILIZED STAGING AREA INSTALLATION NOTES

1. SEE PLAN VIEW FOR
 - LOCATION OF STAGING AREA(S).
 - CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.
2. STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE. OVERSIZING RESULTS IN A LARGER AREA TO STABILIZE FOLLOWING CONSTRUCTION.
3. STAGING AREA SHALL BE STABILIZED PRIOR TO OTHER OPERATIONS ON THE SITE.
4. THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM 3" THICK GRANULAR MATERIAL.
5. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.
6. ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SILT FENCE AND CONSTRUCTION FENCING.

STABILIZED STAGING AREA 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 REGRADED AS NECESSARY IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.

STABILIZED STAGING AREA MAINTENANCE NOTES

5. STABILIZED STAGING AREA SHALL BE ENLARGED IF NECESSARY TO CONTAIN PARKING, STORAGE, AND UNLOADING/LOADING OPERATIONS.

6. 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 MUNICIPALITIES 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 UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO, NOT AVAILABLE IN AUTOCAD)

STOCKPILE PROTECTION

SP



1.0 DESCRIPTION

- Perimeter control placed around stockpiles of soil and other erodible materials.

2.0 PURPOSE

- Used to avoid the migration of sediment and other materials from stockpiles.

3.0 IMPLEMENTATION

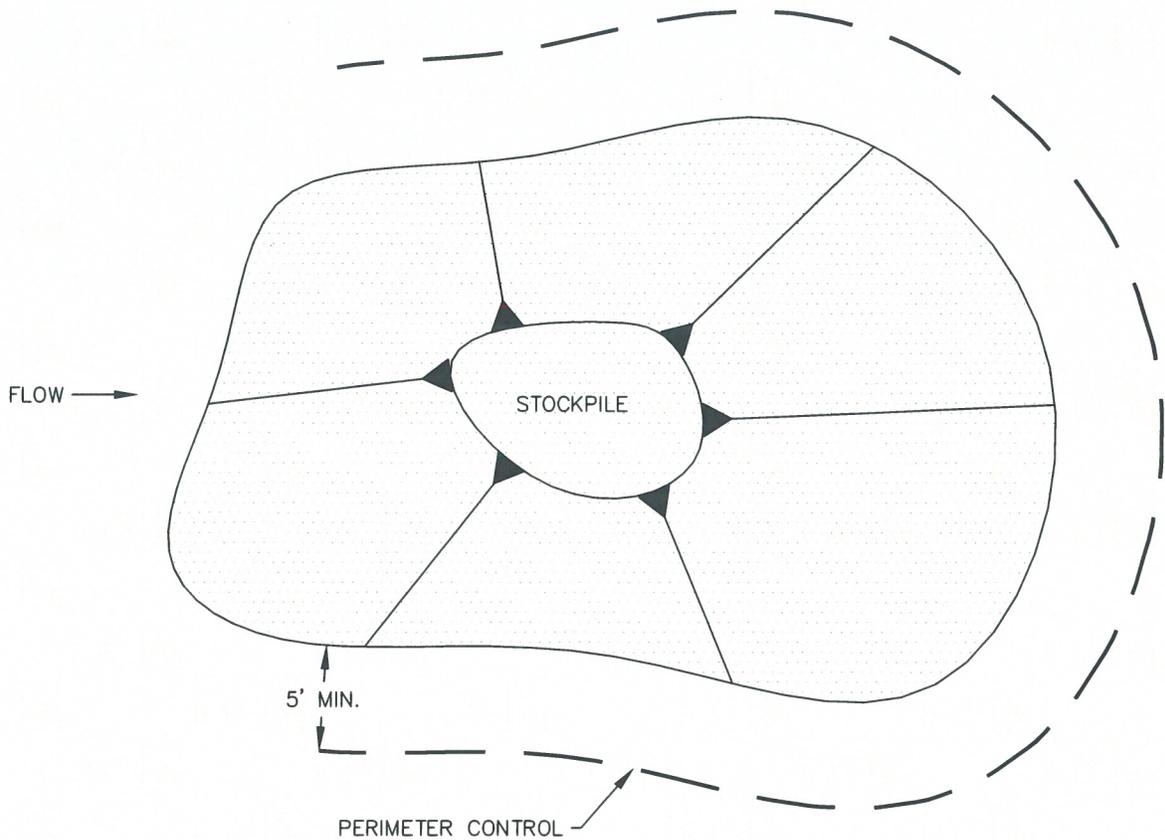
- Install perimeter control around stockpile on downgradient side.
- Stockpile perimeter controls may not be required for stockpiles on the interior portion of a construction site where other downgradient controls including perimeter control are in place.

4.0 TIMING

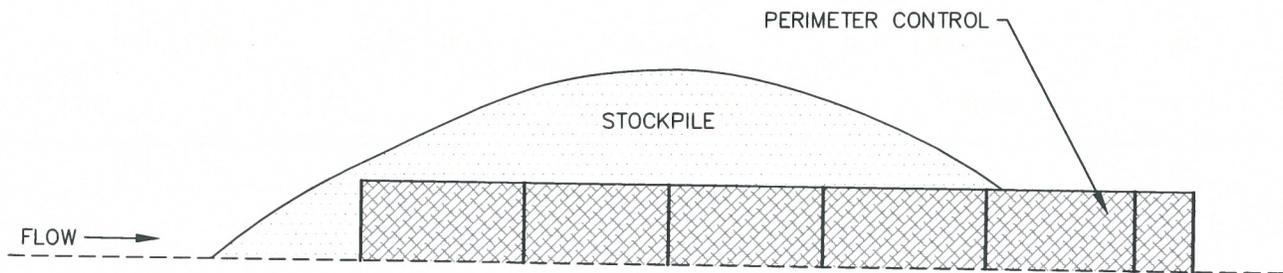
- Install immediately after stockpile has formed or limits are known, whichever occurs first.
- Remove stockpile protection after the stockpile has been removed.

5.0 MAINTENANCE

- Remove and properly dispose of sediment according to the perimeter control detail.
- If perimeter controls must be moved to access stockpile, replace perimeter controls by the end of the work day.
- Inspect for and repair and/or replace perimeter controls as needed to maintain functionality.



STOCKPILE PROTECTION PLAN



STOCKPILE PROTECTION ELEVATION

INSTALLATION NOTES

1. INSTALL PERIMETER CONTROL AROUND STOCKPILE ON DOWNGRAIDENT SIDE. PERIMETER CONTROL MUST BE SUITABLE TO SITE CONDITIONS AND INSTALLED ACCORDING TO THE RELEVANT DETAIL.
2. FOR STOCKPILES ON THE INTERIOR PORTION OF A CONSTRUCTION SITE, WHERE OTHER DOWNGRAIDENT CONTROLS INCLUDING PERIMETER CONTROL ARE IN PLACE, STOCKPILE PERIMETER CONTROLS MAY NOT BE REQUIRED.

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. IF PERIMETER CONTROLS MUST BE MOVED TO ACCESS STOCKPILE, REPLACE PERIMETER CONTROLS BY THE END OF THE WORK DAY.
3. ACCUMULATED SEDIMENT MUST BE REMOVED ACCORDING TO PERIMETER CONTROL DETAIL.



STOCKPILE PROTECTION

APPROVED: 
SWENT MANAGER

ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO. 900-SP
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SURFACE ROUGHENING

SR



1.0 DESCRIPTION

- 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.

2.0 PURPOSE

- Used to create variations in the soil surface that slow down the velocity of runoff, increase infiltration, reduce erosion, and trap soil.
- May be used to help establish vegetative cover by reducing runoff velocity and giving seed an opportunity to take hold.

3.0 IMPLEMENTATION

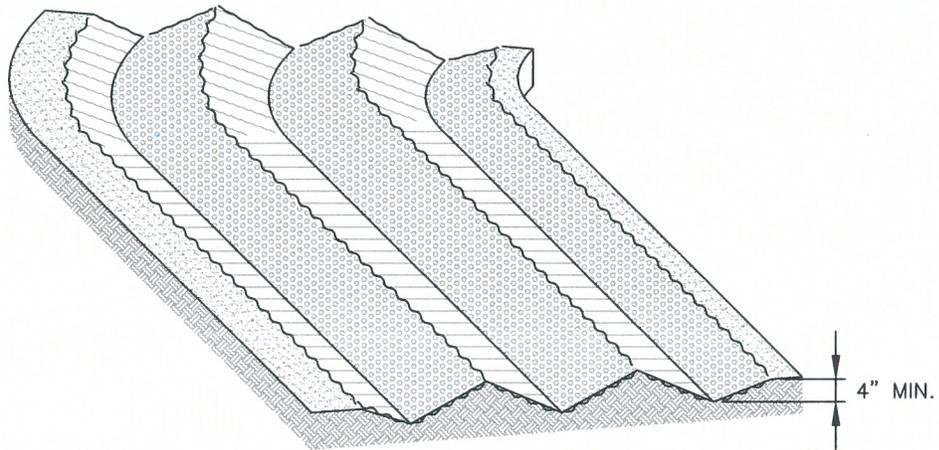
- Roughen soil in areas flatter than 3:1.
- Surface roughening may be completed by furrowing, scarifying, ripping, or disking soil.
- Grooves must be installed along contours to avoid concentrating flow.
- Do not use in areas with extremely sandy or rocky soils.

4.0 TIMING

- Install after overlot grading activities when area is in an interim condition or at final grade.
- Remove prior to permanent stabilization during soil preparation.

5.0 MAINTENANCE

- Inspect roughened areas for signs of erosion. Repeat surface roughening as needed.
- Do not allow vehicles to drive over surface roughened areas.



SURFACE ROUGHENING

INSTALLATION NOTES

1. SURFACE ROUGHENING MAY BE USED IN AREAS FLATTER THAN 3:1. INSTALL FURROWS ALONG CONTOUR TO INTERCEPT SHEET FLOW.
2. SURFACE ROUGHENING MAY BE ACCOMPLISHED BY FURROWING, SCARIFYING, RIPPING OR DISKING THE SOIL.
3. FURROWS MUST BE A MINIMUM OF 4" IN DEPTH.
4. SURFACE ROUGHENING SHALL NOT BE USED ON EXTREMELY SANDY OR ROCKY SOILS.

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. VEHICLES AND EQUIPMENT SHALL NOT BE DRIVEN OVER AREAS THAT HAVE BEEN SURFACE ROUGHENED.



 <p>STORMWATER ENTERPRISE</p>	SURFACE ROUGHENING		
	APPROVED:  SWENT MANAGER		
ISSUED:	REVISED:	DRAWING NO.	
10/7/19	8/19/2020	900-SR	

TEMPORARY COMPACTED BERM

TCB



1.0 DESCRIPTION

- A temporary compacted berm is a compacted ridge that slows and diverts stormwater from disturbed areas.

2.0 PURPOSE

- Used to intercept sheet flow prior to leaving a construction site.
- May be used around the perimeter of a construction site.
- Placed on long slopes to slow down flows.

3.0 IMPLEMENTATION

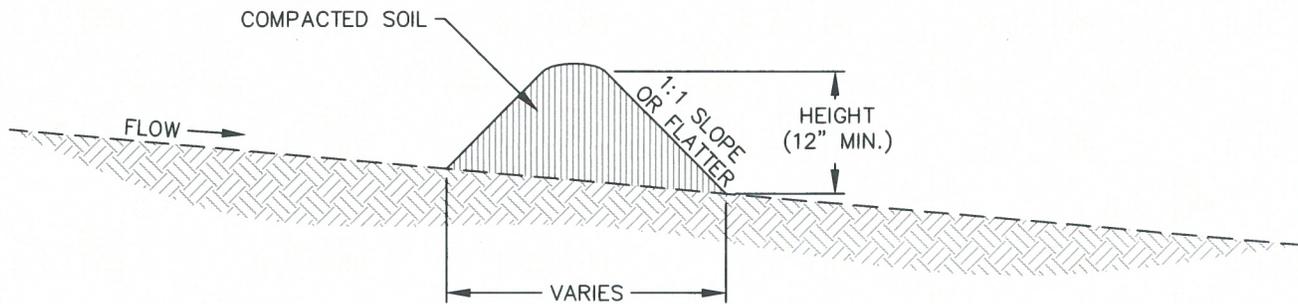
- Compacted berms must be a minimum height of one foot.
- Adequately compact berms. Not all soils are suitable for compacted berms. Soils may need to be adequately watered down to facilitate compaction.
- Install compacted berms along the contour of slopes or in a manner to avoid creating concentrated flow.
- The maximum tributary drainage area per 100 linear feet of an installed compacted berm is 1/4 acre.

4.0 TIMING

- Install prior to land disturbing activities.
- Remove compacted berms after the upstream area has been permanently stabilized. Permanently stabilize area after compacted berms have been removed.

5.0 MAINTENANCE

- Remove and properly dispose of sediment when it has accumulated to 1/2 of the height of the compacted berm.
- Inspect for and repair damaged compacted berms.
- Do not allow vehicles to drive over berms.



TEMPORARY COMPACTED BERM

INSTALLATION NOTES

1. COMPACTED BERM MUST BE A MINIMUM HEIGHT OF ONE FOOT. BASE WIDTH IS DETERMINED BY HEIGHT.
2. COMPACTED BERMS MUST BE ADEQUATELY COMPACTED. NOT ALL SOILS ARE SUITABLE FOR COMPACTED BERMS.
3. INSTALL COMPACTED BERMS ALONG CONTOUR; DO NOT INSTALL PERPENDICULAR TO SLOPE.
4. THE MAXIMUM TRIBUTARY DRAINAGE AREA PER 100 LINEAR FEET OF COMPACTED BERMS SHALL BE $\frac{1}{4}$ ACRE.

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES $\frac{1}{2}$ OF THE DESIGN DEPTH OF THE BERM.



TEMPORARY COMPACTED BERM

APPROVED:		
SWENT MANAGER		
ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO. 900-TCB

TEMPORARY SEDIMENT BASIN

TSB



1.0 DESCRIPTION

- Temporary sediment basins are small impoundments of water with a small outlet structure built on a construction site.

2.0 PURPOSE

- Used to capture and slowly release runoff prior to discharge from a construction site to allow sediment to settle out.

3.0 IMPLEMENTATION

- Temporary sediment basins for drainage areas larger than 15 acres must be individually designed by engineer.
- Erosion and other sediment controls should be implemented upstream of temporary sediment basins.

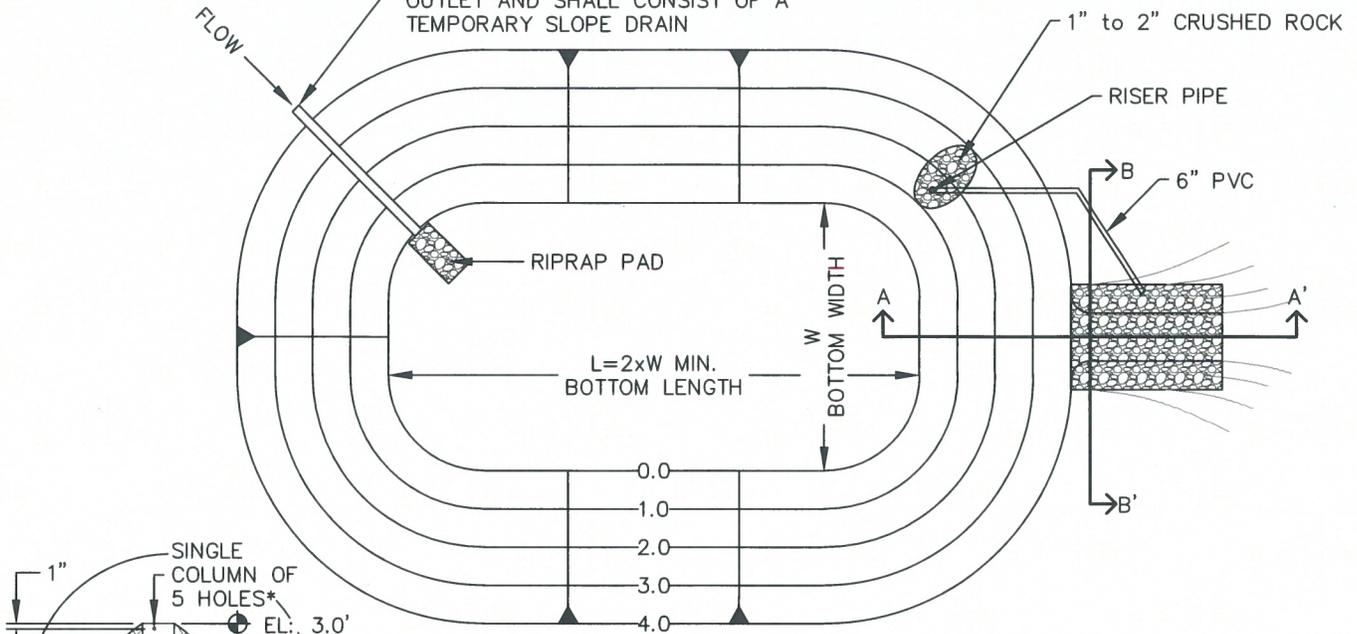
4.0 TIMING

- Install prior to upstream land disturbance.
- Remove temporary sediment basin after upstream area has been stabilized. Permanently stabilize area after basin has been removed.

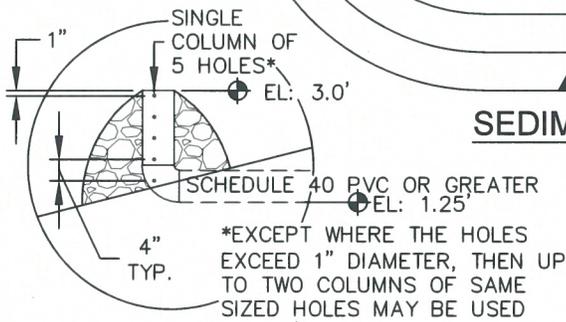
5.0 MAINTENANCE

- Remove sediment from basin as needed to maintain the effectiveness of the temporary sediment basin. This is typically when sediment depth reaches one foot.
- Inspect sediment basin embankments for stability and seepage.
- Inspect the inlet and outlet of the basin, repair damage, and remove debris.

INLETS TO SEDIMENT BASIN SHALL ENTER AT FURTHEST DISTANCE TO OUTLET AND SHALL CONSIST OF A TEMPORARY SLOPE DRAIN

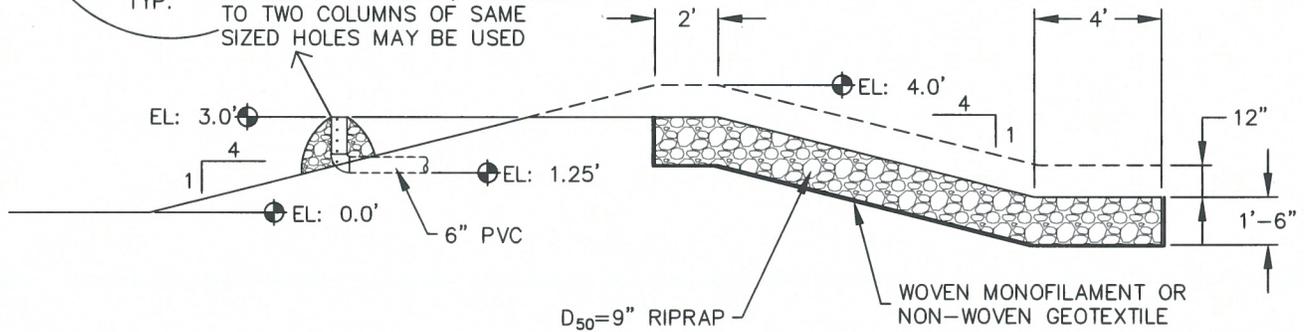


SEDIMENT BASIN PLAN

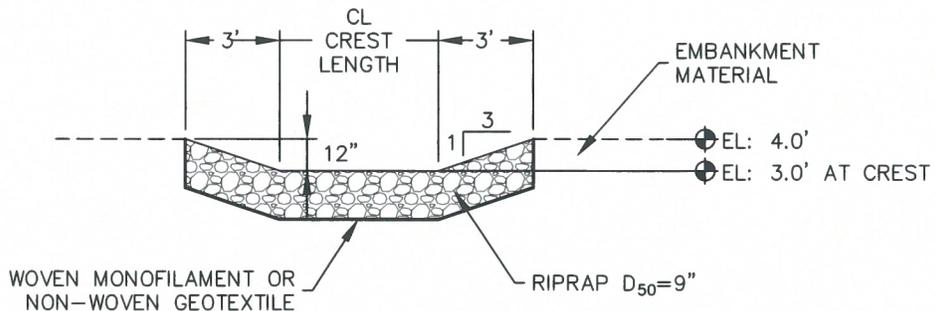


SCHEDULE 40 PVC OR GREATER
EL: 1.25'

*EXCEPT WHERE THE HOLES EXCEED 1" DIAMETER, THEN UP TO TWO COLUMNS OF SAME SIZED HOLES MAY BE USED



SECTION A-A'



SECTION B-B'



TEMPORARY SEDIMENT BASIN

APPROVED: 		
SWENT MANAGER		
ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO. 900-TSB-1

TABLE SB-1, SIZING INFORMATION FOR
STANDARD SEDIMENT BASIN

UPSTREAM DRAINAGE AREA (ROUNDED TO NEAREST ACRE), (AC)	BASIN BOTTOM WIDTH (W), (FT)	SPILLWAY CREST LENGTH (CL), (FT)	HOLE DIAMETER (HD), (IN)
1	12½"	2	9/32
2	21	3	13/16
3	28	5	½
4	33½	6	9/16
5	38½	8	2½/32
6	43	9	2½/32
7	47¼	11	25/32
8	51	12	27/32
9	55	13	7/8
10	58¼	15	15/16
11	61	16	3½/32
12	64	18	1
13	67½	19	1¼/6
14	70½	21	1½/8
15	73¼	22	1¾/6

INSTALLATION NOTES

- FOR STANDARD BASIN, BOTTOM DIMENSION MAY BE MODIFIED AS LONG AS BOTTOM AREA IS NOT REDUCED.
- EMBANKMENT MATERIAL SHALL CONSIST OF SOIL FREE OF DEBRIS, ORGANIC MATERIAL, AND ROCKS OR CONCRETE GREATER THAN 3 INCHES, AND SHALL HAVE A MINIMUM OF 15 PERCENT BY WEIGHT PASSING THE No. 200 SIEVE
- EMBANKMENT MATERIAL SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D-698.
- PIPE SCHEDULE 40 OR GREATER SHALL BE USED.
- THE DETAILS SHOWN ON THESE SHEETS PERTAIN TO STANDARD SEDIMENT BASIN(S) FOR DRAINAGE AREAS LESS THAN 15 ACRES. SEE CONSTRUCTION DRAWINGS FOR EMBANKMENT, STORAGE VOLUME, SPILLWAY, OUTLET, AND OUTLET PROTECTION DETAILS FOR ANY SEDIMENT BASIN(S) THAT HAVE BEEN INDIVIDUALLY DESIGNED FOR DRAINAGE AREAS LARGER THAN 15 ACRES. DESIGN CALCULATIONS MUST BE APPROVED PRIOR TO IMPLEMENTATION.

MAINTENANCE NOTES

- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- SEDIMENT ACCUMULATED IN BASIN SHALL BE REMOVED AS NEEDED TO MAINTAIN CONTROL MEASURE EFFECTIVENESS, TYPICALLY WHEN SEDIMENT DEPTH REACHES ONE FOOT (I.E. TWO FEET BELOW SPILLWAY CREST).
- SEDIMENT BASINS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED.
- PERMANENTLY STABILIZE AREA AFTER SEDIMENT BASIN REMOVAL.



TEMPORARY SEDIMENT BASIN		
APPROVED: 		
SWENT MANAGER		
ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO. 900-TSB-2

VEHICLE TRACKING CONTROL

VTC



1.0 DESCRIPTION

- Vehicle tracking control consists of a pad of coarse stone aggregate placed on a geotextile filter fabric.

2.0 PURPOSE

- Used to reduce the tracking of sediment onto roadways by construction vehicles.
- As vehicles drive over the VTC device, mud and sediment is removed from the tires.

3.0 IMPLEMENTATION

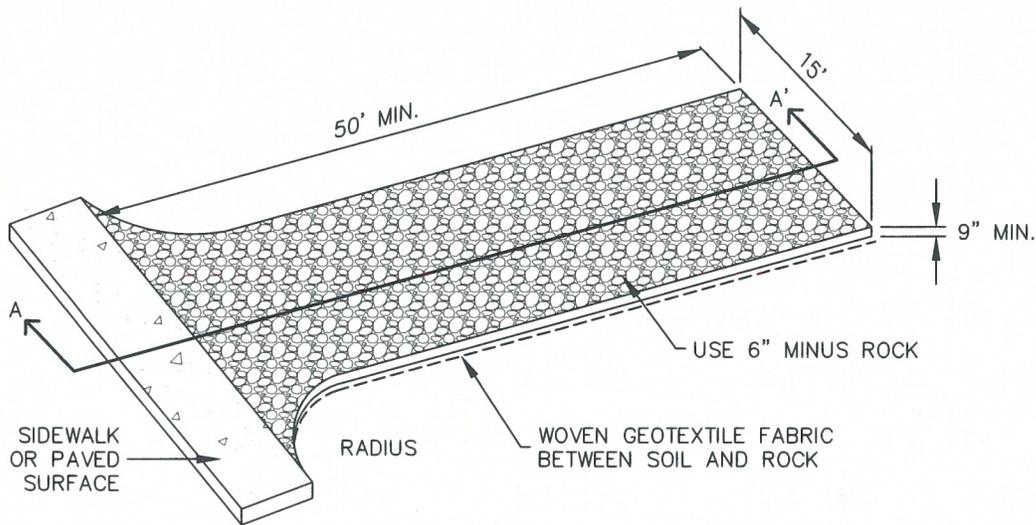
- Locate at construction entrance/exit.
- Organize site to ensure that all vehicles use the vehicle tracking control device.
- Where possible, grade VTC device to drain to construction site rather than to street.
- Proprietary VTC devices may be used if approved as an alternative Construction Control Measure.

4.0 TIMING

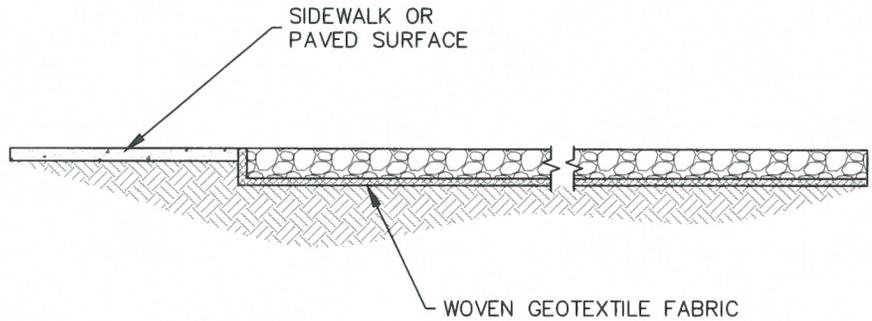
- Install prior to land disturbing activities.
- Remove when the potential for sediment migration onto adjacent roadways no longer exists (typically after site has been stabilized). Permanently stabilized area after vehicle tracking control is removed.

5.0 MAINTENANCE

- Roughen, replace, and/or add rock as needed to maintain a consistent depth and to prevent sediment tracking onto adjacent street.
- Sediment tracked onto the adjacent road shall be removed daily, by sweeping or shoveling, and never washed down storm drains.



AGGREGATE VEHICLE TRACKING CONTROL



SECTION A-A'

INSTALLATION NOTES

1. A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHOULD BE LOCATED AT ALL POINTS WHERE VEHICLES EXIT THE CONSTRUCTION SITE TO ADJACENT ROADWAY.
2. STABILIZED CONSTRUCTION ENTRANCE/EXITS SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
3. RADIUS MUST BE ADEQUATE FOR INTENDED CONSTRUCTION VEHICLE TURNING.
4. ROCK SHOULD CONSIST OF 6" MINUS ROCK.
5. INSTALL CONSTRUCTION FENCE ON BOTH SIDES OF VEHICLE TRACKING CONTROL PAD WHEN NEEDED OR REQUIRED BY INSPECTOR.

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. SEDIMENT TRACKED ONTO THE ADJACENT ROAD SHALL BE REMOVED DAILY, BY SWEEPING OR SHOVELING, AND NEVER WASHED DOWN STORM DRAINS.
3. ROUGHEN, REPLACE AND/OR ADD ROCK AS NEEDED TO MAINTAIN CONSISTENT DEPTH AND TO PREVENT SEDIMENT TRACKING ONTO ADJACENT STREET.
4. PERMANENTLY STABILIZE AREA AFTER VEHICLE TRACKING CONTROL IS REMOVED.



VEHICLE TRACKING CONTROL

APPROVED: 
SWENT MANAGER

ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO. 900-VTC
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APPENDIX D – Erosion and Stormwater Quality Control Permit (ESQCP)

EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP) EL PASO COUNTY APPLICATION AND PERMIT

EPC Project Number: SF-22-014

APPLICANT INFORMATION

PERMIT NUMBER

Owner Information	
Property Owner	Goodwin Knight, LLC, a Colorado Limited Liability Company
Applicant Name (Permit Holder)	Trevit Smith
Company/Agency	Goodwin Knight
Position of Applicant	Senior Planner
Address (physical address, not PO Box)	8605 Explorer Dr.
City	Colorado Springs
State	CO
Zip Code	80920
Mailing address, if different from above	Same
Telephone	719.598.5190 Ext: 2027
FAX number	
Email Address	dorrison@GoodwinKnight.com
Cellular Phone number	dorrison@GoodwinKnight.com
Contractor/Operator Information	
Name (person of responsibility)	Trevit Smith
Company	Goodwin Knight
Address (physical address, not PO Box)	8605 Explorer Dr
City	Colorado Springs
State	CO
Zip Code	80920
Mailing address, if different from above	S/A
Telephone	
FAX number	
Email Address	tsmith@goodwinknight.com
Cellular Phone number	719 659 0859
Erosion Control Supervisor (ECS)*	
ECS Phone number*	
ECS Cellular Phone number*	

*Required for all applicants. May be provided at later date pending securing a contract when applicable.

PROJECT INFORMATION

Project Information	
Project Name	The Cottages at Mesa Ridge
Legal Description	That portion of the Northwest Quarter of Section 28 and the Northeast Quarter of Section 29, Township 15 South, Range 65 West of the 6th P.M., County of El Paso, State of Colorado, described as follows: BASIS OF BEARINGS: Bearings are based upon the North line of the
Address (or nearest major cross streets)	NE of intersection of Landover Lane and Pitcher Point
Acreage (total and disturbed)	Total: 11.33 acres Disturbed: 11.33 acres
Schedule	Start of Construction: May 2023 Completion of Construction: December 2024 Final Stabilization: December 2024
Project Purpose	To construct 122 attached (for rent) dwelling units, sales center/amenity center, & open space.
Description of Project	The property consists of 10.21 acres and the proposed use is a two-family residential development (attached units for rent). The project contains 122 units consisting of modular manufactured homes that are constructed in a factory ensuring quality construction. The unique product is not placed on
Tax Schedule Number	5529100006

FOR OFFICE USE ONLY

The following signature from the ECM Administrator signifies the approval of this ESQCP. All work shall be performed in accordance with the permit, the El Paso County Engineering Criteria Manual (ECM) Standards, City of Colorado Springs Drainage Criteria Manual, Volume 2 (DCM2) as adopted by El Paso County Addendum, approved plans, and any attached conditions. The approved plans are an enforceable part of the ESQCP. Construction activity, except for the installation of initial construction BMPs, is not permitted until issuance of a Construction Permit and Notice to Proceed.

Signature of ECM Administrator: 

Date 1/31/23

1.1 REQUIRED SUBMISSIONS

In addition to this completed and signed application, the following items must be submitted to obtain an ESQCP:

- Permit fees;
- Stormwater Management Plan (SWMP) meeting the requirements of DCM2 and ECM either as part of the plan set or as a separate document;
- Operation and Maintenance Plan for any proposed permanent stormwater control measures; and
- Signed Private Detention Basin/Stormwater Quality Best Management Practice Maintenance Agreement and Easement, if any permanent stormwater control measures are to be constructed.

1.2 RESPONSIBILITY FOR DAMAGE

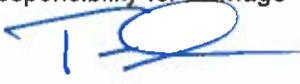
The County and its officers and employees, including but not limited to the ECM Administrator, shall not be answerable or accountable in any manner for damage to property or for injury to or death of any person, including but not limited to a permit holder, persons employed by the permit holder, or persons acting in behalf of the permit holder, from any cause. The permit holder shall be responsible for any liability imposed by law and for damage to property or injuries to or death of any person, including but not limited to the permit holder, persons employed by the permit holder, persons acting in behalf of the permit holder, arising out of work or other activity permitted and done under a permit, or arising out of the failure to perform the obligations under any permit with respect to maintenance or any other obligations, or resulting from defects or obstructions, or from any cause whatsoever during the progress of the work or other activity, or at any subsequent time work or other activity is being performed under the obligations provided by and contemplated by the permit.

The permit holder shall indemnify, save, and hold harmless the County and its officers and employees, including but not limited to the BOCC and ECM Administrator, from all claims, suits or actions of every name, kind and description brought for or on account of damage to property or injuries to or death of any person, including but not limited to the permit holder, persons employed by the permit holder, persons acting in behalf of the permit holder and the public, resulting from the performance of work or other activity under the permit, or arising out of the failure to perform obligations under any permit with respect to maintenance or any other obligations, or resulting from defects or obstructions, or from any cause whatsoever during the progress of the work or other activity, or at any subsequent time work or other activity is being performed under the obligations provided by and contemplated by the permit, except as otherwise provided by state law. The permit holder waives any and all rights to any type of expressed or implied indemnity against the County, its officers or employees. It is the intent of the parties that the permit holder will indemnify, save, and hold harmless the County, its officers and employees from any and all claims, suits or actions as set forth above regardless of the existence or degree of fault of or negligence, whether active or passive, primary or secondary, on the part of the County, the permit holder, persons employed by the permit holder, or persons acting in behalf of the permit holder

1.3 APPLICATION CERTIFICATION

We, as the Applicants or the representative of the Applicants, hereby certify that this application is correct and complete as per the requirements presented in this application, the El Paso County Engineering Criteria Manual, and Drainage Criteria Manual, Volume 2 and El Paso County Addendum.

We, as the Applicants or the representatives of the Applicants, have read and will comply with all of the requirements of the specified Stormwater Management Plan and any other documents specifying stormwater best management practices to be used on the site, including permit conditions that may be required by the ECM Administrator. We understand that the stormwater control measures are to be maintained on the site and revised as necessary to protect stormwater quality as the project progresses. We further understand that a Construction Permit must be obtained and all necessary stormwater quality control measures are to be installed in accordance with the SWMP, the El Paso County Engineering Criteria Manual, Drainage Criteria Manual, Volume 2 and El Paso County Addendum before land disturbance begins and that failure to comply will result in a Stop Work Order and may result in other penalties as allowed by law. We further understand and agree to indemnify, save, and hold harmless the County and its officers and employees, including but not limited to the BOCC and ECM Administrator, from all claims, suits or actions of every name, kind and description as outlined in Section 1.2 Responsibility for Damage



Date: 1/31/23

Signature of Owner or Representative

Trevit Smith

Print Name of Owner or Representative

AME

Date: _____

Signature of Operator or Representative

Print Name of Operator or Representative

Permit Fee \$ _____

Surcharge \$ _____

Financial Surety \$ _____

Type of Surety _____

Total \$ _____



Environmental Solutions
Environmental Compliance Group

CERTIFICATE OF COMPLETION

This certificate is awarded to

Trevit Smith

For the successful completion of

Stormwater Compliance Inspector Training

(CMSCT-150)

PRESENTED THIS 22ND DAY OF JULY, 2021

Josh Downey, President, CISEC