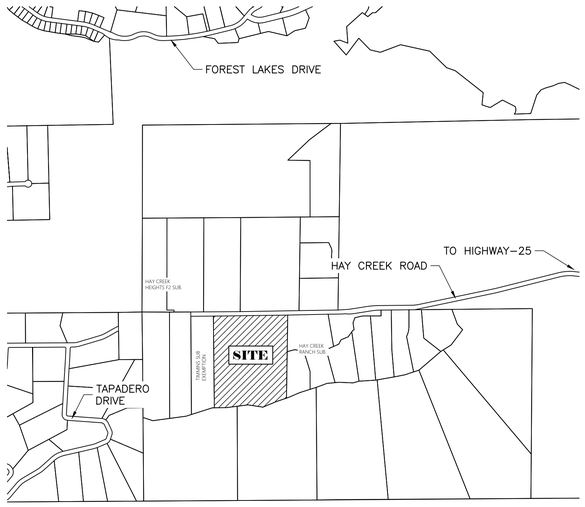
HIDDEN CREEK ESTATES
EL PASO COUNTY, COLORADO
CONSTRUCTION DRAWINGS



AIR FORCE ACADEMY

VICINITY MAP
SCALE: 1"=1,000'

GENERAL CONSTRUCTION NOTES:

1. 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.
2. 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.
3. ADDITIONAL EROSION CONTROL STRUCTURES MAY BE REQUIRED AT THE TIME OF CONSTRUCTION.
4. 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.
5. 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).
6. ALL DISTURBED PAVEMENT EDGES SHALL BE CUT TO NEAT LINES. REPAIR SHALL CONFORM TO EPC ECM APPENDIX K – 1.2C.
7. 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.
8. ALL CULVERTS AND STORM DRAIN PIPES SHALL BE SMOOTH INTERIOR CORRUGATED POLYETHYLENE PIPE (HDPE), 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.
9. 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.
10. THE CONTECH ALUMINUM BOX CULVERT SHALL BE DESIGNED TO MEET THE LOADING CRITERIA SPECIFIED WITHIN THE CURRENT ENGINEERING CRITERIA MANUAL. FINAL CONSTRUCTION AND FOUNDATION DETAILS FOR THE CONTECH BOX CULVERT SHALL BE PROVIDED TO EL PASO COUNTY FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION OR PLAT RECORDATION, WHICHEVER COMES FIRST.

SIGNING AND STRIPING NOTES:

1. ALL SIGNS AND PAVEMENT MARKINGS SHALL BE IN COMPLIANCE WITH THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
2. 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.
3. ANY DEVIATION FROM THE STRIPING AND SIGNING PLAN SHALL BE APPROVED BY EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT.
4. 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.
5. STREET NAME AND REGULATORY STOP SIGNS SHALL BE ON THE SAME POST AT INTERSECTIONS.
6. ALL REMOVED SIGNS SHALL BE DISPOSED OF IN A PROPER MANNER BY THE CONTRACTOR.
7. 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 40 MPH OR HIGHER SHALL HAVE 8" UPPER-LOWER CASE LETTERING ON 18" BLANK WITH A WHITE BORDER THAT IS NOT RECESSED. THE WIDTH OF THE NON-RECESSED WHITE BORDERS SHALL MATCH PAGE 255 OF THE 2012 MUTCD "STANDARD HIGHWAY SIGNS"
8. ALL TRAFFIC SIGNS SHALL HAVE A MINIMUM HIGH INTENSITY PRISMATIC GRADE SHEETING.
9. 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.
10. ALL SIGNS SHALL BE SINGLE SHEET ALUMINUM WITH 0.100" MINIMUM THICKNESS.
11. 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. WORD AND SYMBOL MARKINGS SHALL BE THE NARROW TYPE. STOP BARS SHALL BE 24" IN WIDTH. CROSSWALKS LINES SHALL BE 12" WIDE AND 8' LONG PER CDOT S-627-1.
12. ALL LONGITUDINAL LINES SHALL BE A MINIMUM 15MIL 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.
13. THE CONTRACTOR SHALL NOTIFY EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT (719) 520-6819 PRIOR TO AND UPON COMPLETION OF SIGNING AND STRIPING.
14. THE CONTRACTOR SHALL OBTAIN A WORK IN THE RIGHT OF WAY PERMIT FROM THE EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS (DPW) PRIOR TO ANY SIGNAGE OR STRIPING WORK WITHIN AN EXISTING EL PASO COUNTY ROADWAY.

STANDARD NOTES FOR EL PASO COUNTY CONSTRUCTION PLANS:

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 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.

BASIS OF BEARINGS:

NORTHWEST AND NORTHEAST CORNERS OF 3405 HAY CREEK ROAD BEARING N89°40'46"E.

BENCHMARK:

NORTHEAST CORNER OF 3405 HAY CREEK ROAD WITH A NAVD88 ELEVATION OF 6990.22

SHEET INDEX

1	–	COVER SHEET
2	–	LEGEND
3-4	–	STREET IMPROVEMENT PLAN
5	–	INITIAL-FINAL GEC PLAN
6	–	STORM SEWER PLAN & PROFILE
7-13	–	DETAILS
13	–	TOTAL SHEETS

CONTACTS:

OWNER/DEVELOPER	3405 HAY CREEK DRIVE, LLC 3405 HAY CREEK DRIVE COLORADO SPRINGS, CO 80921 ATTN: JAMIE HULL (719) 331-6121
ENGINEER	ALL TERRAIN ENGINEERING LLC 1004 W VAN BUREN ST COLORADO SPRINGS, CO 80907 ATTN: NICHOLAS JOKERST (530) 391-7635
SURVEYOR	POLARIS SURVEYING INC. 1903 LELARAY STREET, SUITE 102 COLORADO SPRINGS, CO 80909 (719) 448-0844
EL PASO COUNTY	EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT 2880 INTERNATIONAL CIRCLE, SUITE 110 COLORADO SPRINGS CO 80910
TRAFFIC	EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS 3275 AKERS DRIVE COLORADO SPRINGS, CO 80922
FIRE PROTECTION	TRI-LAKES MONUMENT FIRE PROTECTION DISTRICT 16055 OLD FOREST POINT, SUITE 102 MONUMENT, CO 80132 (719) 484-0911

CONDITION OF APPROVAL:

THE CONTECH ALUMINUM BOX CULVERT SHALL BE DESIGNED TO MEET THE LOADING CRITERIA SPECIFIED WITHIN THE CURRENT ENGINEERING CRITERIA MANUAL. FINAL CONSTRUCTION AND FOUNDATION DETAILS FOR THE CONTECH BOX CULVERT SHALL BE PROVIDED TO EL PASO COUNTY FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION OR PLAT RECORDATION.

EL PASO COUNTY STATEMENT

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: 2025.11.30 15:15:26-07'00' — 11/30/25

JOSHUA PALMER P.E. — DATE

COUNTY ENGINEER/ECM ADMINISTRATOR

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.

OWNER/DEVELOPER STATEMENT

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.

Jamie Hull — 5-28-25 Date

3405 HAY CREEK, LLC
3405 HAY CREEK DRIVE
COLORADO SPRINGS, 80921

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.

COLORADO REGISTERED NICHOLAS Q. JOKERST 59273 PROFESSIONAL ENGINEER

NICHOLAS Q. JOKERST, P.E. — 11/03/2026 DATE
COLORADO P.E. 59273
FOR AND ON BEHALF OF ALL TERRAIN ENGINEERING LLC

EL PASO COUNTY PLANNING & COMMUNITY DEVELOPMENT NUMBER: SF-253

ALL TERRAIN ENGINEERING

NICHOLAS Q. JOKERST, PE — 530.391.7635 — NICK@ATERRAINENG.COM
RYAN F. BARTLE, PE — 303.517.8668 — RYAN@ATERRAINENG.COM

PREPARED FOR:
3405 HAY CREEK, LLC
3405 HAY CREEK
COLORADO SPRINGS, CO 80921
ATTN: JAMIE HULL
(719) 331-6121
JAMES.GOLDWEST@GMAIL.COM

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

JOB NO: 24008 LOCATION: EPC

REV	DESCRIPTION	DATE
1	CONTECH DESIGN DETAILS	11/03/26

HIDDEN CREEK ESTATES

COVER SHEET

DESIGN: NQJ
REVIEW: REB
DATE: 11/03/2026
H-SCALE: 1" = 1000'
V-SCALE: N/A

SHEET 1 OF 13

PLANEMETRICS

	EXISTING	PROPOSED
SECTION LINE		
RIGHT-OF-WAY		
PARCEL LINE		
EASEMENT LINE		
BOUNDARY LINE		
CENTER LINE		

CONSTRUCTION

	EXISTING	PROPOSED
C&G		
EDGE OF ASPHALT		
CONCRETE		
SIDE WALK		
CROSS PAN		
PARKING LOT STRIPING		
ROADWAY STRIPING - DHASED		
ROADWAY STRIPING - DOTTED		
GUARDRAIL		
FENCE		X X X X X
SOUNDWALL		
DEMO		
GRAVEL		
RIPRAP		
DIRT		
TRAIL/PATH		
RAIL LINE		

GRADING

	EXISTING	PROPOSED
CONTOUR INTERMEDIATE		
CONTOUR INDEX		
TOP OF SLOPE		
TOE OF SLOPE		
CUT/FILL BOUNDARY		
LIMITS OF GRADING		LOG LOG LOG LOG LOG
LIMITS OF DISTURBANCE		

UTILITIES

	EXISTING	PROPOSED
SANITARY SEWER		SS SS SS SS
SANITARY SEWER SERVICE		SS SS SS SS
POTABLE WATER MAIN		W W W W
POTABLE WATER SERVICE		
RAW WATER MAIN	RAW RAW RAW	RAW RAW RAW
IRRIGATION MAIN		
SANITARY FORCE MAIN	FM FM FM FM	FM FM FM FM
UNDER-DRAIN	UD UD UD UD	UD UD UD UD
GAS PIPE	G G G G	G G G G
HIGH PRESSURE GAS	HPG HPG HPG HPG	HPG HPG HPG HPG
OIL/PETROLEUM LINE	O O O O	O O O O
UNDER-GROUND ELECTRIC	UGE UGE UGE UGE	UGE UGE UGE UGE
OVER-HEAD ELECTRIC	OHU OHU OHU OHU	OHU OHU OHU OHU
FIBER OPTIC	FO FO FO FO	FO FO FO FO
COMMUNICATION LINES MISC.	COM COM COM COM	COM COM COM COM
STORM PIPE		
HGL MINOR		
HGL MAJOR		

DRAINAGE

	EXISTING	PROPOSED
BASE FLOOD ELEVATION		
100-YR FLOOD PLAIN	100YR 100YR	100YR 100YR
500-YR FLOOD PLAIN	500YR 500YR	500YR 500YR
FLOODWAY	FLOOD FLOOD	FLOOD FLOOD
SWALE/DITCH		
THALWEG (STREAM/CREEK)		
LIMITS OF WETLANDS		
EDGE OF WATER		
SILT FENCE		
CONSTRUCTION FENCE/MARKERS		CF CF CF CF

UTILITY SYMBOLS

	EXISTING	PROPOSED
STORM SEWER		
MANHOLE		
STORM INLET		
AREA INLET - SQUARE		
AREA INLET - ROUND		
FLARED END SECTION		

TRAFFIC

	EXISTING	PROPOSED
TRAFFIC SIGNAL BOX		
TRAFFIC SIGNAL POLE		
SIGN		
STREET LIGHT		
STREET LIGHT - SINGLE		
STREET LIGHT - DOUBLE		
LUMINAIRE		

LANDSCAPE

	EXISTING	PROPOSED
TREE - CONIFEROUS		
TREE - DECIDUOUS		
SHRUB/BUSH		
SHRUBS AND BUSHES		
IRRIGATION BOX		
IRRIGATION SPRINKLER		
IRRIGATION VALVE		
BOLLARD		
FLAGPOLE		FP

UTILITY SYMBOLS

	EXISTING	PROPOSED
SANITARY		
LINE MARKER	Mkr San	
SERVICE MARKER		
CLEAN-OUT		
MANHOLE	S	
WATER		
LINE MARKER	Mkr W	
SERVICE MARKER		
FIRE HYDRANT		
FIRE CONNECTION		
MANHOLE	W	
BEND		
BLOW-OFF VALVE		
WELL	WELL	WELL
METER		
VALVE		
REDUCER		
THRUST BLOCK		
CROSS		
PLUG W/ THRUST BLOCK		
TEE		
REVERSE ANCHOR		
ANODE		
AIR & VACUUM VALVE ASSEMBLY		
GAS		
MARKER	Mkr G	
SERVICE MARKER		
METER		
DRY UTILITIES		
CABLE TV MARKER	Mkr TV	
CABLE TELEVISION PEDESTAL		
ELECTRIC MARKER	Mkr E	
ELECTRIC SERVICE MARKER		
ELECTRICAL PEDESTAL		
ELECTRICAL METER		
ELECTRICAL MANHOLE	E	
FIBER-OPTIC MARKER	Mkr FO	
IRRIGATION PEDESTAL		
TELEPHONE MARKER	Mkr T	
TELEPHONE PEDESTAL		
TELEPHONE MANHOLE		
UTILITY POLE		
GUY ANCHOR		
GUY POLE		
MISC. UTILITIES		
VENT PIPE	VP	VP
TEST HOLE DESIGNATOR	TH# FIRM FIRM/AGENCY	

GRADING AND EROSION CONTROL STANDARD NOTES

1. 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.
2. A PRECONSTRUCTION MEETING BETWEEN THE PERMIT HOLDER(S) AND EL PASO COUNTY SHALL BE HELD PRIOR TO ANY CONSTRUCTION ACTIVITIES. IT IS THE RESPONSIBILITY OF THE PERMIT HOLDER(S) TO COORDINATE THE MEETING TIME AND PLACE WITH COUNTY STAFF. NO LAND DISTURBANCE OR CONSTRUCTION ACTIVITIES BEYOND THE INSTALLATION OF THE INITIAL CONSTRUCTION CONTROL MEASURES (CCMs), AS INDICATED ON THE APPROVED GEC PLAN OR CDs WITH GEC PLANS, MAY OCCUR PRIOR TO RECEIVING A NOTICE TO PROCEED (NTP) ISSUED BY THE ECM ADMINISTRATOR. FAILURE TO OBTAIN A NOTICE TO PROCEED PRIOR TO BEGINNING LAND DISTURBING ACTIVITIES MAY RESULT IN AN IMMEDIATE STOP WORK ORDER (SWO).
3. CONSTRUCTION CONTROL MEASURES MST BE INSTALLED PRIOR TO COMMENCEMENT OF ACTIVITIES THAT COULD CONTRIBUTE POLLUTANTS TO STORMWATER. STORMWATER RUNOFF FROM ALL DISTURBED AREAS AND SOIL STORAGE AREAS MUST UTILIZE OR FLOW TO ONE OR MORE CCM(s) TO MINIMIZE EROSION OR SEDIMENT IN THE DISCHARGE. THE CCM(S) MUST CONTAIN OR FILTER FLOWS IN ORDER TO PREVENT THE BYPASS OF FLOWS WITHOUT TREATMENT AND MUST BE APPROPRIATE FOR STORMWATER RUNOFF DISTURBED AREAS AND FOR THE EXPECTED FLOW RATE, DURATION AND FLOW CONDITIONS (E.G. SHEET OR CONCENTRATED FLOW).
4. ALL CCMs SHALL BE MAINTAINED AND REMAIN IN EFFECTIVE OPERATING CONDITION UNTIL FINAL STABILIZATION IS ACHIEVED. THE QUALIFIED STORMWATER MANAGER (QSM) SHALL ASSESS THE ADEQUACY OF CCMs AT THE SITE AND IDENTIFY IF CHANGES TO THOSE CCMs ARE NEEDED TO ENSURE THE CONTINUED EFFECTIVE PERFORMANCE OF THE CCMs.
5. PRIOR TO CONSTRUCTION THE PERMIT HOLDER(S) SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.
6. MANAGEMENT OF THE STORMWATER MANAGEMENT PLAN (SWMP) DURING CONSTRUCTION IS THE RESPONSIBILITY OF THE DESIGNATED QSM. THE SWMP SHALL BE LOCATED ON-SITE OR DIGITALLY ACCESSIBLE AT ALL TIMES DURING THE CONSTRUCTION ACTIVITIES AND MUST BE IMPLEMENTED AS WRITTEN FROM THE START OF CONSTRUCTION ACTIVITY UNTIL FINAL STABILIZATION IS ACHIEVED. THE QSM SHALL AMEND THE SWMP WHEN THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE OF THE SITE WHICH WOULD REQUIRED THE IMPLEMENTATION OF NEW OR REVISED CCMs OR IF THE SWMP PROVES TO BE INEFFECTIVE IN CONTROLLING POLLUTANTS IN STORMWATER RUNOFF ASSOCIATED WITH CONSTRUCTION ACTIVITIES OR WHEN CCMs ARE NO LONGER NECESSARY AND ARE REMOVED. THE QSM SHALL MAINTAIN A RECORD OF AMENDMENTS MADE TO THE SWMP THAT INCLUDES THE DATE AND IDENTIFICATION OF THE CHANGES
7. EARTH DISTURBANCES SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO EFFECTIVELY MINIMIZE ACCELERATED SOIL EROSION AND RESULTING SEDIMENTATION. ALL DISTURBANCES SHALL BE DESIGNED, CONSTRUCTED, AND COMPLETED SO THAT THE EXPOSED AREA OF ANY DISTURBED LAND SHALL BE LIMITED TO THE SHORTEST PRACTICAL PERIOD OF TIME. PRE-EXISTING VEGETATION SHALL BE PROTECTED AND MAINTAINED WITHIN 50 HORIZONTAL FEET OF A WATERS OF THE STATE UNLESS SHOWN TO BE INFEASIBLE AND SPECIFICALLY REQUESTED AND APPROVED. IN ADDITION TO MAINTAINING THE 50 HORIZONTAL FEET OF PRE-EXISTING VEGETATION UPGRADIENT OF A RECEIVING WATER *UNLESS UNFEASIBLE AND APPROVED), THE PERMIT HOLDER(S) MUST INSTALL CCMs UPGRADIENT OF THE VEGETATIVE BUFFER.
8. TEMPORARY STABILIZATION SHALL BE IMPLEMENTED ON DISTURBED AREAS AND STOCKPILES WHERE GROUND DISTURBING CONSTRUCTION ACTIVITY HAS PERMANENTLY CEASED OR TEMPORARILY CEASED FOR LONGER THAN 14 DAYS.
9. EROSION CONTROL BLANKETING OR OTHER PROTECTIVE COVERING SHALL BE USED ON SLOPES STEEPER THAN 3:1.
10. VEHICLE TRACKING CONTROLS (VTS) MUST BE IMPLEMENTED TO MINIMIZE VEHICLE TRACKING OF SEDIMENT FROM DISTURBED AREAS. VTCs MUST INCLUDE A STRUCTURE CONTROL MEASURE (E.G. TRACKING PAD) AND MAY INCLUDE A NON-STRUCTURAL CONTROL MEASURE (E.G. SWEEPING). MATERIAL TRACKED OFF-SITE SHALL BE CLEANED UP AND PROPERLY DISPOSED OF IMMEDIATELY.
11. ANY TEMPORARY OR PERMANENT FACILITY DESIGNED AND CONSTRUCTED FOR THE CONVEYANCE OF STORMWATER AROUND, THROUGH, OR FROM THE EARTH DISTURBANCE AREA SHALL BE A STABILIZED CONVEYANCE DESIGNED TO MINIMIZE EROSION AND THE DISCHARGE OF SEDIMENT OFF SITE.
12. NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE CURB AND GUTTER OR DITCH EXCEPT WITH APPROVED SEDIMENT CONTROL MEASURES.
13. ALL PCMs SHALL BE INSTALLED AS DESIGNED IN THE APPROVED PLANS. ANY PROPOSED CHANGES THAT AFFECT THE DESIGN OR FUNCTION OF PERMANENT STORMWATER MANAGEMENT STRUCTURES MUST BE APPROVED BY THE ECM ADMINISTRATOR PRIOR TO IMPLEMENTATION.
14. SOIL COMPACTION MUST BE MINIMIZED IN AREAS WHERE INFILTRATION PCMs WILL BE INSTALLED OR IN AREAS WHERE FINAL STABILIZATION WILL BE ACHIEVED BY VEGETATIVE COVER. AREAS DESIGNATED FOR INFILTRATION PCMs SHALL ALSO BE PROTECTED FROM SEDIMENTATION DURING CONSTRUCTION UNTIL FINAL STABILIZATION IS ACHIEVED. IF SOIL COMPACTION DOES OCCUR IN AREAS WHERE FINAL STABILIZATION WILL BE ACHIEVED BY VEGETATIVE COVER OR IN AREAS WHERE INFILTRATION PCMs WILL BE INSTALLED, DECOMPACTION OF THE SOIL MUST BE COMPLETED PRIOR TO PLANTING OR INSTALLATION OF THE PCMs. AN INFILTRATION TEST MUST BE CONDUCTED FOR ALL INFILTRATION PCMs AND THE INFILTRATION TEST RESULTS SUBMITTED TO EL PASO COUNTY PRIOR TO PRELIMINARY ACCEPTANCE.
15. FINAL STABILIZATION MUST BE IMPLEMENTED AT ALL APPLICABLE CONSTRUCTION SITES. FINAL STABILIZATION IS ACHIEVED WHEN ALL GROUND DISTURBING ACTIVITIES ARE COMPLETE AND ALL DISTURBED AREAS EITHER HAVE A UNIFORM VEGETATIVE COVER WITH INDIVIDUAL PLANT DENSITY OF 70 PERCENT OF PRE-DISTURBANCE LEVELS ESTABLISHED OR EQUIVALENT PERMANENT ALTERNATIVE STABILIZATION METHOD IS IMPLEMENTED. ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE REMOVED UPON FINAL STABILIZATION AND BEFORE PERMIT CLOSURE.
16. STORMWATER DISCHARGES FROM CONSTRUCTION SITES SHALL NOT CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION OR DEGRADATION OF STATE WATERS. ALL WORK AND EARTH DISTURBANCE SHALL BE DONE IN A MANNER THAT MINIMIZES POLLUTION OF ANY ON-SITE OR OFF-SITE WATERS, INCLUDING WETLANDS.
17. CONCRETE WASH WATER SHALL BE CONTAINED AND DISPOSED OF IN ACCORDANCE WITH THE SWMP. NO WASH WATER SHALL BE DISCHARGED TO OR ALLOWED TO ENTER STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES. CONCRETE WASHOUTS SHALL NOT BE LOCATED IN AN AREA WHERE SHALLOW GROUNDWATER MAY BE PRESENT, OR WITHIN 50 FEET OF A SURFACE WATER BODY, CREEK OR STREAM,
18. DURING CONSTRUCTION DEWATERING OPERATIONS, UNCONTAMINATED GROUNDWATER MAY BE DISCHARGED ON SITE IN ACCORDANCE WITH THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT (CDPHE) LOW RISK DISCHARGE GUIDANCE POLICY FOR DISCHARGES OF UNCONTAMINATED GROUNDWATER TO LAND. IF CONSTRUCTION DEWATERING OPERATIONS ARE UNABLE TO MEET ALL CRITERIA, CONDITIONS, AND CONTROL MEASURE REQUIREMENTS OF THE LOW RISK DISCHARGE GUIDANCE POLICY, A COLORADO DISCHARGE PERMIT SYSTEM (CDPS) GENERAL PERMIT COGO80000 WILL BE REQUIRED.
19. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL WASTES FROM THE CONSTRUCTION SITE FOR DISPOSAL IN ACCORDANCE WITH LOCAL AND STATE REGULATORY REQUIREMENTS. NO CONSTRUCTION DEBRIS, TREE SLASH, BUILDING MATERIAL WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURIED, DUMPED, OR DISCHARGED AT THE SITE.
20. THE PERMIT HOLDER(S) SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONSTRUCTION DEBRIS, DIRT, TRASH, ROCK, SEDIMENT, SOIL AND SAND THAT MAY ACCUMULATE IN ROADS, STORM DRAINS AND OTHER DRAINAGE CONVEYANCE SYSTEMS AND STORMWATER APPURTENANCES AS A RESULT OF THE SITE DEVELOPMENT.
21. THE QUANTITY OF MATERIALS STORED ON THE PROJECT SITE SHALL BE LIMITED, AS MUCH AS PRACTICAL, TO THAT QUANTITY REQUIRED TO PERFORM THE WORK IN AN ORDERLY SEQUENCE. ALL MATERIALS STORED ON-SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER, IN THEIR ORIGINAL CONTAINERS, WITH ORIGINAL MANUFACTURER'S LABELS.
22. MATERIALS SHALL NOT BE TEMPORARILY PLACED OR STORED IN THE STREET, ALLEY, OR OTHER PUBLIC WAY, UNLESS IN ACCORDANCE WITH AN APPROVED TRAFFIC CONTROL PLAN. APPROPRIATE CMs SHALL BE UTILIZED BASED ON SPECIFIC CONDITIONS AND CIRCUMSTANCES.
23. BULK STORAGE (I.E. INDIVIDUAL CONTAINERS OF 55 GALLONS OR GREATER) OF ALLOWED PETROLEUM PRODUCTS OR OTHER ALLOWED LIQUID CHEMICALS SHALL REQUIRE ADEQUATE SECONDARY CONTAINMENT, OR EQUIVALENT PROTECTION TO CONTAIN, ALL SPILLS ONSITE AND TO PREVENT ANY SPILLED MATERIALS FROM ENTERING STATE WATERS, ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR OTHER FACILITIES.
24. NO CHEMICAL(S) HAVING THE POTENTIAL TO BE RELEASED IN STORMWATER ARE TO BE STORED OR USED ONSITE UNLESS PERMISSION FOR THE USE OF SUCH CHEMICAL(S) IS GRANTED IN WRITING BY THE ECM ADMINISTRATOR. IN GRANTING APPROVAL FOR THE USE OF SUCH CHEMICAL(S), SPECIAL CONDITIONS AND MONITORING MAY BE REQUIRED.
25. ON AREAS OF EXPOSED SOIL, MINIMIZE DUST THROUGH THE APPROPRIATE APPLICATION OF WATER OR OTHER DUST SUPPRESSION TECHNIQUES. WATER APPLICATION MUST BE CONDUCTED IN A MANNER TO PREVENT THE DISCHARGE OFFSITE UNLESS AUTHORIZE BY A CDPS OR NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT.
26. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE ONLY AT APPROVED CONSTRUCTION ACCESS POINTS.
27. FOR SITES WHERE A SOILS REPORT IS REQUIRED, THE APPROVED SOILS REPORT FOR THIS SITE SHALL BE CONSIDERED A PART OF THESE PLANS.
28. PERMIT HOLDER(S) AND THEIR AGENTS SHALL COMPLY WITH THE "COLORADO WATER QUALITY CONTROL ACT" (TITLE 25, ARTICLE 8, CRS) AND THE "CLEAN WATER ACT" (33 USC 1344), IN ADDITION TO THE REQUIREMENTS OF THE LAND DEVELOPMENT CODE, DRAINAGE CRITERIA MANUAL VOLUME 2, AND ENGINEERING CRITERIA MANUAL. ALL APPLICABLE LOCAL, STATE AND FEDERAL PERMITS MUST BE OBTAINED PRIOR TO CONSTRUCTION. IN THE EVENT OF CONFLICTS BETWEEN THESE REQUIREMENTS AND OTHER LAWS, RULES OR REGULATIONS OF OTHER FEDERAL, STATE, LOCAL OR COUNTY AGENCIES, THE MOST RESTRICTIVE LAWS, RULES OR REGULATIONS SHALL APPLY.
29. AT LEAST TEN (10) DAYS PRIOR TO THE ANTICIPATED START OF CONSTRUCTION, FOR PROJECTS THAT WILL DISTURB ONE (1) ACRE OR MORE, THE OWNER OR OPERATOR OF CONSTRUCTION ACTIVITY SHALL SUBMIT A PERMIT APPLICATION FOR STORMWATER DISCHARGE TO THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, WATER QUALITY DIVISION. THE APPLICATION CONTAINS CERTIFICATION OF COMPLETION OF A STORMWATER MANAGEMENT PLAN (SWMP), OF WHICH THIS GRADING AND EROSION CONTROL PLAN MAY BE A PART. FOR INFORMATION OR APPLICATION MATERIALS CONTACT:

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

ALL TERRAIN ENGINEERING
WWW.ATGE.COM
719.331.7655 - WWW.ATGE.COM
PAM F. BARTEL, PE
719.377.6656 - PBARTEL@ATGE.COM

PREPARED FOR:
3405 HAY CREEK, LLC
3405 HAY CREEK
COLORADO SPRINGS, CO 80921
ATTN: JAMIE HULL
(719) 331-6121
JAMES.GOLDWEST@GMAIL.COM

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REV	DESCRIPTION	DATE
1	CONTECH DESIGN DETAILS	11/03/26

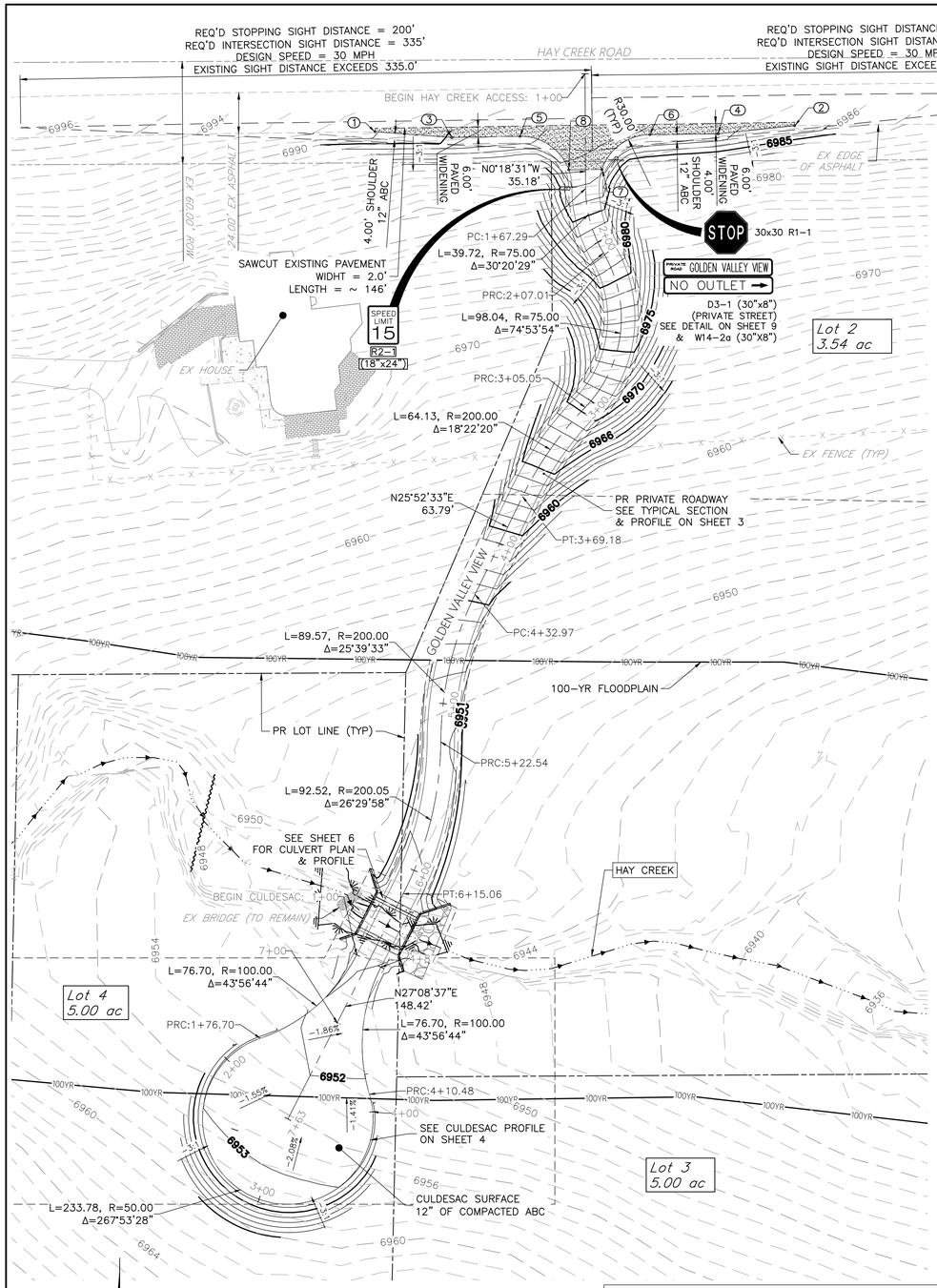
JOB NO: 24008
LOCATION: EPC

HIDDEN CREEK ESTATES

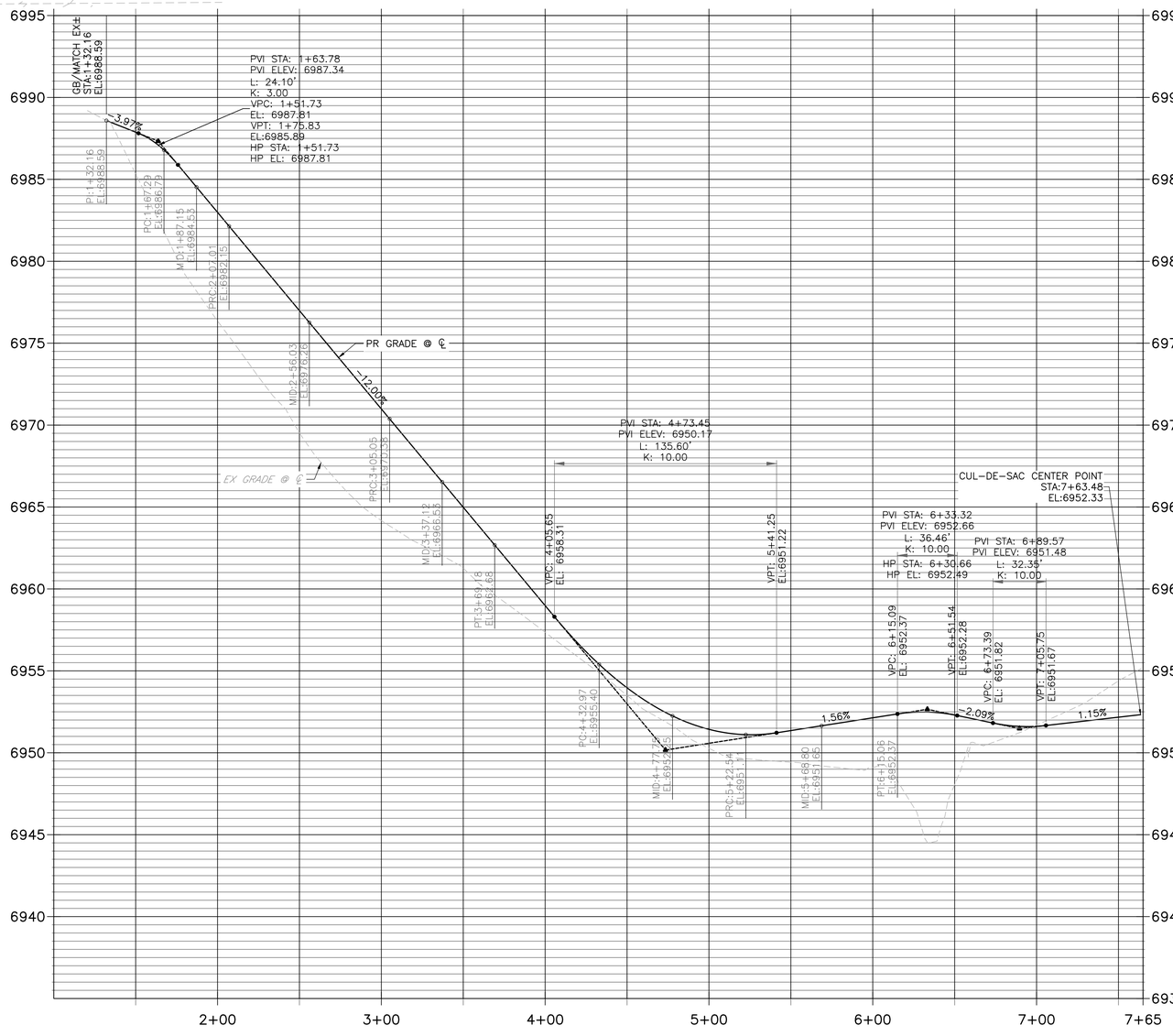
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DESIGN: NQJ
REVIEW: REB
DATE: 11/03/2026
H-SCALE: N/A
V-SCALE: N/A

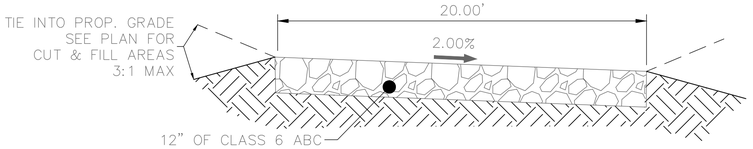
SHEET
2 OF 13



HAY CREEK ACCESS
STA 1+00.00 TO 7+65.00



STREET GRADING POINTS				
#	DESC.	ALIGNMENT	STA & OFFSET	FL ELEV.
1	MATCH EX ±	HAY CREEK ACCESS	1+33.36 (123.28' R)	6991.05
3	PI	HAY CREEK ACCESS	1+36.96 (78.28' R)	6989.92
5	PCR	HAY CREEK ACCESS	1+36.52 (38.28' R)	6989.21
6	PCR	HAY CREEK ACCESS	1+35.94 (–37.83' L)	6987.89
8	PCR/END ASPHALT	HAY CREEK ACCESS	1+56.30 (9.79' R)	6987.56
4	PI	HAY CREEK ACCESS	1+35.61 (–77.83' L)	6987.17
7	PCR/END ASPHALT	HAY CREEK ACCESS	1+56.15 (–9.64' L)	6987.14
2	MATCH EX ±	HAY CREEK ACCESS	1+31.15 (–122.83' L)	6986.41



20' PRIVATE ROAD

N.T.S.
ROAD CLASSIFICATION: PRIVATE, RURAL GRAVEL LOCAL
DESIGN SPEED: 15 MPH

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ENGINEER'S STATEMENT

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COLORADO REGISTERED NICHOLAS Q. JOKERST 59273 PROFESSIONAL ENGINEER

11/03/2026
DATE

NICHOLAS Q. JOKERST, P.E.
COLORADO P.E. 59273
FOR AND ON BEHALF OF ALL TERRAIN ENGINEERING LLC

ALL TERRAIN ENGINEERING

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JAMES.GOLDWEST@GMAIL.COM

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JOB NO: 24008 LOCATION: EPC

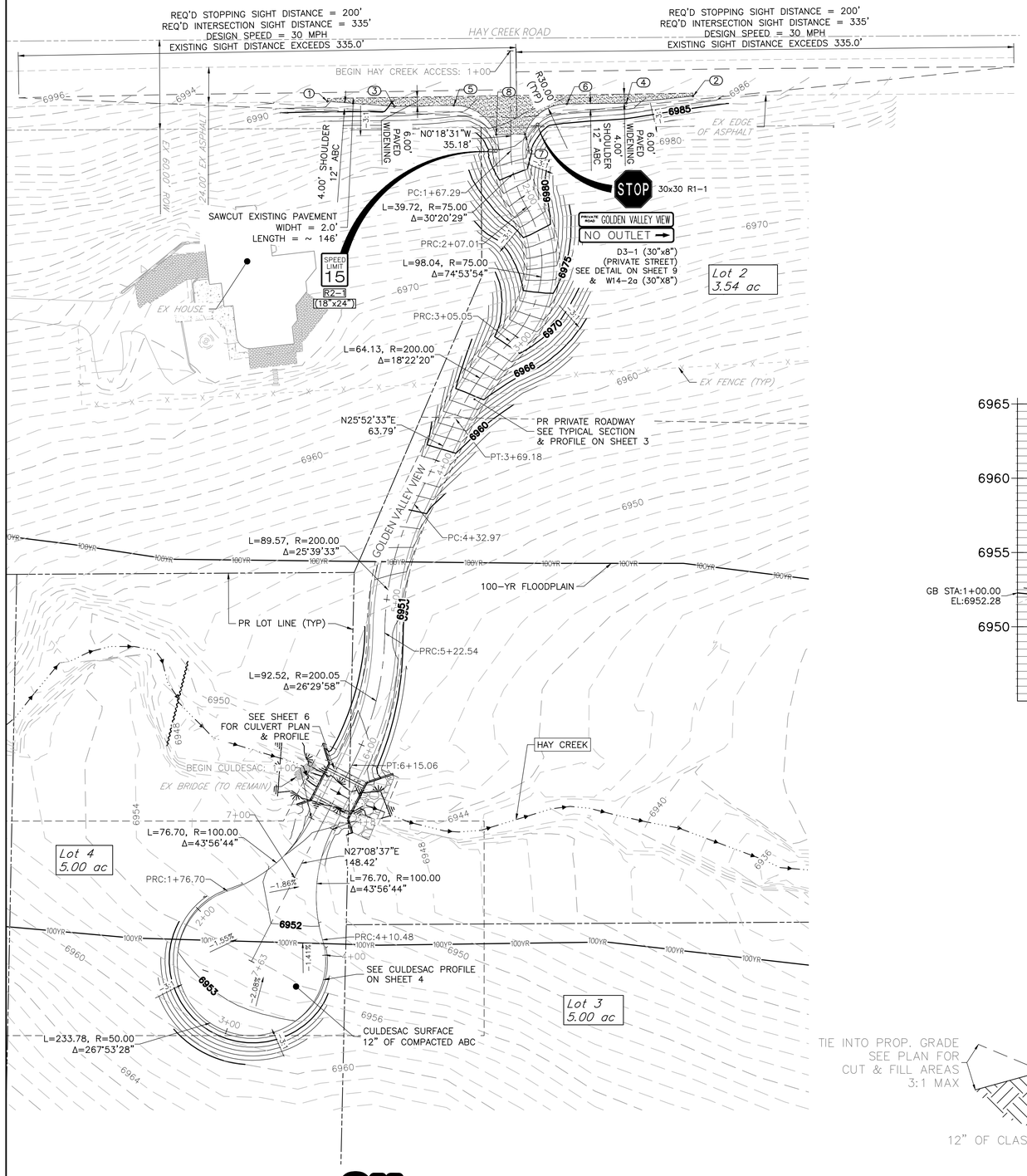
REV	DESCRIPTION	DATE
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HIDDEN CREEK ESTATES

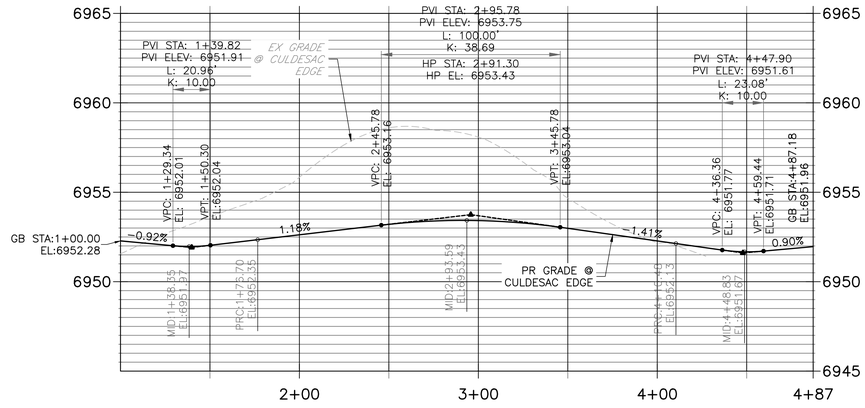
STREET IMPROVEMENT PLAN

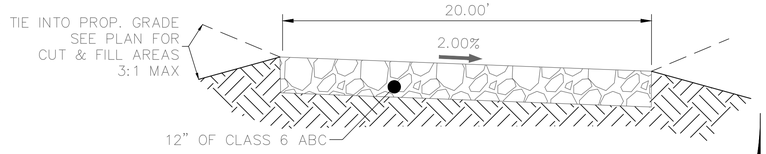
DESIGN: NQJ
REVIEW: REB
DATE: 11/03/2026
H-SCALE: 1" = 40'
V-SCALE: 1" = 4'

SHEET
3 OF 13



CULDESAC
STA 1+00.00 TO 4+87.18



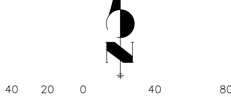


20' PRIVATE ROAD

N.T.S.

ROAD CLASSIFICATION: PRIVATE, RURAL GRAVEL LOCAL

DESIGN SPEED: 15 MPH



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COLORADO REGISTERED NICHOLAS Q. JOKERST 59273 PROFESSIONAL ENGINEER

NICHOLAS Q. JOKERST, P.E. — DATE 11/03/2026
COLORADO P.E. 59273
FOR AND ON BEHALF OF ALL TERRAIN ENGINEERING LLC

ALL TERRAIN ENGINEERING

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JAMES.GOLDWEST@GMAIL.COM

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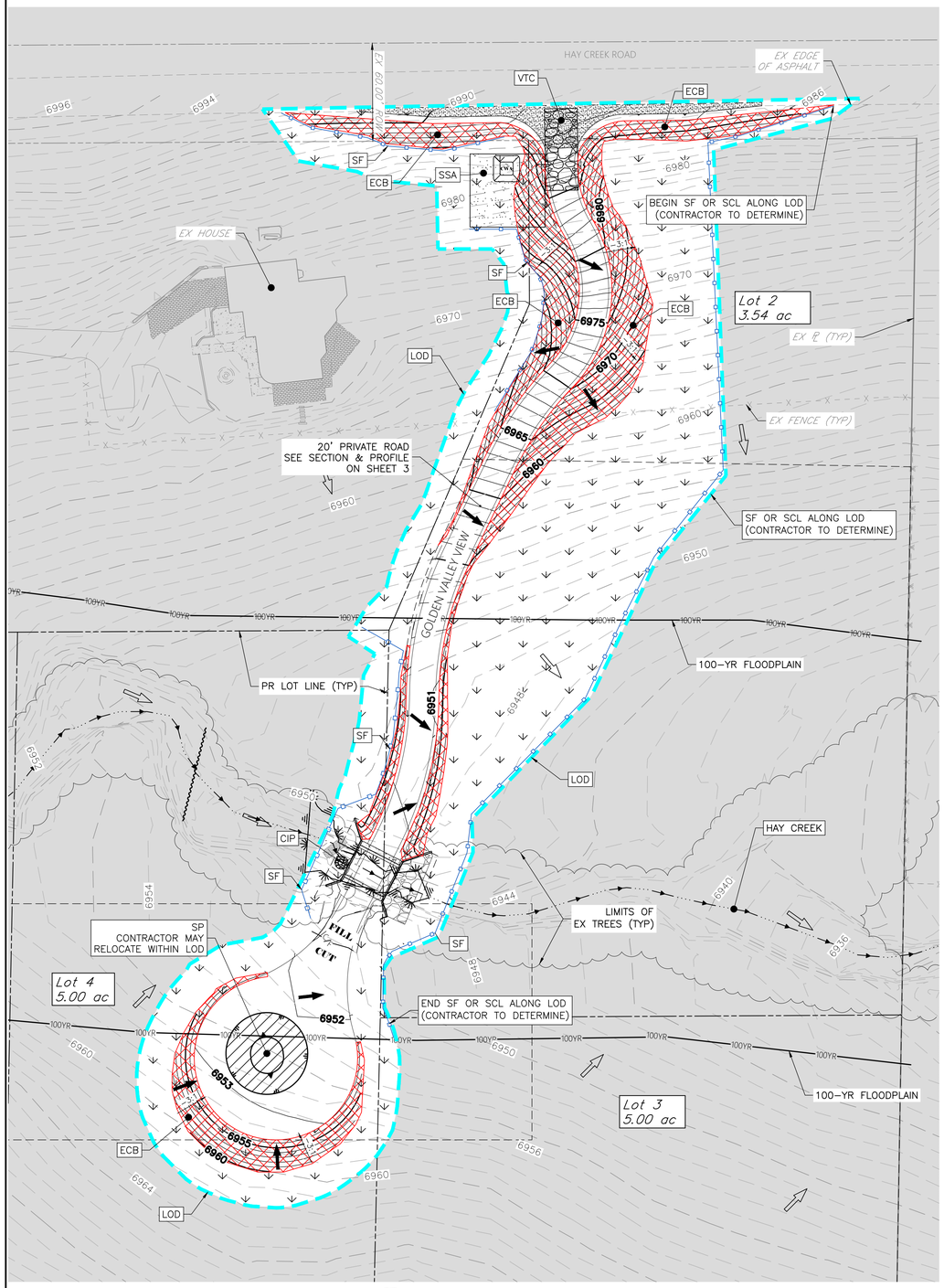
REV	DESCRIPTION	DATE
1	CONTECH DESIGN DETAILS	11/03/26

HIDDEN CREEK ESTATES

STREET IMPROVMENT PLAN

DESIGN: NQJ
REVIEW: REB
DATE: 11/03/2026
H-SCALE: 1" = 40'
V-SCALE: 1" = 4'

SHEET 4 OF 13



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GRADING AND EROSION CONTROL PLAN NOTES:

1. TOTAL DISTURBANCE AREA ~ 2.5 AC. IF TEMPORARY DISTURBANCES EXCEED THIS VALUE, QSM TO AMEND PLAN ACCORDINGLY.
2. INITIAL & INTERIM TEMPORARY CONSTRUCTION CONTROL MEASURES (TCM) SHALL REMAIN THROUGH THE FINAL PHASE.
4. ALL AREAS DISTURBED DURING CONSTRUCTION, OUTSIDE OF THE PROPOSED ROADWAY, MUST BE SEEDED AND STABILIZED FOLLOWING CONSTRUCTION ACTIVITY.
5. SEED MIX ALTERNATIVES ARE PROVIDED ON SHEET 7. CONTRACTOR/DEVELOPER MAY SELECT SEED MIX FOR APPLICATION IN UPLAND AND RIPARIAN AREAS TO MATCH EXISTING CONDITIONS.
6. EXISTING VEGETATION CONSISTS OF NATIVE GRASSES W/ APPROXIMATELY 70% COVERAGE.
7. IF DEWATERING IS REQUIRED FOR CULVERT & ROAD CONSTRUCTION, CONTRACTOR/QSM IS RESPONSIBLE FOR ACQUIRING ALL NECESSARY PERMITS PRIOR TO DEWATERING ACTIVITIES. CONTRACTOR TO AMEND THE PLAN WITH NECESSARY DETAILS OR REQUEST UPDATE FROM ENGINEER OF RECORD.

INITIAL PHASE TCM:

- VEHICLE TRACKING CONTROL
- STABILIZED STAGING AREA
- SILT FENCE/SEDIMENT CONTROL LOG

INTERIM PHASE TCM:

- EROSION CONTROL BLANKET
- CULVERT INLET PROTECTION

FINAL PHASE TCM:

- SEEDING AND MULCHING
- REMOVE ALL TEMPORARY BMP'S UPON FINAL STABILIZATION

GEC LEGEND:

- CULVERT PROTECTION
- CONCRETE WASHOUT AREA
- INLET PROTECTION
- EX FLOW DIRECTION
- PR FLOW DIRECTION
- SEDIMENT CONTROL LOG
- DIVERSION DITCH
- SILT FENCE
- CUT/FILL BOUNDARY
- LIMITS OF DISTURBANCE/CONSTRUCTION
- STABILIZED STAGING AREA
- STOCKPILE PROTECTION
- VEHICLE TRACKING CONTROL
- SEEDING & MULCHING
- EROSION CONTROL BLANKET
- DO NOT DISTURB

N

40 20 0 40 80

ORIGINAL SCALE: 1" = 40'

ENGINEER'S STATEMENT

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11/03/2026

NICHOLAS Q. JOKERST, P.E. — DATE
COLORADO P.E. 59273
FOR AND ON BEHALF OF ALL TERRAIN ENGINEERING LLC

ALL TERRAIN ENGINEERING

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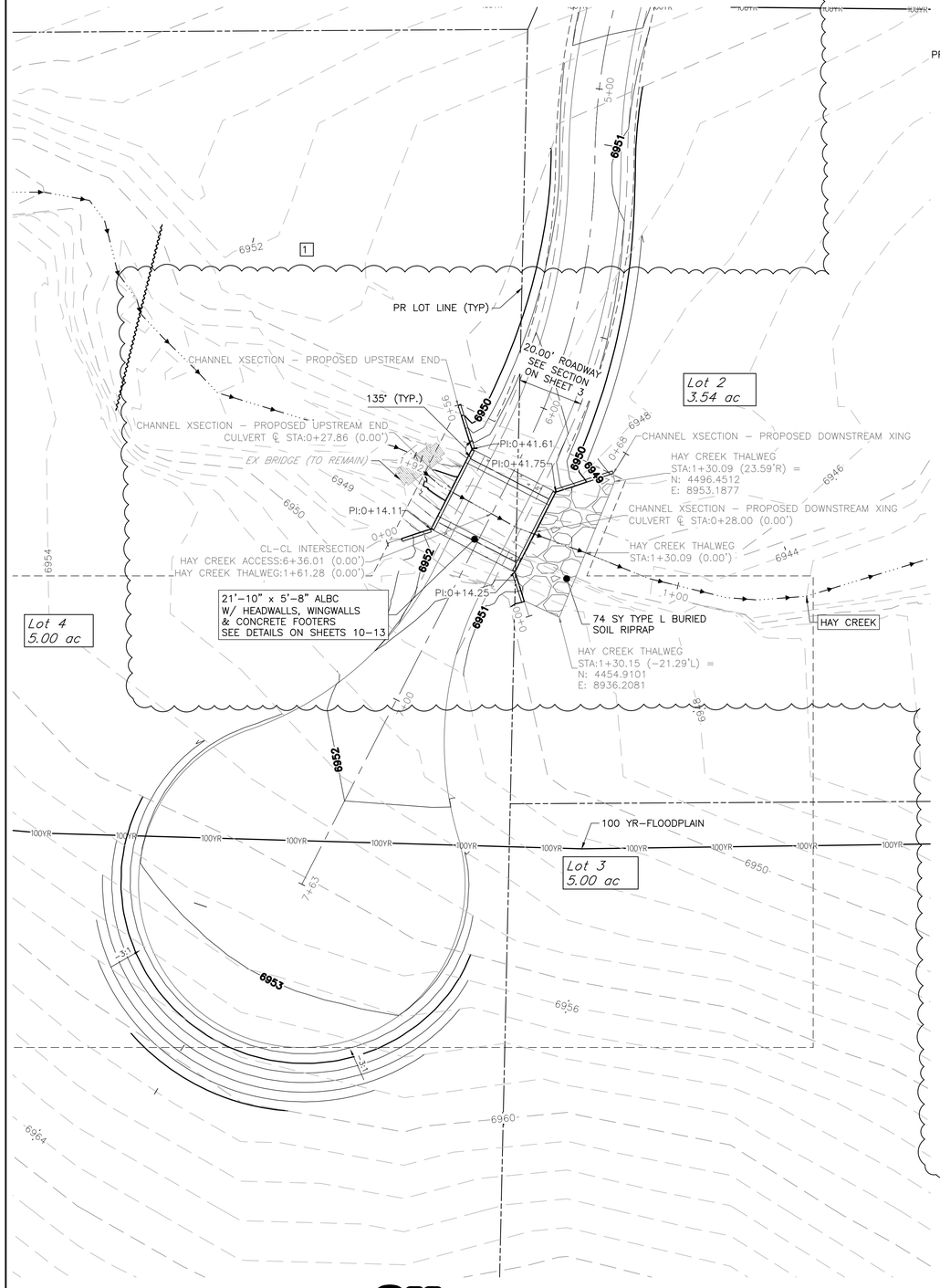
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HIDDEN CREEK ESTATES

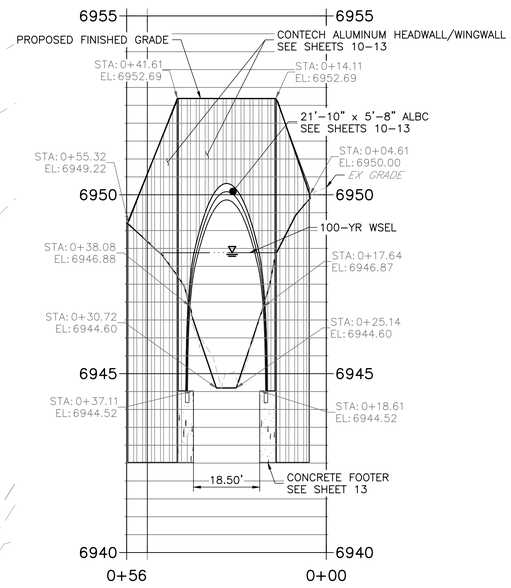
INITIAL-FINAL GEC PLAN

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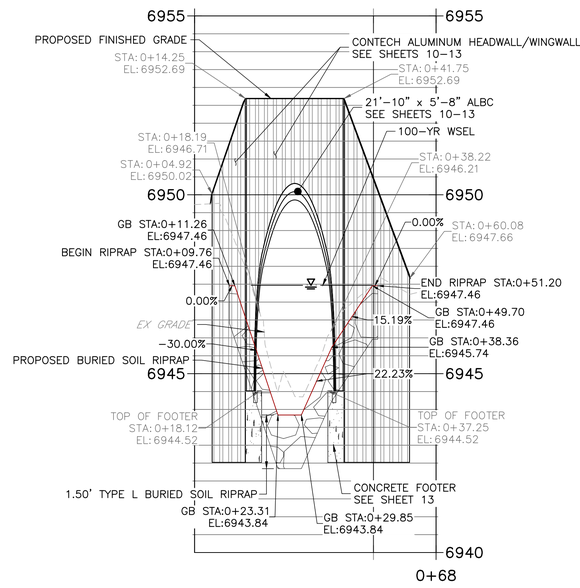
SHEET
5 OF 13



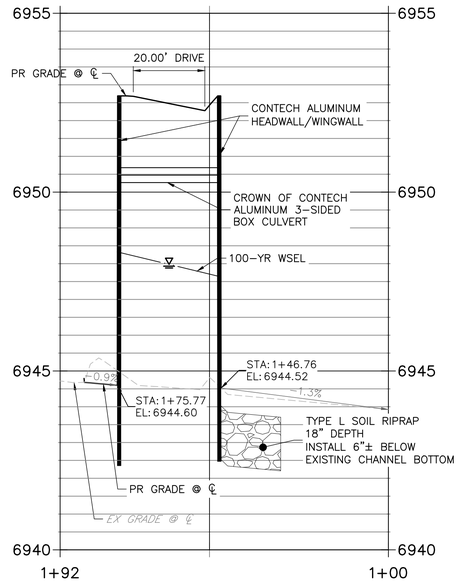
CHANNEL XSECTION - PROPOSED UPSTREAM END
STA 0+00.00 TO 0+55.79



CHANNEL XSECTION - PROPOSED DOWNSTREAM XING
STA 0+00.00 TO 0+67.50



HAY CREEK THALWEG
STA 1+00.00 TO 1+91.74



NOTES:

1. SEE SHEETS 10–13 FOR 21'–10" X 5'–8" ALUMINUM BOX CULVERT DETAILS AND SPECIFICATIONS. FULL SIZE COPIES CAN BE PROVIDED TO CONTRACTOR AT REQUEST.
2. ALL WORK RELATED TO THE INSTALLATION OF THE ALBC, HEADWALLS, & WINGWALLS INCLUDING EARTHWORK, BACKFILL, AND EMBANKMENT MUST BE COMPLETED IN ACCORDANCE WITH THE "DY064956 HAY CREEK CROSSING RBCB ALTERNATE" & THE "SOILS & GEOLOGY STUDY HAY CREEK ROAD LOTS 1–6" BY RMG.
3. THE CONTECH ALUMINUM BOX CULVERT SHALL BE DESIGNED TO MEET THE LOADING CRITERIA SPECIFIED WITHIN THE CURRENT ENGINEERING CRITERIA MANUAL. FINAL CONSTRUCTION AND FOUNDATION DETAILS FOR THE CONTECH BOX CULVERT SHALL BE PROVIDED TO EL PASO COUNTY FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION OR PLAT RECORDATION, WHICHEVER COMES FIRST.
4. CONTECH ALUMINUM BOX CULVERT AND FOUNDATIONS ARE DESIGNED TO ACCOMMODATE TRI LAKES MONUMENT FIRE PROTECTION DISTRICT'S HEAVIEST FIRE SERVICE VEHICLE OF 82,000 LBS.

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.

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

20 10 0 20 40

HORIZONTAL ORIGINAL SCALE: 1" = 20'

VERTICAL ORIGINAL SCALE: 1" = 2'

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.

COLORADO REGISTERED NICHOLAS Q. JOKERST 59273 PROFESSIONAL ENGINEER

NICHOLAS Q. JOKERST, P.E. — DATE 11/03/2026
COLORADO P.E. 59273
FOR AND ON BEHALF OF ALL TERRAIN ENGINEERING LLC

ALL TERRAIN ENGINEERING
NICHOLAS Q. JOKERST, PE 330.397.1668 - NICK@ATERRAINENGINEERING.COM
RYAN F. BURTLE, PE 303.517.1668 - RYAN@ATERRAINENGINEERING.COM

PREPARED FOR:
3405 HAY CREEK, LLC
3405 HAY CREEK
COLORADO SPRINGS, CO 80921
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UNTIL SUCH TIME AS THESE DRAWIGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, ALL TERRAIN ENGINEERING APPROVES THEIR USE ONLY FOR THE PURPOSES DESIGNATED BY WRITTEN AUTHORIZATION.

JOB NO: 24008 LOCATION: EPC

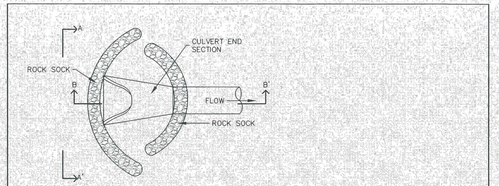
REV	DESCRIPTION	DATE
1	CONTECH DESIGN DETAILS	11/03/26

HIDDEN CREEK ESTATES

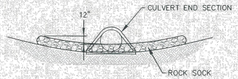
STORM SEWER PLAN & PROFILE

DESIGN: NQJ
REVIEW: REB
DATE: 11/03/2026
H-SCALE: 1" = 20'
V-SCALE: 1" = 2'

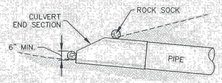
SHEET 6 OF 13



CULVERT INLET PROTECTION PLAN



SECTION A-A'



SECTION B-B'

INSTALLATION NOTES

1. SEE ROCK SOCK DETAIL.

MAINTENANCE NOTES

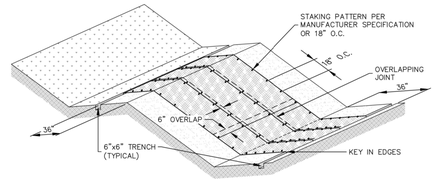
1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. ACCUMULATED SEDIMENT UPSTREAM OF THE CULVERT SHALL BE REMOVED WHEN THE SEDIMENT DEPTH IS ½ HEIGHT OF THE ROCK SOCK.
3. CULVERT INLET PROTECTION SHALL REMAIN UNTIL THE UPSTREAM AREA IS PERMANENTLY STABILIZED.

CIP

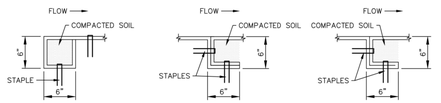
STORMWATER ENTERPRISE

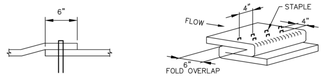
CULVERT INLET PROTECTION

APPROVED:		
CLIENT MANAGER		
ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO.: 900-CIP



EROSION CONTROL BLANKET





TO BE USED ON SLOPE EVERY 15 FEET

ECB

STORMWATER ENTERPRISE

EROSION CONTROL BLANKET

APPROVED:		
CLIENT MANAGER		
ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO.: 900-ECB-1

INSTALLATION NOTES

1. 100% NATURAL AND BIODEGRADABLE MATERIALS ARE REQUIRED FOR EROSION CONTROL BLANKETS. TRM PRODUCTS MAY ME USED WHERE APPROPRIATE AS DESIGNATED BY THE ENGINEER.
2. IN AREAS WHERE EROSION CONTROL BLANKETS ARE SHOWN ON THE PLANS, THE PERMITTEE SHALL PLACE TOPSOIL AND PERFORM FINAL GRADING, SURFACE PREPARATION, AND SEEDING AND MULCHING. SUBGRADE SHALL BE SMOOTH AND MOIST PRIOR TO EROSION CONTROL BLANKET INSTALLATION, AND THE EROSION CONTROL BLANKET SHALL BE IN FULL CONTACT WITH THE SUBGRADE. NO GAPS OR VOIDS SHALL EXIST UNDER THE BLANKET.
3. PERIMETER ANCHOR TRENCH SHALL BE USED ALONG THE OUTSIDE PERIMETER OF ALL BLANKET AREAS.
4. JOINT ANCHOR TRENCH SHALL BE USED TO JOIN ROLLS OF EROSION CONTROL BLANKETS TOGETHER (LONGITUDINALLY AND TRANSVERSELY) FOR ALL EROSION CONTROL BLANKETS.
5. INTERMEDIATE CHECK SLOT OR STAPLE CHECK SHALL BE INSTALLED EVERY 15' DOWN SLOPES. IN DRAINAGEWAYS, INSTALL CHECK SLOTS EVERY 25' PERPENDICULAR TO FLOW DIRECTION.
6. OVERLAPPING JOINT DETAIL SHALL BE USED TO JOIN ROLLS OF EROSION CONTROL BLANKETS TOGETHER FOR EROSION CONTROL BLANKETS ON SLOPES.
7. MATERIAL SPECIFICATIONS OF EROSION CONTROL BLANKETS SHALL CONFORM TO TABLE ECB-1.
8. ANY AREAS OF SEEDING AND MULCHING DISTURBED IN THE PROCESS OF INSTALLING EROSION CONTROL BLANKETS SHALL BE RESEEDED AND MULCHED.
9. STRAW EROSION CONTROL BLANKETS SHALL NOT BE USED WITHIN STREAMS AND DRAINAGE CHANNELS.
10. COMPACT ALL TRENCHES.

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. EROSION CONTROL BLANKETS SHALL BE LEFT IN PLACE TO EVENTUALLY BIODEGRADE. TRM MUST BE REMOVED AT THE DISCRETION OF THE GEC INSPECTOR.
3. ANY EROSION CONTROL BLANKET PULLED OUT, TORN, OR OTHERWISE DAMAGED SHALL BE REPAIRED OR REINSTALLED. ANY SUBGRADE AREAS BELOW GEOTEXTILE THAT HAVE ERODED TO CREATE A VOID UNDER THE BLANKET, OR THAT REMAIN DEVOID OF GRASS SHALL BE REPAIRED, RESEEDED AND MULCHED AND THE EROSION CONTROL BLANKET REINSTALLED.

TABLE ECB-1, EROSION CONTROL BLANKET MATERIAL SPECIFICATIONS

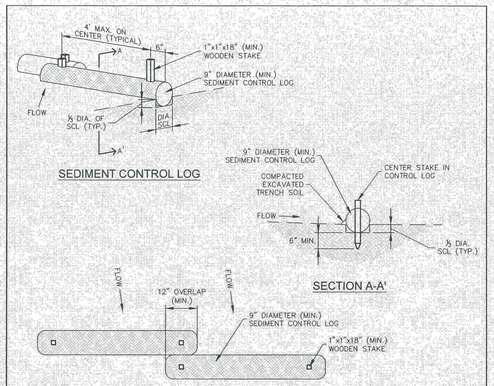
TYPE	COCONUT CONTENT	STRAW CONTENT	EXCELSIOR CONTENT	RECOMMENDED NETTING
STRAW	–	100%	–	DOUBLE/ NATURAL
STRAW–COCONUT	30% MIN.	70% MAX.	–	DOUBLE/ NATURAL
COCONUT	100%	–	–	DOUBLE/ NATURAL
EXCELSIOR	–	–	100%	DOUBLE/ NATURAL

ECB

STORMWATER ENTERPRISE

EROSION CONTROL BLANKET

APPROVED:		
CLIENT MANAGER		
ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO.: 900-ECB-2



SEDIMENT CONTROL LOG

SEDIMENT CONTROL LOG JOINTS

INSTALLATION NOTES

1. ALL SEDIMENT CONTROL LOGS MUST BE EMBEDDED TO ⅓ OF THE HEIGHT OF THE LOG.
2. LARGER DIAMETER SEDIMENT CONTROL LOGS NEED TO BE EMBEDDED DEEPER.
3. PLACE SEDIMENT CONTROL LOG AGAINST SIDEWALK OR BACK OF CURB WHEN ADJACENT TO THESE FEATURES.
4. SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELSIOR OR COCONUT FIBER, AND SHALL BR FREE FROM ANY NOXIOUS WEED SEEDS OF DEFECTS INCLUDING RIPS, HOLES AND OBVIOUS WEAR.
5. IF USING AS SLOPE PROTECTION, INSTALL SEDIMENT CONTROL LOGS ALONG THE CONTOUR.

MAINTENANCE NOTES

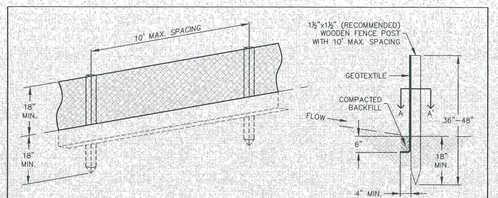
1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES ½ OF THE HEIGHT OF THE SEDIMENT CONTROL LOG.
3. PERMANENTLY STABILIZE AREA AFTER SEDIMENT CONTROL LOGS HAVE BEEN REMOVED.

SCL

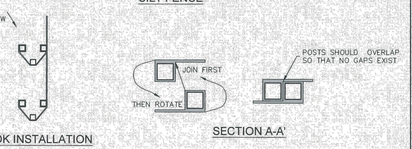
STORMWATER ENTERPRISE

SEDIMENT CONTROL LOGS

APPROVED:		
CLIENT MANAGER		
ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO.: 900-SCL



SILT FENCE



J-HOOK INSTALLATION

SECTION A-A'

INSTALLATION NOTES

1. SILT FENCE MUST BE PLACED ON A FLAT SURFACE 2'–5' AWAY FROM TOE OF THE SLOPE TO ALLOW FOR PONDING AND DEPOSITION.
2. COMPACT THE TRENCH USING A JUMPING JACK OR WHEEL ROLLING TO THE POINT THAT THE FENCE RESISTS BEING PULLED OUT OF THE GROUND BY HAND.
3. SILT FENCE SHALL BE TAUT WITH NO SAGS AFTER IT HAS BEEN ANCHORED.
4. FABRIC SHALL BE ATTACHED TO POSTS WITH 1" HEAVY DUTY STAPLES OR 1" NAILS. THESE SHOULD BE PLACED VERTICALLY DOWN THE POST, 3" APART.
5. THE PREFERRED INSTALLATION METHOD USES A TRENCHER OR SILT FENCE INSTALLATION DEVICE.
6. INSTALL SILT FENCE ALONG THE CONTOUR OF THE SLOPES OR IN A MANNER TO AVOID CREATING CONCENTRATED FLOW (SUCH AS A "J-HOOK" INSTALLATION).

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. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN THE HEIGHT REACHES ½ OF THE DESIGN HEIGHT OF THE SILT FENCE.
3. SILT FENCE MUST REMAIN UNTIL THE UPSTREAM DISTURBANCE AREA IS STABILIZED.
4. PERMANENTLY STABILIZE AREA AFTER SILT FENCE IS REMOVED.

SF

STORMWATER ENTERPRISE

SILT FENCE

APPROVED:		
CLIENT MANAGER		
ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO.: 900-SF

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 ¼ TO ½ INCHES WHEN DRILL–SEEDING IS USED
3. BROADCAST SEEDING OR HYDRO–SEEDING 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 BRILLION DRILL OR HYDRO–SEEDING.
   - 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–SEEDING 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.

SM

STORMWATER ENTERPRISE

SEEDING & MULCHING

APPROVED:		
CLIENT MANAGER		
ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO.: 900-SM

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	*Andropogon gerardii*	Warm, sod	20	4.4	2.2	1.1
Grama, blue	*Bouteloua gracilis*	Warm, bunch	10	0.5	0.25	0.13
Green needlegrass[2]	*Nassella viridula*	Cool, bunch	10	2	1	0.5
Wheatgrass, western[2]	*Pascopyrum smithii*	Cool, sod	20	6.4	3.2	1.6
Grama, sideoats	*Bouteloua curtipendula*	Warm, bunch	10	2	1	0.5
Switchgrass[2]	*Panicum virgatum*	Warm, bunch/sod	10	0.8	0.4	0.2
Prairie sandreed	*Calamovilfa longifolia*	Warm, sod	10	1.2	0.6	0.3
Yellow indiangrass[2]	*Sorghastrum nutans*	Warm, sod	10	2	1	0.5
Seed rate (lbs PLS/acre)				19.3	9.7	4.8

[1]For 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.

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

Table 5-2. El Paso County All-Purpose Low Grow Mix for Upland and Transition 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
Buffalograss	*Buchloe dactyloides*	Warm, sod	25	9.6	4.8	2.4
Grama, blue	*Bouteloua gracilis*	Warm, bunch	20	10.8	5.4	2.7
Grama, sideoats	*Bouteloua curtipendula*	Warm, bunch	29	5.6	2.8	1.4
Green needlegrass	*Nassella viridula*	Cool, bunch	5	3.2	1.6	0.8
Wheatgrass, western	*Pascopyrum smithii*	Cool, sod	20	12	6	3
Dropseed, sand	*Sporobolus cryptandrus*	Warm, bunch	1	0.8	0.4	0.2
Seed rate (lbs PLS/acre)				42	21	10.3

ALL TERRAIN ENGINEERING

PREPARED FOR:
3405 HAY CREEK, LLC
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COLORADO SPRINGS, CO 80921
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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.: 24008 LOCATION: EPC

REV	DESCRIPTION	DATE
1	CONTECH DESIGN DETAILS	11/03/26

HIDDEN CREEK ESTATES

DETAILS

DESIGN: NQJ
REVIEW: REB
DATE: 11/03/2026
H-SCALE: N/A
V-SCALE: N/A

SHEET
7 OF 13

ENGINEER'S STATEMENT

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

NICHOLAS D. JOKERST, P.E. — 59273 — 11/03/2026
COLORADO P.E. 59273 — DATE
FOR AND ON BEHALF OF ALL TERRAIN ENGINEERING, LLC

TABLE SB-1, SIZING INFORMATION FOR STANDARD SEDIMENT BASIN

	UPSTREAM DRAINAGE AREA (ROUNDED TO NEAREST ACRE), (AC)	BASIN BOTTOM WIDTH (W), (FT)	SPILLWAY CREST LENGTH (CL), (FT)	HOLE DIAMETER (HD), (IN)
1	1	12½	2	7/32
2	2	21	3	1 3/16
3	3	28	5	1/4
4	4	33½	6	5/16
5	5	38½	8	7/32
6	6	43	9	7/32
7	7	47¼	11	29/32
8	8	51	12	27/32
9	9	55	13	7/8
10	10	58¼	15	1 5/16
11	11	61	16	7/32
12	12	64	18	1
13	13	67½	19	1 3/32
14	14	70½	21	1 3/8
15	15	73¼	22	1 3/16

INSTALLATION NOTES:

1. FOR STANDARD BASIN, BOTTOM DIMENSION MAY BE MODIFIED AS LONG AS BOTTOM AREA IS NOT REDUCED.
2. EMBANKMENT MATERIAL SHALL CONSIST OF SOIL FREE OF DEBRIS, ORGANIC MATERIAL, AND ROCKS OR CONCRETE GREATER THAN 3 INCHES, AND SHALL HAVE A MINIMUM OF 15 PERCENT BY WEIGHT PASSING THE No. 200 SIEVE.
3. EMBANKMENT MATERIAL SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D-698.
4. PIPE SCHEDULE 40 OR GREATER SHALL BE USED.
5. THE DETAILS SHOWN ON THESE SHEETS PERTAIN TO STANDARD SEDIMENT BASIN(S) FOR DRAINAGE AREAS LESS THAN 15 ACRES. SEE CONSTRUCTION DRAWINGS FOR EMBANKMENT, STORAGE VOLUME, SPILLWAY, OUTLET, AND OUTLET PROTECTION DETAILS FOR ANY SEDIMENT BASIN(S) THAT HAVE BEEN INDIVIDUALLY DESIGNED FOR DRAINAGE AREAS LARGER THAN 15 ACRES. DESIGN CALCULATIONS MUST BE APPROVED PRIOR TO IMPLEMENTATION.

MAINTENANCE NOTES:

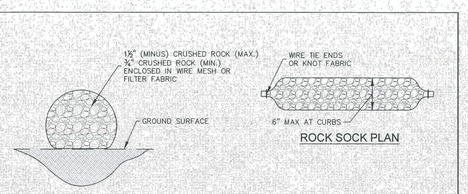
1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. SEDIMENT ACCUMULATED IN BASIN SHALL BE REMOVED AS NEEDED TO MAINTAIN CONTROL MEASURE EFFECTIVENESS, TYPICALLY WHEN SEDIMENT DEPTH REACHES ONE FOOT (I.E. TWO FEET BELOW SPILLWAY CREST).
3. SEDIMENT BASINS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED.
4. PERMANENTLY STABILIZE AREA AFTER SEDIMENT BASIN REMOVAL.

TSB

STORMWATER ENTERPRISE | TEMPORARY SEDIMENT BASIN

APPROVED: ENGINEERING MANAGER

ISSUED:	REVISED:	DRAWING NO.
10/7/19	8/19/2020	900-TSB-2



GRADATION TABLE

	MASS PERCENT PASSING SQUARE MESH SIEVES
	No. 4
2"	100
1½"	90–100
1"	20–55
¾"	0–15
⅜"	0–5

MATCHES SPECIFICATIONS FOR No. 4 COARSE AGGREGATE FOR CONCRETE PER AASHTO M-43. ALL ROCK SHALL BE FRACTURED FACE, ALL SIDES

INSTALLATION NOTES:

1. CRUSHED ROCK SHALL BE BETWEEN MAX. 1½" (MINUS) IN SIZE WITH A FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH GRADATION SHOWN ON THIS SHEET AND MIN. ¾" CRUSHED ROCK.
2. WIRE MESH SHALL HAVE OPENINGS SMALLER THAN THE SMALLEST SIZE ROCK.
3. WIRE MESH SHALL BE SECURED USING "HOG RINGS" OR WIRE TIES AT 6" CENTERS ALONG ALL JOINTS AND AT 2' CENTERS ON ENDS OF SOCKS.

MAINTENANCE NOTES:

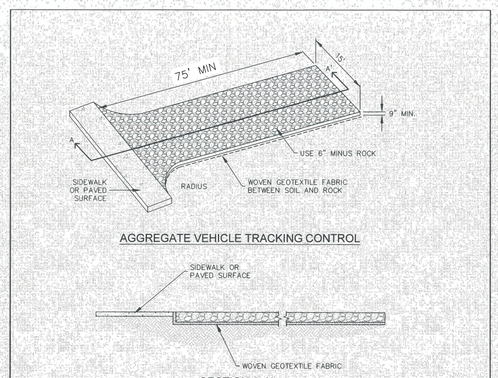
1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. ROCK SOCKS SHALL BE REPLACED IF THEY BECOME HEAVILY SOILED OR DAMAGED BEYOND REPAIR.
3. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN THE DEPTH REACHES ½ OF THE HEIGHT OF THE ROCK SOCK.
4. ROCK SOCKS ARE TO REMAIN IN PLACE UNTIL DISTURBED AREA IS STABILIZED.
5. PERMANENTLY STABILIZE AREA AFTER ROCK SOCKS HAVE BEEN REMOVED.

RS

STORMWATER ENTERPRISE | ROCK SOCK

APPROVED: ENGINEERING MANAGER

ISSUED:	REVISED:	DRAWING NO.
10/7/19	8/19/2020	900-RS



INSTALLATION NOTES:

1. A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHOULD BE LOCATED AT ALL POINTS WHERE VEHICLES EXIT THE CONSTRUCTION SITE TO ADJACENT ROADWAY.
2. STABILIZED CONSTRUCTION ENTRANCE/EXITS SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
3. RADIUS MUST BE ADEQUATE FOR INTENDED CONSTRUCTION VEHICLE TURNING.
4. ROCK SHOULD CONSIST OF 6" MINUS ROCK.
5. INSTALL CONSTRUCTION FENCE ON BOTH SIDES OF VEHICLE TRACKING CONTROL PAD WHEN NEEDED OR REQUIRED BY INSPECTOR.

MAINTENANCE NOTES:

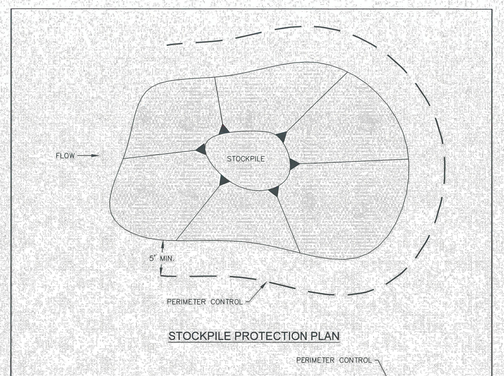
1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. SEDIMENT TRACKED ONTO THE ADJACENT ROAD SHALL BE REMOVED DAILY BY SWEEPING OR SHOVELING, AND NEVER WASHED DOWN STORM DRAINS.
3. ROUGHEN, REPLACE AND/OR ADD ROCK AS NEEDED TO MAINTAIN CONSISTENT DEPTH AND TO PREVENT SEDIMENT TRACKING ONTO ADJACENT STREET.
4. PERMANENTLY STABILIZE AREA AFTER VEHICLE TRACKING CONTROL IS REMOVED.

VTC

STORMWATER ENTERPRISE | VEHICLE TRACKING CONTROL

APPROVED: ENGINEERING MANAGER

ISSUED:	REVISED:	DRAWING NO.
10/7/19	8/19/2020	900-VTC



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:

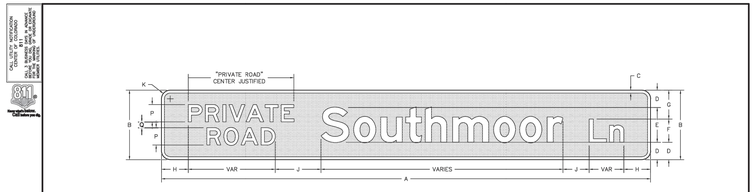
1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. IF PERIMETER CONTROLS MUST BE MOVED TO ACCESS STOCKPILE, REPLACE PERIMETER CONTROLS BY THE END OF THE WORK DAY.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

SP

STORMWATER ENTERPRISE | STOCKPILE PROTECTION

APPROVED: ENGINEERING MANAGER

ISSUED:	REVISED:	DRAWING NO.
10/7/19	8/19/2020	900-SP



SIGN DIMENSIONS

	A	B	C	D	E	F	G	H	J	K	P	Q
C	VAR	8	0.375	2	4 D	3 D	3	3 (MIN)	3	1	2.25	1.5
	VAR	12	0.5	3	6 D	4 D	5	4.5 (MIN)	4.5	1.5	3	2

COLORS: LEGEND, BORDER —WHITE (RETROREFLECTIVE)
BACKGROUND —GREEN (RETROREFLECTIVE)

NOTES:
REFERENCE SUPPLEMENTAL SPECIFICATION

Sign Detail
Scale: NTS

FINAL 7/17/20

Computer File Information		Index of Revisions				El Paso County Department of Public Works 3275 Akers Drive Colorado Springs, Colorado 80922-1041 PH: 719-520-6460 FAX: 719-520-6878 Division of Transportation	As Constructed	Private Road Detail	Project No./Code
Creation Date: 3/4/2021 Initials: DAN		7/13/2021	Approval Date	JEI			No. Revisions:		EPC
Last Modification Date: 7/13/2021 Initials: DAN							Revised:	Designer: JP Drawing Number:	Standard Drawing
Full Path: P:\Proj-Co\2020\								Detailer: DAN	
Drawing File Name: PrivateRoadSignDetails.dwg							Void:	Sheet/Subset: Subset Sheets: of	Sheet Number 1
Acad. Ver. Civ3D 2020 Scale: n/a Units: Feet									

P:\Proj-Co\2020\PrivateRoadSignDetails.dwg, 8/4/21, 7/13/2021 10:28:04 PM, dsimonton, Supersedes All Previously Dated Sets

OIL, GAS & PIPELINES
Check if Applicable
Yes, Work Will Affect Oil, Gas & Pipelines
No, Work Will Not Affect Oil, Gas & Pipelines

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

ALL TERRAIN ENGINEERING
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303.577.4868 - REVERLY@ATERRAINENG.COM

PREPARED FOR:
3405 HAY CREEK, LLC
3405 HAY CREEK
COLORADO SPRINGS, CO 80921
ATTN: JAMIE HULL
(719) 331-6121
JAMES.GOLDWEST@GMAIL.COM

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

JOB NO: 24008 LOCATION: EPC

REV	DESCRIPTION	DATE
1	CONTECH DESIGN DETAILS	11/03/26

HIDDEN CREEK ESTATES

DETAILS

DESIGN: NQJ
REVIEW: REB
DATE: 11/03/2026

H-SCALE: N/A
V-SCALE: N/A

SHEET
8 OF 13

ENGINEER'S STATEMENT

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

NICHOLAS Q. JOKERST, P.E.
COLORADO P.E. 59273
FOR AND ON BEHALF OF ALL TERRAIN ENGINEERING LLC

11/03/2026
DATE

GENERAL NOTES:

1. THIS SPECIFICATION COVERS THE MANUFACTURE AND INSTALLATION OF THE ALUMINUM BOX CULVERT (ALBC) STRUCTURE AS DETAILED IN THE PLANS. ANY INSTALLATION INFORMATION PROVIDED HEREIN SHALL BE REVIEWED AND APPROVED BY THE ENGINEER. CHANGES AND DISCREPANCIES MUST BE FORWARDED TO THE MANUFACTURER TO BE INCORPORATED IN A REVISED DRAWING SET.

2. THE ENGINEER SHALL VERIFY THAT THE PROPOSED STRUCTURE IS APPROPRIATE FOR THE SITE CONDITIONS AND THE DESIGN PARAMETERS ARE CONSISTENT WITH THE PROJECT REQUIREMENTS. ALL ASPECTS OF THE STRUCTURE DESIGN AND SITE LAYOUT NOT EXPLICITLY INCLUDED IN THESE DRAWINGS SHALL BE PROVIDED OR COORDINATED BY THE ENGINEER. THIS MAY INCLUDE BUT IS NOT LIMITED TO FOUNDATIONS, BACKFILL, END TREATMENTS, HYDRAULIC ANALYSIS AND SCOUR ANALYSIS AS REQUIRED.

3. CONTECH PRODUCT DRAWINGS MAY NOT BE USED, REPRODUCED, COPIED, OR ISSUED TO A THIRD PARTY WITHOUT THE PRIOR WRITTEN PERMISSION OF CONTECH ENGINEERED SOLUTIONS.

4. ALL DIMENSIONS ARE TO THE INSIDE CREST OF THE CORRUGATION PROFILE UNLESS NOTED OTHERWISE AND ARE SUBJECT TO MANUFACTURING TOLERANCES.

5. THE STRUCTURE GEOMETRY, DESIGN, AND MATERIALS AS SHOWN IN THESE DRAWINGS ONLY APPLY TO THE ALBC, DESIGNED AND FABRICATED BY CONTECH ENGINEERED SOLUTIONS (CONTECH). ALTERNATIVE SYSTEMS SHALL BE FULLY DESIGNED AND APPROVED PRIOR TO BIDDING, WITH SEALED DRAWINGS AND CALCULATIONS PROVIDED TO DEMONSTRATE COMPLIANCE WITH THE SAME GEOMETRY, DESIGN, AND MATERIAL REQUIREMENTS AS SHOWN HEREIN.

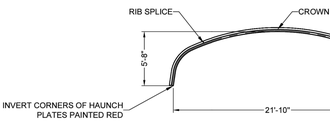
6. CIRCUMFERENTIAL PLATE LENGTHS ARE IN TERMS OF N = 9.625 INCHES.

7. FOR WATER CONVEYANCE APPLICATIONS THE STRUCTURE MUST MEET HYDRAULIC REQUIREMENTS OF THE SITE AS DETERMINED BY THE ENGINEER. SHEET PILING, INLET AND OUTLET APRONS, CUTOFF WALLS, RIP RAP, AND/OR OTHER MEASURES SHALL BE INSTALLED AS NECESSARY TO PREVENT LOSS OF ENGINEERED BACKFILL AND/OR FOUNDATION SOILS DUE TO SCOUR. THE EXTENT, SIZE, AND LOCATION OF SCOUR PROTECTION SHALL BE DETERMINED BY THE ENGINEER.

8. PERIMETER DRAINAGE, SURFACE DRAINAGE, AND GRADING AROUND THE STRUCTURE SHALL BE DESIGNED, SPECIFIED, SUPPLIED, AND INSTALLED BY OTHERS.

DESIGN PARAMETERS

1. DESIGN BY CONTECH ENGINEERED SOLUTIONS IS BASED ON THE FOLLOWING DESIGN CRITERIA:
   - VEHICLE LIVE LOAD:HL-93
   - MINIMUM COVER: 2.5
   - MAXIMUM COVER: 2.75
   - UNIT WEIGHT OF ENGINEERED BACKFILL = 120 LBS/FT³.
2. ENGINEERED BACKFILL MATERIAL SHALL COMPLY WITH THE ENGINEERED BACKFILL MATERIAL REQUIREMENTS SHOWN IN THESE DRAWINGS.
3. DESIGN COVER AND LATERAL EXTENT OF ENGINEERED BACKFILL ZONE SHALL BE AS SHOWN IN THESE DRAWINGS AND REQUIRED BY THE DESIGN STANDARDS REFERENCED IN THESE NOTES.
4. REFERENCE AASHTO LRFD SECTION 12.6.1 FOR SEISMIC DESIGN CONSIDERATIONS.
5. STRUCTURE DESIGN BASED ON SITE SOIL INFORMATION PROVIDED IN CONTRACT DOCUMENTS. IF UNEXPECTED SITE SOIL CONDITIONS ARE ENCOUNTERED, CONTECH MUST BE NOTIFIED TO DETERMINE IF DESIGN CHANGES ARE NEEDED.
6. TEMPORARY CONSTRUCTION VEHICLE LOADING HEAVIER THAN THE DESIGN VEHICLE LIVE LOAD SHALL NOT BE PERMITTED TO CROSS OVER THE STRUCTURE WITHOUT THE APPROVAL OF CONTECH. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY CONTECH OF THE SIZE, TYPE AND WEIGHT OF ANY CONSTRUCTION VEHICLES INTENDED TO CROSS OVER THE STRUCTURE.
7. STANDARD HIGHWAY LOADS THAT MEET PERMISSIBLE DESIGN LOAD LIMITS FOR AN ALBC ARE NOT ALLOWED ON THE STRUCTURE UNTIL IT IS BACKFILLED COMPLETELY AND PAVEMENT IS IN PLACE.
8. IT IS RECOMMENDED THAT UNPAVED ROADS INCORPORATE AT LEAST 6" MORE THAN MINIMUM ALLOWABLE COVER DEPTH TO ALLOW FOR RUTTING.



ALBC - END VIEW

TYPE: BOX		INLET	OUTLET	PLATE THICKNESS: .125 (H)/.125(C)
SIZE: 62R1				REINFORCING RIB SPACING: AS SHOWN
SPAN: 21'-10"	SKEW	0	0	REINFORCING RIB TYPE: AS SHOWN
RISE: 5'-8"				
LENGTH @ ℄: 29'-3"	BEVEL	0	0	NUMBER OF STRUCTURES: 1

FOR APPROVAL

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MARK	DATE	REVISION DESCRIPTION	BY

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
700 Tech Drive, Winchester, KY 40391
859-744-3339 859-744-9955 FAX

CONTECH STRUCTURAL PLATE
CONTECH CONTRACT DRAWING

HAY CREEK CROSSING

COLORADO SPRINGS, CO

PROJECT No:	SEQ. No:	DATE:
908245	010	10/12/2026
DESIGNED:	DRAWN:	
	JEM	
CHECKED:	APPROVED:	
KBF		
SHEET NO: 1 OF 15		

1. DESIGN AND MANUFACTURING STANDARDS

1.1 STANDARDS - ALL STANDARDS REFER TO THE CURRENT ASTM / AASHTO EDITION UNLESS OTHERWISE NOTED.

1.2 AASHTO M219 - STANDARD SPECIFICATION FOR CORRUGATED ALUMINUM ALLOY STRUCTURAL PLATE FOR FIELD-BOLTED PIPE, PIPE-ARCHES AND ARCHES

1.3 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SECTION 12.

1.4 AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS - SECTION 26.

1.5 ASTM B864 - STANDARD SPECIFICATION FOR CORRUGATED ALUMINUM BOX CULVERTS.

2. DEFINITIONS

2.1 ENGINEER - IN THESE NOTES THE WORD "ENGINEER" SHALL MEAN THE ENGINEER OF RECORD OR OWNER ESTABLISHING THE DESIGN CRITERIA.

2.2 MANUFACTURER - IN THESE NOTES THE WORD "MANUFACTURER" SHALL MEAN THE MANUFACTURER OF THE ALBC, CONTECH ENGINEERED SOLUTIONS @ PHONE 800/338-1122.

2.3 CONTRACTOR - IN THESE NOTES THE WORD "CONTRACTOR" SHALL MEAN THE FIRM OR CORPORATION UNDERTAKING THE EXECUTION OF ANY INSTALLATION WORK UNDER THE TERMS OF THESE SPECIFICATIONS.

3. ALUMINUM BOX CULVERT (ALBC) STRUCTURE ASSEMBLY

3.1 ASSEMBLY OF THE ALBC SHALL BE IN ACCORDANCE WITH SECTION 26 OF AASHTO LRFD CONSTRUCTION SPECIFICATIONS (LATEST EDITION, WITH INTERIMS) AND ANY SUPPLEMENTAL RECOMMENDATIONS PROVIDED BY THE MANUFACTURER.

3.2 ALL PLATES AND ACCESSORIES SHALL BE UNLOADED AND HANDLED WITH REASONABLE CARE. PLATES SHALL NOT BE ROLLED OR DRAGGED OVER GRAVEL ROCK AND SHALL BE PREVENTED FROM STRIKING ROCK OR OTHER HARD OBJECTS DURING PLACEMENT IN TRENCH OR ON BEDDING.

3.3 FOR STRUCTURES SET ON CONCRETE FOOTINGS, PLATE ASSEMBLY CAN BEGIN AFTER PLACEMENT OF STRUCTURE FOOTING HAS BEEN APPROVED BY THE ENGINEER. VERIFICATION OF PROPER ALIGNMENT, DIMENSIONS AND PLACEMENT OF THE FOUNDATIONS IS STRONGLY RECOMMENDED PRIOR TO BEGINNING PLATE ASSEMBLY. ANY REQUIRED MODIFICATIONS TO THE FOUNDATIONS SHALL BE MADE PRIOR TO BEGINNING PLATE ASSEMBLY.

3.4 WHEN A METAL FOUNDATION IS USED, THE SOIL BEDDING REQUIRES A MINIMUM OF 6 INCHES OF LOOSE GRANULAR MATERIAL WITH A MAXIMUM PARTICLE SIZE OF ONE HALF THE CORRUGATION DEPTH. THE PROPER WIDTH OF THE BEDDING MATERIAL REQUIRED SHALL CONFORM TO THE PROJECT PLANS AND SPECIFICATIONS.
BEDDING PREPARATION SHOULD BE APPROVED BY THE ENGINEER PRIOR TO ASSEMBLY. THE BED SHOULD BE CONSTRUCTED TO UNIFORM LINE AND GRADE. IT SHOULD BE FREE OF ROCK FORMATIONS, PROTRUDING STONES, FROZEN LUMPS, ROOTS AND OTHER FOREIGN MATTER.

3.5 THE SPAN AND RISE OF THE STRUCTURE SHOULD BE CHECKED FREQUENTLY DURING THE EARLY STAGES OF ASSEMBLY TO VERIFY THAT ASSEMBLY TOLERANCES ARE BEING ACHIEVED AND TO ALLOW FOR ADJUSTMENTS TO PROCEDURES, IF NECESSARY, BEFORE ASSEMBLY IS COMPLETE.

3.6 CUT PLATES FOR SKEWED ENDS SHOULD BE ATTACHED AFTER THE MAIN BARREL OF A STRUCTURE HAS BEEN ASSEMBLED. WHEN CAST-IN-PLACE CONCRETE COLLARS OR HEADWALLS ARE TO BE CONSTRUCTED, THE CONTRACTOR MUST ALLOW FOR FORMWORK TO BE ERECTED ON THE END OF THE STRUCTURE. FORMING AGAINST A SKEWED CORRUGATION PROFILE IS COMPLEX AND SHOULD BE ACCOUNTED FOR BY THE FORMING CONTRACTOR WHEN PLANNING PROCEDURES AND METHODS FOR FORMWORK CONSTRUCTION. IN SOME CASES, FIELD TRIMMING OF THE STRUCTURE MAY BE NECESSARY. SPECIAL BRACING AND/OR SCAFFOLDING (DESIGN BY OTHERS) IS REQUIRED TO SUPPORT SKEWED ENDS UNTIL ADEQUATE COMPRESSIVE STRENGTH IS ACHIEVED AS REQUIRED BY THE COLLAR/HEADWALL DESIGNER.

3.7 NUTS SHALL BE PLACED WITH THE ROUNDED FACE IN CONTACT WITH THE PLATES UNLESS NOTED OTHERWISE. NUTS CAN BE ON EITHER THE INSIDE OR OUTSIDE OF THE STRUCTURE TO FACILITATE ASSEMBLY.

3.8 BOLTS AND NUTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-307 and/or ASTM A-449. RECOMMENDED TORQUE RANGE FOR THE BOLTS IS 100 TO 150 FT-LBS.

3.9 INSIDE SPAN AND RISE OF THE ASSEMBLED STRUCTURE AFTER BOLTING SHALL BE WITHIN 2% OF THE PLAN DIMENSIONS. THE STRUCTURE LENGTH SHALL BE WITHIN 1%.

4. ENGINEERED BACKFILL ENVELOPE

4.1 ENGINEERED BACKFILL MATERIAL SHALL BE PLACED WITHIN THE ENGINEERED BACKFILL ENVELOPE TO THE MINIMUM WIDTH AND WITHIN THE COVER LIMITS SHOWN ON THESE DRAWINGS. THE ENGINEERED BACKFILL ENVELOPE SHALL NOT BE ALTERED WITHOUT WRITTEN APPROVAL FROM CONTECH.

4.2 IN-SITU SOILS BELOW AND ADJACENT TO THE ENGINEERED BACKFILL ENVELOPE SHALL PROVIDE A FIRM SURFACE AGAINST WHICH TO COMPACT THE ENGINEERED BACKFILL MATERIAL. THE GEOTECHNICAL ENGINEER SHALL EVALUATE THE IN-SITU SOILS AND DETERMINE THE TYPE AND DEGREE OF ANY SOIL IMPROVEMENTS REQUIRED. THESE MAY INCLUDE BENCHING OR SLOPING OF THE SIDE SOILS. BACKFILL PLACEMENT MAY NOT BEGIN UNTIL THE GEOTECHNICAL ENGINEER HAS APPROVED THE IN-SITU SOILS AND ANY REQUIRED IMPROVEMENTS.

4.3 A DRAINED CONDITION WAS ASSUMED FOR THE ENGINEERED BACKFILL ENVELOPE. DESIGN AND SUPPLY OF A SUBSURFACE DRAINAGE SYSTEM (IF NEEDED) SHALL BE PROVIDED BY OTHERS.

4.4. IF REQUIRED BY THE GEOTECHNICAL ENGINEER, A GEOTEXTILE OR GRADED SOIL FILTER MAY BE USED BETWEEN THE ENGINEERED BACKFILL AND IN-SITU SOIL TO PREVENT MIGRATION OF FINES AND POSSIBLE INTERNAL EROSION OF THE SOIL.

5. ENGINEERED BACKFILL MATERIAL REQUIREMENTS

5.1 THE DESIGN OF ALBC STRUCTURES RELIES ON COMPACTED SOIL PROPERTIES PROVIDED BY THE ENGINEERED BACKFILL MATERIALS. THE CORRECT SELECTION AND PLACEMENT OF COMPACTED ENGINEERED BACKFILL MATERIAL IS CRITICAL TO THE PERFORMANCE OF ALBC STRUCTURES.

5.2 THE ENGINEERED BACKFILL MATERIAL SHALL NOT BE ADVERSELY AFFECTED BY WETTING, DRYING, SATURATION, FREEZE/THAW, VIBRATIONS, OR FLOWING WATER.

5.3 BACKFILL MATERIALS SHALL CONFORM TO PROPERTIES REFERENCED IN THE PROJECT SPECIFICATIONS OR THE PROPERTIES DESCRIBED HEREIN, WHICHEVER IS MORE STRINGENT.

5.4 ALBC NUMBERS 1 THROUGH 87 SHALL BE BACKFILLED USING CLEAN WELL GRADED GRANULAR MATERIAL THAT MEETS THE REQUIREMENTS FOR SOIL CLASSIFICATIONS A-1, A-2-4, A-2-5, OR A-3 ACCORDING TO AASHTO M-145.
A-3 MATERIAL MAY NOT CONTAIN FINE BEACH SANDS, WINDBLOWN SANDS, STREAM DEPOSITED SAND, ETC. EXHIBITING FINE ROUNDED PARTICLES.
ALBC NUMBERS 88 THROUGH 143 SHALL BE BACKFILLED USING CLEAN WELL GRADED GRANULAR MATERIAL THAT MEETS THE REQUIREMENTS FOR SOIL CLASSIFICATIONS A-1, A-2-4 OR A-2-5 PER AASHTO M-145.
REFER TO BACKFILL DETAILS FOR SOIL CLASSIFICATION TABLE. OPEN GRADED OR GAP GRADED MATERIALS ARE NOT PREFERRED. THE BACKFILL MATERIAL SHOULD BE FREE OF FROZEN LUMPS, FOREIGN MATERIAL OR ORGANIC DECOMPOSABLE MATERIALS. WHEN USING A-2 MATERIALS, MOISTURE CONTENT MUST BE BETWEEN -3% AND +2% OPTIMUM AS DEFINED BY AASHTO T 180.

5.5 GRAIN SIZE DISTRIBUTION (GRADATION) OF THE ENGINEERED BACKFILL MATERIAL SHALL SATISFY: Cu GREATER THAN OR EQUAL TO 3 AND Cc BETWEEN 0.7 AND 3, WHERE Cu = COEFFICIENT OF UNIFORMITY = D60/D10 AND Cc = COEFFICIENT OF CURVATURE = (D30)²/(D60xD10). D(X) IS THE PARTICLE SIZE CORRESPONDING TO X(%) FINER ON THE CUMULATIVE PARTICLE SIZE DISTRIBUTION CURVE (ASTM D2487).
Cu REQUIREMENTS ARE WAIVED FOR CRUSHER RUN SCREENED AGGREGATES. Cc REQUIREMENTS ARE WAIVED FOR BACKFILL MATERIAL CONTAINING MORE THAN 60% GRAVEL (+ #4 SIEVE).

5.6 ABRASION LOSS SHALL NOT EXCEED 45% AS DETERMINED BY THE LOS ANGELES ABRASION TEST (ASTM C131).

5.7 HUMIC (DECAYING) ORGANIC MATTER SHALL NOT EXCEED 1.0% (DRY WEIGHT BASIS).

5.8 ELECTROCHEMICAL REQUIREMENTS FOR SOIL AND WATER IN CONTACT WITH BOTH THE INSIDE AND OUTSIDE OF THE ALBC STRUCTURE ARE AS FOLLOWS:
- PH = 4 TO 9
- RESISTIVITY > 500 OHM-CM

5.9 IF THE ELECTROCHEMICAL PROPERTIES OF THE BACKFILL OR WATER FALL OUTSIDE OF THE RECOMMENDED RANGE, A SECONDARY PROTECTION SYSTEM MAY BE NEEDED TO ACHIEVE THE DESIGN SERVICE LIFE. SECONDARY PROTECTION SYSTEMS (IF REQUIRED) SHALL BE DESIGNED AND PROVIDED BY OTHERS.

5.10 THE SELECTION AND EVALUATION OF PROPOSED ENGINEERED BACKFILL MATERIALS IS THE RESPONSIBILITY OF THE CONTRACTOR. THE PROPOSED ENGINEERED BACKFILL MATERIAL SHALL MEET OR EXCEED THE REQUIREMENTS OF THESE SPECIFICATIONS.

6. ENGINEERED BACKFILL PLACEMENT PROCEDURE

6.1 CONTECH RECOMMENDS THAT A PRECONSTRUCTION CONFERENCE IS HELD PRIOR TO COMMENCEMENT OF WORK TO REVIEW AND DISCUSS THE RECOMMENDED PROCEDURES FOR BACKFILLING, AND STRUCTURE SHAPE MEASUREMENTS. ANY CONTRACTOR WITH RESPONSIBILITY FOR BACKFILLING OR CONSTRUCTION OF END TREATMENTS MUST BE REPRESENTED AT THIS MEETING. IT IS RECOMMENDED THAT THE ENGINEER AND ANY THIRD PARTY INVOLVED IN COMPACTION TESTING OR OTHER QUALITY CONTROL MEASURES ALSO ATTEND.

6.2 ANY IMPROVEMENT OF THE SUBGRADE AND EMBANKMENT SOILS REQUIRED BY THE GEOTECHNICAL ENGINEER SHALL BE COMPLETED AND APPROVED PRIOR TO BEGINNING PLACEMENT OF ENGINEERED BACKFILL MATERIAL

6.3 THE ENGINEERED BACKFILL MATERIAL SHALL BE PLACED UNIFORMLY ON BOTH SIDES OF THE STRUCTURE IN LAYERS OF 8 INCHES OR LESS (BEFORE COMPACTION).

6.4 BACKFILL SHALL BE COMPACTED TO THE MINIMUM DENSITY INDICATED IN THESE DRAWINGS, DEPENDING ON THE COMPACTION EQUIPMENT AND ENGINEERED BACKFILL MATERIAL USED, IT MAY BE NECESSARY TO DECREASE THE LIFT THICKNESS AND/OR MOISTURE CONDITION THE LOOSE SOIL TO ACHIEVE THE SPECIFIED MINIMUM LEVELS OF COMPACTION.

6.5 IF THE ENGINEERED BACKFILL MATERIAL DOES NOT PRODUCE A PROCTOR CURVE AND/OR IS NOT CONDUCIVE TO TRADITIONAL FIELD-TESTING METHODS, QUALITATIVE METHODS OF EVALUATING COMPACTION MAY BE USED. SUCH METHODS SHALL BE EVALUATED AND APPROVED BY THE GEOTECHNICAL ENGINEER AND A COPY OF THE METHOD BE PROVIDED TO THE DESIGNER.

6.6 THE DIFFERENCE IN BACKFILL LEVELS ON THE TWO SIDES OF THE STRUCTURE AT ANY TRANSVERSE SECTION SHALL NOT EXCEED 24 INCHES WITHOUT PRIOR APPROVAL FROM CONTECH.

6.7 CONSTRUCTION EQUIPMENT USED WITHIN 5 FEET LATERALLY OF THE WIDEST PART OF THE STRUCTURE, UP TO THE MINIMUM DESIGN COVER HEIGHT ABOVE THE STRUCTURE, SHALL HAVE A STATIC MASS OF 10 TONS OR LESS. IT MAY BE POSSIBLE TO USE HEAVIER EQUIPMENT IF IT CAN BE DEMONSTRATED THAT THE STRUCTURE SHAPE IS NOT ADVERSELY AFFECTED. ENGINEERED BACKFILL MATERIAL PLACED WITHIN 1 FOOT LATERALLY OF THE WIDEST PART OF THE STRUCTURE SHALL BE COMPACTED USING HAND-OPERATED EQUIPMENT UNTIL THE MINIMUM COVER HEIGHT IS REACHED. OVER-COMPACTION OF ENGINEERED BACKFILL IN THIS ZONE SHOULD BE AVOIDED, AS THIS CAN CONTRIBUTE TO EXCESSIVE DEFLECTION OF SOME STRUCTURES. AREAS CLOSEST TO THE STRUCTURE SHALL BE COMPACTED RUNNING PARALLEL TO THE LENGTH OF THE STRUCTURE.

6.8 ONCE THE BACKFILL ELEVATION REACHES THE MIDDLE OF THE HAUNCH CURVE (DEPENDING ON RELATIVE MOVEMENT DURING THE BACKFILL PROCESS), PLACE AND COMPACT ENGINEERED BACKFILL MATERIAL IN RADIAL LIFTS OVER THE TOP OF THE STRUCTURE USING EQUIPMENT AS DESCRIBED ABOVE. THE FIRST RADIAL LIFT SHOULD BE THICKER AND PROVIDE A MINIMUM 12 INCHES OF COVER BETWEEN THE STRUCTURE AND COMPACTION EQUIPMENT. EQUIPMENT SHOULD RUN PERPENDICULAR TO THE LONGITUDINAL AXIS OF THE STRUCTURE. NO EQUIPMENT SHALL BE ALLOWED OVER THE STRUCTURE THAT WOULD EXCEED THE DESIGN LOAD AT THE MINIMUM DESIGN HEIGHT OF COVER. NO CONSTRUCTION EQUIPMENT SHALL BE ALLOWED TO PARK ON TOP OF A PARTIALLY BACKFILLED STRUCTURE.

6.9 AT NO TIME SHALL THE ENGINEERED BACKFILL MATERIAL BE DUMPED OR PUSHED AGAINST THE STRUCTURE WALL(S) SO AS TO CHANGE THE SHAPE OR ALIGNMENT OF THE STRUCTURE. MATERIAL SHALL NOT BE DUMPED ON TOP OF THE STRUCTURE AT ANY TIME. TRUCKS MAY UNLOAD IN ROUGH LAYERS NO CLOSER THAN 5 FEET FROM THE WIDEST PART OF THE STRUCTURE.

6.10 THE STRUCTURE SHALL BE CHECKED PERIODICALLY DURING BACKFILLING TO ENSURE THE FINAL SHAPE OF THE STRUCTURE MEETS DESIGN REQUIREMENTS AND IS CONSISTENT WITH THE ASSEMBLY TOLERANCES AS STATED IN THESE NOTES. IF DEFLECTION OF THE STRUCTURE IS GREATER THAN EXPECTED, BACKFILLING SHALL BE HALTED AND BACKFILL PLACEMENT AND COMPACTION PROCEDURES MODIFIED TO CORRECT THE STRUCTURE SHAPE. IT MAY BE NECESSARY TO REMOVE SOME OF THE BACKFILL TO CORRECT EXCESSIVE DEFLECTION.

7. CONSTRUCTION OBSERVATIONS AND TESTING

7.1. OBSERVATION AND TESTING SHALL BE PERFORMED DURING CONSTRUCTION TO VERIFY COMPLIANCE WITH THESE DRAWINGS, APPLICABLE PROJECT DOCUMENTS, AND STANDARDS REFERENCED IN THESE NOTES.

7.2. THE CONTRACTOR IS RESPONSIBLE FOR QUALITY CONTROL PROCEDURES, VERIFICATION MEASUREMENTS, ADEQUATE SUPERVISION, PROGRESS TESTING, EVALUATION OF PROPOSED ENGINEERED BACKFILL MATERIALS, AND/OR OTHER MEASURES AS NEEDED TO ENSURE THAT THE COMPLETED PROJECT COMPLIES WITH THESE DRAWINGS AND NOTES.

7.3. THE PROJECT OWNER OR THEIR DESIGNATED REPRESENTATIVE(S) RESPONSIBLE FOR PROJECT OVERSIGHT AND FINAL ACCEPTANCE OF THE CONSTRUCTED STRUCTURE. THE OWNER MAY ACCEPT THE CONTRACTOR'S QUALITY CONTROL PROGRAM OR ADOPT AN INDEPENDENT QUALITY ASSURANCE PROGRAM TO VERIFY COMPLIANCE.

7.4. OBSERVATIONS AND TESTING PRIOR TO STRUCTURE ASSEMBLY & BACKFILL SHALL INCLUDE BUT NOT BE LIMITED TO:
- EVALUATION OF FOUNDATION SOILS BELOW FOOTINGS AND THE ENGINEERED BACKFILL ENVELOPE
- VERIFICATION OF PROPER ALIGNMENT, DIMENSIONS, AND PLACEMENT OF FOUNDATIONS
- VERIFICATION OF PROPER SHAPING, PLACEMENT, AND PREPARATION OF BEDDING SOILS (STRUCTURES WITH INVERTS)
- VERIFICATION OF PROPER PREPARATION OF EMBANKMENT SOILS ADJACENT TO THE ENGINEERED BACKFILL ENVELOPE
- EVALUATION AND APPROVAL OF ENGINEERED BACKFILL MATERIALS
- VERIFICATION OF PROPER PLACEMENT OF GEOTEXTILES (WHEN REQUIRED)

7.5 OBSERVATIONS AND TESTING DURING ASSEMBLY & BACKFILLING SHALL INCLUDE BUT NOT BE LIMITED TO:
- STRUCTURE ALIGNMENT
- PLATE TIGHTNESS OBSERVATIONS
- BOLT TORQUE MEASUREMENTS
- INITIAL STRUCTURE SHAPE MEASUREMENTS (PRIOR TO STARTING BACKFILLING)
- PERIODIC STRUCTURE SHAPE MEASUREMENTS (DURING BACKFILLING)
- ENGINEERED BACKFILL MATERIAL SAMPLING AND TESTING
- OBSERVATIONS OF PROPER FILL PLACEMENT AND COMPACTION PROCEDURES.

7.6 CONTECH MAY REQUIRE ADDITIONAL OBSERVATIONS AND/OR TESTING WHICH MAY INCLUDE, BUT NOT BE LIMITED TO, FULL TIME SHAPE MONITORING, ADDITIONAL SOIL TESTING, AND SITE EVALUATIONS DEPENDING ON THE STRUCTURE GEOMETRY, DESIGN, AND/OR OTHER PROJECT SPECIFIC FACTORS.

Darrell Sanders, P.E. 2026.11.30

COLORADO LICENSED DARRELL SANDERS PE.0055263 PROFESSIONAL ENGINEER

TYPE: BOX		INLET	OUTLET	PLATE THICKNESS: .125 (H)/.125(C)
SIZE: 62R1				REINFORCING RIB SPACING: AS SHOWN
SPAN: 21'-10"	SKEW	0	0	REINFORCING RIB TYPE: AS SHOWN
RISE: 5'-8"				
LENGTH @ ℄: 29'-3"	BEVEL	0	0	NUMBER OF STRUCTURES: 1

FOR APPROVAL

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
700 Tech Drive, Winchester, KY 40391
859-744-3339 859-744-9955 FAX

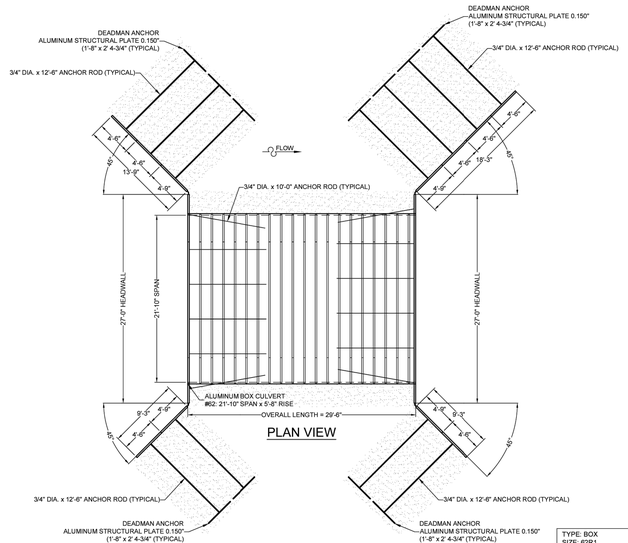
CONTECH STRUCTURAL PLATE
CONTECH CONTRACT DRAWING

HAY CREEK CROSSING

COLORADO SPRINGS, CO

PROJECT No:	SEQ. No:	DATE:
908245	010	10/12/2026
DESIGNED:	DRAWN:	
	JEM	
CHECKED:	APPROVED:	
KBF		
SHEET NO: 2 OF 15		

NOTE:
SHADED AREA REPRESENTS CRITICAL BACKFILL ZONES.



TYPE: BOX		INLET	OUTLET	PLATE THICKNESS: .125 (H)/.125(C)
SIZE: 62R1				REINFORCING RIB SPACING: AS SHOWN
SPAN: 21'-10"	SKEW	0	0	REINFORCING RIB TYPE: AS SHOWN
RISE: 5'-8"				
LENGTH @ ℄: 29'-3"	BEVEL	0	0	NUMBER OF STRUCTURES: 1

FOR APPROVAL

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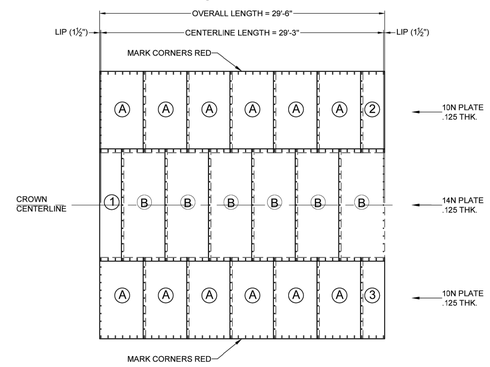
CONTECH STRUCTURAL PLATE
CONTECH CONTRACT DRAWING

HAY CREEK CROSSING

COLORADO SPRINGS, CO

PROJECT No:	SEQ. No:	DATE:
908245	010	10/12/2026
DESIGNED:	DRAWN:	
	JEM	
CHECKED:	APPROVED:	
KBF		
SHEET NO: 3 OF 15		

NOTE:
BEGIN SHELL ASSEMBLY AT INLET END. SEE ASSEMBLY GUIDE INCLUDED WITH THE MATERIAL SHIPMENT FOR FURTHER INSTRUCTIONS.



ALBC - DEVELOPED PLAN (OUTSIDE VIEW)
21'-10" SPAN x 5'-8" RISE
PLATES ONLY - (REINFORCING RIBS NOT SHOWN FOR CLARITY)



PLATE LAPPING DETAIL
3 PLATE STRUCTURE

Darrell Sanders, P.E. 2026.11.30

COLORADO LICENSED DARRELL SANDERS PE.0055263 PROFESSIONAL ENGINEER

TYPE: BOX		INLET	OUTLET	PLATE THICKNESS: .125 (H)/.125(C)
SIZE: 62R1				REINFORCING RIB SPACING: AS SHOWN
SPAN: 21'-10"	SKEW	0	0	REINFORCING RIB TYPE: AS SHOWN
RISE: 5'-8"				
LENGTH @ ℄: 29'-3"	BEVEL	0	0	NUMBER OF STRUCTURES: 1

FOR APPROVAL

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www.ContechES.com
700 Tech Drive, Winchester, KY 40391
859-744-3339 859-744-9955 FAX

CONTECH STRUCTURAL PLATE
CONTECH CONTRACT DRAWING

HAY CREEK CROSSING

COLORADO SPRINGS, CO

PROJECT No:	SEQ. No:	DATE:
908245	010	10/12/2026
DESIGNED:	DRAWN:	
	JEM	
CHECKED:	APPROVED:	
KBF		
SHEET NO: 4 OF 15		

CONDITION OF APPROVAL:

THE CONTECH ALUMINUM BOX CULVERT SHALL BE DESIGNED TO MEET THE LOADING CRITERIA SPECIFIED WITHIN THE CURRENT ENGINEERING CRITERIA MANUAL. FINAL CONSTRUCTION AND FOUNDATION DETAILS FOR THE CONTECH BOX CULVERT SHALL BE PROVIDED TO EL PASO COUNTY FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION OR PLAT RECORDATION.

ENGINEER'S STATEMENT

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

Nicholas Q. Jokerst, P.E. 59273 11/03/2026

NICHOLAS Q. JOKERST, P.E. DATE
COLORADO P.E. 59273
FOR AND ON BEHALF OF ALL TERRAIN ENGINEERING LLC

ALL TERRAIN ENGINEERING
NICHOLAS Q. JOKERST, P.E.
559.341.1663 - NJOKERST@TERRAINENG.COM
PAMELA F. BARNETT, P.E.
303.577.4666 - PBARNETT@TERRAINENG.COM

PREPARED FOR:
3405 HAY CREEK, LLC
3405 HAY CREEK
COLORADO SPRINGS, CO 80921
ATTN: JAMIE HULL
(719) 331-6121
JAMES.GOLDWEST1@GMAIL.COM

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

JOB NO: 24008 LOCATION: EPC

REV	DESCRIPTION	DATE
1	CONTECH DESIGN DETAILS	11/03/26

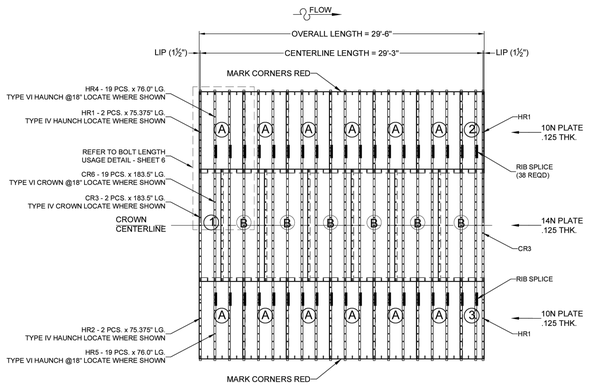
HIDDEN CREEK ESTATES

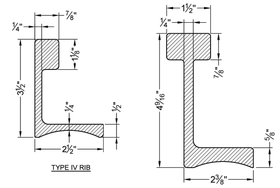
DETAILS

DESIGN: NQJ
REVIEW: REB
DATE: 11/03/2026
H-SCALE: N/A
V-SCALE: N/A

SHEET
9 OF 13

NOTES:
1. PLATE ONLY LAPS AT CORRUGATION VALLEYS NOT SHOWN FOR CLARITY.
2. REFER TO SHEET 6 FOR ADDITIONAL DETAIL.





ALBC - DEVELOPED PLAN (OUTSIDE VIEW)
21'-10" SPAN x 5'-8" RISE

Darrell Sanders

TYPE: BOX		INLET	OUTLET	PLATE THICKNESS: .125 (H)/.125(C)
SIZE: 62R1				REINFORCING RIB SPACING: AS SHOWN
SPAN: 21'-10"	SKEW	0	0	REINFORCING RIB TYPE: AS SHOWN
RISE: 5'-8"				
LENGTH @ ℄: 29'-3"	BEVEL	0	0	NUMBER OF STRUCTURES: 1

FOR APPROVAL

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MARK	DATE	REVISION DESCRIPTION	BY

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859-744-3339 859-744-9665 FAX

CONTECH STRUCTURAL PLATE
CONTECH CONTRACT DRAWING

HAY CREEK CROSSING

COLORADO SPRINGS, CO

PROJECT No:	SEQ. No:	DATE:
908245	010	10/12/2026
DESIGNED:		DRAWN: JEM
CHECKED: KBF		APPROVED:
SHEET NO: 5 OF 15		

NOTES:
1. FOR PROPER BOLT SIZE USAGE, REFER TO THE FOLLOWING:

PLATE ONLY

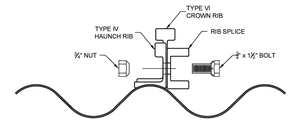
	2 PLATE	3 PLATE
0.125" THK. PLATE	1 1/4"	1 1/4"

PLATE W/ TYPE IV REINFORCING RIB

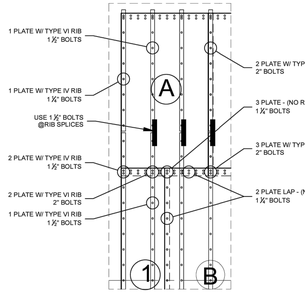
	1 PLATE	2 PLATE
0.125" THK. PLATE	1 1/4"	1 1/2"

PLATE W/ TYPE VI REINFORCING RIB

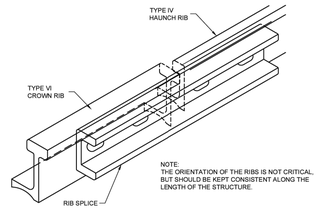
	1 PLATE	2 PLATE	3 PLATE
0.125" THK. PLATE	1 1/2"	2"	2"



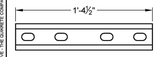
RIB SPLICE ATTACHMENT TO TYPE VI RIB



BOLT LENGTH USAGE DETAIL



RIB SPLICE ISOMETRIC VIEW



RIB SPLICE

Darrell Sanders

TYPE: BOX		INLET	OUTLET	PLATE THICKNESS: .125 (H)/.125(C)
SIZE: 62R1				REINFORCING RIB SPACING: AS SHOWN
SPAN: 21'-10"	SKEW	0	0	REINFORCING RIB TYPE: AS SHOWN
RISE: 5'-8"				
LENGTH @ ℄: 29'-3"	BEVEL	0	0	NUMBER OF STRUCTURES: 1

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MARK	DATE	REVISION DESCRIPTION	BY

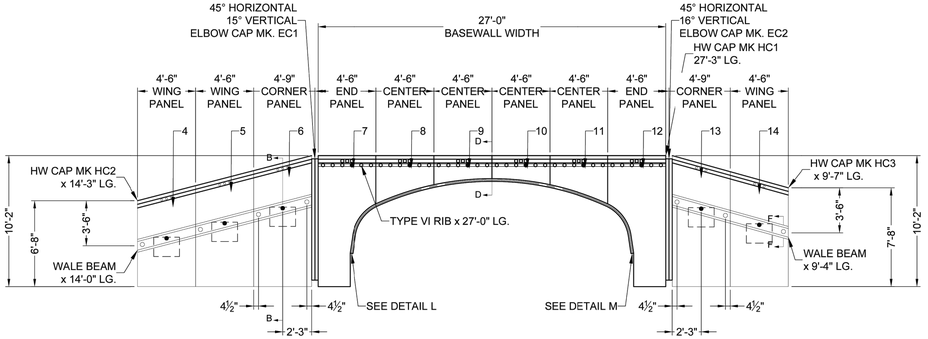
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700 Tech Drive, Winchester, KY 40391
859-744-3339 859-744-9665 FAX

CONTECH STRUCTURAL PLATE
CONTECH CONTRACT DRAWING

HAY CREEK CROSSING

COLORADO SPRINGS, CO

PROJECT No:	SEQ. No:	DATE:
908245	010	10/12/2026
DESIGNED:		DRAWN: JEM
CHECKED: KBF		APPROVED:
SHEET NO: 6 OF 15		



ALBC - INLET EXPANDED END VIEW

NOTES:
1. WALL PANEL NUMBERS ARE MARKED ON THE SOIL SIDE.
2. BOLT HEADWALL TO REINFORCING RIB AT END OF STRUCTURE.
3. SEE SHEETS 11-14 FOR REFERENCED SECTIONS AND ADDITIONAL DETAILS.
4. ALL 2'-3" DIMENSIONS ARE RELATIVE TO SECTION B-B.
5. ALL 4 1/2" DIMENSIONS ARE RELATIVE TO SECTION F-F.
6. ○ DENOTES BOLTS CONNECTION
7. ● DENOTES ANCHOR ROD CONNECTION

Darrell Sanders

TYPE: BOX		INLET	OUTLET	PLATE THICKNESS: .125 (H)/.125(C)
SIZE: 62R1				REINFORCING RIB SPACING: AS SHOWN
SPAN: 21'-10"	SKEW	0	0	REINFORCING RIB TYPE: AS SHOWN
RISE: 5'-8"				
LENGTH @ ℄: 29'-3"	BEVEL	0	0	NUMBER OF STRUCTURES: 1

FOR APPROVAL

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MARK	DATE	REVISION DESCRIPTION	BY

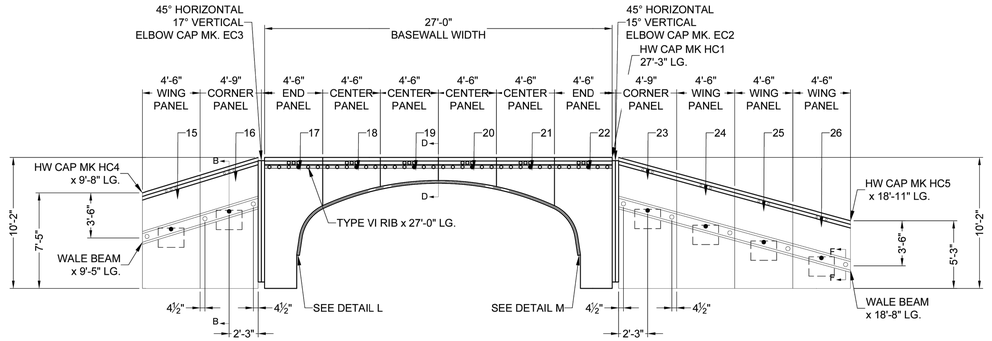
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700 Tech Drive, Winchester, KY 40391
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CONTECH STRUCTURAL PLATE
CONTECH CONTRACT DRAWING

HAY CREEK CROSSING

COLORADO SPRINGS, CO

PROJECT No:	SEQ. No:	DATE:
908245	010	10/12/2026
DESIGNED:		DRAWN: JEM
CHECKED: KBF		APPROVED:
SHEET NO: 7 OF 15		



ALBC - OUTLET EXPANDED END VIEW

NOTES:
1. WALL PANEL NUMBERS ARE MARKED ON THE SOIL SIDE.
2. BOLT HEADWALL TO REINFORCING RIB AT END OF STRUCTURE.
3. SEE SHEETS 11-14 FOR REFERENCED SECTIONS AND ADDITIONAL DETAILS.
4. ALL 2'-3" DIMENSIONS ARE RELATIVE TO SECTION B-B.
5. ALL 4 1/2" DIMENSIONS ARE RELATIVE TO SECTION F-F.
6. ○ DENOTES BOLTS CONNECTION
7. ● DENOTES ANCHOR ROD CONNECTION

Darrell Sanders

CONDITION OF APPROVAL:

THE CONTECH ALUMINUM BOX CULVERT SHALL BE DESIGNED TO MEET THE LOADING CRITERIA SPECIFIED WITHIN THE CURRENT ENGINEERING CRITERIA MANUAL. FINAL CONSTRUCTION AND FOUNDATION DETAILS FOR THE CONTECH BOX CULVERT SHALL BE PROVIDED TO EL PASO COUNTY FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION OR PLAT RECORDATION.

ENGINEER'S STATEMENT

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

NICHOLAS Q. JOKERST, P.E. 59273 11/03/2026
COLORADO P.E. 59273 DATE
FOR AND ON BEHALF OF ALL TERRAIN ENGINEERING LLC

ALL TERRAIN ENGINEERING
NICHOLAS Q. JOKERST, PE
559.341.1636 - NICK@ATERRAIN.COM
RYAN F. EVERTZ, PE
303.517.8656 - REVIEW@ATERRAIN.COM

PREPARED FOR:
3405 HAY CREEK, LLC
3405 HAY CREEK
COLORADO SPRINGS, CO 80921
ATTN: JAMIE HULL
(719) 331-6121
JAMES.GOLDWEST@GMAIL.COM

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

JOB NO: 24008 LOCATION: EPC

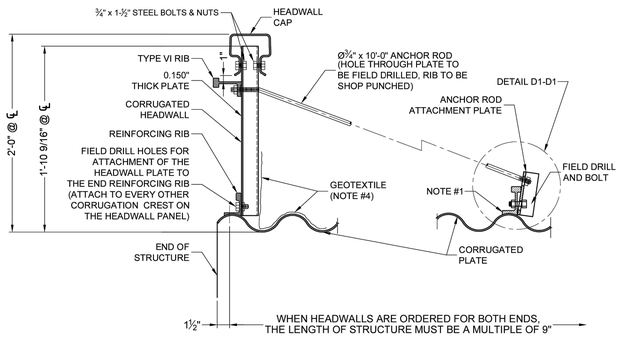
REV:	DESCRIPTION	DATE
1	CONTECH DESIGN DETAILS	11/03/26

HIDDEN CREEK ESTATES

CONTECH DETAILS

DESIGN: NQJ
REVIEW: REB
DATE: 11/03/2026
H-SCALE: N/A
V-SCALE: N/A

SHEET 10 OF 13



SECTION D-D
HEADWALL ATTACHMENT TO CROWN OF STRUCTURE

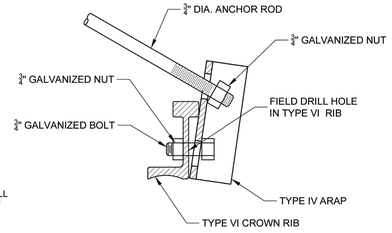
NOTES:

1) REVERSE CROWN RIBS AT THIS CORRUGATION IF NECESSARY FOR PROPER ANCHOR ROD ATTACHMENT PLATE ORIENTATION.

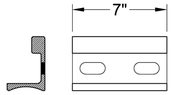
2) NO SPLICE PLATES ARE USED FOR THE TYPE IV REINFORCING RIBS ATTACHED TO THE CORRUGATED HEADWALL.

3) REINFORCING RIBS AT EACH END OF STRUCTURE MUST BE ORIENTED SUCH THAT THE HEADWALL CAN BE PLACED BEHIND THEM AS SHOWN.

4) GEOTEXTILE PREVENTS INFILTRATION OF THE BACKFILL BETWEEN THE HEADWALL AND STRUCTURE. A ROLL OF GEOTEXTILE IS PROVIDED FOR THIS PURPOSE.



DETAIL D1-D1



TYPE IV ANCHOR ROD ATTACHMENT PLATE (ARAP)

Darrell Sanders
COLORADO LICENSED DARRELL SANDERS PE.0055263 PROFESSIONAL ENGINEER

TYPE: BOX		INLET	OUTLET	PLATE THICKNESS: .125 (H)/.125(C)
SIZE: 62R1				REINFORCING RIB SPACING: AS SHOWN
SPAN: 21'-10"	SKEW	0	0	REINFORCING RIB TYPE: AS SHOWN
RISE: 5'-8"				
LENGTH @ ℄: 29'-3"	BEVEL	0	0	NUMBER OF STRUCTURES: 1

FOR APPROVAL

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MARK	DATE	REVISION DESCRIPTION	BY

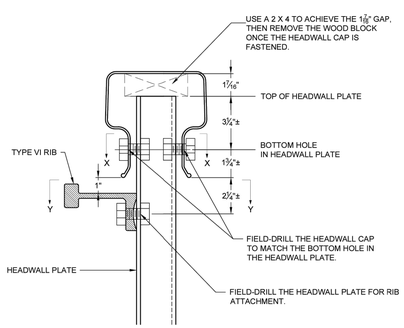
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CONTECH STRUCTURAL PLATE
CONTECH CONTRACT DRAWING

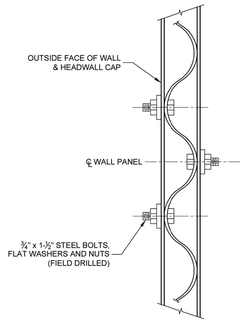
HAY CREEK CROSSING

COLORADO SPRINGS, CO

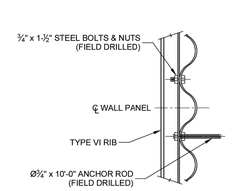
PROJECT No.:	SEQ. No.:	DATE:
908245	010	10/12/2026
DESIGNED:	DRAWN:	
	JEM	
CHECKED:	APPROVED:	
KBF		
SHEET NO.:	9 OF 15	



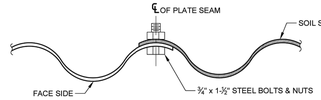
HEADWALL (CAP AND RIB ATTACHMENT)



HEADWALL/WINGWALL CAP AT ATTACHMENT TO PANEL DETAIL SECTION X-X



TYPICAL ANCHOR ROD ATTACHMENT AT HEADWALL SECTION Y-Y



TYPICAL PANEL LAP DETAIL

Darrell Sanders
COLORADO LICENSED DARRELL SANDERS PE.0055263 PROFESSIONAL ENGINEER

TYPE: BOX		INLET	OUTLET	PLATE THICKNESS: .125 (H)/.125(C)
SIZE: 62R1				REINFORCING RIB SPACING: AS SHOWN
SPAN: 21'-10"	SKEW	0	0	REINFORCING RIB TYPE: AS SHOWN
RISE: 5'-8"				
LENGTH @ ℄: 29'-3"	BEVEL	0	0	NUMBER OF STRUCTURES: 1

FOR APPROVAL

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MARK	DATE	REVISION DESCRIPTION	BY

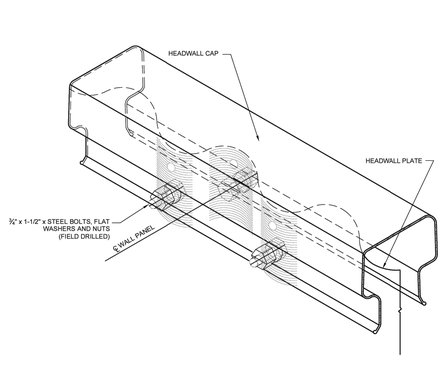
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CONTECH CONTRACT DRAWING

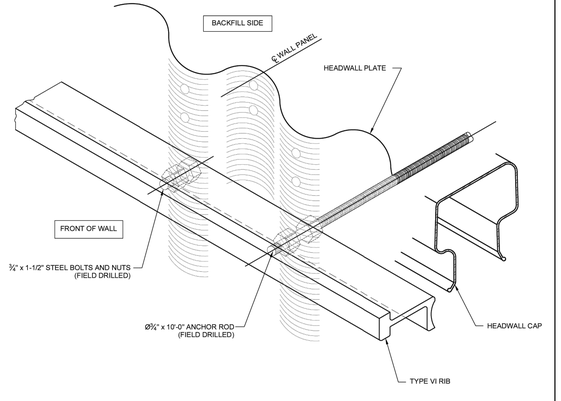
HAY CREEK CROSSING

COLORADO SPRINGS, CO

PROJECT No.:	SEQ. No.:	DATE:
908245	010	10/12/2026
DESIGNED:	DRAWN:	
	JEM	
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KBF		
SHEET NO.:	10 OF 15	



HEADWALL / WINGWALL CAP AT ATTACHMENT TO PANEL DETAIL SECTION X-X (ISOMETRIC VIEW)



TYPICAL ANCHOR ROD ATTACHMENT AT HEADWALL SECTION Y-Y (ISOMETRIC VIEW)

Darrell Sanders
COLORADO LICENSED DARRELL SANDERS PE.0055263 PROFESSIONAL ENGINEER

TYPE: BOX		INLET	OUTLET	PLATE THICKNESS: .125 (H)/.125(C)
SIZE: 62R1				REINFORCING RIB SPACING: AS SHOWN
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RISE: 5'-8"				
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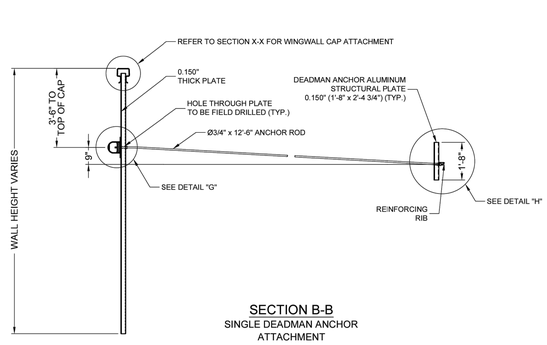
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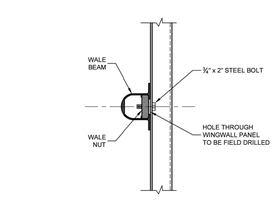
HAY CREEK CROSSING

COLORADO SPRINGS, CO

PROJECT No.:	SEQ. No.:	DATE:
908245	010	10/12/2026
DESIGNED:	DRAWN:	
	JEM	
CHECKED:	APPROVED:	
KBF		
SHEET NO.:	11 OF 15	

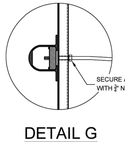


SECTION B-B
SINGLE DEADMAN ANCHOR ATTACHMENT

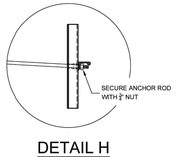


SECTION F-F
WALE BEAM ATTACHMENT

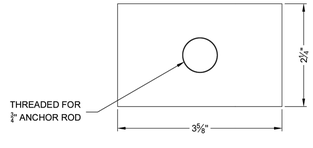
Darrell Sanders
COLORADO LICENSED DARRELL SANDERS PE.0055263 PROFESSIONAL ENGINEER



DETAIL G



DETAIL H



WALE NUT

TYPE: BOX		INLET	OUTLET	PLATE THICKNESS: .125 (H)/.125(C)
SIZE: 62R1				REINFORCING RIB SPACING: AS SHOWN
SPAN: 21'-10"	SKEW	0	0	REINFORCING RIB TYPE: AS SHOWN
RISE: 5'-8"				
LENGTH @ ℄: 29'-3"	BEVEL	0	0	NUMBER OF STRUCTURES: 1

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CONTECH STRUCTURAL PLATE
CONTECH CONTRACT DRAWING

HAY CREEK CROSSING

COLORADO SPRINGS, CO

PROJECT No.:	SEQ. No.:	DATE:
908245	010	10/12/2026
DESIGNED:	DRAWN:	
	JEM	
CHECKED:	APPROVED:	
KBF		
SHEET NO.:	12 OF 15	

CONDITION OF APPROVAL:

THE CONTECH ALUMINUM BOX CULVERT SHALL BE DESIGNED TO MEET THE LOADING CRITERIA SPECIFIED WITHIN THE CURRENT ENGINEERING CRITERIA MANUAL. FINAL CONSTRUCTION AND FOUNDATION DETAILS FOR THE CONTECH BOX CULVERT SHALL BE PROVIDED TO EL PASO COUNTY FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION OR PLAT RECORDATION.

ENGINEER'S STATEMENT

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

NICHOLAS Q. JOKERST, P.E. — 59273 — 11/03/2026
COLORADO P.E. 59273 — DATE
FOR AND ON BEHALF OF ALL TERRAIN ENGINEERING LLC

COLORADO LICENSED NICHOLAS Q JOKERST 59273 PROFESSIONAL ENGINEER

ALL TERRAIN ENGINEERING

NICHOLAS Q. JOKERST, PE
559.341.1636 - NICK@ATERRAINENG.COM

RYAN F. BARTEL, PE
303.577.4656 - RBARTEL@ATERRAINENG.COM

PREPARED FOR:
3405 HAY CREEK, LLC
3405 HAY CREEK
COLORADO SPRINGS, CO 80921
ATTN: JAMIE HULL
(719) 331-6121
JAMES.GOLDWEST@GMAIL.COM

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

JOB NO: 24008 LOCATION: EPC

REV	DESCRIPTION	DATE
1	CONTECH DESIGN DETAILS	11/03/26

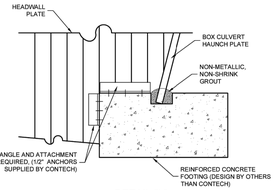
HIDDEN CREEK ESTATES

CONTECH DETAILS

DESIGN: NQJ
REVIEW: REB
DATE: 11/03/2026

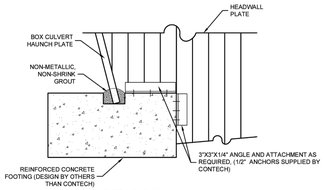
H-SCALE: N/A
V-SCALE: N/A

SHEET
11 OF 13



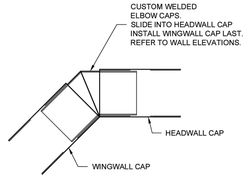
DETAIL "L"

NOTE: FIELD CUT HEADWALL TO MATCH FOOTING.

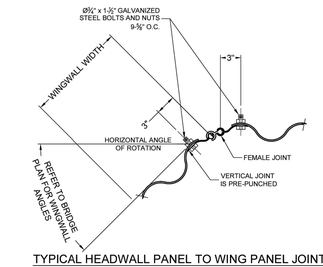


DETAIL "M"

NOTE: FIELD CUT HEADWALL TO MATCH FOOTING.



ELBOW CAP DETAIL

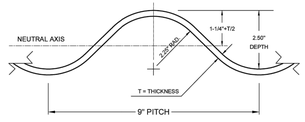


TYPICAL HEADWALL PANEL TO WING PANEL JOINTS DETAIL



Darrell Sanders

ALUMINUM STRUCTURAL PLATE



CORRUGATION PROFILE

TYPE: BOX		INLET	OUTLET	PLATE THICKNESS: .125 (H)/.125(C)
SIZE: 62R1				REINFORCING RIB SPACING: AS SHOWN
SPAN: 21'-10"	SKEW	0	0	REINFORCING RIB TYPE: AS SHOWN
RISE: 5'-8"				
LENGTH @ L: 29'-3"	BEVEL	0	0	NUMBER OF STRUCTURES: 1

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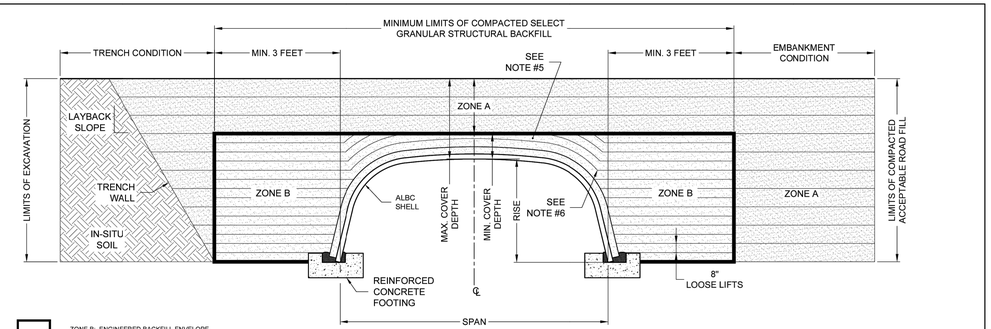
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CONTECH STRUCTURAL PLATE
CONTECH CONTRACT DRAWING

HAY CREEK CROSSING

COLORADO SPRINGS, CO

PROJECT No:	SEQ. No:	DATE:
908245	010	10/12/2026
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	JEM	
CHECKED:	APPROVED:	
KBF		
SHEET NO:		
13 OF 15		



BACKFILL ZONE SECTION

ZONE B: ENGINEERED BACKFILL ENVELOPE.

ZONE A: CONSTRUCTED EMBANKMENT OR OVERFILL.

STRUCTURAL PLATE BACKFILL GROUP CLASSIFICATION, REFERENCE AASHTO M-145					
GROUP CLASSIFICATION	A-1-a	A-1-b	A-2-4	A-2-5	A-3
Sieve Analysis Percent Passing					
No. 10 (2.000 mm)	50 max.	----	----	----	----
No. 40 (0.425 mm)	30 max.	50 max.	----	----	51 max.*
No. 200 (0.075 mm)	15 max.	25 max.	35 max.	35 max.	10 max.
Atterberg Limits for Fraction Passing No. 40 (0.425 mm)					
Liquid Limits	----	----	40 max.	41 min.	----
Plasticity Index	6 max.	6 max.	10 max.	10 max.	Non Plastic
Usual Materials	Stone Fragment, Gravel and Sand		Silty or Clayey Gravel and Sand		Coarse Sand

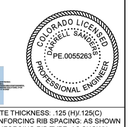
*Modified from M-145.

Fine beach sands, windblown sands, stream deposited sands, etc., exhibiting fine, rounded particles and typically Classified by AASHTO M-145 as A-3 materials should not be used.

Reference the most current version of ASTM D2487, Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System), for comparable soil groups.

NOTES:

1. MINIMUM ENGINEERED BACKFILL ENVELOPE WIDTH IS PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SECTION 12.
2. ENGINEERED BACKFILL ENVELOPE TO BE PLACED IN A BALANCED FASHION IN THIN LIFTS (8" LOOSE TYPICALLY) AND COMPACTED TO 90 PERCENT DENSITY PER AASHTO T-180. THERE SHOULD BE NO MORE THAN 2' DIFFERENTIAL ON EACH SIDE. ENGINEERED BACKFILL MATERIAL PLACED WITHIN 1 FOOT LATERALLY OF THE WIDEST PART OF THE STRUCTURE SHOULD BE COMPACTED USING HAND OPERATED EQUIPMENT UNTIL MINIMUM COVER HEIGHT IS REACHED.
3. SHAPE MONITORING OF THE ALBC STRUCTURE IS REQUIRED DURING THE BACKFILLING PROCESS. THE METHOD, FREQUENCY AND DURATION SHALL BE DETERMINED BASED ON THE SIZE AND SHAPE OF THE STRUCTURE.
4. PLACE ENGINEERED BACKFILL ENVELOPE IN RADIAL LIFTS BEGINNING AT APPROXIMATELY THE MIDDLE OF THE HAUNCH ZONE.
5. BECAUSE OF THE FLEXING AND VIBRATION OF THE CROWN PLATES, THE FULL COMPACTION DENSITY LEVELS OFTEN CAN NOT BE ACHIEVED IN THE FIRST SEVERAL INCHES OF FILL OVER THE CROWN.
6. ONCE THE BACKFILL ELEVATION REACHES THE MIDDLE OF THE HAUNCH CURVE (DEPENDING ON RELATIVE MOVEMENT DURING THE BACKFILL PROCESS), PLACE AND COMPACT ENGINEERED BACKFILL MATERIAL IN RADIAL LIFTS OVER THE TOP OF THE STRUCTURE.
7. WHEN REQUIRED, AS DETERMINED BY THE GEOTECHNICAL ENGINEER, A GEOTEXTILE OR GRADED SOIL FILTER MAY BE USED BETWEEN THE ENGINEERED BACKFILL AND IN-SITU SOIL TO PREVENT MIGRATION OF FINES AND POSSIBLE INTERNAL EROSION OF THE SOIL.
8. DURING BACKFILL, ONLY LIGHTWEIGHT TRACKED VEHICLES (D-4 OR LIGHTER) SHOULD BE NEAR THE STRUCTURE AS FILL PROGRESSES ABOVE THE CROWN AND TO THE FINISHED GRADE.
9. THE MINIMUM COVER IS THE VERTICAL DISTANCE FROM THE OUTSIDE VALLEY OF THE CORRUGATIONS TO THE TOP OF RIGID OR BOTTOM OF FLEXIBLE PAVEMENT.



Darrell Sanders

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RISE: 5'-8"				
LENGTH @ L: 29'-3"	BEVEL	0	0	NUMBER OF STRUCTURES: 1

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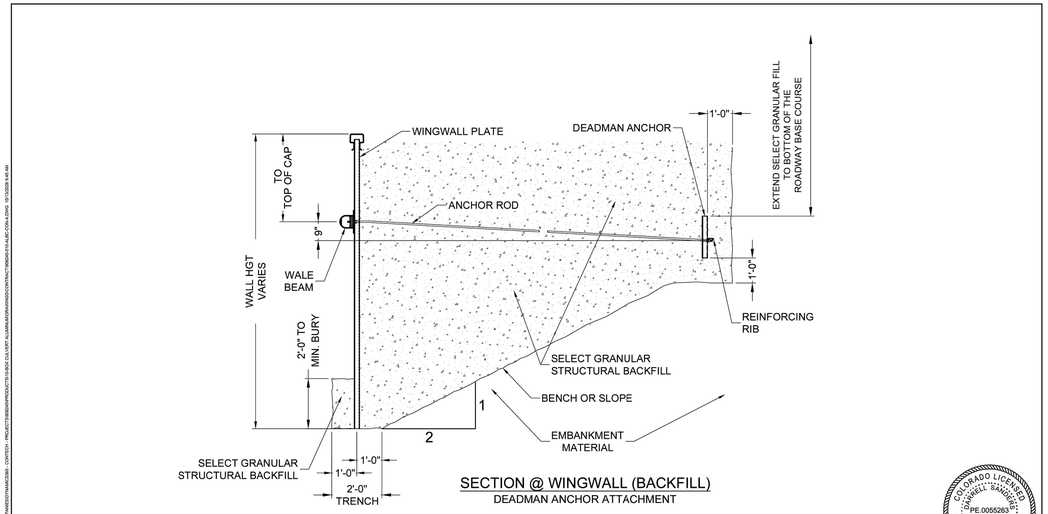
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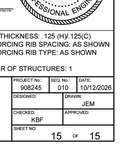
HAY CREEK CROSSING

COLORADO SPRINGS, CO

PROJECT No:	SEQ. No:	DATE:
908245	010	10/12/2026
DESIGNED:	DRAWN:	
	JEM	
CHECKED:	APPROVED:	
KBF		
SHEET NO:		
14 OF 15		



SECTION @ WINGWALL (BACKFILL)
DEADMAN ANCHOR ATTACHMENT



Darrell Sanders

TYPE: BOX		INLET	OUTLET	PLATE THICKNESS: .125 (H)/.125(C)
SIZE: 62R1				REINFORCING RIB SPACING: AS SHOWN
SPAN: 21'-10"	SKEW	0	0	REINFORCING RIB TYPE: AS SHOWN
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ENGINEER'S STATEMENT

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

COLORADO LICENSED NICHOLAS Q JOKERST 59273 PROFESSIONAL ENGINEER

11/03/2026

NICHOLAS Q. JOKERST, P.E. DATE
COLORADO P.E. 59273
FOR AND ON BEHALF OF ALL TERRAIN ENGINEERING LLC

ALL TERRAIN ENGINEERING
PREPARED FOR:
3405 HAY CREEK, LLC
3405 HAY CREEK
COLORADO SPRINGS, CO 80921
ATTN: JAMIE HULL
(719) 331-6121
JAMES.GOLDWEST@GMAIL.COM
NICHOLAS Q. JOKERST, PE
330 JAY TRAIL - AURORA, CO 80017
(720) 443-7476
PHILIP E. BARTLE, PE
203 ST. ASAF - EBENSBURG, PA 15931
(814) 471-0990

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JOB NO: 24008 LOCATION: EPC

REV	DESCRIPTION	DATE
1	CONTECH DESIGN DETAILS	11/03/26

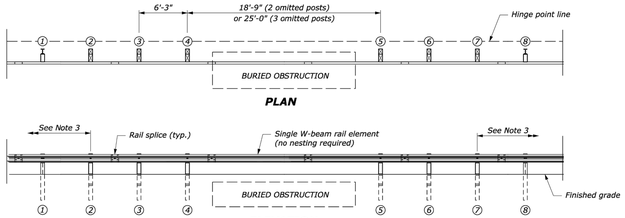
HIDDEN CREEK ESTATES

CONTECH DETAILS

DESIGN: NQJ
REVIEW: REB
DATE: 11/03/2026
H-SCALE: N/A
V-SCALE: N/A

SHEET
12 OF 13

C:\USERS\JOHN.MCDANIEL.CLIENTS_BROOMERVIT - THE SUNSETS COMPANIES\FINANCIALS\08 - CONTECH - PROJECT\BIDS\PRODUCTS\5-BOX CULVERT ALUMINUM\WINGS\CONTRACTS\BOX-5-SLAB-CON-A.DWG 10/3/2026 9:45 AM

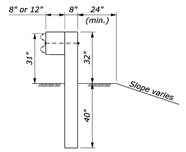


PLAN

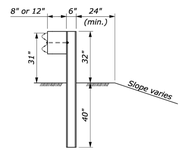
ELEVATION

NOTE:

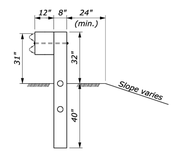
1. *Posts ① and ⑧ may be wood or steel.*
2. *Use wood posts for CRT posts.*
3. *The minimum length of guardrail, including the end terminals, upstream and downstream of posts ② and ⑦ is 62.5-feet.*
4. *In locations where the culvert headwall extends above the finished grade to act as a vertical roadway curb, the maximum height of the culvert headwall above the finished grade is 2-inches.*
5. *See Standard 617-31 or 617-32 for other assembly details.*



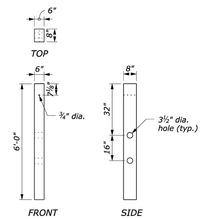
WOOD POST DETAIL
POST ① AND ⑧
See Note 1



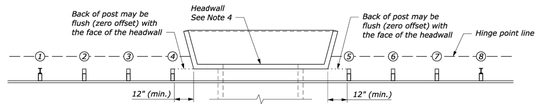
STEEL POST DETAIL
POST ① AND ⑧
See Note 1



CRT POST DETAIL
POST ② AND ⑦
See Note 2



CRT WOOD POST



PLAN VIEW

SPAN WITH HEADWALL DETAIL

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
OFFICE OF FEDERAL LANDS HIGHWAY

FLH STANDARD

MGS W-BEAM GUARDRAIL LONG-SPAN SYSTEM

STANDARD APPROVED FOR USE 7/2022
REVISED:

STANDARD 617-37

PROJECT | SHEET NUMBER

Designer Notes: FLH Standard Drawing 617-37
Last Updated: June 2022

MGS W-Beam Guardrail Long-Span System

General Information

Appropriate Applications.

- Long-span guardrail systems are used to span low-fill culverts. This drawing may also be used if an impenetrable object is encountered at post locations during construction.

Crash Test Criteria	MASH
Test Level	TL-3
FHWA Eligibility Letter	B-133, B-211A
TF 13 Designator	SGR20a-b, SGR38a-e
Crash Test Report	MwRSF Report No TRP-03-187-07

Limitations. The maximum span is 25 feet.

Layout Guidance.

- See AASHTO *Roadside Design Guide* Section 5.4.2
- See the FLH *Midwest Guardrail System FAQ* document for more information.

Typical Pay Item Used

- 61701-4550 Guardrail system MGS, type 2, class A wood posts [LNFT] for galvanized steel
- 61701-5150 Guardrail system MGS, type 4, class B wood posts [LNFT] for weathering steel

Note: long-span systems are paid for using the same pay item as roadside rail.

Updates

February 2019
- New Detail drawing

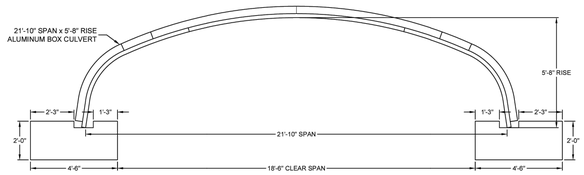
June 2022
- Converted from CFL Detail to FLH Standard

FOUNDATION NOTES:

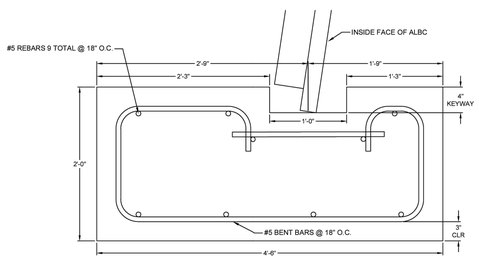
1. THE ENGINEER SHALL VERIFY THAT THE PROPOSED FOUNDATION IS APPROPRIATE FOR THE SITE CONDITIONS AND THE DESIGN PARAMETERS ARE CONSISTENT WITH THE PROJECT REQUIREMENTS. THE FOUNDATION DESIGN CONSIDERS STRUCTURAL REQUIREMENTS OF THE FOUNDATION ONLY. HYDRAULIC ANALYSIS AND SCOUR ANALYSIS, AS REQUIRED, SHALL BE PERFORMED OR COORDINATED BY THE ENGINEER.
2. PRIOR TO CONSTRUCTION, CONTRACTOR MUST VERIFY ALL ELEVATIONS SHOWN WITH THE ENGINEER.
3. FOUNDATION DESIGN IS BASED ON SITE SOIL INFORMATION PROVIDED TO CONTECH AND DESCRIBED IN THE DESIGN PARAMETERS BELOW. FOUNDATION BEARING SOILS, INCLUDING ANY SOIL IMPROVEMENTS REQUIRED, SHALL BE EVALUATED AND APPROVED BY OTHERS PRIOR TO FOUNDATION CONSTRUCTION. IF UNEXPECTED SOIL CONDITIONS ARE ENCOUNTERED, OR THE BEARING REQUIREMENTS CANNOT BE ACHIEVED, CONTECH MUST BE NOTIFIED TO DETERMINE IF FOOTING DESIGN CHANGES ARE NEEDED.
4. REINFORCED CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS, SECTION 8, REINFORCED CONCRETE, FOR CLASS A CONCRETE HAVING A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI.
5. REINFORCING STEEL FOR FOUNDATIONS SHALL CONFORM TO ASTM A615, GRADE 60 (Fy=60 ksi).
6. KEYWAY TO BE FILLED WITH NON-METALLIC, NON-SHRINK GROUT, WITH A MINIMUM 4,000 PSI COMPRESSIVE STRENGTH (ASTM C1107). GROUT AND SHIMMING MATERIAL SHOULD NOT CONTAIN ANY CORROSION-PROMOTING AGENTS.

DESIGN PARAMETERS:
DESIGN LIVE LOAD: HL-93
DESIGN MAXIMUM FILL HEIGHT: 2.75
DESIGN METHOD: LOAD FACTOR DESIGN PER AASHTO SPECIFICATION
DESIGN MINIMUM NET ALLOWABLE BEARING CAPACITY: 2,500 PSF*

*AT THE TIME OF DESIGN, A GEOTECHNICAL REPORT FOR THE PROJECT SITE WAS NOT AVAILABLE. IT IS THE PROJECT ENGINEER'S, OWNER'S AND/OR THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THAT THE ACTUAL SITE CONDITIONS AT THE TIME OF CONSTRUCTION ARE CONSISTENT WITH THE ASSUMED ALLOWABLE SOIL BEARING PRESSURE WITH A GEOTECHNICAL INVESTIGATION FROM A QUALIFIED GEOTECHNICAL ENGINEER.



CROSS SECTION



FOOTING DETAIL

Darrell Sanders, PE, Digitally signed by Darrell Sanders, PE, Date: 2026.03.11 08:57:39 -07'00'

COLORADO LICENSED DARRELL SANDERS PE.0055263 PROFESSIONAL ENGINEER

MARK	DATE	REVISION DESCRIPTION	BY
B	10/12/2026	ARCH CHANGED	AF

The design and information shown on this drawing is provided in accordance to the professional owner, of Contech's, relative to the project as understood by Contech. Neither the drawing, nor any part thereof, may be used, reproduced or modified in any manner without the prior written consent of Contech. Failure to comply is done at the user's own risk and Contech expressly disclaims any liability or responsibility for such use.

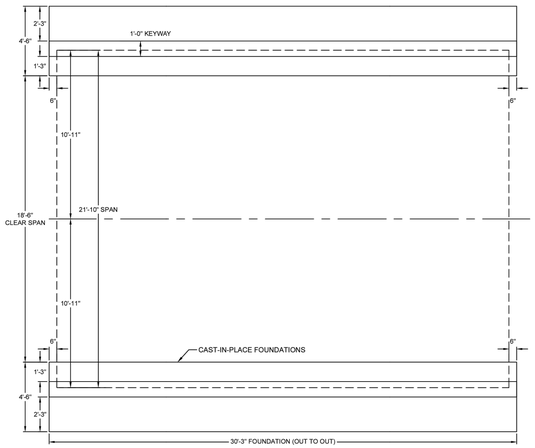
If discrepancies between the supplied information upon which the drawing is based and actual field conditions are encountered as the work progresses, these discrepancies must be reported to Contech within 48 hours. Failure to report within 48 hours constitutes acceptance by the owner and/or contractor that Contech accepts no liability for designs based on missing, incomplete or inaccurate information supplied by others.

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONTECH STRUCTURAL PLATE
CONTRACT DRAWING

CAST-IN-PLACE FOUNDATION
21'-10" SPAN x 5'-8" RISE ALUMINUM BOX CULVERT
HAY CREEK CROSSING
COLORADO SPRINGS, CO

PROJECT No.	SEQ. No.	DATE
908245	010	10/12/2026
DESIGNED:	DRAWN: AF	
CHECKED:	APPROVED:	
SHEET NO.: 1 OF 2		



FOOTING DETAIL

Darrell Sanders, PE, Digitally signed by Darrell Sanders, PE, Date: 2026.03.11 08:57:39 -07'00'

COLORADO LICENSED DARRELL SANDERS PE.0055263 PROFESSIONAL ENGINEER

MARK	DATE	REVISION DESCRIPTION	BY
B	10/12/2026	ARCH CHANGED	AF

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CONTECH STRUCTURAL PLATE
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CAST-IN-PLACE FOUNDATION
21'-10" SPAN x 5'-8" RISE ALUMINUM BOX CULVERT
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COLORADO SPRINGS, CO

PROJECT No.	SEQ. No.	DATE
908245	010	10/12/2026
DESIGNED:	DRAWN: AF	
CHECKED:	APPROVED:	
SHEET NO.: 2 OF 2		

CONDITION OF APPROVAL:

THE CONTECH ALUMINUM BOX CULVERT SHALL BE DESIGNED TO MEET THE LOADING CRITERIA SPECIFIED WITHIN THE CURRENT ENGINEERING CRITERIA MANUAL. FINAL CONSTRUCTION AND FOUNDATION DETAILS FOR THE CONTECH BOX CULVERT SHALL BE PROVIDED TO EL PASO COUNTY FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION OR PLAT RECORDATION.

ENGINEER'S STATEMENT

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

NICHOLAS Q. JOKERST, P.E. 59273 03/03/2026
COLORADO P.E. 59273 DATE
FOR AND ON BEHALF OF ALL TERRAIN ENGINEERING LLC

ALL TERRAIN ENGINEERING

NICHOLAS Q. JOKERST, PE
555.291.7655 - NICK@ATERRAINENG.COM

PHAM F. KHATIB, PE
303.577.4656 - KHATIB@ATERRAINENG.COM

PREPARED FOR:
3405 HAY CREEK, LLC
3405 HAY CREEK
COLORADO SPRINGS, CO 80921
ATTN: JAMIE HULL
(719) 331-6121
JAMES.GOLDWEST@GMAIL.COM

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

JOB NO: 24008 LOCATION: EPC

REV	DESCRIPTION	DATE
1	CONTECH DESIGN DETAILS	11/03/26

HIDDEN CREEK ESTATES

CONTECH DETAILS

DESIGN: NQJ
REVIEW: REB
DATE: 11/03/2026
H-SCALE: N/A
V-SCALE: N/A

SHEET
10 OF 13