Storm Water Management Plan
Les Schwab Tire Center

7105 Old Meridian RD.
Falcon Colorado

Prepared For:

Les Schwab Tire Center
P.O. Box 5350 20900 Cooley RD.
Bend, OR 97701

Prepared By:

Cushing Terrell

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411 E Main ST #101
Bozeman, MT 59715
(406) 922-7137
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Cushing Terrell Project No. LSCO_20FAL
PCD Filing No.: PPR-21-023

April, 16, 2021

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1.0 CONTACT INFORMATION

1.1 Owner:

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1.2 SWMP Preparer:

Zack Graham, PE
Cushing Terrell
411 E Main ST #101
Bozeman, MT 59715
(406) 922-7137

1.3 Qualified Stormwater Manager:

TBD

1.4 Contractor:

TBD

2.0 SITE DESCRIPTION

The project site is located at 7105 Old Meridian Rd, Falcon, Colorado and falls within El Paso County. The parcel is part of the larger Meridian Crossing Development which includes the existing stormwater system infrastructure, including the treatment pond to the south. The site is located on the northeast side of the intersection of Meridian Rd and Old Meridian Rd. A vicinity map for this project can be found in appendix A.

The existing site consists of an undeveloped 2.48 acre lot covered with native grasses and shrubs. In areas taken from the ALTA Survey the site consists of roughly 12% impervious road and sidewalk area with the remaining 88% being the native vegetation. There are no stream crossings or significant waterways located within the area being developed by this project. The site is accessed via the existing private roads that are centered on the north east and south east property lines of the site. These roads will provide means of vehicular ingress and egress. The site falls entirely with the Falcon Major Drainage Basin as identified by the Falcon Drainage Basin Planning Study dated September 2015. The ultimate receiving water is the West Tributary of the Falcon Basin.

The topography of the existing site consists of a roughly consistent grade which directs flow from the north of the site towards the south at slopes ranging from 2-5%. There is an existing storm PLD pond located to the south of the neighboring lot that ultimately then out falls to the existing detention pond WU. The site is not located in a floodway or flood plain and is designated as area of minimal flood hazard (Zone X) per FEMA FIRM panel 08041C0561G.

3.0 NARRATIVE DESCRIPTION OF CONSTRUCTION ACTIVITIES

The proposed projected will include the construction of a new Les Schwab Tire Center (LSTC) tire and automotive service center building, walled tire storage area, landscaping, parking lot, and drive aisles. The building will be located on the center of the site with the tire storage area to its north east and the parking lot to its west.

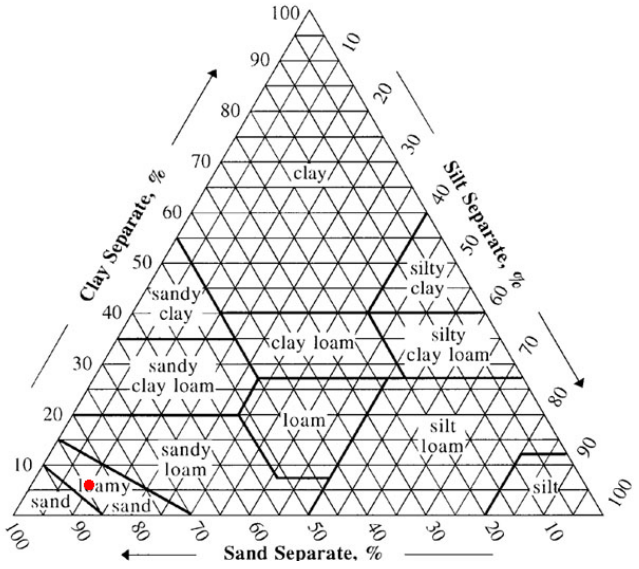
The permanent drainage facilities proposed for this project consist of curb and gutter, concrete channels, and sidewalk chases designed to collect the additional flows generated by development of the site. These facilities flow south following the historic route to the existing western PLD treatment facility. This PLD consists of a grassy swale and contains and outlet structure which outlets into a storm network under old meridian road that then discharges into a swale located to the west. This swale conveys water to the detention pond known as pond WU in the Meridian Crossing Final Drainage Report (MCFDR). This PLD and detention pond were designed for the future development of this site and are adequate to provide long term stormwater quality for this site. Please reference the Final Drainage Report included in the SDP submittal for more information.

There are no anticipated offsite flows onto the site or non-stormwater discharges from this site. Final vegetative cover density shall be equal to at least 70% of pre-disturbed levels. For the existing porous landscape detention pond and the detention pond located downstream the operations and maintenance manual has been included in appendix D. There are no construction stormwater control measures owned or operated by another entity that will be utilized by this site.

3.1 Soil Erosion Potential

Using the Web Soil Survey tool provide by USDA the site was found to contain soils with an 5.5% clay and 85.3% sand with the remaining 9.2% silt. Using these numbers and the soil texture triangle our soil was determined to be loamy sand.

Figure 3.1: Soil Texture Triangle



Using this information, the Universal Soil Loss Equation or RULSE equation was used to determine the estimated soil loss that would occur without the use of construction BMPS.

Table 3.1: Universal Soil Loss Equation

Governing equation:		A=R*K*LS*C*P
Factor	Value	Source
R =	43.14	https://lew.epa.gov/
K =	0.04	http://www.omafra.gov.on.ca/english/engineer/facts/12-051.htm#t2
LS =	0.3	http://www.omafra.gov.on.ca/english/engineer/facts/12-051.htm#t2
C =	0.02	http://www.omafra.gov.on.ca/english/engineer/facts/12-051.htm#t2
P =	1	http://www.omafra.gov.on.ca/english/engineer/facts/12-051.htm#t2
A =	0.010	Tons/Acre

Using a 2.26-acre area of disturbance and a 9-month construction schedule and the soil loss value found in table 3.1, the estimated erosion is 0.17 tons without the use of BMPs.

To prevent this from occurring two types of BMPS are proposed for this site. The first is sediment controls which includes silt fence, inlet protection and rock socks among others to capture sediment before it leaves the site. The second is erosion control which includes stabilized storage areas, temporary and permanent seeding as well as minimizing the time a disturbed area is not stabilized. For more information reference section 4 for specific details regarding these BMPS.

3.2 Disturbed Area

The proposed disturbance area by this project is 2.26 acres. This value is to be updated by the Qualified Stormwater Manager during to construction to account for any unexpected disturbed areas.

3.3 Project Phasing

The project phasing for this site will take place in three major phases:

- Initial Development: Installing the erosion control BMPs and mobilizing on site.
- Interim Development: once initial BMPs are in place building construction and site paving may begin.
- Final Development: Only once all finalized stormwater measures are in place can the erosion control BMPs be removed from the site.

3.4 Project Sequence

This section includes an estimated schedule for the work on this project. This schedule is approximate and should be updated by the Qualified Stormwater Manager during construction of the project to reflect the evolving nature of the project.

- Clearing (October - November 2021)
- Mass Grading (December -January 2022)
- Utility Installation (December - January 2022)

- Paving Construction (January – April 2022)
- Final Stabilization (April - May 2022)

4.0 PROPOSED BMPS

The following BMPs are shown in plan view and as details in appendix B. The following summary of BMPs is to be updated by the Qualified Stormwater Manager during construction to provide a complete list of the measures used.

4.1 Qualified Stormwater Manager

The Qualified Stormwater Manager (QSM), identified below, shall be sufficiently qualified for the duties required of a QSM per the ECM Appendix I.5.2.a. The QSM will continuously review and modify the SWMP as part of the overall process of evaluating and managing stormwater quality issues at the site. The QSM shall amend the SWMP whenever there is a change in design, construction, or O&M of the site which would require the implementation of new or revised BMP's, or if the SWMP proves to be ineffective in achieving the general objectives of controlling pollutants in the stormwater discharge associated with construction activity, or when the BMP's are no longer necessary and will be removed.

Name: ___TBD_____
Company: _____
Address: _____

4.2 Concrete Washout Area

The concrete washout area serves as a designated space to wash vehicles, tools, or other equipment that has accumulated concrete debris. This stabilized area prevents the concrete from leaving the site and allows for it to be collected in one area for easier collection and disposal. The washout area consists of a depressed area surrounding by a berm on 3 sides and vehicle tracking pad on the other to allow access.

4.3 Inlet Protection

Inlet protection prevents the excess sedimentation generated by construction from entering the stormwater system. The protection measures consist of creating a barrier of rock socks surrounding the inlet to filter out the sediment generated in a storm event.

4.4 Rock Sock

A rock sock is a tube of wire mesh containing 1 ½" gravel. The purpose of this BMP is to allow stormwater to flow through the rock sock causing it to lose velocity, as well as filter out trash and sediment. Typically, these are used to protect storm inlets or in curbs adjacent to the construction.

4.5 Silt Fence

Silt fence is a perimeter control measure that should be placed to surround the disturbed area. The fence intercepts flows leaving the site and allows water to slowly pass through while filtering

out sedimentation. The fence is constructed of a geotextile fabric attached to stakes. When installed a minimum of 10 inches of the geotextile "tail" should be buried to prevent stormwater from running under the fence.

4.6 Stabilized Staging Area

This is area consist of a 3" pad of thick granular material surrounded by silt fence and should be located adjacent to the construction entrance. The purpose of this area is to serve as the construction staging area where high equipment traffic and parking can be expected.

4.7 Stockpile Area

This area is surrounded by silt fence and serves as a location where topsoil, fill, and other construction materials can be stored on site. The material stockpile should not exceed a 2:1 slope to maintain stability.

4.8 Temporary and Permanent Seeding

When a disturbed area will be not be impacted by construction for an extended period, temporary seeding can be used as a measure to prevent additional erosion. For permanent seeding, reference the Landscape drawings and specifications.

4.9 Vehicle Tracking Control

A vehicle tracking control pad should be installed where vehicles are entering or leaving the site. This pad removes the sediment that has accumulated on the vehicles tires while on site. The pad consists of a 50-foot by 20-foot minimum pad of #3 aggregate or 6" minus rock sitting atop a non-woven geo-textile. As the pad is worn by vehicle traffic it should be regraded and have rock added as needed to maintain the 9" thickness.

4.10 Waste Disposal

The Qualified Stormwater Manager should inspect waste bins for damage and leaks, particularly following storm events, to prevent contaminated water from leaching into the soil. Additionally, to restrict waste overflow, bins should be routinely emptied according to site needs. The recommended frequency for emptying should be every two weeks at a minimum, and additional removal anytime bins have reached full capacity.

4.11 Portable Restrooms

Portable restrooms on site shall be located no less than 10ft from any stormwater inlet, and no less than 50ft from any state waters. Portable restrooms will be secured at all four corners to prevent overturning. Additionally, portables shall be cleaned on a weekly basis, and inspected daily for any leaks or spills.

4.12 Concrete Batch Plants

No concrete batch plants are anticipated for this development.

4.13 Material Handling and Spill Prevention

Material handling and spill prevention consists of a series of measures that should be implemented to ensure the proper handling of materials on site. In general material handling and spill prevention measures fall in the following three categories:

1. Training Prevention methods
    a. Train employees on potential sources of pollution and provide clear and common-sense prevention practices.
    b. Identify equipment that may be impacted by stormwater leading to leaks or unintended discharge.
    c. Perform regular maintenance and inspection of equipment with an eye on leaks or evidence of discharge.
    d. Designate a fueling area away from storm inlets and clean up all spills with dry methods.
    e. Where possible, use indoor or covered storage for equipment.
2. Material Handling Procedures
    a. Keep bulk solid materials (sand, gravel, etc.) covered to prevent erosion.
    b. Where possible, store materials on impervious surfaces.
    c. Store hazardous materials according to all federal state and local requirements.
    d. Use less toxic materials when possible.
    e. Store fragile or easily punctured materials away from high vehicle traffic areas.
    f. Use waste capture materials, such as collection pans for lubricating fluids.
3. Spill Response Procedures
    a. Containment and cleanup should begin promptly after a spill.
    b. Sweep up small quantities of dry chemical or solids to reduce exposure to runoff.
    c. Absorbents should be readily accessible in fueling areas or other high-risk areas.
    d. Install drip pans beneath minor equipment leaks and properly dispose of material until repair can be made.

4.14 Street Sweeping

Street sweeping will utilize a vacuum-type street sweeper, a brush style street sweeper, or manually using shovels and brooms. Pavement shall not be washed with water at any time unless all water is contained and not allowed to drain into existing storm systems on or off site. Street Sweeping will be used for incidental sediment tracking onto impervious surfaces from the construction site.

5.0 SWMP REVISION PROCEDURE

Following the assignment of a Qualified Stormwater Manager for this project the SWMP document will be transferred to them. It is the responsibility of the designated Qualified Stormwater Manager or Certified Erosion Control Inspector to maintain and update this document. The SWMP shall always be located on site during construction and shall be kept up to date with work progress and changes in the field. Inspection logs should also be maintained and attached to this document as part of the record keeping procedure.

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

6.0 OPERATIONS AND MAINTENANCE GUIDELINE

The Qualified Stormwater Manager for this project is responsible for the inspection of stormwater BMPs and their maintenance as required. It is the responsibility of the Qualified Stormwater Manager to create, complete, and sign inspection logs of the stormwater BMPs and maintain the records onsite. The stormwater BMP's should be inspected at a minimum every 7 days and following each storm event or snowmelt event that causes surface erosion. In general, the following items should be inspected and corrected as needed:

- Check stormwater inlets and manholes for trash and debris.
- Inspect construction BMP placement and condition, and repair any damage caused by construction activities.
- Inspect inlet protection and placement.
- Replace rock socks or inlet protection if they become heavily soiled.
- Inspect silt fence and reinstall where fence may have collapsed or is showing signs of wear, such as sagging or tears in the fence material.
- Reapply rock to vehicle tracking pad where wear is apparent.

Cushing Terrell

APPENDIX A: VICINITY MAP

0 125 250 500

SCALE: 1" = 250'

NORTH

Cushing Terrell

DENVER, CO
720.305.1416

7105 OLD MERIDIAN RD.
FALCON, CO

VICINITY MAP

01/04/21
LSCO_20FAL

DRAWN BY
WALKER
CHECKED BY
WHITE

SHEET NAME
VIC-MAP

Cushing Terrell

APPENDIX B: GESC PLANS

LES SCHWAB TIRE CENTER
GRADING AND EROSION CONTROL PLAN
7105 N MERIDIAN ROAD
FALCON, COLORADO 80831

Cushing Terrell.

cushingterrell.com
800.757.9522

Tires LES SCHWAB

DEVELOPER/OWNER CONTACT

OWNER/DEVELOPER
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GEORGE BUNTING
PO BOX 5350
20900 COOLEY RD.
BEND, OR 97701

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JOHN GREEN
2880 INTERNATIONAL CIRCLE #110
COLORADO SPRINGS, CO 80910
(719) 520-6442

UTILITY COMPANY

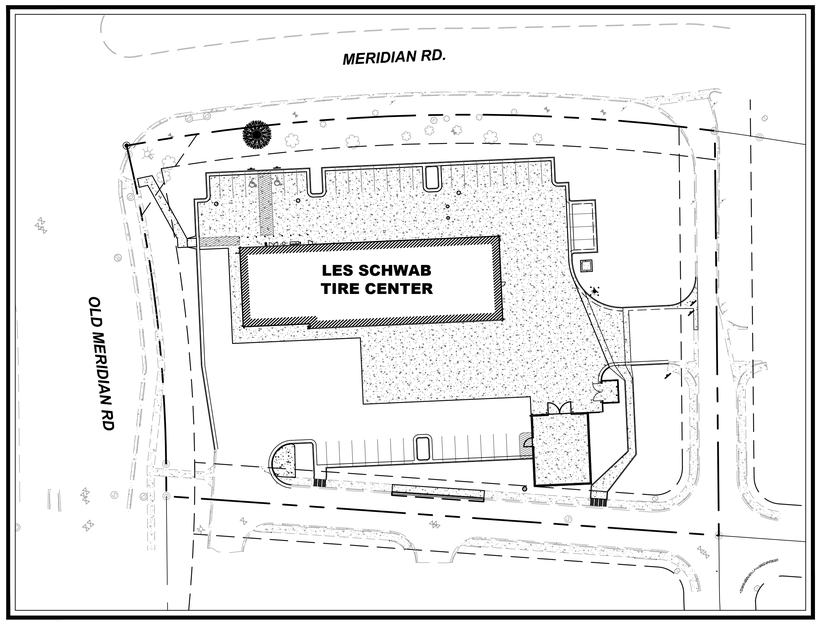
SANITARY SEWER
WOODMAN HILLS METRO DISTRICT
8046 EASTON RD,
FALCON, CO 80831
(719) 295-2500

WATER
FALCON HIGHLANDS METRO DISTRICT
111 S. TEJON ST, #705
COLORADO SPRINGS, CO 80903
(719) 635-0330

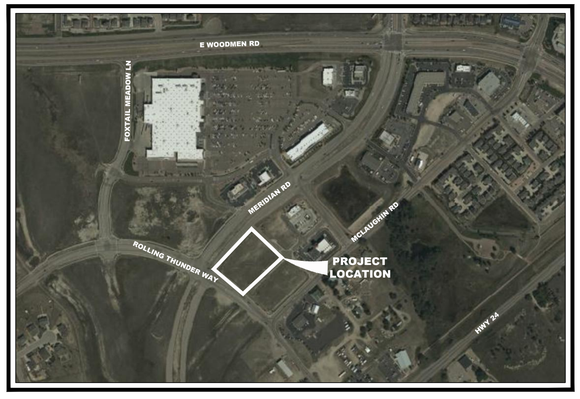
PHONE/CABLE
CONTRACTOR TO COORDINATE SERVICE
PROVIDER WITH OWNER

GAS
COLORADO SPRINGS UTILITIES
111 S. CASCADE AVE.
COLORADO SPRINGS, CO 80903
(719) 448-4808

POWER
MOUNTAIN VIEW ELECTRIC
11140 E WOODMEN ROAD
FALCON, CO 80831
(800) 388-9881



SITE MAP
1" = 50'
NORTH



VICINITY MAP
NTS

SHEET LIST

CIVIL		
C010	COVER SHEET
C011	GESC NOTES
C012	INITIAL GESC PLAN
C013	INTERIM/FINAL GESC PLAN
C014	GESC DETAILS
C015	GESC DETAILS
C016	GESC DETAILS
C017	CUT / FILL GESC EXHIBIT

ENGINEERS STATEMENT

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

ENGINEER OF RECORD SIGNATURE _____ DATE _____

OWNERS STATEMENT

OWNER'S STATEMENT (FOR STANDALONE GEC PLAN): I, THE OWNER/DEVELOPER HAVE READ AND WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN.

OWNER SIGNATURE _____ DATE _____

EL PASO COUNTY

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

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

IN ACCORDANCE WITH 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 DIRECTOR'S DISCRETION.

COUNTY PROJECT ENGINEER SIGNATURE _____ DATE _____

LEGAL DESCRIPTION

(THE FOLLOWING LEGAL DESCRIPTION WAS TAKEN FROM FIRST AMERICAN TITLE INSURANCE COMPANY COMMITMENT NO, NCS-975191-X17-OR1 WITH A COMMITMENT DATE OF OCTOBER 24, 2019 AT 5:00 P.M.)

PARCEL A:

LOT 1, MERIDIAN CROSSING FILING NO. 1A, ACCORDING TO THE PLAT RECORDED OCTOBER 3, 2018 AT RECEPTION NO. 218714221, COUNTY OF EL PASO, STATE OF COLORADO .

PARCEL B:

NON EXCLUSIVE EASEMENTS FOR CROSS ACCESS, INGRESS AND EGRESS AS SET FORTH AND GRANTED IN THE MERIDIAN CROSSING MAINTENANCE AGREEMENT AND DECLARATION OF COVENANTS CONDITIONS AND RESTRICTIONS RECORDED SEPTEMBER 8, 2008 AT RECEPTION NO. 208099925 AND FIRST AMENDMENT THERETO RECORDED APRIL 8, 2009 AT RECEPTION NO. 20935924.

FOR INFORMATIONAL PURPOSES ONLY: APN: 5312114001

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WESTMINSTER, CO 80234
(208) 323-9520

811 Know what's below. Call before you dig.

PCD FILE NO. PPR-21-023

7105 N MERIDIAN RD.
FALCON, CO
LES SCHWAB TIRE CENTER

COLORADO LICENSED ZACHARY W. GRAHAM 39039 PROFESSIONAL ENGINEER

PERMIT SET

09.01.2021
DRAWN BY | WALKER
CHECKED BY | GRAHAM
REVISIONS
-

GRADING AND EROSION CONTROL COVER SHEET

C010

LEGEND

EXISTING	PROPOSED	
		ASPHALT
		CONCRETE
		HEAVY DUTY ASPHALT
		HEAVY DUTY CONCRETE
		GRAVEL
		LANDSCAPE
		LANDSCAPE
wm	WM	WATER MAIN
	F F	FIRE SERVICE
	WS WS	DOMESTIC WATER SERVICE
st	ST	STORM DRAIN
ss	SS	SANITARY SEWER
bp	BP BP	BURIED POWER
oh	OHP	OVERHEAD POWER
bt	BT BT	BURIED TELEPHONE
gas	GAS GAS	BURIED GAS
fo	FO FO	BURIED FIBER OPTIC
		FENCE - CHAINLINK
		FENCE - WOODEN
X	X	FENCE - BARBED WIRE
		BUILDING
		BUILDING ROOF OVERHANG
		VERTICAL CURB
		CURB AND GUTTER
		CURB AND GUTTER - CATCH
		CURB AND GUTTER - SPILL
		VEGETATION EXTENTS
		PROPERTY LINE - SUBJECT
		PROPERTY LINE - ADJACENT
		EASEMENT
△1		CONTROL POINT
●6		FOUND PROPERTY CORNER AS NOTED
		FIRE HYDRANT/ CONTROL POINT HYDRANT
		WATER VALVE
		WATER SHUTOFF
W	W	WATER METER
D	D	STORM DRAIN MANHOLE
		STORM DRAIN INLET STRUCTURE
		STORM DRAIN CURB INLET
		STORM DRAIN OUTLET STRUCTURE
		STORM DRAIN ROOF DOWNSPOUT
CO	CO	STORM DRAIN CLEANOUT
S	S	SANITARY SEWER MANHOLE
SO	SO	SANITARY SEWER CLEANOUT
		UTILITY POLE
		GUY WIRE
		LIGHT POLE (ONE LIGHT AND DIRECTION)
		LIGHT POLE
A		TRANSFORMER
P	P	POWER METER OR POWER HANDHOLE
		GAS METER
T	T	TELEPHONE PEDESTAL
I	I	IRRIGATION CONTROL VALVE
		POLE SIGN AND DOUBLE POLE SIGN
	•	BOLLARD (OR AS NOTED)
	#	PARKING STALL COUNT
		DECIDUOUS TREE
		CONIFEROUS TREE
		BUSH

NOTE: ALL EXISTING LAYERS SUBJECT TO DEMOLITION TO BE SHOWN DARKER THAN INDICATED IN THIS LEGEND.

STANDARD NOTES FOR EL PASO COUNTY GESC PLAN

1. STORMWATER DISCHARGES FROM CONSTRUCTION SITES SHALL NOT CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR DEGRADATION OF STATE WATERS. ALL WORK AND EARTH DISTURBANCE SHALL BE DONE IN A MANNER THAT MINIMIZES POLLUTION OF ANY ON-SITE OR OFF-SITE WATERS, INCLUDING WETLANDS.
2. 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.
3. A SEPARATE STORMWATER MANAGEMENT PLAN (SMWP) FOR THIS PROJECT SHALL BE COMPLETED AND AN EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP) ISSUED PRIOR TO COMMENCING CONSTRUCTION. MANAGEMENT OF THE SWMP DURING CONSTRUCTION IS THE RESPONSIBILITY OF THE DESIGNATED QUALIFIED STORMWATER MANAGER OR CERTIFIED EROSION CONTROL INSPECTOR. THE SWMP SHALL BE LOCATED ON-SITE AT ALL TIMES DURING CONSTRUCTION AND SHALL BE KEPT UP TO DATE WITH WORK PROGRESS AND CHANGES IN THE FIELD
4. .ONCE THE ESQCP IS APPROVED AND A "NOTICE TO PROCEED" HAS BEEN ISSUED, THE CONTRACTOR MAY INSTALL THE INITIAL STAGE EROSION AND SEDIMENT CONTROL MEASURES AS INDICATED ON THE APPROVED GEC. A PRECONSTRUCTION MEETING BETWEEN THE CONTRACTOR, ENGINEER, AND EL PASO COUNTY WILL BE HELD PRIOR TO ANY CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE APPLICANT TO COORDINATE THE MEETING TIME AND PLACE WITH COUNTY STAFF.
5. CONTROL MEASURES MUST BE INSTALLED PRIOR TO COMMENCEMENT OF ACTIVITIES THAT COULD CONTRIBUTE POLLUTANTS TO STORMWATER. CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, AND DISTURBED LAND AREAS SHALL BE INSTALLED IMMEDIATELY UPON COMPLETION OF THE DISTURBANCE
6. ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE MAINTAINED AND REMAIN IN EFFECTIVE OPERATING CONDITION UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED AND FINAL STABILIZATION IS ESTABLISHED. ALL PERSONS ENGAGED IN LAND DISTURBANCE ACTIVITIES SHALL ASSESS THE ADEQUACY OF CONTROL MEASURES AT THE SITE AND IDENTIFY IF CHANGES TO THOSE CONTROL MEASURES ARE NEEDED TO ENSURE THE CONTINUED EFFECTIVE PERFORMANCE OF THE CONTROL MEASURES. ALL CHANGES TO TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES MUST BE INCORPORATED INTO THE STORMWATER MANAGEMENT PLAN.
7. TEMPORARY STABILIZATION SHALL BE IMPLEMENTED ON DISTURBED AREAS AND STOCKPILES WHERE GROUND DISTURBING CONSTRUCTION ACTIVITY HAS PERMANENTLY CEASED OR TEMPORARILY CEASED FOR LONGER THAN 14 DAYS.
8. FINAL STABILIZATION MUST BE IMPLEMENTED AT ALL APPLICABLE CONSTRUCTION SITES. FINAL STABILIZATION IS ACHIEVED WHEN ALL GROUND DISTURBING ACTIVITIES ARE COMPLETE AND ALL DISTURBED AREAS EITHER HAVE A UNIFORM VEGETATIVE COVER WITH INDIVIDUAL PLANT DENSITY OF 70 PERCENT OF PRE-DISTURBANCE LEVELS ESTABLISHED OR EQUIVALENT PERMANENT ALTERNATIVE STABILIZATION METHOD IS IMPLEMENTED. ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE REMOVED UPON FINAL STABILIZATION AND BEFORE PERMIT CLOSURE.
9. ALL PERMANENT STORMWATER MANAGEMENT FACILITIES SHALL BE INSTALLED AS DESIGNED IN THE APPROVED PLANS. ANY PROPOSED CHANGES THAT EFFECT THE DESIGN OR FUNCTION OF PERMANENT STORMWATER MANAGEMENT STRUCTURES MUST BE APPROVED BY THE ECM ADMINISTRATOR PRIOR TO IMPLEMENTATION.
10. EARTH DISTURBANCES SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO EFFECTIVELY MINIMIZE ACCELERATED SOIL EROSION AND RESULTING SEDIMENTATION. ALL DISTURBANCES SHALL BE DESIGNED, CONSTRUCTED, AND COMPLETED SO THAT THE EXPOSED AREA OF ANY DISTURBED LAND SHALL BE LIMITED TO THE SHORTEST PRACTICAL PERIOD OF TIME. PRE-EXISTING VEGETATION SHALL BE PROTECTED AND MAINTAINED WITHIN 50 HORIZONTAL FEET OF A WATERS OF THE STATE UNLESS SHOWN TO BE INFEASIBLE AND SPECIFICALLY REQUESTED AND APPROVED.
11. COMPACTION OF SOIL MUST BE PREVENTED IN AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES OR WHERE FINAL STABILIZATION WILL BE ACHIEVED BY VEGETATIVE COVER. AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES SHALL ALSO BE PROTECTED FROM SEDIMENTATION DURING CONSTRUCTION UNTIL FINAL STABILIZATION IS ACHIEVED. IF COMPACTION PREVENTION IS NOT FEASIBLE DUE TO SITE CONSTRAINTS, ALL AREAS DESIGNATED FOR INFILTRATION AND VEGETATION CONTROL MEASURES MUST BE LOOSENED PRIOR TO INSTALLATION OF THE CONTROL MEASURE(S).
12. ANY TEMPORARY OR PERMANENT FACILITY DESIGNED AND CONSTRUCTED FOR THE CONVEYANCE OF STORMWATER AROUND, THROUGH, OR FROM THE EARTH DISTURBANCE AREA SHALL BE A STABILIZED CONVEYANCE DESIGNED TO MINIMIZE EROSION AND THE DISCHARGE OF SEDIMENT OFF-SITE.
13. CONCRETE WASH WATER SHALL BE CONTAINED AND DISPOSED OF IN ACCORDANCE WITH THE SWMP. NO WASH WATER SHALL BE DISCHARGED TO OR ALLOWED TO ENTER STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES. CONCRETE WASHOUTS SHALL NOT BE LOCATED IN AN AREA WHERE SHALLOW GROUNDWATER MAY BE PRESENT, OR WITHIN 50 FEET OF A SURFACE WATER BODY, CREEK OR STREAM.
14. DURING DEWATERING OPERATIONS, UNCONTAMINATED GROUNDWATER MAY BE DISCHARGED ON-SITE, BUT SHALL NOT LEAVE THE SITE IN THE FORM OF SURFACE RUNOFF UNLESS AN APPROVED STATE DEWATERING PERMIT IS IN PLACE.
15. EROSION CONTROL BLANKETING OR OTHER PROTECTIVE COVERING SHALL BE USED ON SLOPES STEEPER THAN 3:1.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL WASTES FROM THE CONSTRUCTION SITE FOR DISPOSAL IN ACCORDANCE WITH LOCAL AND STATE REGULATORY REQUIREMENTS. NO CONSTRUCTION DEBRIS, TREE SLASH, BUILDING MATERIAL WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURIED, DUMPED, OR DISCHARGED AT THE SITE.
17. WASTE MATERIALS SHALL NOT BE TEMPORARILY PLACED OR STORED IN THE STREET, ALLEY, OR OTHER PUBLIC WAY, UNLESS IN ACCORDANCE WITH AN APPROVED TRAFFIC CONTROL PLAN. CONTROL MEASURES MAY BE REQUIRED BY EL PASO COUNTY ENGINEERING IF DEEMED NECESSARY, BASED ON SPECIFIC CONDITIONS AND CIRCUMSTANCES
18. TRACKING OF SOILS AND CONSTRUCTION DEBRIS OFF-SITE SHALL BE MINIMIZED. MATERIALS TRACKED OFF-SITE SHALL BE CLEANED UP AND PROPERLY DISPOSED OF IMMEDIATELY.
19. THE OWNER/DEVELOPER SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONSTRUCTION DEBRIS, DIRT, TRASH, ROCK, SEDIMENT, SOIL, AND SAND THAT MAY ACCUMULATE IN ROADS, STORM DRAINS AND OTHER DRAINAGE CONVEYANCE SYSTEMS AND STORMWATER APPURTENANCES AS A RESULT OF SITE DEVELOPMENT.
20. THE QUANTITY OF MATERIALS STORED ON THE PROJECT SITE SHALL BE LIMITED, AS MUCH AS PRACTICAL, TO THAT QUANTITY REQUIRED TO PERFORM THE WORK IN AN ORDERLY SEQUENCE. ALL MATERIALS STORED ON-SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER, IN THEIR ORIGINAL CONTAINERS, WITH ORIGINAL MANUFACTURER'S LABELS.
21. NO CHEMICAL(S) HAVING THE POTENTIAL TO BE RELEASED IN STORMWATER ARE TO BE STORED OR USED ON-SITE UNLESS PERMISSION FOR THE USE OF SUCH CHEMICAL(S) IS GRANTED IN WRITING BY THE ECM ADMINISTRATOR. IN GRANTING APPROVAL FOR THE USE OF SUCH CHEMICAL(S), SPECIAL CONDITIONS AND MONITORING MAY BE REQUIRED.
22. BULK STORAGE OF ALLOWED PETROLEUM PRODUCTS OR OTHER ALLOWED LIQUID CHEMICALS IN EXCESS OF 55 GALLONS SHALL REQUIRE ADEQUATE SECONDARY CONTAINMENT PROTECTION TO CONTAIN ALL SPILLS ON-SITE AND TO PREVENT ANY SPILLED MATERIALS FROM ENTERING STATE WATERS, ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR OTHER FACILITIES.
23. NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE CURB AND GUTTER OR DITCH EXCEPT WITH APPROVED SEDIMENT CONTROL MEASURES.
24. OWNER/DEVELOPER AND THEIR AGENTS SHALL COMPLY WITH THE "COLORADO WATER QUALITY CONTROL ACT" (TITLE 25, ARTICLE 8, CRS), AND THE "CLEAN WATER ACT" (33 USC 1344), IN ADDITION TO THE REQUIREMENTS OF THE LAND DEVELOPMENT CODE, DCM VOLUME II AND THE ECM APPENDIX I. ALL APPROPRIATE PERMITS MUST BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION (1041, NPDES, FLOODPLAIN, 404, FUGITIVE DUST, ETC.). IN THE EVENT OF CONFLICTS BETWEEN THESE REQUIREMENTS AND OTHER LAWS, RULES, OR REGULATIONS OF OTHER FEDERAL, STATE, LOCAL, OR COUNTY AGENCIES, THE MOST RESTRICTIVE LAWS, RULES, OR REGULATIONS SHALL APPLY.
25. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE ONLY AT APPROVED CONSTRUCTION ACCESS POINTS.
26. PRIOR TO CONSTRUCTION THE PERMITTEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.
27. A WATER SOURCE SHALL BE AVAILABLE ON-SITE DURING EARTHWORK OPERATIONS AND SHALL BE UTILIZED AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND.
28. THE SOILS REPORT FOR THIS SITE HAS BEEN PREPARED BY PICKERING, COLE & HIVNER, LLC. DATED SEPTEMBER 27TH, 2016 AND SHALL BE CONSIDERED A PART OF THESE PLANS.
29. AT LEAST TEN (10) DAYS PRIOR TO THE ANTICIPATED START OF CONSTRUCTION, FOR PROJECTS THAT WILL DISTURB ONE (1) ACRE OR MORE, THE OWNER OR OPERATOR OF CONSTRUCTION ACTIVITY SHALL SUBMIT A PERMIT APPLICATION FORSTORMWATER DISCHARGE TO THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, WATER QUALITYDIVISION. THE APPLICATION CONTAINS CERTIFICATION OF COMPLETION OF A STORMWATER MANAGEMENT PLAN(SWMP), OF WHICH THIS GRADING AND EROSION CONTROL PLAN MAY BE A PART. FOR INFORMATION OR APPLICATION MATERIALS CONTACT:

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT
WATER QUALITY CONTROL DIVISION
WQCD – PERMITS
4300 CHERRY CREEK DRIVE SOUTH
DENVER, CO 80246-1530
ATTN: PERMITS UNIT

ABBREVIATIONS

@	AT	LT	LEFT
AB	ABANDONED	MEG	MATCH EXISTING GRADE
AHJ	AUTHORITIES HAVING JURISDICTION	MH	MANHOLE
APPROX	APPROXIMATE	MTR	METER
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS	NTS	NOT TO SCALE
BC	BACK OF CURB	OC	ON CENTER
BCR	BACK OF CURB RADIUS	OH, OHP	OVERHEAD, OVERHEAD POWER
BM	BENCHMARK	OHU	OVERHEAD UTILITIES
BOT	BOTTOM	PB	PULL BOX
BP	BURIED POWER	PC	POINT OF CURVATURE
BT	BURIED TELEPHONE	PIP	PROTECT IN PLACE
BW	BOTTOM OF WALL	℄, PL	PROPERTY LINE
C&G	CURB & GUTTER	PP	POWER POLE
CATV, TV	CABLE TELEVISION	PRC	POINT OF REVERSE CURVE
CI	CAST IRON	PT	POINT OF TANGENCY
CIPP	CURED IN PLACE PIPE	PVC	POLYVINYL CHLORIDE PIPE
℄, CL	CENTERLINE	RCP	REINFORCED CONCRETE PIPE
CMP	CORRUGATED METAL PIPE	RIM	RIM OF MANHOLE LID OR GRATE
CO	CLEANOUT	ROW	RIGHT OF WAY
D, DIA	DIAMETER	SF	SQUARE FOOT, SQUARE FEET
DG	DECOMPOSED GRANITE	SP	SPECIAL PROVISIONS
DI	DUCTILE IRON	SS	SANITARY SEWER
DIP	DUCTILE IRON PIPE	SSMH	SANITARY SEWER MANHOLE
DOM	DOMESTIC WATER	ST	STORM DRAIN
DW	DRIVEWAY	STA	STATION
DWG	DRAWING	STCB	STORM CATCH BASIN
EG	EXISTING GRADE	STCI	STORM CURB INLET
ELEC, E	ELECTRIC	STD	STANDARD
EL, ELEV	ELEVATION	STMH	STORM MANHOLE
EOP, EP	EDGE OF PAVEMENT	STYD	STORM YARD DRAIN
ESCP	EROSION AND SEDIMENT CONTROL PLAN	SW	SIDEWALK
EX	EXISTING	SWPPP	STORMWATER POLLUTION PREVENTION PLAN
FC	FACE OF CURB	SY	SQUARE YARD
FG	FINISHED GRADE	T, TEL	TELEPHONE
FH, HYD	FIRE HYDRANT	TA	TOP OF ASPHALT
FL	FLOW LINE	TBC	TOP BACK OF CURB
FT	FOOT, FEET	TC	TOP OF CONCRETE
G	GAS	TEMP	TEMPORARY
GM	GAS METER	TRANS	TRANSITION
GV	GAS VALVE	TW	TOP OF WALL
GW	GUY WIRE	TYP	TYPICAL
HP	HIGH PRESSURE	VCP	VITRIFIED CLAY PIPE
IE	INVERT ELEVATION	WM	WATER MAIN
INT	INTERSECTION	WV	WATER VALVE
IRR	IRRIGATION	W/	WITH
L	LENGTH	Δ	DELTA
LF	LINEAL FOOT, LINEAR FEET		
LS	LANDSCAPING		

Know what's **below.** **Call** before you dig.

PCD FILE NO. PPR-21-023

Cushing Terrell.

cushingterrell.com
800.757.9522

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LES SCHWAB TIRE CENTER

7105 N MERIDIAN RD.
FALCON, CO

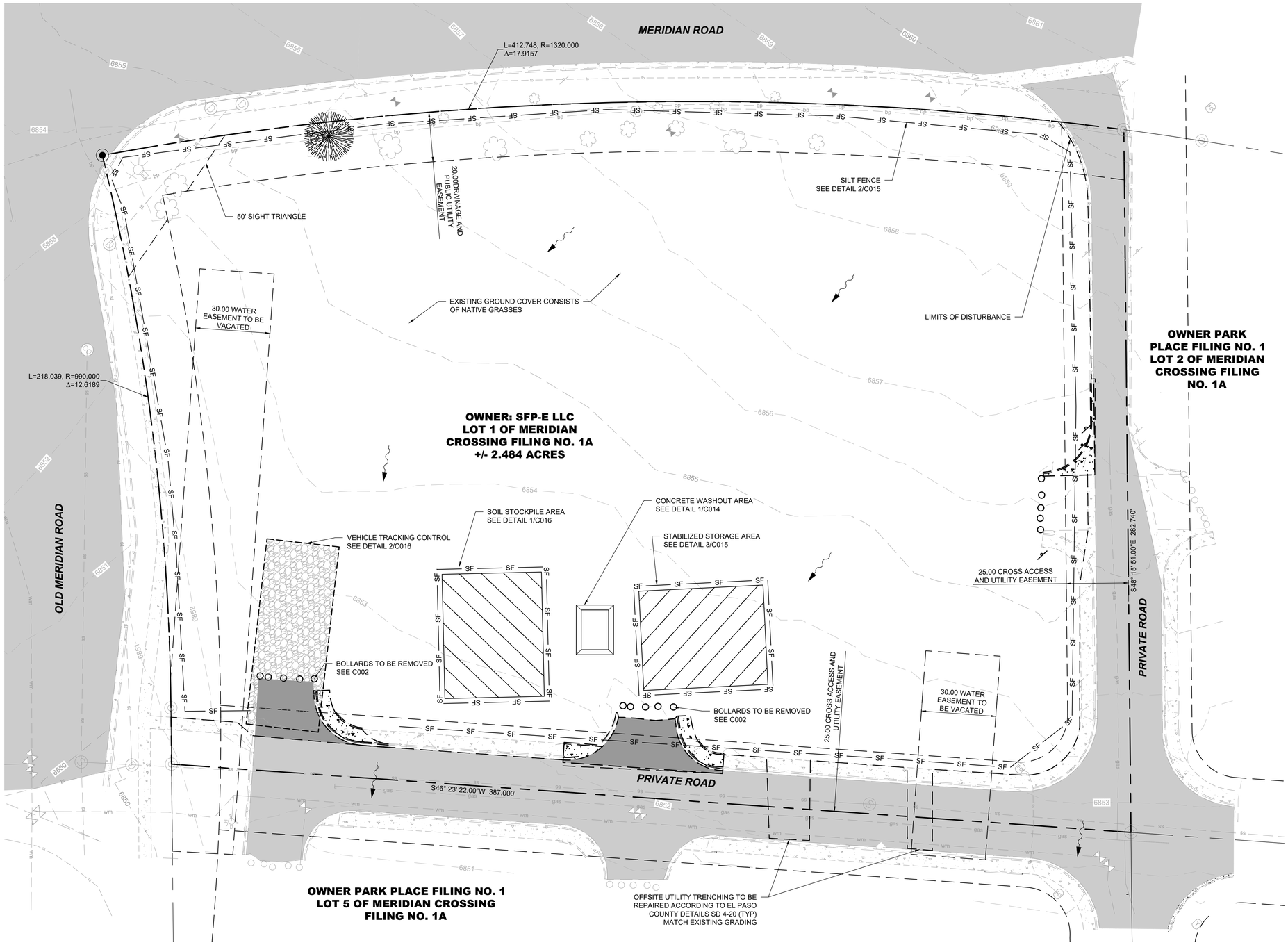
COLORADO LICENSED
ZACHARY W. GRAHAM
39039
PROFESSIONAL ENGINEER

PERMIT SET

09.01.2021
DRAWN BY | WALKER
CHECKED BY | GRAHAM
REVISIONS

GESC NOTES

C011



1 C012 INITIAL GESC PLAN

NORTH

0 10 20 40

SCALE: 1" = 20'

EROSION CONTROL PLAN LEGEND

- FLOW ARROW
- LIMITS OF DISTURBANCE / CONSTRUCTION BOUNDARY
- SF SF SILT FENCE
- VEHICLE TRACKING CONTROL
- IP INLET PROTECTION
- SOIL STOCKPILE
- CONCRETE WASHOUT

GESC NOTES

1. THE PROJECT SITE FALLS OUTSIDE FEMA DESIGNATED FLOODPLAIN AND IS DESIGNATED ZONE X AREA OF MINIMAL FLOOD HAZARD

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7105 N MERIDIAN RD.
FALCON, CO

COLORADO LICENSED ZACHARY W. GRAHAM 38039 PROFESSIONAL ENGINEER

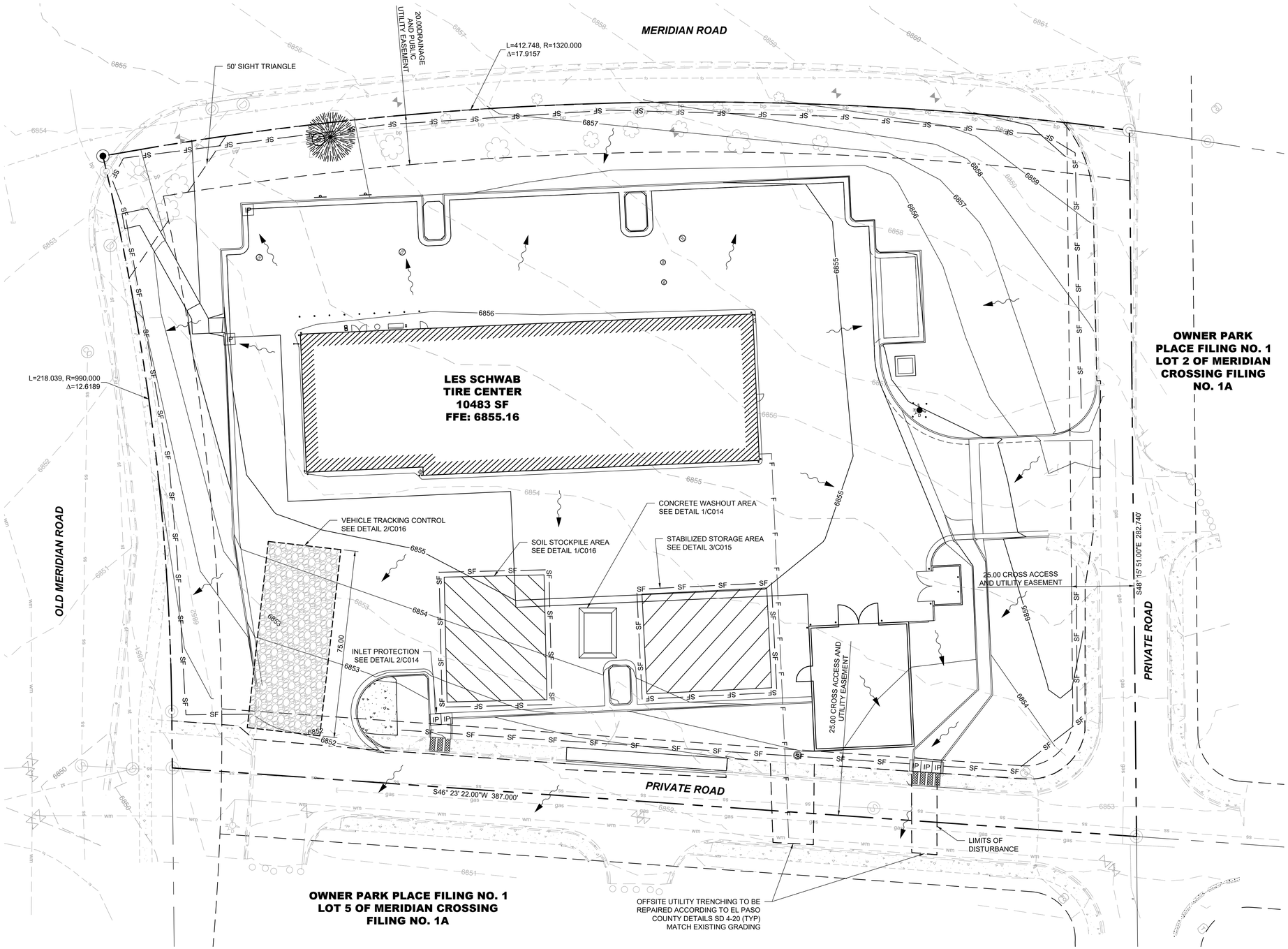
PERMIT SET

09.01.2021
DRAWN BY | WALLKER
CHECKED BY | GRAHAM
REVISIONS
-

INITIAL GESC PLAN

C012

PCD FILE NO. PPR-21-023



1 / C012 INTERIM / FINAL GESC PLAN

NORTH

0 10 20 40

SCALE: 1" = 20'

EROSION CONTROL PLAN LEGEND

- FLOW ARROW
- LIMITS OF DISTURBANCE / CONSTRUCTION BOUNDARY
- SF — SF — SILT FENCE
- VEHICLE TRACKING CONTROL
- IP — INLET PROTECTION
- SOIL STOCKPILE
- CONCRETE WASHOUT

GESC NOTES

1. THE PROJECT SITE FALLS OUTSIDE FEMA DESIGNATED FLOODPLAIN AND IS DESIGNATED ZONE X AREA OF MINIMAL FLOOD HAZARD

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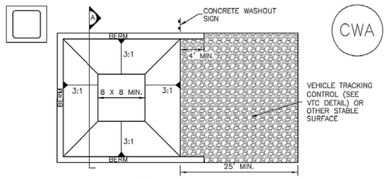
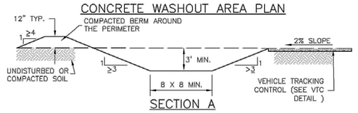
INTERIM / FINAL
GESC PLAN

C013

PCD FILE NO. PPR-21-023



CONCRETE WASHOUT AREA PLAN



SECTION A

CWA–1. CONCRETE WASHOUT AREA

CWA INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –CWA INSTALLATION LOCATION.

2. DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATERBODY. DO NOT LOCATE WITHIN 1,000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFEASIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (16 MIL MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE ARE SHOULD BE USED.

3. THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.

4. CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8' SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.

5. BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE MINIMUM HEIGHT OF 1'.

6. VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.

7. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.

8. USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

CWA 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. THE CWA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE. CONCRETE MATERIALS, ACCUMULATED IN PIT, SHALL BE REMOVED ONCE THE MATERIALS HAVE REACHED A DEPTH OF 2'.

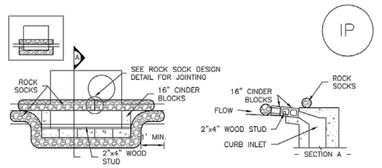
5. CONCRETE WASHOUT WATER, WASTED PIECES OF CONCRETE AND ALL OTHER DEBRIS IN THE SUBSURFACE PIT SHALL BE TRANSPORTED FROM THE JOB SITE IN A WATER–TIGHT CONTAINER AND DISPOSED OF PROPERLY.

6. THE CWA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.

7. WHEN THE CWA IS REMOVED, COVER THE DISTURBED AREA WITH TOP SOIL, SEED AND MULCH OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(DETAIL ADAPTED FROM DOUGLAS COUNTY, COLORADO AND THE CITY OF PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD).

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.



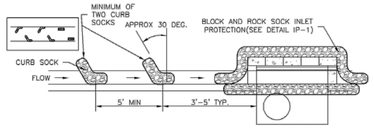
IP–1. BLOCK AND ROCK SOCK SUMP OR ON GRADE INLET PROTECTION

BLOCK AND CURB SOCK INLET PROTECTION INSTALLATION NOTES

1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.

2. CONCRETE "CINDER" BLOCKS SHALL BE LAID ON THEIR SIDES AROUND THE INLET IN A SINGLE ROW, ABUTTING ONE ANOTHER WITH THE OPEN END FACING AWAY FROM THE CURB.

3. GRAVEL BAGS SHALL BE PLACED AROUND CONCRETE BLOCKS, CLOSELY ABUTTING ONE ANOTHER AND JOINTED TOGETHER IN ACCORDANCE WITH ROCK SOCK DESIGN DETAIL.



IP–2. CURB ROCK SOCKS UPSTREAM OF INLET PROTECTION

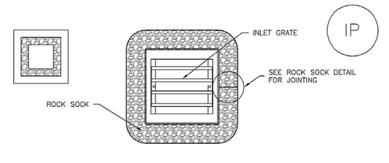
CURB ROCK SOCK INLET PROTECTION INSTALLATION NOTES

1. SEE ROCK SOCK DESIGN DETAIL INSTALLATION REQUIREMENTS.

2. PLACEMENT OF THE SOCK SHALL BE APPROXIMATELY 30 DEGREES FROM PERPENDICULAR IN THE OPPOSITE DIRECTION OF FLOW.

3. SOCKS ARE TO BE FLUSH WITH THE CURB AND SPACED A MINIMUM OF 5 FEET APART.

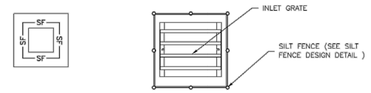
4. AT LEAST TWO CURB SOCKS IN SERIES ARE REQUIRED UPSTREAM OF ON–GRADE INLETS.



IP–3. ROCK SOCK SUMP/AREA INLET PROTECTION

ROCK SOCK SUMP/AREA INLET PROTECTION INSTALLATION NOTES
1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.

2. STRAW WATTLES/SEDIMENT CONTROL LOGS MAY BE USED IN PLACE OF ROCK SOCKS FOR INLETS IN PERVIOUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL.



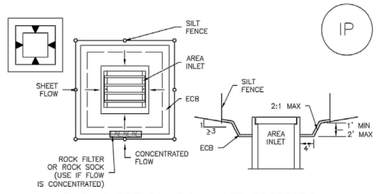
IP–4. SILT FENCE FOR SUMP INLET PROTECTION

SILT FENCE INLET PROTECTION INSTALLATION NOTES

1. SEE SILT FENCE DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.

2. POSTS SHALL BE PLACED AT EACH CORNER OF THE INLET AND AROUND THE EDGES AT A MAXIMUM SPACING OF 3 FEET.

3. STRAW WATTLES/SEDIMENT CONTROL LOGS MAY BE USED IN PLACE OF SILT FENCE FOR INLETS IN PERVIOUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL.



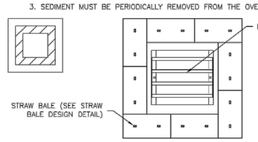
IP–5. OVEREXCAVATION INLET PROTECTION

OVEREXCAVATION INLET PROTECTION INSTALLATION NOTES

1. THIS FORM OF INLET PROTECTION IS PRIMARILY APPLICABLE FOR SITES THAT HAVE NOT YET REACHED FINAL GRADE AND SHOULD BE USED ONLY FOR INLETS WITH A RELATIVELY SMALL CONTRIBUTING DRAINAGE AREA.

2. WHEN USING FOR CONCENTRATED FLOWS, SHAPE BASIN IN 2:1 RATIO WITH LENGTH ORIENTED TOWARDS DIRECTION OF FLOW.

3. SEDIMENT MUST BE PERIODICALLY REMOVED FROM THE OVEREXCAVATED AREA.

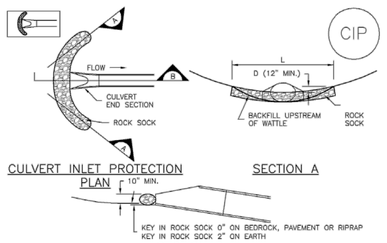


IP–6. STRAW BALE FOR SUMP INLET PROTECTION

STRAW BALE BARRIER INLET PROTECTION INSTALLATION NOTES

1. SEE STRAW BALE DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.

2. BALES SHALL BE PLACED IN A SINGLE ROW AROUND THE INLET WITH ENDS OF BALES TIGHTLY ABUTTING ONE ANOTHER.



CIP–1. CULVERT INLET PROTECTION

CULVERT INLET PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR
   –LOCATION OF CULVERT INLET PROTECTION.

2. SEE ROCK SOCK DESIGN DETAIL FOR ROCK GRADATION REQUIREMENTS AND JOINTING DETAIL.

CULVERT INLET PROTECTION MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. SEDIMENT ACCUMULATED UPSTREAM OF THE CULVERT SHALL BE REMOVED WHEN THE SEDIMENT DEPTH IS ⅓ THE HEIGHT OF THE ROCK SOCK.

5. CULVERT INLET PROTECTION SHALL REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

(DETAILS ADAPTED FROM AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)

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.

GENERAL INLET PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –LOCATION OF INLET PROTECTION.
   –TYPE OF INLET PROTECTION (IP.1, IP.2, IP.3, IP.4, IP.5, IP.6)

2. INLET PROTECTION SHALL BE INSTALLED PROMPTLY AFTER INLET CONSTRUCTION OR PAVING IS COMPLETE (TYPICALLY WITHIN 48 HOURS). IF A RAINFALL/RUNOFF EVENT IS FORECAST, INSTALL INLET PROTECTION PRIOR TO ONSET OF EVENT.

3. 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.

INLET PROTECTION MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. SEDIMENT ACCUMULATED UPSTREAM OF INLET PROTECTION SHALL BE REMOVED AS NECESSARY TO MAINTAIN BMP EFFECTIVENESS, TYPICALLY WHEN STORAGE VOLUME REACHES 50% OF CAPACITY, A DEPTH OF 6" WHEN SILT FENCE IS USED, OR ¼ OF THE HEIGHT FOR STRAW BALES.

5. INLET PROTECTION IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED, UNLESS THE LOCAL JURISDICTION APPROVES EARLIER REMOVAL OF INLET PROTECTION IN STREETS.

6. WHEN INLET PROTECTION AT AREA INLETS IS REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOP SOIL, SEEDED AND MULCHED, OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)

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.

NOTE: THE DETAILS INCLUDED WITH THIS FACT SHEET SHOW COMMONLY USED, CONVENTIONAL METHODS OF INLET PROTECTION IN THE DENVER METROPOLITAN AREA. THERE ARE MANY PROPRIETARY INLET PROTECTION METHODS ON THE MARKET. UDFCD NEITHER ENDORSES NOR DISCOURAGES USE OF PROPRIETARY INLET PROTECTION; HOWEVER, IN THE EVENT PROPRIETARY METHODS ARE USED, THE APPROPRIATE DETAIL FROM THE MANUFACTURER MUST BE INCLUDED IN THE SWMP AND THE BMP MUST BE INSTALLED AND MAINTAINED AS SHOWN IN THE MANUFACTURER'S DETAILS.

NOTE: SOME MUNICIPALITIES DISCOURAGE OR PROHIBIT THE USE OF STRAW BALES FOR INLET PROTECTION. CHECK WITH LOCAL JURISDICTION TO DETERMINE IF STRAW BALE INLET PROTECTION IS ACCEPTABLE.

1 C014 CONCRETE WASHOUT AREA

2 C014 INLET PROTECTION

2 C014 INLET PROTECTION (CONT.)

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7105 N MERIDIAN RD.
FALCON, CO

ZACHARY W. GRAHAM 39059 PROFESSIONAL ENGINEER COLORADO

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GESC DETAILS

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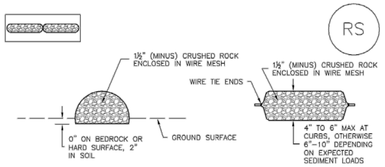
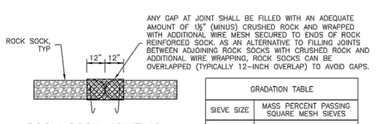


ROCK SOCK SECTION ROCK SOCK PLAN



ANY GAP AT JOINT SHALL BE FILLED WITH AN ADEQUATE AMOUNT OF 1½" (MINUS) CRUSHED ROCK AND WRAPPED WITH ADDITIONAL WIRE MESH SECURED TO ENDS OF ROCK REINFORCED SOCK. AS AN ALTERNATIVE TO FILLING JOINTS BETWEEN ADJOINING ROCK SOCKS WITH CRUSHED ROCK AND ADDITIONAL WIRE WRAPPING, ROCK SOCKS CAN BE OVERLAPPED (TYPICALLY 12–INCH OVERLAP) TO AVOID GAPS.

ROCK SOCK JOINTING

GRADATION TABLE	
SIEVE SIZE	MASS PERCENT PASSING SQUARE MESH SIEVES
	NO. 4
2"	100
1½"	90 – 100
1"	20 – 55
¾"	0 – 15
⅜"	0 – 5
MATCHES SPECIFICATIONS FOR NO. 4 COARSE AGGREGATE FOR CONCRETE PER AASHTO M43. ALL ROCK SHALL BE FRACTURED FACE, ALL SIDES.	

ROCK SOCK INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –LOCATION(S) OF ROCK SOCKS.
2. CRUSHED ROCK SHALL BE 1½" (MINUS) IN SIZE WITH A FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH GRADATION SHOWN ON THIS SHEET (1½" MINUS).
3. WIRE MESH SHALL BE FABRICATED OF 10 GAGE POULTRY MESH, OR EQUIVALENT, WITH A MAXIMUM OPENING OF ½", RECOMMENDED MINIMUM ROLL WIDTH OF 48"
4. 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.
5. SOME MUNICIPALITIES MAY ALLOW THE USE OF FILTER FABRIC AS AN ALTERNATIVE TO WIRE MESH FOR THE ROCK ENCLOSURE.

RS–1. ROCK SOCK PERIMETER CONTROL

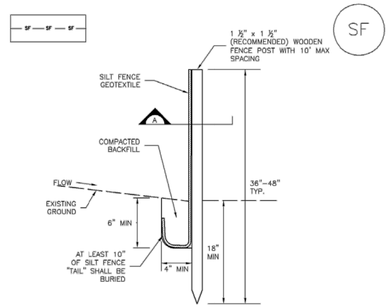
ROCK SOCK MAINTENANCE NOTES

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 SOCKS SHALL BE REPLACED IF THEY BECOME HEAVILY SOILED, OR DAMAGED BEYOND REPAIR.
5. SEDIMENT ACCUMULATED UPSTREAM OF ROCK SOCKS SHALL BE REMOVED AS NEEDED TO MAINTAIN FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY ½ OF THE HEIGHT OF THE ROCK SOCK.
6. ROCK SOCKS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.
7. WHEN ROCK SOCKS ARE REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

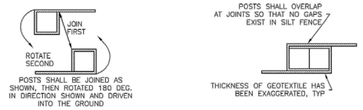
(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)

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.

NOTE: THE DETAILS INCLUDED WITH THIS FACT SHEET SHOW COMMONLY USED, CONVENTIONAL METHODS OF ROCK SOCK INSTALLATION IN THE DENVER METROPOLITAN AREA. THERE ARE MANY OTHER SIMILAR PROPRIETARY PRODUCTS ON THE MARKET. UDFCD NEITHER ENDORSES NOR DISCOURAGES USE OF PROPRIETARY PROTECTION PRODUCTS; HOWEVER, IN THE EVENT PROPRIETARY METHODS ARE USED, THE APPROPRIATE DETAIL FROM THE MANUFACTURER MUST BE INCLUDED IN THE SWMP AND THE BMP MUST BE INSTALLED AND MAINTAINED AS SHOWN IN THE MANUFACTURER'S DETAILS.



SILT FENCE



SECTION A

SF–1. SILT FENCE

SILT FENCE INSTALLATION NOTES

1. SILT FENCE MUST BE PLACED AWAY FROM THE TOE OF THE SLOPE TO ALLOW FOR WATER PONDING. SILT FENCE AT THE TOE OF A SLOPE SHOULD BE INSTALLED IN A FLAT LOCATION AT LEAST SEVERAL FEET (2–5 FT) FROM THE TOE OF THE SLOPE TO ALLOW ROOM FOR PONDING AND DEPOSITION.
2. A UNIFORM 6" X 4" ANCHOR TRENCH SHALL BE EXCAVATED USING TRENCHER OR SILT FENCE INSTALLATION DEVICE. NO ROAD GRADERS, BACKHOES, OR SIMILAR EQUIPMENT SHALL BE USED.
3. COMPACT ANCHOR TRENCH BY HAND WITH A "JUMPING JACK" OR BY WHEEL ROLLING. COMPACTION SHALL BE SUCH THAT SILT FENCE RESISTS BEING PULLED OUT OF ANCHOR TRENCH BY HAND.
4. SILT FENCE SHALL BE PULLED TIGHT AS IT IS ANCHORED TO THE STAKES. THERE SHOULD BE NO NOTICEABLE SAG BETWEEN STAKES AFTER IT HAS BEEN ANCHORED TO THE STAKES.
5. SILT FENCE FABRIC SHALL BE ANCHORED TO THE STAKES USING 1" HEAVY DUTY STAPLES OR NAILS WITH 1" HEADS. STAPLES AND NAILS SHOULD BE PLACED 3" ALONG THE FABRIC DOWN THE STAKE.
6. AT THE END OF A RUN OF SILT FENCE ALONG A CONTOUR, THE SILT FENCE SHOULD BE TURNED PERPENDICULAR TO THE CONTOUR TO CREATE A "J–HOOK." THE "J–HOOK" EXTENDING PERPENDICULAR TO THE CONTOUR SHOULD BE OF SUFFICIENT LENGTH TO KEEP RUNOFF FROM FLOWING AROUND THE END OF THE SILT FENCE (TYPICALLY 10' – 20').
7. SILT FENCE SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

SILT FENCE MAINTENANCE NOTES

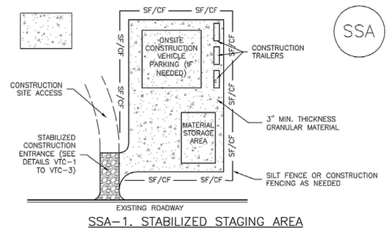
1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. SEDIMENT ACCUMULATED UPSTREAM OF THE SILT FENCE SHALL BE REMOVED AS NEEDED TO MAINTAIN THE FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 6".
5. REPAIR OR REPLACE SILT FENCE WHEN THERE ARE SIGNS OF WEAR, SUCH AS SAGGING, TEARING, OR COLLAPSE.
6. SILT FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION, OR IS REPLACED BY AN EQUIVALENT PERIMETER SEDIMENT CONTROL BMP.
7. WHEN SILT FENCE IS REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, NOT AVAILABLE IN AUTOCAD)

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.

1 C015 ROCK SOCK

2 C015 SILT FENCE



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)

Table TS/PS-1. Minimum Drill Seeding Rates for Various Temporary Annual Grasses

Species[a] (Common name)	Growth Season[b]	Pounds of Pure Live Seed (PLS)/acre[c]	Planting Depth (inches)
1. Oats	Cool	35 - 50	1 - 2
2. Spring wheat	Cool	25 - 35	1 - 2
3. Spring barley	Cool	25 - 35	1 - 2
4. Annual ryegrass	Cool	10 - 15	½
5. Millet	Warm	3 - 15	½ - ¾
6. Winter wheat	Cool	20–35	1 - 2
7. Winter barley	Cool	20–35	1 - 2
8. Winter rye	Cool	20–35	1 - 2
9. Triticale	Cool	25–40	1 - 2

[a] Successful seeding of annual grass resulting in adequate plant growth will usually produce enough dead-plant residue to provide protection from wind and water erosion for an additional year. This assumes that the cover is not disturbed or mowed closer than 8 inches.

Hydraulic seeding may be substituted for drilling only where slopes are steeper than 3:1 or where access limitations exist. When hydraulic seeding is used, hydraulic mulching should be applied as a separate operation, when practical, to prevent the seeds from being encapsulated in the mulch.

[b] See Table TS/PS-2 for seeding dates. Irrigation, if consistently applied, may extend the use of cool season species during the summer months.

[c] Seeding rates should be doubled if seed is broadcast, or increased by 50 percent if done using a Brillion Drill or by hydraulic seeding.

Table TS/PS-2. Seeding Dates for Annual and Perennial Grasses

	Annual Grasses (Numbers in table reference species in Table TS/PS-1)		Perennial Grasses	
Seeding Dates	**Warm**	**Cool**	**Warm**	**Cool**
January 1–March 15			✓	✓
March 16–April 30		1,2,3	✓	✓
May 1–May 15			✓	
May 16–June 30	5			
July 1–July 15	5			
July 16–August 31				
September 1–September 30		6, 7, 8, 9		
October 1–December 31			✓	✓

Mulch

Cover seeded areas with mulch or an appropriate rolled erosion control product to promote establishment of vegetation. Anchor mulch by crimping, netting or use of a non-toxic tackifier. See the USDCM Volume 2 *Revegetation* Chapter and Volume 3 Mulching BMP Fact Sheet (EC-04) for additional guidance.

Maintenance and Removal

Monitor and observe seeded areas to identify areas of poor growth or areas that fail to germinate. Reseed and mulch these areas, as needed.

If a temporary annual seed was planted, the area should be reseeded with the desired perennial mix when there will be no further work in the area. To minimize competition between annual and perennial species, the annual mix needs time to mature and die before seeding the perennial mix. To increase success of the perennial mix, it should be seeded during the appropriate seeding dates the second year after the temporary annual mix was seeded. Alternatively, if this timeline is not feasible, the annual mix seed heads should be removed and then the area seeded with the perennial mix.

An area that has been permanently seeded should have a good stand of vegetation within one growing season if irrigated and within three growing seasons without irrigation in Colorado. Reseed portions of the site that fail to germinate or remain bare after the first growing season.

Seeded areas may require irrigation, particularly during extended dry periods. Targeted weed control may also be necessary.

Protect seeded areas from construction equipment and vehicle access.

3 C015 STABILIZED STAGING AREA

4 C015 TEMPORARY AND PERMANANT SEEDING

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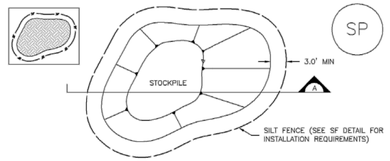
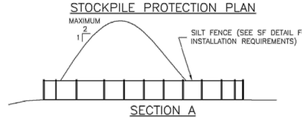


STOCKPILE PROTECTION PLAN



SECTION A

SP–1. STOCKPILE PROTECTION

STOCKPILE PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –LOCATION OF STOCKPILES.
   –TYPE OF STOCKPILE PROTECTION.

2. INSTALL PERIMETER CONTROLS IN ACCORDANCE WITH THEIR RESPECTIVE DESIGN DETAILS. SILT FENCE IS SHOWN IN THE STOCKPILE PROTECTION DETAILS; HOWEVER, OTHER TYPES OF PERIMETER CONTROLS INCLUDING SEDIMENT CONTROL LOGS OR ROCK SOCKS MAY BE SUITABLE IN SOME CIRCUMSTANCES. CONSIDERATIONS FOR DETERMINING THE APPROPRIATE TYPE OF PERIMETER CONTROL FOR A STOCKPILE INCLUDE WHETHER THE STOCKPILE IS LOCATED ON A PERVIOUS OR IMPERVIOUS SURFACE, THE RELATIVE HEIGHTS OF THE PERIMETER CONTROL AND STOCKPILE, THE ABILITY OF THE PERIMETER CONTROL TO CONTAIN THE STOCKPILE WITHOUT FAILING IN THE EVENT THAT MATERIAL FROM THE STOCKPILE SHIFTS OR SLUMPS AGAINST THE PERIMETER, AND OTHER FACTORS.

3. STABILIZE THE STOCKPILE SURFACE WITH SURFACE ROUGHENING, TEMPORARY SEEDING AND MULCHING, EROSION CONTROL BLANKETS, OR SOIL BINDERS. SOILS STOCKPILED FOR AN EXTENDED PERIOD (TYPICALLY FOR MORE THAN 60 DAYS) SHOULD BE SEEDED AND MULCHED WITH A TEMPORARY GRASS COVER ONCE THE STOCKPILE IS PLACED (TYPICALLY WITHIN 14 DAYS). USE OF MULCH ONLY OR A SOIL BINDER IS ACCEPTABLE IF THE STOCKPILE WILL BE IN PLACE FOR A MORE LIMITED TIME PERIOD (TYPICALLY 30–60 DAYS).

4. FOR TEMPORARY STOCKPILES ON THE INTERIOR PORTION OF A CONSTRUCTION SITE, WHERE OTHER DOWNGRADIENT CONTROLS, INCLUDING PERIMETER CONTROL, ARE IN PLACE, STOCKPILE PERIMETER CONTROLS MAY NOT BE REQUIRED.

STOCKPILE PROTECTION 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.

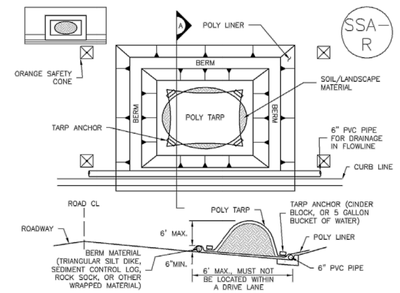
STOCKPILE PROTECTION MAINTENANCE NOTES

4. IF PERIMETER PROTECTION MUST BE MOVED TO ACCESS SOIL STOCKPILE, REPLACE PERIMETER CONTROLS BY THE END OF THE WORKDAY.

5. STOCKPILE PERIMETER CONTROLS CAN BE REMOVED ONCE ALL THE MATERIAL FROM THE STOCKPILE HAS BEEN USED.

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

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.



SP–2. MATERIALS STAGING IN ROADWAY

MATERIALS STAGING IN ROADWAYS INSTALLATION NOTES

1. SEE PLAN VIEW FOR
   –LOCATION OF MATERIAL STAGING AREA(S).
   –CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.

2. FEATURE MUST BE INSTALLED PRIOR TO EXCAVATION, EARTHWORK OR DELIVERY OF MATERIALS.

3. MATERIALS MUST BE STATIONED ON THE POLY LINER. ANY INCIDENTAL MATERIALS DEPOSITED ON PAVED SECTION OR ALONG CURB LINE MUST BE CLEANED UP PROMPTLY.

4. POLY LINER AND TARP COVER SHOULD BE OF SIGNIFICANT THICKNESS TO PREVENT DAMAGE OR LOSS OF INTEGRITY.

5. SAND BAGS MAY BE SUBSTITUTED TO ANCHOR THE COVER TARP OR PROVIDE BERMING UNDER THE BASE LINER.

6. FEATURE IS NOT INTENDED FOR USE WITH WET MATERIAL THAT WILL BE DRAINING AND/OR SPREADING OUT ON THE POLY LINER OR FOR DEMOLITION MATERIALS.

7. THIS FEATURE CAN BE USED FOR:
   –UTILITY REPAIRS.
   –WHEN OTHER STAGING LOCATIONS AND OPTIONS ARE LIMITED.
   –OTHER LIMITED APPLICATION AND SHORT DURATION STAGING.

MATERIALS STAGING IN ROADWAY 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. INSPECT PVC PIPE ALONG CURB LINE FOR CLOGGING AND DEBRIS. REMOVE OBSTRUCTIONS PROMPTLY.

5. CLEAN MATERIAL FROM PAVED SURFACES BY SWEEPING OR VACUUMING.

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 AURORA, COLORADO)

1 C016 STOCKPILE AREA

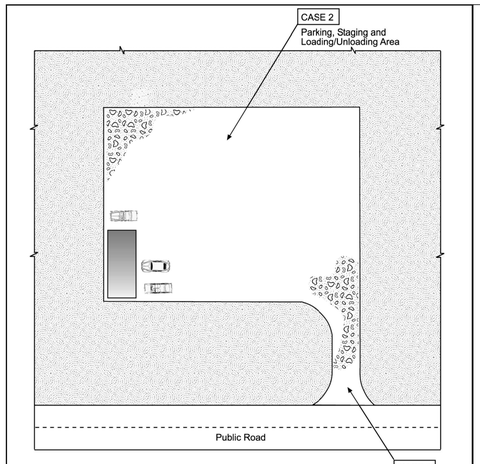
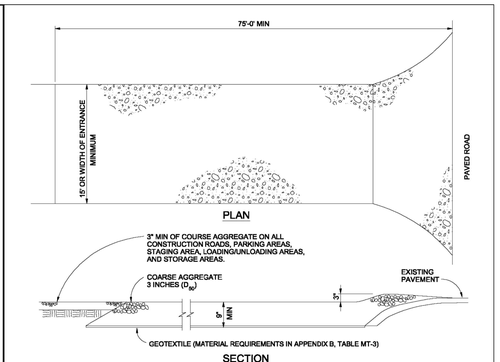


Table VT-1

	Case 1	Case 2
Gravel Thickness	9"	3"
Filter Fabric	YES	NO

City of Colorado Springs
Storm Water Quality

Figure VT-1
Vehicle Tracking
Application Examples



VEHICLE TRACKING
NTS

VEHICLE TRACKING NOTES

INSTALLATION REQUIREMENTS

1. ALL ENTRANCES TO THE CONSTRUCTION SITE ARE TO BE STABILIZED PRIOR TO CONSTRUCTION BEGINNING.

2. CONSTRUCTION ENTRANCES ARE TO BE BUILT WITH AN APRON TO ALLOW FOR TURNING TRAFFIC, BUT SHOULD NOT BE BUILT OVER EXISTING PAVEMENT EXCEPT FOR A SLIGHT OVERLAP.

3. AREAS TO BE STABILIZED ARE TO BE PROPERLY GRADED AND COMPACTED PRIOR TO LAYING DOWN GEOTEXTILE AND STONE.

4. CONSTRUCTION ROADS, PARKING AREAS, LOADING/UNLOADING ZONES, STORAGE AREAS, AND STAGING AREAS ARE TO BE STABILIZED.

5. CONSTRUCTION ROADS ARE TO BE BUILT TO CONFORM TO SITE GRADES, BUT SHOULD NOT HAVE SIDE SLOPES OR ROAD GRADES THAT ARE EXCESSIVELY STEEP.

MAINTENANCE REQUIREMENTS

1. REGULAR INSPECTIONS ARE TO BE MADE OF ALL STABILIZED AREAS, ESPECIALLY AFTER STORM EVENTS.

2. STONES ARE TO BE REAPPLIED PERIODICALLY AND WHEN REPAIR IS NECESSARY.

3. SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED DAILY BY SHOVELING OR SWEEPING. SEDIMENT IS NOT TO BE WASHED DOWN STORM SEWER DRAINS.

4. STORM SEWER INLET PROTECTION IS TO BE IN PLACE, INSPECTED, AND CLEANED IF NECESSARY.

5. OTHER ASSOCIATED SEDIMENT CONTROL MEASURES ARE TO BE INSPECTED TO ENSURE GOOD WORKING CONDITION.

City of Colorado Springs
Stormwater Quality

Figure VT-2
Vehicle Tracking
Application Examples

2 C016 VEHICLE TRACKING CONTROL

Cushing Terrell.
cushingterrell.com
800.757.9522

Tires LES SCHWAB

LES SCHWAB TIRE CENTER
7105 N MERIDIAN RD.
FALCON, CO

COLORADO LICENSED ZACHARY W. GRAHAM 39253 PROFESSIONAL ENGINEER

PERMIT SET

09.01.2021
DRAWN BY | WALKER
CHECKED BY | GRAHAM
REVISIONS
-

GESC DETAILS

C016

PCD FILE NO. PPR-21-023

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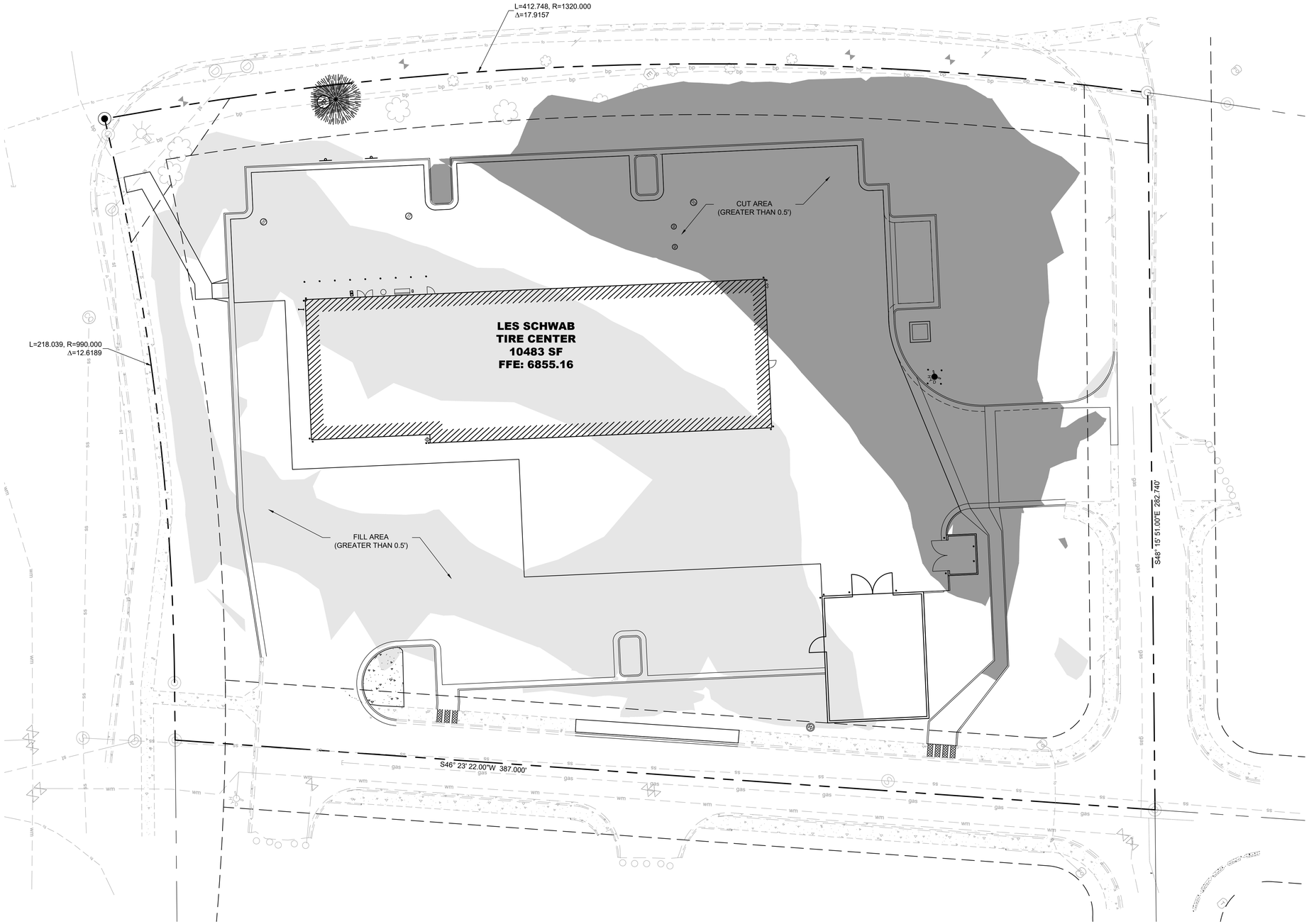

1 C017 CUT FILL GESC EXHIBIT

NORTH

0 10 20 40

SCALE: 1" = 20'

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Cushing Terrell.

cushingterrell.com
800.757.9522

Tires LES SCHWAB

LES SCHWAB TIRE CENTER

7105 N MERIDIAN RD.
FALCON, CO

COLORADO LICENSED ZACHARY W. GRAHAM 38209 PROFESSIONAL ENGINEER

PERMIT SET

09.01.2021
DRAWN BY | WALLKER
CHECKED BY | GRAHAM
REVISIONS
-

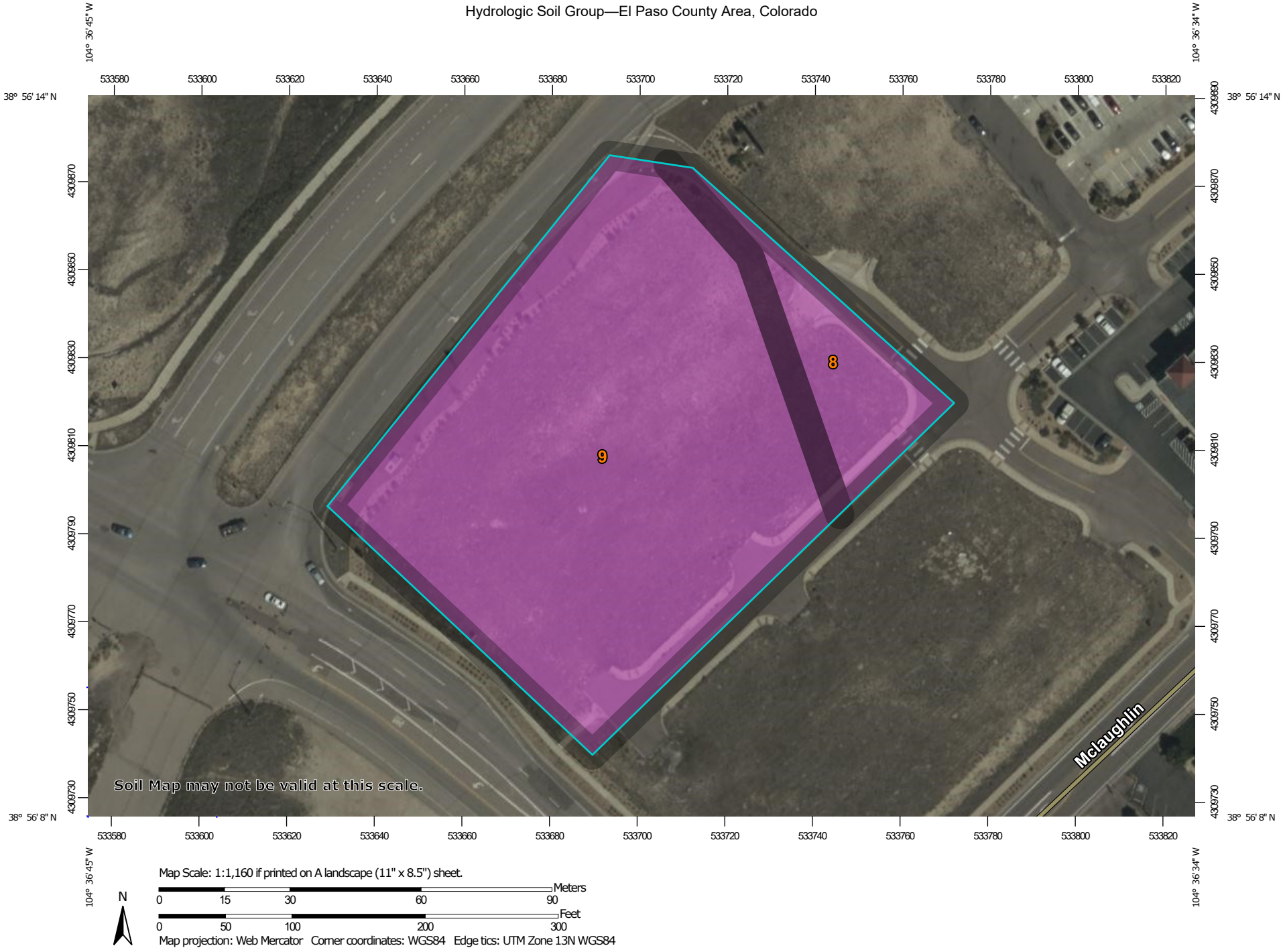
CUT / FILL GESC EXHIBIT

PCD FILE NO. PPR-21-023

C017

Cushing Terrell

APPENDIX C: WEB SOIL SURVEY



Map Scale: 1:1,160 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 15 30 60 90

Feet
0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

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 18, Jun 5, 2020

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

Date(s) aerial images were photographed: Sep 11, 2018—Oct 20, 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
8	Blakeland loamy sand, 1 to 9 percent slopes	A	0.3	13.1%
9	Blakeland-Fluvaquentic Haplaquolls	A	2.2	86.9%
Totals for Area of Interest			**2.5**	**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.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Cushing Terrell

APPENDIX D: O & M FOR EXISTING FACILITIES

April 16, 2021

Cushing Terrell

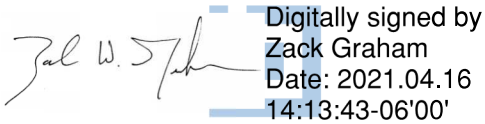
EL Paso County Colorado
Planning Department
[Street Address]
[City, State, Zip]

To Whom it may concern,

The proposed Les Schwab Tire Center will be connected to the larger storm water system created and maintained Park Place Enterprises, LLC. Due to this we have not provided a detention maintenance agreement for our site as no additional detention facilities are being proposed. In lieu of this we have attached the Operation and Maintenance Manual for the Meridian Crossing development for which we are a part, this manual was recorded with the county on 09/09/2008 and is number 208099923.

For additional information regarding stormwater drainage please reference the Storm Water Report that is included as part of this Site Development Plan submittal package.

Sincerely,



Zack Graham, PE

ROBERT C. "BOB" BALINK El Paso County, CO
09/09/2008 10:28:14 AM
Doc $0.00 Page
Rec $26.00 1 of 5
208099923

OPERATION AND MAINTENANCE MANUAL
MERIDIAN CROSSING
PARK PLACE ENTERPRISES, LLC
EL PASO COUNTY, COLORADO

May 2008

PREPARED FOR:

Park Place Enterprises, LLC
15 Miranda Road
Colorado Springs, CO 80906

PREPARED BY:

Springs Engineering
31 N. Tejon Street
Suite 315
Colorado Springs, CO 80903

PROJECT NO. 07-057-0032

Table of Contents

Introduction

This Operation and Maintenance Plan is being submitted on behalf of Park Place Enterprises, LLC for a development known as Meridian Crossing in Falcon, Colorado. The purpose of this Operation and Maintenance Manual (O&M) is to identify facilities which are to be maintained by the Meridian Crossing Properties Owners Association (POA) and the frequency with which these items are to be maintained.

General Location and Description

Meridian Crossing is currently zoned CR and the proposed development includes 6 commercial lots, proposed water quality facilities, streets, and utilities.

Meridian Crossing is approximately 9.5 acres and is located north of the intersection of Meridian Road and Old Meridian Road in Falcon, Colorado, Section 12, Township 13 South, Range 65 West of the 6th Principal Meridian.

Description of Construction

Construction will consist of site grading, utility installation, and road paving. Approximately 9.5 acres of the site will be graded for construction of the proposed commercial units. Erosion control will be provided prior to construction.

Facilities

Water quality facilities will be owned and maintained by the POA. Water and sanitary sewer will be maintained by the Falcon Highlands Metropolitan District. All other utilities are to be maintained by their respective owners.

Inspection and Maintenance

A thorough inspection of the permanent structures shall be performed every 30 days as well as after any significant rain or snowmelt event. Inspectors are to look for any significant deterioration of the facilities including:

- Erosion of channels and side slopes.
- Accumulated trash or debris.

Repairs and removal of debris shall occur as soon as practical.

Porous Landscape Detention Facility

Lawn mowing and vegetative care shall be performed routinely, as aesthetic requirements demand. This shall limit unwanted vegetation. Irrigated turf grass shall be between 2 and 4 inches in height and non irrigated native turf grasses shall be 4 to 6 inches in height. Debris and litter removal shall be performed routinely, as aesthetic requirements demand. Removal of debris and litter from any detention area minimizes clogging of the sand media. Landscaping removal and replacement shall be done every 5 to 10 years depending on infiltration rates needed to drain the area in 12 hours or less. Over time the

sandy loam turf will clog. The layer will need to be replaced, along with all turf and other vegetation growing on the surface, to rehabilitate infiltration rates. Bin-annual inspections of the hydraulic performance of the area will need to be performed. This will determine if the sand media is allowing acceptable infiltration.

An Operation and Maintenance Log follows.

Operation & Maintenance Log

MERIDIAN CROSSING FILING NO. 1
OPERATION AND MAINTENANCE LOG

(Record inspections, items found maintenance and corrective actions taken. Also record any training received by Contractor personnel with regard to erosion control, materials handling and any inspections by outside agencies)

DATE	ITEM	SIGNATURE OF PERSON MAKING ENTRY