PoDI / NHS	
FHWA PROJECT OF DIVISION INTEREST (PoDI)?	■ NO ◘ YES
NATIONAL HIGHWAY SYSTEM?	■ NO ◘ YES

EL PASO COUNTY

CONSTRUCTION BID PLANS OF THE PROPOSED

CIVIL ENGINEERING DESIGN SERVICES

UTE PASS REGIONAL TRAIL PHASE II CONSTRUCTION

CASCADE, COLORADO

CONSTRUCTION PROJECT CODE NO. 22894

Related Projects:	
P.E. UNDER PROJECT:	
Project Number:	TAP C040-054
Project Code:	22894
R.O.W. Projects:	

TABULATION OF LENGTH

STATION	FEET TRAIL	FEET MAJOR STRUCTURE
HCL UTE PASS TRAIL STA. 102+63.53 TO 173+11.00 STA. 700+04.00 TO 713+16.97 TRAIL CONSTRUCTION	7047.47 1312.97	
TOTAL	8,360.44	0

SUMMARY OF PROJECT LENGTH	FEET
TRAIL (NET LENGTH)	8,360.44
PROJECT GROSS LENGTH	8,360.44

Design Engineer's Statement:

These detailed plans and specifications were prepared under my direction and 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 plans 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.

9/11/2025

Aaron Egbert, P.E. — Date

• # 34208

Owner/Developer's Statement:

I, the owner/developer have read and will comply with all of the requirements specified in these detailed plans and specifications.

9/12/25

Owner's Signature — Date

El Paso County:

County plan review is provided only for general conformance with County Design Criteria. The County is not responsible for the accuracy and adequacy of the design, dimensions, and/or elevations which shall be confirmed at the job site. The County through the approval of this document assumes no responsibility for completeness and/or accuracy of this document.

Filed in accordance with the requirements of the El Paso County Land Development Code, Drainage Criteria Manual, Volumes 1 and 2, and Engineering Criteria Manual as amended.

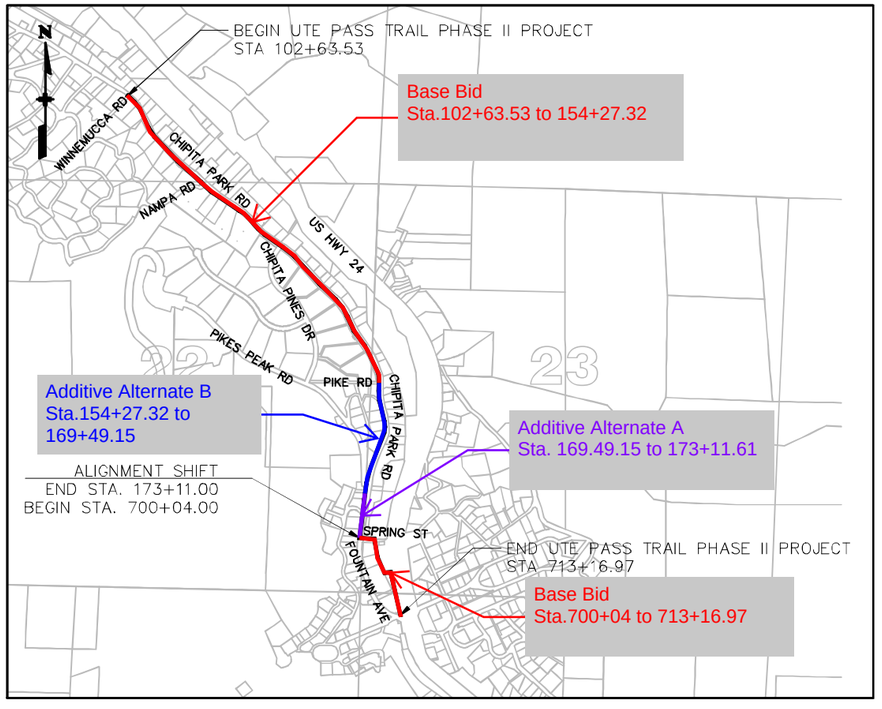
In accordance with ECM Section 1.12, these construction documents will be valid for construction for a period of 2 years from the date signed by the El Paso County Engineer. If construction has not started within those 2 years, the plans will need to be resubmitted for approval, including payment of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

9/12/25

Josh Palmer, P.E. County Engineer — Date

PROJECT DESCRIPTION

THIS PROJECT IS LOCATED IN CASCADE, CO AND CONSISTS OF THE CONSTRUCTION OF THE UTE PASS REGIONAL TRAIL BEGINNING AT WINNEMUCCA ROAD AND ENDING AT US 24 AND FOUNTAIN AVENUE INTERSECTION, ADA RAMP CONSTRUCTION, AND TRAILHEAD.



PROJECT LOCATION MAP

0 500 1000 2000

1 Inch = 1000 Feet

SHEET NO. INDEX OF SHEETS

SHEET NO.	INDEX OF SHEETS
1	TITLE SHEET
2	STANDARD PLANS LIST
3-6	TYPICAL SECTIONS
7-8	GENERAL NOTES
9-10	SUMMARY OF APPROXIMATE QUANTITIES
11-13	TABULATIONS
14	SURVEY CONTROL DIAGRAM
15	SURVEY TABULATIONS
16-19	CIVIL DETAILS
20-23	GEOMETRIC LAYOUT
24-45	PLAN AND PROFILES
46	CDOT YARD/TRAILHEAD PLAN SHEET
47-53	STORMWATER MANAGEMENT PLAN
54-75	DRAINAGE, GRADING, AND EROSION CONTROL PLANS
76	WALL GENERAL NOTES
77-78	WALL TYPICAL SECTIONS
79-85	STRUCTURAL WALL PLAN AND PROFILES
86	RETAINING WALL DETAILS
87	GUARDRAIL TO BARRIER DETAILS
88	WALL 6 DETAILS
89	PEDESTRIAN RAILING/HEADWALL DETAILS
90	CURB OPENING DETAILS
91-112	EXISTING UTILITY PLANS
113-114	SUMMARY OF TEST HOLES
115-125	SIGNING AND STRIPING PLANS
126-167	CROSS SECTIONS
168-215	M & S STANDARD SHEETS

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JONBRADLEY EGBERT
34208
9/11/2025
PROFESSIONAL ENGINEER

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Horiz. Scale: N/A Vert. Scale: N/A		Revised:	Resident Engineer:
Unit Information Unit Leader Initials		Void:	Project Engineer:
Stantec 410 17TH STREET SUITE 1400 DENVER, COLORADO 80202 (303) 295-1717			PROJECT STARTED: __/__/__ ACCEPTED: __/__/__
			Comments:

EL PASO COUNTY COLORADO
DEPARTMENT OF PUBLIC WORKS
3275 AKERS DRIVE
COLORADO SPRINGS, CO 80922

Project No./Code	
TAP C040-054	
22894	
Sheet Number	1

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■ M-100-2	ACRONYMS AND ABBREVIATIONS (4 SHEETS)	4-7
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■ M-203-2	DITCH TYPES	9
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□ M-203-12	SUPERELEVATION STREETS (2 SHEETS)	13-14
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□ S-613-3	PULL BOX DETAIL (2 SHEETS) *(NEW, ISSUED ON APRIL 4, 2024)*	
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COLORADO
DEPARTMENT OF TRANSPORTATION

M&S STANDARDS PLANS LIST

July 31, 2019

Revised on April 25, 2025

COLORADO LICENSED
TOM BRADLEY EBBERT
34208
9/11/2025
PROFESSIONAL ENGINEER

ALL OF THE M&S STANDARD PLANS, AS SUPPLEMENTED AND REVISED, APPLY TO THIS PROJECT WHEN USED BY DESIGNATED PAY ITEM OR SUBSIDIARY ITEM.

THE M&S STANDARD PLANS USED TO DESIGN THIS PROJECT ARE INDICATED BY A MARKED BOX ■ , AND WILL BE ATTACHED TO THE PLANS. ALL OTHER M&S STANDARD PLANS ARE STILL ELIGIBLE FOR USE IN CONSTRUCTION IF APPROVED BY AN APPROPRIATE CDOT ENGINEER.

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Print Date: 9/11/2025
File Name: 11311-SP.DWG
Horiz. Scale: N/A Vert. Scale: N/A
Unit Information Unit Leader Initials

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(303) 295-1717

Sheet Revisions

Date:	Comments	Init.

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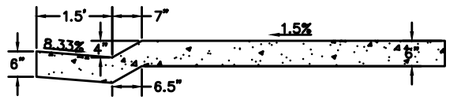
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STANDARD PLANS LIST

Designer: M WOLF
Detailer: D. ALDEN
Sheet Subset: STD
Structure Numbers:
Subset Sheets: 1 of 1

Project No./Code
TAP C040-054
22894
Sheet Number 2

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34208
5/2/2025
PROFESSIONAL ENGINEER



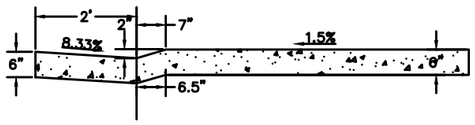
CURB, GUTTER AND SIDEWALK
4" MOUNTABLE WITH SIDEWALK

NOTE:
PAY ITEM 609-22900 "CURB, GUTTER AND SIDEWALK (SPECIAL)" SHALL INCLUDE THE GUTTER PAN, CURB, AND 6' SIDEWALK. ANY ADDITIONAL CURB OR CONCRETE WALL ON THE OUTSIDE OF THE SIDEWALK SHALL BE PAID FOR SEPARATELY.

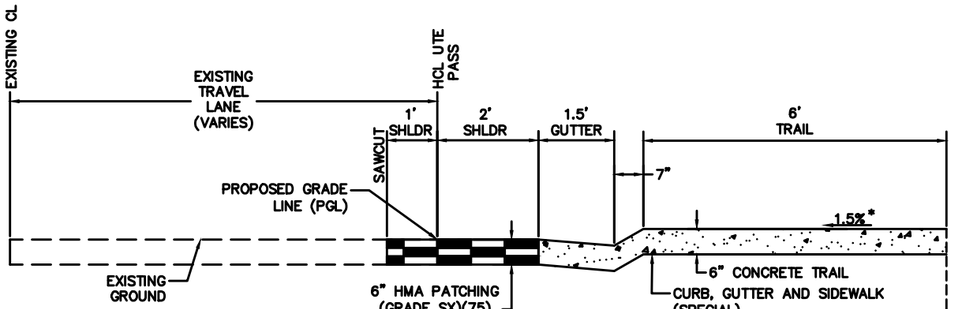


CURB, GUTTER AND SIDEWALK
2" MOUNTABLE WITH SIDEWALK
DRIVEWAY (SPECIAL)
1.5' GUTTER PAN

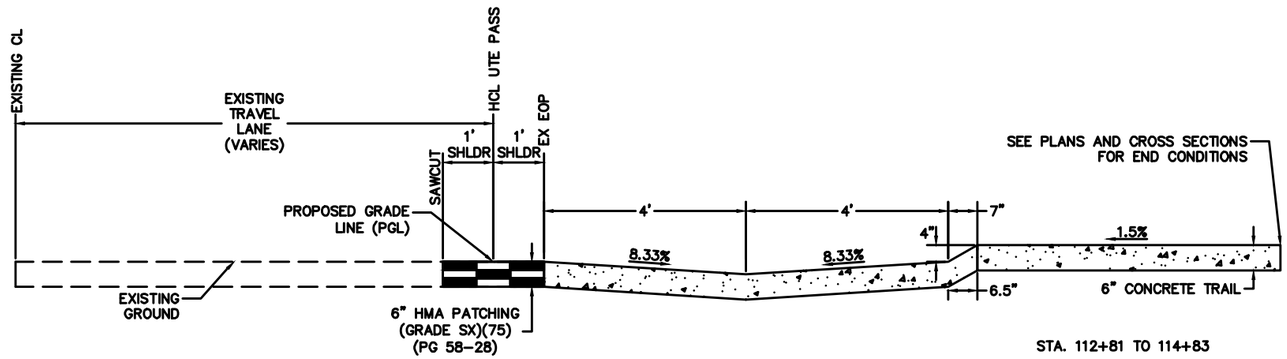
NOTE:
INTEGRATE "CURB, GUTTER, AND SIDEWALK 2" MOUNTABLE WITH SIDEWALK DRIVEWAY (SPECIAL)1.5' AND 2' GUTTER PAN" INTO CDOT M-609-1. COST IS INCLUDED IN DRIVEWAY PAY ITEM.



CURB, GUTTER AND SIDEWALK
2" MOUNTABLE WITH SIDEWALK
DRIVEWAY (SPECIAL)
2' GUTTER PAN



6" TO 3.5' WALL
TYPICAL SECTION DETAIL



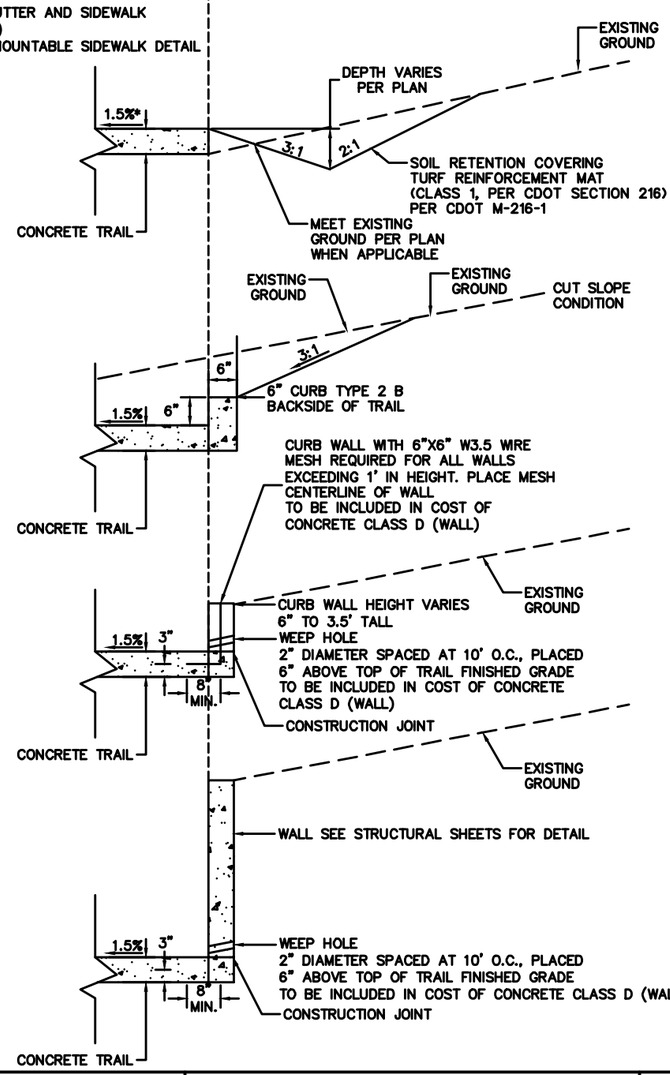
STA. 112+81 TO 114+83

DETACHED SIDEWALK WITH 4' CONCRETE GUTTER
TYPICAL SECTION DETAIL

NOTES:

1. HORIZONTAL CONTROL LINE (HCL) IS APPROXIMATELY AT EXISTING WHITE PAVEMENT STRIPING, WHERE IT EXISTS.
2. PROPOSED GRADE LINE (PGL) IS EXISTING GRADE AT THE HORIZONTAL CONTROL LINE (HCL).
3. SEE STRUCTURAL DRAWING SHEETS FOR ADDITIONAL INFORMATION ON GRAVITY BLOCK WALLS AND STATION RANGES.
4. SEE PNP AND GRADING FOR DETAILED TRANSITIONS AND LIMITS

* TRAIL CROSS SLOPE REVERSED STATION 130+76.55 TO 150+00.03



STA. 111+50 TO 111+72
STA. 128+75 TO 150+00
STA. 153+85 TO 154+00
STA. 154+75 TO 155+75
STA. 156+95 TO 157+60
STA. 161+45 TO 163+47
STA. 164+15 TO 164+90

STA. 109+50 TO 110+55
STA. 111+45 TO 111+50
STA. 117+20 TO 117+35
STA. 154+00 TO 154+10
STA. 156+19 TO 156+83
STA. 165+33 TO 166+84

STA. 110+55 TO 111+45
STA. 114+36 TO 117+20
STA. 123+10 TO 126+63
STA. 155+75 TO 156+19
STA. 157+65 TO 161+45
STA. 163+50 TO 164+15
STA. 164+90 TO 165+33
STA. 156+83 TO 156+95
STA. 157+60 TO 157+65
STA. 158+29 TO 159+00
STA. 160+84 TO 161+45
STA. 163+47 TO 164+15
STA. 164+90 TO 165+33

STA. 157+65 TO 158+29
STA. 159+00 TO 160+84
STA. 165+33 TO 166+15

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Unit Information	Unit Leader Initials

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Sheet Revisions

Date:	Comments	Init.

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COLORADO

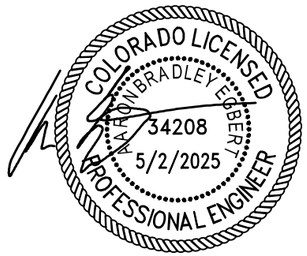
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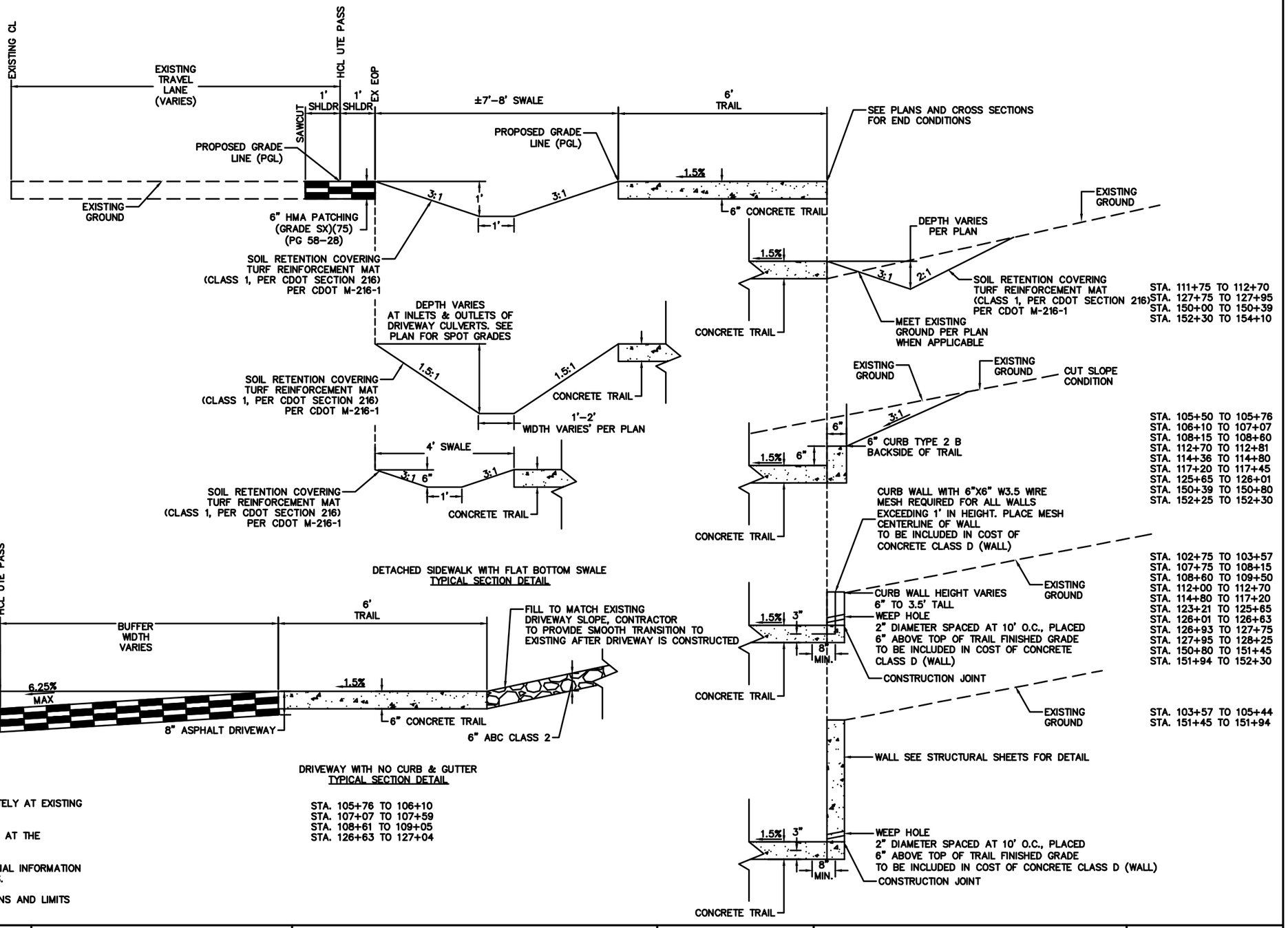
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TYPICAL SECTIONS

Designer:	M WOLF	Structure Numbers	
Detailer:	D. ALDEN		
Sheet Subset:	TYPICALS	Subset Sheets:	1 of 4

Project No./Code	
TAP C040-054	
22894	
Sheet Number	3





NOTES:

1. HORIZONTAL CONTROL LINE (HCL) IS APPROXIMATELY AT EXISTING WHITE PAVEMENT STRIPING, WHERE IT EXISTS.
2. PROPOSED GRADE LINE (PGL) IS EXISTING GRADE AT THE HORIZONTAL CONTROL LINE (HCL).
3. SEE STRUCTURAL DRAWING SHEETS FOR ADDITIONAL INFORMATION ON GRAVITY BLOCK WALLS AND STATION RANGES.
4. SEE PNP AND GRADING FOR DETAILED TRANSITIONS AND LIMITS

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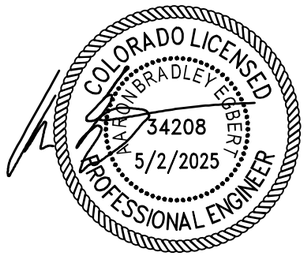
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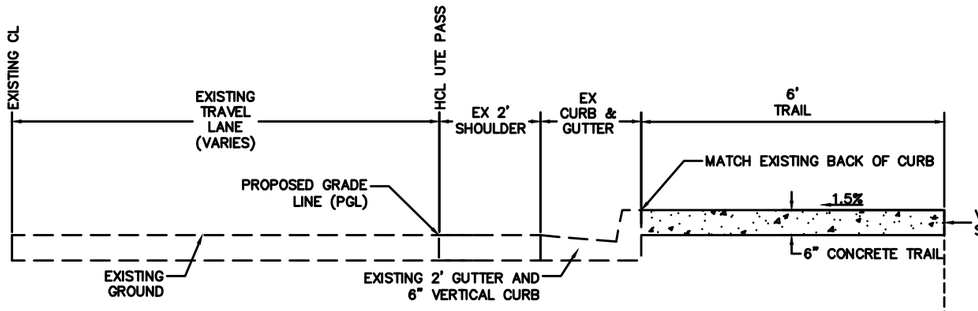
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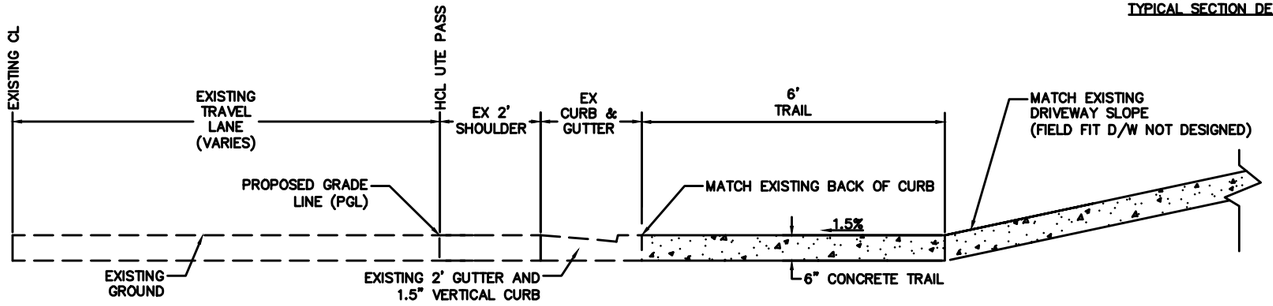
EL PASO COUNTY
COLORADO

As Constructed	TYPICAL SECTIONS			Project No./Code
No Revisions:				TAP C040-054
Revised:	Designer: M WOLF	Structure Numbers		22894
Void:	Detailer: D. ALDEN			
	Sheet Subset: TYPICALS	Subset Sheets: 2 of 4		Sheet Number 4



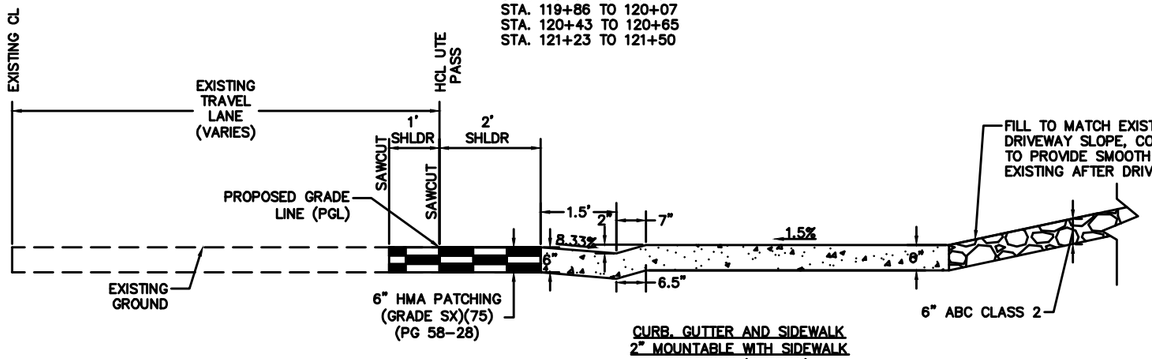


EXISTING CURB & GUTTER
TYPICAL SECTION DETAIL



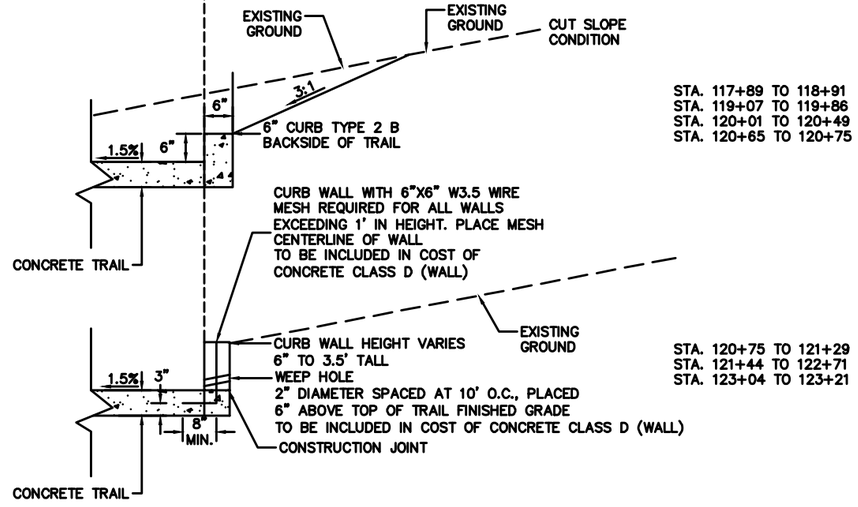
EXISTING CURB & GUTTER
DRIVEWAY
TYPICAL SECTION DETAIL

STA. 118+91 TO 119+07
STA. 119+86 TO 120+07
STA. 120+43 TO 120+65
STA. 121+23 TO 121+50



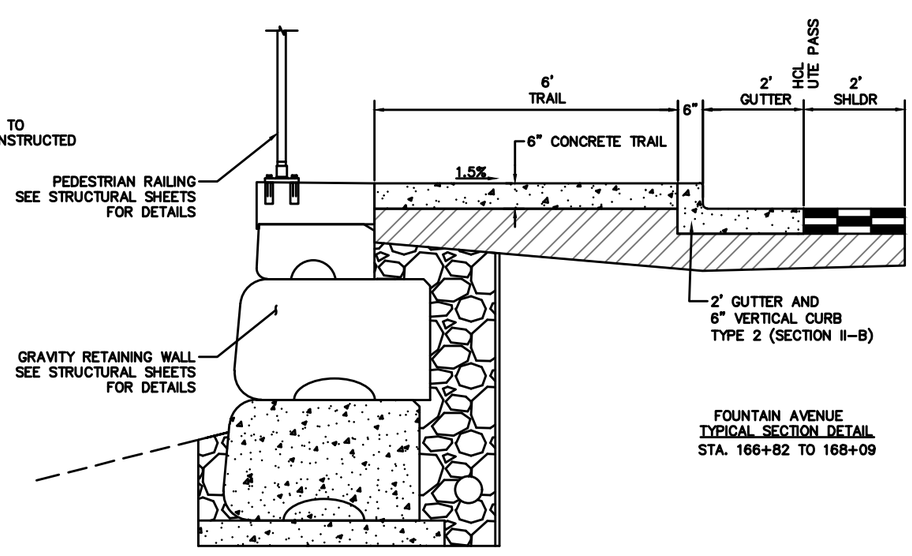
CURB, GUTTER AND SIDEWALK
2" MOUNTABLE WITH SIDEWALK
DRIVEWAY (SPECIAL)
1.5' GUTTER PAN

STA. 122+65 TO 123+10
STA. 157+14 TO 157+60



STA. 117+89 TO 118+91
STA. 119+07 TO 119+86
STA. 120+01 TO 120+49
STA. 120+65 TO 120+75

STA. 120+75 TO 121+29
STA. 121+44 TO 122+71
STA. 123+04 TO 123+21



FOUNTAIN AVENUE
TYPICAL SECTION DETAIL
STA. 166+82 TO 168+09

NOTES:

1. HORIZONTAL CONTROL LINE (HCL) IS APPROXIMATELY AT EXISTING WHITE PAVEMENT STRIPING, WHERE IT EXISTS.
2. PROPOSED GRADE LINE (PGL) IS EXISTING GRADE AT THE HORIZONTAL CONTROL LINE (HCL).
3. SEE STRUCTURAL DRAWING SHEETS FOR ADDITIONAL INFORMATION ON GRAVITY BLOCK WALLS AND STATION RANGES.
4. SEE PNP AND GRADING FOR DETAILED TRANSITIONS AND LIMITS

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Print Date: 6/30/2024		Sheet Revisions			As Constructed
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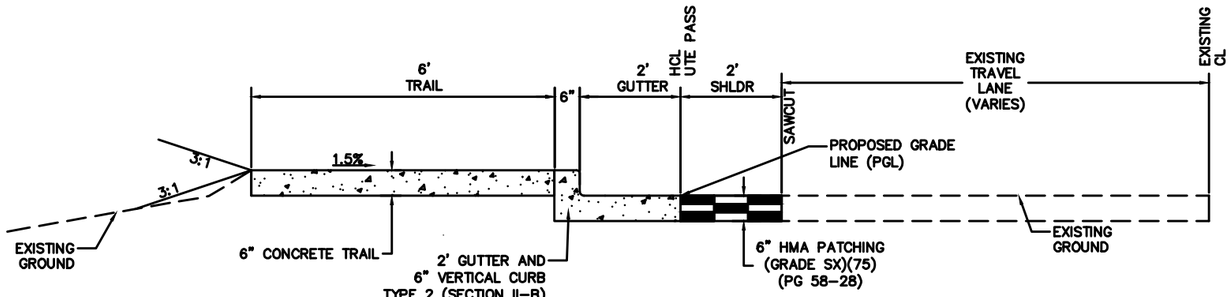
EL PASO COUNTY
COLORADO

TYPICAL SECTIONS

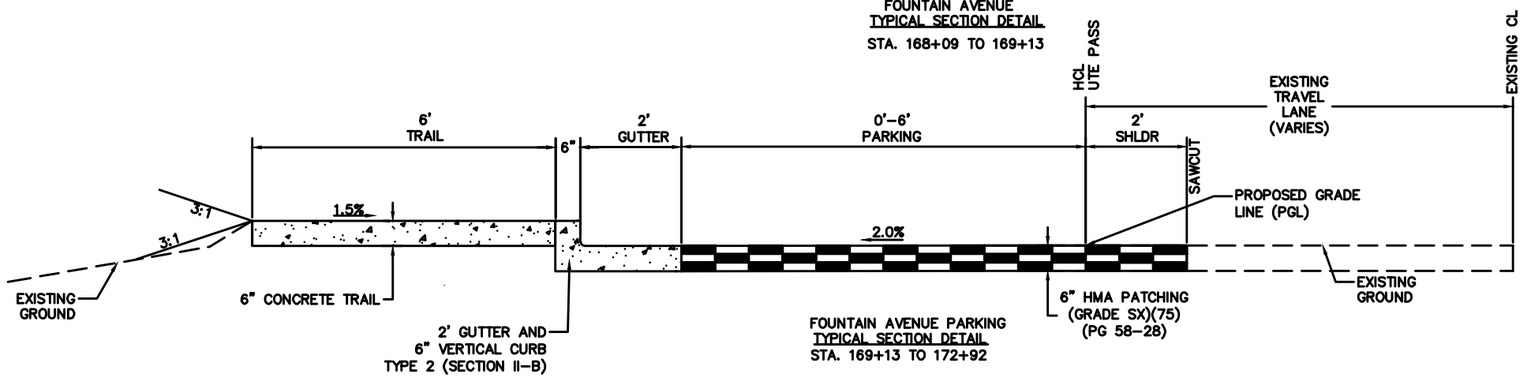
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AARON BRADLEY EBERT
34208
5/2/2025
PROFESSIONAL ENGINEER



FOUNTAIN AVENUE
TYPICAL SECTION DETAIL
STA. 168+09 TO 169+13



FOUNTAIN AVENUE PARKING
TYPICAL SECTION DETAIL
STA. 169+13 TO 172+92

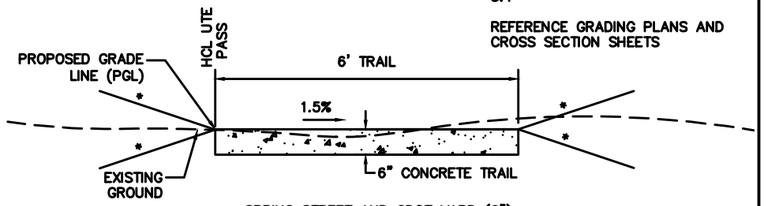
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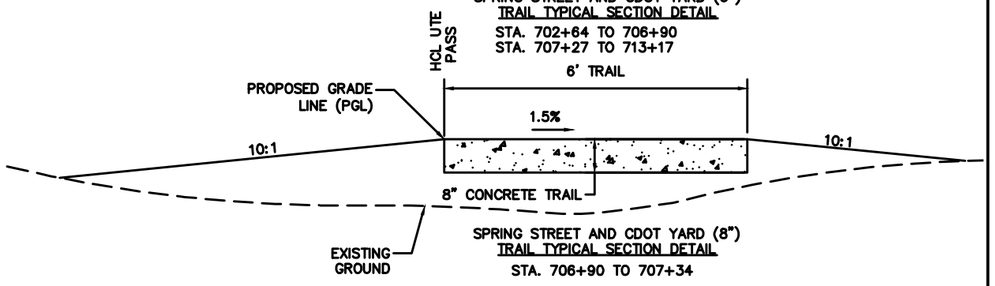
* CUT SLOPE:
6:1 MAX HEIGHT OF 1'
4:1 MAX HEIGHT OF 2'
3:1

FILL SLOPE
10:1 MAX HEIGHT OF 10'
4:1 MAX HEIGHT OF 10'
3:1

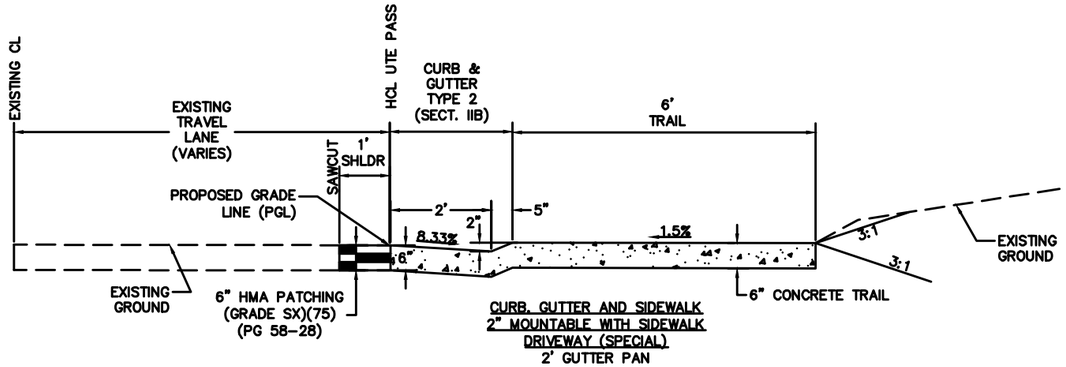
REFERENCE GRADING PLANS AND CROSS SECTION SHEETS



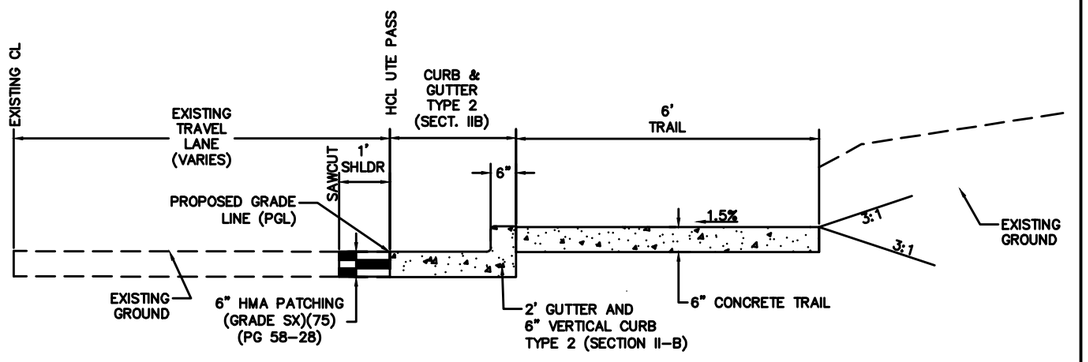
SPRING STREET AND CDOT YARD (6")
TRAIL TYPICAL SECTION DETAIL
STA. 702+64 TO 706+90
STA. 707+27 TO 713+17



SPRING STREET AND CDOT YARD (8")
TRAIL TYPICAL SECTION DETAIL
STA. 706+90 TO 707+34



STA. 700+04 TO 700+44



TYPICAL SECTION DETAIL
STA. 700+44 TO 702+64

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Horiz. Scale: Vert. Scale:					Revised:	Designer: M WOLF / Structure Numbers:	22894
Unit Information Unit Leader Initials					Void:	Detailer: D. ALDEN / Structure Numbers:	Sheet Number 6
Stantec 410 17TH STREET SUITE 1400 DENVER, COLORADO 80202 (303) 295-1717						Sheet Subset: TYPICALS / Subset Sheets: 4 of 4	

EL PASO COUNTY
COLORADO

GENERAL NOTES:

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE 2025 COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (STANDARD SPECIFICATIONS) OR ENGINEERING CRITERIA MANUAL (ECM) DATED DECEMBER 2016.

HOT MIX ASPHALT (PATCHING)(ASPHALT) SHALL BE (GRADE SX)(75)(PG 58-28).

FOR PLAN QUANTITIES OF PAVEMENT MATERIALS, THE FOLLOWING RATES OF APPLICATION WERE USED:

HOT MIX ASPHALT .....@ 110 LBS./SQ. YD./INCH
AGGREGATE BASE COURSE.....@ 133 LBS./CU. FT.

WHERE IT IS REQUIRED TO SAWCUT EXISTING PAVEMENT OR CONCRETE, THE CUTTING SHALL BE DONE TO A NEAT LINE WITH A CUTTING SAW OR OTHER METHOD APPROVED BY THE ENGINEER. THIS WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF WORK.

WHERE EXISTING PAVEMENT IS IN SATISFACTORY CONDITION, SAWCUT LIMITS SHALL BE MODIFIED IN THE FIELD AT THE DISCRETION OF THE ENGINEER.

SAWCUT OF EXISTING ASPHALT SHALL BE DONE AT A 1' OFFSET OF UTE PASS HCL, THE EQUIVALENT OF WHITE LANE LINE. SEE TYPICAL SECTIONS FOR DETAILS.

A TACK COAT OF EMULSIFIED ASPHALT (SLOW SETTING) IS TO BE APPLIED BETWEEN PAVEMENT COURSES TO IMPROVE THE BOND. DILUTED EMULSIFIED ASPHALT FOR TACK COAT SHALL CONSIST OF 1 PART EMULSIFIED ASPHALT AND 1 PART WATER. RATES OF APPLICATION SHALL BE AT 0.05 GALLONS PER SQUARE YARD. THE COST OF EMULSIFIED ASPHALT WILL NOT BE PAID FOR SEPARATELY AND SHALL BE INCLUDED IN THE COST OF ITEMS 403 HOT MIX ASPHALT.

THIS PROJECT IS CLASSIFIED AS "NON-SIGNIFICANT". CONTRACTOR'S TRANSPORTATION MANAGEMENT PLAN SHALL CONSIST OF AN METHOD OF HANDLING TRAFFIC (MHT) AND PUBLIC INFORMATION SERVICES.

SEVERITY OF SULFATE EXPOSURE SHALL BE CLASS 2 FOR THIS PROJECT.

STORAGE AND STAGING AREAS SHALL UTILIZE CURRENTLY IMPACTED AREAS OR OFFSITE. THE CONTRACTOR SHALL NOT STOCKPILE MATERIAL, EQUIPMENT OR VEHICLES WITHIN THE CLEAR ZONE UNLESS APPROVED BY THE ENGINEER.

DEPTH OF MOISTURE-DENSITY CONTROL FOR THIS PROJECT SHALL BE AS FOLLOWS:

*FULL DEPTH OF ALL EMBANKMENTS
*BASES OF CUTS AND FILLS - 6 INCHES
*FULL DEPTH OF EMBANKMENT SECTIONS USED FOR DITCHES

EXCAVATION REQUIRED FOR COMPACTION OF BASES OF CUTS AND FILLS WILL BE CONSIDERED AS SUBSIDIARY TO THAT OPERATION AND WILL NOT BE PAID FOR SEPARATELY.

DISPOSAL OF EXCESS MATERIAL OFF-SITE OR THE IMPORTING OF MATERIALS ON-SITE, REGARDLESS OF PROPERTY OWNERSHIP, MUST BE DONE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL ENVIRONMENTAL REGULATIONS.

MATERIAL THAT IS DEPOSITED ONTO THE ROADWAY WILL BE CLEARED OFF THE ROADWAY (PICKUP BROOM, SWEPT UP) IMMEDIATELY. NONE OF THE MATERIAL SHALL BE ALLOWED TO RUN OFF INTO WATERS OF THE STATE BY ANY MEANS. SWEEPING SHALL NOT BE PAID SEPARATELY, BUT SHALL BE INCLUDED IN THE WORK.

ALL REMOVAL ITEMS, SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF PROPERLY OFF OF THE EL PASO COUNTY RIGHT-OF-WAY AND PRIVATE PROPERTY AT THE EXPENSE OF THE CONTRACTOR.

EXISTING UTILITY LINES AS SHOWN ON THE PLAN SHEETS ARE PLOTTED FROM THE BEST AVAILABLE INFORMATION.

CONTRACTOR IS REQUIRED TO FOLLOW ADA STANDARDS FOR ALL SIDEWALKS AND CURB RAMPS. SIDEWALK CROSS SLOPE SHALL NOT EXCEED 1.5% AND CURB RAMP SLOPES SHALL NOT EXCEED 8.3%. SEE CDOT M&S STANDARD PLAN M-608-1 FOR MORE INFORMATION.

TYPES OF COMPACTION FOR THIS PROJECT WILL BE AS FOLLOWS:

ITEM 203-AASHTO T-99
ITEM 206 & 304 AASHTO T-180

THE CONTRACTOR SHALL CLEAN THE SANITARY FACILITY A MINIMUM OF TWICE PER WEEK. THE COST OF CLEANING WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF THE SANITARY FACILITY.

WALL PROFILES AND LIMITS TO BE FIELD ADJUSTED AS NEEDED TO ACHIEVE PROPER GRADING.

DRAINAGE NOTES:

THE CONTRACTOR IS REQUIRED TO KEEP EXISTING CULVERTS FUNCTIONAL.

CONTRACTOR IS REQUIRED TO MEET ALL APPLICABLE CRITERIA AS OUTLINED IN THE EL PASO COUNTY ENGINEERING CRITERIA MANUAL AND THE EL PASO COUNTY DRAINAGE CRITERIA MANUAL.

EROSION CONTROL NOTES:

PROJECT DISTURBANCE AREA IS GREATER THAN 1.0 ACRE; COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT (CDPHE) PERMITS AND SWMP ARE REQUIRED.

DISTURBANCE LIMITS SHALL BE MINIMIZED. SEEDING, AND RAKING SHALL BE REQUIRED ON ALL DISTURBED AREAS. PHOTO-DEGRADABLE COCONUT STRAW EROSION CONTROL BLANKET SHALL BE PLACED ON SLOPES GREATER THAN 3:1.

SIGNING & PAVEMENT MARKING NOTES:

SIGNS:

ANY DAMAGE DONE TO THE EXISTING UTILITIES DURING THE PLACEMENT OF THE POSTS IS THE RESPONSIBILITY OF THE CONTRACTOR.

THE FINAL LOCATION OF THE SIGNS ARE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE APPROVED BY COUNTY ENGINEER PRIOR TO INSTALLATION.

SIGN POSTS INSTALLED WITHIN SIDEWALK SHALL BE OFFSET FROM THE FACE OF CURB TO MATCH ADJACENT GROUND SIGNS OR AT BACK OF SIDEWALK AS SHOWN ON THE PLANS. GROUND SIGN FOOTINGS SHALL NOT EXTEND BEYOND THE BACK OF EXISTING SIDEWALK IN ORDER TO KEEP PROPOSED SIGNS WITHIN EXISTING ROW. ALL SIDEWALK INSTALLATIONS SHALL MAINTAIN A MINIMUM 4' ADA SIDEWALK PATH AROUND THE SIGN POST.

PAVEMENT MARKINGS:

THE FINAL LOCATION AND ALIGNMENT OF PAVEMENT MARKINGS SHALL BE APPROVED BY THE ENGINEER PRIOR TO PLACEMENT.

ALL PAVEMENT MARKINGS SHALL BE AS SHOWN IN THE PLANS AND PER THE CURRENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND CDOT M&S STANDARD PLAN S-627-1.

ENVIRONMENTAL NOTES:

ENSURE ALL OPERATORS, EMPLOYEES, AND CONTRACTORS WORKING IN AREAS OF TRICOLORED BAT SUITABLE HABITAT ARE AWARE OF ALL TRANSPORTATION AGENCY (CDOT) ENVIRONMENTAL COMMITMENTS, INCLUDING ALL APPLICABLE AVOIDANCE AND MINIMIZATION MEASURES (AMMS).

MODIFY ALL PHASES/ASPECTS OF THE PROJECT (E.R., TEMPORARY WORK AREAS, ALIGNMENTS) TO THE EXTENT PRACTICABLE TO AVOID TREE REMOVAL/TRIMMING IN EXCESS OF WHAT IS REQUIRED TO IMPLEMENT THE PROJECT SAFELY.

ENSURE TREE REMOVAL/TRIMMING IS LIMITED TO THAT SPECIFIED IN PROJECT PLANS AND ENSURE THAT CONTRACTORS UNDERSTAND CLEARING LIMITS AND HOW THEY ARE MARKED IN THE FIELD (E.G., INSTALL BRIGHTLY COLORED FLAGGING/FENCING PRIOR TO ANY TREE REMOVAL/TRIMMING TO ENSURE CONTRACTORS STAY WITHIN CLEARING LIMITS).

ENSURE TREE REMOVAL/TRIMMING IS LIMITED TO THE INACTIVE SEASON (NOVEMBER 16 - MARCH 31), OCCURS WITHIN 100 FEET OF THE ROAD/TRAIL SURFACE, AND IS OUTSIDE OF DOCUMENTED HABITAT FOR TRICOLORED BAT.

COLORADO LICENSED
JONATHAN BRADLEY EGBERT
34208
9/11/2025
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Print Date: 4/28/2025
File Name: 11311-GENERAL NOTES.DWG
Horiz. Scale: N/A Vert. Scale: N/A
Unit Information Unit Leader Initials

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Date:	Comments	Init.

EL PASO COUNTY
COLORADO

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GENERAL NOTES

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Detailer: D. ALDEN
Sheet Subset: NOTES
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22894
Sheet Number 7

UTILITIES

UTILITIES SHALL BE COORDINATED, DESIGNED, EXTENDED AND/OR RELOCATED BY OTHERS.

UTILITY LOCATIONS ARE APPROXIMATE AS PROVIDED BY THE VARIOUS UTILITY COMPANIES AND TO QUALITY LEVEL A WITHIN SIDEWALK/TRAIL IMPACTED AREAS. ALL UTILITIES MAY NOT BE SHOWN ON THESE PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES, BOTH HORIZONTALLY AND VERTICALLY, PRIOR TO BEGINNING CONSTRUCTION. ANY DISCREPANCIES OR VARIATION IN UTILITY LOCATION FROM THAT SHOWN ON THESE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE FIELD ENGINEER AND RESOLVED PRIOR TO BEGINNING CONSTRUCTION IN ANY AREA. UTILITY LOCATIONS CAN BE COORDINATED THROUGH CENTRAL LOCATING AT 1-800-922-1987. IF ANY DAMAGE OCCURS TO THESE UTILITIES DURING CONSTRUCTION, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR OR REPLACE THE UTILITY. THE CONTRACTOR IS RESPONSIBLE FOR ANY UTILITIES DISRUPTED BY THE CONSTRUCTION AND ALL EXPENSES INCURRED FOR REPAIR.

NOT ALL UTILITY RELOCATIONS ARE SPECIFICALLY CALLED OUT ON THE PLANS. UTILITY RELOCATIONS SHALL BE IDENTIFIED AND PERFORMED BY THE UTILITY OWNER, OR THEIR DESIGNATED CONTRACTOR. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY PROVIDERS FOR UTILITY RELOCATION AND REPLACEMENT.

THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES AT LEAST 48 HOURS IN ADVANCE OF THE ACTUAL STARTING DATE OF CONSTRUCTION. THE CONTRACTOR SHALL USE CAUTION WORKING OVER AND AROUND ALL UTILITY LINES. UTILITY INFORMATION AS SHOWN ON PLANS IS PLOTTED FROM THE BEST AVAILABLE INFORMATION, AND THE ENGINEER DOES NOT GUARANTEE THE ACCURACY OF THIS INFORMATION. UTILITIES HAVE NOT BEEN FIELD VERIFIED. CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL THE NECESSARY UTILITIES FOR LOCATIONS PRIOR TO ANY DIGGING. CONTRACTOR IS ALSO RESPONSIBLE FOR COORDINATING ANY UTILITY RELOCATIONS. THIS WORK SHALL NOT BE PAID FOR SEPARATELY, BUT INCLUDED IN THE COST OF OTHER WORK.

THE CONTRACTOR SHALL COMPLY WITH 1.5 OF TITLE 9, CRS ("EXCAVATION REQUIREMENTS") WHEN EXCAVATING OR GRADING IS PLANNED IN THE AREA OF UNDERGROUND UTILITY FACILITIES. THE CONTRACTOR SHALL NOTIFY ALL AFFECTED UTILITIES AT LEAST TWO (2) BUSINESS DAYS, NOT INCLUDING THE ACTUAL DAY OF NOTICE, PRIOR TO COMMENCING SUCH OPERATIONS. THE CONTRACTOR SHALL CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC) AT 811 OF 1-800-922-1987. TO HAVE LOCATIONS OF UNCC REGISTERED LINES MARKED BY MEMBER COMPANIES. ALL OTHER UNDERGROUND FACILITIES SHALL BE LOCATED BY CONTACTING THE RESPECTIVE OWNERS. UTILITY SERVICE LATERALS SHALL ALSO BE LOCATED PRIOR TO BEGINNING EXCAVATION OR GRADING.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES WHEN CUTTING/EXCAVATING 4 INCHES OR MORE TO ENSURE THE UTILITIES WILL NOT BE IMPACTED BY CONSTRUCTION ACTIVITIES. IT IS ESTIMATED THAT 8 HOURS OF POTHOLING WILL BE REQUIRED ON THE PROJECT AS DIRECTED BY THE PROJECT ENGINEER. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY OWNERS TO BE ONSITE DURING POTHOLING.

IT IS THE CONSTRUCTION CONTRACTOR'S RESPONSIBILITY TO NOTIFY EL PASO COUNTY 48 HOURS PRIOR TO CONSTRUCTION.

TREE PROTECTION NOTES

PRIOR TO THE BEGINNING OF CONSTRUCTION, FLAG EXISTING TREES TO BE REMOVED. CONTRACTOR AND/OR COUNTY STAFF TO CONTACT ADJACENT LAND OWNERS TO IDENTIFY TREES TO BE REMOVED PRIOR TO REMOVAL.

CONSTRUCTION WITHIN THE ROOT ZONE OF TREES TO REMAIN SHALL BE RESTRICTED TO AGREED-UPON LIMITS WITH REGARD TO EXCAVATION, ACCESS, DIRT STOCKPILING, AND BACKFILL.

DAMAGE TO THE MAIN TRUNKS OF TREES IS PROHIBITED.

LIMB DAMAGE IS PROHIBITED, UNLESS APPROVED PRIOR TO CONSTRUCTION OR AS AUTHORIZED BY EL PASO COUNTY. PRUNING OF AFFECTED BRANCHES SHALL BE DONE PRIOR TO THE START OF CONSTRUCTION. DAMAGED BRANCHES SHALL BE PRUNED WITHIN 10 DAYS OF THE OCCURRENCE UTILIZING INTERNATIONAL SOCIETY OF ARBOR/CULTURE STANDARDS.

CONCRETE TRUCK WASHOUT AREAS SHALL BE IN DESIGNATED AREAS ONLY WASHOUT RUNOFF SHALL NOT FLOW INTO OR ACROSS ROOT ZONES OF TREES.

GRADING NOTES

EXISTING CONTOUR INTERVAL IS 1 FOOT.

PROPOSED CONTOUR INTERVAL IS 1 FOOT.

CONTRACTOR SHALL USE WATER SPRINKLING AND OTHER SUITABLE METHODS TO LIMIT DUST AND DIRT SCATTERING WHEN NECESSARY AND WHEN REQUESTED BY OWNER. DO NOT USE WATER WHEN IT MAY CREATE HAZARDOUS CONDITIONS SUCH AS ICING, FLOODING OR RUNOFF POLLUTION OR IF PROHIBITED BY CURRENT DROUGHT RESTRICTIONS.

FILL SOIL, IF REQUIRED SHALL MEET THE REQUIREMENTS OUTLINED IN THE SPECIFICATIONS.

UTILITIES SHOWN ARE FOR INFORMATION ONLY. IT SHALL REMAIN THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND PROTECT ALL EXISTING UTILITIES. CONTRACTOR SHALL RESTORE AREAS DAMAGED DURING CONSTRUCTION TO THEIR ORIGINAL STATE. CONTACT THE COLORADO UTILITY NOTIFICATION CENTER, 1-800-922-1987.

THE CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND BASE THE BID ON ACTUAL ON-SITE CONDITIONS AND MEASUREMENTS. POSITIVE DRAINAGE SHALL BE MAINTAINED AT ALL TIMES. ANY DISCREPANCIES ON THE PLANS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER.

SPOT ELEVATIONS TAKE PRECEDENCE OVER CONTOURS.

THE CONTRACTOR SHALL PROVIDE SMOOTH FINISH GRADE FREE OF RUTS, DEPRESSIONS AND IRREGULARITIES.

ALL TRAILS SHALL BE GRADED TO INSURE POSITIVE DRAINAGE. FINISHED LANDSCAPE GRADE ADJACENT TO PAVEMENT OR CURB SHALL BE 1" BELOW TOP OF PAVEMENT OR CURB FOR IRRIGATED TURF AREAS AND FLUSH WITH TOP OF PAVEMENT OR CURB FOR NATIVE SEEDED OR MULCHED AREAS.

PROPOSED CONCRETE WALK TO MATCH GRADE OF EXISTING WALKS AT ALL INTERSECTIONS BETWEEN THE TWO.

PREFERRED MAXIMUM SLOPE IS 3:1. SOME AREAS REQUIRE 2:1 MAXIMUM SLOPES, AS SHOWN ON THE GRADING PLANS, DUE TO PHYSICAL AND TOPOGRAPHICAL CONSTRAINTS.

ASPHALT PATCH LIMITS AT INTERSECTIONS SHALL BE VERIFIED IN THE FIELD.

CURB RAMP NOTES

CURB RAMPS SHALL BE AS SPECIFIED IN CDOT'S M&S STANDARD M-608-1. REINFORCING STEEL IS NOT REQUIRED FOR CURB RAMPS.

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE EL PASO COUNTY ENGINEERING CRITERIA MANUAL, CDOT'S M&S STANDARDS, AND AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS.

CONTRACTOR TO NOTIFY ENGINEERING DIVISION INSPECTION STAFF 48 HOURS PRIOR TO CONCRETE PLACEMENT.

PEDESTRIAN RAMP CONSTRUCTION SHALL BE WITH CDOT CLASS B CONCRETE, MINIMUM 6 INCH THICK AT TOP OF RAMP, 8 INCH THICK MINIMUM AT BOTTOM OF RAMP, NON-COLORED, NON-SCORED, COARSE BROOM FINISH.

RAMP LOCATION AND LENGTH MAY REQUIRE MODIFICATION TO MAINTAIN THE 12:1 MAXIMUM RUNNING RAMP SLOPE AND 20:1 DETECTABLE WARNING AREA DUE TO STREET INTERSECTION GRADES AND/OR ALIGNMENT.

DETECTABLE WARNING AREA SHALL START A MINIMUM OF 6 INCH FROM THE FLOW LINE OF THE CURB AT ANY POINT.

DETECTABLE WARNING AREA SHALL CONFORM TO CURRENT ADA REQUIREMENTS. THE DETECTABLE WARNINGS SHALL BE CAST IRON PLATES. ALL DETECTABLE WARNING DEVICES MUST BE APPROVED BY THE COUNTY ENGINEER OR DESIGNATED REPRESENTATIVE PRIOR TO PLACEMENT.

THE DETECTABLE WARNING AREA SHALL BE 24 INCH IN LENGTH AND THE FULL WIDTH OF THE RAMP.

CONSTRUCTION MODIFICATIONS MAY BE REQUESTED BY THE COUNTY ENGINEER'S REPRESENTATIVE TO ACCOMMODATE EXISTING FIELD CONDITIONS.

CONTRACTOR IS RESPONSIBLE FOLLOW ADA STANDARDS FOR ALL SIDEWALKS AND CURB RAMPS

STEEL PLATES SHALL BE USED FOR DETECTABLE WARNINGS. STEEL PLATES CAN BE CUT TO MATCH GEOMETRY SHOWN ON PLANS.

COLORADO LICENSED
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9/11/2025
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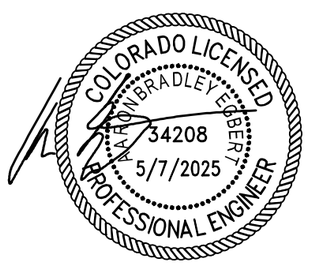
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			202-00010	Removal of Tree	EACH	200														200	
			202-00019	Removal of Inlet	EACH	1														1	
			202-00026	Removal of Slope and Ditch Paving	SY	24														24	
			202-00035	Removal of Pipe	LF	120														120	
			202-00155	Removal of Wall	LF	40														40	
			202-00203	Removal of Curb and Gutter	LF	155														155	
			202-00210	Removal of Concrete Pavement	SY	182														182	
			202-00220	Removal of Asphalt Mat	SY	2036														2036	
			202-00950	Removal of Concrete Foundation and Slab	SY	4														4	
			202-01000	Removal of Fence	LF	234														234	
			202-04002	Clean Culvert	EACH	15														15	
			203-00010	Unclassified Excavation (CIP)	CY	2014														2014	
			206-00000	Structure Excavation	CY	0				1379										1379	
			206-00100	Structure Backfill	CY	0				393										393	
			207-00700	Topsoil (Onsite)	CY	377														377	
			208-00008	Erosion Log Type 2 (12 Inch)	LF	387														387	
			208-00011	Erosion Bales (Weed Free)	EACH	85														85	
			208-00020	Silt Fence	LF	700														700	
			208-00035	Aggregate Bag	LF	28														28	
			208-00045	Concrete Washout Structure	EACH	2														2	
			208-00070	Vehicle Tracking Pad	EACH	2														2	
			210-00010	Reset Mailbox Structure	EACH	5														5	
			210-01000	Reset Fence	LF	87														87	
			210-02900	Relay Riprap	CY	126														126	
			210-04050	Adjust Valve Box	EACH	4														4	
			212-00006	Seeding (Native)	ACRE	1														1	
			216-00101	Soil Retention Blanket (Class 1)	SY	3393														3393	
			216-00301	Turf Reinforcement Mat (Class 1)	SY	3393														3393	
			240-00000	Wildlife Biologist	HOUR	16														16	
			240-00010	Removal of Nests	HOUR	16														16	
			240-00020	Netting	SY	40														40	
			304-06007	Aggregate Base Course (Class 6)	CY	66														66	
			403-00720	Hot Mix Asphalt (Patching) (Asphalt)	TON	717														717	
			420-00113	Geotextile (Drainage) (Class 2)	SY	679														679	
			504	Precast Modular Block Gravity Retaining Wall	SF	0				4190										4190	
			506-00206	Riprap (6 Inch)	CY	209														209	
			506-00209	Riprap (9 Inch)	CY	26														26	
			506-00212	Riprap (12 Inch)	CY	8														8	
			514-00054	Pedestrian Railing (54 Inch)	LF	117				128										245	
			601-01000	Concrete Class B	CY	63														63	
			601-03000	Concrete Class D (Wall)	CY	92														92	



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Sheet Revisions		
Date:	Comments	Init.

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SUMMARY OF APPROXIMATE QUANTITIES

Designer: M WOLF
Detailer: D. ALDEN
Sheet Subset: SAQ
Structure Numbers:
Subset Sheets: 1 of 2

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22894
Sheet Number 9

INDEX			CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY				STRUCTURES										PROJECT TOTALS	
BOOK	PAGE	SHEET				PLAN	AS CONST.			PLAN	AS CONST.									PLAN	AS CONST.
			601-03040	Structural Concrete	CY	0				112										112	
			602-00000	Reinforcing Steel	LB	0				17072										17072	
			603-01180	18 Inch Reinforced Concrete Pipe	LF	32														32	
			603-10150	15 Inch Corrugated Steel Pipe	LF	5														5	
			603-10180	18 Inch Corrugated Steel Pipe	LF	6														6	
			603-10240	24 Inch Corrugated Steel Pipe	LF	20														20	
			603-15018	18 Inch Equivalent Corrugated Steel Pipe Arch	LF	42														42	
			603-15021	21 Inch Equivalent Corrugated Steel Pipe Arch	LF	389														389	
			603-61240	24 Inch Flexible Pipe	LF	253														253	
			604-13006	Inlet Type 13 (5 Foot) (Special)	EACH	1														1	
			604-19105	Inlet Type R L 5 (5 Foot)	EACH	1														1	
			606-00302	Guardrail Type 3 (31 Inch Midwest Guardrail System)	LF	47														47	
			606-01370	Transition Type 3G	EACH	2														2	
			606-01390	End Anchorage Type 3K	EACH	2														2	
			607-11460	Fence Wood Railing	LF	448														448	
			607-11525	Fence (Plastic)	LF	352														352	
			607-53172	Fence Chain Link (72 Inch)	LF	1155														1155	
			607-60270	20 Foot Gate Double (Chain Link)	EACH	3														3	
			608-00006	Concrete Sidewalk (6 Inch)	SY	2414														2414	
			608-00012	Curb Ramp (Special)	SY	112														112	
			608-00028	Concrete Bikeway (8 Inch)	SY	38														38	
			608-10010	Sidewalk Drain	EACH	37														37	
			609-20010	Curb Type 2 (Section B)	LF	702														702	
			609-21020	Curb and Gutter Type 2 (Section II-B)	LF	761														761	
			609-22900	Curb, Gutter and Sidewalk (Special)	LF	4103														4103	
			609-24008	Gutter Type 2 (8 Foot)	LF	211														211	
			612-00003	Delineator (Type III)	EACH	15														15	
			614-00011	Signal Panel (Class 1)	SF	76														76	
			614-01503	Steel Sign Support (2-Inch Round) (Post and Socket)	EACH	16														16	
			614-80001	Flashing Beacon (Solar Powered)	EACH	2														2	
			620-00020	Sanitary Facility	EACH	1														1	
			622-00025	Information Sign Board	EACH	1														1	
			622-00540	Wheel Stop	EACH	5														5	
			625-00000	Construction Surveying	LS	1														1	
			625-00000	Construction Surveying (AS-BUILT)	LS	1														1	
			626-00000	Mobilization	LS	1														1	
			627-00001	Pavement Marking Paint (White Solid 6 In)	GAL	31														31	
			627-00002	Thermoplastic Pavement Marking (Xwalks-Stop Line)	SF	120														120	
			627-00007	Pavement Marking Paint (Double Yellow Solid 4 In)	GAL	0														0	
			630-00016	Traffic Control (Special)	LS	1														1	
				FORCE ACCOUNT																	
			700-70010	F/A Minor Contract Revisions	LS	1														1	

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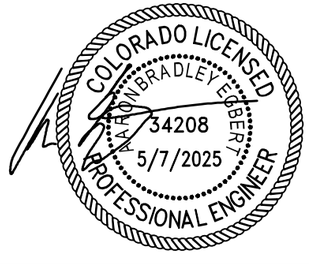
SUMMARY OF APPROXIMATE QUANTITIES

Designer: M WOLF
Detailer: D. ALDEN
Sheet Subset: SAQ
Structure Numbers:
Subset Sheets: 2 of 2

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TAP C040-054
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Sheet Number 10

TABULATION OF ROADWAY

STATION		SIDE	RESET MAILBOX STRUCTURE	RESET FENCE	ADJUST VALVE BOX	AGGREGATE BASE COURSE (CLASS 6)	HOT MIX ASPHALT (PATCHING) (ASPHALT)	PEDESTRIAN RAILING (54 INCH)	CONCRETE CLASS B	CONCRETE CLASS D (WALL)	GUARDRAIL TYPE 3 (31 INCH MIDWEST GUARDRAIL SYSTEM)	TRANSITION TYPE 3G	END ANCHORAGE TYPE 3K	FENCE WOOD RAILING	FENCE CHAIN LINK (72 INCH)	20 FOOT GATE DOUBLE (CHAIN LINK)	CONCRETE SIDEWALK (6 INCH)	CURB RAMP (SPECIAL)	CONCRETE BIKEWAY (8 INCH)	CURB TYPE 2 (SECTION B)	CURB AND GUTTER TYPE 2 (SECTION II-B)	CURB, GUTTER AND SIDEWALK (SPECIAL)	GUTTER TYPE 2 (8 FOOT)	WHEEL STOP	NOTES
			210-00010	210-01000	210-04050	304-06007	403-00720	514-00054	601-01000	601-01050	606-00302	606-01370	606-01390	607-11460	607-53172	607-60270	608-00006	608-00012	608-00028	609-20010	609-21020	609-22900	609-24008	622-00540	
FROM	TO		EA	LF	EA	CY	TON	LF	CY	CY	LF	EA	EA	LF	LF	EA	SY	SY	SY	LF	LF	LF	LF	EA	
102+61.12	102+90.23	RT					3			1							8	11				11			
102+90.23	103+57.07	RT					4			5							45								
103+57.07	105+44.10	RT					12										125								
105+44.10	107+07.19	RT	1				18			4							109			123					
107+07.19	109+04.82	RT				3	40			2							133			47					
109+04.82	112+00.00	RT	1			15	27			7							17			109		270			
112+00.00	114+92.39	RT					13										56			56		211	211		
114+92.39	117+29.15	RT					22			17										9		236			
117+29.15	118+09.25	RT					19											22		36		6			
118+09.25	122+44.38	RT	3	87					23	10							221			221					
122+44.38	123+21.34	RT					8		13	2												32			
123+21.34	126+62.54	RT					21			17							226			34					
126+62.54	129+59.84	RT				3	23			8							92					160			
129+59.84	130+56.73	RT					13											22							
130+56.73	150+00.00	RT					178	13														1943			
150+00.00	153+84.61	RT					23			4							255			41					
153+84.61	155+69.78	RT					30	20										22		28		117			
155+69.78	157+15.00	RT					13			3												145			5' trail
157+15.00	157+64.55	RT					5															50			
157+64.55	161+45.00	RT					35			8												381			
161+45.00	163+20.18	RT					16	44														175			
163+20.18	164+15.02	RT					9			3												95			
164+15.02	167+00.00	RT					22			2	47	2	2					9				231			RESTRICTIVE ROADSIDE INSTALATION
166+91.47	170+00.00	LT					31										164	10			246				
170+00.00	173+14.22	LT			4		76										175	9			262	40			
700+00.00	702+85.58	LT				45	58	40						45	227	1	169	5			253			5	
702+85.58	706+76.55	LT												391	792		261								
706+76.55	707+33.52	LT												12		1	9		29						
707+76.55	713+17.00	LT													136	1	360	2							
PROJECT TOTALS:			5	87	4	66	717	117	36	92	47	2	2	448	1155	3	2423	112	29	702	761	4103	211	5	



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TABULATIONS

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Detailer: D. ALDEN
Sheet Subset: TAB
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Subset Sheets: 1 of 3

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Sheet Number 11

TABULATION OF REMOVALS

STATION FROM	STATION TO	SIDE	REMOVAL OF INLET 202-00019 EA	REMOVAL OF SLOPE AND DITCH PAVING 202-00026 SY	REMOVAL OF PIPE 202-00035 LF	REMOVAL OF WALL 202-00155 LF	REMOVAL OF CURB AND GUTTER 202-00203 LF	REMOVAL OF CONCRETE PAVEMENT 202-00210 SY	REMOVAL OF ASPHALT MAT 202-00220 SY	REMOVAL OF CONCRETE FOUNDATION AND SLAB 202-00950 SY	REMOVAL OF FENCE 202-01000 LF	NOTES
102+61.12	102+90.23	RT							9			
102+90.23	103+57.07	RT							18			
103+57.07	105+44.10	RT							57			
105+44.10	107+07.19	RT							77			
107+07.19	109+04.82	RT			95				143			
109+04.82	112+00.00	RT			10				43			
112+00.00	114+92.39	RT							83			
114+92.39	117+29.15	RT							13			
117+29.15	118+09.25	RT							69			
118+09.25	122+44.38	RT					109	113			105	
122+44.38	123+21.34	RT					46	69	21			
123+21.34	126+62.54	RT							56			
126+62.54	129+59.84	RT			5	7			87			CULVERT HEADWALL
129+59.84	130+56.73	RT							50			
130+56.73	150+00.00	RT		24		4			261			CULVERT HEADWALL
150+00.00	153+84.61	RT							70			
153+84.61	155+69.78	RT				5			108			CULVERT HEADWALL
155+69.78	157+15.00	RT							19			
157+15.00	157+64.55	RT							56		41	
157+64.55	161+45.00	RT							57			
161+45.00	163+20.18	RT				7			32			CULVERT HEADWALL
163+20.18	164+15.02	RT				11			8			CULVERT HEADWALL
164+15.02	167+00.00	RT							36	4		
166+91.47	170+00.00	LT							132			
170+00.00	173+14.22	LT	1		10	6			275			CULVERT HEADWALL
175+33.00	176+00.00	LT										
700+00.00	702+85.58	LT							260			
702+85.58	706+76.55	LT									88	TRAILHEAD
706+76.55	707+33.52	LT										
707+76.55	713+17.00	LT										
PROJECT TOTALS:			1	24	120	40	155	182	2036	4	234	

TABULATION OF STRUCTURAL QUANTITIES

STATION FROM	STATION TO	SIDE	STRUCTURE EXCAVATION 206-00000 CY	STRUCTURE BACKFILL (CLASS 1) 206-00100 CY	PRECAST MODULAR BLOCK GRAVITY RETAINING WALL 504 SF	PEDESTRIAN RAILING (54IN) 514-00054 LF	STRUCTURAL CONCRETE 601-03040 CY	REINFORCING STEEL 602 LB	NOTES
103+57	105+44	RT	307	55	1247	0	0	0	
151+46	151+94	RT	66	8	281	0	0	0	
156+19	156+83	RT	92	12	391	0	0	0	
157+65	158+29	RT	93	13	389	0	0	0	
159+00	160+84	RT	264	34	1121	0	0	0	
165+22	166+58	RT	388	229	0	0	112	17072	
166+82	168+09	LT	169	42	761	128	0	0	
PROJECT TOTALS:			1379	393	4190	128	112	17072	

TABULATION OF TREE REMOVALS AND PROTECTION

STATION		STATION	SIDE	REMOVAL OF TREE 202-00010 EA	FENCE (PLASTIC) 607-11525 LF
107+57.34	TO	107+85.79	RT		26
110+50.78	TO	110+50.78	RT	1	
110+81.38	TO	110+81.38	RT	1	
112+49.71	TO	112+74.65	RT		36
113+69.58	TO	114+09.60	RT	4	
115+17.11	TO	115+93.40	RT	4	
116+01.00	TO	116+28.98	RT	5	
116+95.65	TO	117+21.10	RT	3	
118+29.98	TO	118+70.24	RT	5	
118+71.00	TO	118+82.06	RT		11
120+20.15	TO	120+40.28	RT	2	
121+93.37	TO	122+47.67	RT	7	
124+28.83	TO	124+41.88	RT	4	
124+43.50	TO	124+70.84	RT		27
124+61.21	TO	124+96.52	RT	3	
125+19.34	TO	125+41.29	RT		21
125+50.09	TO	126+07.55	RT	3	
126+40.57	TO	126+55.06	RT		15
127+42.91	TO	127+42.91	RT	1	
127+85.19	TO	127+85.19	RT	1	
128+08.41	TO	128+82.57	RT	14	
131+21.53	TO	131+96.67	RT	2	
133+22.34	TO	133+30.07	RT		10
134+08.78	TO	134+08.78	RT	1	
135+37.35	TO	135+52.00	RT	2	
137+21.21	TO	137+40.18	RT		25
137+23.85	TO	137+33.21	RT	2	
139+69.22	TO	139+69.22	RT	1	
139+70.16	TO	139+70.16	RT	1	
139+72.79	TO	139+83.17	RT		20
139+86.72	TO	139+86.72	RT	1	
140+27.03	TO	140+37.44	RT		10
149+41.17	TO	149+41.17	RT	1	
149+61.01	TO	149+75.24	RT		16
149+88.05	TO	149+88.05	RT	1	
151+95.35	TO	152+17.58	RT		21
152+14.11	TO	153+29.00	RT	11	
153+80.78	TO	153+80.78	RT	1	
153+94.03	TO	154+16.24	RT		24
154+23.84	TO	154+23.84	RT	1	
154+66.04	TO	154+91.47	RT		30
155+27.91	TO	155+69.00	RT	8	
156+13.79	TO	156+13.79	RT	1	
157+88.00	TO	157+88.00	RT	1	
157+92.29	TO	157+92.29	RT	1	
157+94.51	TO	158+04.57	RT		10
158+08.00	TO	158+18.72	RT	4	
158+18.72	TO	158+58.93	RT		40
159+24.95	TO	159+75.19	RT	2	
162+30.48	TO	163+26.10	RT	4	
163+54.31	TO	163+95.80	RT	2	
164+61.21	TO	165+28.23	RT	3	
165+82.34	TO	166+66.53	RT	6	
TOTALS				115	342

SUMMARY OF EARTHWORK QUANTITIES

PAY ITEM	PLAN (CY)
203-00010 - UNCLASSIFIED EXCAVATION (COMPLETE IN PLACE)	2014
FOR INFORMATION ONLY-EARTHWORK BALANCE	
UNCLASSIFIED EXCAVATION (COMPLETE IN PLACE) (CUT)	
TOTAL MATERIAL AVAILABLE FROM EXCAVATION	2014
EMBANKMENT MATERIAL (COMPLETE IN PLACE)(FILL)	
TOTAL MATERIAL NEEDED FOR EMBANKMENTS	372
EMBANKMENT MATERIAL (EXPANDED)	
TOTAL EMBANKMENT MULTIPLIED BY COMPACTION FACTOR	428
BALANCE	
TOTAL QUANTITY NEEDED FOR EMBANKMENT LESS TOTAL MATERIAL AVAILABLE FROM EXCAVATION	-1586
TOPSOIL (REMOVE, STOCKPILE & REPLACE)	1000

NOTES:

1. CALCULATED EARTHWORK VOLUMES FOR "EMBANKMENT MATERIAL" & "UNCLASSIFIED EXCAVATION" SHOWN ABOVE ARE BASED ON EXISTING GRADES AND PROPOSED GRADES.
2. EARTHWORK QUANTITIES WERE GENERATED USING ELECTRONIC SURFACES.
3. THE EARTHWORK QUANTITIES ABOVE HAVE NOT BEEN ADJUSTED TO ACCOUNT FOR SHRINKAGE, SWELL OR ANY OF THE FOLLOWING MATERIALS:

   -TRENCH EXCAVATION, BEDDING AND BACKFILL
   -CLEARING AND GRUBBING
4. THE COMPACTION FACTOR FOR ONSITE MATERIALS IS ASSUMED TO BE 1.15.
5. STRUCTURAL FILL WAS CALCULATED SEPARATELY AND IS NOT INCLUDED IN THE EMBANKMENT QUANTITY.
6. REMOVAL OF TREES TOTAL IS ROUNDED UP TO 200 IN SAQ AS A CONTINGENCY.

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34208
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TABULATIONS

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Sheet Subset: TAB
Structure Numbers:
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Sheet Number 12

TABULATION OF DRAINAGE

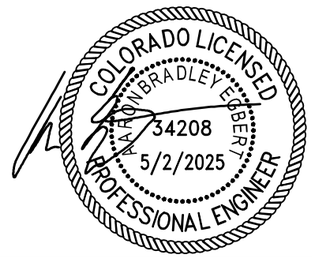
STATION		SIDE	EROSION LOG TYPE 2 (12 INCH)	RELAY RIPRAP	TURF REINFORCING MAT (CLASS 1)	GEOTEXTILE (DRAINAGE CLASS 2)	RIPRAP (6 INCH)	RIPRAP (9 INCH)	RIPRAP (12 INCH)	CONCRETE CLASS B	18 IN REINFORCED CONCRETE PIPE	15 INCH CORRUGATED STEEL PIPE	18 INCH CORRUGATED STEEL PIPE	15 INCH CORRUGATED STEEL PIPE	24 INCH CORRUGATED STEEL PIPE	18 IN EQUIV CSPA	21 IN EQUIV CSPA	24 INCH FLEXIBLE PIPE	INLET TYPE 13 (5 FOOT) (SPECIAL)	INLET TYPE R L 5 (5 FOOT)	SIDEWALK DRAIN	NOTES
			208-00008	210-02900	216-00301	420-00113	506-00206	506-00209	506-00212	601-01000	603-01180	603-10150	603-10180	603-10150	603-10240	603-15018	603-15021	603-61240	604-13006	604-19105	608-10010	
FROM	TO		LF	CY	SY	SY	CY	CY	CY	CY	LF	LF	LF	LF	LF	LF	LF	LF	EA	EA	EA	
102+75	105+65	RT	90		223																	
105+65	109+15	RT	81		183	53	18									168						
109+20	117+25	RT	18		339	82	27										271					
123+20	128+00	RT	99		245	18	6		4	2						42						HEADWALL TO INCLUDE RESTRICTOR PLATE, 1 EA
129+37	139+40	RT	45	92	580	34	11			4								253			13	
142+70	153+68	RT	54	35	1271	393	131		4	5					7						6	3.6 CY ADDED FOR MODIFED STD HEADWALL, 10 GAUGE PIPE
153+68	155+10	RT				25	8			6		5		5			118				6	3.6 CY ADDED FOR MODIFED STD HEADWALL, 10 GAUGE PIPE
155+83	167+10	RT			459	69	6	26		10					13						8	3.6 CY ADDED FOR MODIFED STD HEADWALL, 10 GAUGE PIPE
172+82	173+00	LT				5	2						6						1	1		NEW CURB INLET AND PIPE AT SPRING STREET, 10 GAUGE PIPE
700+00	713+17	LT			93						32										4	
PROJECT TOTALS:			387	126	3393	679	209	26	8	27	32	5	6	5	20	210	389	253	1	1	37	

TABULATION OF PROPOSED SIGNAGE (FOR INFORMATION ONLY)

SIGN NO.	LOCATION	STATION	DIRECTION	SIGN CODE	SIGN PANEL SIZE			BACKGROUND COLOR	LEGEND	SIGN PANEL CLASS 1	STEEL SIGN SUPPORT (2-INCH ROUNG POST & SOCKET)	FLASHING BEACON (SOLAR POWERED)	RESET GROUND SIGN	DELINEATOR (TYPE III)	NOTES
					W"	X	H"			614-00011	614-01502	61480001	210-00810	612-00003	
										SF	EA	EA	EA	EA	
-	CHIPITA PARK ROAD	102+76	-	-					YEILD / STREET NAME				1		
-	CHIPITA PARK ROAD	105+65	-	-					DELINEATOR					1	
-	CHIPITA PARK ROAD	106+25	-	-					DELINEATOR					1	
-	CHIPITA PARK ROAD	107+70	-	-					DELINEATOR					1	
-	CHIPITA PARK ROAD	108+50	-	-					DELINEATOR					1	
-	CHIPITA PARK ROAD	109+15	-	-					DELINEATOR					1	
-	CHIPITA PARK ROAD	112+70	-	-					DELINEATOR					1	
-	CHIPITA PARK ROAD	112+87	-	-					STREET NAME				1		
-	CHIPITA PARK ROAD	113+90	-	-					DELINEATOR					1	
-	CHIPITA PARK ROAD	114+05	-	-					DELINEATOR					1	
-	CHIPITA PARK ROAD	114+40	-	-					YEILD / STREET NAME				1		
-	CHIPITA PARK ROAD	114+60	-	-					DELINEATOR					1	
-	CHIPITA PARK ROAD	126+50	-	-					DELINEATOR					1	
-	CHIPITA PARK ROAD	127+15	-	-					DELINEATOR					1	
1	CHIPITA PARK ROAD	127+81	NORTH	OM3-R	12	X	36	YELLOW	RIGHT STRIPE OBJECT MARKER	3	1			1	INSTALL DELINEATOR BELOW SIGN
-	CHIPITA PARK ROAD	129+10	-	-					DELINEATOR					1	
-	CHIPITA PARK ROAD	112+87	-	-					SCHOOL BUS STOP AHEAD				1		
2	CHIPITA PARK ROAD	151+03	NORTH	OM3-R	12	X	36	YELLOW	RIGHT STRIPE OBJECT MARKER	3	1				
3	CHIPITA PARK ROAD	151+29	NORTH	OM3-R	12	X	36	YELLOW	RIGHT STRIPE OBJECT MARKER	3	1				
4	CHIPITA PARK ROAD	151+62	NORTH	OM3-R	12	X	36	YELLOW	RIGHT STRIPE OBJECT MARKER	3	1				
5	CHIPITA PARK ROAD	152+03	NORTH	OM3-R	12	X	36	YELLOW	RIGHT STRIPE OBJECT MARKER	3	1				
6	CHIPITA PARK ROAD	152+49	NORTH	OM3-R	12	X	36	YELLOW	RIGHT STRIPE OBJECT MARKER	3	1				
-	CHIPITA PARK ROAD	153+70	-	-					DELINEATOR					1	
-	CHIPITA PARK ROAD	161+50	-	-					DELINEATOR					1	
7	CHIPITA PARK ROAD	165+94	NORTH	W11-15	30	X	30	YELLOW	BICYCLE/PEDESTRIAN	6.25	1				
8	CHIPITA PARK ROAD	165+94	NORTH	W16-9P	24	X	12	YELLOW	AHEAD PLAQUE	2					MOUNT BELOW W16-9P
9	CHIPITA PARK ROAD	166+33	NORTH	R1-5	18	X	18	WHITE	YEILD HERE TO PEDS	2.25	1				
10	CHIPITA PARK ROAD	166+60	NORTH	W11-15	30	X	30	YELLOW	BICYCLE/PEDESTRIAN	6.25	1	1			FLASHING BEACON
11	CHIPITA PARK ROAD	166+65	SOUTH	W11-15	30	X	30	YELLOW	BICYCLE/PEDESTRIAN	6.25	1	1			FLASHING BEACON
12	CHIPITA PARK ROAD	166+88	SOUTH	R1-5	18	X	18	WHITE	YEILD HERE TO PEDS	2.25	1				
13	CHIPITA PARK ROAD	167+26	SOUTH	W11-15	30	X	30	YELLOW	BICYCLE/PEDESTRIAN	6.25	1				
14	CHIPITA PARK ROAD	167+26	SOUTH	W16-9P	24	X	12	YELLOW	AHEAD PLAQUE	2					MOUNT BELOW W16-9P
15	SPRING ST	700+43	WEST	W3-5	30	X	30	YELLOW	ONE LANE BRIDGE	6.25	1				
16	SPRING ST	701+52	EAST	W3-5	30	X	30	YELLOW	ONE LANE BRIDGE	6.25	1				
17	CDOT YARD	706+89	WEST	CUSTOM	24	X	36	WHITE	DRIVEWAY CROSSING	6	1				
18	CDOT YARD	707+39	EAST	CUSTOM	24	X	36	WHITE	DRIVEWAY CROSSING	6	1				
PROJECT TOTALS										76	16	2	4	15	

TABULATION OF PAVEMENT MARKINGS

STATION		PAVEMENT MARKING PAINT	PAVEMENT MARKING PAINT	THERMOPLASTIC PAVEMENT MARKING (XWALK-STOP LINE)	THERMOPLASTIC PAVEMENT MARKING (XWALK-STOP LINE)	NOTES
		627-00001	627-00007	627-00002	627-00002	
		WHITE SOLID 6 IN	DOUBLE YELLOW SOLID 4 IN	12" SOLID WHITE CROSSWALK	YIELD TEETH	
FROM	TO	GAL	GAL	SF	SF	
102+75	117+34	5.8				WINNEMUCCA RD TO NAMPA RD.
117+99	129+64	4.7				NAMPA RD. TO CHIPITA PINES DR.
130+52	154+18	11.3				CHIPITA PINES DR. TO PIKE RD.
154+78	167+32	5.8		96	24	PIKE RD. TO CROSSING
166+90	173+00	3.5	0.2			CROSSING TO SPRING ST.
PROJECT TOTALS		31	0.2	96	24	



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Print Date: 6/30/2024
File Name: 11311-TAB.DWG
Horiz. Scale: Vert. Scale:
Unit Information Unit Leader Initials

Stantec
410 17TH STREET
SUITE 1400
DENVER, COLORADO 80202
(303) 295-1717

Sheet Revisions

Date:	Comments	Init.

EL PASO COUNTY
COLORADO

As Constructed
No Revisions:
Revised:
Void:

TABULATIONS

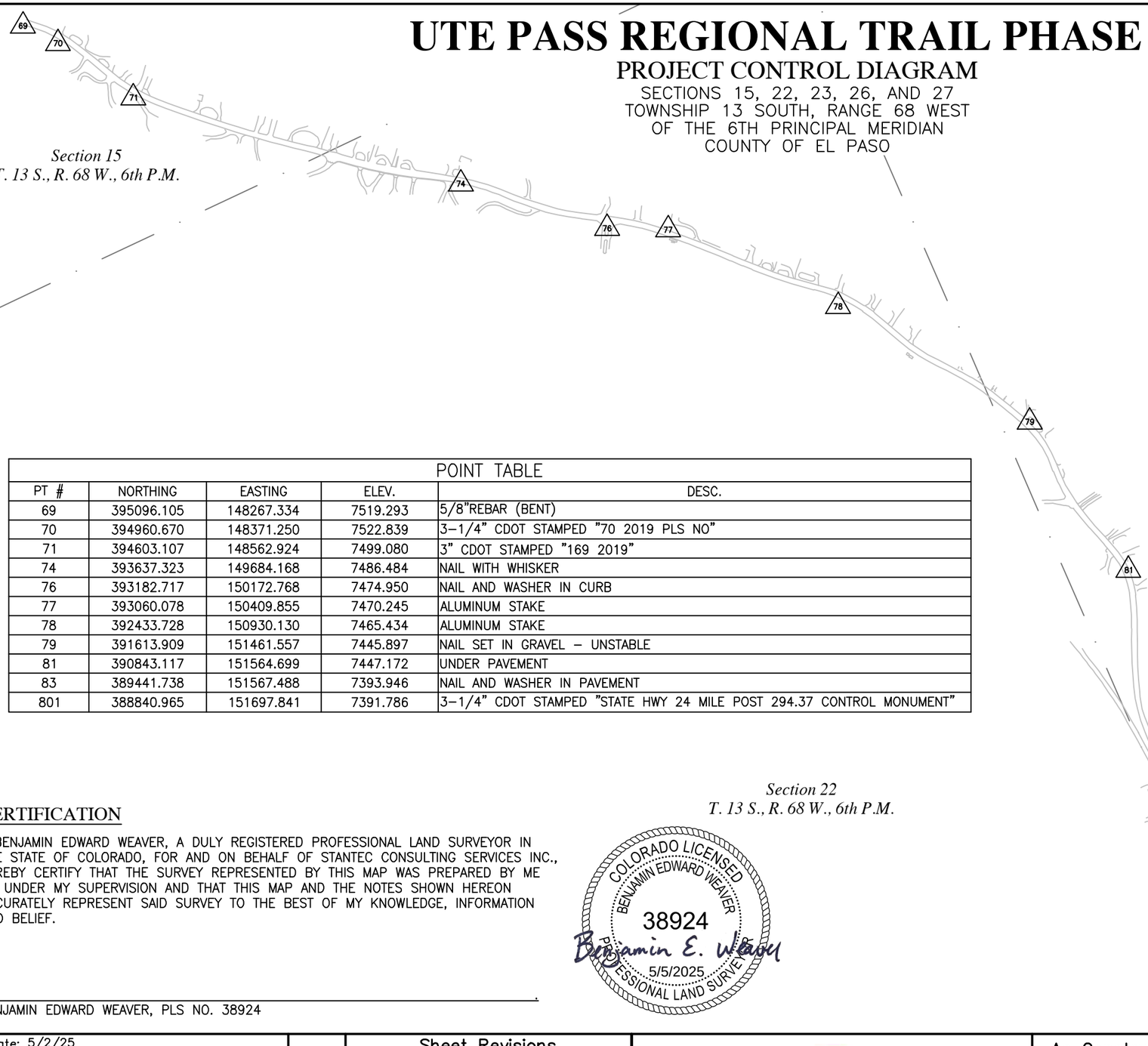
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Detailer: D. ALDEN
Sheet Subset: TAB
Structure Numbers
Subset Sheets: 3 of 3

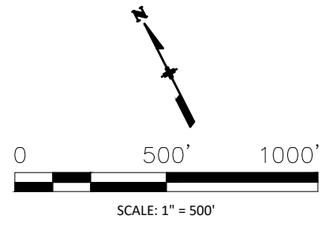
Project No./Code
TAP C040-054
22894
Sheet Number 13

UTE PASS REGIONAL TRAIL PHASE II

PROJECT CONTROL DIAGRAM

SECTIONS 15, 22, 23, 26, AND 27
TOWNSHIP 13 SOUTH, RANGE 68 WEST
OF THE 6TH PRINCIPAL MERIDIAN
COUNTY OF EL PASO





POINT TABLE				
PT #	NORTHING	EASTING	ELEV.	DESC.
69	395096.105	148267.334	7519.293	5/8"REBAR (BENT)
70	394960.670	148371.250	7522.839	3-1/4" CDOT STAMPED "70 2019 PLS NO"
71	394603.107	148562.924	7499.080	3" CDOT STAMPED "169 2019"
74	393637.323	149684.168	7486.484	NAIL WITH WHISKER
76	393182.717	150172.768	7474.950	NAIL AND WASHER IN CURB
77	393060.078	150409.855	7470.245	ALUMINUM STAKE
78	392433.728	150930.130	7465.434	ALUMINUM STAKE
79	391613.909	151461.557	7445.897	NAIL SET IN GRAVEL - UNSTABLE
81	390843.117	151564.699	7447.172	UNDER PAVEMENT
83	389441.738	151567.488	7393.946	NAIL AND WASHER IN PAVEMENT
801	388840.965	151697.841	7391.786	3-1/4" CDOT STAMPED "STATE HWY 24 MILE POST 294.37 CONTROL MONUMENT"

NOTES

1. THIS PROJECT CONTROL DIAGRAM IS NOT A BOUNDARY SURVEY OF THE ADJOINING PROPERTY.
2. COORDINATE DATUM: PROJECT COORDINATES ARE MODIFIED COLORADO STATE PLANE CENTRAL ZONE NAD83(2011) COORDINATES. FALSE NORTHING OFFSET 1,000,000 FEET AND FALSE EASTING OFFSET 3,000,000 FEET. THE COMBINED ELEVATION/SCALE FACTOR USED TO MODIFY THE COORDINATES FROM STATE PLANE TO PROJECT COORDINATES IS 1.0004365000.
3. BASIS OF ELEVATIONS: PROJECT ELEVATIONS ARE GPS DERIVED ELEVATIONS BASED ON THE NGS VERTICAL STATION "F 175" FROM PHASE 1. NAVD88 ELEVATION OF 7,577.70 FT.
4. UNITS: PROJECT COORDINATES AND ELEVATIONS SHOWN HEREON ARE U.S. SURVEY FEET.
5. THE SURVEY REPRESENTED ON THIS PROJECT CONTROL DIAGRAM WAS PERFORMED TO VALIDATE PREVIOUSLY SET & ESTABLISHED CONTROL. NO NEW MONUMENTATION WAS ESTABLISHED DURING THIS SURVEY.
6. ACCORDING TO COLORADO STATE LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATION SHOWN HEREON.

CERTIFICATION

I, BENJAMIN EDWARD WEAVER, A DULY REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF COLORADO, FOR AND ON BEHALF OF STANTEC CONSULTING SERVICES INC., HEREBY CERTIFY THAT THE SURVEY REPRESENTED BY THIS MAP WAS PREPARED BY ME OR UNDER MY SUPERVISION AND THAT THIS MAP AND THE NOTES SHOWN HEREON ACCURATELY REPRESENT SAID SURVEY TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF.

COLORADO LICENSED
BENJAMIN EDWARD WEAVER
38924
PROFESSIONAL LAND SURVEYOR
5/5/2025

BENJAMIN EDWARD WEAVER, PLS NO. 38924

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

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Print Date: 5/2/25	Sheet Revisions			As Constructed	SURVEY CONTROL DIAGRAM		Project No./Code
File Name: Control_Diagram.dwg	Date:	Comments		No Revisions:			TAP C040-054
Horiz. Scale: 1" = 1,000' Vert. Scale: N/A				Revised:	Designer: RAC	Structure Numbers	22894
Unit Information Unit Leader Initials				Void:	Detailer: N/A		
Stantec 410 17TH STREET SUITE 1400 DENVER, COLORADO 80202 (303) 295-1717					Sheet Subset:SRV CNTRL	Subset Sheets: 1 of 1	Sheet Number 14

EL PASO COUNTY
COLORADO

TO ESTABLISH GEOMETRIC CONTROL FOR THE CONSTRUCTION OF THIS PROJECT, THE DEPARTMENT HAS PROVIDED THE FOLLOWING INFORMATION:

- ☐ 3D Design Modeling Electronic Files _____
- ■ Horizontal Control PAPER FORMAT
- ■ Vertical Control PAPER FORMAT
- ■ Roadway Alignment PAPER FORMAT
- ☐ Original Terrain Data _____
- ■ Other: TRAIL ALIGNMENT

TYPE OF PROJECT

- ☐ Landscaping
- ☐ Signalization
- ☐ Safety Improvement
- ☐ Asphalt Overlay
- ☐ Concrete Overlay
- ☐ Minor Widening
- ☐ Major Reconstruction
- ☐ New Roadway Construction
- ☐ Bridge Replacement
- ☐ Bridge Widening
- ☐ New Bridge
- ■ Other: NEW TRAIL CONSTRUCTION

SURVEY WORK TO BE PERFORMED BY OTHERS: _____

WORK PERFORMED BY THE CONTRACTOR'S SURVEYOR UNDER SECTION 625:

- ___ ■ Establish and Maintain Project Centerline or Engineer Approved Offset Line(s)
- ___ ■ Verification and Maintenance of Horizontal and Vertical Control
- ___ ■ Verify or Determine existing grades and alignments
- ___ ■ Verify or Determine existing topography
- ___ ■ Clearing and Grubbing Limits (Section 201)
- ___ ■ Removal Limits (Section 202)
- ___ ■ Reset Items (Section 210)
- ___ ■ Excavation and Embankment (Section 203)
  - ___ ■ Excavation
    - ___ ■ Unclassified
    - ___ ☐ Stripping
    - ___ ☐ Muck
    - ___ ☐ Rock
    - ___ ☐ Borrow
    - ___ ☐ Other: _____
    - ___ ☐ Potholing
  - ___ ■ Embankment
  - ___ ☐ Site Grading
  - ___ ■ Erosion Control (Perm)
  - ___ ☐ Other: _____
  - ___ ☐ As Staked Earthwork Quantities (See General Notes)

	Slope Staking (Y/N)	Grid (Y/N)	Grade (Y/N)	Special Interval
Excavation	Y	–	–	–
	–	–	–	–
	–	–	–	–
	–	–	–	–
	–	–	–	–
Embankment	Y	–	–	–
	–	–	–	–
	Y	–	–	–
	–	–	–	–

- ___ ☐ Landscaping
  - ___ ☐ Top Soil (Section 207)
  - ___ ☐ Seeding (Section 212)
  - ___ ☐ Mulching (Section 213)
  - ___ ☐ Planting (Section 214)
  - ___ ☐ Herbicide (Section 217)
  - ___ ☐ Other: _____
- ___ ■ Erosion Control (Section 208)
  - ___ ■ Seeding (Temp)
  - ___ ☐ Silt Fence
  - ___ ☐ Erosion Bales
  - ___ ☐ Erosion Logs
  - ___ ☐ Riprap (Temp)
  - ___ ☐ Other: _____
- ___ ☐ Roadway Bases
  - ___ ☐ Untreated Subgrade
  - ___ ☐ Treated Subgrade
  - ___ ☐ Aggregate Base Course (Section 304)
  - ___ ☐ Reconditioning
  - ___ ☐ PMBB – Plant Mix Bituminous Base
  - ___ ☐ Other: _____

	Grid (Y/N)	Grade (Y/N)	Special Interval	Special Offset
Roadway Bases	–	–	–	–
	–	–	–	–
	–	–	–	–
	–	–	–	–
	–	–	–	–
	–	–	–	–

- ___ ☐ Pavements
  - ___ ☐ HMA – Hot Mix Asphalt (Section 403)
  - ___ ☐ Concrete (Section 412)
  - ___ ☐ Heating & Scarifying Treatment
  - ___ ☐ Prime Coat, Tack Coat & Rejuvenating Agent (Section 407)
  - ___ ☐ Seal Coat or Chip Seal (Section 409)
  - ___ ☐ Other: _____
- ___ ☐ Roadway Elements
  - ___ ☐ Curb and Gutter (Section 609)
  - ___ ☐ Drop inlets – alignment and grades (Section 604)
  - ___ ☐ Retaining Walls
  - ___ ☐ Guard Rail (Section 606)
  - ___ ☐ Sidewalk (Section 608)
  - ___ ☐ Overlay Stationing
  - ___ ☐ Other: BRIDGE RAILING
- ___ ☐ Riprap (Perm) (Section 506)
- ___ ☐ Slope and Ditch Paving (Section 507)
- ___ ☐ Minor Structures
  - ___ ☐ Structure Excavation limits (Section 206)
  - ___ ■ Culverts (Section 603)
  - ___ ■ Culverts w/ Headwalls and Wingwalls (Section 601)
  - ___ ■ Concrete Box Culverts w/ Headwalls and Wingwalls
  - ___ ■ Pipes (Section 603)
    - ___ ☐ Sanitary Sewer
    - ___ ■ Storm Sewer
    - ___ ☐ Water
    - ___ ☐ Irrigation
    - ___ ☐ Miscellaneous
  - ___ ☐ Manholes (Section 604)
  - ___ ■ Inlets (Section 604)
  - ___ ☐ Permanent Water Quality BMP (Section 208)
  - ___ ☐ Other: _____
- ___ ☐ Major Structures – Overhead Signs (Section 614), Concrete Box Culverts, Bridges – and all other structures assigned a structure number
  - ___ ☐ Structure Excavation limits (Section 206)
  - ___ ☐ Concrete Box Culverts (Section 603) w/ Headwalls and Wingwalls (Section 601)
  - ___ ☐ Piling locations and cut off elevations (Section 502)
  - ___ ☐ Caisson locations and elevations (Section 503)
  - ___ ☐ Footing locations, alignment, and elevations
  - ___ ☐ Abutment/Pier locations, alignment, and elevations
  - ___ ☐ Wingwall skew angles/offsets
  - ___ ☐ Structural concrete form locations
  - ___ ☐ Substructure As-constructed survey required for Bridges (Subsection 601 .12) and Overhead signs (S-614-50)
  - ___ ☐ Bridge expansion joint(s) alignment and grade (longitudinal and transverse)
  - ___ ☐ Deck grades at Girder 10th or "n" th point locations and elevations
  - ___ ☐ Slope and Ditch Paving (Section 507)
  - ___ ☐ Other: _____
- ___ ☐ Fencing (Section 607)
  - ___ ☐ Temporary
  - ___ ☐ Permanent
  - ___ ☐ Sound Barrier
  - ___ ☐ Other: _____
- ___ ☐ Delineators (Section 612)
  - ___ ☐ Temporary
  - ___ ☐ Permanent
- ___ ☐ Lighting (Section 613) and Traffic Control Devices (Permanent) (Section 614)
  - ___ ☐ Signal pole locations and elevations
  - ___ ☐ Light pole locations and elevations
  - ___ ☐ Sign locations
  - ___ ☐ Field verify sign post locations, elevations, and lengths before fabrication.
  - ___ ☐ Other: _____

	Grid (Y/N)	Special Interval	Special Offset
Pavements	–	–	–
	–	–	–
	–	–	–
	–	–	–
	–	–	–
	–	–	–

	Tangent Interval	Curve Interval	Special Offset
Curb & Gutter	–	–	–

	Left Interval	Center Interval	Right Interval
Stationing	–	–	–

- ___ ☐ Pavement Marking (Section 627)
  - ___ ☐ Striping (Temp)
  - ___ ☐ Striping (Perm)
  - ___ ☐ Symbols
  - ___ ☐ Other: _____
- ___ ■ Temporary Lighting and Construction Traffic Control Devices (Section 630)
  - ___ ☐ Signal pole locations and elevations (Temp)
  - ___ ☐ Light pole locations and elevations (Temp)
  - ___ ■ Sign Locations (Temp)
  - ___ ☐ Other: _____
- ___ ■ All Easements (Temp Staking by P.L.S. Only)
- ___ ■ Right of Way (Temp Staking by P.L.S. Only)

WORK PERFORMED BY THE CONTRACTOR'S SURVEYOR UNDER SECTION 629:

- ___ ☐ Monumentation (Section 629)
  - ___ ☐ Control
  - ___ ☐ Right of Way
  - ___ ☐ Land corners, Aliquot corners
  - ___ ☐ Easements
  - ___ ☐ Reference the specified existing monuments: ** _____
  - ___ ☐ Replace the specified existing monuments: ** _____
  - ___ ☐ Locate monuments. It is estimated__ hours are required.

NOTE: All 629 items shall include adequate research, calculations, and evaluations of evidence for monuments to be set.

** A Tabulation of Survey Monuments may be provided on the plans.

GENERAL NOTES:

1. Unless indicated otherwise on this Survey Tabulation Sheet, all survey work and staking intervals shall be done in accordance with the latest edition of the CDOT Survey Manual.
2. Adequate information for establishing lines, grades, and locations for all work items have been specified on the plans. Any additional information required to stake the item or element shall be generated by the Contractor's surveyor.
3. The Contractor's surveyor shall provide an estimate of the man-hours necessary to complete the work items indicated on this sheet. A copy of this sheet, with the estimated man-hours written on the blank line to the left of the specified items, shall be submitted with the Survey Schedule to the Engineer 10 days prior to the Presurvey Conference - Construction Survey.
4. Stakes and Monuments which are damaged or destroyed by the progress of construction shall be replaced by the Contractor at no additional cost to the Department.
5. The Contractor shall furnish an As Staked (or 3D Design Modeling Electronic Files) Earthwork Quantity report to the Engineer prior to completion of twenty percent (20%) of the planned earthwork in any phase as per th CDOT Survey Manual. A printed copy of the As Staked (or 3D Design Modeling Electronic Files) Earthwork data report and a computer disk with that information on it, in the specified format shall be submitted to the Engineer. The Contractor shall field verify original ground cross sections at a maximum 500 feet intervals.
6. Prior to beginning work on any subsequent operation, such as placing base course or paving, the Contractor shall certify in writing to the Engineer that the final grade is within specified tolerance.
7. The Contractor's surveyor shall perform all field surveying and calculations necessary to tie plan grades into field grades.
8. The Contractor shall coordinate construction staking on the project with any utility work.
9. Fieldbooks shall contain daily records of points set and or measurements observed. The information record shall contain: date, crew members' names, point no., description, staking information, and sketches. If the sur information is collected electronically, information recorded shall be provided to the Project Engineer in a hard copy format that is intuitive, clear and related to the supplemental information recorded in the field books. A linear surveys, such as slope stakes and blue tops, shall have the station and offset information related to t measured information. Non-linear surveys such as structures staking shall have sketches relating electronic information, such as point numbers, to the sketch.
10. The Contractor's surveyor shall submit the following fieldbooks to the Engineer:
    - ■ Horizontal Control (Primary & Secondary)
    - ■ Vertical Control (i.e. Benchmarks)
    - ■ Property Pin Ties
    - ■ Horizontal Alignment
    - ■ Grading
    - ■ Slope Staking
    - ■ Minor Structures
    - ☐ Major Structures
    - ■ One fieldbook for each work category shown on this sheet
    - ☐ Other Fieldbook(s): _____

COLORADO LICENSED
AARON BRADLEY EBBERT
34208
5/2/2025
PROFESSIONAL ENGINEER

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

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Print Date: 5/31/2024
File Name: 11311-SURVEY TAB.DWG
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Sheet Revisions		
Date:	Comments	Init.

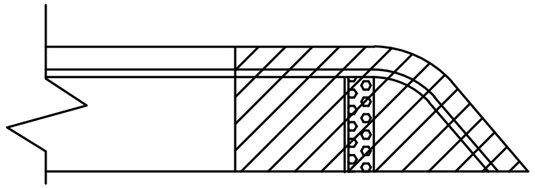
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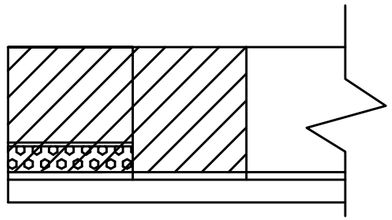
SURVEY TABULATIONS

Designer: M WOLF
Detailer: D. ALDEN
Sheet Subset: SRV TAB
Structure Numbers
Subset Sheets: 1 of 1

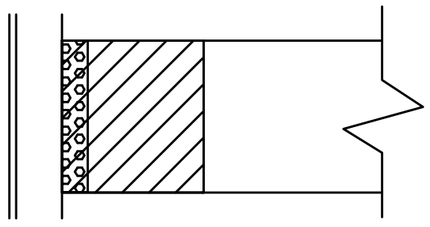
Project No./Code
TAP C040-054
22894
Sheet Number 15



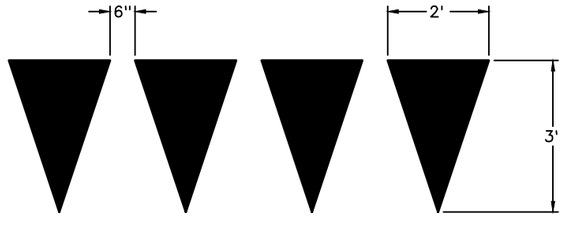
CURB RAMP (SPECIAL) DETAIL
N.T.S



PARALLEL RAMP CROSSING DETAIL
N.T.S



SHARED USE PATH CROSSING DETAIL
N.T.S



VEHICLE YIELD TRIANGLE DETAIL
N.T.S

CURB RAMP (SPECIAL)
PAY LIMITS

CURB RAMP (SPECIAL)
PAY LIMITS

CURB RAMP (SPECIAL)
PAY LIMITS

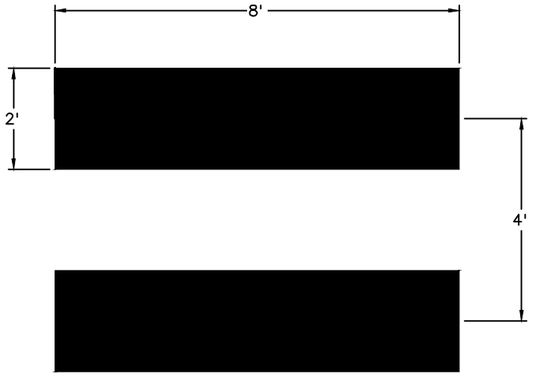
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PROFESSIONAL ENGINEER



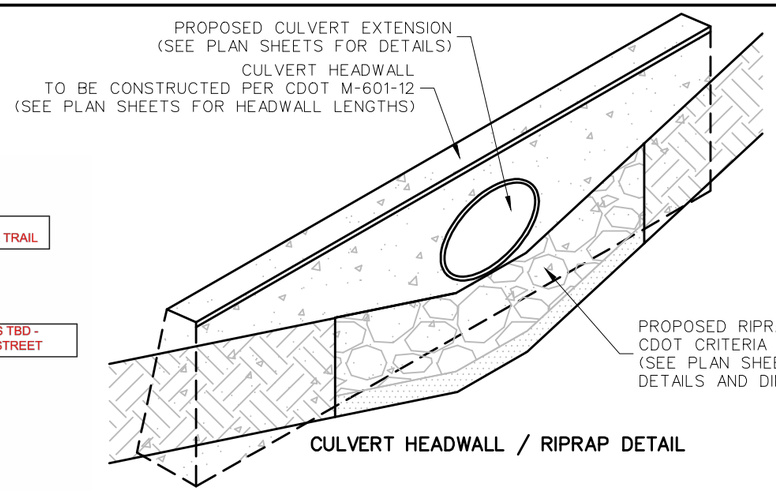
Wood Product SIGNS
Recycle Plus, INC.

PROOF DATE:	**FONT:** POPPL-LAUDATIO
ORDER NUMBER #:	**QUANTITY:** one of each sign
COLOR: Green/Beige/Green	**CORNER RADIUS:** on larger sign as shown
MATERIAL: 3/4" HDPE plastic	**BORDER:** on partners sign
DIMENSIONS: see above	**SINGLE-SIDED:** yes
	SPELL CHECK COMPLETED:

TRAIL HEAD SIGNAGE
(COORDINATE WITH EL PASO COUNTY FOR FINAL PARTNERSHIP SIGNS)



PEDESTRIAN CROSSWALK DETAIL
N.T.S



CULVERT HEADWALL / RIPRAP DETAIL

Table 17.1 Standard CDOT gradations for rock riprap.

Pay Item	Stone Size d50[1] (Inches)	Percent of Material Smaller Than Typical Stone[2]	Typical Stone Dimensions[3] (Inches)	Typical Stone Weight[4] (Pounds)
Riprap	6	70-100 50-70 35-50 2-10	12 9 6 2	85 35 10 0.4
Riprap	9	70-100 50-70 35-50 2-10	15 12 9 3	160 85 35 1.3
Riprap	12	70-100 50-70 35-50 2-10	21 18 12 4	440 275 85 3
Riprap	18	100 50-70 35-50 2-10	30 24 18 6	1280 650 275 10
Riprap	24	100 50-70 35-50 2-10	42 33 24 9	3500 1700 650 35

[1]d50 = nominal stone size
[2]based on typical rock mass
[3]equivalent spherical diameter
[4]based on a specific gravity = 2.5

NOTE:
ALL PROPOSED RIPRAP SHALL CONFORM TO
THE GRADATION REQUIREMENTS OF TABLE 17.1

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

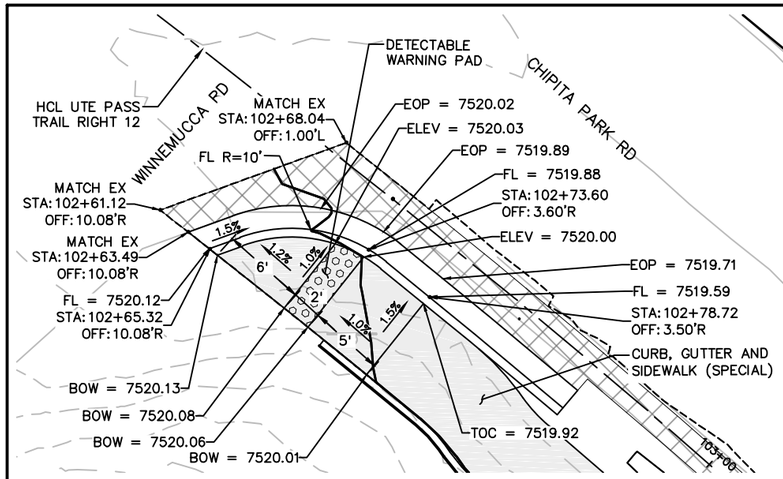
\\US0387-PPFSS03\SHARED_PROJECTS\181711311\600_CADD\640_SHEET_FILES\11311-CIVIL_DETAILS.DWG

Print Date: 6/28/2024	Sheet Revisions		
File Name: 11311-CIVIL_DETAILS.DWG	Date:	Comments	Init.
Horiz. Scale: N/A Vert. Scale: N/A			
Unit Information Unit Leader Initials			

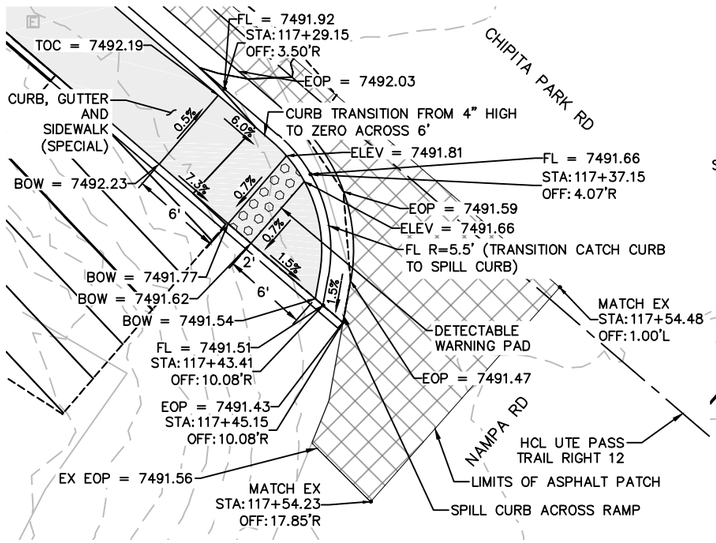
Stantec
410 17TH STREET
SUITE 1400
DENVER, COLORADO 80202
(303) 295-1717

EL PASO COUNTY
COLORADO

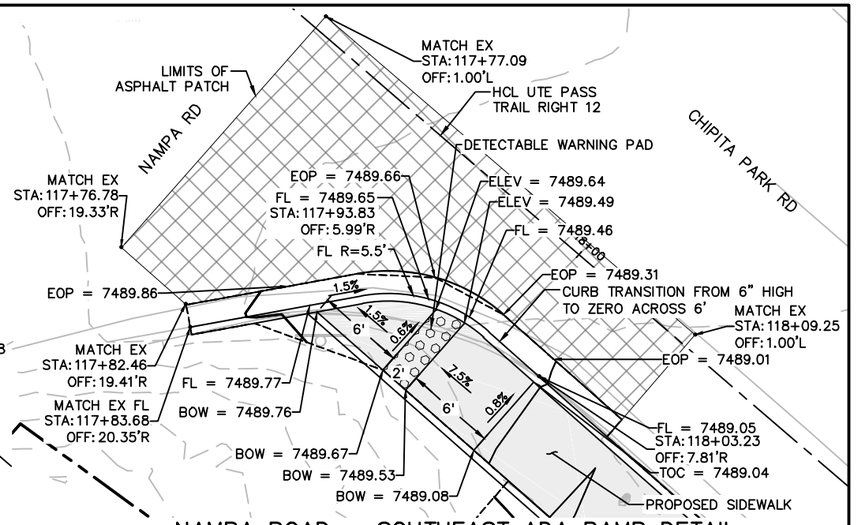
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No Revisions:				TAP C040-054
Revised:	Designer: M WOLF	Structure Numbers		22894
Void:	Detailer: D. ALDEN			
	Sheet Subset: DETAILS	Subset Sheets: 1 of 4		Sheet Number 16



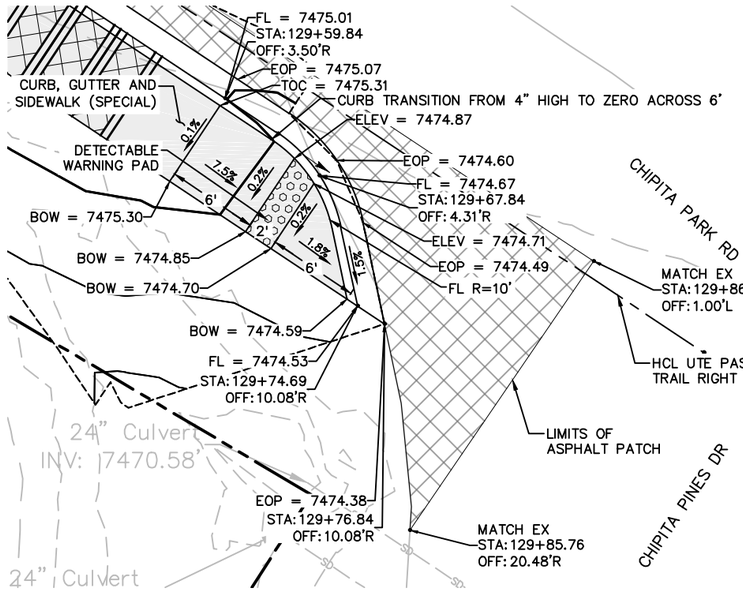
WINNEMUCCA DRIVE – SOUTHEAST ADA RAMP DETAIL
STA. 102+61.12 TO 102+78.72



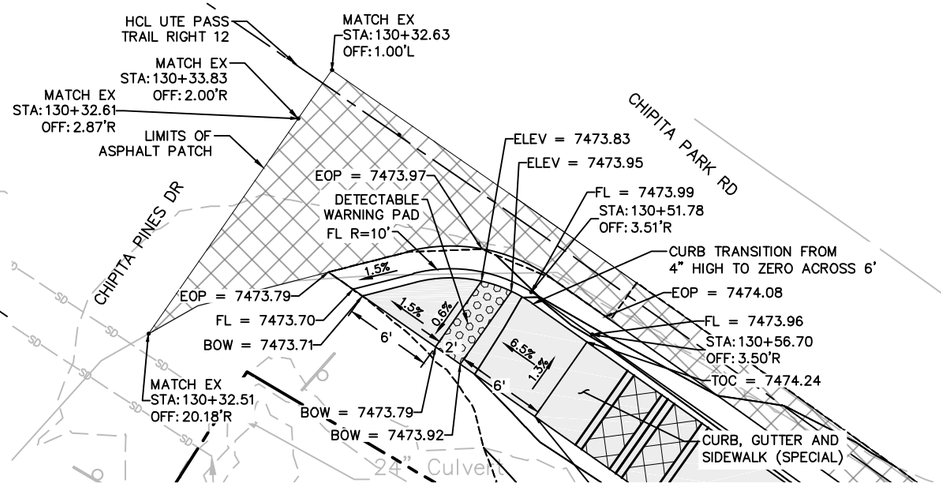
NAMPA ROAD – NORTHWEST ADA RAMP DETAIL
STA. 117+29.15 TO 117+54.48



NAMPA ROAD – SOUTHEAST ADA RAMP DETAIL
STA. 117+91.00 TO 118+03.99



CHIPITA PINES DRIVE – NORTHWEST ADA RAMP DETAIL
STA. 129+65.31 TO 129+81.62



CHIPITA PINES DRIVE – SOUTHEAST ADA RAMP DETAIL
STA. 130+42.72 TO 130+56.57

PED RAMP DETAIL ARE IN PROCESS

NOTE:

CONTRACTOR TO CONSTRUCT CONCRETE CURB RAMPS TO MEET ADA REQUIREMENTS. SEE CDOT STANDARD DETAIL M-608-1 FOR MORE INFORMATION. PRIOR TO CONSTRUCT OF THE RAMPS, CONTRACTOR SHALL NOTIFY PROJECT ENGINEER IF THERE ARE ANY LOCATIONS WHERE RAMPS CANNOT BE CONSTRUCTED PER ADA REQUIREMENTS.

ABBREVIATIONS:

FL = FLOWLINE
EOP = EDGE OF PAVEMENT
BOW = BACK OF WALK
TOC = TOP OF CURB

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34208
5/2/2025
PROFESSIONAL ENGINEER

N

10 0 5 10
(IN FEET)
1 inch = 10 ft. Horiz.

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

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Print Date: 6/28/2024
File Name: 11311-CIVIL DETAILS.DWG
Horiz. Scale: N/A Vert. Scale: N/A
Unit Information Unit Leader Initials

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(303) 295-1717

Sheet Revisions		
Date:	Comments	Init.

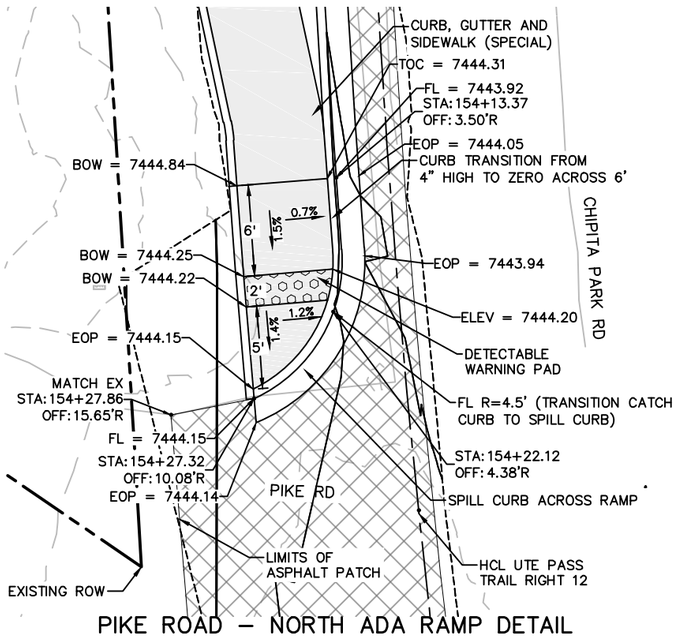
EL PASO COUNTY
COLORADO

As Constructed
No Revisions:
Revised:
Void:

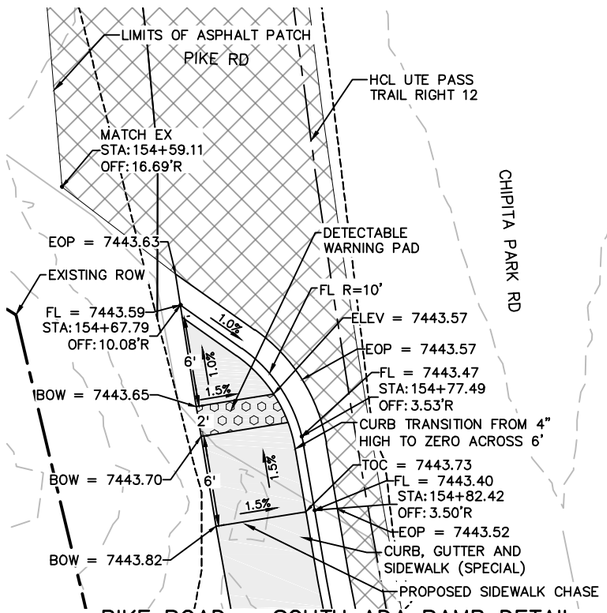
CIVIL DETAILS

Designer: M WOLF
Detailer: D. ALDEN
Sheet Subset: DETAILS
Structure Numbers:
Subset Sheets: 2 of 4

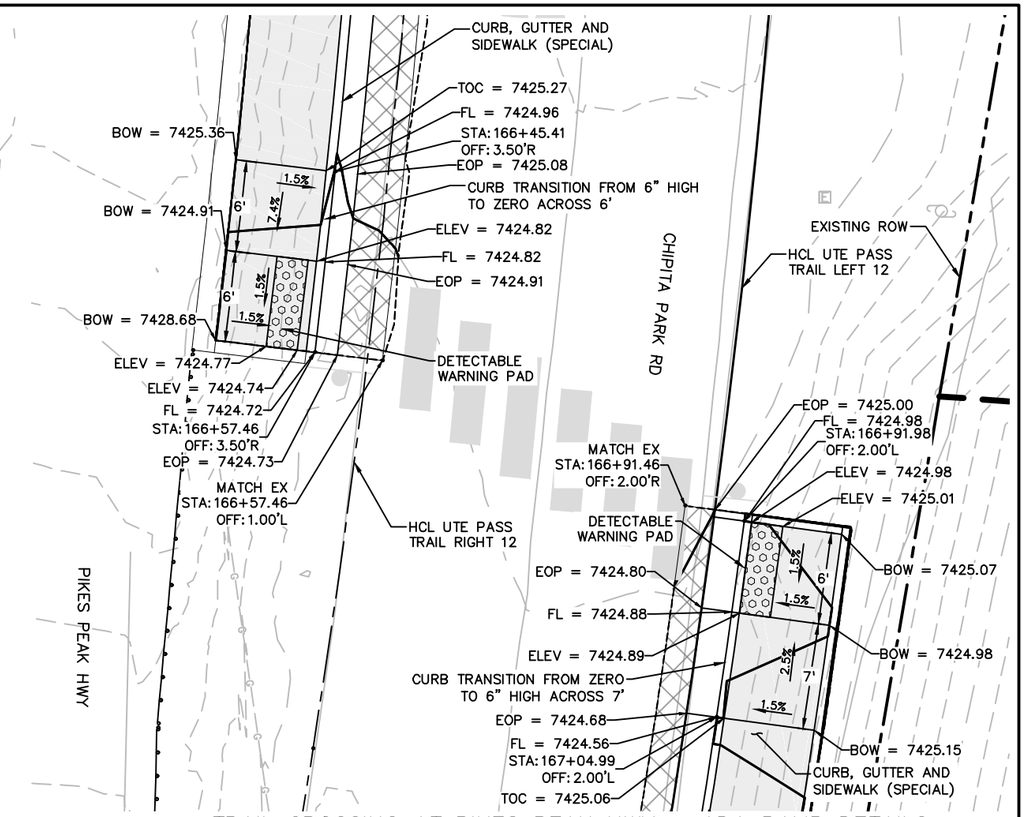
Project No./Code
TAP C040-054
22894
Sheet Number 17



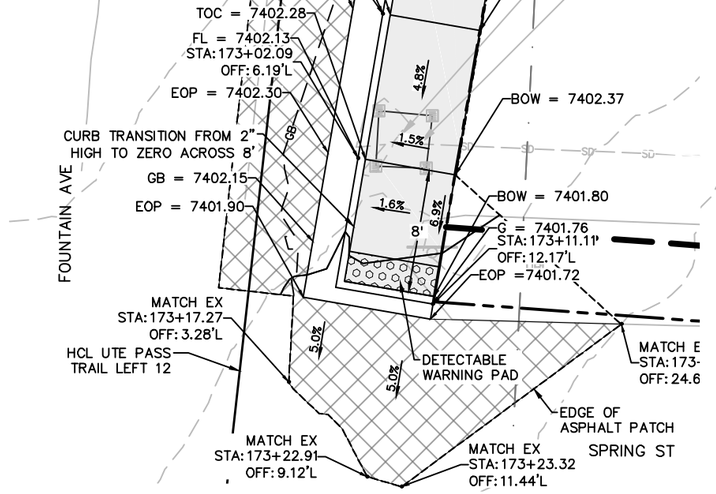
PIKE ROAD – NORTH ADA RAMP DETAIL
STA, 154+12.95 TO 154+26.44



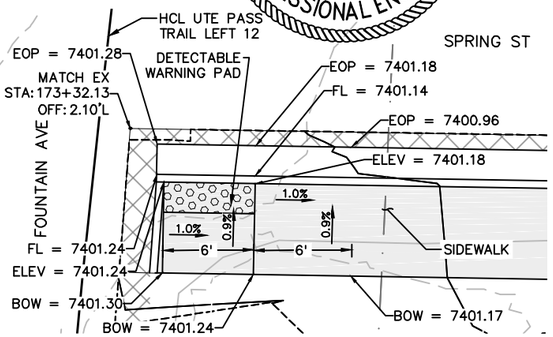
PIKE ROAD – SOUTH ADA RAMP DETAIL
STA. 154+67.67 TO 154+81.28



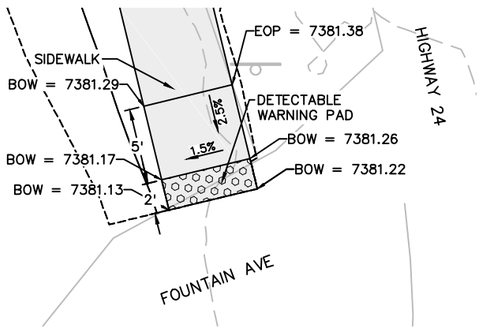
TRAIL CROSSING AT PIKES PEAK HWY – ADA RAMP DETAILS
STA. 166+66.00 TO 166+78.00
STA. 167+01.51 TO 167+13.51



SPRING ST – NORTH ADA RAMP DETAIL
STA. 172+88.52 TO 173+01.50



SPRING ST – SOUTH ADA RAMP DETAIL
STA. 173+28.26 TO 173+40.26



FOUNTAIN AVE – ADA RAMP DETAIL
STA. 186+42.68 TO 186+49.68

NOTE:

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N

10 0 5 10
(IN FEET)
1 inch = 10 ft. Horiz.

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Print Date: 6/28/2024	Sheet Revisions	As Constructed	Project No./Code
File Name: 11311-CIVIL DETAILS.DWG	Date: Comments: Init.	No Revisions:	TAP C040-054
Horiz. Scale: N/A Vert. Scale: N/A		Revised:	22894
Unit Information Unit Leader Initials		Void:	Sheet Number 18

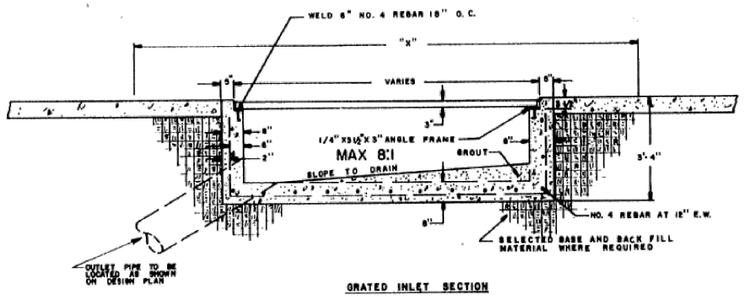
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COLORADO

CIVIL DETAILS

Designer:	M WOLF	Structure Numbers	
Detailer:	D. ALDEN		
Sheet Subset:	DETAILS	Subset Sheets:	3 of 4

GRATED INLET AT SPRING STREET
N.T.S



GRATED INLET SECTION

LENGTH TO BE SPECIFIED			
BOX LENGTH	5'- 10 1/2"	8'- 4 1/2"	10' - 10 1/2"
GRATE LENGTH	5'- 0"	7'- 6"	10' - 0"

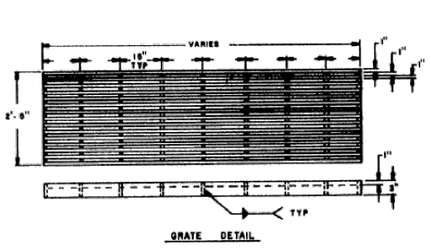
NOTE: REFER TO CITY OF COLORADO SPRINGS AND EL PASO COUNTY WASTERWATER STANDARD DETAILS FOR ADDITIONAL DETAILS NOT SHOWN ON THIS PLAN SET.

BOX WILL BE REVISED TO ALLOW 18" RCP

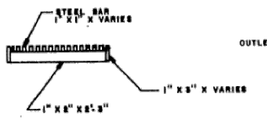
MATERIAL AND CONSTRUCTION COST IS COVERED BY BID ITEM 604-13006 INLET TYPE 13 (F FOOT) (SPECIAL)

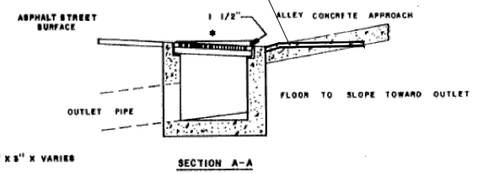
INSTALL CURB, GUTTER & SIDEWALK SPECIAL 2" MOUNTABLE DRIVEWAY PER TYPICAL SECTION SHEET

***GRATE SLOPE SHALL MATCH GUTTER SLOPE**

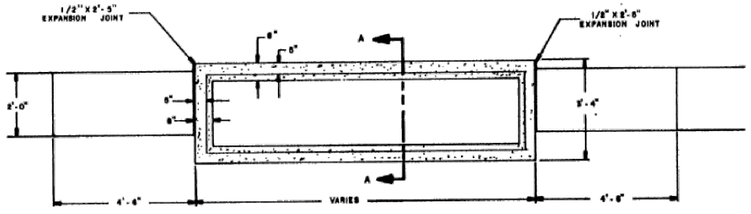


GRATE DETAIL





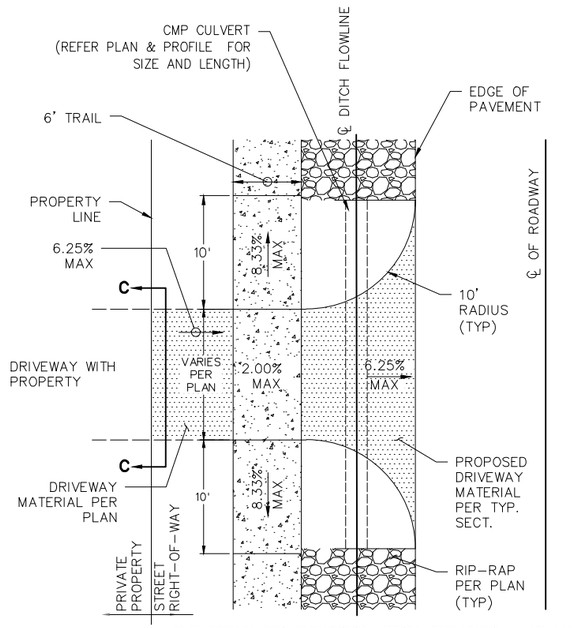
SECTION A-A



GRATED INLET CATCH BASIN
GRATE NOT SHOWN IN PLACE

NOTES
1. GRATES TO BE PAINTED TO COLORADO STATE HIGHWAY DEPTS SPECIFICATIONS FOR PAINTING STRUCTURAL STEEL.
2. "X" EQUALS BOX LENGTH PLUS 9"
3. REFER TO PLANS AND SPECIFICATIONS FOR LOCATION AND DIMENSIONS OF STRUCTURE.
4. OUTLET PIPE SHALL BE CUT OFF EVEN WITH INSIDE WALL.

CITY OF COLORADO SPRINGS			
GRATED INLET			
APPROVED BY	CITY ENGINEER		
SCALE NONE	DATE DEC. 19, 1977	DRAWN BY K. CUNHA	DWG NO. D - 9

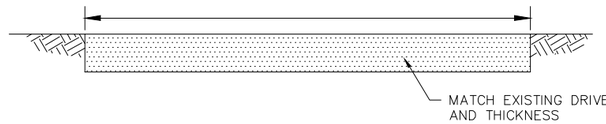


DRIVEWAY INTERSECTION WITH CULVERT – PLAN
N.T.S.

NOTES
1. SEE SPECIFICATION FOR ACCEPTABLE MATERIALS AND OTHER INFORMATION.
2. ALL CONCRETE (WITHIN DRIVEWAY) SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 P.S.I AT 28 DAYS.
3. BROOM FINISH ONLY FOR CONCRETE.
4. SEE PLANS FOR MODIFIED DITCH GRADING.

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5/2/2025
PROFESSIONAL ENGINEER

RIP RAP HEADWALL @ DRAINAGE PIPE
N.T.S.



SECTION C–C
N.T.S.

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File Name: 11311-CIVIL DETAILS.DWG
Horiz. Scale: N/A Vert. Scale: N/A
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Sheet Revisions		
Date:	Comments	Init.

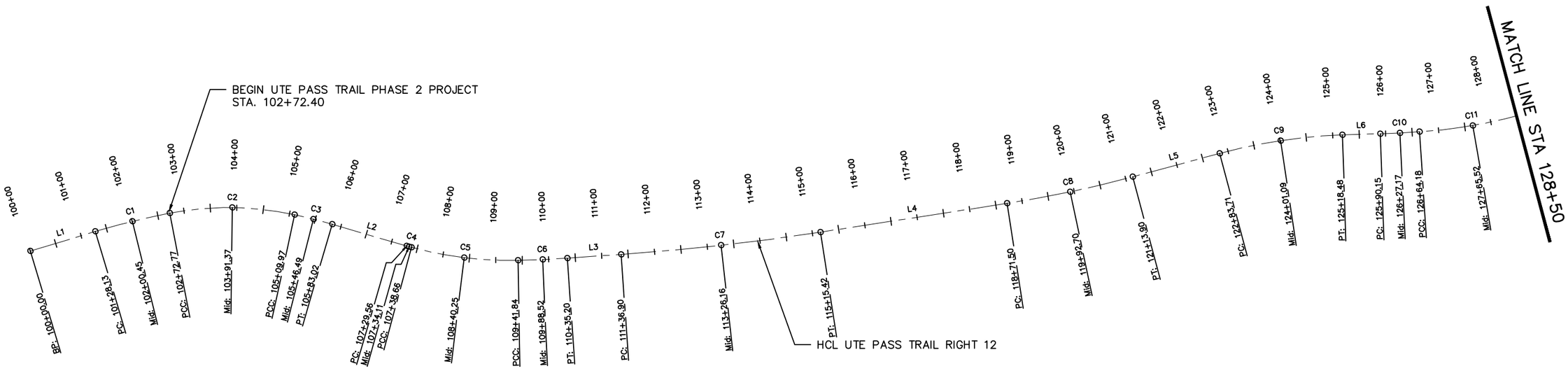
EL PASO COUNTY
COLORADO

As Constructed
No Revisions:
Revised:
Void:

CIVIL DETAILS

Designer: M WOLF
Detailer: D. ALDEN
Sheet Subset: DETAILS
Structure Numbers:
Subset Sheets: 4 of 4

Project No./Code
TAP C040-054
22894
Sheet Number 19



LINE TABLE: ALIGNMENTS

LINE NO.	START STA.	END STA.	LENGTH	LINE DIRECTION	START EASTING	START NORTHING	END EASTING	END NORTHING
L1	100+00.00	101+28.13	128.13	S57° 17' 05.42"E	148039.17	395258.81	148146.98	395189.56
L2	105+83.02	107+29.56	146.54	S24° 16' 43.35"E	148447.84	394859.00	148508.09	394725.42
L3	110+35.20	111+36.90	101.70	S44° 32' 29.31"E	148687.80	394480.35	148759.14	394407.86
L4	115+15.42	118+71.50	356.08	S49° 17' 21.07"E	149035.51	394149.38	149305.42	393917.13
L5	121+13.90	122+83.71	169.81	S55° 39' 41.13"E	149497.56	393769.56	149637.78	393673.77
L6	125+18.48	125+90.15	71.67	S42° 26' 53.35"E	149814.72	393520.26	149863.09	393467.37

CURVE TABLE: ALIGNMENTS

CURVE NO.	START STA.	END STA.	LENGTH	CHORD DIRECTION	PI STA.	RADIUS	DELTA	PI INLUDED ANGLE	MID ORDINATE	START EASTING	START NORTHING	END EASTING	END NORTHING
C1	101+28.13	102+72.77	144.64	S54° 21' 16.01"E	102+00.51	1414.00	5° 51' 39"	174° 08' 21"	1.85	148146.9776	395189.56	148264.4647	395105.30
C2	102+72.77	105+09.97	237.20	S39° 52' 02.91"E	103+93.00	588.00	23° 06' 47"	156° 53' 13"	11.92	148264.4647	395105.30	148415.4841	394924.48
C3	105+09.97	105+83.02	73.05	S26° 17' 41.28"E	105+46.51	1038.00	4° 01' 56"	175° 58' 04"	0.64	148415.4841	394924.48	148447.8375	394859.00
C4	107+29.56	107+38.66	9.10	S24° 54' 42.51"E	107+34.11	412.00	1° 15' 58"	178° 44' 02"	0.03	148508.0907	394725.42	148511.9258	394717.16
C5	107+38.66	109+41.84	203.18	S33° 36' 24.76"E	108+40.93	722.00	16° 07' 26"	163° 52' 34"	7.14	148511.9258	394717.16	148624.0147	394548.50
C6	109+41.84	110+35.20	93.35	S43° 06' 18.58"E	109+88.53	1862.00	2° 52' 21"	177° 07' 39"	0.59	148624.0147	394548.50	148687.8010	394480.35
C7	111+36.90	115+15.42	378.52	S46° 54' 55.19"E	113+26.27	4568.00	4° 44' 52"	175° 15' 08"	3.92	148759.1352	394407.86	149035.5056	394149.38
C8	118+71.50	121+13.90	242.40	S52° 28' 31.10"E	119+92.82	2179.50	6° 22' 20"	173° 37' 40"	3.37	149305.4196	393917.13	149497.5630	393769.56
C9	122+83.71	125+18.48	234.77	S49° 03' 17.24"E	124+01.62	1018.00	13° 12' 48"	166° 47' 12"	6.76	149637.7819	393673.77	149814.7167	393520.26
C10	125+90.15	126+64.18	74.04	S43° 19' 54.82"E	126+27.17	2400.00	1° 46' 03"	178° 13' 57"	0.29	149863.0894	393467.37	149913.8928	393413.52
C11	126+64.18	128+66.85	202.66	S50° 18' 51.38"E	127+65.90	952.00	12° 11' 50"	167° 48' 10"	5.39	149913.8928	393413.52	150069.5604	393284.35

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5/2/2025
PROFESSIONAL ENGINEER

100 0 100 200
(HALF SIZE 11X17)
1 inch = 200 ft. Horiz.

\\US0387-PPFSS03\SHARED_PROJECTS\181713\1\600_CADD\640_SHEET_FILES\11311-GEOMETRIC LAYOUT.DWG

Print Date: 6/24/2024
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Horiz. Scale: 1"=100' Vert. Scale: N/A
Unit Information Unit Leader Initials

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Sheet Revisions

Date:	Comments	Init.

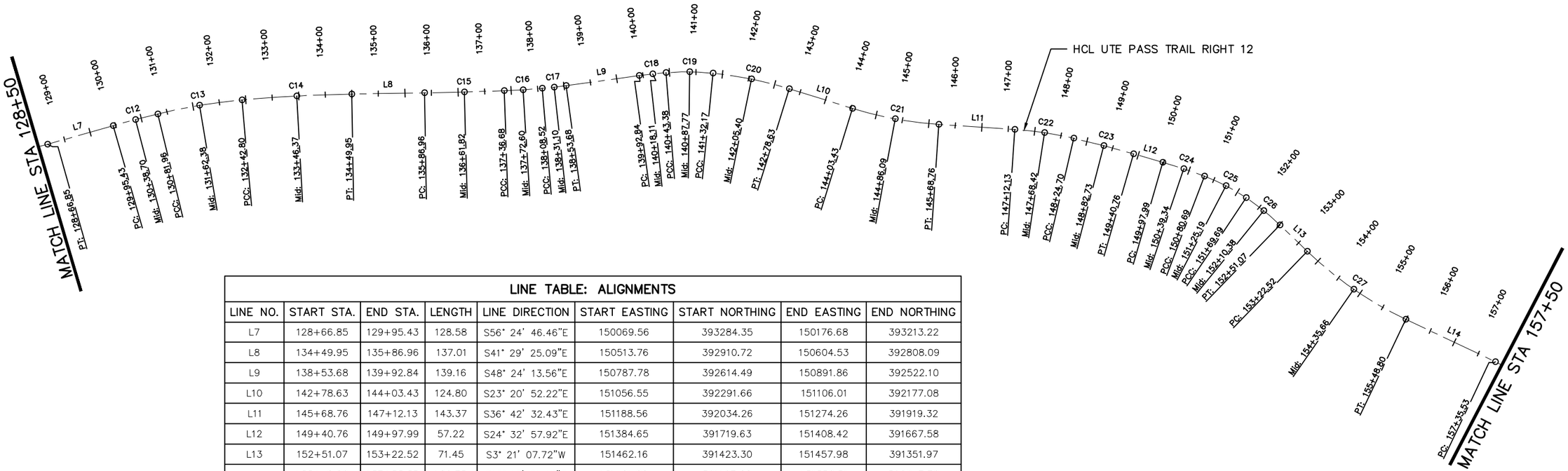
EL PASO COUNTY
COLORADO

As Constructed
No Revisions:
Revised:
Void:

GEOMETRIC LAYOUT

Designer: M WOLF
Detailer: D. ALDEN
Sheet Subset: CONTROL
Structure Numbers
Subset Sheets: 1 of 4

Project No./Code
TAP C040-054
22894
Sheet Number 20



LINE TABLE: ALIGNMENTS

LINE NO.	START STA.	END STA.	LENGTH	LINE DIRECTION	START EASTING	START NORTHING	END EASTING	END NORTHING
L7	128+66.85	129+95.43	128.58	S56° 24' 46.46"E	150069.56	393284.35	150176.68	393213.22
L8	134+49.95	135+86.96	137.01	S41° 29' 25.09"E	150513.76	392910.72	150604.53	392808.09
L9	138+53.68	139+92.84	139.16	S48° 24' 13.56"E	150787.78	392614.49	150891.86	392522.10
L10	142+78.63	144+03.43	124.80	S23° 20' 52.22"E	151056.55	392291.66	151106.01	392177.08
L11	145+68.76	147+12.13	143.37	S36° 42' 32.43"E	151188.56	392034.26	151274.26	391919.32
L12	149+40.76	149+97.99	57.22	S24° 32' 57.92"E	151384.65	391719.63	151408.42	391667.58
L13	152+51.07	153+22.52	71.45	S3° 21' 07.72"W	151462.16	391423.30	151457.98	391351.97
L14	155+48.80	157+35.53	186.73	S15° 13' 21.46"E	151481.28	391127.88	151530.31	390947.70

CURVE TABLE: ALIGNMENTS

CURVE NO.	START STA.	END STA.	LENGTH	CHORD DIRECTION	PI STA.	RADIUS	DELTA	PI INLUDED ANGLE	MID ORDINATE	START EASTING	START NORTHING	END EASTING	END NORTHING
C12	129+95.43	130+81.96	86.53	S55° 18' 54.16"E	130+38.70	2258.00	2° 11' 45"	177° 48' 15"	0.41	150176.6767	393213.22	150247.8273	393163.98
C13	130+81.96	132+42.80	160.84	S49° 58' 56.15"E	131+62.53	1088.00	8° 28' 11"	171° 31' 49"	2.97	150247.8273	393163.98	150370.8902	393060.65
C14	132+42.80	134+49.95	207.15	S43° 37' 07.76"E	133+46.42	2788.00	4° 15' 25"	175° 44' 35"	1.92	150370.8902	393060.65	150513.7590	392910.72
C15	135+86.96	137+36.68	149.73	S42° 05' 06.19"E	136+61.82	7212.00	1° 11' 22"	178° 48' 38"	0.39	150604.5284	392808.09	150704.8782	392696.97
C16	137+36.68	138+08.52	71.83	S44° 02' 26.86"E	137+72.61	1512.00	2° 43' 19"	177° 16' 41"	0.43	150704.8782	392696.97	150754.8086	392645.34
C17	138+08.52	138+53.68	45.16	S46° 54' 09.99"E	138+31.10	862.00	3° 00' 07"	176° 59' 53"	0.30	150754.8086	392645.34	150787.7834	392614.49
C18	139+92.84	140+43.38	50.54	S46° 46' 24.31"E	140+18.12	888.00	3° 15' 38"	176° 44' 22"	0.36	150891.8557	392522.10	150928.6738	392487.50
C19	140+43.38	141+32.17	88.79	S39° 55' 50.98"E	140+87.90	488.00	10° 25' 28"	169° 34' 32"	2.02	150928.6738	392487.50	150985.5846	392419.50
C20	141+32.17	142+78.63	146.46	S29° 01' 59.56"E	142+05.64	738.00	11° 22' 15"	168° 37' 45"	3.63	150985.5846	392419.50	151056.5481	392291.66
C21	144+03.43	145+68.76	165.34	S30° 01' 42.32"E	144+86.47	709.00	13° 21' 40"	166° 38' 20"	4.81	151106.0069	392177.08	151188.5586	392034.26
C22	147+12.13	148+24.70	112.57	S32° 01' 17.47"E	147+68.54	688.00	9° 22' 30"	170° 37' 30"	2.30	151274.2576	391919.32	151333.8817	391823.98
C23	148+24.70	149+40.76	116.06	S25° 56' 30.21"E	148+82.74	2388.00	2° 47' 05"	177° 12' 55"	0.71	151333.8817	391823.98	151384.6471	391719.63
C24	149+97.99	150+80.69	82.70	S22° 09' 05.29"E	150+39.36	988.00	4° 47' 45"	175° 12' 15"	0.87	151408.4225	391667.58	151439.5960	391591.01
C25	150+80.69	151+69.69	89.00	S13° 10' 55.90"E	151+25.38	388.00	13° 08' 34"	166° 51' 26"	2.55	151439.5960	391591.01	151459.8479	391504.54
C26	151+69.69	152+51.07	81.38	S1° 37' 45.71"E	152+10.48	468.00	9° 57' 47"	170° 02' 13"	1.77	151459.8479	391504.54	151462.1589	391423.30
C27	153+22.52	155+48.80	226.29	S5° 56' 06.87"E	154+36.66	698.00	18° 34' 29"	161° 25' 31"	9.15	151457.9809	391351.97	151481.2775	391127.88

COLORADO LICENSED
AARON BRADLEY EGBERT
34208
5/2/2025
PROFESSIONAL ENGINEER

100 0 100 200
(HALF SIZE 11X17)
1 inch = 200 ft. Horiz.

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Date:	Comments	Init.

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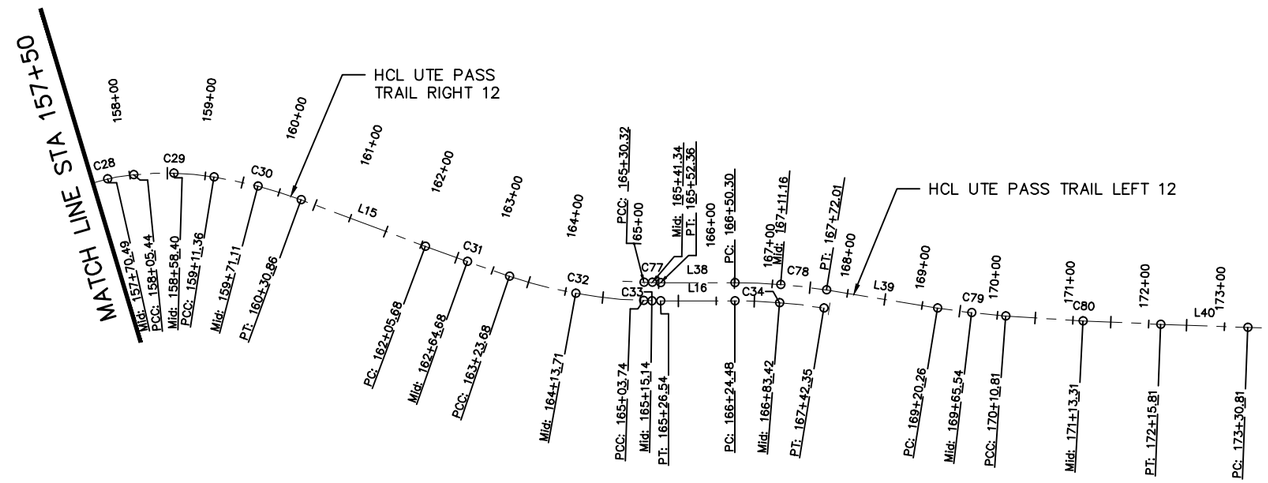
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No Revisions:
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GEOMETRIC LAYOUT

Designer: M WOLF
Detailer: D. ALDEN
Sheet Subset: CONTROL
Structure Numbers:
Subset Sheets: 2 of 4

Project No./Code
TAP CO40-054
22894
Sheet Number 21

LINE TABLE: ALIGNMENTS								
LINE NO.	START STA.	END STA.	LENGTH	LINE DIRECTION	START EASTING	START NORTHING	END EASTING	END NORTHING
L15	160+30.86	162+05.68	174.82	S24° 47' 35.32"W	151490.55	390660.83	151417.24	390502.12
L16	165+26.54	166+24.48	97.95	S4° 21' 02.30"W	151322.04	390197.95	151314.61	390100.29
L17	167+42.35	168+90.59	148.25	S13° 32' 18.57"W	151296.30	389983.98	151261.60	389839.85
L38	165+52.36	166+50.30	97.95	S4° 21' 02.30"W	151345.97	390196.13	151338.54	390098.47
L39	167+72.01	169+20.26	148.25	S13° 32' 18.57"W	151319.64	389978.36	151284.93	389834.24
L40	172+15.81	173+30.81	115.01	S6° 20' 56.89"W	151241.17	389542.11	151228.45	389427.81



CURVE TABLE: ALIGNMENTS													
CURVE NO.	START STA.	END STA.	LENGTH	CHORD DIRECTION	PI STA.	RADIUS	DELTA	PI INLUDED ANGLE	MID ORDINATE	START EASTING	START NORTHING	END EASTING	END NORTHING
C28	157+35.53	158+05.44	69.90	S8° 16' 09.43"E	157+70.66	288.00	13° 54' 24"	166° 05' 36"	2.12	151530.3075	390947.70	151540.3367	390878.69
C29	158+05.44	159+11.36	105.92	S5° 56' 51.99"W	158+58.68	417.74	14° 31' 39"	165° 28' 21"	3.35	151540.3367	390878.69	151529.3905	390773.63
C30	159+11.36	160+30.86	119.50	S19° 00' 08.35"W	159+71.31	591.20	11° 34' 54"	168° 25' 06"	3.02	151529.3905	390773.63	151490.5453	390660.83
C31	162+05.68	163+23.68	118.00	S23° 55' 04.24"W	162+64.68	3862.00	1° 45' 02"	178° 14' 58"	0.45	151417.2357	390502.12	151369.3978	390394.26
C32	163+23.68	165+03.74	180.06	S14° 36' 50.17"W	164+14.36	612.00	16° 51' 26"	163° 08' 34"	6.61	151369.3978	390394.26	151324.1318	390220.65
C33	165+03.74	165+26.54	22.80	S5° 16' 04.74"W	165+15.14	712.00	1° 50' 05"	178° 09' 55"	0.09	151324.1318	390220.65	151322.0385	390197.95
C34	166+24.48	167+42.35	117.86	S8° 56' 40.43"W	166+83.54	735.00	9° 11' 16"	170° 48' 44"	2.36	151314.6083	390100.29	151296.3027	389983.98
C77	165+30.32	165+52.36	22.03	S5° 16' 04.74"W	165+41.34	688.00	1° 50' 05"	178° 09' 55"	0.09	151347.9920	390218.07	151345.9694	390196.13
C78	166+50.30	167+72.01	121.71	S8° 56' 40.43"W	167+11.29	759.00	9° 11' 16"	170° 48' 44"	2.44	151338.5392	390098.47	151319.6358	389978.36
C79	169+20.26	170+10.81	90.55	S11° 00' 49.79"W	169+65.56	1027.51	5° 02' 58"	174° 57' 02"	1.00	151284.9317	389834.24	151267.6378	389745.38
C80	170+10.81	172+15.81	204.99	S7° 25' 08.95"W	171+13.32	5488.39	2° 08' 24"	177° 51' 36"	0.96	151267.6378	389745.38	151241.1690	389542.11

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(HALF SIZE 11X17)
1 inch = 200 ft. Horiz.

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AARON BRADLEY EGBERT
34208
5/2/2025
PROFESSIONAL ENGINEER

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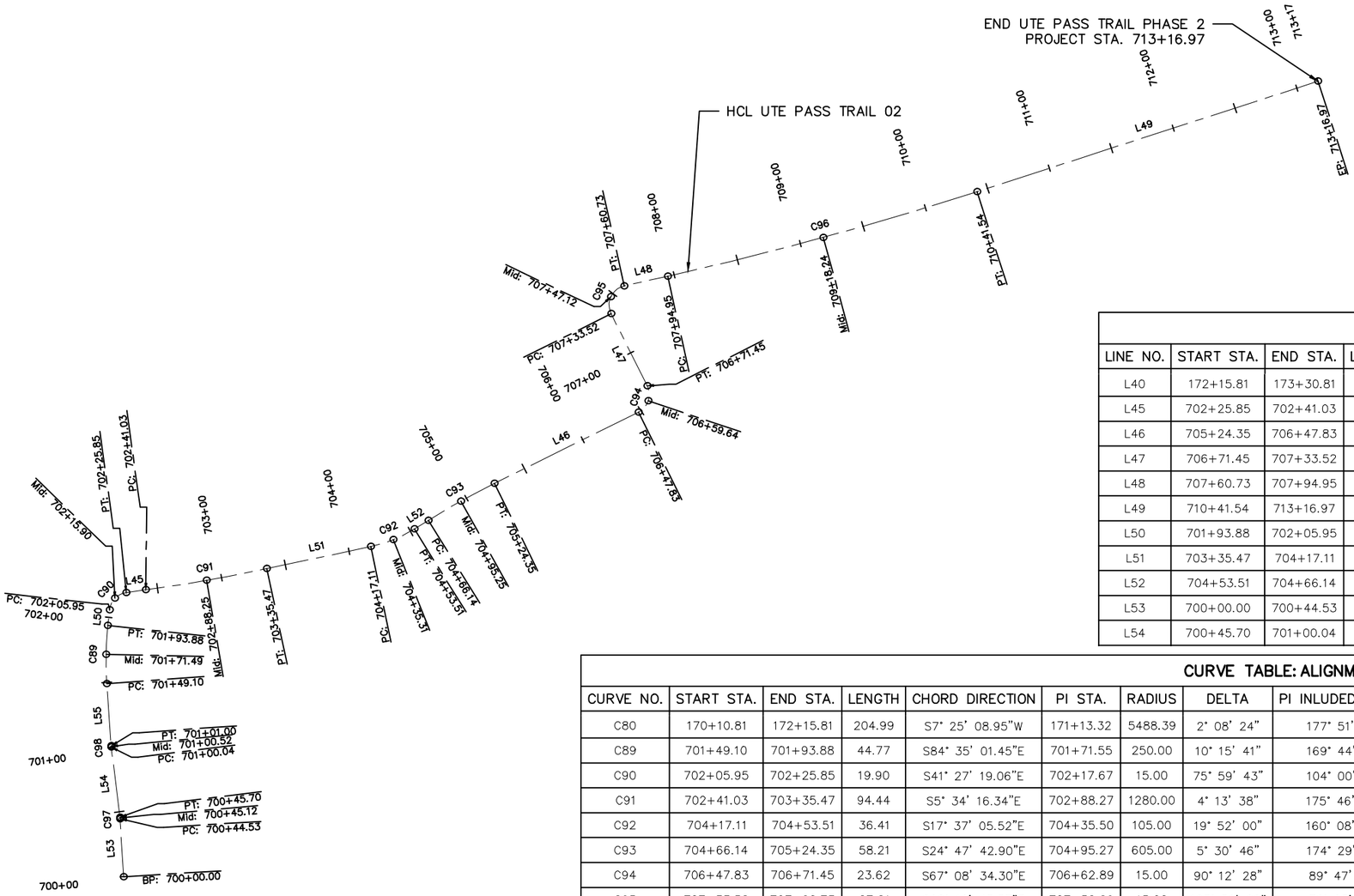
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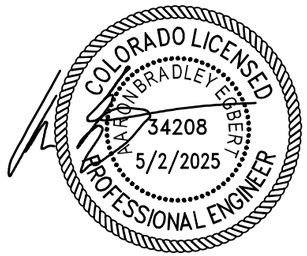
GEOMETRIC LAYOUT

Designer: M WOLF
Detailer: D. ALDEN
Sheet Subset: CONTROL
Structure Numbers
Subset Sheets: 3 of 4

Project No./Code
TAP C040-054
22894
Sheet Number 22







LINE TABLE: ALIGNMENTS

LINE NO.	START STA.	END STA.	LENGTH	LINE DIRECTION	START EASTING	START NORTHING	END EASTING	END NORTHING
L40	172+15.81	173+30.81	115.01	S6° 20' 56.89"W	151241.17	389542.11	151228.45	389427.81
L45	702+25.85	702+41.03	15.19	S3° 27' 27.35"E	151445.82	389406.69	151446.74	389391.53
L46	705+24.35	706+47.83	123.48	S22° 02' 20.09"E	151508.03	389118.11	151554.36	389003.65
L47	706+71.45	707+33.52	62.07	N67° 45' 11.49"E	151573.95	388995.40	151631.39	389018.89
L48	707+60.73	707+94.95	34.22	S8° 18' 42.24"E	151651.91	389007.18	151656.86	388973.31
L49	710+41.54	713+16.97	275.43	S13° 36' 11.99"E	151703.72	388731.31	151768.50	388463.60
L50	701+93.88	702+05.95	12.07	S79° 27' 10.78"E	151421.73	389422.74	151433.59	389420.53
L51	703+35.47	704+17.11	81.64	S7° 41' 05.33"E	151455.90	389297.56	151466.82	389216.65
L52	704+53.51	704+66.14	12.63	S27° 33' 05.71"E	151477.79	389182.13	151483.63	389170.93
L53	700+00.00	700+44.53	44.53	S89° 04' 45.58"E	151228.17	389425.31	151272.70	389424.59
L54	700+45.70	701+00.04	54.33	N87° 17' 38.08"E	151273.87	389424.61	151328.14	389427.18

CURVE TABLE: ALIGNMENTS

CURVE NO.	START STA.	END STA.	LENGTH	CHORD DIRECTION	PI STA.	RADIUS	DELTA	PI INLUDED ANGLE	MID ORDINATE	START EASTING	START NORTHING	END EASTING	END NORTHING
C80	170+10.81	172+15.81	204.99	S7° 25' 08.95"W	171+13.32	5488.39	2° 08' 24"	177° 51' 36"	0.96	151267.6378	389745.38	151241.1690	389542.11
C89	701+49.10	701+93.88	44.77	S84° 35' 01.45"E	701+71.55	250.00	10° 15' 41"	169° 44' 19"	1.00	151377.2122	389426.96	151421.7269	389422.74
C90	702+05.95	702+25.85	19.90	S41° 27' 19.06"E	702+17.67	15.00	75° 59' 43"	104° 00' 17"	3.18	151433.5948	389420.53	151445.8219	389406.69
C91	702+41.03	703+35.47	94.44	S5° 34' 16.34"E	702+88.27	1280.00	4° 13' 38"	175° 46' 22"	0.87	151446.7378	389391.53	151455.9039	389297.56
C92	704+17.11	704+53.51	36.41	S17° 37' 05.52"E	704+35.50	105.00	19° 52' 00"	160° 08' 00"	1.57	151466.8207	389216.65	151477.7852	389182.13
C93	704+66.14	705+24.35	58.21	S24° 47' 42.90"E	704+95.27	605.00	5° 30' 46"	174° 29' 14"	0.70	151483.6265	389170.93	151508.0288	389118.11
C94	706+47.83	706+71.45	23.62	S67° 08' 34.30"E	706+62.89	15.00	90° 12' 28"	89° 47' 32"	4.41	151554.3635	389003.65	151573.9464	388995.40
C95	707+33.52	707+60.73	27.21	S60° 16' 45.37"E	707+52.69	15.00	103° 56' 06"	76° 03' 54"	5.76	151631.3922	389018.89	151651.9136	389007.18
C96	707+94.95	710+41.54	246.59	S10° 57' 27.12"E	709+18.33	2670.00	5° 17' 30"	174° 42' 30"	2.85	151656.8609	388973.31	151703.7163	388731.31
C97	700+44.53	700+45.70	1.17	N89° 06' 26.25"E	700+45.12	18.50	3° 37' 36"	176° 22' 24"	0.01	151272.7012	389424.59	151273.8719	389424.61

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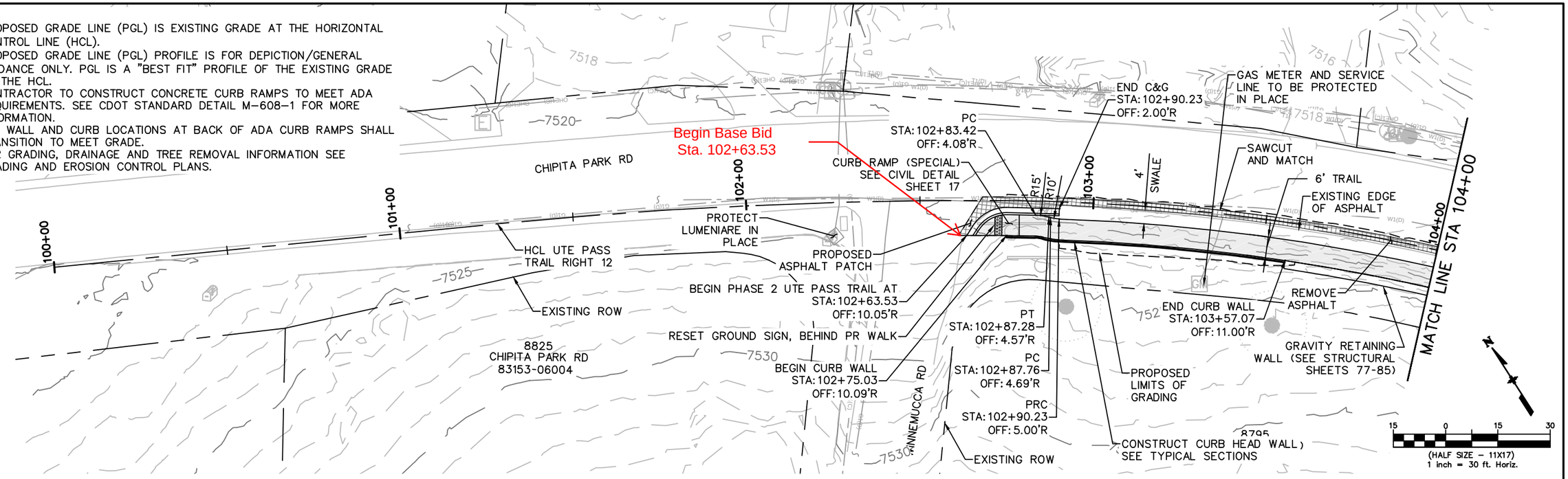
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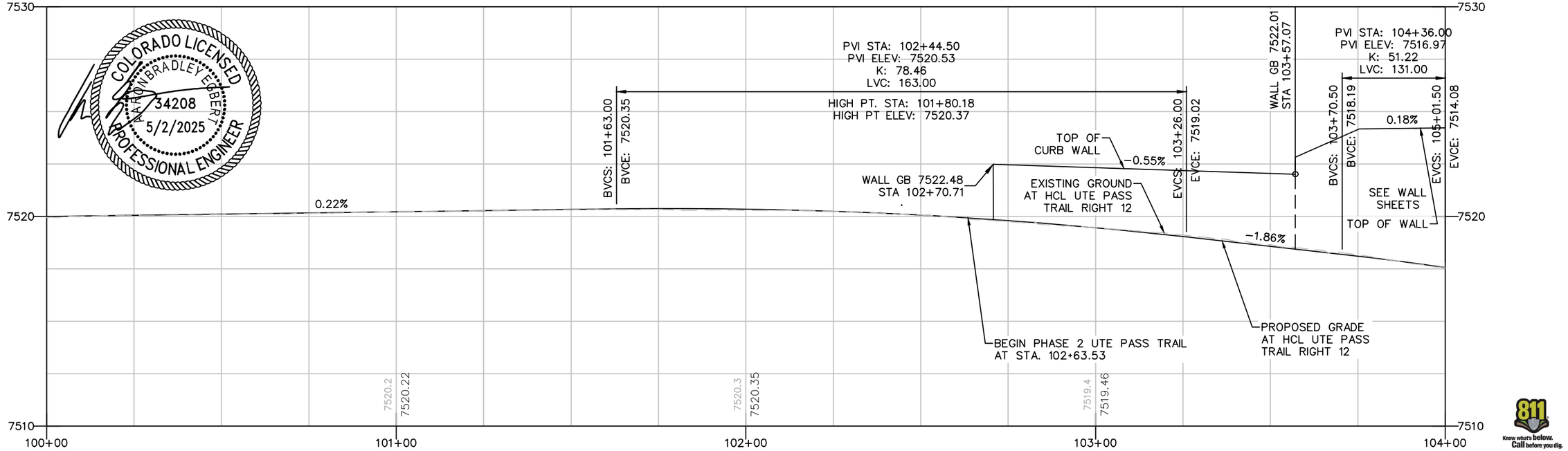
Designer: M WOLF
Detailer: D. ALDEN
Sheet Subset: CONTROL
Structure Numbers:
Subset Sheets: 4 of 4

Project No./Code
TAP C040-054
22894
Sheet Number 23

NOTES:

1. PROPOSED GRADE LINE (PGL) IS EXISTING GRADE AT THE HORIZONTAL CONTROL LINE (HCL).
2. PROPOSED GRADE LINE (PGL) PROFILE IS FOR DEPICTION/GENERAL GUIDANCE ONLY. PGL IS A "BEST FIT" PROFILE OF THE EXISTING GRADE AT THE HCL.
3. CONTRACTOR TO CONSTRUCT CONCRETE CURB RAMPS TO MEET ADA REQUIREMENTS. SEE CDOT STANDARD DETAIL M-608-1 FOR MORE INFORMATION.
4. ALL WALL AND CURB LOCATIONS AT BACK OF ADA CURB RAMPS SHALL TRANSITION TO MEET GRADE.
5. FOR GRADING, DRAINAGE AND TREE REMOVAL INFORMATION SEE GRADING AND EROSION CONTROL PLANS.





COLORADO LICENSED
ALLEN BRADLEY EBBERT
34208
5/2/2025
PROFESSIONAL ENGINEER

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File Name: 11311-PNP_01.DWG			
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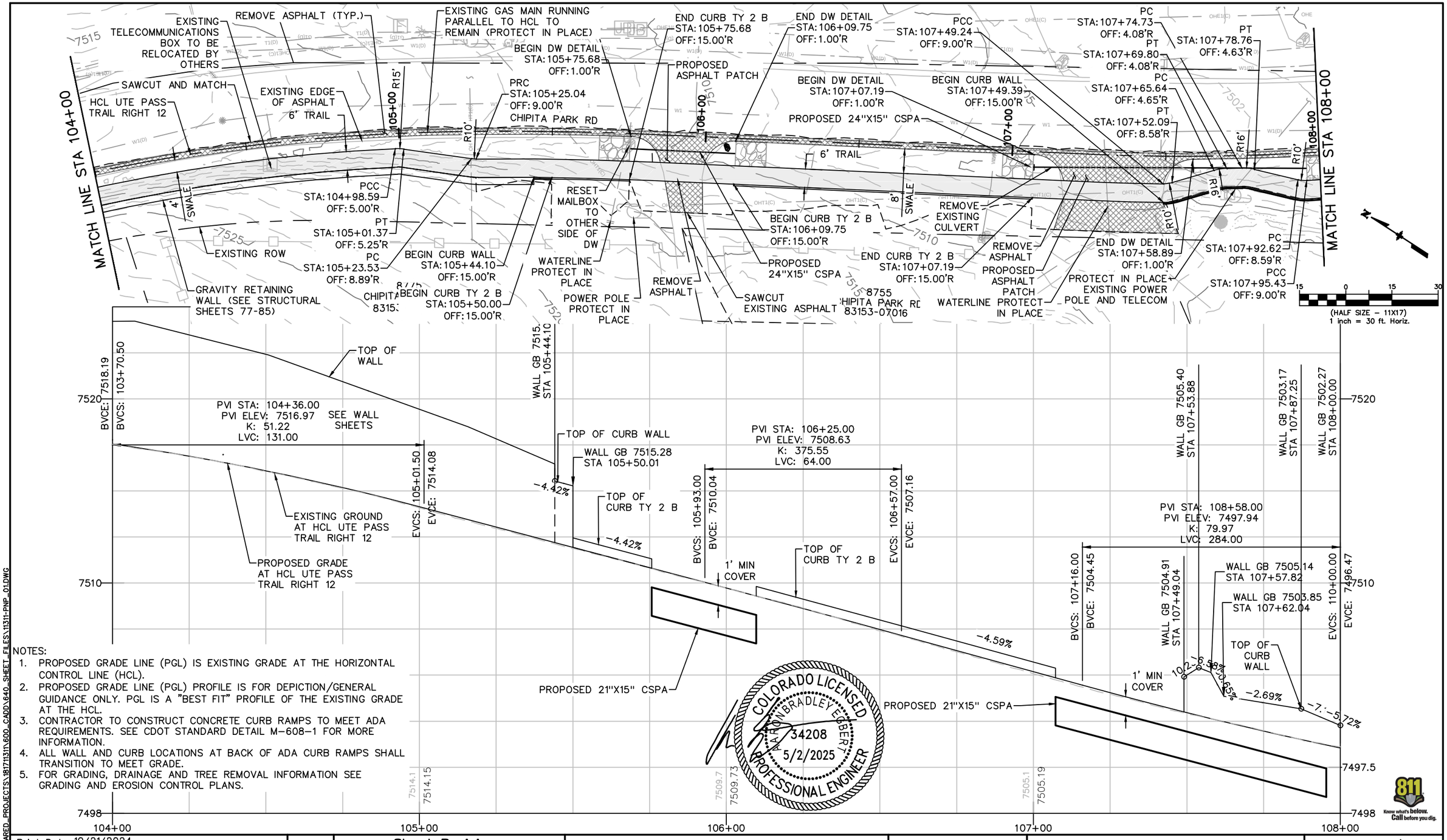
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PLAN AND PROFILE

Designer:	M WOLF	Structure Numbers	
Detailer:	D. ALDEN		
Sheet Subset:	ROADWAY	Subset Sheets:	1 of 22

Project No./Code	
TAP C040-054	
22894	
Sheet Number	24

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



NOTES:

1. PROPOSED GRADE LINE (PGL) IS EXISTING GRADE AT THE HORIZONTAL CONTROL LINE (HCL).
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3. CONTRACTOR TO CONSTRUCT CONCRETE CURB RAMPS TO MEET ADA REQUIREMENTS. SEE CDOT STANDARD DETAIL M-608-1 FOR MORE INFORMATION.
4. ALL WALL AND CURB LOCATIONS AT BACK OF ADA CURB RAMPS SHALL TRANSITION TO MEET GRADE.
5. FOR GRADING, DRAINAGE AND TREE REMOVAL INFORMATION SEE GRADING AND EROSION CONTROL PLANS.

COLORADO LICENSED AARON BRADLEY EGBERT 34208 5/2/2025 PROFESSIONAL ENGINEER

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

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Print Date: 10/21/2024	Sheet Revisions	As Constructed	PLAN AND PROFILE
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Horiz. Scale: 1"=30' Vert. Scale: 1"=5'		Revised:	Detailer: D. ALDEN
Unit Information Unit Leader Initials		Void:	Sheet Subset: ROADWAY
Stantec 410 17TH STREET SUITE 1400 DENVER, COLORADO 80202 (303) 295-1717			Structure Numbers / Subset Sheets: 2 of 22

EL PASO COUNTY COLORADO

Project No./Code
TAP C040-054
22894
Sheet Number 25

NOTES:
1. PROPOSED GRADE LINE (PGL) IS EXISTING GRADE AT THE HORIZONTAL CONTROL LINE (HCL).
2. PROPOSED GRADE LINE (PGL) PROFILE IS FOR DEPICTION/GENERAL GUIDANCE ONLY. PGL IS A "BEST FIT" PROFILE OF THE EXISTING GRADE AT THE HCL.
3. CONTRACTOR TO CONSTRUCT CONCRETE CURB RAMPS TO MEET ADA REQUIREMENTS. SEE CDOT STANDARD DETAIL M-608-1 FOR MORE INFORMATION.
4. ALL WALL AND CURB LOCATIONS AT BACK OF ADA CURB RAMPS SHALL TRANSITION TO MEET GRADE.
5. FOR GRADING, DRAINAGE AND TREE REMOVAL INFORMATION SEE GRADING AND EROSION CONTROL PLANS.

MATCH LINE STA 108+00

EXISTING GAS MAIN RUNNING PARALLEL TO HCL TO REMAIN (PROTECT IN PLACE)

REMOVE EXISTING CULVERT

BEGIN DW DETAIL STA: 108+60.95 OFF: 1.00'R

PROPOSED 21"X15" CSPA

END DW DETAIL STA: 109+04.82 OFF: 1.00'R

BEGIN C&G STA: 109+30.00 OFF: 2.00'R

PCC STA: 109+29.85 OFF: 9.01'R

PT STA: 109+32.24 OFF: 8.75'R

PC STA: 109+55.20 OFF: 4.34'R

PT STA: 109+58.04 OFF: 4.08'R

HCL UTE PASS TRAIL RIGHT 12

CHIPITA PARK RD

EXISTING EDGE OF ASPHALT

6' TRAIL

PROPOSED 24"X18" CSPA

SAWCUT AND MATCH

END CURB TY 2 B STA: 111+50.00 OFF: 10.08'R

END CURB TY 2 B STA: 111+72.02 OFF: 4.08'R

END CURB TY 2 B STA: 111+44.89 OFF: 10.08'R

END C&G PC STA: 112+00.00 OFF: 2.00'R

MATCH LINE STA 112+00

8' SWALE

BEGIN CURB TY 2 B STA: 108+14.90 OFF: 15.00'R

END CURB TY 2 B STA: 108+60.95 OFF: 15.00'R

CONTRACTOR TO PROVIDE SMOOTH TRANSITION TO EXISTING AFTER DRIVEWAY SECTION IS CONSTRUCTED

8735 CHIPITA PARK RD 83153-07004

DRIVEWAY (DIRT)

RESET MAILBOX

EXISTING ROW

BEGIN CURB WALL STA: 109+04.82 OFF: 15.00'R

R10'

R16'

EXISTING ELECTRIC POLE PROTECT IN PLACE (050987)

BEGIN CURB TY 2 B STA: 109+50.21 OFF: 11.36'R

8725 CHIPITA PARK RD 83153-07006

EXISTING COMMUNICATIONS PEDESTAL TO BE RELOCATED BY OTHERS

GRADING LIMITS

EXISTING HYDRANT PROTECT IN PLACE

END CURB TY 2 B STA: 110+55.00 OFF: 10.08'R

8715 CHIPITA PARK RD 83153-07007

PT STA: 111+74.99 OFF: 4.36'R

PC STA: 111+98.10 OFF: 8.81'R

EXISTING GAS METER TO REMAIN. ADJUST LINE AS NEEDED

EXISTING ELECTRIC POLE AND COMMS (COMCAST) TO BE RELOCATED BY OTHERS.(050988)

24" ST

7495 7496 7505

15 0 15 30
(HALF SIZE - 11X17)
1 inch = 30 ft. Horiz.

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PVI STA: 108+58.00
PVI ELEV: 7497.94
K: 79.97
LVC: 284.00

PVI STA: 110+82.00
PVI ELEV: 7495.62
K: 214.35
LVC: 54.00

PVI STA: 111+81.50
PVI ELEV: 7494.34
K: 85.55
LVC: 64.00

BVCS: 107+16.00
BVCE: 7504.45

WALL GB 7501.41 STA 108+14.90

WALL GB 7501.78 STA 109+27.46

WALL GB 7497.66 STA 109+50.21

EVCS: 110+00.00
EVCE: 7496.47

BVCS: 110+55.00
BVCE: 7495.90

WALL GB 7497.51 STA 110+76.09

WALL GB 7499.18 STA 111+00.00

EVCS: 111+09.00
EVCE: 7495.27

WALL GB 7496.96 STA 111+34.45

WALL GB 7495.29 STA 111+44.90

BVCS: 111+49.50
BVCE: 7494.75

EVCS: 112+13.50
EVCE: 7494.17

WALL GB 7500.93 STA 109+04.82

WALL GB 7497.41 STA 110+61.33

WALL GB 7496.37 STA 110+55.00

3.74%
-18.10%
-1.04%
16.54%
0.64%
6.98%
-6.45%
-15.89%
-1.29%

TOP OF CURB TY 2 B
TOP OF CURB WALL
1' MIN COVER
TOP OF CURB WALL
1' MIN COVER
TOP OF CURB TY 2 B
PROPOSED GRADE AT HCL UTE PASS TRAIL RIGHT 12
TOP OF CURB WALL

PROPOSED 21"X15" CSPA
EXISTING GROUND AT HCL UTE PASS TRAIL RIGHT 12
PROPOSED 24"X18" CSPA

7498.2 7498.13 7496.4 7496.47 7495.4 7495.39

7510 7500 7490

108+00 109+00 110+00 111+00 112+00

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Horiz. Scale: 1"=30'	Vert. Scale: 1"=5'		
Unit Information	Unit Leader Initials		

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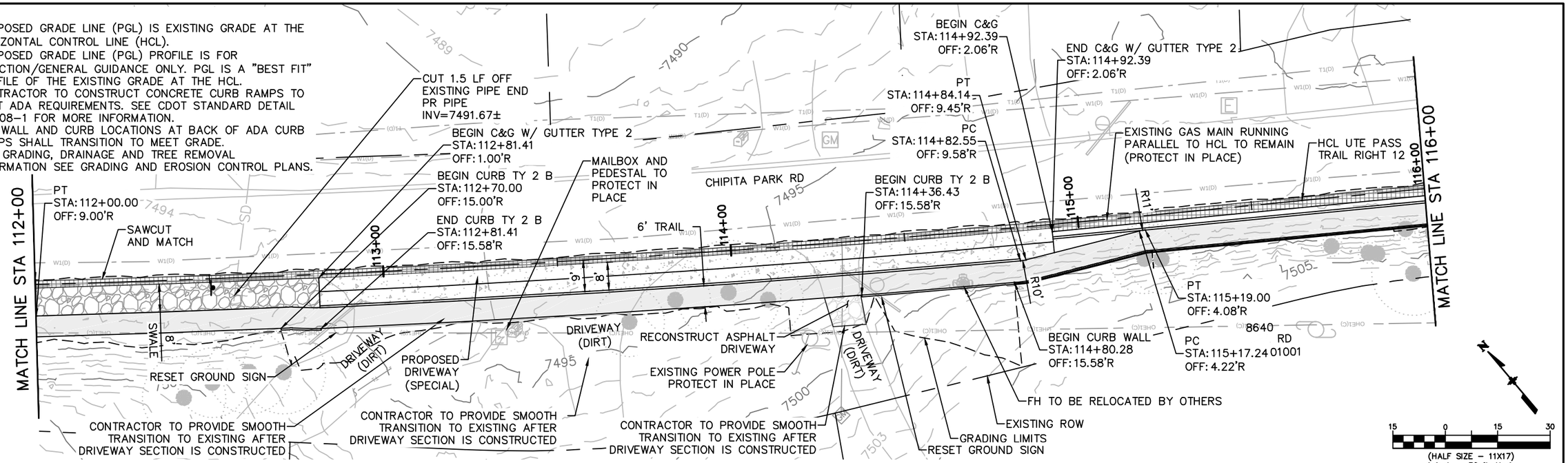
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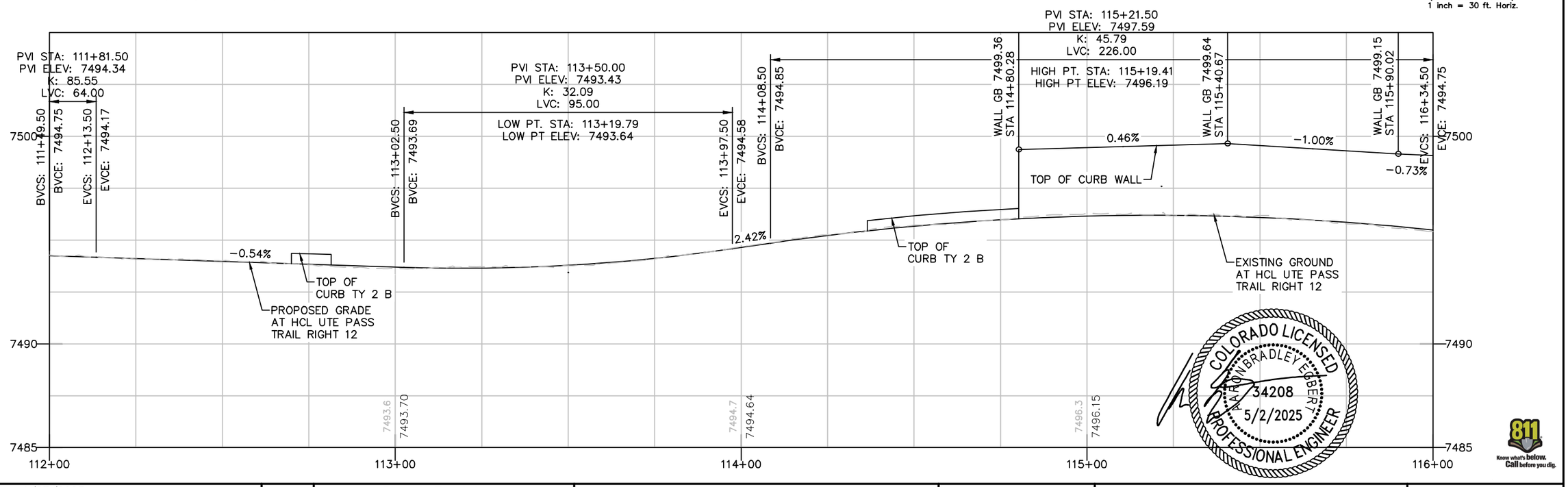
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TAP C040-054
22894
Sheet Number 26

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NOTES:

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Unit Information Unit Leader Initials			

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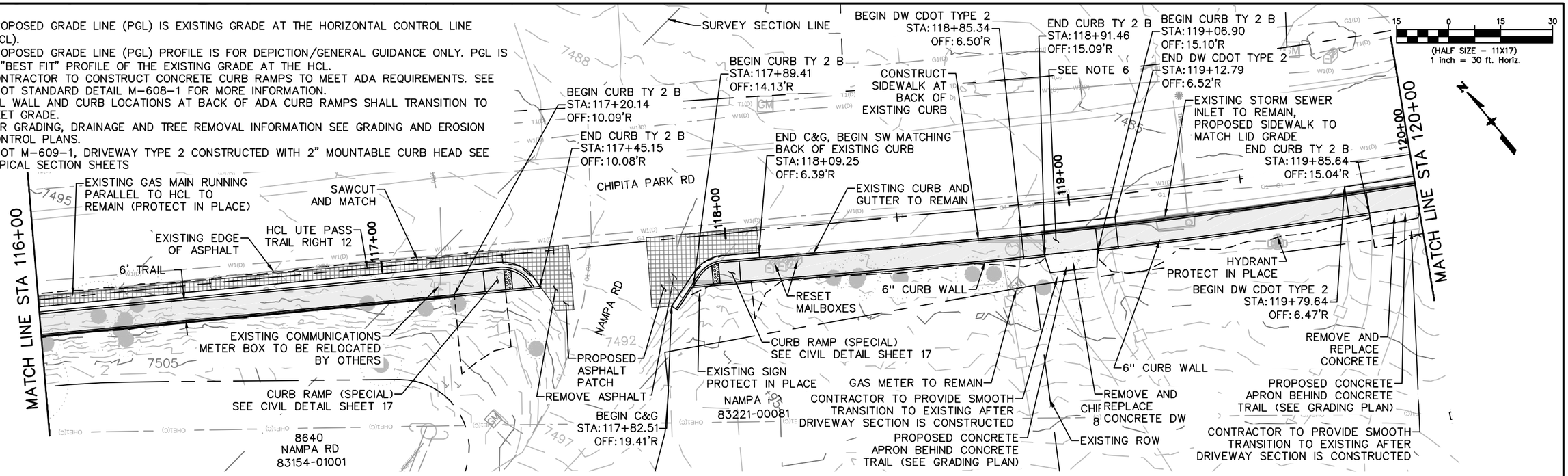
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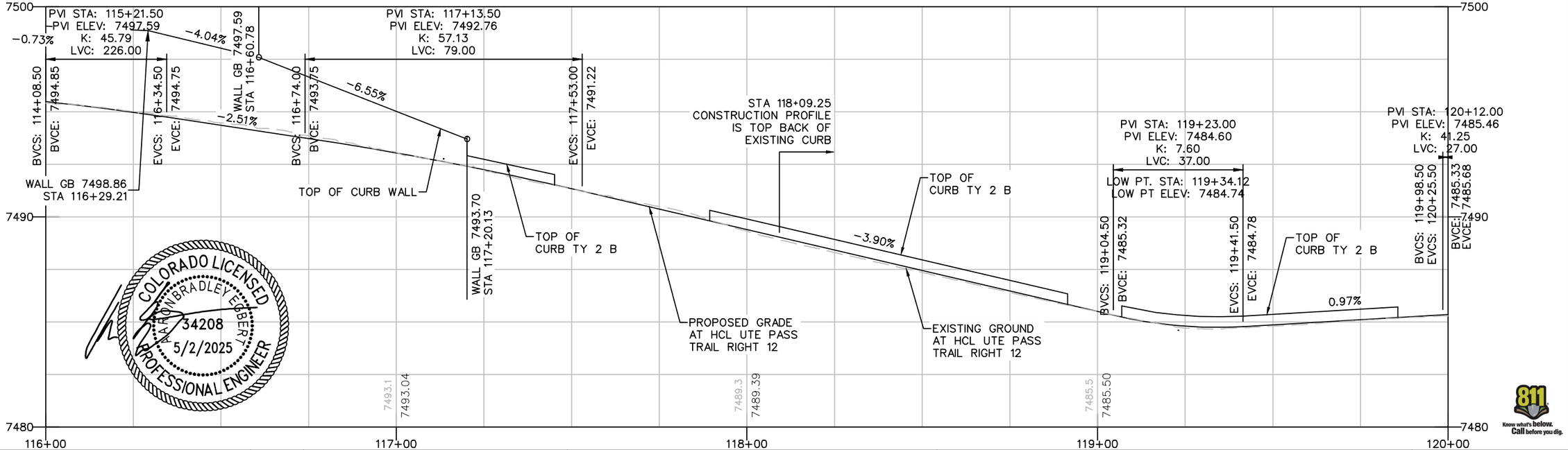
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No Revisions:		TAP C040-054
Revised:	Designer: M WOLF / Structure Numbers:	22894
Void:	Detailer: D. ALDEN	
	Sheet Subset: ROADWAY / Subset Sheets: 4 of 22	Sheet Number 27

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6. CDOT M-609-1, DRIVEWAY TYPE 2 CONSTRUCTED WITH 2" MOUNTABLE CURB HEAD SEE TYPICAL SECTION SHEETS





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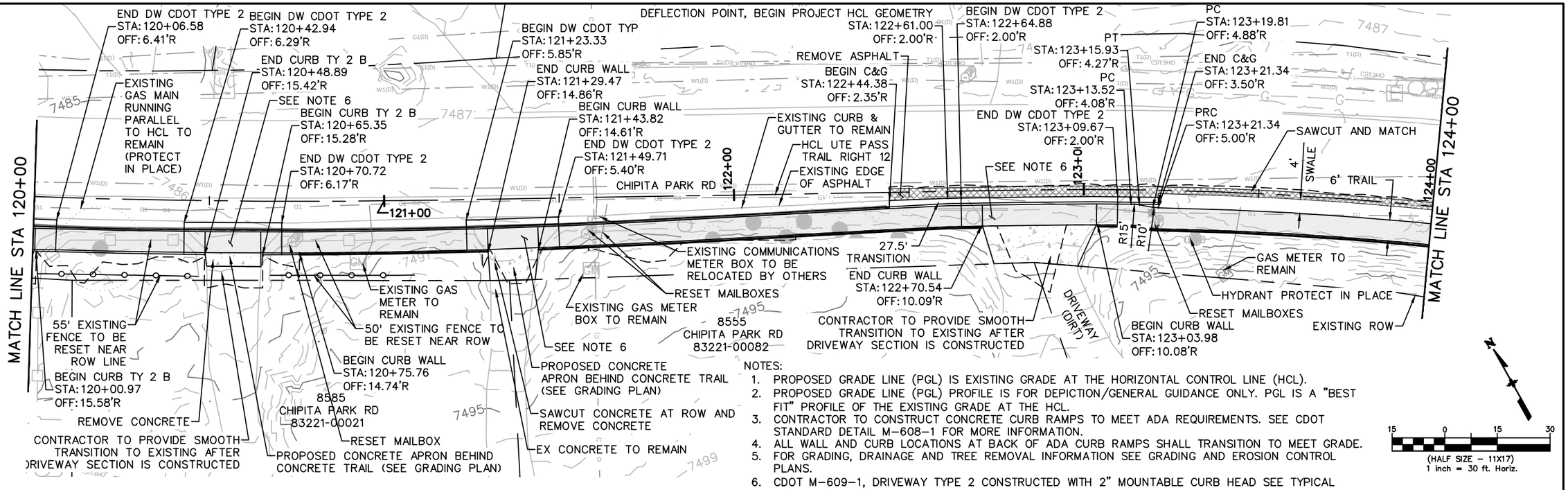
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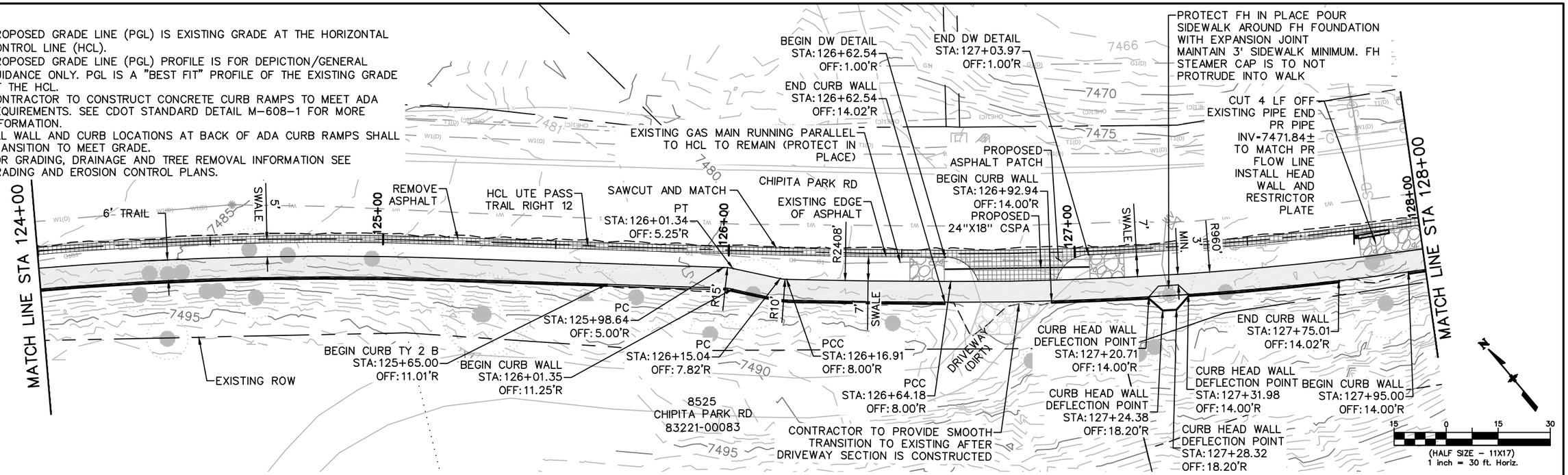
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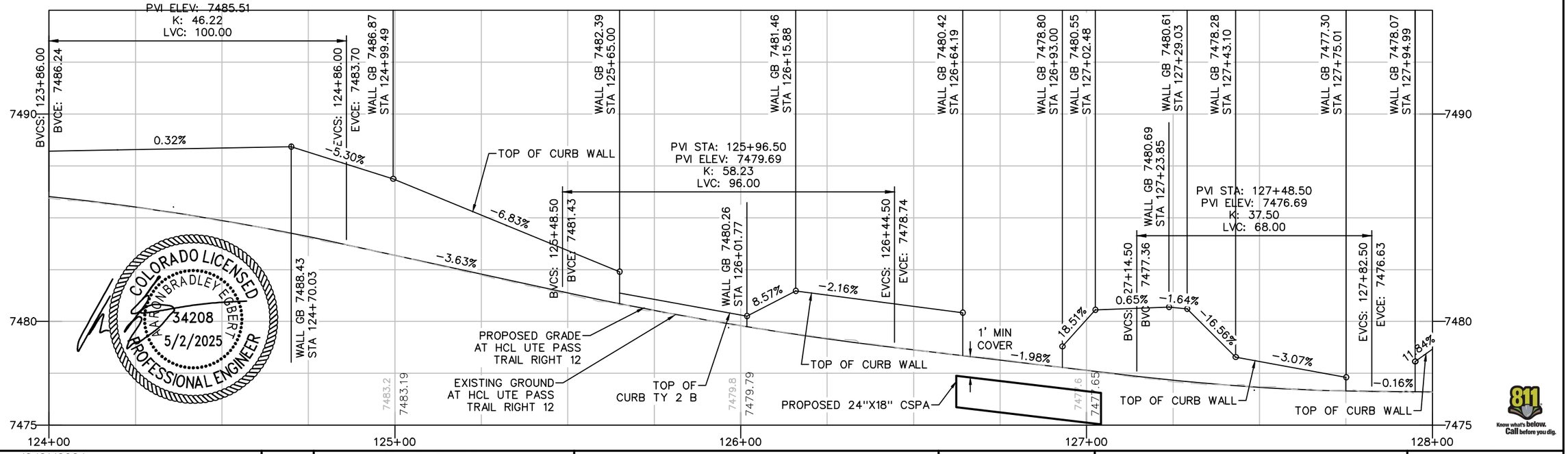
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No Revisions:			TAP C040-054
Revised:	Designer: M WOLF	Structure Numbers	22894
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	Sheet Subset: ROADWAY	Subset Sheets: 6 of 22	

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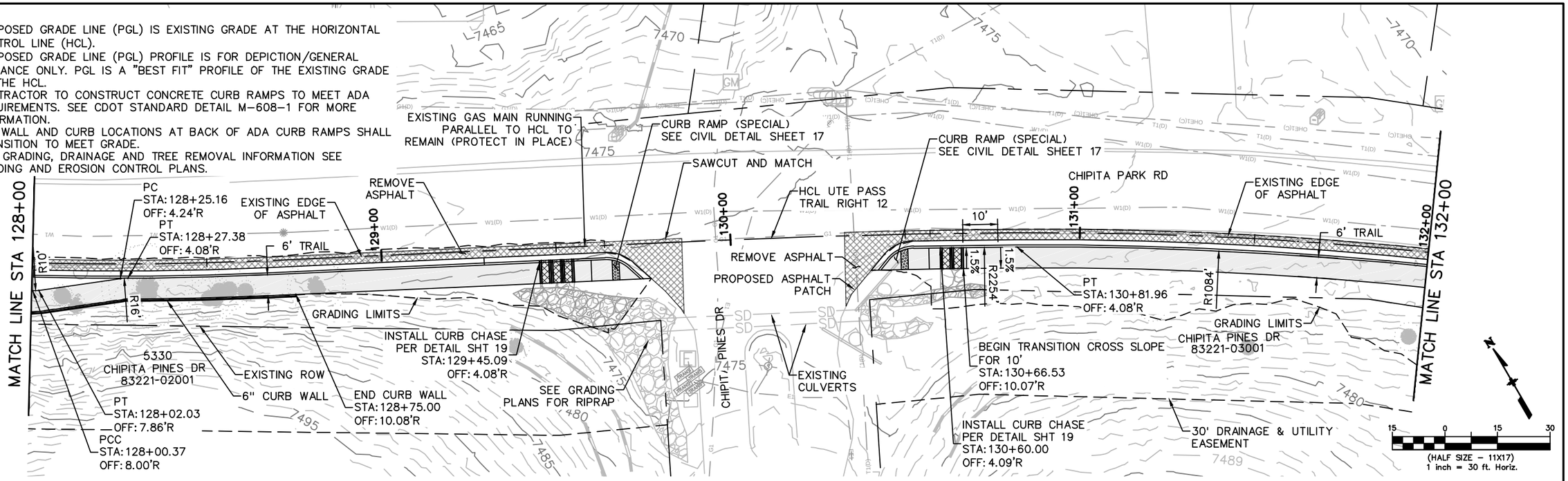
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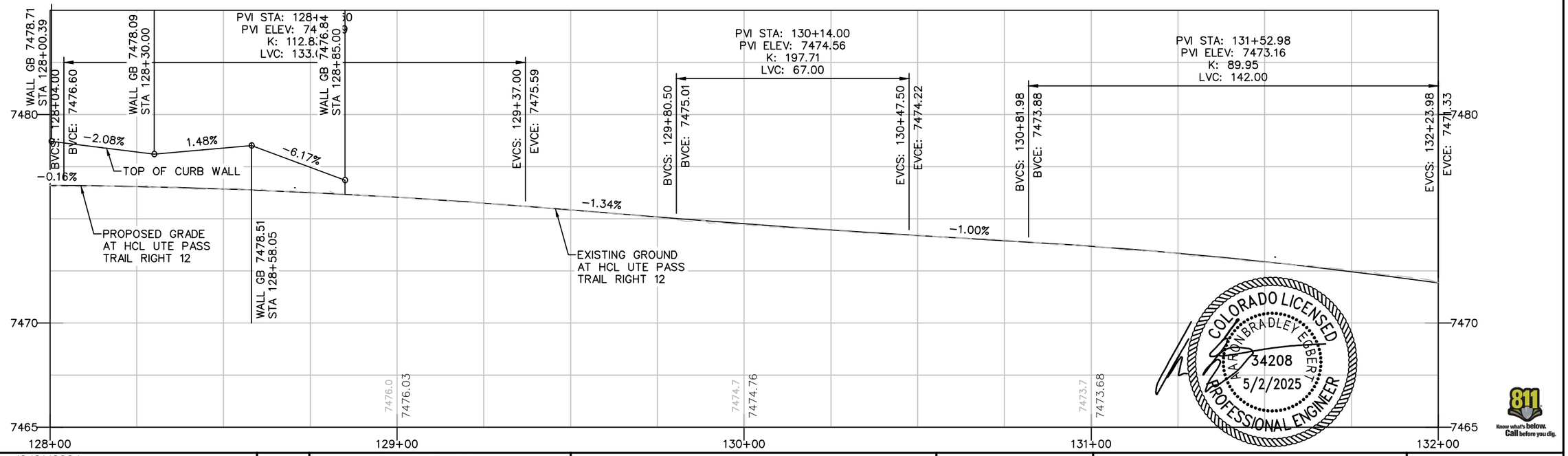
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Detailer:	D. ALDEN		
Sheet Subset:	ROADWAY	Subset Sheets:	7 of 22

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TAP CO40-054	
22894	
Sheet Number	30

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Horiz. Scale:	1"=30'
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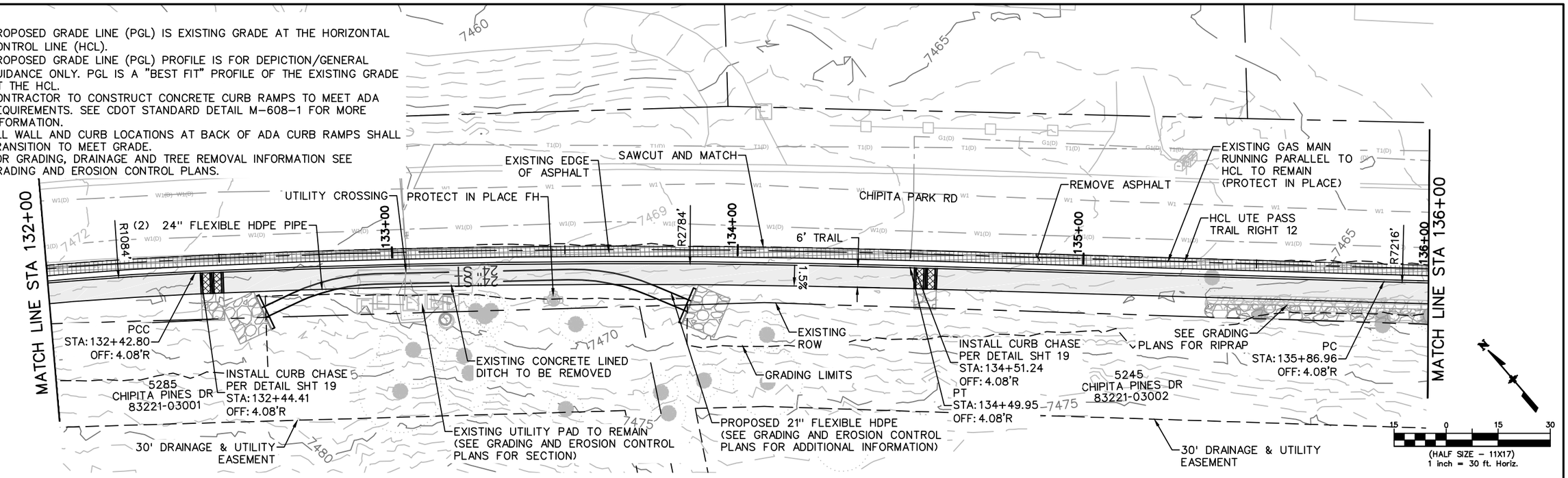
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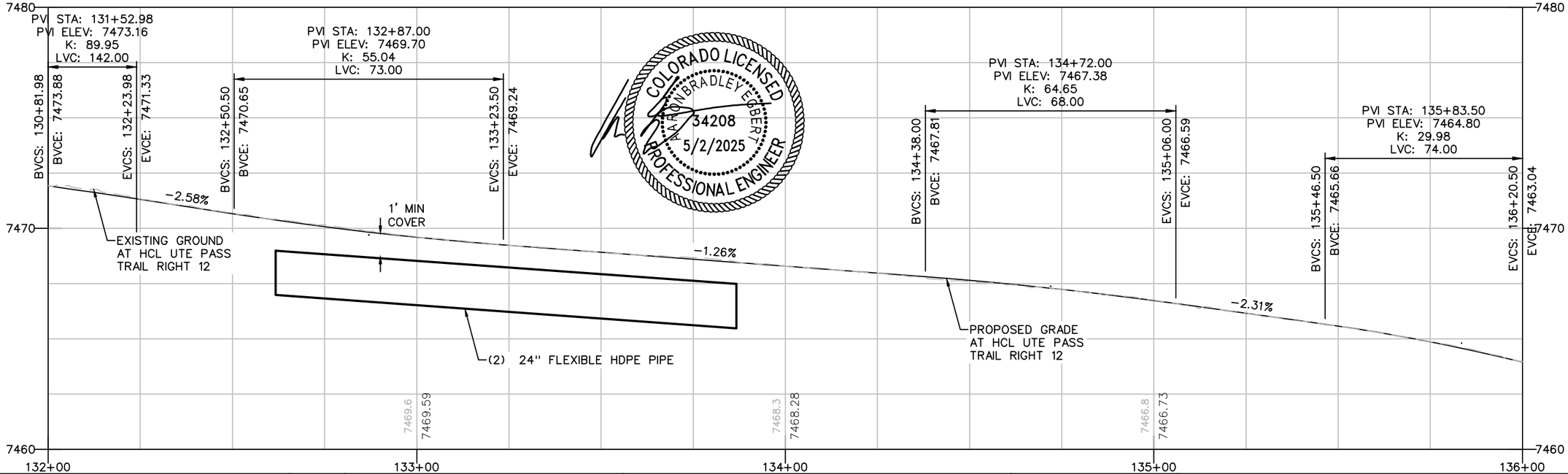
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Detailer:	D. ALDEN		
Sheet Subset:	ROADWAY	Subset Sheets:	8 of 22

Project No./Code	
TAP CO40-054	
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Sheet Number	31

NOTES:

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Unit Information	Unit Leader Initials

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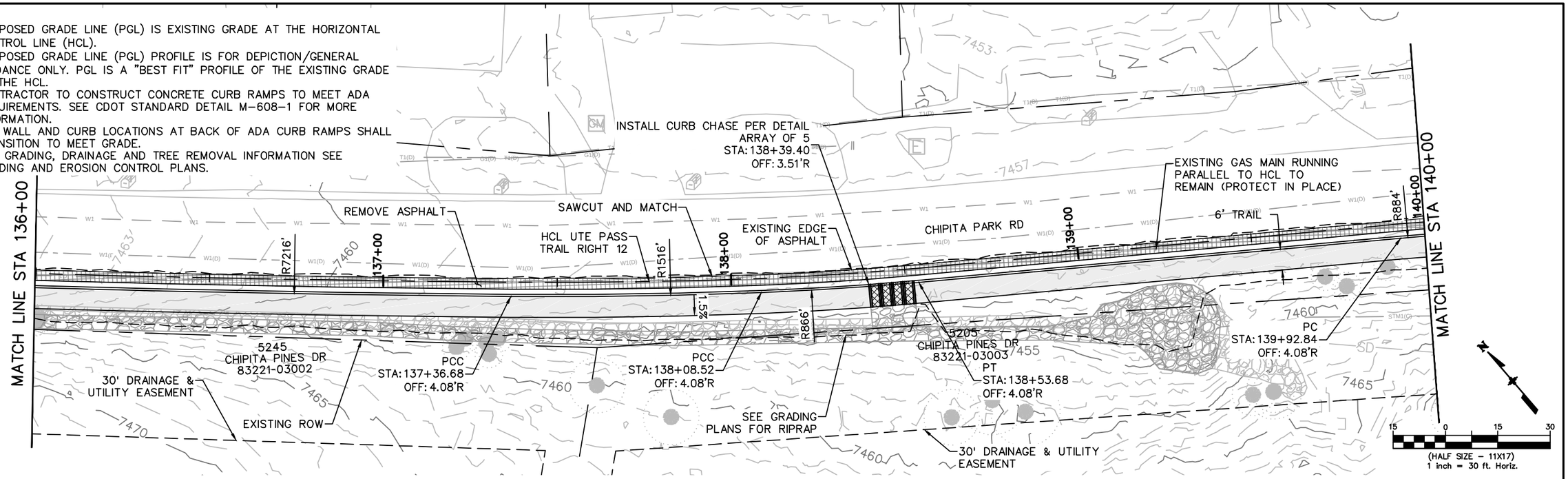
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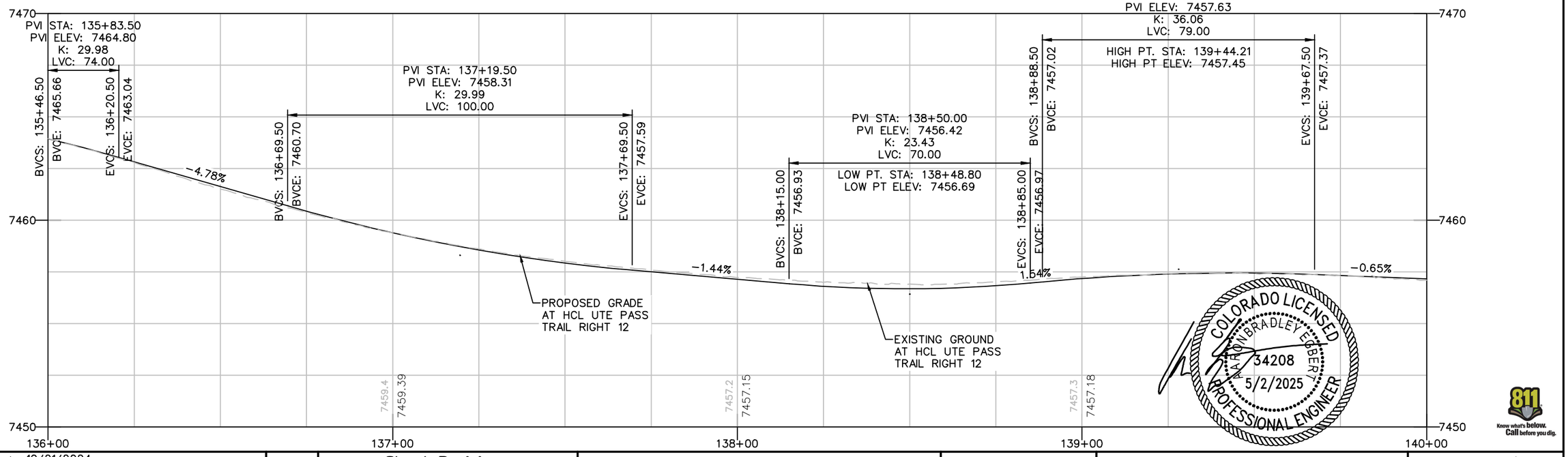
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Sheet Subset:	ROADWAY	Subset Sheets:	9 of 22

Project No./Code	
TAP C040-054	
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Sheet Number	32

NOTES:

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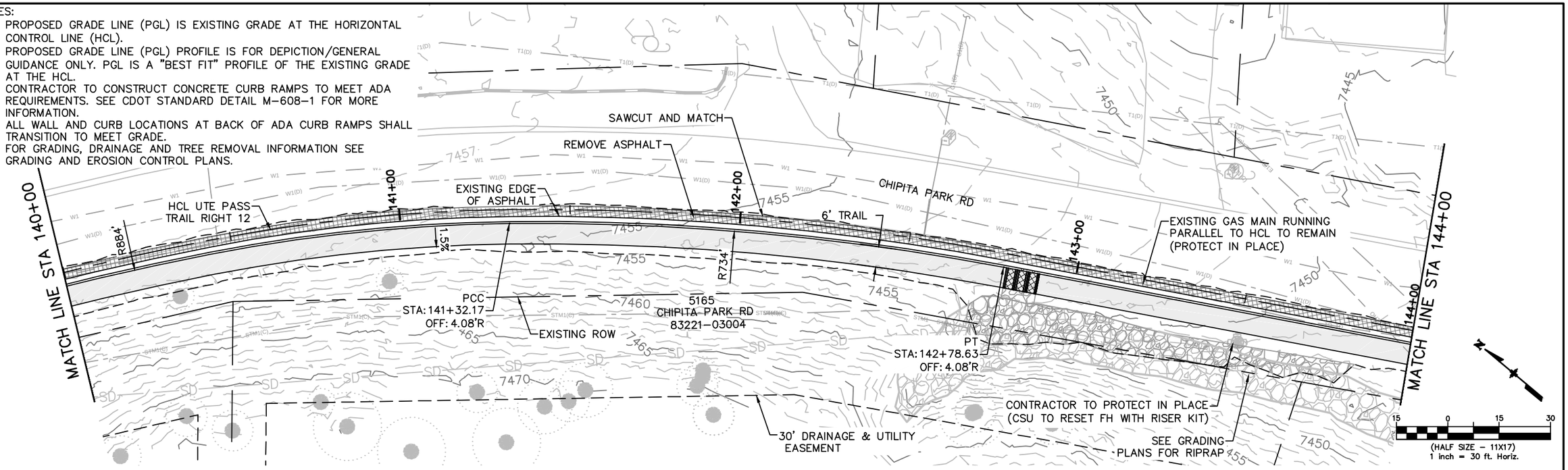
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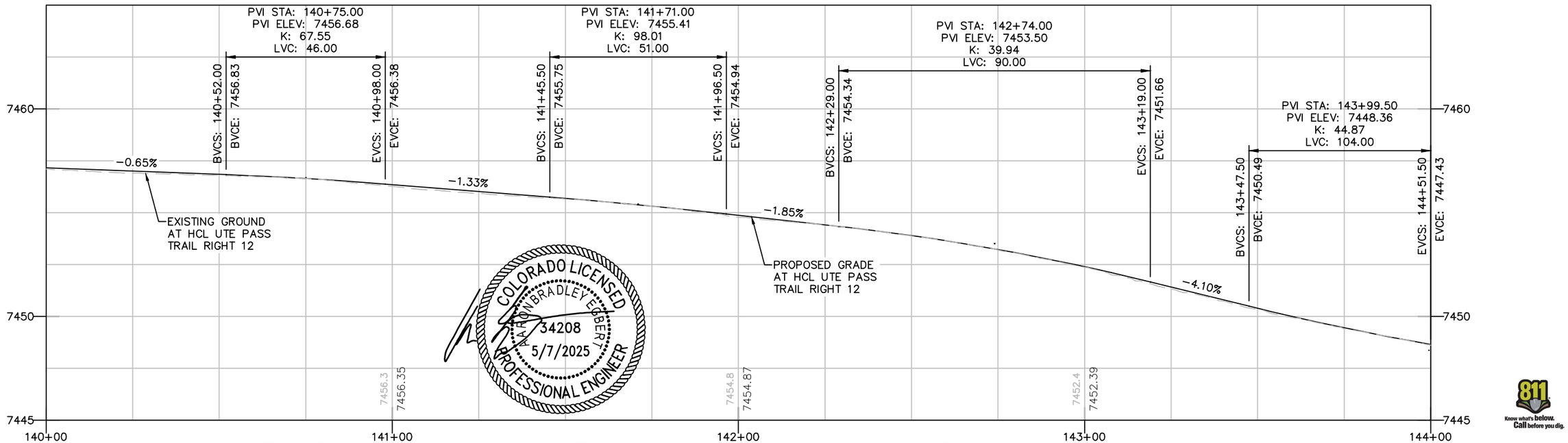
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Detailer:	D. ALDEN		
Sheet Subset:	ROADWAY	Subset Sheets:	10 of 22

Project No./Code
TAP C040-054
22894
Sheet Number 33

NOTES:

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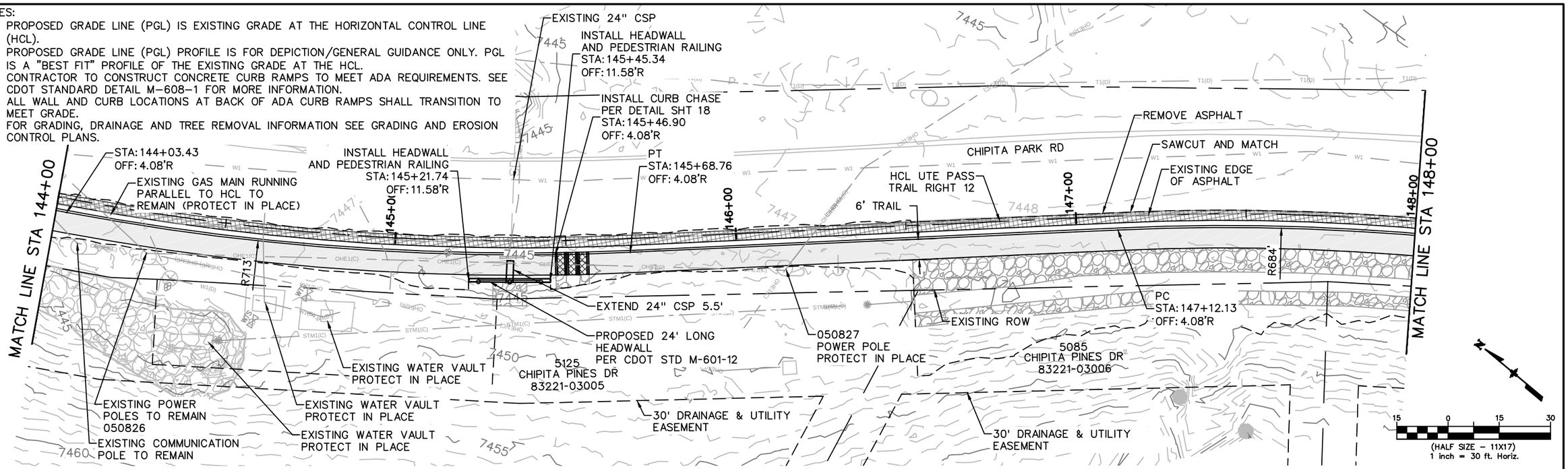
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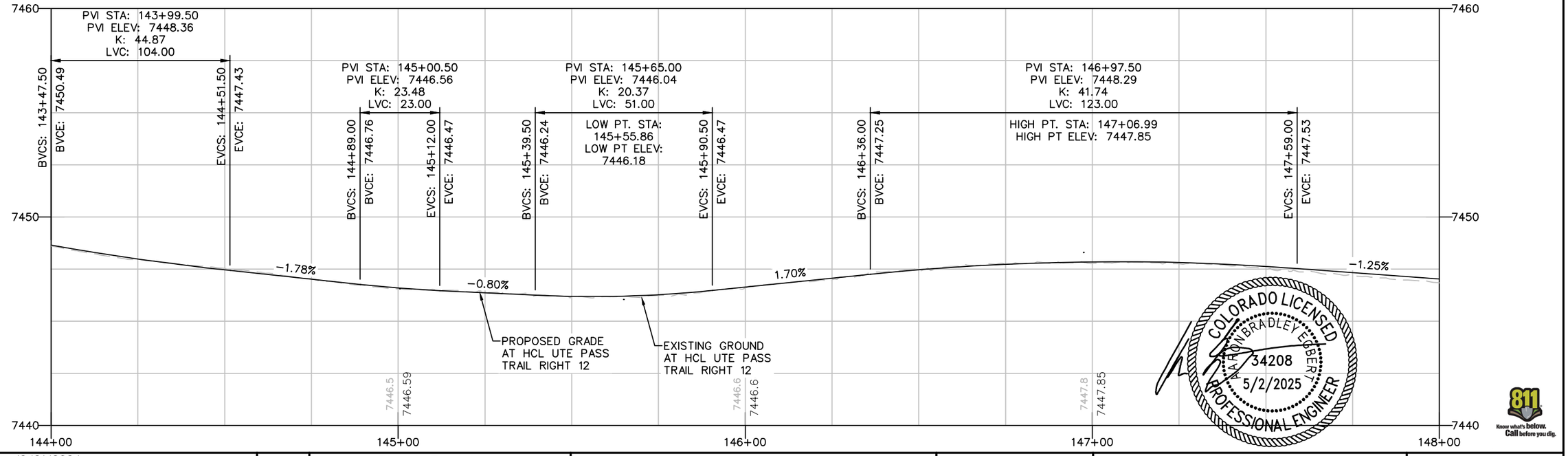
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Project No./Code	
TAP C040-054	
22894	
Sheet Number	34

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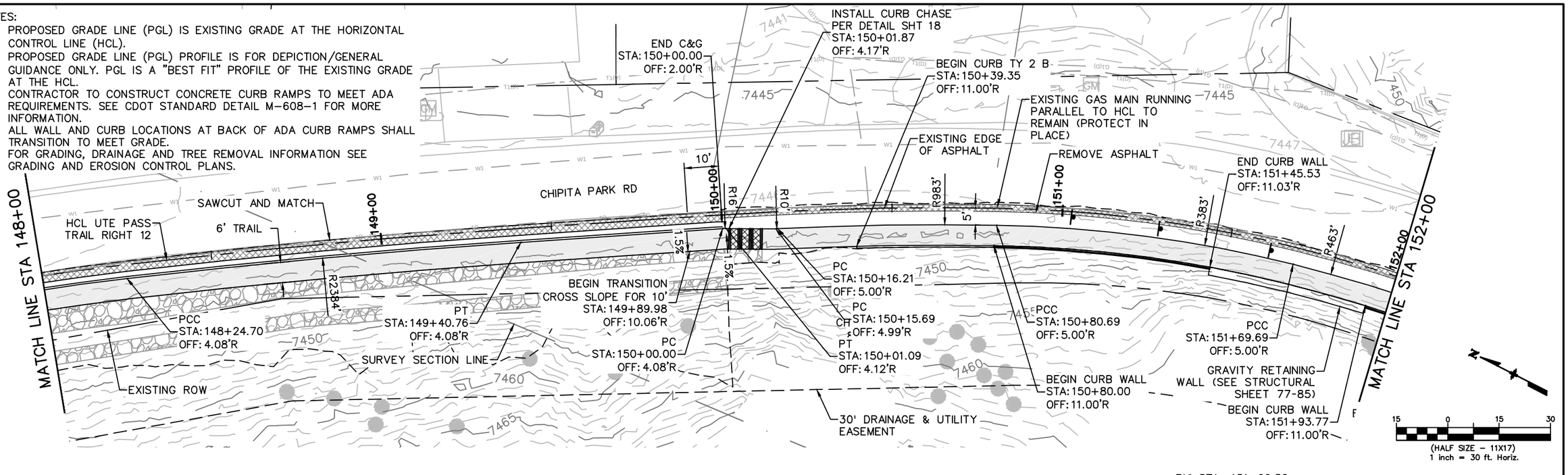
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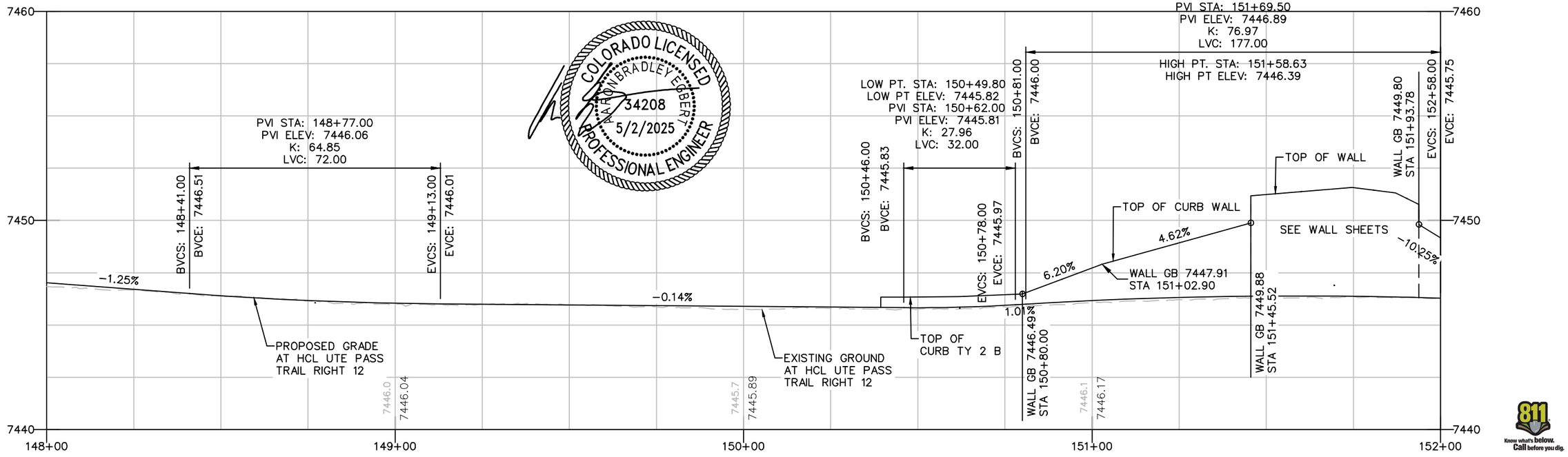
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No Revisions:			TAP C040-054
Revised:	Designer: M WOLF	Structure Numbers	22894
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	Sheet Subset: ROADWAY	Subset Sheets: 12 of 22	

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5. FOR GRADING, DRAINAGE AND TREE REMOVAL INFORMATION SEE GRADING AND EROSION CONTROL PLANS.





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34208
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1 inch = 30 ft. Horiz.

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Print Date:	10/21/2024
File Name:	11311-PNP_02.DWG
Horiz. Scale:	1"=30'
Vert. Scale:	1"=5'
Unit Information	Unit Leader Initials

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(303) 295-1717

Sheet Revisions		
Date:	Comments	Init.

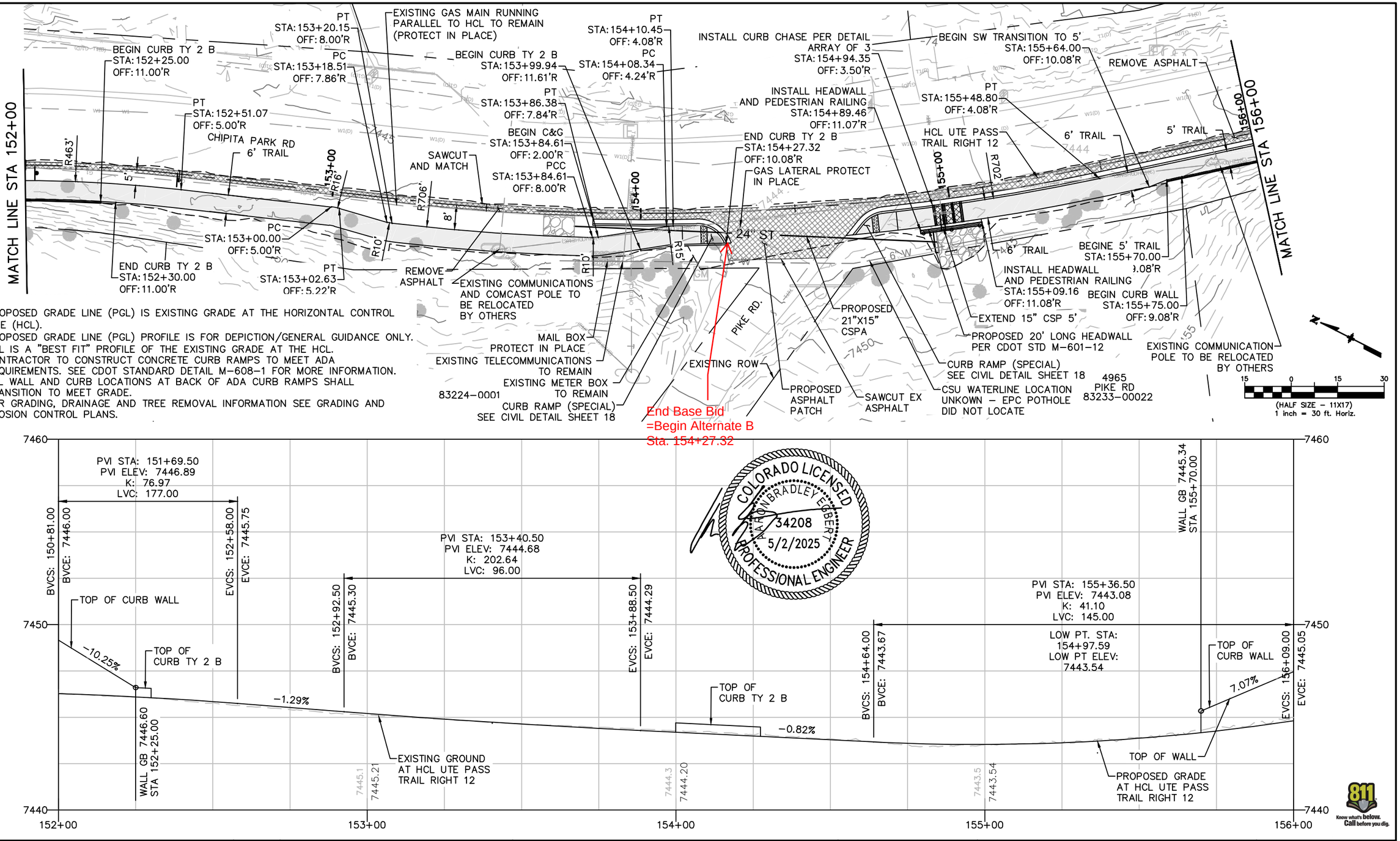
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PLAN AND PROFILE

Designer:	M WOLF	Structure Numbers	
Detailer:	D. ALDEN		
Sheet Subset:	ROADWAY	Subset Sheets:	13 of 22

Project No./Code	
TAP C040-054	
22894	
Sheet Number	36



NOTES:

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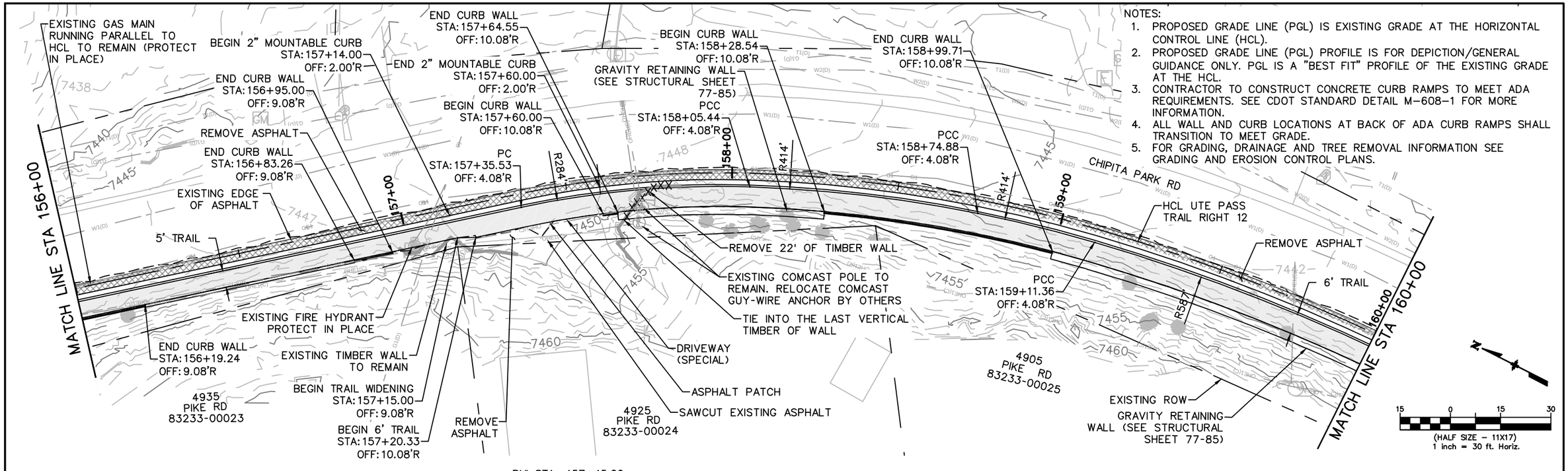
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Horiz. Scale: 1"=30'	Vert. Scale: 1"=5'				Revised:	Designer: M WOLF / Structure Numbers:	22894
Unit Information	Unit Leader Initials				Void:	Detailer: D. ALDEN	Sheet Number 37
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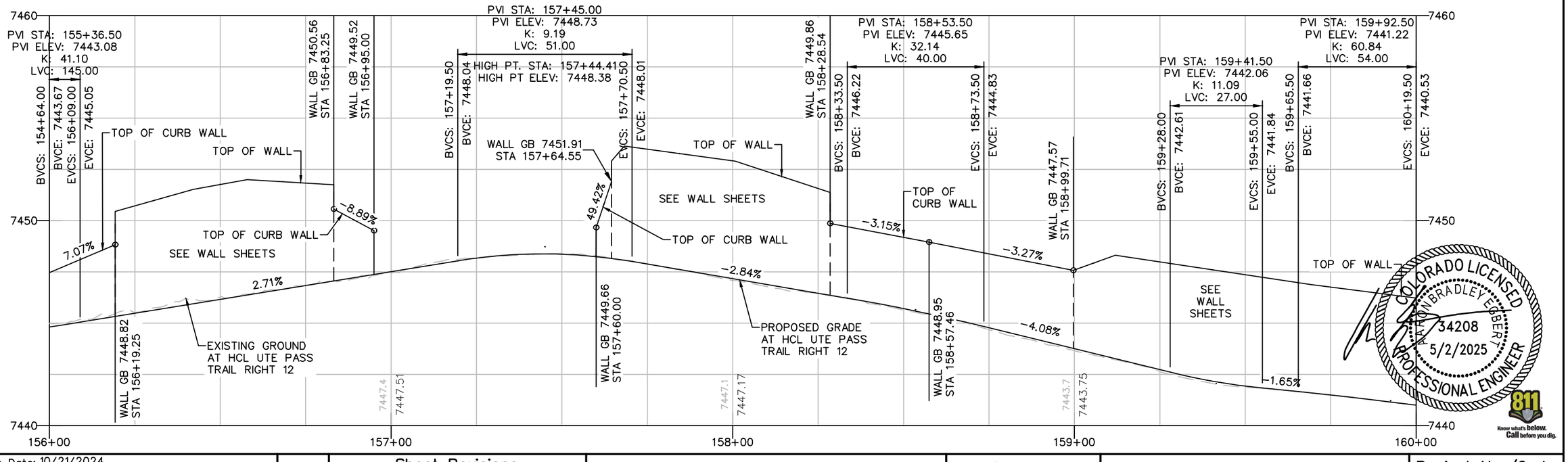
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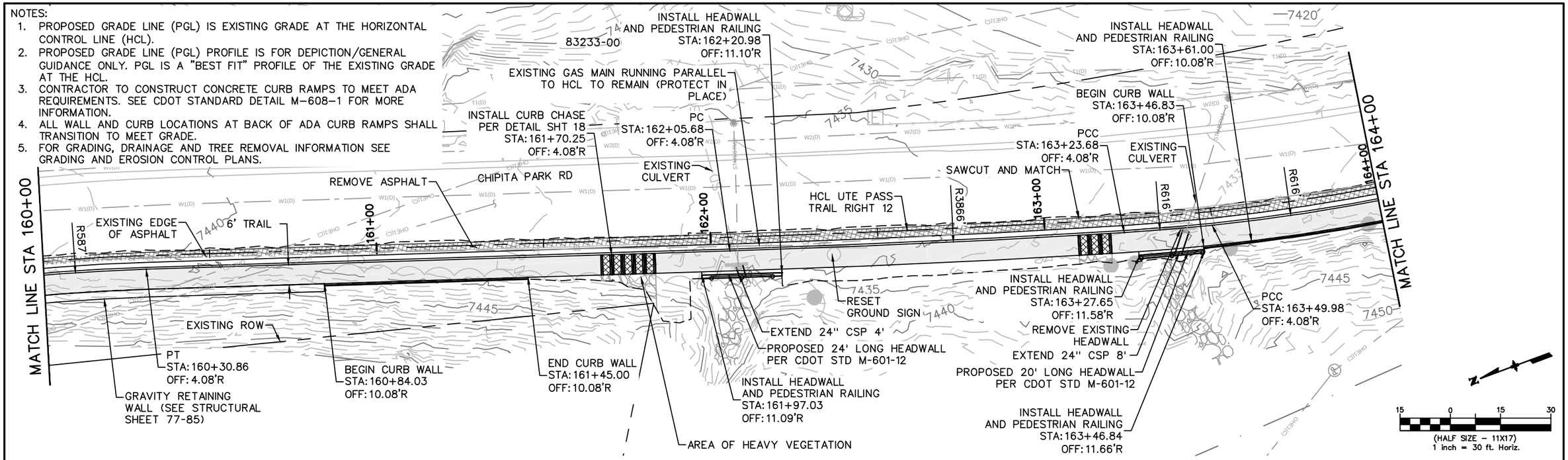
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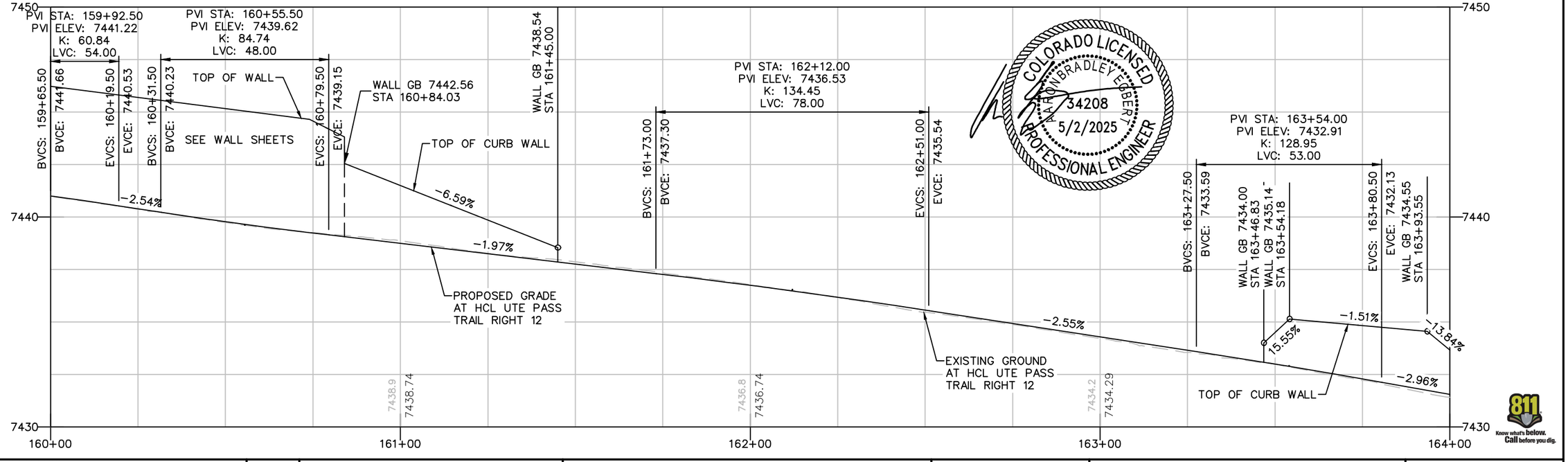
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Revised:	Designer: M WOLF / Structure Numbers:	22894
Void:	Detailer: D. ALDEN	
	Sheet Subset: ROADWAY / Subset Sheets: 15 of 22	Sheet Number 38

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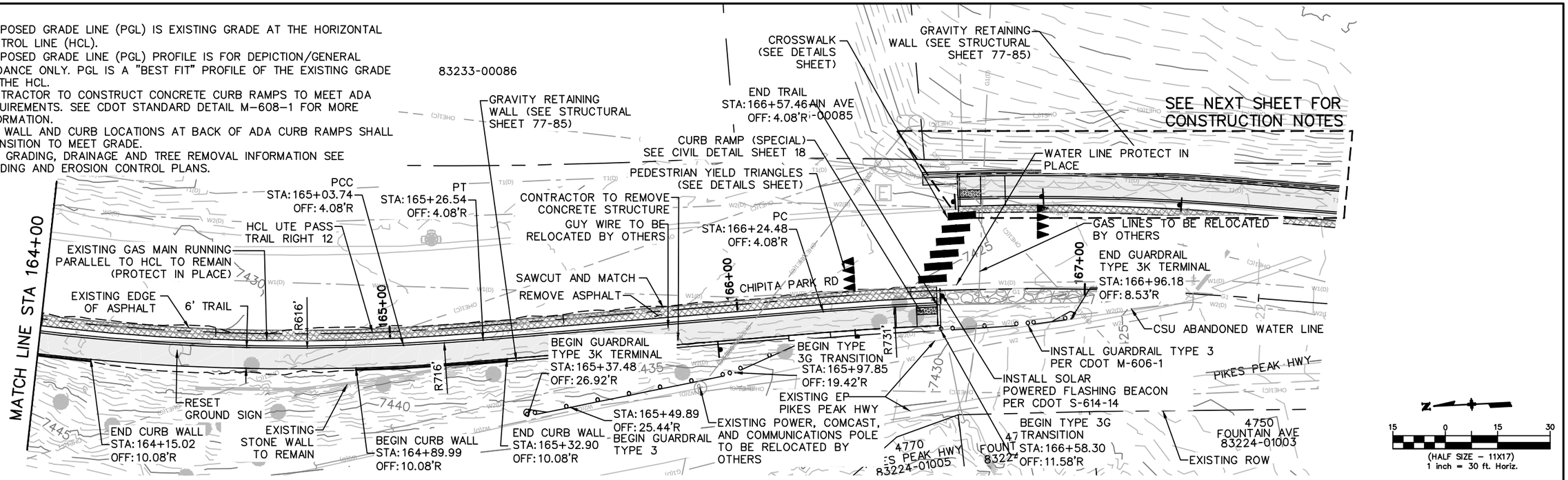
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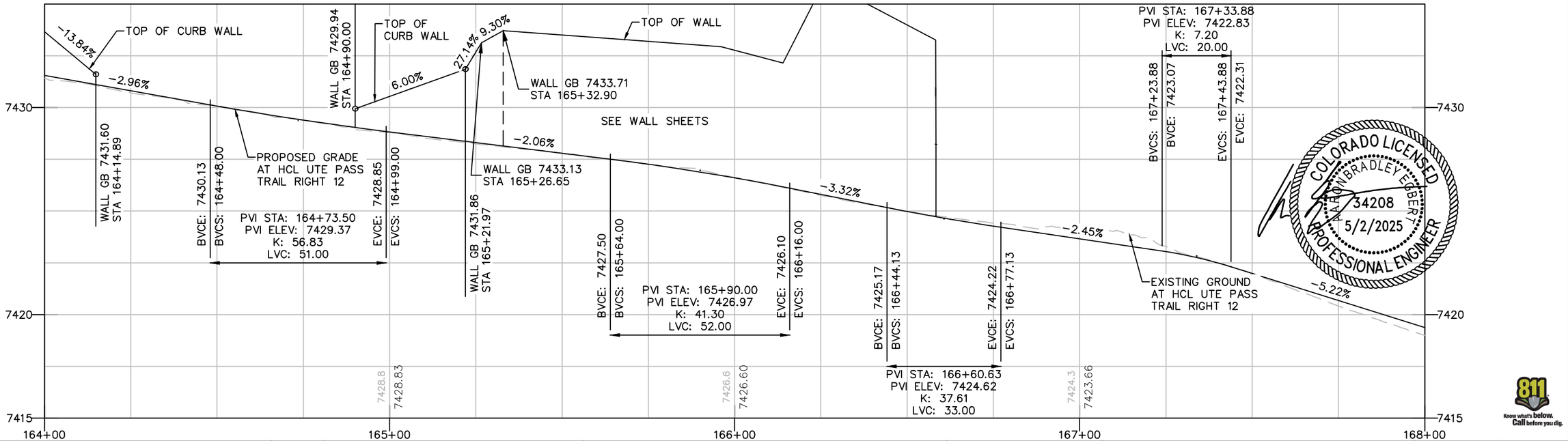
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No Revisions:			TAP C040-054
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Void:	Detailer: D. ALDEN		Sheet Number 39
	Sheet Subset: ROADWAY	Subset Sheets: 16 of 22	

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File Name: 11311-PNP_02.DWG	Date / Comments / Init.	No Revisions:	TAP C040-054
Horiz. Scale: 1"=30' Vert. Scale: 1"=5'		Revised:	22894
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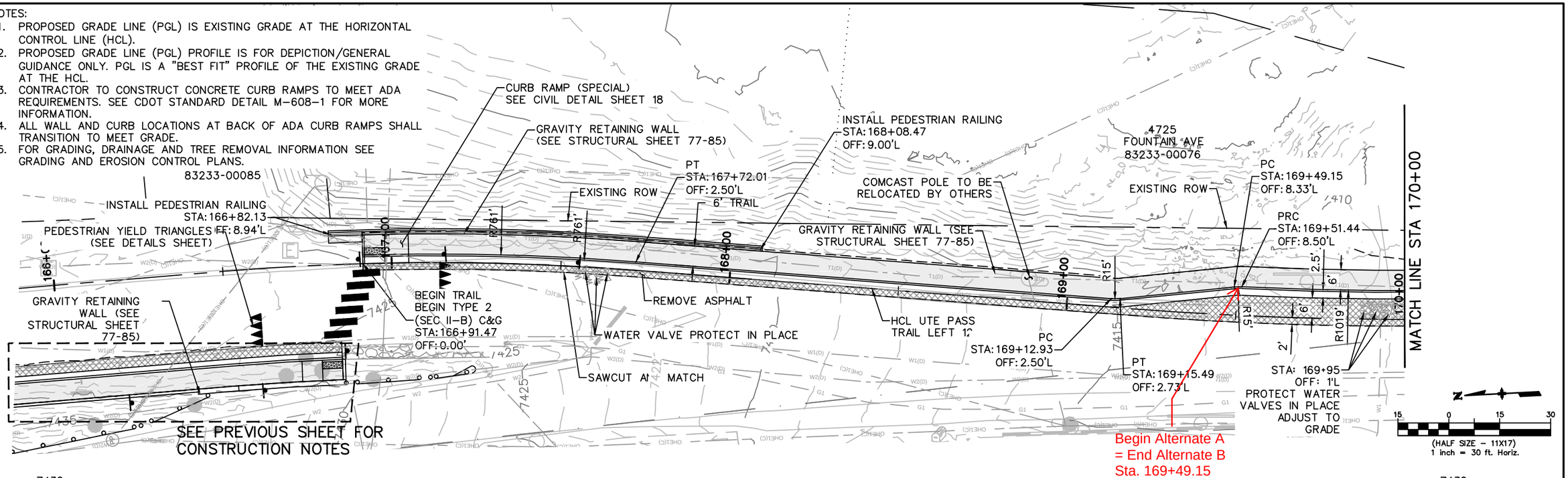
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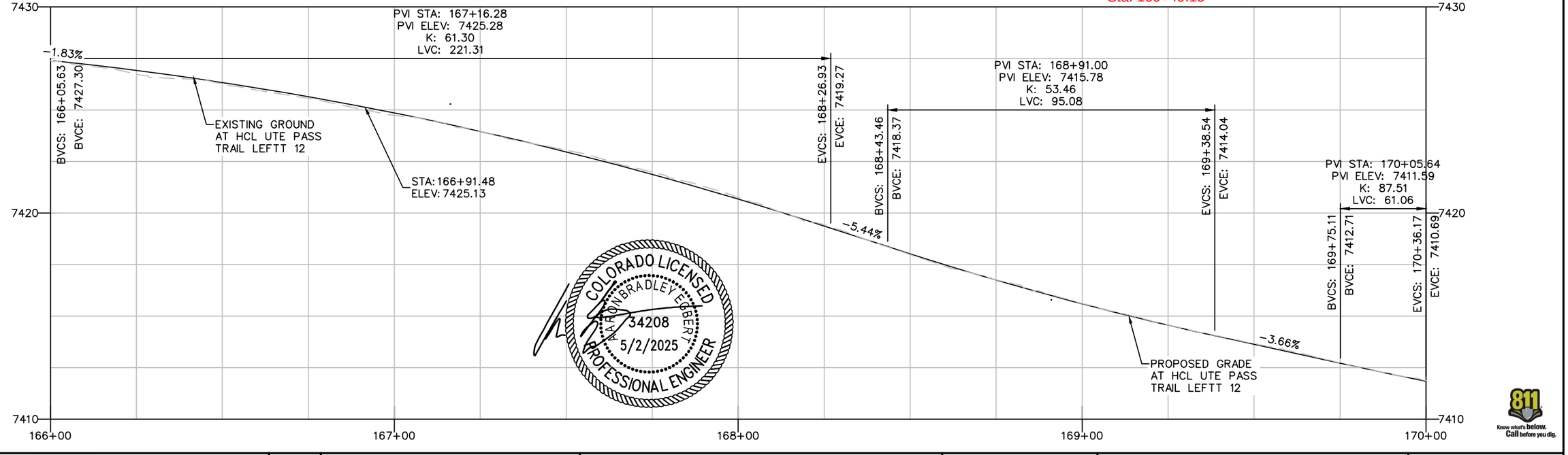
PLAN AND PROFILE

Designer: M WOLF
Detailer: D. ALDEN
Sheet Subset: ROADWAY
Structure Numbers
Subset Sheets: 17 of 22

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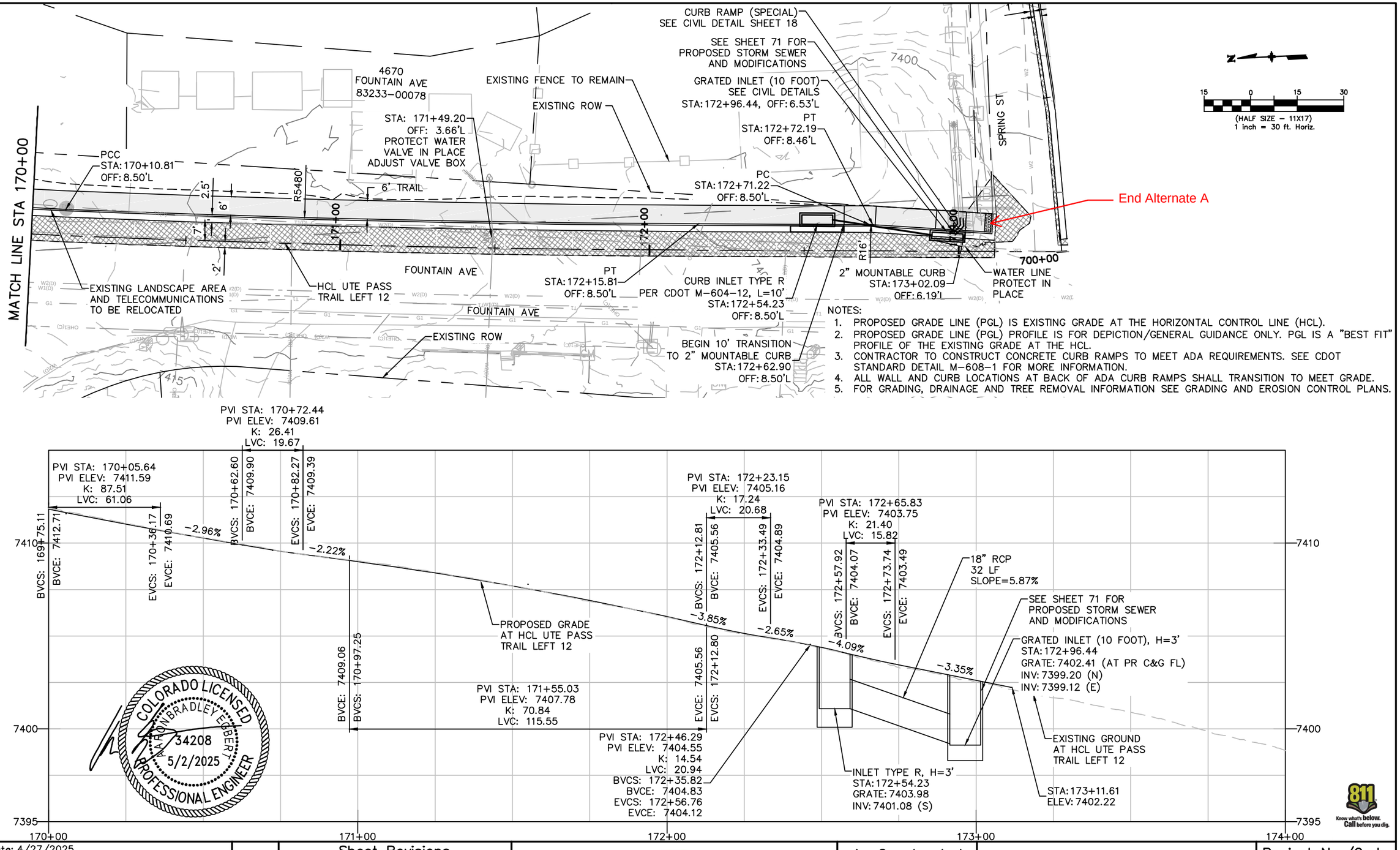
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Horiz. Scale: 1"=30' Vert. Scale: 1"=5'			
Unit Information Unit Leader Initials			
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As Constructed	PLAN AND PROFILE		Project No./Code
No Revisions:			TAP C040-054
Revised:	Designer: M WOLF	Structure Numbers	22894
Void:	Detailer: D. ALDEN		Sheet Number 41
	Sheet Subset: ROADWAY	Subset Sheets: 18 of 22	



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Unit Information Unit Leader Initials			

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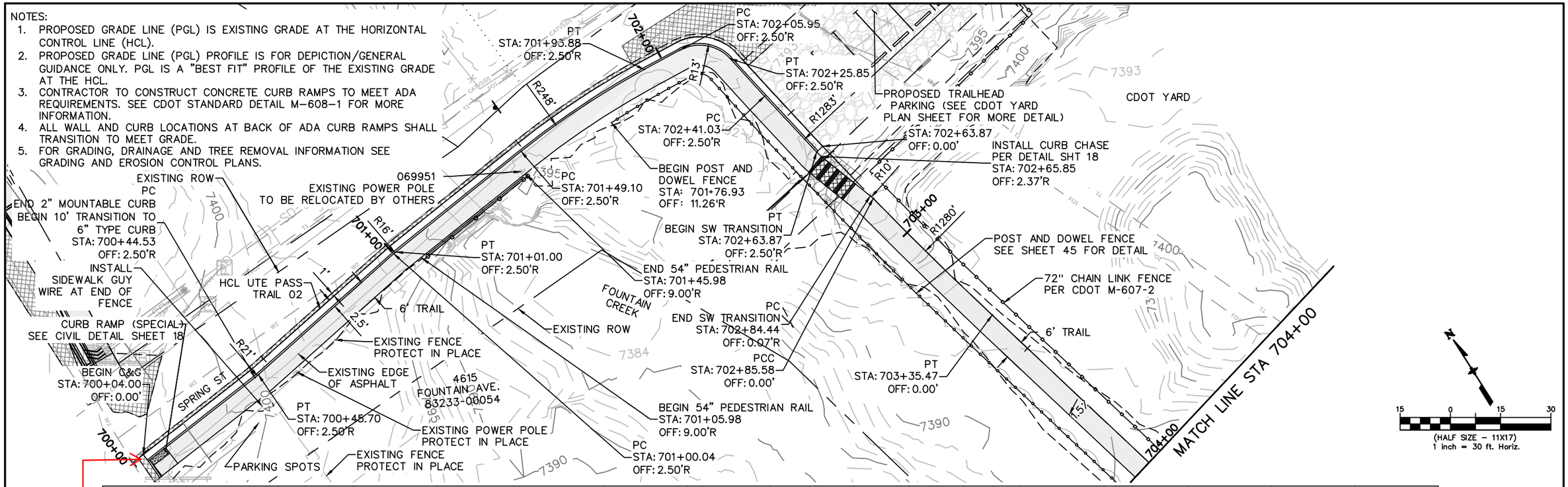
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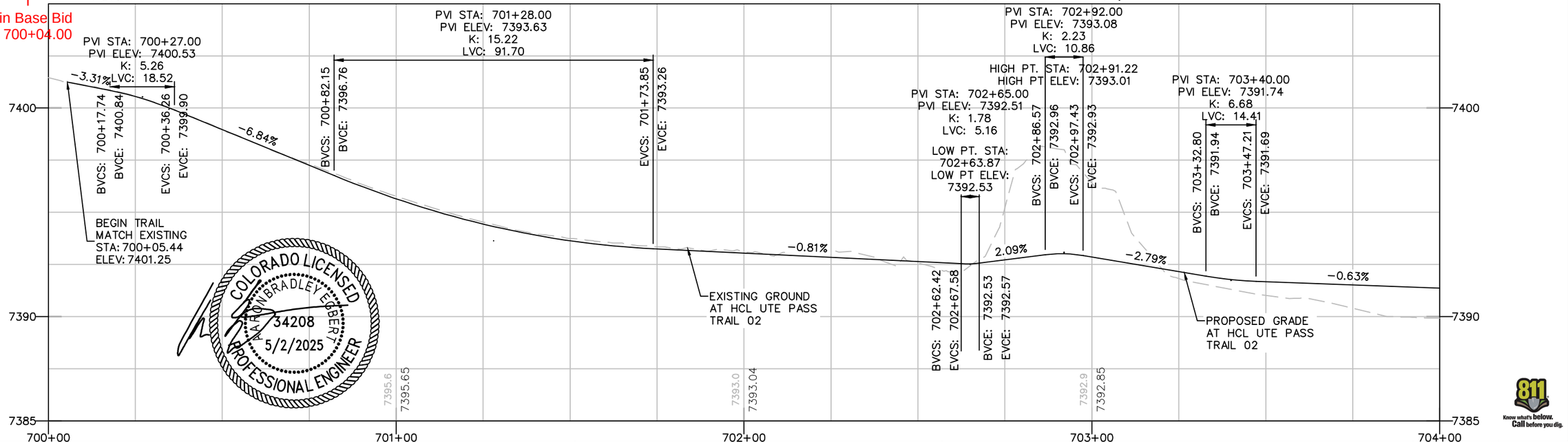
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TAP C040-054
22894
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Begin Base Bid
Sta. 700+04.00



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Sheet Revisions

Date:	Comments	Init.

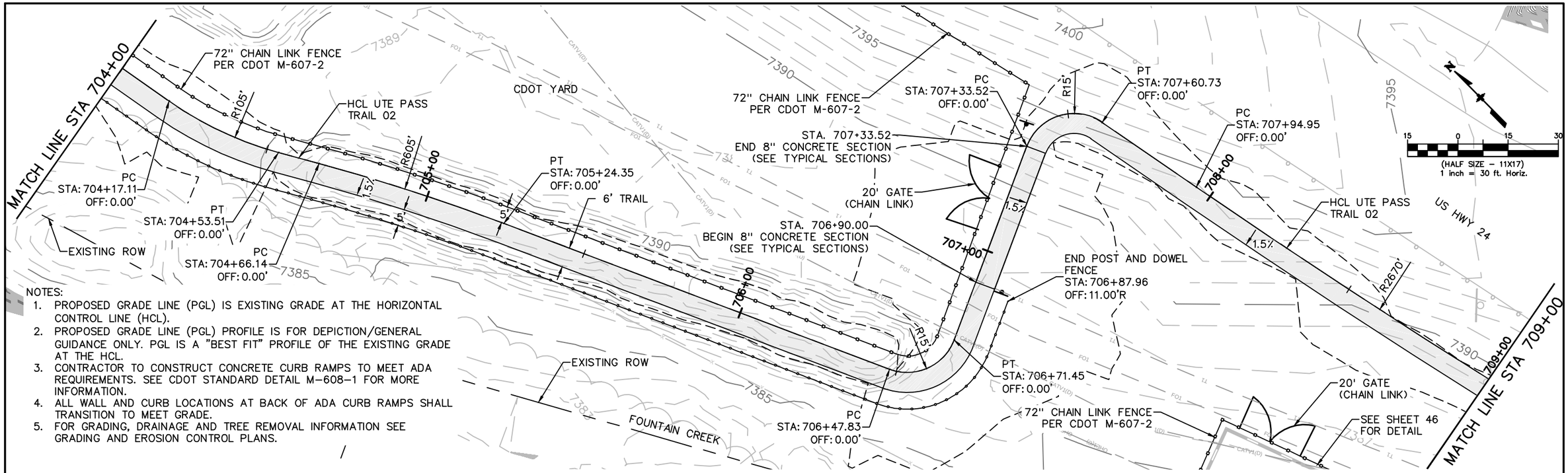
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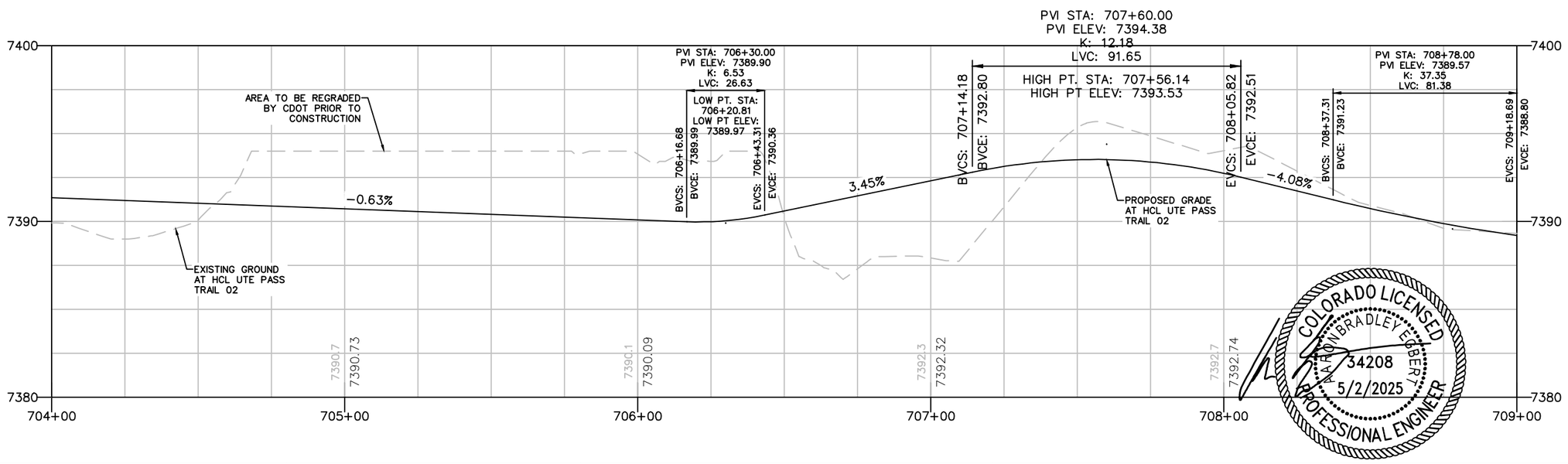
Designer: M WOLF
Detailer: D. ALDEN
Sheet Subset: ROADWAY
Structure Numbers:
Subset Sheets: 20 of 22

Project No./Code
TAP C040-054
22894
Sheet Number 43



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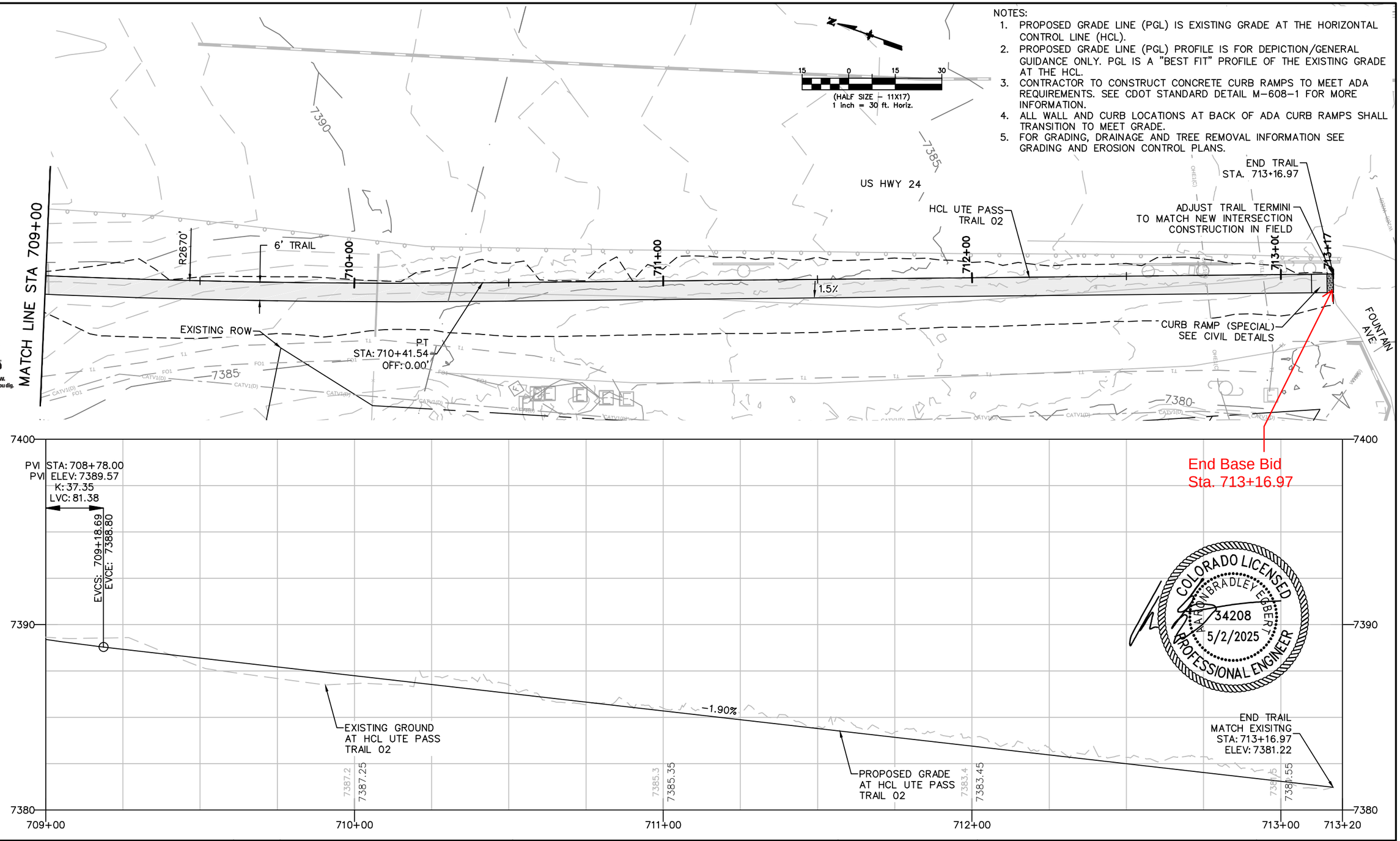
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Horiz. Scale: 1"=30' Vert. Scale: 1"=5'		Revised:	Project No./Code: TAP C040-054; 22894
Unit Information Unit Leader Initials		Void:	Sheet Number 44

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15 0 15 30
(HALF SIZE - 11X17)
1 inch = 30 ft. Horiz.



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Unit Information	Unit Leader Initials

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Sheet Revisions		
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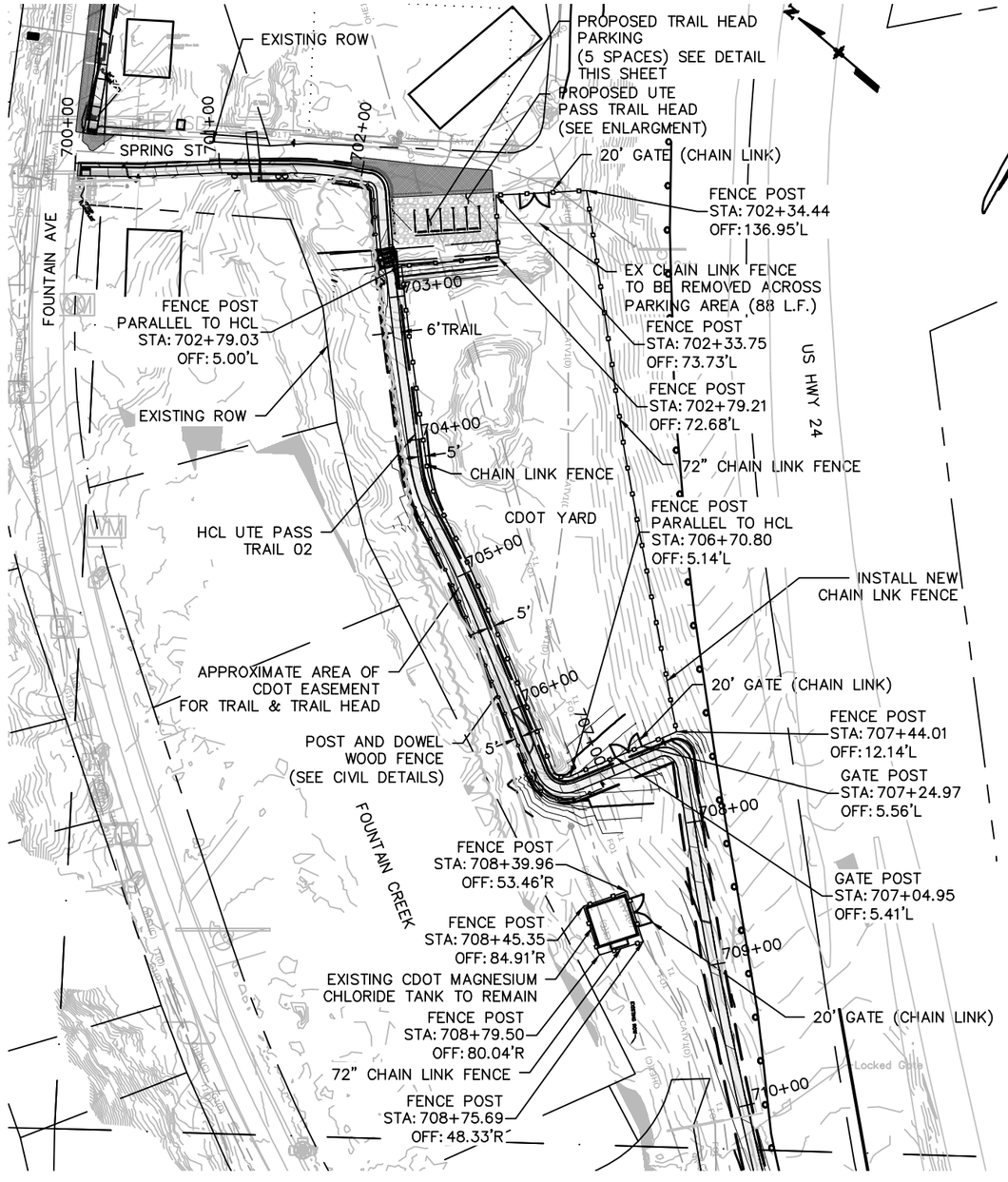
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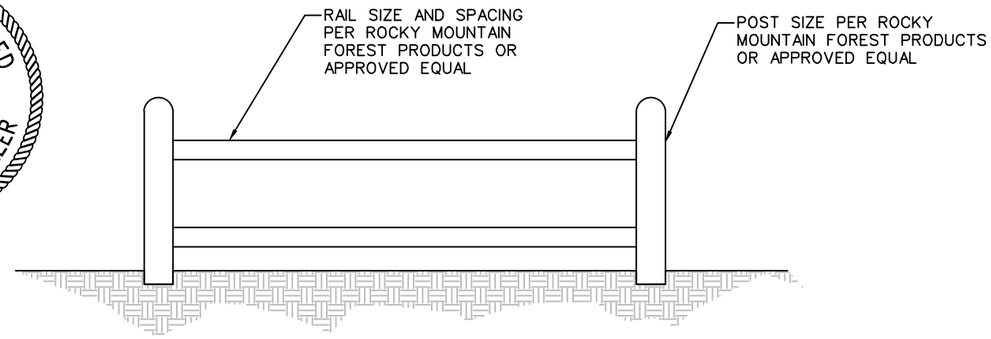
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Detailer:	D. ALDEN		
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Project No./Code	
TAP C040-054	
22894	
Sheet Number	45

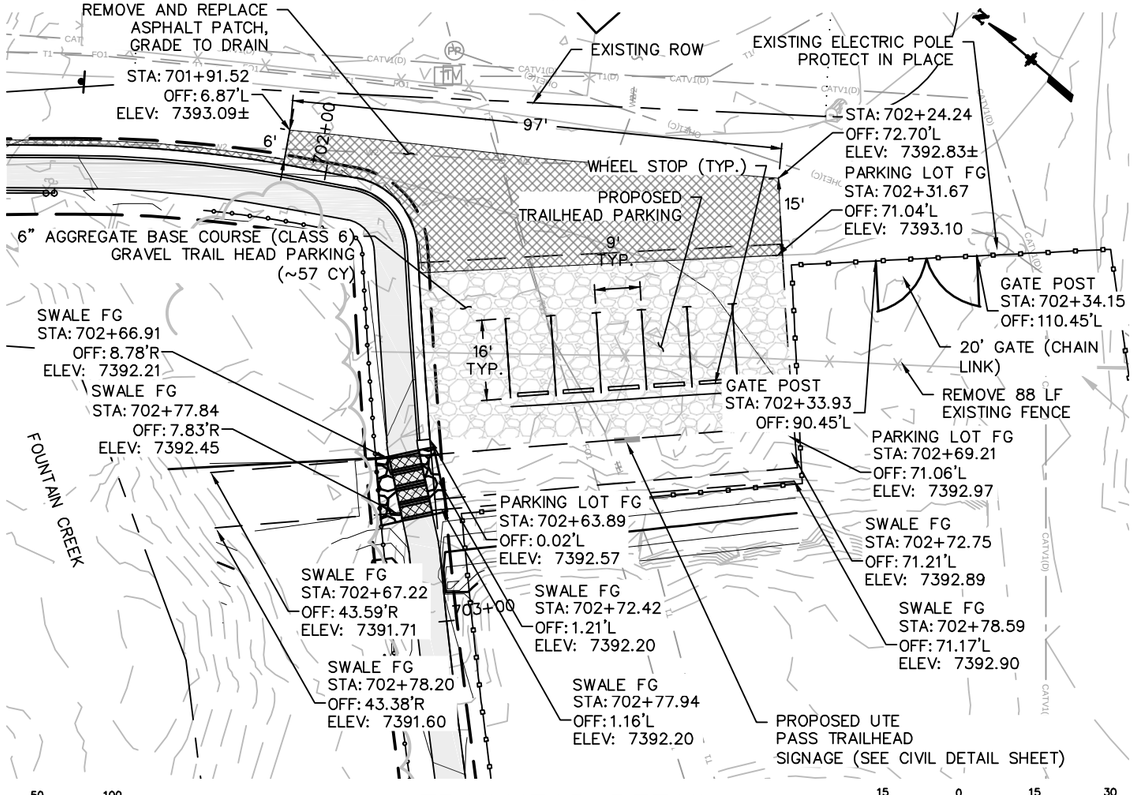


50 0 50 100
(HALF SIZE–11X17)
1 inch = 100ft. Horiz.

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POST AND DOWEL RAIL FENCE (2 RAIL)
N.T.S



TRAILHEAD DETAIL

15 0 15 30
(HALF SIZE–11X17)
1 inch = 30 ft. Horiz.

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Horiz. Scale: 1"=100' Vert. Scale: N/A				Revised:	Project No./Code: TAP C040-054; 22894
Unit Information Unit Leader Initials				Void:	Sheet Number 46

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SWMP Template (Plan Sheets) for Projects with 1 Acre or More of Disturbance

1. SITE DESCRIPTION

The Contractor shall comply with all CDOT contractual requirements and all requirements associated with the CDPS-SCP on this project. The SWMP Administrator for Construction shall update the SWMP to reflect current project site conditions.

A. PROJECT SITE LOCATION:
Location or address of construction office: The project is located along Chipita Park Road, between the intersections of Winnemucca Road and Spring Street. Then the project continues east along Spring Street and south in the open space adjacent to Highway 24 until the intersection with Fountain Avenue in Cascade Colorado.

Location or address of construction office: East of the intersection of Chipita Park Road and Spring Street

B. PROJECT SITE DESCRIPTION: The project consists of construction of a concrete trail adjacent to Chipita Park Road and Spring Street, and then continuing adjacent to Highway 24. Concrete curb and gutter and retaining walls are proposed in areas, as needed. The project also includes utility and landscaping modifications as needed to construct the trail.

C. PROPOSED SCHEDULE FOR SEQUENCE FOR MAJOR CONSTRUCTION ACTIVITIES: Clearing, grubbing and installation of Stormwater Management items; utility and drainage modifications and/or removals; construction of concrete items (curb, gutter, trail and retaining walls); and final stabilization of project area including stabilizing all areas that are not paved or landscaped through establishment of vegetation cover.

D. ACRES OF DISTURBANCE:
1. Total area of construction site (LOC (PERMITTED AREA)): 6.36 acres
2. Total area of proposed disturbance (LDA): 3.98 acres
3. Total area of seeding: 1.3 acres
4. Total area of pre-project impervious surface: 6110 sq. ft.
5. Total area of final impervious surface: 88,602 sq. ft.

E. EXISTING SOIL DATA: Soils within the project limits primarily consist of Tecolote very gravelly sandy loams. Data Source: NRCS Soil Survey database

F. EXISTING VEGETATION, INCLUDING PERCENT OF VEGETATIVE COVER: During design, the SWMP Administrator for Design in consultation with the Engineer will determine if the SWMP Administrator for Design or the SWMP Administrator for Construction will conduct the Vegetation Transects. If the site is disturbed, an Adequate Reference Site(s) may be utilized, refer to the permit.
Vegetation Transect instruction is located on CDOT Landscape Architecture website.
https://www.codot.gov/programs/environmental/landscape-architecture/swmp/vegetative-transect-procedure.pdf

SWMP Administrator for Construction is to conduct a survey including general description of existing vegetation prior to any ground disturbance on the project. The SWMP Administrator for Construction shall photo-document existing vegetation where all work will be occurring. The SWMP Administrator for Construction shall perform the vegetation survey transect(s) at areas to be reseeded and include photo documentation.

Pre-Construction Date of survey: _____ Percent Existing Vegetative Cover: _____

Description of existing vegetation: _____

Method for determining percent vegetative cover: _____

Recommend using CDOT Vegetative Transect Procedure; if not used, provide a copy of methodology and have SWMP Reviewer pre-approve. Include a map or table showing transect locations, photos documenting pre-Construction vegetative cover, and methodology used to determine existing vegetative cover to SWMP tab 17: Transect form is located on CDOT Landscape Architecture website:
https://www.codot.gov/programs/environmental/landscape-architecture

Post-Construction Date of survey: _____ Percent Vegetative Cover: _____

Description of vegetation: _____ **Date of CDPS-SCP Closure:** _____

The method used to determine pre-construction percent cover shall be used to determine post construction percent cover. Include map or table showing transect locations, photos documenting post-Construction vegetative cover, and methodology used to determine existing vegetative cover to SWMP tab 17: Transect form is located on CDOT Landscape Architecture website:
https://www.codot.gov/programs/environmental/landscape-architecture

G. POTENTIAL POLLUTANTS SOURCES: Refer to Potential Pollutant Sources in SWMP Section 4A. The SWMP Administrator for Construction shall prepare a list of all potential pollutants and their locations in accordance with subsection 107.25.

H. RECEIVING WATER:
1. Outfall locations: There are several drainage culverts crossing Chipita Park Road (from west to east) and conveying local runoff to Fountain Creek. Roadway drainage is conveyed to Fountain Creek via curb and gutter or roadside swale.
2. Names of immediate receiving water(s) on site: Fountain Creek
3. Ultimate receiving water(s): Arkansas River
4. Description of all stream crossings located within the Construction Site Boundary:

Location	Stream Name	Description Of Any Disturbed Upland Areas
Station 701+20	Fountain Creek	None

I. ALLOWABLE NON-STORMWATER DISCHARGES:

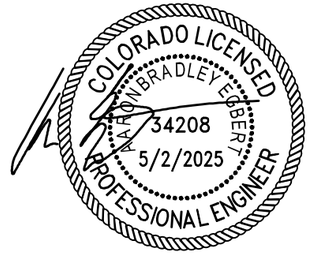
Discharge Description	Site Map #	Method Statement (Location)
Uncontaminated Springs		
Concrete Washout Water (in-ground washout structure)	Sta: 702+40 and/or 712+10	
Landscape Irrigation Return Flows		
Discharges from Diversions of State Waters		
Emergency Fire Fighting		

#Concrete washout water associated with the washing of concrete tools and concrete mixer chutes can be discharged to the ground if site is managed accordingly to prevent the water from leaving the site as surface runoff or reaching receiving waters.

J. DESCRIPTION OF DRAINAGE PATTERNS FROM THE SITE: Runoff from the project site flows to Fountain Creek at the south end of the project limits. There are existing culverts that cross under Chipita Park Road which convey historic runoff from west to east.

K. ALTERNATIVE DIVERSION CRITERIA: When applicable, The Contractor is to provide a method statement based on data provided by the Hydraulic Engineer. The alternative diversion must be approved by CDPHE's Water Quality Control Division prior to implementation. The diversion method must be designate to minimize the discharge of pollutants and prevent the potential for pollution or degradation to state waters as a result of the diverted flow through the diversion structure. In addition, the alternative diversion method must minimize the discharge of pollutants throughout the installation, implementation and removal of the diversion.]

L. ALTERNATIVE TEMPORARY STABILIZATION SCHEDULE: N/A



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File Name: 11311–SWMP NOTES.DWG		Date:	Comments	Init.		No Revisions:	Designer: M WOLF
Horiz. Scale:	Vert. Scale:				EL PASO COUNTY COLORADO	Revised:	Detailer: D. ALDEN
Unit Information	Unit Leader Initials					Void:	Sheet Subset: SWMP
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2. SITE MAP COMPONENTS:

Pre-construction

A. PROJECT CONSTRUCTION POTENTIAL SITE BOUNDARIES: See "Title Sheet" in Construction Plan Set

B. FLOW ARROWS THAT DEPICT STORMWATER FLOW DIRECTIONS ON-SITE, RUN-ON AND RUNOFF DIRECTION: See "Drainage, Grading, and Erosion Control Plans" in Construction Plan Set

C. ALL AREAS OF GROUND SURFACE DISTURBANCE: See "Drainage, Grading, and Erosion Control Plans" in Construction Plan Set

D. AREAS OF CUT AND FILL: See "Drainage, Grading, and Erosion Control Plans" in Construction Plan Set

E. AREAS USED FOR STORING AND STOCKPILING OF MATERIALS, STAGING AREAS (field trailer, fueling, etc.) and LOCATIONS OF ALL WASTE ACCUMULATION and BATCH PLANTS INCLUDING MASONRY MIXING STATIONS: See "Drainage, Grading, and Erosion Control Plans" in Construction Plan Set

F. LOCATION OF ALL STRUCTURAL CONTROL MEASURES IDENTIFIED IN THE SWMP: See "Drainage, Grading, and Erosion Control Plans" in Construction Plan Set

G. LOCATION OF NON-STRUCTURAL CONTROL MEASURES AS APPLICABLE IN THE SWMP: See "Drainage, Grading, and Erosion Control Plans" in Construction Plan Set

H. SPRINGS, STREAMS, WETLANDS, DIVERSIONS, AND OTHER STATE WATERS, INCLUDING AREAS THAT REQUIRE PRE-EXISTING VEGETATION BE MAINTAINED WITHIN 50 FEET OF A RECEIVING WATER: See "Drainage, Grading, and Erosion Control Plans" in Construction Plan Set

I. LOCATIONS OF ALL STREAM CROSSING LOCATED WITHIN THE CONSTRUCTION SITE BOUNDARY: See "Drainage, Grading, and Erosion Control Plans" in Construction Plan Set

J. PROTECTION OF TREES, SHRUBS, SENSITIVE HABITAT, AND CULTURAL RESOURCES: See "Drainage, Grading, and Erosion Control Plans" in Construction Plan Set

K. LOCATIONS WHERE ALTERNATIVE TEMPORARY STABILIZATION SCHEDULES APPLY: See "Drainage, Grading, and Erosion Control Plans" in Construction Plan Set

3. QUALIFIED STORMWATER MANAGERS:

A. SWMP ADMINISTRATOR FOR DESIGN: CDOT Certified Individual responsible for developing SWMP Plan Sheets and SWMP Site Maps during the design phase.

Name/Title	Contact Information	Certification #
Monica Chapman, P.E.	303-758-4058; monica.chapman@stantec.com	E930BAFA

B. SWMP ADMINISTRATOR FOR CONSTRUCTION: (As defined in Section 208) The Contractor shall designate a SWMP Administrator for Construction upon accepting co-permittee of the permit. The SWMP Administrator for Construction shall become the operator for the SWMP and assume responsibility for all design changes to the SWMP implementation and maintenance in accordance to 208.03, the SWMP shall remain the property of CDOT. The SWMP Administrator for Construction shall be responsible for implementing, maintaining and revising SWMP, including the title and contact information. The activities and responsibilities of the SWMP Administrator for Construction shall address all aspects of the project's SWMP. (Update the information below for each new SWMP Administrator for Construction) (A copy of TECS Certification must be included in the SWMP.)

Name/Title	Contact Information (phone & email)	Certification #	Start Date	Engineer Approval

C. EROSION CONTROL INSPECTOR: (As defined in Section 208) The Contractor may designate an Erosion Control Inspector. The Erosion Control Inspector shall complete duties in accordance with subsection 208.03 (c) (Copy of TECS Certification must also be included in the SWMP.)

Name/Title	Contact Information (phone & email)	TECS Certification #	Start Date	Engineer Approval

D. PERMANENT STABILIZATION SUBJECT MATTER EXPERT: This qualified individual will be either a Regional Environmental Staff member, or an Independent Contractor Controller (Independent Assurance Program). This expert is a project team leader responsible for ensuring project adherence to requirements of the 207 and 212 Project Special Provisions as follows, and will be available for questions regarding permanent stabilization requirements. See the Construction Phase Inspection and Verification Checklist on the Landscape Architecture website for regional contacts to address revegetation questions: https://www.codot.gov/programs/environmental/assets/construction-phase-inspection-and-verification-checklist-for-successful-roadside-revegetation

1. Review the Topsoil Management Plan and the Permanent Stabilization Site Maps.
2. Attend the Environmental Pre-Construction Conference.
3. Coordinate the Site Pre-Vegetation Conference.
4. Review and recommend approval of products.
5. Review and recommend approval of the Quantities Verification Prerequisite.
6. Attend the Substantial Landscape Completion Walkthrough.
7. Attend the Final Landscape Completion Walkthrough.

Name/Title	Contact Information [phone & email]

4. STORMWATER MANAGEMENT CONTROLS FOR FIRST CONSTRUCTION ACTIVITIES

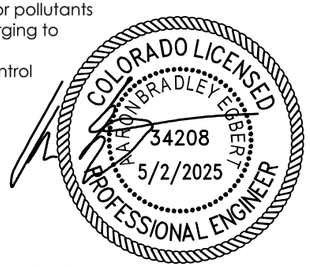
THE CONTRACTOR SHALL PERFORM THE FOLLOWING:

A. POTENTIAL POLLUTANT SOURCES:
Evaluate, identify, locate and describe all potential sources of pollutants at the site in accordance with subsection 107.25, CDPS-SCP and place in the SWMP. All control measures related to potential pollutants shall be shown on the SWMP Site Map by the Contractor's SWMP Administrator for Construction.

B. OFFSITE DRAINAGE (RUN ON WATER):
Describe and record control measures on the SWMP Site Map that have been implemented to address off site run-on water in accordance with subsection 208.03.

C. VEHICLE TRACKING CONTROL:
Control measures shall be implemented in accordance with subsection 208.04.

D. PERIMETER CONTROL:
1. Perimeter control shall be established as the first item on the SWMP to prevent the potential for pollutants leaving the construction site boundaries, entering the stormwater drainage system, or discharging to state waters. Perimeter control shall be in accordance with subsection 208.04
2. Perimeter control may consist of berms, silt fence, erosion logs, existing landforms, or other control measures as approved.



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Horiz. Scale:	Vert. Scale:				Revised:	Designer: M WOLF / Structure Numbers:	22894
Unit Information	Unit Leader Initials				Void:	Detailer: D. ALDEN	
Stantec 410 17TH STREET SUITE 1400 DENVER, COLORADO 80202 (303) 295-1717						Sheet Subset: SWMP / Subset Sheets: 2 of 7	Sheet Number 48

EL PASO COUNTY COLORADO

5. DURING CONSTRUCTION

RESPONSIBILITIES OF THE SWMP ADMINISTRATOR FOR CONSTRUCTION: Considered a "living document", the SWMP is continuously reviewed and modified throughout the construction phases. During construction, SWMP Administrator for Construction shall add, update, or amend the items A-G below as needed in accordance with subsection 208.03.

During construction, indicate how items have were not addressed during design are being handled in construction. If items are covered in other sections of the SWMP, indicate below what section the discussion takes place.

A. MATERIALS HANDLING AND SPILL PREVENTION AND RESPONSE PLAN: prior to construction commencing the Contractor shall submit a Spill Response Plan, see subsection 208.06. Materials handling shall be in accordance with subsection 208.06.

B. OTHER CDPS PERMITS: List applicable CDPS permits associated with the permitted site and activities.

C. STOCKPILE MANAGEMENT: Shall be done in accordance with subsections 107.25 and 208.07

E. CONCRETE WASHOUT: Concrete washout water or waste from field laboratories and paving equipment shall be contained in accordance with subsection 208.05.

F. SAW CUTTING: Shall be done in accordance with subsections 107.25, 208.04, 208.05

G. STREET SWEEPING: Shall be done in accordance with subsection 208.04

6. INSPECTIONS

A. Water Quality Inspections shall be in accordance with subsection 208.03(c).
B. Permanent Stabilization Inspections shall be in accordance with subsections 207.03 and 212.05.

7. CONTROL MEASURE MAINTENANCE

Maintenance shall be in accordance with subsection 208.04(f).

8. RECORD KEEPING

Records shall be kept in accordance with subsection 208.03(d).

9. INTERIM, PERMANENT STABILIZATION and LONG TERM STORMWATER MANAGEMENT

The Contractor shall comply with all interim stabilization and permanent stabilization requirements in accordance with subsection 208.04(e).

A. SEEDING PLAN:
The following seed mix(es) and rates for seeding as shown on the Permanent Stabilization Site Maps shall be used:

COMMON NAME	BOTANICAL NAME	LBS. PLS PER ACRE
El Paso County PSBI Foothills Native Mix (see Project Specifications – Revision of Section 212 for details)	Switchgrass, Arizona Fescue, Big Bluestem, Sandberg Bluegrass, Slender Wheatgrass, Thickspike/Streambank/Western Wheatgrass, Yellow Indiangrass, Blue Grama, Beardless Wheatgrass, Indian Ricegrass, Little Bluestem, Sand Dropseed, Sideoats Grama	25
	Total	25

B. SEEDING APPLICATION METHOD: The following seeding methods shall be used for all disturbed areas not stabilized with asphalt, concrete or riprap. In small areas not accessible to a drill, hand broadcast or hydroseed at double the rate and rake 0.25 inch to 0.5 inch into the soil per subsection 212. Soil compaction shall be minimized for areas where permanent stabilization will be achieved through vegetative cover.

SEEDING METHOD (subsection 212.05)	ACRE
Seeding (Native), CDOT Pay Item 212-00006	1.3
TOTAL	1.3

C. SOIL STABILIZATION METHODS: Minimum soil stabilization methods (attached mulch) for all disturbances to receive seeding.
1. Apply certified weed free hay or certified weed free straw and mechanically crimp into the soil in combination with natural mulch tackifier in accordance with Section 213.
2. Install Soil Retention Blankets in accordance with Standard Plan M-216-1 and Section 216.

D. SPECIAL REQUIREMENTS:
1. Soil amendments, seedbed preparation, and permanent stabilization mulching shall be accomplished within four working days of placing the topsoil on the de-compacted civil subgrades. If placed topsoil is not mulched with permanent stabilization mulch within four working days, the Contractor shall complete interim stabilization methods in accordance with subsection 208.04(e) at no additional cost to the Department.
2. Complete permanent stabilization mulching within 24 hours of hydraulic application of native seed.
3. The Contractor shall submit a proposed Permanent Stabilization Phasing Plan to the Engineer for approval showing how implementation of SWMP Permanent Stabilization Plans will minimize damage to seeded areas.

D. SOIL AMENDMENT REQUIREMENTS: Minimum amendment material requirements for all disturbances to receive seeding. Fertilizer and Compost mixes shall be approved by El Paso County prior to use.

1.3 Total Acres of Seeding (Native)

Included in Seeding (Native) Pay Item 212-00006	Pay Item (for reference only)	Description	Amount/ Acre	Units	Total For This Method
	212-00700	Organic Fertilizer	218	Pounds	284
	212-00701	Compost (Mechanically Applied)	131	CY	170

F. Permanent Stabilization Application Under Structures: Under structures shade patterns should be considered and the use of Median Cover Material (Stone) or other stabilized options with an approved Project Special Provision should be used. See SWMP Site Map for locations: N/A

G. RESEEDING OPERATIONS/CORRECTIVE STABILIZATION:
Prior to partial acceptance.
1. All seeded areas shall be reviewed during the 7 day inspections by the SWMP Administrator for Construction and or Erosion Control Inspector for bare soils caused by surface or wind erosion. Bare areas caused by surface or gully erosion, blown away mulch, etc. shall be re-graded, seeded, and have the designated mulching applied as necessary, at no additional cost to the project.
2. The Contractor shall maintain seeding/mulch/tackifier/blanket/TRM, mow to control weeds or apply herbicide to control weeds in the seeded areas until Partial Acceptance of the stormwater construction work.

H. LOCATION AND DESCRIPTION OF PLANNED PERMANENT CONTROL MEASURES:
Is Permanent Water Quality Required. Yes ___X___ No _____.
Riprap protection provided in existing swales within right-of-way which are experiencing significant erosion.

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ALAN BRADLEY EGBERT
34208
5/2/2025
PROFESSIONAL ENGINEER

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Unit Information	Unit Leader Initials				Void:
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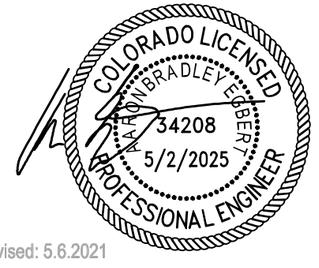
EL PASO COUNTY COLORADO

STORMWATER MANAGEMENT PLAN

				Project No./Code
Designer: M WOLF	Structure Numbers			TAP C040–054
Detailer: D. ALDEN				22894
Sheet Subset: SWMP	Subset Sheets: 3 of 7			Sheet Number 49

10. PRIOR TO PROJECT FINAL ACCEPTANCE

A. When directed by the Engineer, removal and disposal of temporary control measures shall be included in the cost of work.
B. At the end of the project, all ditch checks shall consist of either temporary erosion logs (or equivalent) or permanent riprap.
C. All storm drains shall be cleaned prior to the Final Acceptance of the project. If required, include work in 202-04002 Clean Culvert.
D. Refer to Specification 208.10 for Items to be completed prior to requesting partial acceptance of water quality work.



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Horiz. Scale: Vert. Scale:						Revised:	Designer: M WOLF	Structure Numbers	22894
Unit Information Unit Leader Initials						Void:	Detailer: D. ALDEN		
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11. NARRATIVES

Control Measure Matrixes During Construction:

1. Control measure narratives have been included for the CDOT Standard Specifications and Standard Plan M-208 and M-216 along with any non-standard control measures approved during the design process. If a Non-Standard Control Measure not included in the SWMP is proposed and approved by the Engineer the SWMP Administrator for Construction shall do the following: Place an "X" in the column for non-standard and complete a Non-Standard Control Measure Specification and Narrative covering the what, when, where and why the control measure is being used shall be add to the SWMP. The appropriate "X" shall also be added to the implementation phase(s).
2. The SWMP Administrator for Construction shall place an "X" in the column In Use On Site when the control measure has been installed.
3. A "B" in the Initial Activities Column indicates that the control measure shall be installed **before** construction activity starts. Locations and quantities will be discussed during the Environmental Pre-Construction Conference with the Regional Water Pollution Control Manager.

STRUCTURAL Control Measures that may be potentially used on the project for erosion and sediment control; practices may include, but are not limited to the following:

APPLICATION, CONTROL MEASURE	NARRATIVE	M- 208 STANDARD or "X" for NON-STANDARD	IN USE ON SITE	CONTROL MEASURE IMPLEMENTATION PHASE		
				INITIAL ACTIVITIES	INTERIM ACTIVITIES	PERMANENT STABILIZATION
PROTECTION OF EXISTING TREES/LANDSCAPING *Fence (plastic)*	Fence (plastic) shall be used in areas indicated in the plans to prevent encroachment of construction traffic and sediment for the protection of sensitive habitat, mature trees and/or existing landscaping prior to start of construction disturbances.	M-208		B	X	
CHECK DAM/DITCH CHECK *Erosion log, silt berm, silt dike, rock check dam*	Placed in ditches immediately upon completion of ditch grading to reduce velocity of runoff in ditch. For existing ditches, place prior to start of construction disturbances.	M-208		X	X	
Storm Drain Inlet Protection In Paved Roadways (Type 1, 2 and 3 as shown on M-208-1, sheet 5 of 11)	Manufactured storm drain inlet protection placed prior to construction disturbances as detailed in M-208-1, to protect existing inlets or immediately upon completion of new inlets to prevent sediment from entering the inlet throughout construction.	M-208		B	X	
Storm Drain Inlet Protection In Native Seed Areas (M-604 Standard Inlets Type C and D)	Erosion logs or aggregate bags placed around inlet grate to prevent sediment from entering inlet. Place prior to construction disturbances to protect existing inlets or immediately upon completion of new inlets.	M-208				
CULVERT INLET/OUTLET PROTECTION *Erosion logs, aggregate bags*	Placed at mouth of culvert inlets and over top of culvert at inlet and outlet where disturbance may be occurring adjacent to pipe to prevent sediment laden water from entering pipe or drainage. Place prior to the start of construction disturbances.	M-208		B	X	
TYPE C, TYPE D AND TYPE 13 PROTECTION *Erosion logs, aggregate bags, erosion bales*	Placed around inlet grate or slope and ditch paving to prevent sediment from entering inlet. Place prior to the start of construction disturbances.	M-208		B	X	
STOCKPILE PROTECTION *Temporary berm, erosion logs, aggregate bags**	Placed within specified distance, in accordance with subsection 208.06, from toe to contain sediment around stockpile. *Aggregate bags are easily moved and replaced for access during the work day. Place prior to start of stockpiling, increase control as the stockpile increases size.	M-208		X	X	
TOE OF FILL PROTECTION *Erosion logs, temporary berm, silt fence, topsoil windrow**	Place prior to slope/embankment work to capture sediment and protect and delineate undisturbed areas. *Can be used to stockpile topsoil for salvage.	M-208		X	X	
PERIMETER CONTROL *Erosion logs, silt fence, temporary berm, topsoil windrow**	Placed prior to construction commencing to address potential run-on water from off site, and to divert around disturbed area. *Can be used to stockpile topsoil for salvage.	M-208				
SEDIMENT CONTROL/ *SLOPE CONTROL* *Silt fence, erosion logs*	Placed on the contour of a slope to contain and slow down construction runoff. Place prior to the start of construction disturbances.	M-208		B	X	
EMBANKMENT PROTECTION OR TEMPORARY SLOPE DRAIN	Placed as a conduit or chute to drain runoff down slope and to prevent erosion of slope.	M-208				
OUTLET PROTECTION *Riprap, or approved other*	Material placed as an energy dissipater to prevent erosion at outlet structure.	M-601-12			X	X
CONCRETE WASHOUT *In-ground or fabricated*	Construction control, used for waste management of concrete and concrete equipment cleaning. Place prior to the start of concrete activities.	M-208		X	X	
VEHICLE TRACKING PAD	Source control, placed to prevent tracking of sediment from disturbed area to offsite surface. Place prior to the start of construction disturbances.	M-208		B	X	
DEWATERING *(Contractor is responsible for obtaining a permit from Colorado Department of Health and Environment.)*	Shall be done in such a manner to prevent potential pollutants from entering state waters.					

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34208
5/2/2025
PROFESSIONAL ENGINEER

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EL PASO COUNTY COLORADO

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NON-STRUCTURAL Control Measures that may be potentially used on the project for erosion and sediment control; practices may include, but are not limited to:
Erosion control devices are used to limit the amount of soil loss on site. Sediment control devices are designed to capture sediment on the project site. Construction controls are control measures related to construction access and staging. Control Measure locations are indicated on the SWMP Site Map.

* **Use of vegetative buffer strip requirements.** The CDPHE Water Quality Control Division Technical Memorandum dated August 27, 2015 clarifies the requirements for utilization of existing vegetation as a buffer type of sediment control measure, while maintaining compliance with the CDPS permit for Stormwater Discharges Associated with Construction Activity – CDPS Permit No. COR4000000. In general, the division does not recommend that vegetated buffers be implemented as a sediment removal control measure for runoff from disturbed areas at construction sites, unless implemented as a "finishing" component of a treatment train comprised of additional, adequate up-gradient Control Measures. The entire memorandum can be found at: **https://www.colorado.gov/pacific/sites/default/files/Vegetative%20Buffer%20Memo.pdf**

APPLICATION, CONTROL MEASURE	NARRATIVE	M-STANDARD or "For NON-STANDARD	IN USE ON SITE	CONTROL MEASURE IMPLEMENTATION PHASE		
				INITIAL ACTIVITY	INTERIM ACTIVITIES	PERMANENT STABILIZATION
TOPSOIL MANAGEMENT STOCKPILE/SALVAGE Windrow or stockpile	Prior to any site disturbance work commencing, existing topsoil shall be scraped to a depth six inches or as specified, and placed in stockpiles or windrows. Upon completion of final grading, topsoil shall be evenly distributed over embankment to a depth of six inches or as specified.	M-208		X		X
SURFACE ROUGHENING / GRADING TECHNIQUES	Temporary stabilization of disturbance and to minimize wind and erosion.					
SEEDING (TEMPORARY)	Temporary stabilization used for over wintering of disturbance or used to control erosion for areas scheduled for future construction.					
BONDED FIBER MATRIX or MULCHING (HYDRAULIC)	Not to be used in areas of concentrated flows, i.e. ditch lines. To be for either Interim or Permanent Stabilization placed as a surface cover for erosion control. May be used as surface cover when work is temporarily halted and as approved by the Engineer for stockpiles.					
Straw or Hay MULCH/MULCH TACKIFIER	Interim or Permanent Stabilization placed as a surface cover for erosion control and or seeding establishment. To be installed as Interim Stabilization as a surface cover when work is temporarily halted and as approved by the Engineer				X	X
SPRAY-ON MULCH BLANKET (Not to be used in areas of concentrated flows, i.e. ditch lines.)	Interim or Permanent Stabilization placed as a surface cover for erosion control and or seeding establishment. To be installed as temporary surface cover when work is temporarily halted and as approved by the Engineer					
SEEDING PERMANENT (NATIVE PERENNIAL)	Permanent Stabilization of disturbance and to reduce runoff and control erosion on disturbed areas.					X
SOIL RETENTION BLANKET (SRB)	Permanent Stabilization of disturbance and to reduce runoff and control erosion on disturbed areas.	M-216			X	X
TURF REINFORCEMENT MAT (TRM)	Permanent Stabilization of disturbance and to reduce runoff and control erosion on disturbed areas. Placed in channels or on slopes for erosion control, channel liner and seeding establishment.	M-216			X	X
Sweeping	Source control, used to remove sediment tracked onto paved surfaces and to prevent sediment from entering drainage system. Sweep daily and at the end of the construction shift as needed. Kick brooms shall not be permitted.			X	X	X

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34208
5/2/2025
PROFESSIONAL ENGINEER

Template Revised: 5.6.2021

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File Name: 11311–SWMP NOTES.DWG
Horiz. Scale: Vert. Scale:
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STORMWATER MANAGEMENT PLAN

Designer: M WOLF
Detailer: D. ALDEN
Sheet Subset: SWMP
Structure Numbers:
Subset Sheets: 6 of 7

Project No./Code
TAP C040–054
22894
Sheet Number 52

12. TABULATION OF STORMWATER QUANTITIES

A. Control Measure sediment removal and disposal shall be paid for as: 208 Removal and Disposal of Sediment (Equipment) and 208 Removal and Disposal of Sediment (Labor). All other control measure maintenance shall be included in the cost of the control measure.

B. Establishment of seeded areas from Substantial Landscape Completion shall be paid for as: 212 Seeding (Native). This shall include mowing, weed control, reseeding/mulch/tackifier.

PSP Spec.	Pay Item	Description	Pay Unit	Initial Const	Interim Const.	Permanent Stabilization	*Total Quantity
	201-00001	Clearing and Grubbing	Acre	3.6			3.6
X	202-04002	Clean Culvert	Each		5	10	15
	207-00700	Topsoil (Onsite)	CY			377	377
	208-00011	Erosion Bales (Weed Free)	Each	50	35		85
	208-00020	Silt Fence	LF	700			700
	208-00035	Aggregate Bag	LF	28			28
	208-00045	Concrete Washout Structure	Each	2			2
	208-00070	Vehicle Tracking Pad	Each	1	1		2
	208-00071	**Maintenance Aggregate (Vehicle Tracking Pad)	CY		31		31
	212-00006	Seeding (Native)	Acre			1.3	1.3
	216-00101	Soil Retention Blanket (Class I)	SY			3393	3393
	216-00301	Turf Reinforcing Mat (Class I)	SY			3393	3393
	607-11525	Fence (Plastic)	LF	352			352
X	700-70380	F/A Erosion Control	FA				

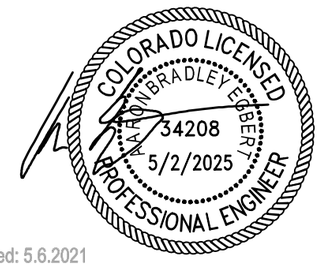
*It is anticipated that additional control measures and control measure quantities not shown on the SWMP Site Maps shall be required on the project for unforeseen conditions and replacement of items that are beyond their useful service life, see subsections 208.03 and 208.04. **Quantities for all control measures shown above are estimated, and have been increased for unforeseen conditions and normal control measure life expectancy.** Quantities shall be adjusted according to the conditions encountered in the field as directed and approved by the Engineer. Payment shall be for the actual work completed and material used.
**Pay Item 208-00071 is included for anticipated maintenance of vehicle tracking pads based on the service life of the control measure in the field. The use of the material shall be directed and approved by the Engineer.
*** F/A refers to CDOT's Force Account Pay Items.

13. BIOLOGICAL IMPACTS and DEWATERING

A. ENVIRONMENTAL IMPACTS:
1. Wetland Impacts: NO
2. Stream Impacts: NO
3. Threatened and Endangered Species: No species are anticipated to be impacted by the project.

B. DEWATERING: (Not covered under the *CDPHE* guidance document *Low Risk Discharge Guidance Discharges of Uncontaminated Groundwater to Land*):
https://www.colorado.gov/pacific/sites/default/files/WQ%20LOW%20RISK%20GW.pdf
1. Dewatering: Refer to other environmental permits in accordance with subsection 107.02 and the permits contained in Tab 16 of the SWMP.
2. If groundwater does not meet water quality standards for receiving water a separate CDPS Dewatering Permit shall be obtained by the Contractor from CDPHE in accordance with subsections 107.02 and 107.25.

14. NOTES



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File Name: 11311–SWMP NOTES.DWG	Date:	Comments	Init.	No Revisions:	Project No./Code: TAP C040-054
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Unit Information Unit Leader Initials				Void:	Sheet Subset: SWMP; Subset Sheets: 7 of 7; Sheet Number 53
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EL PASO COUNTY COLORADO

LEGEND

SILT FENCE

CONCRETE WASHOUT AREA (INTERIM)

INLET/OUTLET PROTECTION (INITIAL/INTERIM)

VEHICLE TRACKING CONTROL
(STABILIZED CONSTRUCTION ENTRANCE)
(INITIAL/INTERIM)

STABILIZED STAGING AREA (INTERIM)

SOIL FILLED TURF REINFORCING MAT WITH SEEDING AND SOIL RETENTION BLANKET PER CDOT STANDARD DRAWING M-216-1

LIMITS OF DISTURBED AREA (LOD)

LIMITS OF CONSTRUCTION (LOC)

DRAINAGE ARROW (DIRECTION OF FLOW)

TREE TO BE REMOVED

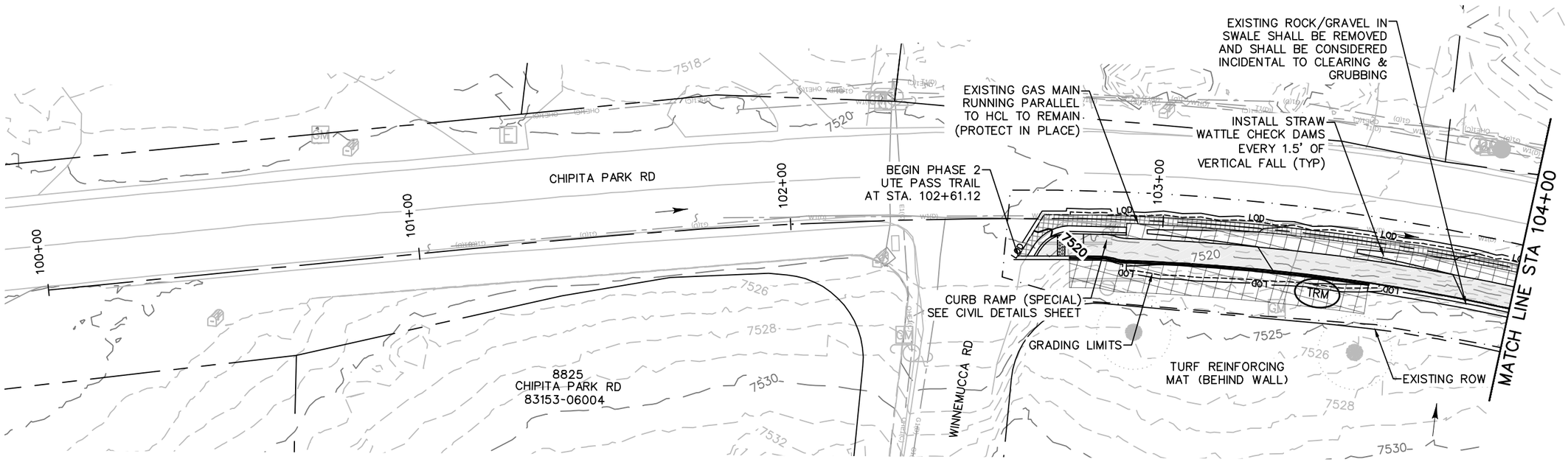
TREE TO BE PROTECTED (CONSTRUCTION FENCE)
(INITIAL/INTERIM)

RIP-RAP (FINAL)

SEEDING (FINAL)

ASPHALT PATCH
(SEE PLAN AND PROFILE SHEETS)

CONCRETE SIDEWALK
(SEE PLAN AND PROFILE SHEETS)



NOTES:
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34208
5/2/2025
PROFESSIONAL ENGINEER

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DRAINAGE, GRADING, AND EROSION CONTROL PLAN

Designer: M WOLF
Detailer: D. ALDEN
Sheet Subset: HYD&GRD
Structure Numbers:
Subset Sheets: 1 of 22

Project No./Code
TAP C040-054
22894
Sheet Number 54

LEGEND

SF SF — SILT FENCE

CONCRETE WASHOUT AREA (INTERIM)

INLET/OUTLET PROTECTION (INITIAL/INTERIM)

VEHICLE TRACKING CONTROL
(STABILIZED CONSTRUCTION ENTRANCE)
(INITIAL/INTERIM)

STABILIZED STAGING AREA (INTERIM)

SOIL FILLED TURF REINFORCING MAT WITH
SEEDING AND SOIL RETENTION BLANKET PER
CDOT STANDARD DRAWING M-216-1

LOD — LIMITS OF DISTURBED AREA (LOD)

LIMITS OF CONSTRUCTION (LOC)

DRAINAGE ARROW (DIRECTION OF FLOW)

TREE TO BE REMOVED

TREE TO BE PROTECTED (CONSTRUCTION FENCE)
(INITIAL/INTERIM)

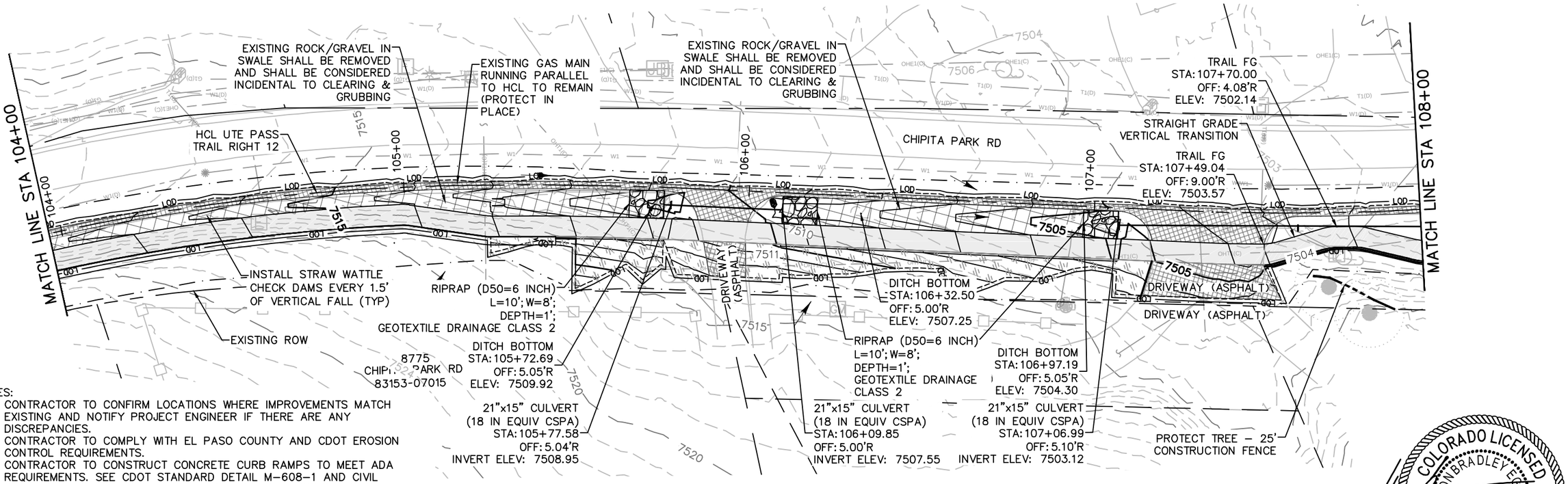
RIP-RAP (FINAL)

SEEDING (FINAL)

ASPHALT PATCH
(SEE PLAN AND PROFILE SHEETS)

CONCRETE SIDEWALK
(SEE PLAN AND PROFILE SHEETS)

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ROBIN BRADLEY EBBERT
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5/2/2025
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Print Date: 9/29/2024	Sheet Revisions		
File Name: 11311-GEC_01.DWG	Date:	Comments	Init.
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Void:	Detailer: D. ALDEN		
	Sheet Subset: HYD&GRD	Subset Sheets: 2 of 22	Sheet Number 55

LEGEND

SILT FENCE

CONCRETE WASHOUT AREA (INTERIM)

INLET/OUTLET PROTECTION (INITIAL/INTERIM)

VEHICLE TRACKING CONTROL
(STABILIZED CONSTRUCTION ENTRANCE)
(INITIAL/INTERIM)

STABILIZED STAGING AREA (INTERIM)

SOIL FILLED TURF REINFORCING MAT WITH
SEEDING AND SOIL RETENTION BLANKET PER
CDOT STANDARD DRAWING M-216-1

LIMITS OF DISTURBED AREA (LOD)

LIMITS OF CONSTRUCTION (LOC)

DRAINAGE ARROW (DIRECTION OF FLOW)

TREE TO BE REMOVED

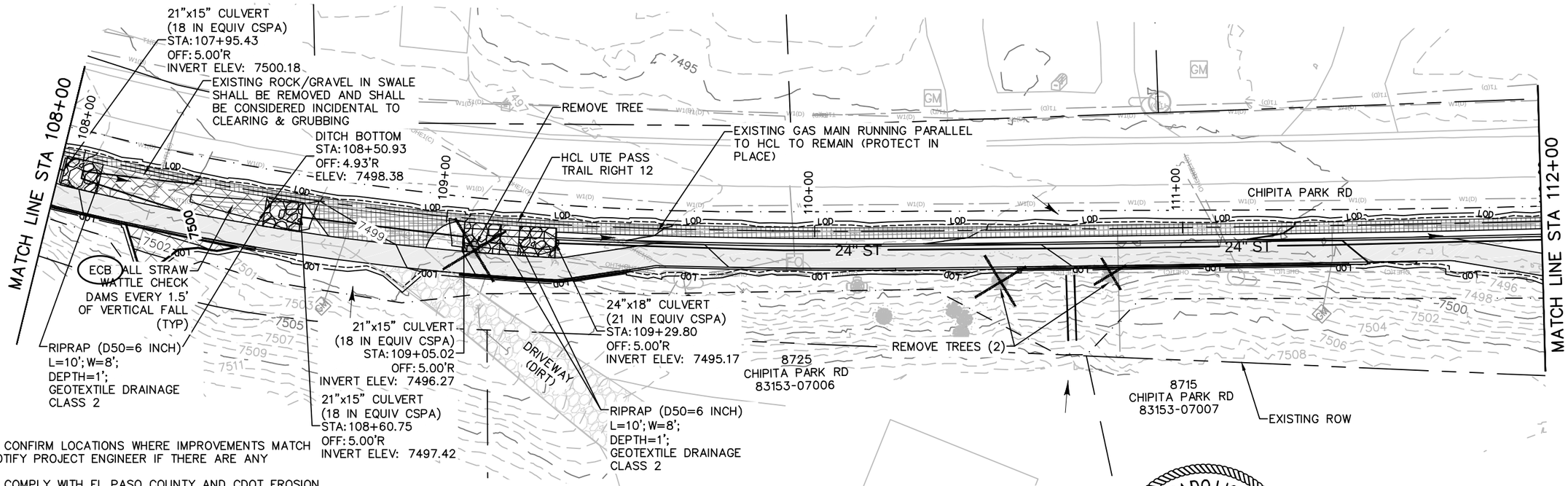
TREE TO BE PROTECTED (CONSTRUCTION FENCE)
(INITIAL/INTERIM)

RIP-RAP (FINAL)

SEEDING (FINAL)

ASPHALT PATCH
(SEE PLAN AND PROFILE SHEETS)

CONCRETE SIDEWALK
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34208
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PROFESSIONAL ENGINEER

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DRAINAGE, GRADING, AND EROSION CONTROL PLAN

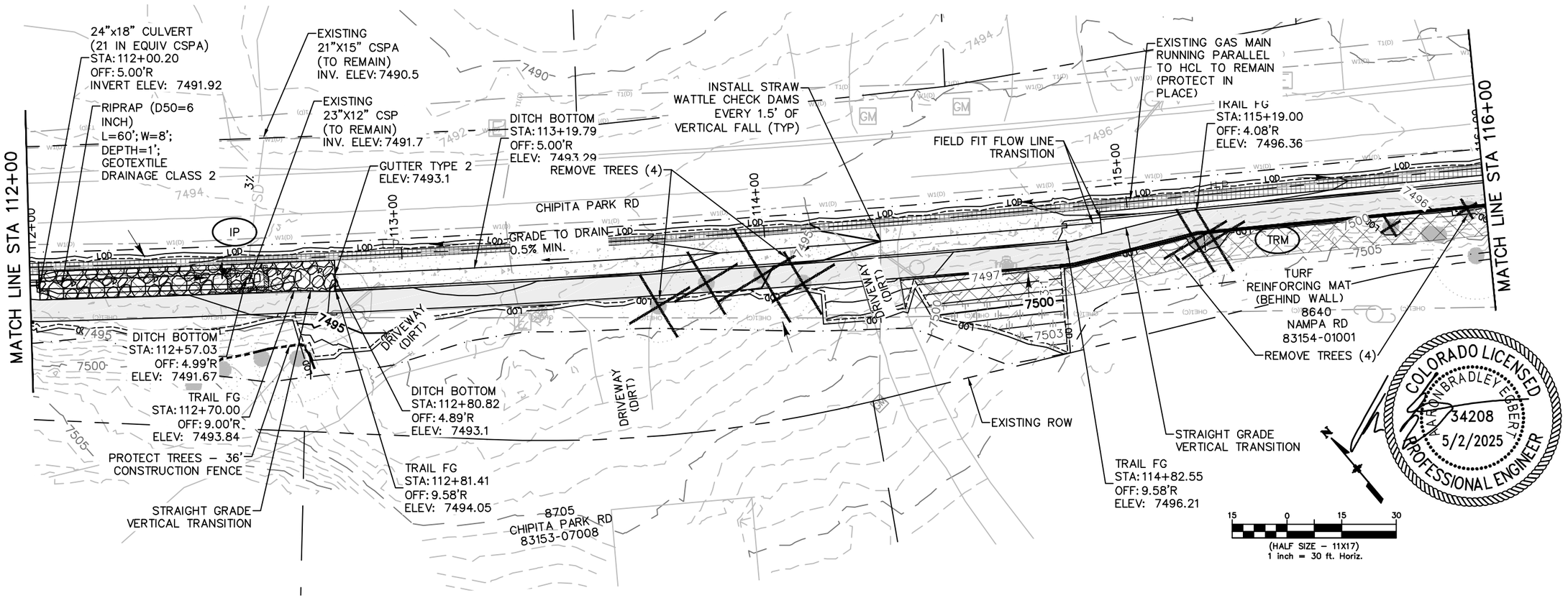
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Detailer: D. ALDEN
Sheet Subset: HYD&GRD
Structure Numbers:
Subset Sheets: 3 of 22

Project No./Code
TAP C040-054
22894
Sheet Number 56

LEGEND

- SF — SF — SILT FENCE
- CONCRETE WASHOUT AREA (INTERIM)
- INLET/OUTLET PROTECTION (INITIAL/INTERIM)
- VEHICLE TRACKING CONTROL (STABILIZED CONSTRUCTION ENTRANCE) (INITIAL/INTERIM)
- STABILIZED STAGING AREA (INTERIM)
- SOIL FILLED TURF REINFORCING MAT WITH SEEDING AND SOIL RETENTION BLANKET PER CDOT STANDARD DRAWING M-216-1
- LOD — LOD — LIMITS OF DISTURBED AREA (LOD)
- LIMITS OF CONSTRUCTION (LOC)
- DRAINAGE ARROW (DIRECTION OF FLOW)
- TREE TO BE REMOVED
- TREE TO BE PROTECTED (CONSTRUCTION FENCE) (INITIAL/INTERIM)
- RIP-RAP (FINAL)
- SEEDING (FINAL)
- ASPHALT PATCH (SEE PLAN AND PROFILE SHEETS)
- CONCRETE SIDEWALK (SEE PLAN AND PROFILE SHEETS)

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EL PASO COUNTY COLORADO

DRAINAGE, GRADING, AND EROSION CONTROL PLAN

Designer: M WOLF	Structure Numbers		Project No./Code: TAP C040-054
Detailer: D. ALDEN			22894
Sheet Subset: HYD&GRD	Subset Sheets:	4 of 22	Sheet Number 57

LEGEND

SF SF — SILT FENCE

CONCRETE WASHOUT AREA (INTERIM)

INLET/OUTLET PROTECTION (INITIAL/INTERIM)

VEHICLE TRACKING CONTROL
(STABILIZED CONSTRUCTION ENTRANCE)
(INITIAL/INTERIM)

STABILIZED STAGING AREA (INTERIM)

SOIL FILLED TURF REINFORCING MAT WITH
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LIMITS OF CONSTRUCTION (LOC)

DRAINAGE ARROW (DIRECTION OF FLOW)

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TREE TO BE PROTECTED (CONSTRUCTION FENCE)
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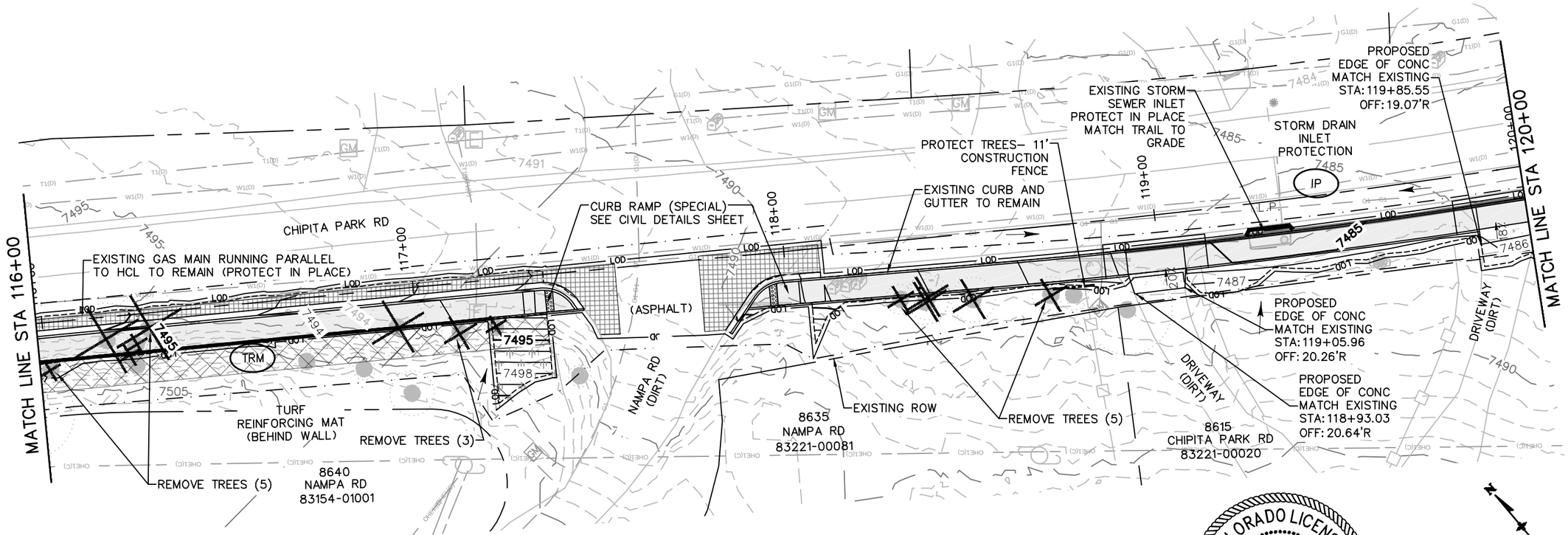
RIP-RAP (FINAL)

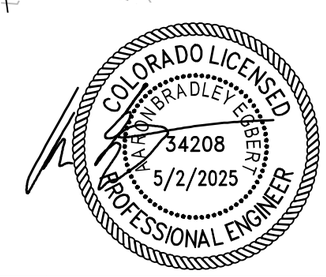
SEEDING (FINAL)

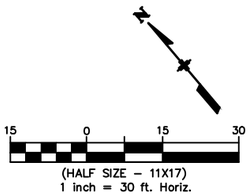
ASPHALT PATCH
(SEE PLAN AND PROFILE SHEETS)

CONCRETE SIDEWALK
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Void:	Detailer: D. ALDEN			
	Sheet Subset: HYD&GRD	Subset Sheets:	5 of 22	Sheet Number 58

LEGEND

SF — SF — SILT FENCE

CONCRETE WASHOUT AREA (INTERIM)

INLET/OUTLET PROTECTION (INITIAL/INTERIM)

VEHICLE TRACKING CONTROL
(STABILIZED CONSTRUCTION ENTRANCE)
(INITIAL/INTERIM)

STABILIZED STAGING AREA (INTERIM)

SOIL FILLED TURF REINFORCING MAT WITH
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CDOT STANDARD DRAWING M-216-1

LOD — LOD — LIMITS OF DISTURBED AREA (LOD)

LIMITS OF CONSTRUCTION (LOC)

DRAINAGE ARROW (DIRECTION OF FLOW)

TREE TO BE REMOVED

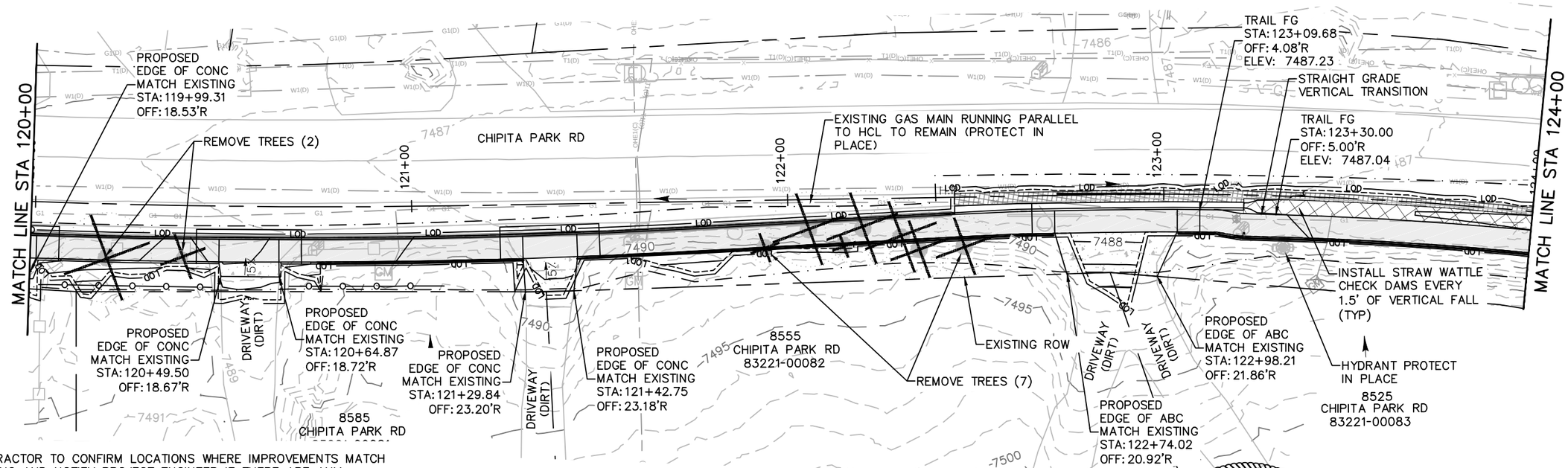
TREE TO BE PROTECTED (CONSTRUCTION FENCE)
(INITIAL/INTERIM)

RIP-RAP (FINAL)

SEEDING (FINAL)

ASPHALT PATCH
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CONCRETE SIDEWALK
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Date:	Comments	Init.

EL PASO COUNTY
COLORADO

As Constructed
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DRAINAGE, GRADING, AND EROSION CONTROL PLAN

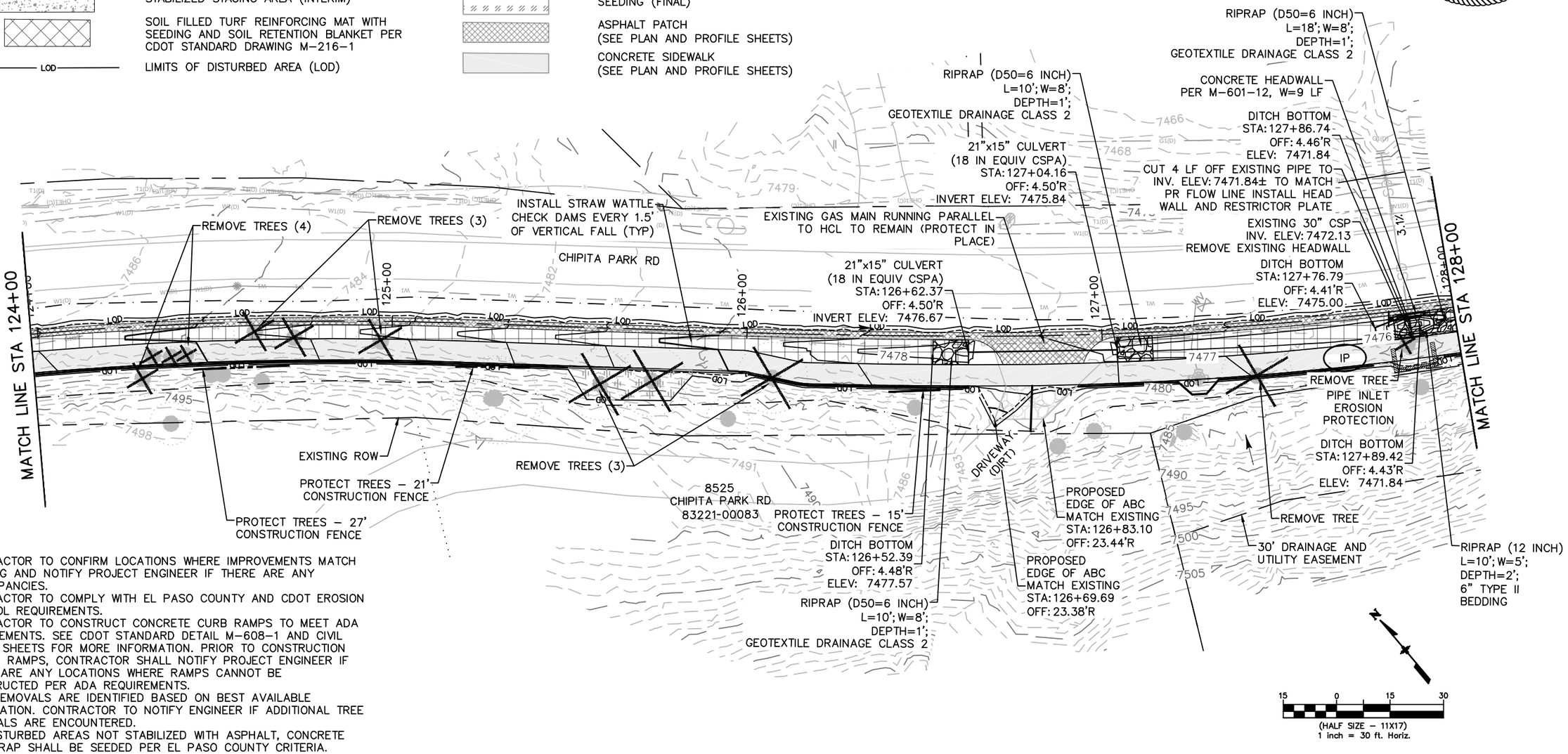
Designer: M WOLF
Detailer: D. ALDEN
Sheet Subset: HYD&GRD
Structure Numbers:
Subset Sheets: 6 of 22

Project No./Code
TAP C040-054
22894
Sheet Number 59

LEGEND

- SF — SF — SILT FENCE
- CONCRETE WASHOUT AREA (INTERIM)
- INLET/OUTLET PROTECTION (INITIAL/INTERIM)
- VEHICLE TRACKING CONTROL (STABILIZED CONSTRUCTION ENTRANCE) (INITIAL/INTERIM)
- STABILIZED STAGING AREA (INTERIM)
- SOIL FILLED TURF REINFORCING MAT WITH SEEDING AND SOIL RETENTION BLANKET PER CDOT STANDARD DRAWING M-216-1
- LOD — LOD — LIMITS OF DISTURBED AREA (LOD)
- LIMITS OF CONSTRUCTION (LOC)
- DRAINAGE ARROW (DIRECTION OF FLOW)
- TREE TO BE REMOVED
- TREE TO BE PROTECTED (CONSTRUCTION FENCE) (INITIAL/INTERIM)
- RIP-RAP (FINAL)
- SEEDING (FINAL)
- ASPHALT PATCH (SEE PLAN AND PROFILE SHEETS)
- CONCRETE SIDEWALK (SEE PLAN AND PROFILE SHEETS)

COLORADO LICENSED
TIMOTHY BRADLEY EGBERT
34208
5/2/2025
PROFESSIONAL ENGINEER



NOTES:
1. CONTRACTOR TO CONFIRM LOCATIONS WHERE IMPROVEMENTS MATCH EXISTING AND NOTIFY PROJECT ENGINEER IF THERE ARE ANY DISCREPANCIES.
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Unit Information	Unit Leader Initials		

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EL PASO COUNTY
COLORADO

As Constructed	DRAINAGE, GRADING, AND EROSION CONTROL PLAN			Project No./Code
No Revisions:				TAP C040-054
Revised:	Designer: M WOLF	Structure Numbers		22894
Void:	Detailer: D. ALDEN			
	Sheet Subset: HYD&GRD	Subset Sheets: 7 of 22		Sheet Number 60

LEGEND

SF — SF — SILT FENCE

CONCRETE WASHOUT AREA (INTERIM)

INLET/OUTLET PROTECTION (INITIAL/INTERIM)

VEHICLE TRACKING CONTROL
(STABILIZED CONSTRUCTION ENTRANCE)
(INITIAL/INTERIM)

STABILIZED STAGING AREA (INTERIM)

SOIL FILLED TURF REINFORCING MAT WITH
SEEDING AND SOIL RETENTION BLANKET PER
CDOT STANDARD DRAWING M-216-1

LOD — LOD — LIMITS OF DISTURBED AREA (LOD)

LIMITS OF CONSTRUCTION (LOC)

DRAINAGE ARROW (DIRECTION OF FLOW)

TREE TO BE REMOVED

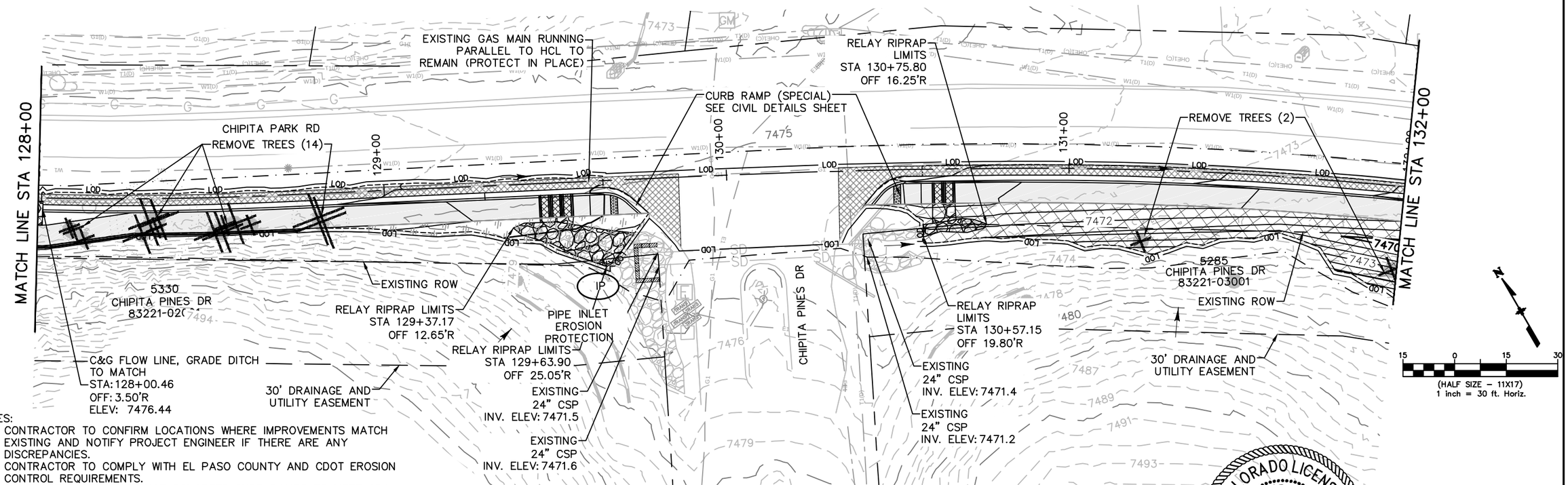
TREE TO BE PROTECTED (CONSTRUCTION FENCE)
(INITIAL/INTERIM)

RIP-RAP (FINAL)

SEEDING (FINAL)

ASPHALT PATCH
(SEE PLAN AND PROFILE SHEETS)

CONCRETE SIDEWALK
(SEE PLAN AND PROFILE SHEETS)



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COLORADO LICENSED
AARON BRADLEY EBBERT
34208
5/2/2025
PROFESSIONAL ENGINEER

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Print Date: 9/29/2024		Sheet Revisions	
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Horiz. Scale: 1"=30' Vert. Scale: N/A			
Unit Information Unit Leader Initials			

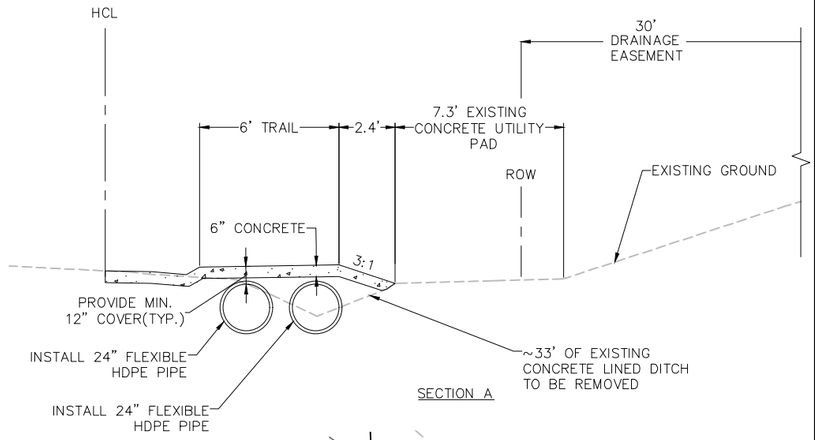
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EL PASO COUNTY
COLORADO

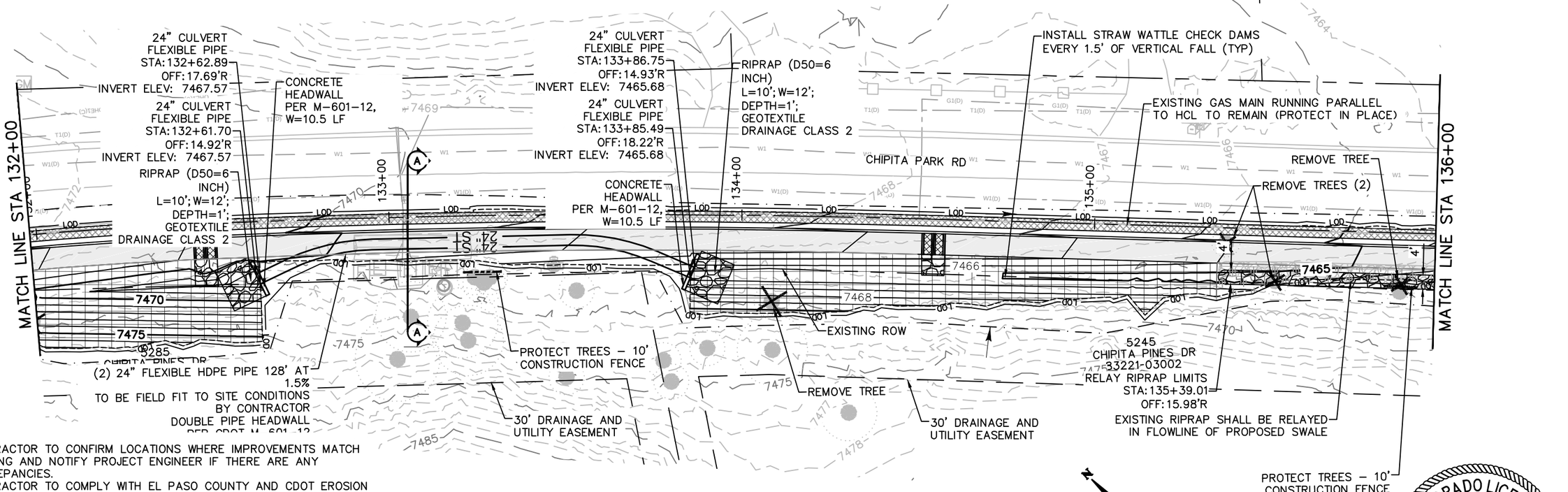
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No Revisions:			TAP C040-054
Revised:	Designer: M WOLF	Structure Numbers	22894
Void:	Detailer: D. ALDEN		Sheet Number 61
	Sheet Subset: HYD&GRD	Subset Sheets: 8 of 22	

LEGEND

- SILT FENCE
- CONCRETE WASHOUT AREA (INTERIM)
- INLET/OUTLET PROTECTION (INITIAL/INTERIM)
- VEHICLE TRACKING CONTROL (STABILIZED CONSTRUCTION ENTRANCE) (INITIAL/INTERIM)
- STABILIZED STAGING AREA (INTERIM)
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- LIMITS OF CONSTRUCTION (LOC)
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- TREE TO BE REMOVED
- TREE TO BE PROTECTED (CONSTRUCTION FENCE) (INITIAL/INTERIM)
- RIP-RAP (FINAL)
- SEEDING (FINAL)
- ASPHALT PATCH (SEE PLAN AND PROFILE SHEETS)
- CONCRETE SIDEWALK (SEE PLAN AND PROFILE SHEETS)



SECTION A



15 0 15 30
(HALF SIZE - 11X17)
1 Inch = 30 ft. Horiz.

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34208
5/2/2025
PROFESSIONAL ENGINEER

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Unit Information	Unit Leader Initials

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DRAINAGE, GRADING, AND EROSION CONTROL PLAN

Designer:	M WOLF	Structure Numbers	
Detailer:	D. ALDEN		
Sheet Subset:	HYD&GRD	Subset Sheets:	9 of 22

Project No./Code	
TAP C040-054	
22894	
Sheet Number	62

LEGEND

SILT FENCE

CONCRETE WASHOUT AREA (INTERIM)

INLET/OUTLET PROTECTION (INITIAL/INTERIM)

VEHICLE TRACKING CONTROL
(STABILIZED CONSTRUCTION ENTRANCE)
(INITIAL/INTERIM)

STABILIZED STAGING AREA (INTERIM)

SOIL FILLED TURF REINFORCING MAT WITH
SEEDING AND SOIL RETENTION BLANKET PER
CDOT STANDARD DRAWING M-216-1

LIMITS OF DISTURBED AREA (LOD)

LIMITS OF CONSTRUCTION (LOC)

DRAINAGE ARROW (DIRECTION OF FLOW)

TREE TO BE REMOVED

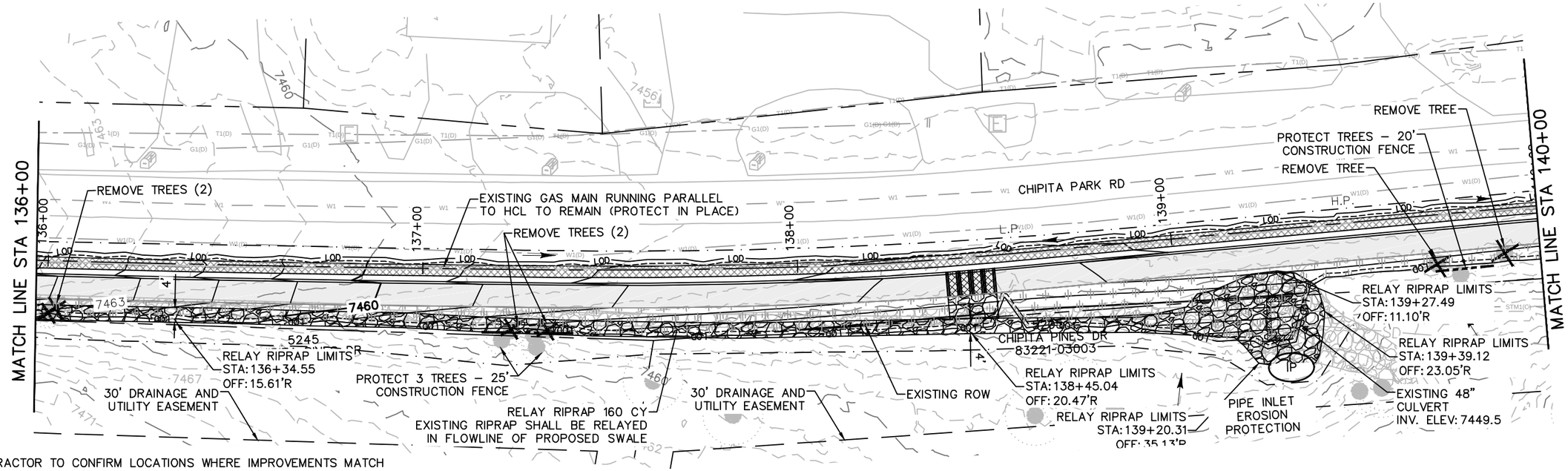
TREE TO BE PROTECTED (CONSTRUCTION FENCE)
(INITIAL/INTERIM)

RIP-RAP (FINAL)

SEEDING (FINAL)

ASPHALT PATCH
(SEE PLAN AND PROFILE SHEETS)

CONCRETE SIDEWALK
(SEE PLAN AND PROFILE SHEETS)



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COLORADO LICENSED
ARON BRADLEY EGBERT
34208
5/2/2025
PROFESSIONAL ENGINEER

(HALF SIZE - 11X17)
1 inch = 30 ft. Horiz.

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Unit Information	Unit Leader Initials		

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EL PASO COUNTY
COLORADO

As Constructed	DRAINAGE, GRADING, AND EROSION CONTROL PLAN			Project No./Code
No Revisions:				TAP C040-054
Revised:	Designer: M WOLF	Structure Numbers		22894
Void:	Detailer: D. ALDEN			
	Sheet Subset: HYD&GRD	Subset Sheets:	10 of 22	Sheet Number 63

LEGEND

SILT FENCE

CONCRETE WASHOUT AREA (INTERIM)

INLET/OUTLET PROTECTION (INITIAL/INTERIM)

VEHICLE TRACKING CONTROL
(STABILIZED CONSTRUCTION ENTRANCE)
(INITIAL/INTERIM)

STABILIZED STAGING AREA (INTERIM)

SOIL FILLED TURF REINFORCING MAT WITH SEEDING AND SOIL RETENTION BLANKET PER CDOT STANDARD DRAWING M-216-1

LIMITS OF DISTURBED AREA (LOD)

LIMITS OF CONSTRUCTION (LOC)

DRAINAGE ARROW (DIRECTION OF FLOW)

TREE TO BE REMOVED

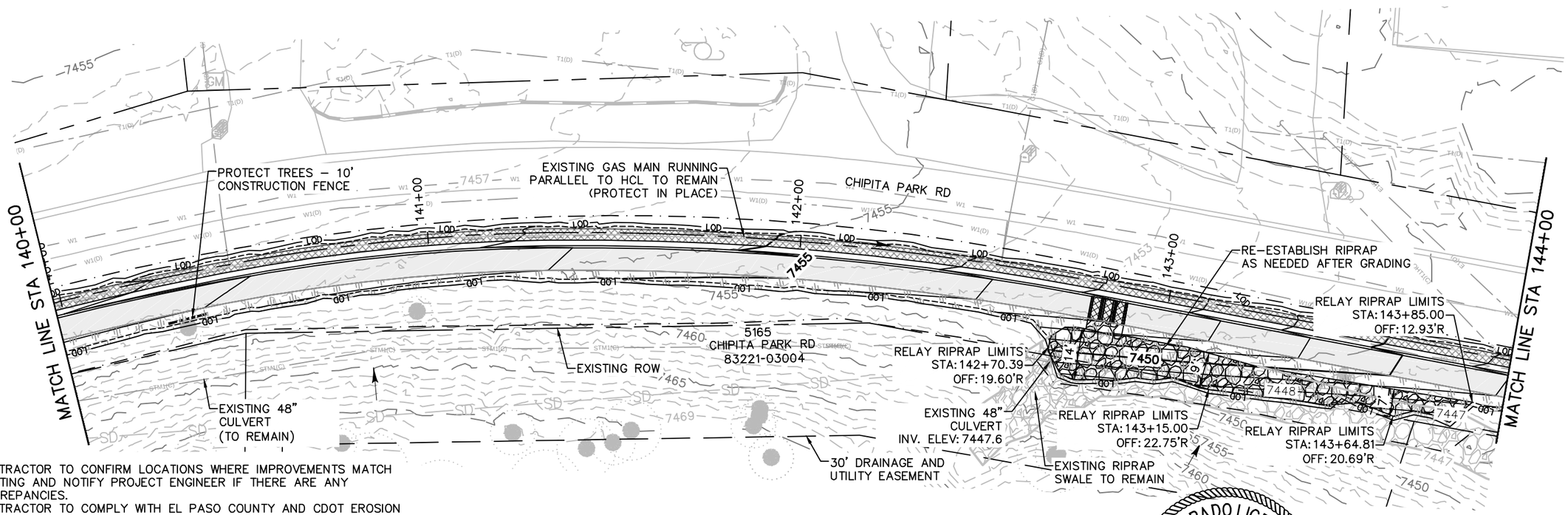
TREE TO BE PROTECTED (CONSTRUCTION FENCE)
(INITIAL/INTERIM)

RIP-RAP (FINAL)

SEEDING (FINAL)

ASPHALT PATCH
(SEE PLAN AND PROFILE SHEETS)

CONCRETE SIDEWALK
(SEE PLAN AND PROFILE SHEETS)



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COLORADO LICENSED
AARON BRADLEY EGBERT
34208
5/2/2025
PROFESSIONAL ENGINEER

15 0 15 30
(HALF SIZE – 11X17)
1 inch = 30 ft. Horiz.

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Unit Information Unit Leader Initials

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EL PASO COUNTY
COLORADO

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DRAINAGE, GRADING, AND EROSION CONTROL PLAN

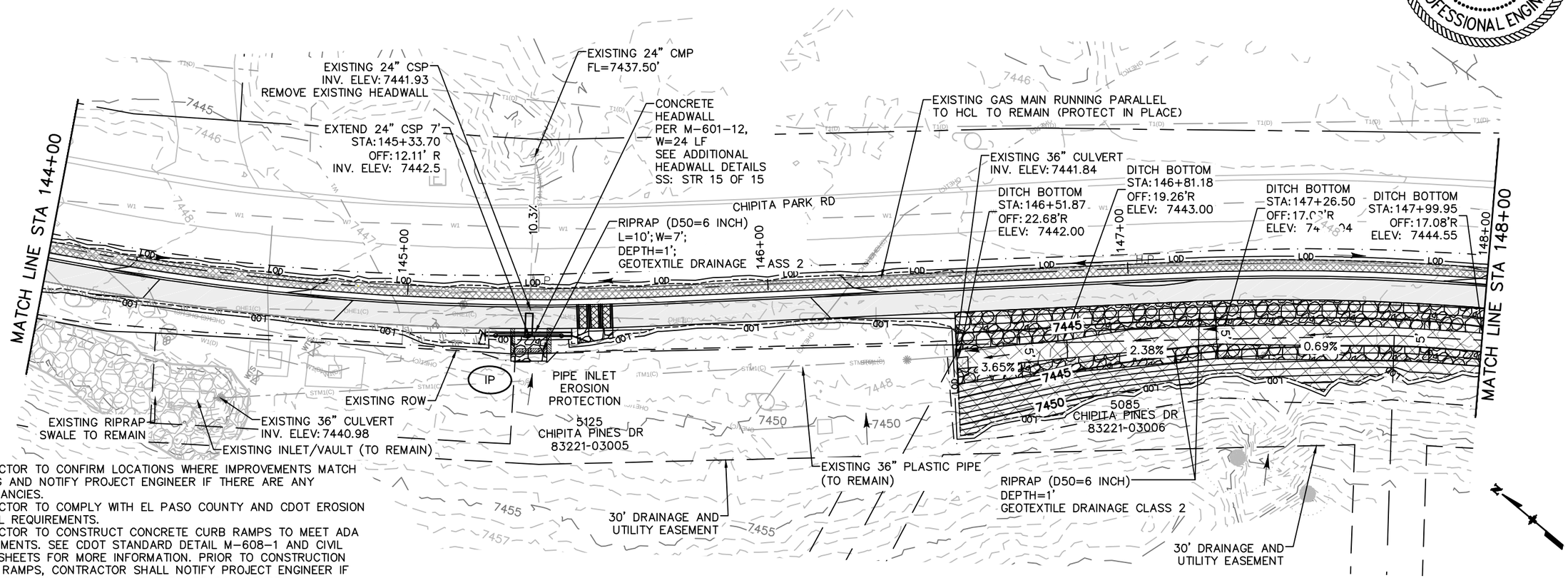
Designer: M WOLF
Detailer: D. ALDEN
Sheet Subset: HYD&GRD
Structure Numbers:
Subset Sheets: 11 of 22

Project No./Code
TAP C040-054
22894
Sheet Number 64

LEGEND

- SILT FENCE
- CONCRETE WASHOUT AREA (INTERIM)
- INLET/OUTLET PROTECTION (INITIAL/INTERIM)
- VEHICLE TRACKING CONTROL (STABILIZED CONSTRUCTION ENTRANCE) (INITIAL/INTERIM)
- STABILIZED STAGING AREA (INTERIM)
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- LIMITS OF DISTURBED AREA (LOD)
- LIMITS OF CONSTRUCTION (LOC)
- DRAINAGE ARROW (DIRECTION OF FLOW)
- TREE TO BE REMOVED
- TREE TO BE PROTECTED (CONSTRUCTION FENCE) (INITIAL/INTERIM)
- RIP-RAP (FINAL)
- SEEDING (FINAL)
- ASPHALT PATCH (SEE PLAN AND PROFILE SHEETS)
- CONCRETE SIDEWALK (SEE PLAN AND PROFILE SHEETS)

COLORADO LICENSED
TIMOTHY BRADLEY EBBERT
34208
5/2/2025
PROFESSIONAL ENGINEER



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EL PASO COUNTY
COLORADO

As Constructed	DRAINAGE, GRADING, AND EROSION CONTROL PLAN		Project No./Code
No Revisions:			TAP C040-054
Revised:	Designer: M WOLF	Structure Numbers	22894
Void:	Detailer: D. ALDEN		
	Sheet Subset: HYD&GRD	Subset Sheets: 12 of 22	Sheet Number 65

LEGEND

SF SF — SILT FENCE

CONCRETE WASHOUT AREA (INTERIM)

INLET/OUTLET PROTECTION (INITIAL/INTERIM)

VEHICLE TRACKING CONTROL
(STABILIZED CONSTRUCTION ENTRANCE)
(INITIAL/INTERIM)

STABILIZED STAGING AREA (INTERIM)

SOIL FILLED TURF REINFORCING MAT WITH
SEEDING AND SOIL RETENTION BLANKET PER
CDOT STANDARD DRAWING M-216-1

LOD — LIMITS OF DISTURBED AREA (LOD)

LIMITS OF CONSTRUCTION (LOC)

DRAINAGE ARROW (DIRECTION OF FLOW)

TREE TO BE REMOVED

TREE TO BE PROTECTED (CONSTRUCTION FENCE)
(INITIAL/INTERIM)

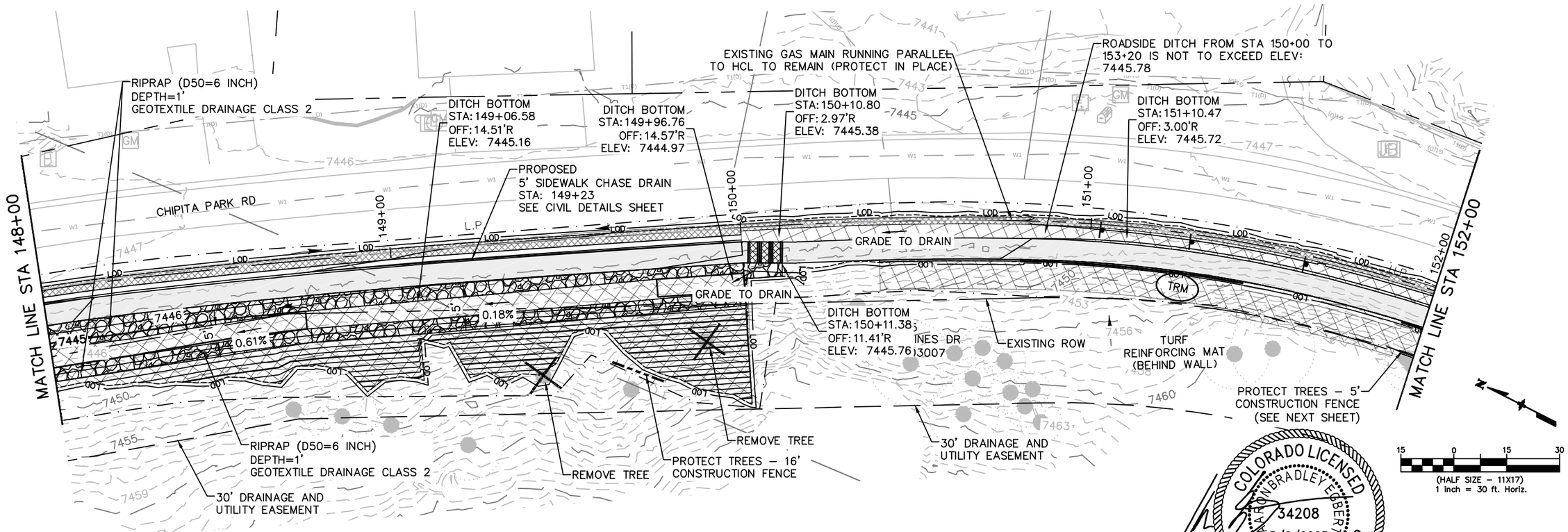
RIP-RAP (FINAL)

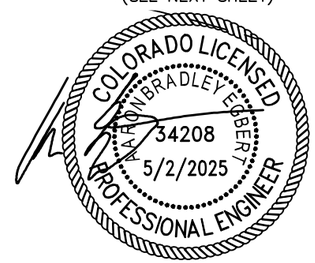
SEEDING (FINAL)

ASPHALT PATCH
(SEE PLAN AND PROFILE SHEETS)

CONCRETE SIDEWALK
(SEE PLAN AND PROFILE SHEETS)

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No Revisions:			TAP C040-054
Revised:	Designer: M WOLF	Structure Numbers	22894
Void:	Detailer: D. ALDEN		
	Sheet Subset: HYD&GRD	Subset Sheets: 13 of 22	Sheet Number 66

LEGEND

SF SF — SILT FENCE

CONCRETE WASHOUT AREA (INTERIM)

INLET/OUTLET PROTECTION (INITIAL/INTERIM)

VEHICLE TRACKING CONTROL
(STABILIZED CONSTRUCTION ENTRANCE)
(INITIAL/INTERIM)

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SOIL FILLED TURF REINFORCING MAT WITH
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LOD — LIMITS OF DISTURBED AREA (LOD)

LIMITS OF CONSTRUCTION (LOC)

DRAINAGE ARROW (DIRECTION OF FLOW)

TREE TO BE REMOVED

TREE TO BE PROTECTED (CONSTRUCTION FENCE)
(INITIAL/INTERIM)

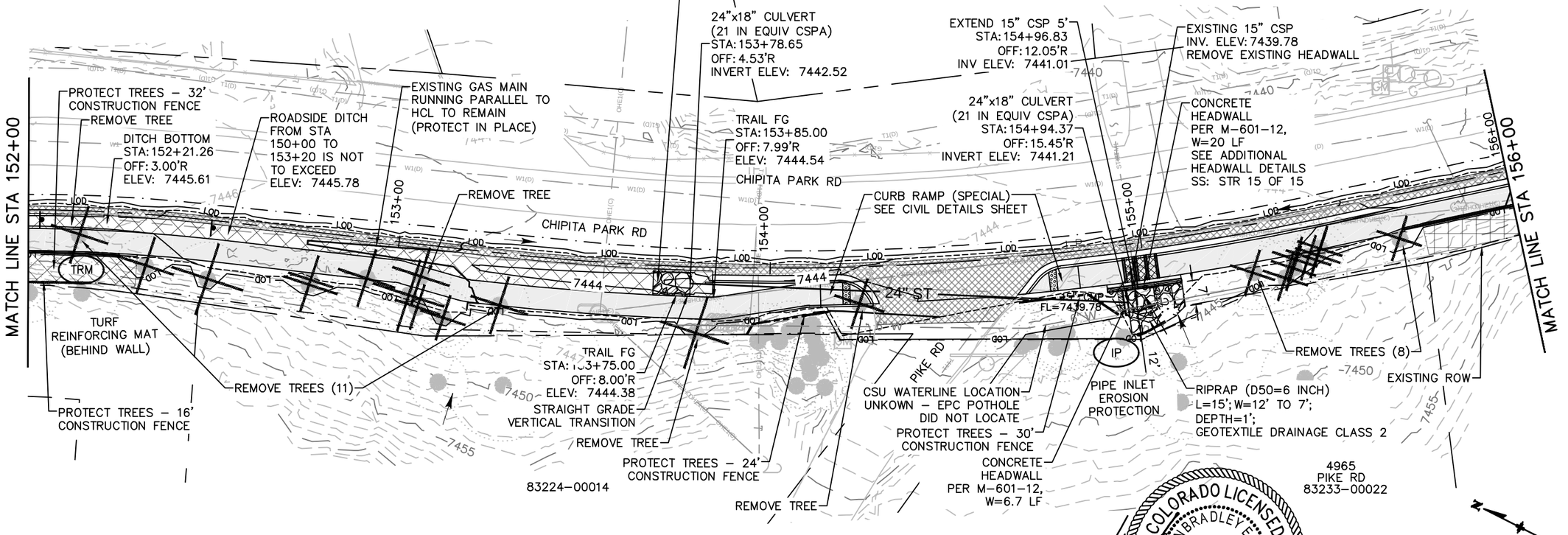
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JOHN BRADLEY EGBERT
34208
5/2/2025
PROFESSIONAL ENGINEER

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1 Inch = 30 ft. Horiz.

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Unit Information	Unit Leader Initials		

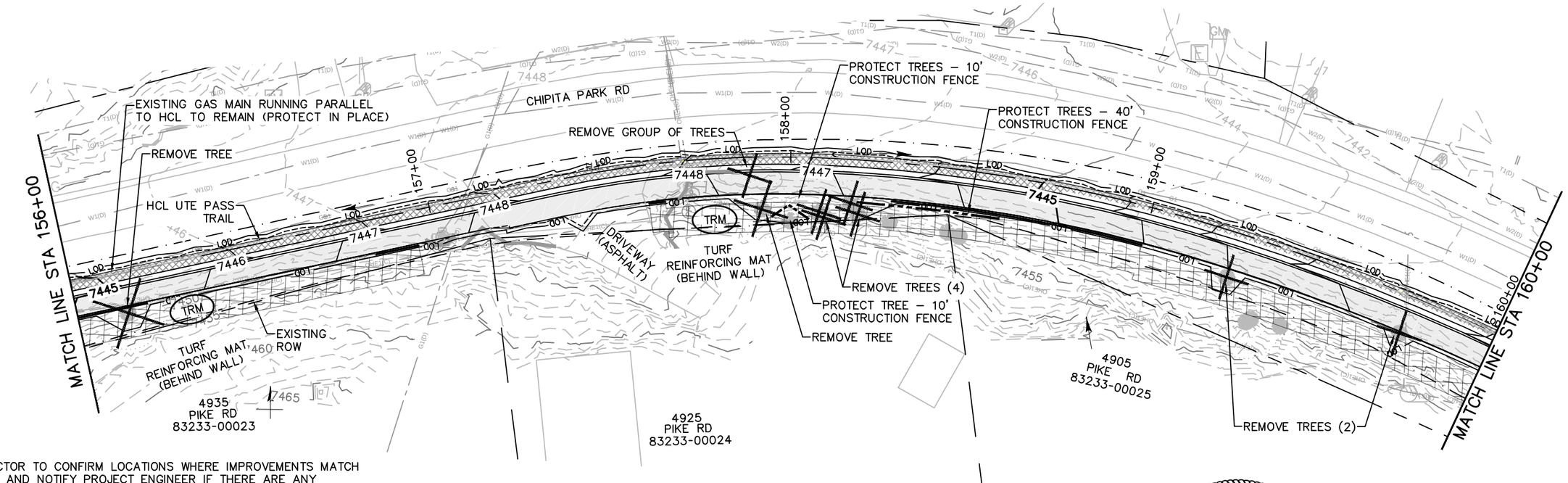
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EL PASO COUNTY
COLORADO

As Constructed	DRAINAGE, GRADING, AND EROSION CONTROL PLAN		Project No./Code
No Revisions:			TAP C040-054
Revised:	Designer: M WOLF	Structure Numbers	22894
Void:	Detailer: D. ALDEN		
	Sheet Subset: HYD&GRD	Subset Sheets: 14 of 22	Sheet Number 67

LEGEND

- SILT FENCE
- CONCRETE WASHOUT AREA (INTERIM)
- INLET/OUTLET PROTECTION (INITIAL/INTERIM)
- VEHICLE TRACKING CONTROL (STABILIZED CONSTRUCTION ENTRANCE) (INITIAL/INTERIM)
- STABILIZED STAGING AREA (INTERIM)
- SOIL FILLED TURF REINFORCING MAT WITH SEEDING AND SOIL RETENTION BLANKET PER CDOT STANDARD DRAWING M-216-1
- LIMITS OF DISTURBED AREA (LOD)
- LIMITS OF CONSTRUCTION (LOC)
- DRAINAGE ARROW (DIRECTION OF FLOW)
- TREE TO BE REMOVED
- TREE TO BE PROTECTED (CONSTRUCTION FENCE) (INITIAL/INTERIM)
- RIP-RAP (FINAL)
- SEEDING (FINAL)
- ASPHALT PATCH (SEE PLAN AND PROFILE SHEETS)
- CONCRETE SIDEWALK (SEE PLAN AND PROFILE SHEETS)



NOTES:

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Date:	Comments	Init.

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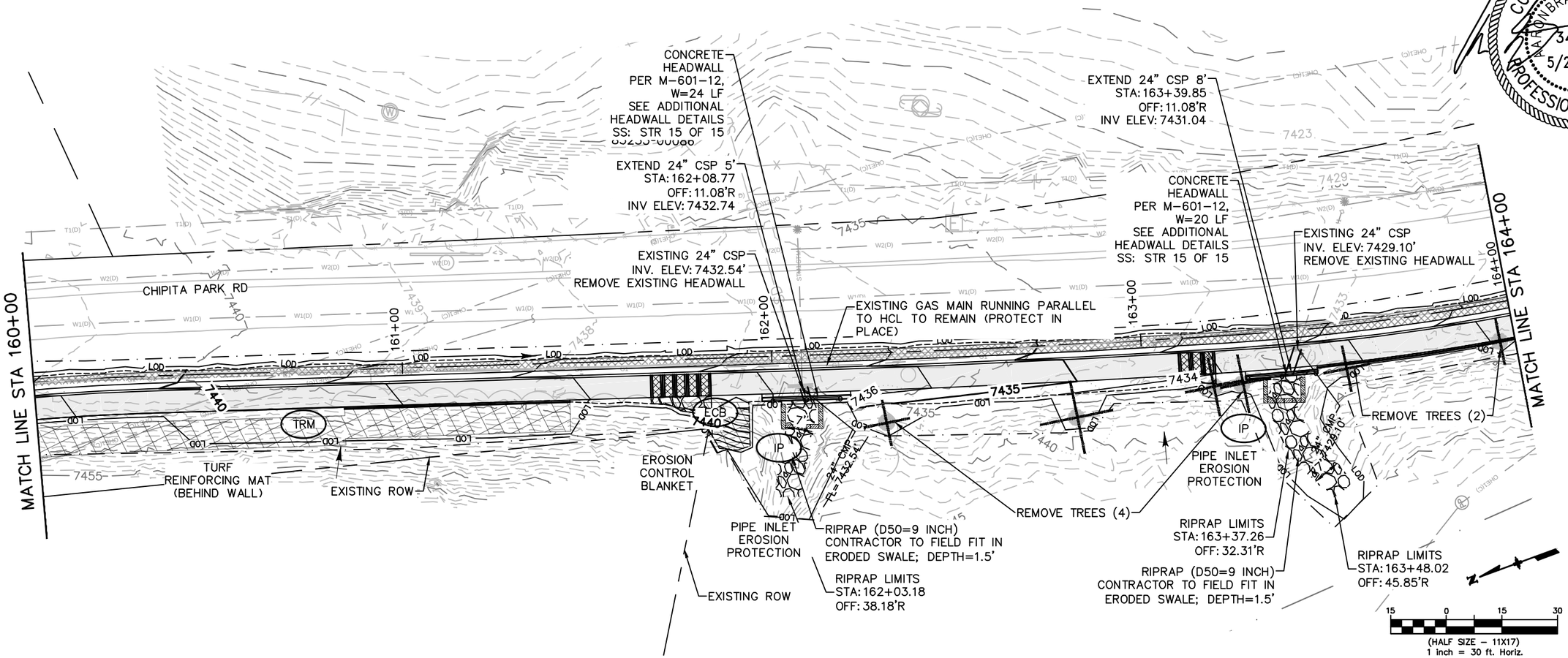
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No Revisions:				TAP C040-054
Revised:	Designer: M WOLF	Structure Numbers		22894
	Detailer: D. ALDEN			
Void:	Sheet Subset: HYD&GRD	Subset Sheets: 15 of 22		Sheet Number 68

LEGEND

- SILT FENCE
- CONCRETE WASHOUT AREA (INTERIM)
- INLET/OUTLET PROTECTION (INITIAL/INTERIM)
- VEHICLE TRACKING CONTROL (STABILIZED CONSTRUCTION ENTRANCE) (INITIAL/INTERIM)
- STABILIZED STAGING AREA (INTERIM)
- SOIL FILLED TURF REINFORCING MAT WITH SEEDING AND SOIL RETENTION BLANKET PER CDOT STANDARD DRAWING M-216-1
- LIMITS OF DISTURBED AREA (LOD)
- LIMITS OF CONSTRUCTION (LOC)
- DRAINAGE ARROW (DIRECTION OF FLOW)
- TREE TO BE REMOVED
- TREE TO BE PROTECTED (CONSTRUCTION FENCE) (INITIAL/INTERIM)
- RIP-RAP (FINAL)
- SEEDING (FINAL)
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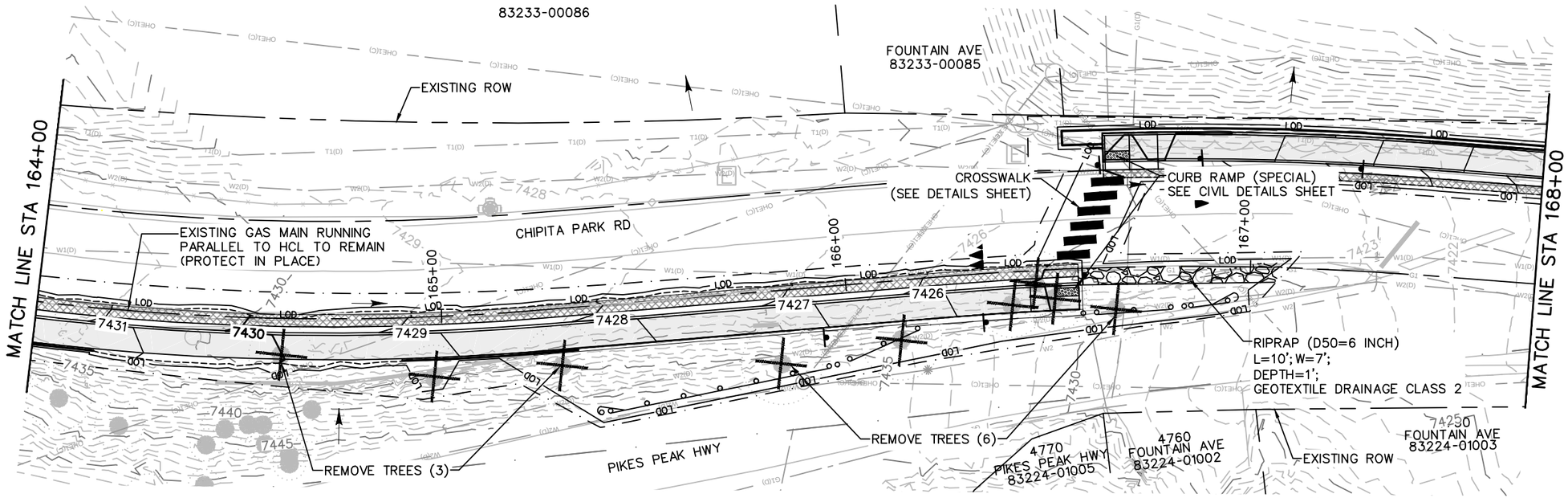
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COLORADO

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No Revisions:			TAP C040-054
Revised:	Designer: M WOLF	Structure Numbers	22894
Void:	Detailer: D. ALDEN		
	Sheet Subset: HYD&GRD	Subset Sheets: 16 of 22	Sheet Number 69

LEGEND

- SILT FENCE
- CONCRETE WASHOUT AREA (INTERIM)
- INLET/OUTLET PROTECTION (INITIAL/INTERIM)
- VEHICLE TRACKING CONTROL (STABILIZED CONSTRUCTION ENTRANCE) (INITIAL/INTERIM)
- STABILIZED STAGING AREA (INTERIM)
- SOIL FILLED TURF REINFORCING MAT WITH SEEDING AND SOIL RETENTION BLANKET PER CDOT STANDARD DRAWING M-216-1
- LIMITS OF DISTURBED AREA (LOD)
- LIMITS OF CONSTRUCTION (LOC)
- DRAINAGE ARROW (DIRECTION OF FLOW)
- TREE TO BE REMOVED
- TREE TO BE PROTECTED (CONSTRUCTION FENCE) (INITIAL/INTERIM)
- RIP-RAP (FINAL)
- SEEDING (FINAL)
- ASPHALT PATCH (SEE PLAN AND PROFILE SHEETS)
- CONCRETE SIDEWALK (SEE PLAN AND PROFILE SHEETS)

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Void:	Detailer: D. ALDEN		
	Sheet Subset: HYD&GRD	Subset Sheets: 17 of 22	Sheet Number 70

LEGEND

SF SF — SILT FENCE

CONCRETE WASHOUT AREA (INTERIM)

INLET/OUTLET PROTECTION (INITIAL/INTERIM)

VEHICLE TRACKING CONTROL
(STABILIZED CONSTRUCTION ENTRANCE)
(INITIAL/INTERIM)

STABILIZED STAGING AREA (INTERIM)

SOIL FILLED TURF REINFORCING MAT WITH
SEEDING AND SOIL RETENTION BLANKET PER
CDOT STANDARD DRAWING M-216-1

LOD — LIMITS OF DISTURBED AREA (LOD)

LIMITS OF CONSTRUCTION (LOC)

DRAINAGE ARROW (DIRECTION OF FLOW)

TREE TO BE REMOVED

TREE TO BE PROTECTED (CONSTRUCTION FENCE)
(INITIAL/INTERIM)

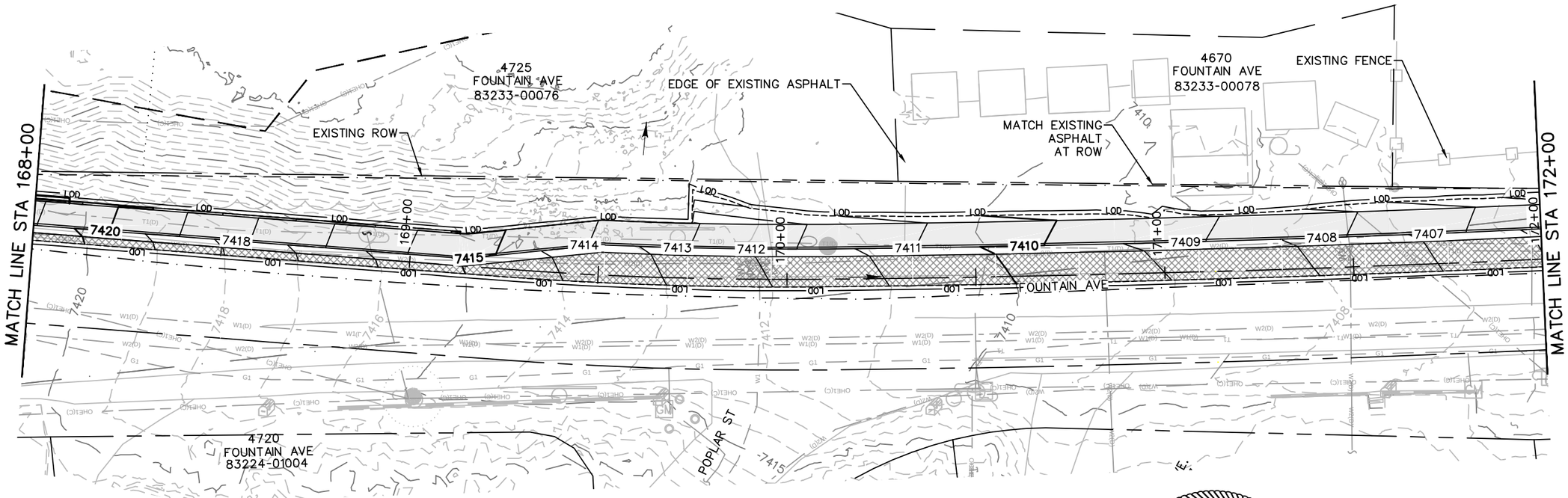
RIP-RAP (FINAL)

SEEDING (FINAL)

ASPHALT PATCH
(SEE PLAN AND PROFILE SHEETS)

CONCRETE SIDEWALK
(SEE PLAN AND PROFILE SHEETS)

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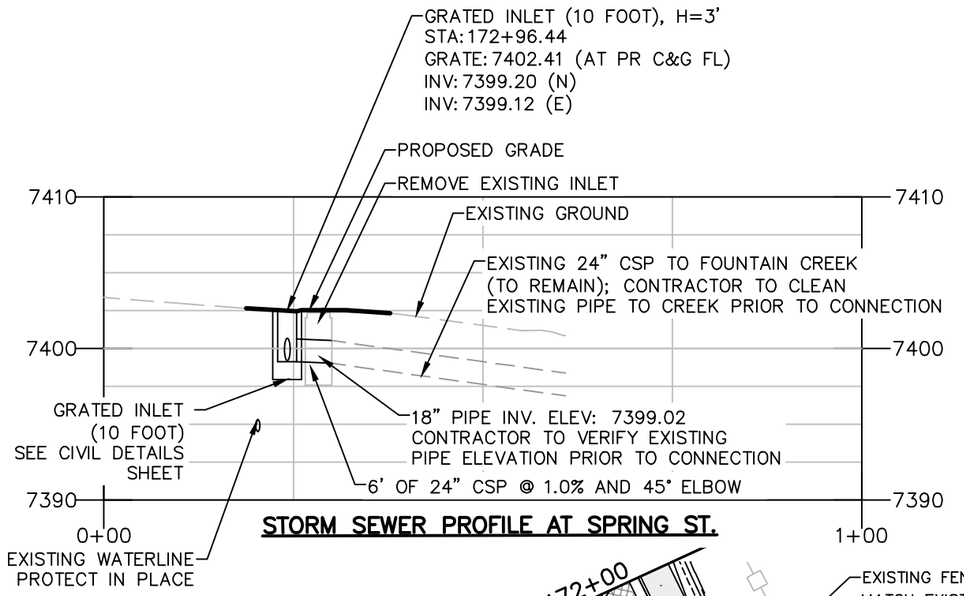
EL PASO COUNTY
COLORADO

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DRAINAGE, GRADING, AND EROSION CONTROL PLAN

Designer:	M WOLF	Structure Numbers	
Detailer:	D. ALDEN		
Sheet Subset:	HYD&GRD	Subset Sheets:	18 of 22

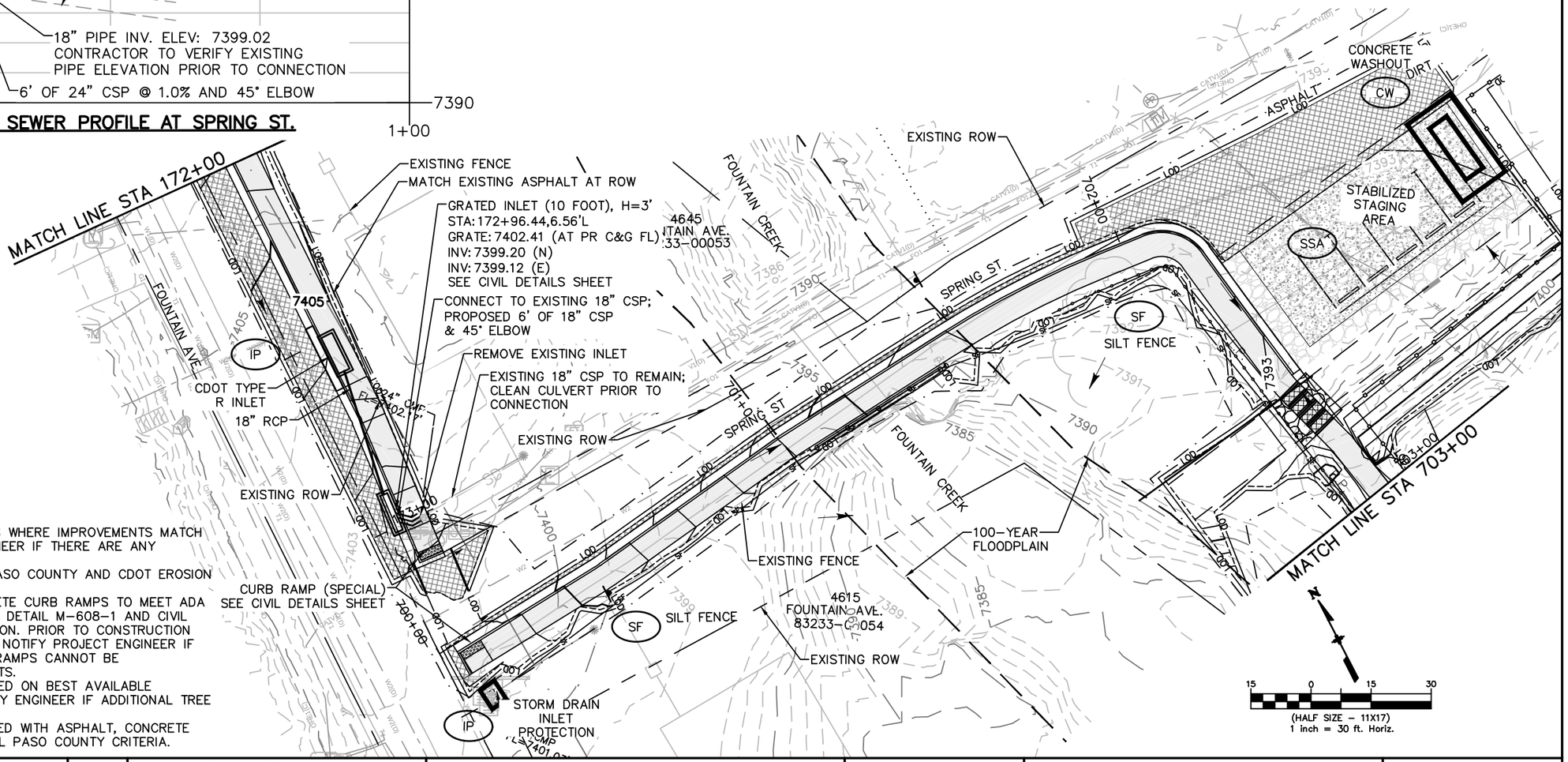
Project No./Code	
TAP C040-054	
22894	
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STORM SEWER PROFILE AT SPRING ST.

LEGEND

- SF — SF — SILT FENCE
- CONCRETE WASHOUT AREA (INTERIM)
- INLET/OUTLET PROTECTION (INITIAL/INTERIM)
- VEHICLE TRACKING CONTROL (STABILIZED CONSTRUCTION ENTRANCE) (INITIAL/INTERIM)
- STABILIZED STAGING AREA (INTERIM)
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- LOD — LOD — LIMITS OF DISTURBED AREA (LOD)
- LIMITS OF CONSTRUCTION (LOC)
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- TREE TO BE REMOVED
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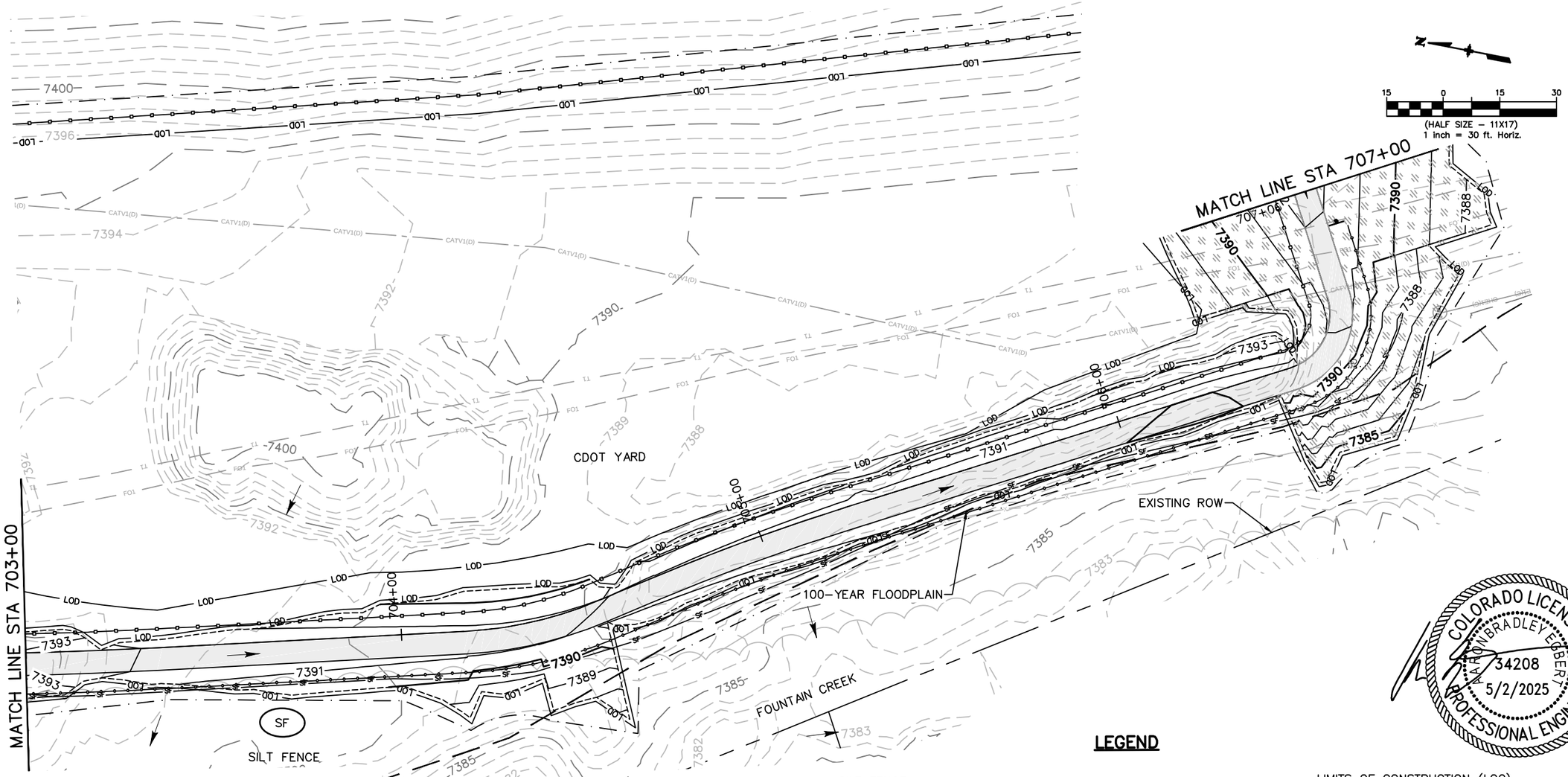
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Void:	Detailer: D. ALDEN			
	Sheet Subset: HYD&GRD	Subset Sheets: 19 of 22		Sheet Number 72



NOTES:

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LEGEND

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- INLET/OUTLET PROTECTION (INITIAL/INTERIM)
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- LOD — LIMITS OF DISTURBED AREA (LOD)
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COLORADO LICENSED
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DRAINAGE, GRADING, AND EROSION CONTROL PLAN

Designer:	M WOLF	Structure Numbers	
Detailer:	D. ALDEN		
Sheet Subset:	HYD&GRD	Subset Sheets:	20 of 22

Project No./Code
TAP C040-054
22894
Sheet Number 73

LEGEND

SILT FENCE

CONCRETE WASHOUT AREA (INTERIM)

INLET/OUTLET PROTECTION (INITIAL/INTERIM)

VEHICLE TRACKING CONTROL
(STABILIZED CONSTRUCTION ENTRANCE)
(INITIAL/INTERIM)

STABILIZED STAGING AREA (INTERIM)

SOIL FILLED TURF REINFORCING MAT WITH SEEDING AND SOIL RETENTION BLANKET PER CDOT STANDARD DRAWING M-216-1

LIMITS OF DISTURBED AREA (LOD)

LIMITS OF CONSTRUCTION (LOC)

DRAINAGE ARROW (DIRECTION OF FLOW)

TREE TO BE REMOVED

TREE TO BE PROTECTED (CONSTRUCTION F
(INITIAL/INTERIM)

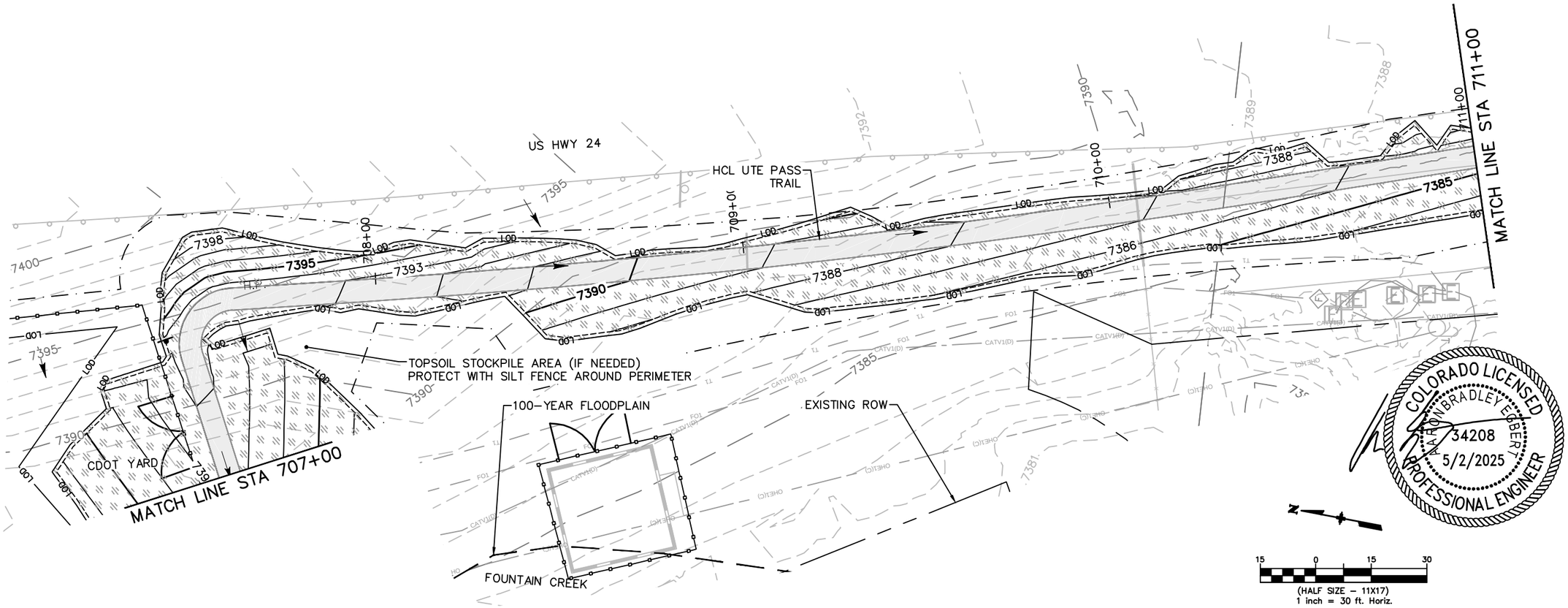
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SEEDING (FINAL)

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Designer:	M WOLF	Structure Numbers	
Detailer:	D. ALDEN		
Sheet Subset:	HYD&GRD	Subset Sheets:	21 of 22

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LEGEND

SF SF — SILT FENCE

CONCRETE WASHOUT AREA (INTERIM)

INLET/OUTLET PROTECTION (INITIAL/INTERIM)

VEHICLE TRACKING CONTROL
(STABILIZED CONSTRUCTION ENTRANCE)
(INITIAL/INTERIM)

STABILIZED STAGING AREA (INTERIM)

SOIL FILLED TURF REINFORCING MAT WITH
SEEDING AND SOIL RETENTION BLANKET PER
CDOT STANDARD DRAWING M-216-1

LOD — LIMITS OF DISTURBED AREA (LOD)

LIMITS OF CONSTRUCTION (LOC)

DRAINAGE ARROW (DIRECTION OF FLOW)

TREE TO BE REMOVED

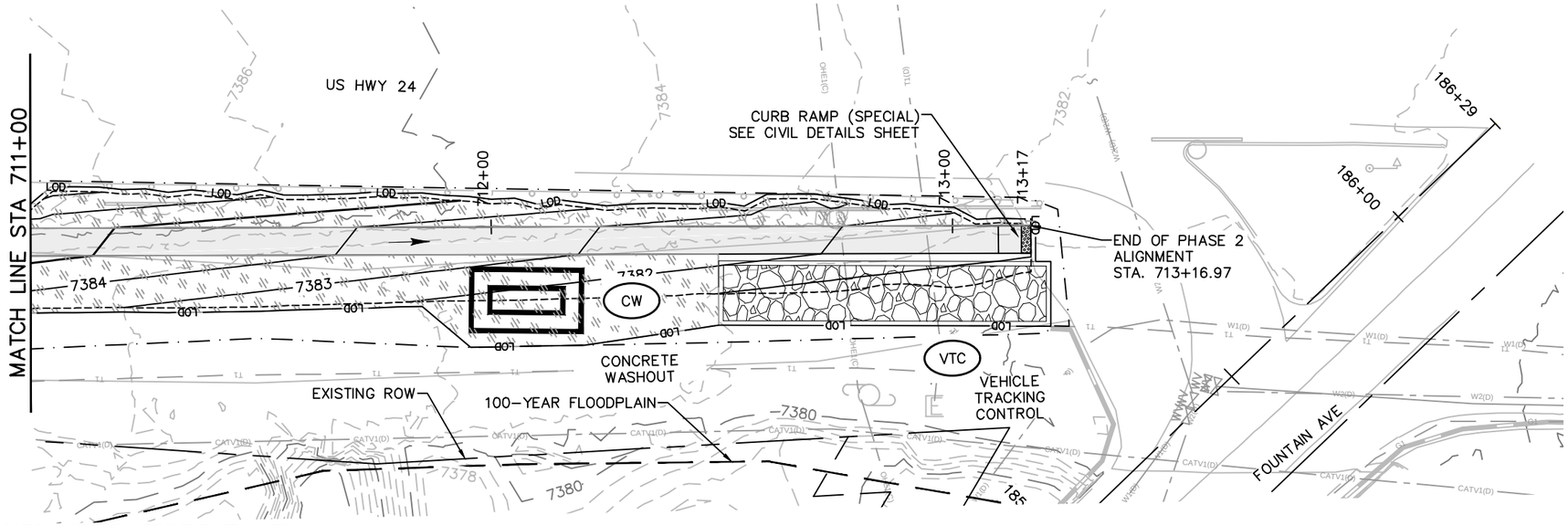
TREE TO BE PROTECTED (CONSTRUCTION FENCE)
(INITIAL/INTERIM)

RIP-RAP (FINAL)

SEEDING (FINAL)

ASPHALT PATCH
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NOTES:

1. CONTRACTOR TO CONFIRM LOCATIONS WHERE IMPROVEMENTS MATCH EXISTING AND NOTIFY PROJECT ENGINEER IF THERE ARE ANY DISCREPANCIES.
2. CONTRACTOR TO COMPLY WITH EL PASO COUNTY AND CDOT EROSION CONTROL REQUIREMENTS.
3. CONTRACTOR TO CONSTRUCT CONCRETE CURB RAMPS TO MEET ADA REQUIREMENTS. SEE CDOT STANDARD DETAIL M-608-1 AND CIVIL DETAIL SHEETS FOR MORE INFORMATION. PRIOR TO CONSTRUCTION OF THE RAMPS, CONTRACTOR SHALL NOTIFY PROJECT ENGINEER IF THERE ARE ANY LOCATIONS WHERE RAMPS CANNOT BE CONSTRUCTED PER ADA REQUIREMENTS.
4. TREE REMOVALS ARE IDENTIFIED BASED ON BEST AVAILABLE INFORMATION. CONTRACTOR TO NOTIFY ENGINEER IF ADDITIONAL TREE REMOVALS ARE ENCOUNTERED.
5. ALL DISTURBED AREAS NOT STABILIZED WITH ASPHALT, CONCRETE OR RIPRAP SHALL BE SEEDED PER EL PASO COUNTY CRITERIA.

COLORADO LICENSED
JOHN BRADLEY EGBERT
34208
5/2/2025
PROFESSIONAL ENGINEER

15 0 15 30
(HALF SIZE - 11X17)
1 inch = 30 ft. Horiz.

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File Name: 11311-GEC_02.DWG		Date: / Comments / Init.	
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EL PASO COUNTY
COLORADO

As Constructed	DRAINAGE, GRADING, AND EROSION CONTROL PLAN		Project No./Code
No Revisions:			TAP C040-054
Revised:	Designer: M WOLF	Structure Numbers	22894
Void:	Detailer: D. ALDEN		Sheet Number 75
	Sheet Subset: HYD&GRD	Subset Sheets: 22 of 22	

GENERAL NOTES:

RETAINING WALLS SHALL BE DESIGNED IN ACCORDANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 9th EDITION.

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) 2023 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, BLOCK WALL MANUFACTURER'S SPECIFICATIONS, OSHA REQUIREMENTS, EL PASO COUNTY REGULATIONS AND STANDARDS, AND ALL STATE AND FEDERAL LAW REGULATIONS.

STRUCTURAL CALCULATIONS OF GRAVITY BLOCK WALLS (TYPE A AND B) SHALL BE PREPARED BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE OF COLORADO. SUBMIT CALCULATIONS FOR REVIEW.

CONSTRUCT ALL WALLS ON UNDISTURBED NATIVE MATERIAL OR PROPERLY COMPACTED FILL. FILL FOUNDATION SOILS SHALL BE COMPACTED TO 95% OF MAXIMUM STANDARD DENSITY (ASTM D-698 / AASHTO T-180).

RETAINING WALL BACKFILL SHALL BE STRUCTURE BACKFILL (CLASS I) COMPACTED TO A DENSITY OF NO LESS THAN 95% OF MAXIMUM DENSITY DETERMINED IN ACCORDANCE WITH AASHTO T-180 WITHIN THE LIMITS SHOWN ON THE BACKFILL DETAIL.

THE INFORMATION SHOWN IN THESE PLANS CONCERNING THE TYPE AND LOCATION OF EXISTING UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATIONS AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. THE CONTRACTOR SHALL CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO AT 1-800-922-1987 AT LEAST 3 DAYS (NOT INCLUDING THE DAY OF NOTIFICATION) PRIOR TO ANY EXCAVATION OR OTHER EARTHWORK.

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

WALL LAYOUT LINES FOR RETAINING WALLS REPRESENT THE EXPOSED FACE OF THE RETAINING WALL (SEE STRUCTURAL WALL PLANS FOR EXACT LOCATION).

ALL STRUCTURAL CONCRETE AND CONCRETE LEVELING PAD SHALL BE CDOT CONCRETE CLASS D OR EQUIVALENT.

FOR CONCRETE COMPONENTS IN DIRECT CONTACT WITH EARTH, FOR ALL WALLS PROVIDE STRUCTURAL CONCRETE WITH CEMENTITIOUS MATERIAL MEETING THE SULFATE RESISTANCE REQUIREMENTS OF CLASS 2.

ALL CONSTRUCTION JOINTS SHALL BE THOROUGHLY CLEAN AND ROUGHENED BEFORE FRESH CONCRETE IS PLACED. ALL CONSTRUCTION JOINTS NOT SHOWN ON PLANS SHALL BE APPROVED BY ENGINEER.

ALL EXPOSED CONCRETE SHALL BE CHAMFERED ¾", UNLESS SHOWN OR OTHERWISE NOTED.

ALL REINFORCEMENT STEEL SHALL BE BLACK (NON-EPOXY COATED) REINFORCING BARS UNLESS OTHERWISE NOTED.

GRADING 60 REINFORCING STEEL IS REQUIRED.

EXPANSION JOINT MATERIAL SHALL MEET AASHTO SPECIFICATION M-213.

STRUCTURAL EXCAVATIONS AND BACKFILL SHALL BE AS SHOWN ON THE PLANS AND IN THE SPECIFICATION ITEM 206 SHORING.

TEMPORARY EXCAVATION SUPPORT WILL NOT BE MEASURED AND PAID BUT SHALL BE INCLUDED IN THE WORK. THE WORK SHALL BE DONE IN ACCORDANCE WITH THE SPECIFICATION ITEM 206 SHORING.

THE DEPICTED EXCAVATION LINE SHOW THE MINIMUM BOUNDARY FOR STRUCTURAL BACKFILL. THE CONTRACTOR SHALL EVALUATE AND PREPARE IT'S OWN SAFE EXCAVATION PLAN REQUIRE BY OSHA AND THE EXISTING GROUND CONDITION.

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

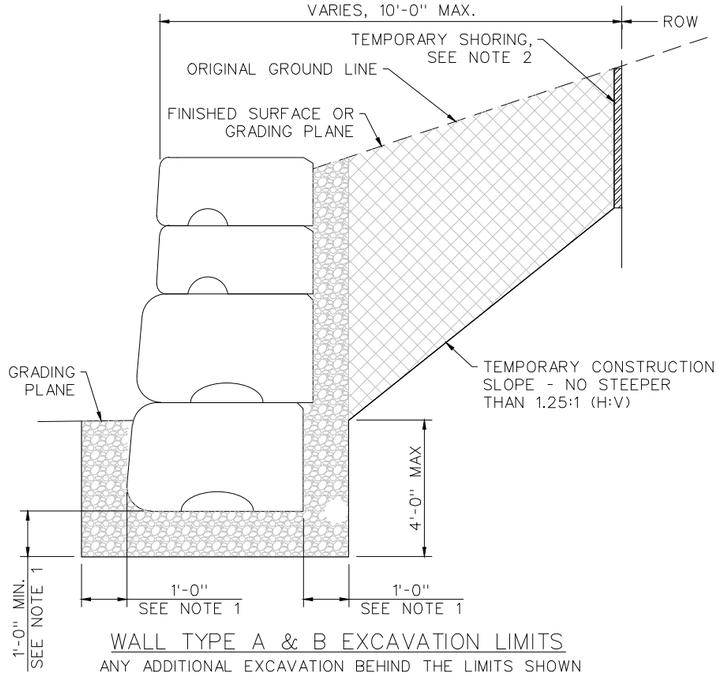
ALL LONGITUDINAL AND TRANSVERSE DIMENSIONS ARE MEASURED HORIZONTALLY AND INCLUDE NO CORRECTION FOR GRADE. THE WORK WILL NOT BE MEASURED AND PAID SEPARATELY BUT SHALL BE INCLUDED IN THE WORK.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR APPROPRIATE DRAINAGE BEHIND THE GRAVITY BLOCK WALLS AS REQUIRED BY THE CONTRACTORS'S INTERNAL DESIGN OF THE WALLS. THE DRAINAGE WILL NOT BE MEASURED AND PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE WORK.

THE CONTRACTOR SHALL PROVIDE THE DRAINAGE SYSTEM OF THE CAST-IN-PLACE CANTILEVER WALLS (TYPE C AND TYPE D) AS SHOWN ON THE DRAWINGS. THE DRAINAGE WILL NOT BE MEASURED AND PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE WORK.

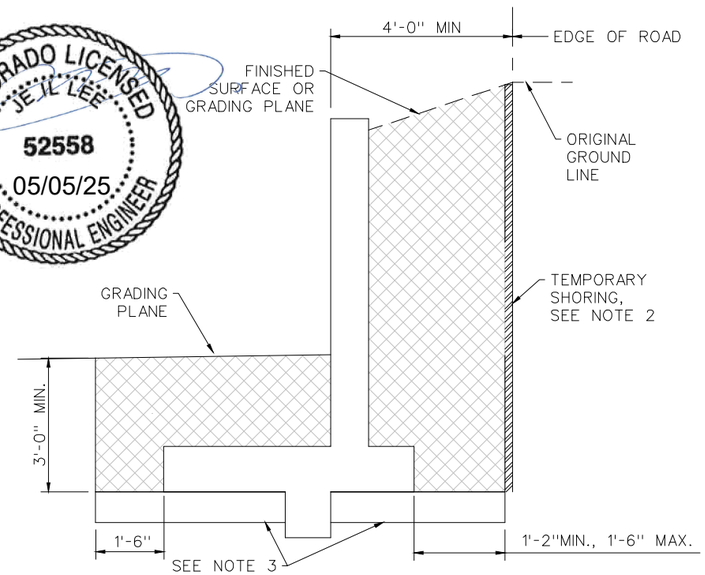
SEE GEOTECHNICAL REPORT FOR RETAINING WALLS AND EMBANKMENTS DATED 06/28/24 PREPARED BY MARTINEZ ASSOCIATES INC. FOR WALL DESIGN PARAMETERS, LABORATORY DATA AND SOIL CHARACTERISTICS.

THE GRAVITY BLOCK WALL LAYOUTS AND GEOMETRY ARE SHOWN FOR BIDDING PURPOSES ONLY. THE CONTRACTOR SHALL SUBMIT THE GRAVITY WALL DESIGN, SPECIFICATIONS, BLOCK LAYOUT, BLOCK GEOMETRY BASED ON THEIR PROPOSED BLOCK DETAILS AND WILL BE SUBJECT TO APPROVAL BY ENGINEER. THE CONTRACTOR MAY UTILIZE RECON OR REDI-ROCK PROPRIETARY WALL SYSTEMS, OR EQUIVALENT.



WALL TYPE A & B EXCAVATION LIMITS

ANY ADDITIONAL EXCAVATION BEHIND THE LIMITS SHOWN SHALL BE FILLED WITH CLASS 1 BACKFILL MATERIAL. THE ADDITIONAL EXCAVATION AND BACKFILL WILL NOT BE MEASURED AND PAID FOR.



WALL TYPE C & D EXCAVATION LIMITS



DESIGN DATA:

DESIGN METHOD: LOAD RESISTANCE FACTOR DESIGN

LIVE LOAD: 250 PSF

REINFORCED CONCRETE:

CLASS D CONCRETE: f'c = 4,500 PSI
REINFORCING STEEL: fy = 60,000 PSI

CONCRETE SPECIFIC WEIGHT= 150 PCF

STEEL SPECIFIC WEIGHT= 490 PCF

SOIL SPECIFIC WEIGHT= 125 PCF

SOIL NOMINAL BEARING PRESSURE = 4,000 PSF

NOTES:

1. THE EXCAVATION LIMIT SHALL NOT EXCEED THE RIGHT OF WAY. THE LIMIT MAY BE REDUCED WHERE CDOT CLASS D CONCRETE LEVELING PAD IS USED. REFER TO WALL TYPICAL SECTIONS.
2. THE CONTRACTOR SHALL SUBMIT DESIGN CALCULATIONS AND STRUCTURAL DETAILS FOR ENGINEER'S REVIEW. THE WORK SHALL BE DONE PER SECTION 206 OF CDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGES. ALL COST OF SHORING AND ITS APPLICATION WILL NOT BE MEASURED AND PAID SEPARATELY BUT SHALL BE INCLUDED IN THE WORK.
3. SUBGRADE SOILS BENEATH RETAINING WALL FOUNDATIONS SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 8 INCHES, MOISTURE CONDITIONED AND COMPACTED AS AN ENGINEERED FILL OR NO. 67 CRUSHED AGGREGATE. THIS ITEM WILL NOT BE MEASURED AND PAID SEPARATELY BUT SHALL BE INCLUDED IN THE WORK.

LEGEND:

- STRUCTURE EXCAVATION LIMITS
- CRUSHED STONE BACKFILL (ASTMC-33 NO. 67 CRUSHED AGGREGATE)
- STRUCTURE BACKFILL (CLASS 1)

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Date:	Comments	Init.

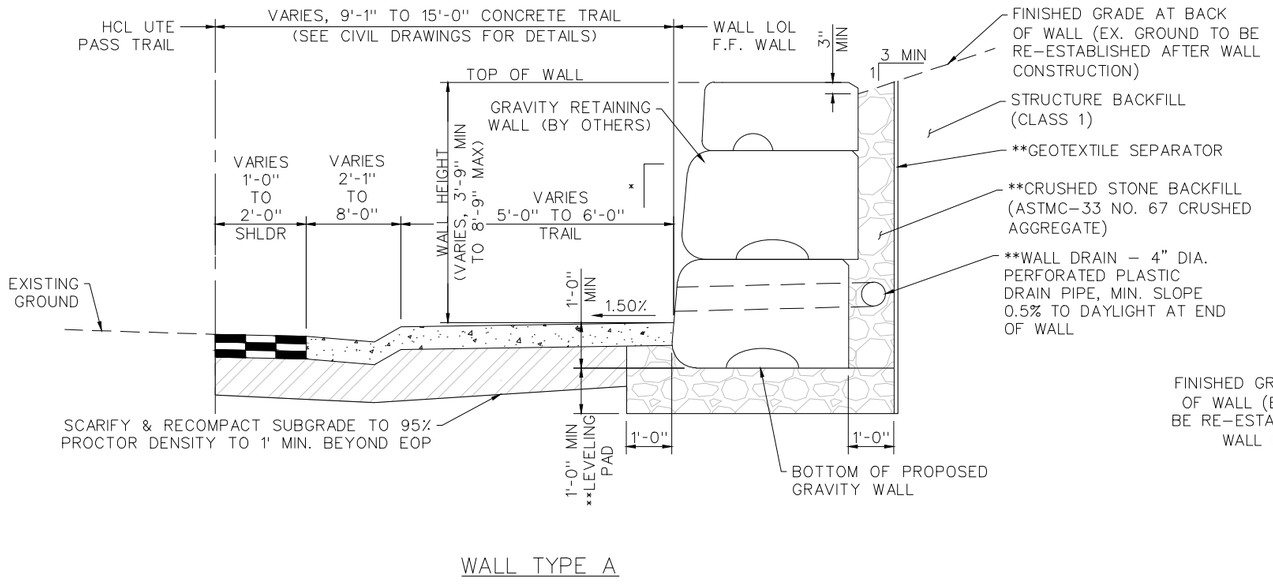
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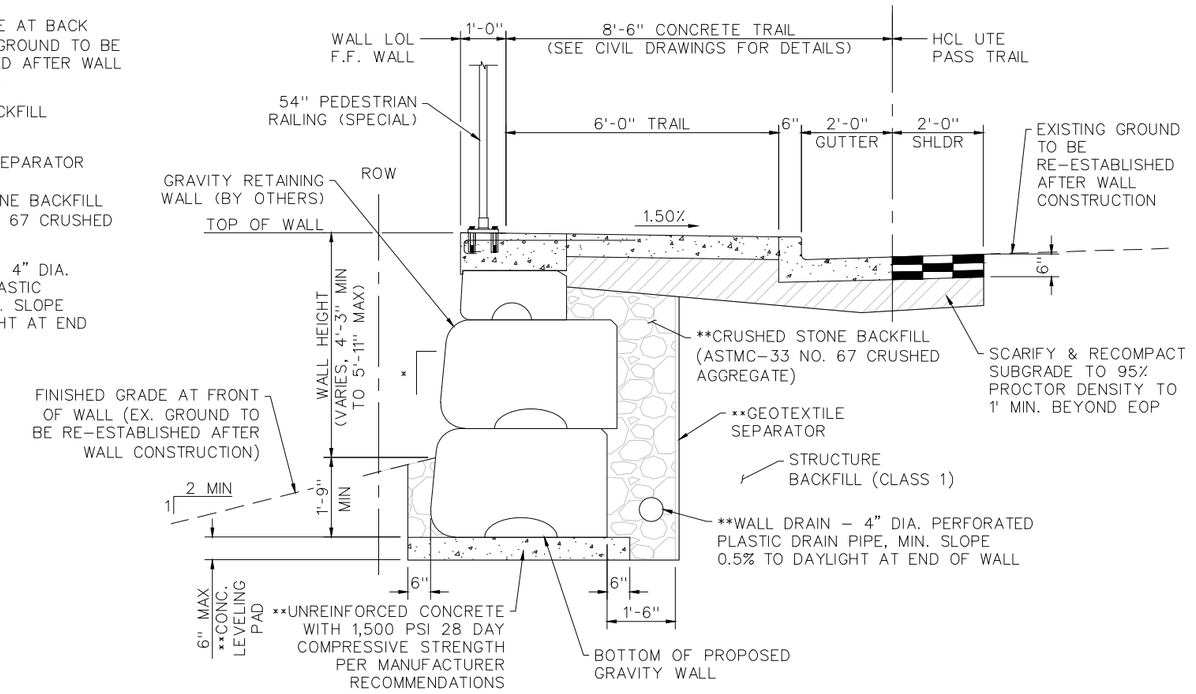
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Detailer: F HIDALGO
Sheet Subset: STR
Structure Numbers:
Subset Sheets: 01 of 15

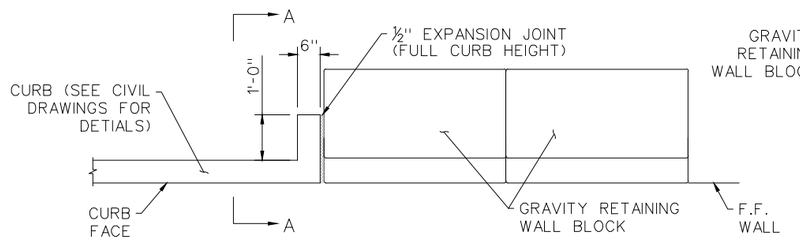
Project No./Code
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22894
Sheet Number 76



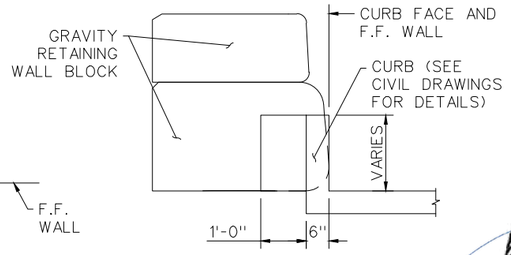
WALL TYPE A



WALL TYPE B

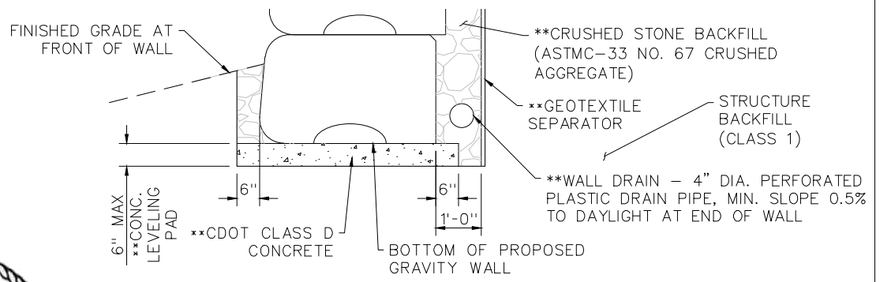


PLAN



SECTION A-A

CURB/GRAVITY WALL INTERACTION DETAIL



OPTIONAL CONCRETE LEVELING PAD DETAILS

COLORADO LICENSED
JE IL LEE
52558
05/05/25
PROFESSIONAL ENGINEER

NOTES:

* WALL FACE SLOPE TO BE DETERMINED BY MANUFACTURER.

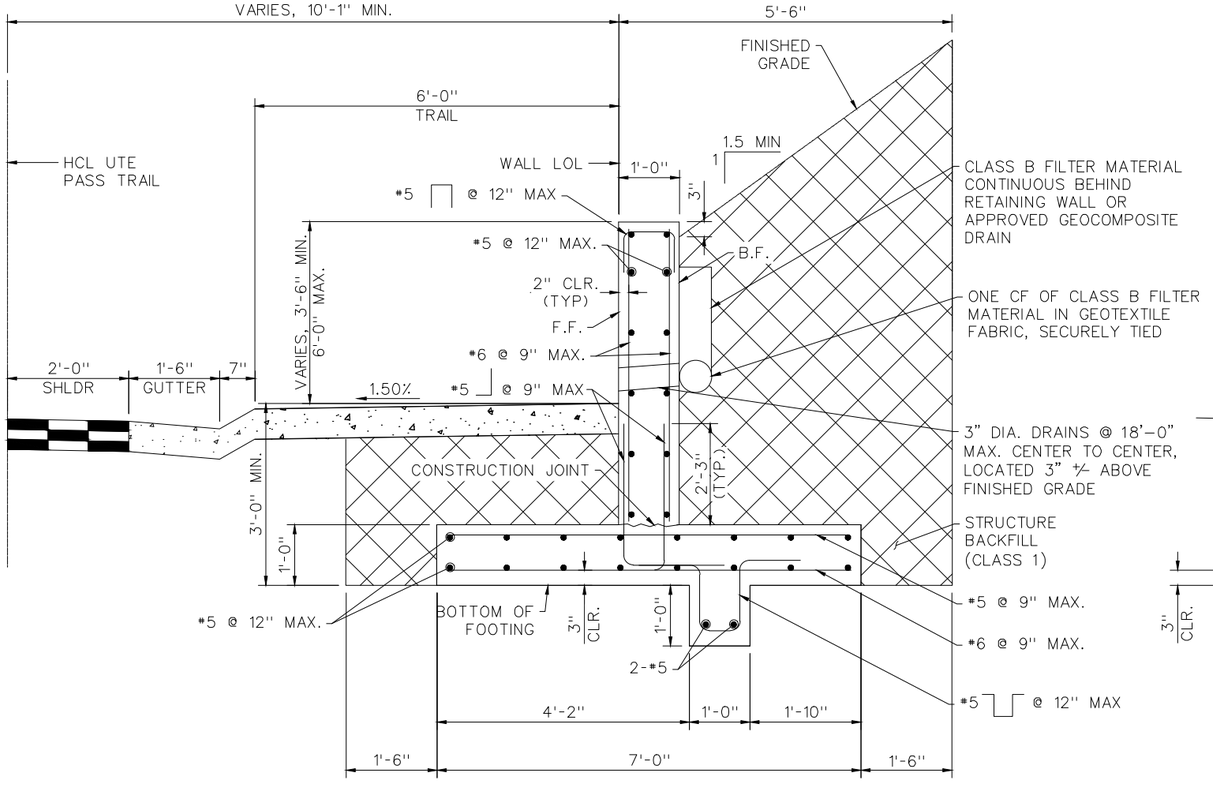
** THESE ITEMS WILL NOT BE MEASURED AND PAID SEPARATELY BUT SHALL BE INCLUDED IN THE WORK.

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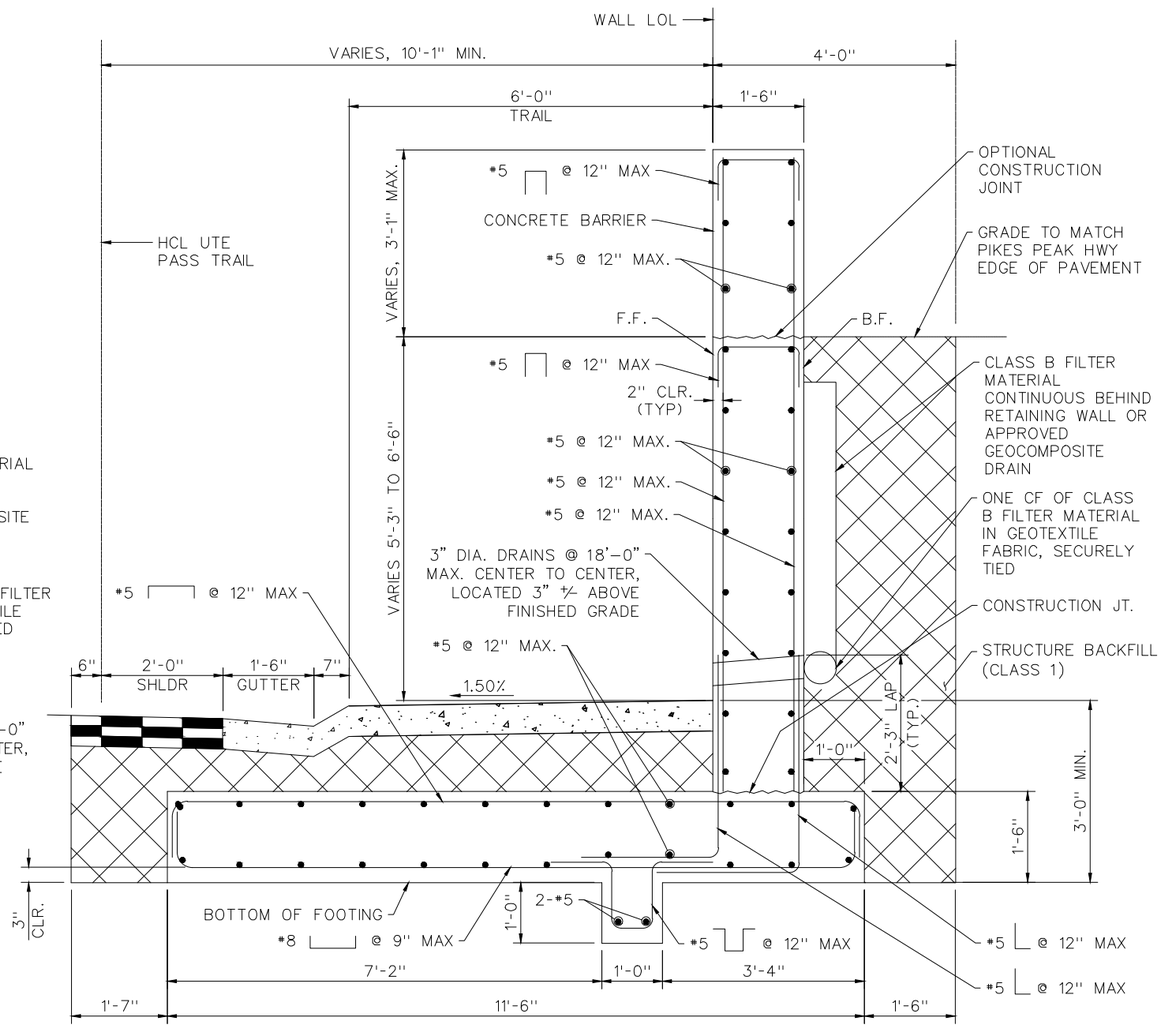
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Horiz. Scale: NTS Vert. Scale: NTS			
Unit Information Unit Leader Initials			
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As Constructed	WALL TYPICAL SECTIONS (1 OF 2)			Project No./Code
No Revisions:				TAP C040-054
Revised:	Designer: F HIDALGO	Structure Numbers		22894
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	Sheet Subset: STR	Subset Sheets: 02 of 15		Sheet Number 77



WALL TYPE C



WALL TYPE D

NOTE:

SUBGRADE SOILS ARE NOT SHOWN FOR CLARITY.

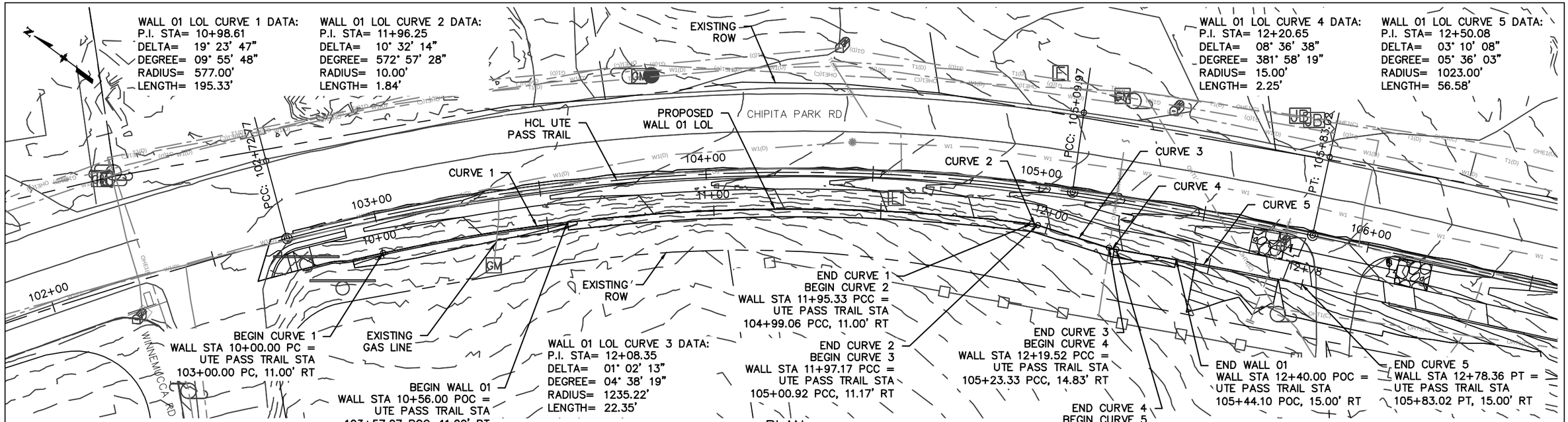
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EL PASO COUNTY COLORADO

WALL TYPICAL SECTIONS (2 OF 2)

Designer: F HIDALGO	Structure Numbers		Project No./Code: TAP C040-054
Detailer: F HIDALGO			22894
Sheet Subset: STR	Subset Sheets: 03 of 15		Sheet Number 78



NOTES: SEE CIVIL DRAWINGS FOR TRAIL HCL & PGL DATA.

ELEVATION WALL 01
(ALONG LOL, MIRRORED)

COLORADO LICENSED
JE IL LEE
52558
05/05/25
PROFESSIONAL ENGINEER

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

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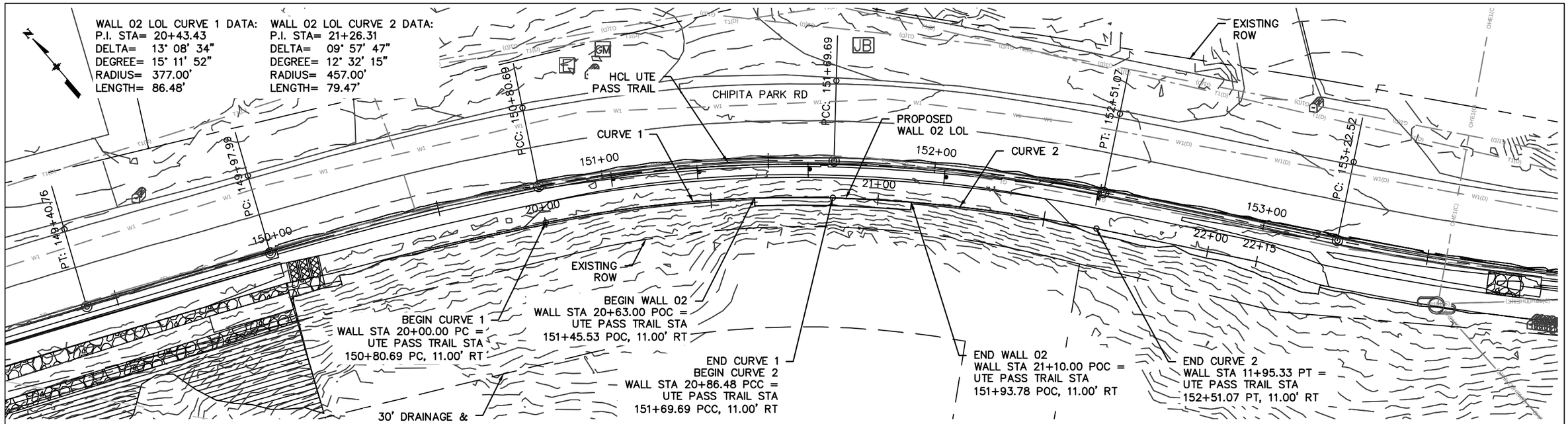
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Horiz. Scale: 1"=30' Vert. Scale: 1"=5'			
Unit Information Unit Leader Initials			
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As Constructed	STRUCTURAL WALL PLAN AND PROFILE WALL 01 LAYOUT		Project No./Code
No Revisions:			TAP C040-054
Revised:	Designer: F HIDALGO	Structure Numbers	22894
Void:	Detailer: F HIDALGO		
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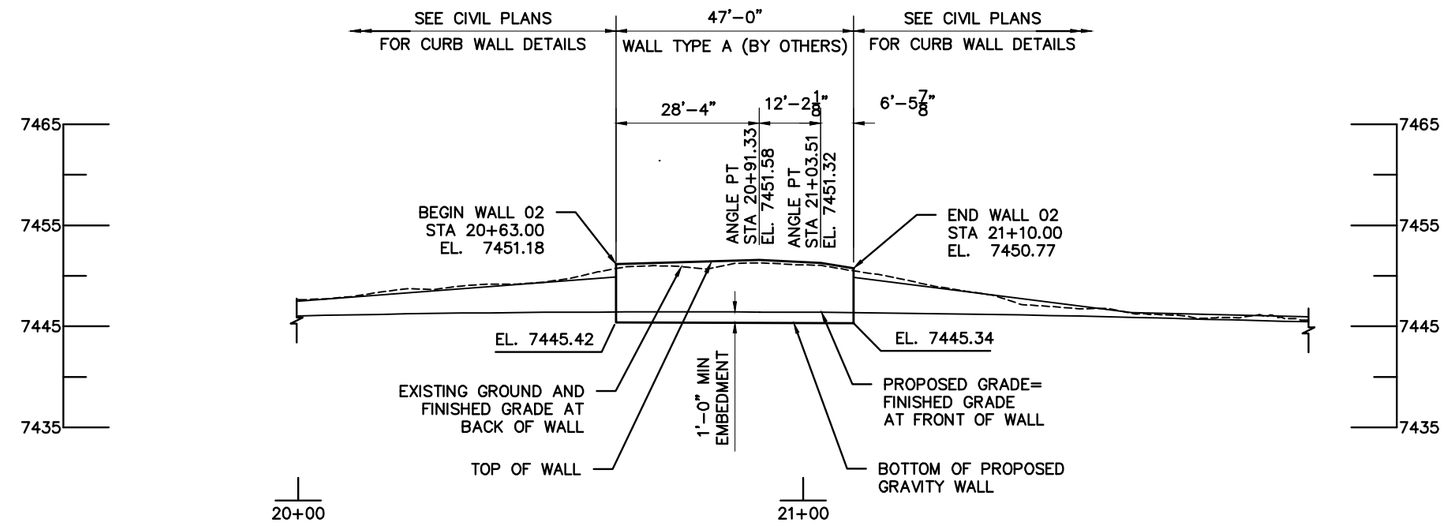
WALL 02 LOL CURVE 1 DATA:
P.I. STA= 20+43.43
DELTA= 13° 08' 34"
DEGREE= 15° 11' 52"
RADIUS= 377.00'
LENGTH= 86.48'

WALL 02 LOL CURVE 2 DATA:
P.I. STA= 21+26.31
DELTA= 09° 57' 47"
DEGREE= 12° 32' 15"
RADIUS= 457.00'
LENGTH= 79.47'



PLAN

15 0 15 30
(IN FEET)
1 inch = 30 ft.



ELEVATION WALL 02
(ALONG LOL, MIRRORED)

NOTES: SEE CIVIL DRAWINGS FOR TRAIL HCL & PGL DATA.

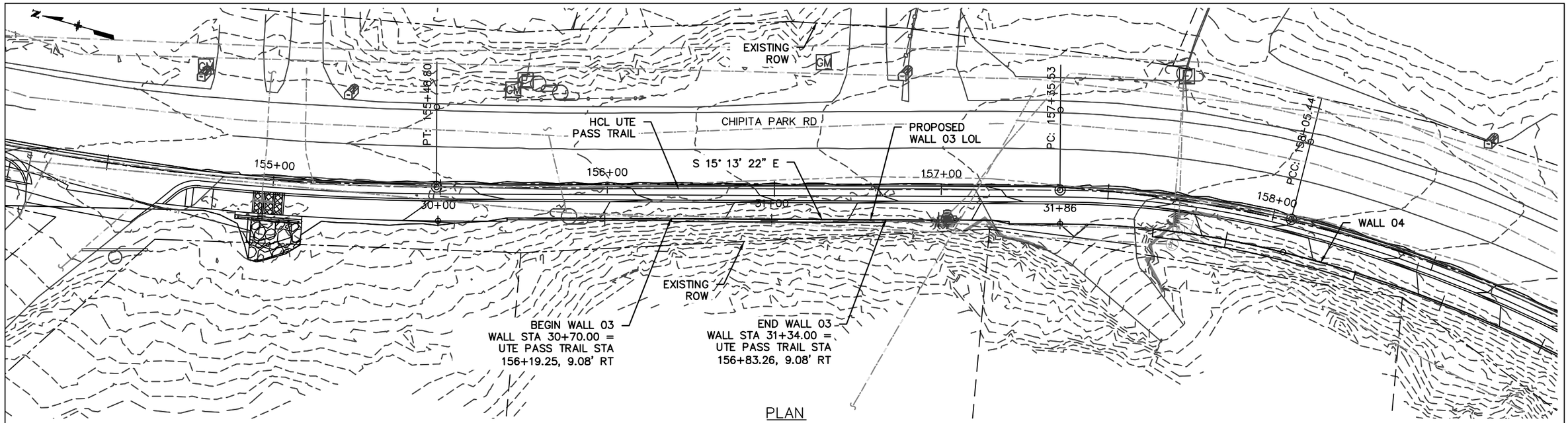
COLORADO LICENSED
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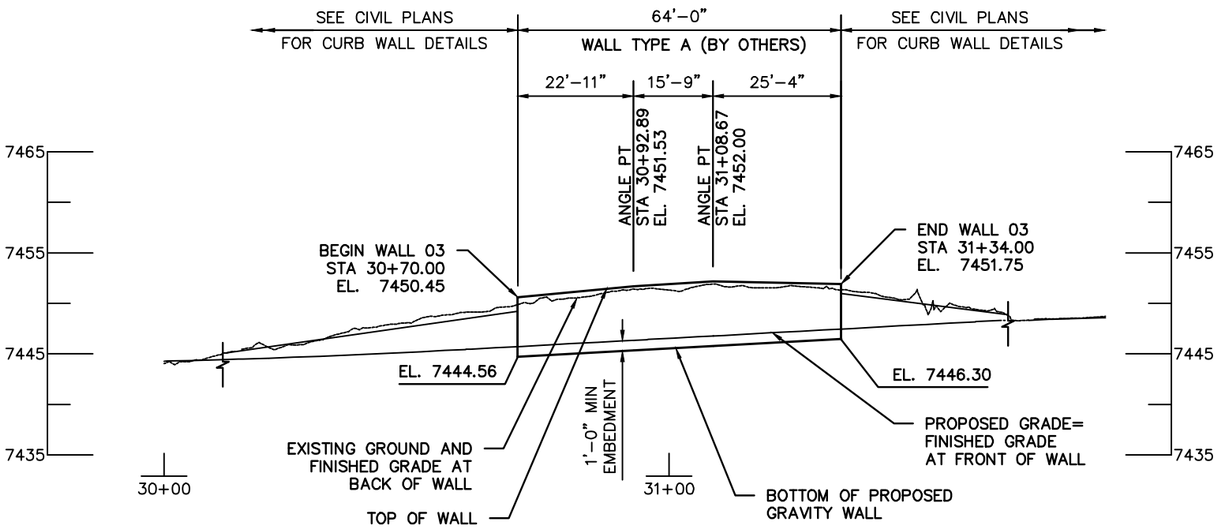
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Unit Information Unit Leader Initials			
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As Constructed	STRUCTURAL WALL PLAN AND PROFILE WALL 02 LAYOUT		Project No./Code
No Revisions:			TAP C040-054
Revised:	Designer: F HIDALGO	Structure Numbers	22894
Void:	Detailer: F HIDALGO		
	Sheet Subset: STR	Subset Sheets: 05 of 15	Sheet Number 80



PLAN

15 0 15 30
(IN FEET)
1 inch = 30 ft.



ELEVATION WALL 03
(ALONG LOL, MIRRORED)

NOTES: SEE CIVIL DRAWINGS FOR TRAIL HCL & PGL DATA.

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JE ILL LEE
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PROFESSIONAL ENGINEER

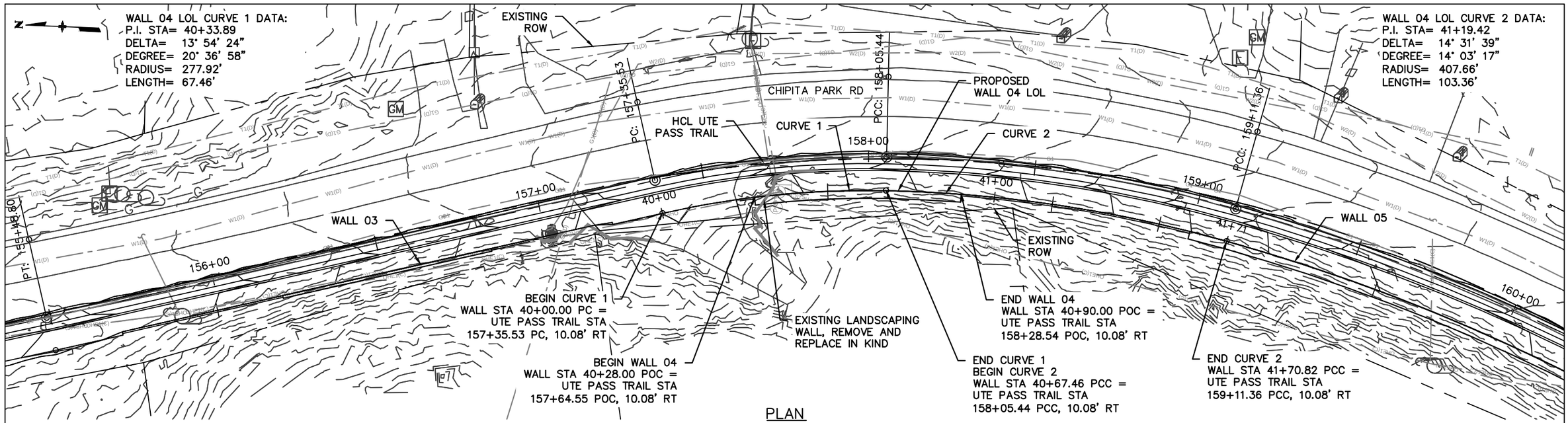
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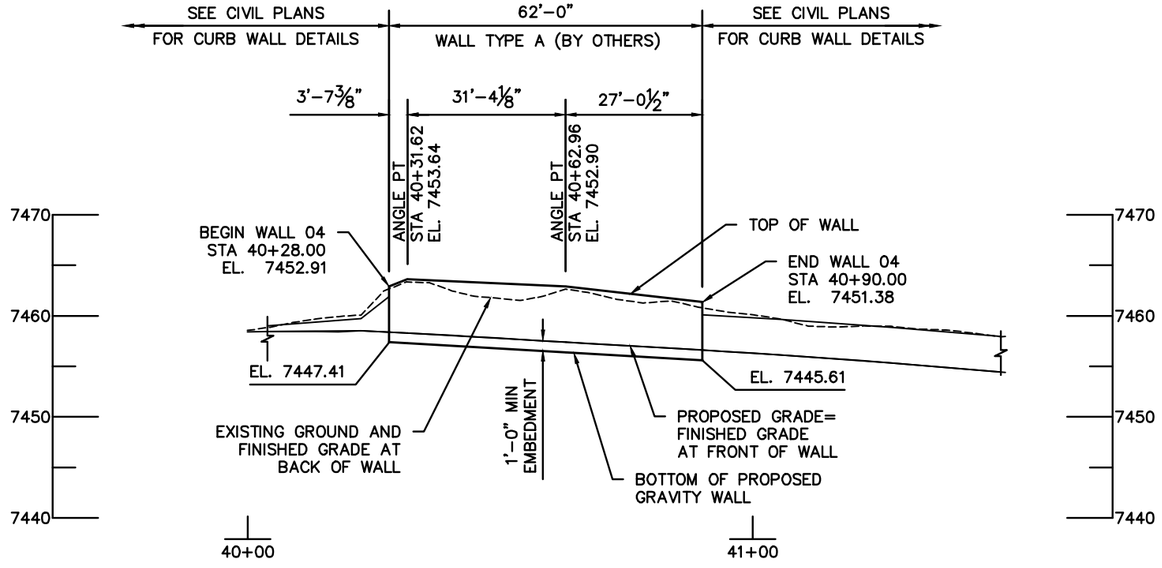
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As Constructed	STRUCTURAL WALL PLAN AND PROFILE WALL 03 LAYOUT		Project No./Code
No Revisions:			TAP C040-054
Revised:	Designer: F HIDALGO	Structure Numbers	22894
Void:	Detailer: F HIDALGO		
	Sheet Subset: STR	Subset Sheets: 06 of 15	Sheet Number 81



PLAN

15 0 15 30
(IN FEET)
1 inch = 30 ft.



ELEVATION WALL 04
(ALONG LOL, MIRRORED)

NOTES: SEE CIVIL DRAWINGS FOR TRAIL HCL & PGL DATA.

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JE IL LEE
52558
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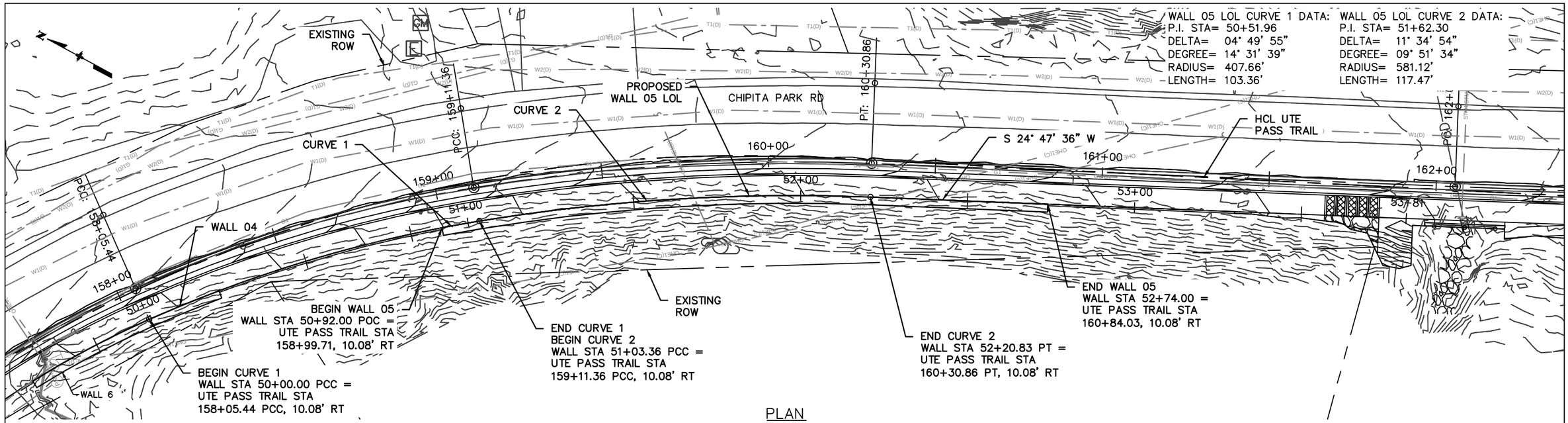
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COLORADO

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No Revisions:	
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STRUCTURAL WALL PLAN AND PROFILE
WALL 04 LAYOUT

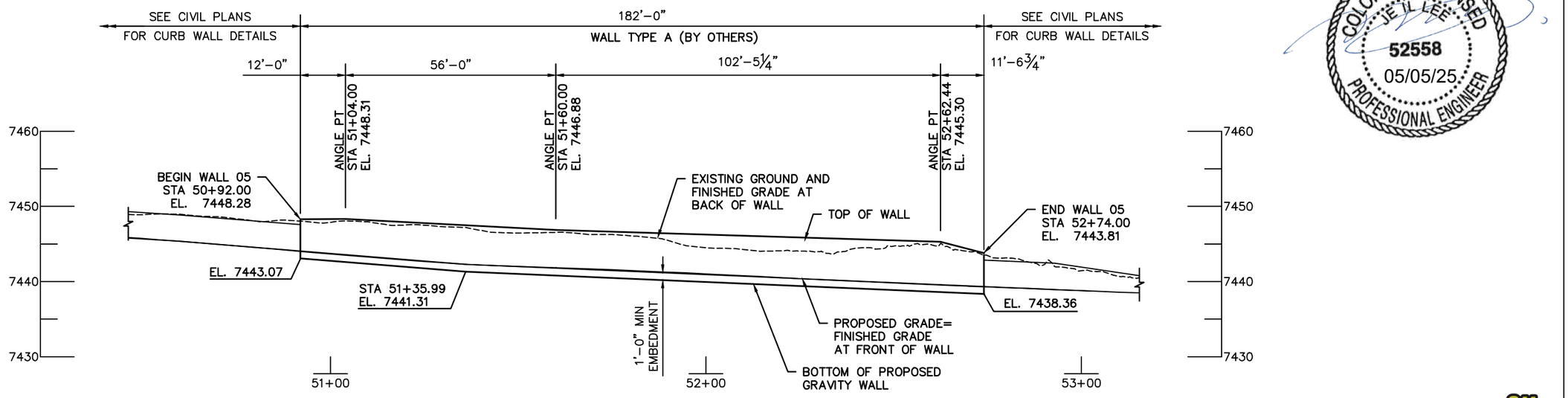
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Detailer:	F HIDALGO		
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Project No./Code	
TAP C040-054	
22894	
Sheet Number	82



PLAN

15 0 15 30
(IN FEET)
1 inch = 30 ft.



ELEVATION WALL 05
(ALONG LOL, MIRRORED)

NOTES: SEE CIVIL DRAWINGS FOR TRAIL HCL & PGL DATA.

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52558
05/05/25
PROFESSIONAL ENGINEER

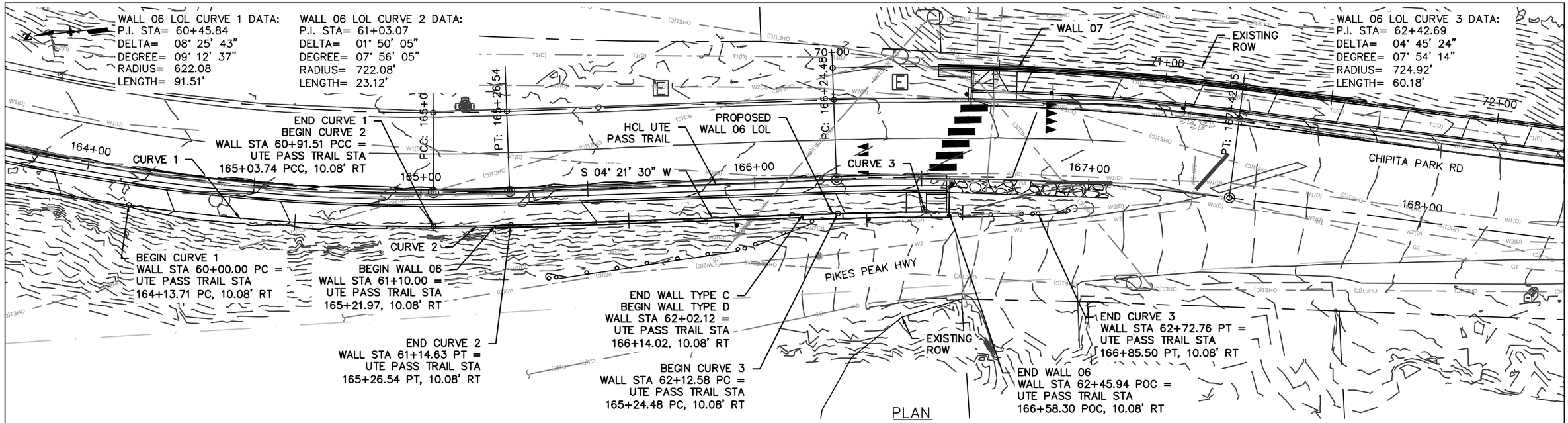
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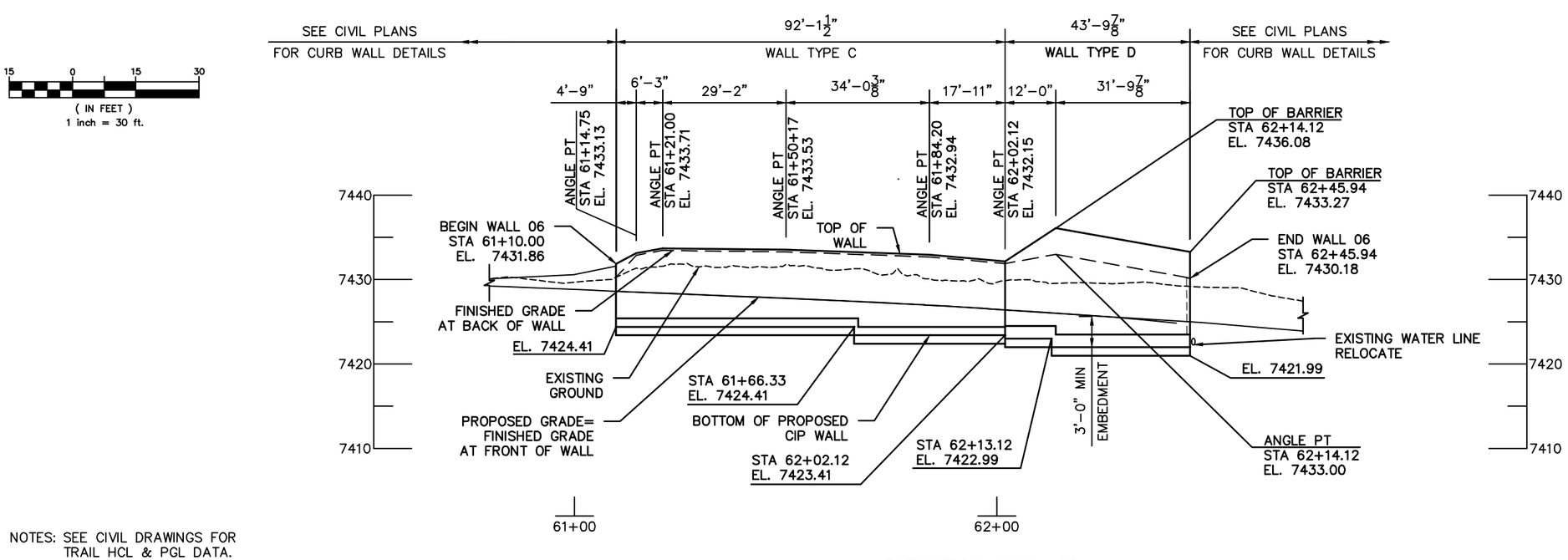
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Unit Information Unit Leader Initials			
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As Constructed	STRUCTURAL WALL PLAN AND PROFILE WALL 05 LAYOUT		Project No./Code
No Revisions:			TAP C040-054
Revised:	Designer: F HIDALGO	Structure Numbers	22894
Void:	Detailer: F HIDALGO		
	Sheet Subset: STR	Subset Sheets: 08 of 15	Sheet Number 83





ELEVATION WALL 06
(ALONG LOL, MIRRORED)

15 0 15 30
(IN FEET)
1 inch = 30 ft.

NOTES: SEE CIVIL DRAWINGS FOR TRAIL HCL & PGL DATA.

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Date:	Comments	Init.

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Revised:	
Void:	

STRUCTURAL WALL PLAN AND PROFILE
WALL 06 LAYOUT

Designer:	F HIDALGO	Structure Numbers	
Detailer:	F HIDALGO		
Sheet Subset:	STR	Subset Sheets:	09 of 15

Project No./Code	
TAP C040-054	
22894	
Sheet Number	84

WALL 07 LOL CURVE 1 DATA:
P.I. STA= 70+61.75
DELTA= 09° 11' 16"
DEGREE= 07° 27' 20"
RADIUS= 768.50'
LENGTH= 123.24'

BEGIN WALL 07
WALL STA 70+31.72 POC =
UTE PASS TRAIL STA
166+81.62 POC, 9.50' LT

BEGIN CURVE 1
WALL STA 70+00.00 PC =
UTE PASS TRAIL STA
166+50.30 PC, 9.50' LT

PCC: 166+30.32

PT: 165+52.36

166+50.30

70+00

PROPOSED
WALL 07 LOL

CURVE 1

71+00

PT: 167+72.01

END CURVE 1
WALL STA 71+23.24 PT =
UTE PASS TRAIL STA
167+72.01 PT, 9.50' LT

EXISTING ROW

END WALL 07
WALL STA 71+60.22 =
UTE PASS TRAIL STA
168+09.00, 9.50' LT

PC: 169+20.26

72+00

73+00

CHIPITA PARK RD

S 13° 32' 19" W

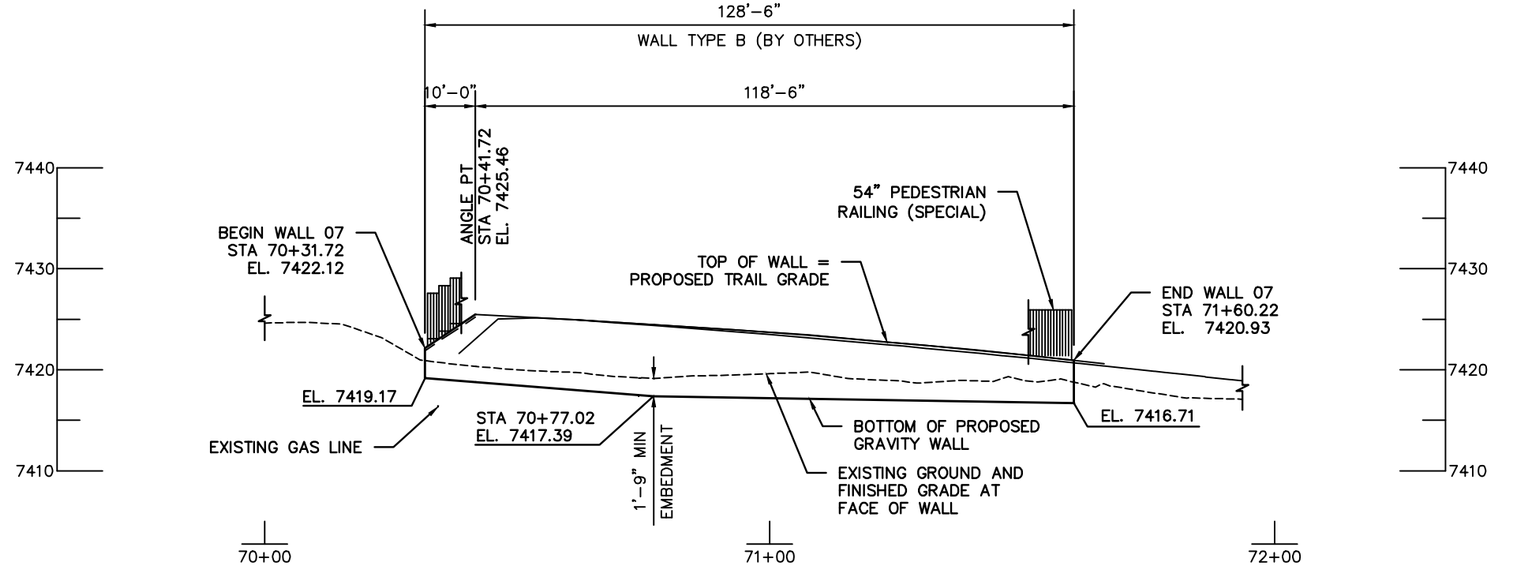
HCL UTE
PASS TRAIL

PIKES PEAK HWY

EXISTING
ROW

PLAN

15 0 15 30
(IN FEET)
1 inch = 30 ft.



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NOTES: SEE CIVIL DRAWINGS FOR
TRAIL HCL & PGL DATA.

ELEVATION WALL 07
(ALONG LOL, MIRRORED)

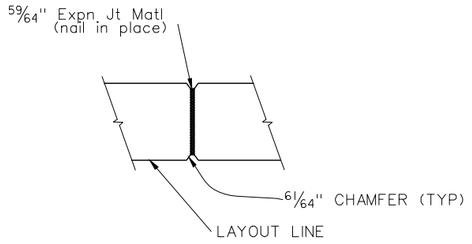
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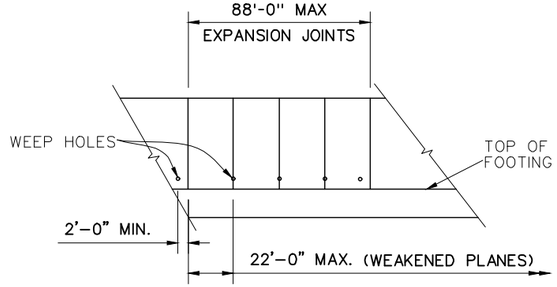
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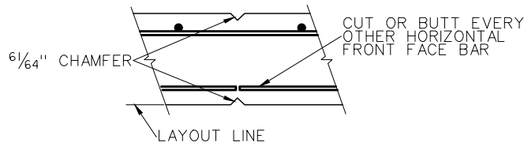
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No Revisions:			TAP C040-054
Revised:	Designer: F HIDALGO	Structure Numbers	22894
Void:	Detailer: F HIDALGO		
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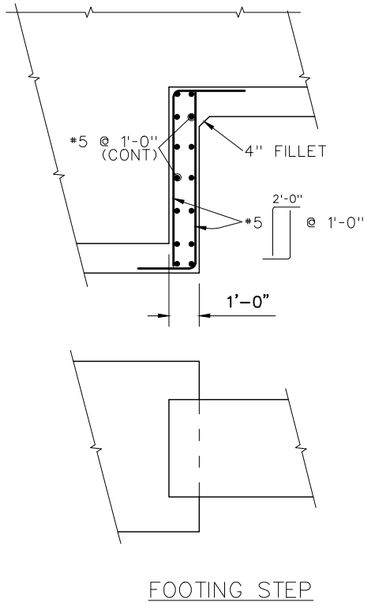
EXPANSION JOINT



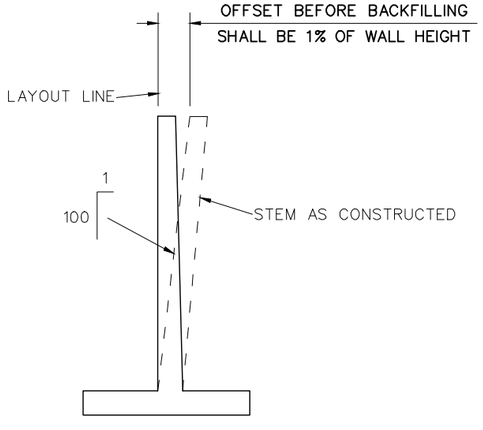
WALL EXPANSION JOINTS
AND WEAKENED PLANES
DO NOT EXTEND JOINTS THROUGH FOOTING



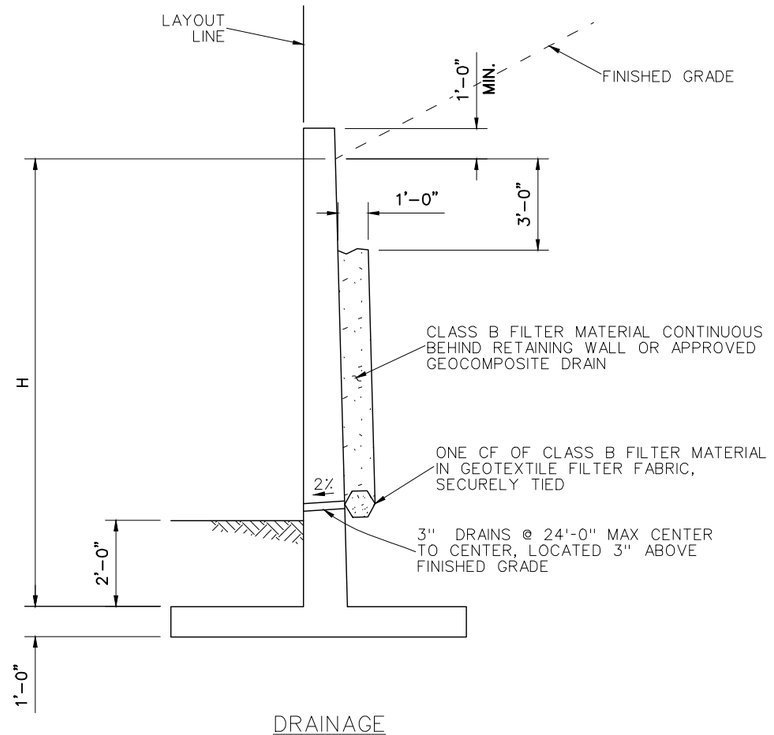
WEAKENED PLANE
@ 22'-0" MAX



FOOTING STEP



WALL OFFSETS



DRAINAGE
NOT REQUIRED WHEN H IS LESS THEN OR EQUAL TO 6'

DRAINAGE ITEMS SHOWN NOT QUANTIFIED IN THE SUMMARY OF QUANTITIES WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE WORK.

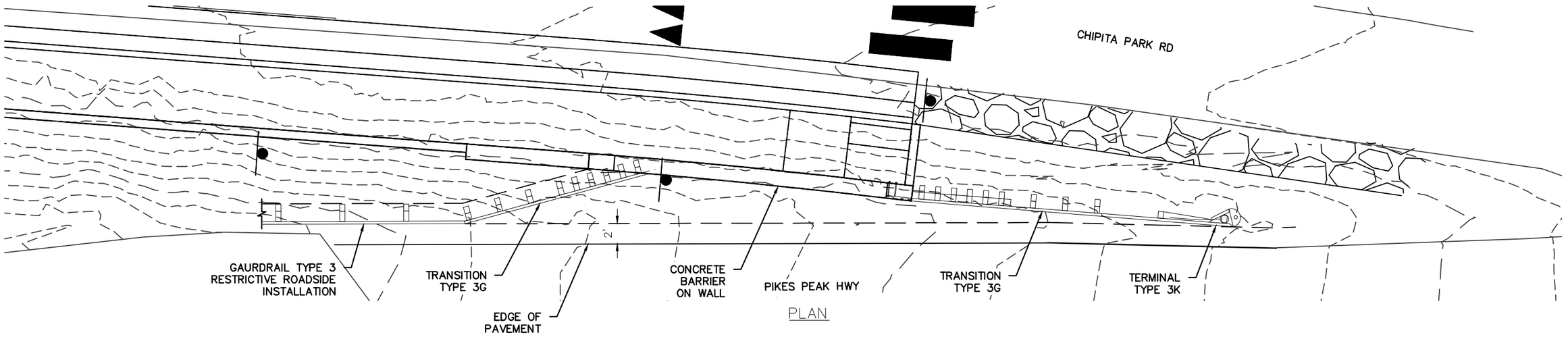


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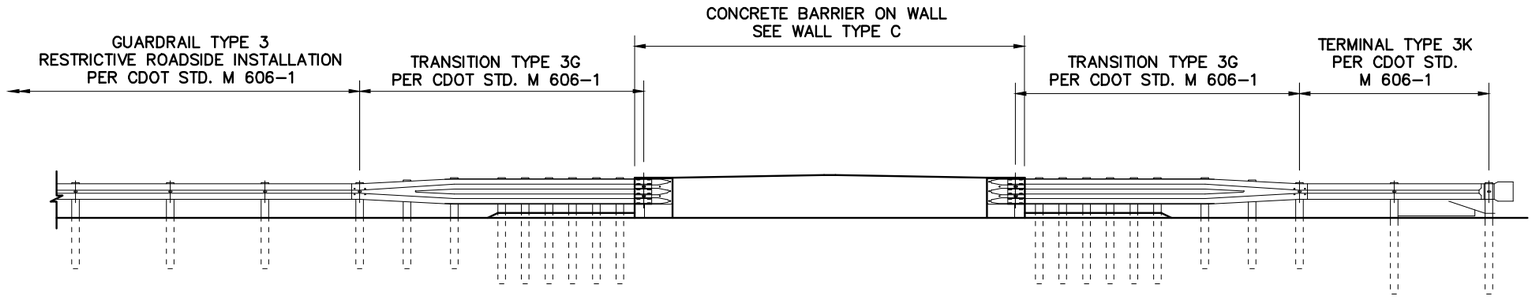
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Void:	Detailer: F HIDALGO		Sheet Number 86
	Sheet Subset: STR	Subset Sheets: 11 of 15	



PLAN

5 0 5 10
(IN FEET)
1 inch = 10 ft. Horiz./Vert.



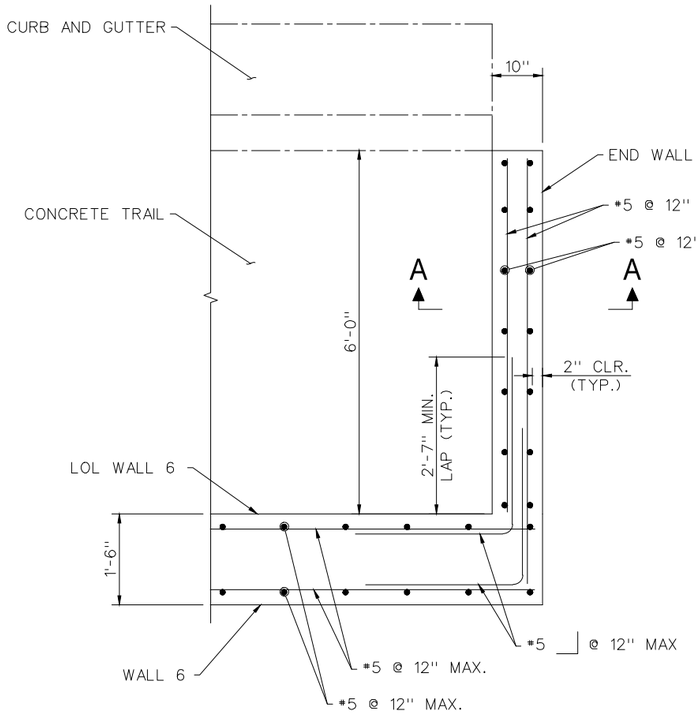
ELEVATION

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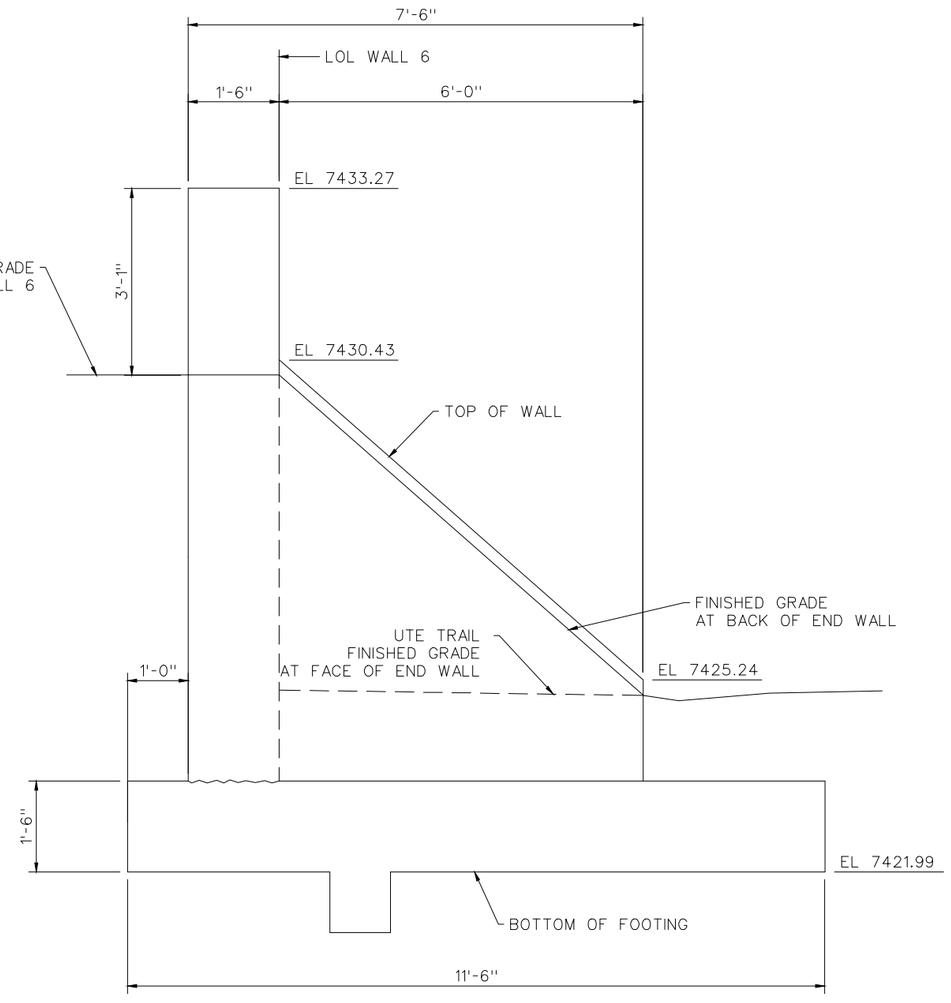
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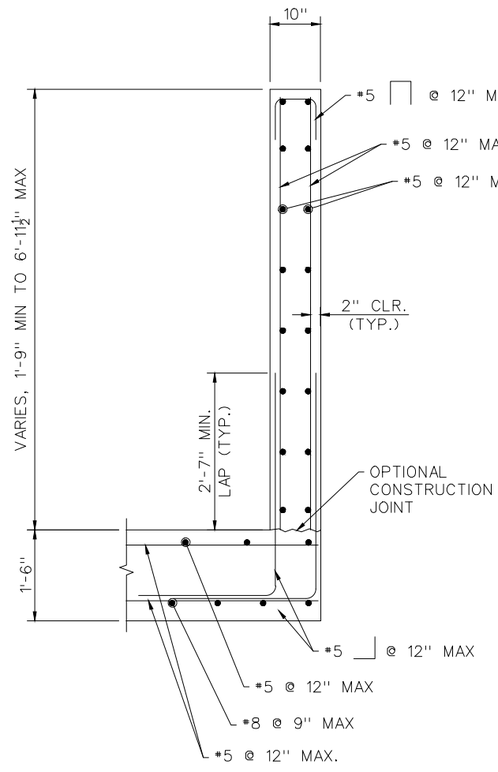
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TAP C040-054
22894
Sheet Number 87



PLAN VIEW



ELEVATION VIEW (LOOKING NORTH)



SECTION A–A

WALL 6 TYPE D – WALL END DETAILS

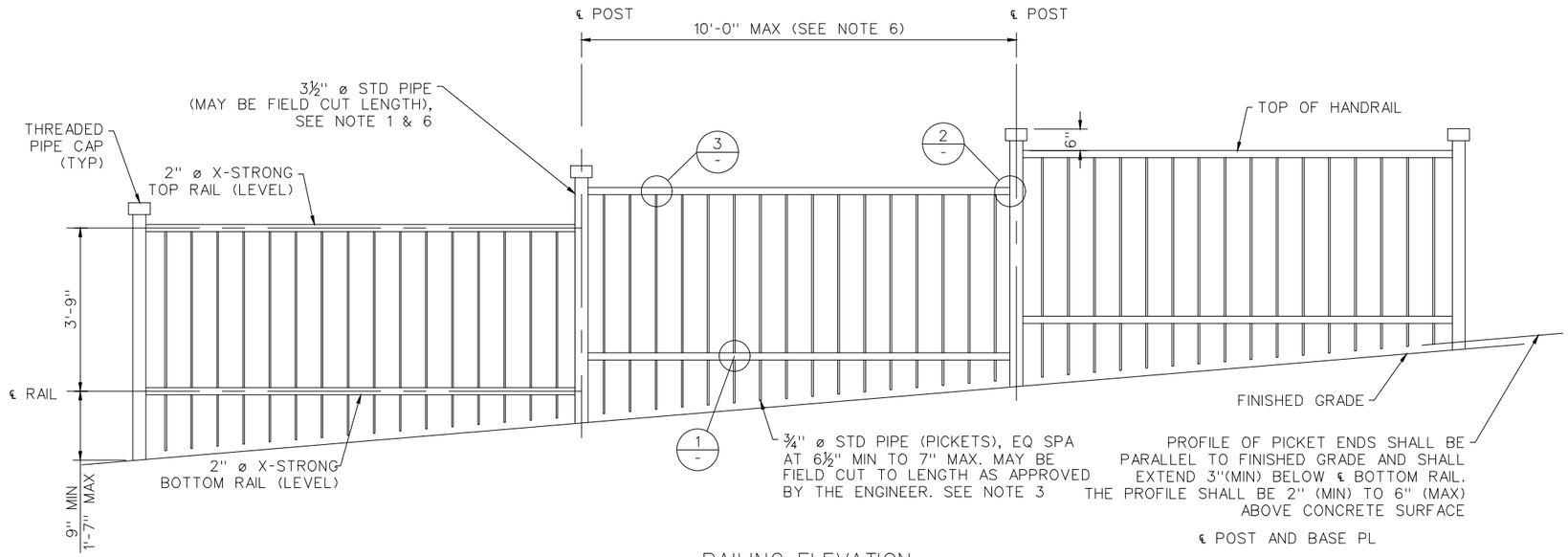
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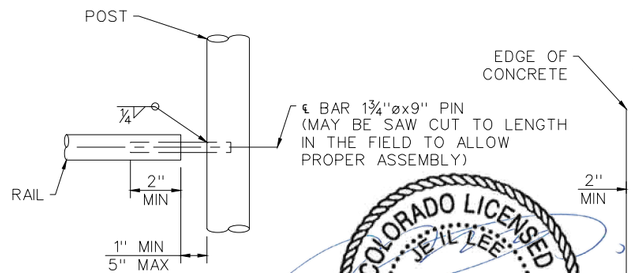
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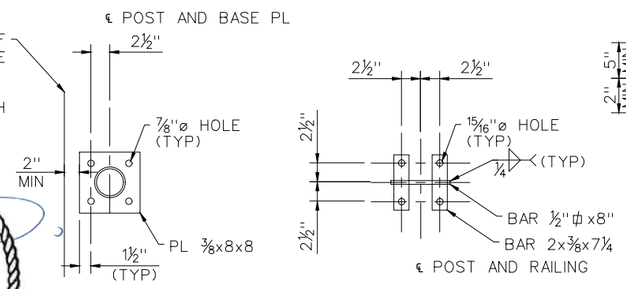
WALL 6 DETAILS				Project No./Code
				TAP C040-054
Designer: F HIDALGO	Structure Numbers			22894
Detailer: F HIDALGO				
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RAILING ELEVATION



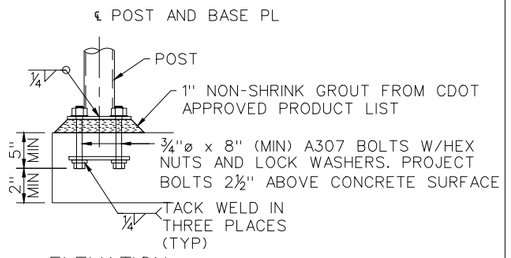
DETAIL 2 (SEE NOTE 7)



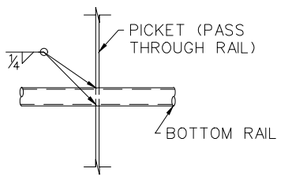
PLAN

ANCHOR DETAIL

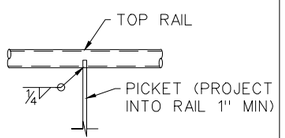
BOLTED CONNECTION



ELEVATION



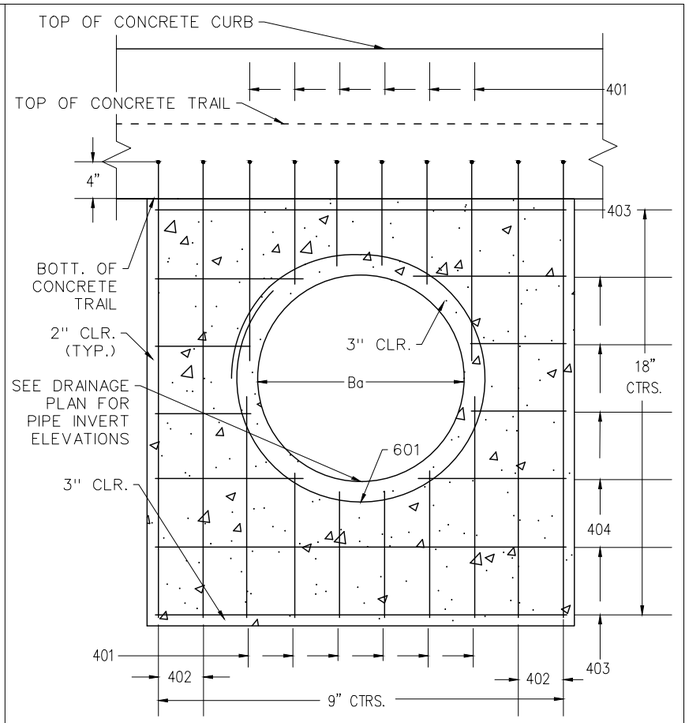
DETAIL 1 (SEE NOTE 7)



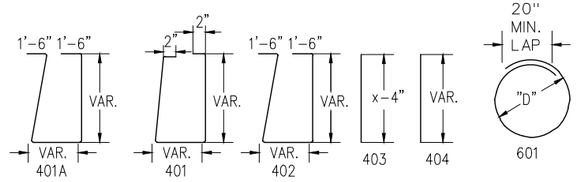
DETAIL 3 (SEE NOTE 7)

PEDESTRIAN RAILING NOTES:

1. PAINTED POSTS MAY BE FIELD FABRICATED AS APPROVED BY THE ENGINEER. NO DETAIL CHANGES WILL BE ALLOWED TO FIELD FABRICATED POSTS. POSTS WITH MISALIGNED PINS WILL BE REJECTED.
2. ALL RAILING PANELS SHALL BE SHOP FABRICATED.
3. SEAL PICKET ENDS WITH THREADED PIPE CAPS WHEN NOT INSTALLED NEXT TO A CURB. FIELD CUT ENDS, WITHOUT PIPE CAPS, SHALL BE GROUND SMOOTH TO PRECLUDE PERSONAL INJURY TO THE GENERAL PUBLIC.
4. ALL PIPES SHALL MEET THE THE REQUIREMENTS IN ASTM A53 FIR GRADE B STEEL AND ALL PLATES AND BARS SHALL MEET THE REQUIREMENTS IN AASHTO M270 FOR GRADE 36 STEEL.
5. CONCRETE (CLASS D) SHALL BE USED TO SUPPORT RAIL POSTS.
6. POSTS SHALL BE INSTALLED IN A PROPERLY REINFORCED SLAB.
7. HOLES IN RAILS, FOR PICKETS, AND HOLES IN POSTS, FOR PINS SHALL BE DRILLED.
8. RAILING COMPONENTS MAY BE PAINTED AS PER THE STANDARD SPECIFICATIONS, OR GALVANIZED IN ACCORDANCE WITH ASTM A123.
9. RAILING WILL BE PAID FOR, BY THE LINEAR FOOT, AS ITEM 514 PIPE RAILING.
10. RAILING ACCOMMODATED PEDESTRIANS AND BICYCLES IN ACCORDANCE WITH 8TH EDITION OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.
11. RAILING COMPONENTS SHALL BE PAINTED WITH DOUBLE COATS OF FOREST GREEN COLOR CODE AMS-STD 34079.



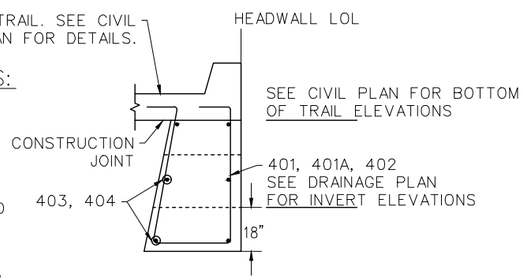
TYPICAL BAR LAYOUT FOR CONCRETE HEADWALL



BAR BENDING FOR HEADWALLS
SEE NOTE 5

HEADWALLS FOR PIPES GENERAL NOTES:

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) LATEST STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
2. FOR PIPE DIAMETER (Ba), SEE STANDARD PLAN M-603-1.
3. FOR HEADWALL DIMENSION DETAILS, SEE STANDARD PLAN M-601-12.
4. FOR HEADWALL LAYLENGTH (X), SEE DRAINAGE PLANS FOR DETAILS.
5. FOR DETAILS NOT SHOWN IN THE DRAWING, REFER TO M-601-10.



ELEVATION VIEW FOR HEADWALLS

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05/05/25
PROFESSIONAL ENGINEER

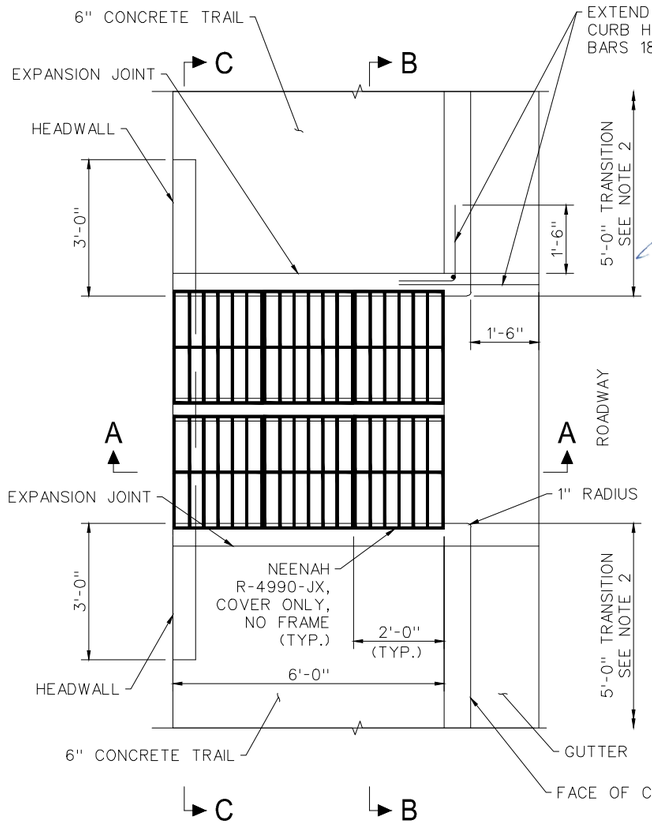
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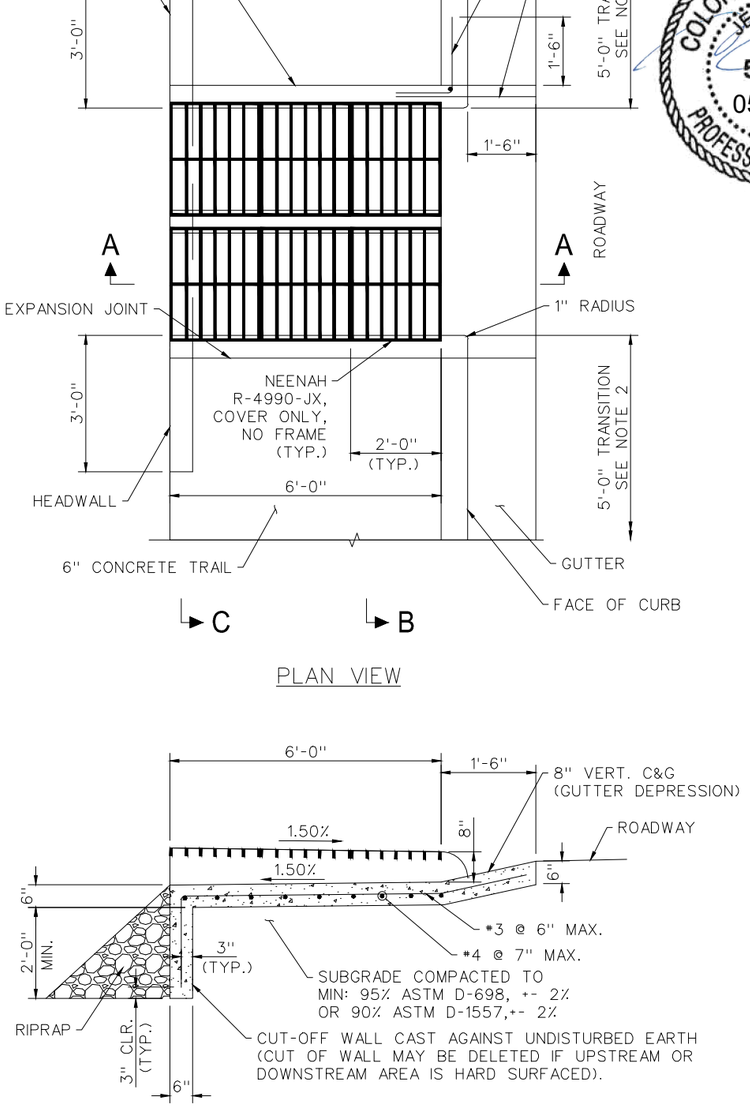
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As Constructed	PEDESTRIAN RAILING/HEADWALL DETAILS			Project No./Code
No Revisions:				TAP C040-054
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Void:	Detailer: F HIDALGO			
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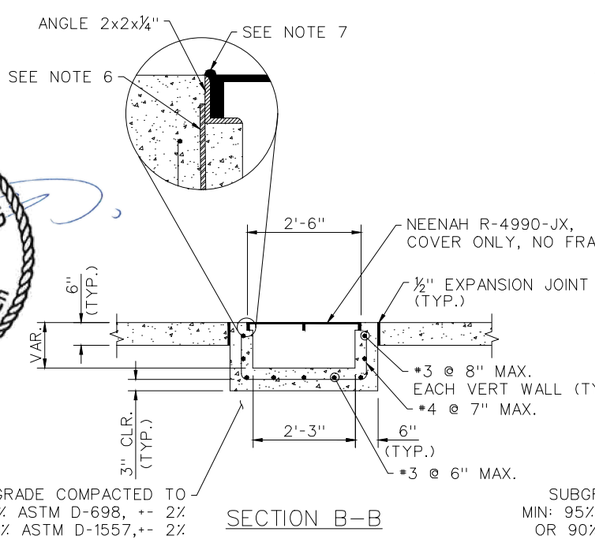
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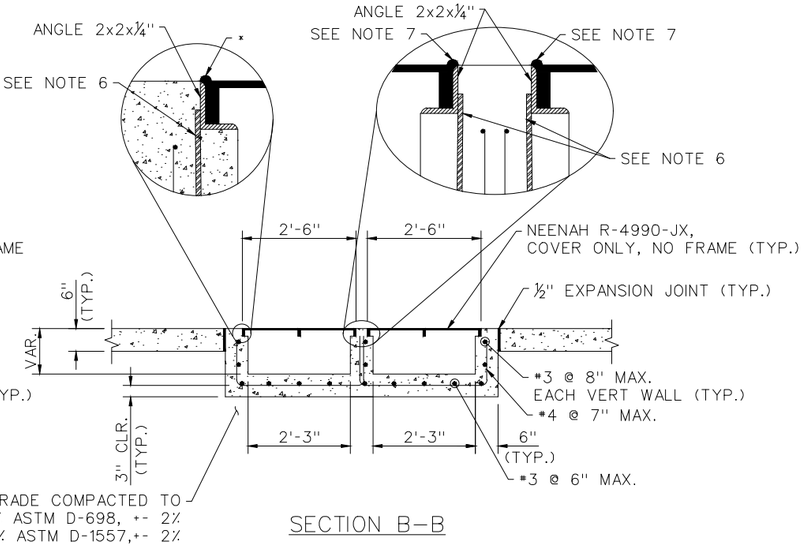
PLAN VIEW



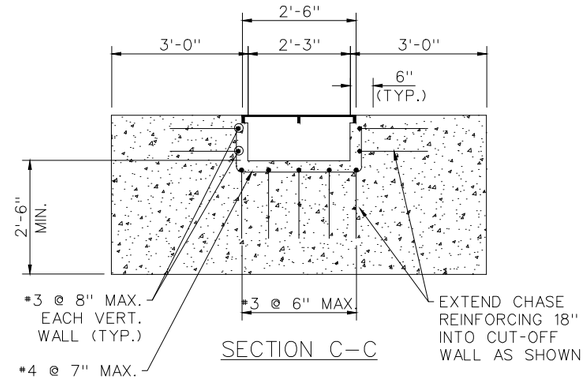
SECTION A–A



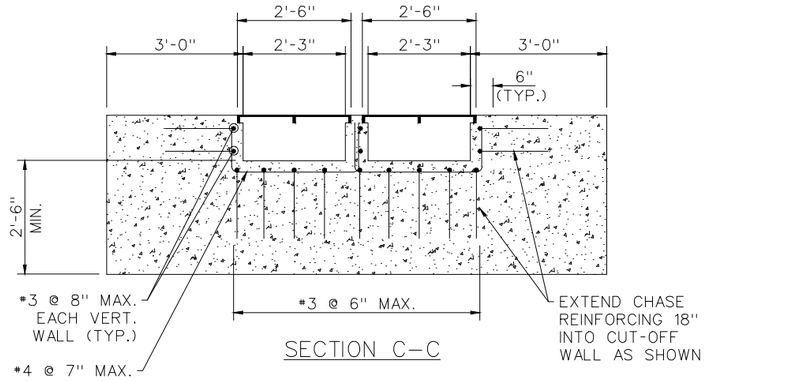
SECTION B–B



SECTION B–B



SECTION C–C



SECTION C–C

SINGLE OPENING TRENCH

MULTIPLE OPENING TRENCH

NOTES:

1. ALL EXPOSED METAL TO BE HOT DIPPED ZINC COATED. FIELD WELDS TO BE TOUCH–UP WITH COLD ZINC COATING.
2. WHERE 4" CURB IS PROPOSED, CONTRACTOR SHALL ALLOW FOR A 5' TRANSITION ALONG THE CURB, IN THE DIRECTION, AND PROVIDE DEPRESSED CURB OPENING 6" HIGH AT THE SIDEWALK CHASE.
3. ALL REMOVAL OF EXISTING CURB SHALL BE BY SAW–CUT, OR BY REMOVAL TO AN EXISTING EXPANSION OR COLD JOINT. REMAINING SECTION AFTER SAW CUTTING TO BE MINIMUM 4' IN LENGTH.
4. CHASE SECTION TO BE POURED MONOLITHICALLY WITH CURB AND GUTTER SECTION AND CUT–OFF WALL.
5. WHEN CHASE SECTION LENGTH(L) EXCEEDS 15' PROVIDE TOOL JOINT IN CONCRETE AT MAXIMUM OF 10' SPACING. FABRICATE FLOOR PLATES IN MULTIPLE SECTION NOT TO EXCEED 10' IN LENGTH.
6. PROVIDE 6" LONG #3 REBAR ANCHORS AT 12" C/C, WELDED TO ANGLE FRAME.
7. ANCHOR ⅜" NON–SLIP RAISED PATTERNED FLOOR PLATE, TO ANGLE IRON, USING TACK WELDS @ 4" C/C STAGGERED ALONG BOTH SIDES OF PLATE.
8. THESE DIMENSIONS ARE ONLY FOR NEENAH R–4990–JX, COVER ONLY, NO FRAME. IF DIFFERENT COVER IS USED, SHOULD BE REDESIGNED.

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Print Date: 7/8/2024	Sheet Revisions		
File Name: 11311 RW DT 05.DWG	Date:	Comments	Init.
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	Sheet Subset: STR	Subset Sheets: 15 of 15		Sheet Number 90

GENERAL NOTES

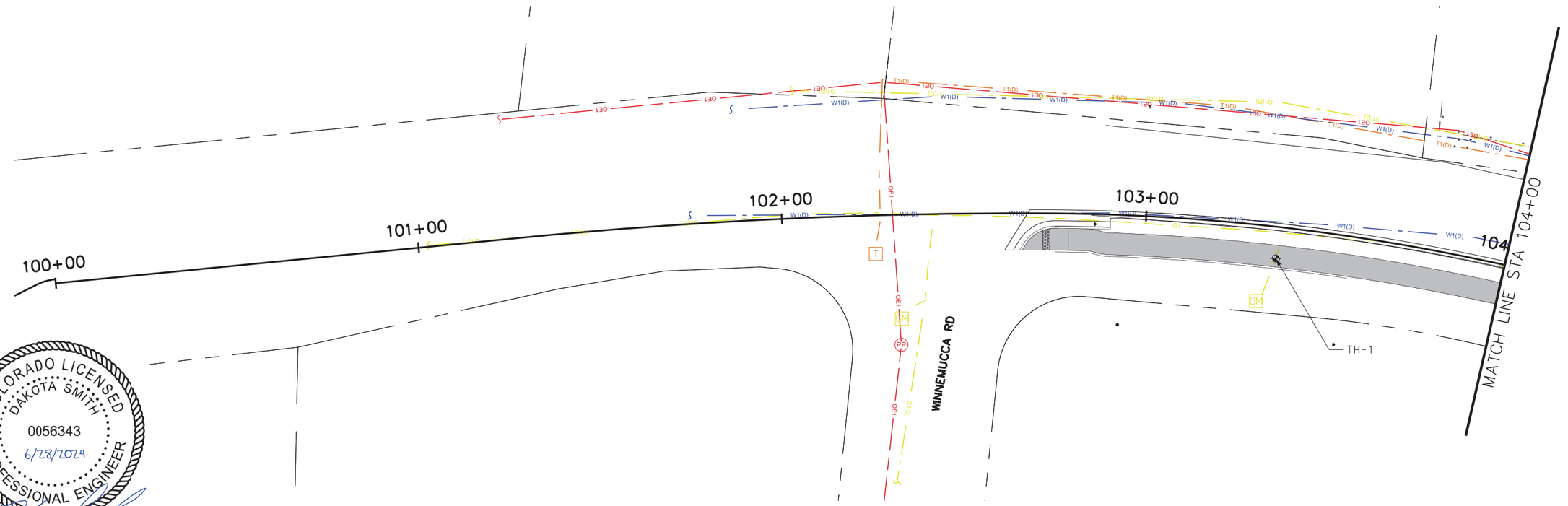
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COLORADO LICENSED
DAKOTA SMITH
0056343
6/28/2024
PROFESSIONAL ENGINEER

LEGEND OF UTILITY TYPES

WATER/STORM
- WATER - CSU (QL-B) — W1
- WATER - CASCADE (QL-B) — W2
- WATER - CASCADE (QL-D) — W2(D)
- STORM - CASCADE (QL-B) — STM1

ELECTRIC
- ELECTRIC - CSU (QL-B) — E1
- OH ELECTRIC - CSU — OE1
- ELECTRIC - CSU (QL-D) — E1(D)

GAS
- GAS - BLACK HILLS (QL-B) — G1
- GAS - BLACK HILLS (QL-D) — G1(D)

COMMUNICATIONS
- CATV - COMCAST (QL-B) — CATV1
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- FIBER - CENTURY LINK (QL-B) — FO1
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- FIBER - CENTURY LINK (QL-D) — FO1(D)
- TELEPHONE - CENTURY LINK (QL-B) — T1
- OH TELEPHONE - CENTURY LINK — OT1
- TELEPHONE - CENTURY LINK (QL-D) — T1(D)
- FIBER - COMCAST (QL-B) — FO2
- OH FIBER - COMCAST — OFO2
- FIBER - COMCAST (QL-D) — FO2(D)

UTILITY CONTINUES — UTILITY TERMINATES — SIGNAL LOST

LEGEND OF UTILITY SYMBOLS

TV
- CABLE CABINET
- CABLE TV HAND HOLE
- CABLE PEDESTAL
- MANHOLE TV
- UNDERGROUND CABLE MARKER

FIBER
- FIBER CABINET
- FIBER HAND HOLE

TELEPHONE
- MANHOLE TELEPHONE
- SERVICE POLE TELEPHONE
- TELEPHONE CABINET
- TELEPHONE PEDESTAL
- TELEPHONE MARKER
- TELEPHONE HAND HOLE

SANITARY SEWER
- CLEAN OUT
- SANITARY VENT

ELECTRIC
- ELECTRIC METER
- ELECTRIC PEDESTAL
- MANHOLE ELECTRIC
- PULL BOX
- POWER POLE (WOOD)
- TRANSFORMER
- ELECTRIC MARKER

GAS
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- GAS REGULATOR STATION
- GAS TEST STATION

WATER
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- FIRE HYDRANT
- WATER BLOW OFF
- WATER VALVE

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Horiz. Scale: Vert. Scale:				Revised:	Designer: LSE / Structure Numbers	22894
Unit Information Unit Leader Initials				Void:	Detailer: LSE	
LAMB-STAR ENGINEERING, L.L.C. 1440 BRICKYARD RD, UNITS 3 & 4 GOLDEN, COLORADO 80403 (720) 547-5222					Sheet Subset: UTILITY / Subset Sheets: 1 of 22	Sheet Number 91

EL PASO COUNTY COLORADO

GENERAL NOTES

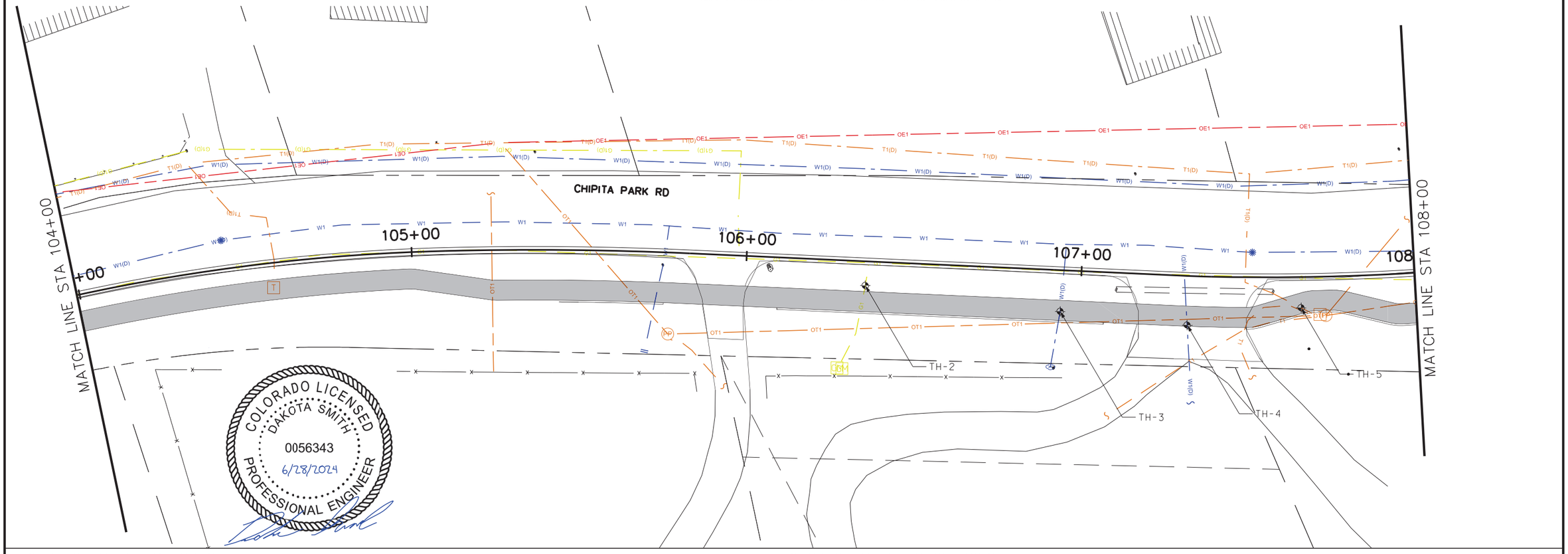
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LEGEND OF UTILITY TYPES

WATER/STORM
- WATER - CSU (QL-B) — W1
- WATER - CASCADE (QL-B) — W2
- WATER - CASCADE (QL-D) — W2(D)
- STORM - CASCADE (QL-B) — STM1

ELECTRIC
- ELECTRIC - CSU (QL-B) — E1
- OH ELECTRIC - CSU — OE1
- ELECTRIC - CSU (QL-D) — E1(D)

GAS
- GAS - BLACK HILLS (QL-B) — G1
- GAS - BLACK HILLS (QL-D) — G1(D)

COMMUNICATIONS
- CATV - COMCAST (QL-B) — CATV1
- OH CATV - COMCAST — OTV1
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- FIBER - CENTURY LINK (QL-B) — FO1
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- TELEPHONE - CENTURY LINK (QL-B) — T1
- OH TELEPHONE - CENTURY LINK — OT1
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- FIBER - COMCAST (QL-B) — FO2
- OH FIBER - COMCAST — OFO2
- FIBER - COMCAST (QL-D) — FO2(D)

UTILITY CONTINUES —ᔕ UTILITY TERMINATES —ᔑ SIGNAL LOST —✺

LEGEND OF UTILITY SYMBOLS

TV
- CABLE CABINET — TV
- CABLE TV HAND HOLE — TV
- CABLE PEDESTAL — TV
- MANHOLE TV
- UNDERGROUND CABLE MARKER

FIBER
- FIBER CABINET — F
- FIBER HAND HOLE — F

TELEPHONE
- MANHOLE TELEPHONE — T
- SERVICE POLE TELEPHONE — T
- TELEPHONE CABINET — T
- TELEPHONE PEDESTAL — T
- TELEPHONE MARKER
- TELEPHONE HAND HOLE — T

SANITARY SEWER
- CLEAN OUT — CO
- SANITARY VENT — SV

ELECTRIC
- ELECTRIC METER — EM
- ELECTRIC PEDESTAL — E
- MANHOLE ELECTRIC — E
- PULL BOX — PB
- POWER POLE (WOOD) — PP
- TRANSFORMER — TRANS
- ELECTRIC MARKER

GAS
- GAS METER — GM
- GAS REGULATOR STATION — GRS
- GAS TEST STATION — GTV

WATER
- MANHOLE WATER — WTR
- FIRE HYDRANT
- WATER BLOW OFF — BO
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EL PASO COUNTY COLORADO

As Constructed	EXISTING UTILITY PLAN		Project No./Code
No Revisions:			TAP C040-054
Revised:	Designer: LSE	Structure Numbers	22894
Void:	Detailer: LSE		
	Sheet Subset: UTILITY	Subset Sheets: 2 of 22	Sheet Number 92

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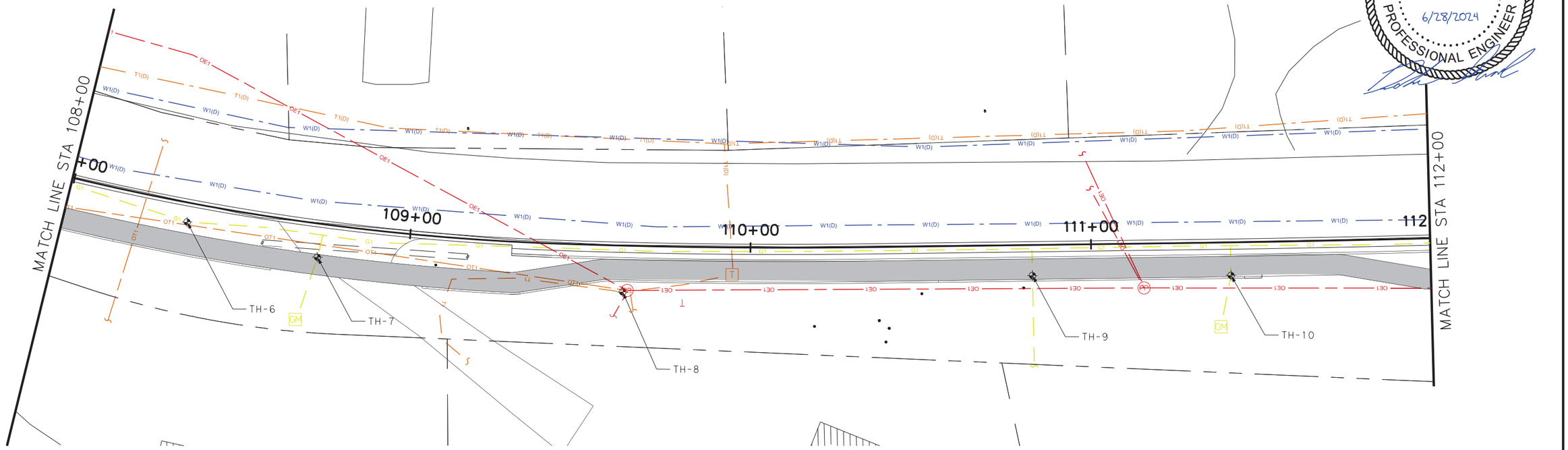
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- OH FIBER - COMCAST — OFO2
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UTILITY CONTINUES —≤ UTILITY TERMINATES —|| SIGNAL LOST —✺

LEGEND OF UTILITY SYMBOLS

TV
- CABLE CABINET — TV
- CABLE TV HAND HOLE — TV
- CABLE PEDESTAL — TV
- MANHOLE TV
- UNDERGROUND CABLE MARKER

FIBER
- FIBER CABINET — F
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TELEPHONE
- MANHOLE TELEPHONE — T
- SERVICE POLE TELEPHONE — T
- TELEPHONE CABINET — T
- TELEPHONE PEDESTAL — T
- TELEPHONE MARKER
- TELEPHONE HAND HOLE — T

SANITARY SEWER
- CLEAN OUT — CO
- SANITARY VENT

ELECTRIC
- ELECTRIC METER — EM
- ELECTRIC PEDESTAL — E
- MANHOLE ELECTRIC — E
- PULL BOX — PB
- POWER POLE (WOOD) — PP
- TRANSFORMER — TRANS
- ELECTRIC MARKER

GAS
- GAS METER — GM
- GAS REGULATOR STATION — GRS
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WATER
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EL PASO COUNTY
COLORADO

As Constructed	EXISTING UTILITY PLAN		Project No./Code
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	Sheet Subset: UTILITY	Subset Sheets: 3 of 22	

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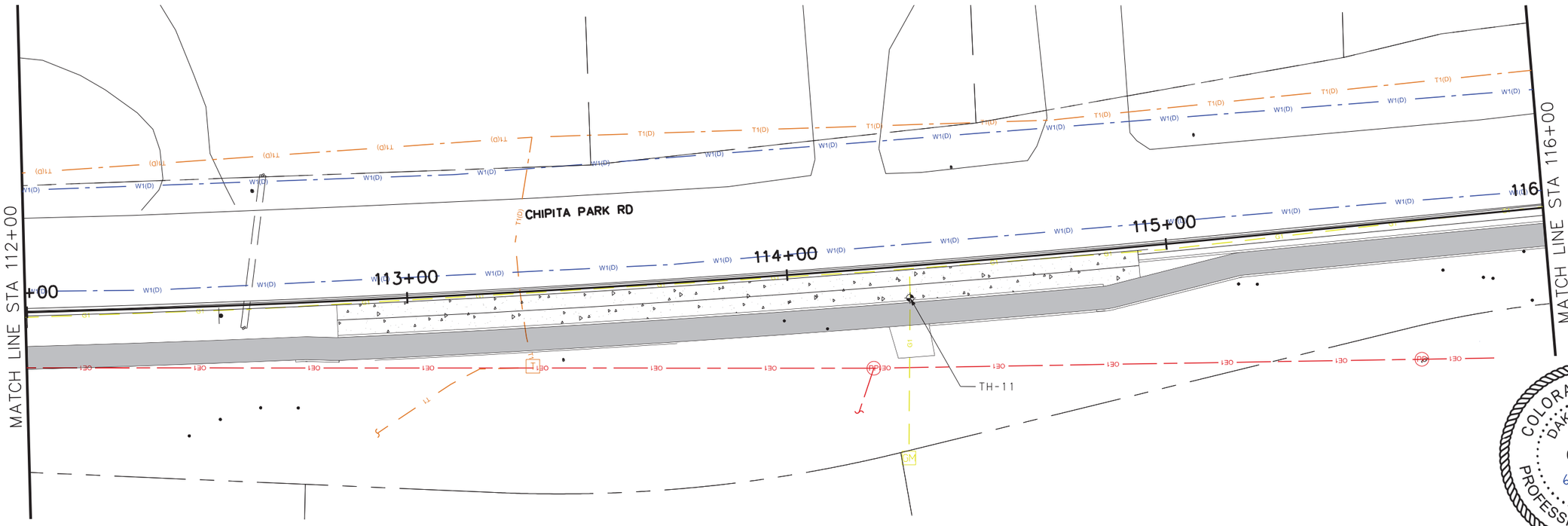
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UTILITY CONTINUES — UTILITY TERMINATES — SIGNAL LOST

LEGEND OF UTILITY SYMBOLS

TV
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- CABLE TV HAND HOLE
- CABLE PEDESTAL
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- SANITARY VENT

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GAS
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- GAS TEST STATION

WATER
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- FIRE HYDRANT
- WATER BLOW OFF
- WATER VALVE

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EL PASO COUNTY
COLORADO

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Void:	Detailer: LSE		Sheet Number 94
	Sheet Subset: UTILITY	Subset Sheets: 4 of 22	

GENERAL NOTES

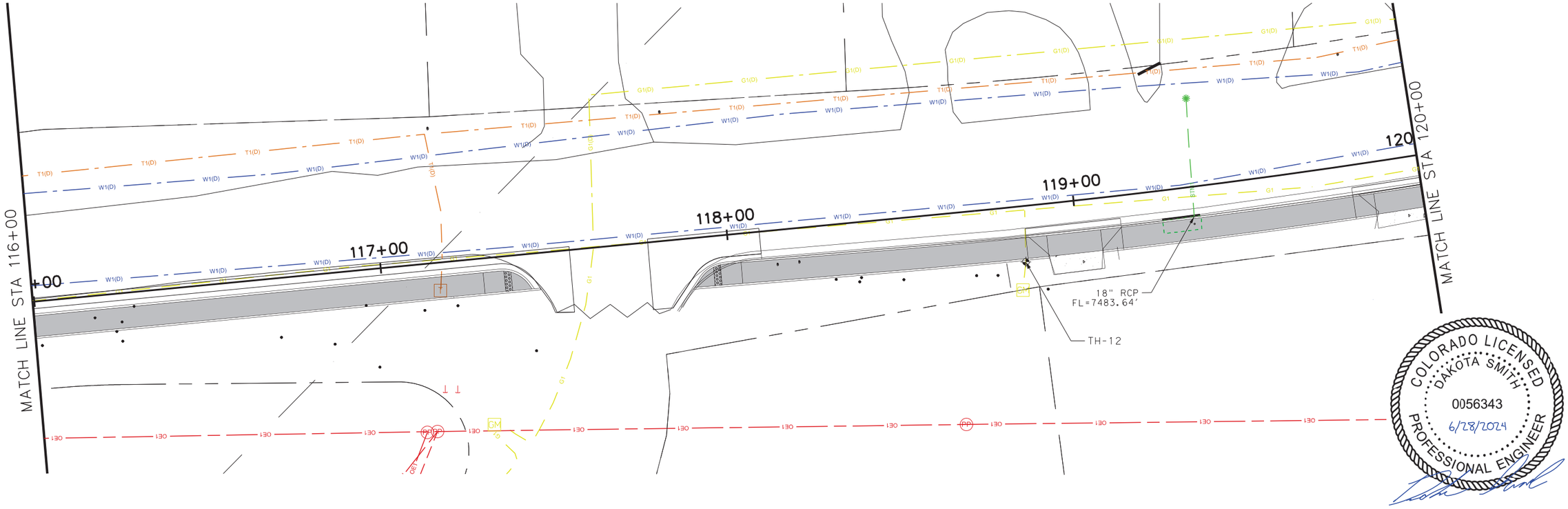
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(IN FEET)
1 inch = 30 ft. Horiz.



COLORADO LICENSED
DAKOTA SMITH
0056343
6/28/2024
PROFESSIONAL ENGINEER

LEGEND OF UTILITY TYPES

WATER/STORM
- WATER - CSU (QL-B) — W1
- WATER - CASCADE (QL-B) — W2
- WATER - CASCADE (QL-D) — W2(D)
- STORM - CASCADE (QL-B) — STM1

ELECTRIC
- ELECTRIC - CSU (QL-B) — E1
- OH ELECTRIC - CSU — OE1
- ELECTRIC - CSU (QL-D) — E1(D)

GAS
- GAS - BLACK HILLS (QL-B) — G1
- GAS - BLACK HILLS (QL-D) — G1(D)

COMMUNICATIONS
- CATV - COMCAST (QL-B) — CATV1
- OH CATV - COMCAST — OTV1
- CATV - COMCAST (QL-D) — CATV1(D)
- FIBER - CENTURY LINK (QL-B) — FO1
- OH FIBER - CENTURY LINK — OFO1
- FIBER - CENTURY LINK (QL-D) — FO1(D)
- TELEPHONE - CENTURY LINK (QL-B) — T1
- OH TELEPHONE - CENTURY LINK — OT1
- TELEPHONE - CENTURY LINK (QL-D) — T1(D)
- FIBER - COMCAST (QL-B) — FO2
- OH FIBER - COMCAST — OFO2
- FIBER - COMCAST (QL-D) — FO2(D)

UTILITY CONTINUES — UTILITY TERMINATES — SIGNAL LOST

LEGEND OF UTILITY SYMBOLS

TV
- CABLE CABINET — TV
- CABLE TV HAND HOLE — TV
- CABLE PEDESTAL — TV
- MANHOLE TV
- UNDERGROUND CABLE MARKER

FIBER
- FIBER CABINET — F
- FIBER HAND HOLE — F

TELEPHONE
- MANHOLE TELEPHONE — T
- SERVICE POLE TELEPHONE — T
- TELEPHONE CABINET — T
- TELEPHONE PEDESTAL — T
- TELEPHONE MARKER
- TELEPHONE HAND HOLE — T

SANITARY SEWER
- CLEAN OUT — SS
- SANITARY VENT — V

ELECTRIC
- ELECTRIC METER — EM
- ELECTRIC PEDESTAL — E
- MANHOLE ELECTRIC — E
- PULL BOX — PB
- POWER POLE (WOOD) — PP
- TRANSFORMER — TRANS
- ELECTRIC MARKER

GAS
- GAS METER — GM
- GAS REGULATOR STATION — GRS
- GAS TEST STATION — GTV

WATER
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- FIRE HYDRANT
- WATER BLOW OFF — BO
- WATER VALVE — WV

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1440 BRICKYARD RD, UNITS 3 & 4
GOLDEN, COLORADO 80403
(720) 547-5222

EL PASO COUNTY
COLORADO

As Constructed	EXISTING UTILITY PLAN		Project No./Code
No Revisions:			TAP C040-054
Revised:	Designer: LSE	Structure Numbers	22894
Void:	Detailer: LSE		
	Sheet Subset: UTILITY	Subset Sheets: 5 of 22	Sheet Number 95

GENERAL NOTES

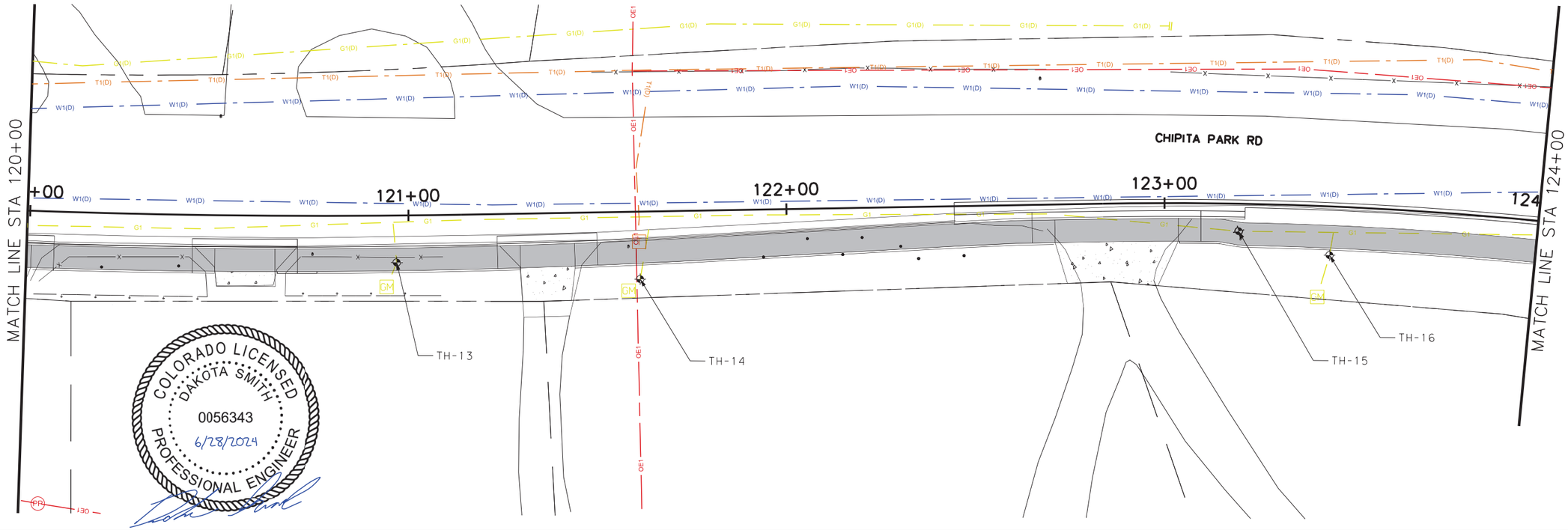
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DAKOTA SMITH
0056343
6/28/2024
PROFESSIONAL ENGINEER

LEGEND OF UTILITY TYPES

WATER/STORM
- WATER - CSU (QL-B) — W1
- WATER - CASCADE (QL-B) — W2
- WATER - CASCADE (QL-D) — W2(D)
- STORM - CASCADE (QL-B) — STM1

ELECTRIC
- ELECTRIC - CSU (QL-B) — E1
- OH ELECTRIC - CSU — OE1
- ELECTRIC - CSU (QL-D) — E1(D)

GAS
- GAS - BLACK HILLS (QL-B) — G1
- GAS - BLACK HILLS (QL-D) — G1(D)

COMMUNICATIONS
- CATV - COMCAST (QL-B) — CATV1
- OH CATV - COMCAST — OTV1
- CATV - COMCAST (QL-D) — CATV1(D)
- FIBER - CENTURY LINK (QL-B) — FO1
- OH FIBER - CENTURY LINK — OFO1
- FIBER - CENTURY LINK (QL-D) — FO1(D)
- TELEPHONE - CENTURY LINK (QL-B) — T1
- OH TELEPHONE - CENTURY LINK — OT1
- TELEPHONE - CENTURY LINK (QL-D) — T1(D)
- FIBER - COMCAST (QL-B) — FO2
- OH FIBER - COMCAST — OFO2
- FIBER - COMCAST (QL-D) — FO2(D)

UTILITY CONTINUES —› UTILITY TERMINATES —| SIGNAL LOST —✺

LEGEND OF UTILITY SYMBOLS

TV
- CABLE CABINET (TV)
- CABLE TV HAND HOLE (TV)
- CABLE PEDESTAL (TV)
- MANHOLE TV
- UNDERGROUND CABLE MARKER

FIBER
- FIBER CABINET (F)
- FIBER HAND HOLE (F)

TELEPHONE
- MANHOLE TELEPHONE (T)
- SERVICE POLE TELEPHONE (T)
- TELEPHONE CABINET (T)
- TELEPHONE PEDESTAL (T)
- TELEPHONE MARKER
- TELEPHONE HAND HOLE (T)

SANITARY SEWER
- CLEAN OUT (SS)
- SANITARY VENT

ELECTRIC
- ELECTRIC METER (EM)
- ELECTRIC PEDESTAL (E)
- MANHOLE ELECTRIC (E)
- PULL BOX (PB)
- POWER POLE (WOOD) (PP)
- TRANSFORMER (TRANS)
- ELECTRIC MARKER

GAS
- GAS METER (GM)
- GAS REGULATOR STATION (GRS)
- GAS TEST STATION (GTV)

WATER
- MANHOLE WATER (W)
- FIRE HYDRANT
- WATER BLOW OFF (BO)
- WATER VALVE (WV)

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EL PASO COUNTY
COLORADO

As Constructed	EXISTING UTILITY PLAN		Project No./Code
No Revisions:			TAP C040-054
Revised:	Designer: LSE	Structure Numbers	22894
Void:	Detailer: LSE		
	Sheet Subset: UTILITY	Subset Sheets: 6 of 22	Sheet Number 96

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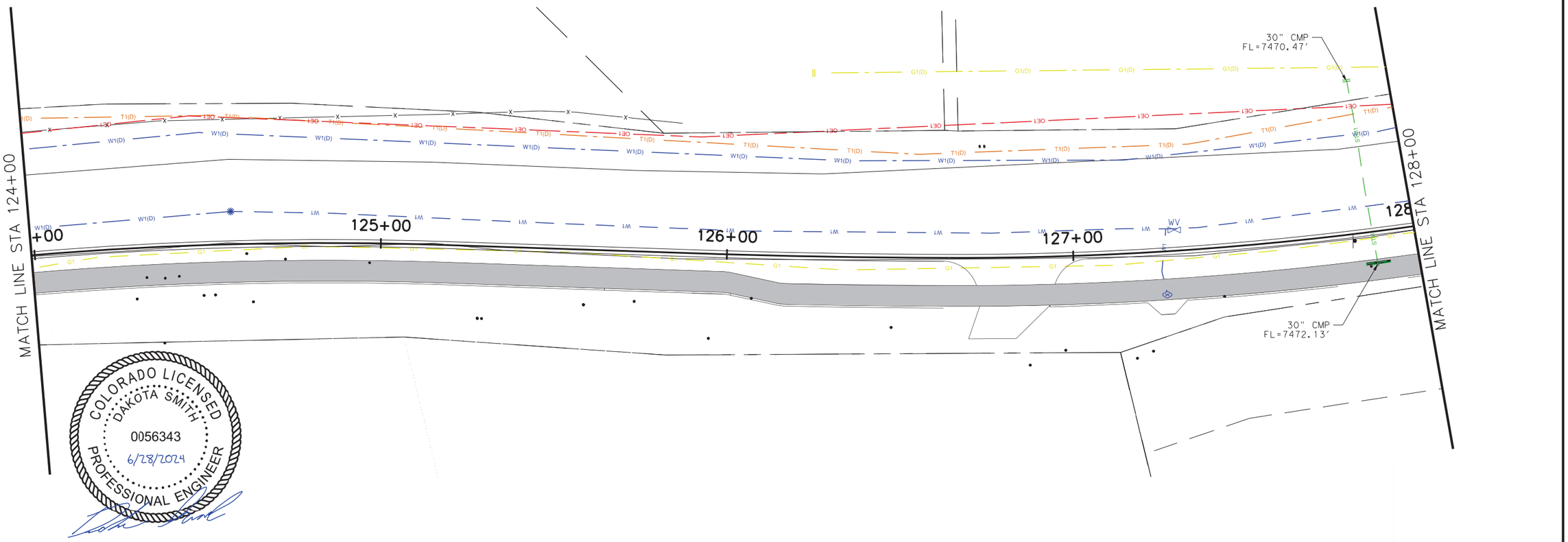
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- TELEPHONE - CENTURY LINK (QL-B) — T1
- OH TELEPHONE - CENTURY LINK — OT1
- TELEPHONE - CENTURY LINK (QL-D) — T1(D)
- FIBER - COMCAST (QL-B) — FO2
- OH FIBER - COMCAST — OFO2
- FIBER - COMCAST (QL-D) — FO2(D)

UTILITY CONTINUES — UTILITY TERMINATES — SIGNAL LOST

LEGEND OF UTILITY SYMBOLS

TV
- CABLE CABINET
- CABLE TV HAND HOLE
- CABLE PEDESTAL
- MANHOLE TV
- UNDERGROUND CABLE MARKER

FIBER
- FIBER CABINET
- FIBER HAND HOLE

TELEPHONE
- MANHOLE TELEPHONE
- SERVICE POLE TELEPHONE
- TELEPHONE CABINET
- TELEPHONE PEDESTAL
- TELEPHONE MARKER
- TELEPHONE HAND HOLE

SANITARY SEWER
- CLEAN OUT
- SANITARY VENT

ELECTRIC
- ELECTRIC METER
- ELECTRIC PEDESTAL
- MANHOLE ELECTRIC
- PULL BOX
- POWER 07/08/2407
- TRANSFORMER
- ELECTRIC MARKER

GAS
- GAS METER
- GAS REGULATOR STATION
- GAS TEST STATION

WATER
- MANHOLE WATER
- FIRE HYDRANT
- WATER BLOW OFF
- WATER VALVE

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Unit Information Unit Leader Initials			Void:

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GOLDEN, COLORADO 80403
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EL PASO COUNTY
COLORADO

EXISTING UTILITY PLAN

Designer:	LSE	Structure Numbers	
Detailer:	LSE		
Sheet Subset:	UTILITY	Subset Sheets:	7 of 22

Project No./Code: TAP C040-054
22894
Sheet Number 97

GENERAL NOTES

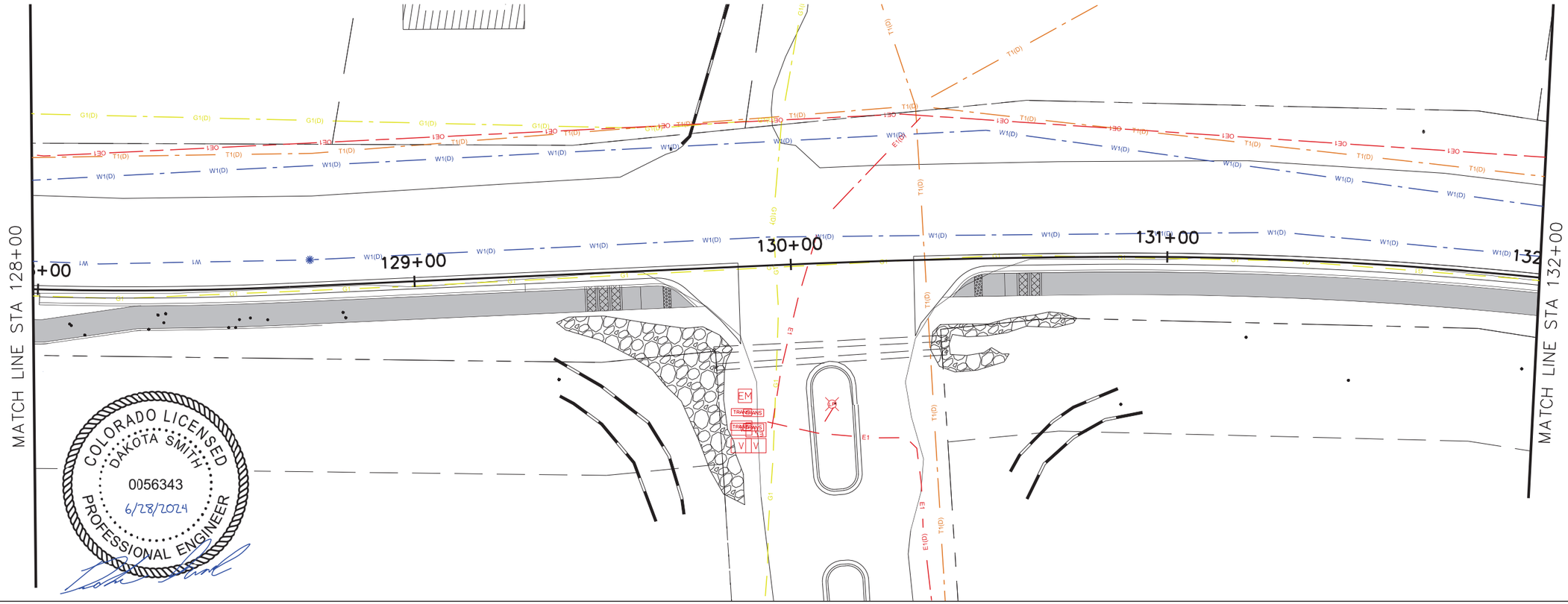
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UTILITY CONTINUES ⟶ UTILITY TERMINATES ⟶| SIGNAL LOST ⟶✺

LEGEND OF UTILITY SYMBOLS

TV
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- FIBER HAND HOLE — F

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- SERVICE POLE TELEPHONE — T
- TELEPHONE CABINET — T
- TELEPHONE PEDESTAL — T
- TELEPHONE MARKER
- TELEPHONE HAND HOLE — T

SANITARY SEWER
- CLEAN OUT — CO
- SANITARY VENT — SV

ELECTRIC
- ELECTRIC METER — EM
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- MANHOLE ELECTRIC — E
- PULL BOX — PB
- POWER POLE (WOOD) — PP
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- GAS METER — GM
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LAMB-STAR ENGINEERING, L.L.C. 1440 BRICKYARD RD, UNITS 3 & 4 GOLDEN, COLORADO 80403 (720) 547-5222			

EL PASO COUNTY COLORADO

As Constructed	EXISTING UTILITY PLAN		Project No./Code
No Revisions:			TAP C040-054
Revised:	Designer: LSE	Structure Numbers	22894
Void:	Detailer: LSE		
	Sheet Subset: UTILITY	Subset Sheets: 8 of 22	Sheet Number 98

GENERAL NOTES

1. THE UTILITIES DEPICTED WERE INVESTIGATED BY LAMB-STAR ENGINEERING, ALL OTHER PLAN INFORMATION, NOTABLY THE BACKGROUND INFORMATION WAS PROVIDED BY OTHERS AND LAMB-STAR ENGINEERING DISCLAIMS RESPONSIBILITY FOR ITS ACCURACY.
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(IN FEET)
1 inch = 30 ft. Horiz.

Know what's below. Call before you dig.



LEGEND OF UTILITY TYPES

WATER/STORM
- WATER - CSU (QL-B) — W1
- WATER - CASCADE (QL-B) — W2
- WATER - CASCADE (QL-D) — W2(D)
- STORM - CASCADE (QL-B) — STM1

ELECTRIC
- ELECTRIC - CSU (QL-B) — E1
- OH ELECTRIC - CSU — DE1
- ELECTRIC - CSU (QL-D) — E1(D)

GAS
- GAS - BLACK HILLS (QL-B) — G1
- GAS - BLACK HILLS (QL-D) — G1(D)

COMMUNICATIONS
- CATV - COMCAST (QL-B) — CATV1
- OH CATV - COMCAST — OTV1
- CATV - COMCAST (QL-D) — CATV1(D)
- FIBER - CENTURY LINK (QL-B) — FO1
- OH FIBER - CENTURY LINK — OFO1
- FIBER - CENTURY LINK (QL-D) — FO1(D)
- TELEPHONE - CENTURY LINK (QL-B) — T1
- OH TELEPHONE - CENTURY LINK — OT1
- TELEPHONE - CENTURY LINK (QL-D) — T1(D)
- FIBER - COMCAST (QL-B) — FO2
- OH FIBER - COMCAST — OFO2
- FIBER - COMCAST (QL-D) — FO2(D)

UTILITY CONTINUES —⟍ UTILITY TERMINATES —|| SIGNAL LOST —✺

LEGEND OF UTILITY SYMBOLS

TV
- CABLE CABINET
- CABLE TV HAND HOLE
- CABLE PEDESTAL
- MANHOLE TV
- UNDERGROUND CABLE MARKER

FIBER
- FIBER CABINET
- FIBER HAND HOLE

TELEPHONE
- MANHOLE TELEPHONE
- SERVICE POLE TELEPHONE
- TELEPHONE CABINET
- TELEPHONE PEDESTAL
- TELEPHONE MARKER
- TELEPHONE HAND HOLE

SANITARY SEWER
- CLEAN OUT
- SANITARY VENT

ELECTRIC
- ELECTRIC METER
- ELECTRIC PEDESTAL
- MANHOLE ELECTRIC
- PULL BOX
- POWER POLE (WOOD)
- TRANSFORMER
- ELECTRIC MARKER

GAS
- GAS METER
- GAS REGULATOR STATION
- GAS TEST STATION

WATER
- MANHOLE WATER
- FIRE HYDRANT
- WATER BLOW OFF
- WATER VALVE

07/28/24

Print Date: 6/28/2024	Sheet Revisions		
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EL PASO COUNTY
COLORADO

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	Sheet Subset: UTILITY	Subset Sheets: 9 of 22	Sheet Number 99

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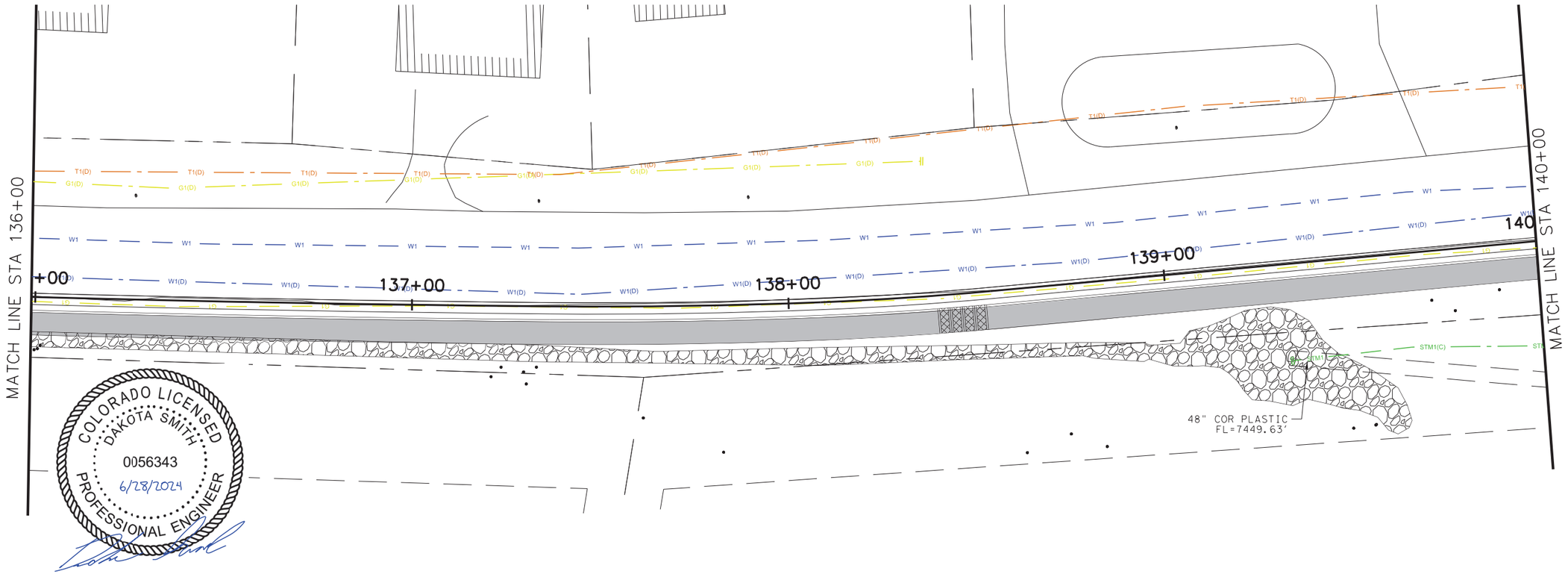
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COLORADO LICENSED
DAKOTA SMITH
0056343
6/28/2024
PROFESSIONAL ENGINEER

LEGEND OF UTILITY TYPES

WATER/STORM
- WATER - CSU (QL-B) — W1
- WATER - CASCADE (QL-B) — W2
- WATER - CASCADE (QL-D) — W2(D)
- STORM - CASCADE (QL-B) — STM1

ELECTRIC
- ELECTRIC - CSU (QL-B) — E1
- OH ELECTRIC - CSU — OE1
- ELECTRIC - CSU (QL-D) — E1(D)

GAS
- GAS - BLACK HILLS (QL-B) — G1
- GAS - BLACK HILLS (QL-D) — G1(D)

COMMUNICATIONS
- CATV - COMCAST (QL-B) — CATV1
- OH CATV - COMCAST — OTV1
- CATV - COMCAST (QL-D) — CATV1(D)
- FIBER - CENTURY LINK (QL-B) — FO1
- OH FIBER - CENTURY LINK — OFO1
- FIBER - CENTURY LINK (QL-D) — FO1(D)
- TELEPHONE - CENTURY LINK (QL-B) — T1
- OH TELEPHONE - CENTURY LINK — OT1
- TELEPHONE - CENTURY LINK (QL-D) — T1(D)
- FIBER - COMCAST (QL-B) — FO2
- OH FIBER - COMCAST — OFO2
- FIBER - COMCAST (QL-D) — FO2(D)

UTILITY CONTINUES — UTILITY TERMINATES — SIGNAL LOST

LEGEND OF UTILITY SYMBOLS

TV
- CABLE CABINET — TV
- CABLE TV HAND HOLE — TV
- CABLE PEDESTAL — TV
- MANHOLE TV
- UNDERGROUND CABLE MARKER

FIBER
- FIBER CABINET — F
- FIBER HAND HOLE — F

TELEPHONE
- MANHOLE TELEPHONE — T
- SERVICE POLE TELEPHONE — T
- TELEPHONE CABINET — T
- TELEPHONE PEDESTAL — T
- TELEPHONE MARKER
- TELEPHONE HAND HOLE

SANITARY SEWER
- CLEAN OUT
- SANITARY VENT

ELECTRIC
- ELECTRIC METER — EM
- ELECTRIC PEDESTAL — E
- MANHOLE ELECTRIC — E
- PULL BOX — PB
- POWER POLE (WOOD) — PP
- TRANSFORMER — TRANS
- ELECTRIC MARKER

GAS
- GAS METER — GM
- GAS REGULATOR STATION — GRS
- GAS TEST STATION — GTV

WATER
- MANHOLE WATER — W
- FIRE HYDRANT
- WATER BLOW OFF — BO
- WATER VALVE — WV

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(720) 547-5222

EL PASO COUNTY
COLORADO

As Constructed	EXISTING UTILITY PLAN		Project No./Code
No Revisions:			TAP CO40-054
Revised:	Designer: LSE	Structure Numbers	22894
Void:	Detailer: LSE		
	Sheet Subset: UTILITY	Subset Sheets: 10 of 22	Sheet Number 100

GENERAL NOTES

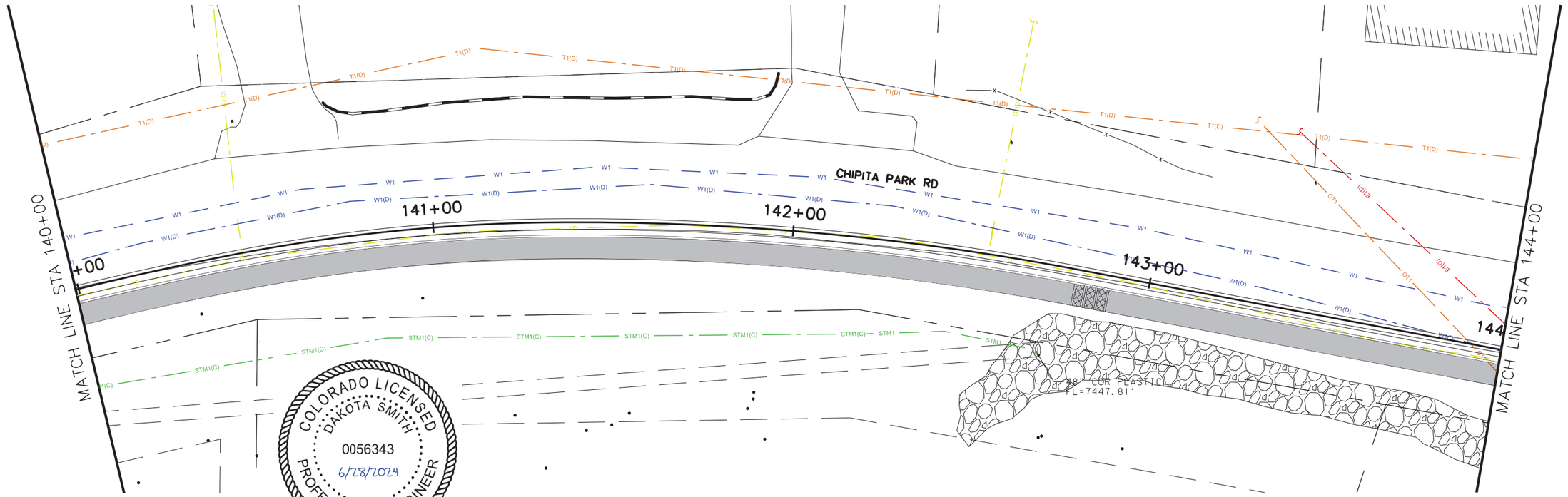
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- TELEPHONE - CENTURY LINK (QL-D) — T1(D)
- FIBER - COMCAST (QL-B) — FO2
- OH FIBER - COMCAST — OFO2
- FIBER - COMCAST (QL-D) — FO2(D)

UTILITY CONTINUES — UTILITY TERMINATES — SIGNAL LOST

LEGEND OF UTILITY SYMBOLS

TV
- CABLE CABINET
- CABLE TV HAND HOLE
- CABLE PEDESTAL
- MANHOLE TV
- UNDERGROUND CABLE MARKER

FIBER
- FIBER CABINET
- FIBER HAND HOLE

TELEPHONE
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- TELEPHONE CABINET
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- TELEPHONE HAND HOLE

SANITARY SEWER
- CLEAN OUT
- SANITARY VENT

ELECTRIC
- ELECTRIC METER
- ELECTRIC PEDESTAL
- MANHOLE ELECTRIC
- PULL BOX
- POWER POLE (WOOD)
- TRANSFORMER
- ELECTRIC MARKER

GAS
- GAS METER
- GAS REGULATOR STATION
- GAS TEST STATION

WATER
- MANHOLE WATER
- FIRE HYDRANT
- WATER BLOW OFF
- WATER VALVE

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EL PASO COUNTY
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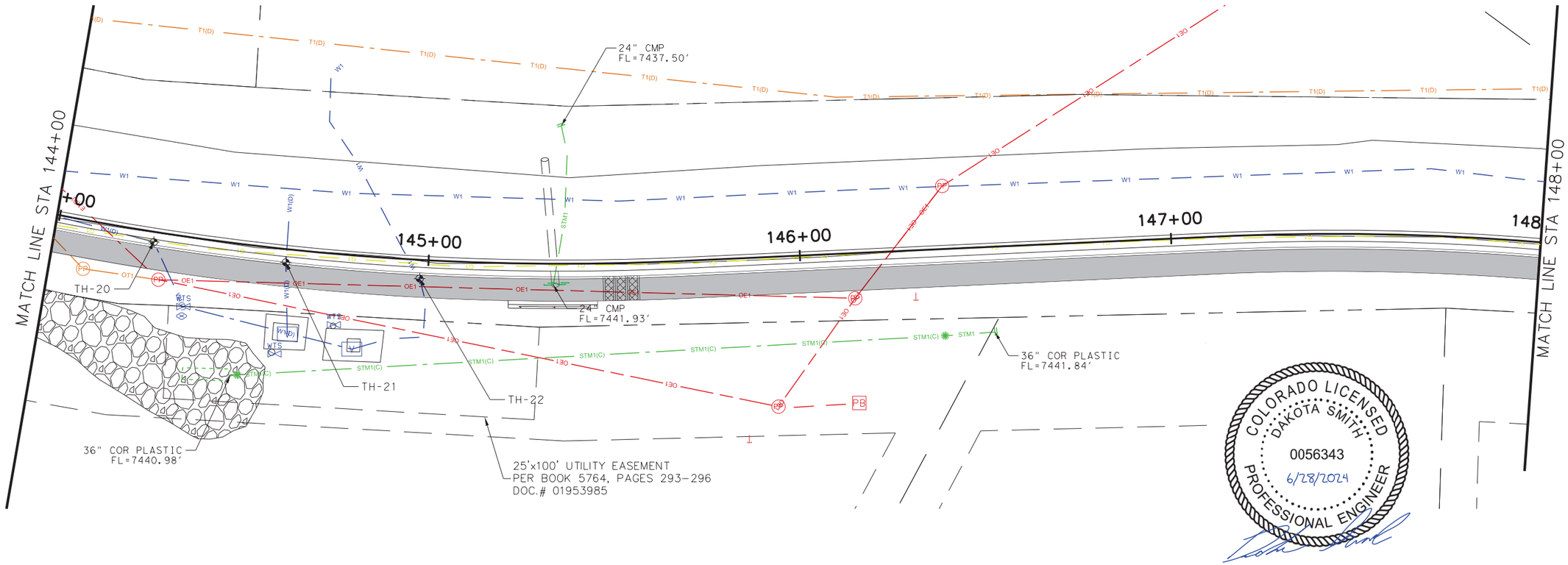
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- FIBER - COMCAST (QL-B) — FO2
- OH FIBER - COMCAST — OFO2
- FIBER - COMCAST (QL-D) — FO2(D)

UTILITY CONTINUES —⥽ UTILITY TERMINATES —⫴ SIGNAL LOST —✺

LEGEND OF UTILITY SYMBOLS

TV
- CABLE CABINET — TV
- CABLE TV HAND HOLE — TV
- CABLE PEDESTAL — TV
- MANHOLE TV — O
- UNDERGROUND CABLE MARKER

FIBER
- FIBER CABINET — F
- FIBER HAND HOLE — F

TELEPHONE
- MANHOLE TELEPHONE — T
- SERVICE POLE TELEPHONE — T
- TELEPHONE CABINET — T
- TELEPHONE PEDESTAL — T
- TELEPHONE MARKER
- TELEPHONE HAND HOLE — T

SANITARY SEWER
- CLEAN OUT — CO
- SANITARY VENT

ELECTRIC
- ELECTRIC METER — EM
- ELECTRIC PEDESTAL — E
- MANHOLE ELECTRIC — E
- PULL BOX — PB
- POWER POLE (WOOD) — PP
- TRANSFORMER — TRANS
- ELECTRIC MARKER

GAS
- GAS METER — GM
- GAS REGULATOR STATION — GRS
- GAS TEST STATION — GTV

WATER
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- FIRE HYDRANT
- WATER BLOW OFF — BO
- WATER VALVE — WV

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	Sheet Subset: UTILITY	Subset Sheets: 12 of 22	Sheet Number 102

GENERAL NOTES

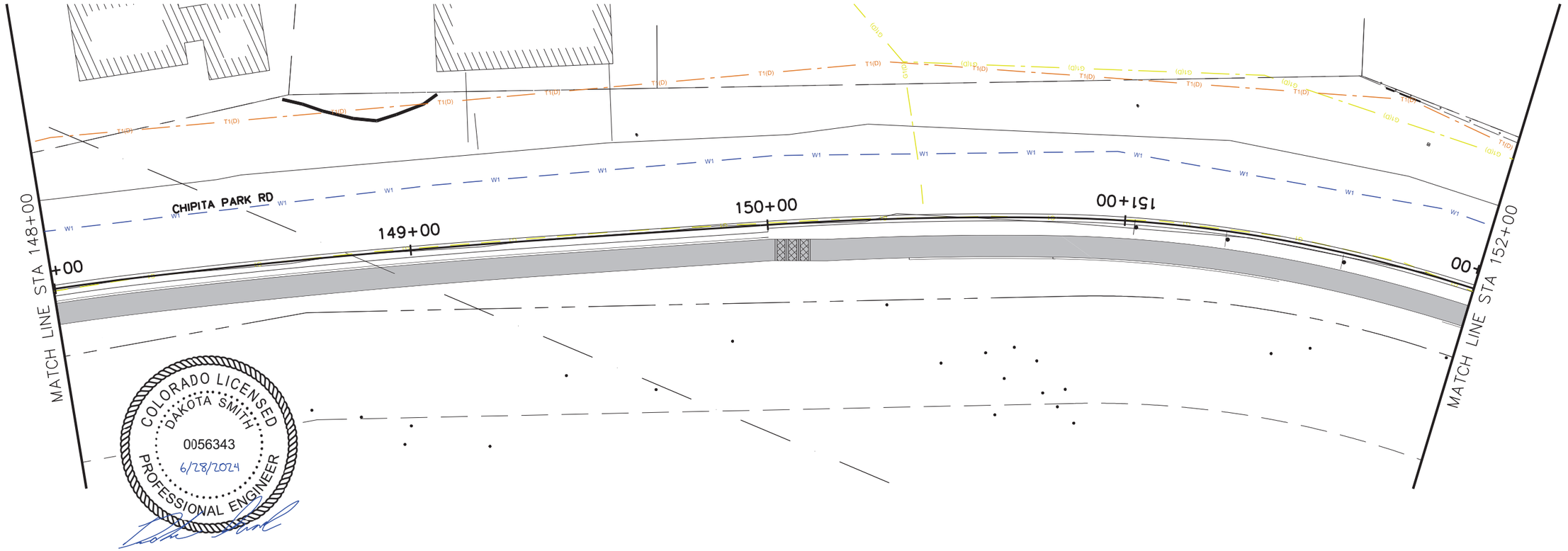
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15 0 15 30
(IN FEET)
1 inch = 30 ft. Horiz.



LEGEND OF UTILITY TYPES

WATER/STORM
- WATER - CSU (QL-B) — W1
- WATER - CASCADE (QL-B) — W2
- WATER - CASCADE (QL-D) — W2(D)
- STORM - CASCADE (QL-B) — STM1

ELECTRIC
- ELECTRIC - CSU (QL-B) — E1
- OH ELECTRIC - CSU — OE1
- ELECTRIC - CSU (QL-D) — E1(D)

GAS
- GAS - BLACK HILLS (QL-B) — G1
- GAS - BLACK HILLS (QL-D) — G1(D)

COMMUNICATIONS
- CATV - COMCAST (QL-B) — CATV1
- OH CATV - COMCAST — OTV1
- CATV - COMCAST (QL-D) — CATV1(D)
- FIBER - CENTURY LINK (QL-B) — FO1
- OH FIBER - CENTURY LINK — OFO1
- FIBER - CENTURY LINK (QL-D) — FO1(D)
- TELEPHONE - CENTURY LINK (QL-B) — T1
- OH TELEPHONE - CENTURY LINK — OT1
- TELEPHONE - CENTURY LINK (QL-D) — T1(D)
- FIBER - COMCAST (QL-B) — FO2
- OH FIBER - COMCAST — OFO2
- FIBER - COMCAST (QL-D) — FO2(D)

UTILITY CONTINUES —≤ UTILITY TERMINATES —|| SIGNAL LOST —✺

LEGEND OF UTILITY SYMBOLS

TV
- CABLE CABINET — TV
- CABLE TV HAND HOLE — TV
- CABLE PEDESTAL — TV
- MANHOLE TV
- UNDERGROUND CABLE MARKER

FIBER
- FIBER CABINET — F
- FIBER HAND HOLE — F

TELEPHONE
- MANHOLE TELEPHONE — T
- SERVICE POLE TELEPHONE — T
- TELEPHONE CABINET — T
- TELEPHONE PEDESTAL — T
- TELEPHONE MARKER
- TELEPHONE HAND HOLE — T

SANITARY SEWER
- CLEAN OUT — SS
- SANITARY VENT

ELECTRIC
- ELECTRIC METER — EM
- ELECTRIC PEDESTAL — E
- MANHOLE ELECTRIC — E
- PULL BOX — PB
- POWER POLE (WOOD) — PP
- TRANSFORMER — TRANS
- ELECTRIC MARKER

GAS
- GAS METER — GM
- GAS REGULATOR STATION — GRS
- GAS TEST STATION — GTV

WATER
- MANHOLE WATER — W
- FIRE HYDRANT
- WATER BLOW OFF — BO
- WATER VALVE — WV

Print Date: 6/28/2024	Sheet Revisions		
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Unit Information Unit Leader Initials			

LAMB-STAR ENGINEERING, L.L.C.
1440 BRICKYARD RD, UNITS 3 & 4
GOLDEN, COLORADO 80403
(720) 547-5222

EL PASO COUNTY
COLORADO

As Constructed	EXISTING UTILITY PLAN		Project No./Code
No Revisions:			TAP C040-054
Revised:	Designer: LSE	Structure Numbers	22894
Void:	Detailer: LSE		
	Sheet Subset: UTILITY	Subset Sheets: 13 of 22	Sheet Number 103

GENERAL NOTES

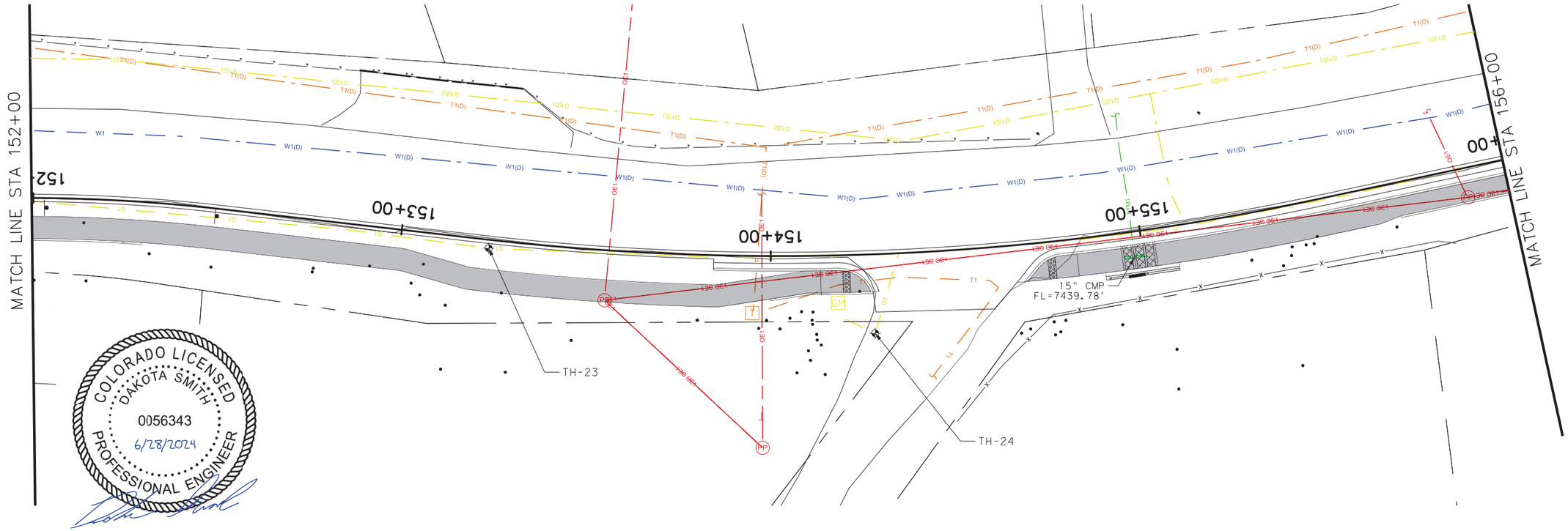
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LEGEND OF UTILITY TYPES

WATER/STORM
- WATER - CSU (QL-B) — W1
- WATER - CASCADE (QL-B) — W2
- WATER - CASCADE (QL-D) — W2(D)
- STORM - CASCADE (QL-B) — STM1

ELECTRIC
- ELECTRIC - CSU (QL-B) — E1
- OH ELECTRIC - CSU — OE1
- ELECTRIC - CSU (QL-D) — E1(D)

GAS
- GAS - BLACK HILLS (QL-B) — G1
- GAS - BLACK HILLS (QL-D) — G1(D)

COMMUNICATIONS
- CATV - COMCAST (QL-B) — CATV1
- OH CATV - COMCAST — OTV1
- CATV - COMCAST (QL-D) — CATV1(D)
- FIBER - CENTURY LINK (QL-B) — FO1
- OH FIBER - CENTURY LINK — OFO1
- FIBER - CENTURY LINK (QL-D) — FO1(D)
- TELEPHONE - CENTURY LINK (QL-B) — T1
- OH TELEPHONE - CENTURY LINK — OT1
- TELEPHONE - CENTURY LINK (QL-D) — T1(D)
- FIBER - COMCAST (QL-B) — FO2
- OH FIBER - COMCAST — OFO2
- FIBER - COMCAST (QL-D) — FO2(D)

UTILITY CONTINUES — UTILITY TERMINATES — SIGNAL LOST

LEGEND OF UTILITY SYMBOLS

TV
- CABLE CABINET — TV
- CABLE TV HAND HOLE — TV
- CABLE PEDESTAL — TV
- MANHOLE TV
- UNDERGROUND CABLE MARKER

FIBER
- FIBER CABINET — F
- FIBER HAND HOLE — F

TELEPHONE
- MANHOLE TELEPHONE — T
- SERVICE POLE TELEPHONE — T
- TELEPHONE CABINET — T
- TELEPHONE PEDESTAL — T
- TELEPHONE MARKER
- TELEPHONE HAND HOLE — T

SANITARY SEWER
- CLEAN OUT — CO
- SANITARY VENT

ELECTRIC
- ELECTRIC METER — EM
- ELECTRIC PEDESTAL — E
- MANHOLE ELECTRIC — E
- PULL BOX — PB
- POWER POLE (WOOD) — PP
- TRANSFORMER — TRANS
- ELECTRIC MARKER

GAS
- GAS METER — GM
- GAS REGULATOR STATION — GRS
- GAS TEST STATION — GTV

WATER
- MANHOLE WATER — MW
- FIRE HYDRANT
- WATER BLOW OFF — BO
- WATER VALVE — WV

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LAMB-STAR ENGINEERING, L.L.C. 1440 BRICKYARD RD, UNITS 3 & 4 GOLDEN, COLORADO 80403 (720) 547-5222			

EL PASO COUNTY COLORADO

As Constructed	EXISTING UTILITY PLAN		Project No./Code
No Revisions:			TAP CO40-054
Revised:	Designer: LSE	Structure Numbers	22894
Void:	Detailer: LSE		
	Sheet Subset: UTILITY	Subset Sheets: 14 of 22	Sheet Number 104

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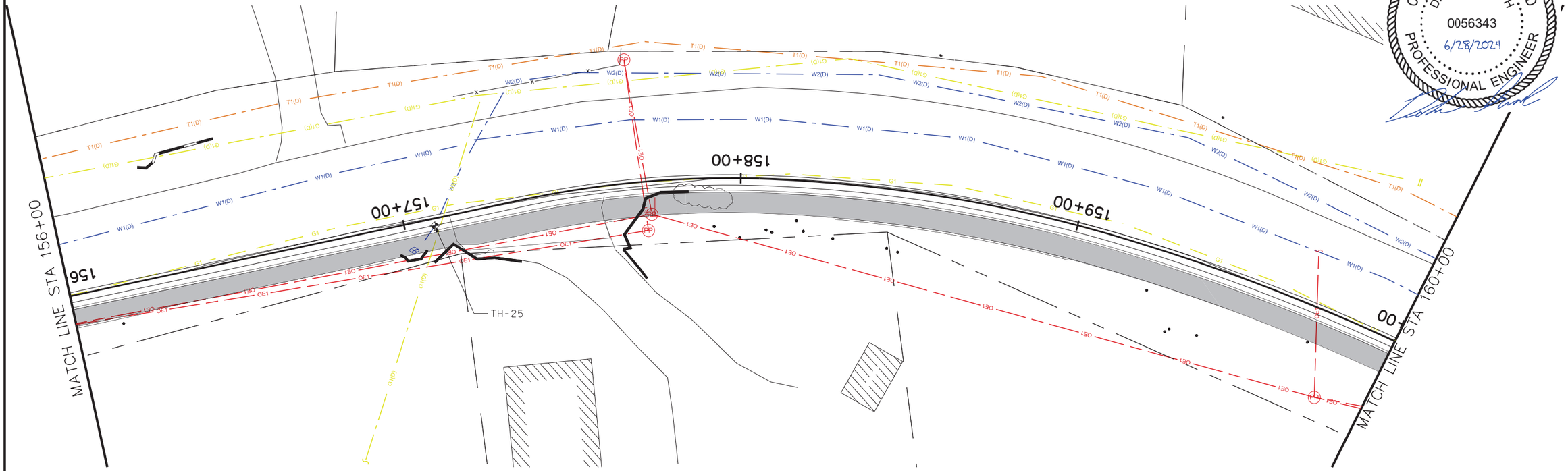
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COLORADO LICENSED
DAKOTA SMITH
0056343
6/28/2024
PROFESSIONAL ENGINEER



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- TELEPHONE - CENTURY LINK (QL-B) — T1
- OH TELEPHONE - CENTURY LINK — OT1
- TELEPHONE - CENTURY LINK (QL-D) — T1(D)
- FIBER - COMCAST (QL-B) — FO2
- OH FIBER - COMCAST — OFO2
- FIBER - COMCAST (QL-D) — FO2(D)

UTILITY CONTINUES —≤ UTILITY TERMINATES —|| SIGNAL LOST —✺

LEGEND OF UTILITY SYMBOLS

TV
- CABLE CABINET — TV
- CABLE TV HAND HOLE — TV
- CABLE PEDESTAL — TV
- MANHOLE TV — O
- UNDERGROUND CABLE MARKER

FIBER
- FIBER CABINET — F
- FIBER HAND HOLE — F

TELEPHONE
- MANHOLE TELEPHONE — T
- SERVICE POLE TELEPHONE — T
- TELEPHONE CABINET — T
- TELEPHONE PEDESTAL — T
- TELEPHONE MARKER
- TELEPHONE HAND HOLE — T

SANITARY SEWER
- CLEAN OUT — CO
- SANITARY VENT — SV

ELECTRIC
- ELECTRIC METER — EM
- ELECTRIC PEDESTAL — E
- MANHOLE ELECTRIC — E
- PULL BOX — PB
- POWER POLE (WOOD) — PP
- TRANSFORMER — TRANS
- ELECTRIC MARKER

GAS
- GAS METER — GM
- GAS REGULATOR STATION — GRS
- GAS TEST STATION — GTV

WATER
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- FIRE HYDRANT
- WATER BLOW OFF — BO
- WATER VALVE — WV

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EL PASO COUNTY
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As Constructed	EXISTING UTILITY PLAN			Project No./Code
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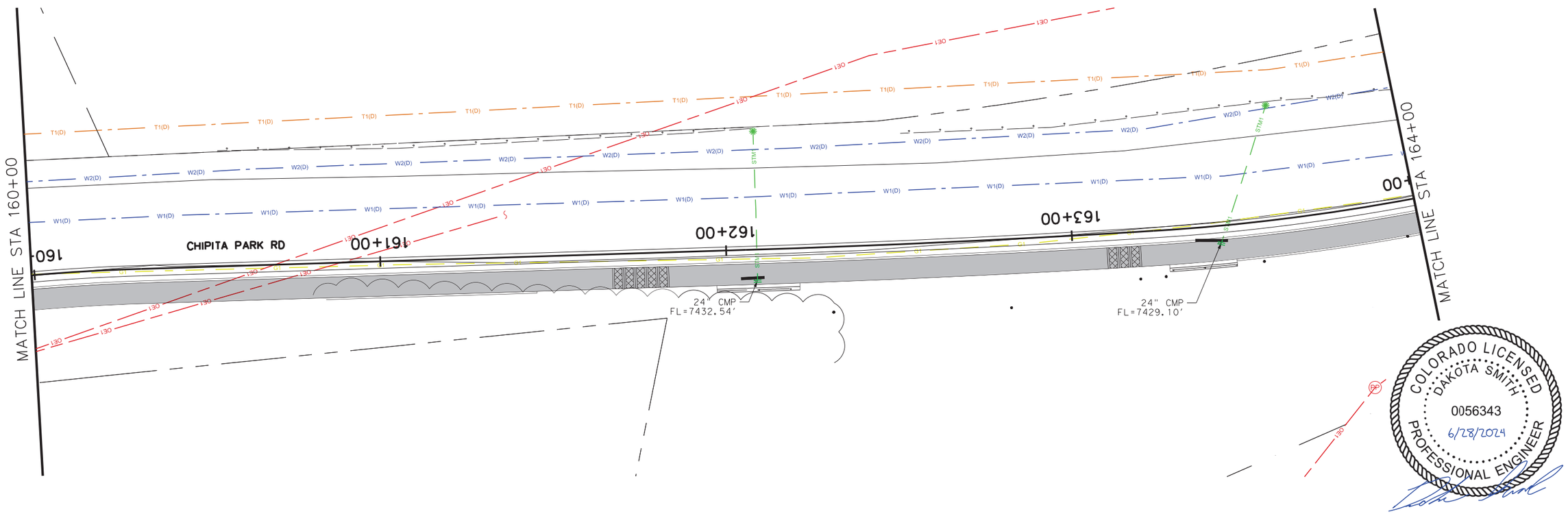
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- TELEPHONE - CENTURY LINK (QL-D) — T1(D)
- FIBER - COMCAST (QL-B) — FO2
- OH FIBER - COMCAST — OFO2
- FIBER - COMCAST (QL-D) — FO2(D)

UTILITY CONTINUES —ϟ UTILITY TERMINATES —‖ SIGNAL LOST —✺

LEGEND OF UTILITY SYMBOLS

TV
- CABLE CABINET (TV)
- CABLE TV HAND HOLE (TV)
- CABLE PEDESTAL (TV)
- MANHOLE TV
- UNDERGROUND CABLE MARKER

FIBER
- FIBER CABINET (F)
- FIBER HAND HOLE (F)

TELEPHONE
- MANHOLE TELEPHONE (T)
- SERVICE POLE TELEPHONE (T)
- TELEPHONE CABINET (T)
- TELEPHONE PEDESTAL (T)
- TELEPHONE MARKER
- TELEPHONE HAND HOLE

SANITARY SEWER
- CLEAN OUT (SS)
- SANITARY VENT

ELECTRIC
- ELECTRIC METER (EM)
- ELECTRIC PEDESTAL (E)
- MANHOLE ELECTRIC (E)
- PULL BOX (PB)
- POWER POLE (WOOD) (PP)
- TRANSFORMER (TRANS)
- ELECTRIC MARKER

GAS
- GAS METER (GM)
- GAS REGULATOR STATION (GRS)
- GAS TEST STATION (GTV)

WATER
- MANHOLE WATER (WTR)
- FIRE HYDRANT
- WATER BLOW OFF (BVO)
- WATER VALVE (WV)

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File Name:	Date:	Comments	Init.	No Revisions:	Project No./Code: TAP C040-054
Horiz. Scale: Vert. Scale:				Revised:	Designer: LSE / Structure Numbers: 22894
Unit Information Unit Leader Initials				Void:	Detailer: LSE / Sheet Subset: UTILITY / Subset Sheets: 16 of 22 / Sheet Number 106

LAMB-STAR ENGINEERING, L.L.C.
14440 BRICKYARD RD, UNITS 3 & 4
GOLDEN, COLORADO 80403
(720) 547-5222

EL PASO COUNTY
COLORADO

GENERAL NOTES

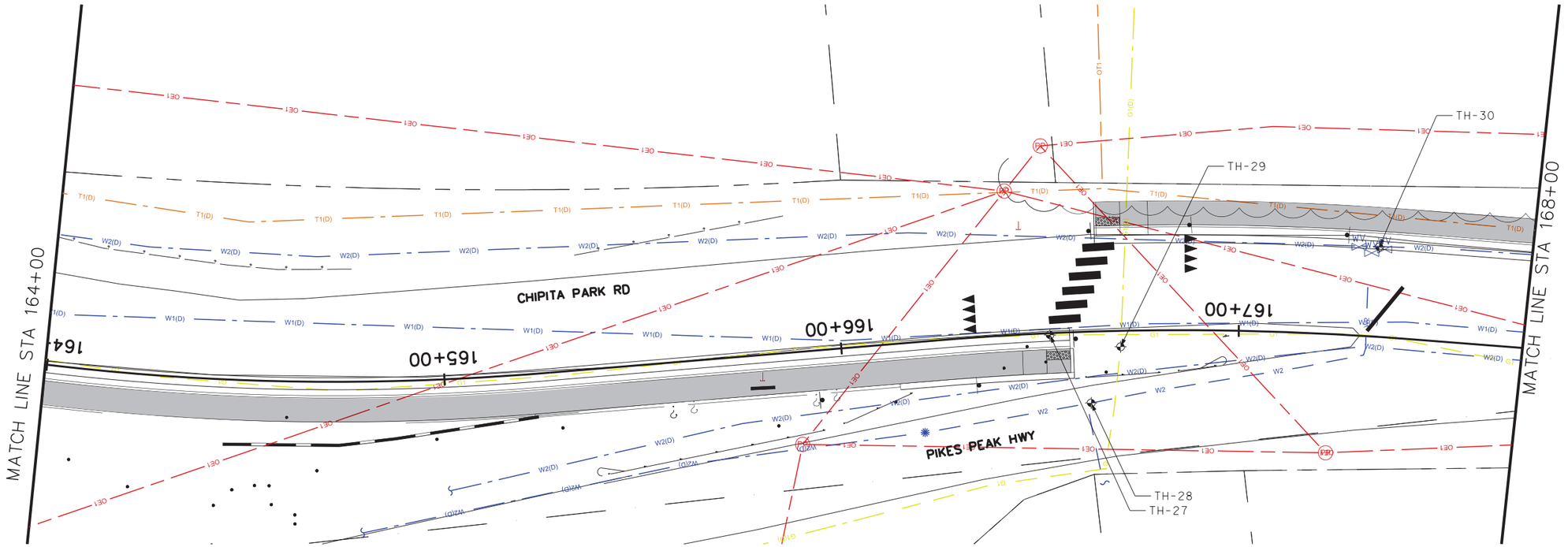
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(IN FEET)
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DAKOTA SMITH
0056343
6/28/2024
PROFESSIONAL ENGINEER

LEGEND OF UTILITY TYPES

WATER/STORM
- WATER - CSU (QL-B) — W1
- WATER - CASCADE (QL-B) — W2
- WATER - CASCADE (QL-D) — W2(D)
- STORM - CASCADE (QL-B) — STM1

ELECTRIC
- ELECTRIC - CSU (QL-B) — E1
- OH ELECTRIC - CSU — OE1
- ELECTRIC - CSU (QL-D) — E1(D)

GAS
- GAS - BLACK HILLS (QL-B) — G1
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COMMUNICATIONS
- CATV - COMCAST (QL-B) — CATV1
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- CATV - COMCAST (QL-D) — CATV1(D)
- FIBER - CENTURY LINK (QL-B) — FO1
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- OH TELEPHONE - CENTURY LINK — OT1
- TELEPHONE - CENTURY LINK (QL-D) — T1(D)
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- OH FIBER - COMCAST — OFO2
- FIBER - COMCAST (QL-D) — FO2(D)

UTILITY CONTINUES —⤳ UTILITY TERMINATES —⫴ SIGNAL LOST —✺

LEGEND OF UTILITY SYMBOLS

TV
- CABLE CABINET — TV
- CABLE TV HAND HOLE — TV
- CABLE PEDESTAL — TV
- MANHOLE TV — O
- UNDERGROUND CABLE MARKER

FIBER
- FIBER CABINET — F
- FIBER HAND HOLE — F

TELEPHONE
- MANHOLE TELEPHONE — T
- SERVICE POLE TELEPHONE — T
- TELEPHONE CABINET — T
- TELEPHONE PEDESTAL — T
- TELEPHONE MARKER
- TELEPHONE HAND HOLE — T

SANITARY SEWER
- CLEAN OUT — CO
- SANITARY VENT

ELECTRIC
- ELECTRIC METER — EM
- ELECTRIC PEDESTAL — E
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- PULL BOX — PB
- POWER POLE (WOOD) — PP
- TRANSFORMER — TRANS
- ELECTRIC MARKER

GAS
- GAS METER — GM
- GAS REGULATOR STATION — GRS
- GAS TEST STATION — GTV

WATER
- MANHOLE WATER — W
- FIRE HYDRANT
- WATER BLOW OFF — BO
- WATER VALVE — WV

Print Date:	6/28/2024
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Unit Information	Unit Leader Initials

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Sheet Revisions

Date:	Comments	Init.

EL PASO COUNTY
COLORADO

As Constructed
- No Revisions:
- Revised:
- Void:

EXISTING UTILITY PLAN

Designer:	LSE	Structure Numbers	
Detailer:	LSE		
Sheet Subset:	UTILITY	Subset Sheets:	17 of 22

Project No./Code	TAP C040-054
	22894
Sheet Number	107

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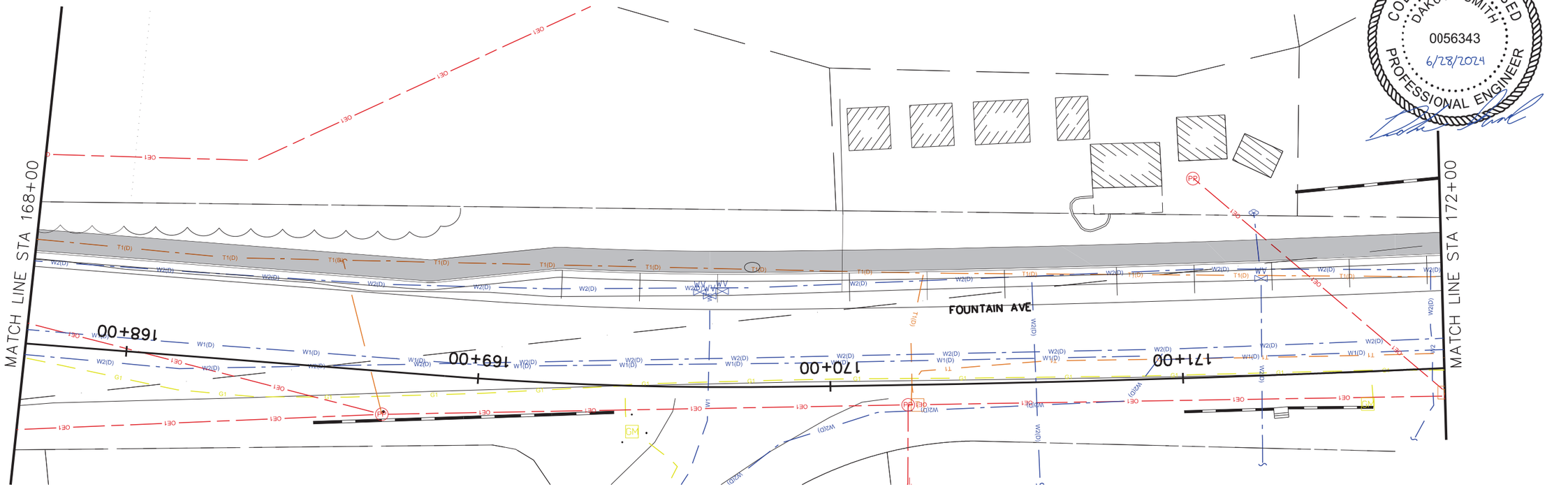
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DAKOTA SMITH
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LEGEND OF UTILITY TYPES

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- WATER - CASCADE (QL-B) — W2
- WATER - CASCADE (QL-D) — W2(D)
- STORM - CASCADE (QL-B) — STM1

ELECTRIC
- ELECTRIC - CSU (QL-B) — E1
- OH ELECTRIC - CSU — OE1
- ELECTRIC - CSU (QL-D) — E1(D)

GAS
- GAS - BLACK HILLS (QL-B) — G1
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COMMUNICATIONS
- CATV - COMCAST (QL-B) — CATV1
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- FIBER - CENTURY LINK (QL-B) — FO1
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UTILITY CONTINUES ⟶ UTILITY TERMINATES ⟶| SIGNAL LOST ⟶✺

LEGEND OF UTILITY SYMBOLS

TV
- CABLE CABINET
- CABLE TV HAND HOLE
- CABLE PEDESTAL
- MANHOLE TV
- UNDERGROUND CABLE MARKER

FIBER
- FIBER CABINET
- FIBER HAND HOLE

TELEPHONE
- MANHOLE TELEPHONE
- SERVICE POLE TELEPHONE
- TELEPHONE CABINET
- TELEPHONE PEDESTAL
- TELEPHONE MARKER
- TELEPHONE HAND HOLE

SANITARY SEWER
- CLEAN OUT
- SANITARY VENT

ELECTRIC
- ELECTRIC METER
- ELECTRIC PEDESTAL
- MANHOLE ELECTRIC
- PULL BOX
- POWER POLE (WOOD)
- TRANSFORMER
- ELECTRIC MARKER

GAS
- GAS METER
- GAS REGULATOR STATION
- GAS TEST STATION

WATER
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Print Date: 6/28/2024	Sheet Revisions		
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As Constructed	EXISTING UTILITY PLAN		Project No./Code
No Revisions:			TAP C040-054
Revised:	Designer: LSE	Structure Numbers	22894
Void:	Detailer: LSE		
	Sheet Subset: UTILITY	Subset Sheets: 18 of 22	Sheet Number 108

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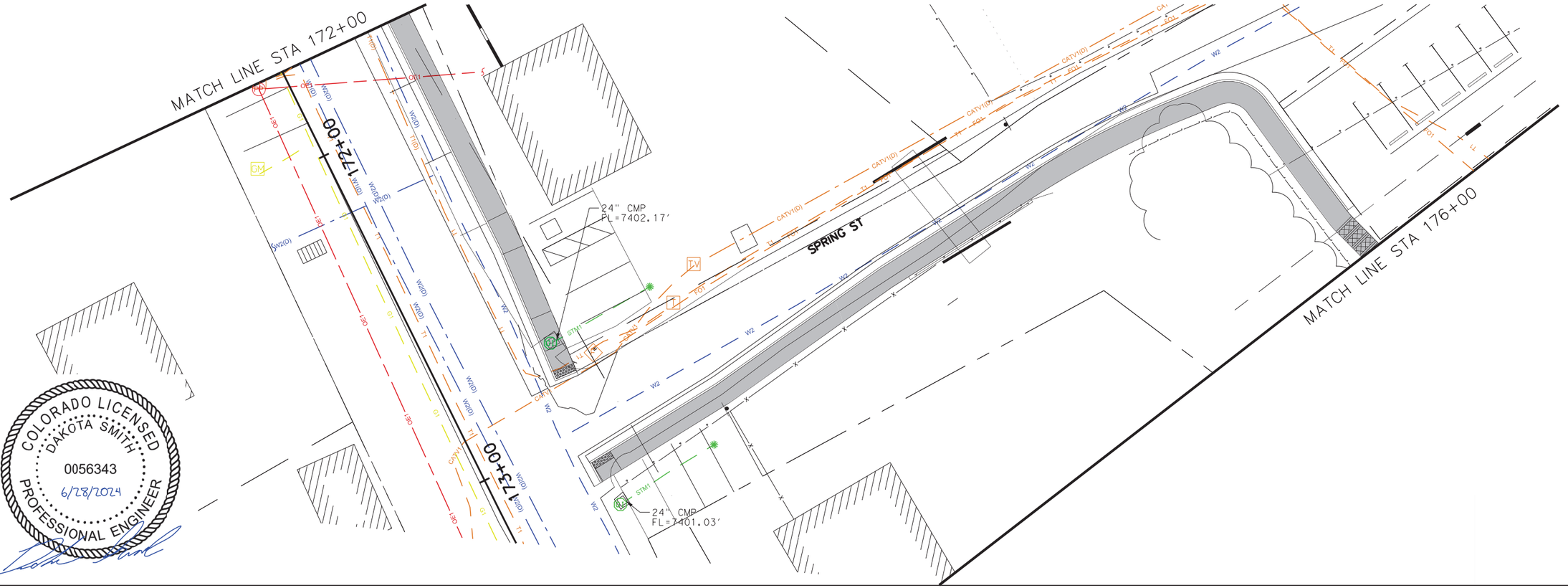
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- TELEPHONE - CENTURY LINK (QL-D) — T1(D)
- FIBER - COMCAST (QL-B) — FO2
- OH FIBER - COMCAST — OFO2
- FIBER - COMCAST (QL-D) — FO2(D)

UTILITY CONTINUES —⟩ UTILITY TERMINATES —|| SIGNAL LOST —✺

LEGEND OF UTILITY SYMBOLS

TV
- CABLE CABINET
- CABLE TV HAND HOLE
- CABLE PEDESTAL
- MANHOLE TV
- UNDERGROUND CABLE MARKER

FIBER
- FIBER CABINET
- FIBER HAND HOLE

TELEPHONE
- MANHOLE TELEPHONE
- SERVICE POLE TELEPHONE
- TELEPHONE CABINET
- TELEPHONE PEDESTAL
- TELEPHONE MARKER
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SANITARY SEWER
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ELECTRIC
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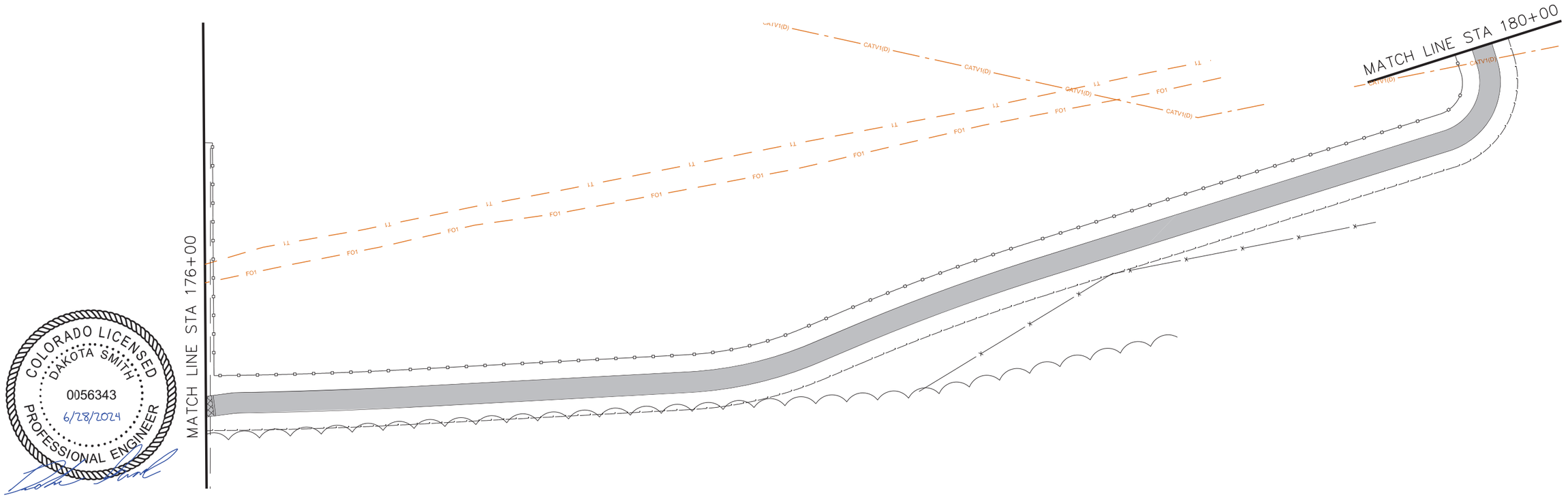
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UTILITY CONTINUES —⤷ UTILITY TERMINATES —|| SIGNAL LOST —✺

LEGEND OF UTILITY SYMBOLS

TV
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FIBER
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- FIBER HAND HOLE F

TELEPHONE
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- TELEPHONE CABINET [T]
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- PULL BOX PB
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WATER
- MANHOLE WATER WTR
- FIRE HYDRANT
- WATER BLOW OFF BVO
- WATER VALVE WV

Print Date: 6/28/2024	Sheet Revisions		
File Name:	Date:	Comments	Init.
Horiz. Scale: Vert. Scale:			
Unit Information Unit Leader Initials			

LAMB-STAR ENGINEERING, L.L.C.
1440 BRICKYARD RD, UNITS 3 & 4
GOLDEN, COLORADO 80403
(720) 547-5222

EL PASO COUNTY
COLORADO

As Constructed	EXISTING UTILITY PLAN		Project No./Code
No Revisions:			TAP C040-054
Revised:	Designer: LSE	Structure Numbers	22894
Void:	Detailer: LSE		
	Sheet Subset: UTILITY	Subset Sheets: 20 of 22	Sheet Number 110

GENERAL NOTES

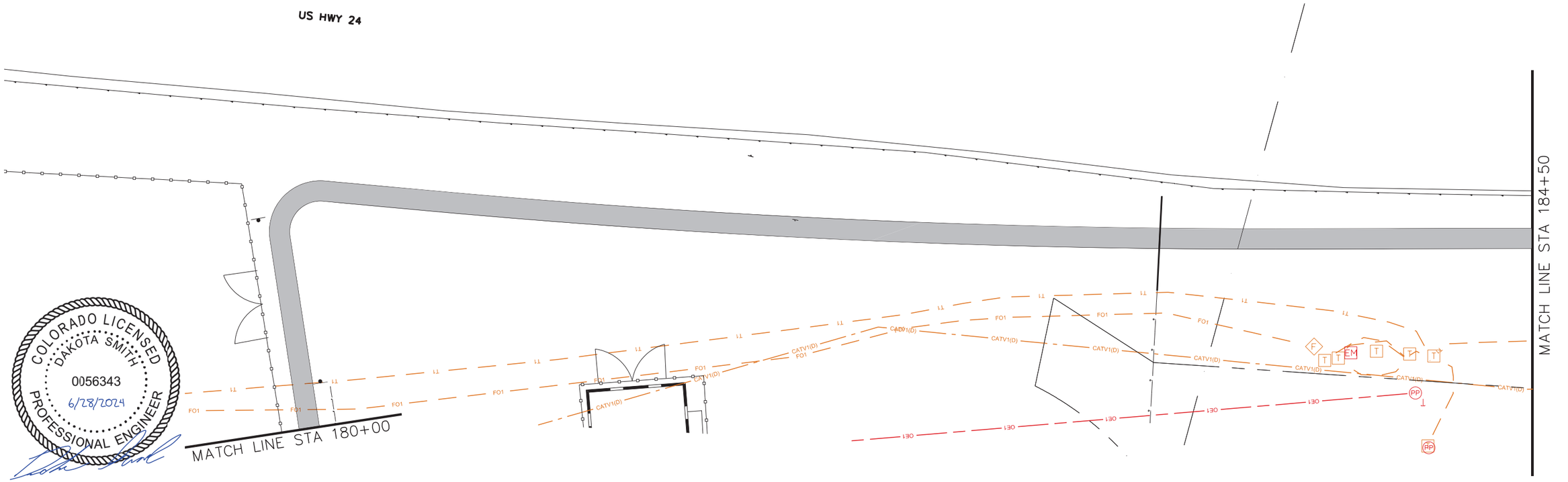
1. THE UTILITIES DEPICTED WERE INVESTIGATED BY LAMB-STAR ENGINEERING, ALL OTHER PLAN INFORMATION, NOTABLY THE BACKGROUND INFORMATION WAS PROVIDED BY OTHERS AND LAMB-STAR ENGINEERING DISCLAIMS RESPONSIBILITY FOR ITS ACCURACY.
2. EXISTING SUBSURFACE UTILITY INVESTIGATIONS WERE COMPLETED ON 10/18/2019. LAMB-STAR ENGINEERING EXPRESSLY DISCLAIMS ANY AND ALL RESPONSIBILITY FOR NEW UTILITY INSTALLATIONS OR MODIFICATIONS, AND ADJUSTMENTS TO EXISTING UTILITIES AFTER THE COMPLETION DATE.
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4. UTILITIES ON THESE DRAWINGS HAVE BEEN IDENTIFIED TO ASCE STANDARD 38-02. QUALITY LEVEL INFORMATION IS SHOWN AS NOTED IN THE LEGEND.
5. UTILITY LINES WERE DESIGNATED WHERE POSSIBLE. HOWEVER, SOME SERVICE LINES ARE CONSTRUCTED OF NON-CONDUCTIVE MATERIAL AND UTILITY COMPANY DRAWINGS DO NOT SHOW SERVICE LINE LOCATIONS. THEREFORE, NOT ALL SERVICE LINES MAY BE SHOWN.

UTILITY QUALITY LEVELS (OBTAINED FROM ASCE PUBLICATION CI/ASCE STANDARD 38-02)

1. UTILITY QUALITY LEVEL D (QL D): INFORMATION DERIVED FROM EXISTING RECORDS OR ORAL RECOLLECTIONS.
2. UTILITY QUALITY LEVEL C (QL C): INFORMATION OBTAINED BY SURVEYING AND PLOTTING VISIBLE ABOVE-GROUND UTILITY FEATURES AND BY USING PROFESSIONAL JUDGEMENT IN CORRELATING THIS INFORMATION TO QUALITY LEVEL D INFORMATION.
3. UTILITY QUALITY LEVEL B (QL B): INFORMATION OBTAINED THROUGH THE APPLICATION OF APPROPRIATE SURFACE GEOPHYSICAL METHODS TO DETERMINE THE EXISTENCE AND APPROXIMATE HORIZONTAL POSITION OF SUBSURFACE UTILITIES. QUALITY LEVEL B DATA SHOULD BE REPRODUCIBLE BY SURFACE GEOPHYSICS AT ANY POINT OF THEIR DEPICTION. THIS INFORMATION IS SURVEYED TO APPLICABLE TOLERANCES DEFINED BY THE PROJECT AND REDUCED ONTO PLAN DOCUMENTS.
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Know what's below. Call before you dig.

15 0 15 30
(IN FEET)
1 inch = 30 ft. Horiz.



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DAKOTA SMITH
0056343
6/28/2024
PROFESSIONAL ENGINEER

LEGEND OF UTILITY TYPES

WATER/STORM
- WATER - CSU (QL-B) — W1
- WATER - CASCADE (QL-B) — W2
- WATER - CASCADE (QL-D) — W2(D)
- STORM - CASCADE (QL-B) — STM1

ELECTRIC
- ELECTRIC - CSU (QL-B) — E1
- OH ELECTRIC - CSU — OE1
- ELECTRIC - CSU (QL-D) — E1(D)

GAS
- GAS - BLACK HILLS (QL-B) — G1
- GAS - BLACK HILLS (QL-D) — G1(D)

COMMUNICATIONS
- CATV - COMCAST (QL-B) — CATV1
- OH CATV - COMCAST — OTV1
- CATV - COMCAST (QL-D) — CATV1(D)
- FIBER - CENTURY LINK (QL-B) — FO1
- OH FIBER - CENTURY LINK — OFO1
- FIBER - CENTURY LINK (QL-D) — FO1(D)
- TELEPHONE - CENTURY LINK (QL-B) — T1
- OH TELEPHONE - CENTURY LINK — OT1
- TELEPHONE - CENTURY LINK (QL-D) — T1(D)
- FIBER - COMCAST (QL-B) — FO2
- OH FIBER - COMCAST — OFO2
- FIBER - COMCAST (QL-D) — FO2(D)

UTILITY CONTINUES —⤻ UTILITY TERMINATES —|| SIGNAL LOST —✺

LEGEND OF UTILITY SYMBOLS

TV
- CABLE CABINET — TV
- CABLE TV HAND HOLE — TV
- CABLE PEDESTAL — TV
- MANHOLE TV — O
- UNDERGROUND CABLE MARKER

FIBER
- FIBER CABINET — F
- FIBER HAND HOLE — F

TELEPHONE
- MANHOLE TELEPHONE — T
- SERVICE POLE TELEPHONE — T
- TELEPHONE CABINET — T
- TELEPHONE PEDESTAL — T
- TELEPHONE MARKER
- TELEPHONE HAND HOLE — T

SANITARY SEWER
- CLEAN OUT
- SANITARY VENT

ELECTRIC
- ELECTRIC METER — EM
- ELECTRIC PEDESTAL — E
- MANHOLE ELECTRIC — E
- PULL BOX — PB
- POWER POLE (WOOD) — PP
- TRANSFORMER — TRANS
- ELECTRIC MARKER

GAS
- GAS METER — GM
- GAS REGULATOR STATION — GRS
- GAS TEST STATION — GTV

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- MANHOLE WATER — W
- FIRE HYDRANT
- WATER BLOW OFF — BO
- WATER VALVE — WV

Print Date: 6/28/2024	Sheet Revisions		
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EL PASO COUNTY
COLORADO

As Constructed	EXISTING UTILITY PLAN			Project No./Code
No Revisions:				TAP C040-054
Revised:	Designer: LSE	Structure Numbers		22894
Void:	Detailer: LSE			
	Sheet Subset: UTILITY	Subset Sheets: 21 of 22		Sheet Number 111

GENERAL NOTES

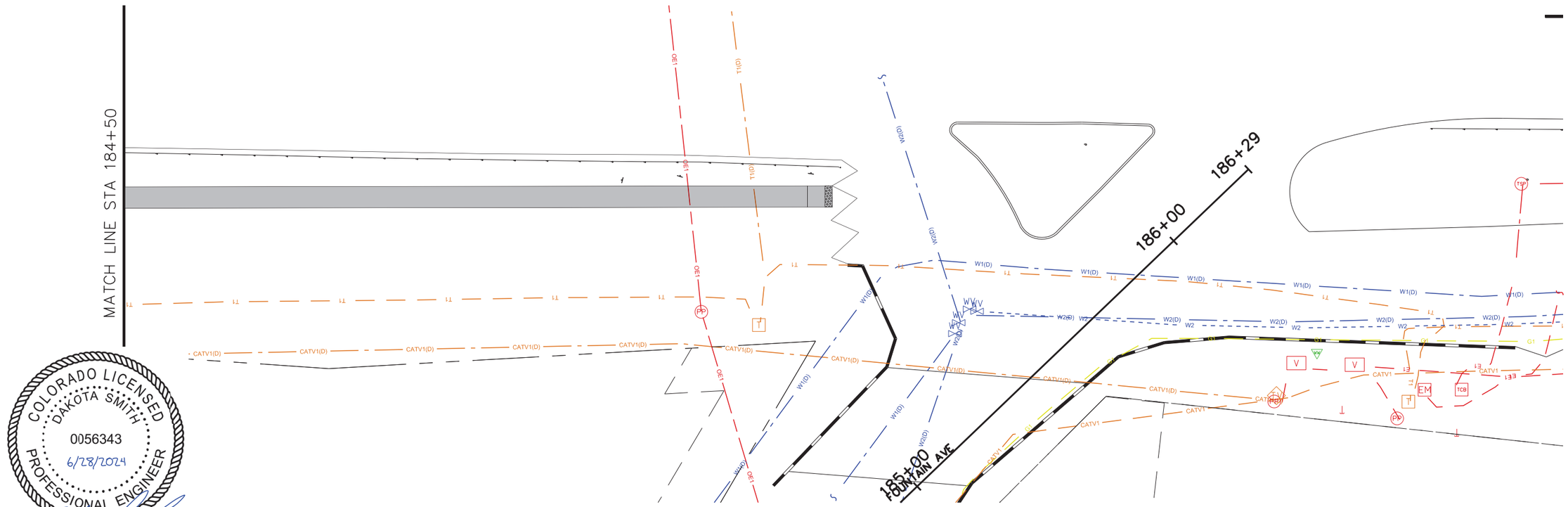
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6/28/2024
PROFESSIONAL ENGINEER

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- FIBER - COMCAST (QL-B) — FO2
- OH FIBER - COMCAST — OFO2
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UTILITY CONTINUES — UTILITY TERMINATES — SIGNAL LOST

LEGEND OF UTILITY SYMBOLS

TV
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- MANHOLE TV
- UNDERGROUND CABLE MARKER

FIBER
- FIBER CABINET — F
- FIBER HAND HOLE — F

TELEPHONE
- MANHOLE TELEPHONE — T
- SERVICE POLE TELEPHONE — T
- TELEPHONE CABINET — T
- TELEPHONE PEDESTAL — T
- TELEPHONE MARKER
- TELEPHONE HAND HOLE — T

SANITARY SEWER
- CLEAN OUT — SS
- SANITARY VENT — SV

ELECTRIC
- ELECTRIC METER — EM
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GAS
- GAS METER — GM
- GAS REGULATOR STATION — GRS
- GAS TEST STATION — GTV

WATER
- MANHOLE WATER — WTR
- FIRE HYDRANT
- WATER BLOW OFF — BLO
- WATER VALVE — WV

Print Date: 6/28/2024	
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Unit Information	Unit Leader Initials

LAMB-STAR ENGINEERING, L.L.C.
1440 BRICKYARD RD, UNITS 3 & 4
GOLDEN, COLORADO 80403
(720) 547-5222

Sheet Revisions

Date:	Comments	Init.

EL PASO COUNTY
COLORADO

As Constructed

No Revisions:	
Revised:	
Void:	

EXISTING UTILITY PLAN

Designer:	LSE	Structure Numbers	
Detailer:	LSE		
Sheet Subset:	UTILITY	Subset Sheets:	22 of 22

Project No./Code
TAP C040-054
22894
Sheet Number 112

Lamb-Star Engineering
1440 Brickyard Rd.
Units 3 and 4
Golden CO. 80403
720-547-5222

Summary of Test Hole Information and Coordinates



Project Name:	UTE Pass Trail Phase II	**General Location:**	Chipita Park Rd.			**Field Manager:**	Jerred Hurt
Client Name:	Stantec					**Technicians:**	JG RW JJ
Client Proj. No.:	181710578					**Vacuum Excavation Truck:**	1528 2901
LSE Proj. No.:	B200767.01	**City/Town:**	Cascade	**County:**	EL Paso	**State:**	Colorado	**Designating Truck:**	

Test Hole #	Utility Size, O.D. (Inches)	Utility Material (Refer to Legend)	Utility Type (Refer to Legend)	Depth to Top of Utility (Feet)	Cross Sectional View	General Utility Direction	Surface Type and Thickness (Inches) C - Concrete AC - Asphalt NG - Nat. Grd		ID'd By: 1: 5/8"Iron Rod/Cap 2: Nail/Disk 3: 'X'in Conc.	Date Test Hole Excavated	Utility Observed (Yes or No)	Survey Point #	Northing (Y)	Easting (X)	Surface Elevation (Z)	Top of Utility Elevation	Test Hole Notes
001	1.5	STL	G	1.95	◯	↗↙	NG		5/8"IR W/ CAP	02/23/2021	YES	145000	395056.66	148306.05	7518.38	7516.43	
002	1.5	STL	G	2.37	◯	↗↙	NG		5/8"IR W/ CAP	02/22/2021	YES	145002	394807.97	148462.96	7507.50	7505.13	
003	7.0	DI	W	5.05	◯	↗↙	NG		5/8"IR W/ CAP	02/22/2021	YES	145003	394752.64	148482.35	7505.43	7500.38	
004	5.0	COP	W	6.12	◯	↗↙	AC	UNK	NAIL / DISK	04/07/2021	YES	145004	394717.00	148495.83	7504.32	7498.20	
005	5.0	DBC	BT	2.00	◯	↕	NG		5/8"IR W/ CAP	04/07/2021	YES	145005	394688.99	148515.80	7501.58	7499.58	
006	4.5	STL	G	2.79	◯	↗↙	NG		5/8"IR W/ CAP	02/23/2021	YES	145006	394630.32	148554.30	7499.44	7496.65	
007	1.5	STL	G	2.79	◯	↗↙	NG		5/8"IR W/ CAP	02/23/2021	YES	145008	394595.53	148573.32	7498.59	7495.80	
008	0.4	DBC	BT	0.93	◯	↗↙	NG		5/8"IR W/ CAP	02/23/2021	YES	145009	394523.78	148627.97	7496.94	7496.01	
009	1.5	STL	G	2.87	◯	↗↙	NG		5/8"IR W/ CAP	02/23/2021	YES	145010	394440.21	148714.72	7495.07	7492.20	
010	1.5	STL	G	2.20	◯	↗↙	NG		5/8"IR W/ CAP	02/23/2021	YES	145011	394398.16	148755.09	7493.81	7491.61	
011	1.5	STL	G	2.60	◯	↗↙	AC	4	NAIL / DISK	02/24/2021	YES	145012	394198.20	148967.00	7495.32	7492.72	
012	1.5	STL	G	4.25	◯	↗↙	NG		5/8"IR W/ CAP	02/24/2021	YES	145014	393896.39	149304.98	7486.84	7482.59	
013	1.0	STL	G	2.98	◯	↕	NG		5/8"IR W/ CAP	02/24/2021	YES	145015	393769.04	149476.38	7486.79	7483.81	
014	1.5	STL	G	4.79	◯	↗↙	NG		5/8"IR W/ CAP	02/24/2021	YES	145017	393728.22	149526.39	7490.41	7485.62	
015	4.5	STL	G	3.08	◯	↗↙	NG		5/8"IR W/ CAP	02/24/2021	YES	160013	393647.07	149662.86	7486.87	7483.79	
016	1.5	STL	G	2.87	◯	↔	NG		5/8"IR W/ CAP	03/01/2021	YES	145018	393627.99	149678.79	7486.54	7483.67	
020	UNK	STL	W	6.86	◯	↕	AC	UNK	NAIL / DISK	04/06/2021	YES	145022	392155.28	151112.83	7447.58	7440.72	Unable to verify size due to concrete encasement
021	8.0	PVC	W	1.45	◯	↕	NG		5/8"IR W/ CAP	04/06/2021	YES	145023	392122.77	151128.17	7447.11	7445.66	
022	9.0	STL	W	7.73	◯	↗↙	NG		5/8"IR W/ CAP	03/03/2021	YES	145024	392090.52	151144.72	7446.24	7438.51	
023	4.5	STL	G	3.04	◯	↕	NG		5/8"IR W/ CAP	03/02/2021	YES	145025	391350.72	151455.62	7444.36	7441.32	

Notes: PROJECT COORDINATES ARE MODIFIED COLORADO STATE PLANE CENTRAL ZONE NAD '83/(11) COORDINATES.

THE COMBINED ELEVATION/SCALE FACTOR USED TO MODIFY THE COORDINATES FROM STATE PLANE TO PROJECT COORDINATES IS 1.0004365000.

Utility Materials:		
STL - Steel	**PVC** - Polyvinyl Chloride	**CSC** - Concrete/Steel Cylinder
PE - Polyethylene	**DBC** - Direct Buried Cable	**CMP** - Corrugated Metal Pipe
AC - Transite	**RCP** - Reinforced Concrete Pipe	**COP** - Copper
CI - Cast Iron	**VC** - Vitrified Clay	**CONC** - Concrete Encased
DI - Ductile Iron	**FG** - Fiberglass	**I** - Iron

Utility Types:		
E - Electric	**BT** - Buried Telephone	**TS** - Traffic Signal
G - Gas	**FOC** - Fiber Optic Cable	**FM** - Force Main
W - Water	**SAN** - Sanitary Sewer	**ITS** - Intellegent Traffic Systems
PL - Product Line	**STM** - Storm Sewer	-
FL - Fuel Line	**CTV** - Cable Television	-

Surface Types:
A - Asphalt
B - Brick
C - Concrete
NG - Natural Ground
-

Prepared By: ABT Date: 4/15/2021 Checked by: DWS Date: 4/17/2021 Page: 1 of 2

COLORADO LICENSED
DAKOTA SMITH
0056343
6/28/2024
PROFESSIONAL ENGINEER

Print Date: 6/28/2024
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Sheet Revisions		
Date:	Comments	Init.

EL PASO COUNTY
COLORADO

As Constructed
No Revisions:
Revised:
Void:

SUMMARY OF TEST HOLES

Designer: LSE
Detailer: LSE
Sheet Subset: UTILITY
Structure Numbers:
Subset Sheets: 1 of 2

Project No./Code
TAP CO40-054
22894
Sheet Number 113

Lamb-Star Engineering
1440 Brickyard Rd.
Units 3 and 4
Golden CO. 80403
720-547-5222

Summary of Test Hole Information and Coordinates



Project Name:	UTE Pass Trail Phase II	**General Location:**	Chipita Park Rd.	**Field Manager:**	Jerred Hurt
Client Name:	Stantec			**Technicians:**	IG RW II
Client Proj. No.:	181710578			**Vacuum Excavation Truck:**	1528 2901
LSE Proj. No.:	B200767.01	**City/Town:** Cascade	**County:** EL Paso **State:** Colorado	**Designating Truck:**	

Test Hole #	Utility Size, O.D. (Inches)	Utility Material (Refer to Legend)	Utility Type (Refer to Legend)	Depth to Top of Utility (Feet)	Cross Sectional View	General Utility Direction	Surface Type and Thickness (Inches) C - Concrete AC - Asphalt NG - Nat. Grd		ID'd By: 1: 5/8"Iron Rod/Cap 2: Nail/Disk 3: 'X'in Conc.	Date Test Hole Excavated	Utility Observed (Yes or No)	Survey Point #	Northing (Y)	Easting (X)	Surface Elevation (Z)	Top of Utility Elevation	Test Hole Notes
024	2.5	STL	G	2.61	◯	↕	NG		5/8"IR W/ CAP	03/02/2021	YES	145026	391245.19	151438.45	7445.16	7442.55	
025	8.0	PVC	W	5.38	◯	↔	NG		5/8"IR W/ CAP	03/02/2021	YES	145028	390972.96	151521.24	7447.23	7441.85	
027	4.5	STL	G	2.93	◯	↕	NG		5/8"IR W/ CAP	03/02/2021	YES	145029	390072.44	151311.50	7424.67	7421.74	
028	9.0	PVC	W	7.21	◯	↕	AC	6	5/8"IR W/ CAP	03/03/2021	YES	145031	390055.36	151305.77	7429.86	7422.65	
029	1.5	STL	G	2.89	◯	↔	NG		5/8"IR W/ CAP	03/02/2021	YES	145030	390064.91	151292.99	7424.34	7421.45	
030	9.0	PVC	W	7.08	◯	↕	AC	6	5/8"IR W/ CAP	03/03/2021	YES	145032	389987.26	151320.27	7422.53	7415.45	

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Prepared By: ABT Date: 4/15/2021 Checked by: DWS Date: 4/17/2021 Page: 2 of 2

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6/28/2024
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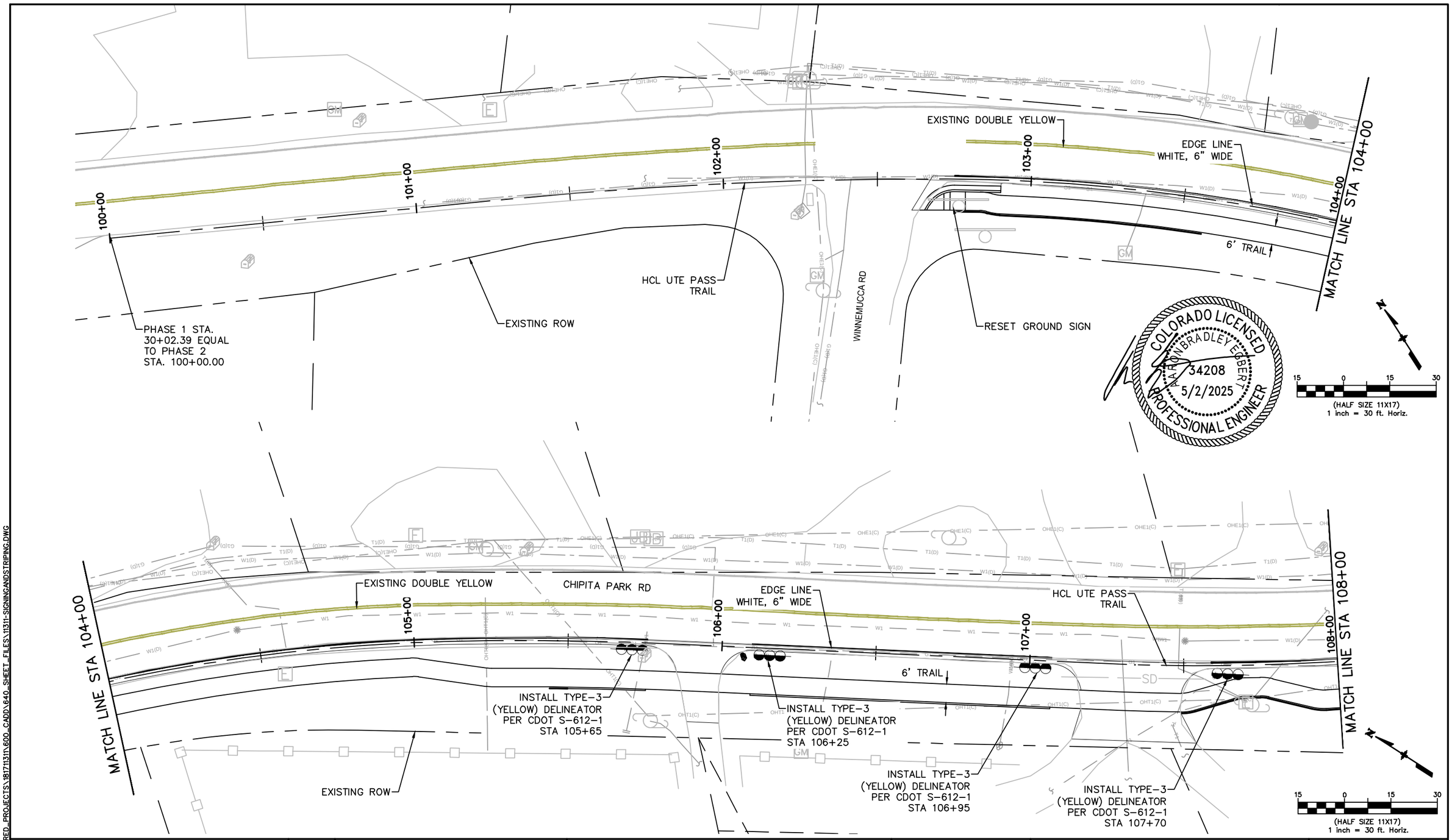
Print Date: 6/28/2024		Sheet Revisions			As Constructed
File Name:		Date:	Comments	Init.	No Revisions:
Horiz. Scale:	Vert. Scale:				Revised:
Unit Information	Unit Leader Initials				Void:
LAMB-STAR ENGINEERING, L.L.C. 1440 BRICKYARD RD, UNITS 3 & 4 GOLDEN, COLORADO 80403 (720) 547-5222					

EL PASO COUNTY COLORADO

SUMMARY OF TEST HOLES

Designer:	LSE	Structure Numbers	
Detailer:	LSE		
Sheet Subset:	UTILITY	Subset Sheets:	2 of 2

Project No./Code: TAP C040-054
22894
Sheet Number 114



\\US0387-PPFSS03\SHARED_PROJECTS\18171311\600_CADD\640_SHEET_FILES\11311-SIGNINGANDSTRIPING.DWG

Print Date: 6/30/2024
File Name: 11311-SIGNINGANDSTRIPING.DWG
Horiz. Scale: 1"=30' Vert. Scale: N/A
Unit Information Unit Leader Initials

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Sheet Revisions		
Date:	Comments	Init.

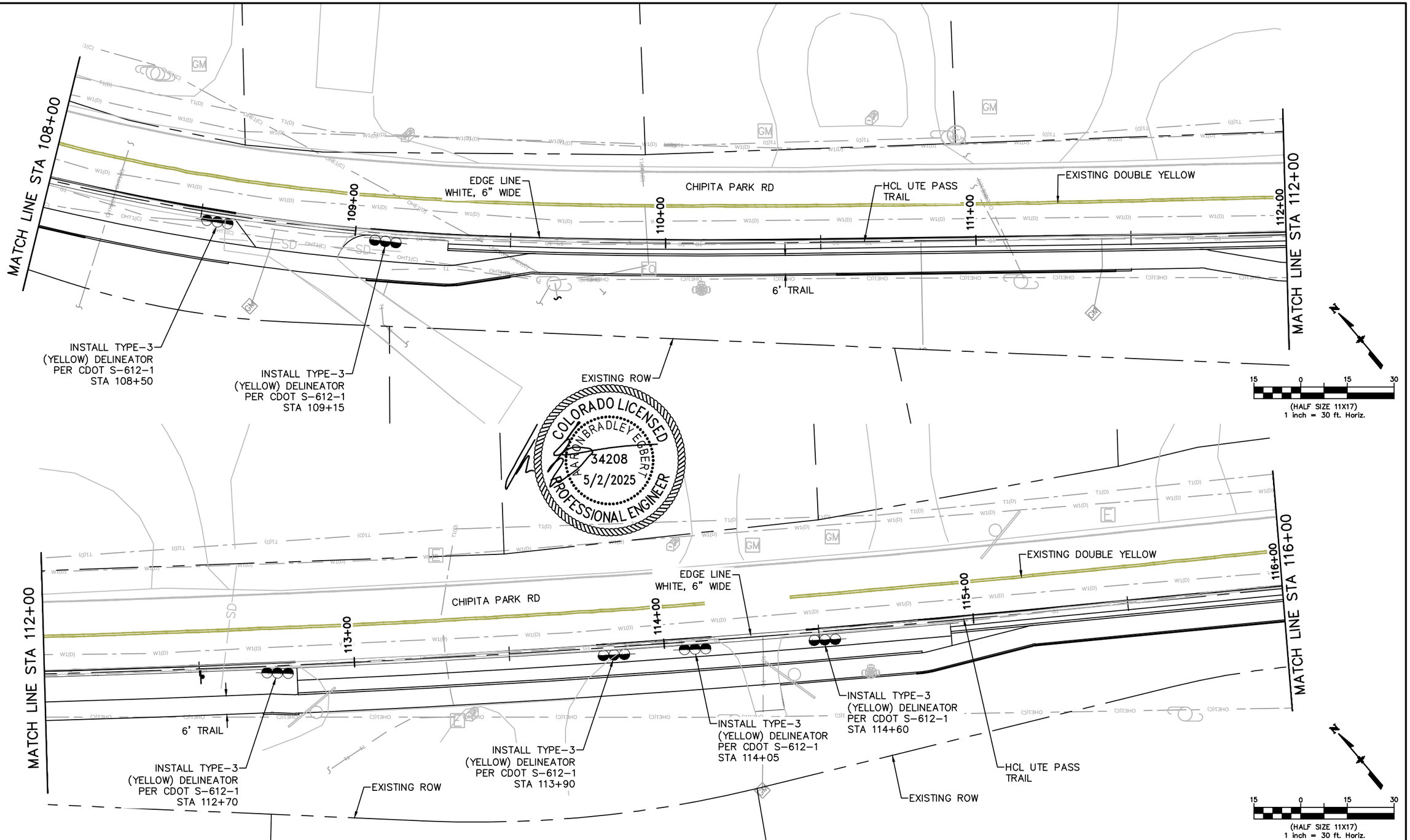
EL PASO COUNTY
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As Constructed
No Revisions:
Revised:
Void:

SIGNING AND STRIPING PLAN

Designer: M WOLF
Detailer: D. ALDEN
Sheet Subset: SGN&STR
Structure Numbers:
Subset Sheets: 1 of 11

Project No./Code
TAP C040-054
22894
Sheet Number 115



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SUITE 1400
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Sheet Revisions		
Date:	Comments	Init.

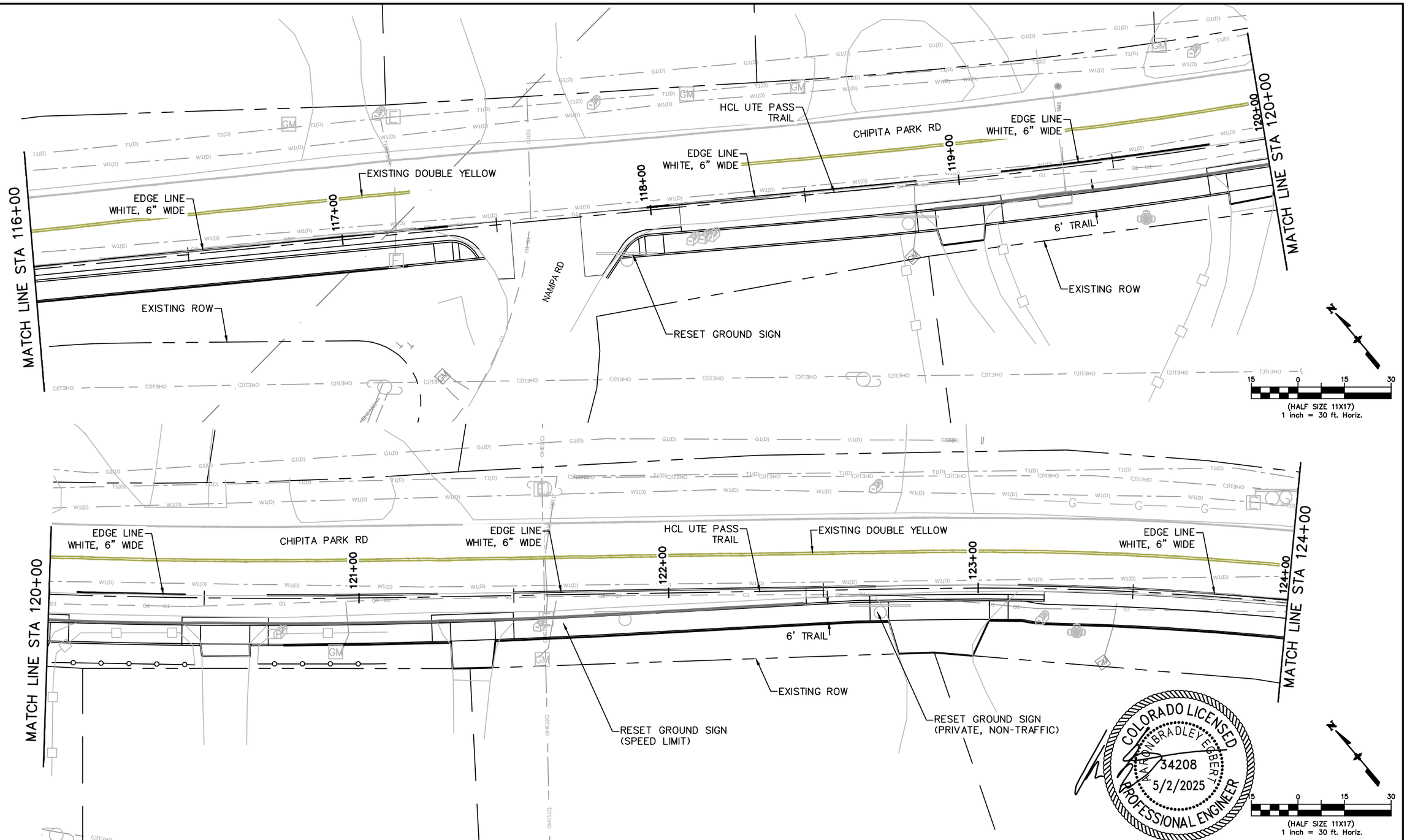
EL PASO COUNTY
COLORADO

As Constructed
No Revisions:
Revised:
Void:

SIGNING AND STRIPING PLAN

Designer:	M WOLF	Structure Numbers	
Detailer:	D. ALDEN		
Sheet Subset:	SGN&STR	Subset Sheets:	2 of 11

Project No./Code	
TAP C040-054	
22894	
Sheet Number	116



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AARON BRADLEY EGBERT
34208
5/2/2025
PROFESSIONAL ENGINEER

Print Date: 6/30/2024			
File Name: 11311-SIGNINGANDSTRIPING.DWG			
Horiz. Scale: 1"=30'	Vert. Scale: N/A		
Unit Information	Unit Leader Initials		

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Sheet Revisions

Date:	Comments	Init.

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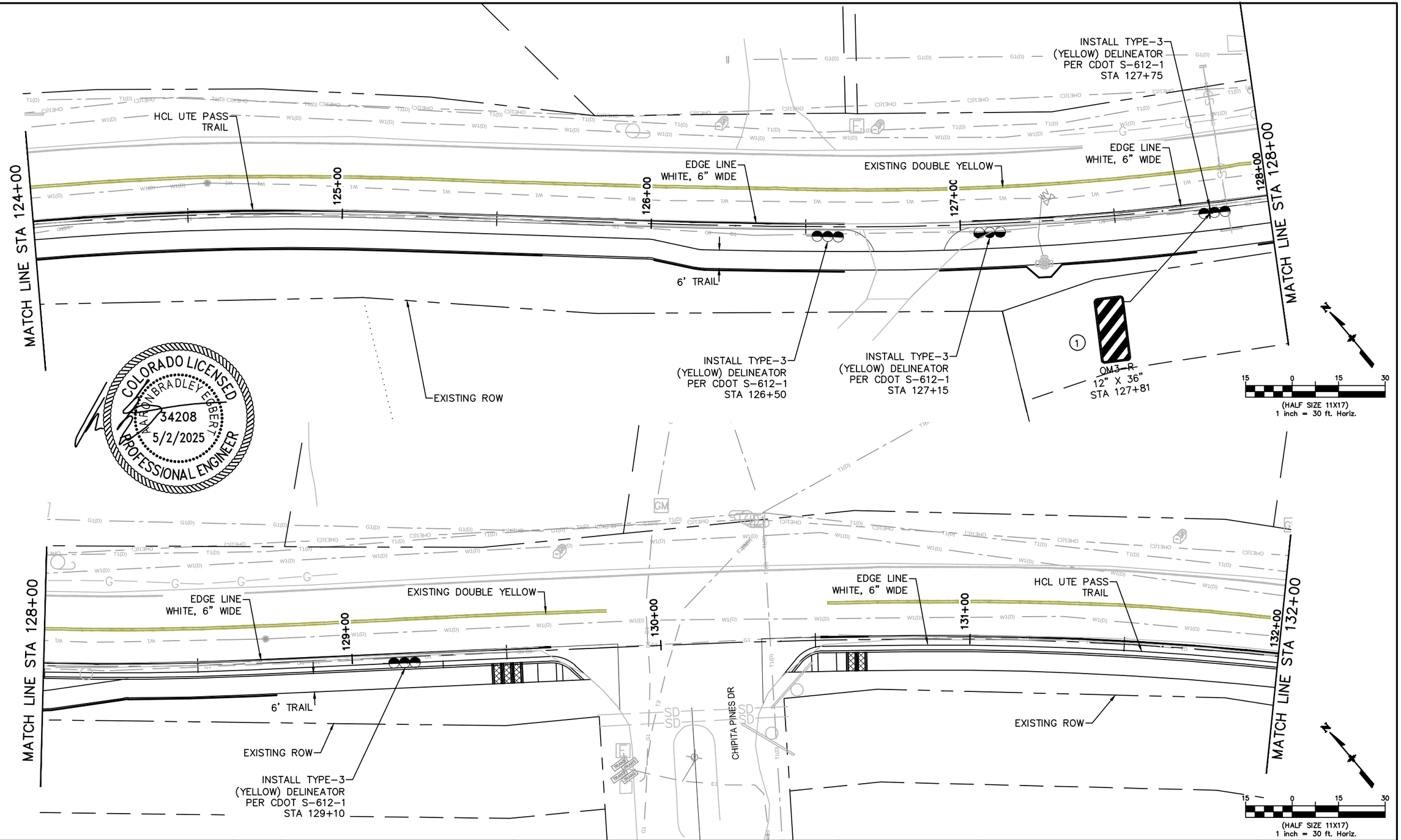
As Constructed

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Revised:
Void:

SIGNING AND STRIPING PLAN

Designer:	M WOLF	Structure Numbers	
Detailer:	D. ALDEN		
Sheet Subset:	SGN&STR	Subset Sheets:	3 of 11

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TAP C040-054	
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File Name: 11311-SIGNINGANDSTRIPING.DWG
Horiz. Scale: 1"=30' Vert. Scale: N/A
Unit Information Unit Leader Initials

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Sheet Revisions		
Date:	Comments	Init.

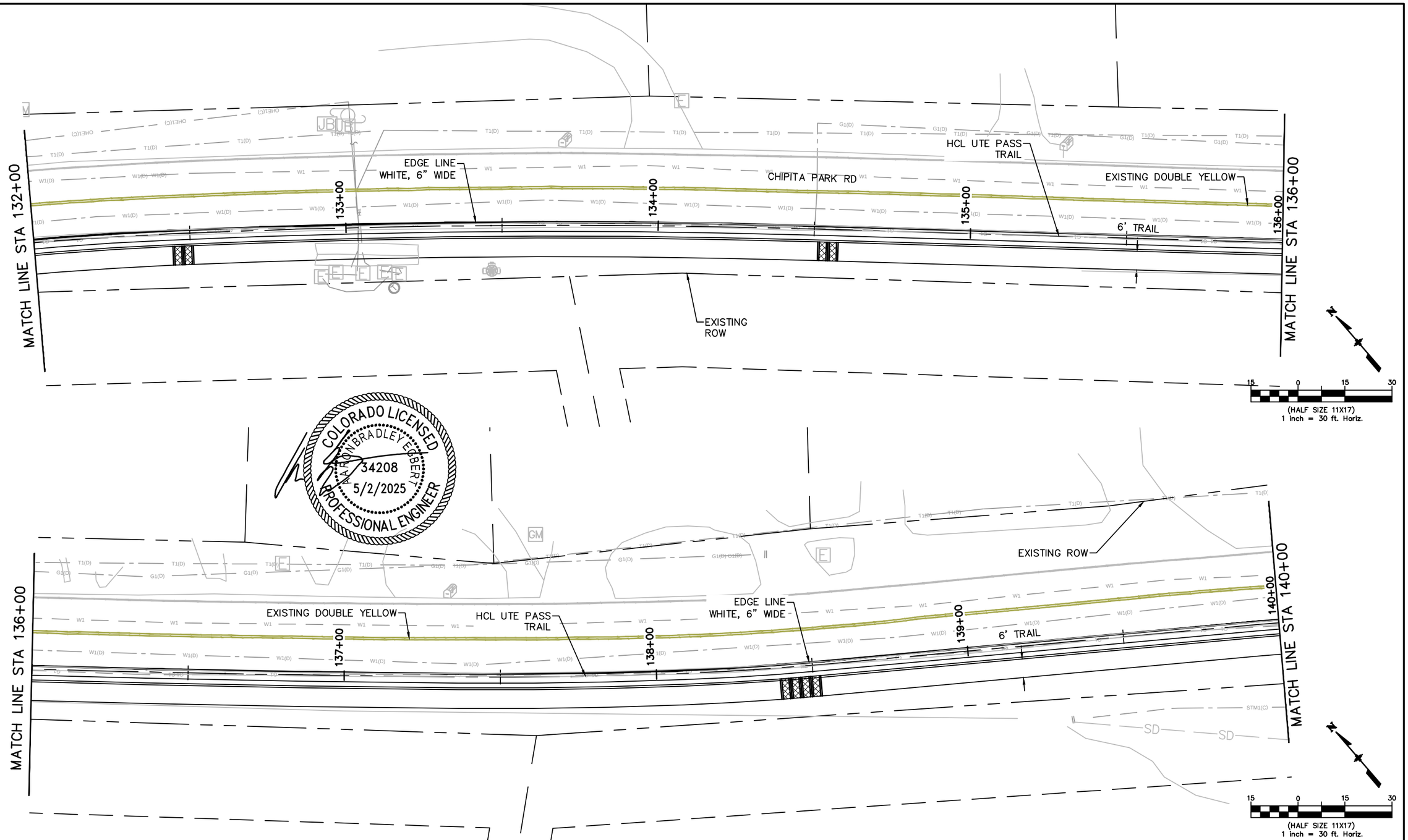
EL PASO COUNTY
COLORADO

As Constructed
No Revisions:
Revised:
Void:

SIGNING AND STRIPING PLAN

Designer: M WOLF
Detailer: D. ALDEN
Sheet Subset: SGN&STR
Structure Numbers:
Subset Sheets: 4 of 11

Project No./Code
TAP C040-054
22894
Sheet Number 118



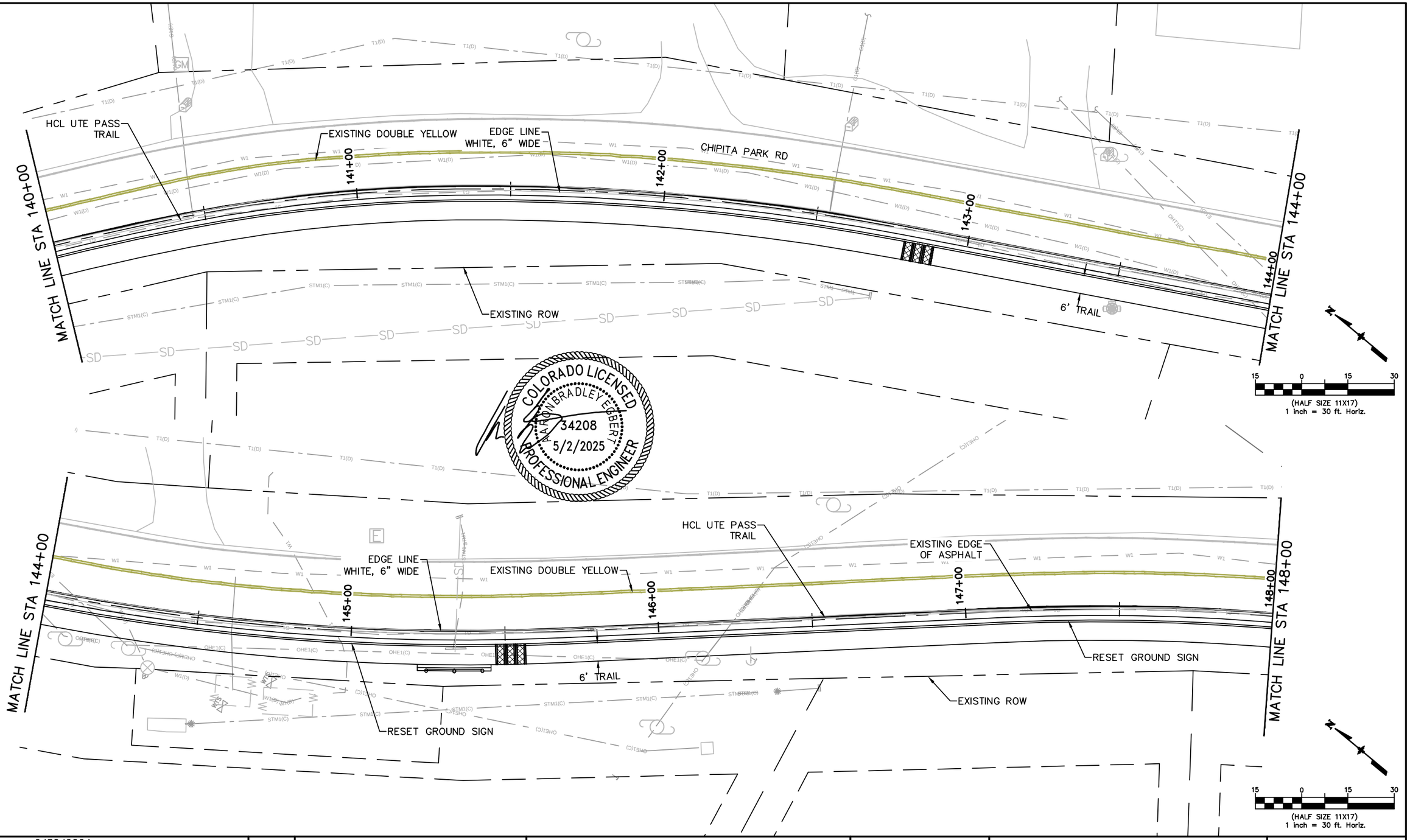
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Unit Information Unit Leader Initials			
Stantec 410 17TH STREET SUITE 1400 DENVER, COLORADO 80202 (303) 295-1717			

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As Constructed	SIGNING AND STRIPING PLAN		Project No./Code
No Revisions:			TAP C040-054
Revised:	Designer: M WOLF	Structure Numbers	22894
Void:	Detailer: D. ALDEN		Sheet Number 119
	Sheet Subset: SGN&STR	Subset Sheets: 5 of 11	



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Horiz. Scale: 1"=30'	Vert. Scale: N/A		
Unit Information	Unit Leader Initials		

Stantec
410 17TH STREET
SUITE 1400
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Sheet Revisions		
Date:	Comments	Init.

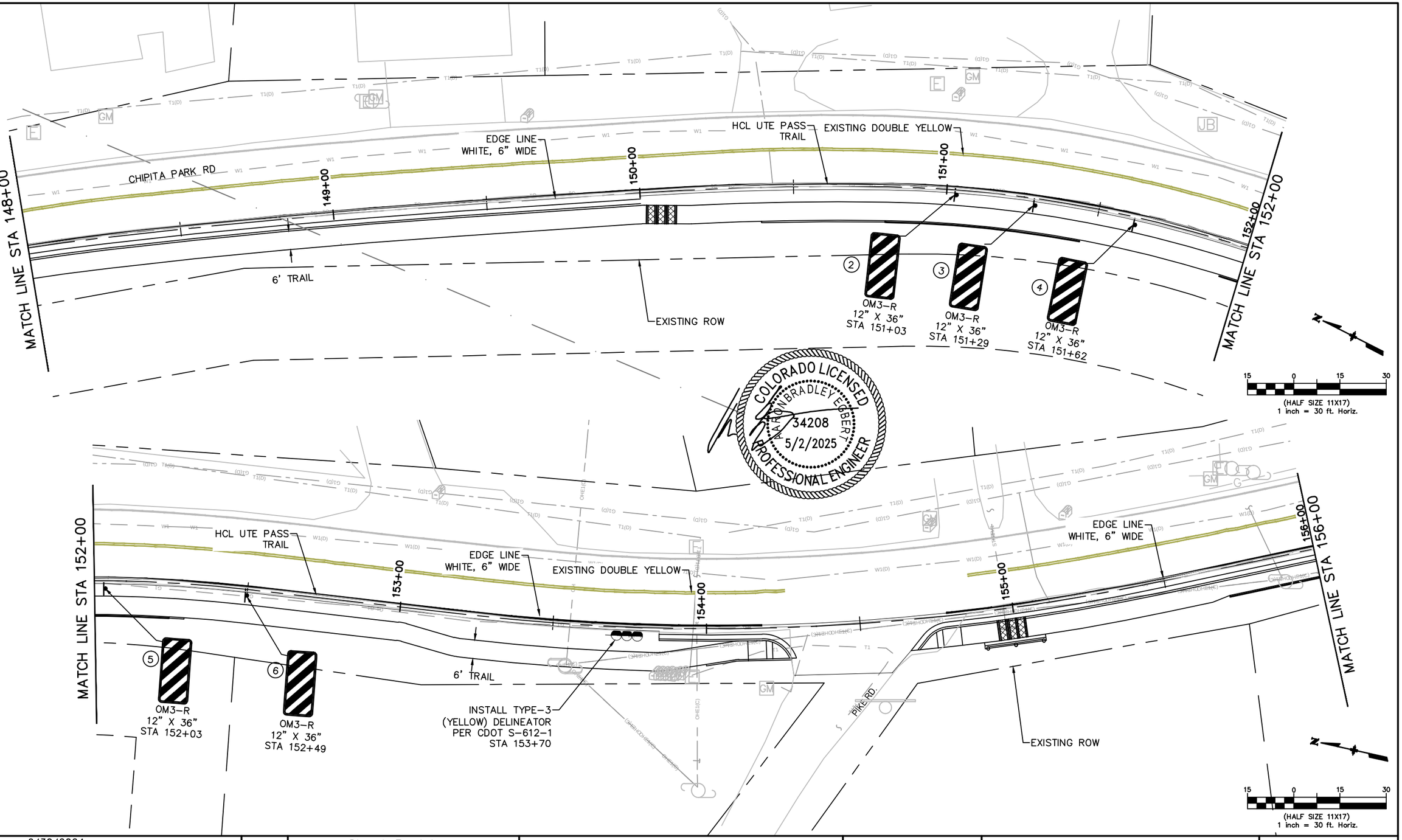
EL PASO COUNTY
COLORADO

As Constructed	
No Revisions:	
Revised:	
Void:	

SIGNING AND STRIPING PLAN

Designer:	M WOLF	Structure Numbers	
Detailer:	D. ALDEN		
Sheet Subset:	SGN&STR	Subset Sheets:	6 of 11

Project No./Code	
TAP CO40-054	
22894	
Sheet Number	120



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Print Date: 6/30/2024			
File Name: 11311-SIGNINGANDSTRIPING.DWG			
Horiz. Scale: 1"=30'	Vert. Scale: N/A		
Unit Information	Unit Leader Initials		

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Sheet Revisions		
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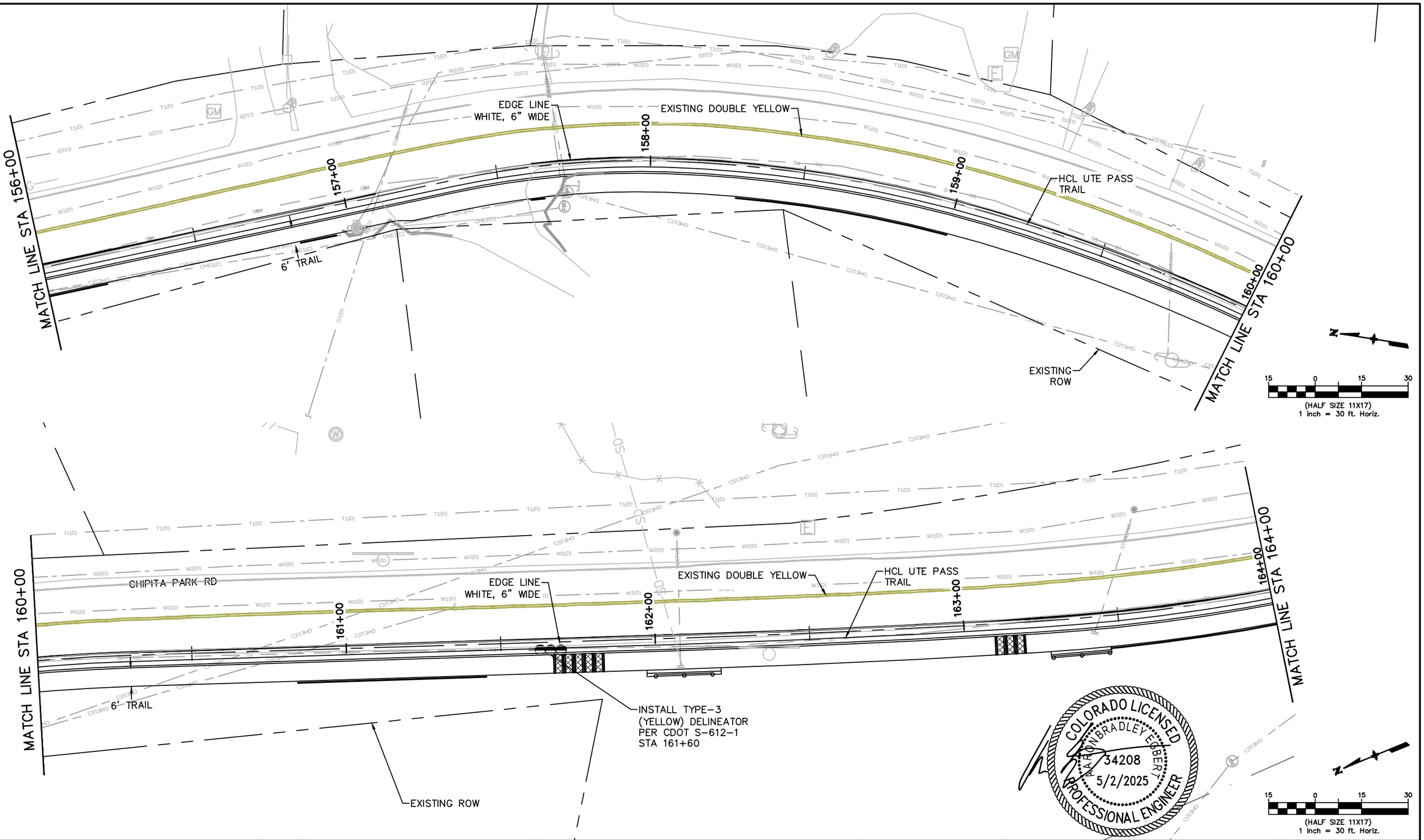
EL PASO COUNTY
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As Constructed	
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Revised:	
Void:	

SIGNING AND STRIPING PLAN

Designer:	M WOLF	Structure Numbers	
Detailer:	D. ALDEN		
Sheet Subset:	SGN&STR	Subset Sheets:	7 of 11

Project No./Code	
TAP C040-054	
22894	
Sheet Number	121



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Print Date: 6/30/2024			
File Name: 11311-SIGNINGANDSTRIPING.DWG			
Horiz. Scale: 1"=30'	Vert. Scale: N/A		
Unit Information	Unit Leader Initials		

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Sheet Revisions		
Date:	Comments	Init.

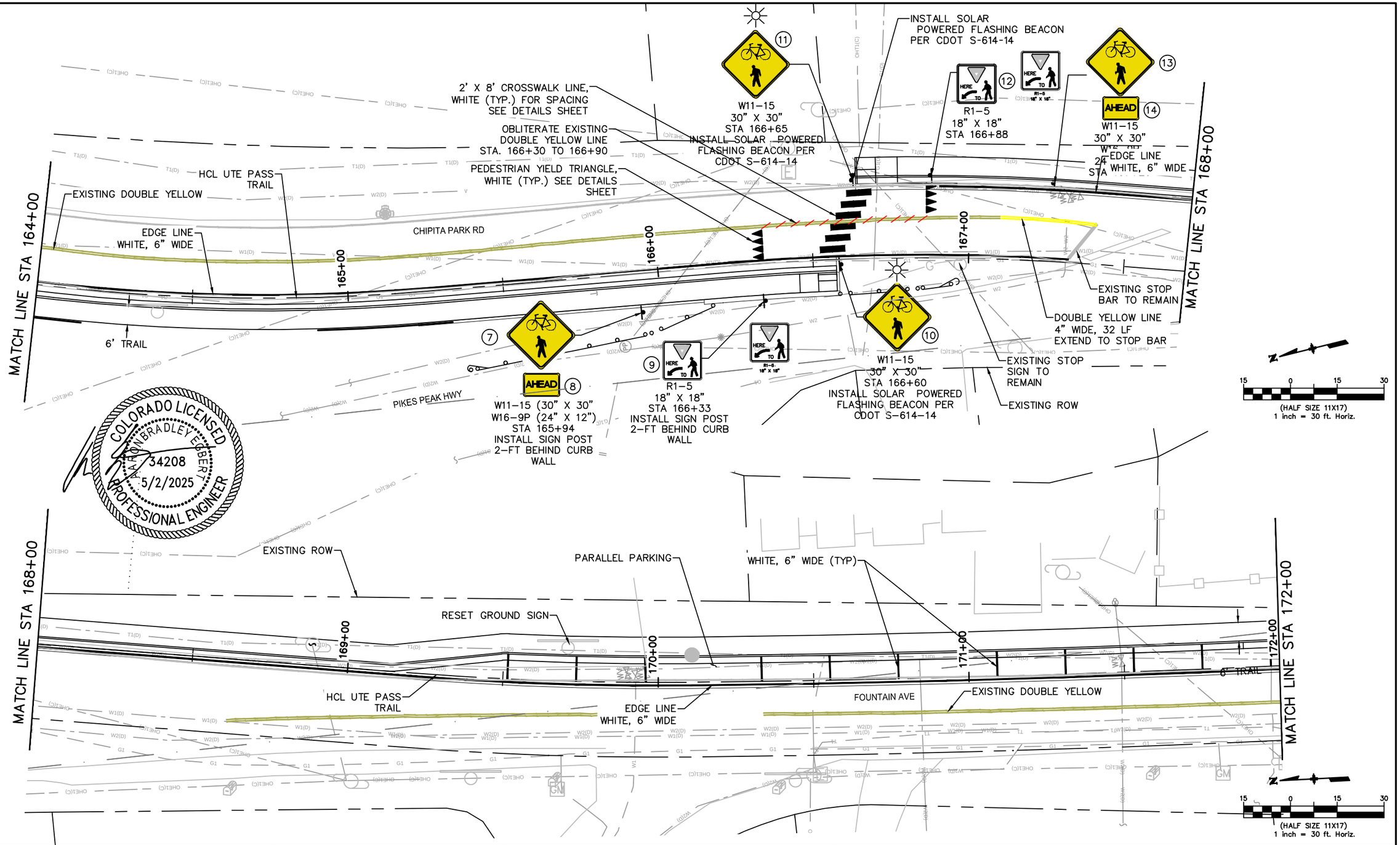
EL PASO COUNTY
COLORADO

As Constructed	
No Revisions:	
Revised:	
Void:	

SIGNING AND STRIPING PLAN

Designer:	M WOLF	Structure Numbers	
Detailer:	D. ALDEN		
Sheet Subset:	SGN&STR	Subset Sheets:	8 of 11

Project No./Code	
TAP C040-054	
22894	
Sheet Number	122



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Vert. Scale:	N/A
Unit Information	Unit Leader Initials

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Sheet Revisions

Date:	Comments	Init.

EL PASO COUNTY
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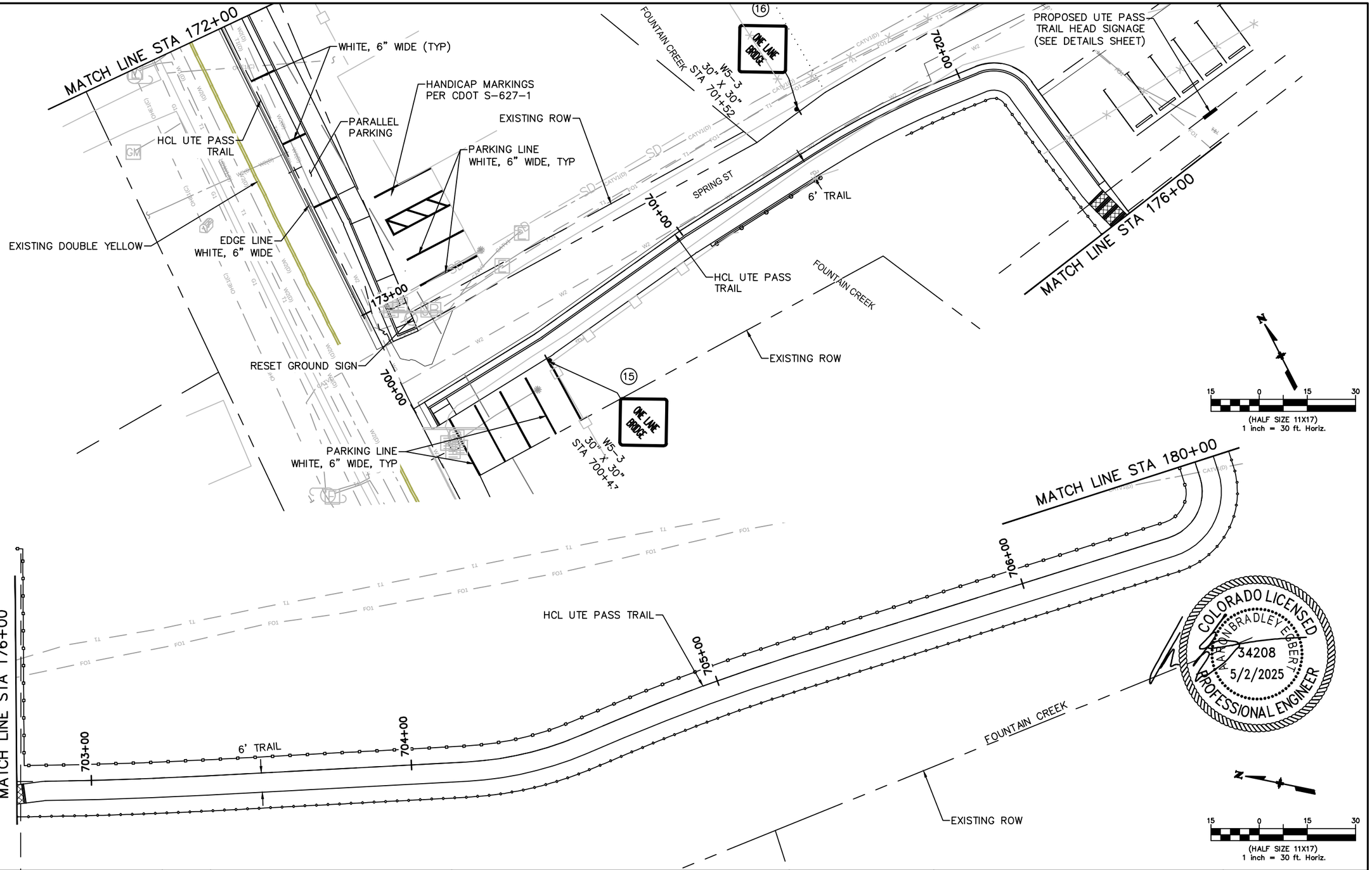
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SIGNING AND STRIPING PLAN

Designer:	M WOLF	Structure Numbers	
Detailer:	D. ALDEN		
Sheet Subset:	SGN&STR	Subset Sheets:	9 of 11

Project No./Code	TAP C040-054
	22894
Sheet Number	123



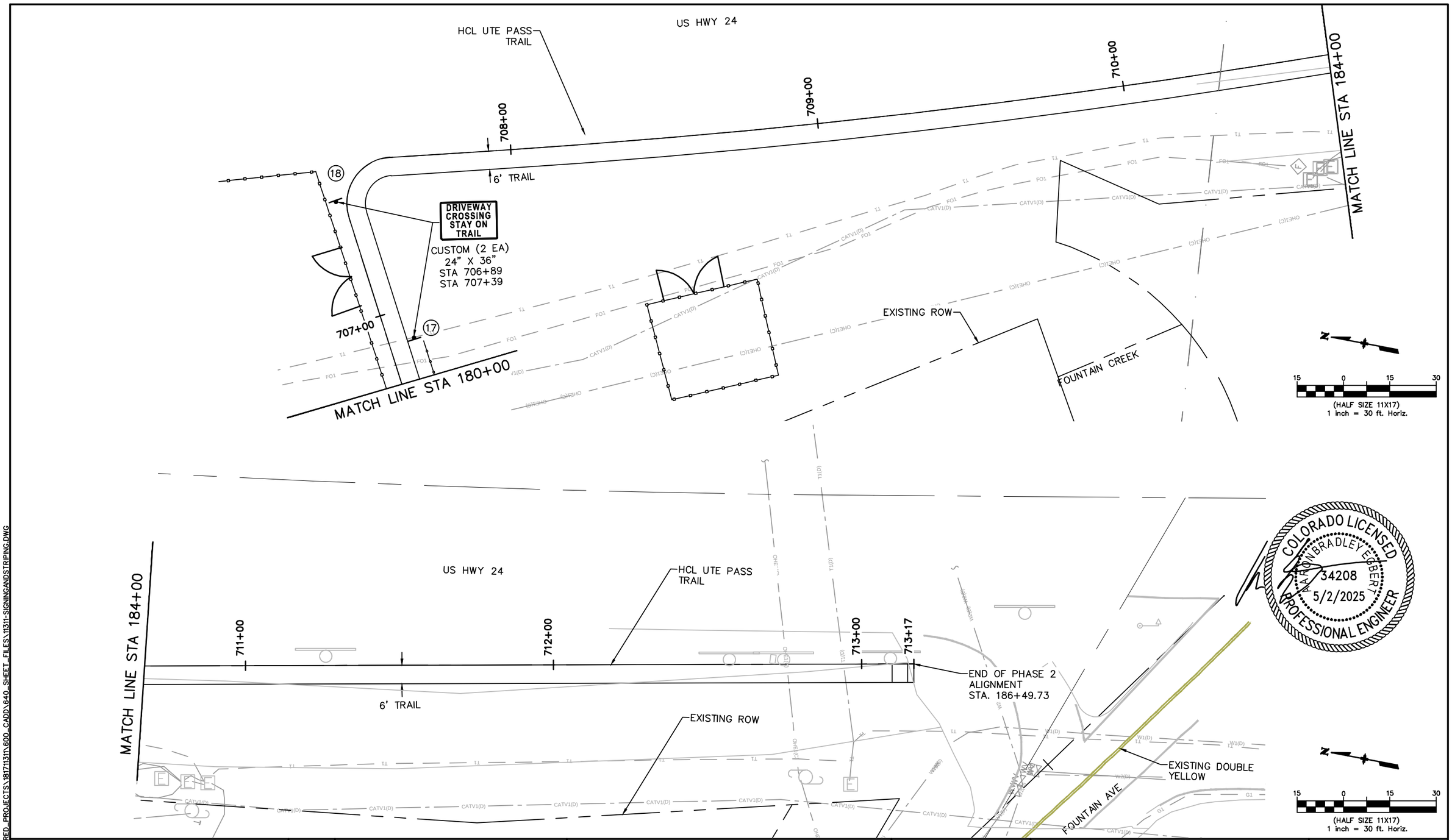
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Print Date: 6/30/2024	Sheet Revisions		
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Unit Information Unit Leader Initials			
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As Constructed	SIGNING AND STRIPING PLAN		Project No./Code
No Revisions:			TAP C040-054
Revised:	Designer: M WOLF	Structure Numbers	22894
Void:	Detailer: D. ALDEN		
	Sheet Subset: SGN&STR	Subset Sheets: 10 of 11	Sheet Number 124



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34208
5/2/2025
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Unit Information	Unit Leader Initials		

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Sheet Revisions

Date:	Comments	Init.

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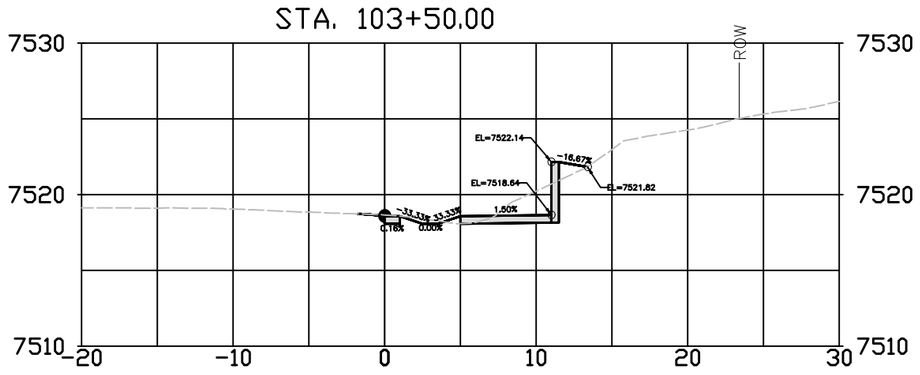
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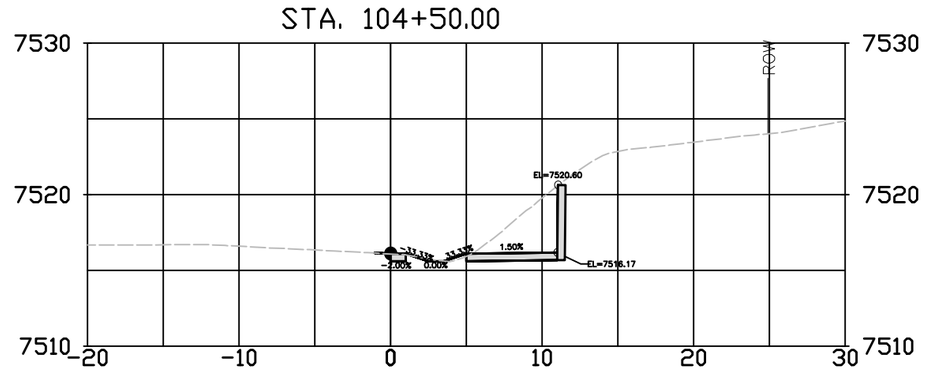
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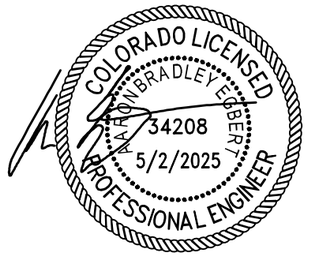
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Detailer:	D. ALDEN		
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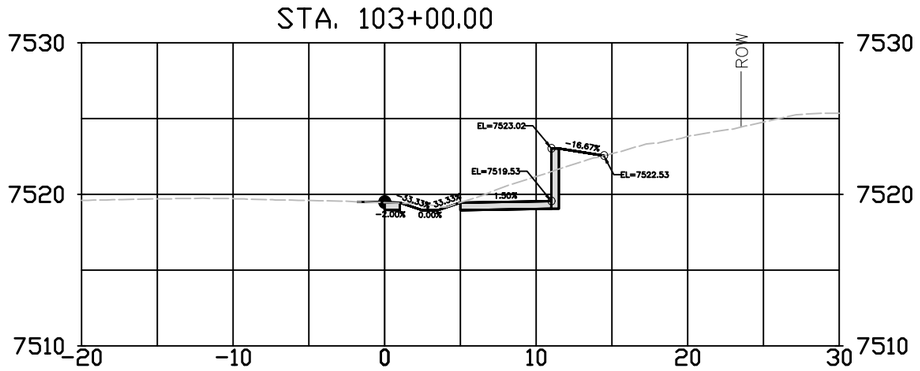
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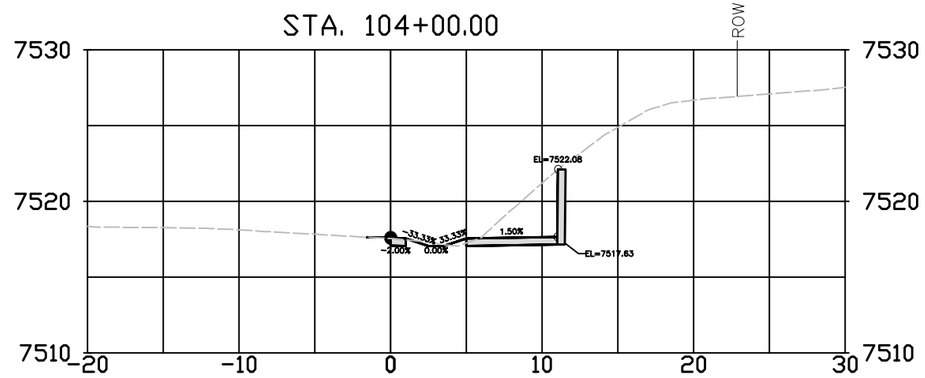
TAP C040-054	
22894	
Sheet Number	125













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File Name: 11311-XS-SHEETS.DWG			
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Unit Information	Unit Leader Initials		

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Sheet Revisions		
Date:	Comments	Init.

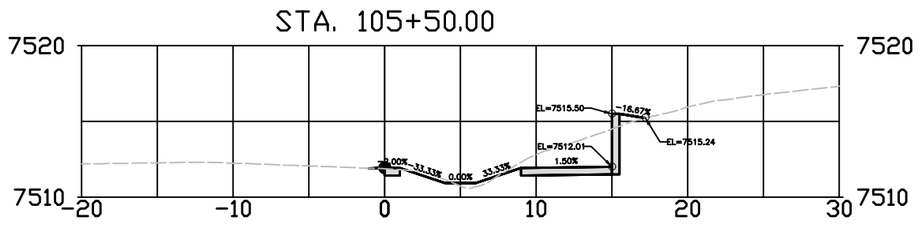
EL PASO COUNTY
COLORADO

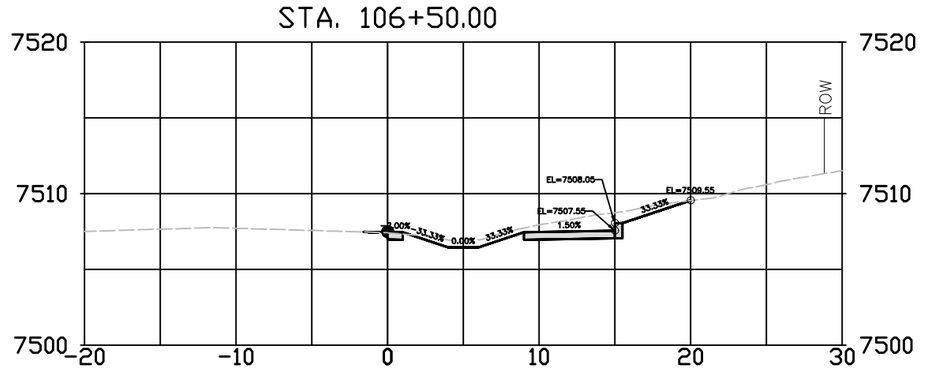
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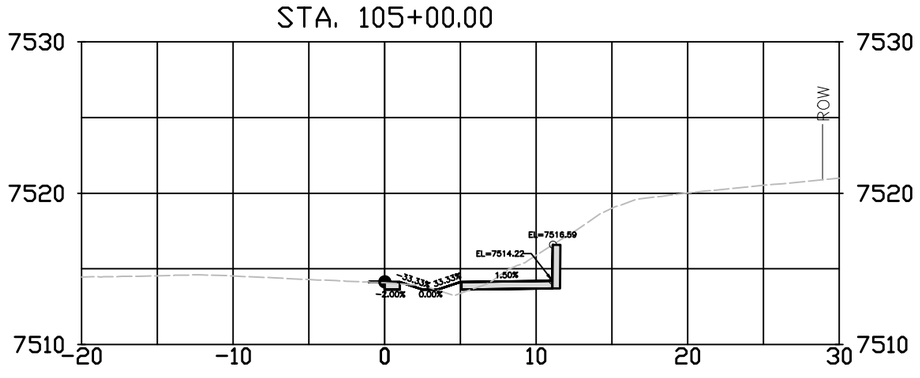
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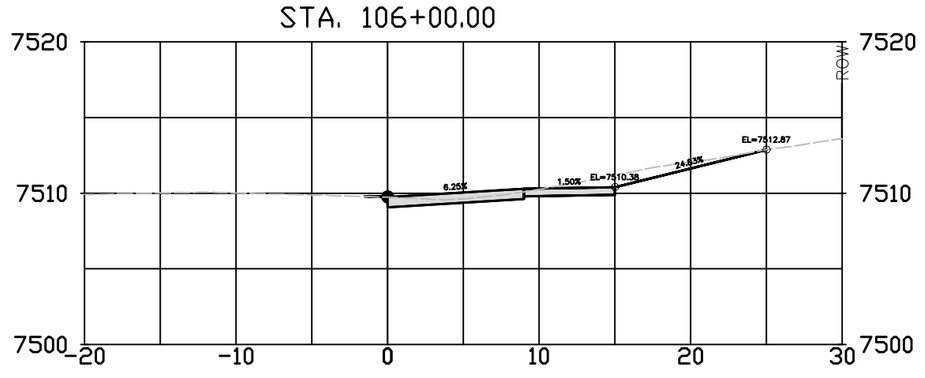
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Detailer:	D. ALDEN		
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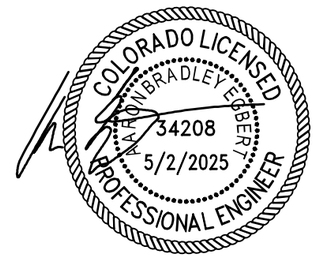
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TAP C040-054	
22894	
Sheet Number	126











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(HALF SIZE – 11X17)
HORIZONTAL 1 inch = 5' ft.
VERTICAL 1 inch = 5' ft.

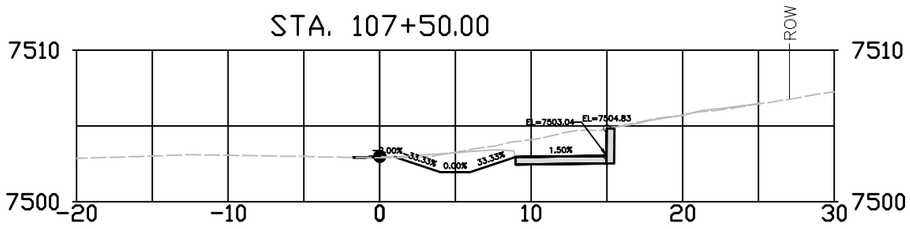
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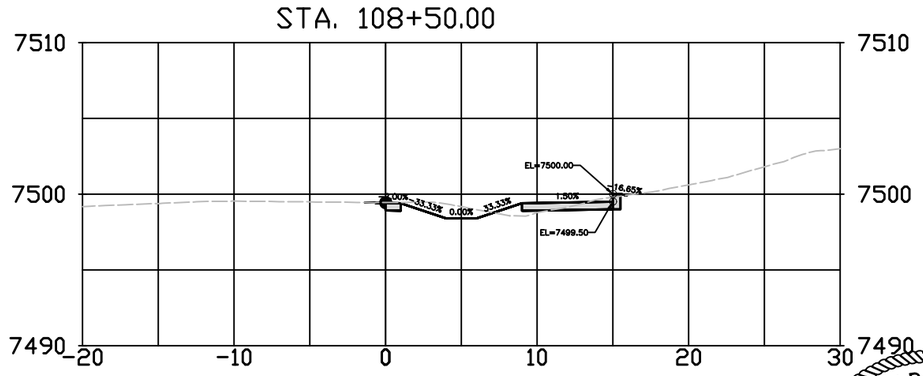
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Unit Information Unit Leader Initials			

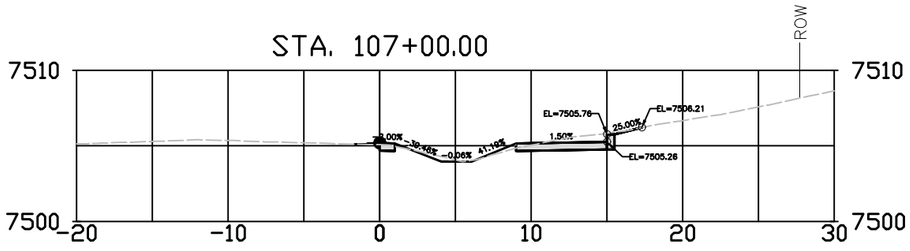
Stantec
410 17TH STREET
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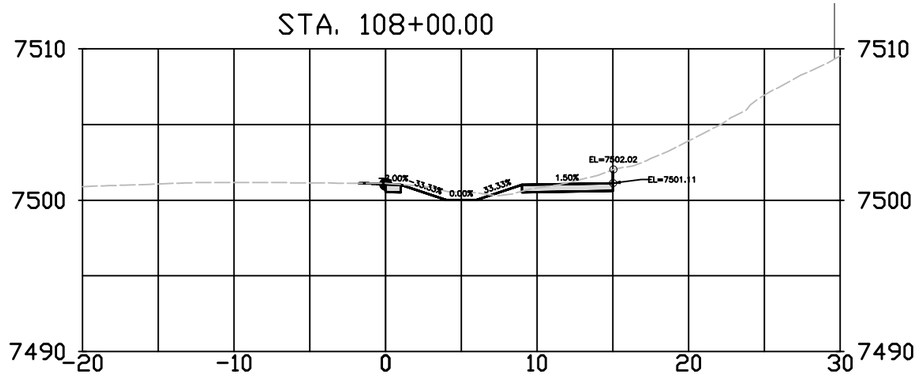
EL PASO COUNTY
COLORADO

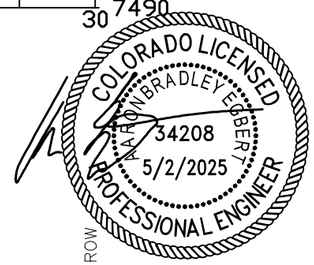
As Constructed	CROSS SECTIONS		Project No./Code
No Revisions:			TAP C040-054
Revised:	Designer: M WOLF	Structure Numbers	22894
Void:	Detailer: D. ALDEN		
	Sheet Subset: XSEC	Subset Sheets: 2 of 42	Sheet Number 127













(HALF SIZE – 11X17)
HORIZONTAL 1 inch = 5' ft.
VERTICAL 1 inch = 5' ft.

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Print Date: 6/28/2024
File Name: 11311-XS-SHEETS.DWG
Horiz. Scale: Vert. Scale:
Unit Information Unit Leader Initials

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Sheet Revisions

Date:	Comments	Init.

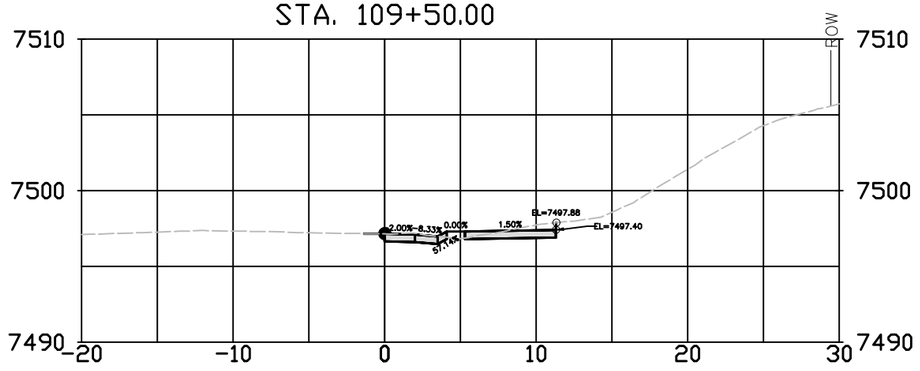
EL PASO COUNTY
COLORADO

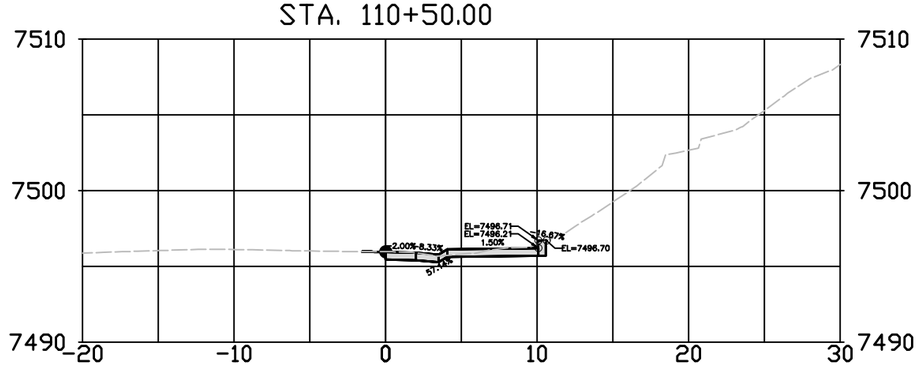
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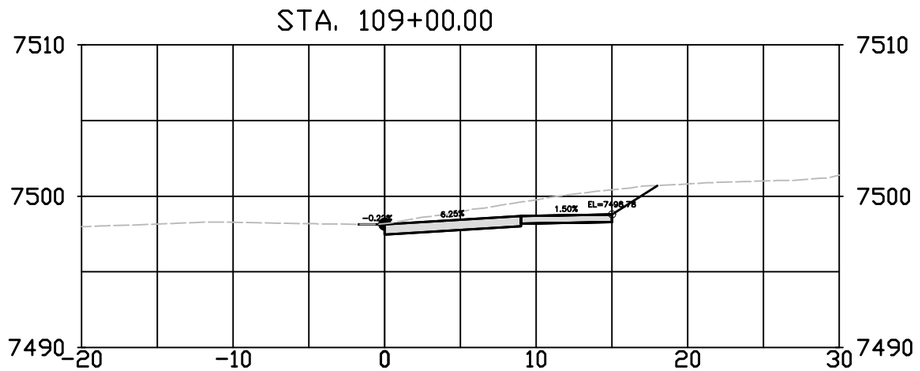
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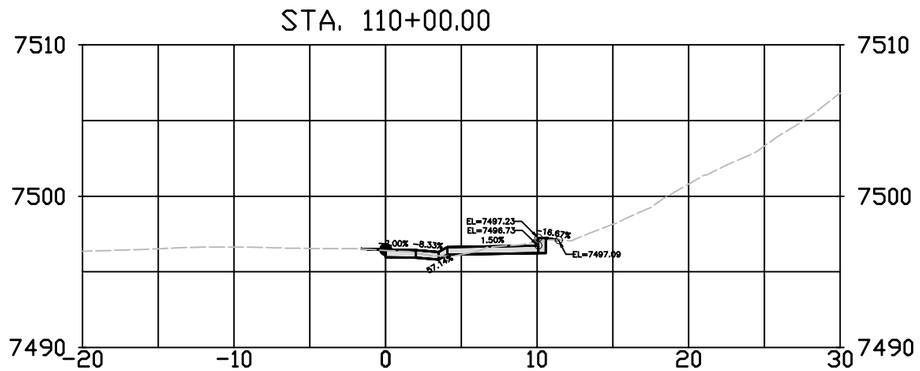
Designer: M WOLF
Detailer: D. ALDEN
Sheet Subset: XSEC
Structure Numbers:
Subset Sheets: 3 of 42

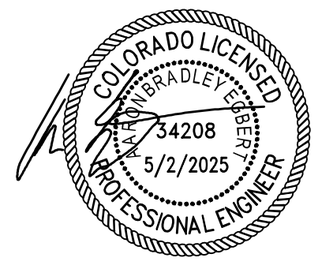
Project No./Code
TAP C040-054
22894
Sheet Number 128













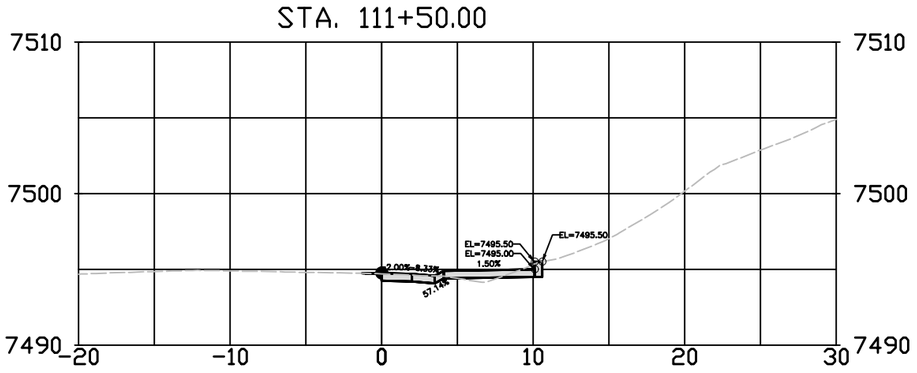
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HORIZONTAL 1 inch = 5' ft.
VERTICAL 1 inch = 5' ft.

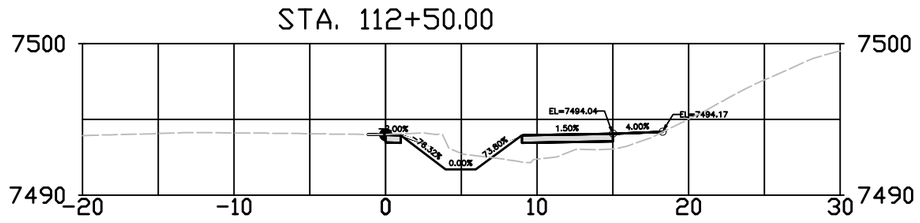
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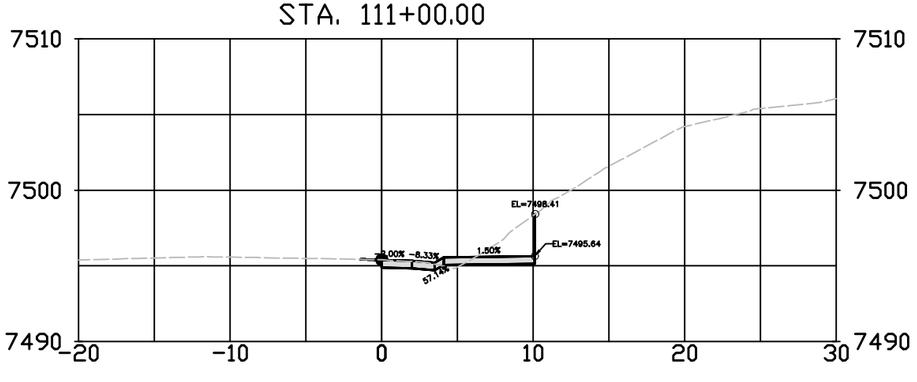
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Stantec 410 17TH STREET SUITE 1400 DENVER, COLORADO 80202 (303) 295-1717			

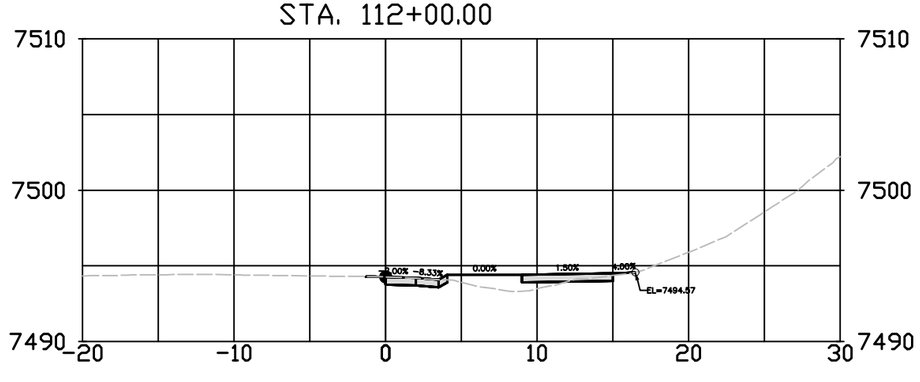
EL PASO COUNTY
COLORADO

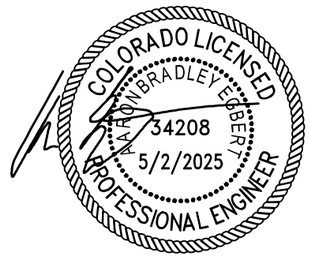
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Revised:	Designer: M WOLF	Structure Numbers	22894
Void:	Detailer: D. ALDEN		
	Sheet Subset: XSEC	Subset Sheets: 4 of 42	Sheet Number 129











5 0 5 10

(HALF SIZE – 11X17)
HORIZONTAL 1 inch = 5' ft.
VERTICAL 1 inch = 5' ft.

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Print Date: 6/28/2024
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Stantec
410 17TH STREET
SUITE 1400
DENVER, COLORADO 80202
(303) 295-1717

Sheet Revisions		
Date:	Comments	Init.

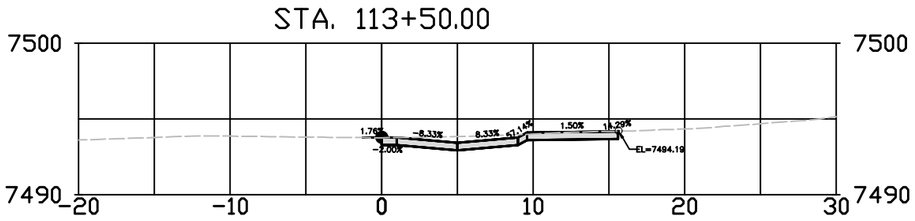
EL PASO COUNTY
COLORADO

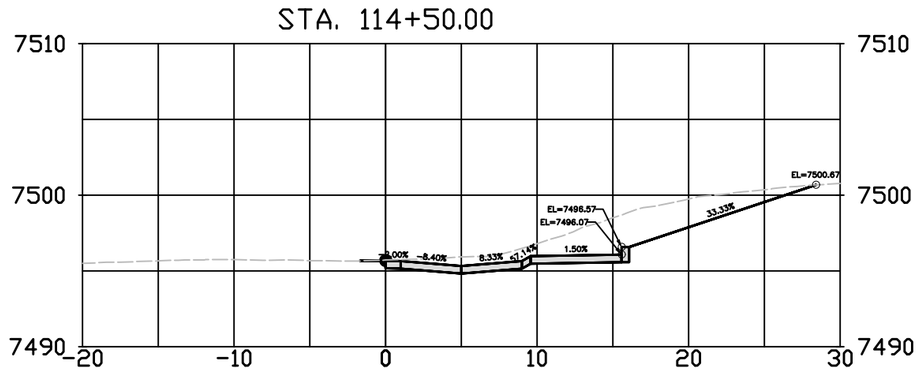
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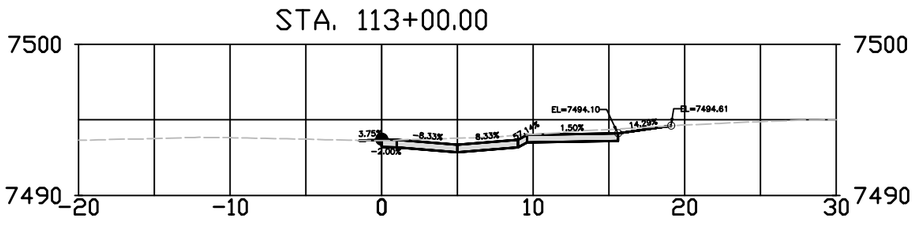
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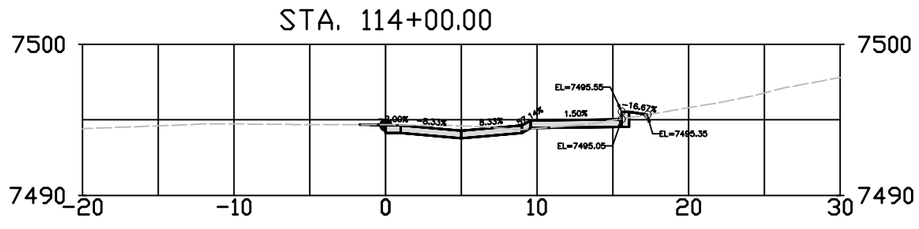
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Detailer: D. ALDEN
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Structure Numbers:
Subset Sheets: 5 of 42

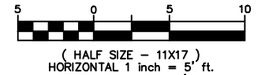
Project No./Code
TAP C040-054
22894
Sheet Number 130



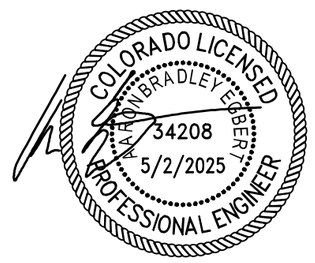






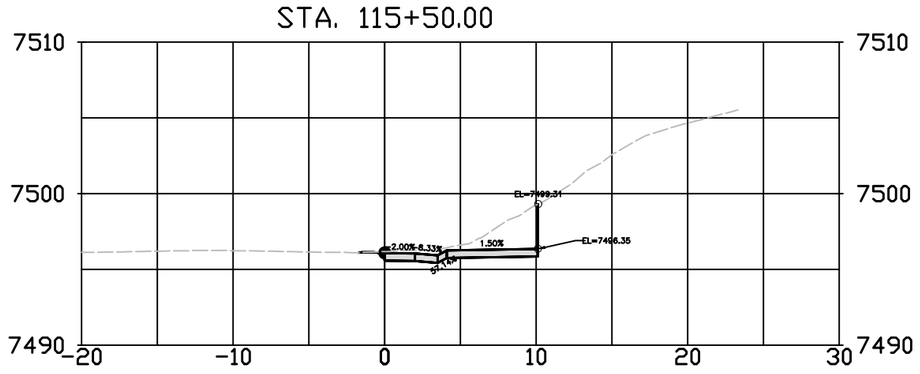


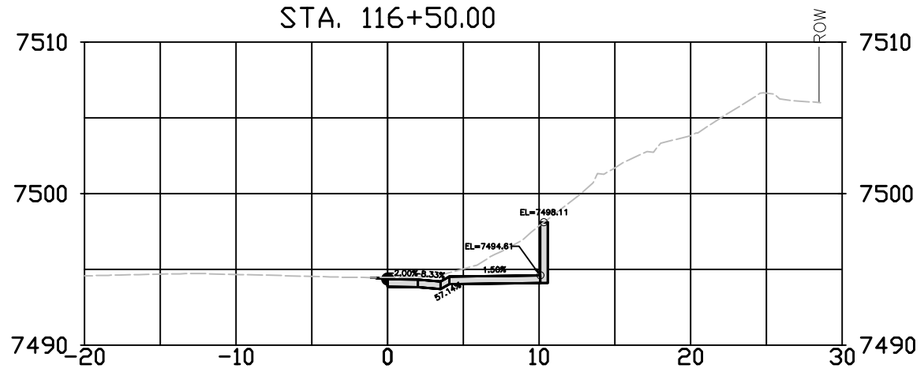
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HORIZONTAL 1 inch = 5' ft.
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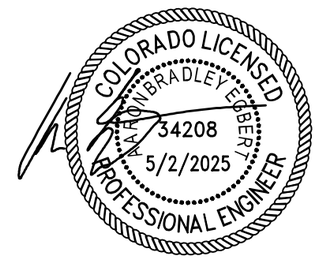


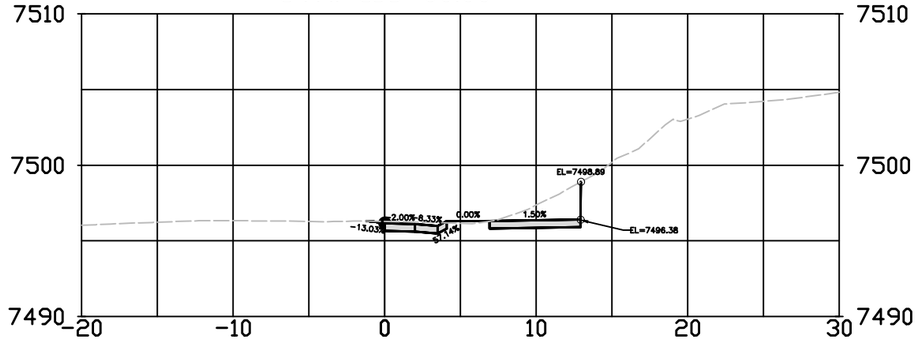
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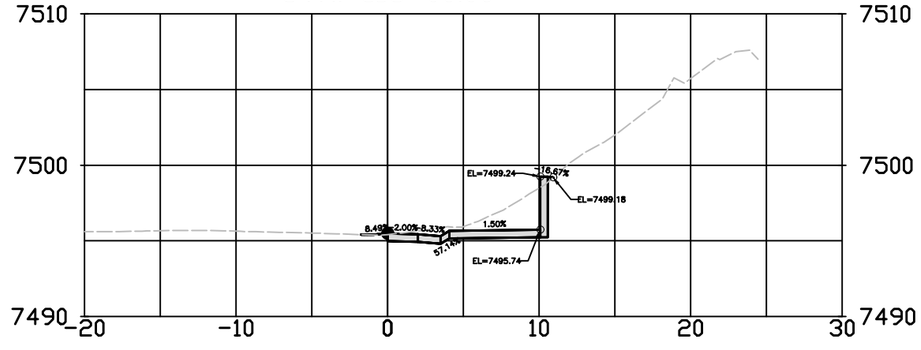
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Horiz. Scale: Vert. Scale:						Revised:	Designer: M WOLF	Structure Numbers	22894
Unit Information Unit Leader Initials							Detailer: D. ALDEN		
Stantec 410 17TH STREET SUITE 1400 DENVER, COLORADO 80202 (303) 295-1717						Void:	Sheet Subset: XSEC	Subset Sheets: 6 of 42	Sheet Number 131













(HALF SIZE – 11X17)
HORIZONTAL 1 inch = 5' ft.
VERTICAL 1 inch = 5' ft.

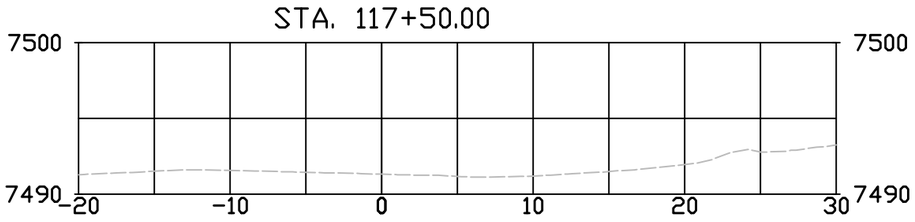
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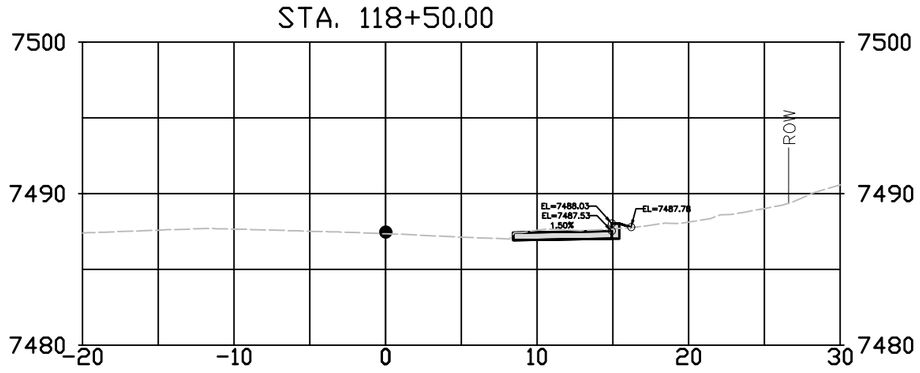
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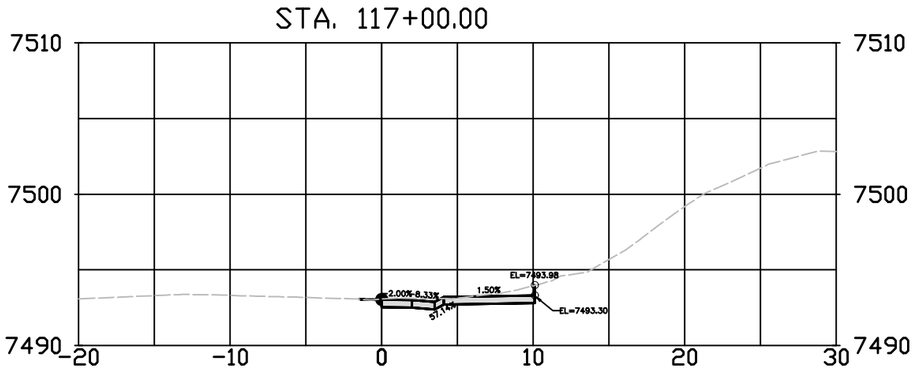
EL PASO COUNTY
COLORADO

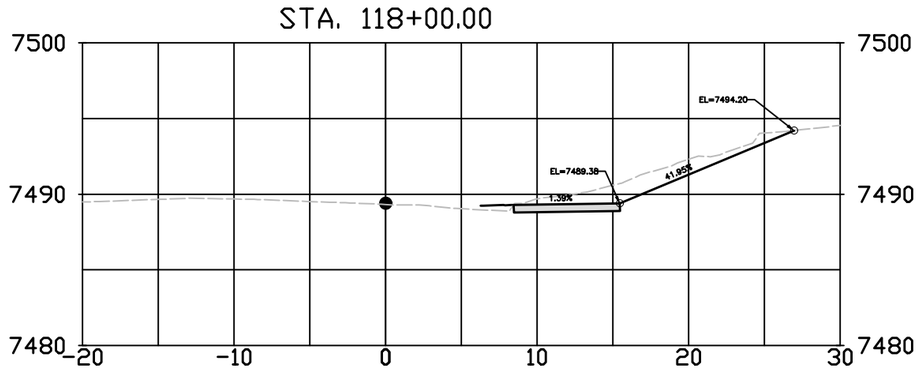
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Designer: M WOLF	Structure Numbers		Project No./Code: TAP C040-054
Detailer: D. ALDEN			22894
Sheet Subset: XSEC	Subset Sheets: 7 of 42		Sheet Number 132









COLORADO LICENSED
ALEXANDER BRADLEY EBERT
34208
5/2/2025
PROFESSIONAL ENGINEER

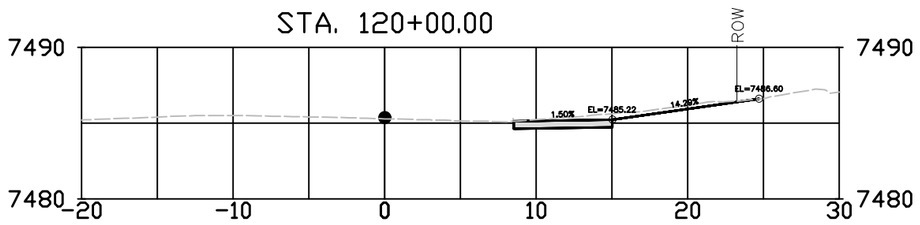
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HORIZONTAL 1 inch = 5' ft.
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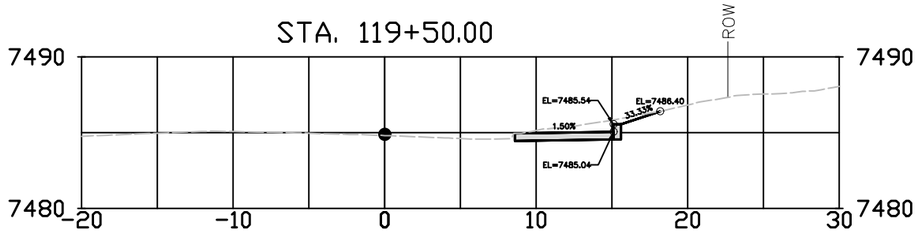
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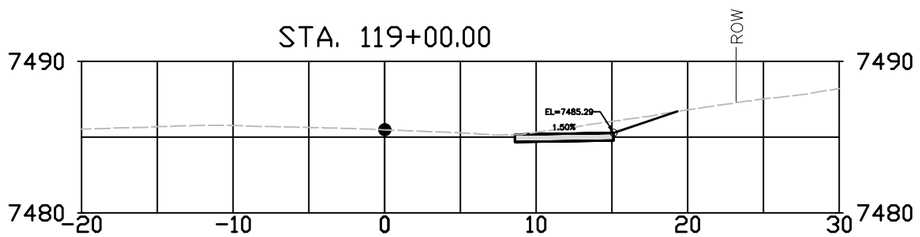
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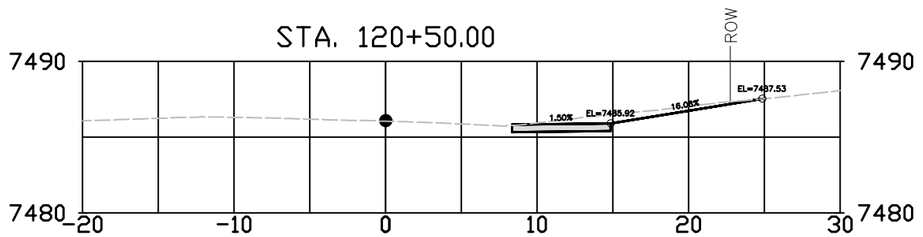
EL PASO COUNTY
COLORADO

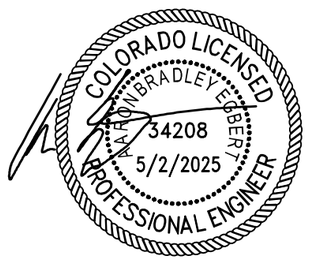
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No Revisions:			TAP C040-054
Revised:	Designer: M WOLF	Structure Numbers	22894
Void:	Detailer: D. ALDEN		
	Sheet Subset: XSEC	Subset Sheets: 8 of 42	Sheet Number 133











5 0 5 10

(HALF SIZE – 11X17)
HORIZONTAL 1 inch = 5' ft.
VERTICAL 1 inch = 5' ft.

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Unit Information Unit Leader Initials

Stantec
410 17TH STREET
SUITE 1400
DENVER, COLORADO 80202
(303) 295-1717

Sheet Revisions		
Date:	Comments	Init.

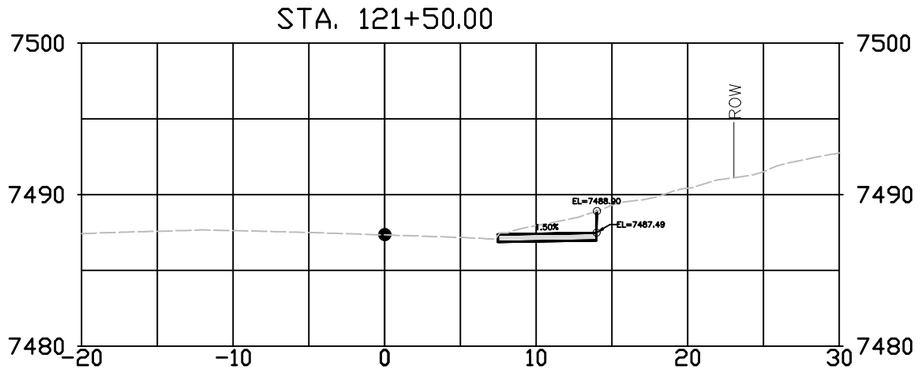
EL PASO COUNTY
COLORADO

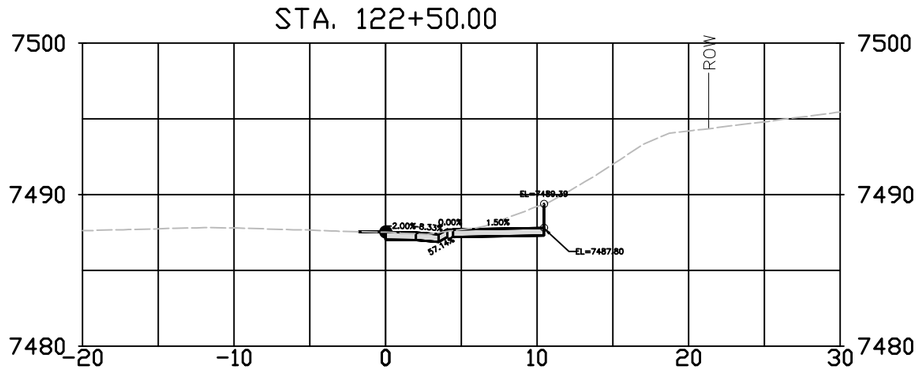
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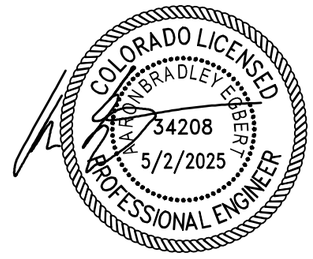
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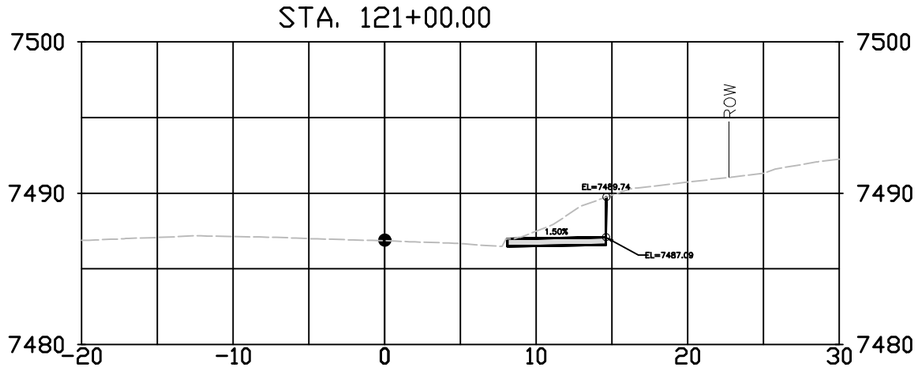
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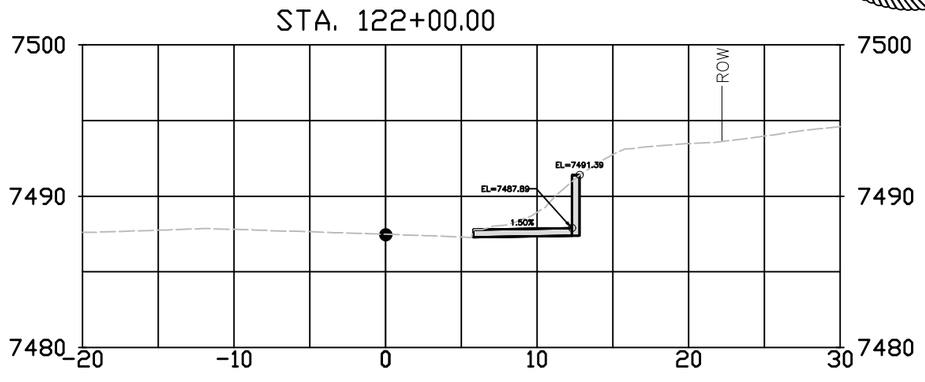
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TAP C040-054
22894
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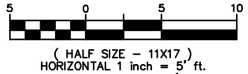












(HALF SIZE – 11X17)
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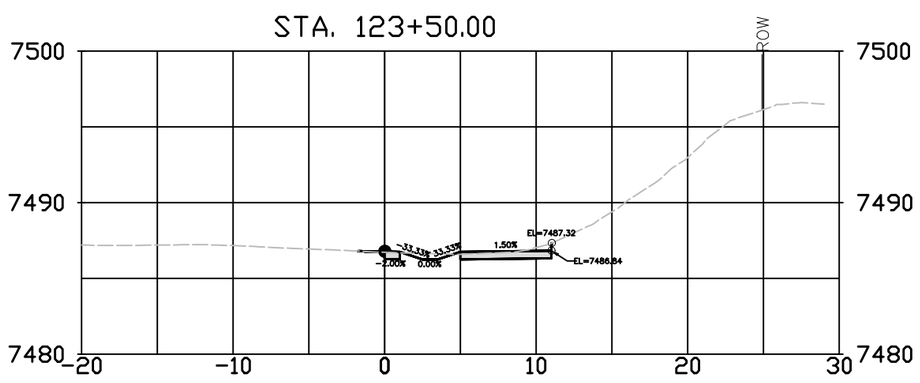
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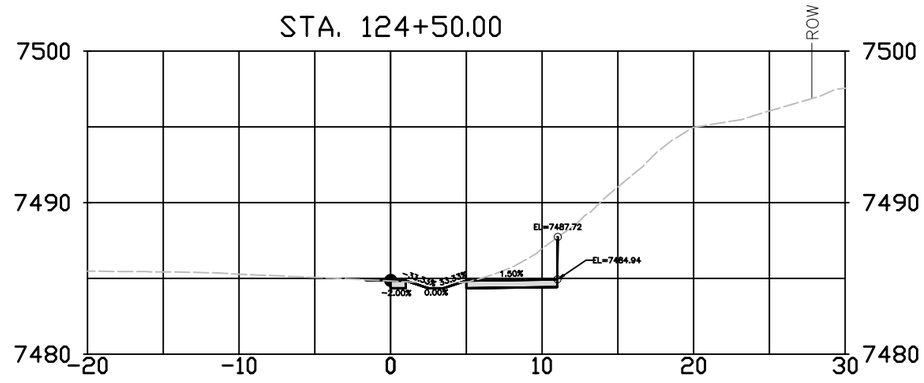
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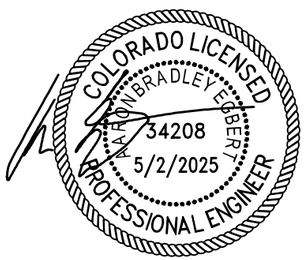
EL PASO COUNTY
COLORADO

CROSS SECTIONS

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Detailer: D. ALDEN			TAP C040-054
Sheet Subset: XSEC	Subset Sheets: 10 of 42		22894
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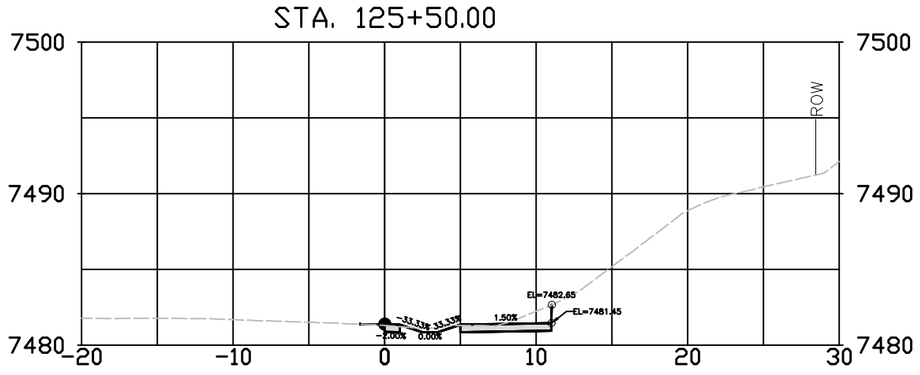
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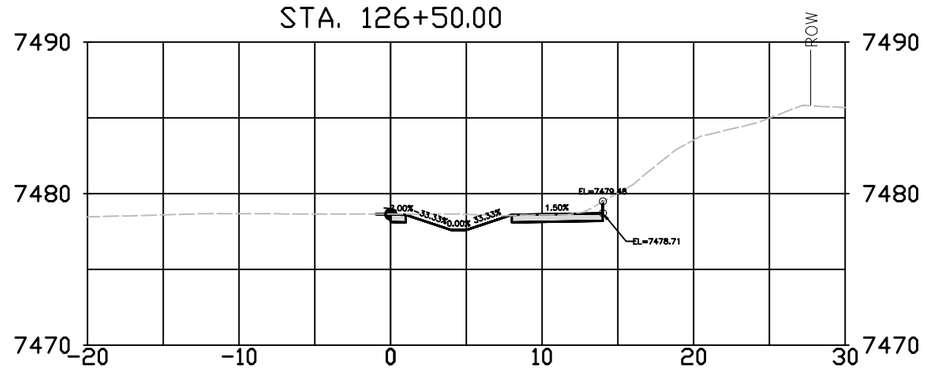
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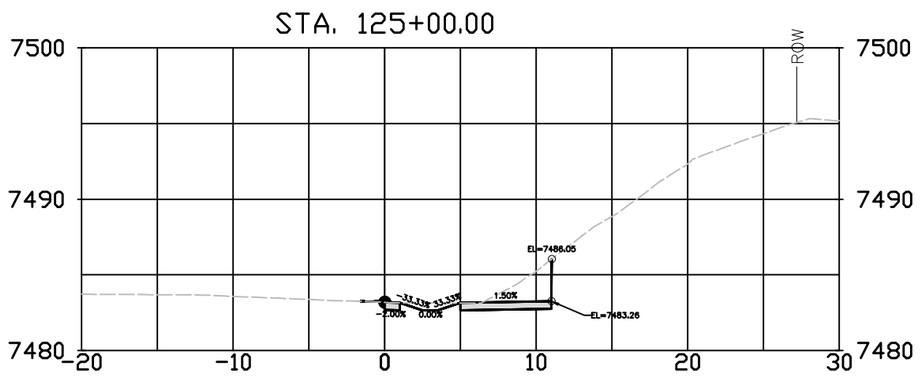
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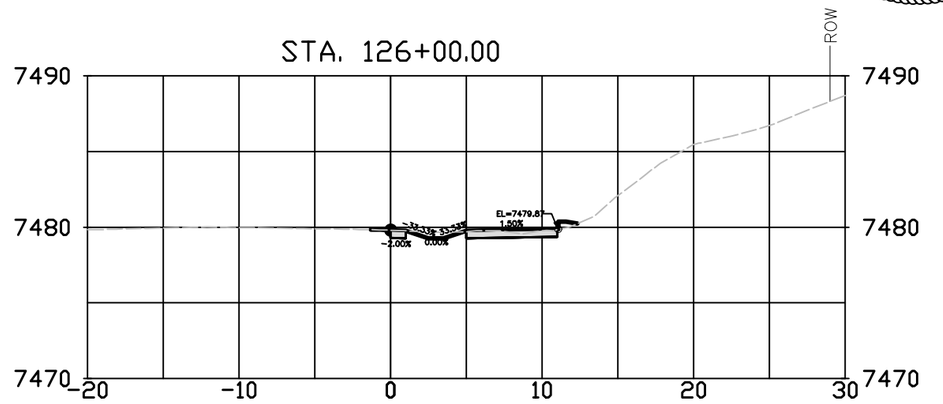
EL PASO COUNTY
COLORADO

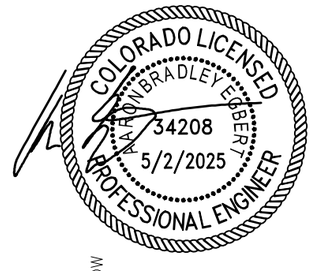
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Revised:	Designer: M WOLF	Structure Numbers	22894
Void:	Detailer: D. ALDEN		Sheet Number 136
	Sheet Subset: XSEC	Subset Sheets: 11 of 42	











5 0 5 10

(HALF SIZE – 11X17)
HORIZONTAL 1 inch = 5' ft.
VERTICAL 1 inch = 5' ft.

\\US0387-PPFSS03\SHARED_PROJECTS\18171131\1-600_CADD\640_SHEET_FILES\11311-XS-SHEETS.DWG

Print Date: 6/28/2024
File Name: 11311-XS-SHEETS.DWG
Horiz. Scale: Vert. Scale:
Unit Information Unit Leader Initials

Stantec
410 17TH STREET
SUITE 1400
DENVER, COLORADO 80202
(303) 295-1717

Sheet Revisions		
Date:	Comments	Init.

EL PASO COUNTY
COLORADO

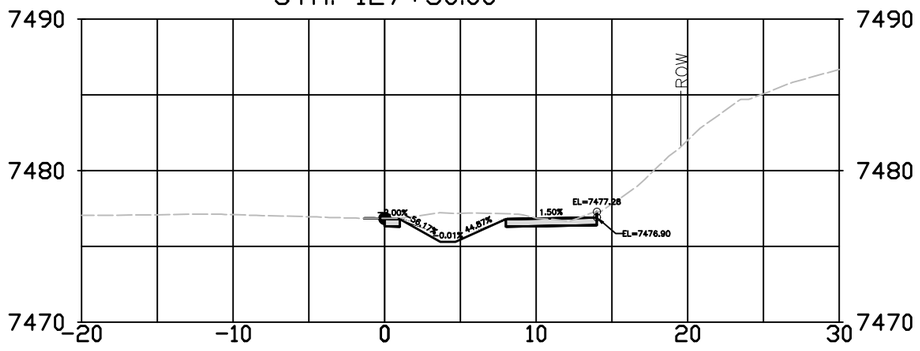
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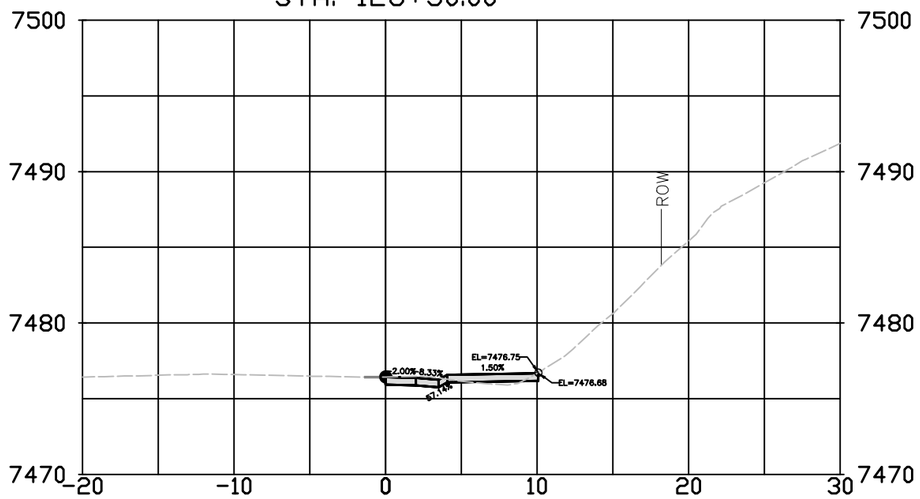
Designer: M WOLF
Detailer: D. ALDEN
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Structure Numbers:
Subset Sheets: 12 of 42

Project No./Code
TAP CO40-054
22894
Sheet Number 137

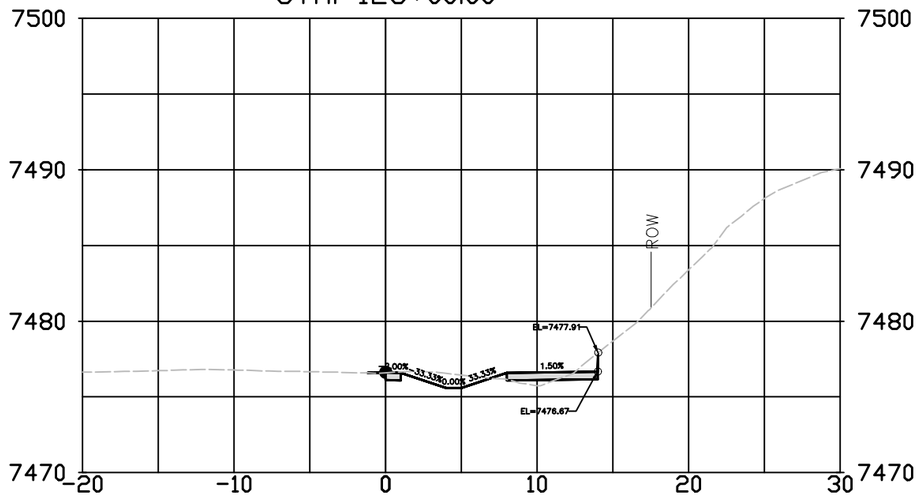
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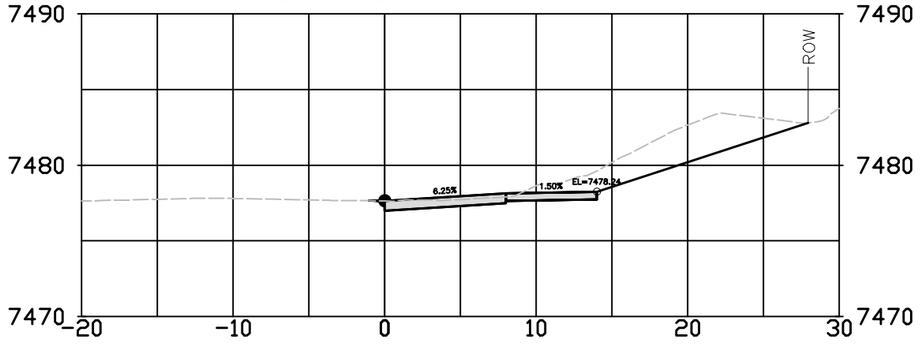
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STA. 128+00.00



STA. 127+00.00



5 0 5 10

(HALF SIZE – 11X17)
HORIZONTAL 1 inch = 5' ft.
VERTICAL 1 inch = 5' ft.

COLORADO LICENSED
AARON BRADLEY EGBERT
34208
5/2/2025
PROFESSIONAL ENGINEER

\\US0387-PPFSS03\SHARED_PROJECTS\181711311\600_CADD\640_SHEET_FILES\11311-XS-SHEETS.DWG

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410 17TH STREET
SUITE 1400
DENVER, COLORADO 80202
(303) 295-1717

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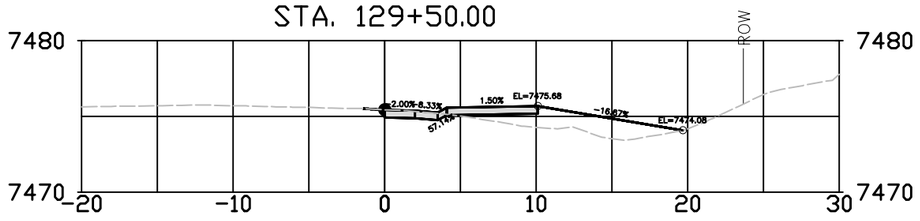
EL PASO COUNTY
COLORADO

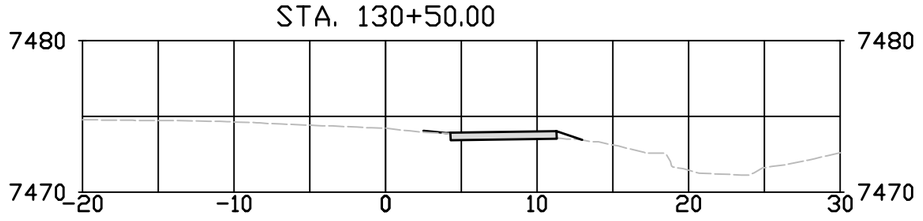
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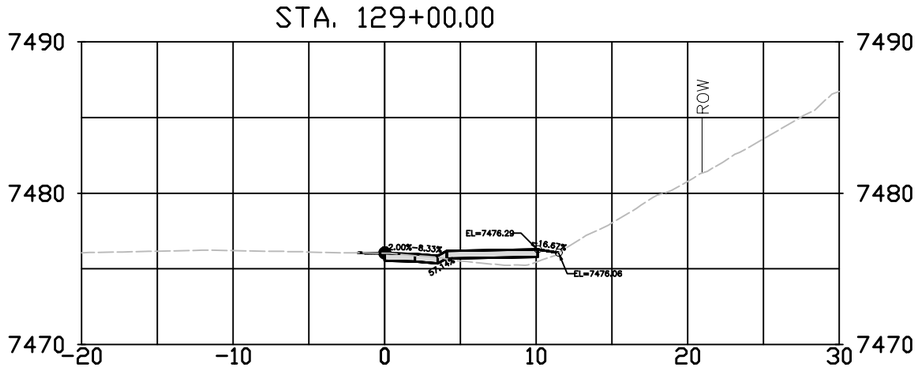
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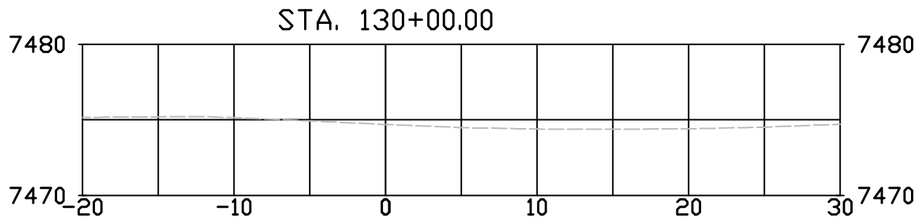
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Detailer: D. ALDEN
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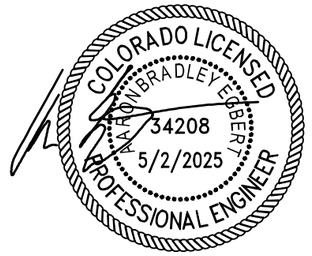
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TAP C040-054
22894
Sheet Number 138













(HALF SIZE – 11X17)
HORIZONTAL 1 inch = 5' ft.
VERTICAL 1 inch = 5' ft.

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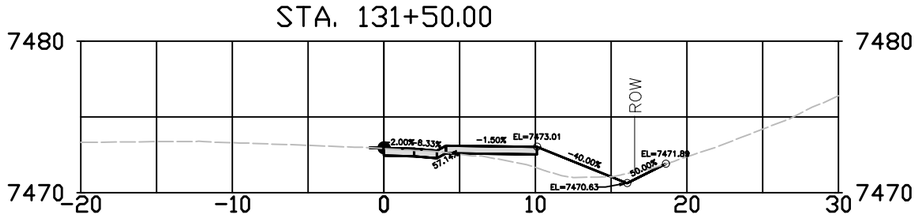
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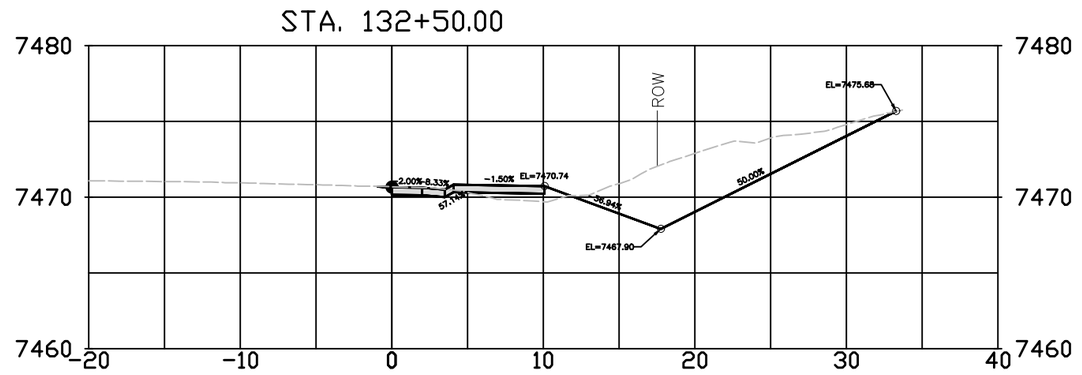
Stantec
410 17TH STREET
SUITE 1400
DENVER, COLORADO 80202
(303) 295-1717

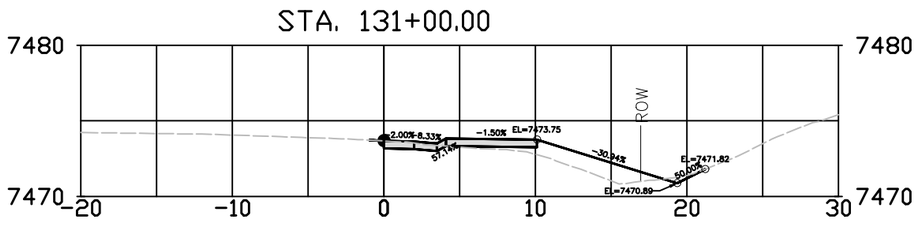
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COLORADO

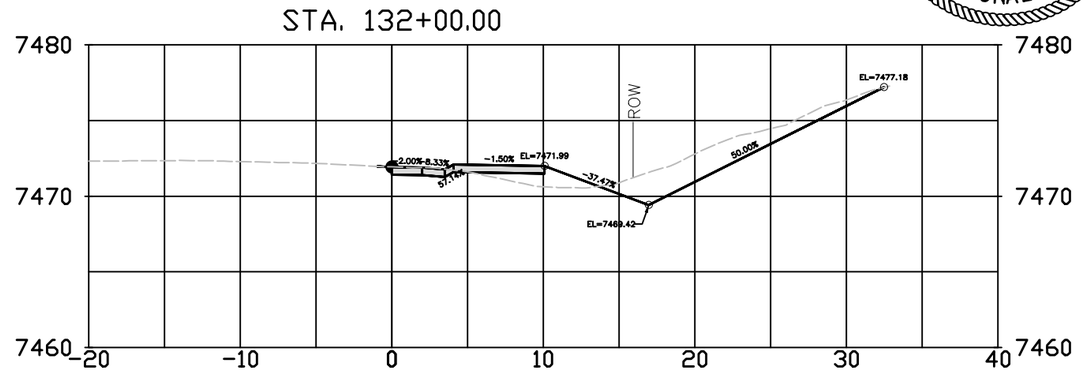
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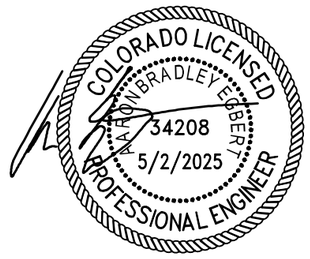
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Detailer: D. ALDEN
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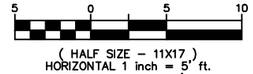












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Print Date: 6/28/2024
File Name: 11311-XS-SHEETS.DWG
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DENVER, COLORADO 80202
(303) 295-1717

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Date:	Comments	Init.

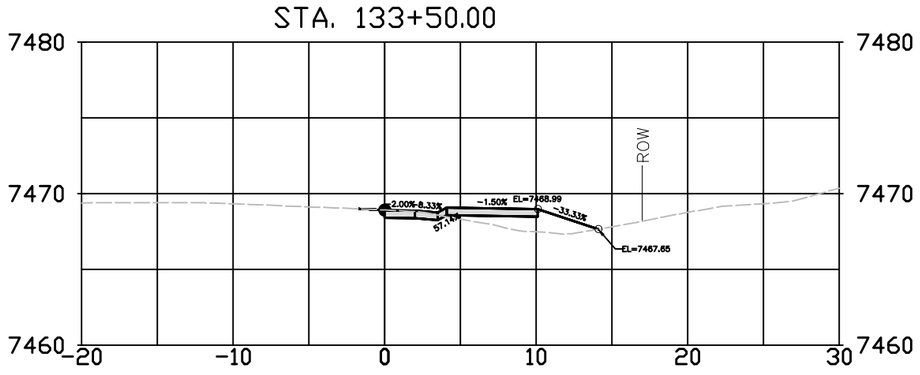
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COLORADO

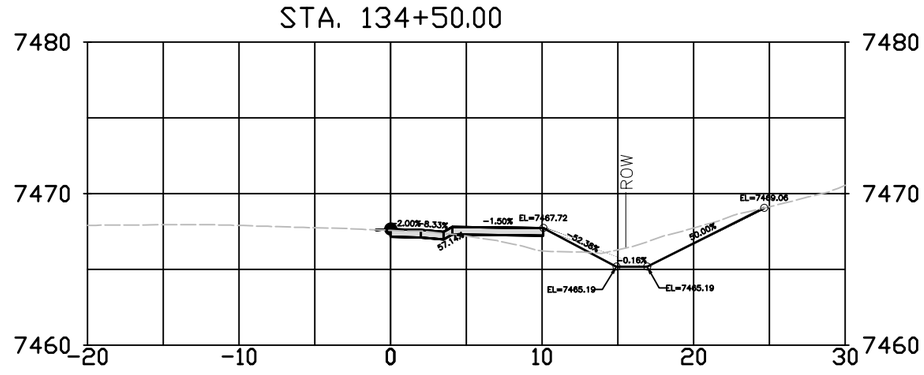
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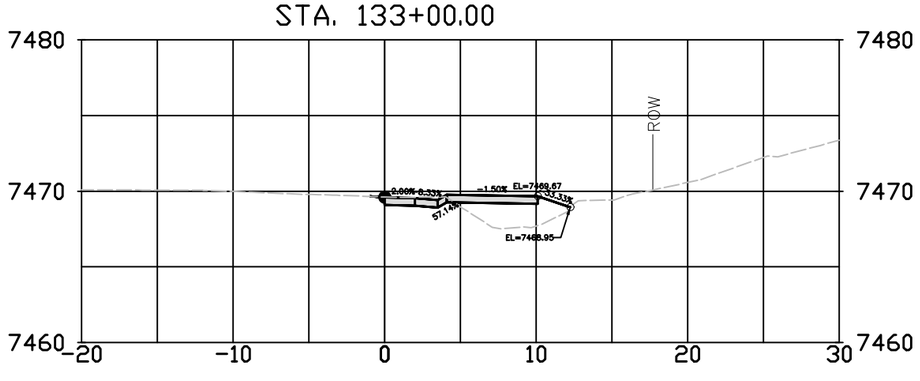
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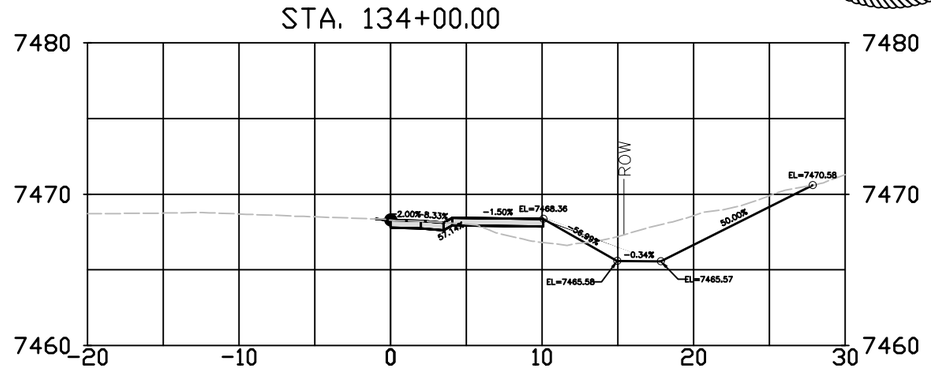
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Detailer: D. ALDEN
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Subset Sheets: 15 of 42

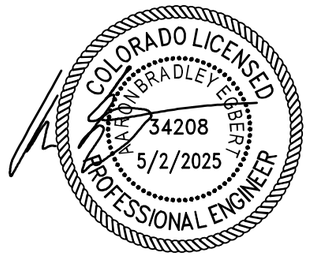
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TAP CO40-054
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Sheet Number 140

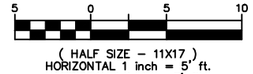








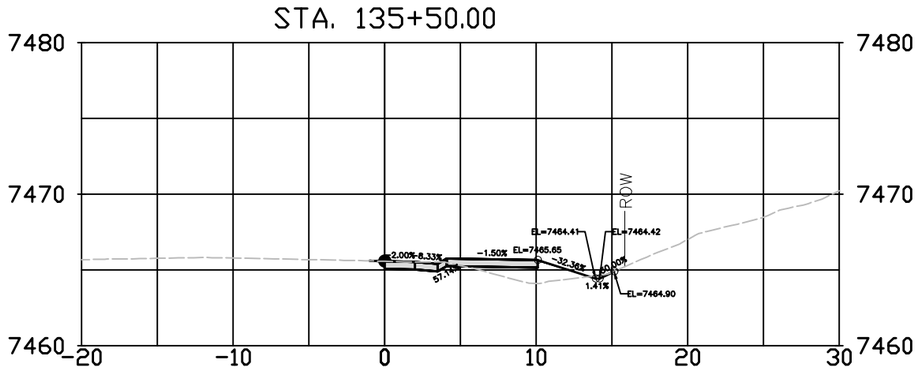


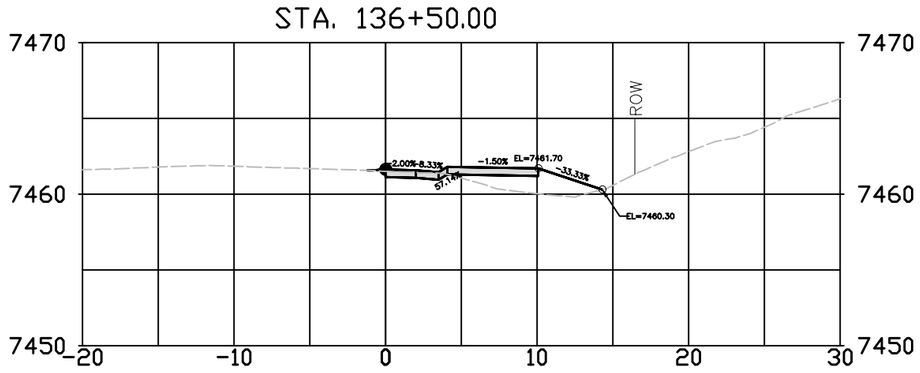


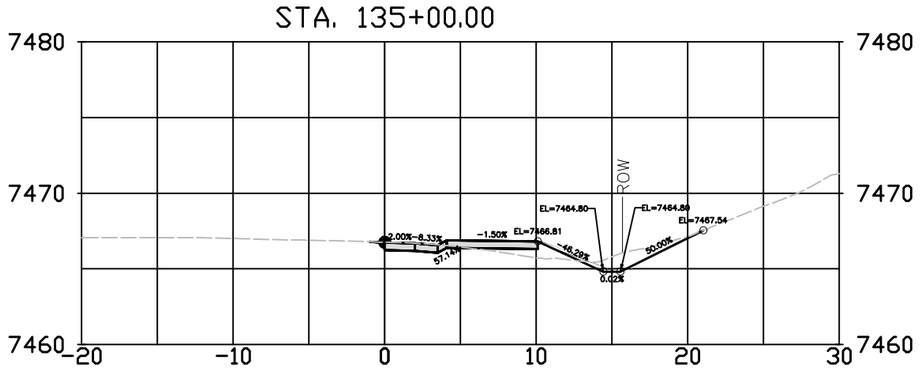
(HALF SIZE – 11X17)
HORIZONTAL 1 inch = 5' ft.
VERTICAL 1 inch = 5' ft.

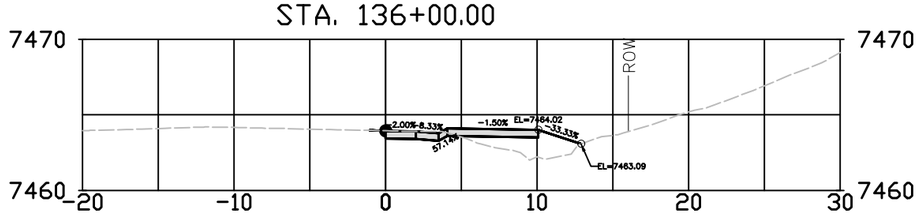
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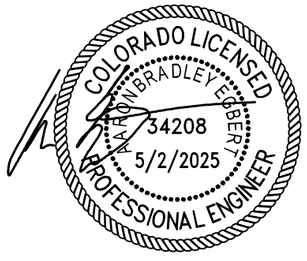
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Stantec 410 17TH STREET SUITE 1400 DENVER, COLORADO 80202 (303) 295-1717	EL PASO COUNTY COLORADO	CROSS SECTIONS	Designer: M WOLF; Detailer: D. ALDEN; Sheet Subset: XSEC; Structure Numbers; Subset Sheets: 16 of 42











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(HALF SIZE – 11X17)
HORIZONTAL 1 inch = 5' ft.
VERTICAL 1 inch = 5' ft.

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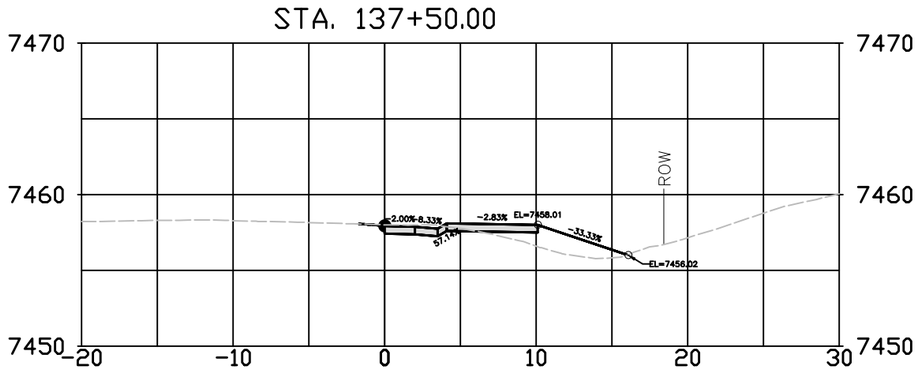
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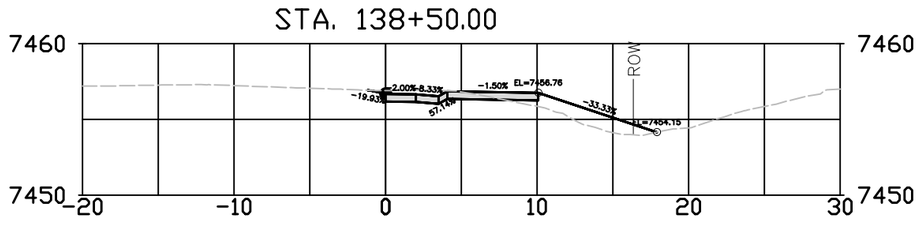
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COLORADO

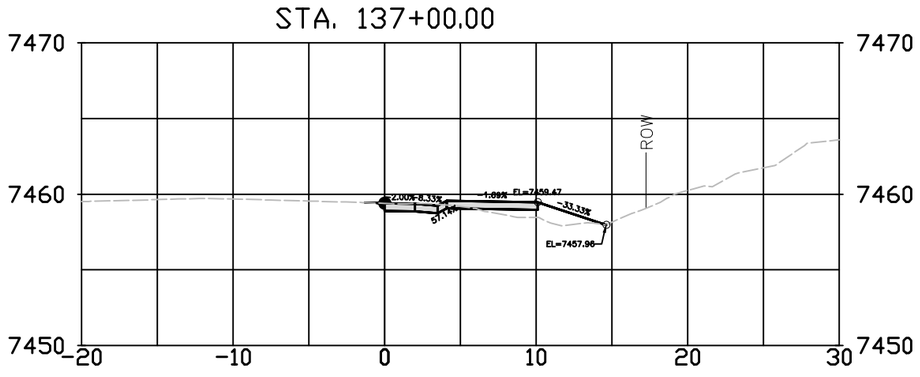
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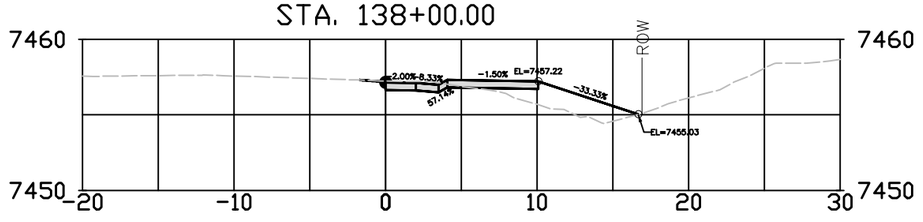
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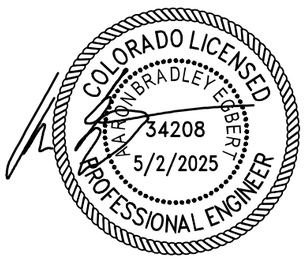
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(HALF SIZE – 11X17)
HORIZONTAL 1 inch = 5' ft.
VERTICAL 1 inch = 5' ft.

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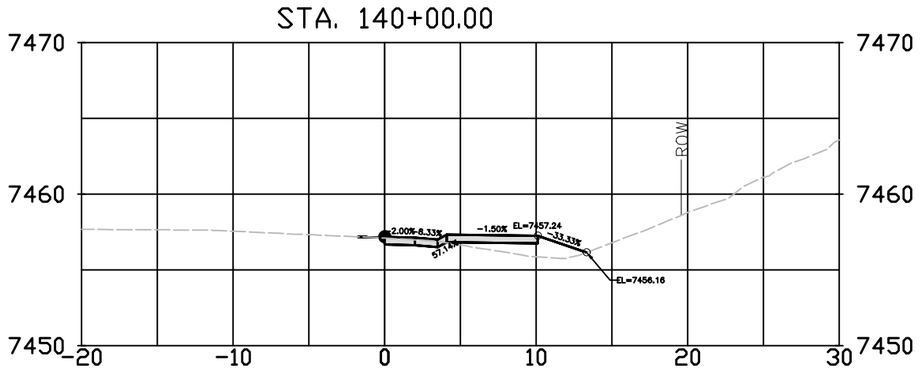
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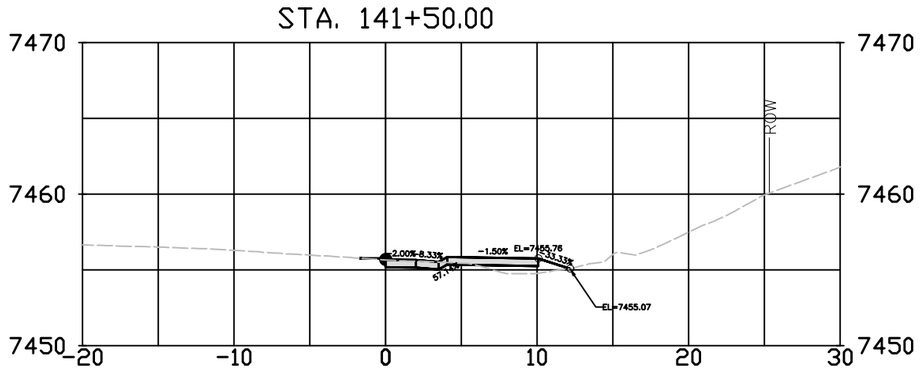
EL PASO COUNTY
COLORADO

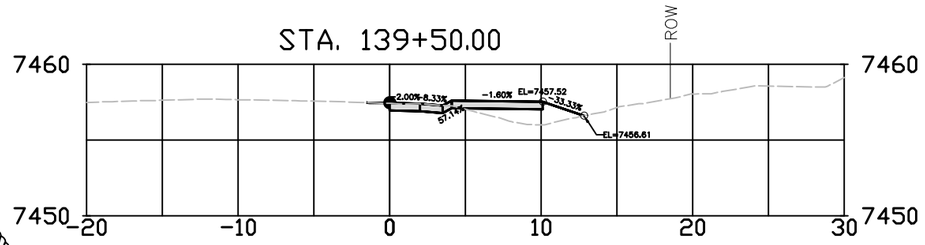
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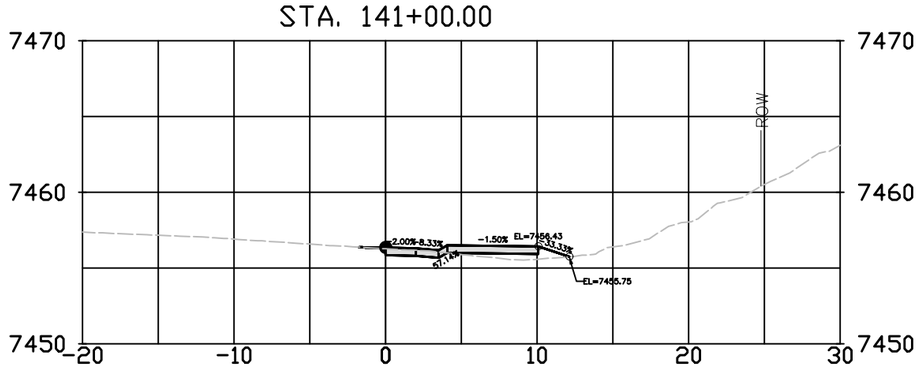
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Detailer: D. ALDEN			
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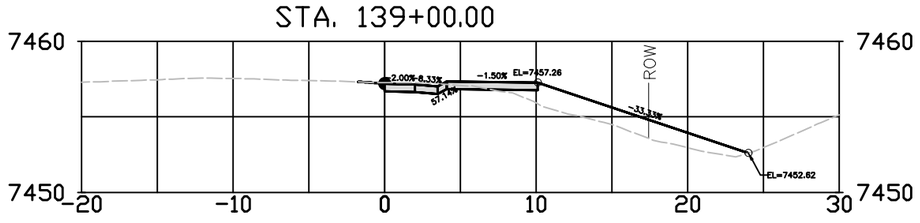
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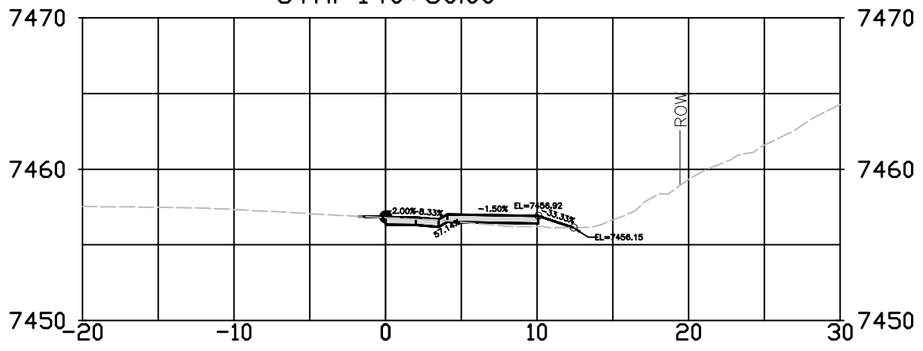


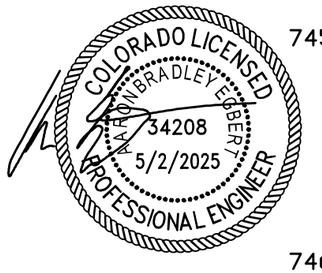














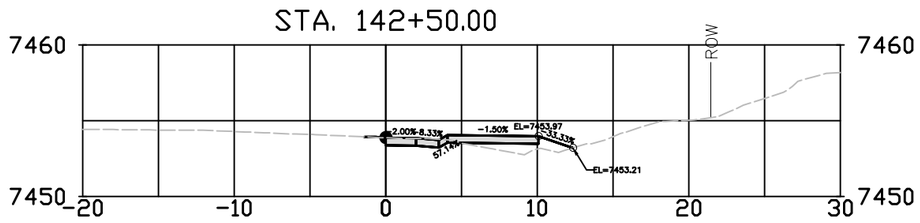
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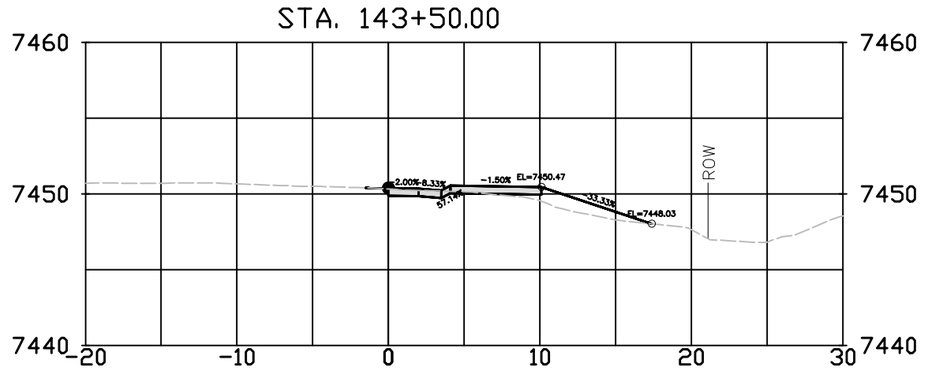
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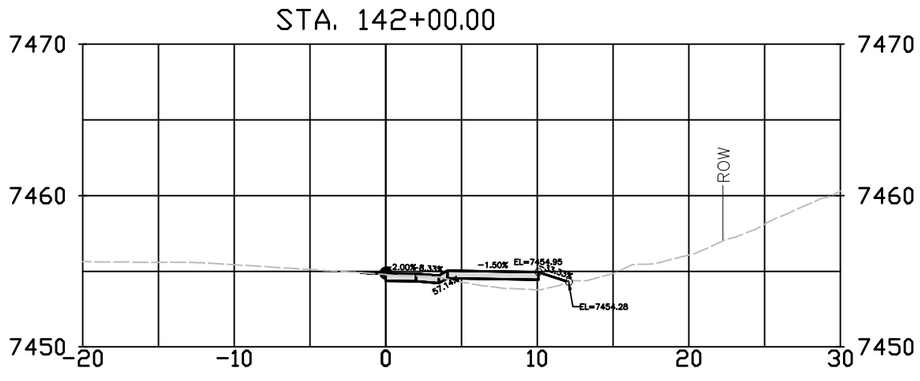
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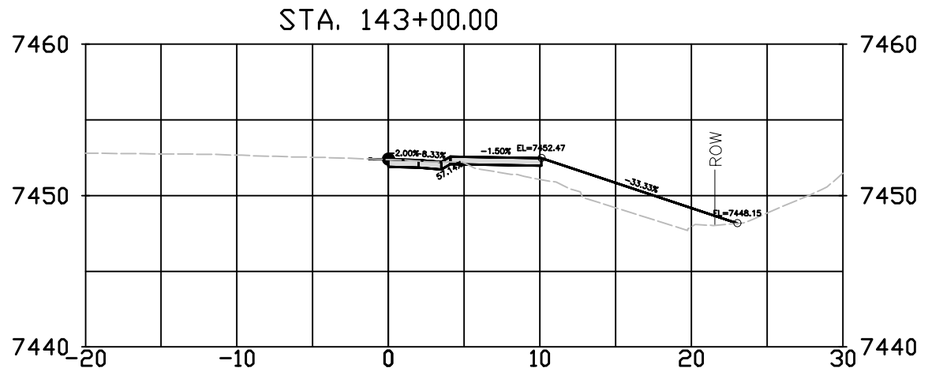
EL PASO COUNTY
COLORADO

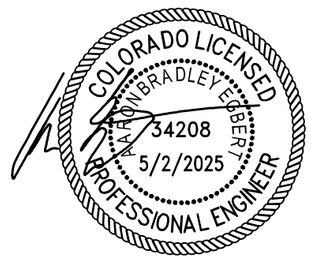
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No Revisions:				TAP C040-054
Revised:	Designer: M WOLF	Structure Numbers		22894
Void:	Detailer: D. ALDEN			
	Sheet Subset: XSEC	Subset Sheets: 19 of 42		Sheet Number 144













\\USO387-PPFSS03\SHARED_PROJECTS\181711311\600_CADD\640_SHEET_FILES\11311-XS-SHEETS.DWG

Print Date: 6/28/2024
File Name: 11311-XS-SHEETS.DWG
Horiz. Scale: Vert. Scale:
Unit Information Unit Leader Initials

Stantec
410 17TH STREET
SUITE 1400
DENVER, COLORADO 80202
(303) 295-1717

Sheet Revisions		
Date:	Comments	Init.

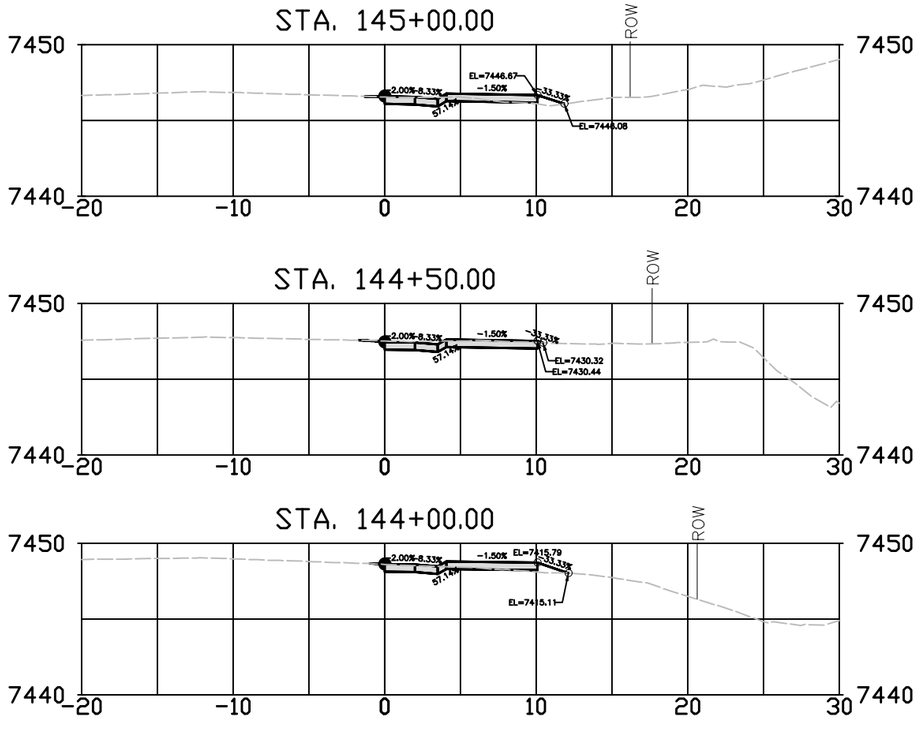
EL PASO COUNTY
COLORADO

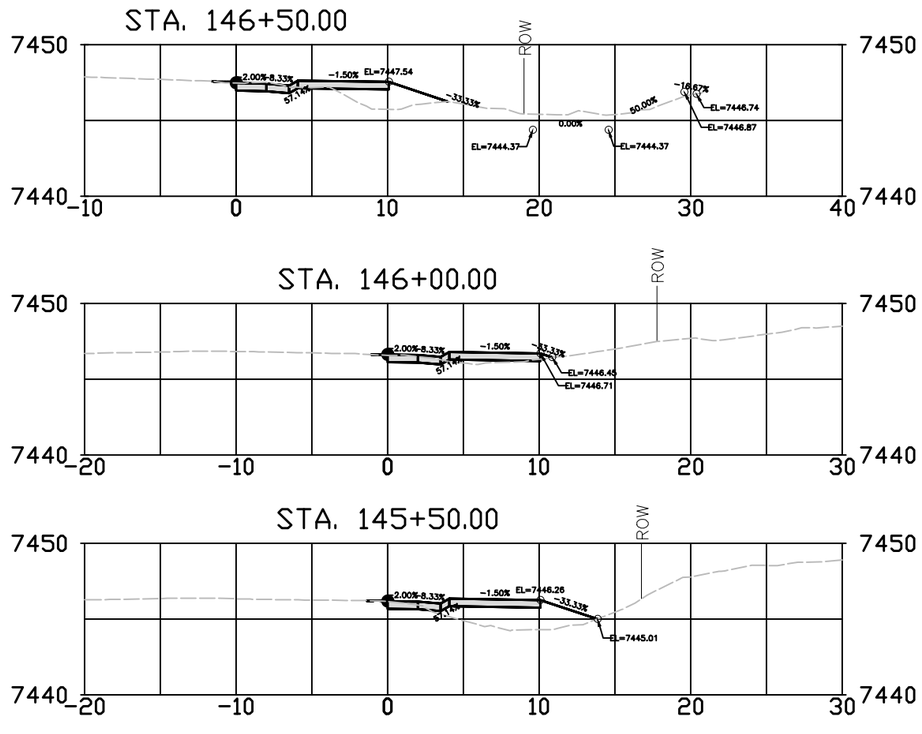
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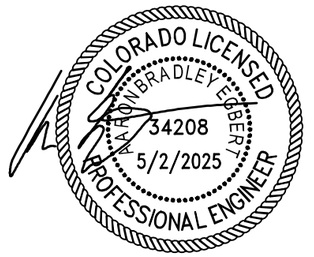
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Designer: M WOLF
Detailer: D. ALDEN
Sheet Subset: XSEC
Structure Numbers:
Subset Sheets: 20 of 42

Project No./Code
TAP CO40-054
22894
Sheet Number 145







5 0 5 10

(HALF SIZE – 11X17)
HORIZONTAL 1 inch = 5' ft.
VERTICAL 1 inch = 5' ft.

\\USO387-PPFSS03\SHARED_PROJECTS\181711311\600_CADD\640_SHEET_FILES\11311-XS-SHEETS.DWG

Print Date: 6/28/2024
File Name: 11311-XS-SHEETS.DWG
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Unit Information Unit Leader Initials

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410 17TH STREET
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Sheet Revisions		
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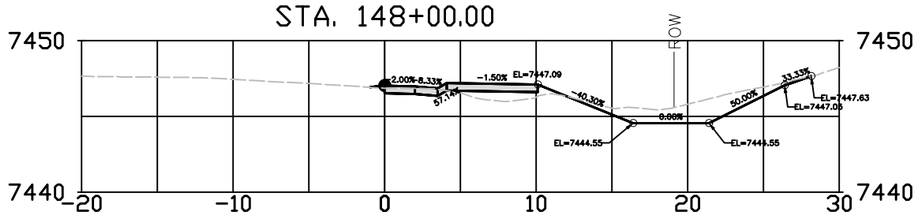
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COLORADO

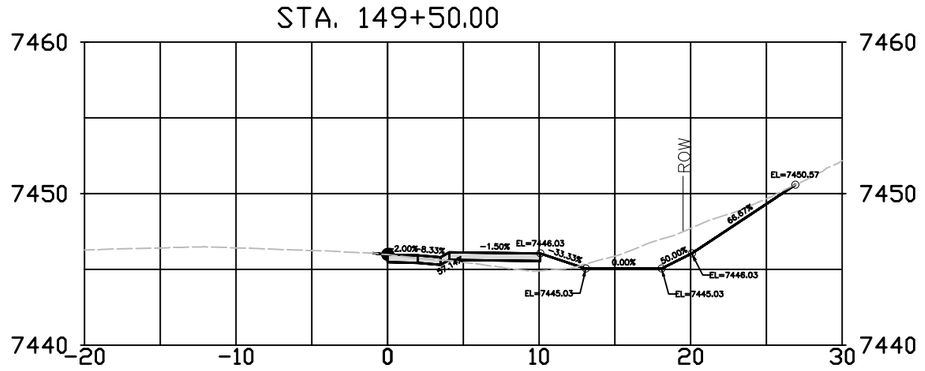
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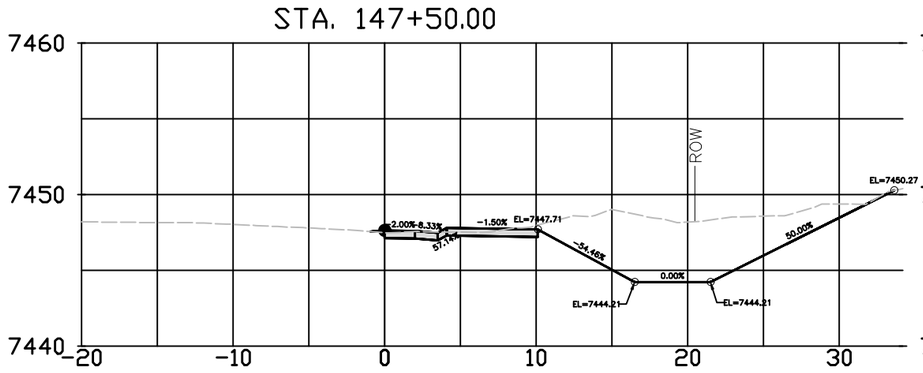
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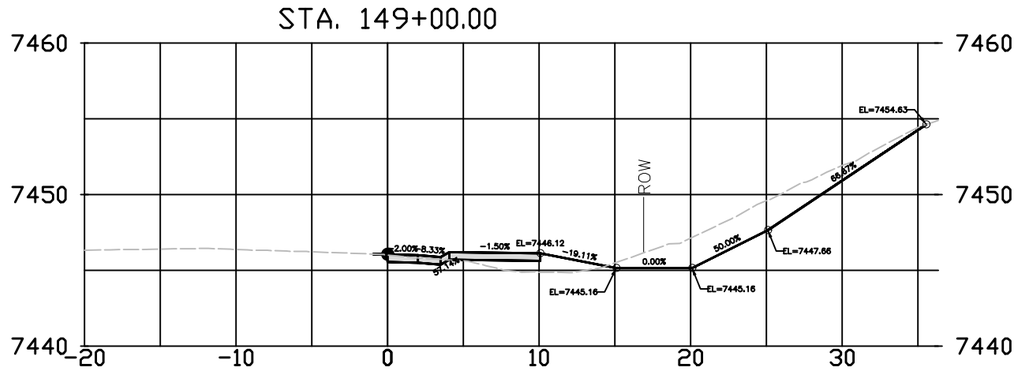
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Detailer: D. ALDEN
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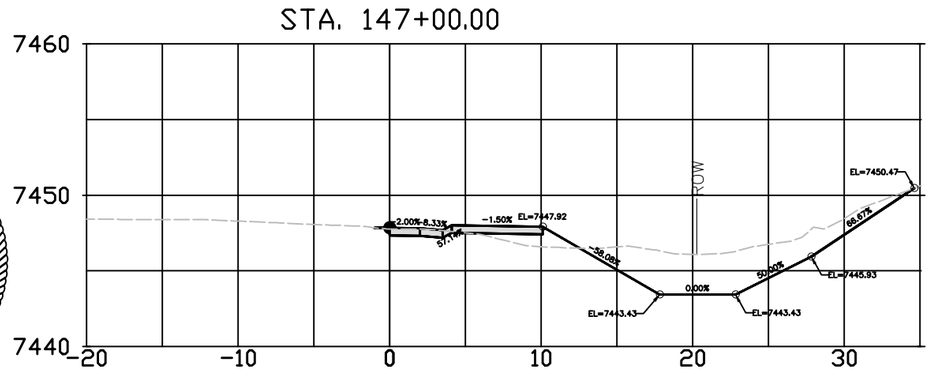
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TAP CO40-054
22894
Sheet Number 146

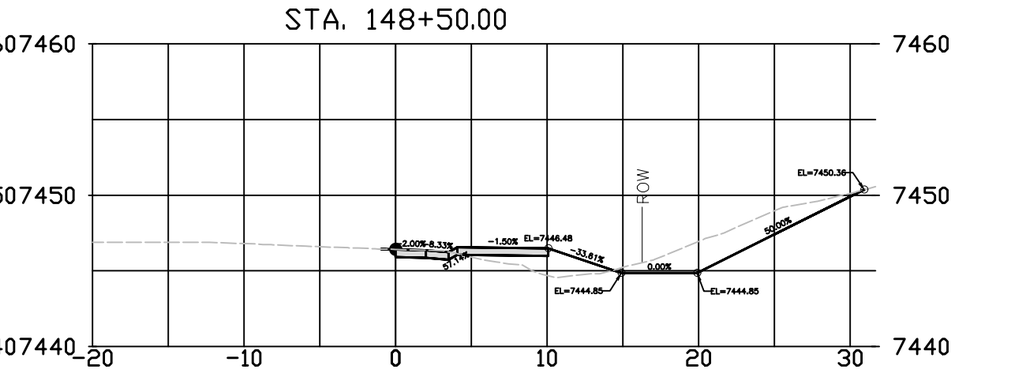


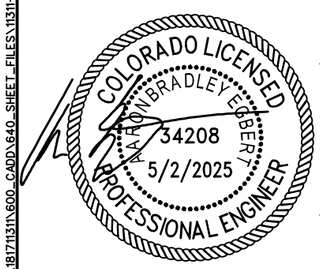












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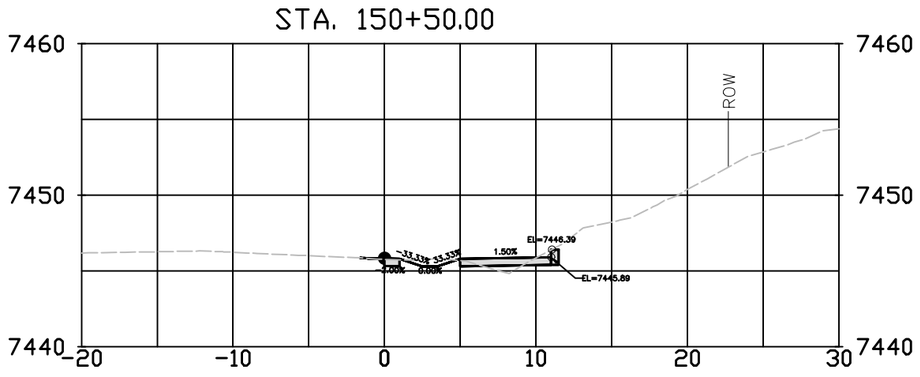
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HORIZONTAL 1 inch = 5' ft.
VERTICAL 1 inch = 5' ft.

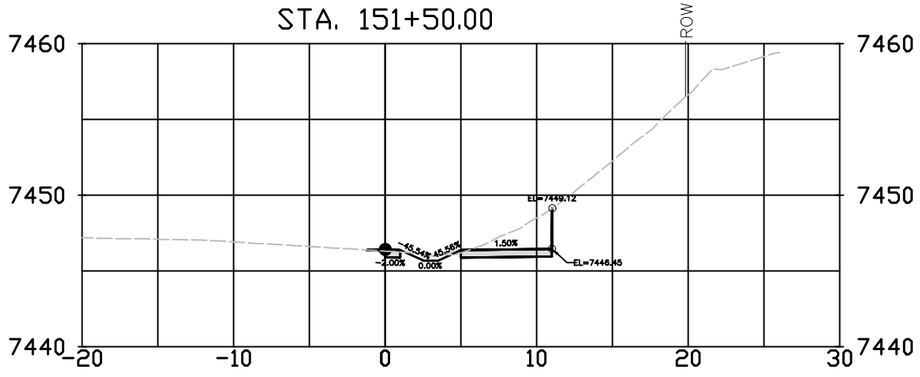
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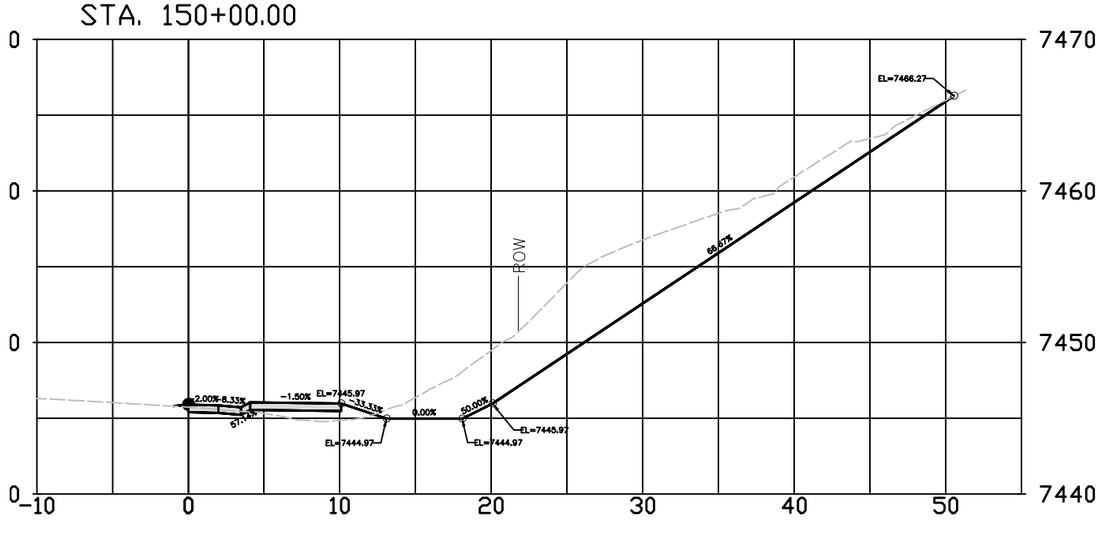
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Stantec 410 17TH STREET SUITE 1400 DENVER, COLORADO 80202 (303) 295-1717			

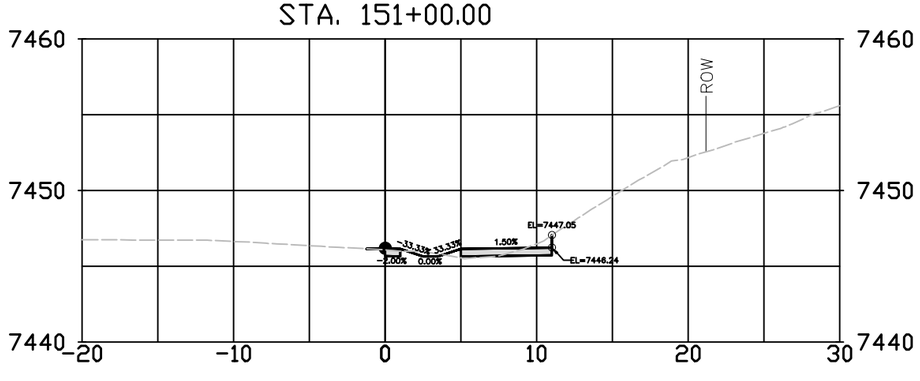
EL PASO COUNTY
COLORADO

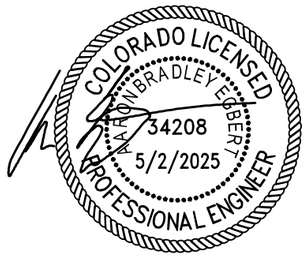
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Revised:	Designer: M WOLF	Structure Numbers	22894
Void:	Detailer: D. ALDEN		
	Sheet Subset: XSEC	Subset Sheets: 22 of 42	Sheet Number 147









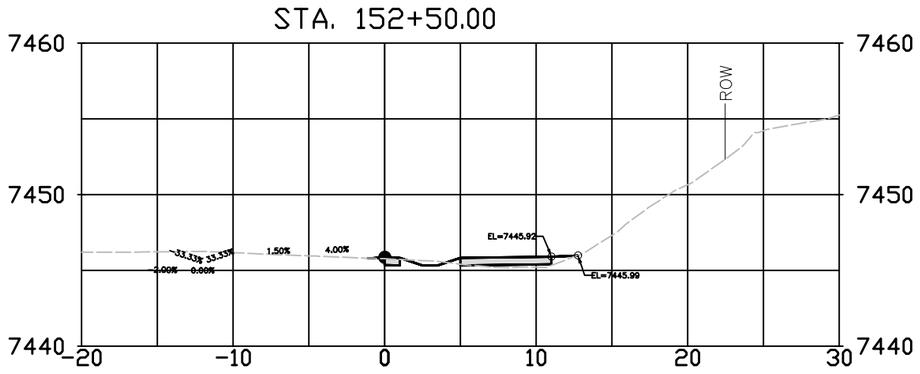


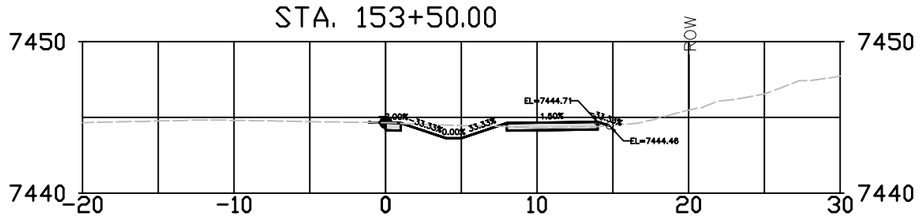


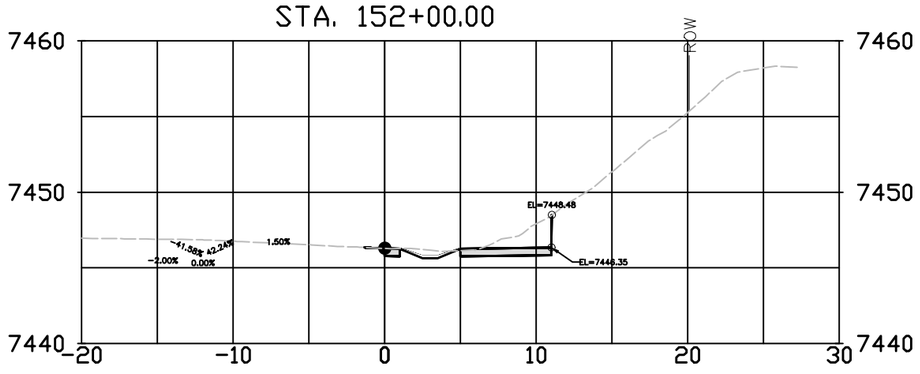
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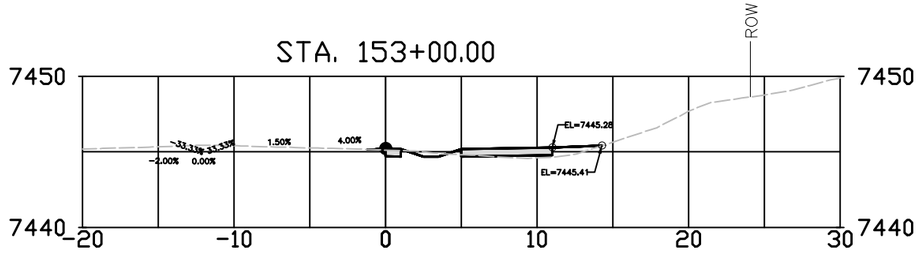
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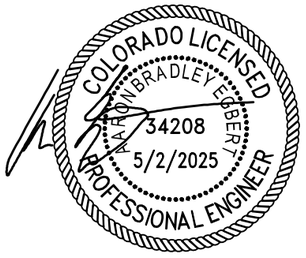
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Horiz. Scale: Vert. Scale:		Revised:	22894
Unit Information Unit Leader Initials		Void:	
Stantec 410 17TH STREET SUITE 1400 DENVER, COLORADO 80202 (303) 295-1717	EL PASO COUNTY COLORADO	CROSS SECTIONS	Sheet Number 148
		Designer: M WOLF / Detailer: D. ALDEN / Sheet Subset: XSEC	Structure Numbers / Subset Sheets: 23 of 42











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(HALF SIZE – 11X17)
HORIZONTAL 1 inch = 5' ft.
VERTICAL 1 inch = 5' ft.

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Unit Information	Unit Leader Initials		

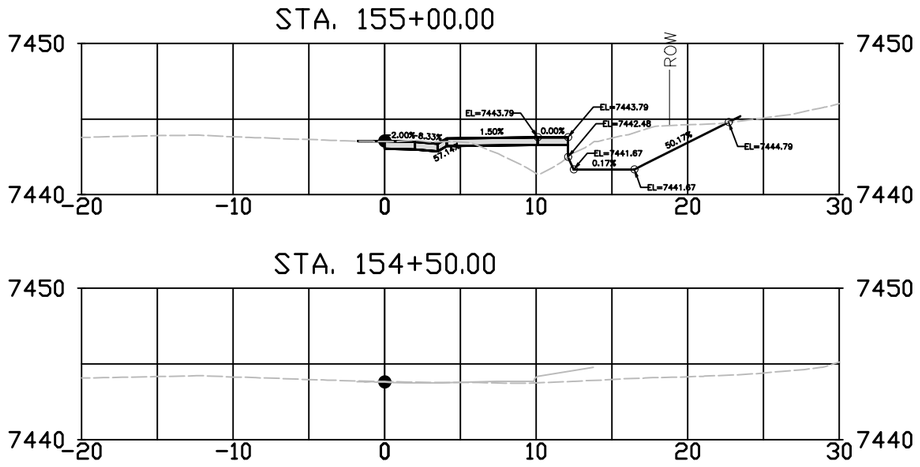
Stantec
410 17TH STREET
SUITE 1400
DENVER, COLORADO 80202
(303) 295-1717

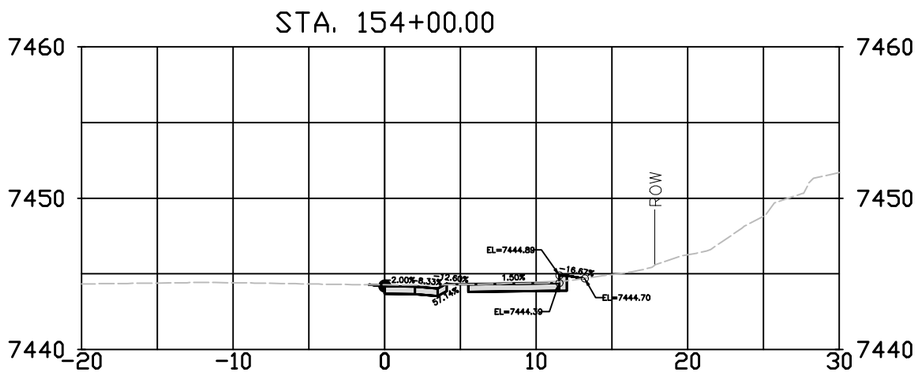
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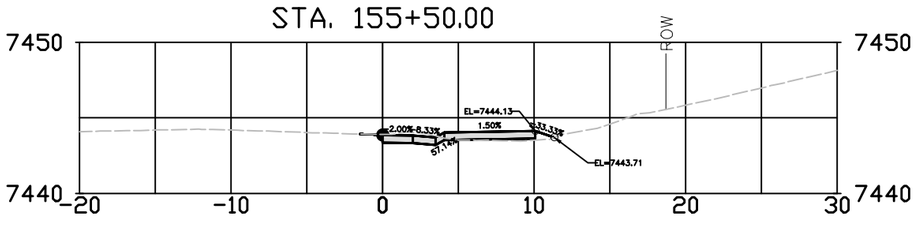
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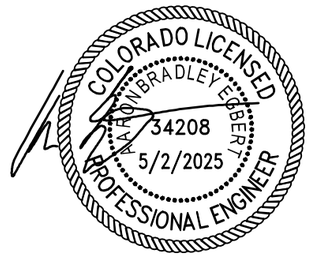
EL PASO COUNTY
COLORADO

As Constructed	CROSS SECTIONS	Project No./Code
No Revisions:		TAP C040-054
Revised:	Designer: M WOLF; Detailer: D. ALDEN; Structure Numbers:	22894
Void:	Sheet Subset: XSEC; Subset Sheets: 24 of 42	Sheet Number 149









5 0 5 10

(HALF SIZE – 11X17)
HORIZONTAL 1 inch = 5' ft.
VERTICAL 1 inch = 5' ft.

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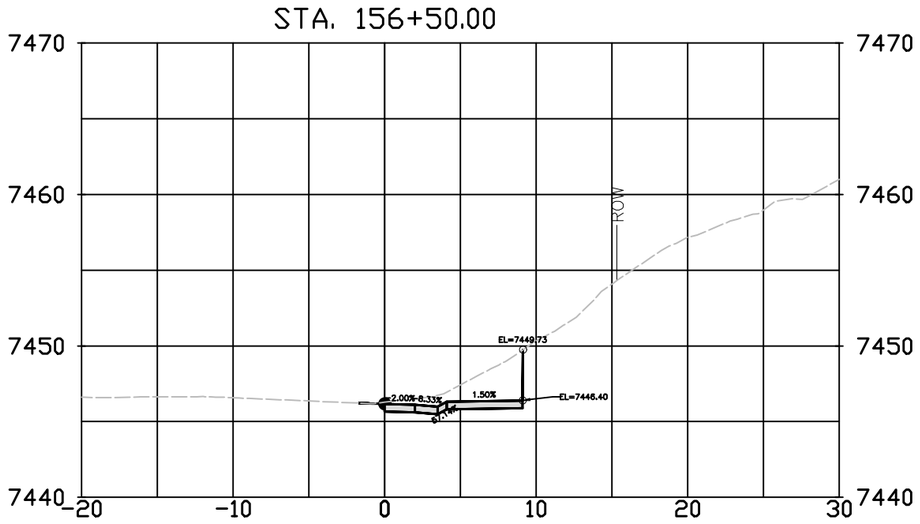
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Unit Information Unit Leader Initials					Void:
Stantec 410 17TH STREET SUITE 1400 DENVER, COLORADO 80202 (303) 295-1717					

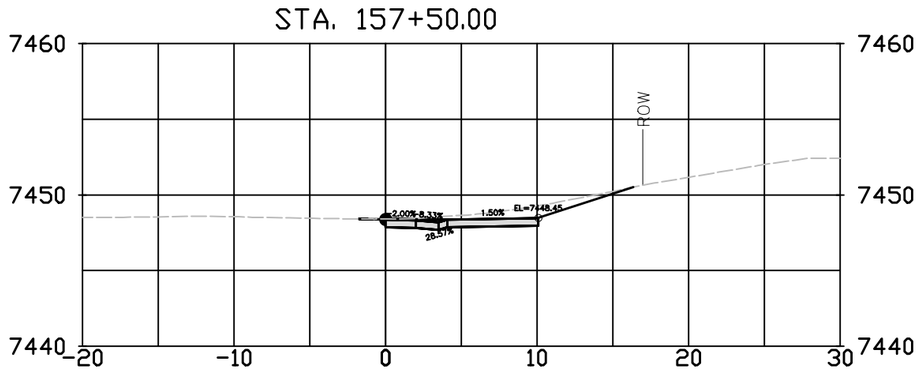
EL PASO COUNTY
COLORADO

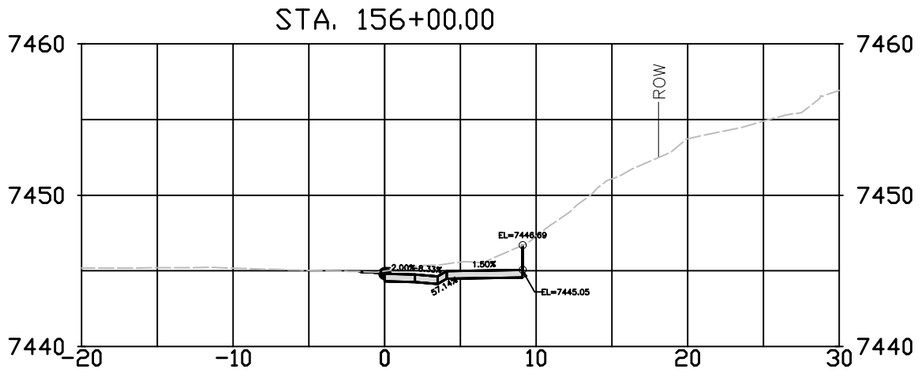
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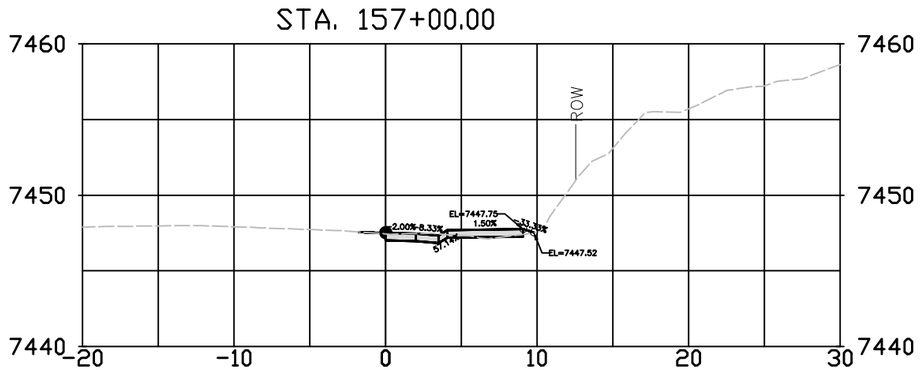
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Detailer:	D. ALDEN		
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Project No./Code	
TAP C040-054	
22894	
Sheet Number	150











(HALF SIZE – 11X17)
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VERTICAL 1 inch = 5' ft.

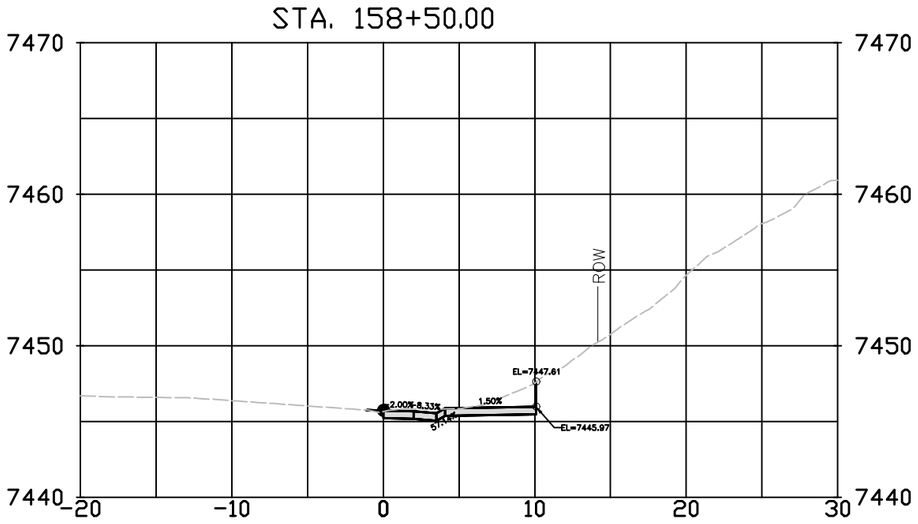
COLORADO LICENSED
AARON BRADLEY EGBERT
34208
5/2/2025
PROFESSIONAL ENGINEER

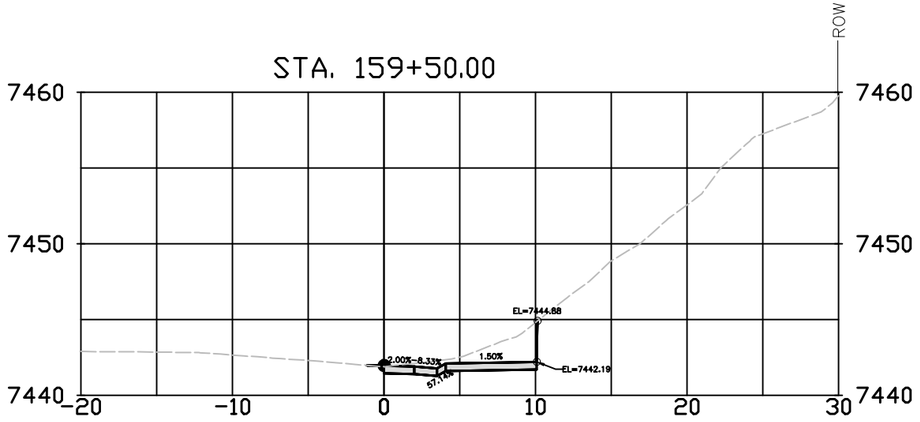
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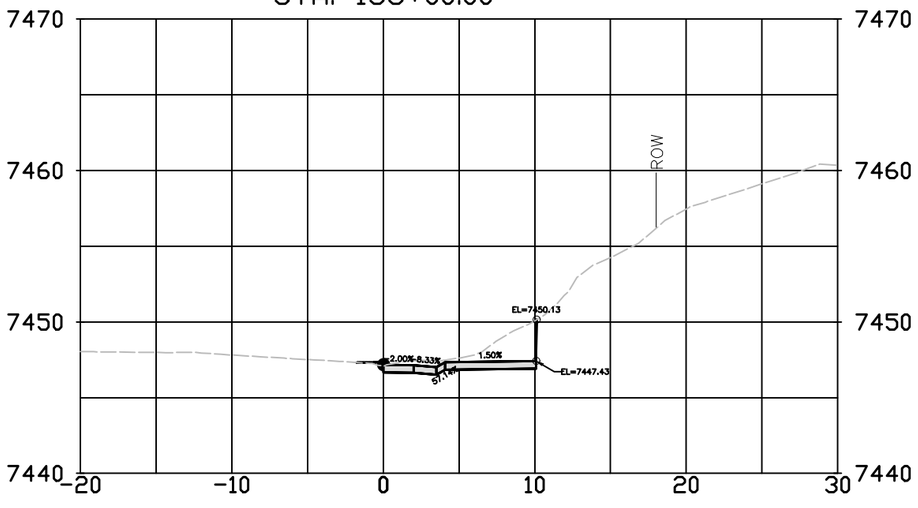
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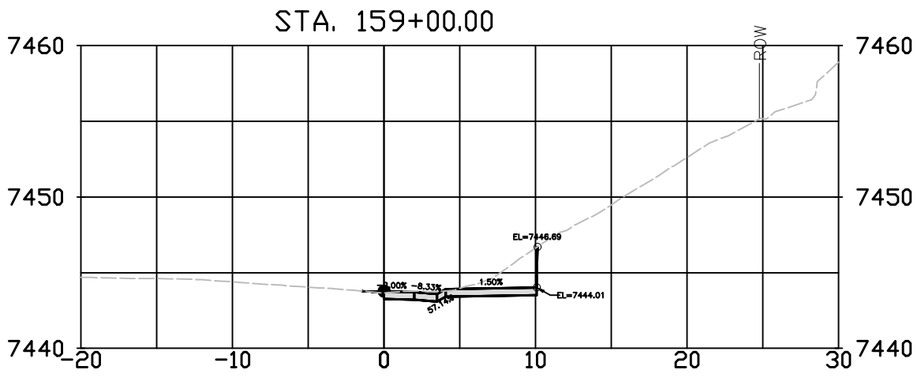
EL PASO COUNTY
COLORADO

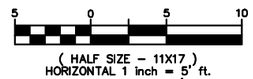
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Revised:	Designer: M WOLF	Structure Numbers	22894
Void:	Detailer: D. ALDEN		
	Sheet Subset: XSEC	Subset Sheets: 26 of 42	Sheet Number 151











(HALF SIZE – 11X17)
HORIZONTAL 1 inch = 5' ft.
VERTICAL 1 inch = 5' ft.

COLORADO LICENSED
AARON BRADLEY EBBERT
34208
5/2/2025
PROFESSIONAL ENGINEER

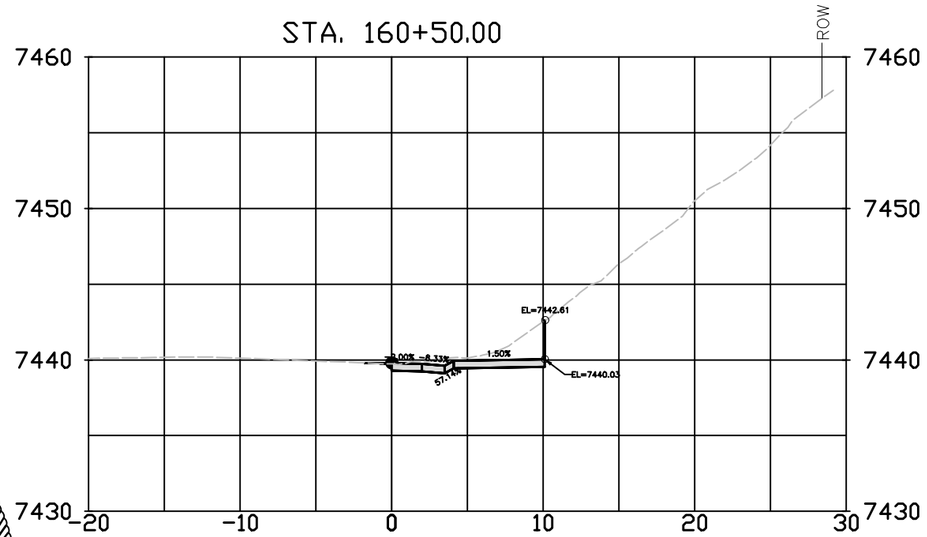
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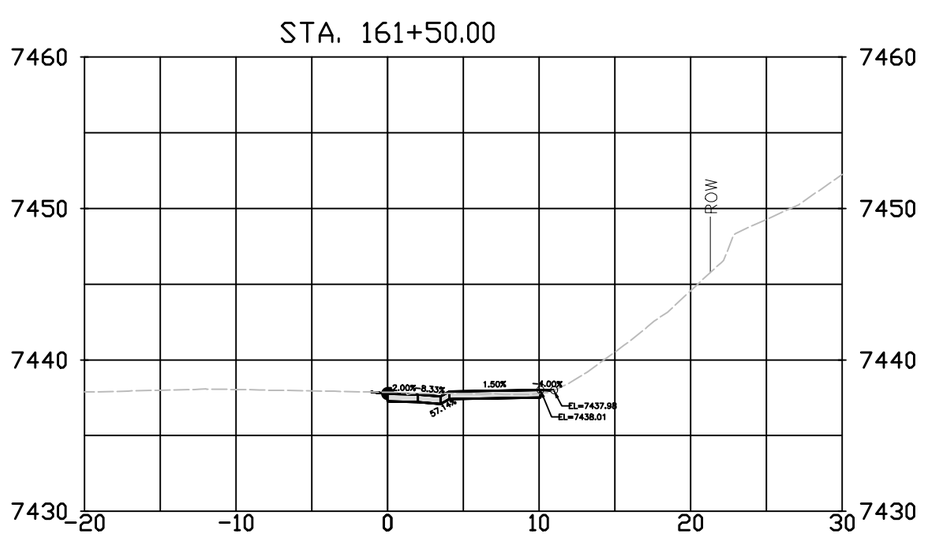
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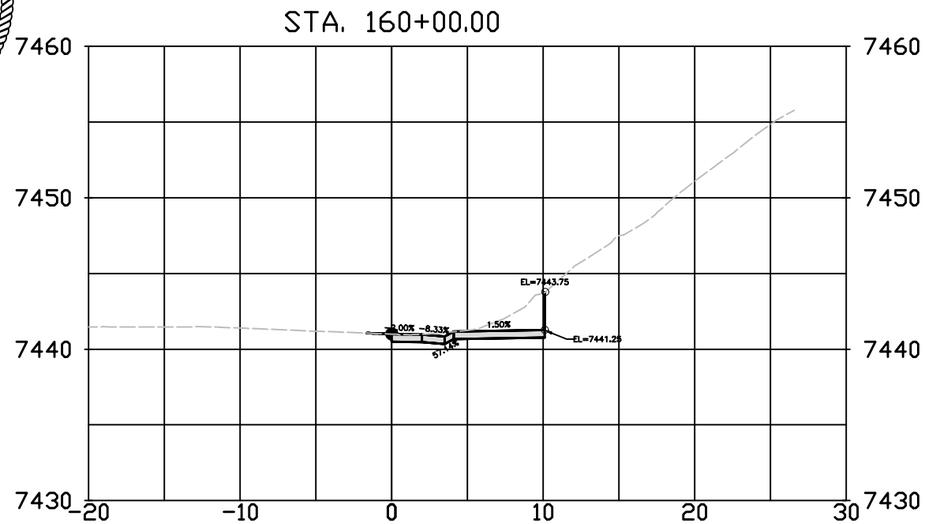
Stantec
410 17TH STREET
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DENVER, COLORADO 80202
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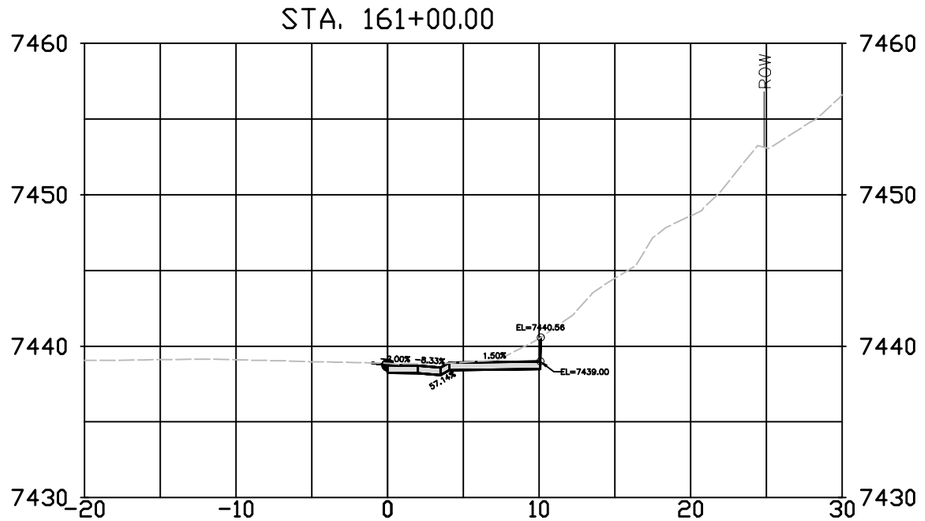
EL PASO COUNTY
COLORADO

As Constructed	CROSS SECTIONS		Project No./Code
No Revisions:			TAP C040-054
Revised:	Designer: M WOLF	Structure Numbers	22894
Void:	Detailer: D. ALDEN		
	Sheet Subset: XSEC	Subset Sheets: 26 of 42	Sheet Number 152









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(HALF SIZE - 11X17)
HORIZONTAL 1 inch = 5' ft.
VERTICAL 1 inch = 5' ft.

COLORADO LICENSED
JONATHAN BRADLEY EBBERT
34208
5/2/2025
PROFESSIONAL ENGINEER

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Print Date:	6/28/2024
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Unit Information	Unit Leader Initials

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410 17TH STREET
SUITE 1400
DENVER, COLORADO 80202
(303) 295-1717

Sheet Revisions

Date:	Comments	Init.

EL PASO COUNTY
COLORADO

As Constructed

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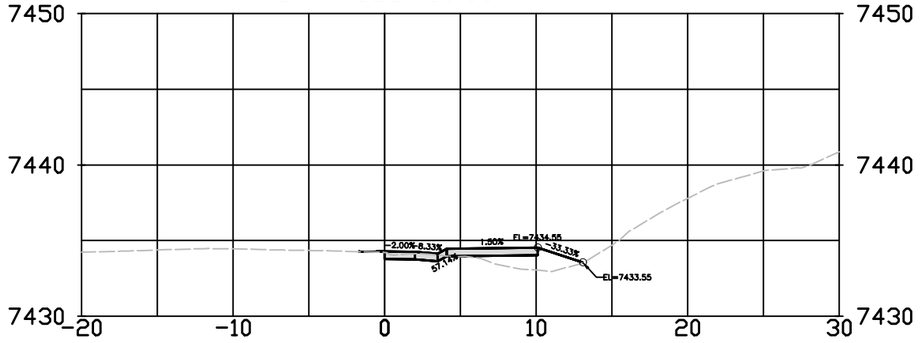
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Designer:	M WOLF	Structure Numbers	
Detailer:	D. ALDEN		
Sheet Subset:	XSEC	Subset Sheets:	28 of 42

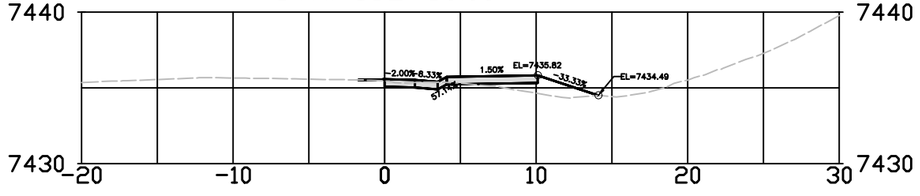
Project No./Code

TAP C040-054	
22894	
Sheet Number	153

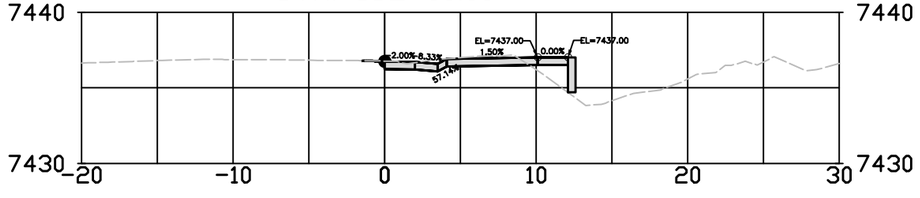
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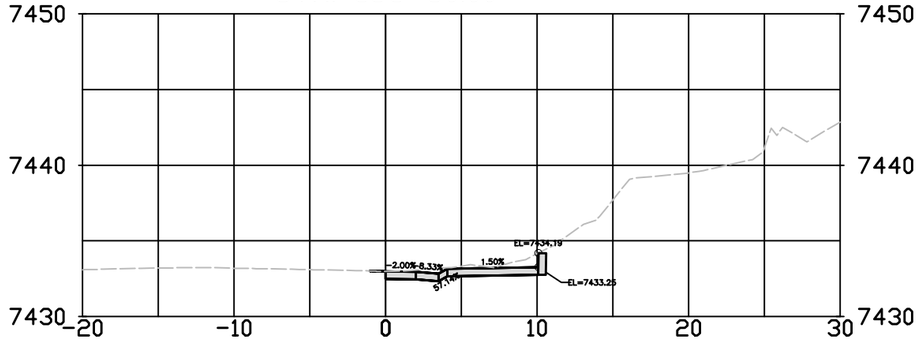
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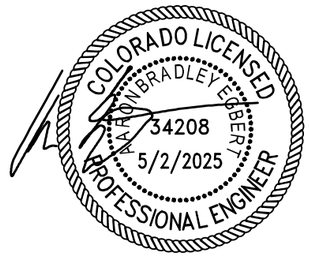


STA. 162+00.00



STA. 163+50.00







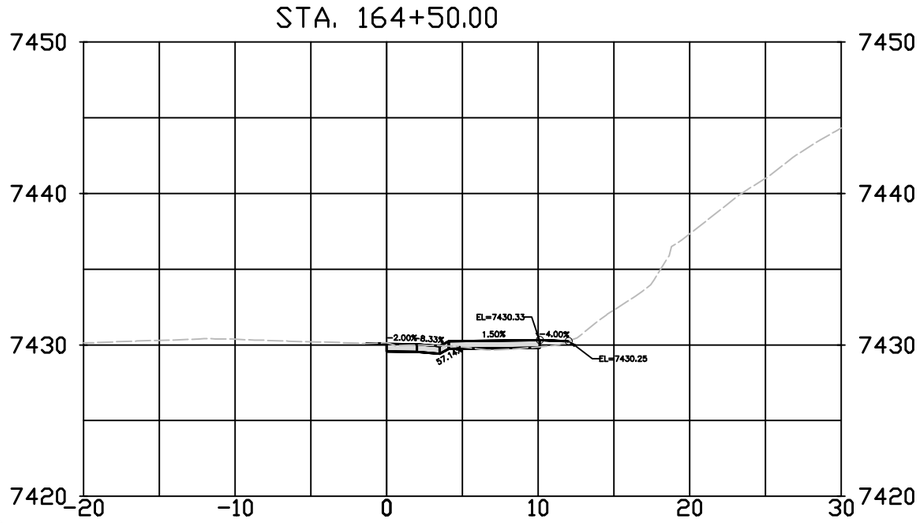
(HALF SIZE – 11X17)
HORIZONTAL 1 inch = 5' ft.
VERTICAL 1 inch = 5' ft.

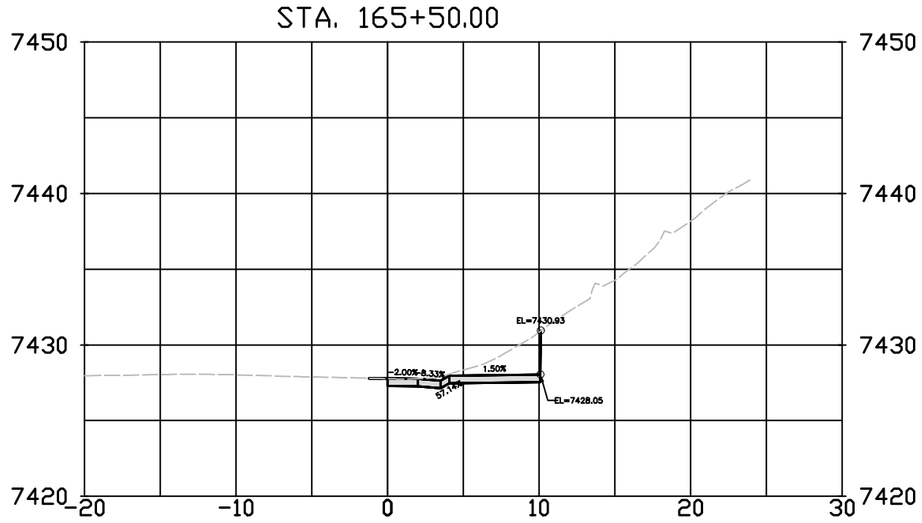
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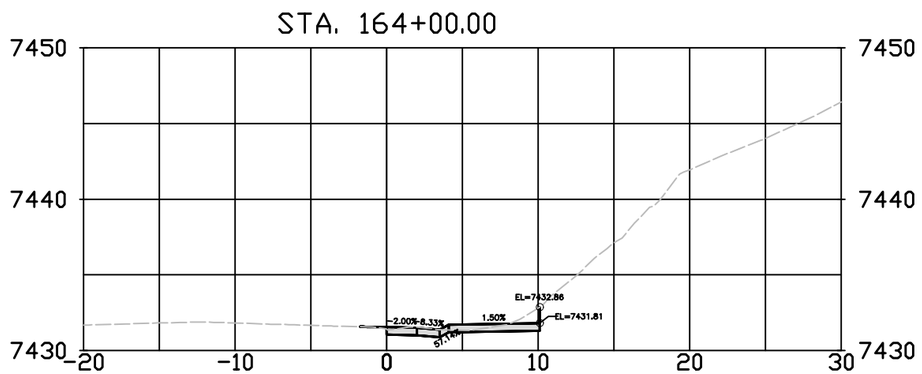
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Horiz. Scale: Vert. Scale:				Revised:	Designer: M WOLF; Detailer: D. ALDEN; Structure Numbers: 22894
Unit Information Unit Leader Initials				Void:	Sheet Subset: XSEC; Subset Sheets: 29 of 42; Sheet Number 154

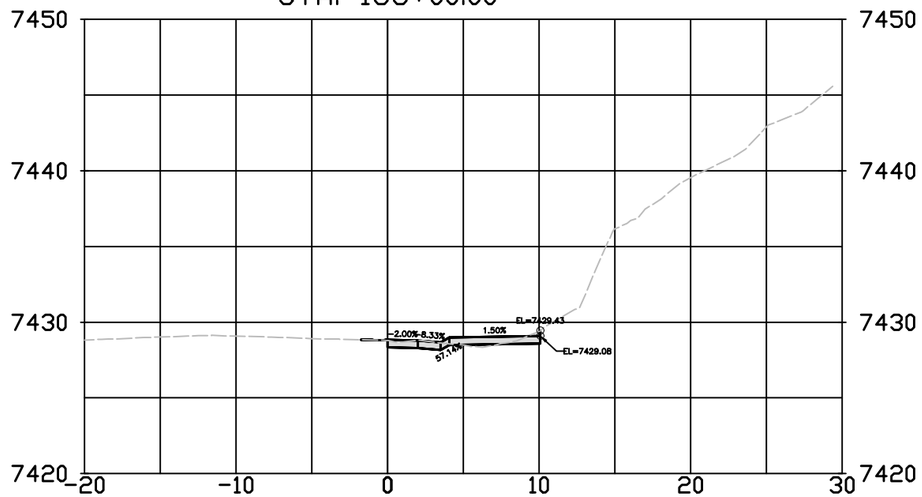
Stantec
410 17TH STREET
SUITE 1400
DENVER, COLORADO 80202
(303) 295-1717

EL PASO COUNTY
COLORADO

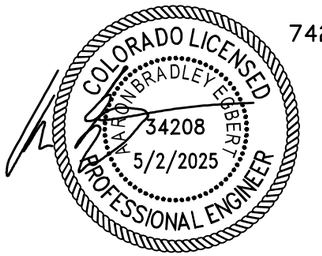












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File Name: 11311-XS-SHEETS.DWG
Horiz. Scale: Vert. Scale:
Unit Information Unit Leader Initials

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(303) 295-1717

Sheet Revisions		
Date:	Comments	Init.

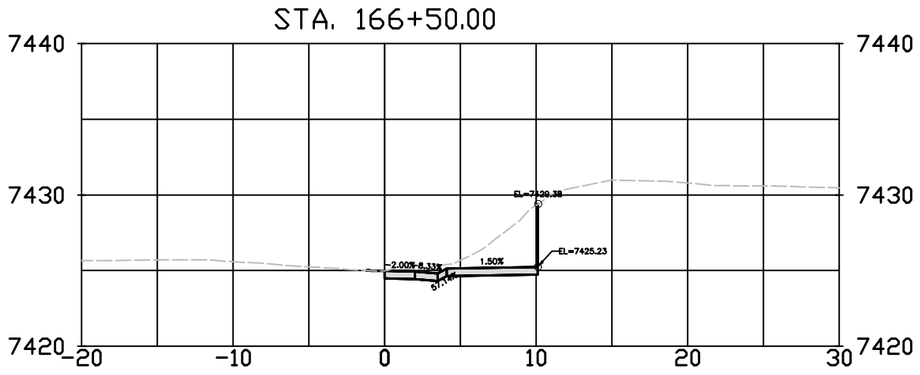
EL PASO COUNTY
COLORADO

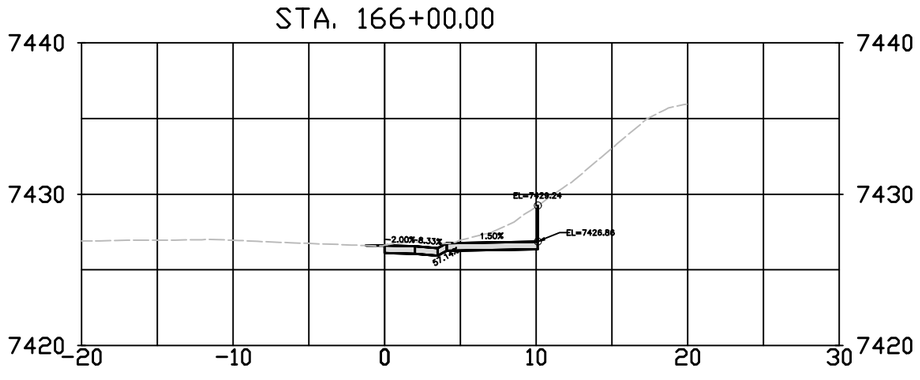
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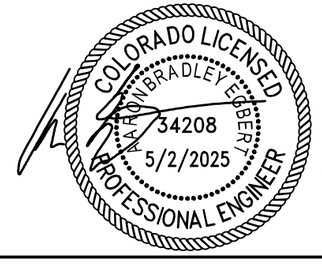
CROSS SECTIONS

Designer: M WOLF
Detailer: D. ALDEN
Sheet Subset: XSEC
Structure Numbers:
Subset Sheets: 30 of 42

Project No./Code
TAP C040-054
22894
Sheet Number 155







5 0 5 10
(HALF SIZE – 11X17)
HORIZONTAL 1 inch = 5' ft.
VERTICAL 1 inch = 5' ft.

\\USO387-PPFSS03\SHARED_PROJECTS\181711311\600_CADD\640_SHEET_FILES\11311-XS-SHEETS.DWG

Print Date: 6/28/2024		Sheet Revisions			As Constructed
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Horiz. Scale: Vert. Scale:					Revised:
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Stantec 410 17TH STREET SUITE 1400 DENVER, COLORADO 80202 (303) 295-1717					

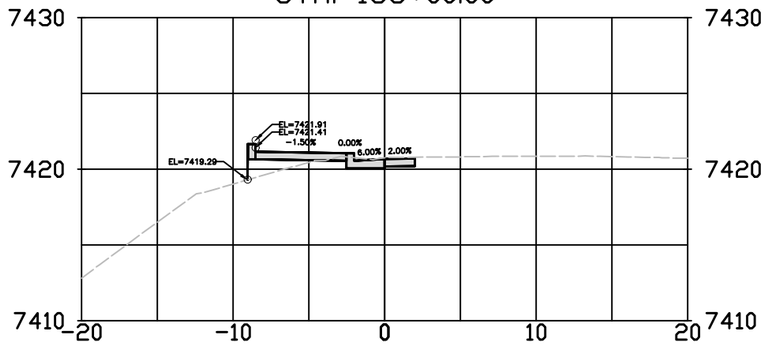
EL PASO COUNTY
COLORADO

CROSS SECTIONS

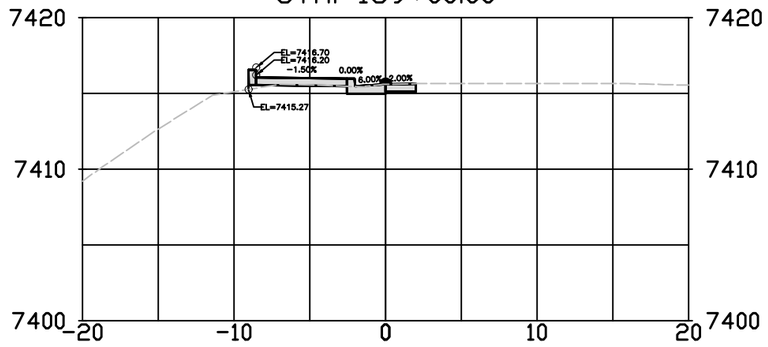
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Detailer:	D. ALDEN		
Sheet Subset:	XSEC	Subset Sheets:	31 of 42

Project No./Code	
TAP CO40-054	
22894	
Sheet Number	156

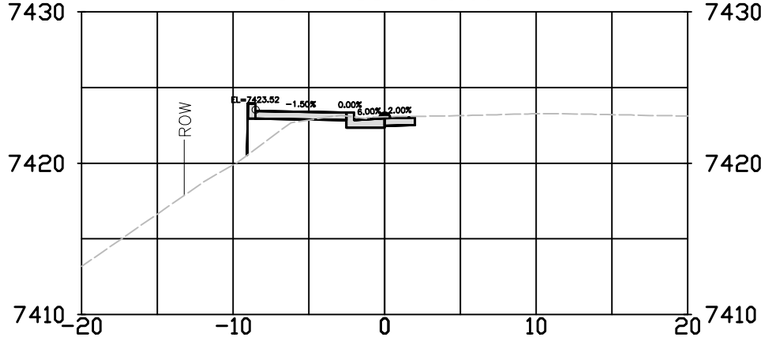
STA. 168+00.00



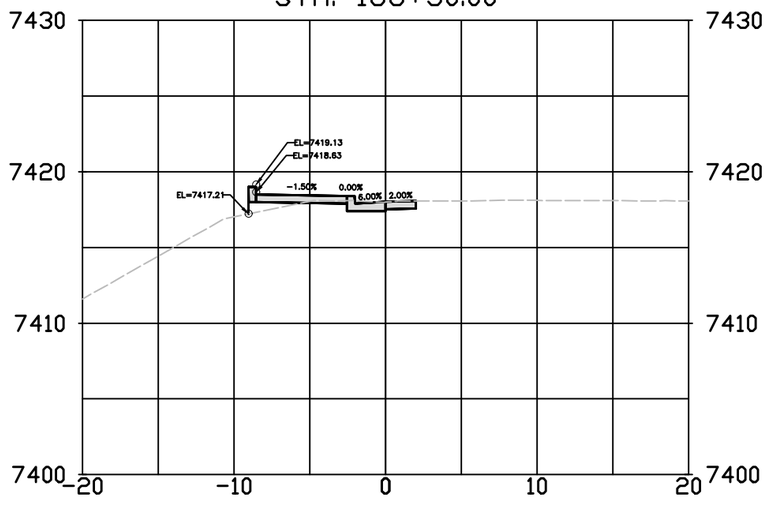
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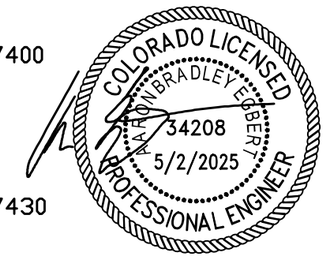


STA. 167+50.00



STA. 168+50.00





5 0 5 10

(HALF SIZE – 11X17)
HORIZONTAL 1 inch = 5' ft.
VERTICAL 1 inch = 5' ft.

\\US0387-PPFSS03\SHARED_PROJECTS\181711311\600_CADD\640_SHEET_FILES\11311-XS-SHEETS.DWG

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Horiz. Scale:	Vert. Scale:				Revised:
Unit Information	Unit Leader Initials				Void:

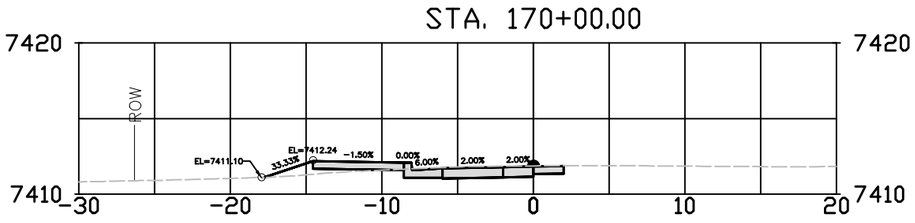
Stantec
410 17TH STREET
SUITE 1400
DENVER, COLORADO 80202
(303) 295-1717

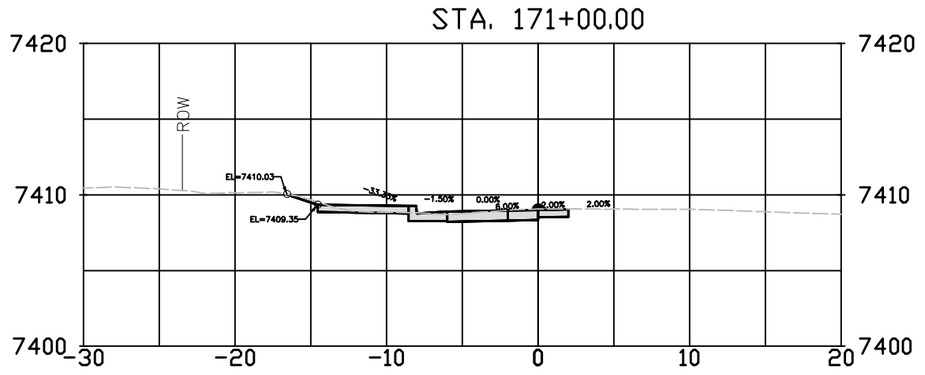
EL PASO COUNTY
COLORADO

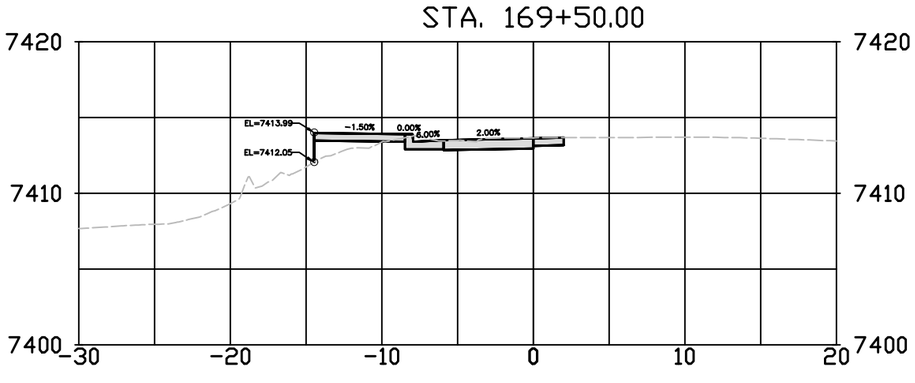
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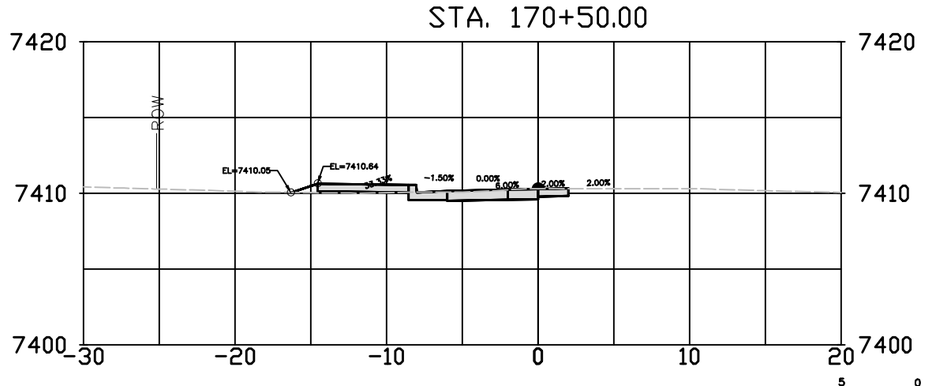
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Detailer:	D. ALDEN		
Sheet Subset:	XSEC	Subset Sheets:	32 of 42

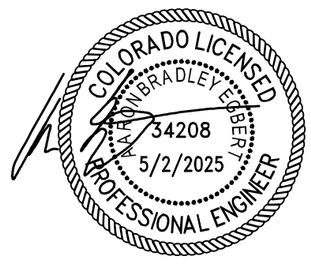
Project No./Code	
TAP C040-054	
22894	
Sheet Number	157













(HALF SIZE – 11X17)
HORIZONTAL 1 inch = 5' ft.
VERTICAL 1 inch = 5' ft.

\\US0387-PPFSS03\SHARED_PROJECTS\181711311\600_CADD\640_SHEET_FILES\11311-XS-SHEETS.DWG

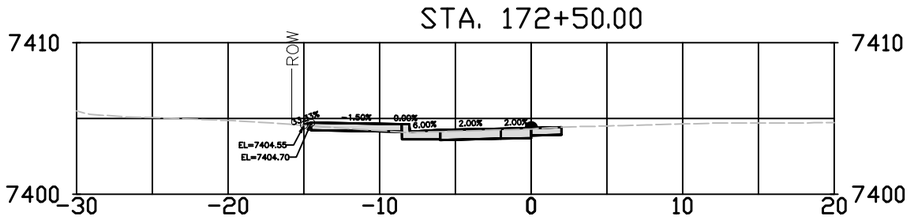
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File Name: 11311-XS-SHEETS.DWG		Date:	Comments	Init.	No Revisions:
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Stantec 410 17TH STREET SUITE 1400 DENVER, COLORADO 80202 (303) 295-1717					

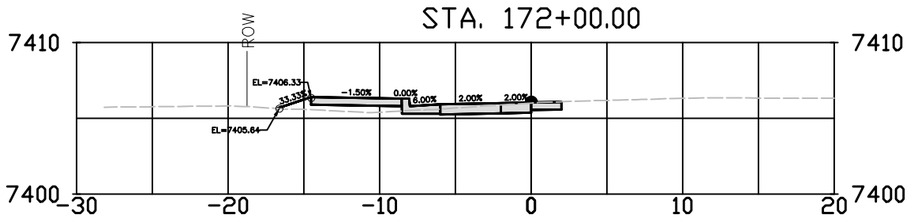
EL PASO COUNTY COLORADO

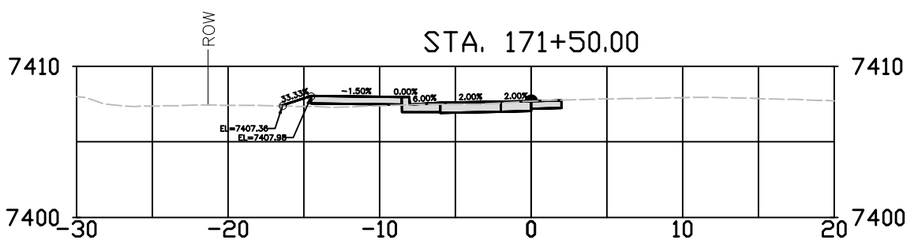
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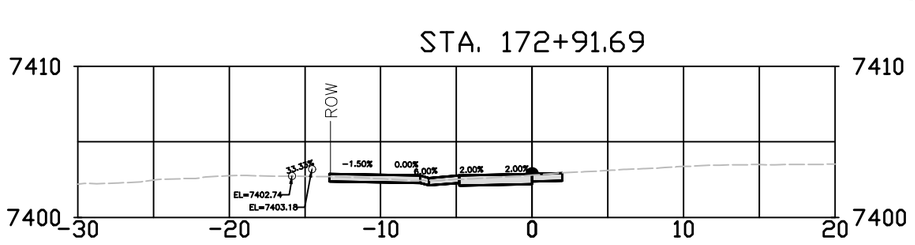
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Detailer:	D. ALDEN		
Sheet Subset:	XSEC	Subset Sheets:	33 of 42

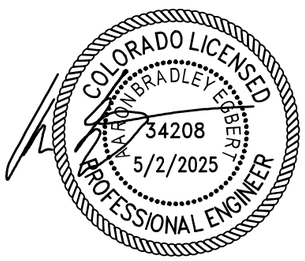
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TAP C040-054	
22894	
Sheet Number	158













(HALF SIZE – 11X17)
HORIZONTAL 1 inch = 5' ft.
VERTICAL 1 inch = 5' ft.

\\US0387-PPFSS03\SHARED_PROJECTS\181711311\600_CADD\640_SHEET_FILES\11311-XS-SHEETS.DWG

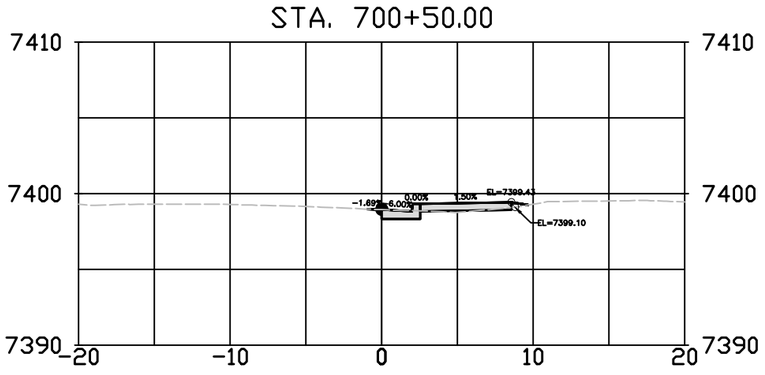
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File Name: 11311-XS-SHEETS.DWG	Date: Comments: Init.	No Revisions:	TAP C040-054
Horiz. Scale: Vert. Scale:		Revised:	22894
Unit Information Unit Leader Initials		Void:	Sheet Number 159

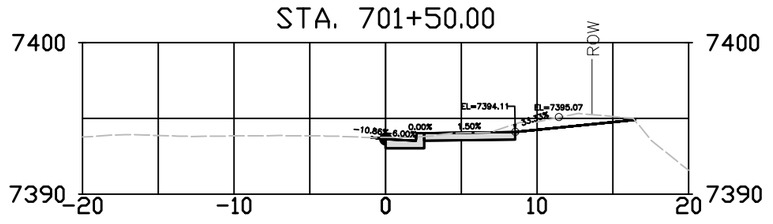
Stantec
410 17TH STREET
SUITE 1400
DENVER, COLORADO 80202
(303) 295-1717

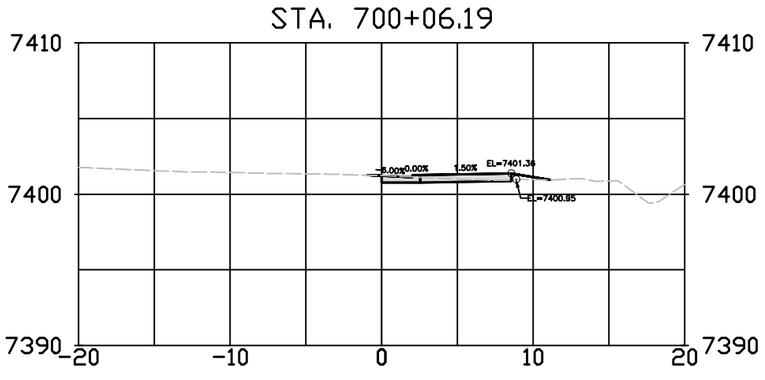
EL PASO COUNTY
COLORADO

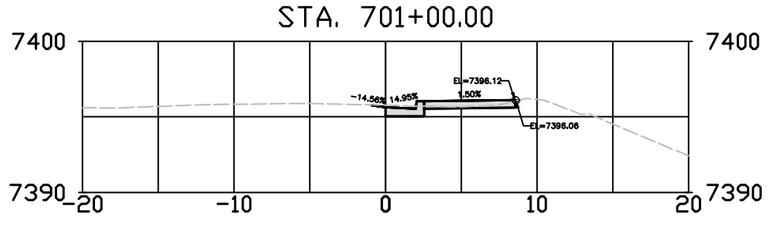
CROSS SECTIONS

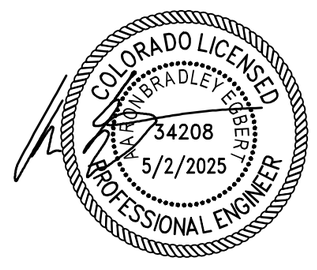
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Detailer: D. ALDEN
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Subset Sheets: 34 of 42

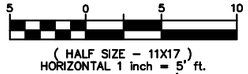








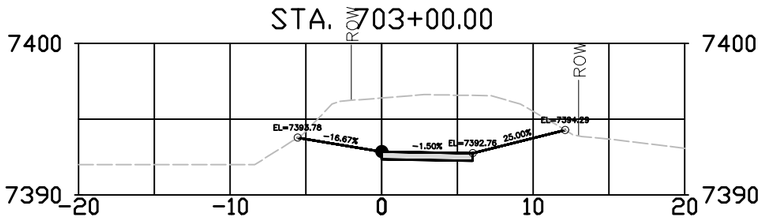


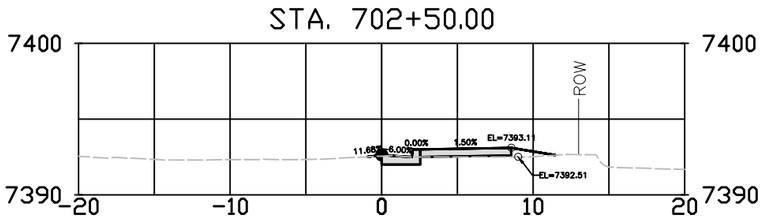


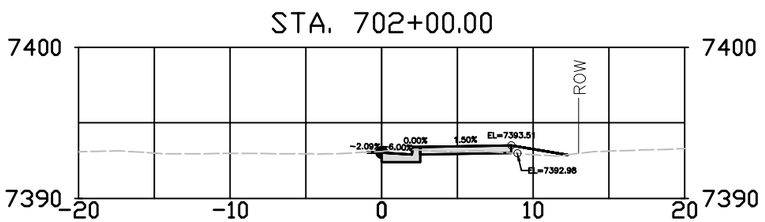
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HORIZONTAL 1 inch = 5' ft.
VERTICAL 1 inch = 5' ft.

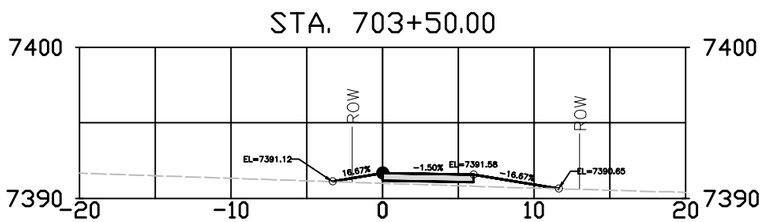
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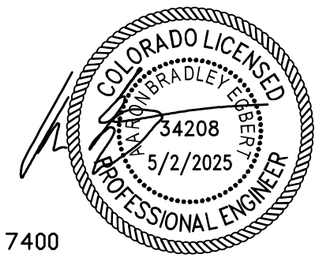
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Horiz. Scale: Vert. Scale:				Revised:	Structure Numbers: / Subset Sheets: 35 of 42
Unit Information Unit Leader Initials				Void:	Project No./Code: TAP C040-054 / 22894
Stantec 410 17TH STREET SUITE 1400 DENVER, COLORADO 80202 (303) 295-1717				EL PASO COUNTY COLORADO	Sheet Number 160













\\US0387-PPFSS03\SHARED_PROJECTS\181711311\600_CADD\640_SHEET_FILES\11311-XS-SHEETS.DWG

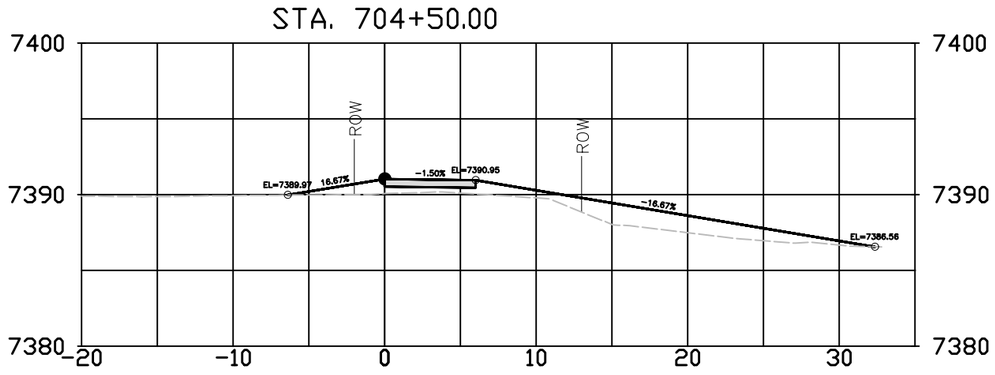
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Horiz. Scale: Vert. Scale:		Revised:	22894
Unit Information Unit Leader Initials		Void:	Sheet Number 161

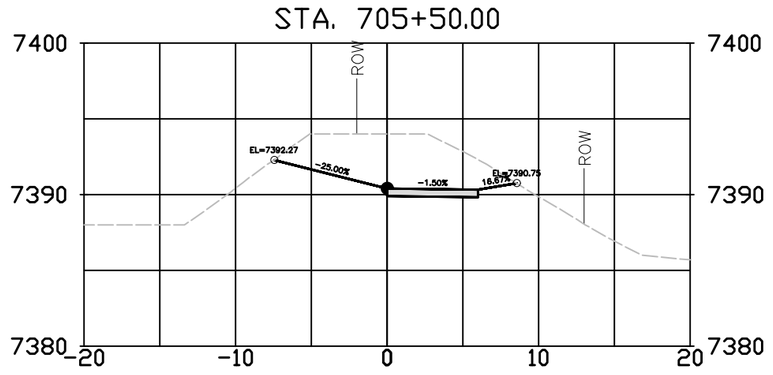
Stantec
410 17TH STREET
SUITE 1400
DENVER, COLORADO 80202
(303) 295-1717

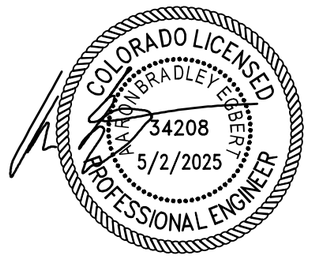
EL PASO COUNTY
COLORADO

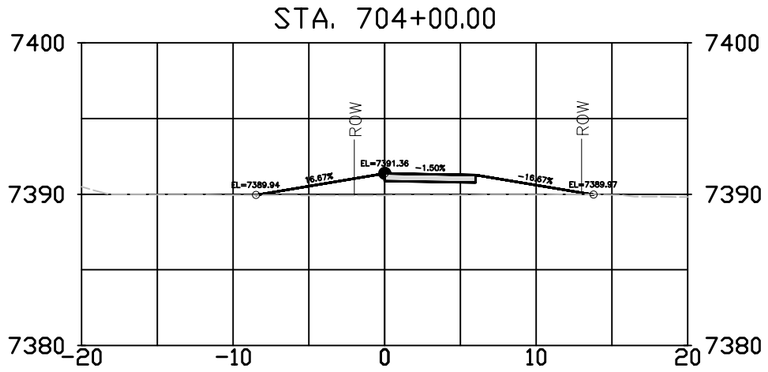
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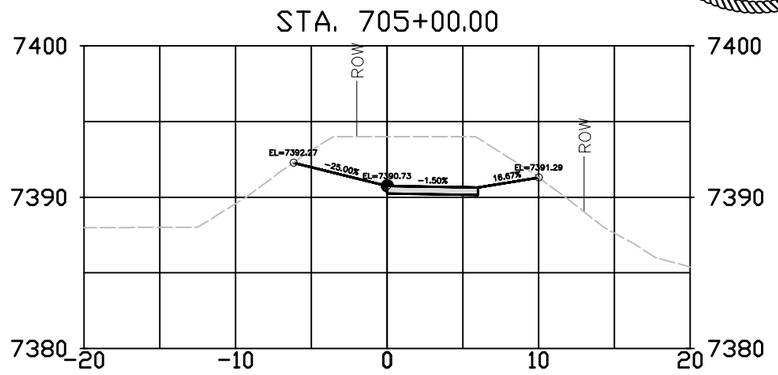
Designer: M WOLF
Detailer: D. ALDEN
Sheet Subset: XSEC
Structure Numbers:
Subset Sheets: 36 of 42













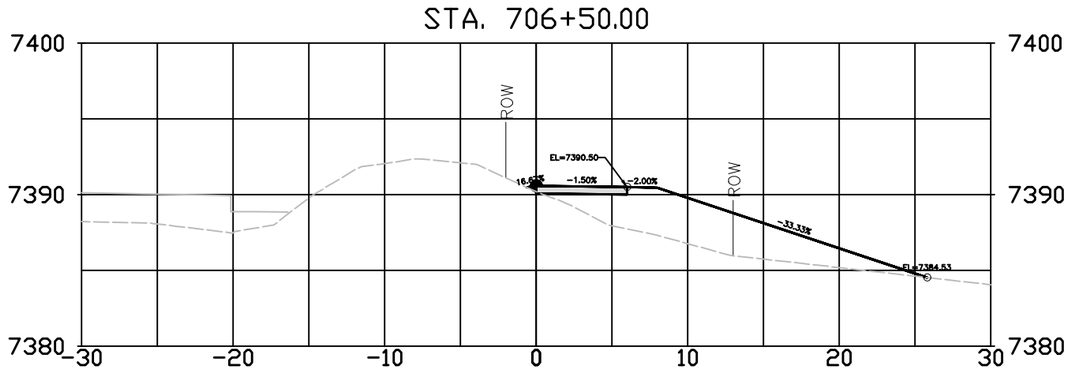
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HORIZONTAL 1 inch = 5' ft.
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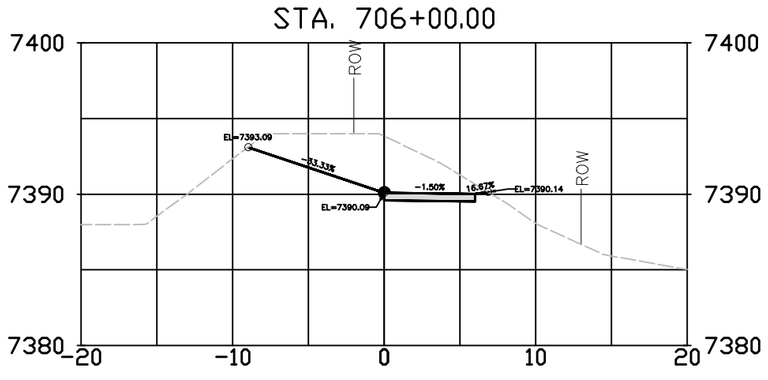
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Horiz. Scale: Vert. Scale:			
Unit Information Unit Leader Initials			
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EL PASO COUNTY
COLORADO

As Constructed	CROSS SECTIONS			Project No./Code
No Revisions:				TAP C040-054
Revised:	Designer: M WOLF	Structure Numbers		22894
Void:	Detailer: D. ALDEN			
	Sheet Subset: XSEC	Subset Sheets: 37 of 42		Sheet Number 162





COLORADO LICENSED
AARON BRADLEY EGBERT
34208
5/2/2025
PROFESSIONAL ENGINEER

5 0 5 10
(HALF SIZE – 11X17)
HORIZONTAL 1 inch = 5' ft.
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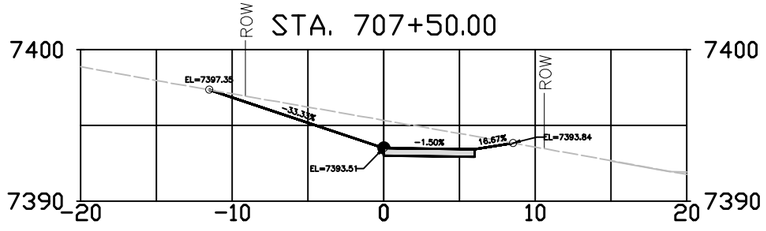
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Unit Information Unit Leader Initials					Void:
Stantec 410 17TH STREET SUITE 1400 DENVER, COLORADO 80202 (303) 295-1717					

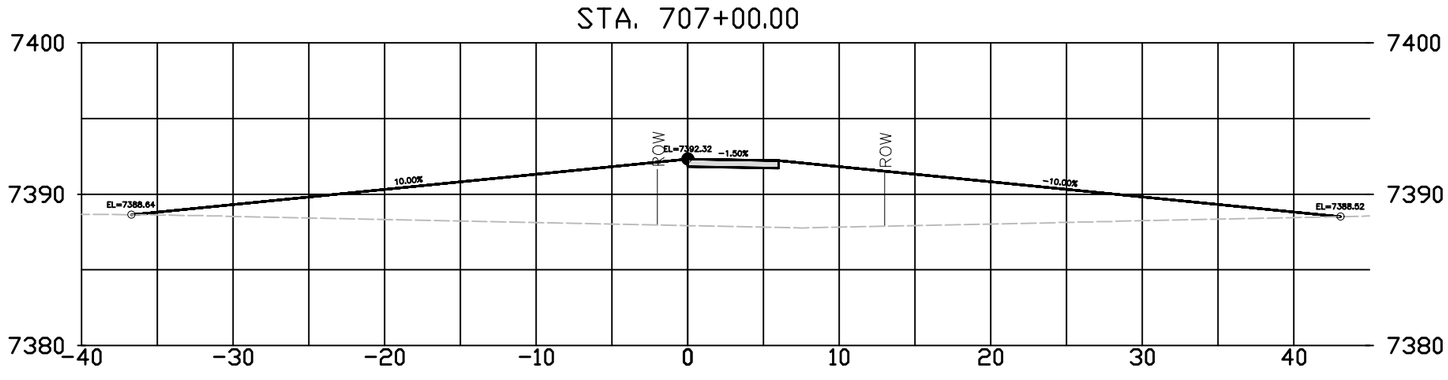
EL PASO COUNTY
COLORADO

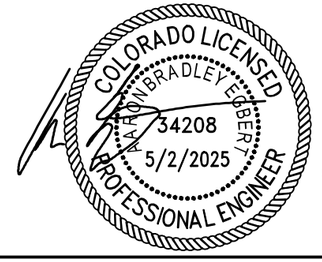
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Designer:	M WOLF	Structure Numbers	
Detailer:	D. ALDEN		
Sheet Subset:	XSEC	Subset Sheets:	38 of 42

Project No./Code	
TAP CO40-054	
22894	
Sheet Number	163







5 0 5 10

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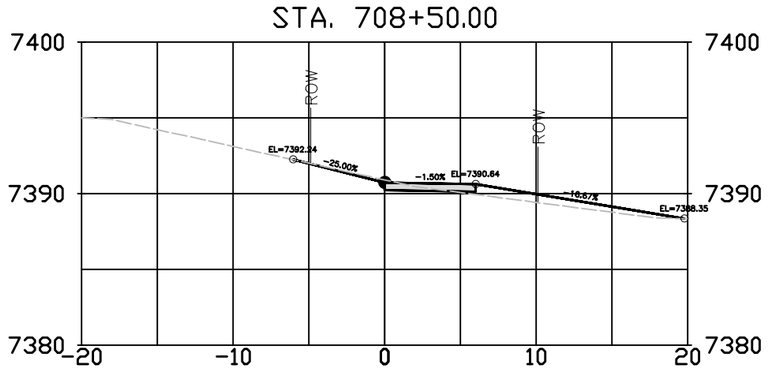
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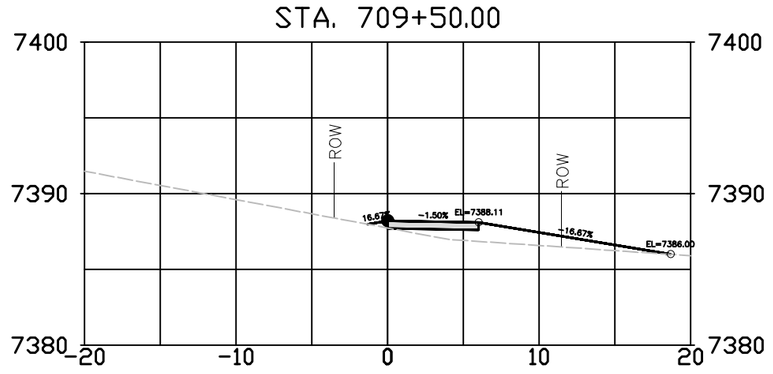
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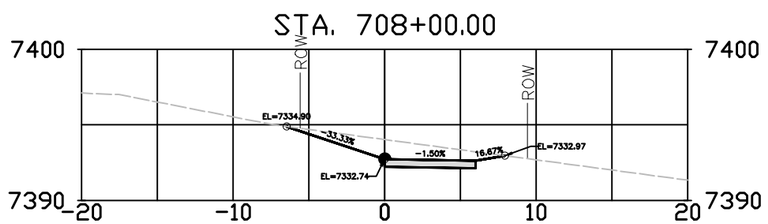
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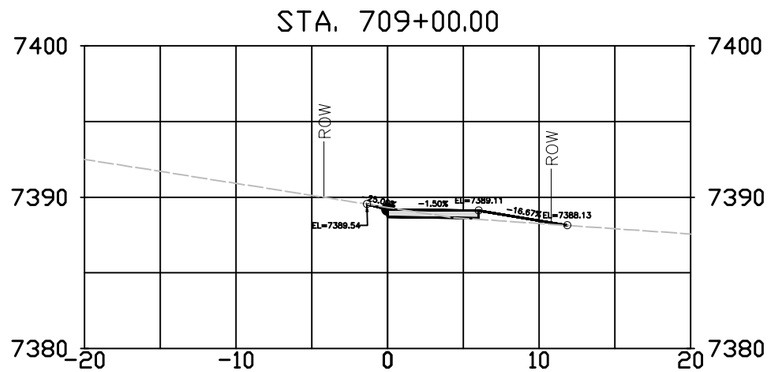
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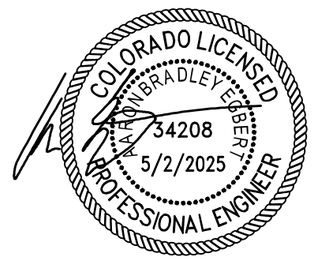
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22894
Sheet Number 164











5 0 5 10

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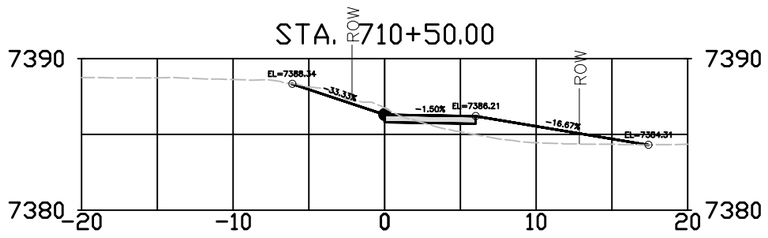
EL PASO COUNTY
COLORADO

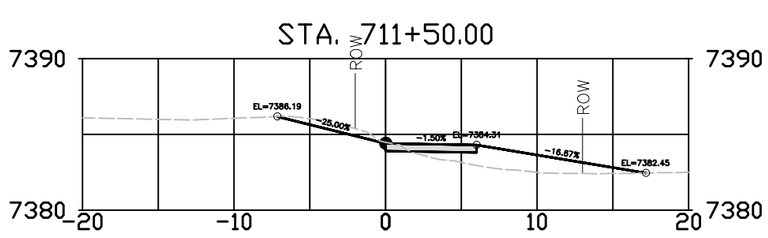
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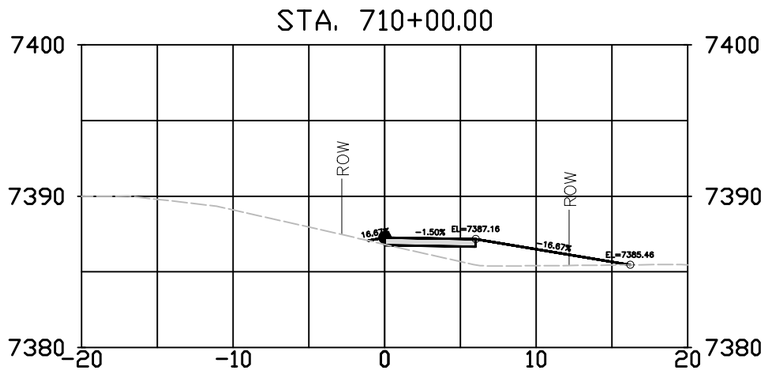
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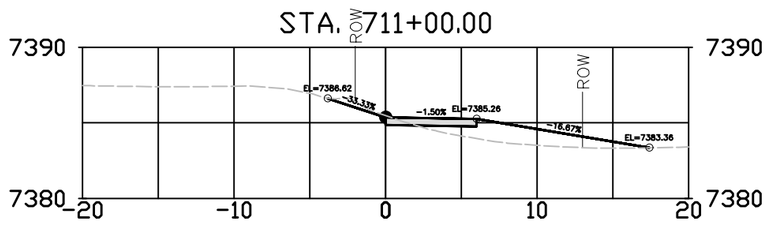
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Detailer: D. ALDEN
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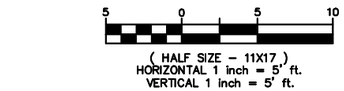
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TAP C040-054
22894
Sheet Number 165



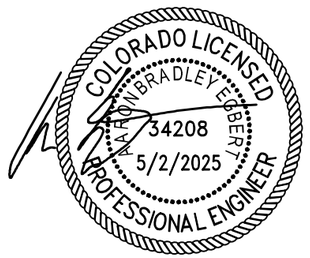








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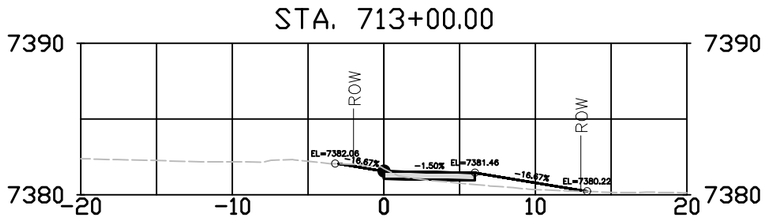
EL PASO COUNTY
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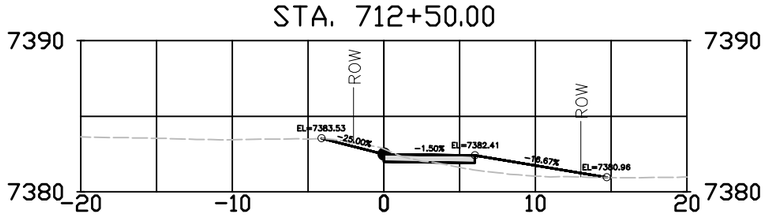
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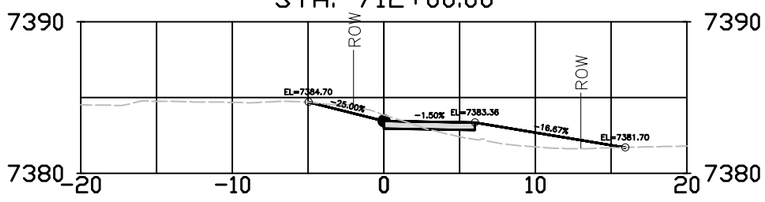
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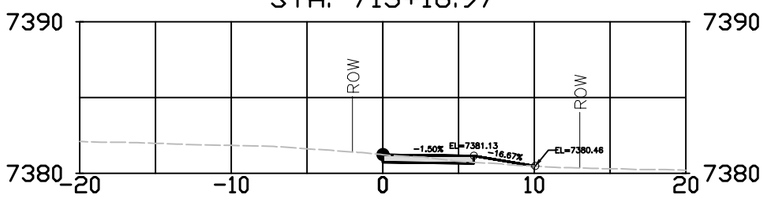
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Detailer: D. ALDEN
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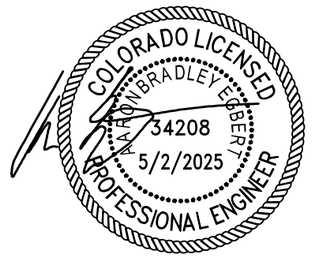
Project No./Code
TAP C040-054
22894
Sheet Number 166











5 0 5 10

(HALF SIZE – 11X17)
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VERTICAL 1 inch = 5' ft.

\\USO387-PPFSS03\SHARED_PROJECTS\18171131\1-600_CADD\640_SHEET_FILES\11311-XS-SHEETS.DWG

Print Date: 6/28/2024
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Sheet Revisions		
Date:	Comments	Init.

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COLORADO

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No Revisions:
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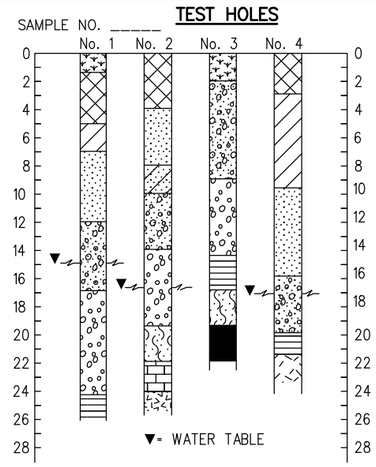
Designer: M WOLF
Detailer: D. ALDEN
Sheet Subset: XSEC
Structure Numbers:
Subset Sheets: 42 of 42

Project No./Code
TAP CO40-054
22894
Sheet Number 167

LEGEND

- TOPSOIL
- OVERBURDEN
- CLAY
- SILT
- SAND
- GRAVEL
- SHALE
- LIMESTONE
- SANDSTONE
- SOLID ROCK (IGNEOUS)
- SOLID ROCK (METAMORPHIC)
- COAL

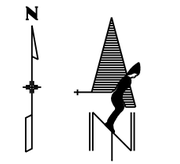
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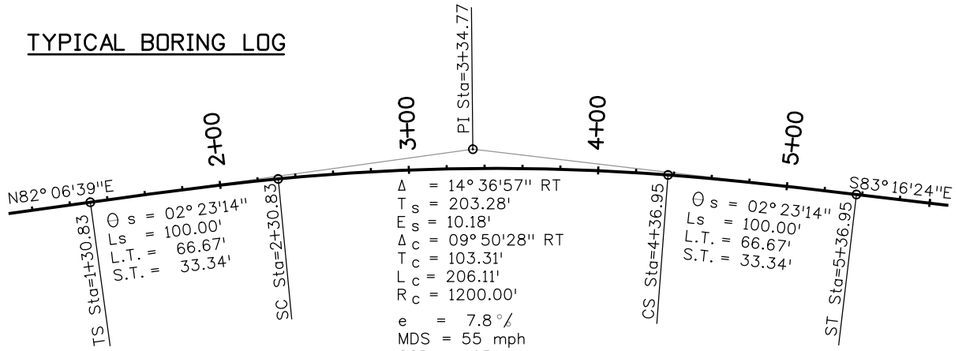
COMPOSITE MATERIALS ARE REPRESENTED BY COMBINATIONS OF THE ABOVE SYMBOLS, SUCH AS:

- SANDY CLAY

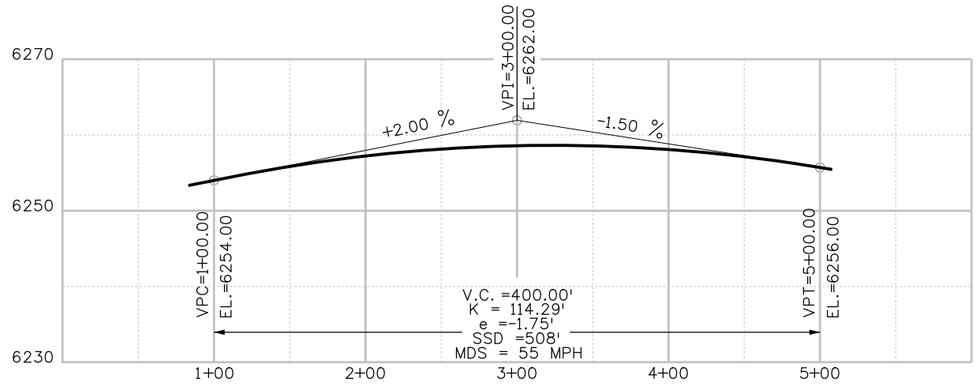
TYPICAL BORING LOG



NORTH ARROW



TYPICAL HORIZONTAL CURVE



TYPICAL VERTICAL CURVE

- TERRAIN SINGLE SHOTS
- TOP OF CUT
- TOE OF FILL

TERRAIN

- GRAVEL ROAD OR DRIVEWAY
- INTERNATIONAL SYMBOL OF ACCESS
- SIDEWALK WITH RAMP
- EDGE OF PAVEMENT
- CENTERLINE OF DIRT ROAD

ROADWAY

- SECTION CORNER
- QUARTER, SIXTEENTH, AND SECTION CORNERS
- PROTECT EXISTING MARKER
- SET EASEMENT MONUMENT
- TEMPORARY EASEMENT POINT
- RIGHT OF WAY MARKER
- BLM MARKER
- PROPERTY PIN
- NOAA MARKER
- QUARTER, SIXTEENTH, AND SECTION CORNERS
- FEDERAL MONUMENT
- WITNESS CORNER
- BENCH MARK
- USGS MARKER
- LOCAL OR PLSS MONUMENT
- SECONDARY CONTROL MONUMENT
- RIGHT OF WAY MARKER
- N 9.88 E 3.81 EL 0.00 — PROJECT CONTROL MONUMENT
- N 10.13 E 3.81 EL 0.00 — DENSIFICATION CONTROL MONUMENT
- N 10.38 E 3.81 EL 0.00 — HIGH ACCURACY REFERENCE NETWORK CONTROL MONUMENT
- PERMANENT, PROPERTY, SLOPE, & UTILITY EASEMENT LINE
- TEMPORARY EASEMENT LINE (EXISTING)
- PROPERTY BOUNDARY LINE (EXISTING AND PROPOSED)
- ACCESS CONTROL LINE
- BARRIER ACCESS CONTROL LINE
- RIGHT OF WAY LINE
- VIRGIN RIGHT OF WAY LINE (PROPOSED)
- CITY LIMIT LINE (EXISTING)
- COUNTY LINE (EXISTING)
- QUARTER SECTION LINE
- SECTION LINE
- SIXTEENTH SECTION LINE
- STATE LINE (EXISTING)
- TOWNSHIP LINE (EXISTING)

SURVEY/ROW

GENERAL NOTES

1. EXISTING FEATURES SHOWN AS SCREENED WEIGHT (LIGHT GRAY SCALE), EXCEPT AS NOTED WITH THE WORD (EXISTING). PROPOSED OR NEW FEATURES SHOWN AS FULL WEIGHT WITHOUT SCREENING, EXCEPT AS NOTED WITH THE WORD (PROPOSED).
2. THESE SYMBOLS ARE INTENDED TO EXPLAIN THE VARIOUS TOPOGRAPHIC FEATURES INVOLVED ON THE DESIGN PLAN SHEETS WHICH ARE PREPARED AT VARIOUS SCALES. NOTES ARE ADDED WHERE NECESSARY TO CLARIFY THE SYMBOL. A LEGEND IS PROVIDED IN THE PLANS FOR SYMBOLS NOT SHOWN ON THE STANDARD SYMBOLS SHEETS.
3. GUARDRAIL, CURB AND GUTTER, ETC., ARE REPRESENTED BY A SYMBOL WITH TYPE GIVEN BY NOTE.

- BACK OF CURB
- TOP OF CURB
- FLOW LINE (FL)
- EDGE OF PAVEMENT
- CURB AND GUTTER
- CURB AND GUTTER-TYPE 2, 4 OR 6
- GUTTER
- CURB CUT
- CURB, GUTTER OR OTHER

CURB AND GUTTER

- GUARDRAIL END ANCHOR
- GUARD POST
- GUARDRAIL-TYPE 3 OR 6
- GUARDRAIL-TYPE 4 OR 7
- GUARDRAIL-TYPE 5 OR HANDRAIL
- GUARDRAIL-TYPE 3A DOUBLE OR TYPE 6 DOUBLE
- CABLE BARRIER

GUARDRAIL

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Last Modification Date: 07/04/12 Initials: LTA	(R-X)		
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Drawing File Name: 100010103.dgn	(R-X)		
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	(R-X)		

Colorado Department of Transportation
DEPARTMENT OF TRANSPORTATION
4201 East Arkansas Avenue
Denver, Colorado 80222
Phone: (303) 757-9083
Fax: (303) 757-9820
Project Development Branch DD/LTA

STANDARD SYMBOLS

Issued By: Project Development Branch on July 4, 2012

STANDARD PLAN NO.
M-100-1
Sheet No. 1 of 3

ROCK, MASONRY OR MECHANICALLY STABILIZED WALL (FACE)

BRIDGE CURB

BRIDGE RAIL

BRIDGE RAIL-TYPE 3A

FLOW LINE CBC

STRUCTURES MISCELLANEOUS

STRUCTURE

MISCELLANEOUS BUILDING STRUCTURE (PRIMARY)

MISCELLANEOUS STRUCTURE (SECONDARY)

FOUNDATION OR PAD (CONCRETE OR BLOCK)

BUILDING STRUCTURES

RR TELEGRAPH POLE

RR SWITCH

RR GUY POLE

RR SIGNALS WITH OR WITHOUT GATE

RR CROSS BUCK SIGN

RR SIGNAL CONTROLLER CABINET

RR MISCELLANEOUS SYMBOL

RR TRACK CENTERLINE

RAILROAD

BOULDER UNDER 6FT

GEOLOGY MISC SYMBOL

MINESHAFT SYMBOL

ROCK OUTCROP

BOULDER FIELD OR ROCK OVERHANG

GEOLOGY

COMBINATION WIRE FENCE WITH GATE

CHAIN LINK FENCE WITH GATE

BARBED WIRE FENCE WITH GATE

SOUND OR BARRIER FENCE WITH GATE

DEER FENCE WITH GATE

WOOD FENCE WITH GATE

SNOW FENCE WITH GATE

PF PF PF PF PF PF PF

PLASTIC FENCE

SF SF SF SF SF SF SF

SILT FENCE

DEBRIS FENCE

FENCE

DECIDUOUS TREE

DECIDUOUS SHRUB

TEETER TOTTER SYMBOL

SWING SET SYMBOL

CONIFEROUS TREE

CONIFEROUS SHRUB

MISCELLANEOUS TREES

BENCH

SPRINKLER HEAD

TREES GROVE

HEDGE OR SHRUB GROVE

EDGE OF WETLANDS

LANDSCAPING

HAZARD WASTE MONITORING WELL

ENVIRONMENTAL CONCERN SITE

EROSION LOG

ROCK CHECK DAM

CONCRETE WASHOUT STRUCTURE

DROP INLET EROSION PROTECTION

TEMPORARY BERM

SOIL RETENTION BLANKET

PIPE INLET EROSION PROTECTION

RIGID INLET PROTECTION

STORM DRAIN INLET PROTECTION

EROSION CHECK

EROSION LOG DITCH CHECK

SILT DIKE

SEDIMENT TRAP/ DEWATERING STRUCTURE

EXISTING WETLAND PATTERN

TEMPORARY SLOPE DRAIN

STABILIZED CONSTRUCTION ENTRANCE

LDA LDA LDA LDA LDA LDA

LIMITS OF DISTRUBED AREA

ENVIRONMENTAL CONCERN

HAZARDOUS WASTE SITE

NW NW NW NW NW NW NW NW

NOXIOUS WEED

ENVIRONMENTAL

SA SA

SANITARY SEWER MANHOLE

SANITARY SEWER MISCELLANEOUS SYMBOL

SIZE, MATERIAL, OWNER

SANITARY SEWER PIPE

SANITARY SEWER PIPE MISCELLANEOUS

SANITARY SEWER

METAL CONCRETE

PIPE WITH END SECTION

HEADWALL

PIPE MISCELLANEOUS

PIPES

CHECK DAM UNDER 4 FT

HEADGATE 1

DIVERSION BOX SYMBOL

SPRING SYMBOL

FLOW GAUGE

MISCELLANEOUS WATERWAYS

DITCH WITH FLOW

EDGE OF WATER, CANALS, PONDS, STREAM OR RIVER

DITCHES AND WATERWAY

INLET TYPE 13

INLET TYPE C

INLET TYPE D

INLET VANE GRATE

INLET TYPE R XX FT LENGTH

ST ST

STORM SEWER MANHOLE

G

MANHOLE EXISTING

ST

STORM SEWER MISCELLANEOUS

STORM SEWER PIPE

STORM SEWER PIPE MISCELLANEOUS

STORM SEWER

W

WATER SPIGOT

WATER VALVE

W W

WATER MANHOLE

FIRE HYDRANT

WATER METER

W

WATER WELL SYMBOL

SIZE, MATERIAL, OWNER

W W W W W W W

WATER LINE

W? W? W? W? W? W? W?

WATER MISCELLANEOUS LINE

WATER

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Colorado Department of Transportation
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Project Development Branch DD/LTA

STANDARD SYMBOLS

Issued By: Project Development Branch July 4, 2012

STANDARD PLAN NO.
M-100-1
Sheet No. 2 of 3

PROPANE TANK

GAS JUNCTION BOX

GAS VAULT

GAS LINE MARKER OR AIR VENT

GAS METER LOW PRESSURE

GAS METER HIGH PRESSURE

GAS MISCELLANEOUS

GAS LIGHT

GAS VALVE HIGH OR LOW PRESSURE

G — G — G — SIZE G — G — G — G

GAS LINE LOW PRESSURE

G — HP — G — SIZE HP — G — HP — G

GAS LINE HIGH PRESSURE

PG — PG — PG — PG — PG — PG — PG

PROPANE GAS LINE

G? — G? — G? — G? — G? — G? — G?

GAS LINES MISCELLANEOUS

GAS

OIL METER HIGH AND LOW PRESSURE

OIL VALVE HIGH AND LOW PRESSURE

OIL MISCELLANEOUS

O — O — O — O — O — O — O

OIL LINE LOW OR HIGH PRESSURE

O? — O? — O? — O? — O? — O? — O?

OIL MISCELLANEOUS LINE

OIL

GRAVE HEADSTONE SYMBOL

MAIL DROP BOX

FLAG POLE

TRASH BARREL POST

GRAVE SYMBOL

RADIO STATION ANTENNA

MISCELLANEOUS TOPOGRAPHY

MISCELLANEOUS TOPOGRAPHY

CAMPSITE MARKER

TRAILER ELECTRIC HOOKUP

TRAILER DUMP STATION

CAMPFIRE RING

TRAILER SEWER INLET

TRAILER WATER HOOKUP

CAMPSITE GRILL

CAMPSITE TABLE

CAMPING

LIGHT STANDARD

HIGH MAST LIGHT STANDARD

SPOT OR FLOOD LIGHT

LIGHTING

ELECTRICAL PEDESTAL OR PULL BOX

TRANSMISSION TOWER

WIND POWERED GENERATOR

RELOCATED LIGHT STANDARD

DECORATIVE LIGHT STANDARD

CATENARY POLE FOUNDATION

ELECTRICAL MANHOLE

POWER POLE

TRANSFORMER ON POLE

ELECTRICAL OUTLET

ELECTRICAL MISCELLANEOUS

GUY WIRE

ELECTRICAL VAULT OR TRANSFORMER

GUY POST

FIRE ALARM BOX

E — E — E — E — E — E — E

ELECTRICAL UNDERGROUND LINE

E — OH — E — OH — E — OH — E

ELECTRICAL OVERHEAD LINE

E? — E? — E? — E? — E? — E? — E?

ELECTRICAL MISCELLANEOUS LINE

ELECTRICAL

CABLE TV POLE

CABLE TV RISER

COMBINATION POLE-POWER,TELEPHONE

TV ANTENNA

TV MISCELLANEOUS

TV MANHOLE

TV — TV — TV — TV — TV — TV — TV

TV UNDERGROUND CABLE

TV — OH — TV — OH — TV — OH — TV

TV OVERHEAD CABLE

TV? — TV? — TV? — TV? — TV? — TV? — TV?

TV MISCELLANEOUS CABLE

TELEVISION

TELEPHONE GUY POLE

FIBER OPTIC CABLE MARKER

TELEPHONE MANHOLE

COMBINATION POLE-POWER

TELEPHONE MISCELLANEOUS

COMBINATION GUY POLE-POWER

T — T — T — T — T — T — T

TELEPHONE UNDERGROUND CONDUIT OR CABLE

FO — FO — FO — FO — FO — FO — FO

FIBER OPTICS UNDERGROUND CABLE

T — OH — T — OH — T — OH — T

TELEPHONE OVERHEAD LINE

T? — T? — T? — T? — T? — T? — T?

TELEPHONE MISCELLANEOUS LINE

TELEPHONE

FIBER MARKER DOME

FIBER MARKER SLATE

RWIS - REMOTE WEATHER SENSOR

VMS-BUTTERFLY

VMS-GROUND

VMS-CANTILEVER

VMS-SIGN BRIDGE

ITS — ITS — ITS — ITS — ITS — ITS — ITS

ITS CONDUIT

INTELLIGENT TRANSPORTATION SYSTEM

CENTER YELLOW SOLID DOUBLE

CENTER YELLOW SOLID BROKEN (NO PASS)

4 INCH WIDE

8 INCH WIDE

LANE LINE BROKEN

LANE DROP

CHANNELIZING OR EDGE LINE

4 INCH WIDE

8 INCH WIDE

DOTTED BROKEN

STOP LINE

- INTERNATIONAL SYMBOL OF ACCESS

R R - RAILROAD CROSSING

- BICYCLE PED ACCESS

TRAFFIC STRIPING

TRAVEL DIRECTION

BARRIER LIGHT

FLAGGER

G B CRY R Y

DELINEATOR-TYPE I

SEQUENCING ARROW PANEL

FLASHING BEACON

CRY-R BK2BK Y-R BK2BK Y-Y BK2BK Y-Y BK2BK

CRY-CRY CRY-CRY BK2BK

DELINEATOR-TYPE II

CRY-CRY-R BK2BK Y-Y-R BK2BK Y-Y-Y BK2BK

DELINEATOR-TYPE III

BUTTERFLY SIGN

HALF BUTTERFLY SIGN

IMPACT ATTENUATOR

SIGN ASSEMBLY

SINGLE POST SIGN

DOUBLE POST SIGN

SIGN-WITH FLASHING BEACON

ROAD CLOSURE GATE BEACON SYMBOL

ROAD CLOSURE GATE SYMBOL

DEER REFLECTORS

TRAFFIC CONTROL MISCELLANEOUS DEVICE

TRAFFIC CONTROL DEVICE

TRAFFIC CONTROL

SIGNAL SPAN WIRE POLE

DOUBLE MAST ARM POLE

LUMINAIRE

SIGNAL FACE

SIGNAL POLE WITH MAST ARM

SIGNAL FACE WITH BACKPLATE

SIGNAL CONTROLLER AND CABINET (4 FT)

TELEMETRY ANTENNA

PULL BOX

MICRODETECTOR

VIDEO DETECTION CAMERA

FIRE PREEMPTION UNIT AND TIMER

PEDESTRIAN SIGNAL FACE

PEDESTRIAN PUSH BUTTON

PEDESTAL POLE

PULL BOX SPECIAL

TR — TR — TR — TR — TR — TR — TR

TRAFFIC CONDUIT

TRAFFIC SIGNAL

Computer File Information		Sheet Revisions	
Creation Date: 07/04/12 Initials: DD		Date:	Comments
Last Modification Date: 07/04/12 Initials: LTA	R-X		
Full Path: www.coloradodot.info/business/designsupport	R-X		
Drawing File Name: 100010303.dgn	R-X		
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	R-X		

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Sheet No. 3 of 3

A

AAC	Aluminum Arch Culvert
AADT	Annual Average Daily Traffic
ABC	Aggregate Base Course
Abut	Abutment
ACM	Abestos Containing Materials
ADA	Americans with Disabilities Act
ADT	Average Daily Traffic
AE	Architect-Engineer, Architecture, Engineering
AEC	Architecture, Engineering and Construction
AGA	American Gas Association
Alt	Alternate
API	American Petroleum Institute
APL	Approved Products List
Approx	Approximate
APWA	American Public Works Association
AQCC	Air Quality Control Commission
ARE	Additional Requested Element (Design/Build Terminology)
AREMA	American Railway Engineering & Maintenance-of-Way Association
AHSTA	Ahead Station
ARA	Asphalt Rejuvenating Agent
ASBI	American Segmental Bridge Institute
ASD	Allowable Stress Design
ASOP	American Society of Photogrammetry
ASR	Alkali Silica Reactivity
ASSE	American Society of Sanitary Engineering, American Society of Safety Engineers
Asst	Assistant
ATB	Asphalt Treated Base
ATM	Active Traffic Management
AUTS	Actual Ultimate Tensile Strength

B

Bk to Bk	Back to Back
BEI	By Equal Increments
BM	Bench mark
BPF	Blows Per Foot
BAFO	Best and Final Offer
Bbl	Barrels
BC	Bolt Circle
Beg	Begin
Bk	Back
Bldg	Building
BLM	Bureau of Land Management
Blvd	Boulevard
BMP	Best Management Practice
BNSF	Burlington Northern & Santa Fe Railroad
Bott	Bottom
BP	Bearing Pressure
Brg	Bearing
Bk Sta	Back Station
BT	Beginning of Transition
Btwn	Between

C

℄	Centerline
C&G	Curb and Gutter
CA	Concrete Arch
CAC	Concrete Arch Culvert
CAD	Computer Aided Design, Computer Aided Drafting
CADD	Computer Aided Design and Drafting
CBC	Concrete Box Culvert
CBG	Concrete Box Girder
CBGC	Concrete Box Girder Continuous
CBGCP	Concrete Box Girder Continuous Prestressed
CBGP	Concrete Box Girder Prestressed
CBGS	Concrete Box Girder Segmented
CBR	California Bearing Ratio
CCR	Code of Colorado Regulations, as amended
CDTPG	Concrete Double-Tee Prestressed Girder
CE	Construction Engineering
CF	Cubic Feet
CFS	Cubic Feet per Second
CG	Center of Gravity
CHP	Colorado Highway Patrol
CI	Cast Iron or Concrete on Rolled I-Beam
CIC	Concrete on Rolled I-Beam Continuous
CICK	Concrete on Rolled I-Beam Continuous & Composite
CICKP	Concrete on Rolled I-Beam Continuous & Composite Prestressed
CIK	Concrete on Rolled I-Beam Composite
CIKP	Concrete on Rolled I-Beam Composite Prestressed
CIP	Cast-in-Place or Cost in Place
CIR	Cold In-Place Recycling
Clr	Clear
cm	Centimeters
CM	Corrugated Metal
CMAQ	Congestion Mitigation Air Quality
CMP	Corrugated Metal Pipe
CMU	Concrete Masonry Unit
COC	Certificate of Compliance
Col	Column
Comp	Composite
Conc	Concrete
Conn	Connection
Const	Construction
Const Jt	Construction Joint
Cont	Continuous
Corr	Corrugated
CPE	Corrugated Polyethylene Pipe
CPG	Concrete Prestressed Girder (Precast)
CPGC	Concrete Prestressed Girder Continuous (Precast)
CPT	Corrugated Polyethylene Tubing
CR	County Road
CRF	Concrete Rigid Frame
CS	Curve to Spiral, Commercial Standard, Concrete Slab
CSC	Concrete Slab Continuous
CSG	Concrete Slab & Girder (Poured in Place)
CSGC	Concrete Slab & Girder Continuous (Poured in Place)
CSGCP	Concrete Slab & Girder Continuous Prestressed (Poured in Place)
CSGP	Concrete Slab & Girder Prestressed (Poured in Place)
Csk	Countersunk
CSL	Cross Hole Sonic Logging
CSP	Corrugated Steel Pipe or Concrete Slab Prestressed
CSPC	Concrete Slab Prestressed Continuous
CTB	Cement Treated Base
CTR	Certified Test Reports
Ctr	Center
CY	Cubic Yards
CZ	Clear Zone

D

D	Degree of Curvature, or Density
DB	Design Build
DAS	Deformed Anchor Stud
dB	decibels
DBA	Deformed Bar Anchor
Dbl	Double

GENERAL NOTES

1. ABBREVIATIONS SHOULD BE UPPER AND LOWER CASE LETTERS EXCEPT WHERE ALL UPPER CASE LETTERS ARE REQUIRED.
   Const Jt = Construction Joint
2. ACRONYMS SHALL BE ALL UPPER CASE LETTERS.
   CBC = Concrete Box Culvert
3. ABBREVIATIONS SHALL BE USED ONLY WHEN THE WORDS CANNOT BE COMPLETELY SPELLED OUT DUE TO MULTIPLE FACTORS, SUCH AS A LACK OF SPACE ON THE SHEET.

Deg, °F, °C,	Degrees (Thermal) - Degrees Fahrenheit, Degrees Celsius
Dgn	Design or Microstation Drawing
DH	Design Height or Avg height for qty calculations
DHV	Design Hour Volume
DHW	Design High Water
DI	Ductile Iron
Dia	Diameter
DNR	Department of Natural Resources
DOW	Division of Wildlife (Colorado)
DRCOG	Denver Regional Council of Governments
DTD	Division of Transportation Development (CDOT)
DTM	Digital Terrain Model
Dwg	AutoCAD Drawing

E

e.g.	Exempli Gratia (For Example)
EA	Environmental Assessment
EATB	Emulsified Asphalt Treated Base
EB	Eastbound
EF	Each Face
Elev	Elevation
Engr	Engineer
EPA	Environmental Protection Agency
EPDM	Ethylene Propylene Diene Monomer-class rubber
Eq	Equal
ESAL	Equivalent Single Axle Load
Est	Estimate
ET	Ending of Transition
EVT	Event Point (InRoads Terminology)
EW	Each Way
E	Expansion Bearing
Exc	Excavation
Exp Jt	Expansion Joint
Ext	Exterior

Computer File Information		
Creation Date: 07/04/12	Initials: DD	
Last Modification Date: 07/04/12	Initials: LTA	(R-X)
Full Path: www.coloradodot.info/business/designsupport		(R-X)
Drawing File Name: M0100020104.dgn		(R-X)
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English		(R-X)

Sheet Revisions	
Date:	Comments

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ACRONYMS AND ABBREVIATIONS

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M-100-2

F

F	Fixed Bearing
FL	Flow Line
FAA	Federal Aviation Administration
FASB	Foamed Asphalt Stabilized Base
FCM	Fracture Critical Member
FDR	Full Depth Reclamation
Fed	Federal
FEMA	Federal Emergency Management Agency
FES	Flared End Section
FF	Far Face or Front Face
Fig	Figure
Fin	Finished
Fl	Floor
Flg	Flange
FM	Factory Mutual
FMM	Field Materials Manual
FPM	Feet Per Minute
FPS	Feet Per Second
FRA	Federal Railroad Administration
Freq	Frequency
FRP	Fiber Reinforced Polymer
FS	Planned Finish Surface
Ft	Feet
Ft Kip	Foot Kips
Ft Lb	Foot Pounds
FTA	Federal Transit Administration
Ftg	Footing
FWD	Falling Weight Deflectometer

G

Ga	Gage or Gauge
Gal	Gallons
Galv	Galvanized
Gd	Guided expansion bearing
Gir, G	Girder
GIS	Geographical Information System
GL	Girt Line
GPM	Gallons Per Minute
GPS	Global Positioning System
GRI	Geosynthetic Research Institute
GRS	Geosynthetic Reinforced Soil
GSI	Geosynthetic Institute

H

HAS	Headed Anchor Stud
HAZMAT	Hazardous Materials
HC	Horizontal Clearance
HCL	Horizontal Control Line
HCM	Highway Capacity Manual
Hd	Head
HDPE	High Density Polyethylene
HDPP	High Density Polypropylene
Hex Hd	Hexagonal Head
HID	High Intensity Discharge (Lamps)
HIR	Hot In-Place Recycling
HLMR	Highload Multi-Rotational
HMA	Hot Mix Asphalt
Horiz	Horizontal
HOV	High-Occupancy Vehicle
HP	Horsepower
HPC	High Performance Concrete
HS	High Strength
Ht	Height
HW	High Water
Hwy	Highway
Hyd	Hydraulic

I

ICEA	Insulated Cable Engineers Association
ID	Inside Diameter
IMP	Incident Management Plan
In. Kips	Inch Kips
In. Lb.	Inch Pounds
In.	Inches
Incl	Included
Int	Interior
Inv	Invert
IRI	International Roughness Index
ISO	International Organization for Standards
ITAA	Information Technology Association of America
ITS	Intelligent Transportation System
IVHS	Intelligent Vehicle Highway System

J

JB	Junction Box
JPCP	Jointed Plain Concrete Pavement
Jt	Joint

K

Kip	Thousand Pounds
KSF	kips per square foot
KSI	Kips per square inch
KW	Kilowatt

L

L	Length, Angle(steel)
Lb	Pounds
Lb/Ft	pound per foot
Lb/SY	Pounds per square yard
Lb-Ft	pound foot
LCCA	Life Cycle Cost Analysis
LED	Light Emitting Diode
LEED	Leadership in Energy and Environmental Design
LF	Linear Feet
LFD	Load Factor Design
LL	Liquid Limit
LLDPE	Linear Low-Density Polyethylene
LRFD	Load and Resistance Factor Design
LS	Lump Sum or Length of Spiral
Lt	Left
LTB	Lime Treated Base
LTDS	Required Long Term Design Strength
Lum	Luminaire

M

m	Meters
MA	Mobile Attenuator
Maint	Maintenance
MARV	Minimum Average Roll Value
Matl	Material
Max	Maximum
MBTA	Migratory Bird Treaty Act
MFBM	Thousand Foot Board Measure
Mfg	Manufactured or Manufacturer
MHT	Method of Handling Traffic
Mi	Mile
Min	Minimum
Misc	Miscellaneous
mm	Millimeters
MP	Milepost
MPH	Miles Per Hour
M_R	Resilient Modulus
MR	Modulus of Rupture

N

NAD	North American Datum
NAVD	North American Vertical Datum
NB	Northbound, Total Number of Blocks
N_{DES}	Recommended SuperPave™ Gyratory Design Revolution
NDT	Nondestructive Testing
NECA	National Electrical Contractors Association
NEPA	National Environmental Policy Act
NESC	National Electric Safety Code
NF	Near Face
NFPA	National Fire Protection Association
NGS	National Geodetic Survey
NGVD	National Geodetic Vertical Datum of 1929
NHS	National Highway System
NICET	National Institute for Certification of Engineering Technologies
NIP	Nail in Place
NMAS	Nominal Maximum Aggregate Size
No	Number
Nom	Nominal
NPDES	National Pollutant Discharge Elimination System
NPT	National Pipe Thread
NS	Near Side
NTCIP	National Transportation Communications for ITS Protocol
NTP	Notice to Proceed
NTS	Not to Scale

Computer File Information		Sheet Revisions	
Creation Date: 07/04/12 Initials: DD		Date:	Comments
Last Modification Date: 07/04/12 Initials: LTA	(R-X)		
Full Path: www.coloradodot.info/business/designsupport	(R-X)		
Drawing File Name: M0100020204.dgn	(R-X)		
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	(R-X)		

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M-100-2

O

OC	On Center
OD	Outside Diameter
OGFC	Open Grade Friction Course
OJT	On-the-Job Trainee or On-the-Job Training
Opp Hand	Opposite Hand
oz	Ounces

P

PC	Point of Curve
PCA	Portland Cement Association
PCBC	Concrete Box Culvert Precast
PCC	Point of Compound Curve
PCCP	Portland Cement Concrete Pavement
PDA	Pile Driving Analyzer
PE	Preliminary Engineering, or Professional Engineer or Permanent Easement
Ped	Pedestrian
PG	Profile Grade or Performance Grade
PGL	Profile Grade Line
PI	Point of Intersection
PL, Pl	Plate
PLS	Professional Land Surveyor
PM	Project Manager
PMBB	Plant Mix Bituminous Base
PMBP	Plant Mix Bituminous Pavement
PMSC	Plant Mix Seal Coat
POC	Point on Curve
POSS	Point of Slope Selection
POT	Point on Tangent
PPE	Personal Protective Equipment
PRC	Point of Reverse Curve
Proj	Project or Projection
psf	Pounds per square foot
psi	Pounds per square inch
PT	Point of Tangent
PTFE	Polytetrafluoroethylene
PTI	Post-Tensioning Institute
PUC	Public Utilities Commission
PVC	Poly Vinyl Chloride (pipe), Point of Vertical Curve
PVI	Point of Vertical Intersection
Pvmt	Pavement
PVT	Point of Vertical Tangency

Q

Q	Peak Discharge or Flow Volume
QA	Quality Assurance
QC	Quality Control
QMP	Quality Management Plan
QML	Qualified Manufacturers List

R

R	Radius
RA	Rubble Arch
RAC	Rubble Arch Culvert
rad	radians
RAP	Reclaimed Asphalt Pavement
RAS	Reclaimed Asphalt Shingles
RC	Reverse Crown
RCC	Roller Compacted Concrete
RCP	Reinforced Concrete Pipe
RCPC	Reinforced Concrete Pipe Culvert
Rdwy	Roadway
RE	Resident Engineer or Railroad Easement
Ref	Reference
Reinf	Reinforcing
Rem	Remove or Removal
Repl	Replace
Req	Required
Rev	Revised, Revision
RG	Riveted Plate Girder
RGC	Riveted Plate Girder Continuous
RL	Reinforcement Length
RME	Region Materials Engineer
rpm	Revolutions Per Minute
RSC	Rigid Steel Conduit
RSS	Reinforced Soil Slope
Rt	Right
RTD	Region Transportation Director or Regional Transportation District
RWIS	Road Weather Information System

S

SA	Steel Arch
SAC	Steel Arch Culvert
San	Sanitary
SB	Southbound
SBA	Small Business Administration
SBG	Steel Box Girder
SBGC	Steel Box Girder Continuous
SC	Spiral to Curve
Sch	Schedule
SCS	Spiral Curve Spiral
SDG	Steel Deck Girder
SDGC	Steel Deck Girder with Floor Beam System
SDGCK	Steel Deck Girder Continuous & Composite
SDI	Steel Decks Institute
SDT	Steel Deck Truss
Sdwk	Sidewalk
Sect	Section
SF	Square Feet
SH	State Highway
Shldr	Shoulder
SHPO	State Historic Preservation Office
SHRP	Strategic Highway Research Program
Sht	Sheet
SIGN	Overhead Sign
SIGNB	Overhead Sign-Butterfly
SIGNC	Overhead Sign-Cantilever
SIGND	Overhead Sign + Cantilever
Sim	Similar
SIP	Stay in Place
SJI	Steel Joists Institute
SLT	Steel Low Truss
SMA	Stone Matrix Asphalt
SN	Structural Number
Spa	Spaces or Spaced
Specs	Specifications
SpG	Specific Gravity
Spl	Splice
Sq In	Square Inches
Sq Mi	Square Miles
Sq	Square
SRW	Segmental Retaining Walls
SSE	Steel Stringer-Earth Filled
SSM	Steel Stringer-Metal Plank Deck
SSMC	Steel Stringer-Metal Plank Deck Continuous
SSPC	Society for Protective Coatings
SSS	Steel Stringer-Timber Deck
SSSC	Steel Stringer-Timber Deck Continuous
ST	Spiral to Tangent
St	Straight or Street
Sta	Station
Std	Standard
STG	Steel Thru Girder
Str	Structure, Structural
STT	Steel Thru Truss
SUSP	Suspension Bridge
SY	Square Yards
Sym	Symmetrical

Computer File Information		Sheet Revisions	
Creation Date: 07/04/12 Initials: DD		Date:	Comments
Last Modification Date: 07/04/12 Initials: LTA	R-X		
Full Path: www.coloradodot.info/business/designsupport	R-X		
Drawing File Name: M0100020304.dgn	R-X		
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	R-X		

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M-100-2

T

T&B	Top and Bottom
T&E	Threatened & Endangered Species
T	Tons
TAS	Threaded Anchor Stud
TBC	Timber Box Culvert
TC	Tangent to Curve
TCD	Traffic Control Devices
TCP	Traffic Control Plan
TD	Timber Stringer (Untreated) Concrete Deck
TDH	Total Dynamic Head
Temp	Temporary or Temperature
Thd	Thread
THHN	Thermoplastic High Heat-resistant Nylon coated (Insulation designation for wire)
THWN	Thermoplastic High Water-resistant Nylon coated (Insulation designation for wire)
TIG	Tungsten Inert Gas (Welding)
TLA	Timber Laminated Arch (Gluelam)
TLS	Timber Laminated Stringer(Gluelam)
TLT	Timber Low Truss
TM	Timber Stringer (Untreated) Metal Deck
TMP	Transportation Management Plan
Tot	Total
TPI	Threads per Inch
TS	Tangent to Spiral, Timber Stringer (Untreated) Timber Deck
TSLAB	Timber Slab
TTC	Timber Culvert
TTD	Timber Stringer-Concrete Deck
TTM	Timber Stringer- Metal Deck
TTS	Timber Stringer- Timber Deck
TTT	Timber Thru Truss
TUNC	Tunnel-Concrete Lined
TUNR	Tunnel-Thru Rock-No Lining
Typ	Typical

U

UG	Underground
UNC	Uniform National Coarse (screw thread)
UNCC	Utility Notification Center of Colorado
UNF	Uniform National Fine (screw thread)
UNO	Unless Noted Otherwise
UPRR	Union Pacific Railroad
UPS	Uninterruptible Power Supply
USACE	United States Army Corp of Engineers
USCS	Unified Soil Classification System
USDA	United States Department of Agriculture
USDOT	United States Department of Transportation
USFWS	United States Fish and Wildlife Service
USGS	US Geological Survey
Util	Utility or Utilities
UV	Ultraviolet

V

VC	Vertical Curve
VCP	Vitrified Clay Pipe
Veh	Vehicle
Vert	Vertical
VFA	Voids Filled With Asphalt
VMA	Voids in the Mineral Aggregate
VMS	Variable Message Sign
Vol	Volume
VPC	Vertical Point of Curvature
VPI	Vertical Point of Intersection
VPT	Vertical Point of Tengency

W

W/C	Water-Cement Ratio
WALL	Retaining Wall
WB	Westbound
WBS	Work Breakdown Structure
WF	Wide Flange (Steel section)
WG	Welded Girder
WGC	Welded Girder Continuous
WGCK	Welded Girder Continuous & Composite
WGCKP	Welded Girder Continuous, Composite Prestressed
WGK	Welded Girder Composite
WGKP	Welded Girder Composite Prestressed
WIMS	Weigh-In-Motion Station
WP	Work Point
WQCD	Water Quality Control Division (Colorado Department of Public Health and Environment)
WRI	Wire Reinforcement Institute
WS	Water Surface
WSN	Weighted Structural Number
Wt	Weight
WWF	Welded Wire Fabric, typically referred to very light gauge wire for crack control
WWR	Welded Wire Reinforcement

Y

Yd	Yard

SYMBOLS

400	#4 REBAR BENDING SHAPE
500	#5 REBAR BENDING SHAPE
600	#6 REBAR BENDING SHAPE
@	at
&	and
ϕ ⌀	Diameter
°, ', "	Degrees, Minutes, Seconds
', "	Feet, inches
#	Number or Pound
Ⓔ	Epoxy Coated Rebar
Ⓝ	Non-Epoxy Coated Rebar
GXX	Girder Label
°F	Fahrenheit
°C	Celsius
≈	Approximate
#	Interstate Highway
#	US Highway
#	State Highway

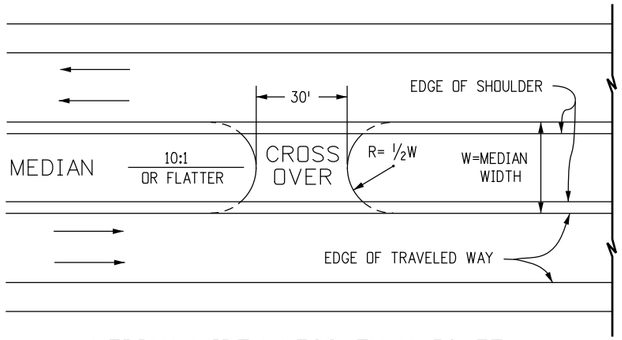
Computer File Information		Sheet Revisions	
Creation Date: 07/04/12 Initials: DD		Date:	Comments
Last Modification Date: 07/04/12 Initials: LTA	R-X		
Full Path: www.coloradodot.info/business/designsupport	R-X		
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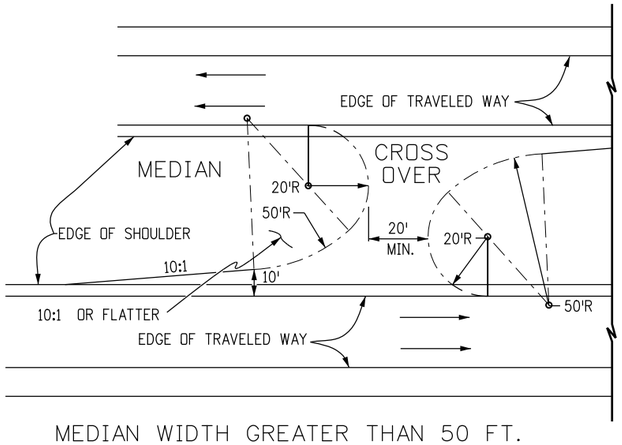
ACRONYMS AND ABBREVIATIONS

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STANDARD PLAN NO.
M-100-2



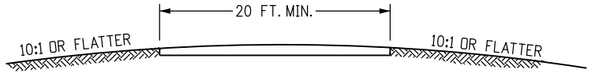
MEDIAN WIDTH LESS THAN 50 FT.



MEDIAN WIDTH GREATER THAN 50 FT.

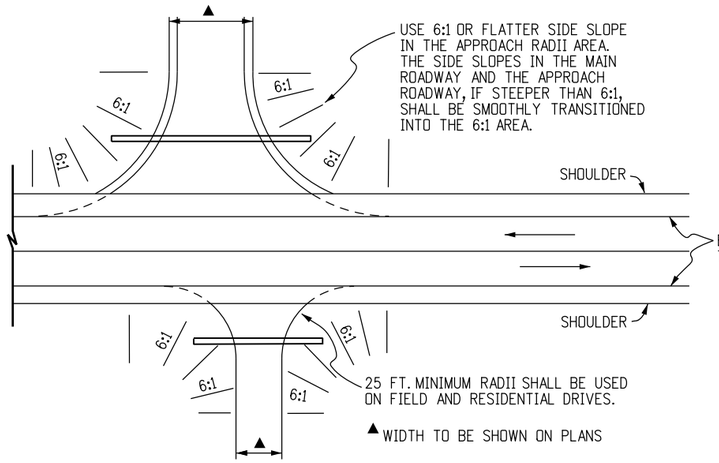
TYPICAL PLANS FOR EMERGENCY MEDIAN CROSS OVER

LOCATION OF RADIUS POINTS MAY BE ADJUSTED FOR BEST FIT



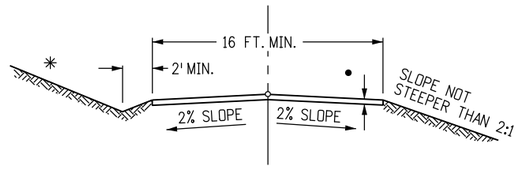
TYPICAL SECTION FOR MEDIAN CROSS OVER

ANY REQUIRED PIPE OR INLET FOR MEDIAN DRAINAGE SHALL HAVE A TRAVERSABLE DESIGN AS SPECIFIED ON THE PLANS



SIDE DRAINS SHALL BE LOCATED BEYOND THE CLEAR ZONE, OR WHEN WITHIN THE CLEAR ZONE, THEY SHALL BE INSTALLED WITH END SECTIONS CONFORMING TO A 6:1 SLOPE. FIFTY FT. RADII SHALL BE USED ON INTERSECTING ROADS, EXCEPT FOR FIELD AND RESIDENTIAL DRIVES OR UNLESS OTHERWISE SPECIFIED ON PLANS. RADII MAY BE VARIED TO SUIT FIELD CONDITIONS.

TYPICAL PLANS FOR SIDE APPROACH ROAD

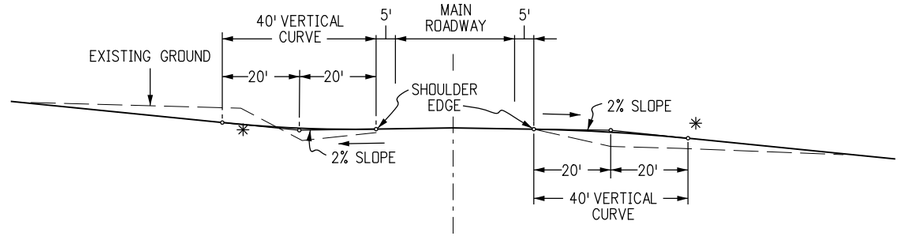


1/2 CUT SECTION 1/2 FILL SECTION

TYPICAL SECTION FOR APPROACH (ACCESS) ROAD

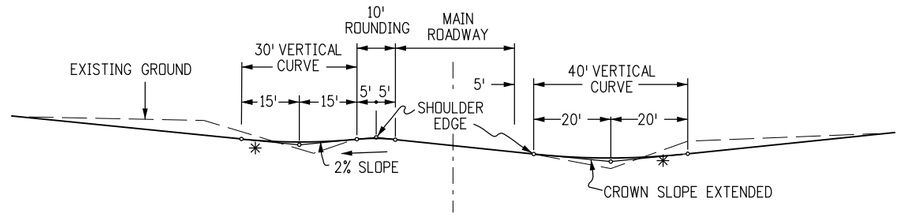
NOTE: ROAD APPROACHES WHICH REQUIRE HMA (ASPHALT) PAVEMENT SHALL BE PLACED AT THE FOLLOWING DISTANCES BACK FROM THE ROADWAY EDGE OF PAVEMENT:

1. RESIDENTIAL OR AGRICULTURAL FIELD ENTRANCES - PAVE 4 FEET BACK.
2. THREE OR MORE RESIDENCES OR COMMERCIAL PROPERTY - PAVE 20 FEET BACK OR TO ROW LINE, WHICHEVER IS LESS.
3. PUBLIC STREET - PAVE 50 FEET BACK OR TO ROW LINE, WHICHEVER IS LESS.
4. IF EXISTING ACCESS IS PAVED, THEN FEATHER NEW ASPHALT OVERLAY A MINIMUM OF 2 FEET BACK OR AS DIRECTED BY THE ENGINEER.

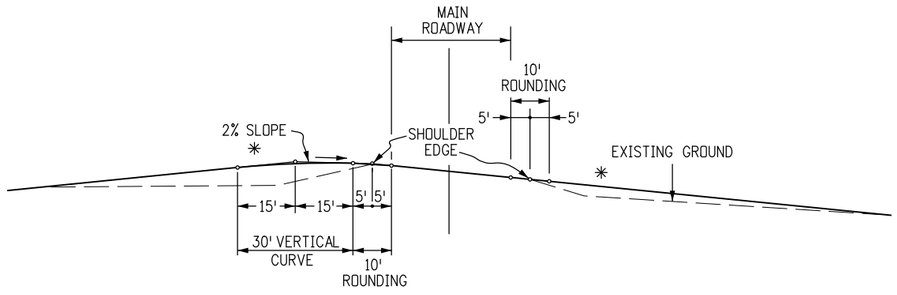


1/2 CUT SECTION 1/2 FILL SECTION

STANDARD CROWNED SECTION



SUPERELEVATED CUT SECTION



SUPERELEVATED FILL SECTION

VERTICAL ALIGNMENT SIDE APPROACH ROADS INTERSECTING MAIN ROADWAY

* TANGENT SLOPE NOT STEEPER THAN 8% BEYOND THE VERTICAL CURVE. THE SLOPE MAY BE STEEPER, IF REQUIRED, TO MEET EXISTING APPROACH SLOPE. HOWEVER, APPROACH ROAD SLOPE SHOULD NOT BE STEEPER THAN EXISTING SLOPE.

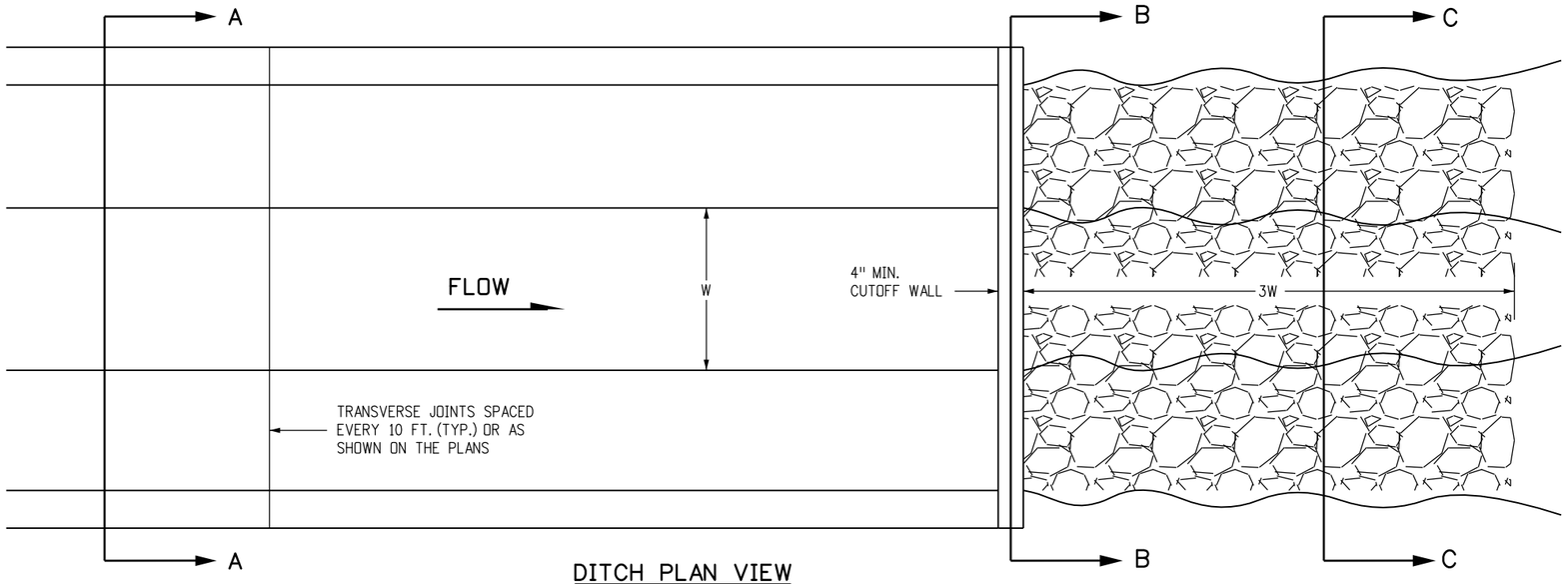
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Full Path: www.coloradodot.info/business/designsupport	(R-X)		
Drawing File Name: 203010101.dgn	(R-X)		
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	(R-X)		

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APPROACH ROADS

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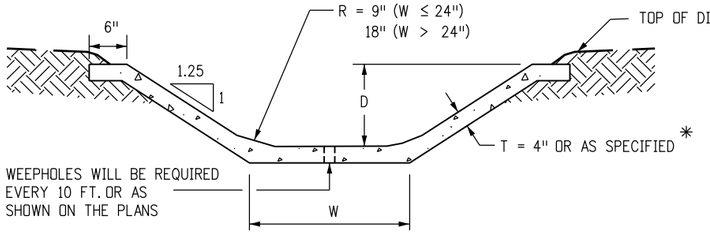
STANDARD PLAN NO.
M-203-1
Sheet No. 1 of 1



DITCH PLAN VIEW

GENERAL NOTES

1. ALL DITCHES SHALL BE CONSTRUCTED TO THE LINES AND GRADES AS SHOWN ON THE PLANS, USING THE DITCH SECTION AS SHOWN ON THE PLANS, OR AS SPECIFIED BY THE ENGINEER.
2. CONCRETE LINING WILL BE PAID FOR AS CONCRETE SLOPE AND DITCH PAVING.
3. PROVIDE A CUTOFF WALL AND RIPRAP AT THE END OF CONCRETE-LINED DITCH.

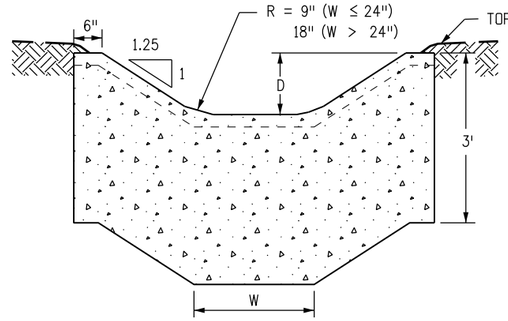


SECTION A-A
CONCRETE-LINED DITCH

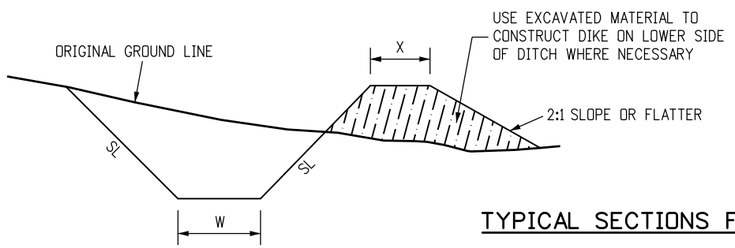
* FOR SECTIONS WHERE W ≤ 18"
AND D ≤ 18" USE T = 3"

D	CU. YDS. PER 100 LIN. FT.				
	W (INCHES)				
(INCHES)	12	18	24	36	48
18	6.3 *	6.7 *	9.6	10.8	12.0
24	9.9	10.5	11.6	12.8	14.0
30	12.3	12.9	13.5	14.8	16.0
36	14.3	14.9	15.5	16.7	18.0
48			19.4	20.7	21.9

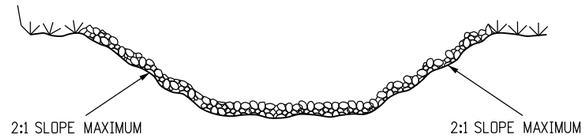
CONCRETE-LINED DITCH
QUANTITIES



SECTION B-B
CUTOFF WALL

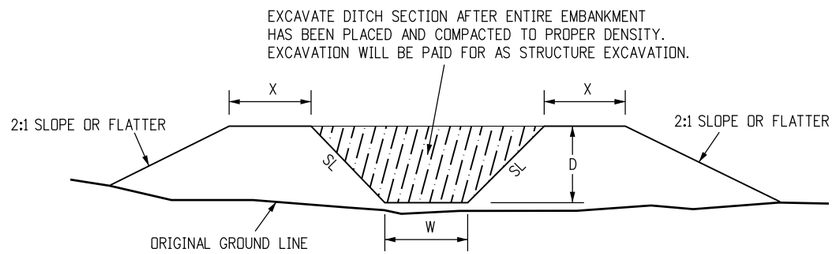


CUT SECTIONS



SECTION C-C
RIPRAP-LINED DITCH

RIPRAP GRADATION SHALL BE AS SPECIFIED IN THE CONTRACT.



EMBANKMENT SECTIONS

TYPICAL SECTIONS FOR DITCHES

NOTE: SEE STRUCTURE NOTES ON THE PLANS FOR DIMENSIONS W, D, AND SL. DIMENSION X = W/2 WITH MINIMUM OF 2 FT. UNLESS OTHERWISE SHOWN ON THE PLANS, W = 1 FT., SL = 2:1 OR FLATTER.

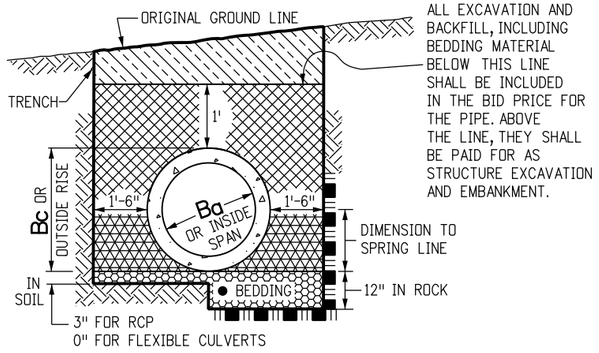
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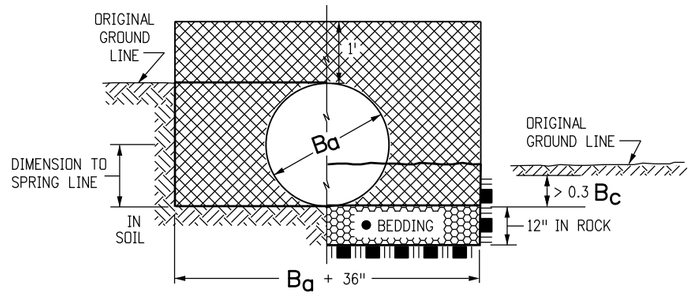
DITCH TYPES

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STANDARD PLAN NO.
M-203-2
Sheet No. 1 of 1



PIPE IN TRENCH

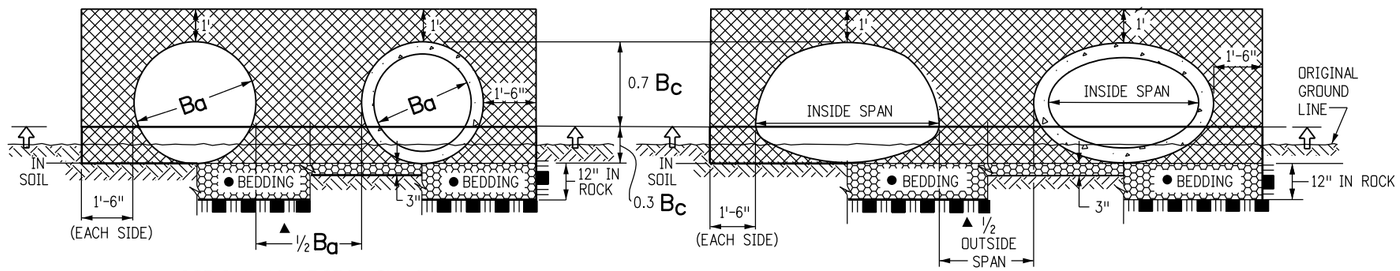


CIRCULAR PIPE

(WHERE ORIGINAL GROUND LINE IS BETWEEN 0.3 B_C AND B_C + 1 FT. ABOVE FLOWLINE)

● THE BEDDING MATERIAL FOR RIGID PIPE IN SOIL SHALL BE 3 IN. OF LOOSE STRUCTURE BACKFILL (CLASS 1 OR 2). BEDDING IS NOT REQUIRED FOR FLEXIBLE PIPE IN SOIL. BEDDING MATERIAL FOR RIGID OR FLEXIBLE PIPE IN ROCK SHALL BE 12 IN. OF LOOSE STRUCTURE BACKFILL, CLASS 1.

▲ WHEN TWO OR MORE CONDUITS ARE LAID SIDE-BY-SIDE, THEY SHALL BE PLACED SO THAT THEY ARE ½ OUTSIDE DIAMETER, OR ½ OUTSIDE SPAN, OR 3 FT. APART, WHICHEVER IS LESS. HOWEVER, IF END SECTIONS ARE USED, THE MINIMUM SPACING SHALL BE 1 FT. BETWEEN END SECTIONS.



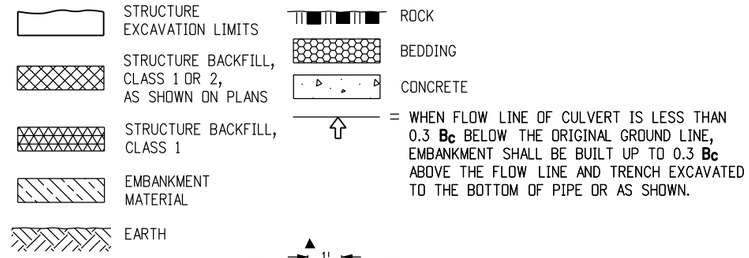
CIRCULAR PIPE IN FILL

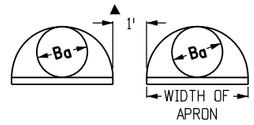
ARCH OR ELLIPTICAL PIPE IN FILL

GENERAL NOTES

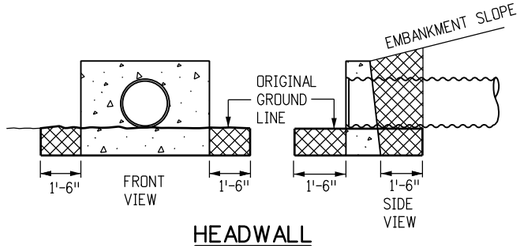
1. EXCAVATION AND BACKFILL PATTERNS DIFFERENT FROM THOSE INDICATED ON THESE SHEETS WILL BE SHOWN ELSEWHERE ON THE PLANS.
2. EXCAVATION FOR CHANNEL CHANGE OR CHANNEL IMPROVEMENT WILL BE EITHER UNCLASSIFIED EXCAVATION OR MUCK EXCAVATION AND WILL BE NOTED ON THE PLANS. EXCAVATION FROM THE CHANNEL FLOWLINE TO THE DEPTH REQUIRED FOR THE NEW STRUCTURE AND INCIDENTAL CHANNEL EXCAVATION WILL BE PAID FOR AS STRUCTURE EXCAVATION.
3. STRUCTURE FOOTINGS WHICH ARE LOCATED IN ROCK SHALL BE POURED OUT TO UNDISTURBED ROCK WITHOUT FORMING IN CONFORMANCE WITH SUBSECTION 601.09(b).
4. STRUCTURAL PLATE CULVERTS SHALL BE CONSTRUCTED AS SHOWN ON THE PLANS.
5. B_a EQUALS THE INSIDE DIAMETER OF A PIPE AND B_c EQUALS THE OUTSIDE DIAMETER OF A PIPE. FOR THIN WALLED PIPES, IT IS ASSUMED THAT $B_a = B_c$.
6. APPROXIMATE STRUCTURE EXCAVATION AND BACKFILL QUANTITIES, UP TO 1 FT. OVER THE PIPE WILL BE SHOWN ON THE PLANS, FOR INFORMATION ONLY.

LEGEND

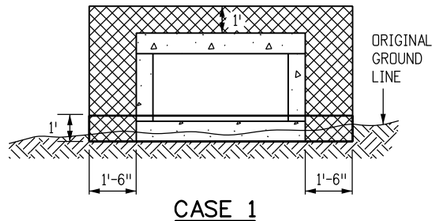




CONDUIT WITH END SECTIONS

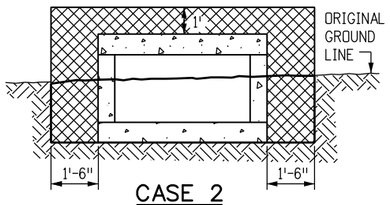


HEADWALL



CASE 1

APPLIES WHEN THE ORIGINAL GROUND LINE IS LESS THEN 1 FT. ABOVE THE BOTTOM OF THE BOX CULVERT. THE EMBANKMENT SHALL BE BUILT UP TO 1 FT. ABOVE THE BOTTOM OF THE BOX CULVERT AND THEN EXCAVATED TO THE BOTTOM OF THE BOX CULVERT. THIS EMBANKMENT AND EXCAVATION WILL NOT BE MEASURED AND PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE WORK.

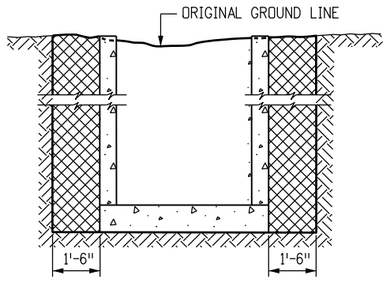


CASE 2

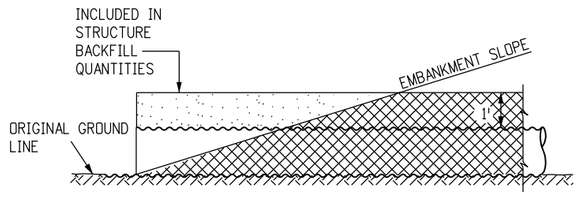
APPLIES WHEN THE ORIGINAL GROUND LINE IS MORE THAN 1 FT. ABOVE THE BOTTOM OF THE BOX CULVERT.

CONCRETE BOX CULVERT

IN BOTH CASES, THE TRENCH (OUTLINED BY THE THICK SOLID LINE) SHALL THEN BE EXCAVATED TO ACCOMMODATE CONSTRUCTION OF THE BOX CULVERT.



DROP INLETS AND DIVISION BOXES



END OF PIPE

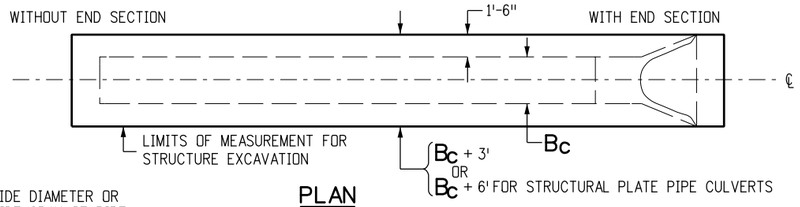
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EXCAVATION AND BACKFILL FOR STRUCTURES

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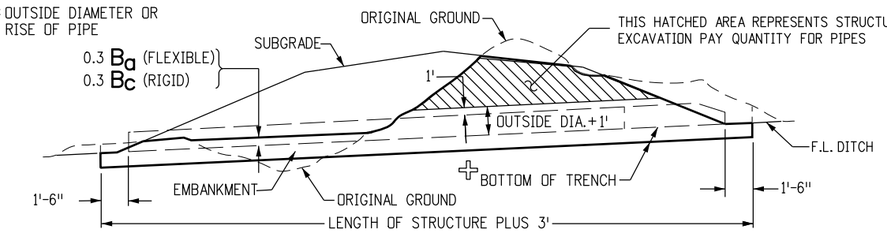
STANDARD PLAN NO.
M-206-1
Sheet No. 1 of 2



PLAN

B_a = INSIDE DIAMETER OR INSIDE SPAN OF PIPE

B_c = OUTSIDE DIAMETER OR RISE OF PIPE

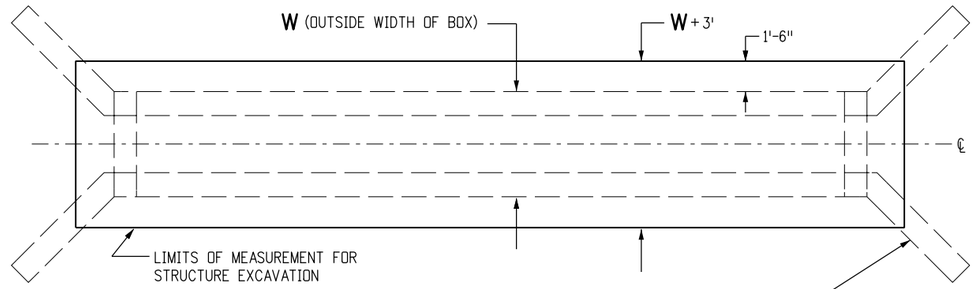


PROFILE

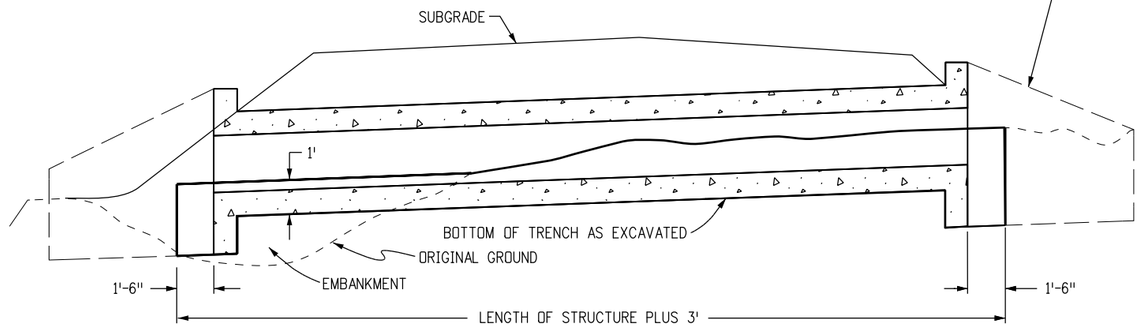
℄ FOR APPLICABLE LIMITS OF STRUCTURE EXCAVATION, SEE BEDDING DETAILS ON SHEET 1 OF THESE DETAILS.

STRUCTURE EXCAVATION UP TO 1 FT. ABOVE THE TOP OF THE PIPE SHALL BE INCLUDED IN THE BID PRICE OF THE PIPE.

STRUCTURE EXCAVATION MEASUREMENT FOR PIPE CULVERTS

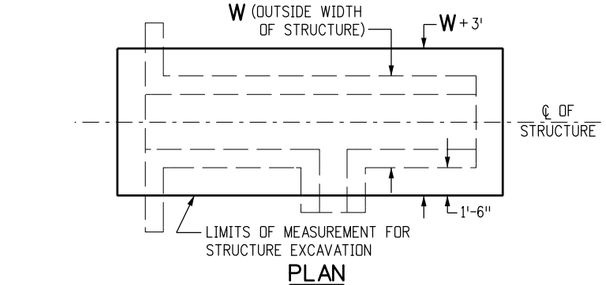


PLAN

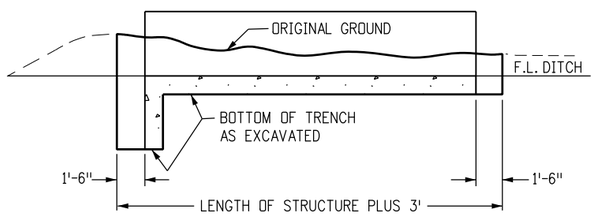


PROFILE

STRUCTURE EXCAVATION MEASUREMENT FOR CONCRETE BOX CULVERTS

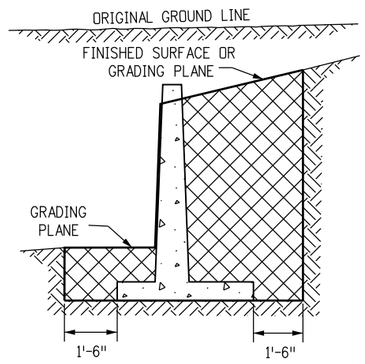


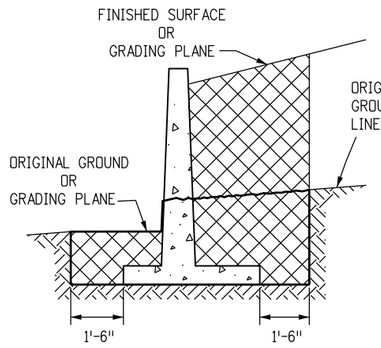
PLAN

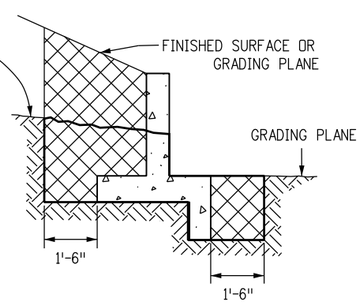


PROFILE

STRUCTURE EXCAVATION MEASUREMENT FOR DIVISION BOXES







WINGWALL

RETAINING WALL IN CUT & IN PARTIAL CUT

ANY ADDITIONAL EXCAVATION BEHIND THE LIMITS SHOWN SHALL BE FILLED WITH CLASS I BACKFILL MATERIAL. THE ADDITIONAL EXCAVATION AND BACKFILL WILL NOT BE MEASURED AND PAID FOR.

LEGEND

- STRUCTURE EXCAVATION LIMITS
- STRUCTURE BACKFILL, CLASS 1 OR 2, AS SHOWN ON PLANS
- CONCRETE

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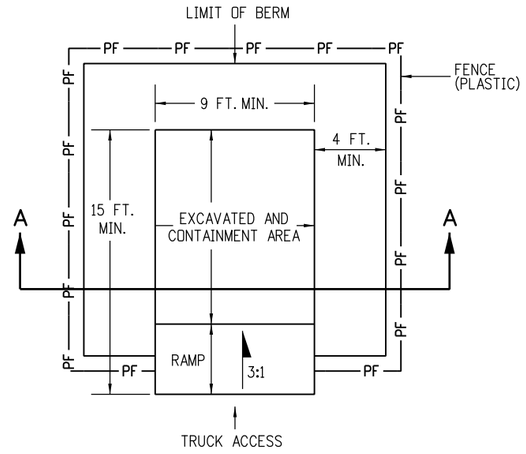
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EXCAVATION AND BACKFILL FOR STRUCTURES

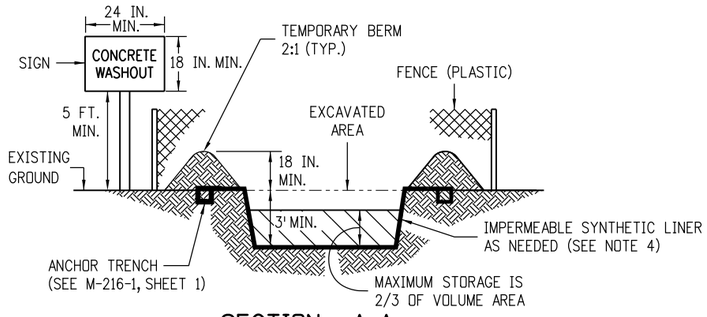
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STANDARD PLAN NO.

M-206-1



PLAN VIEW

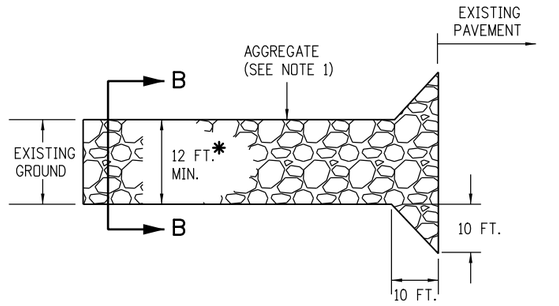


SECTION A-A

NOTES:

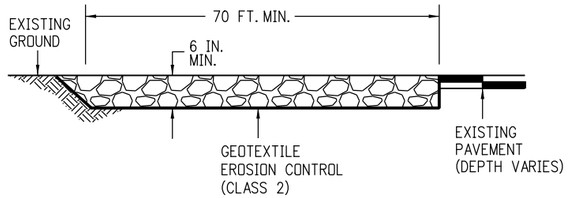
1. A FENCE (PLASTIC) CONFORMING TO SECTION 607 SHALL BE INSTALLED AROUND THE CONCRETE WASHOUT AREA, EXCEPT AT THE OPENING.
2. THE CONCRETE WASHOUT SIGN SHALL HAVE LETTERS AT LEAST 3 INCHES HIGH AND CONFORM TO SUBSECTION 630.02.
3. ALL MATERIALS AND LABOR TO COMPLETE THE CONCRETE WASHOUT STRUCTURE SHALL BE INCLUDED IN THE COST OF WORK AND NOT PAID FOR SEPARATELY.
4. THE BOTTOM OF EXCAVATION SHALL BE A MINIMUM OF FIVE FEET ABOVE GROUND WATER. IF NOT, THE BOTTOM OF EXCAVATION SHALL BE IN ACCORDANCE WITH 208.02 (j).
5. THE PAY ITEM NUMBER FOR CONCRETE WASHOUT STRUCTURE (EACH) IS 208-00045.

CONCRETE WASHOUT STRUCTURE

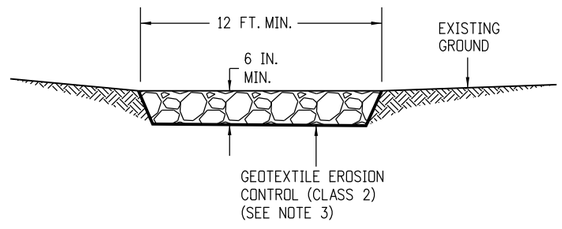


PLAN VIEW

* SHALL EXTEND FULL WIDTH OF INGRESS AND EGRESS OPERATION.



ELEVATION SECTION



SECTION B-B

NOTES:

1. AGGREGATE SHALL CONFORM TO SUBSECTION 208.02 (I).
2. THE CONTRACTOR SHALL PROTECT CURB AND GUTTER THAT CROSSES THE ENTRANCE FROM DAMAGE, WHILE NOT BLOCKING FLOW OF WATER THRU STRUCTURE. PROTECTION OF THE CURB AND GUTTER SHALL BE INCLUDED IN THE COST OF WORK AND NOT PAID FOR SEPARATELY.
3. GEOTEXTILE SHALL CONFORM TO SUBSECTION 712.08.
4. ALL MATERIALS AND LABOR TO COMPLETE THE VEHICLE TRACKING PAD SHALL BE INCLUDED IN THE COST OF WORK AND NOT PAID FOR SEPARATELY.
5. THE PAY ITEM NUMBER FOR VEHICLE TRACKING PAD (EACH) IS 208-00070.

VEHICLE TRACKING PAD

Computer File Information		Sheet Revisions	
Creation Date: 07/04/12 Initials: JBK		Date:	Comments
Last Modification Date: 04/01/19 Initials: LTA	(R-X)	07/16/15	Deleted the two Soil Retention Blanket detail sheets. They are now standard M-216-1 Soil Retention Covering.
Full Path: www.codot.gov/business/designsupport	(R-X)	03/29/16	Minor revisions to some dimensions and General Notes.
Drawing File Name: 2080101011.dgn	(R-X)	04/01/19	Revised to comply with the updated Stormwater Construction Permit (SCP) requirements.
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	(R-X)		

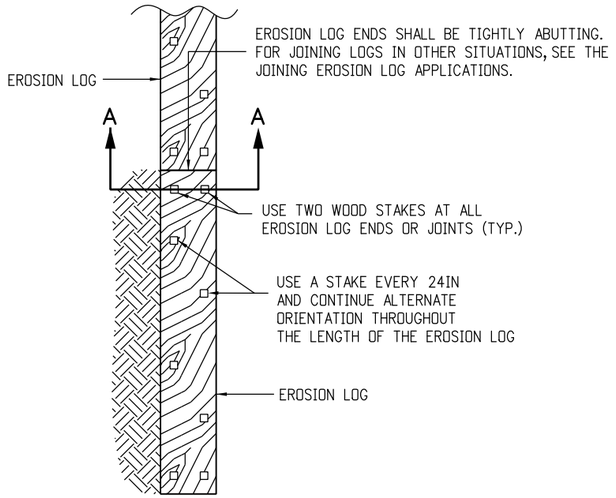
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TEMPORARY EROSION CONTROL

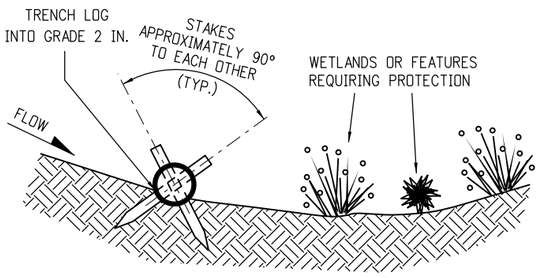
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STANDARD PLAN NO.

M-208-1



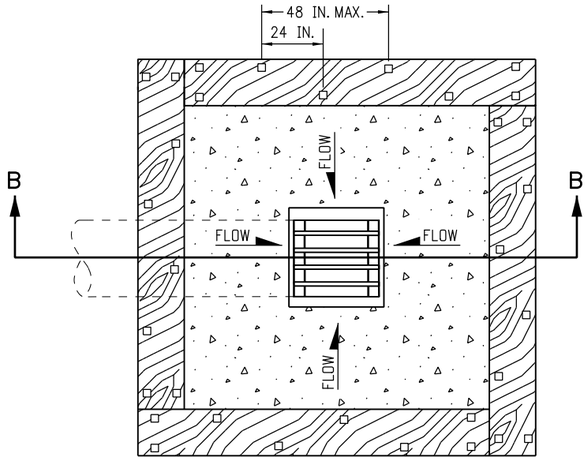
PLAN VIEW



SECTION A-A

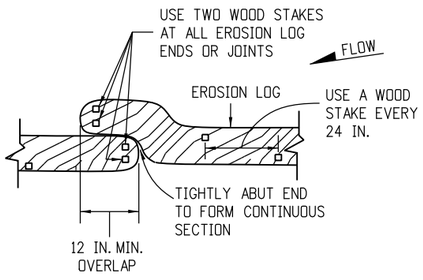
TYPICAL STAKE INSTALLATION

EROSION LOGS PAY ITEMS	
NUMBER	DESCRIPTION
208-00012	TYPE 1 (9 IN.)
208-00002	TYPE 1 (12 IN.)
208-00013	TYPE 1 (20 IN.)
208-00007	TYPE 2 (8 IN.)
208-00008	TYPE 2 (12 IN.)
208-00009	TYPE 2 (18 IN.)
208-00022	TYPE 3 (9 IN.)
208-00023	TYPE 3 (12 IN.)
208-00024	TYPE 3 (20 IN.)

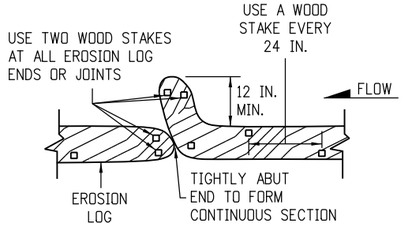


PLAN VIEW

NOTE: THE TOPS OF ALL STAKES SHALL NOT EXTEND MORE THAN 2 INCHES ABOVE THE TOPS OF EROSION LOGS.

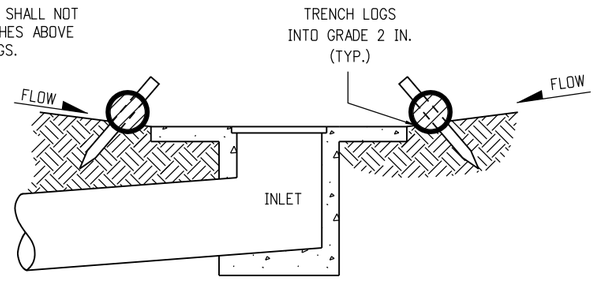


OVERLAP JOINING DETAIL



J-HOOK JOINING DETAIL

JOINING EROSION LOG APPLICATIONS



SECTION B-B

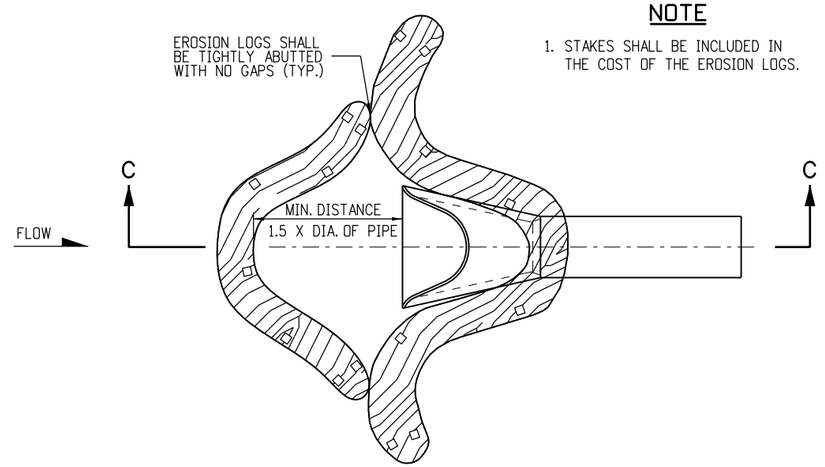
NOTE: LOCATE EROSION LOGS AT THE OUTSIDE EDGE OF THE CONCRETE APRON.

EROSION LOG FILTER AT DROP INLET

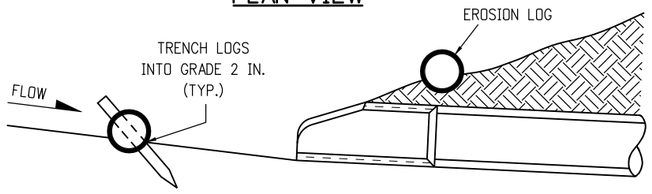
EROSION LOG APPLICATIONS

NOTE

1. STAKES SHALL BE INCLUDED IN THE COST OF THE EROSION LOGS.



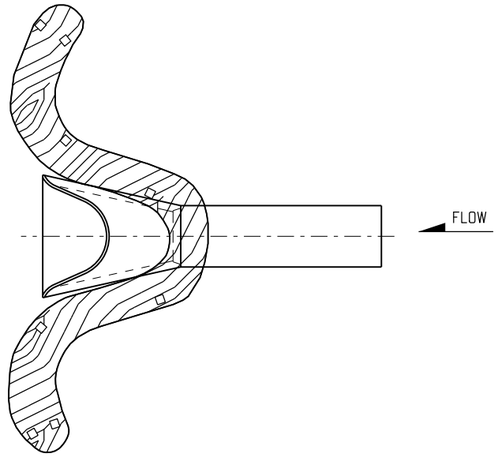
PLAN VIEW



SECTION C-C
(NOT ALL LOGS SHOWN)

NOTE: TOP OF STAKE SHALL NOT EXTEND PAST TOP OF EROSION LOG MORE THAN 2 IN.

EROSION LOG CULVERT INLET PROTECTION



EROSION LOG CULVERT OUTLET PROTECTION

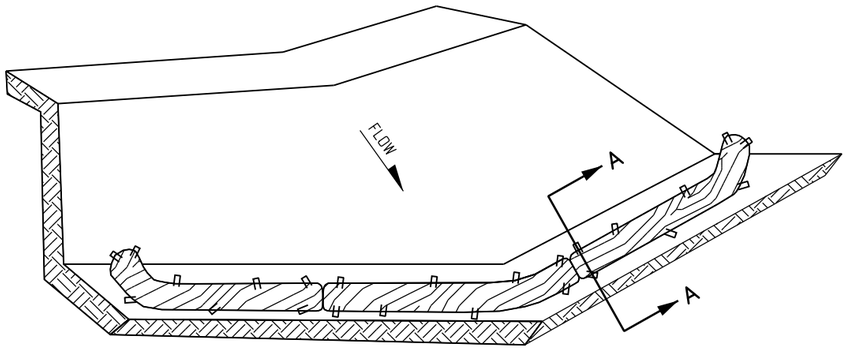
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Creation Date: 07/04/12 Initials: JBK		Date:	Comments
Last Modification Date: 04/01/19 Initials: LTA	(R-X)	03/29/16	Minor revisions to some dimensions. Added Erosion Logs Pay Item table.
Full Path: www.codot.gov/business/designsupport	(R-X)	04/01/19	Revised to comply with the updated Stormwater Construction Permit (SCP) requirements.
Drawing File Name: 2080102011.dgn	(R-X)		
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	(R-X)		

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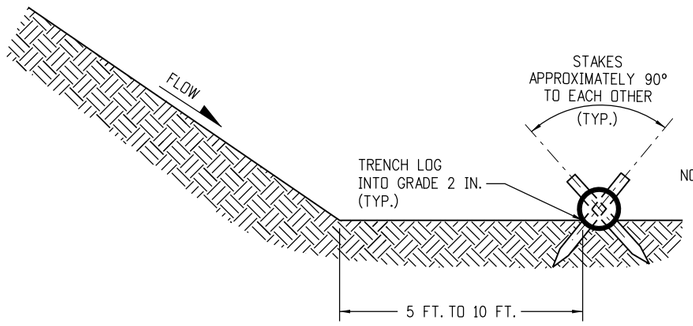
TEMPORARY EROSION CONTROL

Issued By: Project Development Branch July 4, 2012

STANDARD PLAN NO.
M-208-1
Sheet No. 2 of 11



ISOMETRIC VIEW



NOTE: THE TOPS OF ALL STAKES SHALL NOT EXTEND MORE THAN 2 INCHES ABOVE THE TOPS OF EROSION LOGS.

SECTION A-A

NOTES:

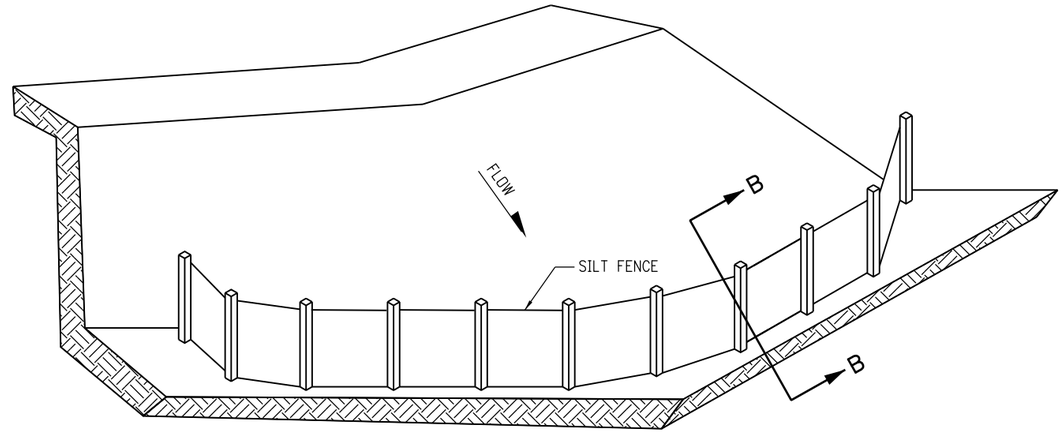
1. EROSION LOGS USED AT TOE OF SLOPE SHALL BE PLACED 5 TO 10 FEET BEYOND TOE OF SLOPE TO PROVIDE STORAGE CAPACITY.
2. EROSION LOGS SHALL BE PLACED ON THE CONTOUR WITH ENDS FLARED UP SLOPE.
3. SEE SHEET 2 OF 11 FOR JOINING LOGS DETAIL.

EROSION LOGS PAY ITEMS	
NUMBER	DESCRIPTION
208-00012	TYPE 1 (9 IN.)
208-00002	TYPE 1 (12 IN.)
208-00013	TYPE 1 (20 IN.)
208-00007	TYPE 2 (8 IN.)
208-00008	TYPE 2 (12 IN.)
208-00009	TYPE 2 (18 IN.)
208-00022	TYPE 3 (9 IN.)
208-00023	TYPE 3 (12 IN.)
208-00024	TYPE 3 (20 IN.)

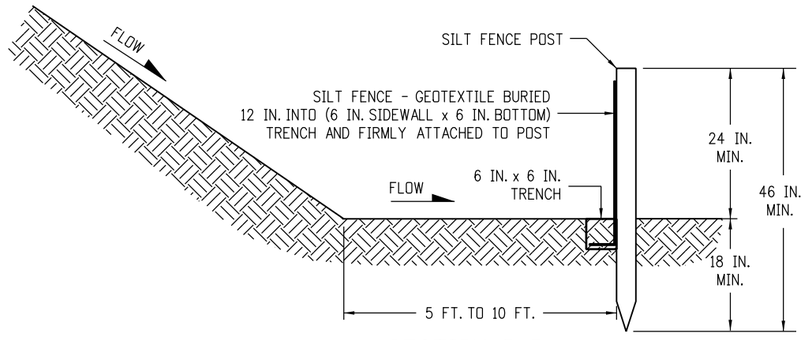
EROSION LOG TOE OF SLOPE PROTECTION

NOTES

1. SILT FENCE SHALL HAVE A MAXIMUM DRAINAGE AREA OF ONE-QUARTER ACRE PER 100 FEET OF SILT FENCE LENGTH; MAXIMUM SLOPE LENGTH BEHIND BARRIER IS 100 FEET.
2. SILT FENCE USED AT TOE OF SLOPE SHALL BE PLACED 5 TO 10 FEET BEYOND TOE OF SLOPE TO PROVIDE STORAGE CAPACITY.
3. SILT FENCE SHALL BE PLACED PARALLEL TO THE CONTOUR WITH ENDS FLARED UP SLOPE.
4. THE MAXIMUM LENGTH OF EROSION LOGS OR SILT FENCES WITHOUT A FLARED END TURNING UPSLOPE IS 150 FEET.



ISOMETRIC VIEW



SECTION B-B

SILT FENCE TOE OF SLOPE PROTECTION

NOTE: THE PAY ITEM NUMBER FOR SILT FENCE (LF) IS 208-00020.

TOE OF SLOPE PROTECTION APPLICATIONS

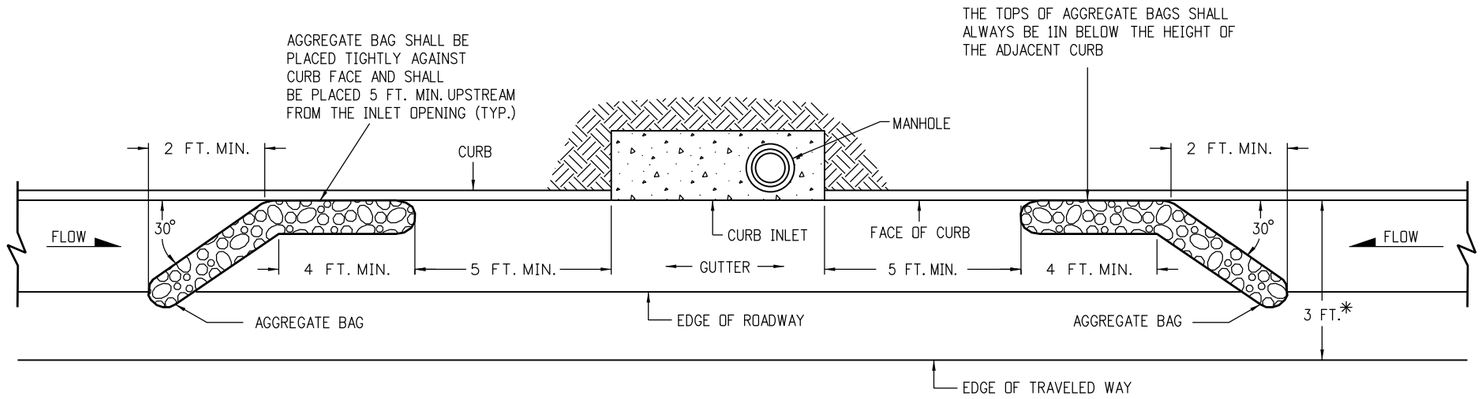
Computer File Information		Sheet Revisions	
Creation Date: 07/04/12 Initials: JBK		Date:	Comments
Last Modification Date: 04/01/19 Initials: LTA	(R-X)	03/29/16	Minor revisions to some dimensions. Added Erosion Logs Pay Item table.
Full Path: www.codot.gov/business/designsupport	(R-X)	04/01/19	Revised to comply with the updated Stormwater Construction Permit (SCP) requirements.
Drawing File Name: 2080103011.dgn	(R-X)		
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	(R-X)		

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TEMPORARY EROSION CONTROL

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STANDARD PLAN NO.
M-208-1
Sheet No. 3 of 11

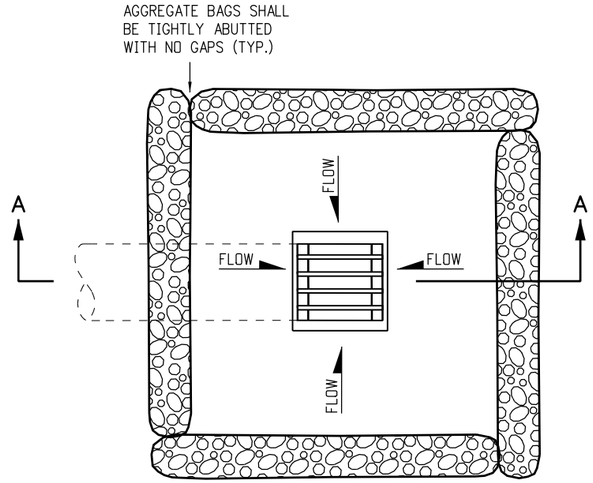


PLAN VIEW

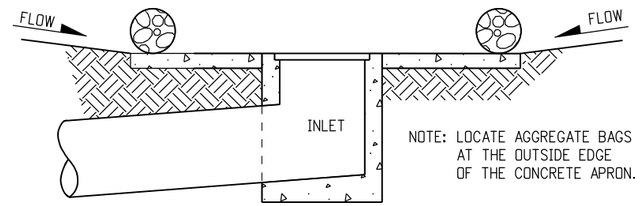
* NOTE: USE AGGREGATE BAGS ONLY WHEN THERE IS A MINIMUM CLEARANCE OF 3 FEET FROM THE EDGE OF THE TRAVELED WAY (INCLUDING CONDITIONS DURING DETOURS) TO THE FACE OF CURB.

LENGTH (L) OF INLET FT.	NUMBER OF AGGREGATE BAGS UPSTREAM OF INLET
0 - 5	1
6 - 10	2
L > 10	3

AGGREGATE BAGS AT STORM DRAIN INLET (TYPE I)



PLAN VIEW



SECTION A-A

AGGREGATE BAGS AT DROP INLET

AGGREGATE BAG APPLICATIONS

NOTE: THE PAY ITEM NUMBER FOR AGGREGATE BAG (LF) IS 208-00035

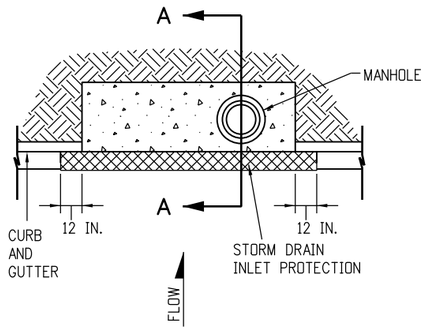
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Creation Date: 07/04/12 Initials: JBK		Date:	Comments
Last Modification Date: 04/01/19 Initials: LTA	R-X	03/29/16	Added some dimensions and Note.
Full Path: www.codot.gov/business/designsupport	R-X	04/01/19	Revised to comply with the updated Stormwater Construction Permit (SCP) requirements.
Drawing File Name: 2080104011.dgn	R-X		
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	R-X		

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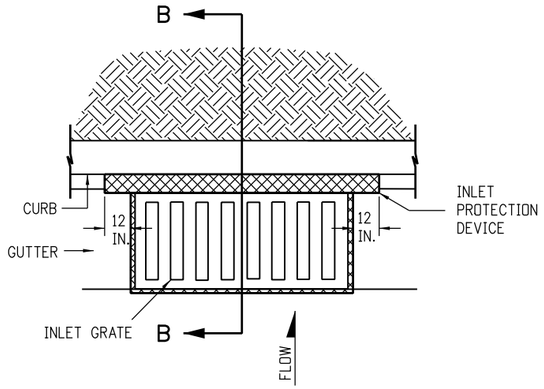
TEMPORARY EROSION CONTROL

Issued By: Project Development Branch July 4, 2012

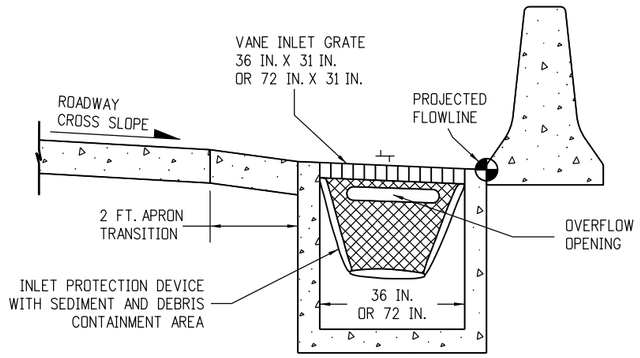
STANDARD PLAN NO.
M-208-1



PLAN VIEW

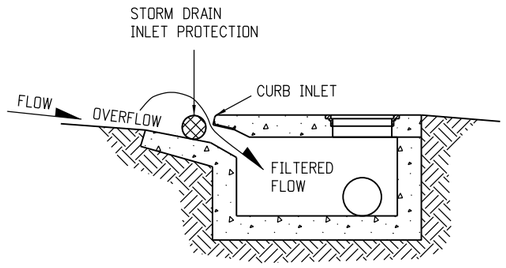


PLAN VIEW



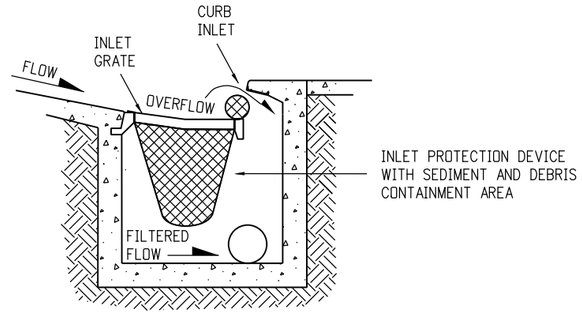
OPTION A

STORM DRAIN INLET PROTECTION (TYPE III)



SECTION A-A

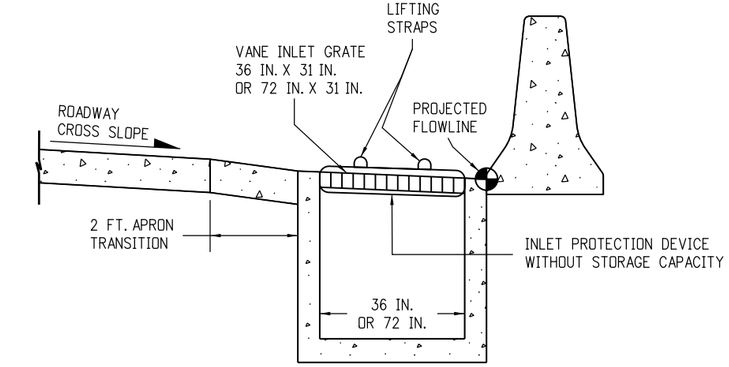
STORM DRAIN INLET PROTECTION (TYPE I)



SECTION B-B

OPTION A

STORM DRAIN INLET PROTECTION (TYPE II)



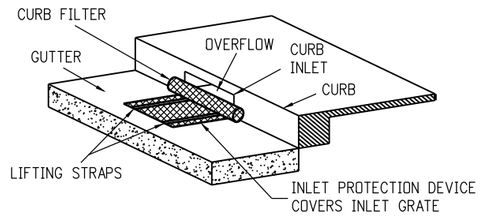
OPTION B

STORM DRAIN INLET PROTECTION (TYPE III)

NOTE: THE PAY ITEM NUMBER FOR STORM DRAIN INLET PROTECTION (TYPE III) (EACH) IS 208-00056.

NOTES:

1. INLET PROTECTION DEVICE SHALL EXTEND 12 INCHES PAST EACH END OF THE INLET.
2. THE PAY ITEM NUMBERS FOR STORM DRAIN INLET PROTECTION (TYPE I) ARE 208-00051 (LF), 208-00053 84 INCHES (EACH), 208-00057 144 INCHES (EACH), AND 208-00058 204 INCHES (EACH).
3. FOR STORM DRAIN INLET TYPES I AND II, IF THERE IS A MINIMUM CLEARANCE OF 3 FEET FROM THE EDGE OF THE TRAVELED WAY TO THE FACE OF CURB, USE THE AGGREGATE BAGS AT STORM DRAIN INLET (TYPE I) DETAIL ON SHEET 4 INSTEAD.



ISOMETRIC VIEW

OPTION B

STORM DRAIN INLET PROTECTION (TYPE II)

NOTE: THE PAY ITEM NUMBERS FOR STORM DRAIN INLET PROTECTION (TYPE II) ARE 208-00054 (EACH).

STORM DRAIN INLET PROTECTION TYPES

Computer File Information		Sheet Revisions	
Creation Date: 07/04/12 Initials: JBK		Date:	Comments
Last Modification Date: 04/01/19 Initials: LTA	(R-X)	03/29/16	Added Note 3.
Full Path: www.codot.gov/business/designsupport	(R-X)	08/10/17	Added new Pay Item numbers for Type I and II.
Drawing File Name: 2080105011.dgn	(R-X)	04/01/19	Revised to comply with the updated Stormwater Construction Permit (SCP) requirements.
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	(R-X)		

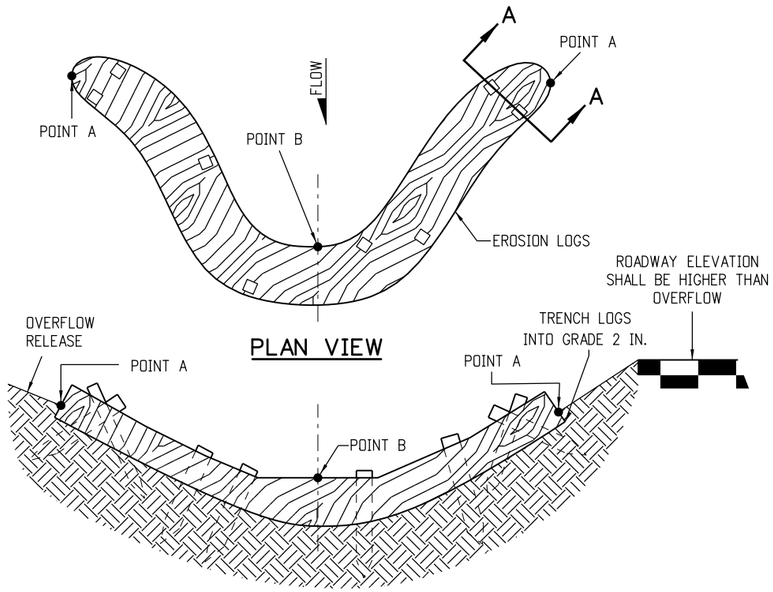
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Division of Project Support JBK/LTA

TEMPORARY EROSION CONTROL

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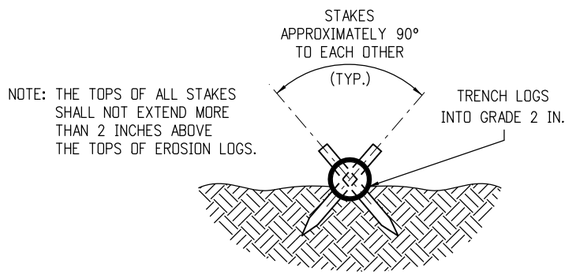
M-208-1



PLAN VIEW

NOTE: POINTS "A" SHALL BE A MINIMUM 4 IN. HIGHER THAN POINT "B".

ELEVATION

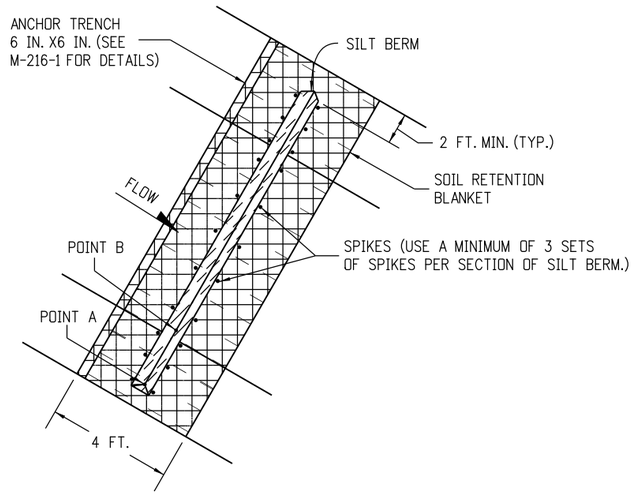


SECTION A-A

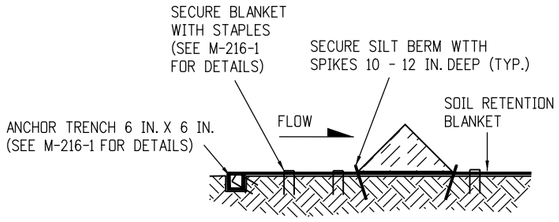
NOTES:

1. EROSION LOGS SHALL BE EMBEDDED 2 INCHES INTO THE SOIL.
2. EROSION LOGS SHALL BE TIGHTLY ABUTTED WITH NO GAPS.
3. V-SHAPED TEMPORARY DITCHES SHALL NOT BE USED. DITCHES SHAL BE GRADED IN A PARABOLIC OR TRAPEZOIDAL SHAPE.

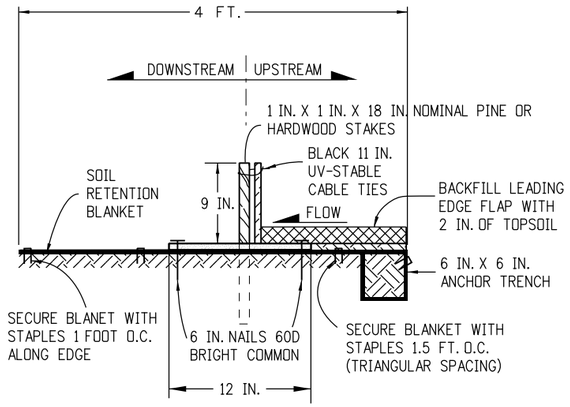
EROSION LOG INSTALLATION



PLAN VIEW



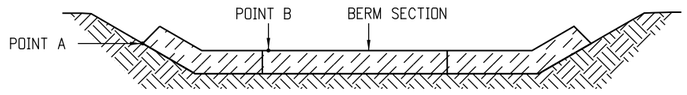
SILT BERM (1) SECTION VIEW



NOTES:

1. MINIMUM 4 NAILS PER SEGMENT (UPSTREAM).
2. MINIMUM 2 NAILS PER SEGMENT (DOWNSTREAM).
3. MINIMUM 2 WOOD STAKES PER SEGMENT.

SILT BERM (2) SECTION VIEW



POINT "A" SHALL BE HIGHER THAN POINT "B" TO ENSURE THAT WATER FLOWS OVER THE BERM AND NOT AROUND THE ENDS.

FRONT VIEW

NOTES

1. ANCHOR SOIL RETENTION BLANKET INTO TRENCH WITH 8 INCHES MIN. STAPLES PLACED AT 1 FOOT INTERVALS ALONG EDGE.
2. FILL AND COMPACT TRENCH.
3. SECTIONS OF THE SILT BERM SHALL BE OVERLAPPED WITH NO GAPS.
4. FOR SLOPE AND CHANNEL SPACING SEE THE "SECTION VIEW ALONG DITCH FLOWLINE" DETAIL ON SHEET 11 OF 11.
5. SOIL RETENTION BLANKET SHALL ALWAYS BE REQUIRED.
6. THE PAY ITEM NUMBER FOR SILT BERM (LF) IS 208-00004.

SILT BERM INSTALLATION

DRAINAGE DITCH APPLICATIONS

Computer File Information		Sheet Revisions	
Creation Date: 07/04/12 Initials: JBK		Date:	Comments
Last Modification Date: 04/01/19 Initials: LTA	(R-X)	04/01/19	Revised to comply with the updated Stormwater Construction Permit (SCP) requirements.
Full Path: www.codot.gov/business/designsupport	(R-X)		
Drawing File Name: 2080106011.dgn	(R-X)		
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	(R-X)		

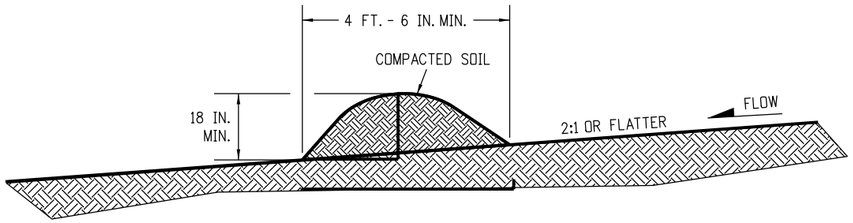
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TEMPORARY EROSION CONTROL

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STANDARD PLAN NO.

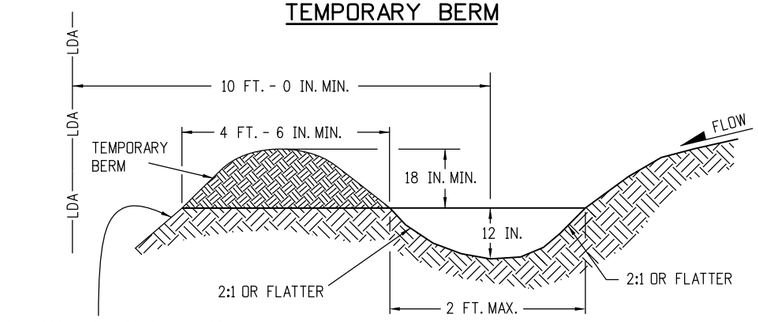
M-208-1



NOTES:

1. BERMS SHALL HAVE A HEIGHT OF 18 INCHES, SIDE SLOPES OF 2:1 OR FLATTER AND A MINIMUM BASE WIDTH OF 4 FT. -6 IN.
2. BERMS SHALL BE USED TO INTERCEPT AND DIVERT DRAINAGE TO A DESIGNATED OUTLET.
3. BERMS SHALL NOT BE USED WHERE DRAINAGE AREA EXCEEDS 10 ACRES.
4. BERMS SHALL BE CONSTRUCTED OUT OF ACCEPTABLE MATERIAL THAT CAN BE COMPACTED AND RECEIVE AT A MINIMUM HEAVY EQUIPMENT WHEEL ROLLED COMPACTION.
5. TEMPORARY BERMS SHALL BE CONSTRUCTED OUT OF EMBANKMENT (SUBSOIL) AND IN NO CIRCUMSTANCE CONSTRUCTED OUT OF SALVAGED TOPSOIL.
6. THE PAY ITEM NUMBER FOR TEMPORARY BERM (LF) IS 208-00300.

TEMPORARY BERM

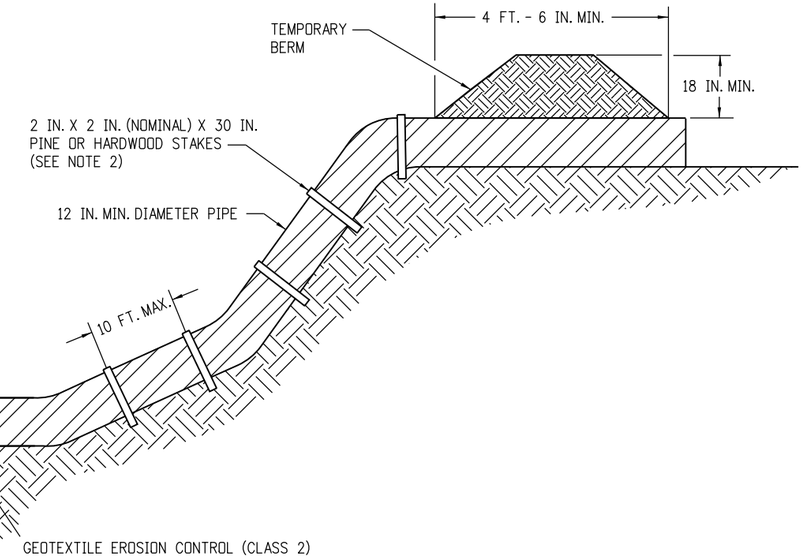


FOR BERMS TALLER THAN 2 FT.,
INSTALL TOE OF SLOPE CONTOL MEASURES.
SEE SHEET 3 OF 11 FOR DETAILS.

NOTES:

1. TEMPORARY DIVERSION DITCHES SHALL BE CONSTRUCTED ACROSS THE SLOPE TO INTERCEPT RUNOFF AND DIRECT IT TO A STABLE OUTLET OR SEDIMENT TRAP.
2. USE THE TEMPORARY DIVERSION DITCH IMMEDIATELY ABOVE A NEW CUT, FILL SLOPE, OR AROUND THE PERIMETER OF A DISTURBED AREA.
3. THE GRADIENT ALONG THE FLOW PATH SHALL HAVE A POSITIVE GRADE TO ASSURE DRAINAGE, BUT SHALL NOT BE SO STEEP AS TO RESULT IN EROSION DUE TO HIGH VELOCITY.
4. THE DIVERSION FLOWLINE SHALL ALWAYS BE LOCATED A MINIMUM 10 FEET FROM THE OUTSIDE LIMITS OF DISTURBED AREA BOUNDARY.
6. DIVERSION BERMS SHALL BE CONSTRUCTED OUT OF EMBANKMENT (SUBSOIL) AND IN NO CIRCUMSTANCE CONSTRUCTED OUT OF SALVAGED TOPSOIL.
5. THE PAY ITEM NUMBER FOR TEMPORARY DIVERSION (LF) IS 208-00301.

TEMPORARY DIVERSION



NOTES:

1. ANCHOR SIZE VARIES ACCORDING TO PIPE SIZE
2. TO SECURE THE PIPE, DRIVE STAKES INTO GROUND, THEN TIE A 12 GUAGE WIRE BETWEEN THEM ABOVE AND ACROSS THE PIPE'S WIDTH.
3. THE OUTLET SHALL BE ALIGNED WITH THE FLOW DIRECTION OF THE EXISTING GRADE. PERPENDICULAR DISCHARGE TO A CHANNEL SHALL NOT BE ACCEPTABLE.
4. THE GRADE AROUND THE INLET TO THE PIPE SHALL BE COMPACTED.
5. THE PAY ITEM NUMBER FOR TEMPORARY SLOPE DRAINS (LF) IS 208-00060.

TEMPORARY SLOPE DRAINS

GRADING APPLICATIONS

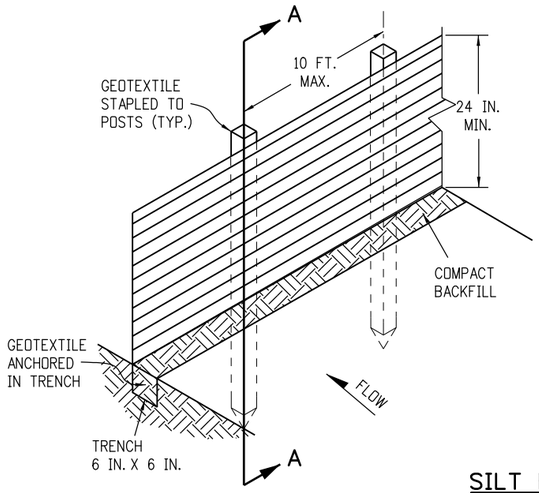
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Creation Date: 07/04/12 Initials: JBK		Date:	Comments
Last Modification Date: 04/01/19 Initials: LTA	(R-X)	03/29/16	Revisions to some dimensions and Notes.
Full Path: www.codot.gov/business/designsupport	(R-X)	04/01/19	Revised to comply with the updated Stormwater Construction Permit (SCP) requirements.
Drawing File Name: 2080107011.dgn	(R-X)		
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	(R-X)		

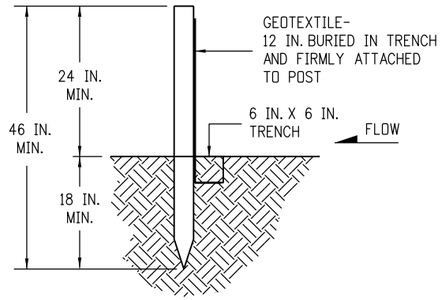
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TEMPORARY EROSION CONTROL

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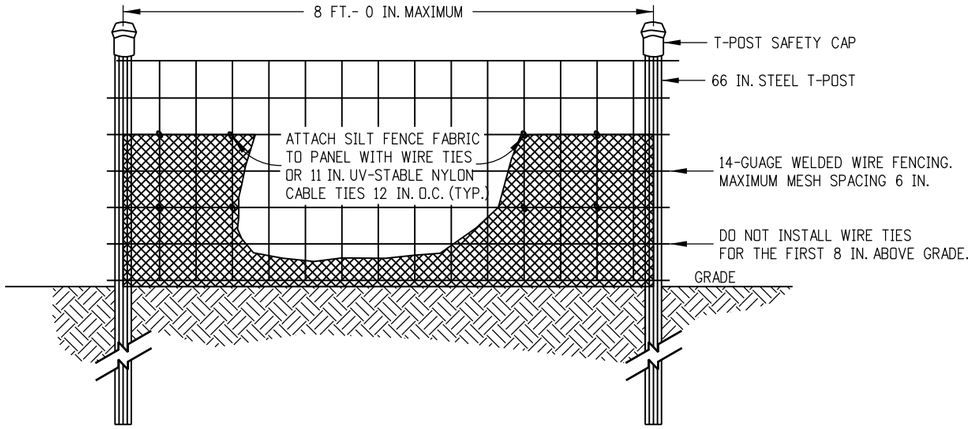


SECTION A-A

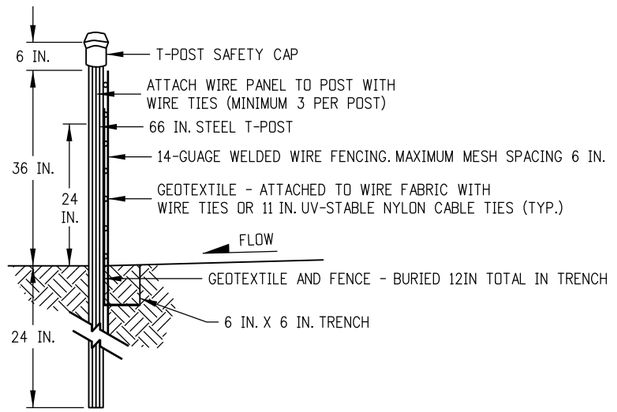
SILT FENCE

NOTES:

1. GEOTEXTILE SHALL BE ATTACHED TO WOOD POSTS WITH THREE OR MORE STAPLES PER POST. STAPLES SHALL BE HEAVY DUTY WIRE AND AT LEAST 1 INCH LONG.
2. WOOD POST SHALL BE 1 IN. X 1 IN. NOMINAL.
3. THE PAY ITEM NUMBER FOR SILT FENCE (LF) IS 208-00020.
4. THE SILT FENCE SHALL BE PLACED ON THE CONTOUR (AT THE SAME ELEVATION ±6 IN.). THE ENDS SHALL BE FLARED UP SLOPE (MINIMUM ELEVATION GAIN OF 18 IN.).



ELEVATION VIEW

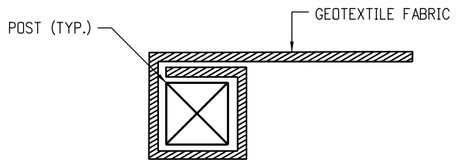


SIDE VIEW

NOTES:

1. THE ENDS OF THE SILT FENCE FABRIC SHALL BE JOINED TOGETHER BY WRAPPING APPROX. 6 INCHES OF EACH END AROUND A STEEL T-POST, THEN SECURED ALONG THE POST WITH WIRE TIES (MINIMUM 3 PER POST).
2. POSTS SHALL BE TIGHTLY ABUTTED WITH NO GAPS TO PREVENT POTENTIAL FLOW-THROUGH OF SEDIMENT AT JOINT.
3. SILT FENCES SHALL NOT BE USED FOR CHECK DAMS.
4. THE PAY ITEM NUMBER FOR SILT FENCE (REINFORCED) (LF) IS 208-00021.

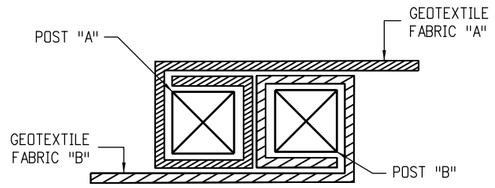
SILT FENCE (REINFORCED)



END SECTION DETAIL (PLAN VIEW)

NOTE:

1. THE END OF THE SILT FENCE FABRIC SHALL BE WRAPPED APPROX. 6 INCHES AROUND A WOODEN POST ONE FULL TURN, THEN SECURED ALONG THE POST WITH 6 HEAVY DUTY WIRE STAPLES AT LEAST 1 INCH LONG.



JOINING SECTION DETAIL (PLAN VIEW)

NOTES:

1. THE ENDS OF THE SILT FENCE FABRIC SHALL BE JOINED TOGETHER BY WRAPPING APPROX. 6 INCHES OF EACH END AROUND A WOODEN POST ONE FULL TURN, THEN SECURED ALONG THE POST WITH 6 HEAVY DUTY WIRE STAPLES AT LEAST 1 INCH LONG.
2. POSTS SHALL BE TIGHTLY ABUTTED WITH NO GAPS TO PREVENT POTENTIAL FLOW-THROUGH OF SEDIMENT AT JOINT.

SILT FENCE APPLICATIONS

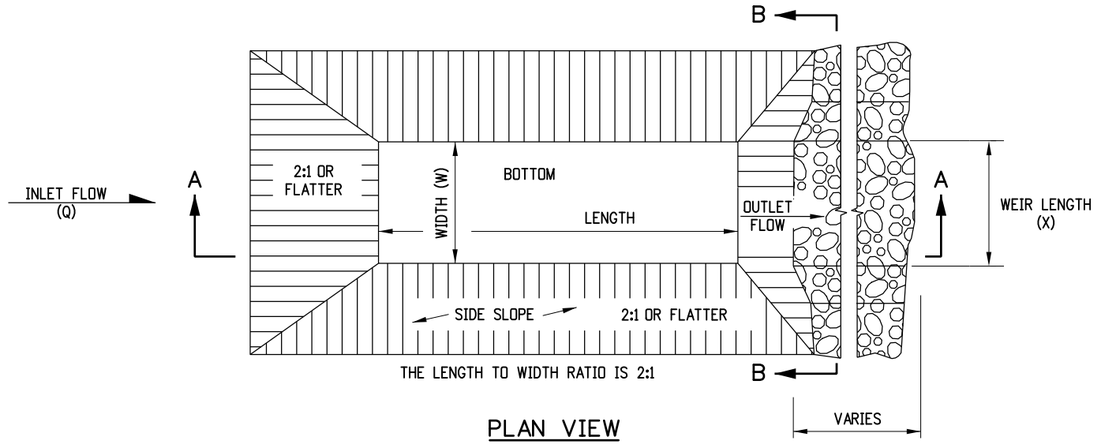
Computer File Information		Sheet Revisions	
Creation Date: 07/04/12 Initials: JBK		Date:	Comments
Last Modification Date: 04/01/19 Initials: LTA	(R-X)	03/29/16	Minor revisions to some dimensions and Notes.
Full Path: www.codot.gov/business/designsupport	(R-X)	04/01/19	Revised to comply with the updated Stormwater Construction Permit (SCP) requirements.
Drawing File Name: 2080108011.dgn	(R-X)		
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	(R-X)		

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TEMPORARY EROSION CONTROL

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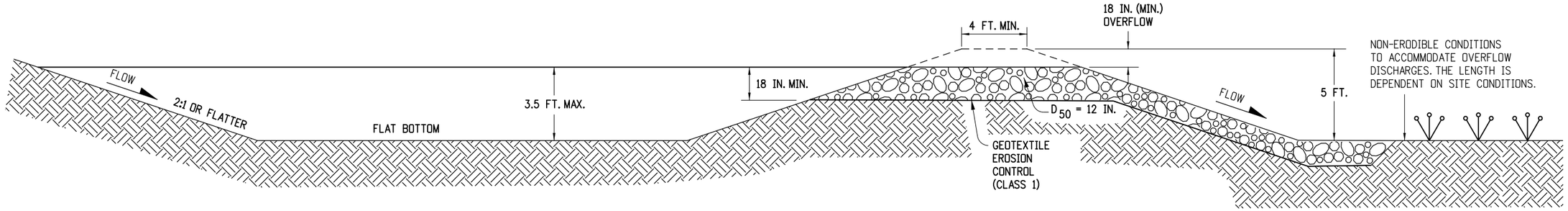
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M-208-1



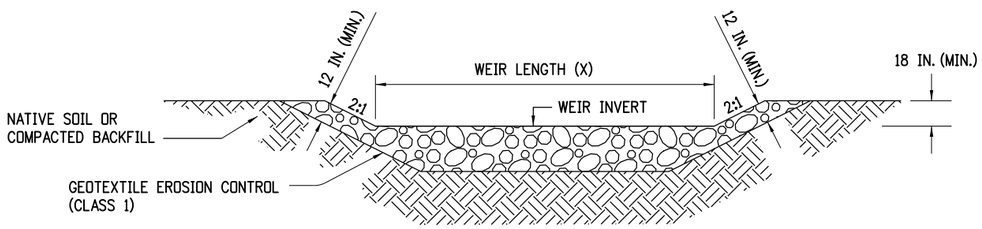
PLAN VIEW

NOTES

1. THE MAXIMUM DRAINAGE AREA IS 5 ACRES.
2. THE MAXIMUM STRUCTURE LIFE IS 2 YEARS.
3. THE STORAGE AREA IS 1800 CUBIC FEET PER ACRE.
4. THE MAXIMUM EMBANKMENT HEIGHT SHALL BE 5 FT. MEASURED ON THE DOWNSTREAM SIDE.
5. THE LENGTH/WIDTH RATIO MAY BE ADJUSTED TO MEET SITE CONDITIONS WHEN APPROVED BY THE ENGINEER.
6. WIDTH (W) OF SEDIMENT TRAP IS APPROXIMATELY EQUAL TO THE WEIR LENGTH (X).
7. SEDIMENT TRAP DESIGN SHALL BE APPROVED BY THE ENGINEER.
8. THE DOWN GRADE FROM WEIR SHALL BE STABLE AND NON-ERODIABLE.
9. THE PAY ITEM NUMBER FOR SEDIMENT TRAP (LF) IS 208-00033.



SECTION A-A



SECTION B-B

DRAINAGE AREA (ACRES)	WEIR LENGTH (FEET)
1	4
2	6
3	8
4	10
5	12

WEIR LENGTH TABLE

SEDIMENT TRAP

Computer File Information	
Creation Date: 07/04/12 Initials: JBK	
Last Modification Date: 04/01/19 Initials: LTA	(R-X)
Full Path: www.codot.gov/business/designsupport	(R-X)
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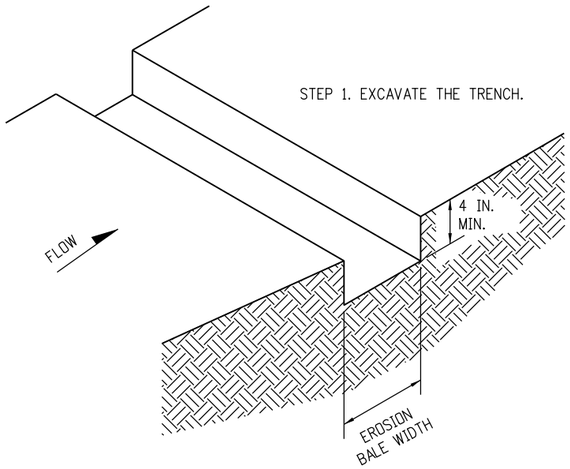
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04/01/19	Revised to comply with the updated Stormwater Construction Permit (SCP) requirements.

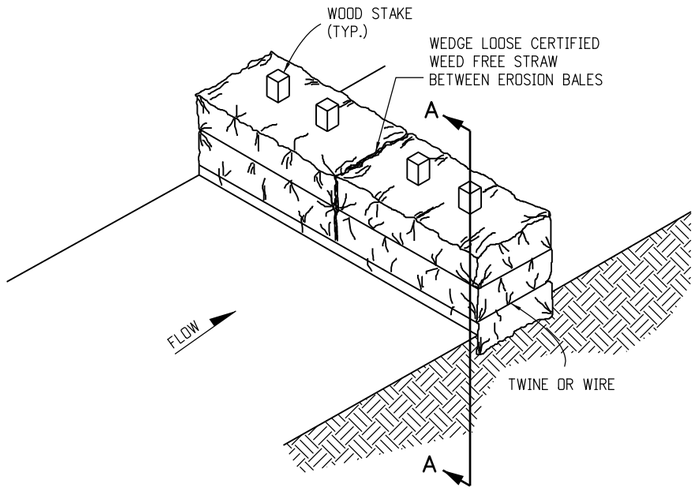
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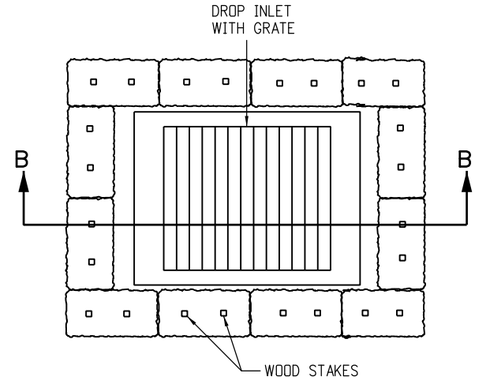
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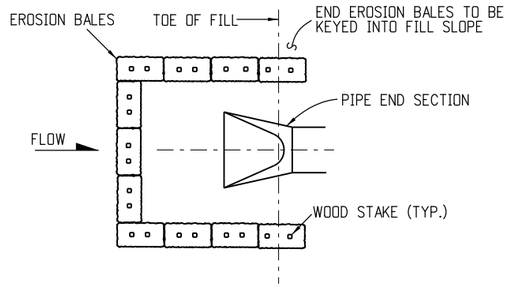


NOTES

1. STAKES SHALL BE WOOD AND SHALL BE 2 IN. X 2 IN. X 30 IN. NOMINAL.
2. EROSION BALES SHALL BE 18 IN. X 18 IN. X 36 IN.
3. EROSION BALES SHALL BE ENTRENCHED 4 IN. MINIMUM INTO THE SOIL, THIGHTLY ABUTTED WITH NO GAPS, STAKED, AND BACKFILLED AROUND THE ENTIRE OUTSIDE PERIMETER.
4. EROSION BALES CANNOT BE USED FOR CHECK DAMS.
5. EROSION BALE FILTER SHALL BE LOWER THAN BERM ELEVATION OR USED IN A SUMP CONDITION.
6. THE PAY ITEM NUMBER FOR EROSION BALES (WEED FREE) (EA) IS 208-00011.

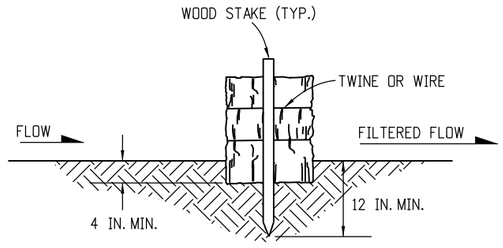


PLAN VIEW



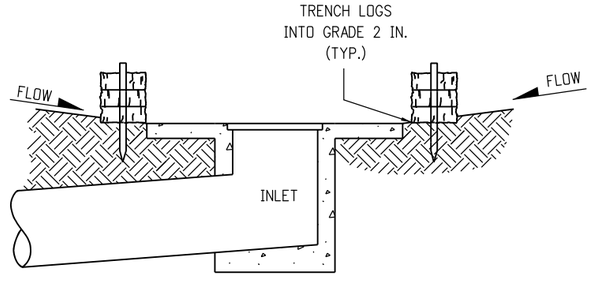
PLAN VIEW

EROSION BALE CULVERT INLET PROTECTION



SECTION A-A

EROSION BALE TRENCHING AND STAKING



SECTION B-B

NOTE: LOCATE EROSION BALES AT THE OUTSIDE EDGE OF THE CONCRETE APRON.

EROSION LOG FILTER AT DROP INLET

EROSION BALE APPLICATIONS

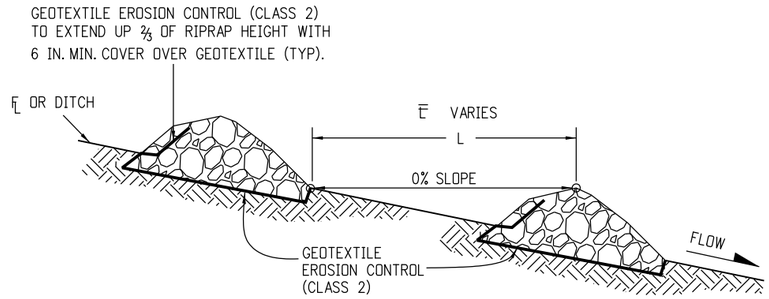
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Creation Date: 07/04/12 Initials: JBK		Date:	Comments
Last Modification Date: 04/01/19 Initials: LTA	(R-X)	03/29/16	Minor revisions to some dimensions.
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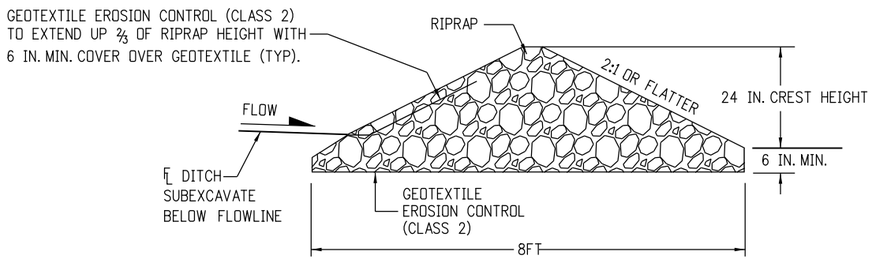
TEMPORARY EROSION CONTROL

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STANDARD PLAN NO.
M-208-1
Sheet No. 10 of 11



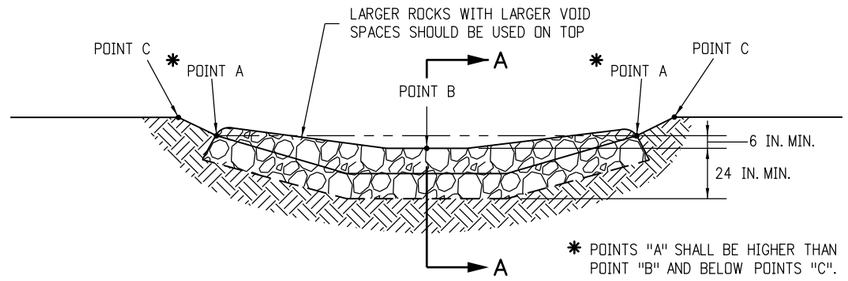
SECTION VIEW ALONG DITCH FLOWLINE



SECTION A-A

NOTES:

1. RIPRAP SIZE D_{50} = 6IN OR AS SHOWN ON THE PLANS.
2. THE GEOTEXTILE EROSION CONTROL SHALL BE CLASS 2 AND CONFORM TO THE REQUIREMENTS OF SUBSECTION 712.08.
3. THE ENDS OF RIPRAP CHECK DAM SHALL BE A MINIMUM OF 6 IN. HIGHER THAN CENTER OF CHECK DAM.
4. FOR USE AS TEMPORARY CHECK DAMS ONLY AND NOT FOR PERMANENT INSTALLATIONS.
5. THE PAY ITEM NUMBER FOR ROCK CHECK DAM (EA) IS 208-00041.



TYPICAL SECTION VIEW

NOTE: ALL MATERIALS AND LABOR TO COMPLETE THE ROCK CHECK DAM SHALL BE INCLUDED IN THE COST OF WORK.

ROCK CHECK DAM

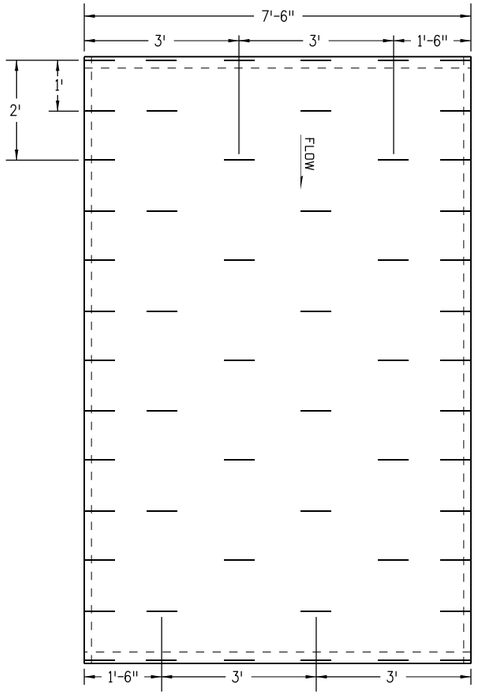
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STANDARD PLAN NO.
M-208-1
Sheet No. 11 of 11

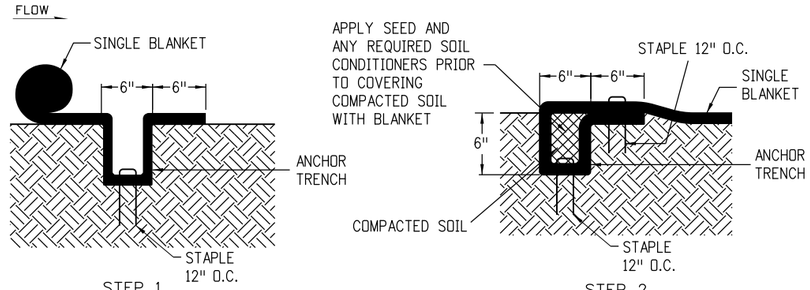


TYPICAL STAPLE PATTERN FOR CHANNEL APPLICATION

SEE SUBSECTION 216.05.

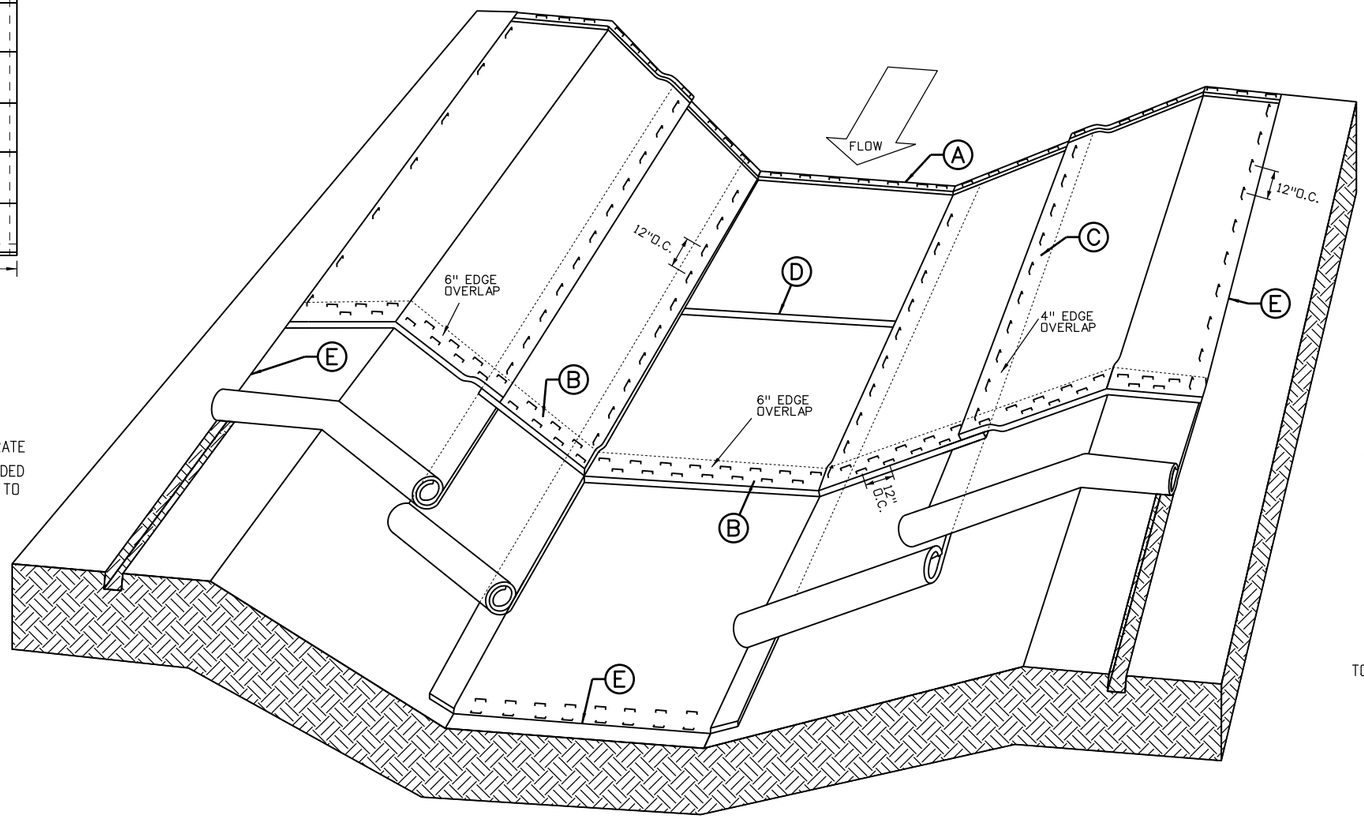
SOIL FILLED TRM APPLICATION

1. PLACE 3" TOPSOIL OR SOIL AMENDED WITH SOIL CONDITIONING.
2. APPLY HALF OF THE SPECIFIED SEED AT THE BROADCAST RATE AND RAKE IT INTO THE SOIL.
3. INSTALL TRM.
4. PLACE 1" TOPSOIL OR SOIL AMENDED WITH SOIL CONDITIONING INTO THE MATRIX TO COVER THE PRODUCT'S THICKNESS.
5. APPLY THE REMAINING HALF OF THE SPECIFIED SEED AT THE BROADCAST RATE AND RAKE IT INTO THE SOIL.
6. INSTALL SOIL RETENTION BLANKET (CLASS 1).



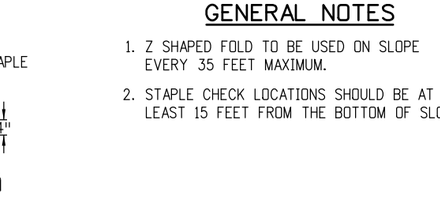
ANCHOR TRENCH (A)

TO BE USED AT THE BEGINNING AND END OF THE CHANNEL ACROSS IT'S ENTIRE WIDTH.



SOIL RETENTION BLANKETS/TURF REINFORCEMENT MATS (TRM) CHANNEL APPLICATION

IN ACCORDANCE WITH SECTION 216.

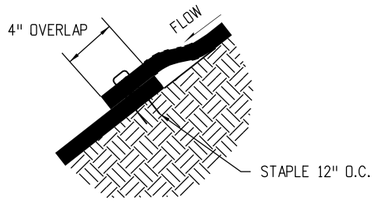


CONSECUTIVE ROLL OVERLAP (B)

TO BE USED WHEREVER ONE ROLL OF BLANKET ENDS AND ANOTHER BEGINS WITH UPSTREAM BLANKET PLACED ON TOP OF THE BLANKET ON THE DOWNSTREAM SIDE.

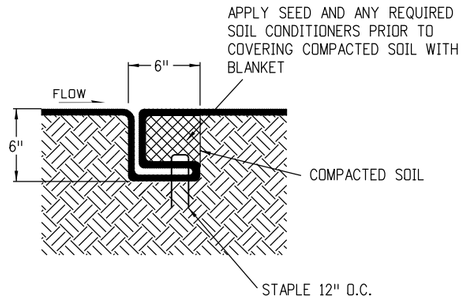
GENERAL NOTES

1. Z SHAPED FOLD TO BE USED ON SLOPE EVERY 35 FEET MAXIMUM.
2. STAPLE CHECK LOCATIONS SHOULD BE AT LEAST 15 FEET FROM THE BOTTOM OF SLOPE.



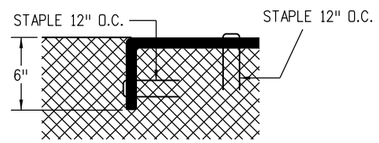
SIDE SEAM OVERLAP (C)

TO BE USED FOR OVERLAP WHEN 2 WIDTHS OF BLANKET ARE APPLIED SIDE BY SIDE WITH THE UPHILL BLANKET PLACED ON TOP OF THE BLANKET ON THE DOWNHILL SIDE.



CHANNEL CHECK SLOT (D)

TO BE USED AT 30' INTERVALS IN CHANNEL FLOWLINE.



TERMINATION OF CHANNEL (E)

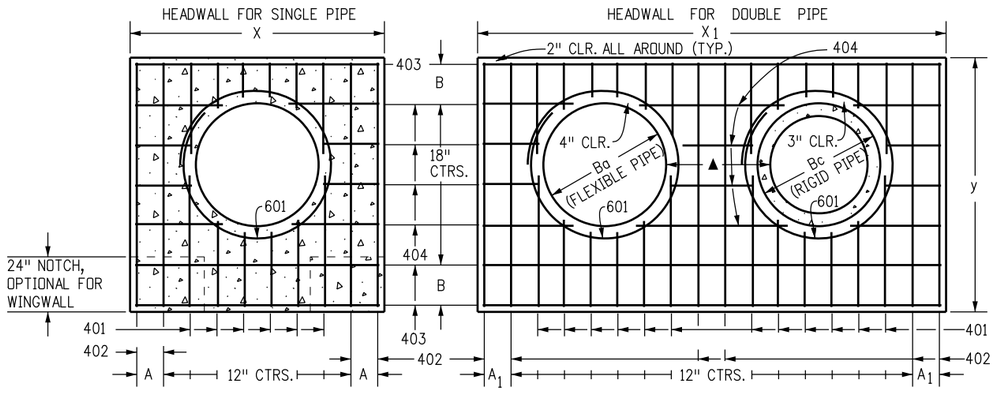
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Last Modification Date: 07/31/19	(R-X)		
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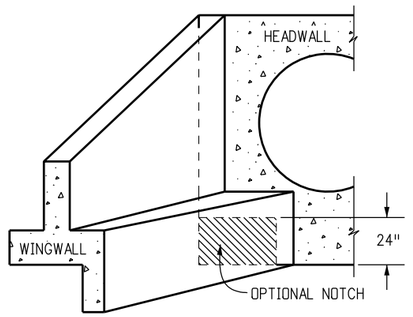
SOIL RETENTION COVERING

Issued by the Project Development Branch: July 31, 2019

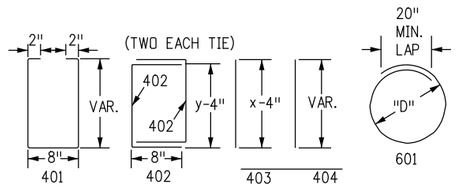
STANDARD PLAN NO.
M-216-1
Standard Sheet No. 1 of 2
Project Sheet Number:



TYPICAL BAR LAYOUT FOR CONCRETE HEADWALLS

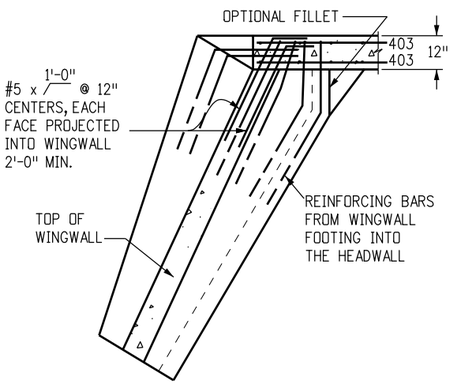


FRONT VIEW



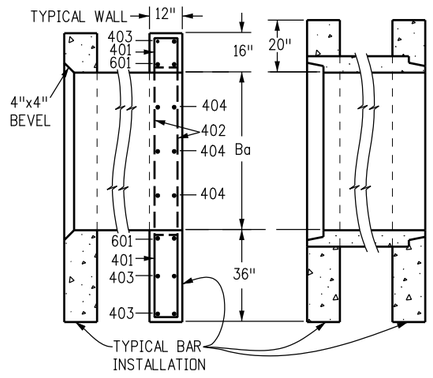
"D" = RIGID PIPE = Bc + 6"
FLEXIBLE PIPE = Ba + 8"
FLEXIBLE ARCH = SPAN + 8"
STRUCTURAL PLATE ARCH = RISE + 8"

BAR BENDING



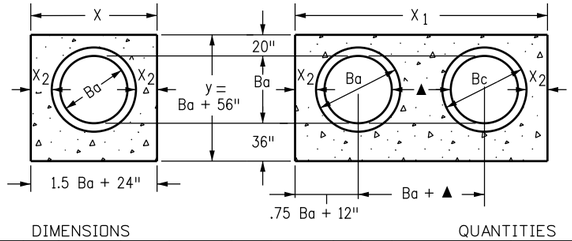
TOP VIEW

WINGWALL CONNECTION



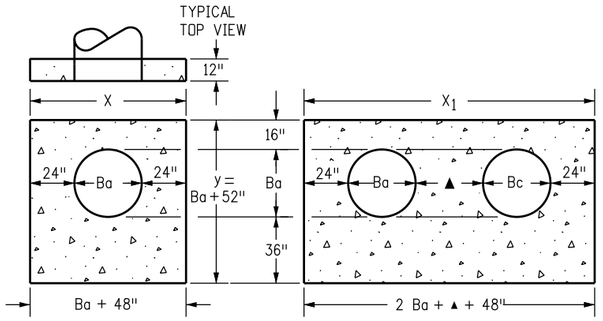
INLET OUTLET
ENDS OF FLEXIBLE PIPE

INLET OUTLET
ENDS OF RIGID PIPE



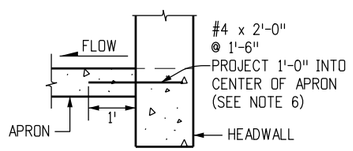
DIMENSIONS									QUANTITIES			
									CONCRETE		STEEL ■	
Ba IN.	Bc IN.	X FT.-IN.	A IN.	X_1 FT.-IN.	A_1 IN.	y FT.-IN.	B IN.	X_2 IN.	SGL CU.YD.	DBL CU.YD.	SGL LBS.	DBL LBS.
54	65	8-9	8½	15-6	7	9-2	17	20	2.12	3.55	209	364
60	72	9-6	7	17-0	10	9-8	11	21	2.35	3.99	236	414
66	79	10-3	11½	18-6	7	10-2	14	22	2.60	4.44	249	453
72	86	11-0	10	20-0	10	10-8	17	23	2.85	4.91	270	476
78	93	11-9	8½	21-3	11	11-2	11	24	3.11	5.29	306	527
84	100	12-6	7	22-6	7	11-8	14	25	3.38	5.68	333	572
90	107	13-3	11½	23-9	8½	12-2	17	26	3.66	6.08	335	593
96	114	14-0	10	25-0	10	12-8	11	27	3.94	6.48	379	649
102	121	14-9	8½	26-3	11½	13-2	14	28	4.24	6.89	400	664
108	128	15-6	7	27-6	7	13-8	17	29	4.54	7.30	424	707

HEADWALL FOR RIGID ROUND PIPE



DIMENSIONS							QUANTITIES			
							CONCRETE		STEEL ■	
Ba IN.	X FT.-IN.	A IN.	X_1 FT.-IN.	A_1 IN.	y FT.-IN.	B IN.	SGL CU. YD.	DBL CU. YD.	SGL LBS.	DBL LBS.
54	8-6	7	15-3	11½	8-10	15	2.19	3.81	211	358
60	9-0	10	16-6	7	9-4	18	2.38	4.25	217	396
66	9-6	7	17-9	8½	9-10	12	2.58	4.70	252	454
72	10-0	10	19-0	10	10-4	15	2.78	5.17	255	472
78	10-6	7	20-0	10	10-10	18	2.98	5.56	276	499
84	11-0	10	21-0	10	11-4	12	3.19	5.95	297	553
90	11-6	7	22-0	10	11-10	15	3.40	6.36	317	517
96	12-0	10	23-0	10	12-4	18	3.62	6.79	321	597
102	12-6	7	24-0	10	12-10	12	3.84	7.21	364	663
108	13-0	10	25-0	10	13-4	15	4.06	7.63	362	678

HEADWALL FOR FLEXIBLE ROUND PIPE



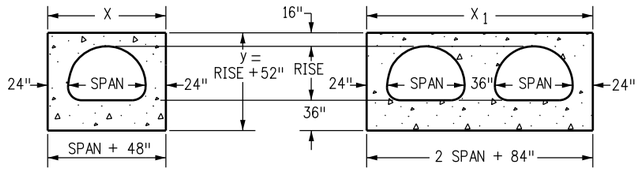
WHEN APRON IS REQUIRED

GENERAL NOTES

1. CONCRETE SHALL BE CLASS B.
2. HEADWALL SHALL BE PERPENDICULAR TO THE PIPE ℄ UNLESS OTHERWISE SHOWN ON THE PLANS. TABULATED DIMENSIONS AND QUANTITIES MUST BE ADJUSTED FOR SKEWED INSTALLATIONS.
3. FOR WINGWALL DETAILS, SEE STANDARD PLAN M-601-20.
4. VOLUME OCCUPIED BY PIPE HAS BEEN DEDUCTED FROM STEEL AND CONCRETE QUANTITIES.
5. EXPOSED CONCRETE CORNERS SHALL BE CHAMFERED ¾ IN.
6. ALL REINFORCING BARS SHALL HAVE A 2 IN. MINIMUM CLEARANCE.

▲ WHEN TWO OR MORE PIPES ARE LAID SIDE BY SIDE, THEY SHALL BE PLACED SO THAT THE ADJACENT PIPES WILL BE ½ INSIDE DIAMETER APART, OR ½ INSIDE SPAN APART, OR 3 FT. APART (INCLUDING WALL THICKNESS), WHICHEVER IS LESS.

■ ADD 0.89 x (X OR X_1) (LB.) WHEN APRON IS REQUIRED.



DIMENSIONS									QUANTITIES			
									CONCRETE		STEEL ■	
EQUIV. Ba IN.	SPAN IN.	RISE IN.	X FT.-IN.	A IN.	X_1 FT.-IN.	A_1 IN.	y FT.-IN.	B IN.	SGL CU. YD.	DBL CU. YD.	SGL LBS.	DBL LBS.
72	81	59	10-9	8½	20-6	7	9-3	17½	2.72	5.10	250	467
78	87	63	11-3	11½	21-6	7	9-7	10½	2.85	5.34	275	531
84	95	67	11-9	8½	22-10	9	9-11	12½	3.08	5.79	290	547
90	103	71	12-7	7½	24-2	11	10-3	15	3.30	6.21	321	591
96	112	75	13-4	12	25-8	8	10-7	16½	3.52	6.65	314	606
102	117	79	13-9	8½	26-6	7	10-11	9½	3.63	6.86	356	672
108	128	83	14-8	8	28-4	12	11-3	11½	3.96	7.51	376	699

HEADWALL FOR FLEXIBLE PIPE ARCH

DIMENSIONS									QUANTITIES			
									CONCRETE		STEEL ■	
EQUIV. Ba IN.	SPAN FT.-IN.	RISE FT.-IN.	X FT.-IN.	A IN.	X_1 FT.-IN.	A_1 IN.	y FT.-IN.	B IN.	SGL CU. YD.	DBL CU. YD.	SGL LBS.	DBL LBS.
66	6-1	4-7	10-1	10½	19-2	11	8-11	15½	2.52	4.70	232	424
75	7-0	5-1	11-0	10	21-0	10	9-5	9½	2.80	5.25	282	509
84	7-11	5-7	11-11	9½	22-10	9	9-11	12½	3.08	5.79	291	540
93	8-10	6-1	12-10	9	24-8	8	10-5	15½	3.36	6.33	309	622
102	9-9	6-7	13-9	8½	26-6	7	10-11	9½	3.63	6.86	379	673
111	10-11	7-1	14-11	9½	28-10	9	11-5	12½	4.05	7.67	377	711
120	11-10	7-7	15-10	9	30-8	8	11-11	15½	4.36	8.28	395	731
132	12-10	8-4	16-10	9	32-8	8	12-8	11	4.75	9.03	441	839
141	14-1	8-9	18-1	10½	35-2	11	13-1	13½	5.17	9.86	448	931
150	15-4	9-3	19-4	12	37-8	8	13-7	16½	5.69	10.88	490	953
159	15-10	9-10	19-10	9	38-8	8	14-2	11	5.89	11.25	534	1019

HEADWALL FOR STRUCTURAL PLATE ARCH

SKEW ANGLE A°	90	85	80	75	70	65	60	55	50	45	40	35	30
FACTOR (cosecA°)	1.000	1.004	1.015	1.035	1.064	1.103	1.155	1.221	1.305	1.414	1.556	1.743	2.000

SKEW FACTOR TABLE

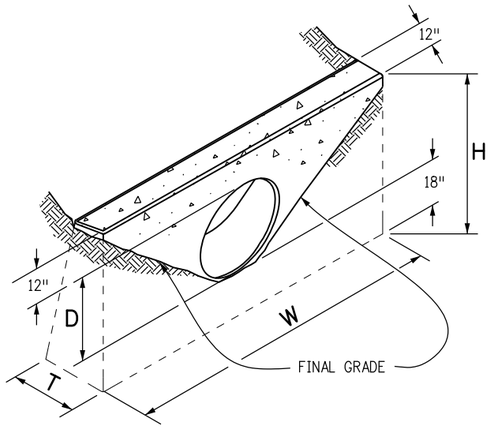
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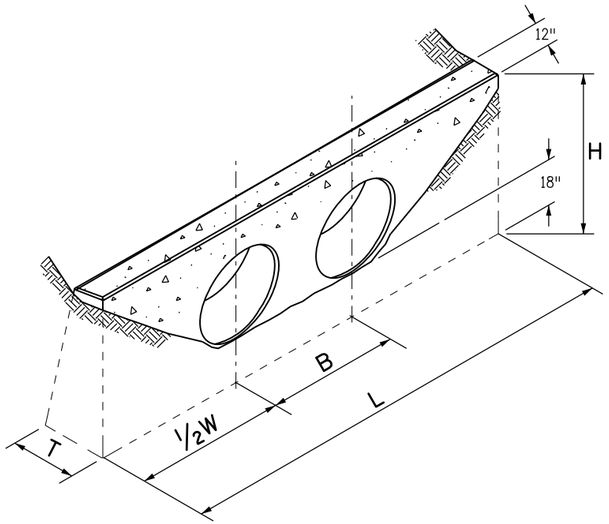
HEADWALL FOR PIPES

Issued by the Project Development Branch: July 31, 2019

STANDARD PLAN NO.
M-601-10
Standard Sheet No. 1 of 1
Project Sheet Number:



SINGLE PIPE



DOUBLE PIPE

CONCRETE HEADWALL INSTALLATIONS

SEE STANDARD PLAN M-601-10 FOR REINFORCING DETAILS.

PIPE		PIPE DIAMETER (AND EQUIVALENT DIAMETER) (IN.)											
		18		24		30		36		42		48	
TYPE	MATERIAL	SINGLE	DOUBLE	SINGLE	DOUBLE	SINGLE	DOUBLE	SINGLE	DOUBLE	SINGLE	DOUBLE	SINGLE	DOUBLE
CIRCULAR	RIGID	1.0	1.3	1.5	2.0	2.0	2.7	2.8	3.6	3.6	4.6	4.6	6.0
	FLEXIBLE	1.1	1.4	1.6	2.1	2.2	3.0	3.0	4.0	3.9	5.3	5.0	6.8
ELLIPTICAL	RIGID	23 x 14		30 x 19		38 x 24		45 x 29		53 x 34		60 x 38	
		0.9	1.2	1.3	1.6	1.7	2.2	2.3	2.9	2.9	3.7	3.5	4.4
ARCH	METAL	22 x 13		29 x 18		36 x 22		43 x 27		50 x 31		58 x 36	
		0.9	1.3	1.4	1.9	1.8	2.4	2.4	3.4	3.2	4.4	3.4	5.0

CONCRETE QUANTITIES FOR ONE CONCRETE HEADWALL (CUBIC YARDS)

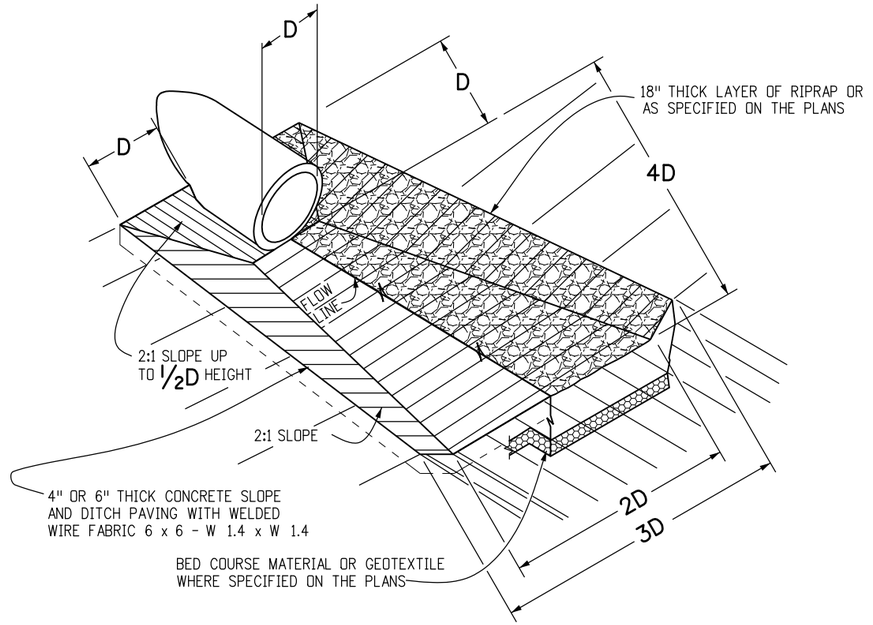
THICKNESS	MATERIAL	PIPE DIAMETER (IN.)					
		18	24	30	36	42	48
4"	CONCRETE	0.4	0.8	1.2			
6"	CONCRETE				2.6	3.6	4.7
18"	RIPRAP	2.0	3.5	5.4	7.8	10.7	13.9

PIPE OUTLET PAVING (CUBIC YARDS)

NOTE: VOLUME OCCUPIED BY PIPE HAS BEEN DEDUCTED.

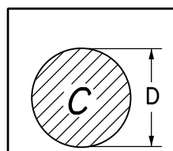
GENERAL NOTES

1. FOR SIZE AND LOCATION OF PIPES, SEE THE PLANS.
2. ALL CONCRETE SHALL BE CLASS B.
3. FOOTINGS IN ROCK SHALL BE POURED OUT TO ROCK AND NOT FORMED IN ACCORDANCE WITH SUBSECTION 601.09(b).
4. EXPOSED CONCRETE CORNERS SHALL BE CHAMFERED $\frac{3}{4}$ IN.
5. HEADWALL SHALL HAVE REINFORCING STEEL INSTALLED IN A PATTERN SIMILAR TO STANDARD PLAN M-601-10.
6. THE COST OF REINFORCING STEEL SHALL BE INCLUDED IN THE WORK UNLESS THE STEEL QUANTITIES ARE LISTED IN THE PLANS AND ARE PAID FOR SEPARATELY.



PIPE OUTLET PAVING

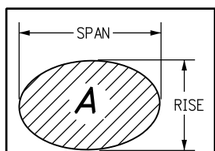
MAY BE USED WITH MULTIPLE PIPES.



CIRCULAR

D = PIPE DIAMETER (INSIDE)
H = D + 30"
W = 3D + 18"
T = 0.4 H (NEAREST IN.)
B = 1.5 D (30" MINIMUM)
L = W + B

TYPE OF PIPE — HEADWALL DIMENSIONS



ARCH OR ELLIPTICAL

D = EQUIVALENT CIRCULAR DIAMETER (INSIDE)
H = RISE + 30"
W = 3D + 18"
T = 0.4 H (NEAREST IN.)
B = 1.5 D (30" MINIMUM)
L = W + B

TYPE OF PIPE — HEADWALL DIMENSIONS

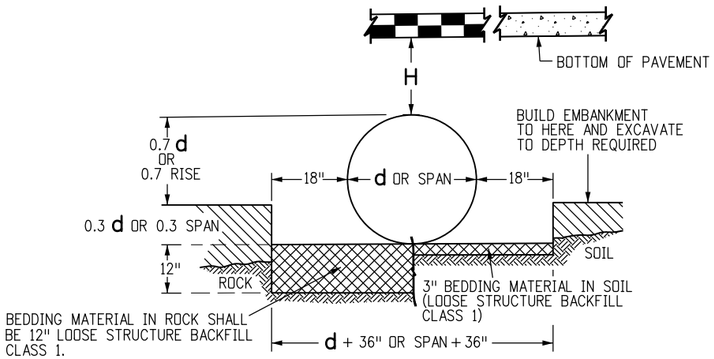
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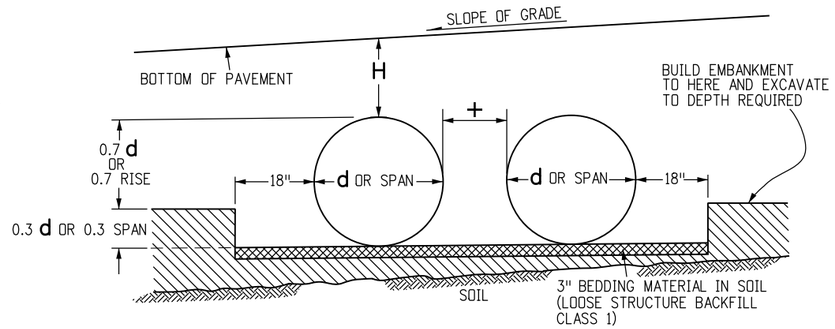
HEADWALLS AND PIPE OUTLET PAVING

Issued By: Project Development Branch July 4, 2012

STANDARD PLAN NO.
M-601-12
Sheet No. 1 of 1



INSTALLATION OF METAL PIPE



INSTALLATION OF MULTIPLE METAL PIPES

GENERAL NOTES

1. STEEL PIPES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M36. ALUMINUM PIPES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M196. ALUMINIZED STEEL SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M274.
2. MINIMUM COVER SHALL BE PROVIDED DURING CONSTRUCTION TO PROTECT THE STRUCTURE FROM DAMAGE.
3. PIPE SHALL BE PLACED WITH LONGITUDINAL SEAMS AT THE SIDES OR QUARTER POINTS BUT NOT ALONG TOP OF VERTICAL AXIS.
4. STRUCTURAL PLATE PIPES OF EQUAL OR GREATER DIAMETER THAT CONFORM TO SECTION 510 MAY BE SUBSTITUTED FOR THE PIPES ON THESE SHEETS AT THE CONTRACTOR'S EXPENSE.
5. WHEN A PIPE IS TO BE EXTENDED, THE SAME PIPE MATERIAL AND SIZE AS IN THE ORIGINAL INSTALLATION SHALL BE USED.
6. EXTENSIONS FOR CMP ARCH PIPE SHALL MATCH THE CORRUGATIONS, AND THE SPAN AND RISE DIMENSIONS OF THE PIPE TO BE EXTENDED.
7. WHEN INSTALLING A GUARDRAIL OR A SIGN POST DIRECTLY ABOVE A PIPE, THE BOTTOM OF THE POST MUST BE AT LEAST 1 FOOT ABOVE THE TOP OF THE PIPE. THE HOLE FOR THE POST SHALL BE DRILLED INTO THE SOIL.
8. PIPE ARCH WITH EQUAL PERIPHERY AND WITH SPAN AND RISE DIMENSIONS APPROXIMATELY EQUAL TO THOSE SPECIFIED ON THE PLANS WILL BE PERMITTED.
9. PIPE ARCH IS INTENDED FOR USE WHERE MINIMUM COVER REQUIREMENTS FOR ROUND PIPE CANNOT BE MET. WHEN COVER EXCEEDS 11 FT. USE ROUND PIPE.
10. PIPE COVER GREATER THAN 90 FT. SHALL REQUIRE AN INVESTIGATION OF THE FOUNDATION MATERIAL.

	MINIMUM COVER (IN.) FOR INDICATED AXLE LOADS, kips			
PIPE SPAN (IN.)	18.0 - 50.0	50.0 - 75.0	75.0 - 110.0	110.0 - 150.0
12.0 - 42.0	24	30	36	36
48.0 - 72.0	36	36	42	48
78.0 - 120.0	36	42	48	48
126.0 - 144.0	42	48	54	54

MINIMUM COVER FOR CONSTRUCTION LOADS

LEGEND

H = THE MAXIMUM ALLOWABLE HEIGHTS OF FILL OVER THE TOP OF THE PIPE, EXCLUDING PAVEMENT THICKNESS, ARE SHOWN IN THE TABLES OF THIS STANDARD.

THE MINIMUM COVER SHALL BE AS SHOWN ON THESE TABLES OR CONFORM TO AASHTO REQUIREMENTS, WHICHEVER IS GREATER.

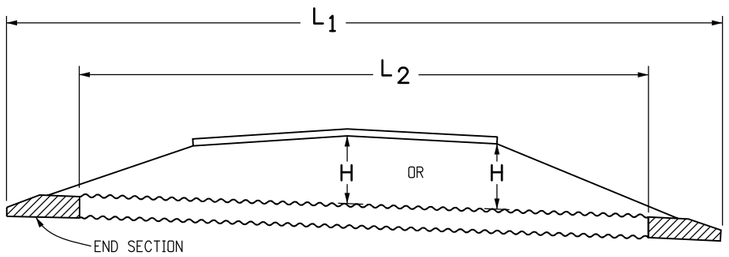
THE MINIMUM COVER FOR PIPE IS MEASURED FROM THE TOP OF THE PIPE TO THE BOTTOM OF THE PAVEMENT: HMA OR PCCP.

THE MINIMUM COVER IS MEASURED FROM THE TOP OF THE PIPE TO THE TOP OF THE SUBGRADE FOR CONSTRUCTION LOADS.

L_1 = LENGTH OF PIPE TO BE MEASURED WHEN PLACED IN ACCORDANCE WITH SECTION 624.

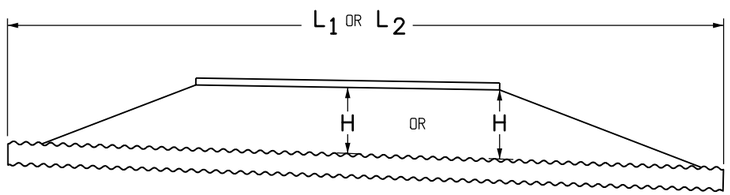
L_2 = LENGTH OF PIPE TO BE MEASURED WHEN PLACED IN ACCORDANCE WITH SECTION 603.

\+ = THE MINIMUM SPACING BETWEEN THE OUTSIDE WALLS OF MULTIPLE PIPES OR END SECTIONS IS 18" OR ½ d, WHICHEVER IS GREATER, BUT NOT TO EXCEED 36".



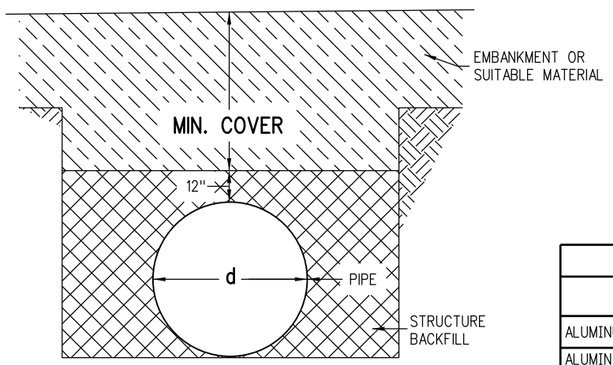
METAL PIPE WITH END SECTIONS

NOTE: USE THE H THAT IS GREATER FOR MAXIMUM ALLOWABLE FILL HEIGHT.



METAL PIPE WITHOUT END SECTIONS

NOTE: USE THE H THAT IS GREATER FOR MAXIMUM ALLOWABLE FILL HEIGHT.



CONSTRUCTION MINIMUM COVER FOR PIPE

CONVERSION OF NOMINAL GAGE TO THICKNESS					
GAGE NO.	16	14	12	10	8
ALUMINUM THICKNESS - IN.	0.060	0.075	0.105	0.135	0.164
ALUMINIZED OR GALVANIZED STEEL THICKNESS - IN.	0.064	0.079	0.109	0.138	0.168

ALLOWED WALL THICKNESS

Computer File Information		Sheet Revisions	
Creation Date: 07/04/12 Initials: DLM		Date:	Comments
Last Modification Date: 10/02/14 Initials: LTA	(R-X)	03/05/14	Deleted "H MIN." dim. Revised Gen Note 2 and 1st note in Legend.
Full Path: www.coloradodot.info/business/designsupport	(R-X)	04/29/14	Added applicable coating types notes to all sheets.
Drawing File Name: 603010104.dgn	(R-X)		
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	(R-X)		

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METAL PIPE

Issued By: Project Development Branch on July 4, 2012

STANDARD PLAN NO.
M-603-1
Sheet No. 1 of 4

THESE TABLES ARE APPLICABLE FOR THE FOLLOWING LIST OF CORRUGATED STEEL PIPE:

1. GALVANIZED CORRUGATED STEEL PIPE (CSP)
2. ALUMINIZED CORRUGATED STEEL PIPE TYPE 2 (ALT2 CSP)
3. BITUMINOUS COATED CORRUGATED STEEL PIPE (BIT. CO. CSP)
4. ARAMID FIBER BONDED CORRUGATED STEEL PIPE (A.F. BO. CSP)
5. PRECOATED CORRUGATED STEEL PIPE (PCSP- BOTH SIDES)

DIAMETER (IN.)	H MINIMUM COVER (IN.)	PIPE GAGE				
		H MAXIMUM OF COVER (FT.)				
		16	14	12	10	8
12	24	207	259			
15	24	165	207			
18	24	138	172	242		
21	24	118	148	207		
24	24	103	129	181		
30	24	82	103	145		
36	24	68	86	120	155	
42	24	58	73	103	133	163
48	36	51	64	90	103	142
54	36		57	80	93	126
60	36			72	84	114
66	36				77	103
72	36					94
78	36					84
84	36					72

2-⅔" X ½" CORRUGATIONS
CORRUGATED STEEL PIPE

SPAN X RISE (IN. X IN.)	ROUND EQUIVALENT (IN.)	H MINIMUM COVER (IN.)	PIPE GAGE	H MAXIMUM COVER (FT.)
17 X 13	15	24	16	13
21 X 15	18	24	16	12
24 X 18	21	24	16	13
28 X 20	24	24	16	12
35 X 24	30	24	16	12
42 X 29	36	24	16	12
49 X 33	42	24	14	12
57 X 38	48	36	12	12
64 X 43	54	36	12	12
71 X 47	60	36	10	12
77 X 52	66	36	8	12
83 X 57	72	36	8	12

2-⅔" X ½" CORRUGATIONS *
CORRUGATED STEEL PIPE ARCH

* CORNER BEARING PRESSURE OF 2 TONS PER SQ. FT.

DIAMETER (IN.)	H MINIMUM COVER (IN.)	PIPE GAGE	
		H MAXIMUM OF COVER (FT.)	
		16	14
6	24	408	509
8	24	306	382
10	24	244	305

1-½" X ¼" CORRUGATIONS
CORRUGATED STEEL PIPE

DIAMETER (IN.)	H MINIMUM COVER (IN.)	PIPE GAGE				
		H MAXIMUM OF COVER (FT.)				
		16	14	12	10	8
48	36	59	74	104	134	164
54	36	52	65	92	119	146
60	36	47	59	83	107	131
66	36	42	53	75	97	119
72	36	39	49	69	89	109
78	36		45	63	82	101
84	36		42	59	76	93
90	36			55	71	87
96	36			51	66	81
102	36			48	62	77
108	36				59	72
114	36				56	68
120	36				53	65
126	42					62

3" X 1" CORRUGATIONS
CORRUGATED STEEL PIPE

SPAN X RISE (IN. X IN.)	ROUND EQUIVALENT (IN.)	H MINIMUM COVER (IN.)	PIPE GAGE	H MAXIMUM COVER (FT.)
53 X 41	48	36	14	12
60 X 46	54	36	14	20
66 X 51	60	36	14	20
73 X 55	66	36	14	20
81 X 59	72	36	14	17
87 X 63	78	36	14	16
95 X 67	84	36	14	16
103 X 71	90	36	12	16
112 X 75	96	36	12	16
117 X 79	102	36	12	16

3" X 1" CORRUGATIONS *
CORRUGATED STEEL PIPE ARCH

DIAMETER (IN.)	H MINIMUM COVER (IN.)	PIPE GAGE				
		H MAXIMUM OF COVER (FT.)				
		16	14	12	10	8
54	36	46	58	82	106	129
60	36		52	74	95	116
66	36		47	66	86	106
72	36			61	79	97
78	36			56	73	89
84	36			53	68	83
90	36				63	77
96	36				59	72
102	36				55	68
108	36					64

5" X 1" CORRUGATIONS
CORRUGATED STEEL PIPE

DIAMETER (IN.)	H MINIMUM COVER (IN.)	PIPE GAGE			
		H MAXIMUM OF COVER (FT.)			
		16	14	12	10
18	24	90	126		
21	24	77	108	181	
24	24	67	95	158	
30	24	54	75	126	
36	24	45	63	105	
42	24	38	54	90	
48	36	33	47	78	114
54	36	29	41	70	101
60	36		37	63	91
66	36		34	57	83
72	36			52	76
78	36			48	70
84	36			44	65
90	36				60
96	36				56
102	36				50

¾" X ¾ 7-½" CORRUGATIONS
CORRUGATED STEEL PIPE

THESE TABLES ARE APPLICABLE FOR THE FOLLOWING LIST OF CORRUGATED STEEL PIPE:
1. GALVANIZED CORRUGATED STEEL PIPE (CSP)
2. ALUMINIZED CORRUGATED STEEL PIPE TYPE 2 (ALT2 CSP)
3. BITUMINOUS COATED CORRUGATED STEEL PIPE (BIT. CO. CSP)
4. ARAMID FIBER BONDED CORRUGATED STEEL PIPE (A.F. BO. CSP)
5. PRECOATED CORRUGATED STEEL PIPE (PCSP- BOTH SIDES)

SPAN X RISE (IN. X IN.)	ROUND EQUIVALENT (IN.)	H MINIMUM COVER (IN.)	PIPE GAGE	H MAXIMUM COVER (FT.)
81 X 59	72	36	12	17
87 X 63	78	36	12	16
95 X 67	84	36	12	16

5" X 1" CORRUGATIONS
CORRUGATED STEEL PIPE ARCH *

* CORNER BEARING PRESSURE OF 2 TONS PER SQ. FT.

SPAN X RISE (IN. X IN.)	ROUND EQUIVALENT (IN.)	H MINIMUM COVER (IN.)	PIPE GAGE	H MAXIMUM COVER (FT.)
20 X 16	18	24	16	16
23 X 19	21	24	16	15
27 X 21	24	24	16	13
33 X 26	30	24	16	13
40 X 31	36	24	16	14
46 X 36	42	24	12	13
53 X 41	48	36	12	13
60 X 46	54	36	12	20
66 X 51	60	36	12	20

¾" X ¾ 7-½" CORRUGATIONS
CORRUGATED STEEL PIPE ARCH *

Computer File Information	
Creation Date: 07/04/12	Initials: DLM
Last Modification Date: 10/02/14	Initials: LTA
Full Path: www.coloradodot.info/business/designsupport	
Drawing File Name: 603010304.dgn	
CAD Ver.: MicroStation V8 Scale: Not to Scale	Units: English

Sheet Revisions		
	Date:	Comments
R-X	03/05/14	Revised detail titles and added "H" to tables.
R-X		
R-X		
R-X		

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METAL PIPE

Issued By: Project Development Branch on July 4, 2012

STANDARD PLAN NO.
M-603-1

THESE TABLES ARE APPLICABLE FOR THE FOLLOWING LIST OF CORRUGATED STEEL PIPE:

1. GALVANIZED CORRUGATED STEEL PIPE (CSP)
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4. ARAMID FIBER BONDED CORRUGATED STEEL PIPE (A.F. BO. CSP)
5. PRECOATED CORRUGATED STEEL PIPE (PCSP- BOTH SIDES)

DIAMETER (IN.)	H MINIMUM COVER (IN.)	PIPE GAGE
		H MAXIMUM OF COVER (FT.)
		16
6	24	247
8	24	185
10	24	148

1-½" X ¼" CORRUGATIONS
CORRUGATED ALUMINUM PIPE

DIAMETER (IN.)	H MINIMUM COVER (IN.)	PIPE GAGE			
		H MAXIMUM OF COVER (FT.)			
		16	14	12	10
18	24	43	61		
21	24	38	52	84	
24	24	33	45	73	
30	24	26	36	58	
36	24	21	30	49	69
42	24		25	41	59
48	36			36	51
54	36			32	46
60	36			29	41
66	36				37
72	36				34

¾" X ¾" 7-½" CORRUGATIONS
CORRUGATED ALUMINUM PIPE

SPAN X RISE (IN. X IN.)	ROUND EQUIVALENT (IN.)	H MINIMUM COVER (IN.)	PIPE GAGE			
			H MAXIMUM OF COVER (FT.)			
			16	14	12	10
20 X 16	18	24	16			
23 X 19	21	24	15			
27 X 21	24	24	13	13		
33 X 26	30	24	13	13	13	
40 X 31	36	24		13	13	
46 X 36	42	24			13	13
53 X 41	48	36			13	13
60 X 46	54	36			20	20
66 X 51	60	36				20

¾" X ¾" 7-½" CORRUGATIONS
CORRUGATED ALUMINUM PIPE ARCH *

DIAMETER (IN.)	H MINIMUM COVER (IN.)	PIPE GAGE				
		H MAXIMUM OF COVER (FT.)				
		16	14	12	10	8
12	24	125	157			
15	24	100	125			
18	24	83	104			
21	24	71	89			
24	24	62	78	109		
27	24		69	97		
30	24		62	87		
36	24		51	73	94	
42	24			62	80	
48	36			54	70	85
54	36			48	62	76
60	36				52	64
66	36					52
72	36					43

2-⅔" X ½" CORRUGATIONS
CORRUGATED ALUMINUM PIPE

SPAN X RISE (IN. X IN.)	ROUND EQUIVALENT (IN.)	H MINIMUM COVER (IN.)	PIPE GAGE	H MAXIMUM COVER (FT.)
17 X 13	15	24	16	13
21 X 15	18	24	16	12
24 X 18	21	24	16	13
28 X 20	24	24	16	12
35 X 24	30	24	16	12
42 X 29	36	24	16	12
49 X 33	42	24	14	12
57 X 38	48	36	12	12
64 X 43	54	36	12	12
71 X 47	60	36	10	12

2-⅔" X ½" CORRUGATIONS
CORRUGATED ALUMINUM PIPE ARCH *

* CORNER BEARING PRESSURE OF 2 TONS PER SQ. FT.

DIAMETER (IN.)	H MINIMUM COVER (IN.)	PIPE GAGE				
		H MAXIMUM OF COVER (FT.)				
		16	14	12	10	8
30	24	57	72	101	135	159
36	24	47	60	84	112	132
42	24	40	51	72	96	113
48	36	35	44	62	84	99
54	36	31	39	55	74	88
60	36	28	35	50	67	79
66	36	25	32	45	61	72
72	36	23	29	41	56	66
78	36		27	38	51	61
84	36			35	48	56
90	36			33	44	52
96	36			31	41	49
102	36				39	46
108	36				37	43
114	36					39
120	36					36

3" X 1" CORRUGATIONS
CORRUGATED ALUMINUM PIPE

SPAN X RISE (IN. X IN.)	ROUND EQUIVALENT (IN.)	H MINIMUM COVER (IN.)	PIPE GAGE	H MAXIMUM COVER (FT.)
60 X 46	54	36	14	20
66 X 51	60	36	14	20
73 X 55	66	36	14	20
81 X 59	72	36	12	16
87 X 63	78	36	12	16
95 X 67	84	36	12	16
103 X 71	90	36	10	16
112 X 75	96	36	8	16

3" X 1" CORRUGATIONS
CORRUGATED ALUMINUM PIPE ARCH *

Computer File Information	
Creation Date: 07/04/12	Initials: DLM
Last Modification Date: 10/02/14	Initials: LTA (R-X)
Full Path: www.coloradodot.info/business/designsupport	(R-X)
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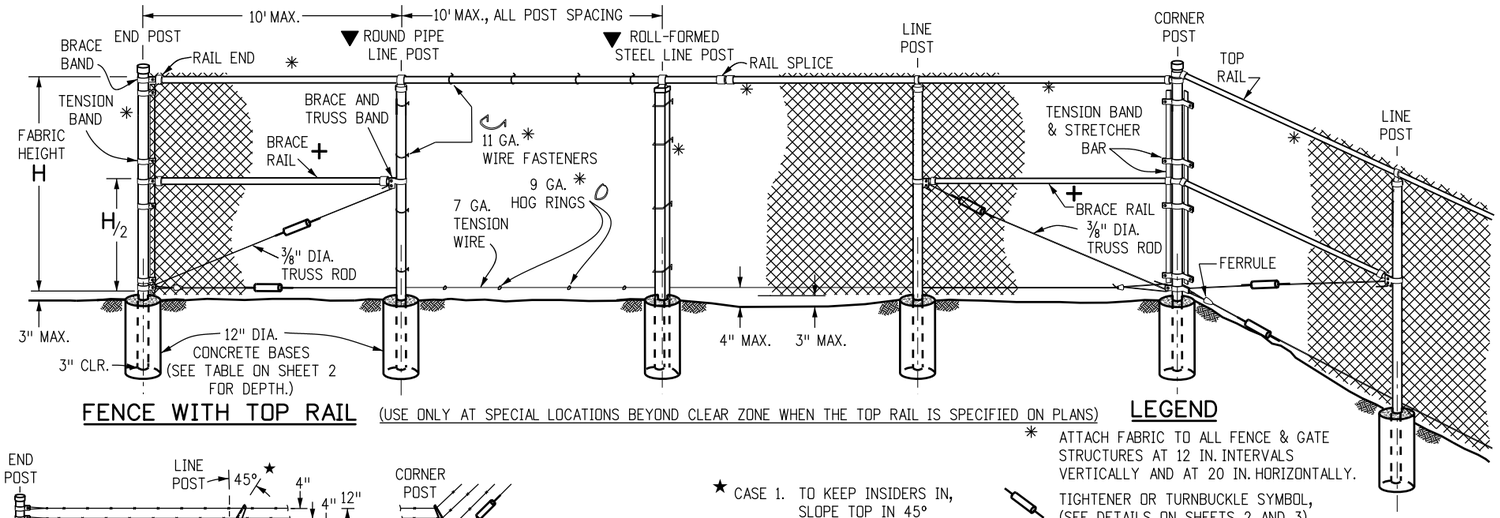
Sheet Revisions		
	Date:	Comments
	03/05/14	Revised detail titles and added "H" to tables.

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METAL PIPE

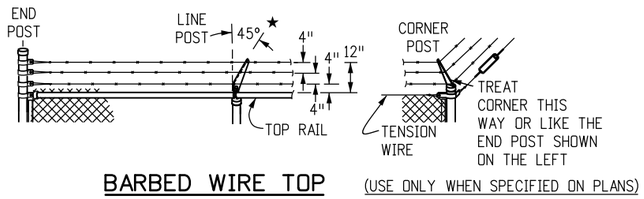
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STANDARD PLAN NO.
M-603-1



FENCE WITH TOP RAIL

(USE ONLY AT SPECIAL LOCATIONS BEYOND CLEAR ZONE WHEN THE TOP RAIL IS SPECIFIED ON PLANS)

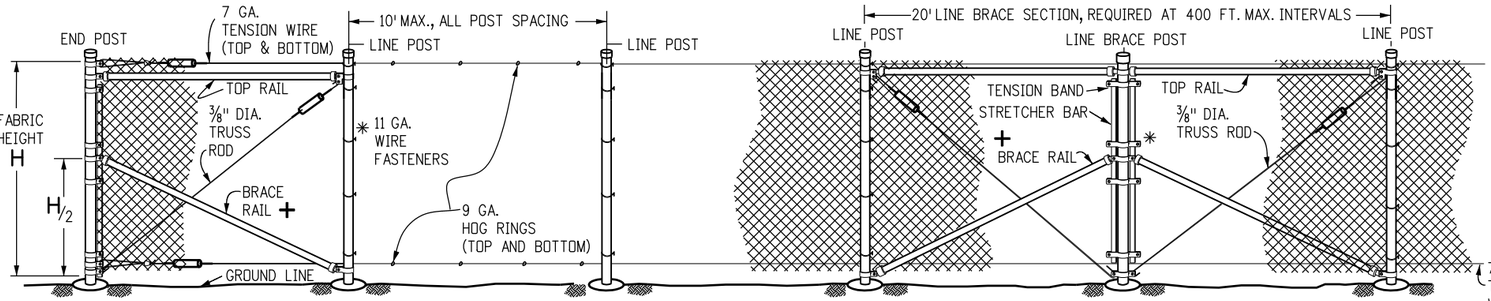


BARBED WIRE TOP

(USE ONLY WHEN SPECIFIED ON PLANS)

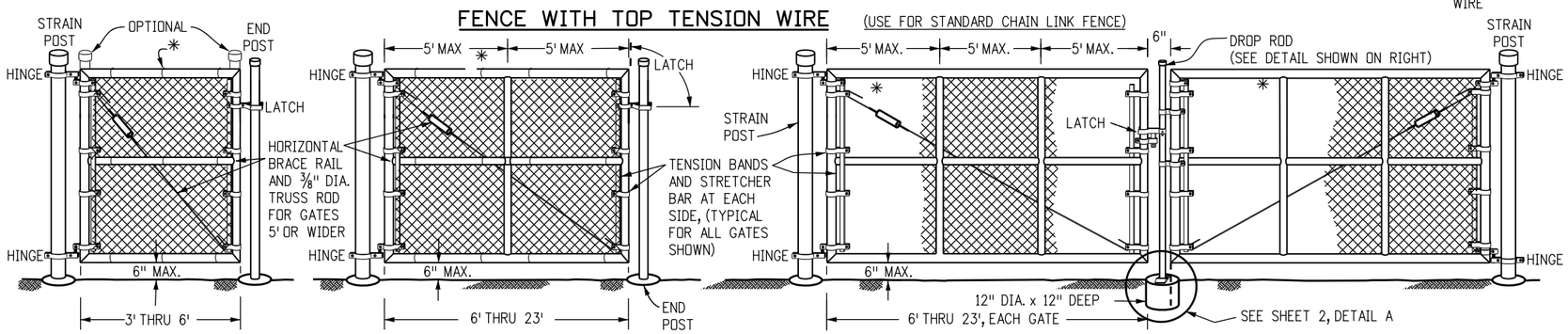
LEGEND

- ✳ ATTACH FABRIC TO ALL FENCE & GATE STRUCTURES AT 12 IN. INTERVALS VERTICALLY AND AT 20 IN. HORIZONTALLY.
- ★ CASE 1. TO KEEP INSIDERS IN, SLOPE TOP IN 45°
- ★ CASE 2. TO KEEP OUTSIDERS OUT, SLOPE TOP OUT 45° BARBED WIRE OVER GATES SHALL NOT BE SLOPED
- TIGHTENER OR TURNBUCKLE SYMBOL, (SEE DETAILS ON SHEETS 2 AND 3).
- ▼ TYPE OF LINE POST (ROUND PIPE OR ROLL-FORMED STEEL) SHALL BE AT THE OPTION OF THE CONTRACTOR UNLESS OTHERWISE SHOWN ON THE PLANS.
- + BRACE RAIL IS NOT REQUIRED FOR 36 IN., 42 IN., OR 48 IN. FABRIC HEIGHTS. BRACE RAIL FOR FENCE WITH ROLL-FORMED STEEL ELEMENTS IS 12 IN. BELOW THE TOP RAIL, (SEE SHEET 3).

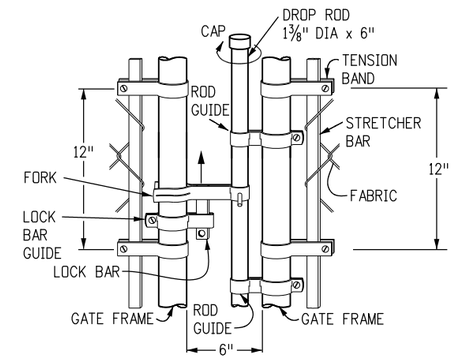


FENCE WITH TOP TENSION WIRE

(USE FOR STANDARD CHAIN LINK FENCE)



WALK GATE | SINGLE GATE | DOUBLE GATE



TYPICAL DROP ROD ASSEMBLY

GENERAL NOTES

1. AT EACH LOCATION WHERE AN ELECTRIC TRANSMISSION, DISTRIBUTION, OR SECONDARY LINE CROSSES A FENCE, THE CONTRACTOR SHALL FURNISH AND INSTALL A GROUND CONFORMING TO ARTICLE 250 OF THE NATIONAL ELECTRIC CODE. A GROUND SHALL ALSO BE INSTALLED A MAXIMUM OF EVERY 500 FT. ALONG THE FENCE. THE GROUND ROD SHALL BE A MINIMUM DIAMETER OF 1/2 IN. AND 8 FT. IN LENGTH, AND DRIVEN AT LEAST 7 1/2 FT. INTO THE GROUND. THE ROD SHALL BE CONNECTED TO EACH WIRE WITH A MINIMUM AWG NO. 8 STRANDED COPPER WIRE. GROUNDING WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE FENCE.
2. H (HEIGHT OF FABRIC) SHALL BE AS SHOWN ON THE PLANS. FABRIC IS AVALIABLE IN THE FOLLOWING HEIGHTS: 36 IN., 42 IN., 48 IN., 60 IN., 72 IN., 84 IN., 96 IN., 108 IN., 120 IN., AND 144 IN.
3. CHAIN LINK FENCE SHALL CONFORM TO AASHTO M 181.
4. CHAIN LINK FABRIC SHALL BE 2 IN. MESH NO. 9 GAGE GALVANIZED OR ALUMINUM COATED WIRE SECURELY FASTENED TO TENSION WIRE, LINE POSTS, RAILS, BRACES AND STRETCHER BARS SPACED AS SHOWN HEREON. WIRE FASTENERS AND TIE CLIPS SHALL BE NO. 11 GAGE (W&M) GALVANIZED STEEL WIRE OR NO. 7 GAGE (B&S) ALUMINUM WIRE, AND HOG RINGS SHALL BE NO. 9 GAGE, ALL IN CONFORMANCE WITH ASTM F 626.
5. STEEL POSTS, RAILS AND GATE FRAMES SHALL CONFORM TO AASHTO M 181 TYPE 1, GRADE 1 OR GRADE 2.
6. AT THE CONTRACTOR'S OPTION, PIPE USED FOR FENCE CONSTRUCTION SHALL CONFORM TO THE DIMENSIONS AND WEIGHTS FOR EITHER "ORDINARY PIPE" OR "ALTERNATIVE PIPE" AS SHOWN ON SHEET 2. "ALTERNATIVE PIPE" SHALL BE HIGH STRENGTH STEEL PIPE CONFORMING TO FEDERAL SPECIFICATION RR-F-191/3C.
7. TENSION WIRE SHALL BE CONTINUOUS BETWEEN END OR CORNER POST AND LINE BRACE POST. A TURNBUCKLE OR OTHER APPROVED TIGHTENING DEVICE SHALL BE USED FOR EACH CONTINUOUS SPAN OF TENSION WIRE.
8. TENSION WIRE SHALL CONFORM TO AASHTO M 181.
9. CONCRETE FOOTINGS SHALL HAVE TOPS CROWNED AT GROUND LEVEL AND SHALL BE CLASS B. CONCRETE WITH LIGHTWEIGHT AGGREGATE CONFORMING TO AASHTO M 195, MAY BE SUBSTITUTED.
10. TERMINATION OF FENCE AT BRIDGES OR OTHER STRUCTURES SHALL BE AS SHOWN ON THE PLANS.
11. CHAIN LINK FABRIC UP TO 5 FT. HIGH SHALL BE KNUCKLED AT THE TOP AND BOTTOM SELVAGES. FABRIC OVER 5 FT. HIGH SHALL BE TWISTED AND BARBED ON THE TOP SELVAGE AND KNUCKLED ON THE BOTTOM SELVAGE.
12. FENCE MAY BE CONSTRUCTED WITH EITHER ROUND PIPE OR ROLL-FORMED STEEL COMPONENTS. THE CONTRACTOR SHALL STATE AT THE PRECONSTRUCTION CONFERENCE, THE TYPE OF CONSTRUCTION AND TYPE OF LINE POST TO BE USED THROUGHOUT THE PROJECT.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RE-ESTABLISHING DISTURBED OR DESTROYED SURVEY MONUMENTS TO THE APPROPRIATE ACCURACY IN ACCORDANCE WITH SUBSECTION 625.08 OF THE STANDARD SPECIFICATIONS.

Computer File Information		
Creation Date: 07/04/12	Initials: DD	
Last Modification Date: 07/04/12	Initials: LTA	(R-X)
Full Path: www.coloradodot.info/business/designsupport		(R-X)
Drawing File Name: 607020103.dgn		(R-X)
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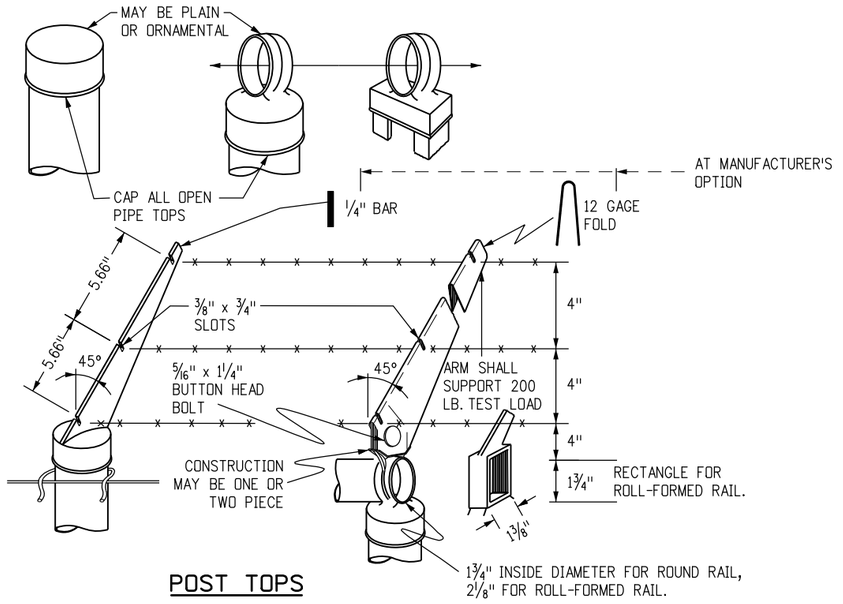
Sheet Revisions	
Date:	Comments

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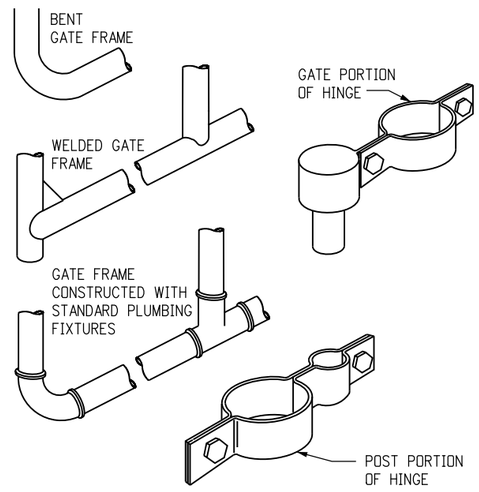
CHAIN LINK FENCE

Issued By: Project Development Branch July 4, 2012

STANDARD PLAN NO.
M-607-2
Sheet No. 1 of 3



POST TOPS



GATE FRAMES & HINGE

FENCE MATERIAL

FABRIC HEIGHT	END, CORNER AND LINE BRACE POSTS		LINE POSTS		TOP & BRACE RAILS	
H	ROUND PIPE I.D.	ROLL-FORMED STEEL	ROUND PIPE I.D.	ROLL-FORMED STEEL	ROUND PIPE I.D.	ROLL-FORMED STEEL
FEET	INCHES		INCHES		INCHES	
3 THRU 6	2.5	3.5 x 3.5	1.5	1.875 x 1.625	1.25	1.25 x 1.625
> 6 THRU 8	2.5	3.5 x 3.5	2.0	1.875 x 1.625	1.25	1.25 x 1.625
> 8 THRU 12	2.5	3.5 x 3.5	2.0	2.250 x 1.625	1.25	1.25 x 1.625

FABRIC HEIGHT	△ CONCRETE BASE			
	DEPTH	DIA.	DEPTH	DIA.
H				
FEET	INCHES		INCHES	
3 THRU 4	34	12	28	12
> 4 THRU 12	40	12	40	12

△ ALL POSTS 3 IN CLEAR FROM BOTTOM OF CONCRETE BASE

ORDINARY PIPE

NOMINAL I.D.	O.D.	WALL THICK.	WEIGHT
INCHES			LB/FT
1.25	1.660	0.140	2.27
1.50	1.900	0.145	2.72
2.00	2.375	0.154	3.65
2.50	2.875	0.203	5.79
3.00	3.500	0.216	7.58
3.50	4.000	0.226	9.11
4.00	4.500	0.237	10.79
5.00	5.563	0.258	14.62
6.00	6.625	0.280	18.97
8.00	8.625	0.322	28.55

ALTERNATIVE PIPE

NOMINAL I.D.	O.D.	WALL THICK.	WEIGHT
INCHES			LB/FT
1.25	1.660	0.111	1.836
1.50	1.900	0.120	2.281
2.00	2.375	0.130	3.117
2.50	2.875	0.160	4.640

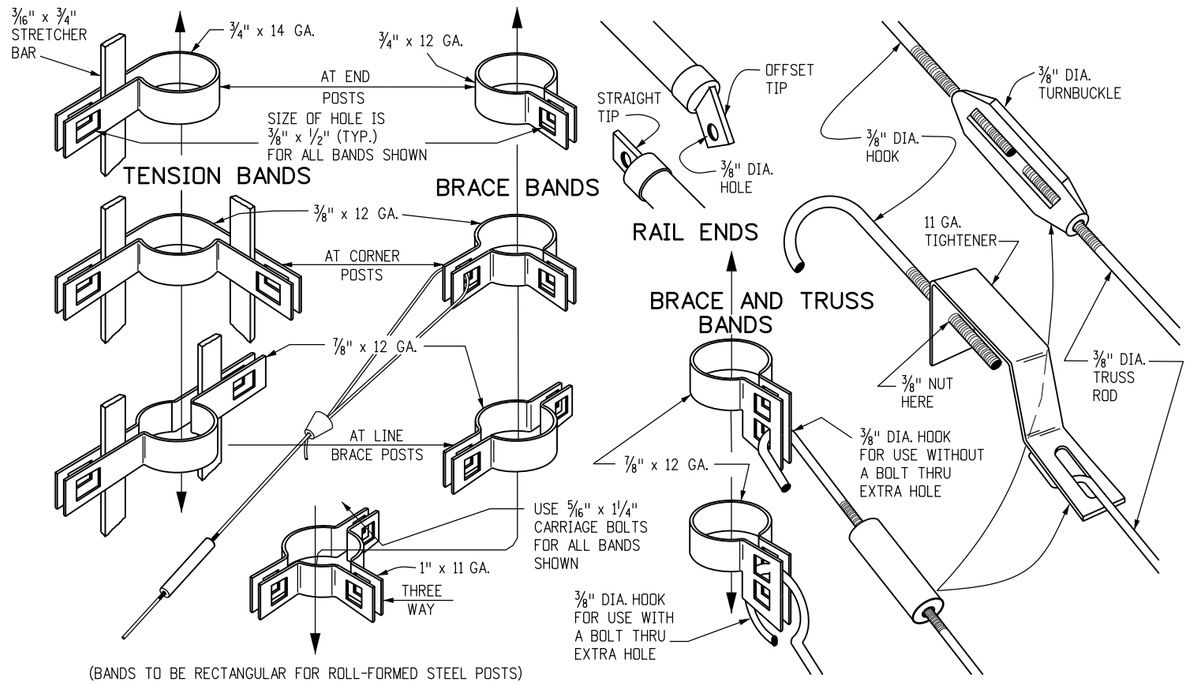
GATE MATERIAL

GATE FRAME WIDTH	STRAIN POST		△ CONCRETE BASE	
	ROUND I.D.	ROLL-FORMED	DEPTH	DIA.
FEET	INCHES		INCHES	
3 THRU 6	2.5	3.5 x 3.5	36	12
> 6 THRU 13	3.5		42	12
> 13 THRU 18	6.0		48	18
> 18 THRU 23	8.0		48	24

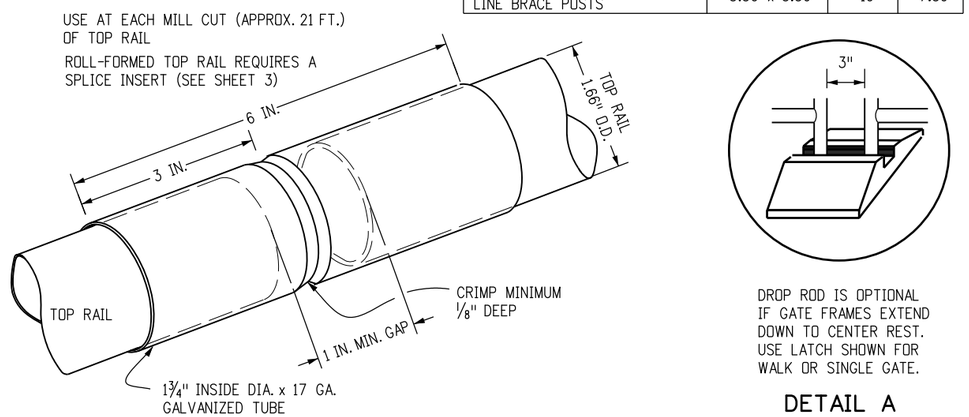
GATE FRAME		FRAME PIPE	BRACING PIPE
WIDTH	HEIGHT	I.D.	I.D.
FEET		INCHES	
3 THRU 8	3 THRU 6	1.25	1.25
> 8 THRU 23	6	1.50	1.25
> 8 THRU 23	> 6 THRU 12	1.50	1.50

ROLL-FORMED STEEL

PART	SIZE	THICK.	WEIGHT
	INCHES	GAGE	LB/FT
TOP & BRACE RAILS	1.250 x 1.625	14	2.08
LINE POST (H: 3FT - 6FT)	1.875 x 1.625	12	2.75
LINE POST (H: > 6FT - 8FT)	1.875 x 1.625	11	3.36
LINE POST (H: > 8FT - 12FT)	2.250 x 1.625	11	4.02
END, CORNER & LINE BRACE POSTS	3.50 x 3.50	10	7.59



BANDS, RAIL ENDS & TIGHTENERS (DIMENSIONS SHOWN ARE MINIMUMS)



RAIL SPLICE

DROP ROD IS OPTIONAL IF GATE FRAMES EXTEND DOWN TO CENTER REST. USE LATCH SHOWN FOR WALK OR SINGLE GATE.

DETAIL A TYPICAL CENTER REST

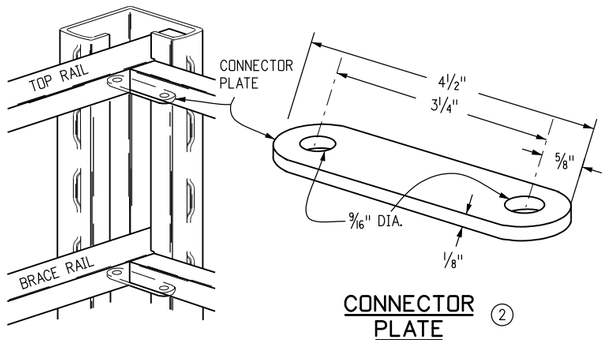
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CHAIN LINK FENCE

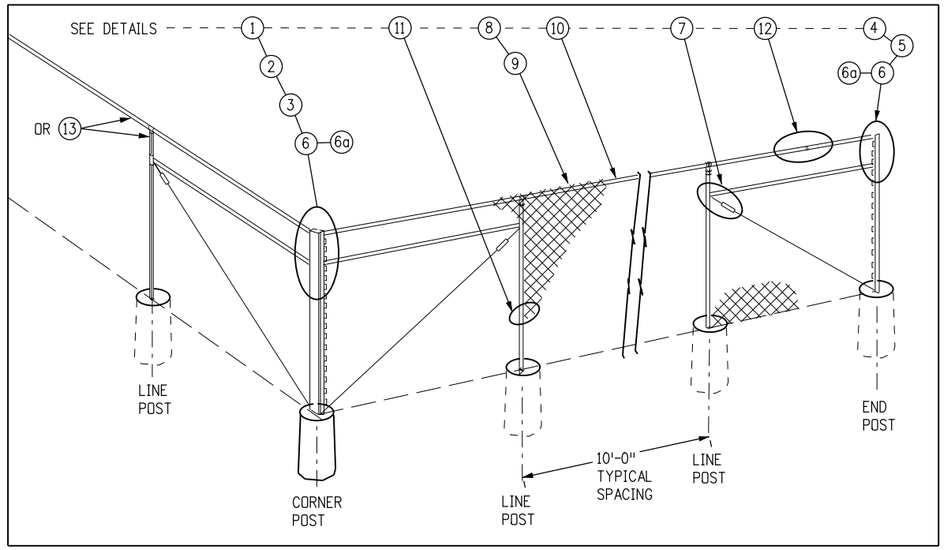
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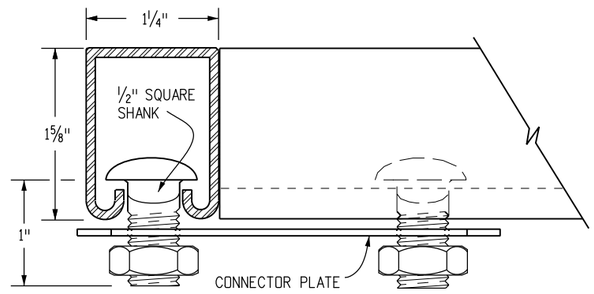


CORNER POST TREATMENT (1)

CONNECTOR PLATE (2)

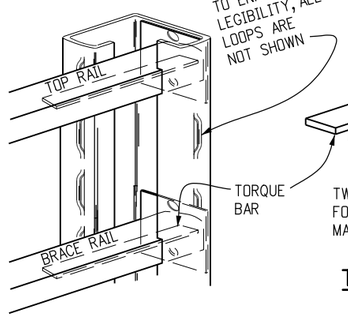


KEY TO DETAILS

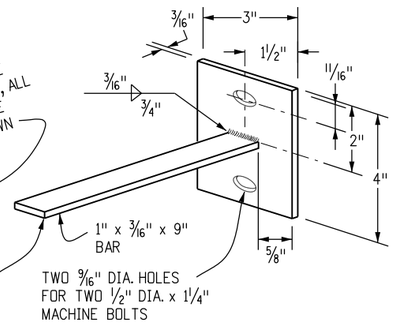


RAIL (SHOWING CORNER ASSEMBLY) (3)

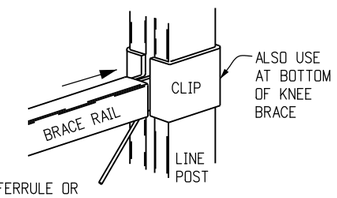
14 GAGE ROLL-FORMED STEEL, 20 FT. LENGTHS, 1.40 LB. PER LIN. FT.

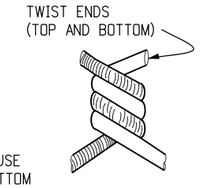


END POST TREATMENT (4)

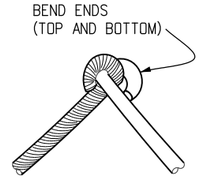


TORQUE BAR (5)



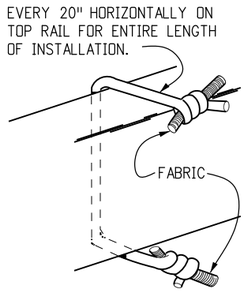


BARBED SELVAGE (8)

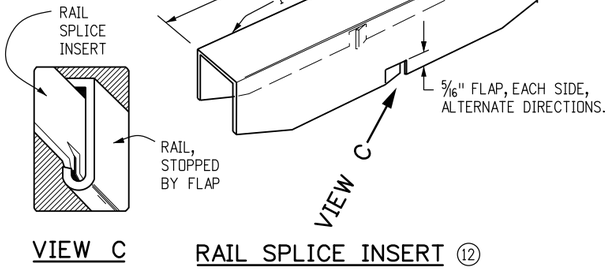


KNUCKLED SELVAGE (9)

ALTERNATIVE, USE ONLY WHEN CALLED FOR ON THE PLANS

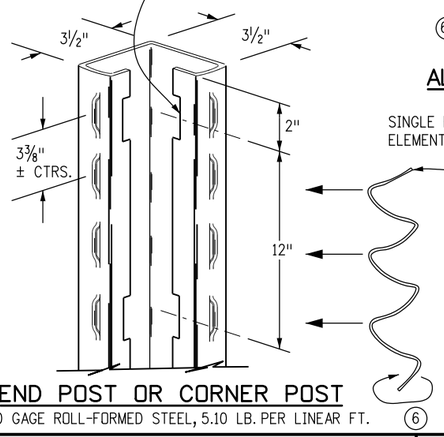


WIRE FASTENER (10)



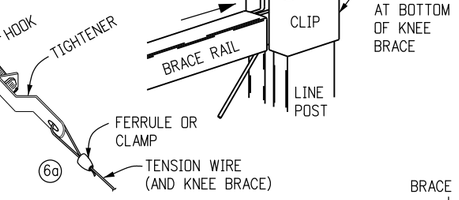
VIEW C

RAIL SPLICE INSERT (12)

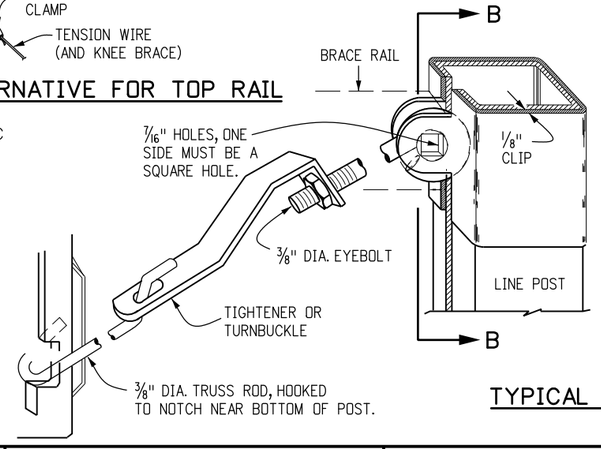


END POST OR CORNER POST

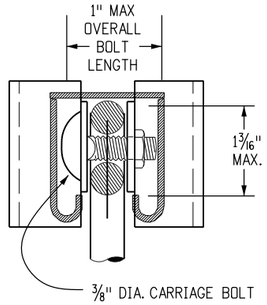
10 GAGE ROLL-FORMED STEEL, 5.10 LB. PER LINEAR FT. (6)



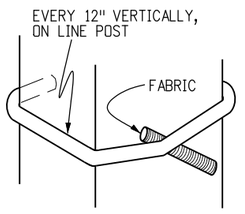
ALTERNATIVE FOR TOP RAIL



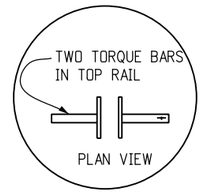
TYPICAL BRACING (7)



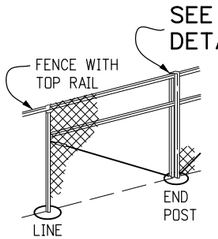
SECTION B-B

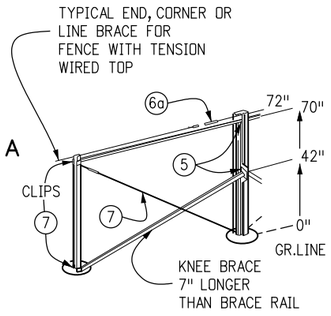


TIE CLIP (11)



DETAIL A





LINE BRACE (ONE HALF SHOWN) (13)

400 FT. INTERVALS

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STANDARD PLAN NO.

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Sheet No. 3 of 3

CURB RAMP GENERAL NOTES:

1. IN NEW CONSTRUCTION OR FULL-DEPTH RECONSTRUCTION, PROVIDE A SEPARATE CURB RAMP FOR EACH MARKED OR UNMARKED PEDESTRIAN STREET CROSSING. CURB RAMPS SHALL BE CONTAINED WHOLLY WITHIN THE WIDTH OF THE PEDESTRIAN STREET CROSSING OR CROSSWALK THEY SERVE, OR AS SHOWN ON THE CONTRACT PLANS.

2. ALTERATIONS ARE DEFINED AS CHANGES TO AN EXISTING HIGHWAY THAT AFFECT PEDESTRIAN ACCESS, CIRCULATION, OR USE. ALTERATIONS INCLUDE, BUT ARE NOT LIMITED TO, RESURFACING, REHABILITATION, RECONSTRUCTION, CURB RAMP RETROFITS, HISTORIC RESTORATION, OR CHANGES OR REARRANGEMENT TO STRUCTURAL PARTS OR ELEMENTS OF A PEDESTRIAN FACILITY.

3. A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP OR TURNING SPACE, WITHOUT RAISED OBSTACLES, THAT COULD BE MISTAKENLY TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.

4. IN ALTERATIONS, WHERE AN EXISTING PHYSICAL CONSTRAINT PREVENTS PROVIDING A SEPARATE CURB RAMP FOR EACH PEDESTRIAN STREET CROSSING, A SINGLE DIAGONAL RAMP (ON THE APEX) SHALL BE PERMITTED TO SERVE BOTH PEDESTRIAN STREET CROSSINGS. THE USE OF A SINGLE DIAGONAL RAMP SHALL BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION. DIAGONAL RAMPS ARE NOT ACCEPTABLE IN NEW CONSTRUCTION OR FULL-DEPTH RECONSTRUCTION.

5. DETECTABLE WARNINGS SURFACES (DWS) ARE INTENDED TO INDICATE THE BOUNDARY BETWEEN A PEDESTRIAN ROUTE AND VEHICULAR ROUTE WHERE THERE IS A FLUSH RATHER THAN CURBED CONNECTION. DWS ARE NOT INTENDED TO PROVIDE WAYFINDING. DWS SHALL BE PROVIDED AT THE FOLLOWING LOCATIONS;
   1. CURB RAMPS, BLENDED TRANSITIONS, AND DEPRESSED CORNERS AT PEDESTRIAN STREET CROSSINGS;
   2. PEDESTRIAN REFUGE ISLANDS (6 FEET IN WIDTH OR GREATER);
   3. BOARDING PLATFORMS AT TRANSIT STOPS WHERE THE EDGE OF THE PLATFORM IS NOT PROTECTED TO PEDESTRIAN CROSS TRAFFIC; AND
   4. BOARDING AREAS AT SIDEWALK OR STREET LEVEL TRANSIT STOPS WHERE THE AREA IS NOT PROTECTED TO PEDESTRIAN CROSS TRAFFIC.

6. DETECTABLE WARNING SURFACES SHALL CONTRAST VISUALLY WITH THE ADJACENT GUTTER, HIGHWAY, OR PEDESTRIAN ACCESS ROUTE SURFACE, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT. FEDERAL YELLOW COLOR IS PREFERRED, HOWEVER, OTHER COLORS MAY BE USED IF APPROVED BY THE ENGINEER.

7. IN ALTERATIONS, TO AVOID CHASING GRADE INDEFINITELY ON STEEP ROADWAYS, A CURB RAMPS LENGTH IS NOT REQUIRED TO EXCEED 15 FEET REGARDLESS OF THE RESULTING RAMP RUNNING SLOPE.

8. ALL SLOPES ARE MEASURED WITH RESPECT TO A LEVEL PLANE.

9. DRAINAGE STRUCTURES, TRAFFIC SIGNAL EQUIPMENT, OR OTHER OBSTRUCTIONS SHALL NOT BE INSTALLED ON THE CURB RAMP, OR TURNING SPACE AREAS.

10. IN NEW CONSTRUCTION, PULL BOXES, METER BOXES, MAINTENANCE HOLE COVERS, VAULT LIDS, OR SIMILAR, SHALL NOT BE CONSTRUCTED WITHIN ANY PART OF CURB RAMP OR TURNING SPACE. IN ALTERATIONS, WHERE THESE ITEMS CANNOT BE RELOCATED OUTSIDE OF THE CURB RAMP OR TURNING SPACE, THEY MUST NOT CREATE A VERTICAL DISCONTINUITY GRATER THAN 1/2 INCH. ANY VERTICAL DISCONTINUITY BETWEEN 1/4 INCH AND 1/2 INCH SHALL BE BEVELED WITH A SLOPE NOT STEEPER THAN 1V:2H. THE BEVEL SHALL BE APPLIED ACROSS THE ENTIRE SURFACE DISCONTINUITY.

11. CONSTRUCTION OF ANY REQUIRED PEDESTRIAN CURB SHALL BE INCLUDED IN THE BID PRICE OF THE CONCRETE CURB RAMP AND WILL NOT BE PAID FOR SEPARATELY.

12. ALL CURB RAMP JOINTS AND GRADE BREAKS SHALL BE FLUSH (0'-1/8"). THE JOINT BETWEEN THE ROADWAY SURFACE AND THE GUTTER PAN SHALL BE FLUSH.

13. THE CONTRACTOR SHALL VERIFY REMOVAL LIMITS ARE SUFFICIENT TO PROVIDE POSITIVE DRAINAGE, MAINTAIN EXISTING DRAINAGE PATTERNS, AND AVOID PONDING IN THE FINAL CONFIGURATION.

14. FLARED SIDE SLOPES MAY EXCEED 10.0% ONLY WHERE THEY ABUT A NON-WALKABLE SURFACE, OR WHERE THE ADJACENT RAMP SURFACE IS BLOCKED TO PEDESTRIAN TRAFFIC.

15. THE CHANGE IN GRADE AT THE BOTTOM OF THE CURB RAMP SHALL NOT EXCEED AN ALGEBRAIC DIFFERENCE OF 13.33%. THE COUNTER SLOPE OF THE GUTTER AT THE FOOT OF A RAMP, TURNING SPACE, OR BLENDED TRANSITION SHALL NOT EXCEED 5.0%.

16. GRADE BREAKS AT THE TOP AND BOTTOM OF RAMP RUNS SHALL BE PERPENDICULAR TO THE DIRECTION OF THE RAMP RUN. GRADE BREAKS SHALL NOT BE PERMITTED ON THE SURFACE OF THE RAMP RUN OR TURNING SPACE. SURFACE SLOPES THAT MEET AT GRADE BREAKS SHALL BE FLUSH.

17. A BROOM FINISH, WITH SWEEPS PERPENDICULAR TO THE DIRECTION OF PEDESTRIAN TRAFFIC, SHALL BE APPLIED TO ALL RAMP AND TURNING SPACE SURFACES.

18. IN ALTERATIONS, WHERE A RAMP OR TURNING SPACE MUST TIE INTO AN EXISTING GRADE THAT CANNOT BE ALTERED, THE RAMP OR TURNING SPACE MAY BE WARPED TO TRANSITION TO THE REQUIRED CROSS SLOPE. THE TRANSITION TO THE REQUIRED CROSS SLOPE SHALL BE SPREAD EVENLY OVER THE LENGTH OF THE RAMP OR TURNING SPACE TO MINIMIZE THE DEGREE OF WARPING. THE RATE OF CHANGE ON A RAMP OR TURNING SPACE SHALL NOT EXCEED 3% PER LINEAR FOOT.

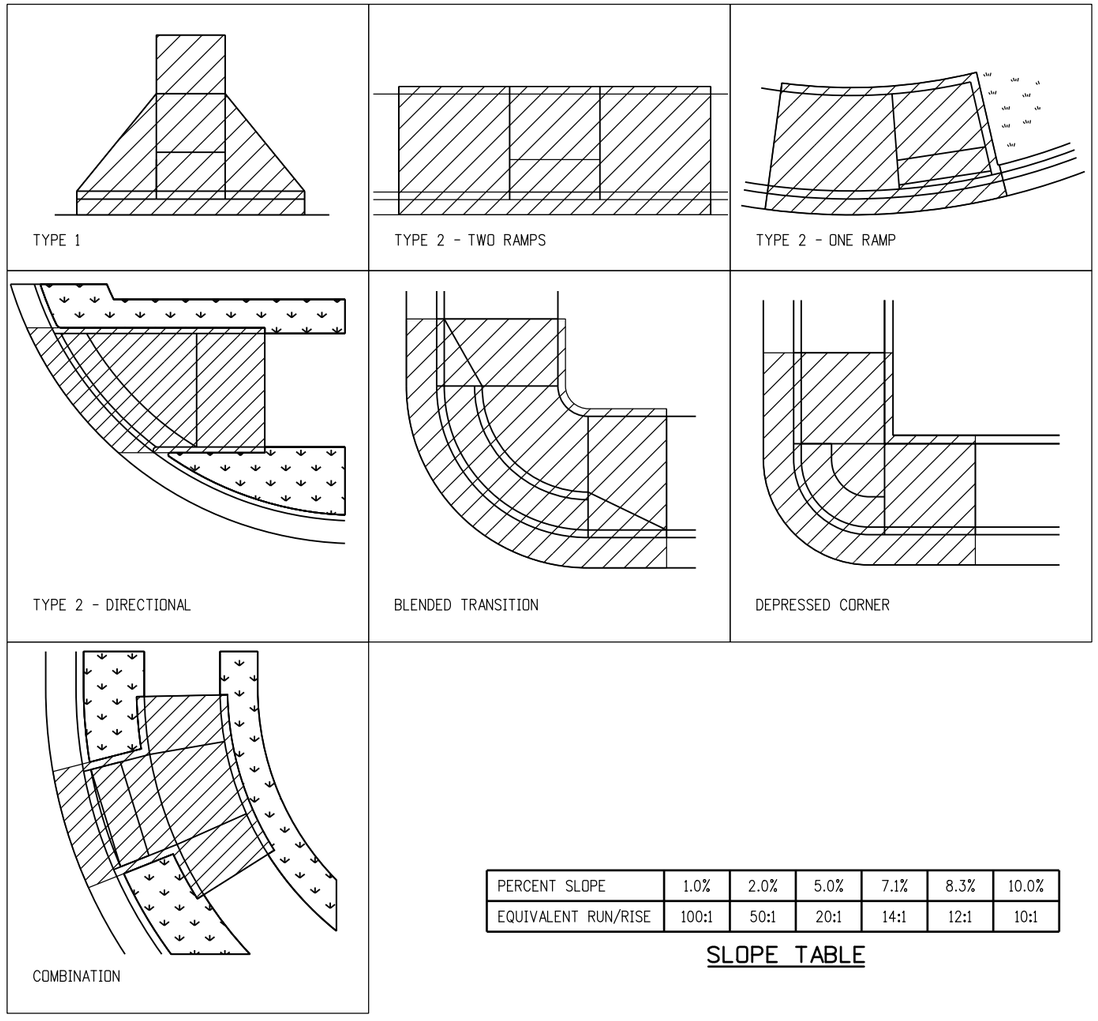
19. DESIGN AND CONSTRUCT CURB RAMPS, TURNING SPACES, AND FLARE SLOPES WITH THE FLATTEST SLOPES POSSIBLE. THE SLOPES INDICATED IN THESE DETAILS SHOW THE MAXIMUM SLOPES ALLOWABLE. PREFERRED VALUES TO BE USED DURING DESIGN, LAYOUT, AND CONSTRUCTION ARE:
   - RAMP RUNNING SLOPE 7.5%
   - RAMP CROSS SLOPE 1.5%
   - TURNING SPACE RUNNING SLOPE 1.5%
   - TURNING SPACE CROSS SLOPE 1.5%
   - FLARE SLOPE 8.0-9.0%

20. WHERE SNOW REMOVAL EQUIPMENT WILL BE USED TO CLEAR THE PEDESTRIAN ACCESS ROUTE, CONSULT THE ENGINEER PRIOR TO CONSTRUCTION TO ENSURE THE WIDTH AND THICKNESS OF CURB RAMPS IS SUFFICIENT TO ACCOMODATE SUCH EQUIPMENT.

21. PROVIDE EXPANSION JOINT MATERIAL 1/2" THICK WHERE CURB RAMPS ADJOIN ANY RIGID PAVEMENT, OR STRUCTURE. THE TOP OF THE JOINT FILLER MATERIAL SHALL BE FLUSH WITH ADJOINING CONCRETE SURFACES. THE EXPANSION JOINT MATERIAL SHALL EXTEND FOR THE FULL DEPTH OF THE CONCRETE SURFACE.

22. PROVIDE TIE BAR REINFORCING BETWEEN INDEPEDENTLY POURED CONCRETE CURB RAMPS OR TURNING SPACES AND CURB AND GUTTER. DRILL AND GROUT NO. 4 12 INCH LONG REINFORCEMENT BARS (EPOXY COATED) AT 18 INCHES CENTER TO CENTER MINIMUM.

CURB RAMP PAY AREAS



PERCENT SLOPE	1.0%	2.0%	5.0%	7.1%	8.3%	10.0%
EQUIVALENT RUN/RISE	100:1	50:1	20:1	14:1	12:1	10:1

SLOPE TABLE

GENERAL NOTES & PAY AREAS

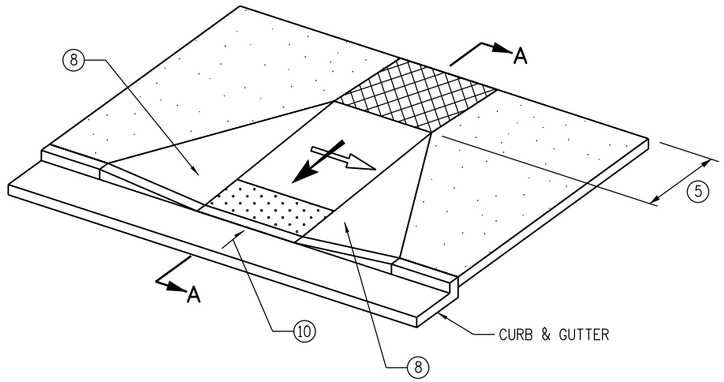
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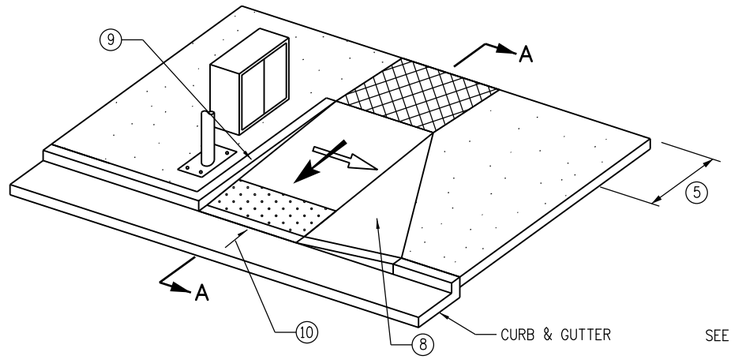
CURB RAMPS

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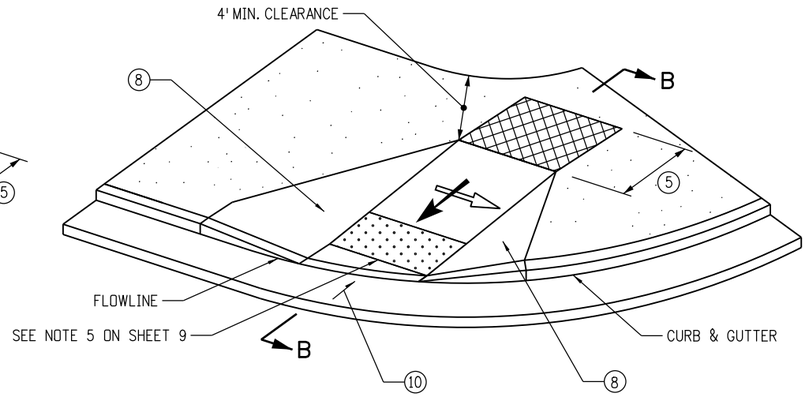
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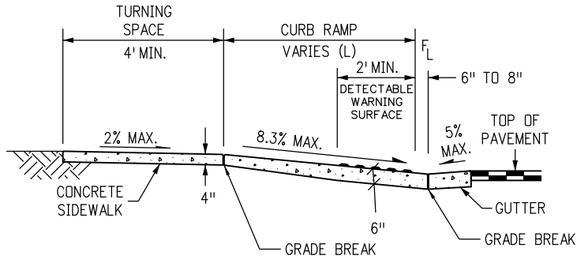
PERPENDICULAR RAMP
(TYPICAL)



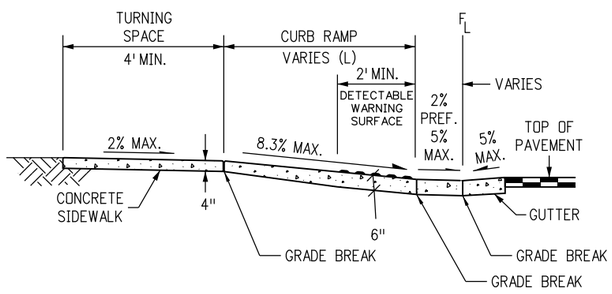
PERPENDICULAR RAMP
(WITH VERTICAL RETURN CURB)



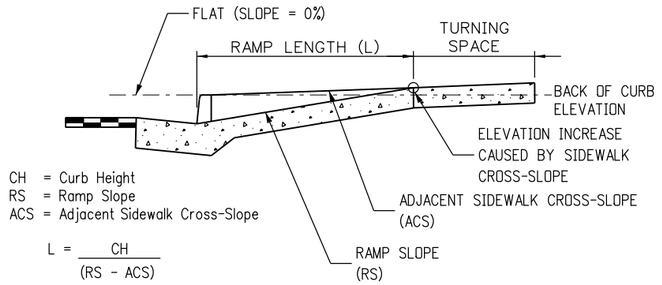
PERPENDICULAR RAMP
(DIRECTIONAL)



SECTION A-A



SECTION B-B



EXAMPLE: CH = 6" (0.5 ft.), RS = 7.5% (0.075), ACS = 1.5% (0.015)
L = 0.5/(0.075-0.015) = 8.3 ft.

DETAIL A - RAMP LENGTH

SIDEWALK

TURNING SPACE (3) (4) (5)

DETECTABLE WARNING SURFACE (DWS)

PERPENDICULAR RAMP NOTES

(1) RAMP WIDTH - PROVIDE 5 FT. OR GREATER WHERE POSSIBLE. IF SITE CONSTRAINTS DO NOT PERMIT, PROVIDE 4 FT. MINIMUM. RAMPS SERVICING SHARED USE PATHS SHALL MATCH THE WIDTH OF THE PATH.

(2) RAMP RUNNING SLOPE - 8.3% MAX.

(3) TURNING SPACE RUNNING SLOPE - 2.0% MAX. TURNING SPACE RUNNING SLOPE IS MEASURED IN THE SAME DIRECTION AS THE RAMP RUNNING SLOPE.

(4) RAMP AND TURNING SPACE CROSS SLOPE - 2.0% TYPICAL. AT CROSSINGS WITHOUT YIELD OR STOP CONTROL, OR WITH A SIGNAL WHERE VEHICLES CAN PROCEED THROUGH THE INTERSECTION WITHOUT SLOWING OR STOPPING, THE CROSS SLOPE OF RAMPS AND TURNING SPACES MAY EQUAL THE HIGHWAY GRADE. AT MIDBLOCK PEDESTRIAN STREET CROSSINGS THE RAMP AND TURNING SPACE CROSS SLOPE MAY EQUAL THE HIGHWAY GRADE.

(5) TURNING SPACE DIMENSIONS - PROVIDE A TURNING SPACE AT THE TOP OF PERPENDICULAR RAMPS WITH A WIDTH EQUAL TO THE WIDTH OF THE CURB RAMP. TURNING SPACE LENGTH MUST BE 4 FT. MINIMUM, MEASURED IN THE DIRECTION OF THE RAMP RUN. WHEN A TURNING SPACE IS CONSTRAINED AT THE BACK OF SIDEWALK, INCREASE LENGTH TO 5 FT. MINIMUM IN THE DIRECTION OF THE RAMP RUN.

(6) RAMP ALIGNMENT - RAMPS SHALL BE ALIGNED TO BE FULLY CONTAINED WITHIN THE CROSSWALK OR STREET CROSSING THEY SERVE. PROVIDE ONE RAMP FOR EACH STREET CROSSING DIRECTION. IN ALTERATIONS, WHERE EXISTING PHYSICAL CONSTRAINTS PREVENT PROVIDING ONE CURB RAMP FOR EACH CROSSING DIRECTION, A SINGLE DIAGONAL CURB RAMP (ON THE APEX OF A CORNER) SHALL BE PERMITTED TO SERVE BOTH PEDESTRIAN STREET CROSSINGS. IF A DIAGONAL RAMP IS USED, A CLEAR SPACE 4 FT. X 4FT. MUST BE PROVIDED AT THE BASE OF THE RAMP. THE CLEAR SPACE MUST BE WITHIN BOTH CROSSWALKS AND WHOLLY OUTSIDE OF ANY ADJACENT VEHICULAR TRAVEL LANES. DIAGONAL RAMPS ARE NOT ACCEPTABLE IN NEW CONSTRUCTION, OR FULL-DEPTH RECONSTRUCTION.

(7) RAMP LENGTH - PERPENDICULAR RAMP LENGTH IS DEPENDENT UPON THE RAMP SLOPE, HEIGHT OF CURB, AND ADJACENT SIDEWALK CROSS-SLOPE WHICH MUST BE INTERCEPTED. SEE DETAIL A FOR CALCULATING RAMP LENGTH WHEN CHASING SIDEWALK CROSS-SLOPE. WHERE TERRAIN IS SLOPING A RAMP IS NOT REQUIRED TO CHASE GRADE MORE THAN 15 FT. REGARDLESS OF THE RESULTING RAMP SLOPE.

(8) RAMP FLARES - WHERE A RAMP EDGE ABUTS A WALKABLE SURFACE, A FLARED SIDE SHALL BE PROVIDED. RAMP FLARE SLOPES SHALL NOT EXCEED 10.0%.

(9) VERTICAL CURB RETURNS - VERTICAL CURB RETURNS MAY BE USED ONLY WHERE A RAMP ABUTS A NON-WALKABLE SURFACE, OR WHERE A RAMP IS PROTECTED FROM PEDESTRIAN CROSS TRAFFIC (FOR EXAMPLE BY A SIGNAL CABINET OR UTILITY POLE WHICH BLOCKS PASSAGE).

(10) GUTTER COUNTER SLOPE - 5.0% MAX.

TYPE 1 PERPENDICULAR CURB RAMPS

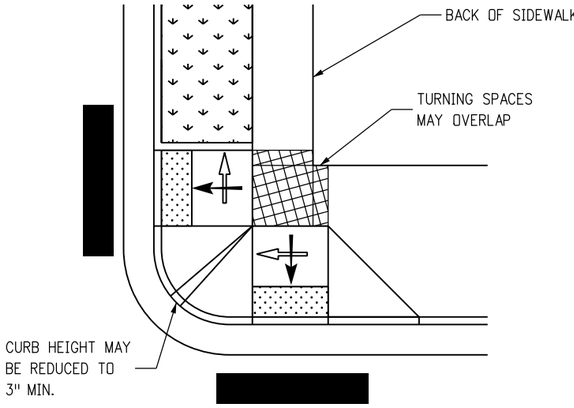
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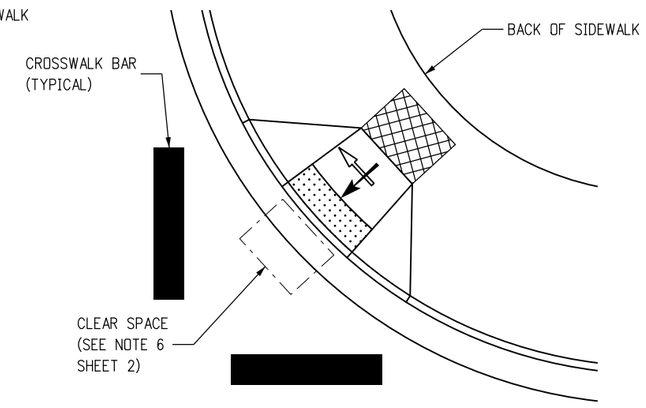
CURB RAMPS

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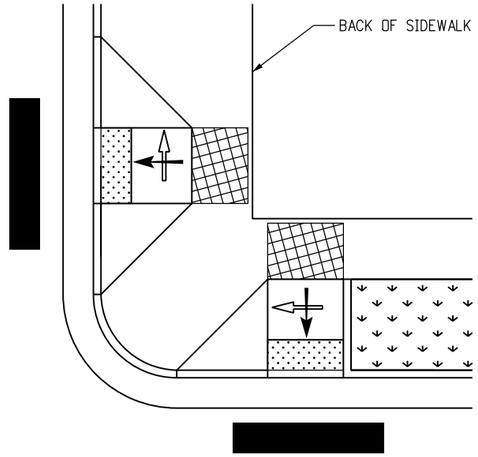


TYPE 1 RAMPS FOR WIDE SIDEWALK
(3" REDUCED CURB)



TYPE 1 RAMP
(DIAGONAL)

NOT ALLOWABLE IN NEW CONSTRUCTION/FULL DEPTH RECONSTRUCTION
SEE GENERAL NOTE 4



TYPE 1 RAMPS FOR WIDE SIDEWALK

TURNING SPACE
(SEE NOTES 3, 4, 5 - SHEET 2)

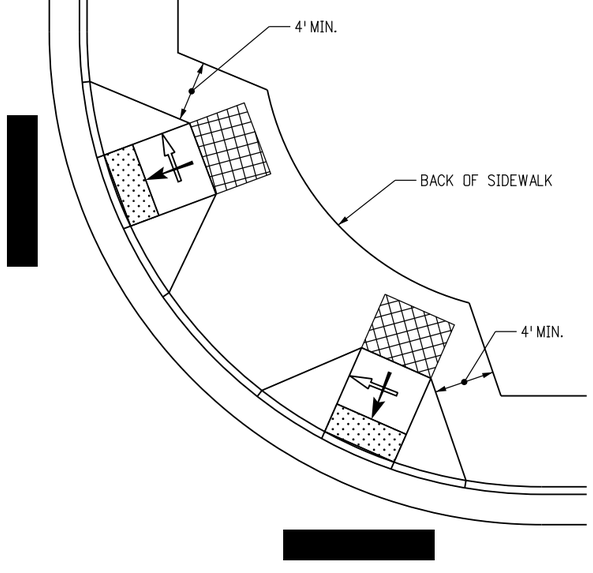
DETECTABLE WARNING SURFACE (DWS)
SEE DWS SHEETS FOR PLACEMENT DETAILS

RAMP RUNNING SLOPE

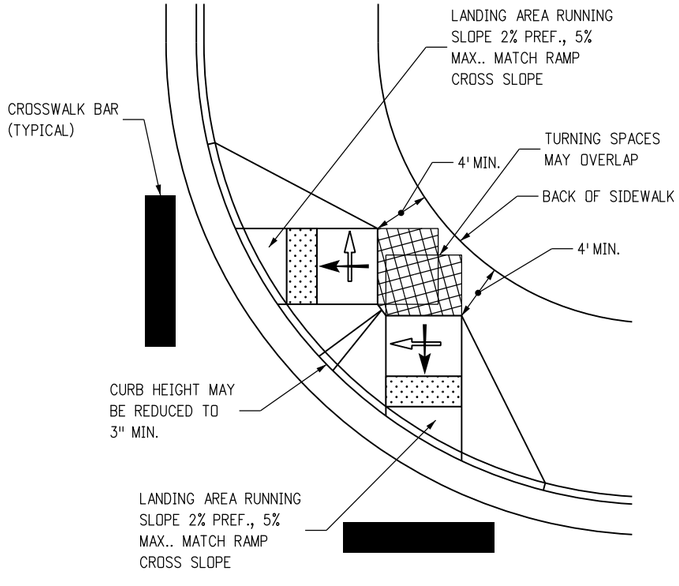
RAMP CROSS SLOPE

NOTE

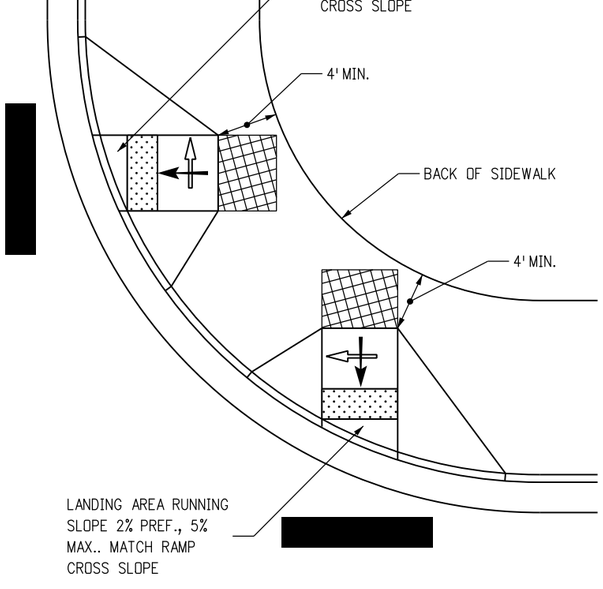
PLACEMENTS SHOWN ARE TYPICAL CONFIGURATIONS ONLY AND NOT INDICATIVE OF ALL OPTIONS. OTHER RAMP CONFIGURATIONS MAY BE ACCEPTABLE AS LONG AS THEY CONFORM TO THE CRITERIA IN THESE STANDARDS, AND ARE APPROVED BY THE ENGINEER.



TYPE 1 PERPENDICULAR RAMPS



TYPE 1 DIRECTIONAL RAMPS
(3" REDUCED CURB)



TYPE 1 DIRECTIONAL RAMPS
(LARGE RADIUS)

TYPE 1 CURB RAMPS TYPICAL CONFIGURATIONS

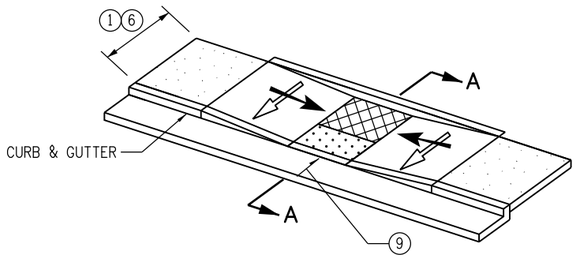
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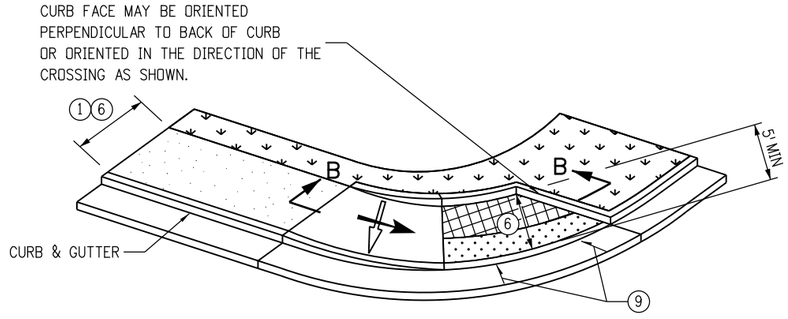
CURB RAMPS

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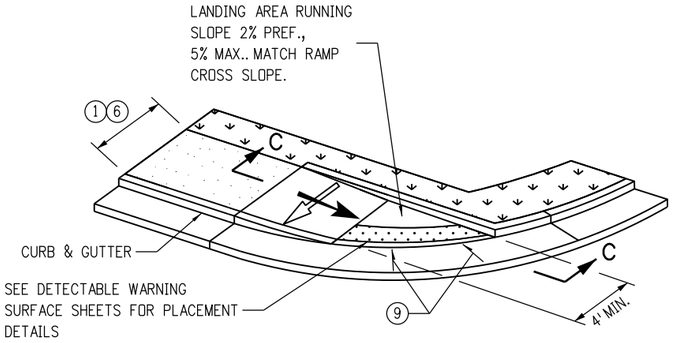
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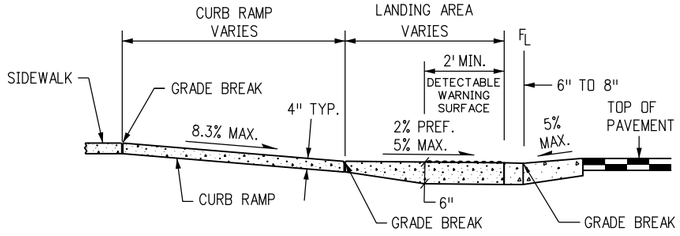
PARALLEL RAMP
(TYPICAL)



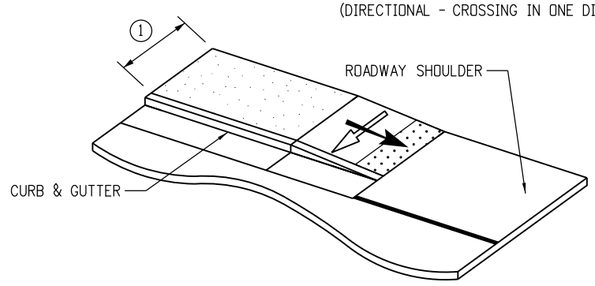
PARALLEL RAMP
(SIDEWALK ENDS)



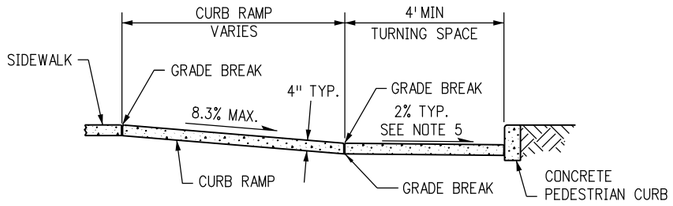
PARALLEL RAMP
(DIRECTIONAL - CROSSING IN ONE DIRECTION ONLY)



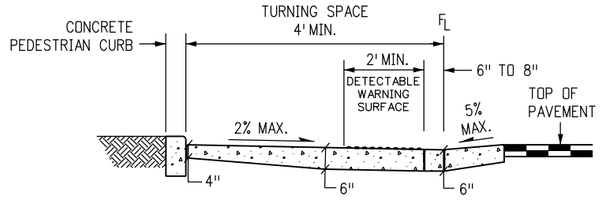
SECTION C-C



SIDEWALK TO SHOULDER TRANSITION



SECTION B-B



SECTION A-A

SIDEWALK

TURNING SPACE (4) (5) (6)

DETECTABLE WARNING SURFACE (DWS)

PARALLEL RAMP NOTES

(1) RAMP WIDTH - PROVIDE A RAMP WIDTH EQUAL TO THE ADJOINING SIDEWALK, PROVIDE 4 FT. WIDTH MINIMUM. RAMPS SERVICING SHARED USE PATHS SHALL MATCH THE WIDTH OF THE PATH.

(2) RAMP RUNNING SLOPE - 8.3% MAX.

(3) RAMP CROSS SLOPE - 2.0% MAX.

(4) TURNING SPACE RUNNING SLOPE - 2.0% MAX. TURNING SPACE RUNNING SLOPE IS MEASURED PERPENDICULAR TO THE BACK OF CURB.

(5) TURNING SPACE CROSS SLOPE - 2.0% TYPICAL, AT CROSSINGS WITHOUT YIELD OR STOP CONTROL, OR WITH A SIGNAL WHERE VEHICLES CAN PROCEED THROUGH THE INTERSECTION WITHOUT SLOWING OR STOPPING, THE CROSS SLOPE OF THE TURNING SPACE MAY EQUAL THE HIGHWAY GRADE. AT MIDBLOCK PEDESTRIAN STREET CROSSINGS THE TURNING SPACE CROSS SLOPE MAY EQUAL THE HIGHWAY GRADE. TURNING SPACE CROSS SLOPE IS MEASURED IN THE DIRECTION OF THE RAMP RUN.

(6) TURNING SPACE DIMENSIONS - PROVIDE A TURNING SPACE AT THE BOTTOM OF PARALLEL RAMPS WITH A WIDTH EQUAL TO THE WIDTH OF THE CURB RAMP. PROVIDE 4 FT. MINIMUM, MEASURED IN THE DIRECTION OF THE RAMP RUN. IF THE TURNING SPACE IS CONSTRAINED ON TWO SIDES, PROVIDE 5 FT. MEASURED IN THE DIRECTION OF PEDESTRIAN STREET CROSSING. THE TURNING SPACE MAY CONTAIN THE DETECTABLE WARNING SURFACE.

(7) RAMP ALIGNMENT - RAMPS SHALL BE ALIGNED SO THE TURNING SPACE IS FULLY CONTAINED WITHIN THE CROSSWALK OR STREET CROSSING THEY SERVE. PROVIDE ONE RAMP FOR EACH STREET CROSSING DIRECTION. IN ALTERATIONS, WHERE EXISTING PHYSICAL CONSTRAINTS PREVENT PROVIDING ONE CURB RAMP FOR EACH CROSSING DIRECTION, A SINGLE DIAGONAL CURB RAMP (ON THE APEX OF A CORNER) SHALL BE PERMITTED TO SERVE BOTH PEDESTRIAN STREET CROSSINGS. DIAGONAL RAMPS ARE NOT ACCEPTABLE IN NEW CONSTRUCTION, OR FULL-DEPTH RECONSTRUCTION.

(8) RAMP LENGTH - PARALLEL RAMP LENGTH IS DEPENDENT UPON THE RAMP SLOPE AND THE CHANGE OF ELEVATION FROM THE TURNING SPACE TO THE SIDEWALK. WHERE TERRAIN IS SLOPING A RAMP IS NOT REQUIRED TO CHASE GRADE MORE THAN 15 FT. REGARDLESS OF THE RESULTING RAMP SLOPE.

(9) GUTTER COUNTER SLOPE - 5.0% MAX.

TYPE 2 PARALLEL CURB RAMPS

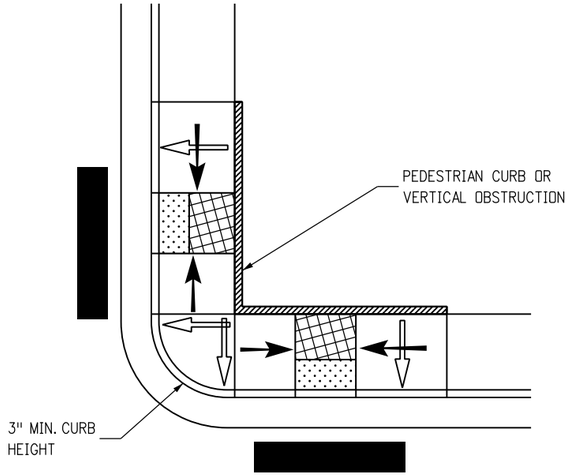
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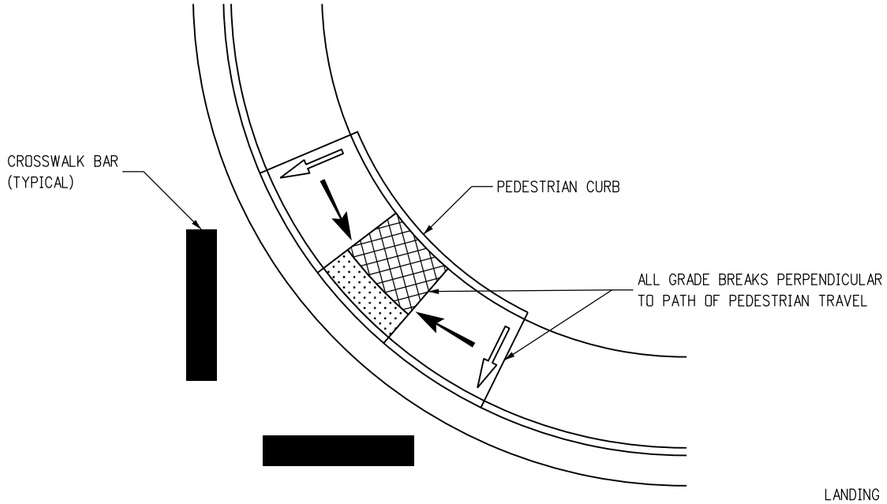
CURB RAMPS

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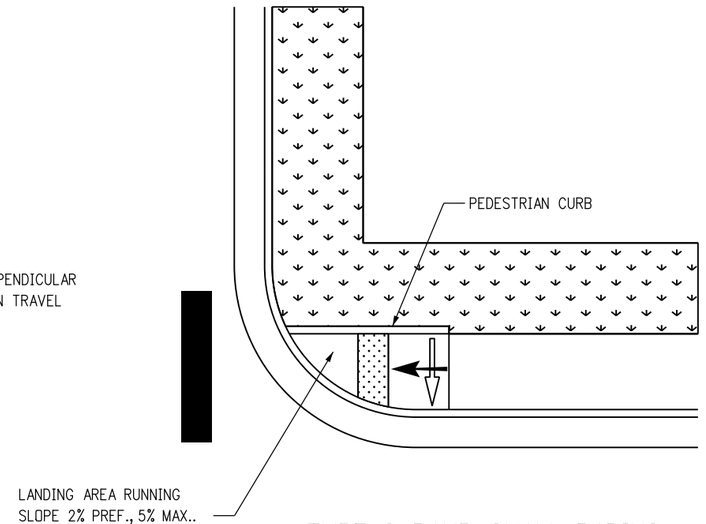
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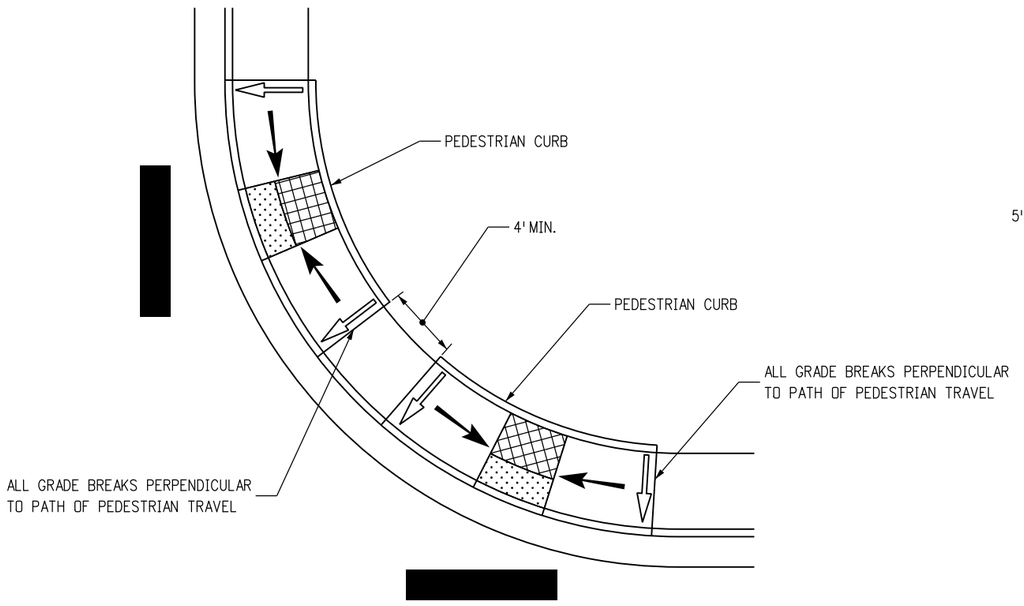
TYPE 2 RAMPS SMALL RADIUS
(3" REDUCED CURB)



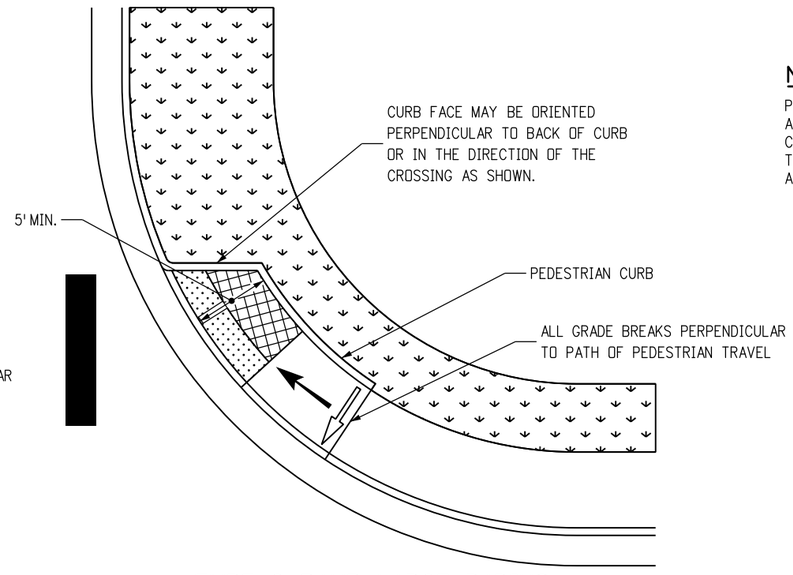
TYPE 2 RAMP (DIAGONAL)
NOT ALLOWABLE IN NEW CONSTRUCTION/FULL-DEPTH RECONSTRUCTION
SEE NOTE GENERAL NOTE 4



TYPE 2 RAMP SMALL RADIUS
(CROSSING IN ONE DIRECTION)



TYPE 2 RAMPS LARGE RADIUS



TYPE 2 RAMP LARGE RADIUS
(CROSSING IN ONE DIRECTION)

NOTE
PLACEMENTS SHOWN ARE TYPICAL CONFIGURATIONS ONLY AND NOT INDICATIVE OF ALL OPTIONS. OTHER RAMP CONFIGURATIONS MAY BE ACCEPTABLE AS LONG AS THEY CONFORM TO THE CRITERIA IN THESE STANDARDS, AND ARE APPROVED BY THE ENGINEER.

TURNING SPACE
(SEE NOTE 4, 5, 6 - SHEET 4)

DETECTABLE WARNING SURFACE (DWS)
SEE DWS SHEETS FOR PLACEMENT
DETAILS

RAMP RUNNING SLOPE

RAMP CROSS SLOPE

TYPE 2 CURB RAMPS TYPICAL CONFIGURATIONS

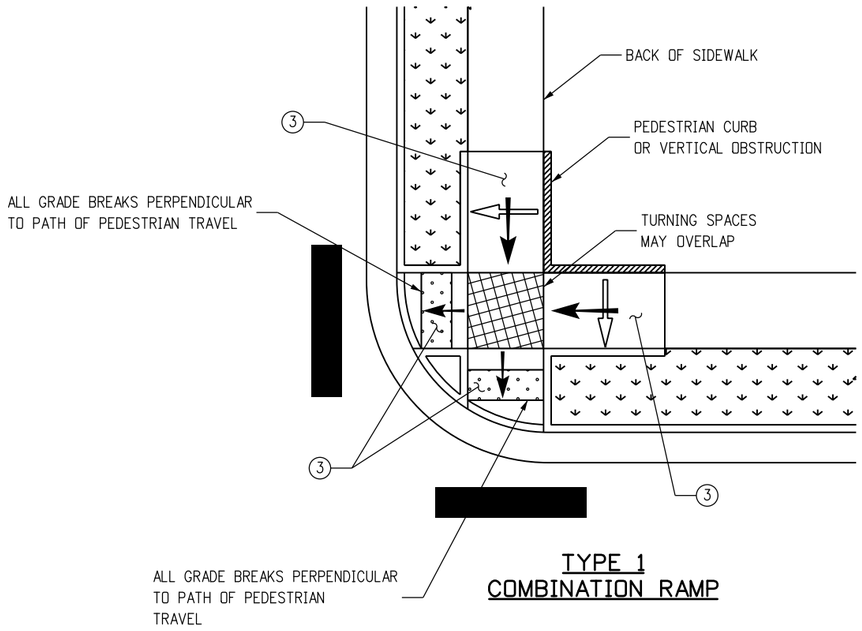
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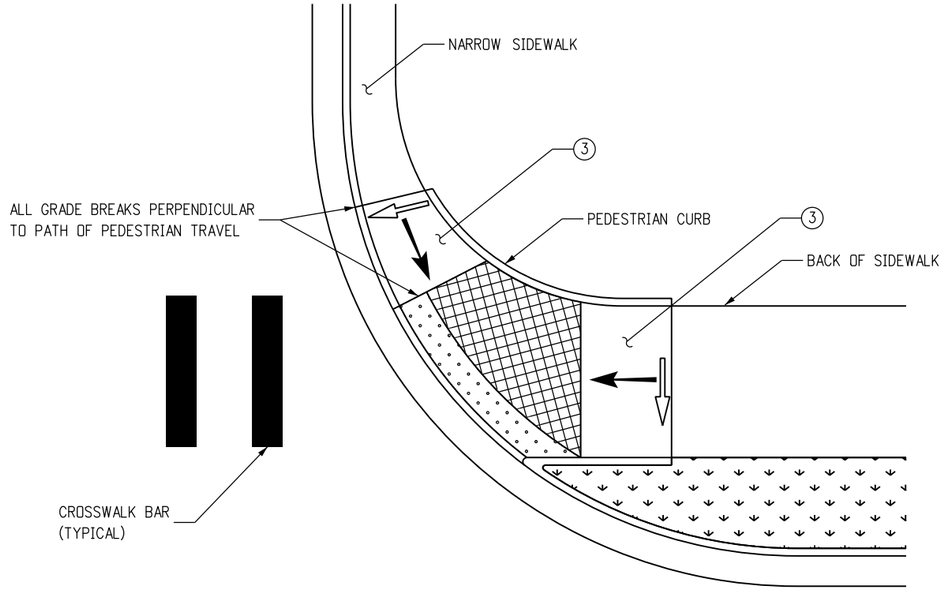
CURB RAMPS

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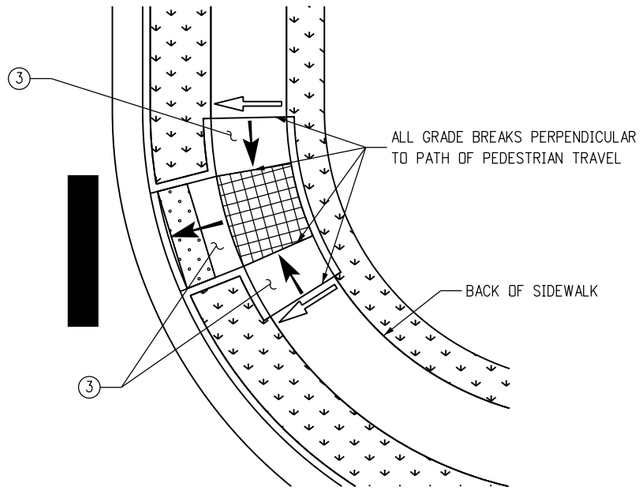
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TYPE 1
COMBINATION RAMP



TYPE 1/TYPE 2
COMBINATION RAMP



TYPE 1/TYPE 2
COMBINATION RAMP

COMBINATION CURB RAMP NOTES:

1. THE CURB RAMP PLACEMENTS SHOWN ARE TYPICAL CONFIGURATIONS ONLY AND NOT INDICATIVE OF ALL OPTIONS. OTHER CURB RAMP CONFIGURATIONS MAY BE ACCEPTABLE AS LONG AS THEY CONFORM TO THE CRITERIA IN THESE STANDARDS, AND ARE APPROVED BY THE ENGINEER.

2. RAMP AND TURNING SPACE CROSS SLOPE - 2.0% TYPICAL. AT CROSSINGS WITHOUT YIELD OR STOP CONTROL, OR WITH A SIGNAL WHERE VEHICLES CAN PROCEED THROUGH THE INTERSECTION WITHOUT SLOWING OR STOPPING, THE CROSS SLOPE OF THE RAMP AND TURNING SPACE MAY EQUALTHE HIGHWAY GRADE. AT MIDBLOCK PEDESTRIAN STREET CROSSINGS THE RAMP AND TURNING SPACE CROSS SLOPE MAY EQUAL THE HIGHWAY GRADE.

3. WHERE IT IS ACCEPTABLE FOR A RAMP OR TURNING SPACE CROSS SLOPE TO EXCEED 2.0% AND MATCH THE HIGHWAY GRADE, THE RAMP ABOVE THE TURNING SPACE MAY BE WARPED TO TIE INTO THE ADJOINING SIDEWALK CROSS SLOPE. THE TRANSITION TO THE SIDEWALK CROSS SLOPE SHALL BE SPREAD EVENLY OVER THE LENGTH OF THE RAMP TO MINIMIZE WARPING. THE RATE OF CHANGE IN CROSS SLOPE MAY NOT EXCEED 3.0% PER LINEAR FOOT.

TURNING SPACE (2) (3)

DETECTABLE WARNING SURFACE (DWS)
SEE DWS SHEETS FOR PLACEMENT DETAILS

RAMP RUNNING SLOPE

RAMP CROSS SLOPE (2) (3)

COMBINATION CURB RAMPS TYPICAL CONFIGURATIONS

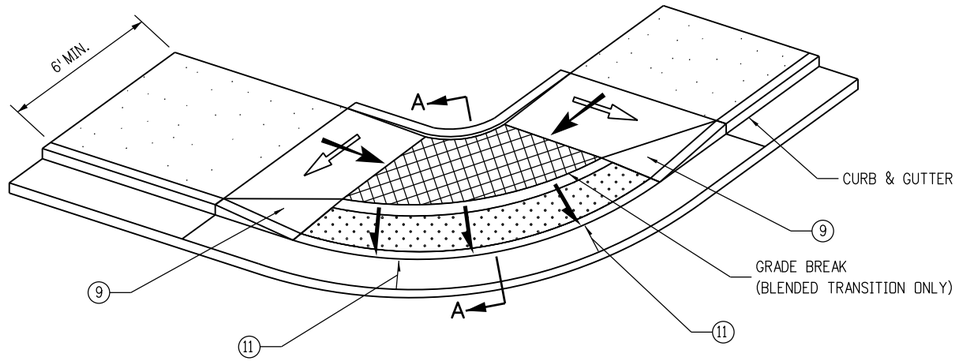
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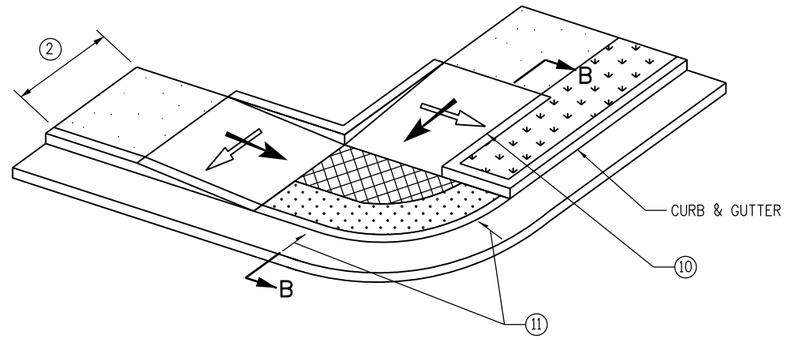
CURB RAMPS

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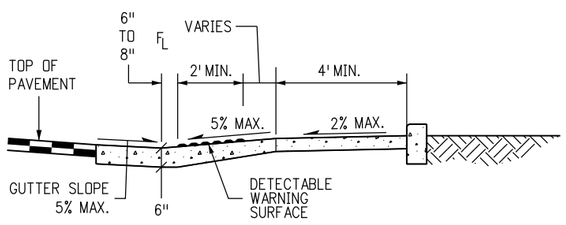
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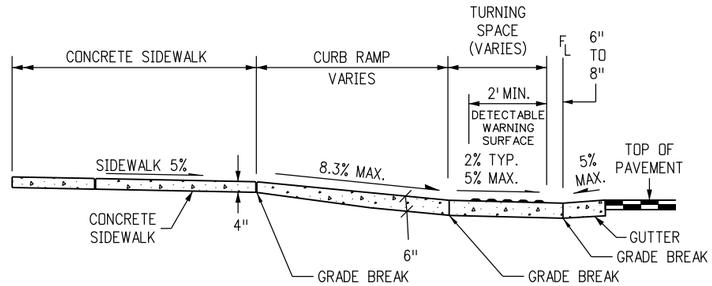
BLENDED TRANSITION



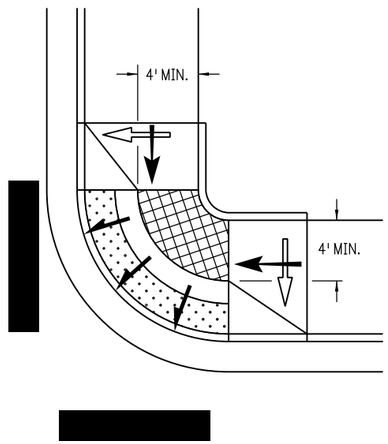
DEPRESSED CORNER



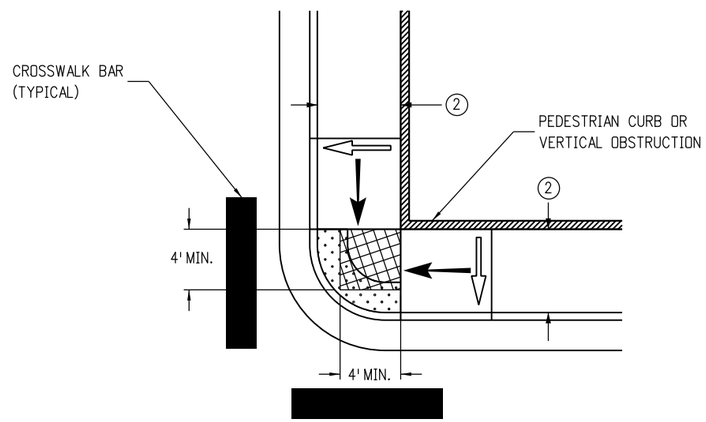
SECTION A-A



SECTION B-B



BLENDED TRANSITION



DEPRESSED CORNER

SIDEWALK

TURNING SPACE (4) (5) (6)

DETECTABLE WARNING SURFACE (DWS)

BLENDED TRANSITION & DEPRESSED CORNER NOTES

(1) PERPENDICULAR AND PARALLEL RAMP CONFIGURATIONS ARE PREFFERED. BLENDED TRANSITIONS AND DEPRESSED CORNERS SHOULD ONLY BE USED WHERE SITE CONDITIONS MAKE THEM A MORE APPROPRIATE OPTION, OR WHERE PERPENDICULAR OR PARALLEL RAMPS CANNOT BE INSTALLED DUE TO A PHYSICAL SITE CONSTRAINT.

(2) RAMP WIDTH - PROVIDE 5 FT. OR GREATER WHERE POSSIBLE. IF SITE CONSTRAINTS DO NOT PERMIT, PROVIDE 4FT. WIDTH MINIMUM. RAMPS SERVICING SHARED USE PATHS SHALL MATCH THE WIDTH OF THE PATH.

(3) RAMP RUNNING SLOPE - 8.3% MAX.

(4) BLENDED TRANSITION RUNNING SLOPE - 5.0% MAX.

(5) RAMP AND TURNING SPACE CROSS SLOPE - 2.0% TYPICAL. AT CROSSINGS WITHOUT YIELD OR STOP CONTROL, OR WITH A SIGNAL WHERE VEHICLES CAN PROCEED THROUGH THE INTERSECTION WITHOUT SLOWING OR STOPPING, THE CROSS SLOPE OF RAMPS AND TURNING SPACES MAY EQUAL THE HIGHWAY GRADE.

(6) TURNING SPACE DIMENSIONS - PROVIDE A 4 FT. X 4 FT. MIN. TURNING SPACE AT THE BOTTOM OF RAMP RUNS. THE TURNING SPACE MAY CONTAIN THE DETECTABLE WARNING SURFACES.

(7) RAMP ALIGNMENT - TURNING SPACE SHALL BE ALIGNED TO BE FULLY CONTAINED WITHIN THE CROSSWALK OR STREET CROSSING(S) THEY SERVE.

(8) RAMP LENGTH - RAMP LENGTH IS DEPENDENT UPON THE RAMP SLOPE AND THE CHANGE OF ELEVATION FROM THE TURNING SPACE TO THE SIDEWALK. WHERE TERRAIN IS SLOPING A RAMP IS NOT REQUIRED TO CHASE GRADE MORE THAN 15 FT. REGARDLESS OF THE RESULTING RAMP SLOPE.

(9) RAMP FLARES - WHERE A RAMP EDGE ABUTS A WALKABLE SURFACE, A FLARED SIDE MUST BE PROVIDED. RAMP FLARE SLOPES SHALL NOT EXCEED 10.0%.

(10) VERTICAL CURB RETURNS - VERTICAL CURB RETURNS MAY BE USED ONLY WHERE A RAMP ABUTS A NON-WALKABLE SURFACE, OR WHERE A RAMP IS PROTECTED FROM PEDESTRIAN CROSS TRAFFIC (FOR EXAMPLE BY A SIGNAL CABINET OR UTILITY POLE WHICH BLOCKS PASSAGE).

(11) GUTTER COUNTER SLOPE - 5.0% MAX.

(12) DWS PLACEMENT - DWS SHALL BE PLACED AROUND THE RADIUS AND LOCATED AT THE BACK OF CURB ON BLENDED TRANSITION AND DEPRESSED CORNER RAMPS.

TYPE 5 - DEPRESSED CORNER/BLENDED TRANSITION

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Last Modification Date: 05/03/19 Initials: LTA	(R-X)	05/03/19	Completely revised every sheet.
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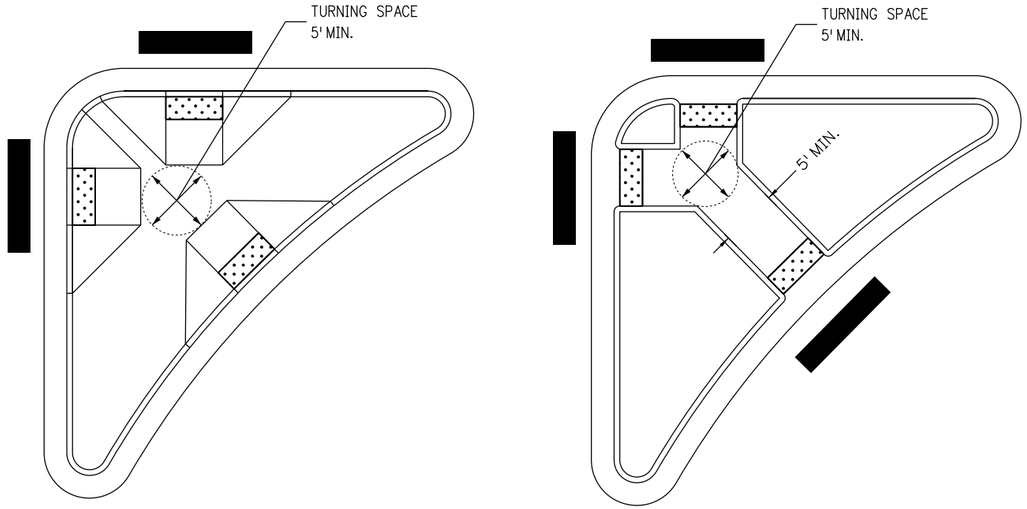
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CURB RAMPS

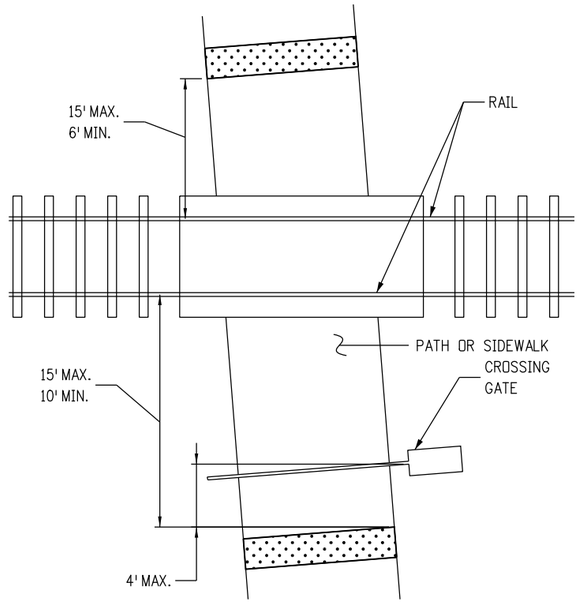
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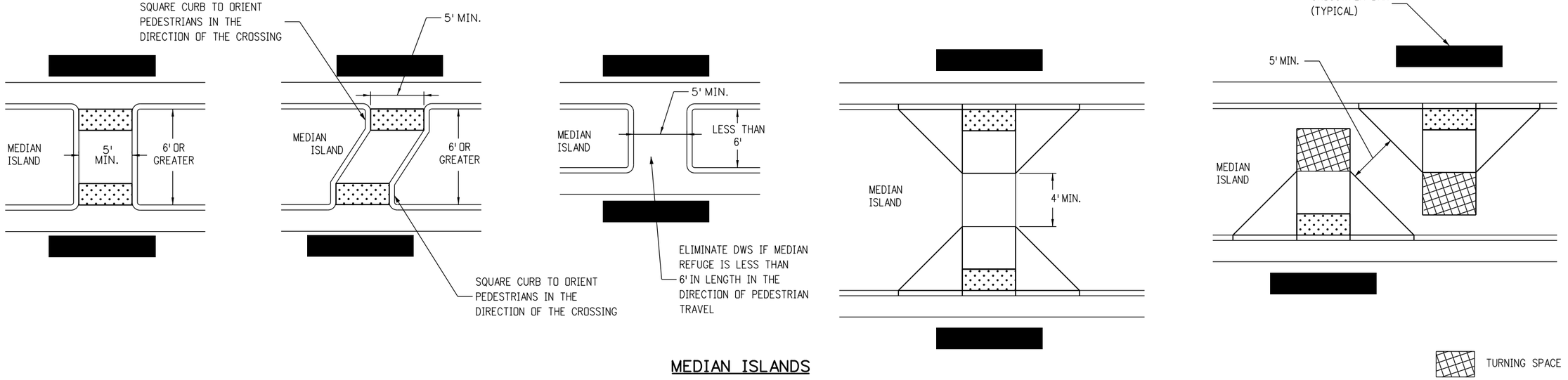
INTERSECTION ISLANDS



AT-GRADE RAIL CROSSING

NOTES:

1. DETECTABLE WARNING SURFACES SHALL BE PLACED IN ALIGNMENT WITH THE BACK OF CURB.
2. FLARED SIDES ARE PREFERENTIAL ON RAISED INTERSECTION ISLANDS AND SHOULD BE PROVIDED ON ISLANDS WHICH SERVE SHARED USE PATHS, OR AT LOCATIONS WHERE BICYCLE USE IS EXPECTED.
3. FOR CUT-THROUGH MEDIAN ISLANDS, DETECTABLE WARNING SURFACES SHALL BE PLACED IN ALIGNMENT WITH THE BACK OF CURB AND BE SEPARATED BY A MINIMUM 2 FOOT SPACE WITHOUT DWS. IF A 2 FOOT SEPARATION BETWEEN DETECTABLE WARNING SURFACES CANNOT BE PROVIDED NO DETECTABLE WARNING SURFACE SHALL BE INSTALLED.
4. CURB RAMP AND CUT-THROUGH WIDTHS SHOULD BE THE SAME WIDTH AS ANY SIDEWALK OR SHARED USE PATH WHICH THEY SERVE.



MEDIAN ISLANDS

MEDIANS / RAILROADS / ISLANDS

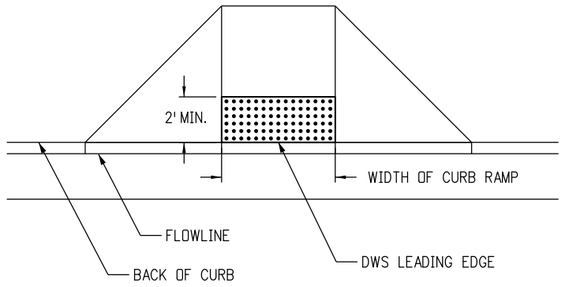
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Last Modification Date: 05/03/19 Initials: LTA	R-X	05/03/19	Completely revised every sheet.
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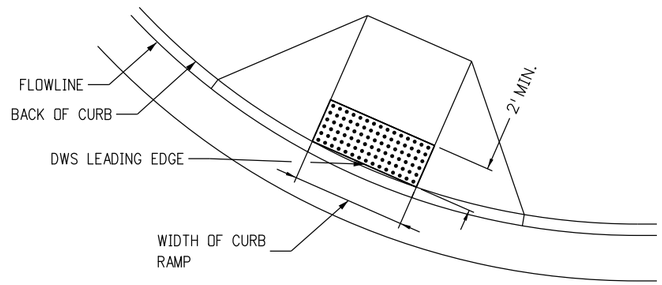
CURB RAMPS

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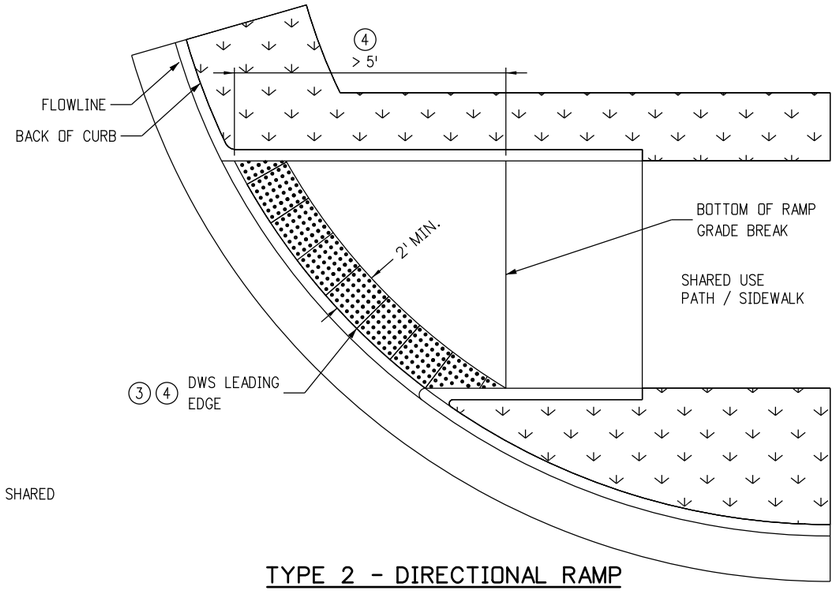
STANDARD PLAN NO.
M-608-1
Sheet No. 8 of 10



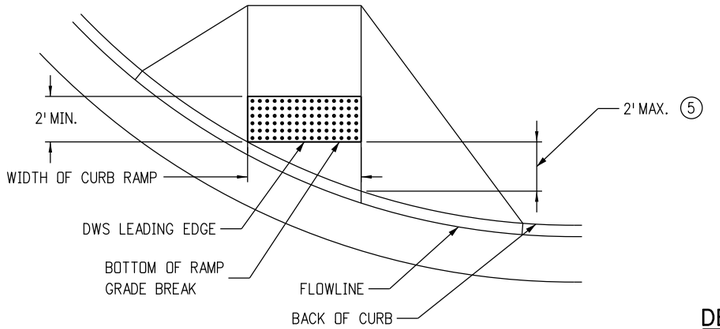
TYPE 1 CURB RAMP
(PERPENDICULAR ON TANGENT)



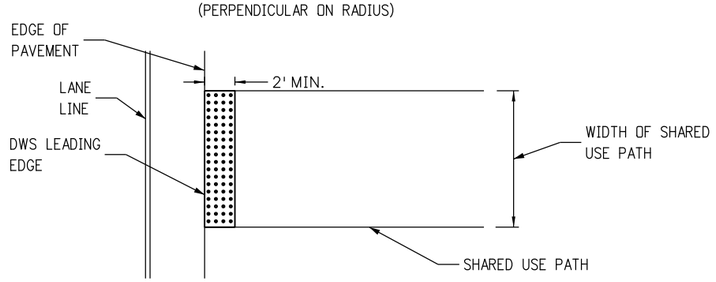
TYPE 1 CURB RAMP
(PERPENDICULAR ON RADIUS)



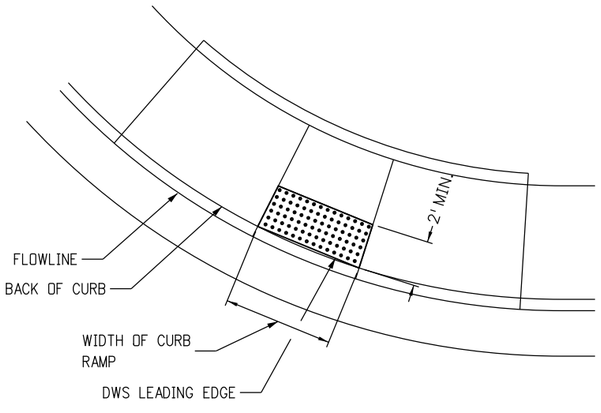
TYPE 2 - DIRECTIONAL RAMP



TYPE 1 CURB RAMP
(DIRECTIONAL ON RADIUS)



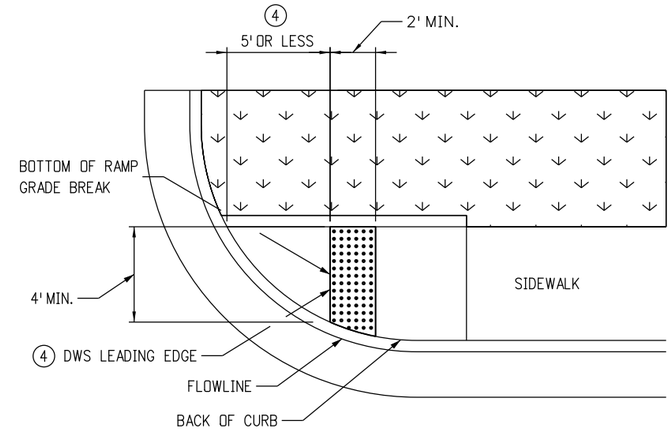
SHARED USE PATH CROSSING



TYPE 2 CURB RAMP

DETECTABLE WARNING SURFACE NOTES:

1. DETECTABLE WARNING SURFACES (DWS) SHALL BE INSTALLED AT SIDEWALK, OR SHARED USE PATH, TO STREET TRANSITIONS, AND SHALL CONSIST OF TRUNCATED DOME SURFACES. ANY TRUNCATED DOME PANELS OR PAVERS WHICH ARE USED MUST BE ON THE CDOT APPROVED PRODUCTS LIST (APL).
2. THE DETECTABLE WARNING SURFACE SHALL SPAN THE FULL WIDTH OF THE CURB RAMP, SHARED USE PATH, OR OTHER ROADWAY ENTRANCE AS APPLICABLE. A GAP OF 2 INCHES FROM THE EDGE OF THE DETECTABLE WARNING SURFACE TO THE EDGE OF THE CURB RAMP OR SHARED USE PATH IS PERMITTED.
3. WHEN DETECTABLE WARNING SURFACES ARE PLACED ON A SLOPE GREATER THAN 5.0%, TRUNCATED DOMES SHOULD BE ALIGNED IN THE DIRECTION OF THE RAMP RUN; OTHERWISE DOMES ARE NOT REQUIRED TO BE ALIGNED. TRUNCATED DOMES SHALL BE IN A SQUARE GRID OR RADIAL PATTERN. WHEN PLACED RADIALLY, PLACE ADJACENT DWS PLATES EDGE TO EDGE. EDGES OF CUT PLATES SHALL BE STRAIGHT.
4. LOCATE ONE CORNER OF THE DWS LEADING EDGE AT THE BACK OF CURB. NO POINT ON THE LEADING EDGE OF THE DWS MAY BE MORE THAN 5 FT. FROM THE BACK OF CURB. WHEN ANY POINT OF THE LEADING EDGE OF THE DWS WILL BE GREATER THAN 5 FT. FROM THE BACK OF CURB, PLACE THE DWS RADIALLY AT THE BACK OF CURB.
5. WHERE PERPENDICULAR DIRECTIONAL RAMPS ABUT A WALKABLE SURFACE, THE LEADING EDGE OF THE DWS SHALL NOT BE PLACED FURTHER THAN 2 FEET FROM THE BACK OF CURB. IF THE RADIUS OF A CORNER MAKES THIS IMPOSSIBLE, ORIENT THE CURB RAMP PERPENDICULAR TO THE CURB AND GUTTER.
6. IF THE DETECTABLE WARNING SURFACE IS CUT, GRIND OFF THE REMAINING PORTION OF ANY CUT TRUNCATED DOMES. SEAL ALL CUT PANEL EDGES WITH AN APL SEALANT TO PREVENT WATER DAMAGE.
7. TRUNCATED DOME PLATES SHALL BE EMBEDED IN THE CONCRETE CURB RAMP WHILE THE CONCRETE IS PLASTIC.
8. DWS SHALL NOT BE PLACED OVER GRADE BREAKS.



TYPE 2 - DIRECTIONAL RAMP

DETECTABLE WARNING SURFACE (DWS)

DETECTABLE WARNING SURFACE PLACEMENT

Computer File Information		
Creation Date: 07/04/12	Initials: JBK	
Last Modification Date: 05/03/19	Initials: LTA	R-X
Full Path: www.codot.gov/business/designsupport		R-X
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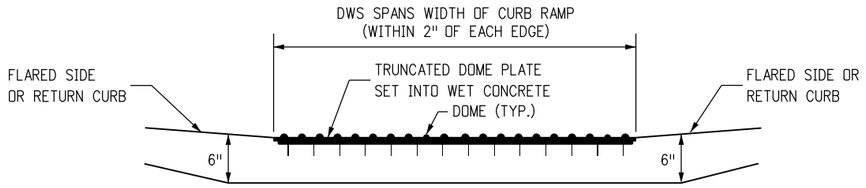
Sheet Revisions	
Date:	Comments
05/03/19	Completely revised every sheet.

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CURB RAMPS

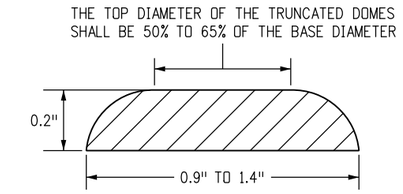
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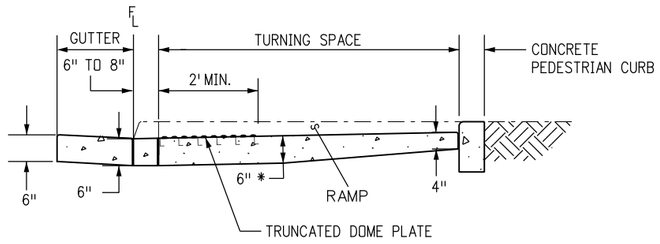


SECTION VIEW OF DETECTABLE WARNING SURFACE PLATE

(LOOKING AT PERPENDICULAR RAMP
RUN FROM STREET)

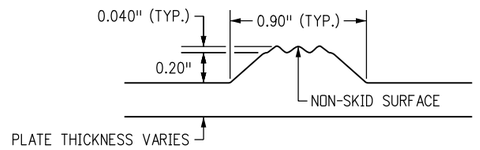


ELEVATION VIEW OF SINGLE TRUNCATED DOME

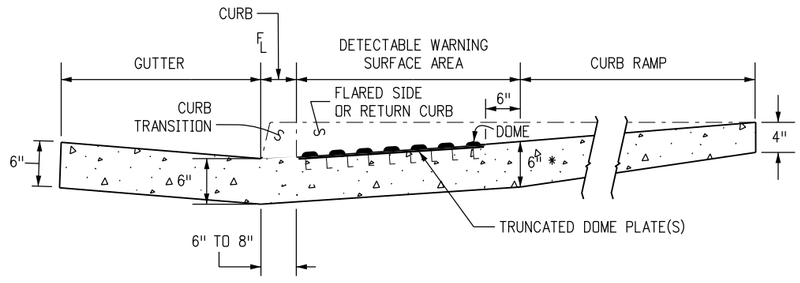


SECTION VIEW FOR PARALLEL CURB RAMP TYPES

(LOOKING PERPENDICULAR TO TURNING SPACE)

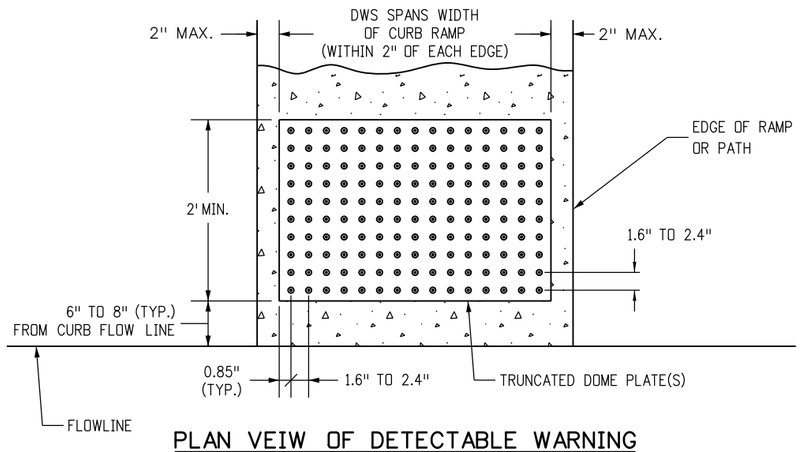


ELEVATION VIEW OF TRUNCATED DOME FOR DETECTABLE WARNING PLATE



SECTION VIEW FOR PERPENDICULAR CURB RAMP TYPES

(LOOKING PERPENDICULAR TO RAMP RUN)



PLAN VEIW OF DETECTABLE WARNING SURFACE PLATE

DETECTABLE WARNING SURFACE DETAILS

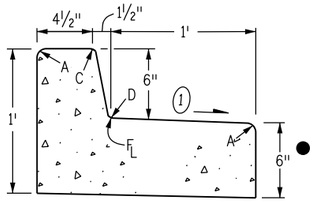
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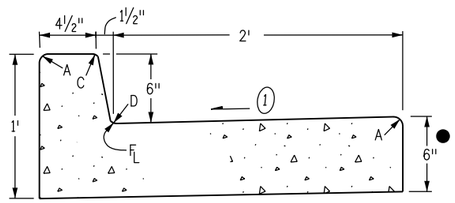
CURB RAMPS

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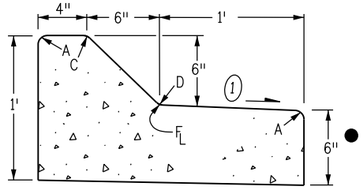
STANDARD PLAN NO.
M-608-1
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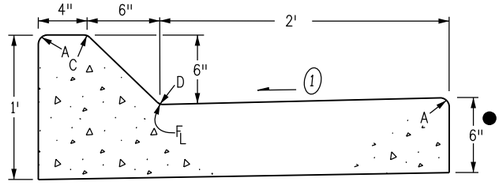
CURB AND GUTTER TYPE 2
(SECTION IB)
(6 IN. BARRIER - 1 FT. GUTTER)



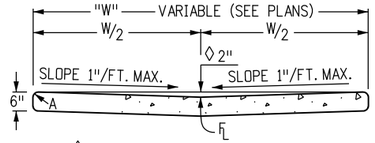
CURB AND GUTTER TYPE 2
(SECTION IIB)
(6 IN. BARRIER - 2 FT. GUTTER)



CURB AND GUTTER TYPE 2
(SECTION IM)
(6 IN. MOUNTABLE - 1 FT. GUTTER)

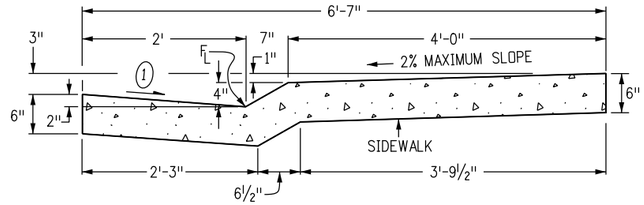


CURB AND GUTTER TYPE 2
(SECTION IIM)
(6 IN. MOUNTABLE - 2 FT. GUTTER)



◊ 2 IN. DEPTH WHEN USED AS A CROSSPAN IN AN INTERSECTION

GUTTER TYPE 2



CURB AND GUTTER TYPE 2
(SECTION MS)
(4 IN. MOUNTABLE WITH SIDEWALK)

GENERAL NOTES

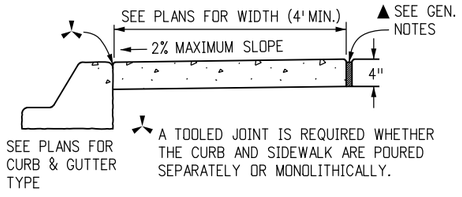
1. ON ROADWAY CURVES WITH A RADIUS OF 1,900 FT. OR LESS, CURBS AND GUTTERS ARE TO BE PLACED ON THE ARC OF THE CURVE, UNLESS OTHERWISE NOTED ON THE PLANS. A MAXIMUM CHORD LENGTH OF 10 FT. MAY BE USED WHEN THE CURVE RADIUS IS GREATER THAN 1,900 FT.
2. CONCRETE SHALL BE CLASS B.
3. PROFILE GRADE OF CURBS AND GUTTERS SHALL BE LOCATED AT THE FLOW LINE.
4. CURB TYPE 4 (KEY-WAY) MAY BE USED IN LIEU OF CURB AND GUTTER TYPE 2 (SECTIONS IB AND IM) UNLESS OTHERWISE SPECIFIED ON THE PLANS.
5. GUTTER CROSS SLOPES MAY BE ADJUSTED TO FACILITATE DRAINAGE FOR PROFILE GRADES AS SHOWN ON THE PLANS.
6. THICKNESS OF CURB AND GUTTER SECTION SHALL MATCH CONCRETE PAVEMENT THICKNESS IF SHOWN ON THE PLANS. CURB AND GUTTER SHALL BE CLASS P CONCRETE IF PLACED MONOLITHICALLY WITH CONCRETE PAVEMENT.
7. INCREASE SIDEWALK THICKNESS TO 6 IN. AT LOCATIONS SHOWN ON THE PLANS.
8. MINIMUM SIDEWALK WIDTH IS 4 FT.

▲ EXPANSION JOINTS SHALL BE INSTALLED WHEN ABUTTING EXISTING CONCRETE OR FIXED STRUCTURE. EXPANSION JOINT MATERIAL SHALL BE ½ IN. THICK AND SHALL EXTEND THE FULL DEPTH OF CONTACT SURFACE.

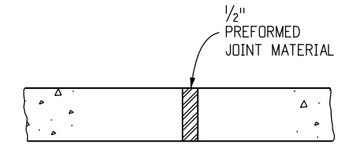
(1) GUTTER CROSS SLOPES SHALL BE ½ IN./FT. WHEN DRAINING AWAY FROM CURB AND 1 IN./FT. WHEN DRAINING TOWARD CURB (WITH EXCEPTION TO IMMEDIATELY ADJACENT TO CURB RAMPS - SEE STANDARD PLAN M-608-1 FOR SLOPE REQUIREMENTS).

● WHEN TIE BARS ARE REQUIRED, THE GUTTER THICKNESS SHALL BE INCREASED TO THE PAVEMENT THICKNESS (T). BARS SHALL BE EPOXY-COATED #4 CONFORMING TO AASHTO M 284 AND SPACED AT 3 FT. INTERVALS. THEY SHALL BE INSERTED T/2 AND 1#2 LENGTH INTO THE GUTTER.

LEGEND FOR RADII
A = 1/8" TO 1/4"
B = 1"
C = 1½"
D = 1½" TO 2"



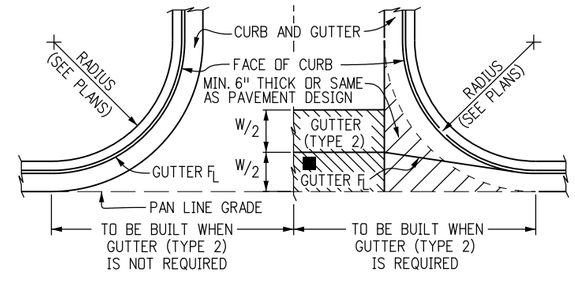
CONCRETE SIDEWALK



NOTES: 1. EXPANSION JOINTS SHALL BE PLACED IN THE SIDEWALK AT INTERVALS OF NOT MORE THAN 500 FT.

2. EXPANSION JOINTS MAY BE SEALED WHEN SPECIFIED ON THE PLANS.

SIDEWALK EXPANSION JOINT



▨ THIS AREA SHALL BE POURED MONOLITHICALLY WITH CURB AND GUTTER AND PAID FOR AS "CONCRETE PAVEMENT".

■ FLOW LINE LOCATION WILL BE ESTABLISHED BY W/2 SHOWN ON PLANS.

CONSTRUCTION OF CONCRETE GUTTERS AT INTERSECTION

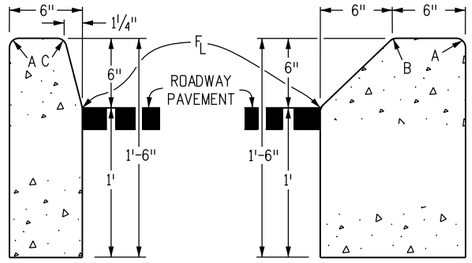
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Full Path: www.coloradodot.info/business/designsupport	(R-X)		
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CURB, GUTTERS, AND SIDEWALKS

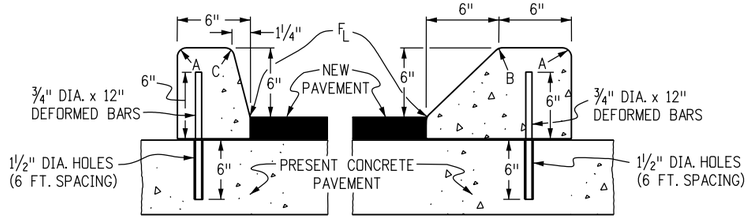
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CURB TYPE 2
(SECTION B)
6 IN. BARRIER

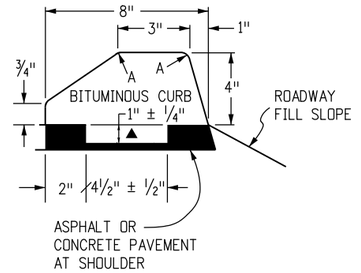
CURB TYPE 2
(SECTION M)
6 IN. MOUNTABLE

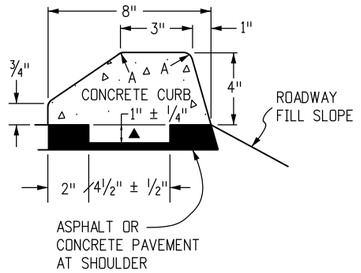


¾" DIA. x 12" DEFORMED REINFORCING BARS AT 6 FT. SPACING SHALL BE GROUTED IN 1¼" DIA. HOLES IN EXISTING CONCRETE. GROUT SHALL CONSIST OF 2 PARTS CLEAN SAND AND 1 PART CEMENT. COST OF INSTALLATION SHALL BE INCLUDED IN THE PRICE BID FOR CURB.

CURB TYPE 4
(SECTION B)
6 IN. BARRIER

CURB TYPE 4
(SECTION M)
6 IN. MOUNTABLE

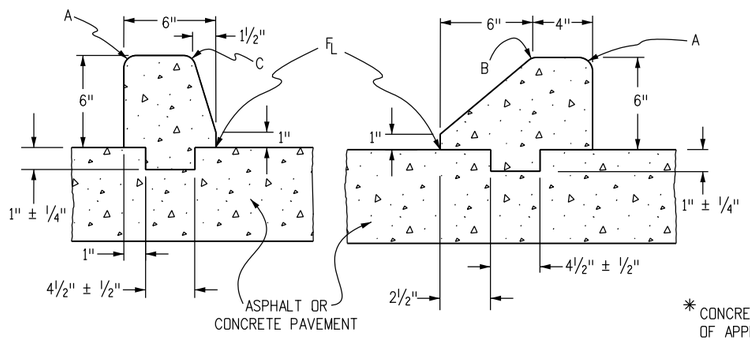




CURB TYPE 6
(SECTION M)
4 IN. MOUNTABLE

NOTE: BITUMINOUS OR CONCRETE * UNLESS OTHWISE SPECIFIED ON THE PLANS.

▲ KEY-WAY MAY BE OMITTED WHEN PLACED UNDER GUARDRAIL.



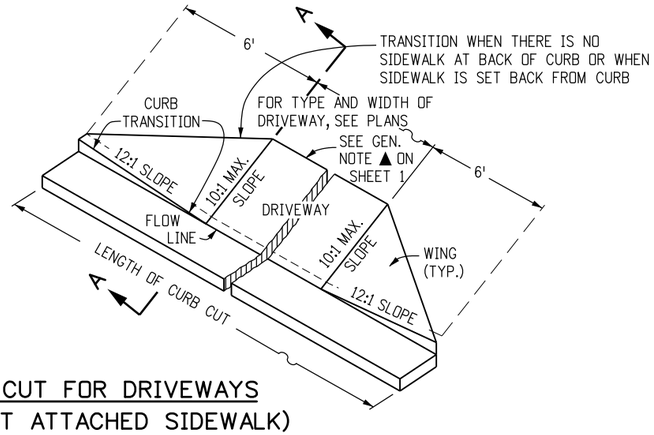
(SECTION B)

(SECTION M)

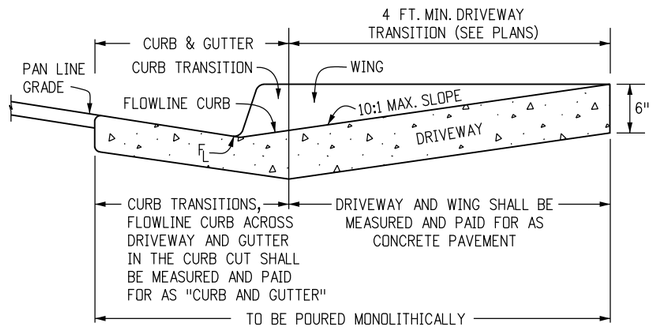
CURB TYPE 4 (KEY-WAY)*

LEGEND FOR RADII
A = ⅛ TO ¼"
B = 1"
C = 1½"
D = 1½" TO 2"

* CONCRETE CLASS B SHALL CONTAIN 1.5 POUNDS PER CUBIC YARD OF APPROVED POLYPROPYLENE FIBERS AND MAY HAVE A NOMINAL AGGREGATE SIZE OF ⅜ IN.

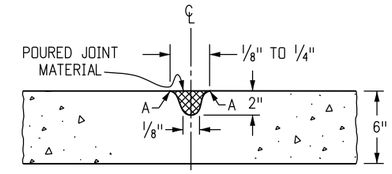


CURB CUT FOR DRIVEWAYS
(WITHOUT ATTACHED SIDEWALK)



SECTION A-A

CONCRETE PAVEMENT (DRIVEWAYS)



NOTE: RECOMMENED JOINT SPACING IS EVERY 8 FOOT ALONG THE WIDTH AND LENGTH OF DRIVEWAY. FOR DRIVEWAYS WIDER THAN 12 FEET, JOINTS ARE REQUIRED.

TRANSVERSE CONTRACTION JOINT
FOR CONCRETE PAVEMENT (DRIVEWAYS)

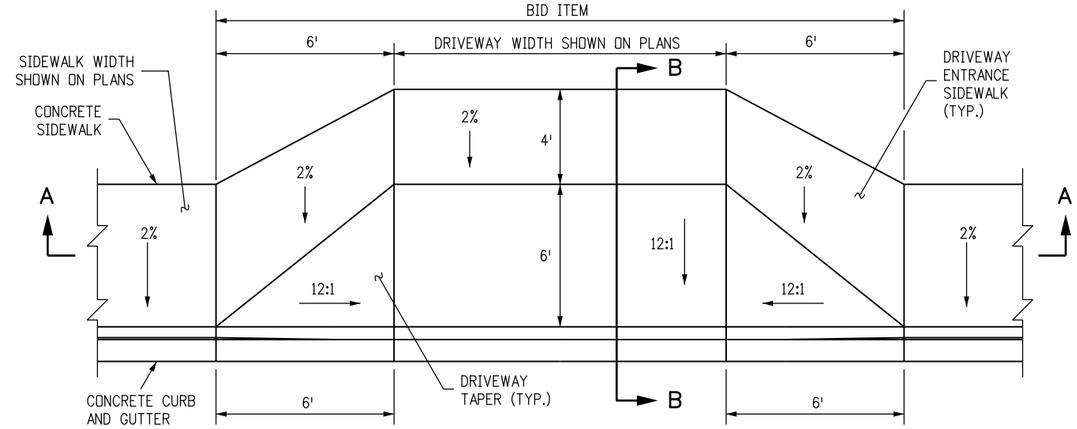
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Drawing File Name: 609010204.dgn	(R-X)		
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	(R-X)		

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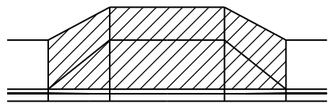
CURB, GUTTERS, AND SIDEWALKS

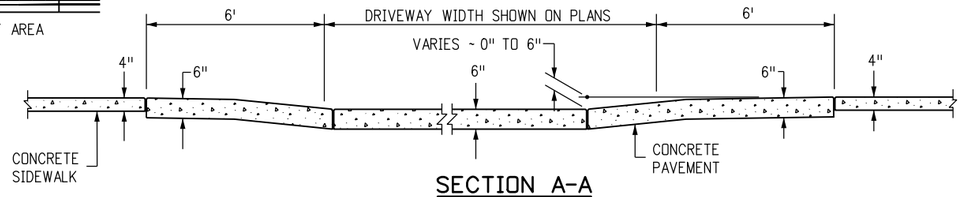
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M-609-1
Sheet No. 2 of 4

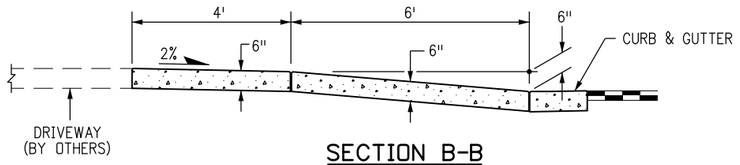


CONCRETE DRIVEWAY ENTRANCE TYPE 1

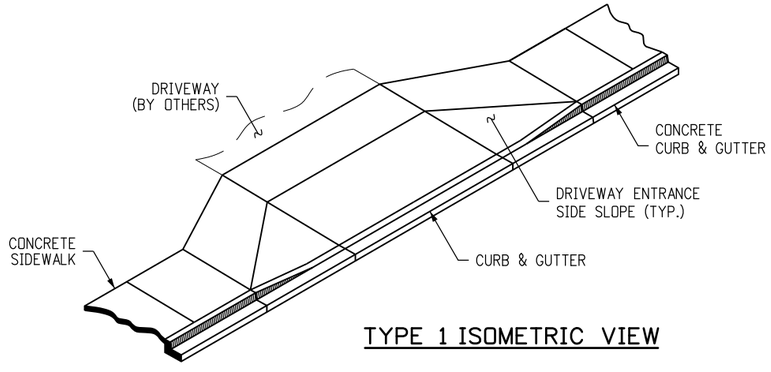




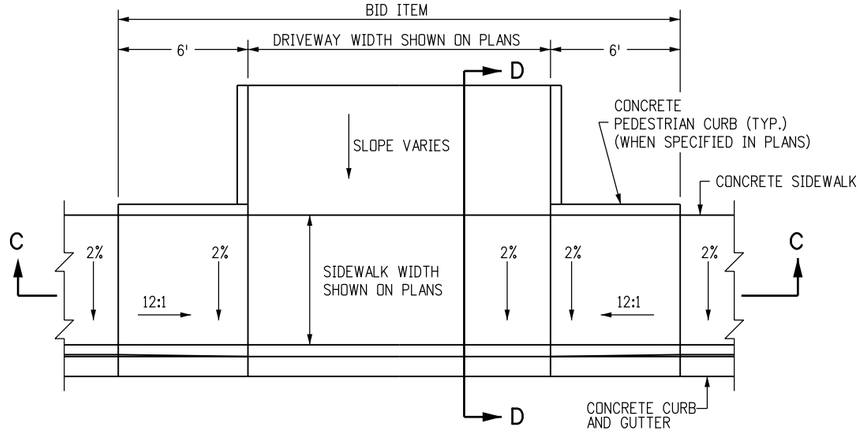
SECTION A-A



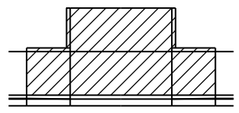
SECTION B-B

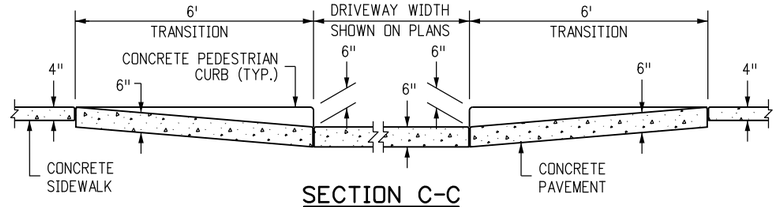


TYPE 1 ISOMETRIC VIEW

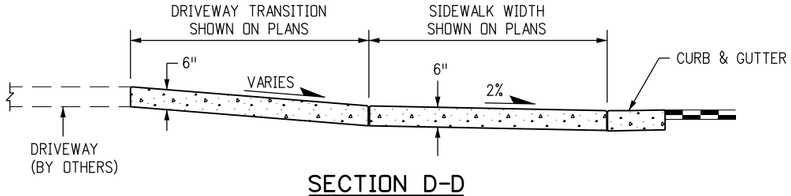


CONCRETE DRIVEWAY ENTRANCE TYPE 2

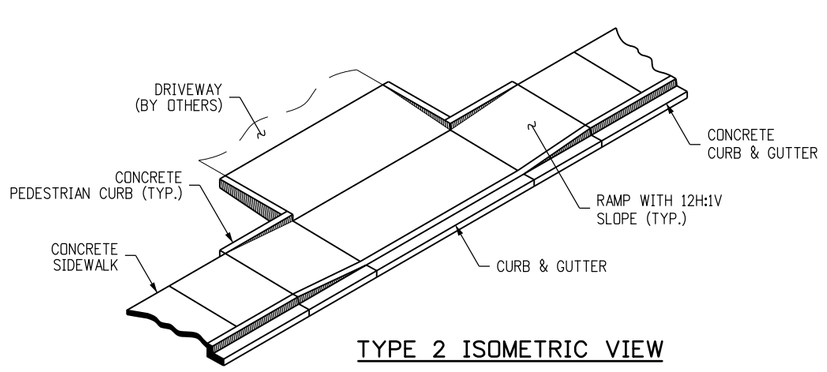




SECTION C-C



SECTION D-D



TYPE 2 ISOMETRIC VIEW

NOTES

1. DRAINAGE STRUCTURES, TRAFFIC SIGNAL EQUIPMENT, JUNCTION BOXES, AND OTHER OBSTRUCTIONS SHOULD NOT BE PLACED IN FRONT OF THE DRIVEWAY RAMP ACCESS AREAS.
2. FOR THE CURB AND GUTTER SHOWN, SEE PLANS FOR CURB TYPE.
3. RAMP SLOPES SHALL BE 12:1 OR FLATTER.
4. CONSTRUCTION OF THE CONCRETE PEDESTRIAN CURB SHALL BE INCLUDED IN THE BID PRICE OF THE CONCRETE PAVEMENT.

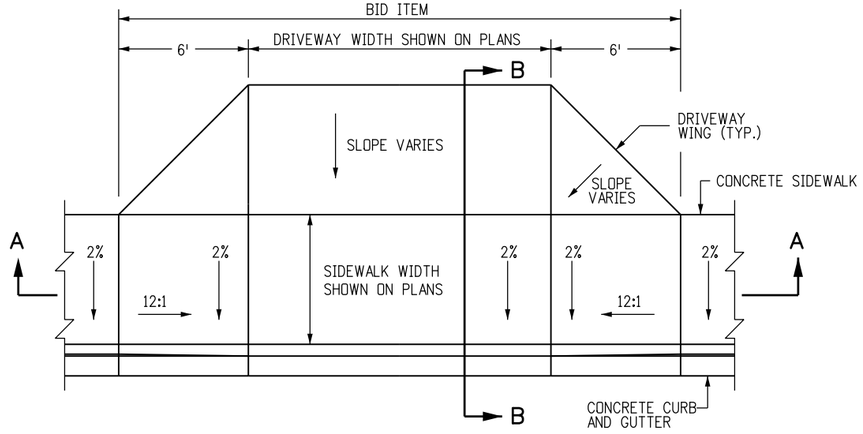
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CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	(R-X)		

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CURB, GUTTERS, AND SIDEWALKS

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CONCRETE DRIVEWAY ENTRANCE TYPE 3

SECTION A-A

SECTION B-B

CONCRETE PAVEMENT PAY AREA

NOTES

1. DRAINAGE STRUCTURES, TRAFFIC SIGNAL EQUIPMENT, JUNCTION BOXES, AND OTHER OBSTRUCTIONS SHOULD NOT BE PLACED IN FRONT OF THE DRIVEWAY RAMP ACCESS AREAS.
2. FOR THE CURB AND GUTTER SHOWN, SEE PLANS FOR CURB TYPE.
3. RAMP SLOPES SHALL BE 12:1 OR FLATTER.

TYPE 3 ISOMETRIC VIEW

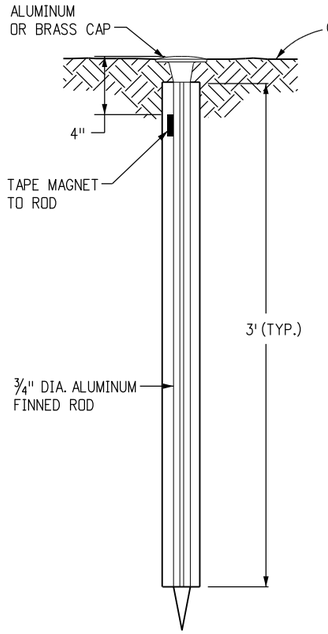
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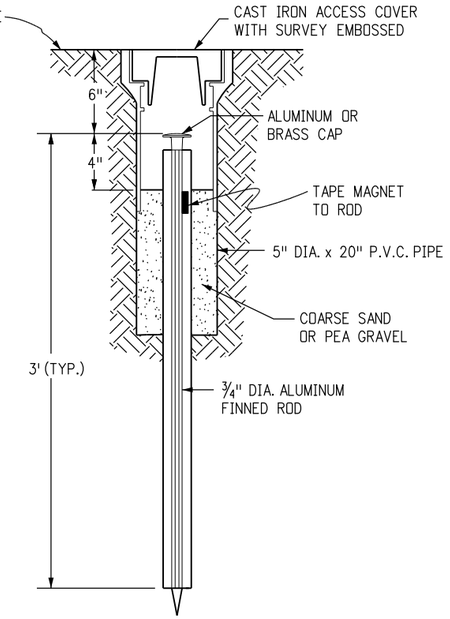
CURB, GUTTERS, AND SIDEWALKS

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M-609-1
Sheet No. 4 of 4

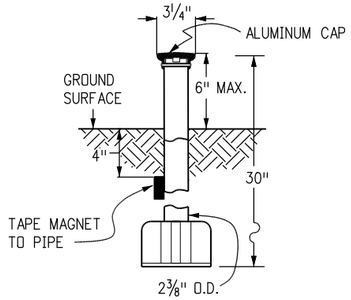


TYPE 1 MONUMENT

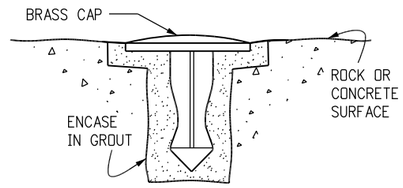


TYPE 1A MONUMENT

INCLUDES MONUMENT BOX

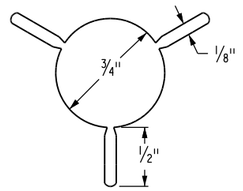


TYPE 3 MONUMENT

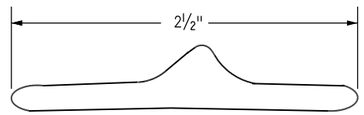


TYPE 5 MONUMENT

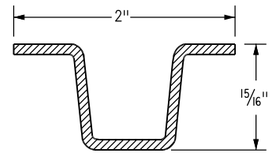
ALUMINUM CAP AND TYPE 5(S)
DETAILS SHOWN ON SHEET 2



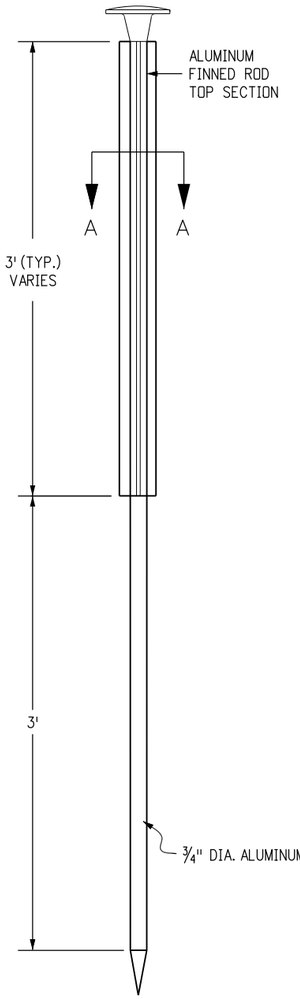
SECTION A-A

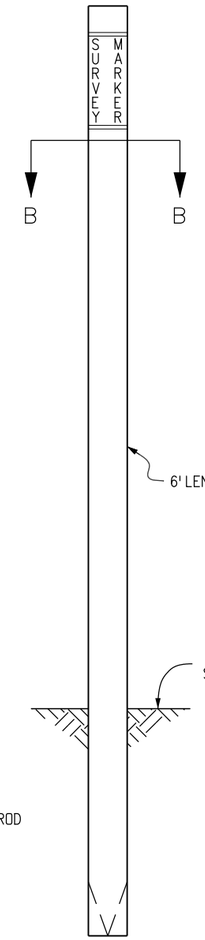


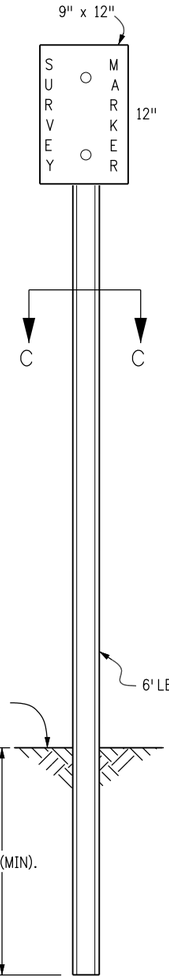
SECTION B-B



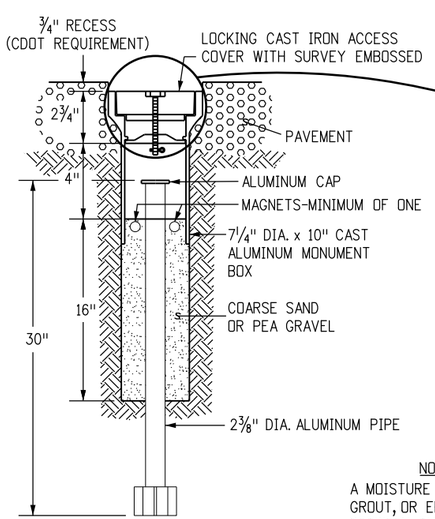
DELINEATOR POST
SECTION C-C







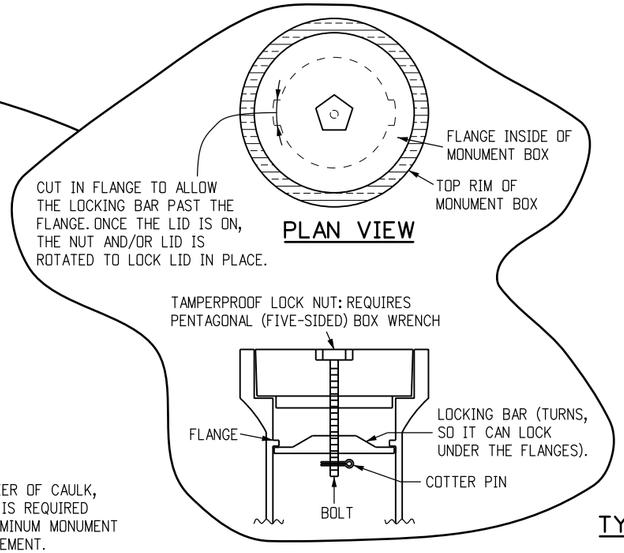
WITNESS POSTS



TYPE 3A MONUMENT

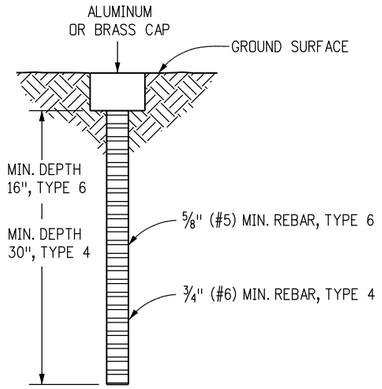
ROADWAY INSTALLATION
INCLUDES MONUMENT BOX

NOTE:
A MOISTURE BARRIER OF CAULK, GROUT, OR EPOXY IS REQUIRED BETWEEN THE ALUMINUM MONUMENT BOX AND THE PAVEMENT.



PLAN VIEW

LOCKING CAST IRON ACCESS COVER



TYPE 4 AND TYPE 6 MONUMENT

TYPE 2 MONUMENT

TYPE 2A INCLUDES MONUMENT BOX

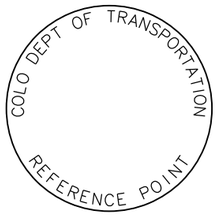
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SURVEY MONUMENTS

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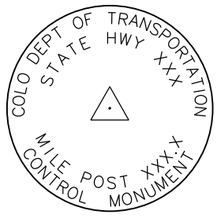
STANDARD PLAN NO.
M-629-1
Sheet No. 1 of 2



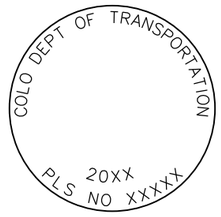
REFERENCE
MONUMENT CAP



ROW
MONUMENT CAP



CONTROL
MONUMENT CAP

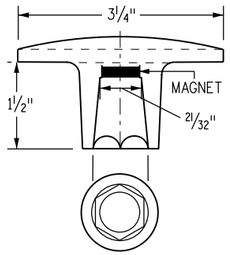


ALIQUOT CORNER
MONUMENT CAP

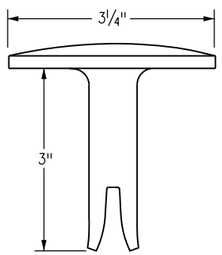


ALUMINUM CAP

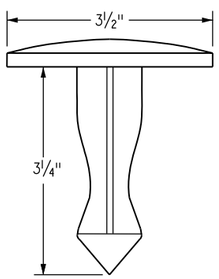
NOTE: A BLANK CAP MAY BE SUBSTITUTED IF THE APPROPRIATE CAP SHOWN ABOVE IS NOT AVAILABLE. IF A BLANK CAP IS USED, ALL INFORMATION NORMALLY INCLUDED ON THE APPROPRIATE STANDARD CAP, SHALL BE STAMPED ON THE BLANK CAP ALONG WITH SPECIFIC PROJECT INFORMATION SUCH AS PROJECT NO., DATE, POINT NO., ETC..



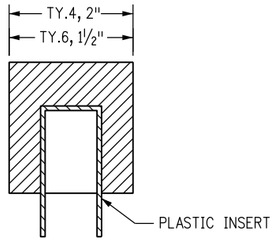
ALUMINUM CAP
USED WITH ALUMINUM ROD



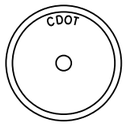
ALUMINUM CAP
TYPE 5
FOR PLACING IN EXISTING
CONCRETE OR ROCK



BRASS CAP
TYPE 5
FOR PLACING IN EXISTING
CONCRETE OR ROCK



ALUMINUM CAP



COPPER ALLOY CAP
TYPE 5(S)
FOR PLACING IN EXISTING
SIDEWALK, CURB, OR GUTTER

MONUMENT APPLICATION

CAP TYPE	MONUMENT TYPE									
	1	1A	2	2A	3	3A	4	5	5(S)	6
REFERENCE	X	X						X	X	X
ROW	X	X						X	X	
CONTROL			X	X				X	X	
ALIQUOT CORNER	X	X			X	X	X	X		
PERMANENT EASEMENT								X	X	X
PROJECT POINTS								X	X	X
WITNESS POST* (REQUIRED)	X		X	X	X			X		

ALL MONUMENTATION MATERIALS WILL BE FURNISHED BY CDOT

THE MONUMENT TYPE SHALL MEET THE MINIMUM STANDARDS AS DETERMINED BY THE COLORADO STATE BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS RULES (STATE BOARD RULES).
THE CDOT SURVEY COORDINATOR SHALL APPROVE ALL EXCEPTIONS FOR STAMPING MONUMENTS DIFFERING FROM THE STANDARDS.

TYPE 1 AND TYPE 1A ALUMINUM FINNED ROD MONUMENTS

THIS MONUMENT SHALL BE USED FOR ROW OR REFERENCE MONUMENTS OR MAY BE USED FOR AN ALIQUOT CORNER MONUMENT. WHEN USED AS AN ALIQUOT CORNER MONUMENT, INSTALLATION AND RECORD FILING REQUIREMENTS SHALL BE AS STATED FOR TYPE 3 AND TYPE 3A MONUMENTS.
MONUMENTS SHALL BE INSTALLED BY ATTACHING THE PROPER SIZE TIP TO ONE END OF A SECTION OF FINNED ROD, AND A 3 IN. LONG X ¾ IN. DIA. STAINLESS STEEL ADAPTER TO THE OTHER END. THE DRIVER IS THEN PLACED OVER THE STAINLESS STEEL ADAPTER FOR THE HAMMER TO CONTACT. TYPE 1 MONUMENTS SHALL USE A MINIMUM 3 FT. SECTION OF FINNED ROD. WHEN SUBSURFACE ROCK OR CONCRETE IS ENCOUNTERED LESS THAN 3 FT. BELOW THE GROUND SURFACE, THE ROD SHALL BE EMBEDDED IN THE ROCK OR IN CONCRETE AT LEAST 6 IN. AND GROUTED IN PLACE. THE ROD MAY BE SHORTENED TO ACCOMMODATE THE CONDITIONS.
WHEN UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED, ADDITIONAL SECTIONS OF ROD SHALL BE ADDED TO ACHIEVE STABILITY. HORIZONTAL AND VERTICAL STABILITY ARE REQUIRED.
TYPE 1A MONUMENT INCLUDES MONUMENT BOX. A LOCKING CAST IRON ACCESS COVER SHALL BE INSTALLED WHEN THE MONUMENT IS LOCATED IN THE ROADWAY PAVEMENT.

TYPE 2 AND TYPE 2A ALUMINUM FINNED ROD MONUMENTS

THIS MONUMENT SHALL BE USED FOR HORIZONTAL AND VERTICAL CONTROL MONUMENTS. WHEN UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED, ADDITIONAL SECTIONS OF ROD SHALL BE ADDED TO ACHIEVE STABILITY. HORIZONTAL AND VERTICAL STABILITY ARE REQUIRED. IN MOST SOIL CONDITIONS THE TYPE 2 MONUMENT IS EMBEDDED 6 FT. INTO THE GROUND.
THE MONUMENT SHALL BE INSTALLED BY FIRST ATTACHING THE PROPER SIZE TIP TO A 3 FT. LONG X ¾ IN. DIA. ROD, THEN DRIVING THE ROD AT LEAST 30 IN. INTO THE GROUND. ADDITIONAL 3 FT. LONG X ¾ IN. FINNED ROD SECTIONS SHALL BE ADDED AND DRIVEN FLUSH WITH THE GROUND UNTIL THE MONUMENT IS IN A STABLE POSITION. THE FINS ARE BENT OVER USING PLIERS TO ACCOMMODATE INSTALLING THE CAP. THE CAP IS FIRMLY SEATED ONTO THE LAST FINNED SECTION OF ROD USING A DEAD BLOW SLEDGE HAMMER.
TYPE 2A MONUMENT INCLUDES MONUMENT BOX. A LOCKING CAST IRON ACCESS COVER SHALL BE INSTALLED WHEN THE MONUMENT IS LOCATED IN THE ROADWAY PAVEMENT.

TYPE 3 AND TYPE 3A ALUMINUM PIPE MONUMENTS

THIS MONUMENT SHALL BE USED FOR AN ALIQUOT CORNER MONUMENT. THE INSTALLATION OF THIS MONUMENT AND RECORD FILING SHALL BE DONE IN ACCORDANCE WITH THE STATE BOARD RULES. ALSO REFER TO THE CDOT SURVEY MANUAL AND THE BUREAU OF LAND MANAGEMENT REQUIREMENTS FOR MONUMENT INSTALLATION. THE LAND SURVEYOR'S LICENSE NUMBER AND THE YEAR SHALL BE STAMPED ON THE CAP.
TYPE 3A MONUMENT INCLUDES MONUMENT BOX. A LOCKING CAST IRON ACCESS COVER SHALL BE INSTALLED WHEN THE MONUMENT IS LOCATED IN THE ROADWAY PAVEMENT.

TYPE 4 ALUMINUM MONUMENT

THIS MONUMENT MAY BE INSTALLED IN LIEU OF REPLACING THE ENTIRE MONUMENT WHEN REBAR IS IN PLACE AT AN ALIQUOT CORNER LOCATION. REFER TO THE STATE BOARD RULES. A MINIMUM 2 IN. DIA. CAP SHALL BE USED ON ¾ IN. (#6) REBAR.

TYPE 5 BRASS/ALUMINUM CAP MONUMENT

THIS MONUMENT MAY BE INSTALLED IN LIEU OF ALL OTHER CDOT MONUMENTS, WHEN THE POSITION IS LOCATED IN CONCRETE OR STABLE ROCK FORMATION.

TYPE 5(S) COPPER ALLOY CAP MONUMENT - SMALL

THIS MONUMENT MAY BE INSTALLED IN LIEU OF A TYPE 5 MONUMENT, WHEN THE POSITION IS LOCATED IN A CONCRETE SIDEWALK, CURB OR GUTTER, OR WHEN SETTING A TYPE 5 WOULD COMPROMISE THE INTEGRITY OF THE RECEIVING STRUCTURE.

STAMPING REQUIREMENTS:

- "RP", WHEN THE APPLICATION IS A REFERENCE POINT.
- "ROW", POINT NUMBER, "LS", AND REGISTRATION NUMBER WHEN THE APPLICATION IS A ROW POINT.
- "CP" AND A UNIQUE IDENTIFIER PROVIDED BY THE REGION SURVEY COORDINATOR, WHEN THE APPLICATION IS A CONTROL POINT.
- "PE", POINT NUMBER, "LS", AND REGISTRATION NUMBER, WHEN THE APPLICATION IS A PERMANENT EASEMENT POINT.
- "PP" AND POINT NUMBER, WHEN THE APPLICATION IS A PROJECT POINT.

TYPE 6 ALUMINUM MONUMENT

THIS MONUMENT SHALL BE USED FOR PERMANENT EASEMENTS, PROJECT BENCH MARKS, PROJECT POINTS, AND REFERENCES. AN ALUMINUM CAP WITH A MINIMUM DIAMETER OF 1 ½ IN., SHALL BE USED ON ⅝ IN. (#5) MINIMUM REBAR.

* WITNESS POSTS

THE WITNESS POST WILL BE SUPPLIED BY CDOT AND INSTALLATION SHALL BE INCLUDED IN THE WORK. IT SHALL BE DRIVEN WITHIN 1 FT. OF THE MONUMENT WHEN POSSIBLE. A DELINEATOR POST WITH A 9 IN. X 12 IN. METAL SIGN PANEL MAY BE USED IN LIEU OF THE PLASTIC POST. THIS POST SHALL CONFORM TO STANDARD PLAN S-612-1. A REQUIRED WITNESS POST MAY BE OMITTED WITH THE APPROVAL OF THE ENGINEER IF THE WITNESS POST LOCATION IS WITHIN A TRAVELED WAY, DRIVEWAY, OR ACCESS OPENING.

Computer File Information		Sheet Revisions	
Creation Date: 7/04/12 Initials: DD		Date:	Comments
Last Modification Date: 7/04/12 Initials: LTA	R-X		
Full Path: www.coloradodot.info/business/designsupport	R-X		
Drawing File Name: 629010202.dgn	R-X		
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	R-X		

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SURVEY MONUMENTS

Issued By: Project Development Branch July 4, 2012

STANDARD PLAN NO.
M-629-1
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