

**STANDARD EPC GRADING AND EROSION CONTROL NOTES**

- Construction may not commence until a Construction Permit is obtained from Development Services and a Preconstruction Conference is held with Development Services Inspections.
- 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.
- 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 to regulations and standards must be requested, and approved in writing.
- A separate Stormwater Management Plan (SWMP) for this project shall be completed and an Erosion and Stormwater Quality Control Plan (ESQCP) issued prior to commencing construction. During construction the SWMP is the responsibility of the designated Stormwater Manager. The SWMP shall be located on site at all times and shall be kept up to date with work progress and changes in the field.
- Once the ESQCP has been issued, the contractor may install the initial stage erosion and sediment control BMP's as indicated on the 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 DSD inspections staff.
- Soil erosion control measures for all slopes, channels, ditches, or any disturbed land area shall be completed within 21 calendar days after final grading, or earth disturbance, has been completed. Disturbed areas and stockpiles which are not at final grade but will remain dormant for longer than 30 days, shall also be mulched within 21 days after interim grading. And area that is going to remain an interim for more than 60 days shall also be seeded. All temporary soil erosion control measures and BMP's shall be maintained until permanent soil erosion control measures are implemented and established.
- Temporary soil erosion control facilities shall be removed and earth disturbance areas graded and stabilized with permanent soil erosion control measures pursuant to standards and specification presented in the DCM Volume I and the Engineering Criteria Manual (ECM) appendix.
- All persons engaged with earth disturbance shall implement and maintain acceptable soil erosion and sediment control measures including BMP's in conformance with the erosion control technical standards of the Drainage Criteria Manual (DCM) Volume II and in accordance with the Stormwater Management Plan (SWMP).
- All temporary erosion control facilities including BMP's and all permanent facilities intended to control erosion of any earth disturbance operations shall be installed as defined in the approved plans, the SWMP Volume II and maintained throughout the duration of the earth disturbance operation.
- Any earth disturbance shall be conducted in such a manner so as to effectively reduce accelerated soil erosion, through or from the earth disturbance area shall be designed to limit the discharge to a non-erosive velocity.
- Any temporary or permanent facility designed and constructed for the conveyance of stormwater around, through, or from the earth disturbance area shall be designed to limit the discharge to a non-erosive velocity.
- Concrete wash water shall be contained and disposed of in accordance with the SWMP. No wash water shall be discharged to or allowed to runoff to State Waters, including any surface or subsurface storm drainage system or facilities.
- Erosion control blanketing is to be used on slopes steeper than 3:1.
- Building, construction, excavation, or other 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. BMP's may be required by El Paso County Engineering if deemed necessary, based on specific conditions and circumstances.
- Vehicle tracking of soils and construction debris off-site shall be minimized. Materials tracked offsite shall be cleaned up and properly disposed of immediately.
- 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.
- The owner, site developer, contractor, and/or their authorized agents shall be responsible for the removal of all construction debris, dirt, trash, rock, sediment, and sand that may accumulate in the storm sewer or other drainage conveyance and stormwater opportunities as a result of site developments as well as specific conditions and circumstances.
- 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.
- No chemicals are to be used by the contractor, which have the potential to be released in stormwater unless permission for the use of a specific chemical is granted in writing by the EDCM Administrator. In granting the use of such chemicals, special conditions and monitoring may be required.
- Bulk storage structures for petroleum products and other chemicals shall have adequate protection so as to contain all spills and prevent any spilled material from entering State Waters, including any surface or subsurface storm drainage system or facilities.
- No person shall cause the impediment of stormwater flow in the flow line of the curb and gutter or in the ditchline.
- Individuals shall comply with the "Colorado Water Quality Control Act" (Title 25, Article 8, C.R.S.) and the Clean Water Act (33 USC 1344), in addition to the requirements included in the DCM Volume II and the ECM Appendix I. All appropriate permits must be obtained by the Contractor prior to the construction (NPDES, Floodplain 404, fugitive dust, etc.). In the event of conflicts between these requirements and other Federal, State, or County Agencies, the more restrictive shall apply.
- All construction traffic must enter/exit the site as a part of these plans.
- Prior to actual construction the permittee shall:
  - A water meter shall be available on site during earthwork operations and utilized as required to minimize dust from earthwork equipment and wind.
  - At least ten days prior to the anticipated start of construction, for projects that will disturb 1 acre or more, the owner or operator of construction activity shall submit a permit application for stormwater discharge to the Colorado Department of Public Health and Environment, Water Quality Division. The application contains certification of completion of the earth disturbance operation.
  - A stormwater management plan (SWMP), of which this grading and erosion control plan shall 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, Colorado 80246-1530, Attn: Permits Unit

**Kiowa Engineering Corporation**  
 Celebrating 30 years  
 1604 South 21st Street  
 Colorado Springs, Colorado 80904  
 (719) 530-7342

**LEGEND**

- SF SILT FENCE
- VTC VEHICLE TRACKING CONTROL
- CUT / FILL DEMARCATION
- ECB EROSION CONTROL BLANKET
- SR SURFACE ROUGHENING
- SCL SEDIMENT CONTROL LOG

SEE DETAILS SHEET C-302

**PROJECT SPECIFIC GRADING AND EROSION CONTROL NOTES**

- All earthwork required of this construction shall be completed in accordance with all applicable sections of the Project Specifications and Soil Investigation Report (Geotechnical Report).
- Rubbish including timber, concrete rubble, trees, brush, and asphalt shall not be backfilled adjacent to any of the structures or be in the placement of any unclassified fill. The Contractor shall be responsible for the removal and hauling of such materials to a suitable spoil area. Costs associated with the removal of such materials shall be paid for as documented in the Project Specifications.
- Excess excavation shall become the property of the Contractor and shall be disposed of at the Contractor's expense. The cost of haulage and spoiling of excess excavated materials shall be paid for as documented in the Project Specifications.
- Water shall be used as a dust palliative as required and shall be included in the cost for earthwork item(s). No separate payment will be made for dust control associated with the site construction.
- The road grades shall be cleared of vegetation and the topsoil stockpiled for later use.
- All grading shall be in conformance with the Geotechnical Report for the area.
- Placement of fill for roadway embankments shall be completed in conformance with the Geotechnical Report.
- Grading contours shown on this plan are to final grade.
- Compaction under filled areas, including roadway and detention basin embankments, shall be 95 percent of the maximum Standard Proctor Density (ASTM D698) at two (2) percent of optimum moisture content.
- No rubble or debris shall be placed in the backfill under any of the proposed buildings, streets, curb & gutter, sidewalk and drainage structures or within five (5) feet of a building footprint. Properly graded rubble may be used in some locations as specified and verified by the Geotechnical Engineer.
- Contractor is responsible for reviewing the site prior to bidding to verify site conditions.
- Contractor is responsible for providing erosion control measures as approved by the El Paso County DSD Engineering Division and as may be required by the El Paso County Inspector.
- All slopes equal to or greater than 3:1 shall require anchored soil retention blanket (SRB), Geocor 700 or equal.
- The Developer is responsible for maintaining erosion control measures until a mature stage of vegetation is established.
- All soils used for fill must be approved by a representative of the Geotechnical Engineer.
- All natural ground to receive fill must be properly scarified, watered and compacted prior to placing fill.
- The Contractor is solely responsible for the design, maintenance and operation of any required dewatering system. The Contractor shall perform such independent investigation as he deems necessary to satisfy himself as to the subsurface groundwater conditions and unstable soil conditions to be encountered throughout the construction. Contractor shall coordinate the dewatering system with El Paso County when associated with public facilities.
- No fill shall be placed, spread or rolled while it is frozen, thawing or during unfavorable weather conditions. When the work is interrupted by heavy rain, fill operations shall not be resumed until a representative of the Geotechnical Engineer indicates that the moisture content and density of the previously placed fill are as specified. Fill surfaces may be scarified and recompacted after rainfall, if necessary, to obtain proper moisture density relation.
- Additional erosion control structures and/or grading may be required at the time of construction.
- Sediment removal for erosion control facilities shall be performed continuously for proper function.
- Base mapping was provided by Pinnacle Land Surveying. The date of the last survey update was January 2014.
- Proposed Construction Schedule:  
 Begin Construction: Spring 2018  
 End Construction: Summer 2019  
 Total Site Area = 21.7 Acres  
 23. Area to be disturbed = 5.7 Acres (est.).  
 Existing 100-year runoff coefficient = 0.50  
 Proposed 100-year runoff coefficient = 0.50  
 Existing Hydrologic Soil Groups: D  
 (D--Nelson-Tassel fine sandy loams)  
 24. Site is currently undeveloped and covered with native grasses on moderate to steep slopes (3%-18%).  
 25. Site is located in the Jimmy Camp Creek Drainage Basin.

**EROSION CONTROL INSPECTION AND MAINTENANCE**

- A THOROUGH INSPECTION OF THE EROSION CONTROL PLAN/STORMWATER MANAGEMENT SYSTEM SHALL BE PERFORMED EVERY 14 DAYS AS WELL AS AFTER ANY RAIN OR SNOWMELT EVENT THAT CAUSES SURFACE EROSION.
- ANY ACCUMULATED TRASH OR DEBRIS SHALL BE REMOVED FROM OUTLETS.
- AN INSPECTION AND MAINTENANCE LOG SHALL BE KEPT.



Know what's below.  
Call before you dig.

Add the following as a third paragraph:  
 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

**ENGINEER'S STATEMENT**

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

ANDREW W. McCORD, P.E. 25057 DATE \_\_\_\_\_  
 FOR AND ON BEHALF OF KIOWA ENGINEERING CORPORATION

**OWNER'S STATEMENT**

THE OWNER WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN.

NAME: J. MARK WATSON, PRESIDENT DATE \_\_\_\_\_  
 GLEN DEVELOPMENT COMPANY, 3 WIDEFIELD BOULEVARD, COLORADO SPRINGS, COLORADO 80911

**SEED MIX**

AREAS DISTURBED BY THE EARTHWORK ACTIVITIES AND NOT RECEIVING OTHER TREATMENT SHALL BE PERMANENTLY REVEGETATED WITH THE FOLLOWING SEED MIX.

SPECIES	VARIETY	lbs/acre
SIDEWAYS GRAMA	El Reno	3.0
WESTERN WHEAT GRASS	Barren	2.5
SLENDER WHEAT GRASS	Native	2.0
LITTLE BLUESTEM	Pastura	2.0
SAND DROPSIED	Native	0.5
SWITCH GRASS	Nebraska 28	3.0
WEEPING LOVE GRASS	Morrpha	1.0

SEEDING APPLICATION: DRILL SEED 1/4" TO 1/2" INTO TOPSOIL. IN AREAS BROADCAST AT DOUBLE THE RATE AND RAKE MULCHING APPLICATION: 1-1/2 TONS NATIVE RIMPED INTO THE TOPSOIL.

**OPINION OF COST FOR EROSION CONTROL REQUIREMENTS**

ITEM	QUANTITY	UNITS	PRICE	AMOUNT
VEHICLE TRACKING CONTROL	1	EA	\$1,626	\$1,626.00
SILT FENCE	900	LF	\$4.00	\$3,600.00
SURFACE ROUGHENING	3.1	AC	\$225	\$697.50
EROSION CONTROL BLANKET	311	SY	\$3.00	\$933.00
SEDIMENT CONTROL LOG	110	LF	\$6.00	\$660.00
SEEDING/MULCHING	5.7	AC	\$992	\$5,654.40
<b>TOTAL</b>				<b>\$13,170.90</b>

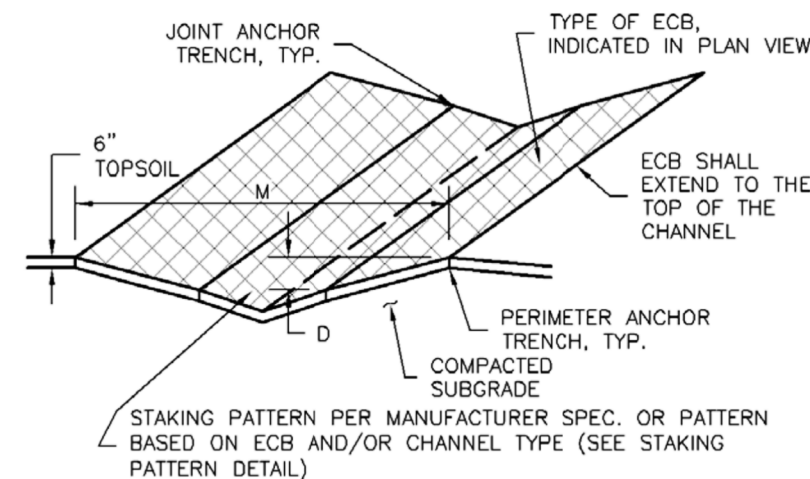
**WIDEFIELD COMMERCIAL CENTER SUBDIVISION FILING NO. 1**  
**OVERLOT GRADING PLAN**  
**SITE GRADING & EROSION CONTROL**  
 EL PASO COUNTY, COLORADO

Project No:	17044
Date:	February 28, 2018
Design:	NRK
Drawn:	CAD
Check:	AWMc
Revisions:	

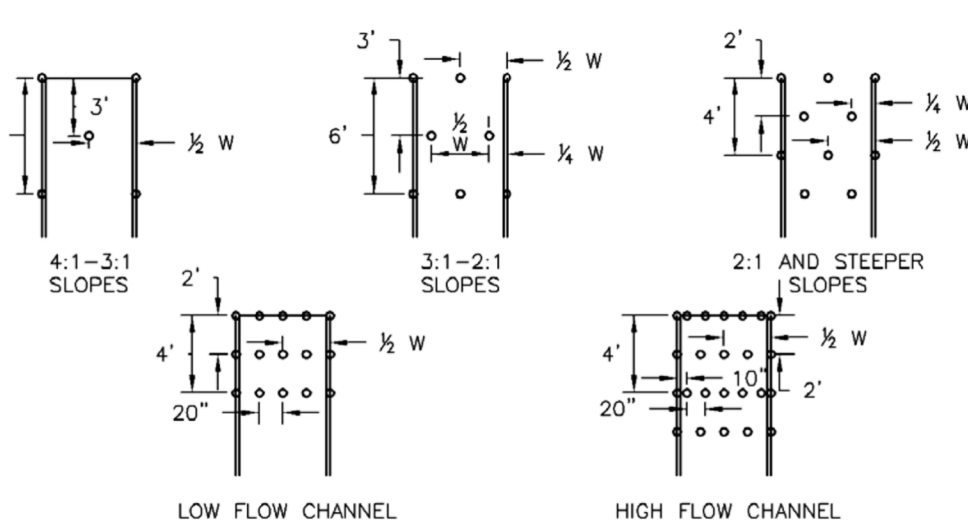
SHEET  
**C-301**

TABLE ECB-1. ECB 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

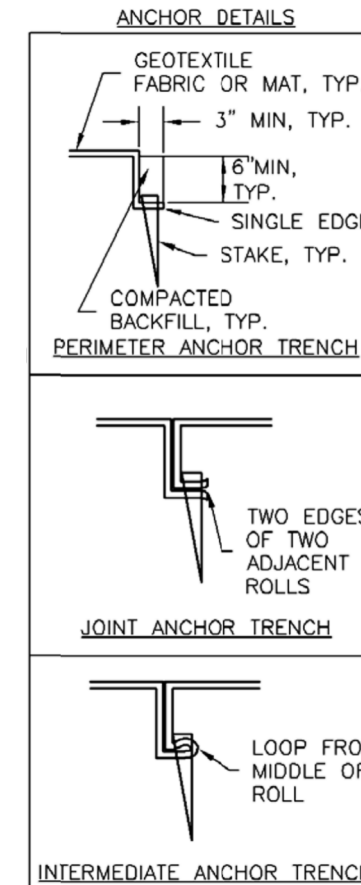
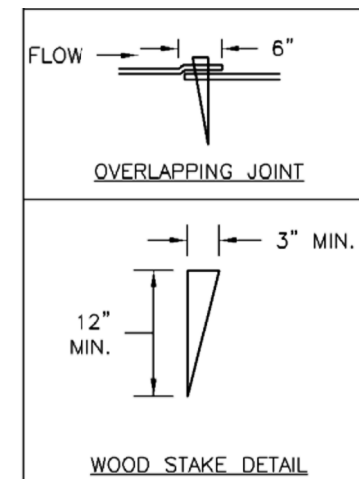
\*STRAW ECBs MAY ONLY BE USED OUTSIDE OF STREAMS AND DRAINAGE CHANNELS.



ECB-2. SMALL DITCH OR DRAINAGEWAY



STAKING PATTERNS BY SLOPE OR CHANNEL TYPE



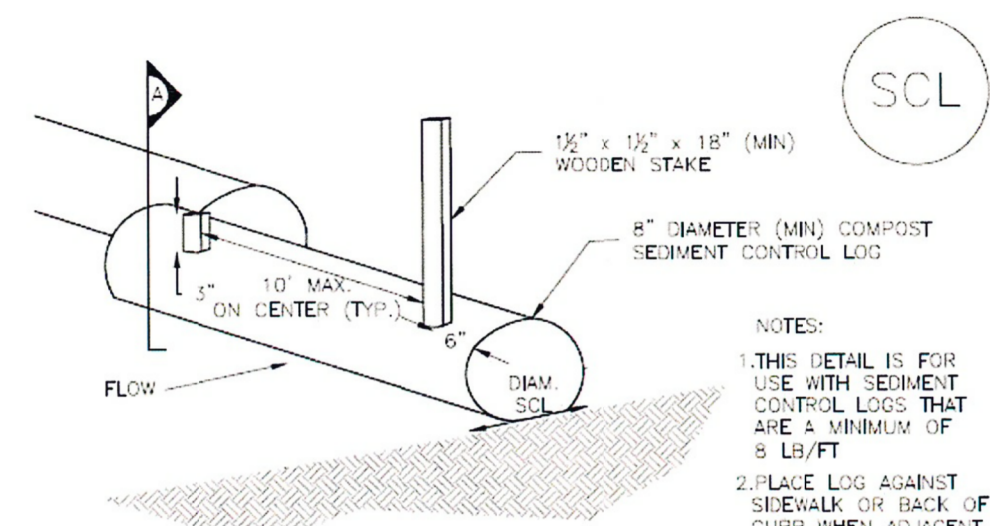
EROSION CONTROL BLANKET INSTALLATION NOTES

- SEE PLAN VIEW FOR:
  - LOCATION OF ECB.
  - TYPE OF ECB (STRAW, STRAW-COCONUT, COCONUT, OR EXCELSIOR).
  - AREA, A, IN SQUARE YARDS OF EACH TYPE OF ECB.
- 100% NATURAL AND BIODEGRADABLE MATERIALS ARE PREFERRED FOR RECPS, ALTHOUGH SOME JURISDICTIONS MAY ALLOW OTHER MATERIALS IN SOME APPLICATIONS.
- IN AREAS WHERE ECBs ARE SHOWN ON THE PLANS, THE PERMITEE SHALL PLACE TOPSOIL AND PERFORM FINAL GRADING, SURFACE PREPARATION, AND SEEDING AND MULCHING. SUBGRADE SHALL BE SMOOTH AND MOIST PRIOR TO ECB INSTALLATION AND THE ECB SHALL BE IN FULL CONTACT WITH 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 ECBs TOGETHER WHICH MAY USE AN OVERLAPPING JOINT.
- INTERMEDIATE ANCHOR TRENCH SHALL BE USED AT SPACING OF ONE-HALF ROLL LENGTH FOR COCONUT AND EXCELSIOR ECBs.
- OVERLAPPING JOINT DETAIL SHALL BE USED TO JOIN ROLLS OF ECBs TOGETHER FOR ECBs ON SLOPES.
- MATERIAL SPECIFICATIONS OF ECBs SHALL CONFORM TO TABLE ECB-1.
- ANY AREAS OF SEEDING AND MULCHING DISTURBED IN THE PROCESS OF INSTALLING ECBs SHALL BE RESEEDED AND MULCHED.

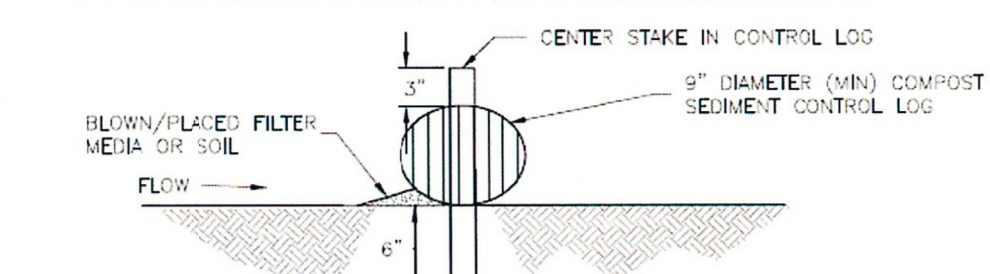
EROSION CONTROL BLANKET MAINTENANCE NOTES

- 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.
- ECBs SHALL BE LEFT IN PLACE TO EVENTUALLY BIODEGRADE, UNLESS REQUESTED TO BE REMOVED BY THE LOCAL JURISDICTION.
- ANY ECB 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 ECB REINSTALLED.

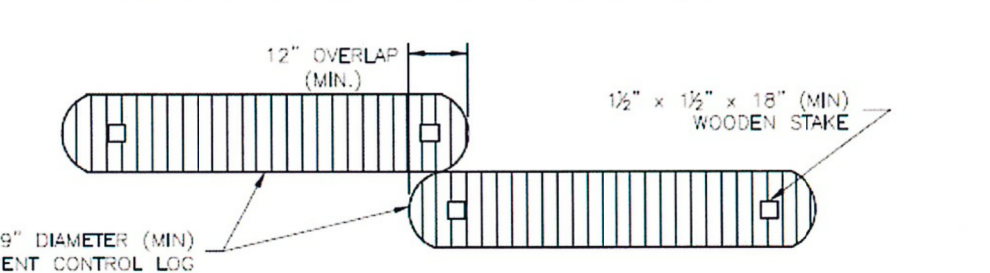
EROSION CONTROL BLANKET (ECB) NTS



COMPOST SEDIMENT CONTROL LOG (WEIGHTED)



SECTION A COMPOST SEDIMENT CONTROL LOG



LOG JOINTS

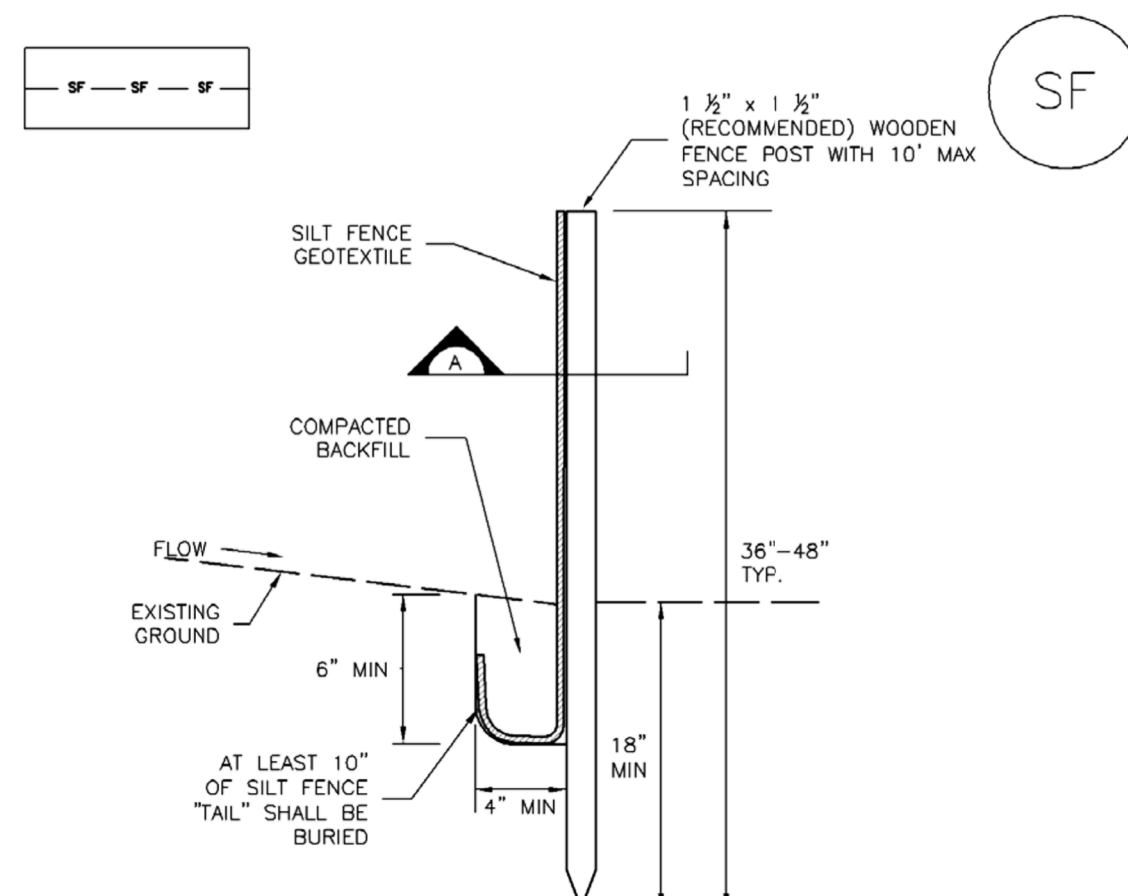
SEDIMENT CONTROL LOG INSTALLATION NOTES

- SEE PLAN VIEW FOR LOCATION AND LENGTH OF SEDIMENT CONTROL LOGS.
- SEDIMENT CONTROL LOGS THAT ACT AS A PERIMETER CONTROL SHALL BE INSTALLED PRIOR TO ANY UPGRADE/REPAIR/MAINTENANCE ACTIVITIES.
- SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELSIOR OR COCONUT FIBER, AND SHALL BE FREE OF ANY NOXIOUS WEED SEEDS OR DEFECTS INCLUDING RIPS, HOLES AND OBVIOUS WEAR.
- SEDIMENT CONTROL LOGS MAY BE USED AS SMALL CHECK DAMS IN DITCHES AND SWALES. HOWEVER, THEY SHOULD NOT BE USED IN PERENNIAL STREAMS.
- IT IS RECOMMENDED THAT SEDIMENT CONTROL LOGS BE TRENCHED INTO THE GROUND TO A DEPTH OF APPROXIMATELY 1/2 OF THE DIAMETER OF THE LOG. IF TRENCHING TO THIS DEPTH IS NOT FEASIBLE AND/OR DESIRABLE (SHORT TERM INSTALLATION WITH DESIRE NOT TO DAMAGE LANDSCAPE) A LESSER TRENCHING DEPTH MAY BE ACCEPTABLE WITH MORE ROBUST STAKING. COMPOST LOGS THAT ARE 8 LB/FT DO NOT NEED TO BE TRENCHED.
- THE UPHILL SIDE OF THE SEDIMENT CONTROL LOG SHALL BE BACKFILLED WITH SOIL OR FILTER MATERIAL THAT IS FREE OF ROCKS AND DEBRIS. THE SOIL SHALL BE TIGHTLY COMPACTED INTO THE SHAPE OF A RIGHT TRIANGLE USING A SHOVEL OR WEIGHTED LAWN ROLLER OR BLOWN IN PLACE.
- FOLLOW MANUFACTURERS' GUIDANCE FOR STAKING. IF MANUFACTURERS' INSTRUCTIONS DO NOT SPECIFY SPACING, STAKES SHALL BE PLACED ON 4' CENTERS AND EMBEDDED A MINIMUM OF 6" INTO THE GROUND. 3" OF THE STAKE SHALL PROTRUDE FROM THE TOP OF THE LOG. STAKES THAT ARE BROKEN PRIOR TO INSTALLATION SHALL BE REPLACED. COMPOST LOGS SHOULD BE STAKED 10' ON CENTER.

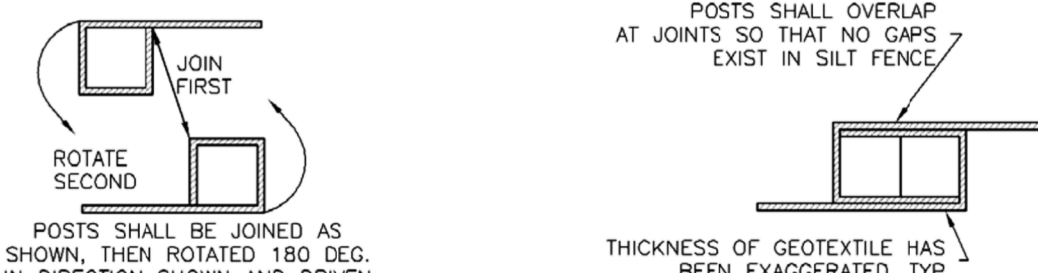
SEDIMENT CONTROL LOG MAINTENANCE NOTES

- 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.
- SEDIMENT ACCUMULATED UPSTREAM OF SEDIMENT CONTROL LOG SHALL BE REMOVED AS NEEDED TO MAINTAIN FUNCTIONALITY OF THE BMP. TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 1/2 OF THE HEIGHT OF THE SEDIMENT CONTROL LOG.
- SEDIMENT CONTROL LOG SHALL BE REMOVED AT THE END OF CONSTRUCTION. COMPOST FROM COMPOST LOGS MAY BE LEFT IN PLACE AS LONG AS BAGS ARE REMOVED AND THE AREA SEEDED. IF DISTURBED AREAS EXIST AFTER REMOVAL, THEY SHALL BE COVERED WITH TOP SOIL, SEEDING AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

COMPOST SEDIMENT CONTROL LOG (SCL) NTS



SILT FENCE



SECTION A

SILT FENCE INSTALLATION NOTES

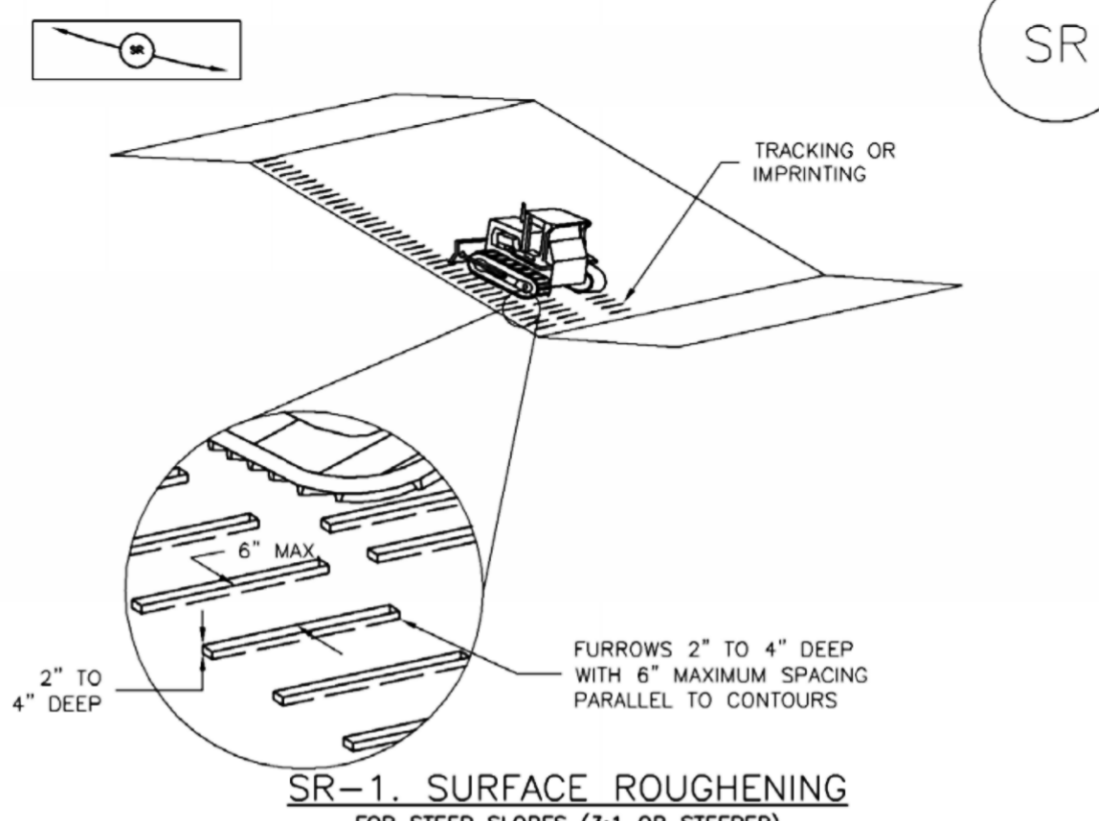
- SILT FENCE MUST BE PLACED AWAY FROM THE TOE OF THE SLOPE TO ALLOW FOR WATER PONDING. SILT FENCE AT THE TOE OF A SLOPE SHOULD BE INSTALLED IN A FLAT LOCATION AT LEAST SEVERAL FEET (2-5 FT) FROM THE TOE OF THE SLOPE TO ALLOW ROOM FOR PONDING AND DEPOSITION.
- A UNIFORM 6" X 4" ANCHOR TRENCH SHALL BE EXCAVATED USING TRENCHER OR SILT FENCE INSTALLATION DEVICE. NO ROAD GRADERS, BACKHOES, OR SIMILAR EQUIPMENT SHALL BE USED.
- COMPACT ANCHOR TRENCH BY HAND WITH A "JUMPING JACK" OR BY WHEEL ROLLING. COMPACTOR SHALL BE SUCH THAT SILT FENCE RESISTS BEING PULLED OUT OF ANCHOR TRENCH BY HAND.
- 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.
- SILT FENCE FABRIC SHALL BE ANCHORED TO THE STAKES USING 1" HEAVY DUTY STAPLES OR NAILS WITH 1" HEADS. STAPLES AND NAILS SHOULD BE PLACED 3" ALONG THE FABRIC DOWN THE STAKE.
- AT THE END OF A RUN OF SILT FENCE ALONG A CONTOUR, THE SILT FENCE SHOULD BE 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').
- SILT FENCE SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

SILT FENCE MAINTENANCE NOTES

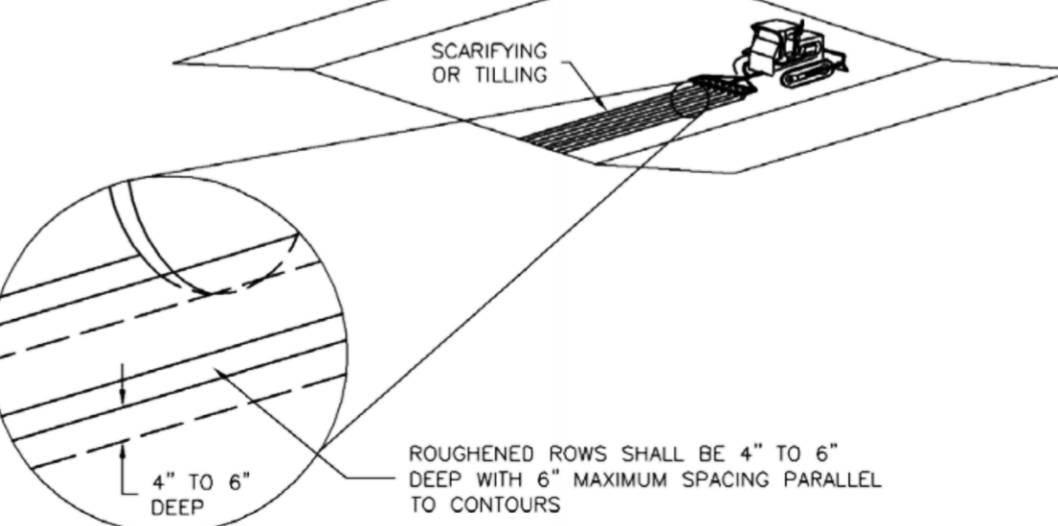
- INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
- FREQUENT OBSERVATIONS 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.
- 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".
- REPAIR OR REPLACE SILT FENCE WHEN THERE ARE SIGNS OF WEAR, SUCH AS SAGGING, TEARING, OR COLLAPSE.
- SILT FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION, OR IS REPLACED BY AN EQUIVALENT PERIMETER SEDIMENT CONTROL BMP.
- WHEN SILT FENCE IS REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDING AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

SILT FENCE (SF) NTS

- NOTES:
- All temporary and permanent stormwater BMP's shall conform to the Urban Drainage and Flood Control District, Urban Storm Drainage Criteria Manual, Volume 3.
  - Other BMP's (not shown) may be required for this project. The use of other BMP's shall be coordinated with the County Inspector.



SR-1. SURFACE ROUGHENING FOR STEEP SLOPES (3:1 OR STEEPER)



SURFACE ROUGHENING INSTALLATION NOTES

- SEE PLAN VIEW FOR:
  - LOCATION(S) OF SURFACE ROUGHENING.
- SURFACE ROUGHENING SHALL BE PROVIDED PROMPTLY AFTER COMPLETION OF FINISHED GRADING (FOR AREAS NOT RECEIVING TOPSOIL) OR PRIOR TO TOPSOIL PLACEMENT OR ANY FORECASTED RAIN EVENT.
- AREAS WHERE BUILDING FOUNDATIONS, PAVEMENT, OR SOD WILL BE PLACED WITHOUT DELAY IN THE CONSTRUCTION SEQUENCE IS NOT REQUIRED.
- DISTURBED SURFACES SHALL BE ROUGHENED USING RIPPING OR TILLING EQUIPMENT ON THE CONTOUR OR TRACKING UP AND DOWN A SLOPE USING EQUIPMENT TREADS.
- A FARMING DISK SHALL NOT BE USED FOR SURFACE ROUGHENING.

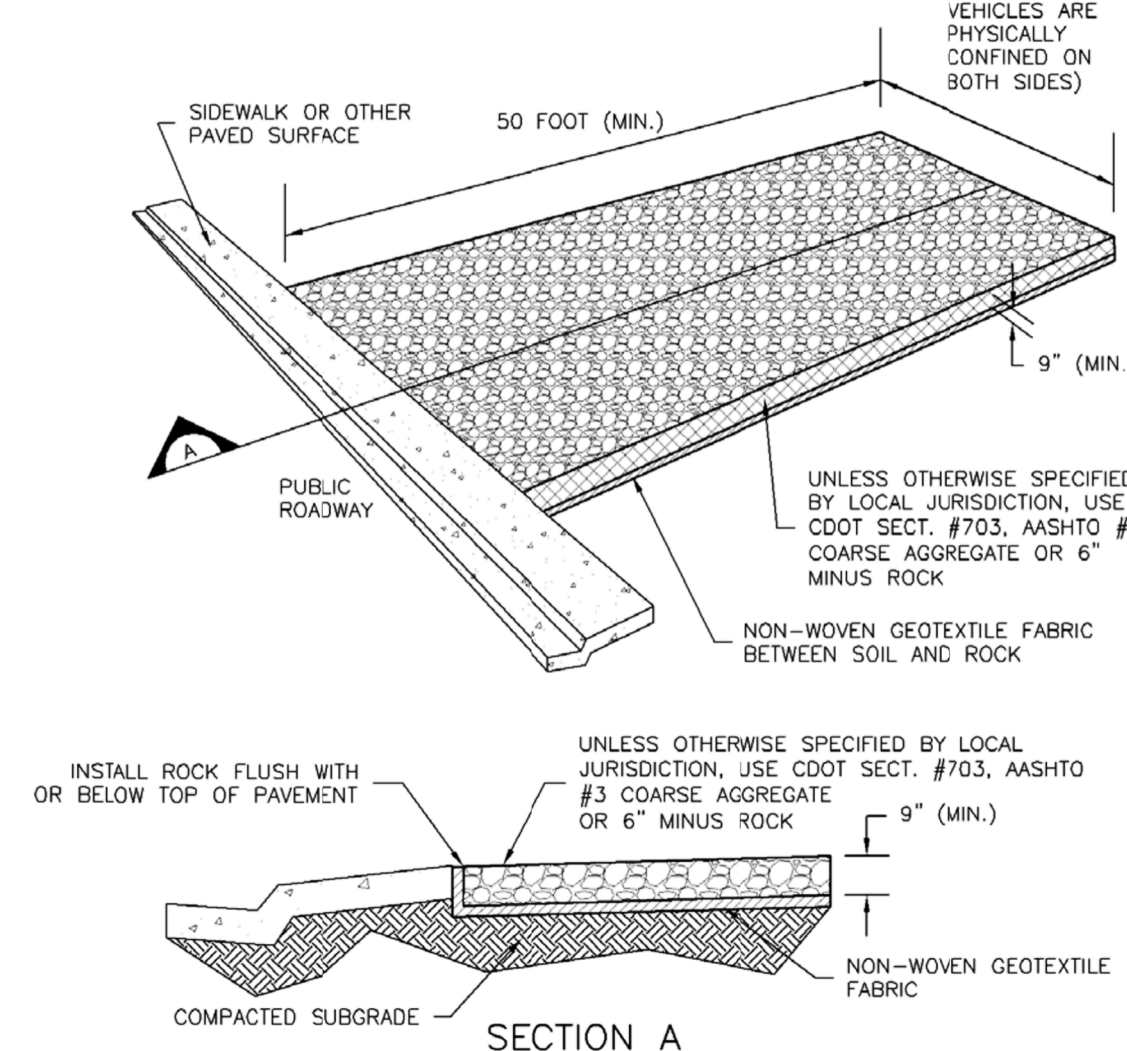
SURFACE ROUGHENING MAINTENANCE NOTES

- 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 REPLACE UPON DISCOVERY OF THE FAILURE.
- VEHICLES AND EQUIPMENT SHALL NOT BE DRIVEN OVER AREAS THAT HAVE BEEN SURFACE ROUGHENED.
- IN NON-TURF GRASS FINISHED AREAS, SEEDING AND MULCHING SHALL TAKE PLACE DIRECTLY OVER SURFACE ROUGHENED AREAS WITHOUT FIRST SMOOTHING OUT THE SURFACE.
- IN AREAS NOT SEEDING AND MULCHED AFTER SURFACE ROUGHENING, SURFACES SHALL BE RE-ROUGHENED AS NECESSARY TO MAINTAIN GROOVE DEPTH AND SMOOTH OVER RILL EROSION.

SURFACE ROUGHENING (VTC) NTS



VTC



SECTION A

STABILIZED CONSTRUCTION ENTRANCE/EXIT INSTALLATION NOTES

- SEE PLAN VIEW FOR:
  - LOCATION OF CONSTRUCTION ENTRANCE(S)/EXIT(S).
  - TYPE OF CONSTRUCTION ENTRANCE(S)/EXIT(S) (WITH/WITHOUT WHEEL WASH, CONSTRUCTION MAT OR TRM).
- CONSTRUCTION MAT OR TRM STABILIZED CONSTRUCTION ENTRANCES ARE ONLY TO BE USED ON SHORT DURATION PROJECTS (TYPICALLY RANGING FROM A WEEK TO A MONTH) WHERE THERE WILL BE LIMITED VEHICULAR ACCESS.
- A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE LOCATED AT ALL ACCESS POINTS WHERE VEHICLES ACCESS THE CONSTRUCTION SITE FROM PAVED RIGHT-OF-WAYS.
- STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
- A NON-WOVEN GEOTEXTILE FABRIC SHALL BE PLACED UNDER THE STABILIZED CONSTRUCTION ENTRANCE/EXIT PRIOR TO THE PLACEMENT OF ROCK.
- UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" MINUS ROCK.

STABILIZED CONSTRUCTION ENTRANCE/EXIT MAINTENANCE NOTES

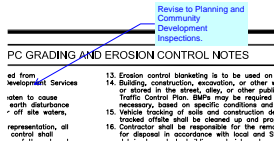
- INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
- FREQUENT OBSERVATIONS 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 TO THE STABILIZED ENTRANCE/EXIT TO MAINTAIN A CONSISTENT DEPTH.
- SEDIMENT TRACKED ON PAVED ROADS IS TO BE REMOVED THROUGHOUT THE DAY AND AT THE END OF THE DAY BY SHOVELING OR SWEEPING. SEDIMENT MAY NOT BE WASHED DOWN STORM SEWER DRAINS.

VEHICLE TRACKING CONTROL (VTC) NTS

Project No:	17044
Date:	February 28, 2018
Design:	NRK
Drawn:	CAD
Check:	AWMc
Revisions:	

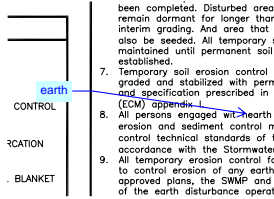
# Markup Summary

dsdlaforce (11)



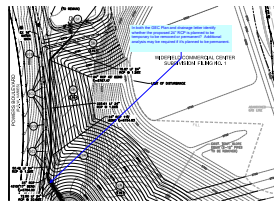
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**Author:** dsdlaforce  
**Date:** 4/12/2018 2:09:27 PM

Revise to Planning and Community Development Inspections.



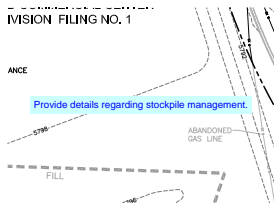
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earth



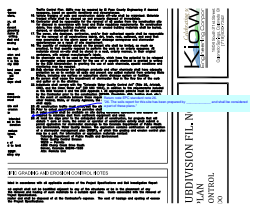
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In both the GEC Plan and drainage letter identify whether the proposed 24" RCP is planned to be temporary to be removed or permanent? Additional analysis may be required if it's planned to be permanent.



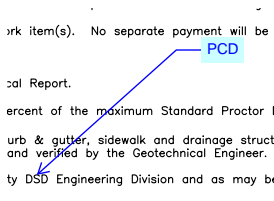
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Provide details regarding stockpile management.



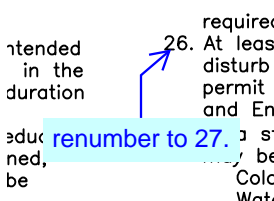
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Return note EPC standard note 26. "26. The soils report for this site has been prepared by \_\_\_\_\_ and shall be considered a part of these plans."



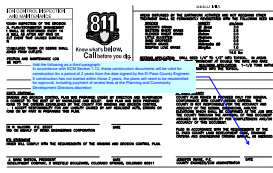
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PCD



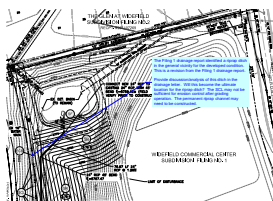
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renumber to 27.



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**Author:** dsdlaforce  
**Date:** 4/16/2018 2:34:06 PM

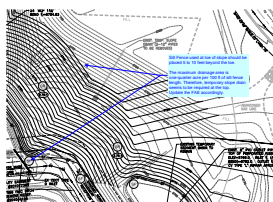
Add the following as a third paragraph:  
In accordance with ECM Section 1.12, these construction documents will be valid for construction for a period of 2 years from the date signed by the El Paso County Engineer. If construction has not started within those 2 years, the plans will need to be resubmitted for approval, including payment of review fees at the Planning and Community Development Directors discretion



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The Filing 1 drainage report identified a riprap ditch in the general vicinity for the developed condition. This is a revision from the Filing 1 drainage report.

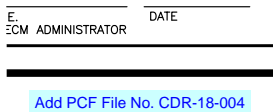
Provide discussion/analysis of this ditch in the drainage letter. Will this become the ultimate location for the riprap ditch? The SCL may not be sufficient for erosion control after grading operation. The permanent riprap channel may need to be constructed.



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Silt Fence used at toe of slope should be placed 5 to 10 feet beyond the toe.

The maximum drainage area is one-quarter acre per 100 ft of silt fence length. Therefore, temporary slope drain seems to be required at the top. Update the FAE accordingly.



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**Date:** 4/12/2018 11:43:49 AM

Add PCF File No. CDR-18-004

Add PCF File No. CDR-18-004