

The map shows a residential area with several streets and subdivisions. 'LATIGO COUNTRY ESTATES' is at the top. 'LATIGO BLVD' runs horizontally across the upper right. 'MERIDIAN ROAD' runs vertically on the left. 'AYER ROAD' runs horizontally across the bottom. 'ANTLER RIDGE ESTATES' is the large area at the bottom. Within it, 'ANTLERS FILING 1' is a small area on the left, and 'THE TRAILS FILING 2' is a larger area on the right. A red outline highlights a specific area within 'THE TRAILS FILING 2'.

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 (PCD) - INSPECTIONS, PRIOR TO STARTING CONSTRUCTION.
7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND THE REQUIREMENTS OF ALL JURISDICTIONAL AGENCIES AND TO OBTAIN ALL REQUIRED PERMITS, INCLUDING BUT NOT LIMITED TO EL PASO COUNTY EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP), REGIONAL BUILDING FLOODPLAIN DEVELOPMENT PERMIT, U.S. ARMY CORPS OF ENGINEERS-ISSUED 401 AND/OR 404 PERMITS, AND COUNTY AND STATE FUGITIVE DUST PERMITS.
8. CONTRACTOR SHALL NOT DEVIATE FROM THE PLANS WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE DESIGN ENGINEER AND PCD. CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY UPON DISCOVERY OF ANY ERRORS OR INCONSISTENCIES.
9. ALL STORM DRAIN PIPE SHALL BE CLASS III RCP UNLESS OTHERWISE NOTED AND APPROVED BY PCD.
10. CONTRACTOR SHALL COORDINATE GEOTECHNICAL TESTING PER ECM STANDARDS. PAVEMENT DESIGN SHALL BE APPROVED BY EL PASO COUNTY PCD PRIOR TO PLACEMENT OF CURB AND GUTTER AND PAVEMENT.
11. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS POINTS.
12. SIGHT VISIBILITY TRIANGLES AS IDENTIFIED IN THE PLANS SHALL BE PROVIDED AT ALL INTERSECTIONS. OBSTRUCTIONS GREATER THAN 18 INCHES ABOVE FLOWLINE ARE NOT ALLOWED WITHIN SIGHT TRIANGLES.
13. SIGNING AND STRIPING SHALL COMPLY WITH EL PASO COUNTY DPW AND MUTCD CRITERIA. [IF APPLICABLE, ADDITIONAL SIGNING AND STRIPING NOTES WILL BE PROVIDED.]
14. CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO COUNTY DPW, INCLUDING WORK WITHIN THE RIGHT-OF-WAY AND SPECIAL TRANSPORT PERMITS.
15. THE LIMITS OF CONSTRUCTION SHALL REMAIN WITHIN THE PROPERTY LINE UNLESS OTHERWISE NOTED. THE OWNER/DEVELOPER SHALL OBTAIN WRITTEN PERMISSION AND EASEMENTS, WHERE REQUIRED, FROM ADJOINING PROPERTY OWNER(S) PRIOR TO ANY OFF-SITE DISTURBANCE, GRADING, OR CONSTRUCTION.

ASCE – AMERICAN SOCIETY OF CIVIL ENGINEERS
BLDG – BUILDING
BW – BOTTOM OF WALL
CG – CURB AND GUTTER
CIP – CAST IRON PIPE
CL – CENTERLINE
CMP – CORRUGATED METAL PIPE
CONC – CONCRETE
DIP – DUCTILE IRON PIPE
DS – DOWNSPOUT
EL – ELEVATION
ESMT – EASEMENT
EX – EXISTING
FES – FLARED END SECTION
FL – FLOWLINE
GB – GRADE BREAK
HP – HIGH POINT
HYD – HYDRANT
INV – INVERT ELEVATION
LF – LINEAR FEET
LP – LOW POINT
MH – MANHOLE
MIN – MINIMUM
OH – OVERHEAD
PB – PUBLIC
PC – POINT OF CURVATURE
PCC – POINT OF COMPOUND CURVATURE
PCR – POINT OF CURB RETURN
PR – PROPOSED
PRC – POINT OF REVERSE CURVATURE
PVC – POLYVINYL CHLORIDE PIPE
PVT – PRIVATE
PT – POINT OF TANGENCY
P.U.E – PUBLIC UTILITY EASEMENT
P.U.A.E – PUBLIC UTILITY & ACCESS EASEMENT
P.U.D.E – PUBLIC UTILITY & DRAINAGE EASEMENT
P.I.E – PUBLIC IMPROVEMENT EASEMENT
R – RADIUS
RIM – RIM ELEVATION
STM – STORM
TBC – TOP BACK OF CURB
TW – TOP OF WALL
TY – TYPICAL
UD – UNDERDRAIN
UT – UTILITY
WTR – WATER
XPAN – CROSSPAN

THE COURSE ON THE NORTHERLY BOUNDARY LINE OF THE WESTERLY
PORTION OF THE TRACT OF LAND DESCRIBED IN WARRANTY DEED
RECORDED UNDER RECEPTION NO. 206150812 OF THE RECORDS OF THE
EL PASO COUNTY, COLORADO, BEING MONUMENTED AT THE WEST END
BY A REBAR AND YELLOW PLASTIC CAP STAMPED "WKC&ASSOCPLS4842"
0.1' BELOW GRADE. ASSUMED TO BEAR S89°44'22"E FEET (DEED
BEARING S89°18'55"E) A DISTANCE OF 1,424.82 FEET.

NGS MONUMENT DESIGNATION BLACK - PID KK1644.3-1/2" BRASS
DISK IN CONCRETE
NAVD88 ELEV 7317.86

1	-	COVER SHEET
2	-	LEGEND
3	-	TYPICAL SECTIONS
4-5	-	INITIAL-FINAL PHASE GEC PLAN
6	-	ROAD A PLAN & PROFILE
7-9	-	STORM PLAN & PROFILE
10-13	-	POND A GRADING PLAN & DETAILS
14	-	DRAINAGE A PLAN & PROFILE
15	-	DRAINAGE A2 PLAN & PROFILE
16-19	-	GRADING & EROSION CONTROL DETAILS
20	-	CONSTRUCTION DETAILS
20	-	TOTAL SHEETS

OWNER/DEVELOPER	ANTLER RANGE LLC PO BOX 38939 COLORADO SPRINGS, CO 80937 ATTN: GRANT LANGDON (602) 957-0966
ENGINEER	ALL TERRAIN ENGINEERING LLC 1004 W VAN BUREN ST COLORADO SPRINGS, CO 80907 ATTN: RYAN BURNS
SURVEYOR	EDWARD JAMES SURVEYING, INC. 926 ELKTON DRIVE COLORADO SPRINGS, CO 80907 (719) 576-1216
EL PASO COUNTY	EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT 2880 INTERNATIONAL CIRCLE, SUITE 110 COLORADO SPRINGS CO 80910
FIRE PROTECTION	FALCON FIRE PROTECTION DISTRICT 7030 OLD MERIDIAN ROAD PEYTON, CO 80831 (719) 495-4050
ELECTRIC	MOUNTAIN VIEW ELECTRIC 11140 E WOODMEN ROAD FALCON, CO 80831
GAS	BLACK HILLS ENERGY 105 S VICTORIA AVENUE PUEBLO, CO 81003

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.

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

IN ACCORDANCE WITH ECM SECTION 1.12, THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY THE EL PASO COUNTY ENGINEER. IF CONSTRUCTION HAS NOT STARTED WITHIN THOSE 2 YEARS, THESE PLANS WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF REVIEW FEES AT THE PLANNING AND COMMUNITY DEVELOPMENT DIRECTORS DISCRETION.

Daniel Torres, P.E. Digitally signed by Daniel Torres, P.E.
Reason: Authorized signatory as County Engineer designee
Date: 2026.09.10 10:26:25 -0600 9/10/2026

JOSHUA J. PALMER P.E. DATE

COUNTY ENGINEER/ECM ADMINISTRATOR

THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECT SUPERVISION. SAID PLANS AND SPECIFICATIONS HAVE BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR DETAILED ROADWAY, DRAINAGE, GRADING AND EROSION CONTROL PLANS. THE PLANS AND SPECIFICATIONS WERE PREPARED TO BE IN CONFORMITY WITH APPLICABLE MASTER DRAINAGE PLANS AND MASTER TRANSPORTATION PLANS. SAID PLAN AND SPECIFICATIONS MEET THE PURPOSES FOR WHICH THE PARTICULAR ROADWAY AND DRAINAGE FACILITIES ARE DESIGNED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THERE ARE NO ADEQUATELY APPARENT CAUSES BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARATION OF THESE DETAILED PLANS AND SPECIFICATIONS.

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

NAME ANTLER RANGE LLC
PO BOX 38939
COLORADO SPRINGS, 80937

June 11, 2026
DATE

RYAN E. BURNS, P.E.
COLORADO P.E. 54412
FOR AND ON BEHALF OF ALL TERRAIN ENGINEERING LLC

EL PASO COUNTY PLANNING & COMMUNITY DEVELOPMENT NUMBER: SF264



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

THE LOCATIONS OF EXISTING ABOVE GROUND AND UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL ABOVE GROUND AND UNDERGROUND UTILITIES.

PREPARED FOR:
ANTER RANGE LLC
PO BOX 38939
COLORADO SPRINGS, CO
GRANT LANGDON
(602) 957-0966
GL@GLANGDON.CO

UNTIL SUCH TIME AS THESE
DRAWINGS ARE APPROVED BY THE
APPROPRIATE REVIEWING
AGENCIES, ALL TERRAIN
ENGINEERING APPROVES THEIR
USE ONLY FOR THE PURPOSES
DESIGNATED BY WRITTEN
AUTHORIZATION

[illegible]

ANTLER RANGE FILING NO. 1	COVER SHEET
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DESIGN: REB
REVIEW: NQJ
DATE: 6/5/2026

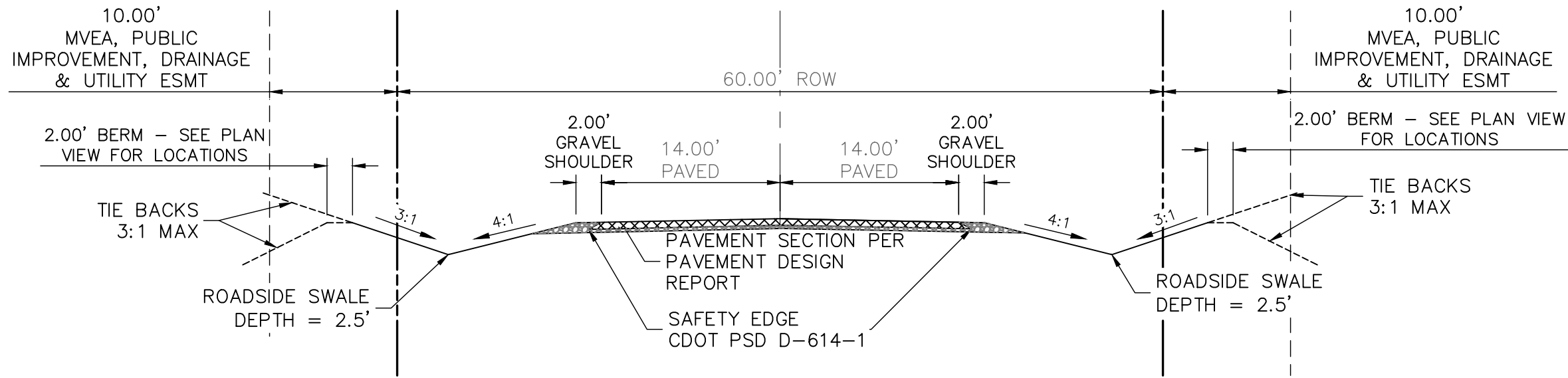
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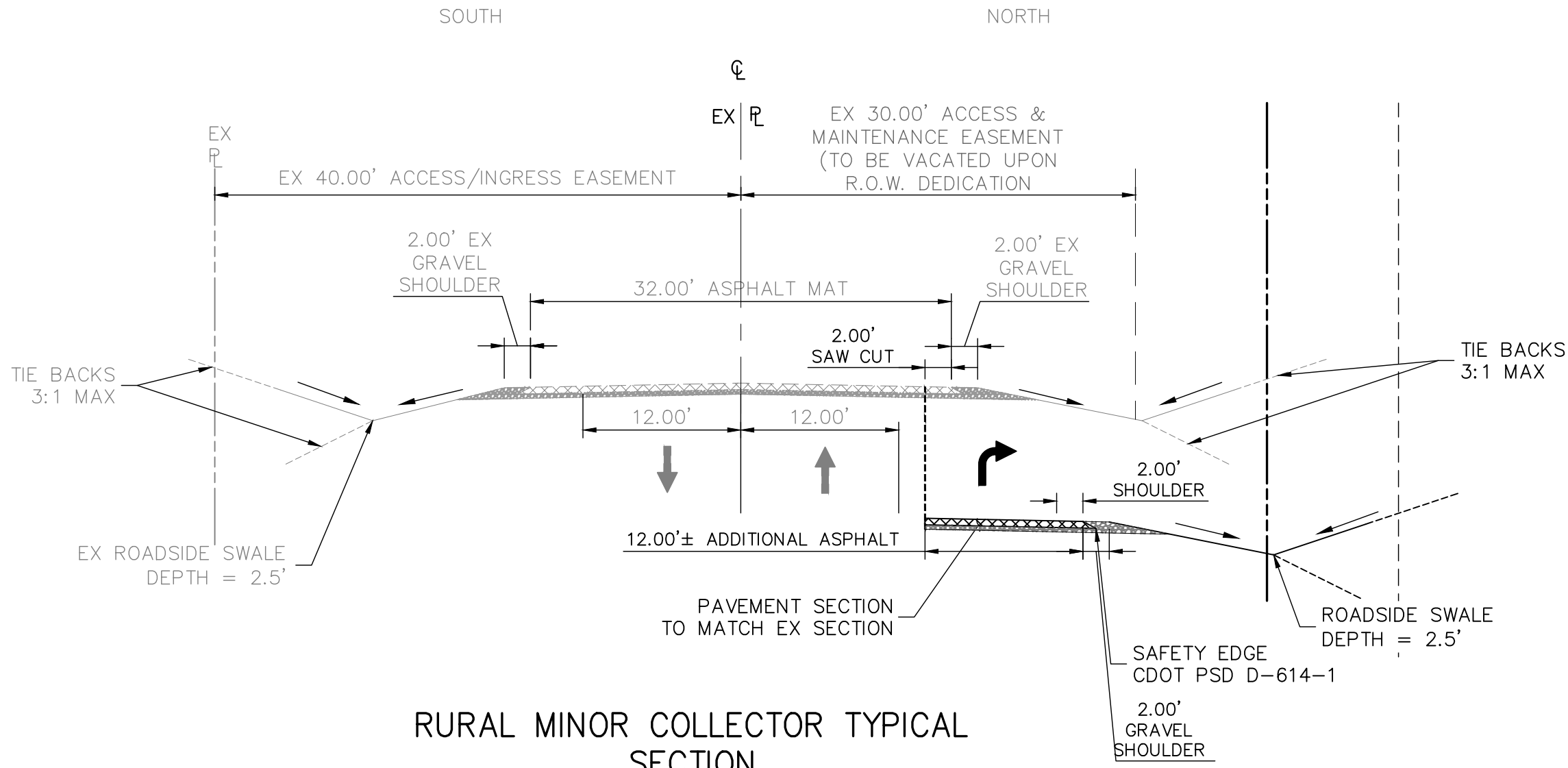
SHEET
1 OF 20



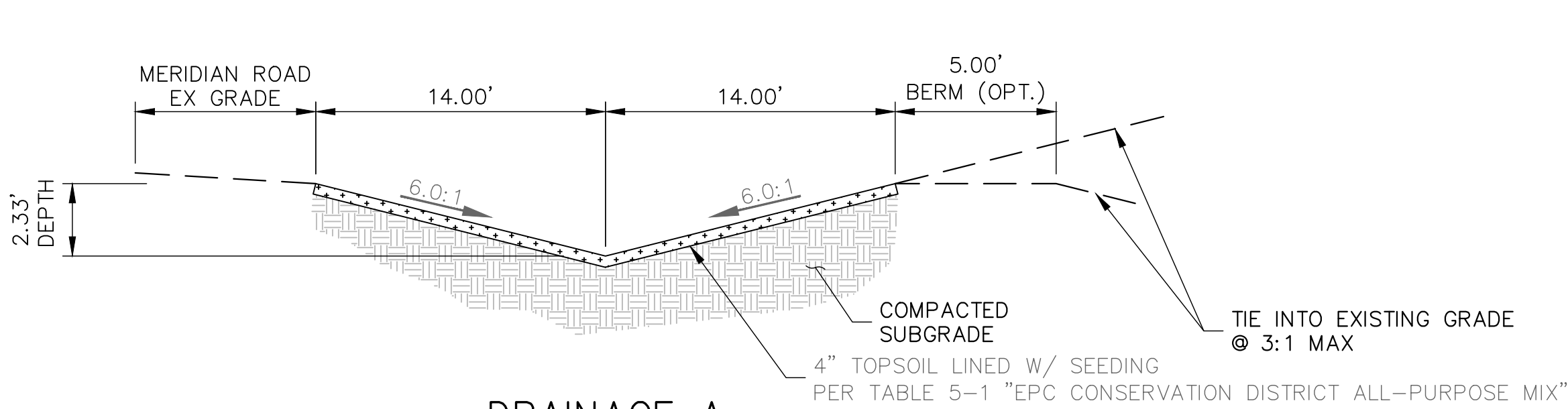
RYAN E. BURNS, PE 303.577.2456 - PRUENSO@UTPEPPAINF.COM	NICHOLAS Q. JONKERST, PE 530.791.7435 - NITKPESTON@UTPEPPAINF.COM
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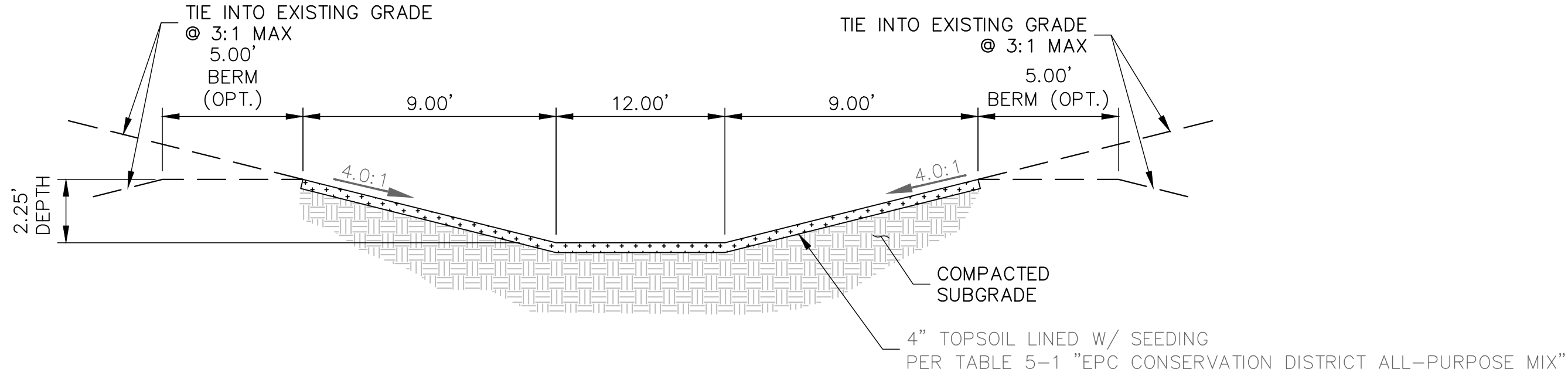
RURAL LOCAL
TYPICAL SECTION
SCALE: NTS
1. ROAD(S), BROKEN ANTLER COURT
2. POSTED SPEED = 25 MPH
3. DESIGN SPEED = 30 MPH



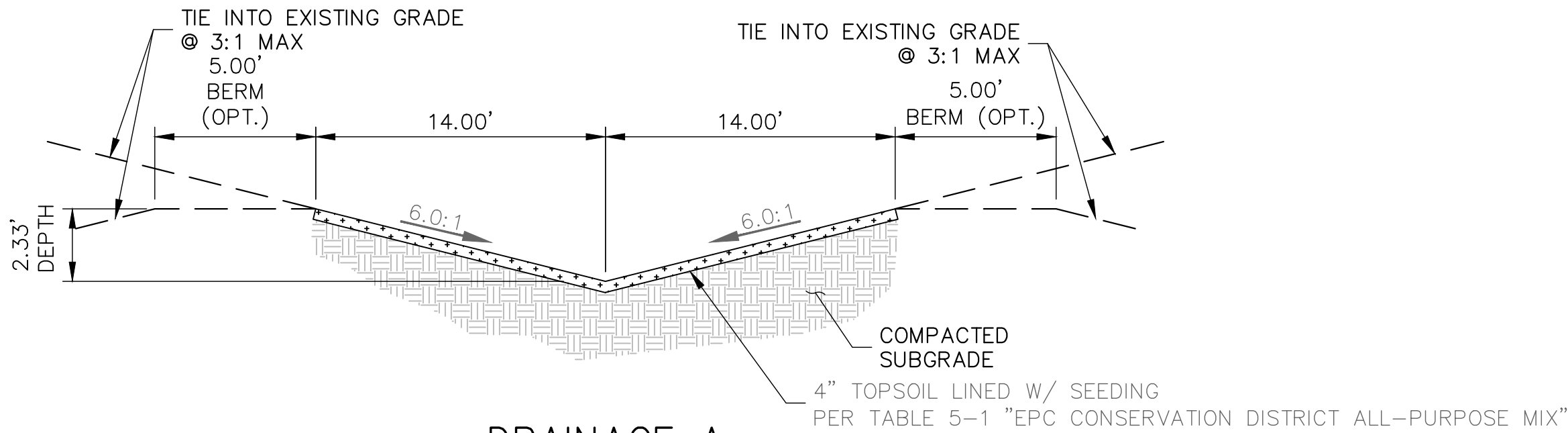
RURAL MINOR COLLECTOR TYPICAL
SECTION
SCALE: NTS
1. ROAD(S), AYER ROAD
2. POSTED SPEED = 35 MPH
3. DESIGN SPEED = 40 MPH
4. IMPROVEMENTS TO COMPLETED WITH FUTURE
FILINGS PER TRAFFIC STUDY



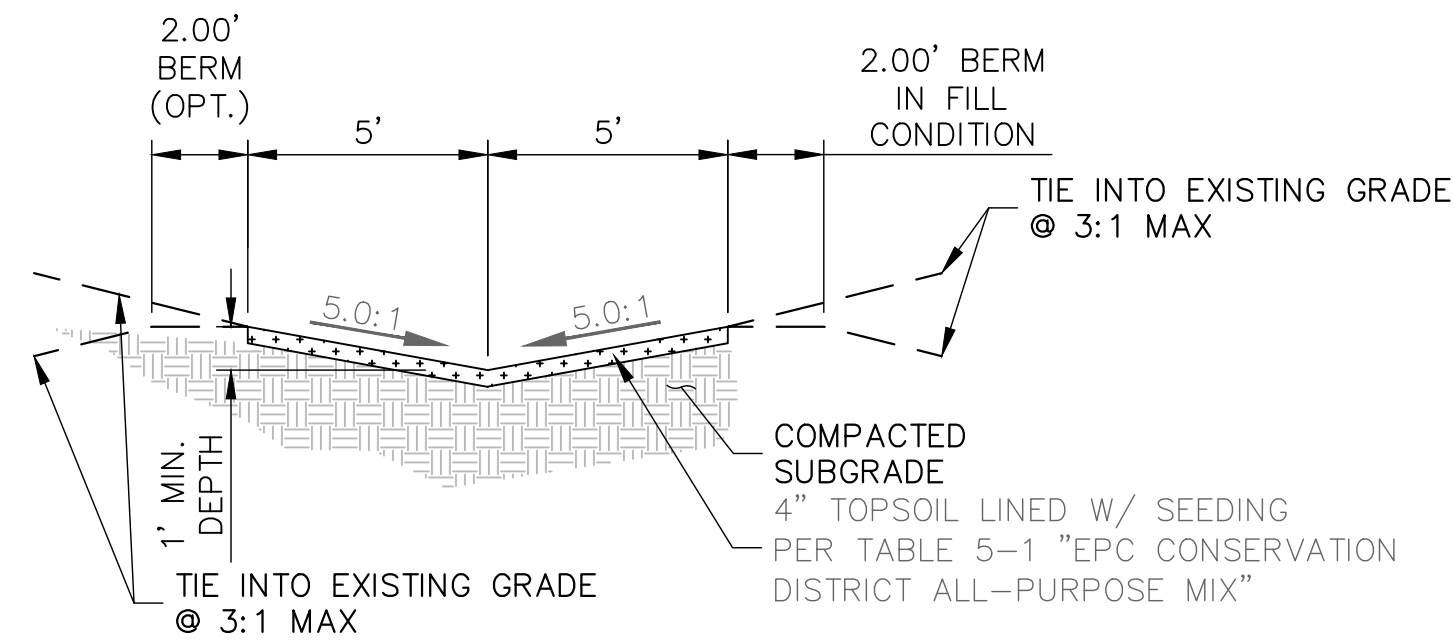
DRAINAGE A
ADJACENT TO MERIDIAN ROAD
SCALE: NTS



DRAINAGE A2
SCALE: NTS



DRAINAGE A
ADJACENT TO FILING 1 NORTH PL
SCALE: NTS



POND A SPILLWAY SWALE
SCALE: NTS

GENERAL CONSTRUCTION NOTES:

- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE AND LOCATION OF ALL UNDERGROUND UTILITIES ALONG THE ROUTE OF THE WORK. THE OMISSION FROM OR THE INCLUSION OF UTILITY LOCATIONS ON THE PLANS IS NOT TO BE CONSIDERED AS THE NONEXISTENCE OF OR A DEFINITE LOCATION OF EXISTING UNDERGROUND UTILITIES.
- THE CONTRACTOR WILL TAKE THE NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES FROM DAMAGE DUE TO THIS OPERATION. ANY DAMAGE TO THE UTILITIES WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE, AND ANY SERVICE DISRUPTION WILL BE SETTLED BY THE CONTRACTOR.
- ADDITIONAL EROSION CONTROL STRUCTURES MAY BE REQUIRED AT THE TIME OF CONSTRUCTION.
- ALL BACKFILL, SUB-BASE, AND/OR BASE COURSE (CLASS 6) MATERIAL SHALL BE COMPACTED PER THE SOILS ENGINEER'S RECOMMENDATIONS, AND APPROVED BY EL PASO COUNTY PCD.
- ALL STATIONING IS CENTERLINE OF IMPROVEMENTS UNLESS OTHERWISE INDICATED. ALL ELEVATIONS ARE FLOW LINE UNLESS OTHERWISE INDICATED AS TOP BACK OF CURB (TBC), ASPHALT (ASP), OR TOP OF INLET OR BOX (TOB).
- ALL DISTURBED PAVEMENT EDGES SHALL BE CUT TO NEAT LINES. REPAIR SHALL CONFORM TO EPC ECM APPENDIX K - 1.2C.
- ALL INTERSECTION ACCESSES TO BE CONSTRUCTED WITH A 25 FOOT SIGHT VISIBILITY TRIANGLES IS REQUIRED AND THERE SHALL BE NO OBSTRUCTIONS GREATER THAN 18" VERTICAL IN THIS AREA.
- ALL CULVERTS AND STORM DRAIN PIPES SHALL BE SMOOTH INTERIOR CORRUGATED POLYETHYLENE PIPE (HDP), REINFORCED CONCRETE PIPE (RCP). ALL CULVERTS SHALL BE PLACED COMPLETE WITH FLARED END SECTIONS. ADEQUACY OF MATERIAL THICKNESS FOR ANY CSP INSTALLED SHALL BE VERIFIED BY OWNER'S GEOTECHNICAL ENGINEER TO SUPPORT MINIMUM 50 YEAR DESIGN LIFE. CULVERTS MUST CONFORM TO EPC ECM SECTION 3.32 - CULVERTS.
- ASPHALT THICKNESS AND BASE COURSE THICKNESS (COMPACTED) FOR ROADS SHALL BE PER DESIGN REPORT BY OWNER'S GEOTECHNICAL ENGINEER. OWNER'S GEOTECHNICAL ENGINEER TO BE ON SITE AT THE TIME OF ROAD CONSTRUCTION TO EVALUATE SOIL CONDITIONS AND DETERMINE IF ADDITIONAL MEASURES ARE NECESSARY TO ASSURE STABILITY OF THE NEW ROADS. PAVEMENT DESIGN SHALL BE APPROVED BY EL PASO COUNTY DEVELOPMENT SERVICES ENGINEERING DIVISION PRIOR TO CONSTRUCTION.

SIGNING AND STRIPING NOTES:

- ALL SIGNS AND PAVEMENT MARKINGS SHALL BE IN COMPLIANCE WITH THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- REMOVAL OF EXISTING PAVEMENT MARKINGS SHALL BE ACCOMPLISHED BY A METHOD THAT DOES NOT MATERIALLY DAMAGE THE PAVEMENT. THE PAVEMENT MARKINGS SHALL BE REMOVED TO THE EXTENT THAT THEY WILL NOT BE VISIBLE UNDER DAY OR NIGHT CONDITIONS. AT NO TIME WILL IT BE ACCEPTABLE TO PAINT OVER EXISTING PAVEMENT MARKINGS.
- ANY DEVIATION FROM THE STRIPING AND SIGNING PLAN SHALL BE APPROVED BY EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS (DPW).
- ALL SIGNS SHOWN ON THE SIGNING AND STRIPING PLAN SHALL BE NEW SIGNS. EXISTING SIGNS MAY REMAIN OR BE REUSED IF THEY MEET CURRENT EL PASO COUNTY AND MUTCD STANDARDS.
- STREET NAME AND REGULATORY STOP SIGNS SHALL BE ON THE SAME POST AT INTERSECTIONS.
- ALL REMOVED SIGNS SHALL BE DISPOSED OF IN A PROPER MANNER BY THE CONTRACTOR.
- ALL STREET NAME SIGNS SHALL HAVE "D" SERIES LETTERS, WITH LOCAL ROADWAY SIGNS BEING 4" UPPER-LOWER CASE LETTERING ON 8" BLANK AND NON-LOCAL ROADWAY SIGNS BEING 6" LETTERING, UPPER-LOWER CASE ON 12" BLANK, WITH A WHITE BORDER THAT IS NOT RECESSED. MULTI-LANE ROADWAYS WITH SPEED LIMITS OF 35 MPH OR HIGHER SHALL HAVE 8" UPPER-LOWER CASE LETTERING ON 12" BLANK WITH A WHITE BORDER THAT IS NOT RECESSED. THE WIDTH OF THE NON-RECESSED WHITE BORDERS SHALL MATCH PAGE 255 OF THE FHWA STANDARD HIGHWAY SIGNS: 2004 EDITION WITH 2012 SUPPLEMENT. SIGNAL POLE MOUNTED AND OVERHEAD STREET NAME SIGNS SHALL BE PER MUTCD SIZE STANDARDS.
- ALL TRAFFIC SIGNS SHALL HAVE A MINIMUM DIAMOND GRADE RETROREFLECTIVE SHEETING THAT MEETS ASTM D4956 TYPE XI SHEETING REQUIREMENTS.
- ALL LOCAL RESIDENTIAL STREET SIGNS SHALL BE MOUNTED ON A 1.75" X 1.75" SQUARE TUBE SIGN POST AND STUB POST BASE. FOR OTHER APPLICATIONS, REFER TO THE CDOT STANDARD S-614-8 REGARDING USE OF THE P2 TUBULAR STEEL POST SLIPBASE DESIGN.
- ALL SIGNS SHALL BE SINGLE SHEET ALUMINUM WITH 0.125" MINIMUM THICKNESS.
- ALL LIMIT LINES/STOP LINES, CROSSWALK LINES, PAVEMENT LEGENDS, AND ARROWS SHALL BE A MINIMUM 125 MIL THICKNESS PREFORMED THERMOPLASTIC PAVEMENT MARKINGS WITH TAPERED LEADING EDGES PER CDOT STANDARD S-627-1. STOP BARS SHALL BE 24" IN WIDTH. CROSSWALKS LINES SHALL BE 24" WIDE AND A MINIMUM OF 9' LONG. CROSSWALKS SHALL BE INLAID IN ACCORDANCE WITH SECTION 627 OF THE 2025 CDOT STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION.
- WORD AND SYMBOL MARKINGS SHALL BE THE NARROW TYPE.
- ALL LONGITUDINAL LINES SHALL BE A MINIMUM 18 MIL THICKNESS EPOXY PAINT. ALL NON-LOCAL RESIDENTIAL ROADWAYS SHALL INCLUDE BOTH RIGHT AND LEFT EDGE LINE STRIPING AND ANY ADDITIONAL STRIPING AS REQUIRED BY CDOT S-627-1.
- ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH CDOT STANDARD S-614-1 OR MUTCD FIGURE 2A-2.
- THE CONTRACTOR SHALL NOTIFY EL PASO COUNTY DPW - INSPECTIONS (719) 520-6819 PRIOR TO AND UPON COMPLETION OF SIGNING AND STRIPING.
- THE CONTRACTOR SHALL OBTAIN A WORK IN THE RIGHT OF WAY PERMIT FROM THE EL PASO COUNTY DPW PRIOR TO ANY SIGNAGE OR STRIPING WORK WITHIN AN EXISTING EL PASO COUNTY ROADWAY.

ENGINEER'S STATEMENT

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

RYAN E. BURNS, P.E.
COLORADO P.E. 54412
FOR AND ON BEHALF OF ALL TERRAIN ENGINEERING, LLC



PREPARED FOR:
ANTLER RANGE LLC
PO BOX 38939
COLORADO SPRINGS, CO 80937
GRANT LANGDON
(602) 957-0966
GL@GLANGDON.COM

UNTIL SUCH TIME AS THESE
DRAWINGS ARE APPROVED BY THE
APPROPRIATE REVIEWING
AGENCIES, ALL TERRAIN
ENGINEERING APPROVES THEIR
USE ONLY FOR THE PURPOSES
DESIGNATED BY WRITTEN
AUTHORIZATION.

REV	DESCRIPTION	DATE

ANTLER RANGE FILING NO. 1	TYPICAL SECTIONS
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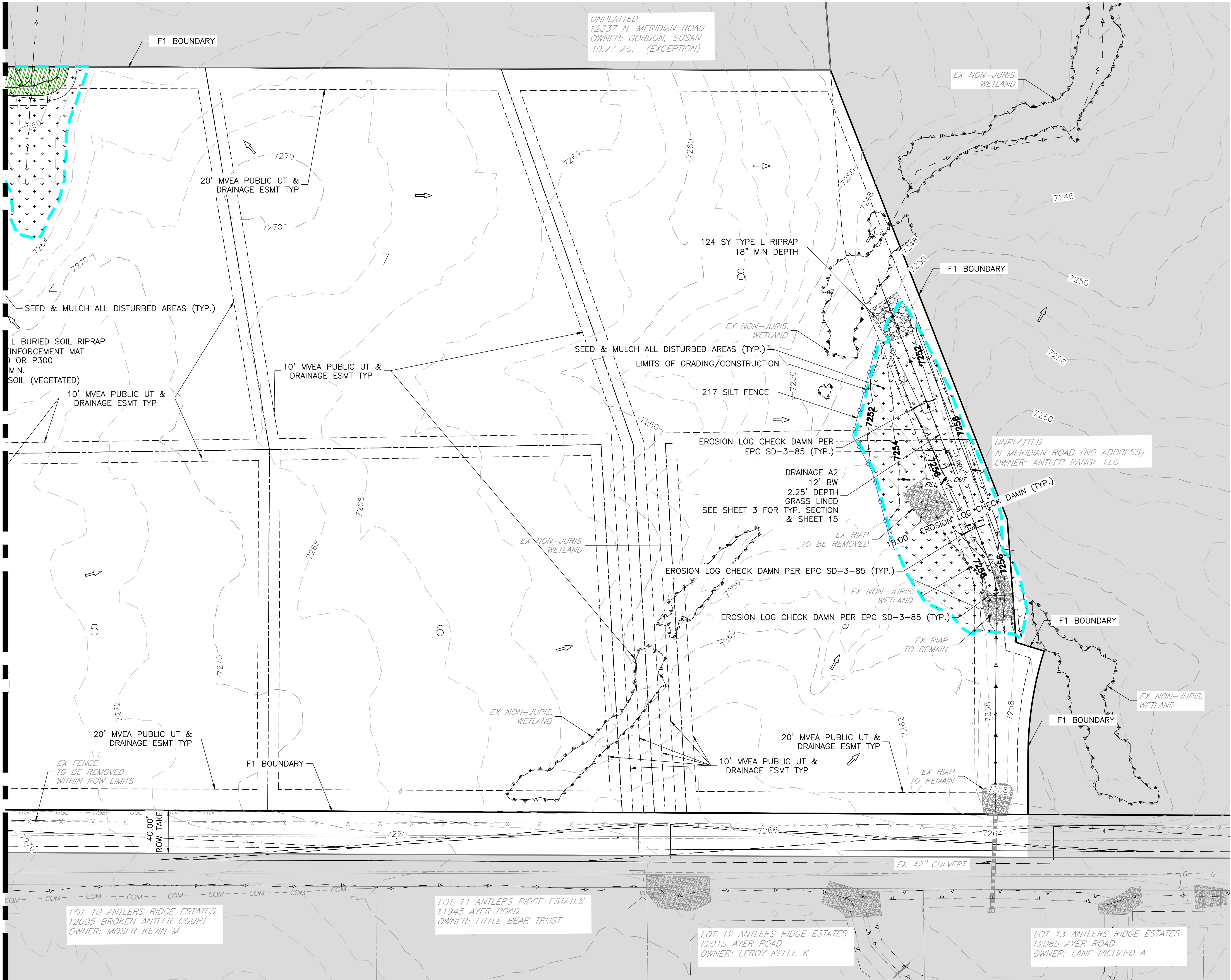
DESIGN: REB
REVIEW: NQJ
DATE: 6/5/2026

H-SCALE: 1" = 50'

V-SCALE: 1" = 5'

SHEET

3 OF 20



GRADING & EROSION CONTROL PLAN NOTES:

1. THE VERTICAL PHASE OF CONSTRUCTION IS NOT INCLUDED IN THESE PLANS. WHEN VERTICAL CONSTRUCTION COMMENCES, BUILDER AND/OR DEVELOPER SHALL SUBMIT BESQCP APPLICATION & AMEND THIS PLAN ACCORDINGLY.
2. THE LIMITS OF DISTURBANCE BOUNDARY REPRESENTS THE FILING 1 LIMITS. IT IS ANTICIPATED THAT ADDITIONAL AREA OUTSIDE THE PROPOSED GRADING LIMITS WILL BE DISTURBED RESULTING FROM TYPICAL CONSTRUCTION ACTIVITIES. HOWEVER, LOTS WILL NOT BE OVERLOT GRADED AT THIS TIME.
3. EXISTING VEGETATION: SITE IS VEGETATED CONSISTENTLY WITH GRASSES & SHRUBBERY. EXTENTS OF VEGETATION NOT SHOWN ON PLAN.

INITIAL PHASE TCM:

- INSTALL VEHICLE TRACKING CONTROL
- ESTABLISH STABILIZED STAGING AREA
- INSTALL PERIMETER CONTROLS I.E. SILT FENCE, CONSTRUCTION FENCING
- INSTALL TEMPORARY SEDIMENT BASIN

INTERIM PHASE TCM:

- INSTALL EROSION CONTROL BLANKET ON 3:1 SLOPES
- PROVIDE CULVERT & INLET PROTECTION

FINAL PHASE TCM:

- SEED & MULCH DISTURBED AREAS
- ONCE FINAL STABILIZATION ACHIEVED (70% OF PRE-DISTURBANCE), REMOVE TEMPORARY CONTROL MEASURES
- REMOVE TEMPORARY SEDIMENT BASIN & COMPLETE FULL SPECTRUM WATER QUALITY & DETENTION POND CONSTRUCTION PER POND GRADING PLAN & DETAILS INCLUDED HEREIN.

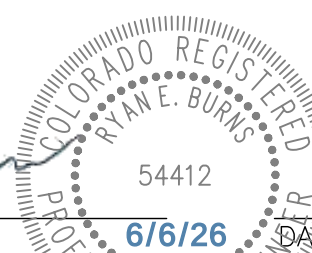
GEC LEGEND:

- CULVERT PROTECTION
- CONCRETE WASHOUT AREA
- INLET PROTECTION
- EX FLOW DIRECTION
PR FLOW DIRECTION
- CUT-FILL DIVISION
- DRAINAGE SWALE
- SILT FENCE
- LIMITS OF DISTURBANCE/GRADING/CONSTRUCTION
- EROSION LOG CHECK DAM
- STABILIZED STAGING AREA
- STOCKPILE PROTECTION
- VEHICLE TRACKING CONTROL
- SEEDING & MULCHING
- EROSION CONTROL BLANKET
- DO NOT DISTURB

ENGINEER'S STATEMENT

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

RYAN E. BURNS, P.E.
COLORADO P.E. 54412
FOR AND ON BEHALF OF ALL TERRAIN ENGINEERING, LLC



Know what's below.
Call before you dig.

THE LOCATIONS OF EXISTING ABOVE GROUND AND UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL ABOVE GROUND AND UNDERGROUND UTILITIES.

DATE

ANTLER RANGE FILING NO. 1	INITIAL-FINAL GEC PLAN
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DESIGN: REB	REVIEW: NQJ
DATE: 6/5/2026	H-SCALE: 1" = 50'
V-SCALE: 1" = 5'	SHEET
4	OF 20

PREPARED FOR:
ANTLER RANGE LLC
PO BOX 38939
COLORADO SPRINGS, CO 80937
GRANT LANGDON
(602) 957-0966
GL@GLANGDON.COM

UNTIL SUCH TIME AS THESE
DRAWINGS ARE APPROVED BY THE
APPROPRIATE REVIEWING
AGENCIES, ALL TERRAIN
ENGINEERING APPROVES THEIR
USE ONLY FOR THE PURPOSES
DESIGNATED BY WRITTEN
AUTHORIZATION.

REV	DESCRIPTION	DATE

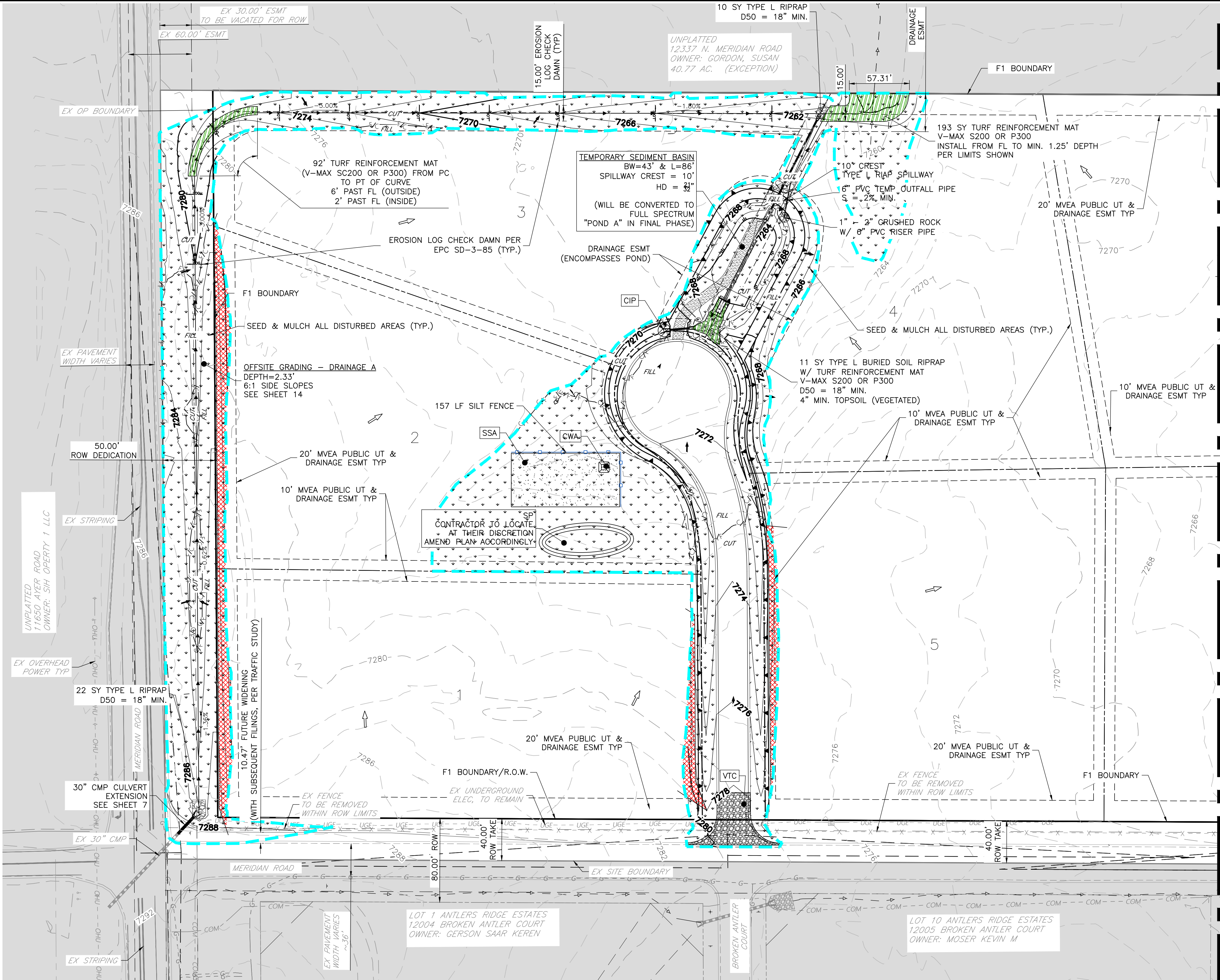
ANTLER RANGE FILING NO. 1	INITIAL-FINAL GEC PLAN
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DESIGN: REB	REVIEW: NQJ
DATE: 6/5/2026	H-SCALE: 1" = 50'
V-SCALE: 1" = 5'	SHEET
4	OF 20

REV	DESCRIPTION	DATE

ANTLER RANGE FILING NO. 1	INITIAL-FINAL GEC PLAN
---------------------------	------------------------

DESIGN: REB	REVIEW: NQJ
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4	OF 20



GRADING & EROSION CONTROL PLAN NOTES:

1. THE VERTICAL PHASE OF CONSTRUCTION IS NOT INCLUDED IN THESE PLANS. WHEN VERTICAL CONSTRUCTION COMMENCES, BUILDER AND/OR DEVELOPER SHALL SUBMIT BESQCP APPLICATION & AMEND THIS PLAN ACCORDINGLY.
2. THE LIMITS OF DISTURBANCE BOUNDARY REPRESENTS THE FILING 1 LIMITS. IT IS ANTICIPATED THAT ADDITIONAL AREA OUTSIDE THE PROPOSED GRADING LIMITS WILL BE DISTURBED RESULTING FROM TYPICAL CONSTRUCTION ACTIVITIES. HOWEVER, LOTS WILL NOT BE OVERLOT GRADED AT THIS TIME.
3. EXISTING VEGETATION: SITE IS VEGETATED CONSISTENTLY WITH GRASSES & SHRUBBERY. EXTENTS OF VEGETATION NOT SHOWN ON PLAN.

INITIAL PHASE TCM:

- INSTALL VEHICLE TRACKING CONTROL
- ESTABLISH STABILIZED STAGING AREA
- INSTALL PERIMETER CONTROLS I.E. SILT FENCE, CONSTRUCTION FENCING
- INSTALL TEMPORARY SEDIMENT BASIN

INTERIM PHASE TCM:

- INSTALL EROSION CONTROL BLANKET ON 3:1 SLOPES
- PROVIDE CULVERT & INLET PROTECTION

FINAL PHASE TCM:

- SEED & MULCH DISTURBED AREAS
- ONCE FINAL STABILIZATION ACHIEVED (70% OF PRE-DISTURBANCE), REMOVE TEMPORARY CONTROL MEASURES
- REMOVE TEMPORARY SEDIMENT BASIN & COMPLETE FULL SPECTRUM WATER QUALITY & DETENTION POND CONSTRUCTION PER POND GRADING PLAN & DETAILS INCLUDED HEREIN.

GEC LEGEND:

- CULVERT PROTECTION
- CONCRETE WASHOUT AREA
- INLET PROTECTION
- EX FLOW DIRECTION
- PR FLOW DIRECTION
- CUT-FILL DIVISION
- DRAINAGE SWALE
- SILT FENCE
- LIMITS OF DISTURBANCE/GRADING/CONSTRUCTION
- EROSION LOG CHECK DAM
- STABILIZED STAGING AREA
- STOCKPILE PROTECTION
- VEHICLE TRACKING CONTROL
- SEEDING & MULCHING
- EROSION CONTROL BLANKET
- DO NOT DISTURB

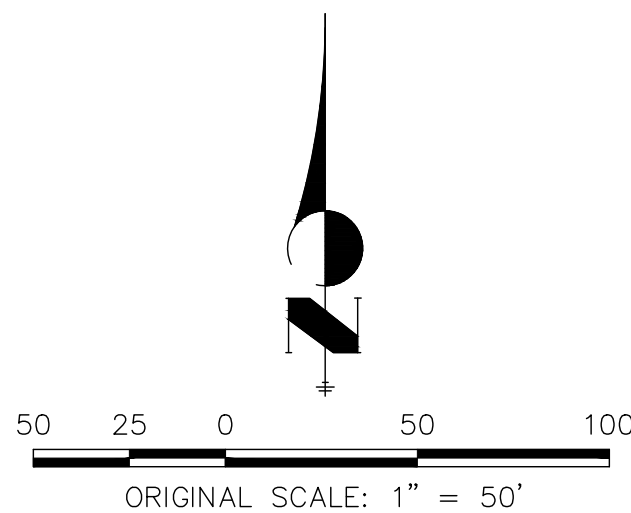
ENGINEER'S STATEMENT

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

RYAN E. BURNS, P.E.
COLORADO P.E. 54412
FOR AND ON BEHALF OF ALL TERRAIN ENGINEERING, LLC

NOTES:

1. SEE SHEET 1 FOR ABBREVIATIONS AND GENERAL NOTES.
2. SEE SHEET 2 FOR LINE TYPE LEGEND AND STANDARD GEC NOTES.
3. SEE SHEET 3 FOR TYPICAL SECTIONS OF ROADWAYS AND SWALES.
4. CONTRACTOR TO FAMILIARIZE SELF WITH SITE, PLANS, EXISTING CONDITIONS AND NOTIFY ENGINEER OF ANY QUESTIONS, DISCREPANCIES, CONFLICTS, OR REQUIRED CHANGES PRIOR TO COMMENCING CONSTRUCTION.
5. PLEASE NOTE, EXISTING UTILITY LOCATIONS SHOULD BE VERIFIED PRIOR TO CONSTRUCTION AND MAY DIFFER THAN WHAT IS SHOWN IN THESE PLANS.



Know what's below.
Call before you dig.

THE LOCATIONS OF EXISTING ABOVE GROUND AND UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL ABOVE GROUND AND UNDERGROUND UTILITIES.

ALL TERRAIN
ENGINEERING

PREPARED FOR:
ANTLER RANGE LLC
PO BOX 38939
COLORADO SPRINGS, CO 80937
GRANT LANGDON
(602) 957-0966
GL@GLANGDON.COM

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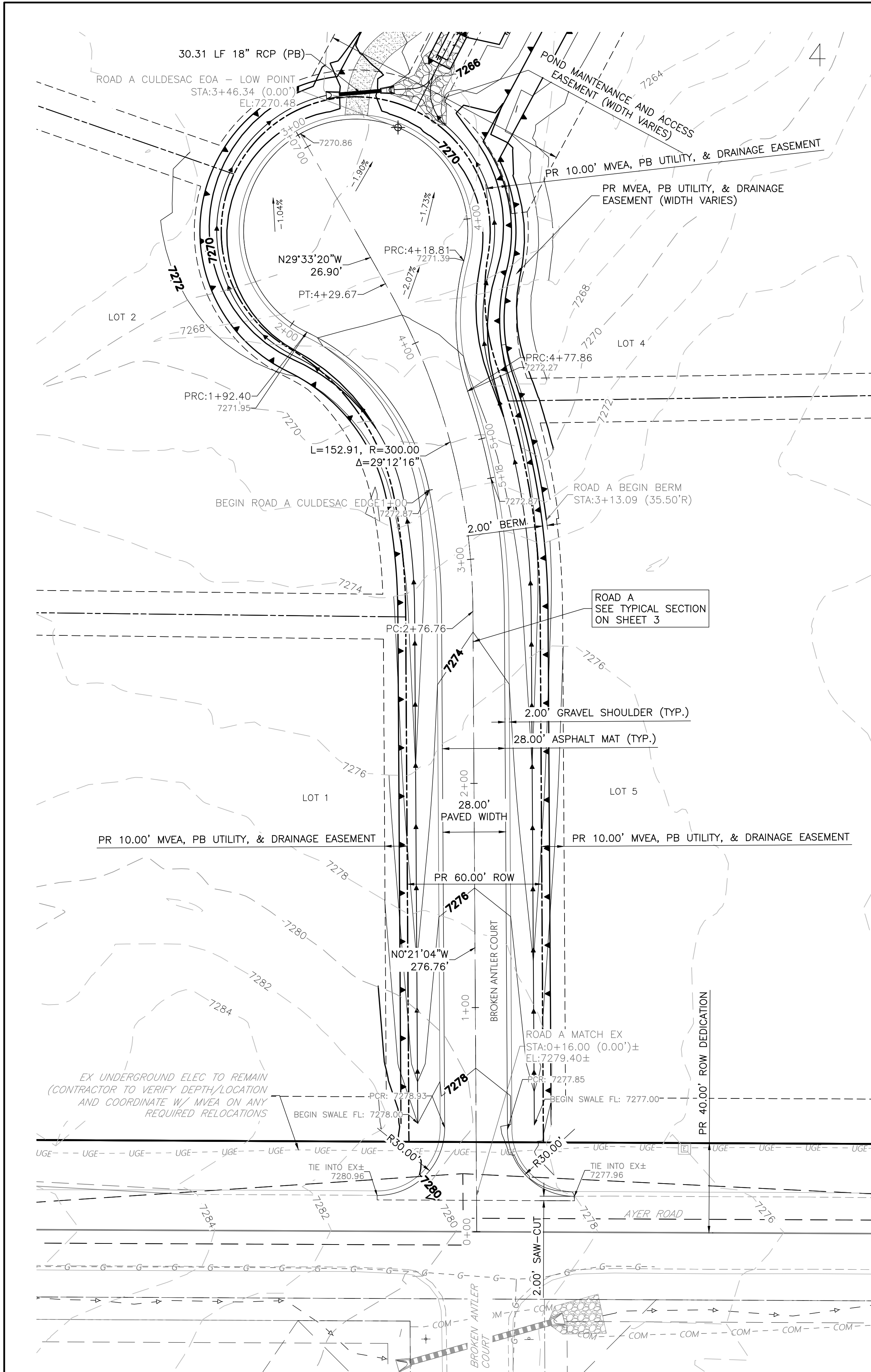
REV	DESCRIPTION	DATE

JOB NO: 24031 LOCATION: EPC

ANTLER RANGE FILING NO. 1

INITIAL-FINAL GEC PLAN

DESIGN: REB
REVIEW: NQJ
DATE: 6/5/2026
H-SCALE: 1" = 50'
V-SCALE: 1" = 5'
SHEET
5 OF 20

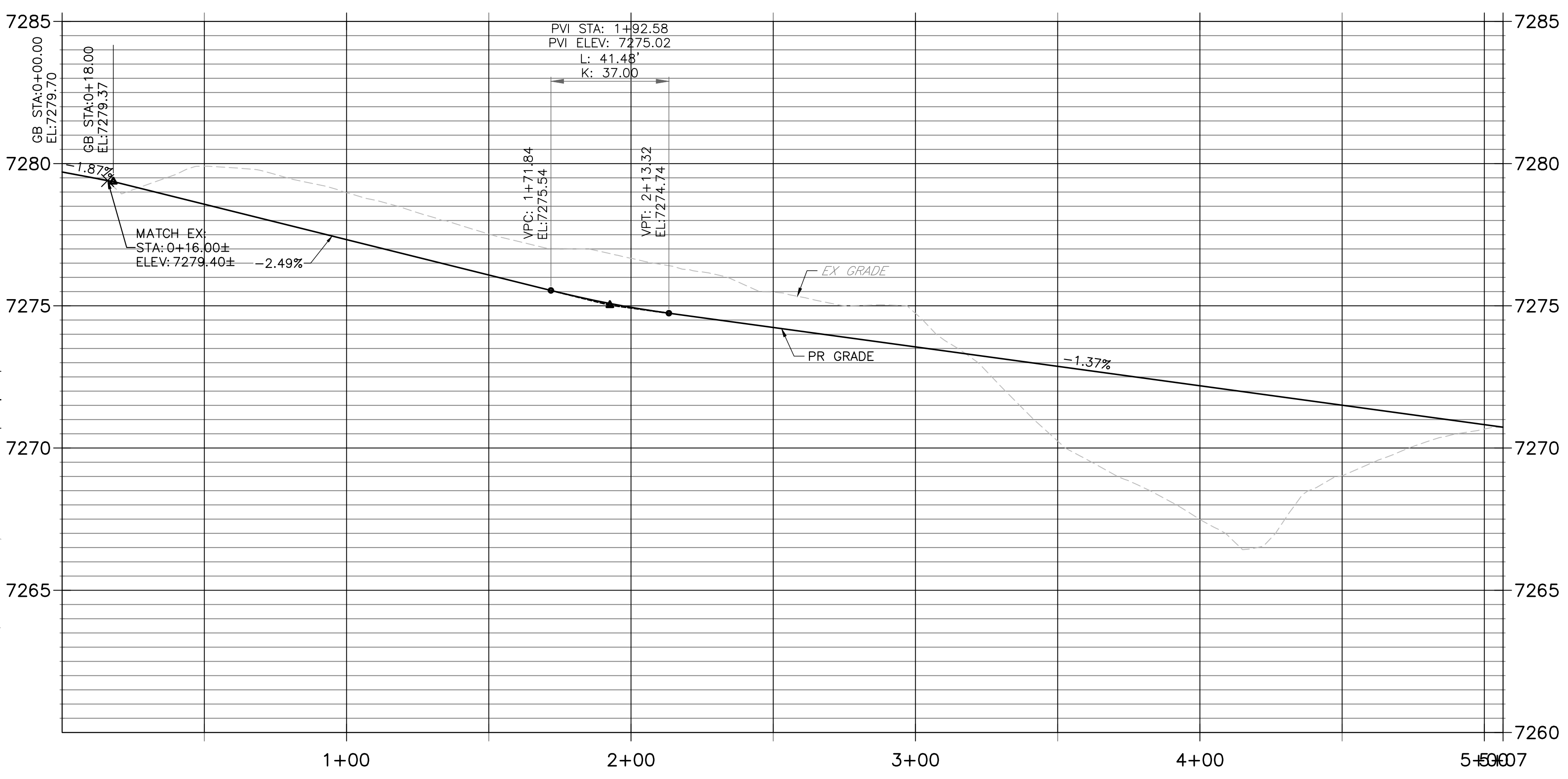


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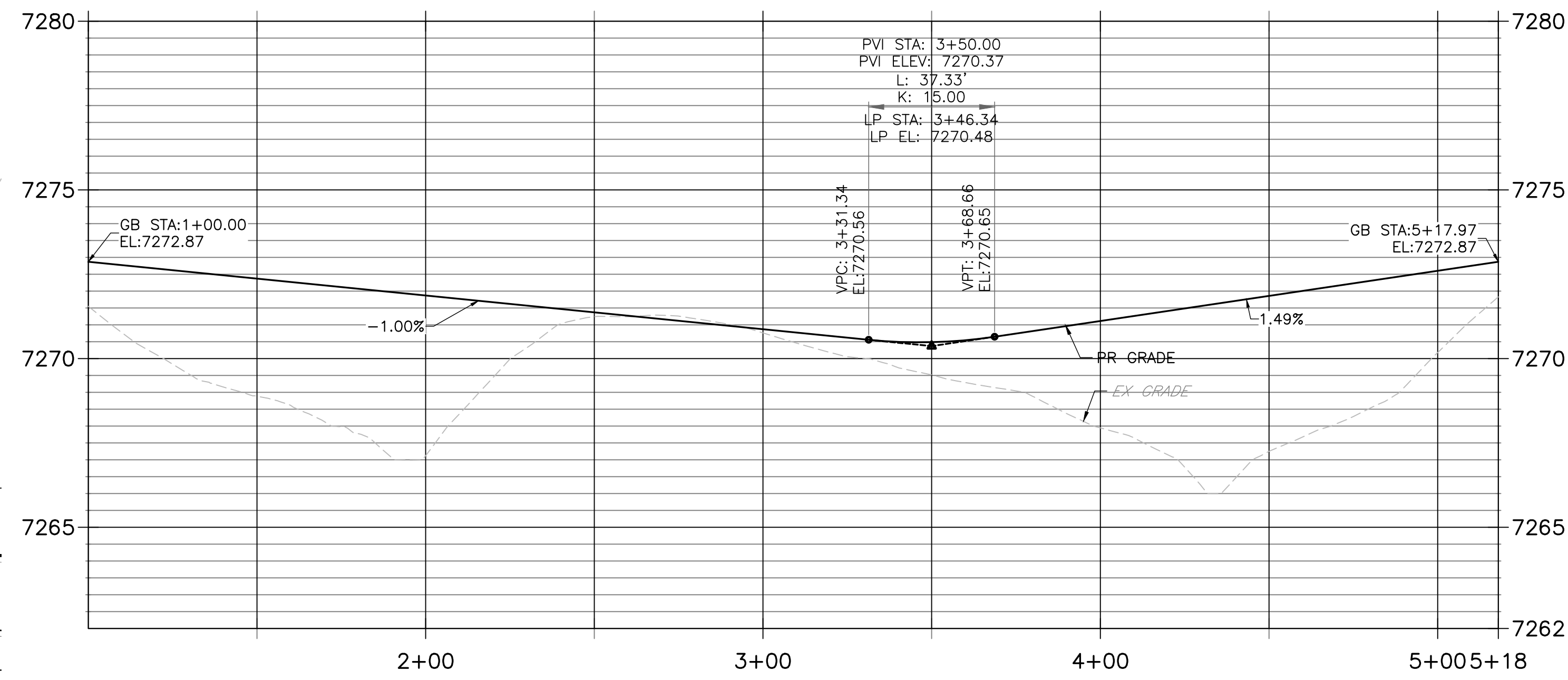


- NOTES:**
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 3. SEE SHEET 3 FOR TYPICAL SECTIONS OF ROADWAYS AND SWALES.
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ROAD A STA 0+00.00 TO 5+06.57



ROAD A CULDESAC EOA STA 1+00.00 TO 5+17.97

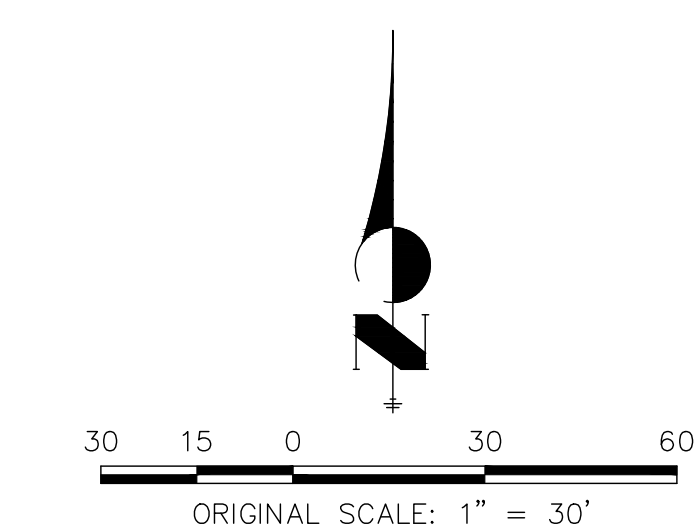


ENGINEER'S STATEMENT

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RYAN E. BURNS, P.E.
COLORADO P.E. 54412
FOR AND ON BEHALF OF ALL TERRAIN ENGINEERING, LLC

6/6/2026 DATE



PREPARED FOR:
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PO BOX 38939
COLORADO SPRINGS, CO 80937
GRANT LANGDON
(602) 957-0966
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DESIGN: REB
REVIEW: NQJ
DATE: 6/5/2026
H-SCALE: 1" = 30'
V-SCALE: 1" = 3'
SHEET
6 OF 20

ANTLER RANGE FILING NO. 1

ROAD A PLAN & PROFILE

JOE NO. 24031 LOCATION: EPC

ALL TERRAIN ENGINEERING, LLC
NORMAN G. ROBERT, PE
550 917 7600 - INFO@ALLTERRAIN.COM
20177 8886 - ROAD@ALLTERRAIN.COM



ANTER RANGE LLC
PO BOX 38939
COLORADO SPRINGS, CO 80937
GRANT LANGDON
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REV	DESCRIPTION
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REV	DESCRIPTION
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ANTLER RANGE FILING NO. 1

STORM PLAN & PROFILE

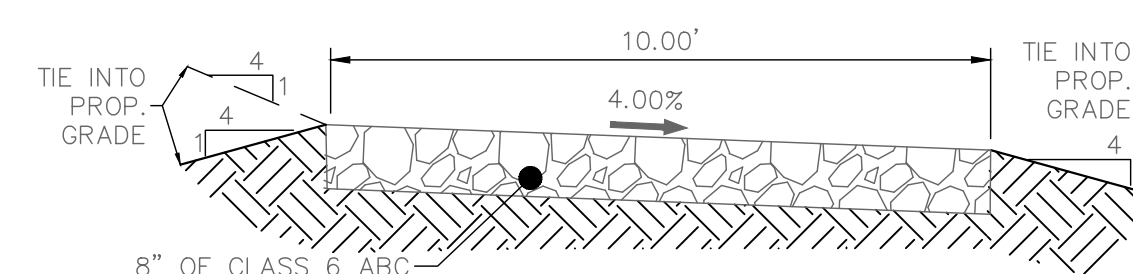
DESIGN: REB
REVIEW: NQJ
DATE: 6/5/2026

-SCALE: 1" = 20'

SCALE: 1" = 2'

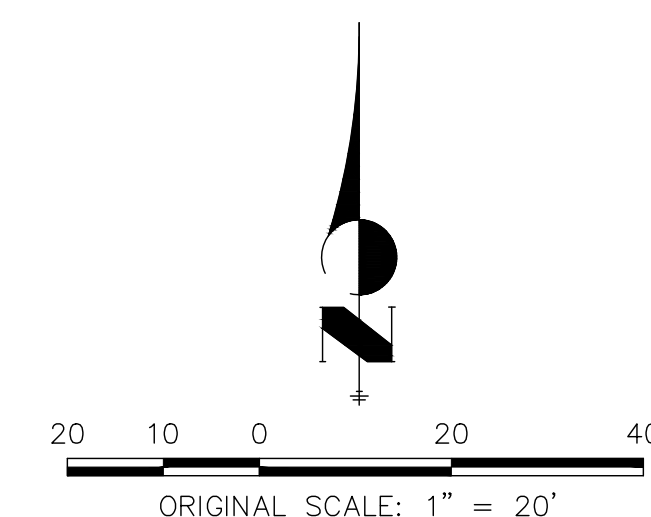
SHEET

7 OF 20



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 RYAN E. BURNS, P.E.
 COLORADO P.E. 54412
 FOR AND ON BEHALF OF ALL TERRAIN ENGINEERING, LLC

[illegible]

ANILK RAJGIL PILING NO. 1

THEORY & PRACTICE

DESIGN: REB
REVIEW: NQJ
DATE: 6/5/2026

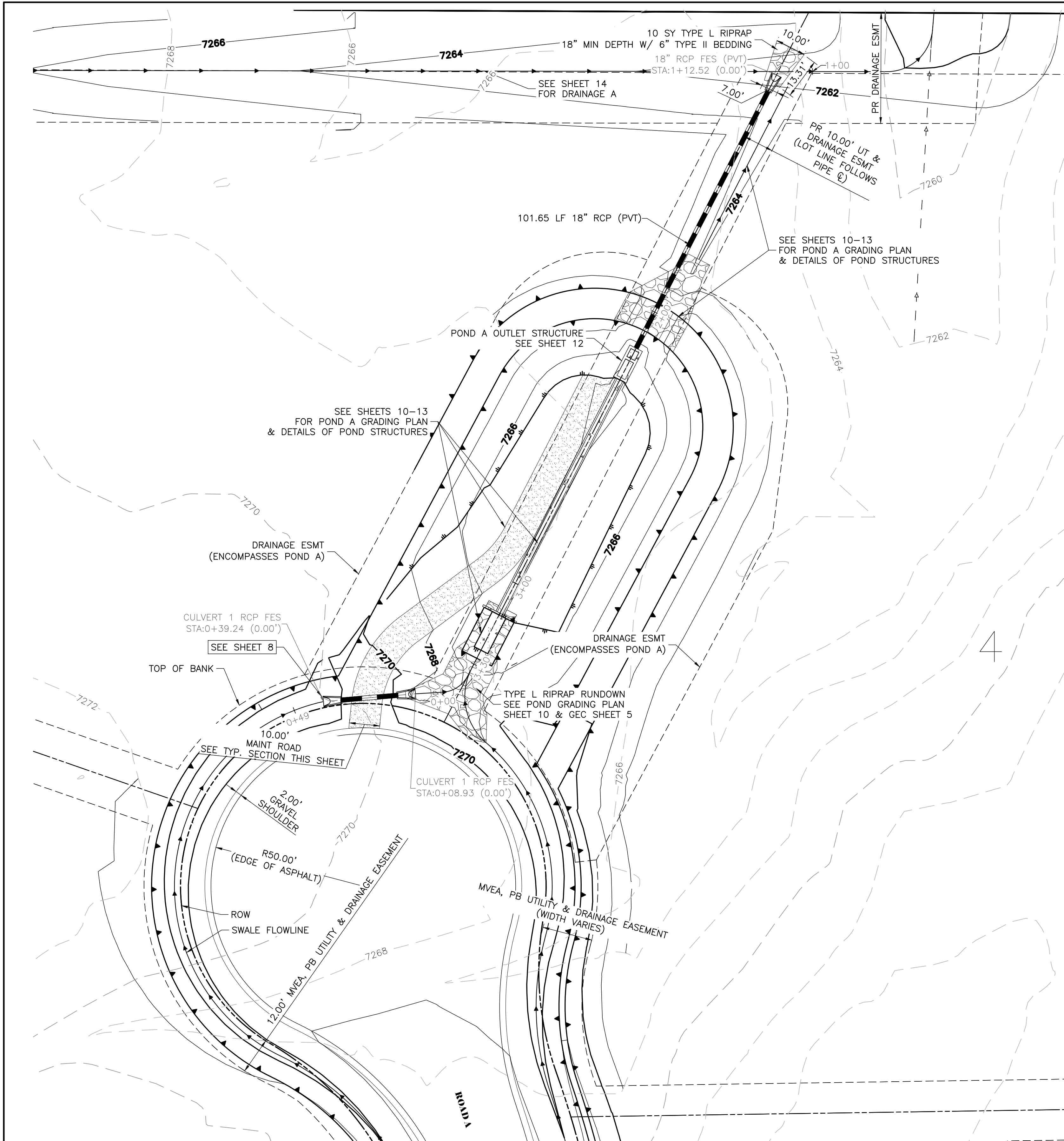
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1/4" = 2'

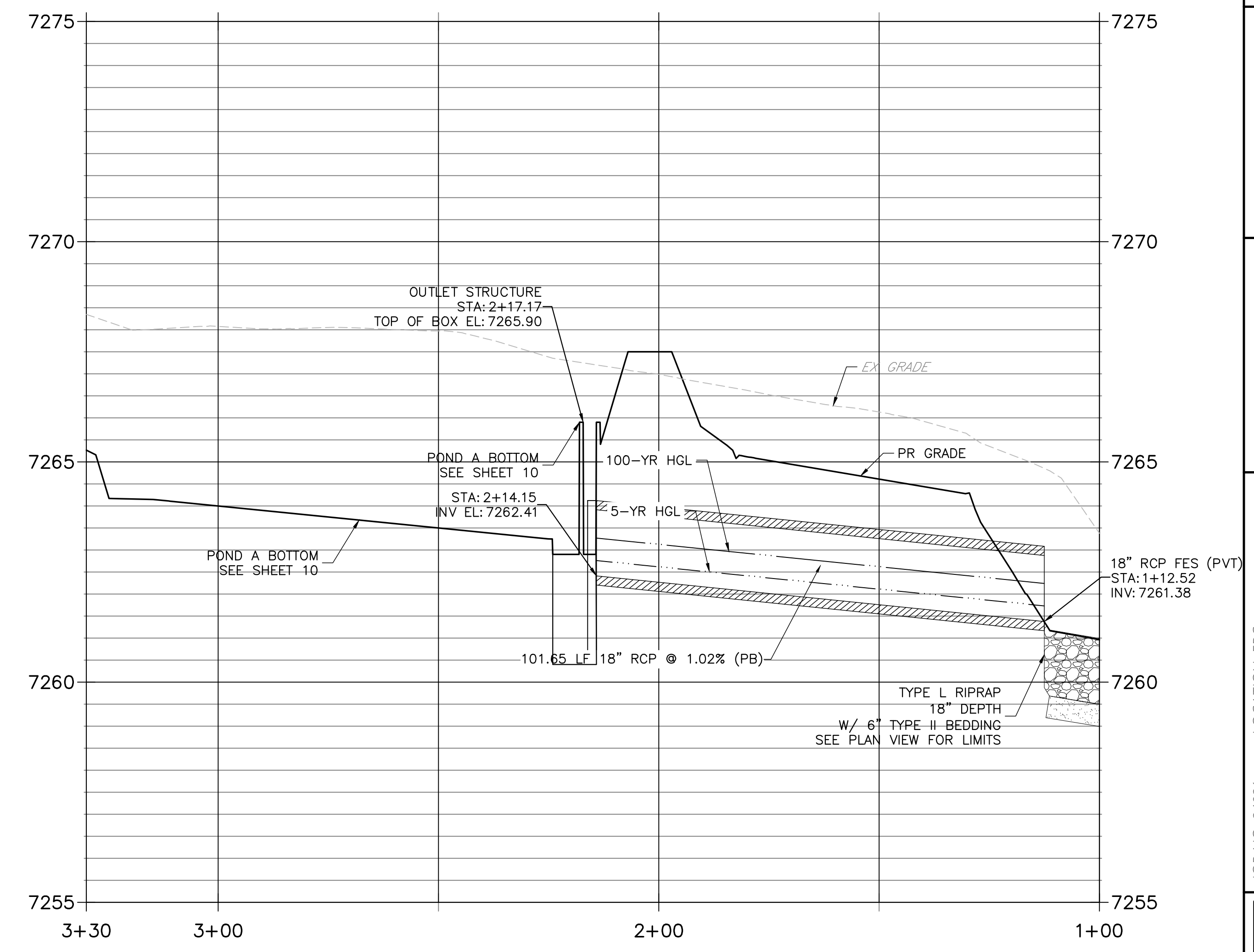
SHEET

OF 20

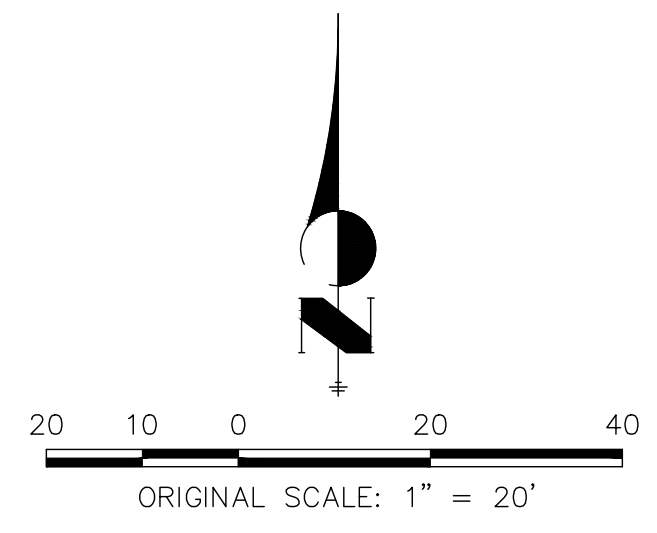
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**POND A OUTFALL
STA 1+00.00 TO 3+29.91**



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RYAN E. BURNS, P.E.
COLORADO P.E. 54412
FOR AND ON BEHALF OF ALL TERRAIN ENGINEERING, LLC

6/6/26

ALL TERRAIN ENGINEERING

RYAN E. BURNS, P.E.
54412
6/6/26

PREPARED FOR:

ANTLER RANGE LLC
PO BOX 38939
COLORADO SPRINGS, CO 80937
GRANT LANGDON
(602) 957-0966
GL@GLANGDON.COM

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, ALL TERRAIN ENGINEERING APPROVES THEIR USE ONLY FOR THE PURPOSES DESIGNATED BY WRITTEN AUTHORIZATION.

REV	DESCRIPTION	DATE

JOB NO: 24031 LOCATION: EPC

ANTLER RANGE FILING NO. 1

STORM PLAN & PROFILE

DESIGN: REB
REVIEW: NQJ
DATE: 6/5/2026
H-SCALE: 1" = 20'
V-SCALE: 1" = 2'

SHEET
9 OF 20

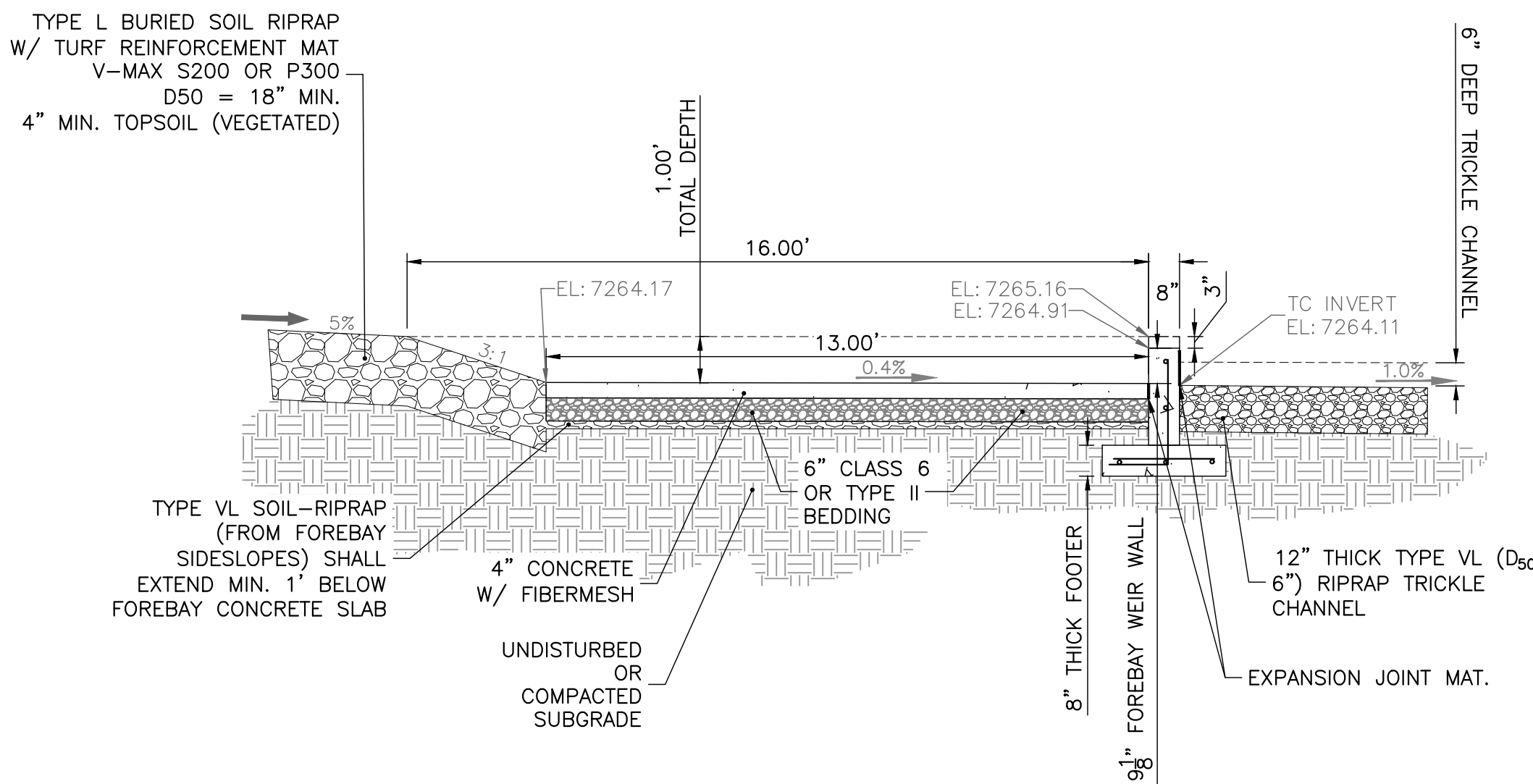
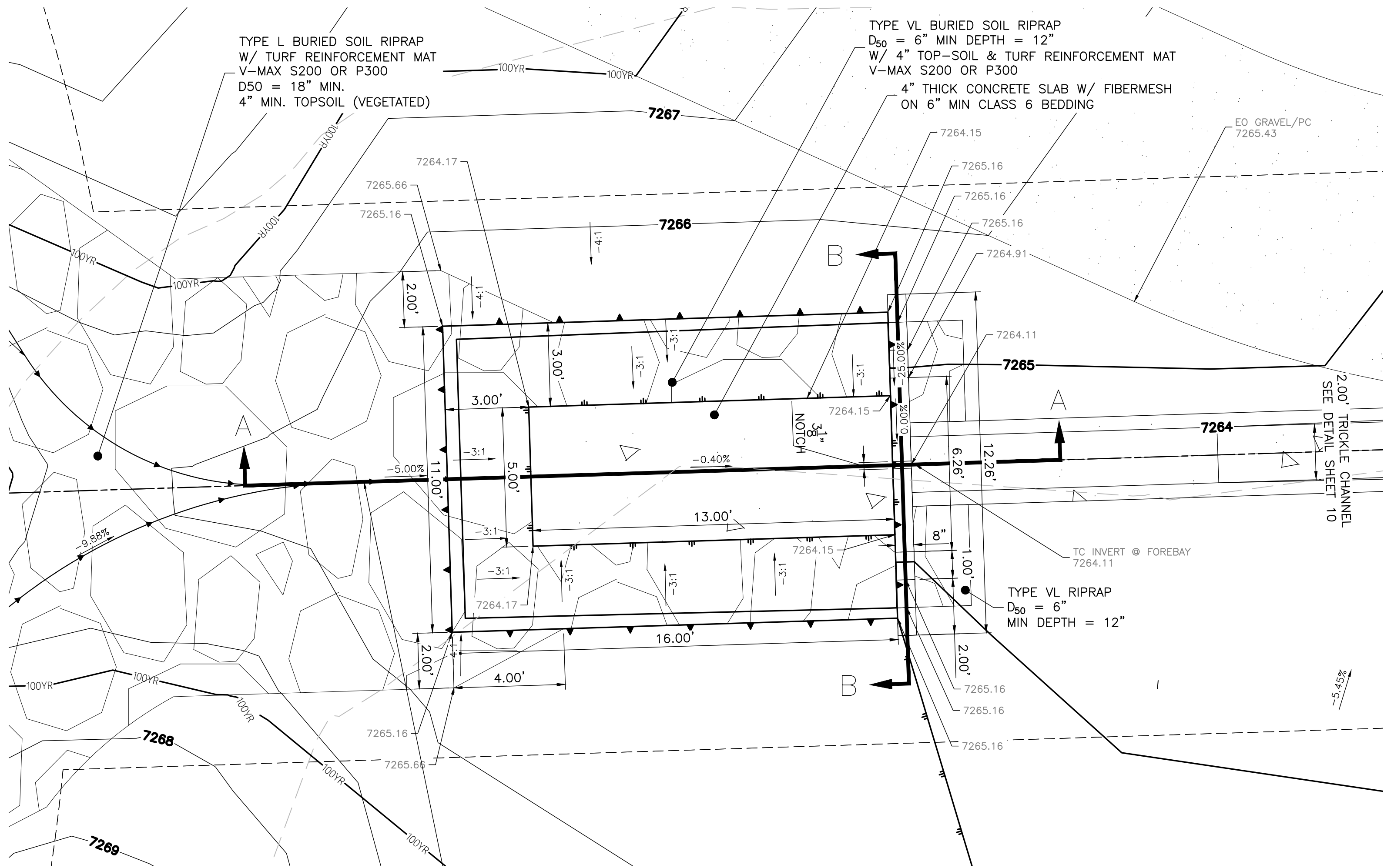


Know what's below.
Call before you dig.

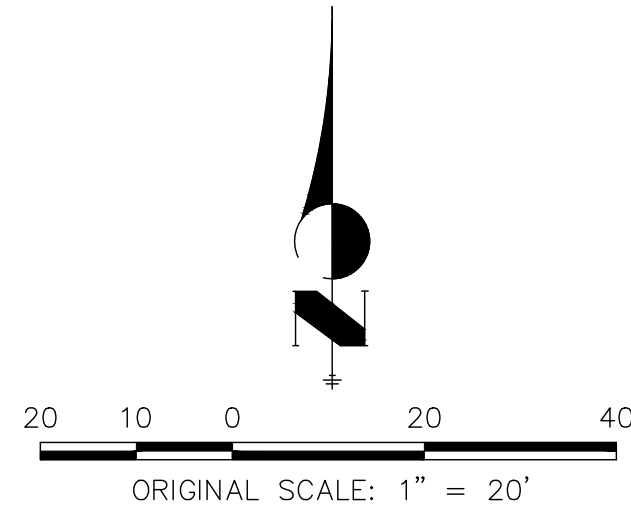
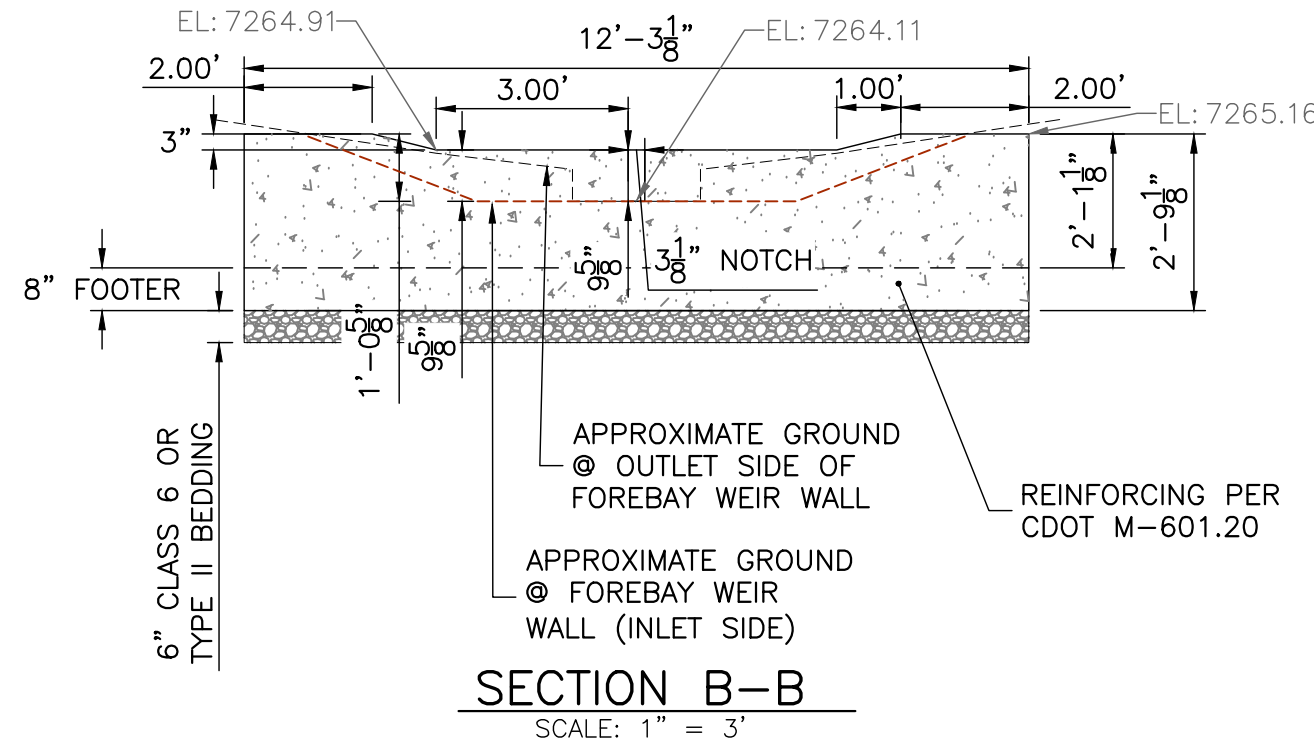
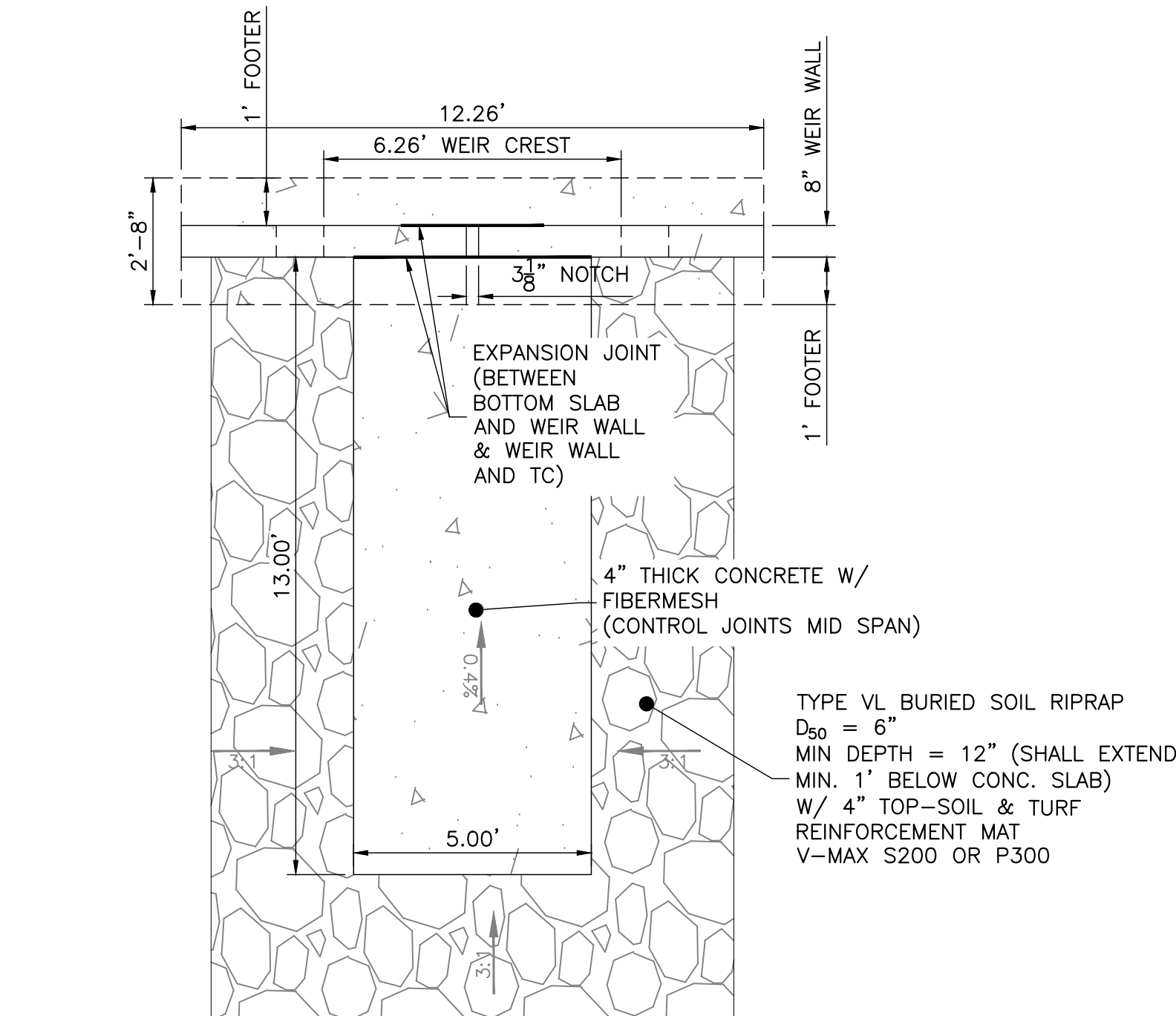
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CAST-IN-PLACE STRUCTURAL NOTES:

1. ALL CONSTRUCTION JOINTS SHALL BE THOROUGHLY CLEANED BEFORE FRESH CONCRETE IS POURED.
2. ALL CONSTRUCTION JOINTS NOT SHOWN ON THE PLANS SHALL BE APPROVED BY THE ENGINEER.
3. THE CONTRACTOR IS RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING CONSTRUCTION.
4. DO NOT BACKFILL UNTIL CONCRETE HAS REACHED DESIGN STRENGTH, F_c.
5. ALL EXPOSED CONCRETE CORNERS SHALL BE CHAMFERED 3/4".
6. CONTRACTOR SHALL SUBMIT STEEL REINFORCING SHOP DRAWINGS FOR ALL CAST-IN-PLACE STRUCTURES FOR ENGINEER'S APPROVAL PRIOR TO CONSTRUCTION. REINFORCING SHOWN IS FOR INFORMATION ONLY.
7. HEADWALLS FOR PIPES SHALL BE CONSTRUCTED PER CDOT M-601-10.
8. WINGWALLS SHALL BE CONSTRUCTED PER CDOT M-601-20.
9. SEE GENERAL STRUCTURE NOTES ON SHEET 4.



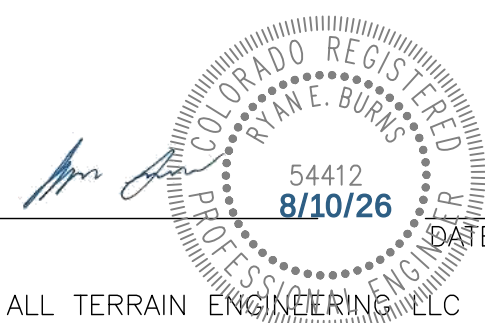
SECTION A-A
SCALE: 1" = 3'



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COLORADO P.E. 54412
FOR AND ON BEHALF OF ALL TERRAIN ENGINEERING, LLC



PREPARED FOR:
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JOB NO: 24031	LOCATION: EPC	DATE
REV	DESCRIPTION	

ANTLER RANGE FILING NO. 1

POND A FOREBAY & SPILLWAY DETAILS

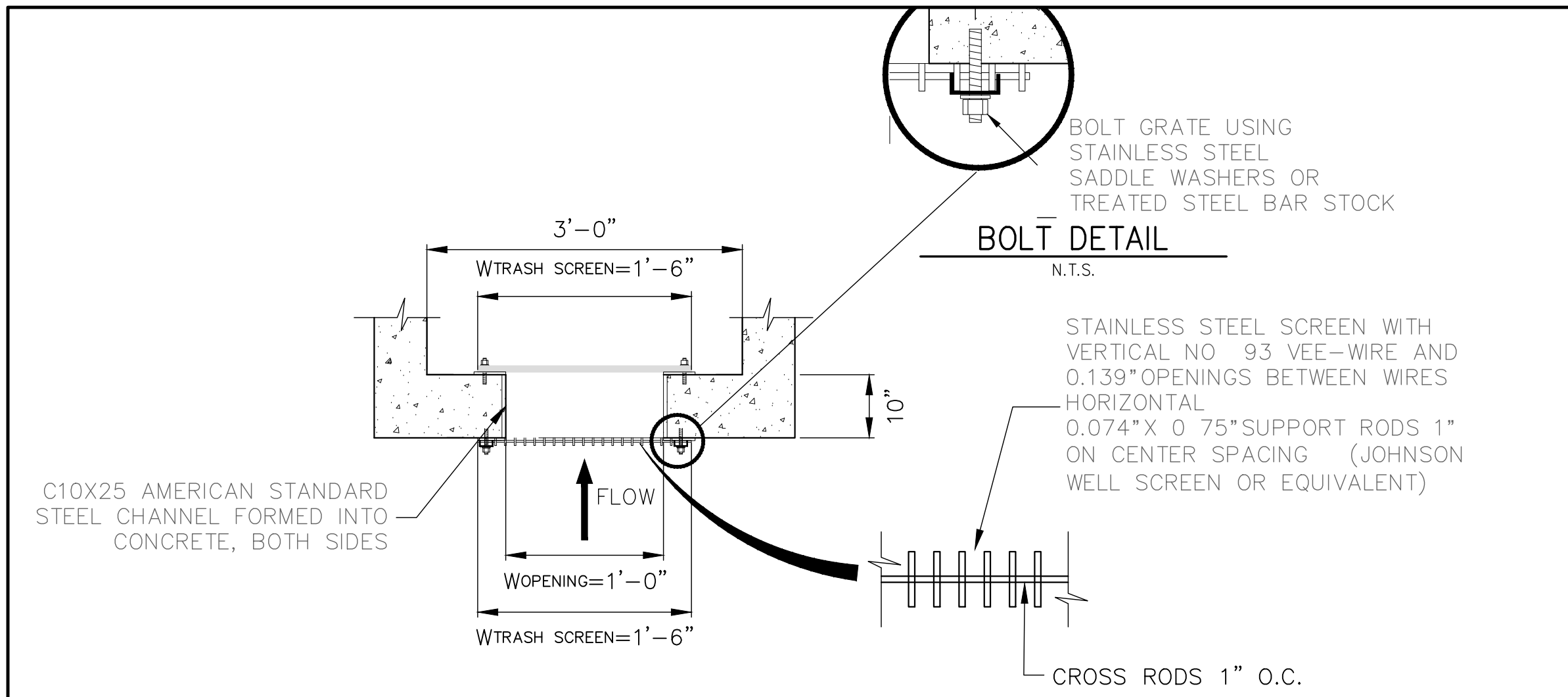
DESIGN: REB
REVIEW: NQJ
DATE: 8/10/2026

H-SCALE: 1" = 20'

V-SCALE: 1" = 2'

SHEET

11 OF 20



TRASH SCREEN AND PLATE
DETAIL (PLAN)

N.T.S.

GENERAL STRUCTURE NOTES:

ALL WORK SHALL BE DONE IN ACCORDANCE WITH CITY OR COUNTY STANDARD CONSTRUCTION SPECIFICATIONS. EXCEPT AS SHOWN IN THE PLANS, STRUCTURE EXCAVATION AND BACKFILL SHALL BE IN ACCORDANCE WITH CDOT M-206-1, AND M-206-2 EXPANSION JOINT MATERIAL SHALL MEET AASHTO SPECIFICATION M-213.

THE INFORMATION SHOWN ON THESE PLANS CONCERNING THE TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. THE CONTRACTOR SHALL CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO AT 1-800-922-1987 AT LEAST 2 DAYS (NOT INCLUDING THE DAY OF NOTIFICATION) PRIOR TO ANY EXCAVATION OF OTHER.

THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DESIGNING AND PROVIDING ALL BRACING AND SHORING AS REQUIRED FOR THE PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE EXCAVATION PROCEDURES INCLUDING ANY SHORING REQUIRED FOR THE PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION.

THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL METHODS AND MEANS OF CONSTRUCTION AS WELL AS ALL JOB SITE SAFETY & HEALTH PRECAUTIONS.

ALL SOILS WORK INCLUDING (BUT NOT LIMITED TO) PIER DRILLING AND CONSTRUCTION, SOILS EXCAVATION, FILL PLACEMENT, AND STRUCTURE BACKFILL SHALL BE IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL REPORT, UNLESS MORE STRINGENT REQUIREMENTS ARE PRINTED ON THE "IRRIGATION NOTES".

BACKFILL SHALL NOT BEGIN UNTIL CONCRETE WALLS REACH COMPRESSION STRENGTH AT LEAST 80 PERCENT OF THE REQUIRED 28 DAY STRENGTH, 0.8fc'.

REINFORCED CONCRETE:
CLASS D CONCRETE: $f_c' = 4,500$ psi
REINFORCING STEEL: $f_y = 60,000$ psi
ALL CAST-IN-PLACE CONCRETE SHALL BE CLASS D UNLESS NOTED OTHERWISE.

REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60 U.N.O.
REINFORCING BARS TO BE WELDED SHALL CONFORM TO ASTM A706, GRADE 60.
ALL REINFORCING, EXCEPT PIER REINFORCING, SHALL BE EPOXY COATED AND SHALL CONFORM TO ASTM A775.
ALL REINFORCING SHALL HAVE 2" CONCRETE COVER, U.N.O. ON PLANS, 3" AGAINST GROUND (BOTTOM SLAB).
ALL REINFORCING SHALL BE HOOKED AROUND CORNERS AND LAPPED, SEE DETAILS.
ALL LAP SPICE LOCATIONS SHALL BE SUBMITTED TO ENGINEER FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.

THE FOLLOWING TABLE GIVES THE MINIMUM CLASS B (STAGGERED) LAP SPICE LENGTH FOR EPOXY COATED REINFORCING BARS PLACED IN ACCORDANCE WITH SUBSECTION 602.06. THESE SPICE LENGTHS SHALL BE INCREASED BY 25% FOR BARS SPACED AT LESS THAN 6" ON CENTER, INCREASED BY 40% FOR HORIZONTAL BARS WITH MORE THAN 12" OF CONCRETE BELOW (TOP BARS), AND INCREASED BY 75% IF BOTH CONDITIONS EXIST. THE INCREASES ABOVE FOR #6 THRU #11 BARS MAY BE 25%, 13%, AND 42% RESPECTIVELY.

#4	1'-3"	#5	1'-7"
#6	2'-5"	#7	2'-10"
#8	3'-8"	#9	4'-8"
#10	5'-11"	#11	7'-3"

WHEN THE CONTRACTOR ELECTS TO SUBSTITUTE EPOXY COATED REINFORCEMENT FOR BLACK REINFORCING BARS. THE MINIMUM LAP SPICE SHALL BE AS DESCRIBED ABOVE.

STATIONS, ELEVATIONS, AND DIMENSIONS CONTAINED IN THESE PLANS ARE CALCULATED FROM A RECENT FIELD SURVEY. THE CONTRACTOR SHALL VERIFY ALL DEPENDENT DIMENSIONS IN THE FIELD BEFORE ORDERING OR FABRICATING ANY MATERIAL.

THE CONTRACTOR SHALL SUBMIT REINFORCING STEEL PLACING DRAWINGS (PRIOR TO CONSTRUCTION) TO THE ENGINEER FOR REVIEW FOR CONFORMANCE WITH THE DESIGN DRAWINGS. THE DESIGN DRAWINGS SHALL GOVERN OVER PLACING DRAWINGS IN ALL CASES UNLESS MODIFICATIONS ARE APPROVED IN WRITING BY ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING CONSTRUCTION.

E.F. = EACH FACE
F.E. = FAR FACE
N.F. = NEAR FACE
I.F. = INSIDE FACE
T.W. = TWO WAY
E.S. = EACH SIDE
O.F. = OUTSIDE FACE
T.&B. = TOP AND BOTTOM
T.F. = TOP FACE
B.F. = BOTTOM FACE
T.F. = TWO FACES
Lp = LAP LENGTH

OUTLET STRUCTURE PLATE, GRATE, AND RAIL NOTES:

ORIFICE PLATE:

- PROVIDE CONTINUOUS EPDM GASKET $\frac{1}{4}$ " THICK BETWEEN ORIFICE PLATE AND STRUCTURE.
- THE GASKET SHALL BE MADE OF 1/4-INCH THICK, 60 DUROMETER EPDM RUBBER IN A CONTINUOUS SHEET THE SIZE OF THE ORIFICE PLATE. THE SHEET SHALL BE PLACED BETWEEN THE ORIFICE PLATE AND THE CONCRETE WALL, WITH THE WIDTH OF THE OVERLAP BETWEEN THE PLATE AND THE CONCRETE, OPENINGS SHALL BE CUT INTO THE SHEET CORRESPONDING TO THE PLATE BOLT HOLES AND THE CONCRETE WALL OPENING, CUTS MADE EITHER BY THE CONTRACTOR IN THE FIELD OR BY THE MANUFACTURER, OR EQUIVALENT APPROVED BY EPC.
- BOLT PLATE TO CONCRETE 12" MAX. ON CENTER.

TRASH RACKS & GRATES:

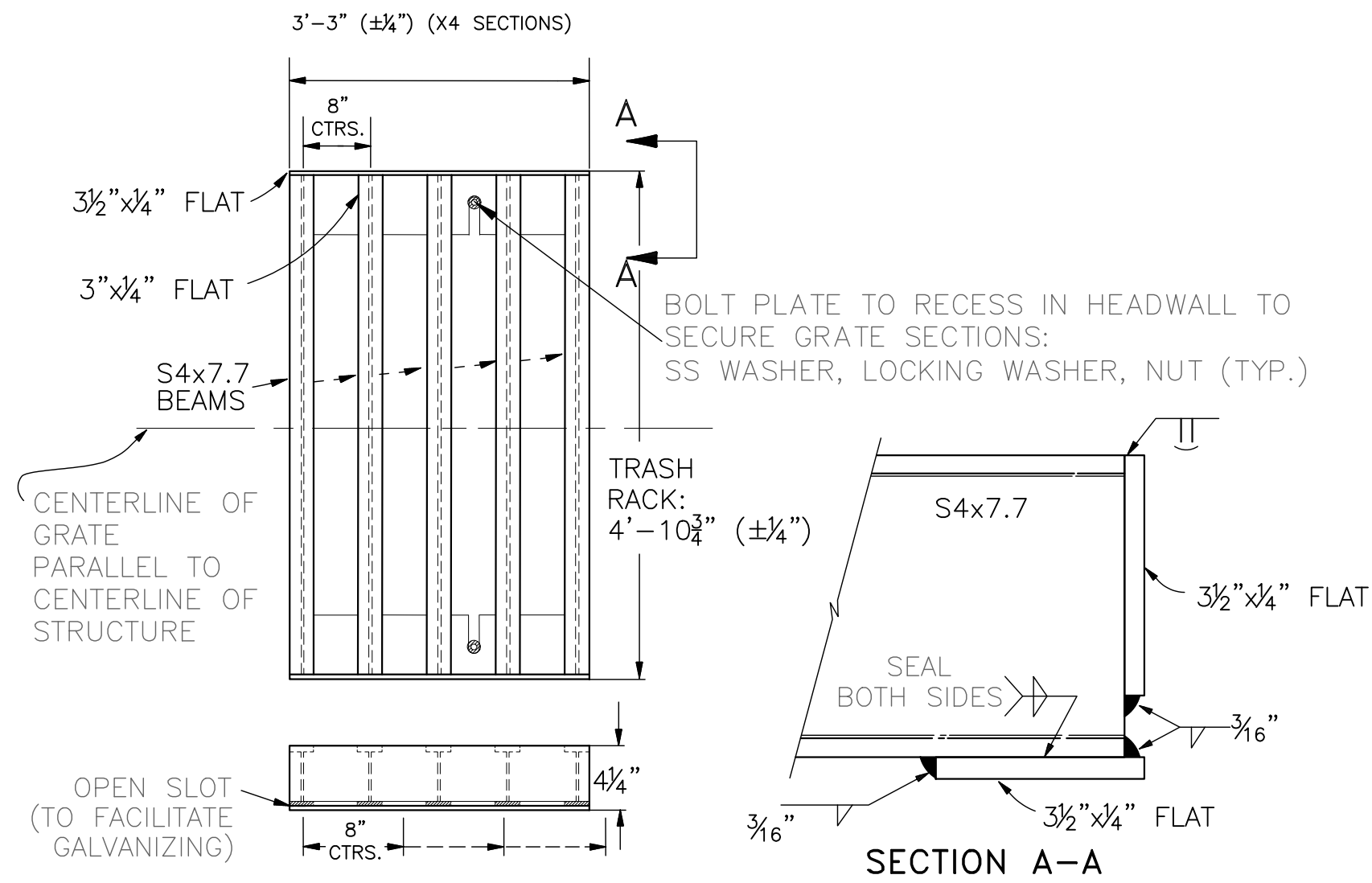
- RACKS AND GRATE OPEN AREAS ARE FOR THE SPECIFIED MATERIALS/MANUFACTURERS. ALTERNATIVE MANUFACTURERS AND MATERIALS WITH DIFFERING DIMENSIONS ARE ACCEPTABLE PROVIDED THEY MEET THE GROSS OPEN AREA RATIO (R VALUE) AND ARE CONSIDERED EQUAL BY THE ENGINEER AND EPC. SUBSTITUTIONS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO PROCUREMENT.
- TRASH RACKS SHALL BE 1 1/2" SCH.40 STEEL PIPE, GALVANIZED, @ 6" CENTERS. SUPPORT BARS SHALL BE 1/2"x2" STEEL RECTANGULAR BARS, GALVANIZED, @ 36". ALL TRASH RACKS SHALL BE MOUNTED USING STAINLESS STEEL HARDWARE.
- REMOVABLE TRASH RACK SECTIONS SHALL BE MOUNTED USING STAINLESS STEEL HARDWARE AND PROVIDED WITH HINGED & LOCKABLE OR BOLTABLE ACCESS PANELS AS SHOWN ON THE PLANS.
- STEEL TRASH RACKS SHALL BE HOT DIP GALVANIZED AND MAY BE HOT POWDER COATED AFTER GALVANIZING.
- STRUCTURAL STEEL FOR GRATES, ORIFICE PLATES, AND BARS SHALL BE GALVANIZED AND SHALL BE IN ACCORDANCE WITH CDOT STANDARD SPECIFICATIONS, SUBSECTION 712.06.
- ALL HARDWARE, BOLTS, AND FASTENERS SHALL BE STAINLESS STEEL.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL PLATES AND GRATING FOR ENGINEER'S APPROVAL PRIOR TO CONSTRUCTION.

HAND RAILS:

- WELD PLATES MAY BE SUBSTITUTED FOR PIPE EMBEDMENT.
- STRUCTURES THAT CREATE A 30" OR GREATER DROP HEIGHT REQUIRE HAND RAILS FOR FALL PROTECTION.
- CONTRACTOR TO ENSURE HANDRAIL DESIGN AND MOUNTING SYSTEM IS COMPATIBLE WITH HW/WW DESIGN AND REINFORCING.
- DESIGN CRITERIA SHALL BE ACCORDANCE W/ AASHTO

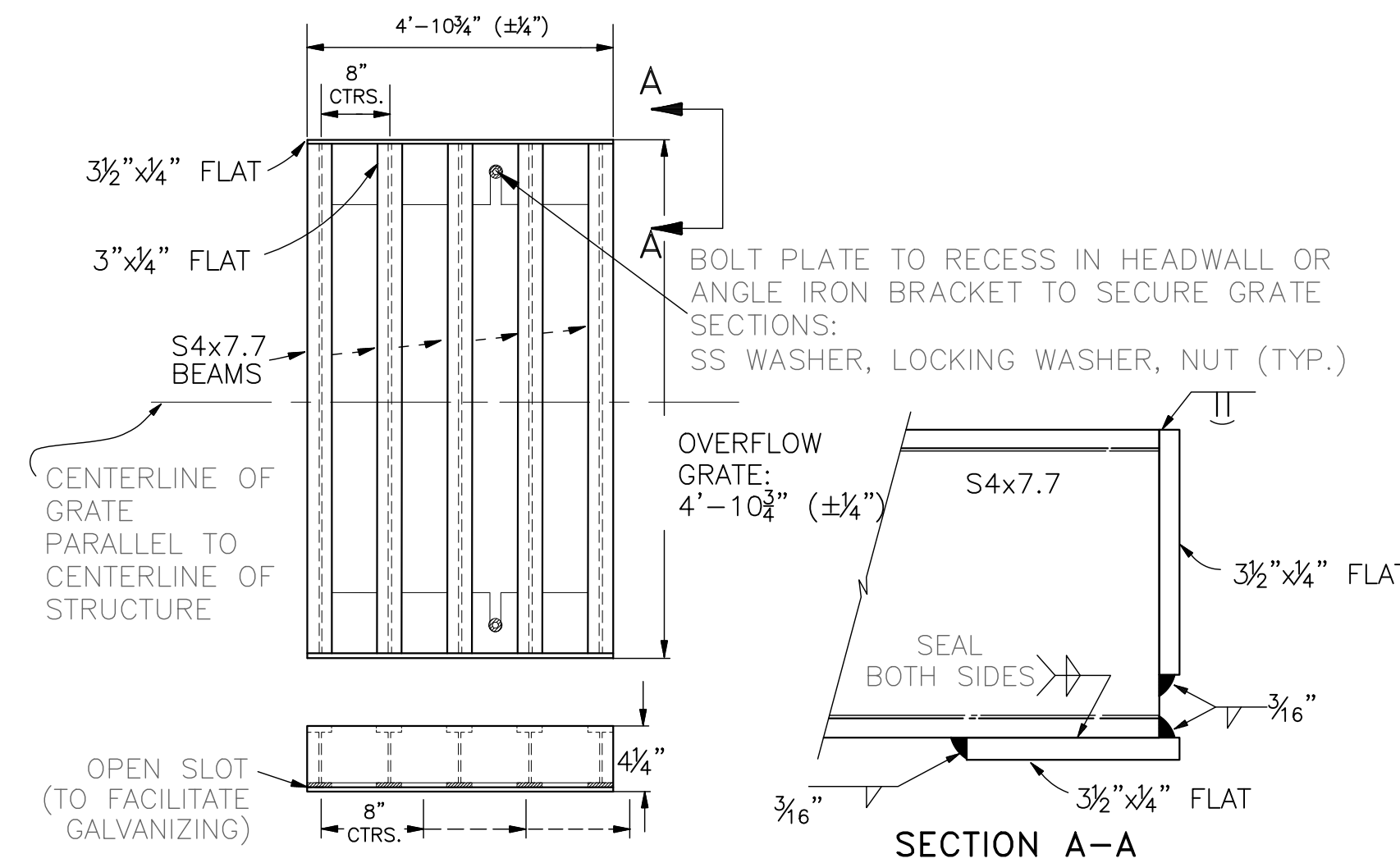
TRASH SCREEN DETAIL

N.T.S.



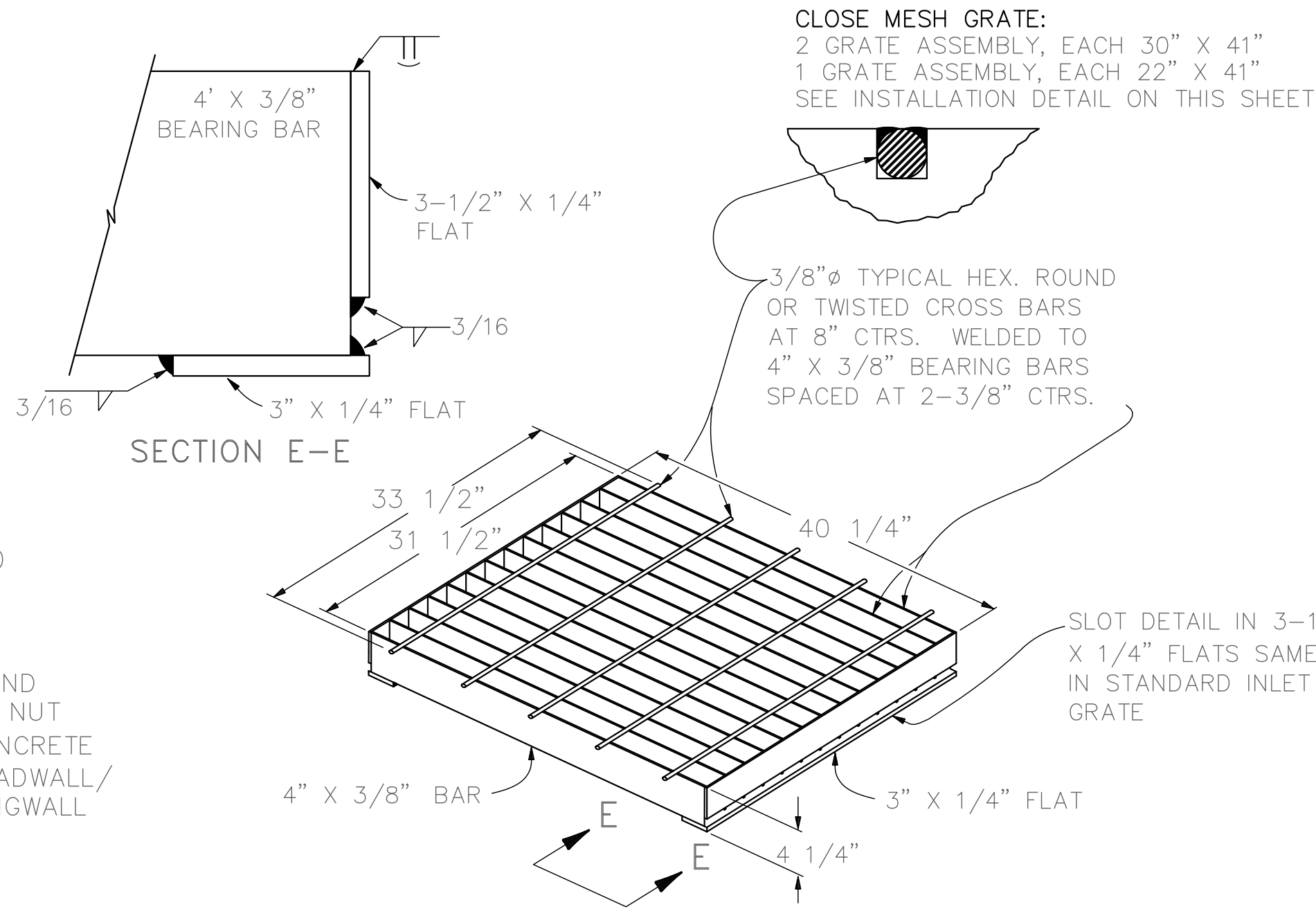
TRASH RACK DETAILS

N.T.S.



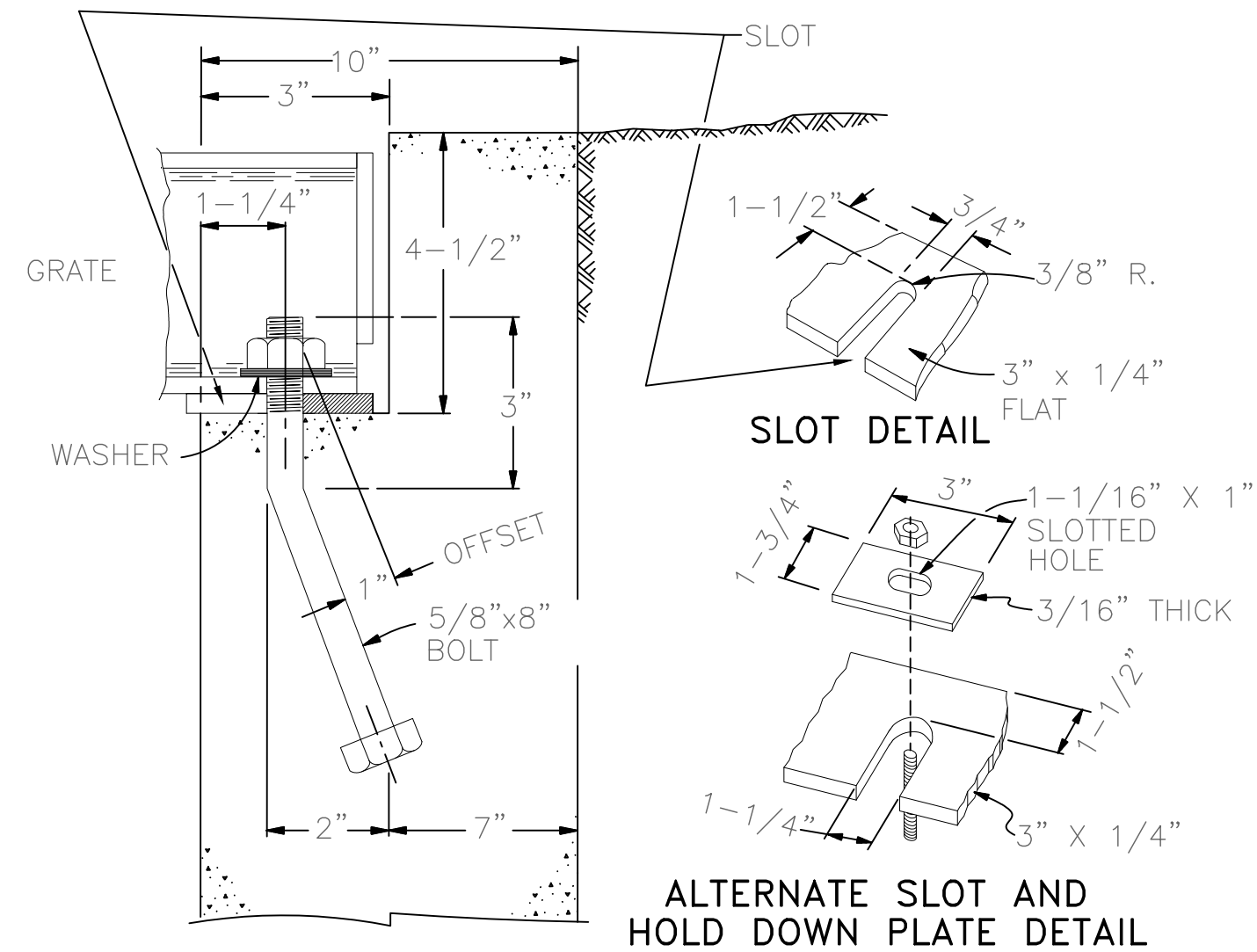
OVERFLOW GRATE DETAILS

N.T.S.



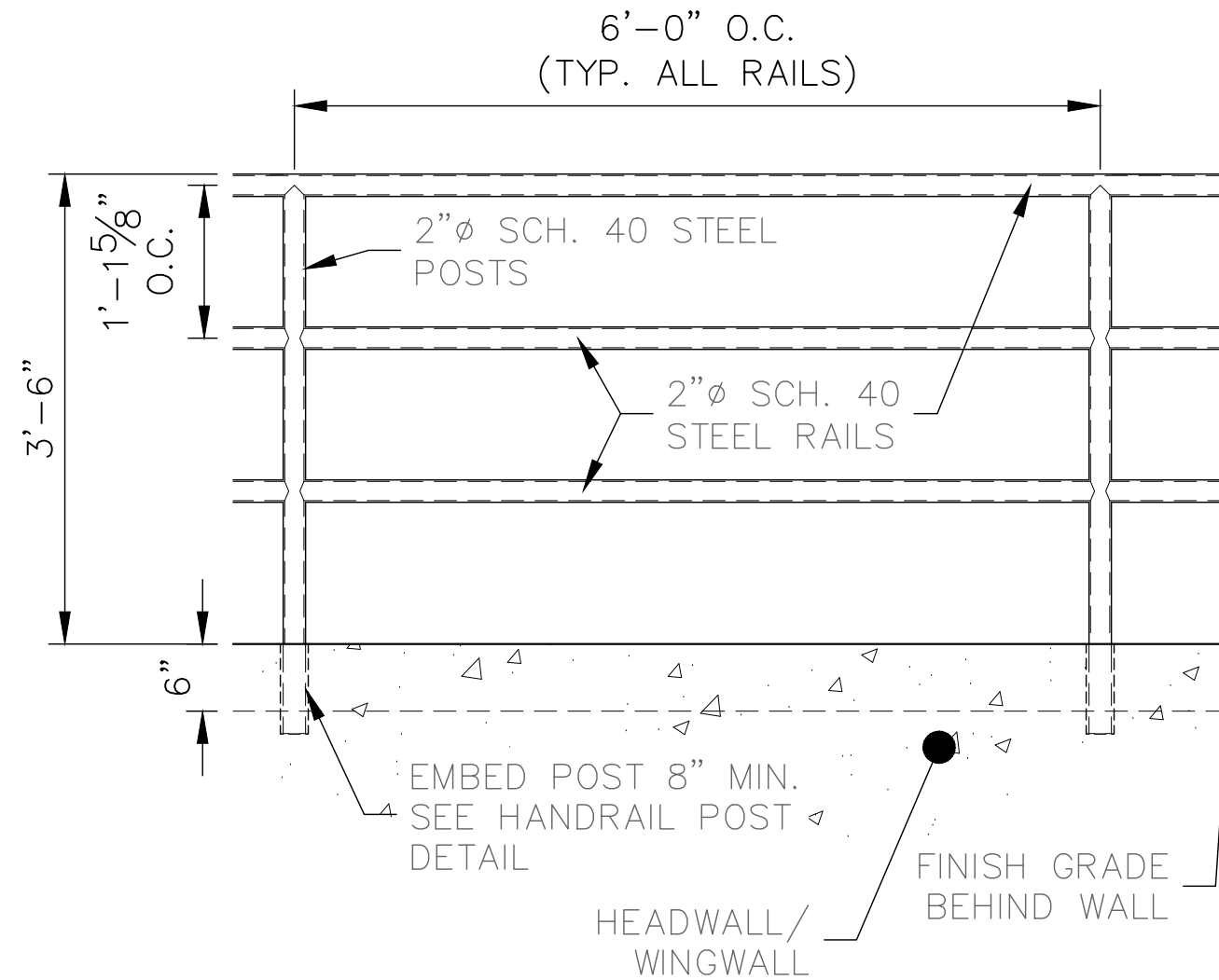
CLOSE MESH GRATE DETAIL

N.T.S.



OVERFLOW GRATE/TRASH RACK
INSTALLATION DETAIL

N.T.S.



PEDESTRIAN RAILING DETAIL

SCALE: NTS

ENGINEER'S STATEMENT

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

RYAN E. BURNS, P.E.
COLORADO P.E. 54412
FOR AND ON BEHALF OF ALL TERRAIN ENGINEERING, LLC

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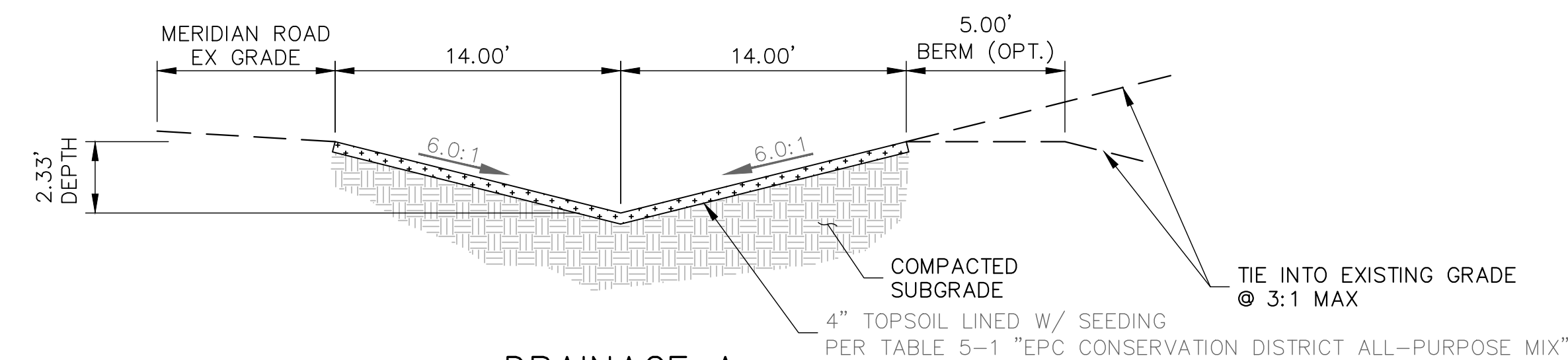
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DRAWINGS ARE APPROVED BY THE
APPROPRIATE REVIEWING
AGENCIES, ALL TERRAIN
ENGINEERING APPROVES THEIR
USE ONLY FOR THE PURPOSES
DESIGNATED BY WRITTEN
AUTHORIZATION.

DATE

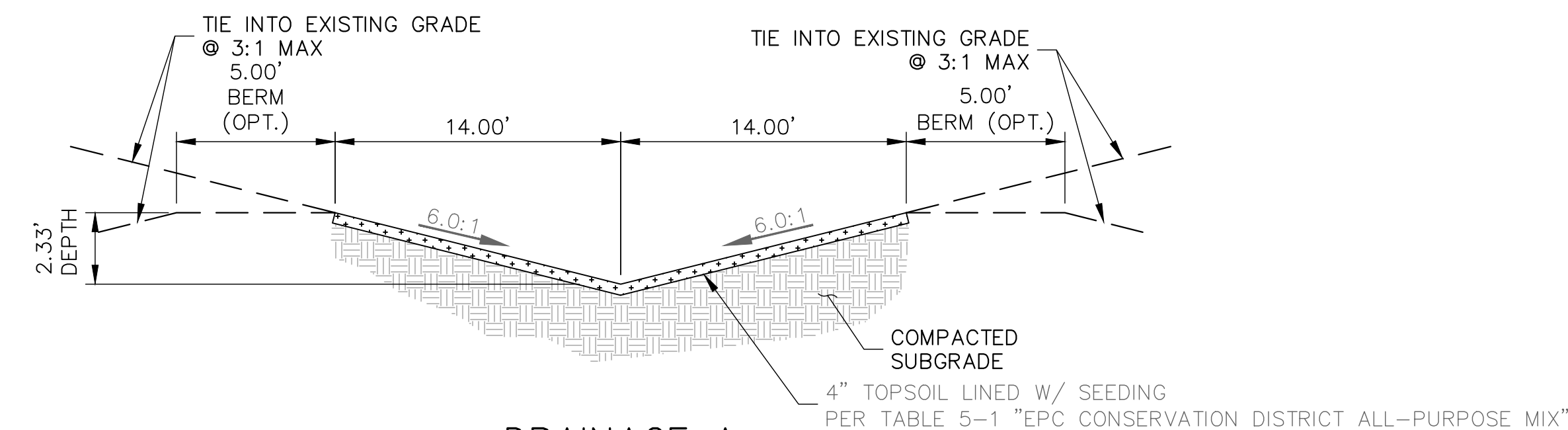
ANTLER RANGE FILING NO. 1

POND A OUTLET STRUCTURE DETAILS

DESIGN: REB
REVIEW: NJQ
DATE: 6/5/2026
H-SCALE: NTS
V-SCALE: NTS
SHEET
12 OF 20



DRAINAGE A
ADJACENT TO MERIDIAN ROAD
SCALE: NTS



DRAINAGE A
ADJACENT TO FILING 1 NORTH PL

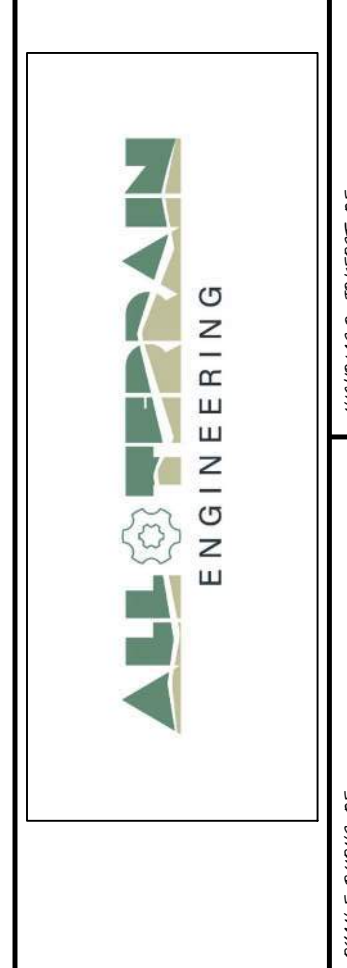
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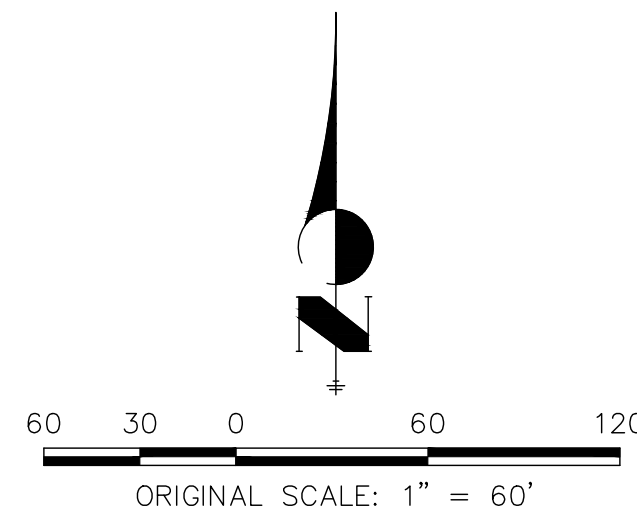
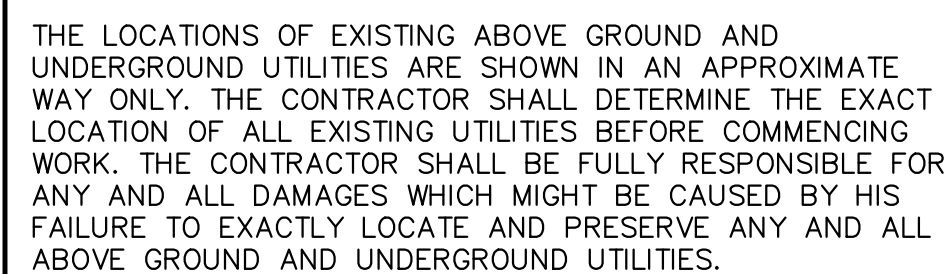


**Know what's below.
Call before you dig.**

RYAN E. BURNS, P.E.
COLORADO P.E. 54412
FOR AND ON BEHALF OF ALL TERRAIN ENGINEERING LLC

14 OF 2



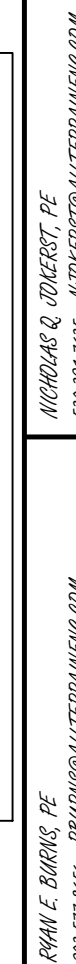


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COLORADO P.E. 54412
FOR AND ON BEHALF OF ALL TERRAIN ENGINEERING, LLC

ANTLER RANGE FILING NO. 1	DRAINAGE A2 PLAN & PROFILE
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SHEET

15 OF 20

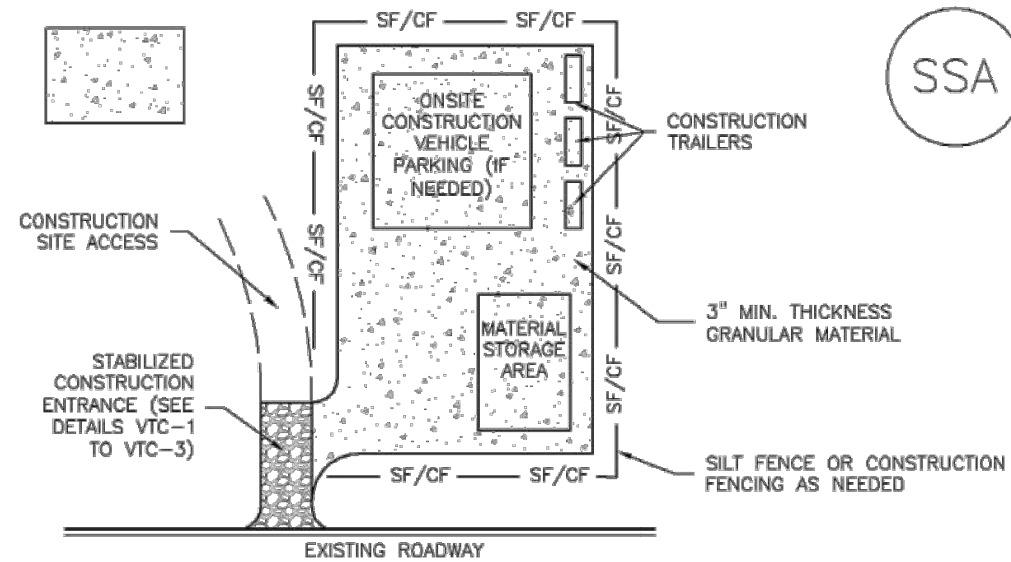


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Stabilized Staging Area (SSA)

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, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.
6. ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SILT FENCE AND CONSTRUCTION FENCING.

STABILIZED STAGING AREA MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.

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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, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.

NOTE: MANY MUNICIPALITIES PROHIBIT THE USE OF RECYCLED CONCRETE AS GRANULAR MATERIAL FOR STABILIZED STAGING AREAS DUE TO DIFFICULTIES WITH RE-ESTABLISHMENT OF VEGETATION IN AREAS WHERE RECYCLED CONCRETE WAS PLACED.

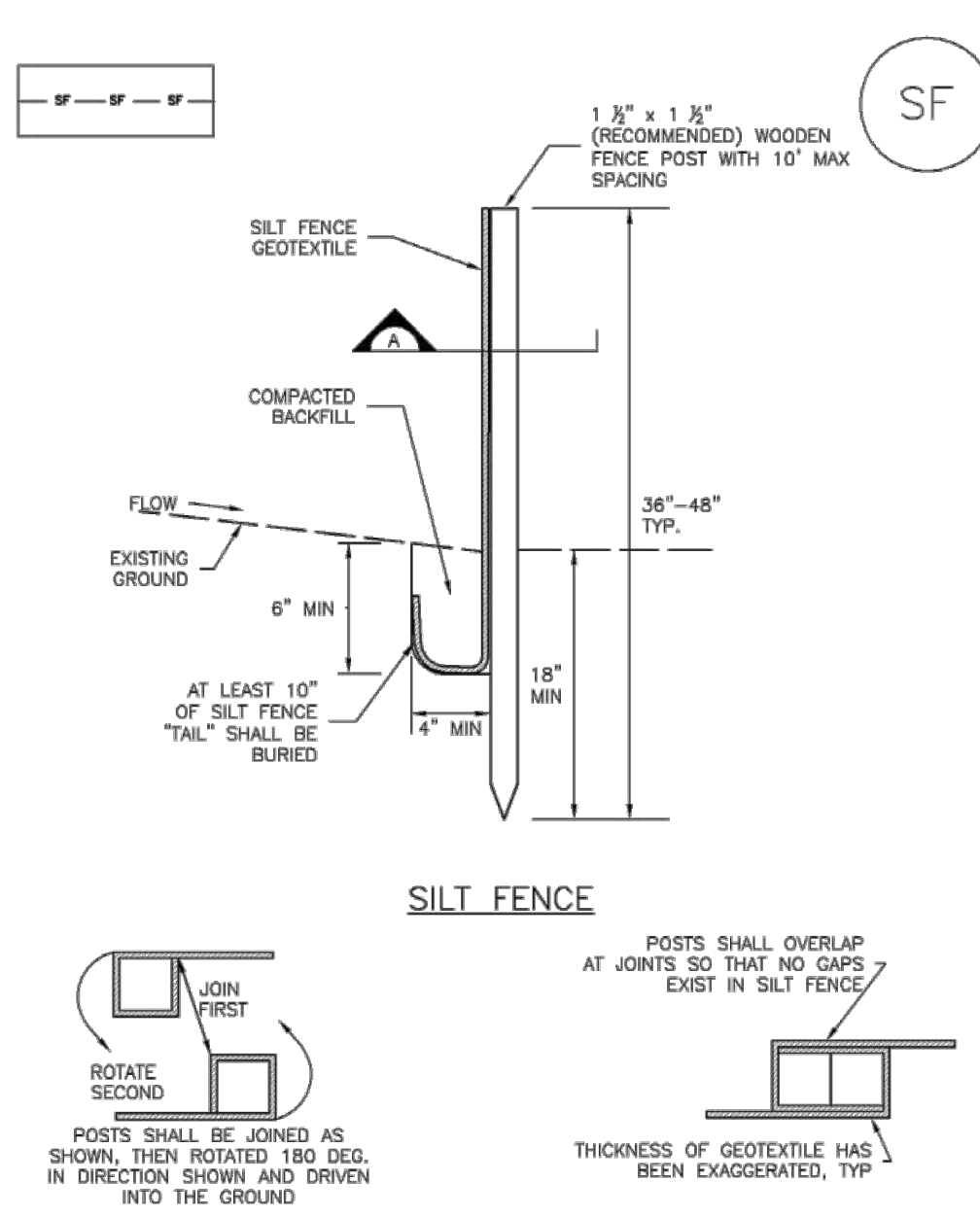
NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

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

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

Silt Fence (SF)

SC-1



SILT FENCE

SECTION A

SF-1. SILT FENCE

November 2010 Urban Drainage and Flood Control District SF-3
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SC-1

Silt Fence (SF)

SILT FENCE INSTALLATION NOTES

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

SILT FENCE MAINTENANCE NOTES

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

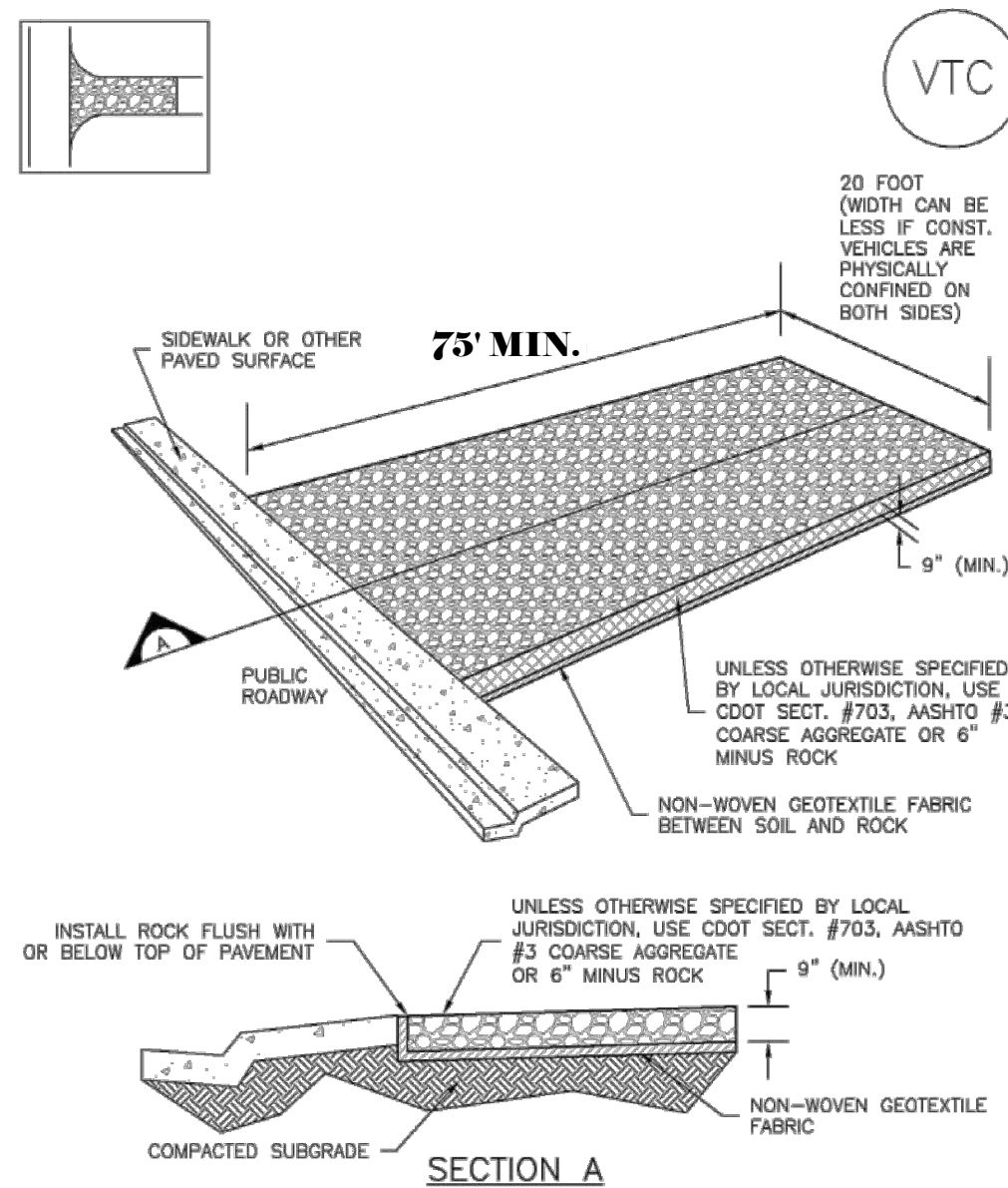
(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, NOT AVAILABLE IN AUTOCAD)

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

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

Vehicle Tracking Control (VTC)

SM-4

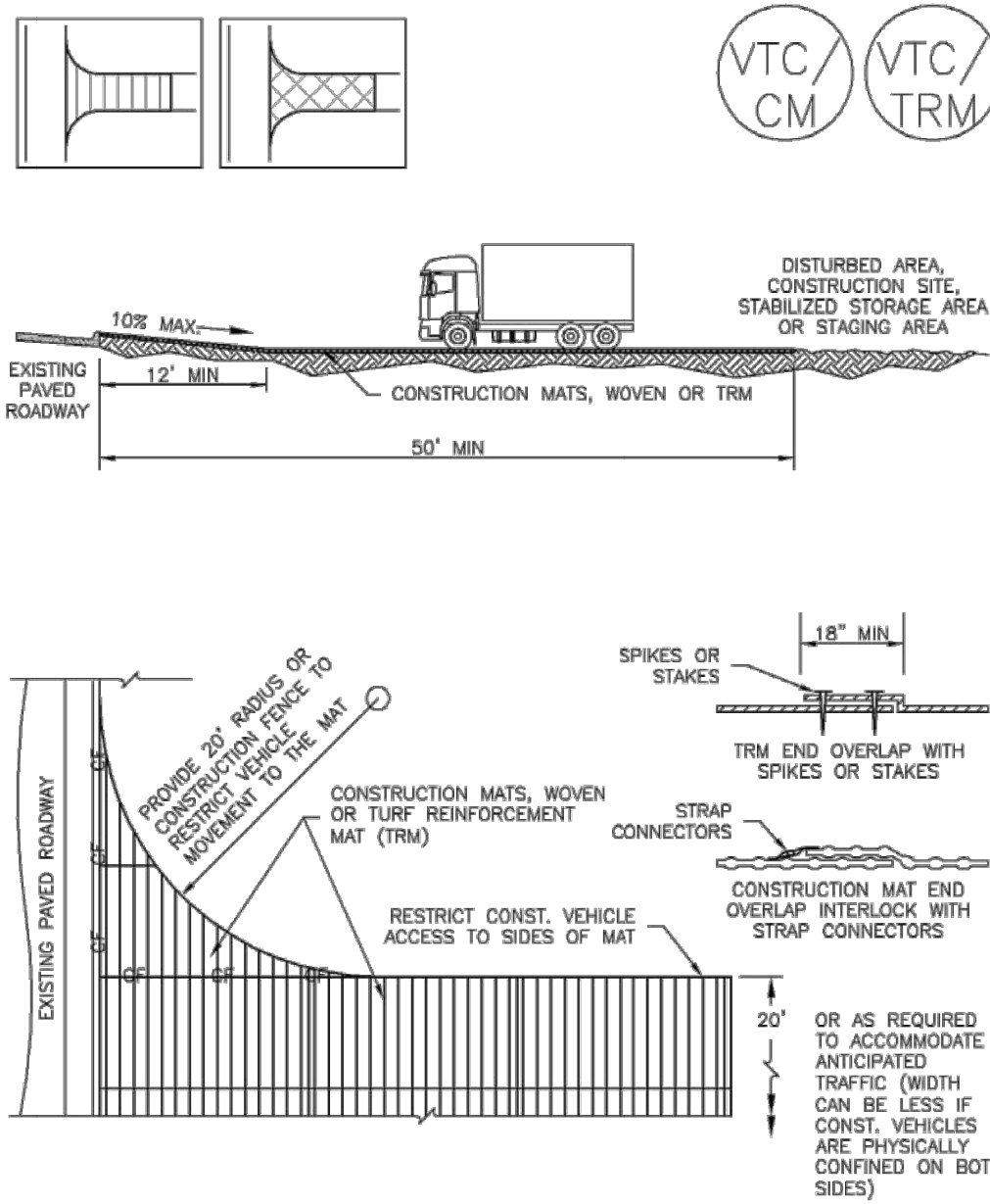


VTC-1. AGGREGATE VEHICLE TRACKING CONTROL

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

Vehicle Tracking Control (VTC)

SM-4

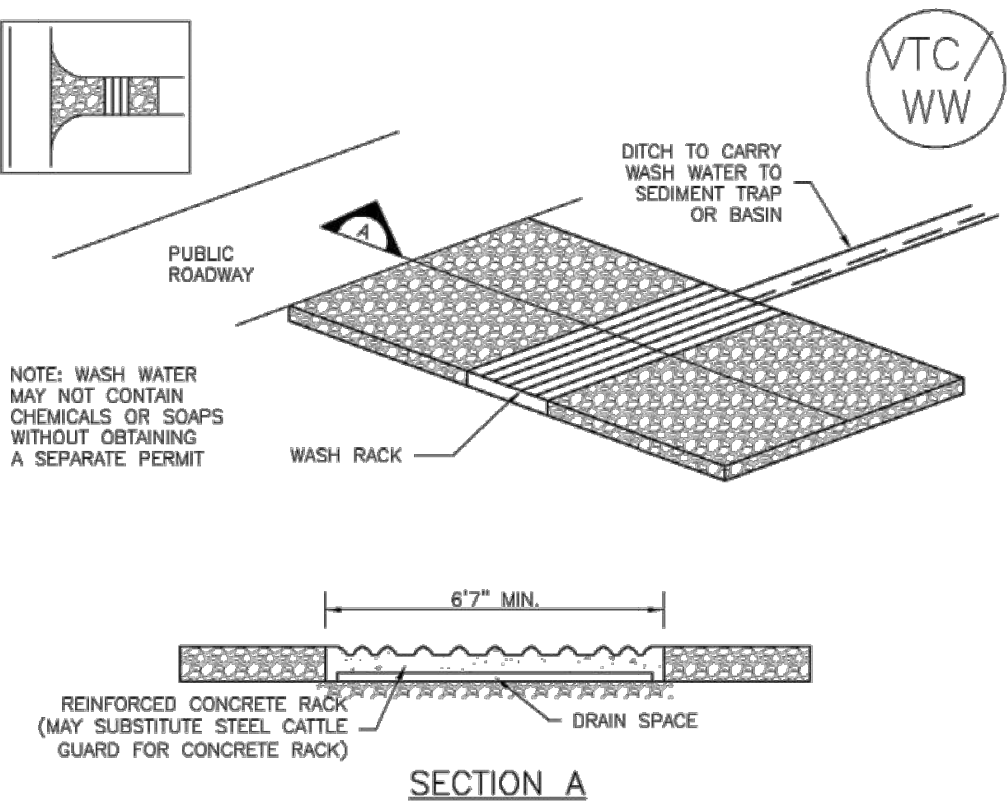


VTC-3. VEHICLE TRACKING CONTROL W/ CONSTRUCTION MAT OR TURF REINFORCEMENT MAT (TRM)

November 2010 Urban Drainage and Flood Control District VTC-5
Urban Storm Drainage Criteria Manual Volume 3

SM-4

Vehicle Tracking Control (VTC)



VTC-2. AGGREGATE VEHICLE TRACKING CONTROL WITH WASH RACK

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

SM-4

Vehicle Tracking Control (VTC)

STABILIZED CONSTRUCTION ENTRANCE/EXIT INSTALLATION NOTES

1. 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).
2. 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.
3. A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE LOCATED AT ALL ACCESS POINTS WHERE VEHICLES ACCESS THE CONSTRUCTION SITE FROM PAVED RIGHT-OF-WAYS.
4. STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
5. A NON-WOVEN GEOTEXTILE FABRIC SHALL BE PLACED UNDER THE STABILIZED CONSTRUCTION ENTRANCE/EXIT PRIOR TO THE PLACEMENT OF ROCK.
6. 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

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 TO THE STABILIZED ENTRANCE/EXIT TO MAINTAIN A CONSISTENT DEPTH.
 5. SEDIMENT TRACKED ONTO 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.
- NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

(DETAILS ADAPTED FROM CITY OF BROOMFIELD, COLORADO, NOT AVAILABLE IN AUTOCAD)

VTC-6 Urban Drainage and Flood Control District November 2010
Urban Storm Drainage Criteria Manual Volume 3



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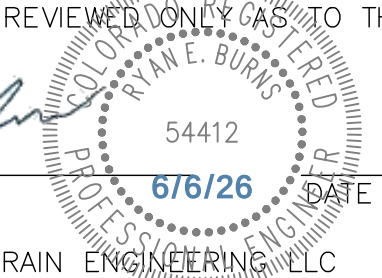
DATE

DESIGN: REB
REVIEW: NQJ
DATE: 6/5/2026
H-SCALE: NA
V-SCALE: NA
SHEET
16 OF 20

ENGINEER'S STATEMENT

STANDARD DETAILS SHOWN WERE REVIEWED ONLY AS TO THEIR APPLICATION ON THIS PROJECT

RYAN E. BURNS, P.E.
COLORADO P.E. 54412
FOR AND ON BEHALF OF ALL TERRAIN ENGINEERING, LLC



EC-2 Temporary and Permanent Seeding (TS/PS)

soil amendments and rototill them into the soil to a depth of 6 inches or more.

Topsoil should be salvaged during grading operations for use and spread on areas to be revegetated later. Topsoil should be viewed as an important resource to be utilized for vegetation establishment, due to its water-holding capacity, structure, texture, organic matter content, biological activity, and nutrient content. The rooting depth of most native grasses in the semi-arid Denver metropolitan area is 6 to 18 inches. At a minimum, the upper 6 inches of topsoil should be stripped, stockpiled, and ultimately respread across areas that will be revegetated.

Where topsoil is not available, subsoils should be amended to provide an appropriate plant-growth medium. Organic matter, such as well digested compost, can be added to improve soil characteristics conducive to plant growth. Other treatments can be used to adjust soil pH conditions when needed. Soil testing, which is typically inexpensive, should be completed to determine and optimize the types and amounts of amendments that are required.

If the disturbed ground surface is compacted, rip or rototill the surface prior to placing topsoil. If adding compost to the existing soil surface, rototilling is necessary. Surface roughening will assist in placement of a stable topsoil layer on steeper slopes, and allow infiltration and root penetration to greater depth.

Prior to seeding, the soil surface should be rough and the seedbed should be firm, but neither too loose nor compacted. The upper layer of soil should be in a condition suitable for seeding at the proper depth and conducive to plant growth. Seed-to-soil contact is the key to good germination.

Seed Mix for Temporary Vegetation

To provide temporary vegetative cover on disturbed areas which will not be paved, built upon, or fully landscaped or worked for an extended period (typically 30 days or more), plant an annual grass appropriate for the time of planting and mulch the planted areas. Annual grasses suitable for the Denver metropolitan area are listed in Table TS/PS-1. These are to be considered only as general recommendations when specific design guidance for a particular site is not available. Local governments typically specify seed mixes appropriate for their jurisdiction.

Seed Mix for Permanent Revegetation

To provide vegetative cover on disturbed areas that have reached final grade, a perennial grass mix should be established. Permanent seeding should be performed promptly (typically within 14 days) after reaching final grade. Each site will have different characteristics and a landscape professional or the local jurisdiction should be contacted to determine the most suitable seed mix for a specific site. In lieu of a specific recommendation, one of the perennial grass mixes appropriate for site conditions and growth season listed in Table TS/PS-2 can be used. The pure live seed (PLS) rates of application recommended in these tables are considered to be absolute minimum rates for seed applied using proper drill-seeding equipment.

If desired for wildlife habitat or landscape diversity, shrubs such as rubber rabbitbrush (*Chrysothamnus nauseosus*), fourwing saltbush (*Atriplex canescens*) and skunkbrush sumac (*Rhus trilobata*) could be added to the upland seedmixes at 0.25, 0.5 and 1 pound PLS/acre, respectively. In riparian zones, planting root stock of such species as American plum (*Prunus americana*), woods rose (*Rosa woodsii*), plains cottonwood (*Populus sargentii*), and willow (*Populus spp.*) may be considered. On non-topsoiled upland sites, a legume such as Ladak alfalfa at 1 pound PLS/acre can be included as a source of nitrogen for perennial grasses.

TS/PS-2	Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3	June 2012
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EC-2 Temporary and Permanent Seeding (TS/PS)

Table TS/PS-3. Seeding Dates for Annual and Perennial Grasses

Seeding Dates	Annual Grasses (Numbers in table reference species in Table TS/PS-1)		Perennial Grasses	
	Warm	Cool	Warm	Cool
January 1–March 15			✓	✓
March 16–April 30	4	1,2,3	✓	✓
May 1–May 15	4		✓	
May 16–June 30	4,5,6,7			
July 1–July 15	5,6,7			
July 16–August 31				
September 1–September 30		8,9,10,11		
October 1–December 31			✓	✓

Mulch

Cover seeded areas with mulch or an appropriate rolled erosion control product to promote establishment of vegetation. Anchor mulch by crimping, netting or use of a non-toxic tackifier. See the Mulching BMP Fact Sheet for additional guidance.

Maintenance and Removal

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

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

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

Protect seeded areas from construction equipment and vehicle access.

TS/PS-6	Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3	June 2012
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Temporary and Permanent Seeding (TS/PS) EC-2

Seeding dates for the highest success probability of perennial species along the Front Range are generally in the spring from April through early May and in the fall after the first of September until the ground freezes. If the area is irrigated, seeding may occur in summer months, as well. See Table TS/PS-3 for appropriate seeding dates.

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

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

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

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

* See Table TS/PS-3 for seeding dates. Irrigation, if consistently applied, may extend the use of cool season species during the summer months.

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

June 2012	Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3	TS/PS-3
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EC-4 Mulching (MU)

- Clean, weed-free and seed-free cereal grain straw should be applied evenly at a rate of 2 tons per acre and must be tacked or fastened by a method suitable for the condition of the site. Straw mulch must be anchored (and not merely placed) on the surface. This can be accomplished mechanically by crimping or with the aid of tackifiers or nets. Anchoring with a crimping implement is preferred, and is the recommended method for areas flatter than 3:1. Mechanical crimpers must be capable of tucking the long mulch fibers into the soil to a depth of 3 inches without cutting them. An agricultural disk, while not an ideal substitute, may work if the disk blades are dull or blunted and set vertically; however, the frame may have to be weighted to afford proper soil penetration.
- Grass hay may be used in place of straw; however, because hay is comprised of the entire plant including seed, mulching with hay may seed the site with non-native grass species which might in turn out-compete the native seed. Alternatively, native species of grass hay may be purchased, but can be difficult to find and are more expensive than straw. Purchasing and utilizing a certified weed-free straw is an easier and less costly mulching method. When using grass hay, follow the same guidelines as for straw (provided above).
- On small areas sheltered from the wind and heavy runoff, spraying a tackifier on the mulch is satisfactory for holding it in place. For steep slopes and special situations where greater control is needed, erosion control blankets anchored with stakes should be used instead of mulch.
- Hydraulic mulching consists of wood cellulose fibers mixed with water and a tackifying agent and should be applied at a rate of no less than 1,500 pounds per acre (1,425 lbs of fibers mixed with at least 75 lbs of tackifier) with a hydraulic mulcher. For steeper slopes, up to 2000 pounds per acre may be required for effective hydroseeding. Hydromulch typically requires up to 24 hours to dry; therefore, it should not be applied immediately prior to inclement weather. Application to roads, waterways and existing vegetation should be avoided.
- Erosion control mats, blankets, or nets are recommended to help stabilize steep slopes (generally 3:1 and steeper) and waterways. Depending on the product, these may be used alone or in conjunction with grass or straw mulch. Normally, use of these products will be restricted to relatively small areas. Biodegradable mats made of straw and jute, straw-coconut, coconut fiber, or excelsior can be used instead of mulch. (See the ECM/TRM BMP for more information.)
- Some tackifiers or binders may be used to anchor mulch. Check with the local jurisdiction for allowed tackifiers. Manufacturer's recommendations should be followed at all times. (See the Soil Binder BMP for more information on general types of tackifiers.)
- Rock can also be used as mulch. It provides protection of exposed soils to wind and water erosion and allows infiltration of precipitation. An aggregate base course can be spread on disturbed areas for temporary or permanent stabilization. The rock mulch layer should be thick enough to provide full coverage of exposed soil on the area it is applied.

Maintenance and Removal

After mulching, the bare ground surface should not be more than 10 percent exposed. Reapply mulch, as needed, to cover bare areas.

MU-2	Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3	June 2012
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EC-2 Temporary and Permanent Seeding (TS/PS)

Table TS/PS-2. Minimum Drill Seeding Rates for Perennial Grasses

Common Name	Botanical Name	Growth Season*	Growth Form	Seeds/ Pound	Pounds of PLS/acre
Alkalali Soil Seed Mix					
Alkali sacaton	<i>Sporobolus airoides</i>	Cool	Bunch	1,750,000	0.25
Basin wildrye	<i>Elymus cinereus</i>	Cool	Bunch	165,000	2.5
Sodar streambank wheatgrass	<i>Agropyron riparium 'Sodar'</i>	Cool	Sod	170,000	2.5
Jose tall wheatgrass	<i>Agropyron elongatum 'Jose'</i>	Cool	Bunch	79,000	7.0
Arriba western wheatgrass	<i>Agropyron smithii 'Arriba'</i>	Cool	Sod	110,000	5.5
Total					17.75
Fertile Loamy Soil Seed Mix					
Ephrium crested wheatgrass	<i>Agropyron cristatum 'Ephrium'</i>	Cool	Sod	175,000	2.0
Dural hard fescue	<i>Festuca ovina 'durtuscula'</i>	Cool	Bunch	565,000	1.0
Lincoln smooth brome	<i>Bromus inermis leys</i>	Cool	Sod	130,000	3.0
Sodar streambank wheatgrass	<i>Agropyron riparium 'Sodar'</i>	Cool	Sod	170,000	2.5
Arriba western wheatgrass	<i>Agropyron smithii 'Arriba'</i>	Cool	Sod	110,000	7.0
Total					15.5
High Water Table Soil Seed Mix					
Meadow foxtail	<i>Alopecurus pratensis</i>	Cool	Sod	900,000	0.5
Redtop	<i>Agrostis alba</i>	Warm	Open sod	5,000,000	0.25
Reed canarygrass	<i>Phalaris arundinacea</i>	Cool	Sod	68,000	0.5
Lincoln smooth brome	<i>Bromus inermis leys 'Lincoln'</i>	Cool	Sod	130,000	3.0
Pathfinder switchgrass	<i>Panicum virgatum 'Pathfinder'</i>	Warm	Sod	389,000	1.0
Altair tall wheatgrass	<i>Agropyron elongatum 'Altair'</i>	Cool	Bunch	79,000	5.5
Total					10.75
Transition Turf Seed Mix*					
Ruebens Canadian bluegrass	<i>Poa compressa 'Ruebens'</i>	Cool	Sod	2,500,000	0.5
Dural hard fescue	<i>Festuca ovina 'durtuscula'</i>	Cool	Bunch	565,000	1.0
Citation perennial ryegrass	<i>Lolium perenne 'Citation'</i>	Cool	Sod	247,000	3.0
Lincoln smooth brome	<i>Bromus inermis leys 'Lincoln'</i>	Cool	Sod	130,000	3.0
Total					7.5

TS/PS-4	Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3	June 2012
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Chapter 5
Native Vegetation Requirements and Guidelines

Table 5-1. El Paso County Conservation District All-Purpose Mix for Upland, Transition and Permanent Control Measure Areas

Common Name	Scientific Name	Growth Season / Form	% of Mix	Pounds PLS		
				• Irrigated broadcast • Irrigated hydroseeded	• Non-irrigated broadcast • Non-irrigated hydroseeded • Irrigated drilled	• Non-irrigated drilled
				80 seeds/sq ft	40 seeds/sq ft	20 seeds/sq ft
Bluestem, big	<i>Andropogon gerardii</i>	Warm, sod	20	4.4	2.2	1.1
Gramma, blue	<i>Bouteloua gracilis</i>	Warm, bunch	10	0.5	0.25	0.13
Green needlegrass ²	<i>Nassella viridula</i>	Cool, bunch	10	2	1	0.5
Wheatgrass, western ¹	<i>Pascopyrum smithii</i>	Cool, sod	20	6.4	3.2	1.6
Gramma, sideoats	<i>Bouteloua curtipendula</i>	Warm, bunch	10	2	1	0.5
Switchgrass ²	<i>Panicum virgatum</i>	Warm, bunch/sod	10	0.8	0.4	0.2
Prairie sandreed	<i>Calamovilfa longifolia</i>	Warm, sod	10	1.2	0.6	0.3
Yellow indiagrass ²	<i>Sorghastrum nutans</i>	Warm, sod	10	2	1	0.5
Seed rate (lbs PLS/acre)				19.3	9.7	4.8

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

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

City of Colorado Springs
Stormwater Enterprise

5-11

Stormwater Construction Manual
December 2020

MUST BE USED IN ALL PCM AREAS

Temporary and Permanent Seeding (TS/PS) EC-2

Table TS/PS-2. Minimum Drill Seeding Rates for Perennial Grasses (cont.)

Common Name	Botanical Name	Growth Season*	Growth Form	Seeds/ Pound	Pounds of PLS/acre
Sandy Soil Seed Mix					
Blue grama	<i>Bouteloua gracilis</i>	Warm	Sod-forming bunchgrass	825,000	0.5
Camper little bluestem	<i>Schizachyrium scoparium 'Camper'</i>	Warm	Bunch	240,000	1.0
Prairie sandreed	<i>Calamovilfa longifolia</i>	Warm	Open sod	274,000	1.0
Sand dropseed	<i>Sporobolus cryptandrus</i>	Cool	Bunch	5,298,000	0.25
Vaughn sideoats grama	<i>Bouteloua curtipendula 'Vaughn'</i>	Warm	Sod	191,000	2.0
Arriba western wheatgrass	<i>Agropyron smithii 'Arriba'</i>	Cool	Sod	110,000	5.5
Total					10.25
Heavy Clay, Rocky Foothill Seed Mix					
Ephrium crested wheatgrass ^a	<i>Agropyron cristatum 'Ephrium'</i>	Cool	Sod	175,000	1.5
Oahe Intermediate wheatgrass	<i>Agropyron intermedium 'Oahe'</i>	Cool	Sod	115,000	5.5
Vaughn sideoats grama ^a	<i>Bouteloua curtipendula 'Vaughn'</i>	Warm	Sod	191,000	2.0
Lincoln smooth brome	<i>Bromus inermis leys 'Lincoln'</i>	Cool	Sod	130,000	3.0
Arriba western wheatgrass	<i>Agropyron smithii 'Arriba'</i>	Cool	Sod	110,000	5.5
Total					17.5

* All of the above seeding mixes and rates are based on drill seeding followed by crimped straw mulch. These rates should be doubled if seed is broadcast and should be increased by 50 percent if the seeding is done using a Brillion Drill or is applied through hydraulic seeding. Hydraulic seeding may be substituted for drilling only where slopes are steeper than 3:1. If hydraulic seeding is used, hydraulic mulching should be done as a separate operation.

^a See Table TS/PS-3 for seeding dates.

^b If site is to be irrigated, the transition turf seed rates should be doubled.

^c Crested wheatgrass should not be used on slopes steeper than 6H:1 V.

^d Can substitute 0.5 lbs PLS of blue grama for the 2.0 lbs PLS of Vaughn sideoats grama.

June 2012	Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3	TS/PS-5
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ROLLMAX™
ROLLED EROSION CONTROL

Specification Sheet
VMax® S200® Turf Reinforcement Mat



DESCRIPTION
The composite turf reinforcement mat (CTRM) shall be a machine-produced mat of 100% straw fiber matrix incorporated into permanent three-dimensional turf reinforcement matting. The matrix shall be evenly distributed across the entire width of the matting and stitch bonded between a heavy duty UV stabilized nettings with 0.50 x 0.50 inch (1.27 x 1.27 cm) openings, an heavy UV stabilized, dramatically corrugated (crimped) intermediate netting with 0.5 x 0.5 inch (1.27 x 1.27 cm) openings, and covered by an heavy duty UV stabilized nettings with 0.50 x 0.50 inch (1.27 x 1.27 cm) openings. The middle corrugated netting shall form prominent (closely spaced) ridges across the entire width of the mat. The three nettings shall be stitched together on 1.50 inch (3.81cm) centers with UV stabilized polypropylene thread to form permanent three-dimensional turf reinforcement matting. All mats shall be manufactured with a colored thread stitched along both outer edges as an overlap guide for adjacent mats.
The S200 shall meet Type 5A, 5B, and 5C specification requirements established by the Erosion Control Technology Council (ECTC) and Federal Highway Administration's (FHWA) FF-03 Section 713.18

Material Content

Matrix	100% Straw Fiber	0.50 lb/sq yd (0.19 kg/sm)
Netting	Top and Bottom, UV-Stabilized Polypropylene Middle, Corrugated UV-Stabilized Polypropylene	3 lb/1000 sq ft (1.47 kg/100 sq m) 16 lb/1000 sf (7.81 kg/100 sq m)
Thread	Polypropylene, UV Stable	

Standard Roll Sizes

Width	6.5 ft (2.0 m)	8 ft (2.44m)
Length	55.5 ft (16.9 m)	90 ft (27.4 m)
Weight ± 10%	34 lbs (15.42 kg)	70 lbs (31.8 kg)
Area	40 sq yd (33.4 sm)	80 sq yd (66.8 sm)

Design Permissible Shear Stress

	Short Duration		Long Duration
	2.3 psf (110 Pa)	2.3 psf (110 Pa)	
Phase 1: Unvegetated	2.3 psf (110 Pa)	2.3 psf (110 Pa)	
Phase 2: Partially Veg.	7.5 psf (360 Pa)	7.5 psf (360 Pa)	
Phase 3: Fully Veg.	10.0 psf (480 Pa)	8.0 psf (383 Pa)	
Unvegetated Velocity	8.5 fps (2.6 m/s)		
Vegetated Velocity	18 fps (5.5 m/s)		

PREPARED FOR:
ANTLER RANGE LLC

PO BOX 38939
COLORADO SPRINGS, CO 80937
GRANT LANGDON
(602) 957-0956
GL@GLANGDON.COM

UNTIL SUCH TIME AS THESE
DRAWINGS ARE APPROVED BY THE
APPROPRIATE REVIEWING
AGENCIES, ALL TERRAIN
ENGINEERING APPROVES THEIR
USE ONLY FOR THE PURPOSES
DESIGNATED BY WRITTEN
AUTHORIZATION.

DATE	REV	DESCRIPTION	LOCATION	EPC

DESIGN: REB
REVIEW: NJQ
DATE: 6/5/2026

ANTLER RANGE FILING NO. 1

GRADING & EROSION CONTROL DETAILS

ENGINEER'S STATEMENT

STANDARD DETAILS SHOWN WERE REVIEWED ONLY AS TO THEIR APPLICATION ON THIS PROJECT

RYAN E. BURNS, P.E.
COLORADO P.E. 54412
FOR AND ON BEHALF OF ALL TERRAIN ENGINEERING, LLC

6/6/26

SHEET

19 OF 20

MATERIAL PROPERTY DATA SHEET



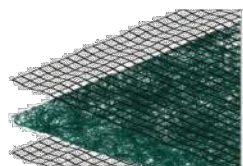
P300™

Permanent • Double Net • Poly-Fiber Matrix •
Turf Reinforcement Mat

DESCRIPTION

P300 Turf Reinforcement Mat (TRM) is composed of 100% synthetic green fibers mechanically (stitch) bound between two UV stabilized, synthetic nets. Stitching is secured on two-inch centers using UV stabilized, synthetic thread. P300 is a permanent, three-dimensional TRM that provides immediate erosion protection and long-term turf reinforcement and is intended for applications requiring erosion protection for greater than thirty-six months.

Each roll of P300 is made in the USA and manufactured under Western Green's Quality Assurance Program to ensure a continuous distribution of fibers and consistent thickness.



Material Content	
Matrix	Synthetic Fibers

Netting Top Net: Mediumweight, UV stable
Bottom Net: Mediumweight, UV stable

Thread Synthetic, UV Stable

Standard Roll Sizes

Width	8 ft (2.4 m)	16 ft (4.9 m)
Length	112 ft (34.0 m)	112 ft (34.0 m)
Weight ± 10%	75 lb (34.0 kg)	150 lb (68.0 kg)
Area	100 sq (83.6 m ²)	200 SQ (167.0 m ²)

Material available in custom roll sizes

Approvals & Classification

Classification FHWA: Type 5-C / ECTC: 5-D

TTT Approvals Class 2 Type H

NTPEP Number ECP-2020-01-15

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Evansville, IN 47725 • (800) 772-2040

westerngreen.com

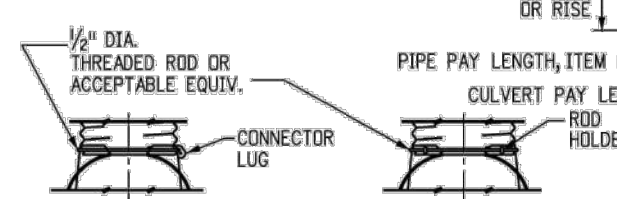
Rev. 4.2023

Scan for additional and updated product information,
or click [here](#).



PIPE DIA.	THICKNESS	DIMENSIONS					
		A	B	H	L	W	T
12	0.064	6	6	6	21	24	34
18	0.064	8	10	6	31	36	46
21	0.064	9	12	6	36	42	52
24	0.064	10	13	6	41	48	58
30	0.079	12	16	8	51	60	70
36	0.079	14	19	9	60	72	94
42	0.109	16	22	11	69	84	106
48	0.109	18	27	12	78	90	112
54	0.109	18	30	12	84	102	124
60	0.109	18	33	12	87	114	136
66	0.109	18	36	12	87	120	142
72	0.109	18	39	12	87	126	148
84	0.109	18	42	12	87	132	154
							160

FLEXIBLE ROUND PIPE



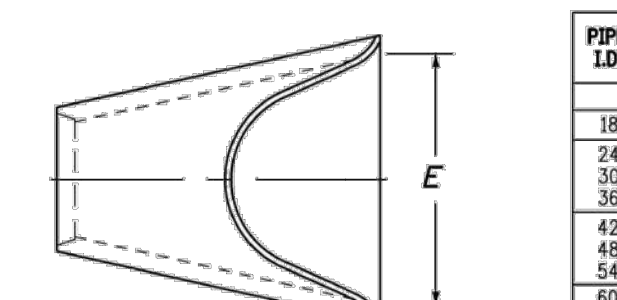
FOR 18 IN. THRU 24 IN. ROUND PIPE WITH ANNUAL CORRUGATIONS, NOT TO BE USED ON HELICALLY-FORMED PIPE UNLESS RECORRUGATED.

FOR 30 IN. THRU 36 IN. ROUND PIPE WITH ANNUAL CORRUGATIONS, NOT TO BE USED ON HELICALLY-FORMED PIPE UNLESS RECORRUGATED.

FOR 42 IN. THRU 84 IN. ROUND PIPE WITH ANNUAL CORRUGATIONS AND ALL SIZES WITH HELICA CORRUGATIONS AND FOR ALL METAL PIPE ARCH CULVERTS, SHOP ATTACH A 24 IN. MIN. LENGTH OF ANNUAL PIPE WITH GALV. RIVETS OR BOLTS, SPOT WELDS OR 2 IN. LONG SKIP WELDS ON 8 IN. CTRS. REPAIR BURNT GALVANIZING IN ACCORDANCE WITH SUBSECTION 707.02.

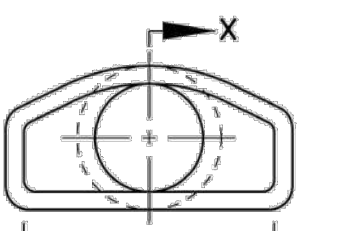
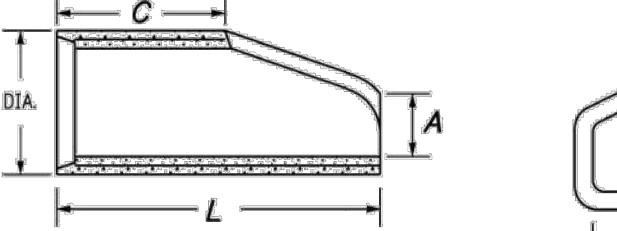
TYPICAL CONNECTIONS

END SECTION AND CONNECTION DETAILS FOR ROUND AND ARCH METAL PIPES



PIPE DIA.	DIMENSIONS			
	A	C	L	E
18	10	48	78	36
24	10	48	78	48
30	14	36	96	60
36	18	36	96	72
42	24	36	96	78
48	28	24	96	84
54	30	36	96	90
60	36	36	96	96
72	34	20	96	108

REINFORCED CONCRETE CIRCULAR PIPE



SECTION X-X

END VIEW

END SECTION FOR REINFORCED CONCRETE CIRCULAR PIPE

Computer File Information	
Creation Date:	07/31/19
Designer Initials:	JBK
Last Modification Date:	07/31/19
Detailer Initials:	LTA
CAD Ver:	MicroStation V8
Scale:	Not to Scale
Units:	English

Sheet Revisions

Date:	Comments:
(R-2)	
(R-3)	
(R-2)	
(R-2)	

Colorado Department of Transportation

2829 West Howard Place
CDOT HQ, 3rd Floor
Denver, CO 80204
Phone: 303-757-9021 FAX: 303-757-9868

Project Development Branch JBK



Project Development Branch: July 31, 2019

CONCRETE AND METAL END SECTIONS

Issued by the Project Development Branch: July 31, 2019

STANDARD PLAN NO.

M-603-10

Standard Sheet No. 1 of 1

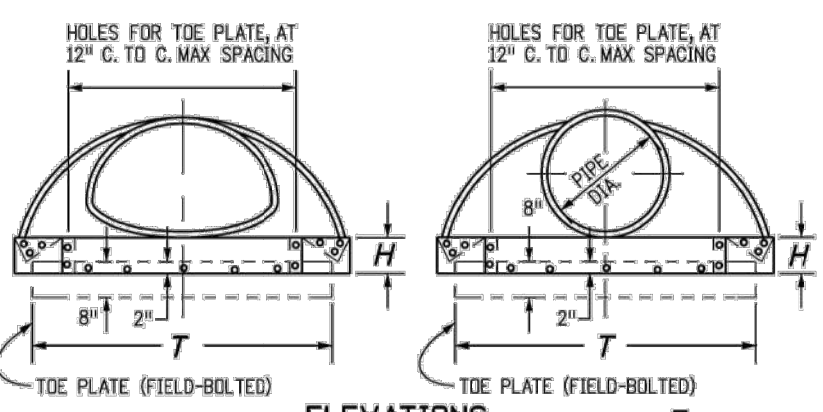
Project Sheet Number:

GENERAL NOTES

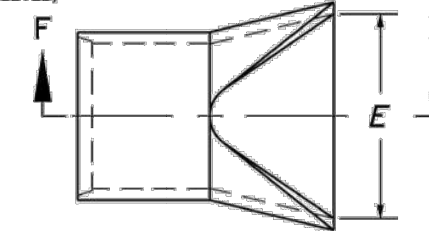
- DIMENSIONS OF END SECTIONS MAY VARY SLIGHTLY FROM THOSE SHOWN ON THE TABLES DUE TO DIFFERENT MANUFACTURERS' CONFIGURATIONS.
- CONCRETE END SECTIONS SHALL BE FURNISHED WITH TONGUE OR GROOVE AS REQUIRED.
- DESIGN LENGTH OF PIPE OR SIDE DRAIN IS BASED ON LENGTH OF END SECTION SHOWN IN TABLE. ANY ADDITIONAL PIPE REQUIRED TO PROVIDE THE DESIGN LENGTH SHALL BE FURNISHED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE PROJECT.
- THE INSIDE CONFIGURATION AND THE JOINT OF CONCRETE END SECTION AND PIPE SHALL MATCH ON THE PLANS.
- GALVANIZED TOE PLATE AS SHOWN IS REQUIRED ON END SECTIONS FOR CORRUGATED STEEL PIPE AND SHALL BE THE SAME THICKNESS AS END SECTIONS. TOE PLATE SHALL BE FIELD-BOLTED TO END SECTION WITH 3/4 IN. GALVANIZED BOLTS, NUTS AND WASHERS.
- GALVANIZED STEEL SHALL CONFORM TO AASHTO M 111, M 218 OR M 232.
- CONCRETE PIPE JOINT FASTENERS, WHERE SHOWN ON PLANS, SHALL BE INSTALLED SO THAT A MINIMUM OF 15 LINEAR FEET OF THE OUTLET END OF THE PIPE ARE MECHANICALLY LOCKED TOGETHER. END SECTION LENGTHS WHEN USED SHALL BE INCLUDED IN THE 15 LF REQUIREMENT.
- CONNECTIONS OF METAL END SECTIONS TO PLASTIC PIPE SHALL BE APPROVED BY THE ENGINEER. PLASTIC END SECTIONS SHALL NOT BE USED.
- THE END SECTION STYLE, EITHER REGULAR OR SAFETY, SHALL BE AS SHOWN ON THE PLANS.
- AT THE OPTION OF THE CONTRACTOR AND APPROVAL OF THE CDOT PROJECT ENGINEER, REINFORCED CONCRETE END SECTIONS MAY BE MADE WITH SYNTHETIC FIBERS INSTEAD OF STEEL FOR PIPES 36 INCHES IN DIAMETER AND SMALLER, AND CONFORM TO AASHTO M 86 AND SUBSECTION 601.03.

PIPE ARCH	THICKNESS	DIMENSIONS					
		A	B	H	L	W	T
21 x 15	0.064	7	10	6	23	36	46
24 x 18	0.064	8	12	6	26	42	52
28 x 20	0.064	9	14	6	32	48	58
35 x 24	0.079	10	16	8	39	60	70
42 x 29	0.079	12	18	8	46	75	85
49 x 33	0.109	13	21	9	53	85	103
57 x 38	0.109	18	26	10	63	90	108
64 x 43	0.109	18	30	12	70	102	120
71 x 47	0.109	18	33	12	77	114	132

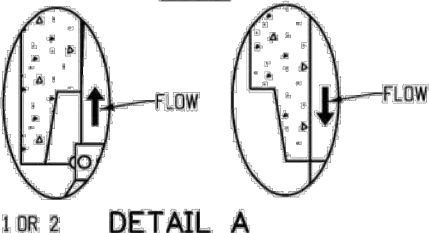
FLEXIBLE PIPE ARCH



ELEVATIONS

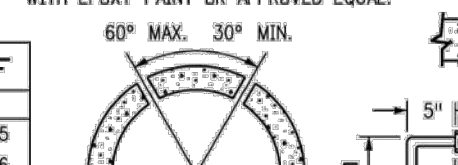


PLAN



DETAIL A

3/4" GALVANIZED ANCHOR BOLTS, NUTS AND WASHERS, WILD STEEL, ASTM A 307. ROD LUG SHALL BE GALVANIZED OR COATED WITH EPOXY PAINT OR APPROVED EQUAL.



CONCRETE JOINT FASTENER (TWO PER JOINT)

END SECTION FOR REINFORCED CONCRETE ELLIPTICAL PIPE

EQUIVALENT CIRCULAR DIA.	NOMINAL SPAN x RISE	DIMENSIONS			
		A	C	L	E
24	30	19	9	33	48
30	38	24	10	18	72
36	45	29	12	24	84
42	53	34	16	36	96
48	60	38	21	36	96
54	68	43	26	36	96
60	76	48	30	36	96

END SECTION FOR REINFORCED CONCRETE ELLIPTICAL PIPE

END SECTION FOR REINFORCED CONCRETE CIRCULAR PIPE

END SECTION FOR REINFORCED CONCRETE CIRCULAR PIPE

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ENGINEER'S STATEMENT

STANDARD DETAILS SHOWN WERE REVIEWED ONLY AS TO THEIR APPLICATION ON THIS PROJECT

RYAN E. BURNS, P.E.

COLORADO P.E. 54412

FOR AND ON BEHALF OF ALL TERRAIN ENGINEERING, LLC

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PREPARED FOR:

ANTLER RANGE LLC
PO BOX 38939
COLORADO SPRINGS, CO 80937
GRANT LANGDON
(602) 957-0966
GL@GLANGDON.COM

UNTIL SUCH TIME AS THESE
DRAWINGS ARE APPROVED BY THE
APPROPRIATE REVIEWING
AGENCIES, ALL TERRAIN
ENGINEERING APPROVES THEIR
USE ONLY FOR THE PURPOSES
DESIGNATED BY WRITTEN
AUTHORIZATION.

JOB NO: 24031 LOCATION: EPC

ANTLER RANGE FILING NO. 1

CONSTRUCTION DETAILS

DESIGN: REB
REVIEW: NJQ
DATE: 6/5/2026

H-SCALE: NA
V-SCALE: NA

SHEET

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