

# GRANDVIEW RESERVE DISTRICT WATER TREATMENT PLANT CONSTRUCTION DOCUMENTS

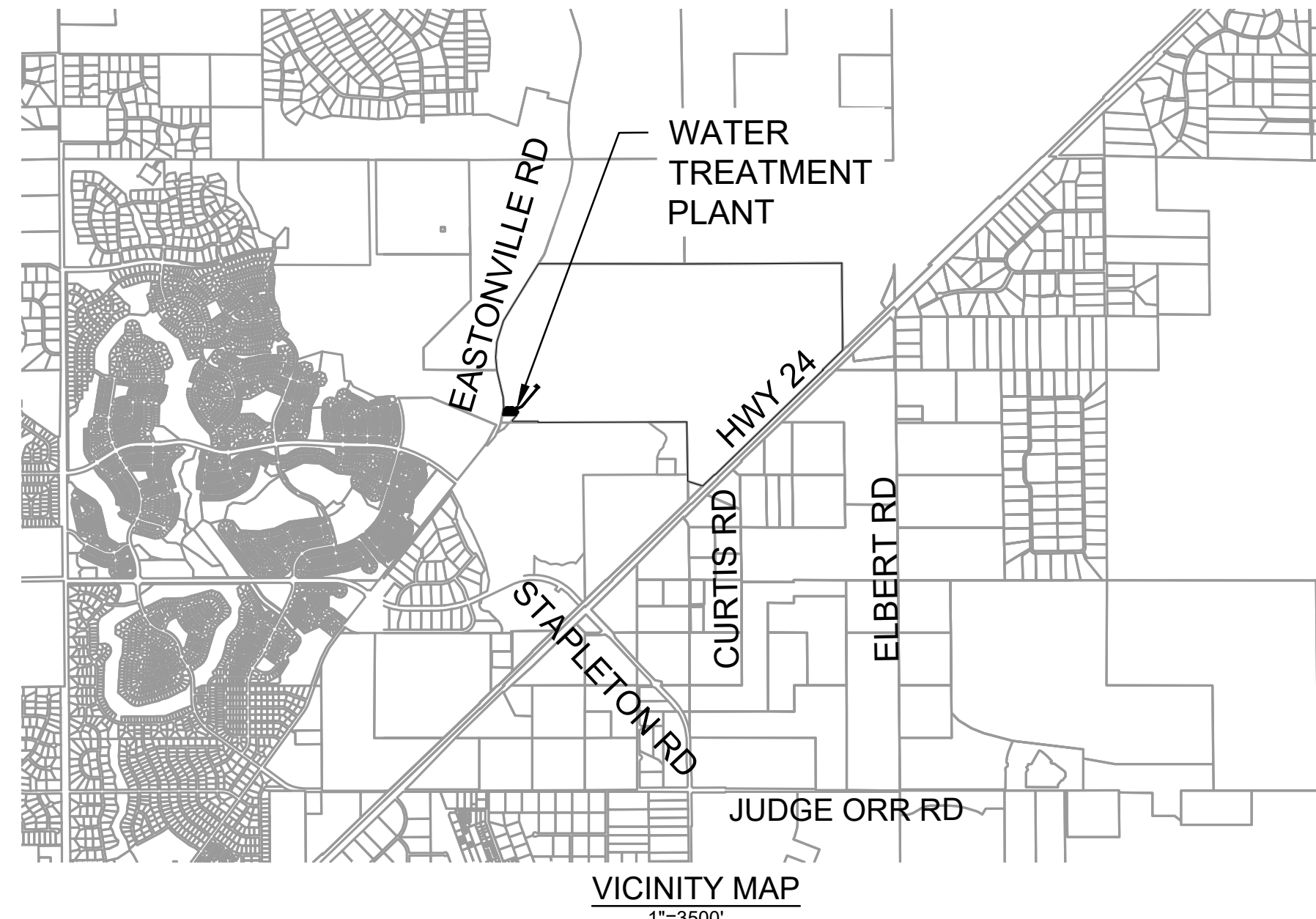
## COUNTY OF EL PASO, STATE OF COLORADO

### GRADING AND EROSION CONTROL PLAN

AUGUST 2024

#### GENERAL CONSTRUCTION NOTES:

1. CONTRACTOR IS REQUIRED TO UTILIZE THE UTILITY ONE CALL SERVICE 811 AT LEAST 48 HOURS PRIOR TO EXCAVATING ANYWHERE ON THE PROJECT.
2. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
3. NO CLAIMS FOR ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR FOR INTERFERENCE OR DELAY CAUSED BY REPAIRS FOR DAMAGED UTILITIES.
4. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POT-HOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.
5. CONTRACTOR SHALL PROTECT ALL EXISTING SURVEY MONUMENTATION. CONTRACTOR SHALL HAVE LICENSED SURVEYOR REPLACE ANY DAMAGED OR DISTURBED MONUMENTATION AT THEIR COST.
6. CONTRACTOR MUST COORDINATE WORK WITH UTILITY COMPANY AND CITY/WHMD/OWNER PRIOR TO BEGINNING WORK AND IS RESPONSIBLE FOR ALL MATERIALS, LABOR, REPAIRS, ECT. TO COMPLETE WORK AND RESTORE AREA TO SAME STATE PRIOR TO STARTING WORK.
7. CONTRACTOR RESPONSIBLE FOR AS-BUILT DRAWINGS, TESTS, REPORTS, AND/OR ANY OTHER CERTIFICATES OR INFORMATION AS REQUIRED FOR ACCEPTANCE OF WORK FROM CITY, UTILITY DISTRICTS OR ANY OTHER GOVERNING AGENCY.
8. SURVEYOR TO OBTAIN AUTOCAD FILE FROM ENGINEER AND VERIFY ALL HORIZONTAL CONTROL DIMENSIONING PRIOR TO CONSTRUCTION STAKING. SURVEYOR MUST VERIFY ALL BENCHMARK, BASIS OF BEARING AND DATUM INFORMATION TO ENSURE IMPROVEMENTS WILL BE AT THE SAME HORIZONTAL AND VERTICAL LOCATIONS SHOWN ON THE DESIGN CONSTRUCTION DRAWINGS. PRIOR TO CONSTRUCTION STAKING ANY DISCREPANCY MUST BE REPORTED TO OWNER AND ENGINEER PRIOR TO CONTINUATION OF ANY FURTHER STAKING OR CONSTRUCTION WORK.
9. STORM SEWERS, CULVERTS, AND DITCHES: CONTRACTOR SHALL MONITOR THE WEATHER AND MAINTAIN STORM WATER FLOW AT ALL TIMES AND SHALL SCHEDULE REMOVALS SUCH THAT WET WEATHER AND RAIN EVENTS WILL NOT CREATE DAMAGING BACKUPS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FLOW DIVERTING AND/OR BYPASS PUMPING AS NECESSARY TO FACILITATE CONSTRUCTION. THE COST FOR MAINTAINING, DIVERTING, OR PUMP STORM FLOWS SHALL BE INCIDENTAL TO THE PROJECT.
10. CONTRACTOR TO MAINTAIN A MAXIMUM CONSTRUCTION EASEMENT WIDTH OF 24 FEET.



VICINITY MAP  
1"=3500'  
VERTICAL DATUM: NAVD88

BASIS OF BEARINGS: THE EAST LINE OF SECTION 21, TOWNSHIP 12 SOUTH, RANGE 64 WEST OF THE 6TH PRINCIPAL MERIDIAN, EL PASO COUNTY, COLORADO, BEING MONUMENTED AT THE SOUTHEAST CORNER BY A 3-1/4" ALUMINUM SURVEYORS CAP STAMPED ACCORDINGLY, PLS 30067, AND BEING MONUMENTED AT THE NORTHEAST CORNER BY A 3-1/4" ALUMINUM SURVEYORS CAP STAMPED ACCORDINGLY, PLS 30087, BEING ASSUMED TO BEAR N00°52'26"W, A DISTANCE OF 5290.17 FEET.

SHEET INDEX	SHEET NO.
CIVIL LEGENDS	C100
SITE GRADING PLAN	C104
INITIAL EROSION CONTROL	C116
INITIAL EROSION CONTROL	C117
FINAL EROSION CONTROL	C118
FINAL EROSION CONTROL	C119
CIVIL DETAILS	C500
CIVIL DETAILS	C501

#### EL PASO COUNTY STANDARD CONSTRUCTION NOTES:

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

#### PROJECT CONTACTS:

**OWNER/DEVELOPER**  
D.R. HORTON  
8555 S. KINGSTON COURT, SUITE 200  
ENGELWOOD, CO 80112  
TELE: (303) 488-0061  
ATTN: RILEY HILLEN, PE AND BRYAN REID, PE  
EMAIL: RHILLEN@DRHORTON.COM AND BAREID1@DRHORTON.COM

**APPLICANT**  
HR GREEN  
5613 DTC PARKWAY | SUITE 950  
GREENWOOD VILLAGE, CO 80111  
TELE: (720) 602-4999  
ATTN: GREGORY PANZA P.E.  
EMAIL: GPANZA@HRGREEN.COM

**CIVIL ENGINEER**  
HR GREEN  
5613 DTC PARKWAY | SUITE 950  
GREENWOOD VILLAGE, CO 80111  
TELE: (720) 602-4999  
ATTN: GREGORY PANZA P.E.  
EMAIL: GPANZA@HRGREEN.COM

**GEOTECHNICAL ENGINEER**  
COMPANY: CTL | THOMPSON  
ADDRESS: 5170 MARK DABLING BLVD  
COLORADO SPRINGS, CO 80918  
TELE: (719) 528-8300  
ATTN: JEFF JONES  
EMAIL: COLORADOSPRINGS@CTLTHOMPSON.COM

**TRAFFIC ENGINEER**  
LSC TRANSPORTATION CONSULTANTS INC.  
2504 EAST PIKES PEAK AVENUE, SUITE 304  
COLORADO SPRINGS, CO 80909  
TELE: &719) 633-2868  
ATTN: JEFFREY C. HEDSON, P.E.  
EMAIL: LSC@LSCSTRANS.COM

**SURVEYOR**  
EDWARD-JAMES SURVEYING, INC.  
926 ELKTON DRIVE  
COLORADO SPRINGS, CO 80907  
TELE: (719) 576-1216  
ATTN: JONATHAN W. TESSIN  
EMAIL: JTessin@EJSURVEYING.COM

#### UTILITY CONTACTS

**WATER**  
GRANDVIEW RESERVE METROPOLITAN DISTRICT  
1272 KELLY JOHNSON BLVD, SUITE 100  
COLORADO SPRINGS, CO 80921  
TELE: (719) 499-8416  
ATTN: PAUL HOWARD  
EMAIL: PAULFINITY1@MSN.COM

**WASTEWATER / WATER**  
WOODMEN HILLS METRO DISTRICT  
8046 EASTONVILLE ROAD  
FALCON, CO 80831  
TELE: (719) 495-2500  
CONTACT: CODY RITTER  
EMAIL: CODY@WHMD.ORG

**ELECTRIC / FIBER**  
MOUNTAIN VIEW ELECTRIC ASSOCIATION  
11140 E. WOODMEN RD.  
FALCON, CO 80831  
TELE: (800) 388-9881  
ATTN: GINA PERRY  
EMAIL: GINA.P@MVEA.COOP

**NATURAL GAS**  
BLACK HILLS ENERGY  
198 COUNTY LINE RD.  
PALMER LAKE, CO 80133  
TELE: (719) 332-5856  
ATTN: BOB SWATEK  
EMAIL: BOB.SWATEK@BLACKHILLSCORP.COM

**FIRE**  
FALCON FIRE PROTECTION DISTRICT  
7030 OLD MERIDIAN RD.  
FALCON, CO 80831  
TELE: (719) 495-4050  
ATTN: TRENT HARWIG  
EMAIL: THARWIG@FALCONFIREPD.ORG

**COMMUNICATIONS**  
CENTURY LINK  
ZAYO  
USWEST

#### APPROVALS:

**ENGINEER'S STATEMENT (FOR STANDALONE GEC PLAN):**  
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 \_\_\_\_\_

**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'S SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

**EL PASO COUNTY (STANDALONE GEC PLAN):**  
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.  
I, 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 \_\_\_\_\_

PCD# - \_\_\_\_\_

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CAD DATE: 8/12/2024 IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY.  
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HRGreen

**GRANDVIEW RESERVE**  
D.R. HORTON, CO  
EL PASO COUNTY, COLORADO

EROSION AND GRADING CONTROL PLANS  
COVER SHEET

SHEET NO.  
**TS1 01**

**LEGEND**

	EXISTING	PROPOSED
MATCH LINE	---	---
PHASE LINE	---	---
SECTION LINE	---	---
PROPERTY LINE	---	---
EASEMENT LINE	---	---
RIGHT OF WAY	---	---
CENTERLINE	---	---
CHAIN LINK FENCE	---	---
WOODEN FENCE	---	---
ROD IRON FENCE	---	---
GUARDRAIL	---	---
CABLE TV	---	---
U.G. ELECTRIC	---	---
OVERHEAD ELECTRIC	---	---
FIBER OPTIC	---	---
GAS MAIN	---	---
SANITARY SEWER	---	---
STORM DRAIN	---	---
TELEPHONE	---	---
WATER MAIN	---	---
SWALE	---	---
TRAIL	---	---
CURB & GUTTER	---	---
DRAINAGE BASIN	---	---
INDEX CONTOUR	---	---
INTER. CONTOUR	---	---
100-YR FLOODPLAIN	---	---
FLOODWAY	---	---
EDGE OF WETLANDS	---	---
<b>DRAINAGE</b>		
DRAINAGE BASIN	---	---
BASIN TAG		I.D. AREA
DESIGN POINT		▲

	EXISTING	PROPOSED
<b>STORM SEWER</b>		
MANHOLE	⊕	⊕
STORM INLET	⊕	⊕
FLARED END SECTION	⊕	⊕
RIPRAP	⊕	⊕
<b>SANITARY SEWER</b>		
CLEAN OUT	⊕	⊕
MANHOLE	⊕	⊕
PLUG	⊕	⊕
<b>WATER</b>		
FIRE HYDRANT	⊕	⊕
FIRE DEPT. CONNECTION	⊕	⊕
GATE VALVE	⊕	⊕
MANHOLE	⊕	⊕
METER	⊕	⊕
TEE	⊕	⊕
REDUCER	⊕	⊕
<b>DRY UTILITIES</b>		
ELECTRIC METER	⊕	⊕
ELECTRIC PEDESTAL	⊕	⊕
ELECTRICAL CABINET	⊕	⊕
ELECTRIC VAULT	⊕	⊕
FIBER OPTIC PULL BOX	⊕	⊕
FIBER OPTIC MANHOLE	⊕	⊕
FIBER OPTIC PEDESTAL	⊕	⊕
FIBER OPTIC SIGN	⊕	⊕
FIBER OPTIC VAULT	⊕	⊕
GAS METER	⊕	⊕
GAS SIGN	⊕	⊕
GAS VAULT	⊕	⊕
TELEPHONE CABINET	⊕	⊕
TELEPHONE MANHOLE	⊕	⊕
TELEPHONE SIGNAL/MAST	⊕	⊕
TELEPHONE SIGN	⊕	⊕
TELEPHONE PEDESTAL	⊕	⊕
TRANSFORMER	⊕	⊕
LIGHT POLE	⊕	⊕
FIBER OPTIC VAULT	⊕	⊕
<b>MISCELLANEOUS</b>		
SIGN	⊕	⊕
BOLLARD	⊕	⊕
ACCESSIBLE PARKING	⊕	⊕

**BMP LEGEND:**

⊕	CWA	CONCRETE WASHOUT AREA
---	CF	CONSTRUCTION FENCE
---	DD	DIVERSION DITCH
⊕	IP	INLET PROTECTION
⊕	OP	OUTLET PROTECTION
---	SF	SILT FENCE
---	VTC	VEHICLE TRACKING CONTROL
---	SSA	STABILIZED STAGING AREA
---	LOC	LIMITS OF CONSTRUCTION /DISTURBANCE
---	CD	CHECK DAM
---	SM	SEEDING AND MULCHING
⊕	SB	SEDIMENT BASIN
---	SR	SURFACE ROUGHENING
---	ECB	EROSION CONTROL BLANKET
⊕	CIP	CULVERT INLET PROTECTION
---	RS	ROCK SOCK
---	SBB	STRAW BALE BARRIER

Xrefs: xref-1-dh01; Legend: Erosion\_Control\_Key

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**HRGreen**  
 HR GREEN - COLORADO SPRINGS  
 1975 RESEARCH PARKWAY | SUITE 230  
 COLORADO SPRINGS CO 80920  
 PHONE: 719.300.4140  
 FAX: 713.965.0044

EL PASO COUNTY, COLORADO  
 GRANDVIEW RESERVE DISTRICT  
 WTP WELL WATER COLLECTION  
 D.R. HORTON  
 COLORADO

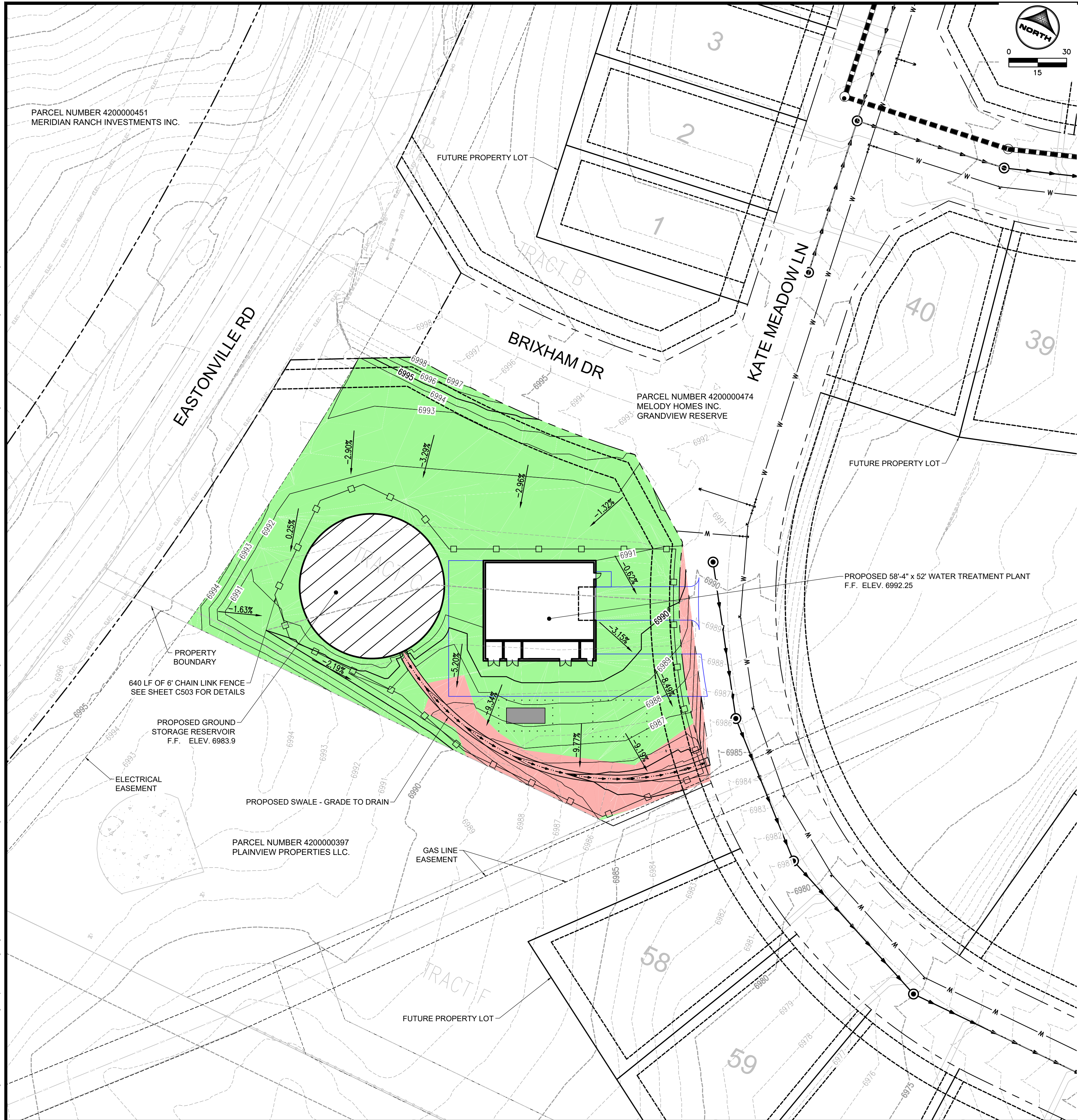
**D-R-HORTON**  
*America's Builder*

CIVIL
CIVIL LEGENDS

SHEET
C100



Xrefs: xgl-1-d101: xc--design; DWP KEY, Grading\_Key, xc--design--grad; xc--util-F1--662.10; xc--row-F1--662.10; xc--dsgn-F1--662.10; xc--row-F1--662.10; xv--util--662; xv--row--662; xc--row--662.08\_Eastonville\_Seg\_1; xc--design--util



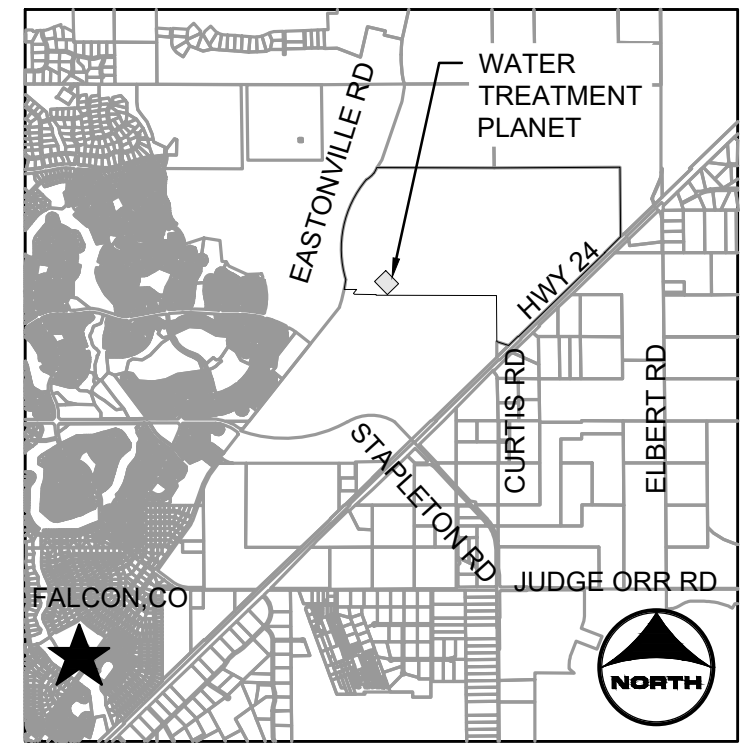
**GENERAL NOTES:**

(GENERAL NOTES CONTAIN EXCERPTS FROM THE GEOTECHNICAL REPORT THAT ARE IN NO WAY MEANT TO RELIEVE CONTRACTOR FROM INFORMATION CONTAINED IN THE GEOTECHNICAL REPORT.)

- REFER TO SHEET S.000 FOR ADDITIONAL GEOTECHNICAL REQUIREMENTS.
- CONTRACTOR SHALL COMPLY WITH SPECIFICATION SECTION 31 5000 FOR SUPPORTS AND PROTECTION.
- CONTRACTOR SHALL COMPLY WITH TECHNICAL SPECIFICATIONS AND WOODMENHILLS METROPOLITAN DISTRICT WATER AND WASTEWATER STANDARD SPECIFICATIONS FOR DEWATERING, GRADING, EXCAVATION, FILL AND BACKFILL, AND TRENCHING. SEE GEOTECHNICAL INVESTIGATION REPORT FOR EARTHWORK RECOMMENDATIONS. INSTALL EARTHWORK ACCORDING TO WOODMENHILLS METROPOLITAN DISTRICT WATER AND WASTEWATER STANDARD SPECIFICATIONS AND RECOMMENDATIONS FROM THE GEOTECHNICAL INVESTIGATION REPORT.
- WATER LEVELS WERE OBSERVED WITHIN THE DEPTHS OF PLANNED EXCAVATION FOR THE PROPOSED STRUCTURES. DEWATERING WILL BE REQUIRED WHERE SEEPAGE IS ENCOUNTERED. GROUNDWATER LEVELS SHOULD BE MAINTAINED AT LEAST TWO FEET BELOW BOTTOM OF EXCAVATION UNTIL FOUNDATION SLABS ARE COMPLETED. THE CONTRACTOR IS RESPONSIBLE FOR EMPLOYING APPROPRIATE DEWATERING METHODS TO CONTROL SEEPAGE INTO THE EXCAVATION. SEE GEOTECHNICAL REPORT AND SPECIFICATION SECTION 31 2319 FOR MORE INFORMATION ON DEWATERING.
- IN AREAS TO ACCEPT FILL, THE TOP 12 INCHES OF THE GROUND SURFACE SHALL BE SCARIFIED AND COMPACTED TO ELIMINATE A PLANE OF WEAKNESS ALONG THE CONTACT SURFACE. EACH LIFT PLACED ABOVE THE FOUNDATION LEVEL SHOULD BE COMPACTED TO AT LEAST 95 PERCENT OF THE SOIL'S STANDARD PROCTOR DENSITY (ASTM D698). THE MOISTURE CONTENT OF THE COHESIVE SOILS SHOULD BE MAINTAINED WITHIN A RANGE OF 0 PERCENT BELOW TO 4 PERCENT ABOVE THE MATERIALS STANDARD PROCTOR OPTIMUM MOISTURE CONTENT.
- GENERAL FILL MATERIAL TO COMPLY WITH WOODMENHILLS METROPOLITAN DISTRICT WATER AND WASTEWATER STANDARD SPECIFICATIONS AND SHALL BE FREE OF FOREIGN SUBSTANCE, DEBRIS, LARGE STONES, ROCKS, ROOTS, ORGANIC OR FROZEN MATERIAL, EXPANSIVE MATERIAL AND OTHER DELETERIOUS MATERIALS. UNSUITABLE SOILS SHALL BE DISPOSED OF BY THE CONTRACTORS.
- FILL SHALL NOT BE FROZEN AND SHALL NOT BE PLACED ON A FROZEN SURFACE. ALL COHESIVE SOILS USED AS FILL AT THIS SITE SHALL HAVE A MAXIMUM LIQUID LIMIT OF 45 AND A MAXIMUM PLASTICITY INDEX OF 20.
- ENSURE THAT PREVIOUSLY COMPACTED LIFTS ARE SCARIFIED 2 INCHES DEEP PRIOR TO COMPACTING THE NEXT LIFT.
- REMOVE, STOCKPILE, AND REPLACE NATIVE MATERIAL 8 INCHES (TOP SOIL) BELOW EXISTING SURFACE FOR ALL AREAS DISTURBED (NOT SURFACED WITH GRAVEL, RIPRAP, OR OTHER DESIGNATED MATERIALS) WITHIN THE LIMITS OF CONSTRUCTION. NO ADDITIONAL PAYMENT WILL BE MADE FOR TOPSOIL OR MATERIAL THAT THE CONTRACTOR NEEDS TO IMPORT FROM OFFSITE. SEE SHEET X.XXX FOR ADDITIONAL STOCKPILING NOTES.
- SITE GRADING SHALL PROVIDE FOR POSITIVE DRAINAGE AWAY FROM ALL STRUCTURES AND FOUNDATIONS UNLESS NOTED OTHERWISE.
- FENCING SHALL COMPLY WITH SPECIFICATION SECTION 32 3119. SEE TYPICAL DETAILS.

**SITE DATA:**

- PARCEL: 4200000474
  - PROPERTY ADDRESS: PLAT #SF2311 TRACT C
  - EXISTING ZONING: PUD, RR-2.5
  - PARCEL SIZE: 176.7 ACRES
  - LEGAL DESCRIPTION: A TRACT OF LAND BEING IN THE SOUTHWEST QUARTER OF SECTION 21, AND A PORTION OF THE NORTHWEST QUARTER OF SECTION 28, TOWNSHIP 12 SOUTH, RANGE 64 WEST OF THE 6TH PRINCIPAL MERIDIAN, COUNTY OF EL PASO, COLORADO
  - EXISTING LAND USE IS UNDEVELOPED/NATURAL CONDITIONS
  - WATER TREATMENT PLANT LOT AREA: 1.04 ACRES
  - BUILDING: 3033 SF (7451 SF WITH TANK)
  - PARKING WILL BE FOR MAINTENANCE ONLY
- OPEN SPACE/LANDSCAPING - 73.1%  
IMPERMEABLE SURFACE - 26.1%



**KEYMAP**

**PROJECT LEGEND:**

	PROPERTY LINE
	RIGHT-OF-WAY LINE
	SECTION LINE
	EDGE OF PAVEMENT
	EXISTING FENCE
	PROPOSED SANITARY MANHOLE
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	PROPOSED MAJOR CONTOUR
	PROPOSED ELECT. EQUIPMENT
	PROPOSED DRIVEWAY
	LIMITS OF CONSTRUCTION
	CUT AREA
	FILL AREA

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 APPROVED: JAS      JOB NUMBER: \_\_\_\_\_  
 CAD DATE: 8/9/2024 10:33:59 AM  
 CAD FILE: J:\2020\201662.06\CAD\Dwgs\C\104-SITE GRADING PLAN.dwg

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

NO.	DATE	BY	REVISION DESCRIPTION

**HRGreen**  
 HR GREEN - COLORADO SPRINGS  
 1975 RESEARCH PARKWAY | SUITE 230  
 COLORADO SPRINGS CO 80920  
 PHONE: 719.300.4140  
 FAX: 713.965.0044

EL PASO COUNTY, COLORADO  
 GRANDVIEW RESERVE DISTRICT  
 WTP WELL WATER COLLECTION  
 D.R. HORTON  
 COLORADO

**D-R-HORTON**  
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CIVIL  
**SITE GRADING PLAN**

SHEET  
**C104**











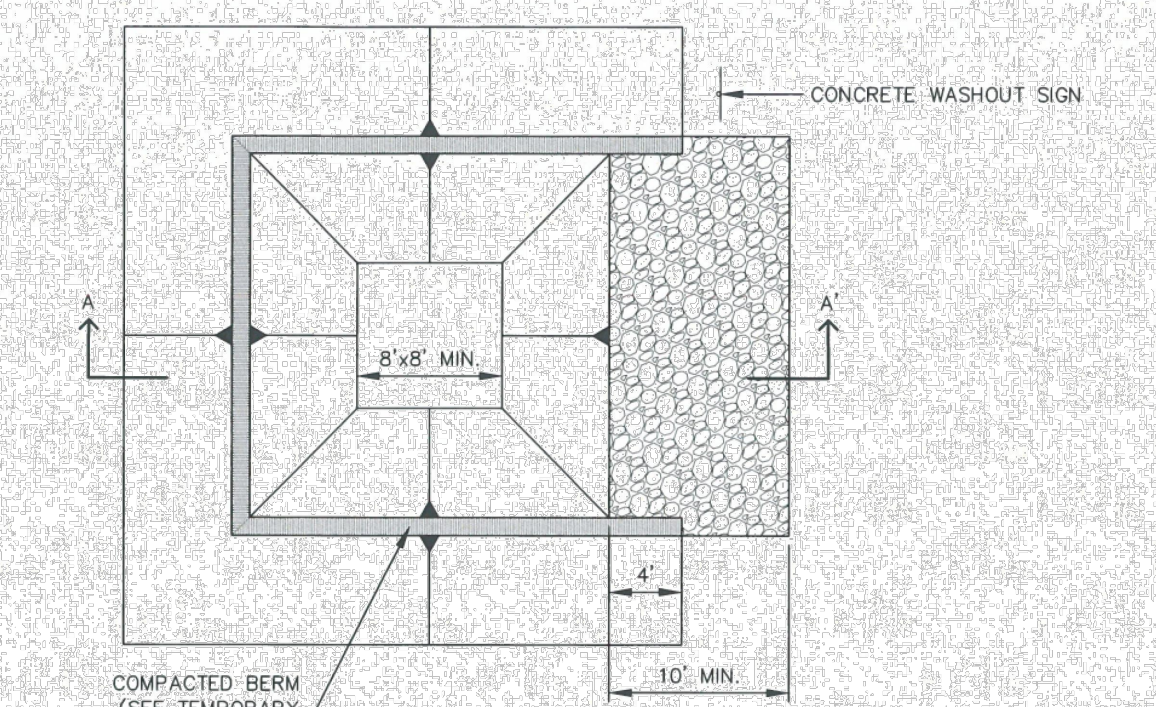




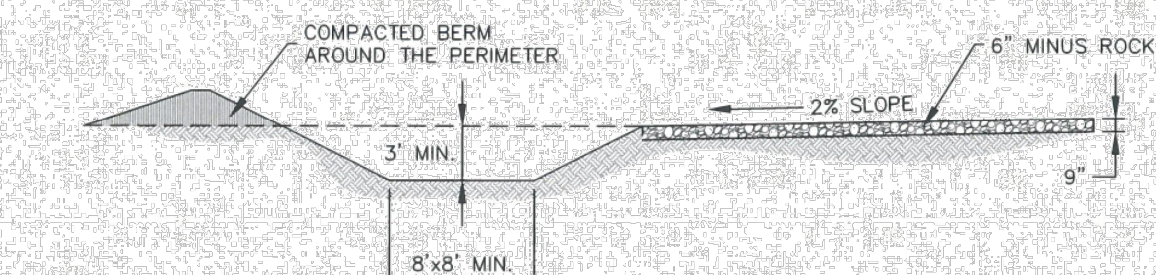








CONCRETE WASHOUT AREA PLAN



SECTION A-A

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

INSTALLATION NOTES

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

MAINTENANCE NOTES

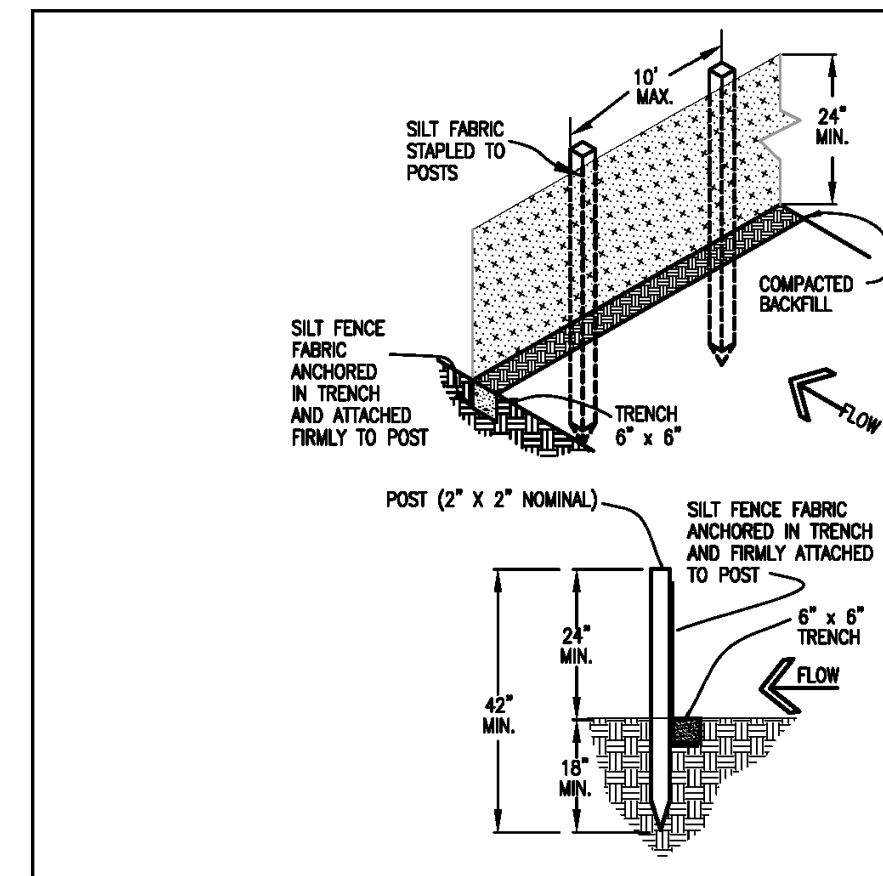
1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. THE CONCRETE WASH AREA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE. CONCRETE MATERIALS ACCUMULATED IN THE PIT SHALL BE REMOVED ONCE THE MATERIALS HAVE REACHED A DEPTH OF 3/4 THE HEIGHT OF THE CONCRETE WASH AREA.
3. CONCRETE WASHOUT WATER, WASTED PIECES OF CONCRETE, AND ALL OTHER DEBRIS IN THE SUBSURFACE PIT SHALL BE TRANSPORTED FROM THE JOB SITE IN A WATER-TIGHT CONTAINER AND DISPOSED OF PROPERLY.
4. THE CONCRETE WASH AREA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.
5. PERMANENTLY STABILIZE AREA AFTER CONCRETE WASH AREA IS REMOVED.



CONCRETE WASHOUT AREA	
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CONCRETE WASHOUT AREA	
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DRAWING NO. 900-CWA-2	



SILT FENCE

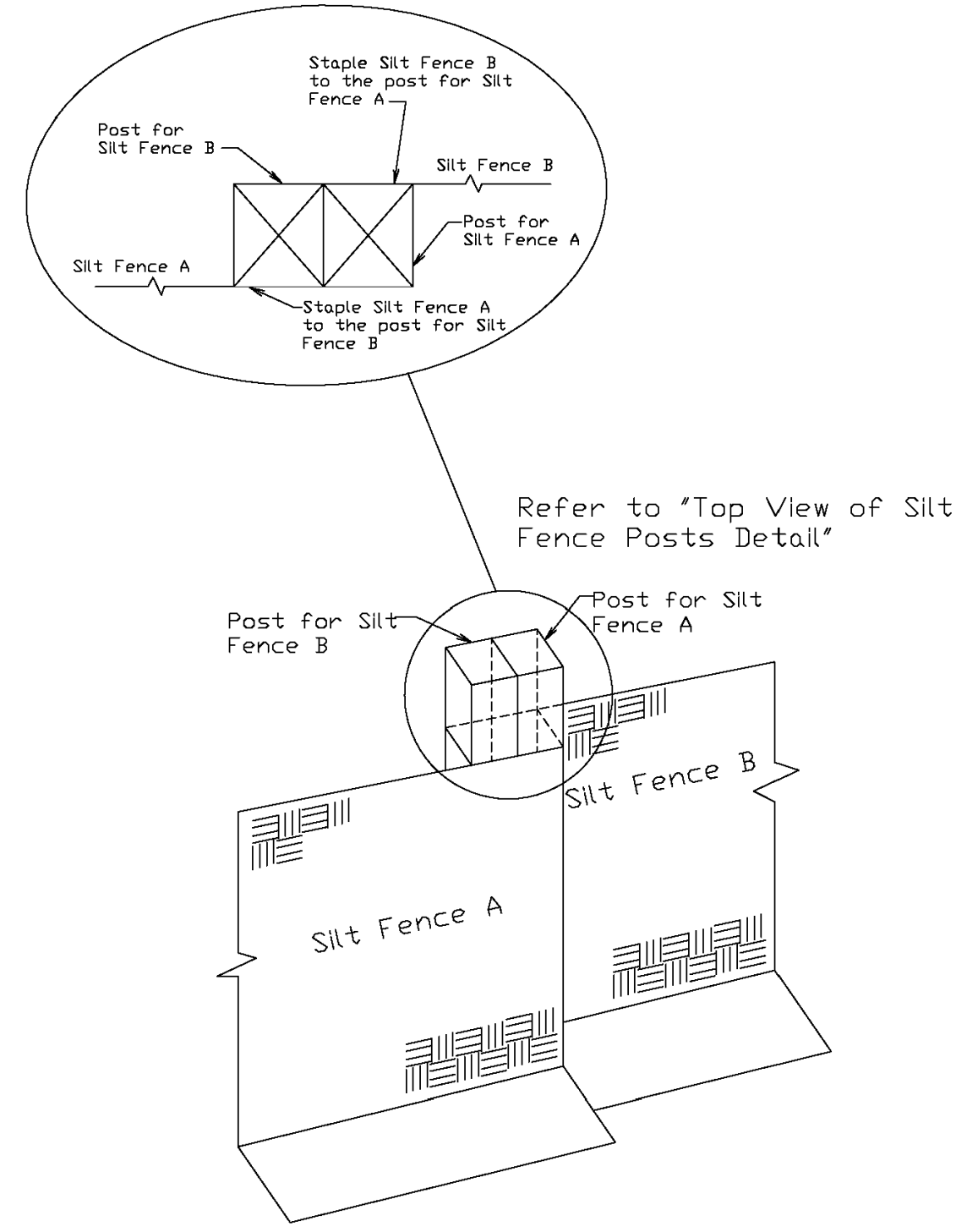
SILT FENCE NOTES

- INSTALLATION REQUIREMENTS**
1. SILT FENCES SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
  2. WHEN JOINTS ARE NECESSARY, SILT FENCE GEOTEXTILE SHALL BE SPICED TOGETHER ONLY AT SUPPORT POST AND SECURELY SEALED.
  3. METAL POSTS SHALL BE "STUDDO" TEE" OR "I" TYPE WITH MINIMUM WEIGHT OF 1.33 POUNDS PER LINEAR FOOT. WOOD POSTS SHALL HAVE A MINIMUM DIAMETER OR CROSS SECTION DIMENSION OF 2 INCHES.
  4. THE FILTER MATERIAL SHALL BE FASTENED SECURELY TO METAL OR WOOD POSTS USING WIRE TIES, OR TO WOOD POSTS WITH 3/4" LONG #8 HEAVY-DUTY STAPLES. THE SILT FENCE GEOTEXTILE SHALL NOT BE STAPLED TO EXISTING TREES.
  5. WHILE NOT REQUIRED, WIRE MESH FENCE MAY BE USED TO SUPPORT THE GEOTEXTILE. WIRE FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY-DUTY WIRE STAPLES AT LEAST 3/4" LONG, TIE WIRES OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 6" AND SHALL NOT EXTEND MORE THAN 3" ABOVE THE ORIGINAL GROUND SURFACE.
- MAINTENANCE REQUIREMENTS**
1. CONTRACTOR SHALL INSPECT SILT FENCES IMMEDIATELY AFTER EACH RAINFALL, AT LEAST DAILY DURING PROLONGED RAINFALL, AND WEEKLY DURING PERIODS OF NO RAINFALL. DAMAGED, COLLAPSED, UNENTRENCHED OR INEFFECTIVE SILT FENCES SHALL BE PROMPTLY REPAIRED OR REPLACED.
  2. SEDIMENT SHALL BE REMOVED FROM BEHIND SILT FENCE WHEN IT ACCUMULATES TO HALF THE EXPOSED GEOTEXTILE HEIGHT.
  3. SILT FENCES SHALL BE REMOVED WHEN ADEQUATE VEGETATIVE COVER IS ATTAINED AS APPROVED BY THE CITY.

City of Colorado Springs  
Stormwater Quality

Figure SF-2  
Silt Fence  
Construction Detail and Maintenance Requirements

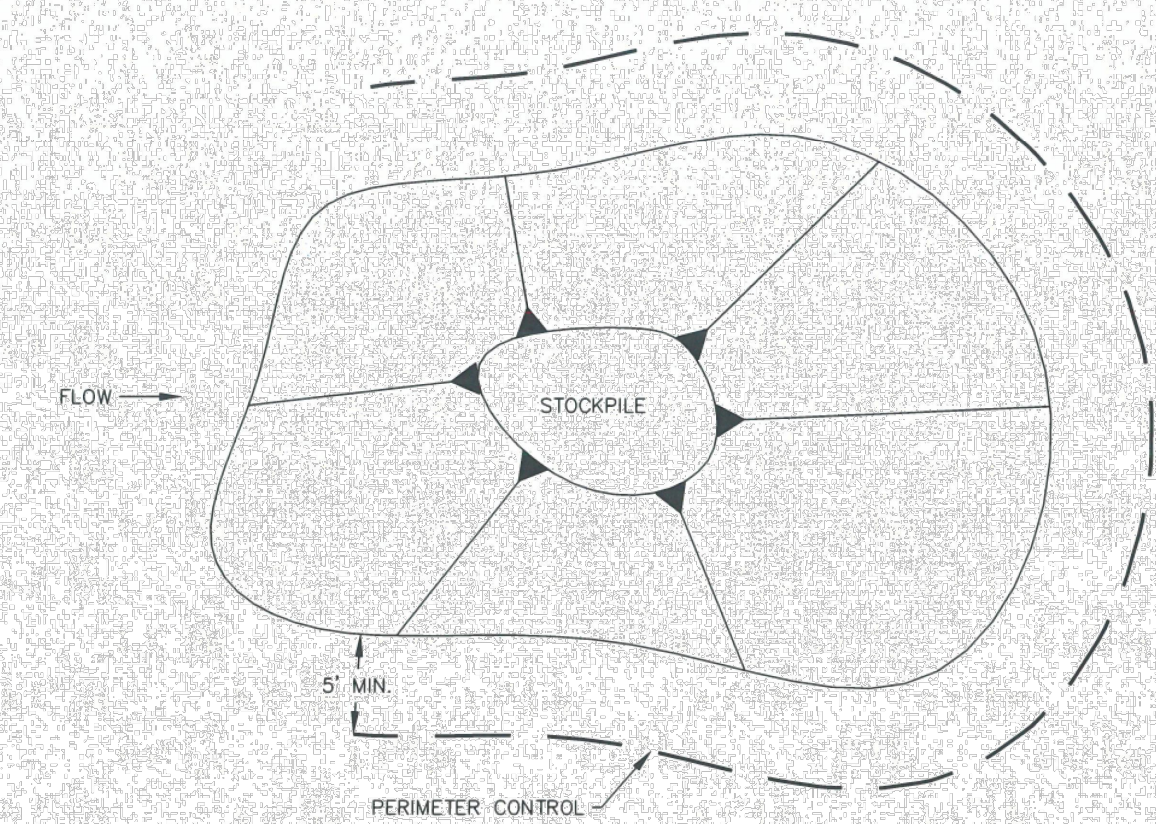
Top View of Silt Fence Posts Detail



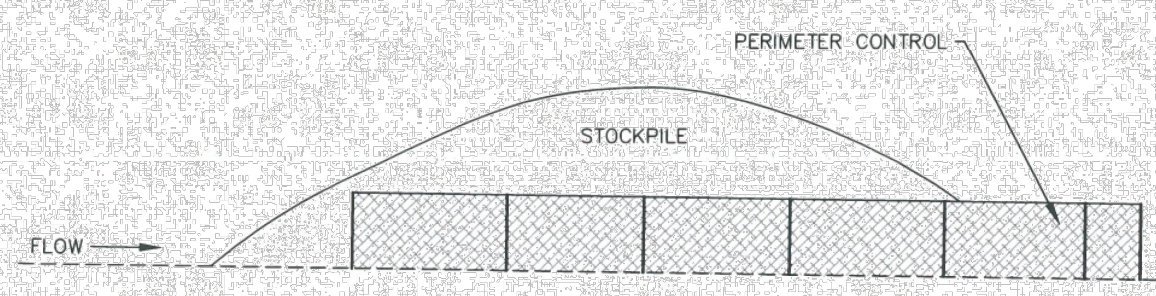
Refer to "Top View of Silt Fence Posts Detail"

City of Colorado Springs  
Stormwater Quality

Figure SF-3  
Silt Fence Joint Tying  
Construction Detail and Maintenance Requirements



STOCKPILE PROTECTION PLAN



STOCKPILE PROTECTION ELEVATION

INSTALLATION NOTES

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

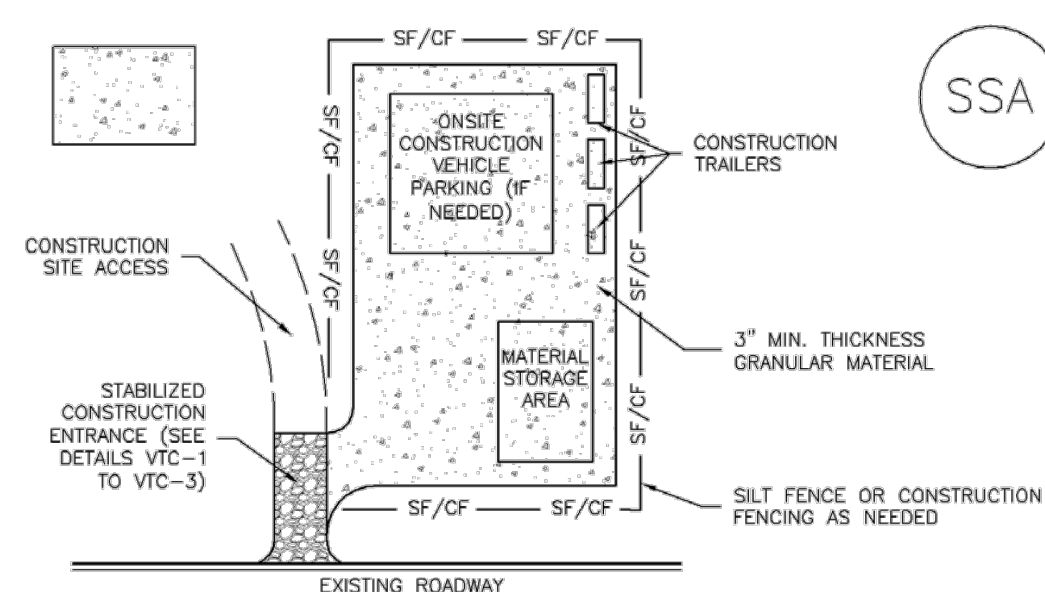
MAINTENANCE NOTES

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



STOCKPILE PROTECTION	
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Stabilized Staging Area (SSA) SM-6



SSA-1. STABILIZED STAGING AREA

STABILIZED STAGING AREA INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
  - LOCATION OF STAGING AREA(S).
  - 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, MSHTD #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.

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SM-6 Stabilized Staging Area (SSA)

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, SEEDS 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 LDFCD 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)

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

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EL PASO COUNTY, COLORADO  
GRANDVIEW RESERVE DISTRICT  
WTP WELL WATER COLLECTION  
D.R. HORTON  
COLORADO



CIVIL  
CIVIL DETAILS

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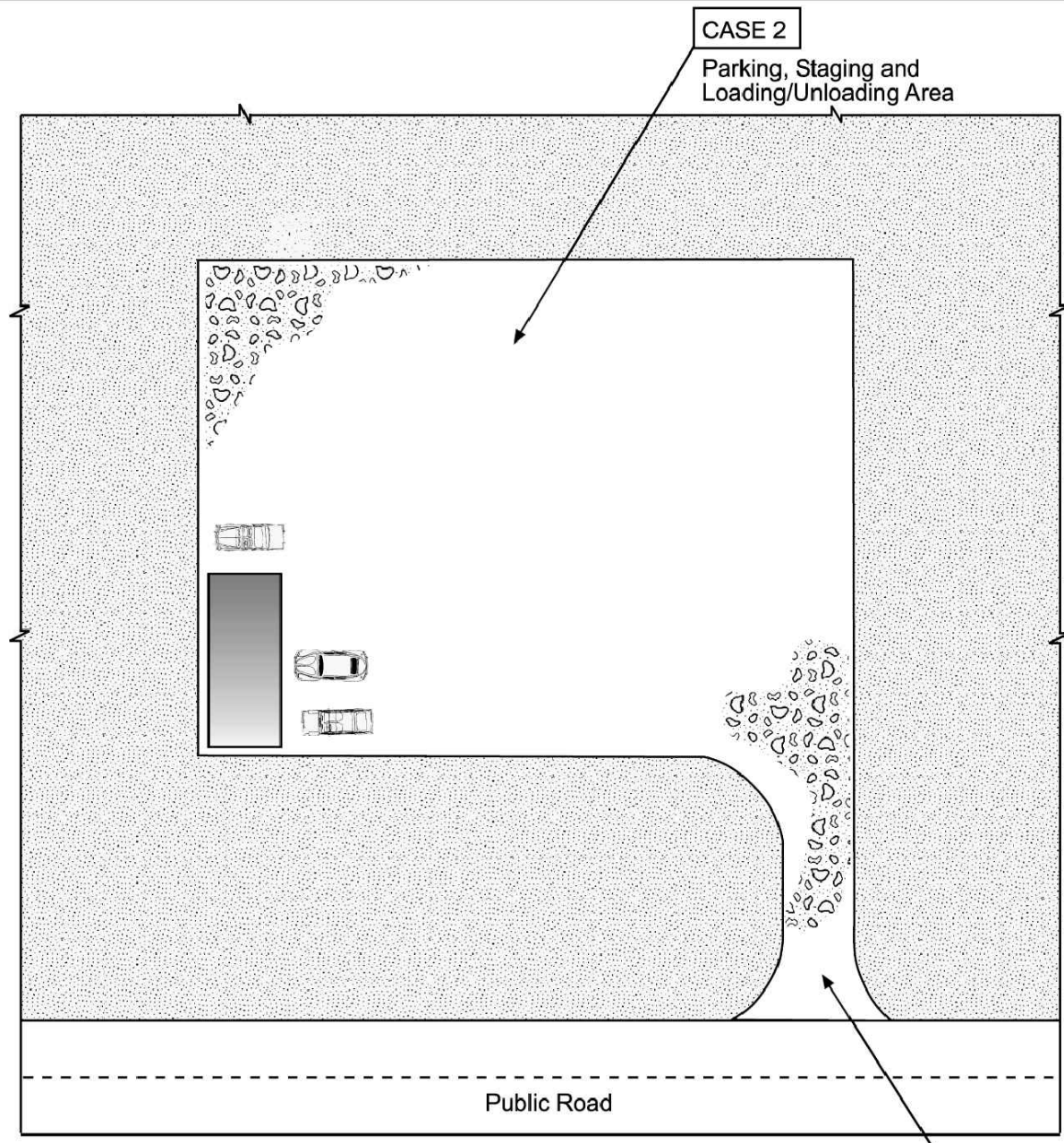
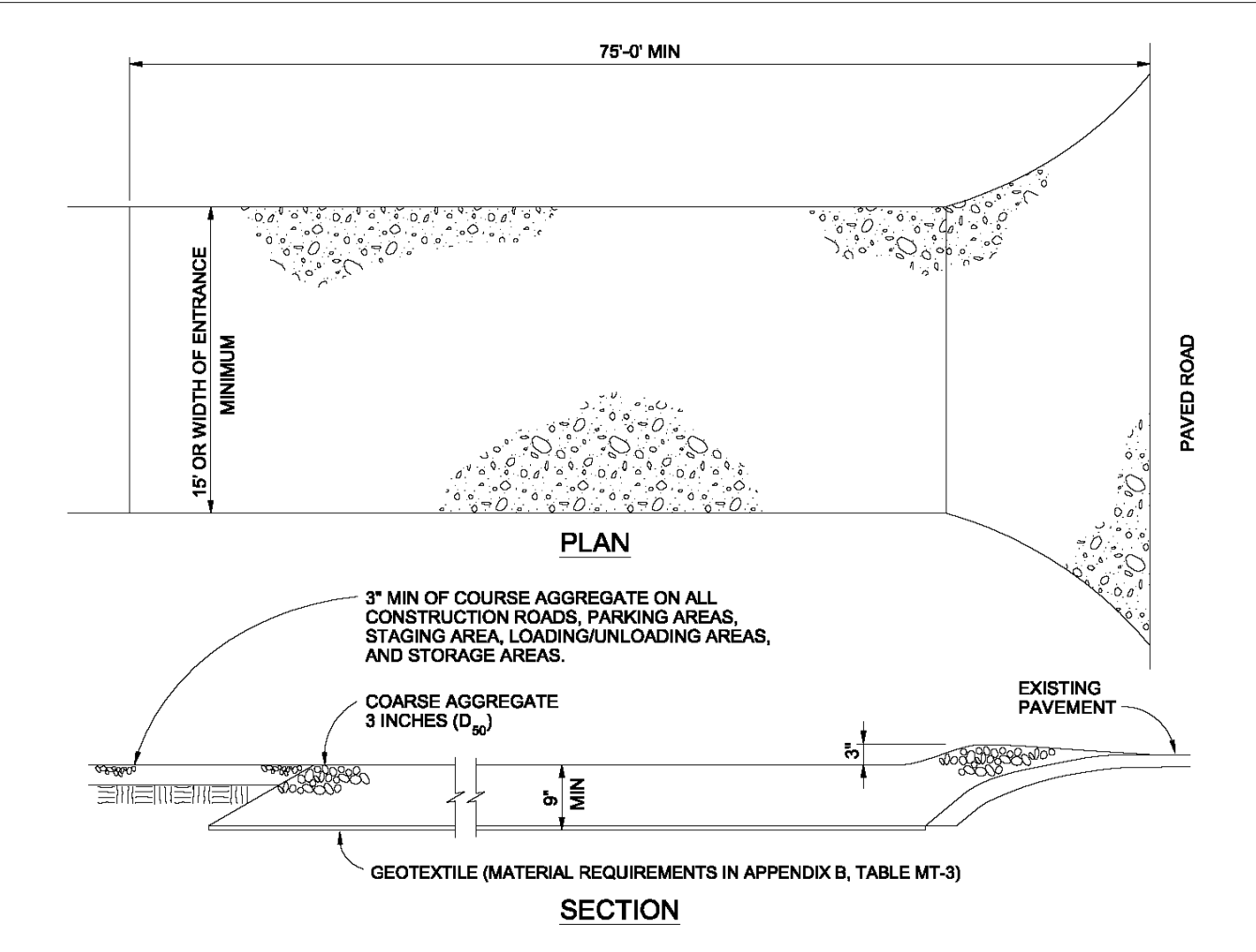


Table VT-1

	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 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.

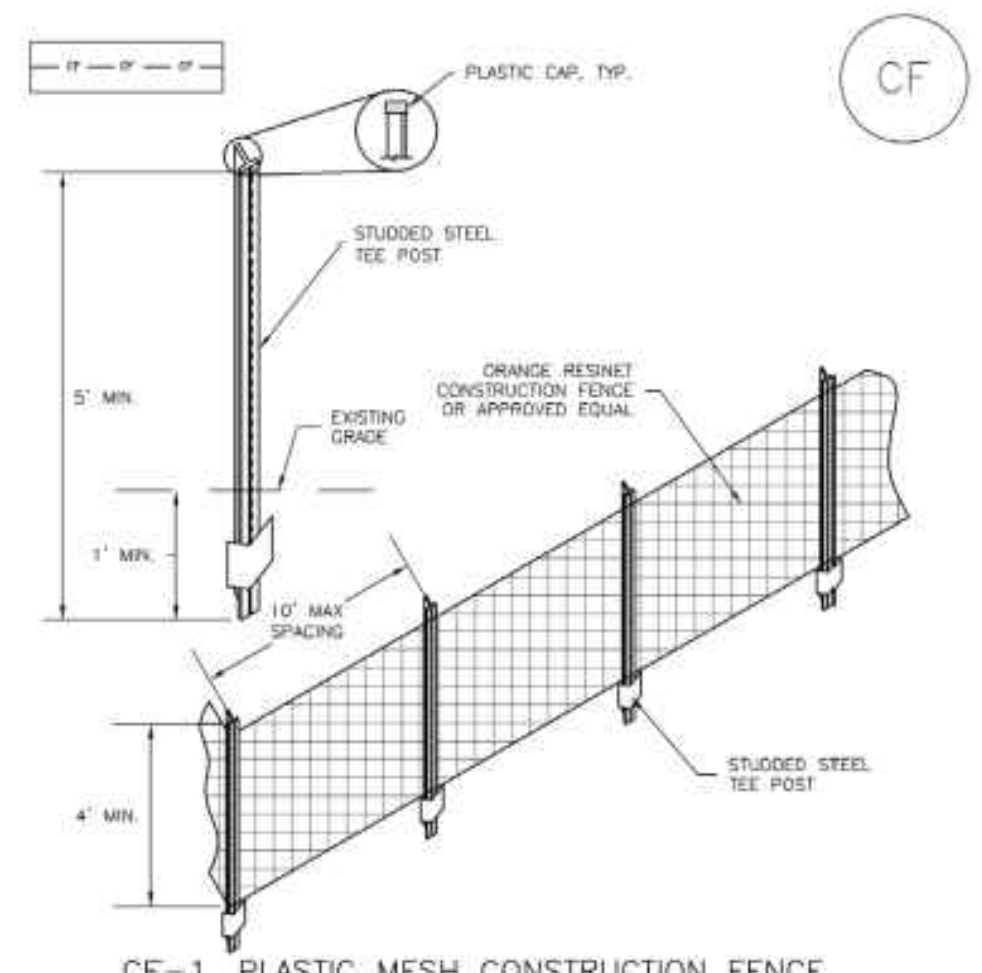
MAINTENANCE REQUIREMENTS

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

SM-3 Construction Fence (CF)



CF-1. PLASTIC MESH CONSTRUCTION FENCE

CONSTRUCTION FENCE INSTALLATION NOTES

1. SEE PLAN VIEW FOR: -LOCATION OF CONSTRUCTION FENCE.
2. CONSTRUCTION FENCE SHOULD BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
3. CONSTRUCTION FENCE SHALL BE COMPOSED OF ORANGE, CONTRACTOR-GRADE MATERIAL THAT IS AT LEAST 4' HIGH. METAL POSTS SHOULD HAVE A PLASTIC CAP FOR SAFETY. MAXIMUM SPACING FOR STEEL TEE POSTS SHALL BE 10'.
4. STUDDED STEEL TEE POSTS SHALL BE UTILIZED TO SUPPORT THE CONSTRUCTION FENCE.
5. CONSTRUCTION FENCE SHALL BE SECURELY FASTENED TO THE TOP, MIDDLE, AND BOTTOM OF EACH POST.

CF-2

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Construction Fence (CF)

SM-3

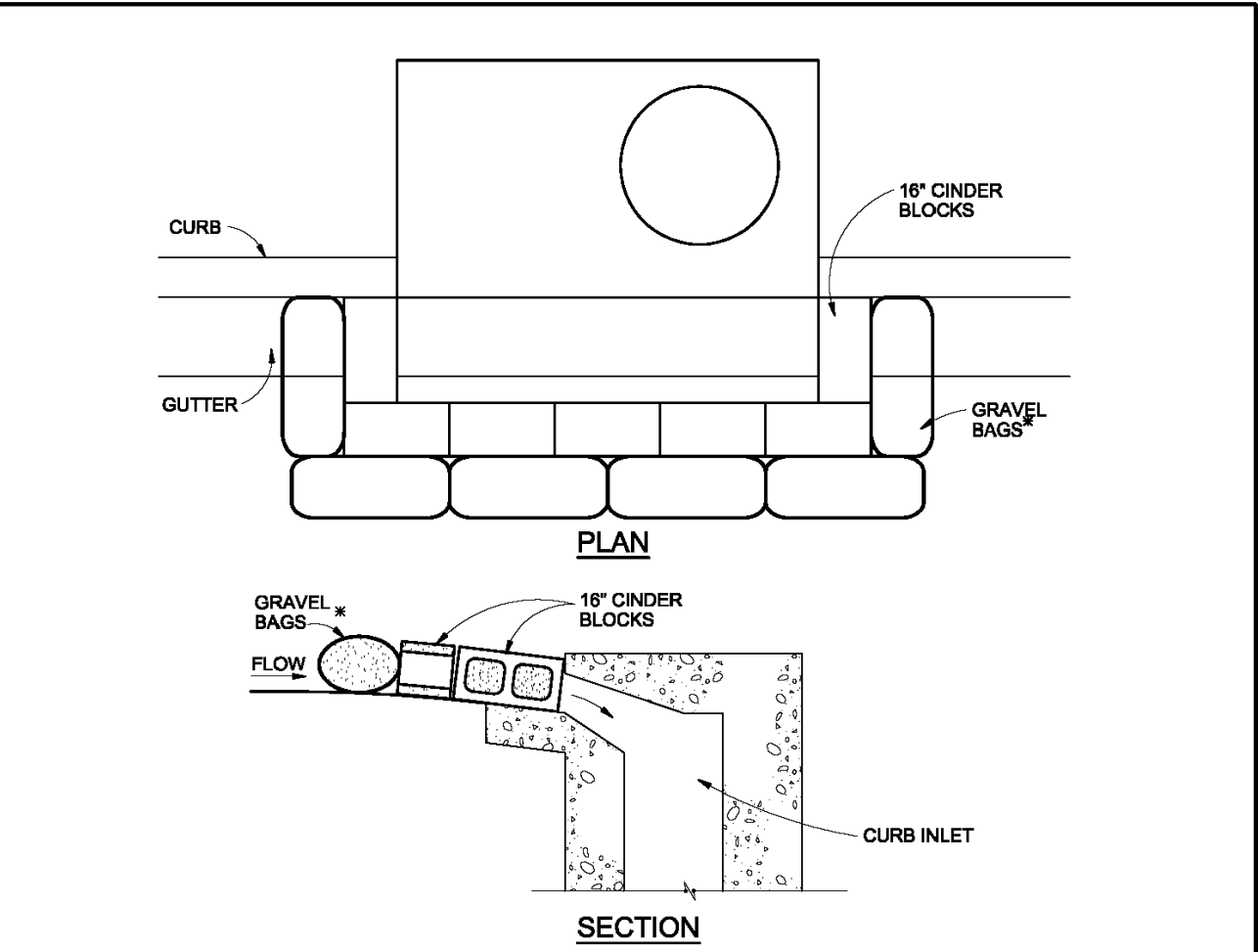
CONSTRUCTION FENCE MAINTENANCE NOTES

1. INSPECT BMPs EACH MONTH 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. CONSTRUCTION FENCE SHALL BE REPAIRED OR REPLACED WHEN THERE ARE SIGNS OF DAMAGE SUCH AS RIPS OR SAGS. CONSTRUCTION FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.
  5. WHEN CONSTRUCTION FENCES ARE REMOVED, ALL DISTURBED AREAS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, AND/OR REMOVAL OF THE FENCE SHALL BE COVERED WITH TOPSOIL, SEEDLED AND MULCHED, OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.
- NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM USDC'S STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.
- (DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD)

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CF-3



BLOCK AND GRAVEL BAG CURB INLET PROTECTION

BLOCK AND GRAVEL BAG CURB INLET PROTECTION NOTES

INSTALLATION REQUIREMENTS

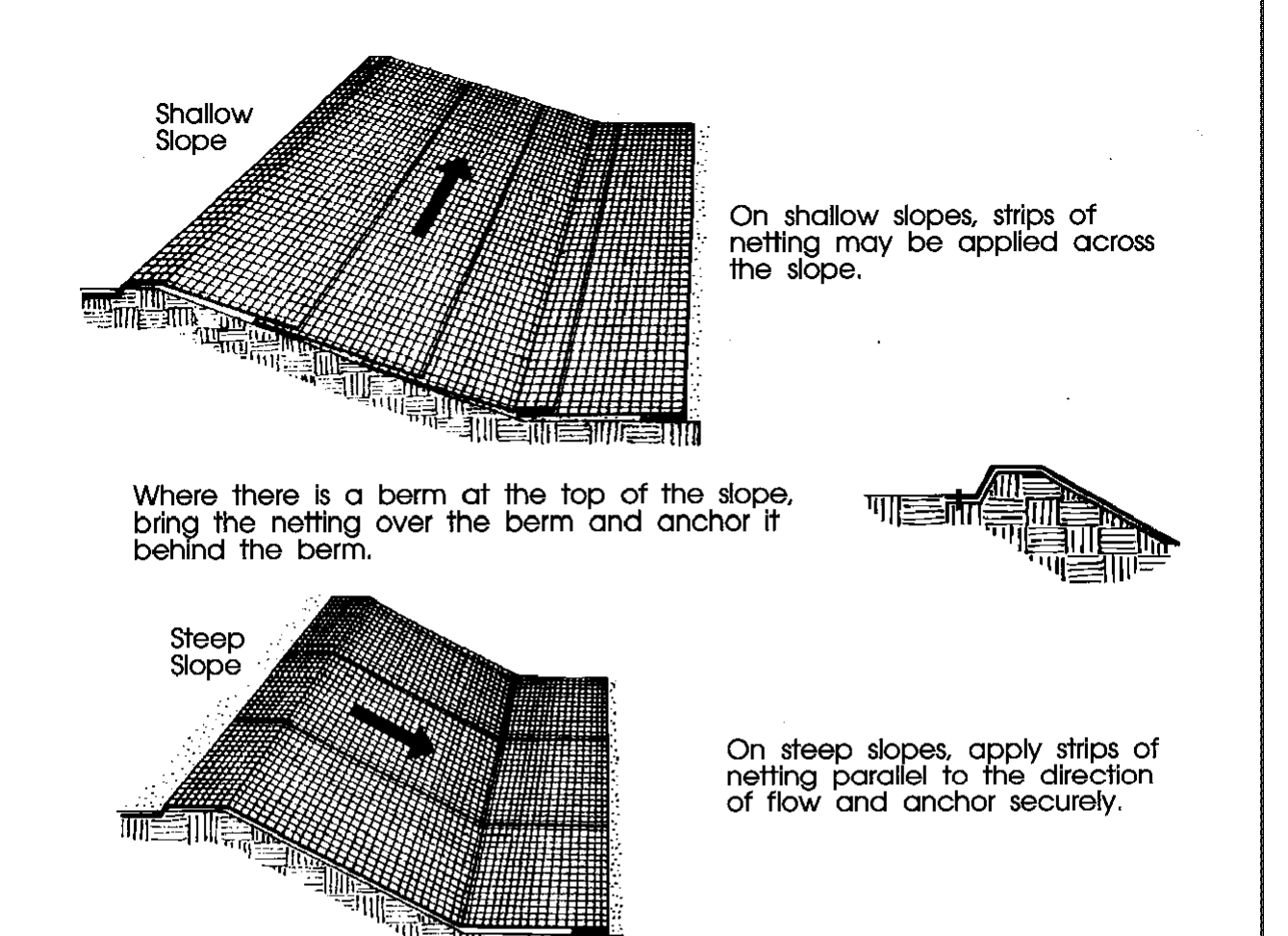
1. INLET PROTECTION SHALL BE INSTALLED IMMEDIATELY AFTER CONSTRUCTION OF INLET.
  2. CONCRETE BLOCKS ARE TO BE LAID AROUND THE INLET IN A SINGLE ROW ON THEIR SIDES, ABUTTING ONE ANOTHER WITH THE OPEN ENDS OF THE BLOCK FACING OUTWARD.
  3. GRAVEL BAGS ARE TO BE PLACED AROUND THE CONCRETE BLOCKS CLOSELY ABUTTING ONE ANOTHER SO THERE ARE NO GAPS.
  4. GRAVEL BAGS ARE TO CONTAIN WASHED SAND OR GRAVEL APPROXIMATELY 3/4 INCH IN DIAMETER.
  5. BAGS ARE TO BE MADE OF 1/4" INCH WIRE MESH (USED WITH GRAVEL ONLY) OR GEOTEXTILE.
- \* AN ALTERNATE 3/4" TO 1" GRAVEL FILTER OVER A WIRE SCREEN MAY BE USED IN PLACE OF GRAVEL BAGS. THE WIRE MESH SHALL EXTEND ABOVE THE TOP OF THE CONCRETE BLOCKS AND THE GRAVEL PLACED OVER THE WIRE SCREEN TO THE TOP OF THE CONCRETE BLOCKS.

MAINTENANCE REQUIREMENTS

1. CONTRACTOR SHALL INSPECT INLET PROTECTION IMMEDIATELY AFTER EACH RAINFALL, AT LEAST DAILY DURING PROLONGED RAINFALL, AND WEEKLY DURING PERIODS NO RAINFALL.
2. DAMAGED OR INEFFECTIVE INLET PROTECTION SHALL PROMPTLY BE REPAIRED OR REPLACED.
3. SEDIMENT SHALL BE REMOVED WHEN SEDIMENT HAS ACCUMULATED TO APPROXIMATELY 1/2 THE DESIGN DEPTH OF THE TRAP.
4. INLET PROTECTION SHALL BE REMOVED WHEN ADEQUATE NEGATIVE COVER IS ATTAINED WITHIN THE DRAINAGE AREA AS APPROVED BY THE CITY.

City of Colorado Springs Stormwater Quality

Figure IP-3 Block & Gravel Bag Curb Inlet Protection Construction Detail and Maintenance Requirements

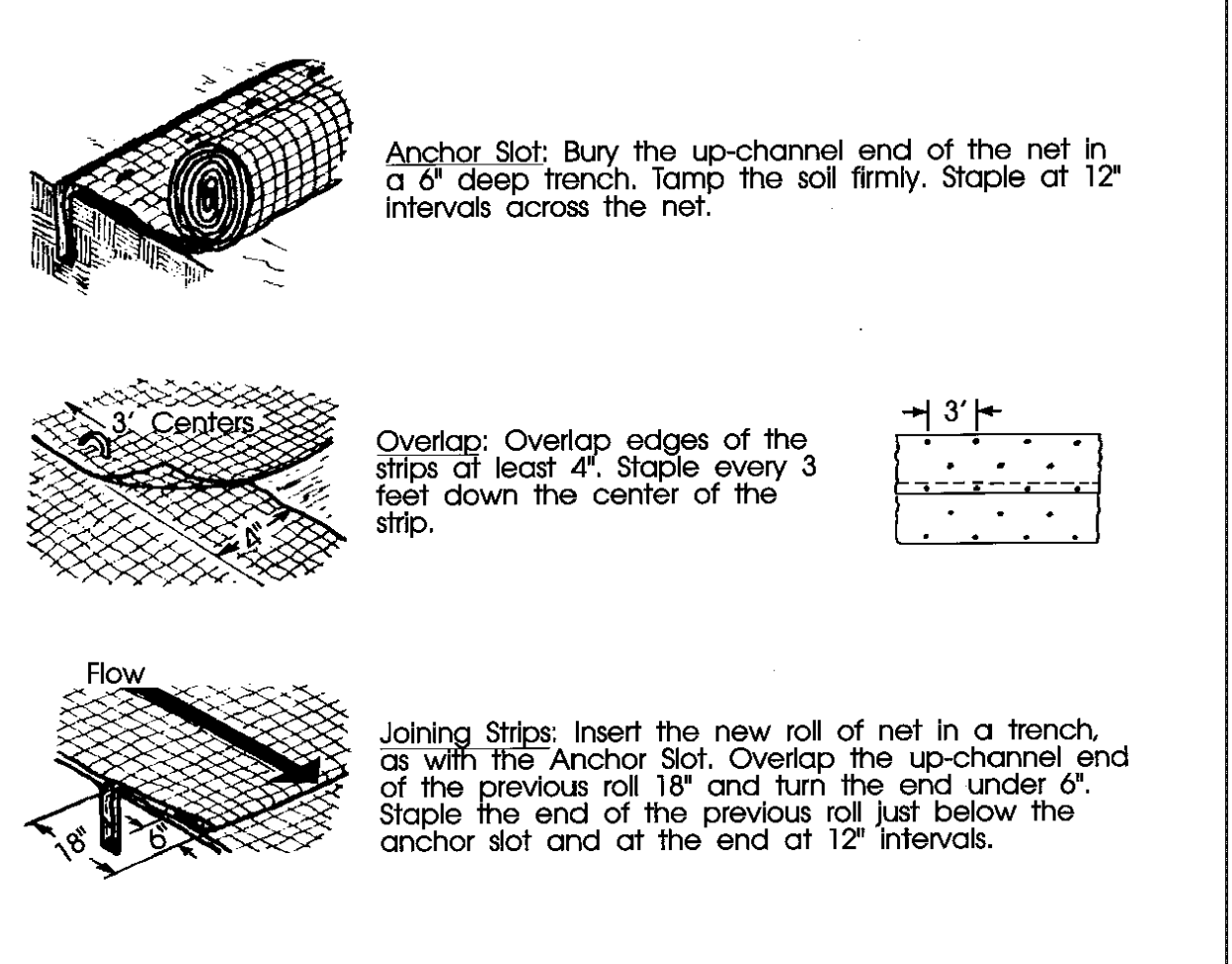


EROSION CONTROL BLANKET APPLICATION NOTES

1. BRING NETTING DOWN TO A LEVEL AREA BEFORE TERMINATING THE INSTALLATION. TURN THE END UNDER 6" AND STAPLE AT 12" INTERVALS.
2. ON SHALLOW SLOPES, STRIPS OF NETTING MAY BE APPLIED ACROSS THE SLOPE.
3. ON STEEP SLOPES, APPLY STRIPS OF NETTING PARALLEL TO THE DIRECTION OF FLOW AND ANCHOR SECURELY.
4. IN DITCHES, APPLY NETTING PARALLEL TO THE DIRECTION OF FLOW. USE CHECK SLOTS EVERY 15 FEET. DO NOT JOIN STRIPS IN THE CENTER OF THE DITCH.

City of Colorado Springs Storm Water Quality

Figure ECB-1 Erosion Control Blanket Application Examples



EROSION CONTROL BLANKET INSTALLATION REQUIREMENTS

1. ANCHOR SLOT: BURY THE UP-CHANNEL END OF THE NET IN A 6" DEEP TRENCH. TAMP THE SOIL FIRMLY. STAPLE AT 12" INTERVALS ACROSS THE NET.
2. OVERLAP: OVERLAP EDGES OF THE STRIPS AT LEAST 4". STAPLE EVERY 3 FEET DOWN THE CENTER OF THE STRIP.
3. JOINING STRIPS: INSERT THE NEW ROLL OF NET IN A TRENCH, AS WITH THE ANCHOR SLOT. OVERLAP THE UP-CHANNEL END OF THE PREVIOUS ROLL 18" AND TURN THE END UNDER 6". STAPLE THE END OF THE PREVIOUS ROLL JUST BELOW THE ANCHOR SLOT AND AT THE END AT 12" INTERVALS.
4. CHECK SLOTS: ON ERODIBLE SOILS OR STEEP SLOPES, CHECK SLOTS SHOULD BE MADE EVERY 15 FEET. INSERT A FOLD OF THE NET INTO A 6" TRENCH AND TAMP FIRMLY. STAPLE AT 12" INTERVALS ACROSS THE NET. LAY THE NET SMOOTHLY ON THE SURFACE OF THE SOIL - DO NOT STRETCH THE NET, AND DO NOT ALLOW WRINKLES.
5. ANCHORING ENDS AT STRUCTURES: PLACE THE END OF THE NET IN A 6" SLOT ON THE UP-CHANNEL SIDE OF THE STRUCTURE. FILL THE TRENCH AND TAMP FIRMLY. ROLL THE NET UP THE CHANNEL. PLACE STAPLES AT 12" INTERVALS ALONG THE ANCHOR END OF THE NET.

City of Colorado Springs Storm Water Quality

Figure ECB-2 Erosion Control Blanket Installation Requirements

SEEDING & MULCHING

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

SOIL PREPARATION

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

SEEDING

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

MULCHING

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



STORMWATER WATERPROOF SEEDING & MULCHING

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SWMT MANAGER: [Signature]

DESIGNED: 10/7/19

REVISION: 4/19/2020

DRAWING NO: 900-54

DRAWN BY: JES JOB DATE: \_\_\_\_\_

APPROVED: JAS JOB NUMBER: \_\_\_\_\_

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EL PASO COUNTY, COLORADO  
GRANDVIEW RESERVE DISTRICT  
WTP WELL WATER COLLECTION  
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