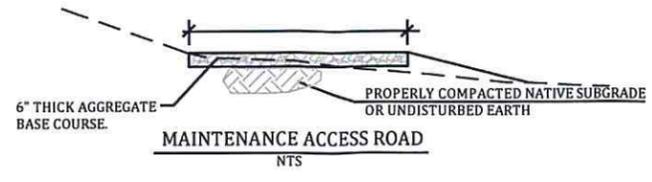
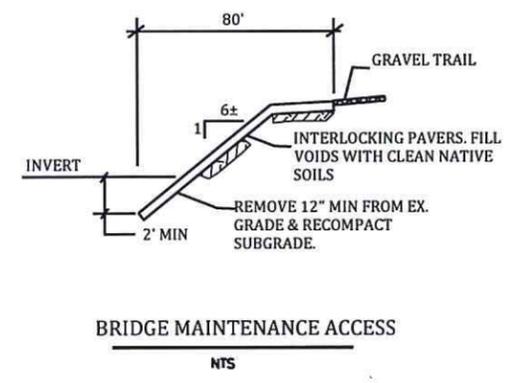
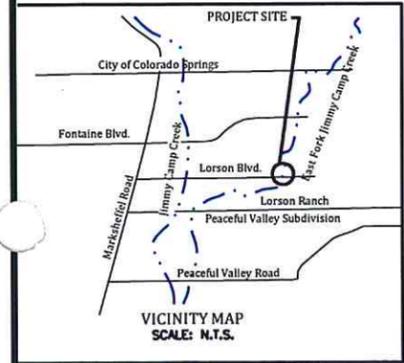
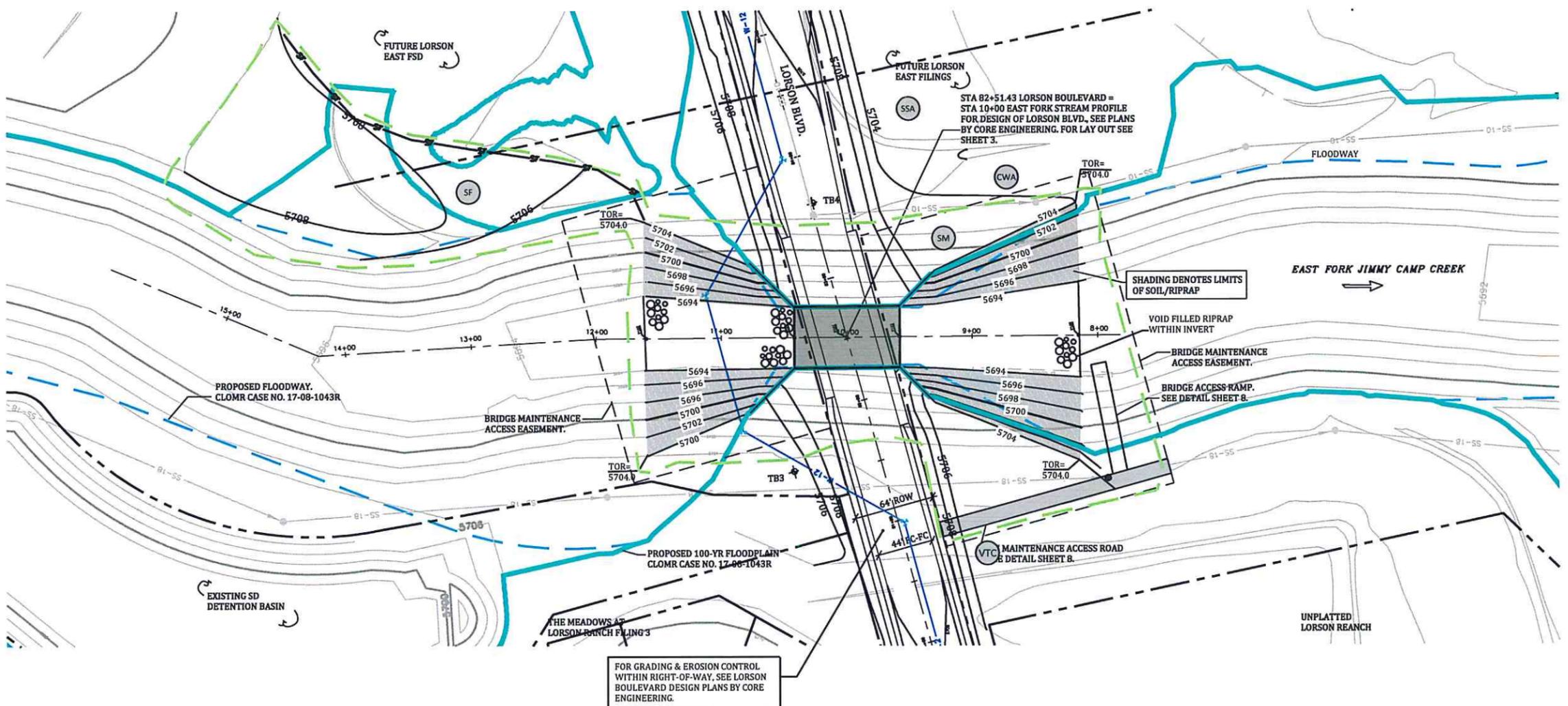
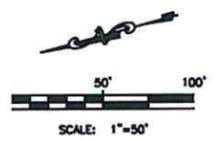


**LORSON RANCH
LORSON BOULEVARD BRIDGE
GRADING PLAN & EROSION CONTROL PLAN**
EL PASO COUNTY, COLORADO



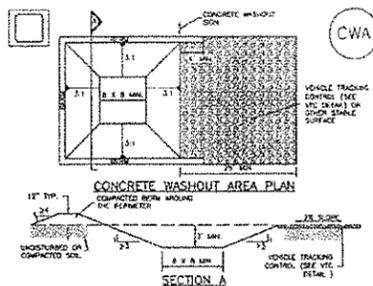
- LEGEND**
- LIMITS OF DISTURBANCE
 - RIGHT-OF-WAY LINE
 - VTC VEHICLE TRACKING CONTROL
 - CWA CONCRETE WASHOUT AREA
 - SSA STABILIZED STAGING AREA
 - SF SILT FENCE
 - SM SEED AND MULCH
 - EXISTING INDEX CONTOUR
 - EXISTING INTERMEDIATE CONTOUR
- TOR=TOP OF ROCK



Project No.:	17001
Date:	2/26/18
Design:	RNW
Drawn:	EAK
Check:	RNW
Revisions:	

**LORSON RANCH
LORSON BOULEVARD BRIDGE
GRADING & EROSION CONTROL PLAN
EL PASO COUNTY, COLORADO**

Concrete Washout Area (CWA) MM-1



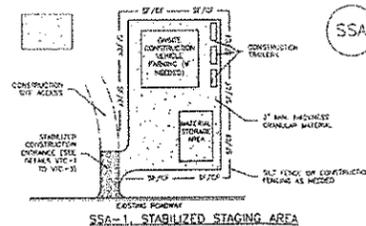
CWA-1. CONCRETE WASHOUT AREA

- CWA MAINTENANCE NOTES**
1. INSPECT BUMP EACH WORKDAY AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BUMP SHOULD BE PROMPTLY AND "AS-IS" WORKED BUMP AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND RETURN TO NEAREST MAINTENANCE.
 2. FREQUENT INSPECTION AND MAINTENANCE ARE NECESSARY TO MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE COORDINATED PROMPTLY.
 3. INSURE BUMP HAVE TILES, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON OCCURRENCE OF THE FAILURE.
 4. THE CWA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE. CONCRETE MATERIALS, RECYCLED OR NOT, SHALL BE REMOVED ONCE THE MATERIALS HAVE REACHED A DEPTH OF 2".
 5. CONCRETE WASHOUT WATER, WASTED PIECES OF CONCRETE AND ALL OTHER DEBRIS TO THE SUBSURFACE WILL BE TRANSPORTED FROM THE JOB SITE BY 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 FINISHED, COVER THE EXPOSED AREA WITH TOP SOIL, SEED AND MULCH OR OTHERWISE STABILIZED BY A METHOD APPROVED BY THE LOCAL JURISDICTION.
- CWA INSTALLATION NOTES**
1. SEE PLAN VIEW FOR CWA INSTALLATION LOCATION.
 2. DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL OR MAN-MADE PATHWAY OF WATERFLOWS, DO NOT LOCATE WITHIN 1000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONDITIONS MAKE THIS UNFEASIBLE, OR IF NEARLY FEASIBLE, SOILS TESTS ON SITE. THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (18 MIL LIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVE USING PRECAST/CAST CONCRETE WASHOUT TRENCHES OR A LINER AND/OR GROUND TRENCH AND SHOULD BE USED.
 3. THE CWA SHALL BE INSTALLED WITHIN 10' OF CONCRETE PLACEMENT ON SITE.
 4. CWA SHALL INCLUDE A FLAP SUBSEQUENT TO THAT IS AT LEAST 8 IN. BY 8 IN. BEING LEADING OUT OF THE SUBSTANTIAL (IT SHALL BE 2" OR FLATTER, THE IT SHALL BE AT LEAST 3" DEEP).
 5. RETAIN SURROUNDING TRENCH AND BACK OF THE CWA SHALL HAVE MINIMUM HEIGHT OF 1'.
 6. VEHICLE TRACKING PAD SHALL BE LOCATED 24" FORWARD OF THE CWA.
 7. SEED SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE OF THE CWA, AND ENLARGING AS NECESSARY TO CLEAR THE LOCATION OF THE CWA TO DIMENSIONS OF CONCRETE TRUCKS AND PUMP TRUCKS.
 8. USE FLEECED MATERIAL FOR PERIMETER BEHIND CONSTRUCTION.

MM-1 Concrete Washout Area (CWA)

- CWA MAINTENANCE NOTES**
1. INSPECT BUMP EACH WORKDAY AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BUMP SHOULD BE PROMPTLY AND "AS-IS" WORKED BUMP AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND RETURN TO NEAREST MAINTENANCE.
 2. FREQUENT INSPECTION AND MAINTENANCE ARE NECESSARY TO MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE COORDINATED PROMPTLY.
 3. INSURE BUMP HAVE TILES, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON OCCURRENCE OF THE FAILURE.
 4. THE CWA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE. CONCRETE MATERIALS, RECYCLED OR NOT, SHALL BE REMOVED ONCE THE MATERIALS HAVE REACHED A DEPTH OF 2".
 5. CONCRETE WASHOUT WATER, WASTED PIECES OF CONCRETE AND ALL OTHER DEBRIS TO THE SUBSURFACE WILL BE TRANSPORTED FROM THE JOB SITE BY 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 FINISHED, COVER THE EXPOSED AREA WITH TOP SOIL, SEED AND MULCH OR OTHERWISE STABILIZED BY A METHOD APPROVED BY THE LOCAL JURISDICTION.
- CWA INSTALLATION NOTES**
1. SEE PLAN VIEW FOR CWA INSTALLATION LOCATION.
 2. DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL OR MAN-MADE PATHWAY OF WATERFLOWS, DO NOT LOCATE WITHIN 1000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONDITIONS MAKE THIS UNFEASIBLE, OR IF NEARLY FEASIBLE, SOILS TESTS ON SITE. THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (18 MIL LIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVE USING PRECAST/CAST CONCRETE WASHOUT TRENCHES OR A LINER AND/OR GROUND TRENCH AND SHOULD BE USED.
 3. THE CWA SHALL BE INSTALLED WITHIN 10' OF CONCRETE PLACEMENT ON SITE.
 4. CWA SHALL INCLUDE A FLAP SUBSEQUENT TO THAT IS AT LEAST 8 IN. BY 8 IN. BEING LEADING OUT OF THE SUBSTANTIAL (IT SHALL BE 2" OR FLATTER, THE IT SHALL BE AT LEAST 3" DEEP).
 5. RETAIN SURROUNDING TRENCH AND BACK OF THE CWA SHALL HAVE MINIMUM HEIGHT OF 1'.
 6. VEHICLE TRACKING PAD SHALL BE LOCATED 24" FORWARD OF THE CWA.
 7. SEED SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE OF THE CWA, AND ENLARGING AS NECESSARY TO CLEAR THE LOCATION OF THE CWA TO DIMENSIONS OF CONCRETE TRUCKS AND PUMP TRUCKS.
 8. USE FLEECED MATERIAL FOR PERIMETER BEHIND CONSTRUCTION.

Stabilized Staging Area (SSA) SM-6



SSA-1. STABILIZED STAGING AREA

- SSA MAINTENANCE NOTES**
1. STABILIZED STAGING AREA SHALL BE ENLARGED IF NECESSARY TO CONTAIN PAVING, STORAGE, AND UNLOADING/LOADING OPERATIONS.
 2. THE STABILIZED STAGING AREA SHALL BE REPAIRED AT THE END OF CONSTRUCTION THE CONCRETE MATERIAL SHALL BE REMOVED OR, IF APPROVED BY THE LOCAL JURISDICTION, USED ON SITE. THE AREA COVERED WITH TILES, SEEDS AND MULCH OR OTHERWISE STABILIZED BY A METHOD APPROVED BY LOCAL JURISDICTION.
- NOTE:** MANY JURISDICTIONS PROHIBIT THE USE OF RECYCLED CONCRETE AS GRANULAR MATERIAL FOR STABILIZED STAGING AREA USE TO INTERLIE WITH RE-ESTABLISHMENT OF VEGETATION IN AREAS WHERE RECYCLED CONCRETE WAS PLACED.
- NOTE:** MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM LISTED STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHICH DIFFERENCES ARE NOTED.
- DETAILS ADAPTED FROM SWALE CLAMP, CALIFORNIA, NOT AVAILABLE IN ALL STATES**
- SSA INSTALLATION NOTES**
1. SEE PLAN VIEW FOR LOCATION OF STAGING AREA. MAINTENANCE OF STAGING AREA IS NECESSARY TO MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF STAGING AREA SHOULD BE PROMPTLY AND "AS-IS" WORKED BUMP AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND RETURN TO NEAREST MAINTENANCE.
 2. FREQUENT INSPECTION AND MAINTENANCE ARE NECESSARY TO MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE COORDINATED PROMPTLY.
 3. INSURE BUMP HAVE TILES, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON OCCURRENCE OF THE FAILURE.
 4. ROCK SHALL BE REMOVED OR REPAIRED AS NECESSARY IF PAVING OCCURS OR UNEXPECTED SURFACE BECOMES EXPOSED.

SM-6 Stabilized Staging Area (SSA)

- SSA MAINTENANCE NOTES**
1. STABILIZED STAGING AREA SHALL BE ENLARGED IF NECESSARY TO CONTAIN PAVING, STORAGE, AND UNLOADING/LOADING OPERATIONS.
 2. THE STABILIZED STAGING AREA SHALL BE REPAIRED AT THE END OF CONSTRUCTION THE CONCRETE MATERIAL SHALL BE REMOVED OR, IF APPROVED BY THE LOCAL JURISDICTION, USED ON SITE. THE AREA COVERED WITH TILES, SEEDS AND MULCH OR OTHERWISE STABILIZED BY A METHOD APPROVED BY LOCAL JURISDICTION.
- NOTE:** MANY JURISDICTIONS PROHIBIT THE USE OF RECYCLED CONCRETE AS GRANULAR MATERIAL FOR STABILIZED STAGING AREA USE TO INTERLIE WITH RE-ESTABLISHMENT OF VEGETATION IN AREAS WHERE RECYCLED CONCRETE WAS PLACED.
- NOTE:** MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM LISTED STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHICH DIFFERENCES ARE NOTED.
- DETAILS ADAPTED FROM SWALE CLAMP, CALIFORNIA, NOT AVAILABLE IN ALL STATES**
- SSA INSTALLATION NOTES**
1. SEE PLAN VIEW FOR LOCATION OF STAGING AREA. MAINTENANCE OF STAGING AREA IS NECESSARY TO MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF STAGING AREA SHOULD BE PROMPTLY AND "AS-IS" WORKED BUMP AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND RETURN TO NEAREST MAINTENANCE.
 2. FREQUENT INSPECTION AND MAINTENANCE ARE NECESSARY TO MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE COORDINATED PROMPTLY.
 3. INSURE BUMP HAVE TILES, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON OCCURRENCE OF THE FAILURE.
 4. ROCK SHALL BE REMOVED OR REPAIRED AS NECESSARY IF PAVING OCCURS OR UNEXPECTED SURFACE BECOMES EXPOSED.

Project No:	17001
Date:	3/29/18
Design:	RNW
Drawn:	EAK
Check:	RNW
Revisions:	

SEEDING AND MULCHING INSTALLATION NOTES

- SEE PLAN VIEW FOR:
 - TYPE OF SEED MIX
 - ALL BRANDS FURNISHED SHALL BE FREE FROM SUCH NOXIOUS SEEDS AS RUSSIAN OR CANADIAN THISTLE, COARSE FESCUE, EUROPEAN BIRDWEED, JOHNSON GRASS, KHAP WEED AND LEAFY SPURGE
- THE SEEDER SHALL FURNISH TO THE CONTRACTOR A SIGNED STATEMENT CERTIFYING THAT THE SEED FURNISHED IS FROM A LOT THAT HAS BEEN TESTED BY A RECOGNIZED LABORATORY. SEED WHICH HAS BECOME WET, MOLDY OR OTHERWISE DAMAGED IN TRANSIT OR IN STORAGE WILL NOT BE ACCEPTABLE. SEED TICKETS SHALL BE PROVIDED TO REGULATING AGENCY UPON REQUEST.
- DRILL SEEDING MIX SHALL CONFORM TO THE TABLE ON THE RIGHT.
- IF THE SEED AVAILABLE ON THE MARKET DOES NOT MEET THE MINIMUM PURITY AND GERMINATION PERCENTAGES SPECIFIED, THE SUBCONTRACTOR MUST COMPENSATE FOR A LESSER PERCENTAGE OF PURITY OR GERMINATION BY FURNISHING SUFFICIENT ADDITIONAL SEED TO EQUAL THE SPECIFIED PRODUCT. THE TAGS FROM THE SEED MIXES MUST BE SUPPLIED TO CONTRACTOR AND FORWARDED TO THE REGULATING AGENCY'S GEOTECHNICAL INSPECTOR. THE FORMULA USED FOR DETERMINING THE QUANTITY OF PURE LIVE SEED (PLS) SHALL BE (POUNDS OF SEED) X (PURITY) X (GERMINATION) = POUNDS OF PURE LIVE SEED (PLS)
- PERMANENT SEED MIX SHALL BE USED UNLESS OTHERWISE APPROVED BY THE REGULATING AGENCY.
- ALL AREAS TO BE SEEDING AND MULCHED SHALL HAVE NATIVE TOPSOIL OR APPROVED SOIL AMENDMENTS SPREAD TO A DEPTH OF AT LEAST 6 INCHES (LOOSE DEPTH). MAUL ROADS AND OTHER COMPACTED AREAS SHALL BE LOOSENED TO A DEPTH OF 6 INCHES PRIOR TO SPREADING TOPSOIL.
- SOIL IS TO BE THOROUGHLY LOOSENED (TILLED) TO A DEPTH OF AT LEAST 6 INCHES PRIOR TO SEEDING. THE TOP 6 INCHES OF THE SEED BED SHALL BE FREE OF ROCKS GREATER THAN 4 INCHES AND SOIL CLOSURE GREATER THAN 2 INCHES. SEEDING OVER ANY COMPACTED AREAS THAT HAVEN'T BEEN THOROUGHLY LOOSENED SHALL BE REJECTED.
- SEEDS TO BE APPLIED USING A MECHANICAL DRILL TO A DEPTH OF 1/4 INCH. ROW SPACING SHALL BE NO MORE THAN 6 INCHES. MATERIAL USED FOR MULCH SHALL CONSIST OF LONG-STEMMED STRAW AT LEAST 50 PERCENT OF THE MULCH, BY WEIGHT, SHALL BE 10 INCHES OR MORE IN LENGTH. MULCH SHALL BE APPLIED AND MECHANICALLY ANCHORED TO A DEPTH OF AT LEAST 2 INCHES. MULCH SHALL BE APPLIED AT A RATE OF 4000 LB. OF STRAW/PER ACRE.
- IF THE PERMITTEE DEMONSTRATES TO THE REGULATING AGENCY THAT IT IS NOT POSSIBLE TO DRILL SEED, SEED IS TO BE UNFORMALLY BROADCAST AT TWO TIMES THE DRILLED RATE, THEN LIGHTLY HARROWED TO PROVIDE A SEED DEPTH OF APPROXIMATELY 1/4 INCH. THEN ROLLED TO COMPACT. THEN MULCHED AS SPECIFIED ABOVE.
- SEEDING AND MULCHING SHALL BE COMPLETED WITHIN 30 DAYS OF INITIAL EXPOSURE OR 7 DAYS AFTER GRADING IS SUBSTANTIALLY COMPLETE IN A GIVEN AREA (AS DEFINED BY THE REGULATING AGENCY). THIS MAY REQUIRE MULTIPLE MOBILIZATIONS FOR SEEDING AND MULCHING.
- MULCH SHALL BE APPLIED WITHIN 24 HOURS OF SEEDING.
- TACKIFIER SHOULD BE UTILIZED TO HELP WITH STRAW DISPLACEMENT.

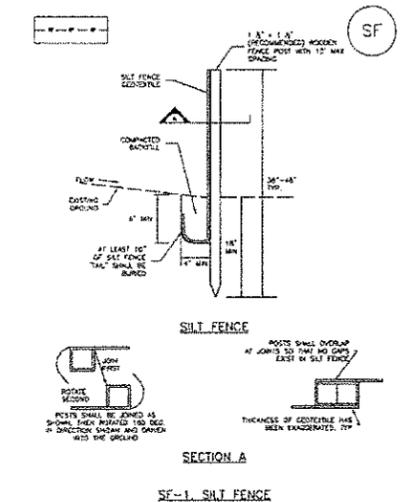
SEEDING AND MULCHING MAINTENANCE NOTES

- SEEDING AND MULCHED AREAS SHALL BE INSPECTED FOR REQUIRED COVERAGE MONTHLY FOR A PERIOD OF TWO YEARS FOLLOWING INITIAL SEEDING. REPAIRS AND RE-SEEDING AND MULCHING SHALL BE UNDERTAKEN AFTER THE FIRST GROWING SEASON FOR ANY AREAS FAILING TO MEET THE REQUIRED COVERAGE.
- REQUIRED COVERAGE FOR STANDARD, OPEN SPACE AND LOW GROWTH SEED MIXES SHALL BE DEFINED AS FOLLOWS:
 - THREE (3) PLANTS PER SQUARE FOOT WITH A MINIMUM HEIGHT OF 3 INCHES. THE 3 PLANTS PER SQUARE FOOT SHALL BE OF THE VARIETY AND SPECIES FOUND IN THE DOUGLAS COUNTY APPROVED MIX
 - NO BARE AREAS LARGER THAN 4 SQUARE FEET (TWO-FEET BY TWO-FEET OR EQUIVALENT)
 - FREE OF INFESTATION OF NOXIOUS WEEDS IN ACCORDANCE WITH SECTION 6.4 OF THE GESC CRITERIA MANUAL
- REQUIRED COVERAGE FOR TURF GRASS AREAS SHALL BE DEFINED AS FOLLOWS:
 - AT LEAST 80% VEGETATIVE COVER OF GRASS SPECIES PLANTED
 - NO BARE AREAS LARGER THAN 4 SQUARE FEET (TWO-FEET BY TWO-FEET OR EQUIVALENT)
 - FREE OF ERODED AREAS
 - FREE FROM INFESTATION OF NOXIOUS WEEDS IN ACCORDANCE WITH SECTION 6.4 OF THE GESC CRITERIA MANUAL
- RESEEDING AND MULCHING SHALL BE COMPLETED WITHIN 30 DAYS OF INITIAL EXPOSURE OR 7 DAYS AFTER GRADING IS SUBSTANTIALLY COMPLETE IN A GIVEN AREA (AS DEFINED BY THE REGULATING AGENCY). THIS MAY REQUIRE MULTIPLE MOBILIZATIONS FOR SEEDING AND MULCHING.

SEEDING AND MULCH NTS

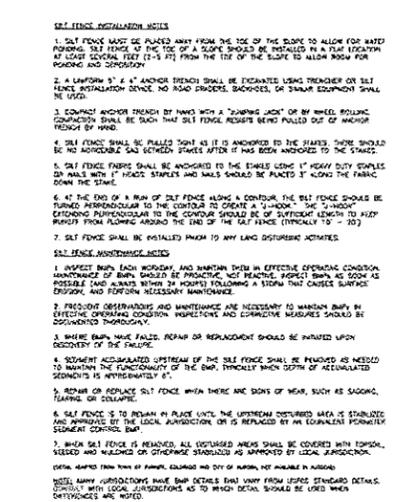


Silt Fence (SF) SC-1



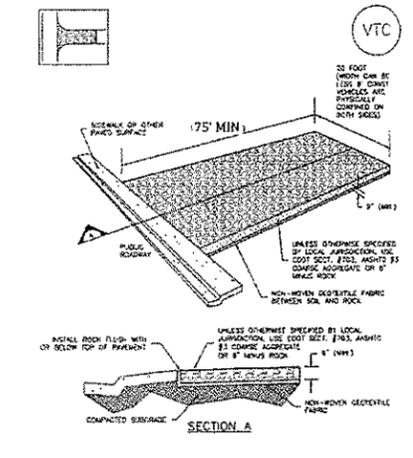
November 2010 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 SF-3

Silt Fence (SF) SC-1



November 2010 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 SF-4

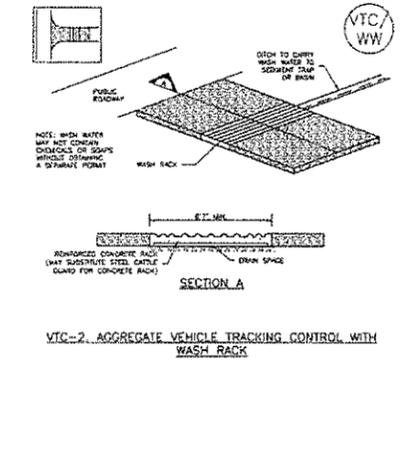
Vehicle Tracking Control (VTC) SM-4



VTC-1. AGGREGATE VEHICLE TRACKING CONTROL

November 2010 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 VTC-1

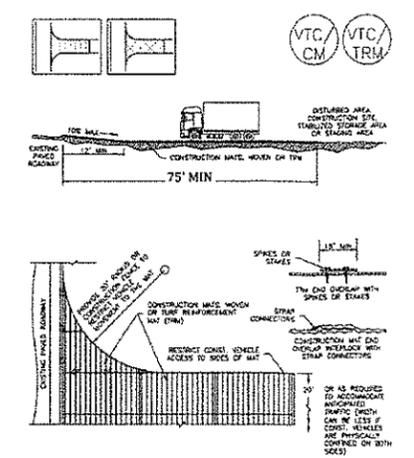
Vehicle Tracking Control (VTC) SM-4



VTC-2. AGGREGATE VEHICLE TRACKING CONTROL WITH WASH RACK

November 2010 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 VTC-2

Vehicle Tracking Control (VTC) SM-4



VTC-3. VEHICLE TRACKING CONTROL W/ CONSTRUCTION MAT OR TURF REINFORCEMENT MAT (TRM)

November 2010 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 VTC-3

PROJECT SPECIFIC GRADING AND EROSION CONTROL NOTES

- All earthwork required for this construction shall be completed in accordance with all applicable sections of the Project Specifications and Soil Investigation Report (Geotechnical Report).
- Rubble 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 undisturbed 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 any of 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 the 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, sidewalks 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 PCD 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 recompact 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 Core Engineering. The date of the last survey update was January 2016.
- Proposed Construction Schedule:
 - Begin Construction: pending
 - End Construction: pending
 - Total Site Area = 5 Acres
 - Existing 100-year runoff coefficient = 0.25
 - Proposed 100-year runoff coefficient = 0.25
 - Existing Hydrologic Soil Groups: B/C (B ASCALON SANDY LOAM) (C MANZANIST CLAY LOAM)
- Area to be disturbed = 2.5 Acres (est.)
- Site is currently undeveloped and covered with native grasses on moderate to steep slopes (3%-6%).
- Site is located in the Jimmy Camp Creek Drainage Basin.

SEED MIX

AREAS DISTURBED BY THE EARTHWORK SHALL BE PERMANENTLY REVEGETATED WITH NATIVE GRASSES. NATIVE SEED MIX FOR THIS PROJECT SHALL BE AS FOLLOWS:

SPECIES	PERCENT	PERCENT
WESTERN WHEAT GRASS	<i>Panicum arizonae</i>	3.0
SIDEWATER GRAMA	<i>Bouteloua curtipendula</i>	2.0
SLENDER WHEAT GRASS	<i>Elymus trachycaulus</i>	2.0
LITTLE BLUESTEM	<i>Schizachyrium scoparium</i>	2.0
BLUE GRAMA	<i>Bouteloua gracilis</i>	0.5
SWITCH GRASS	<i>Panicum virgatum</i>	2.0
JUNE GRASS	<i>Koeleria virginica</i>	0.5
SAND DROPSOED	<i>Sporobolus cryptandrus</i>	0.5
		12.5 lbs

SEEDING APPLICATION: DRILL SEED 1/4" TO 1/2" INTO TOPSOIL IN AREAS INACCESSIBLE TO A DRILL, HAND BROADCAST AT DOUBLE THE RATE AND RATE 1/4" TO 1/2" INTO THE TOPSOIL.

MULCHING APPLICATION: 1-1/2 TONS NATIVE HAY PER ACRE, MECHANICALLY CRIMPED INTO THE TOPSOIL OR HYDROMULCH.

STANDARD EPC GRADING AND EROSION CONTROL NOTES

- Construction may not commence until a Construction Permit is obtained from Planning and Community Development Department (PCD) and a Preconstruction Conference is held with PCD Inspectors.
- 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 Permit (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 PCD Inspectors 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 prescribed in the DCM Volume II and the Engineering Criteria Manual (ECM) appendix I.
- 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 installed to control erosion of any earth disturbance operations shall be installed as defined in the approved plans, the SWMP and the DCM 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 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.
- 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 installed by El Paso County Department of Public Works if deemed necessary, based on specific conditions and circumstances.
- Vehicle tracking of soils and construction debris off-site shall be minimized. Materials tracked off-site 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 contractor 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 appurtenances as a result of site development.
- 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 ECM 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, CRS) 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 laws, rules, or regulations of other Federal, State, or County Agencies, the more restrictive laws, rules, or regulations shall apply.
- All construction traffic must enter/exit the site at approved construction access points.
- Prior to actual construction the permittee shall verify the location of existing utilities.
- A water source shall be available on site during earthwork operations and utilized as required to minimize dust from earthwork equipment and wind.
- The soils report for this site entitled *Geotechnical Report Fortaine Boulevard Bridge over East Tributary Jimmy Camp Creek, Lorton Ranch, El Paso county, Colorado, prepared by RMG engineers, Sept. 2016* and shall be considered a part of these plans.
- 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 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, Colorado 80246-1530
 - Attn: Permits Unit

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LORSON RANCH
LORSON BOULEVARD BRIDGE
EROSION CONTROL DETAILS
EL PASO COUNTY, COLORADO

Project No.: 17001
Date: 3/29/18
Design: RNW
Drawn: EAK
Check: RNW
Revisions:

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