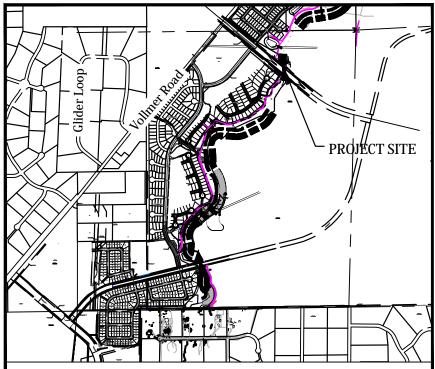
# STERLING RANCH DEVELOPMENT BRIARGATE BOULEVARD BRIDGE DESIGN PLANS

EL PASO COUNTY, COLORADO

Kiowa Project No. 19032 8/4/2021



VICINITY MAP SCALE: N.T.S.

# GENERAL NOTES

- 1. Profile design lines are based on centerline, as shown, unless otherwise noted. All new construction to conform to the specifications of El Paso County Department of Public Works. Any asphalt removed is to be replaced to meet the specifications of the El Paso County Public Works
- For pavement design, curb and gutter, and sidewalks see individual plan and profile sheets. Pavement design to be based on Resistance Value 'R' derived from Hveem tests and are to be approved by the Engineering Division of the El Paso County Planning and Community Development prior to work above
- At intersections, all curb returns will have 20-foot radius unless otherwise noted. All existing utilities have been shown according to the best available information. The contractor is
- responsible for field location and verification prior to beginning work. If it appears that there could be a conflict with any utilities, whether indicated on the plans or not, the contractor is to notify the engineer and owner immediately. The contractor is responsible for the protection and repair (if necessary) of all
- 6. A Pre-Construction meeting shall be held with the El Paso County Planning and Community Development prior to any construction.
- 7. Approved plans, Engineering Criteria Manual, etc. is required to be on-site at all times during
- 8. All necessary permits, such as SWMP, ESQCP, Fugitive Dust, Access, C.O.E. 404, etc. shall be obtained prior to construction.
- 9. All handicap ramps to be per El Paso County Standard SD\_2-40.
- 10. The contractor shall coordinate locations and layout with the El Paso County Planning and Community Development on the placement of any pedestrian ramps prior to construction of the curb.
- 11. Where appropriate, neatly saw cut all existing concrete and asphalt. Repair/replace all disturbed existing items with like materials and thicknesses.
- 12. All disturbed areas shall be revegetated with native grasses within 21 days of excavation per Erosion
- 13. The prepared Erosion/Sediment Control Plan is to be considered a part of these plans and its requirements adhered to during the construction of this project.
- 14. All storm and sanitary sewer pipe lengths and slopes are figured from center of manhole or bend. Pipe lengths are given as a horizontal length.
- 15. All storm sewer bedding to be per CDoT Standards.
- 16. All storm sewer pipe shall be Class III B Wall unless otherwise shown on the storm sewer plan and profile
- 17. All wyes and bends used in construction of storm sewer facilities shall be factory fabricated, unless approved by the El Paso County Planning and Community Development.
- 18. Construction and materials used in all storm and sanitary sewer manholes shall be per specifications.
- Storm sewer radial deflections to be grouted or installed per manufacturer's recommendations.
- 19. Storm sewer manholes sizes as follows unless otherwise shown:
  - 18" thru 36" use 48" I.D. manhole 42" thru 48" use 60" I.D. manhole 54" thru 60" use 72" I.D. manhole
- NOTE: Manhole sizes tabulated here shall be increased, if necessary, to accommodate incoming
- 20. All horizontal stationing is based on the 'Face of Curb', unless otherwise shown.
- 21. All vertical design and top of curb are based on the design point shown in the typical cross section. 22. The curb line design point is located at the intersection of the face and top of curb for the Type III
- Standard 6-inch vertical curb. See typical street section for design point locations. .
- 23. Vertical curb to be used between curb returns (CR) and at curb inlets. Transitions from ramp to vertical curb shall be 10-feet unless otherwise approved by the El Paso County Public Services Department. All other curb & gutter to be ramp curb & gutter.
- 24. Cross pans to be per El Paso County Standard Detail SD\_2-26.
- 25. Curb returns shall be straight graded from CR to CR unless otherwise noted.
- 26. Inlets are Type 'R' inlets (CDOT STD M-604-12) unless otherwise noted.

THE TOP OF AN ALUMINUM SURVEYORS CAP, STAMPED "8953" NORTHING = 411416.273

EASTING = 235167.071

ELEVATION = 7023.42

THE TOP OF RED PLASTIC SURVEYORS CAP, ILLEGIBLE

NORTHING = 410095.404

EASTING = 235052.131ELEVATION = 7000.40

THE TOP OF RED PLASTIC SURVEYORS CAP, STAMPED "38141"

NORTHING = 411399.962

EASTING = 233849.817ELEVATION = 7030.82

# **BASIS OF BEARING**

THE SOUTH LINE OF THE SOUTHWEST QUARTER (SW $^1_4$ ) OF SECTION 34, TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE 6TH P.M. AS MONUMENTED AT THE SOUTHWEST CORNER OF SAID SOUTHWEST QUARTER  $(SW_4)$  BY A 2-1/2" ALUMINUM CAP STAMPED "LS 11624" AND AT THE SOUTHEAST CORNER OF SAID SOUTHWEST QUARTER (SW $\frac{1}{4}$ ) BY A 2-1/2" ALUMINUM CAP STAMPED "LS11624", SAID LINE BEARS N 89°14'14" E, A DISTANCE OF 2,722.56 FEET.



# **STATEMENTS**

# 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.

## Todd Cartwright, P.E. #33365 For and on behalf of Kiowa Engineering Corp.

# Owner/Developer's Statement:

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

# James Morley

El Paso County:

Sterling Ranch Metropolitan District

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, and Engineering Criteria Manual as amended.

Volumes 1 and 2 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.

# Jennifer Irvine, P.E.,

County Engineer / ECM Administrator

# EL PASO COUNTY STANDARD NOTES

- All drainage and roadway construction shall meet the standards and specifications of the City of Colorado Springs/El Paso County Drainage Criteria Manual, Volumes 1 and 2, and the El Paso County Engineering
- Contractor shall be responsible for the notification and field notification of all existing utilities, whether shown on the plans or not, before beginning construction. Location of existing utilities shall be verified by the contractor prior to construction. Call 811 to contact the Utility Notification Center of Colorado
- Contractor shall keep a copy of these approved plans, the Grading and Erosion Control Plan, the Stormwater Management Plan (SWMP), the soils and geotechnical report, and the appropriate design and
- construction standards and specifications at the job site at all times, including the following: a. El Paso County Engineering Criteria Manual (ECM)
- b. City of Colorado Springs/El Paso County Drainage Criteria Manual, Volumes 1 and 2 c. Colorado Department of Transportation (CDOT) Standard Specifications for Road and Bridge Construction
- d. CDOT M & S Standards
- Notwithstanding anything depicted in these plans in words or graphic representation, all design and construction related to roads, storm drainage and erosion control shall conform to the standards and requirements of the most recent version of the relevant adopted El Paso County standards, including the Land Development Code, the Engineering Criteria Manual, the Drainage Criteria Manual, and the Drainage Criteria Manual Volume 2. Any deviations from regulations and standards must be requested, and approved, in writing. Any modifications necessary to meet criteria after-the-fact will be entirely the developer's responsibility to rectify.
- 5. It is the design engineer's responsibility to accurately show existing conditions, both onsite and offsite, on the construction plans. Any modifications necessary due to conflicts, omissions, or changed conditions will be entirely the developer's responsibility to rectify.
- 6. Contractor shall schedule a pre-construction meeting with El Paso County Planning and Community Development (PCD) - Inspections, prior to starting construction.
- 7. It is the contractor's responsibility to understand the requirements of all jurisdictional agencies and to obtain all required permits, including but not limited to El Paso County Erosion and Stormwater Quality Control Permit (ESQCP), Regional Building Floodplain Development Permit, U.S. Army Corps of Engineers-issued 401 and/or 404 permits, and county and state fugitive dust permits.
- 8. Contractor shall not deviate from the plans without first obtaining written approval from the design engineer and PCD. Contractor shall notify the design engineer immediately upon discovery of any errors or inconsistencies.
- 9. All storm drain pipe shall be Class III RCP unless otherwise noted and approved by PCD.
- 10. Contractor shall coordinate geotechnical testing per ECM standards. Pavement design shall be approved by El Paso County PCD prior to placement of curb and gutter and pavement.
- 11. All construction traffic must enter/exit the site at approved construction access points.
- 12. Sight visibility triangles as identified in the plans shall be provided at all intersections. Obstructions greater than 18 inches above flowline are not allowed within sight triangles.
- 13. Signing and striping shall comply with El Paso County Department of Public Works and MUTCD criteria. [If applicable, additional signing and striping notes will be provided.]
- 14. Contractor shall obtain any permits required by El Paso County Department of Public Works, including Work Within the Right-of-Way and Special Transport permits.
- 15. The limits of construction shall remain within the property line unless otherwise noted. The owner/developer shall obtain written permission and easements, where required, from adjoining property owner(s) prior to any off-site disturbance, grading, or construction.

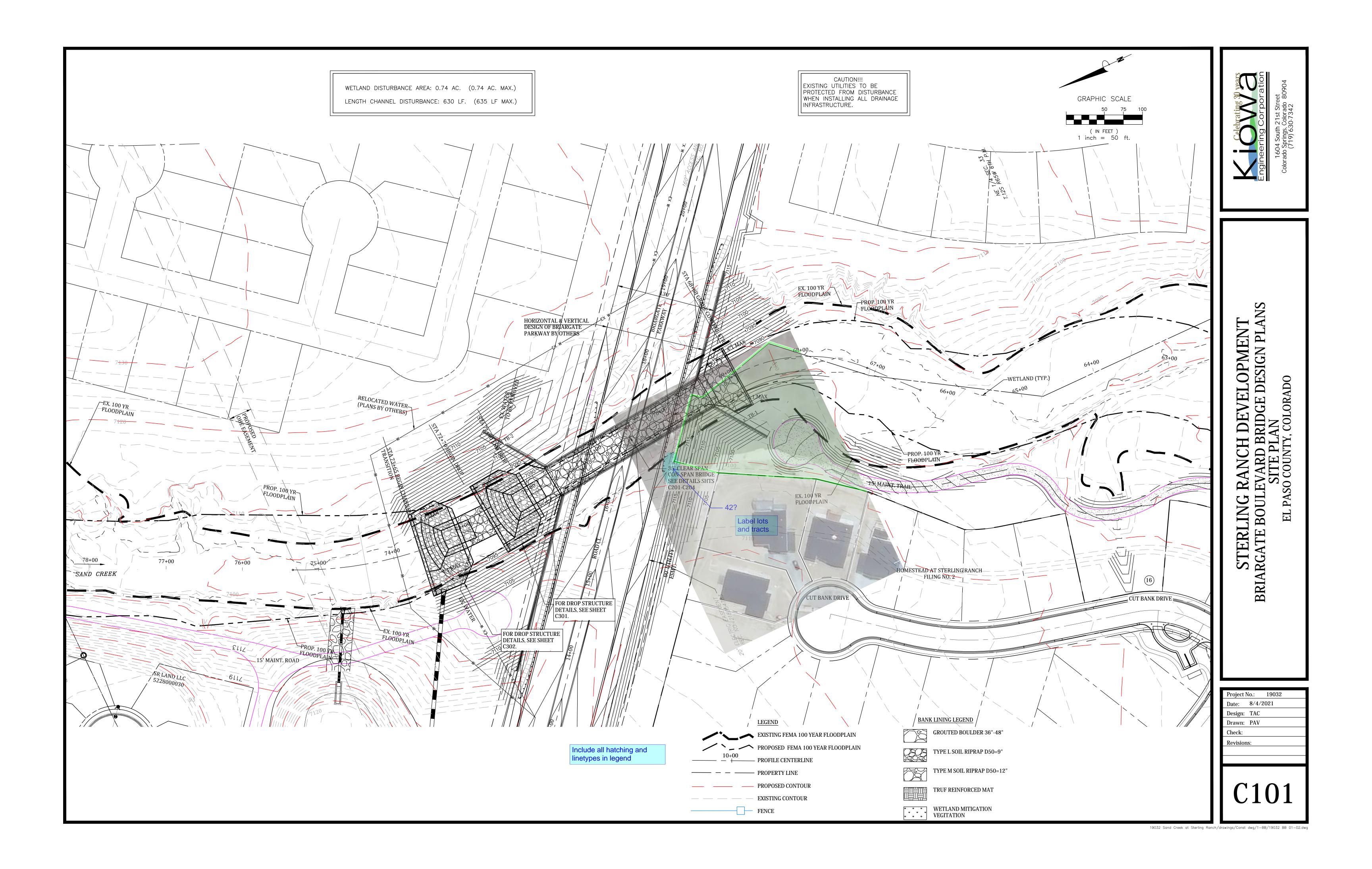
	INDEX OF SHEETS
C001	COVER SHEET
C101	SITE PLAN
C201	BRIARGATE BOULEVARD BRIDGE PLAN & PROFILE
C202	BRIARGATE BOULEVARD BRIDGE STRUCTURE LAYOUT
C203	BRIARGATE BOULEVARD BRIDGE FOOTER DEATAILS
C204	BRIARGATE BOULEVARD BRIDGE GUARDRAIL PLAN
C211	BRIARGATE BOULEVARD BRIDGE DETAILS
C212	BRIARGATE BOULEVARD BRIDGE GUARDRAIL DETAILS
C213	BRIARGATE BOULEVARD BRIDGE HANDRAIL DETAILS
C301	4' DROP STRUCTURE A DETAILS

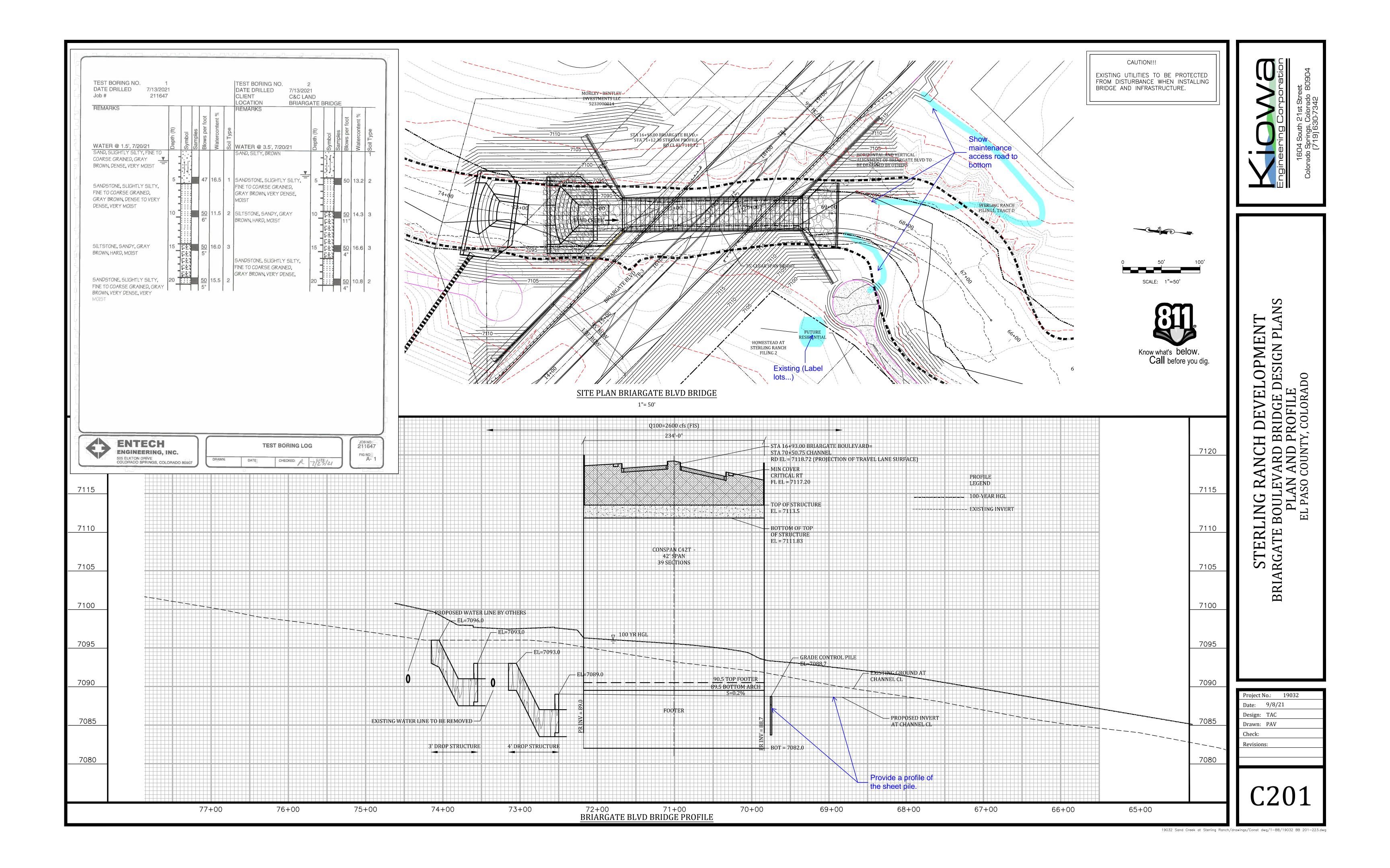
3' DROP STRUCTURE B DETAILS DROP STRUCTURE DETAILS

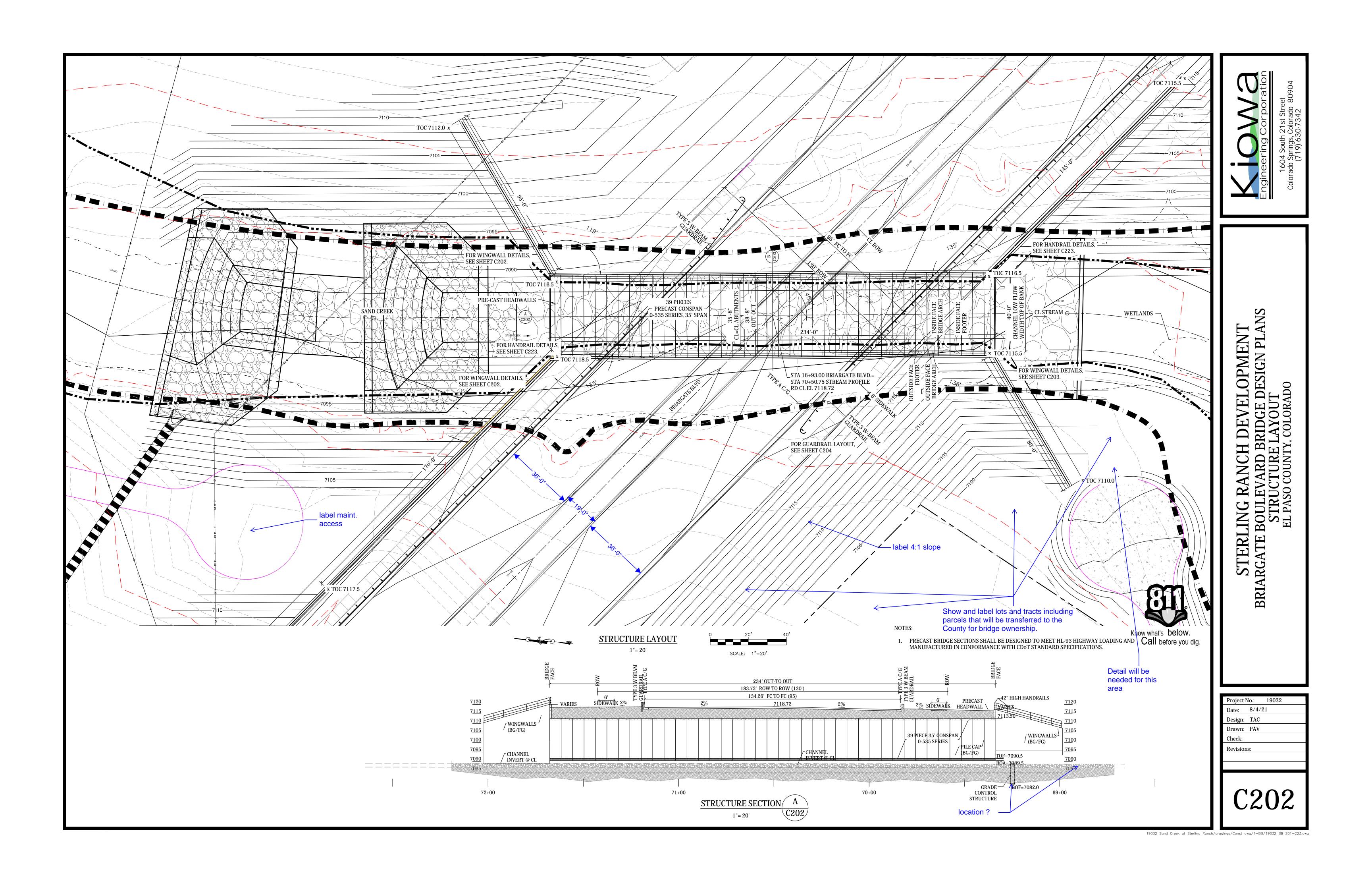
ABBREV	VIATIONS
ASSY = ASSEMBLY BNDY = BOUNDARY	MIN. = MINIMUM NTS = NOT TO SCALE
BOP = BOTTOM OF PIPE CL = CENTERLINE CRA = CONCRETE REVERSE ANCHOR CTRB = CONCRETE THRUST BLOCK CR = POINT OF CURB RETURN DIP = DUCTILE IRON PIPE EL = ELEVATION ESMT = EASEMENT EX. = EXISTING FC = FACE OF CURB FES = FLARED END SECTION FLG = FLANGE FL = FLOWLINE GB = GRADE BREAK HP = HIGH POINT HORIZ = HORIZONTAL	OD = OUTSIDE DIAMETER PC = POINT OF HORIZONTAL CURVATURE PP = PROPOSED PT = POINT OF HORIZONTAL TANGENCY PVC = POLY VINYL CHLORIDE PIPE PVC = POINT OF VERTICAL CURVATURE PVI = POINT OF VERTICAL INTERSECTION PVT = POINT OF VERTICAL TANGENCY RCB = REINFORCED CONCRETE BOX RCP = REINFORCED CONCRETE PIPE ROW = RIGHT OF WAY RT = RIGHT SHT = SHEET SS = SANITARY SEWER STA = STATION STD = STANDARD
HYD = HYDRANT I.D. = INSIDE DIAMETER LT = LEFT	TA = TOP OF ASPHALT TC = TOP OF CURB TOP = TOP OF PIPE
LT = LEFT LF = LINEAR FEET LP = LOW POINT	TOR = TOP OF FIRE TOR = TOP OF ROCK TYP = TYPICAL
MAX = MAXIMUM MH = MANHOLE	VC = VERTICAL CURVE VERT = VERTICAL

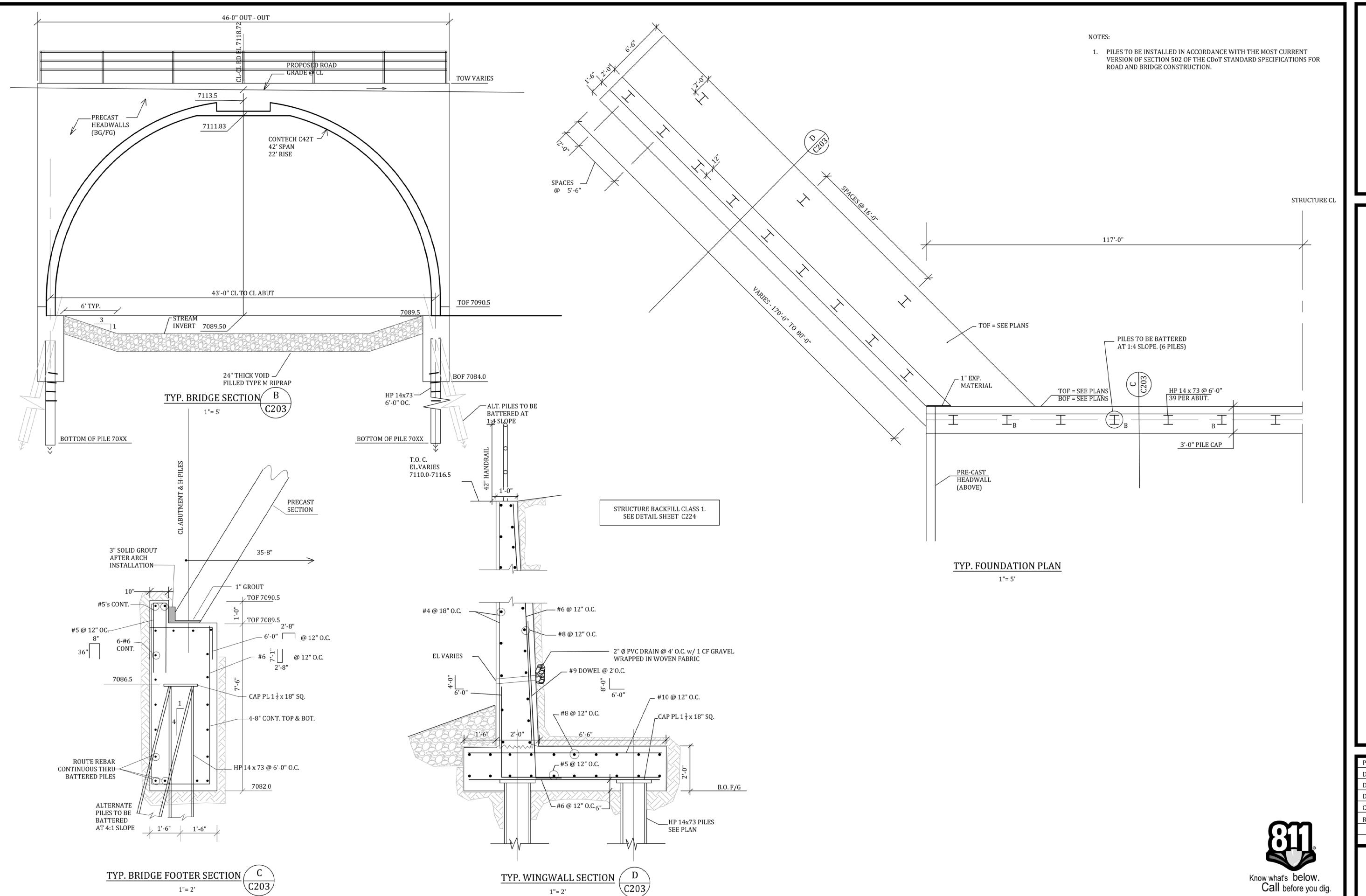
STERLING RABRIARGATE BOULEV

Project No.: 19032 Date: 8/4/2021 Design: TAC Drawn: PAV Check:









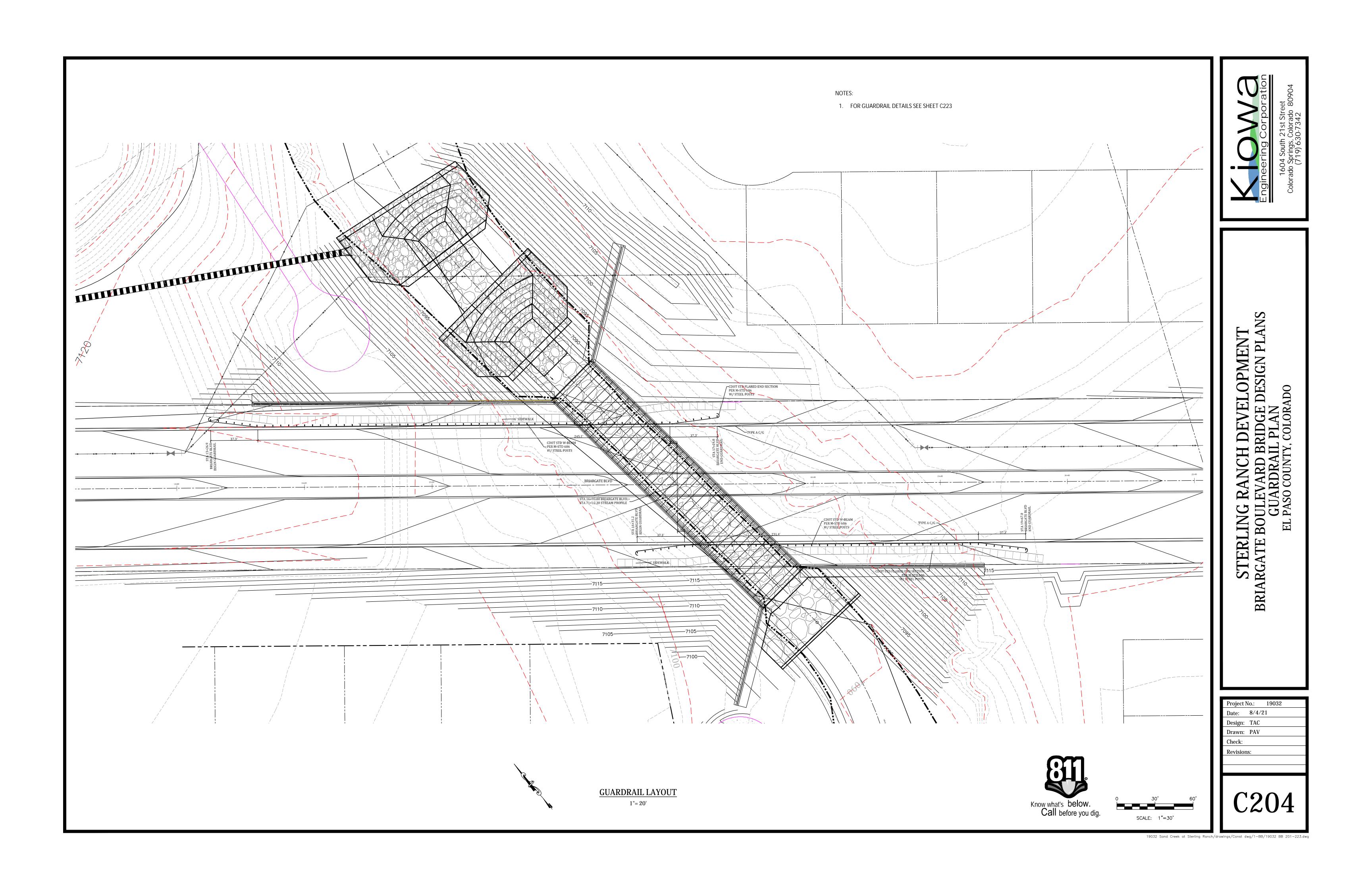
1"= 2'

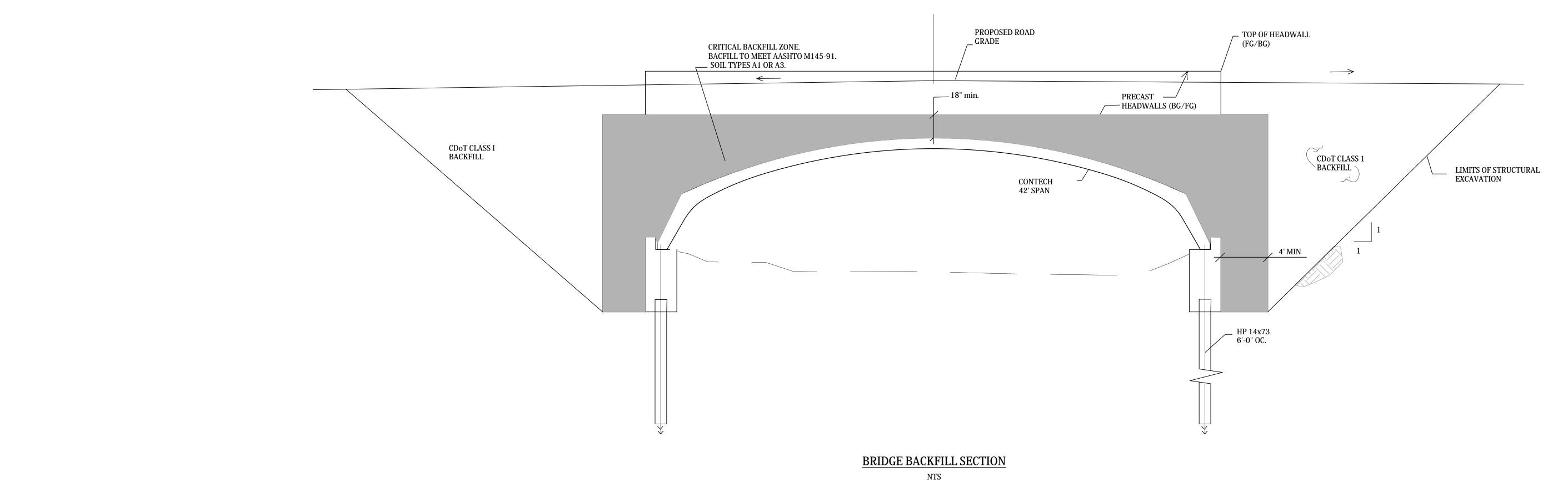
1"= 2'



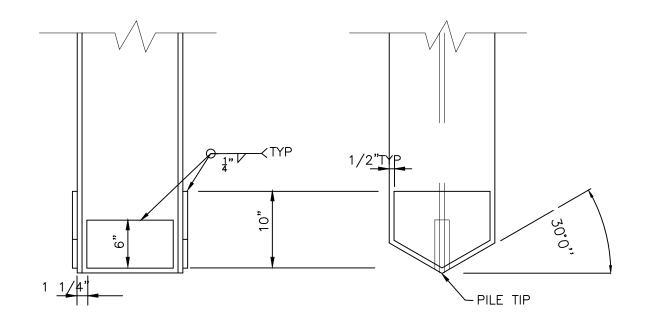
STERLING RAJ BRIARGATE BOULEVA FOOTI

Project No.: 19032 Date: 8/4/21 Design: TAC Drawn: PAV





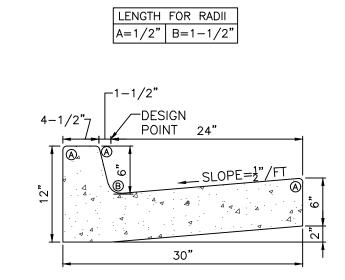
		BAG	CKFILL DESC	RIPTION (AA	ASHTO M 145	-91)		
GROUP CLASSIFICA			۸.2		. 9			Λ 1
	A-1 A-1-a	A-1-b	A-3	A-2-4	A-2 A-2-5	A-2-6	A-2-7	A-4
NO. 200	30 max 15max	50 max 25 max	51 max 10 mac	35 max	35 max	35 max	35 max	35 min
NO. 10 NO.40 NO. 200	50 max 30 max	50 max	51 max	25 may	25 may	25 may	35 may	35 min
CHARACTERISTICS	OF FRACTION I	PASSING						
NO. 40 LIQUID LIMIT				40 max	41 max	11 min	11 min	10 max
			MATERIALS					



PILE TIP DETAIL

NTS

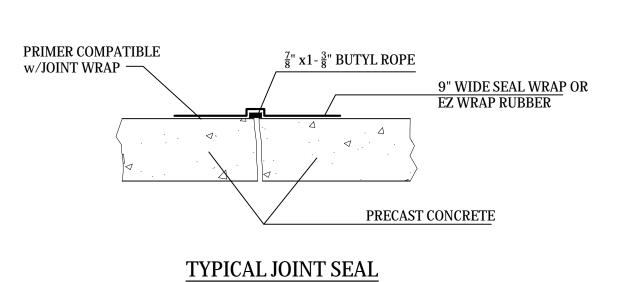
AN APPROVED COMMERCIAL PILE MAY BE USED



EPC TYPE A
VERTICAL CURB AND GUTTER

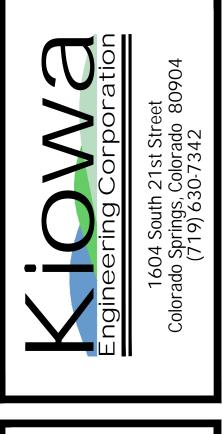
NTS

EPC STD. SD\_2-20



NTS

Know what's below.
Call before you dig.



STERLING RANCH DEVELOPMENT
BRIARGATE BOULEVARD BRIDGE DESIGN PLANS
DETAILS
EL PASO COUNTY, COLORADO

Project No.: 19032

Date: 8/4/21

Design: TAC

Drawn: PAV

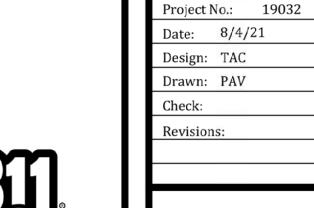
Check:

Revisions:

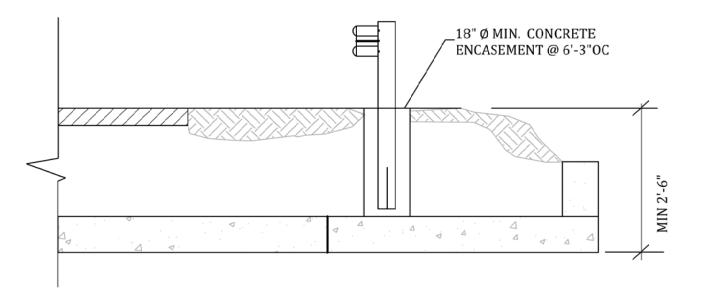
C211



# STERLING RANC BRIARGATE BOULEVARD GUARDRAII EL PASO COUN







VARIES (8'-0")

CDOT STD. W-RAIL w/STEEL POSTS PER CDOT STD. W-RAIL M606

2'-0"

4" THICK HBP

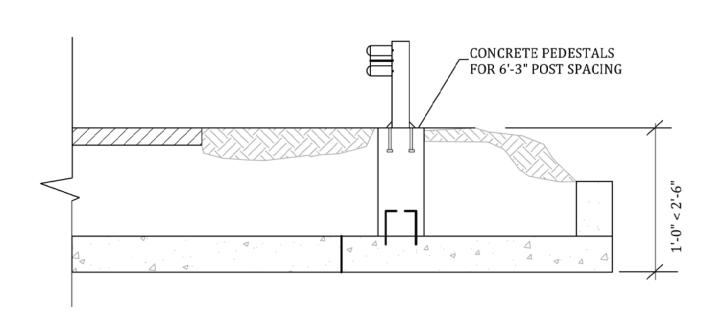
FOR CONNECTION DETAILS OVER PRECAST BRIDGE, SEE SHEET C222.

6'-0"

5" THICK CONCRETE SIDEWALK

TYPICAL GUARDRAIL LAYOUT BRIARGATE BLVD

1"= 2'



**GUARDRAIL MOUNTING DETAILS** NTS

# NOTES:

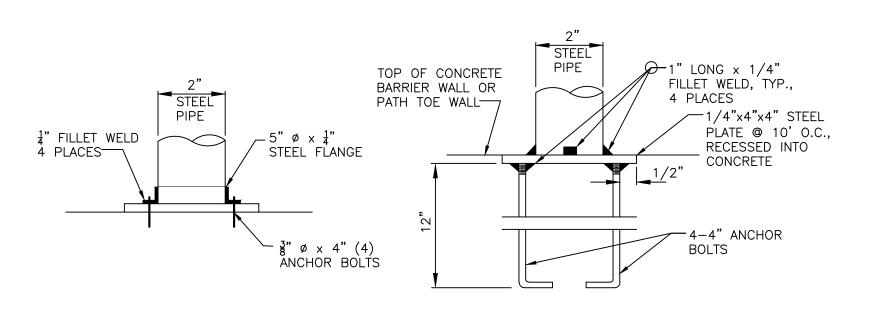
GUARDRAIL POST SPACING OVER THE PRECAST SECTIONS SHALL BE IN CONFORMANCE WITH CDoT M-606.



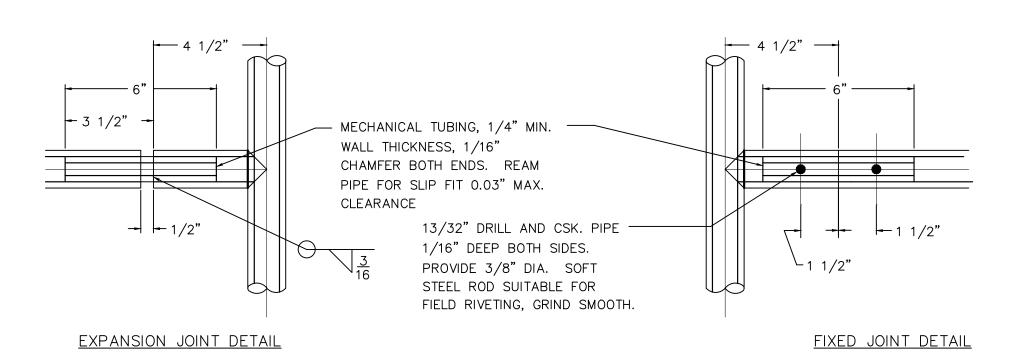
FOR HIGH HANDRAIL DETAILS, SEE SHEET C223

VARIES

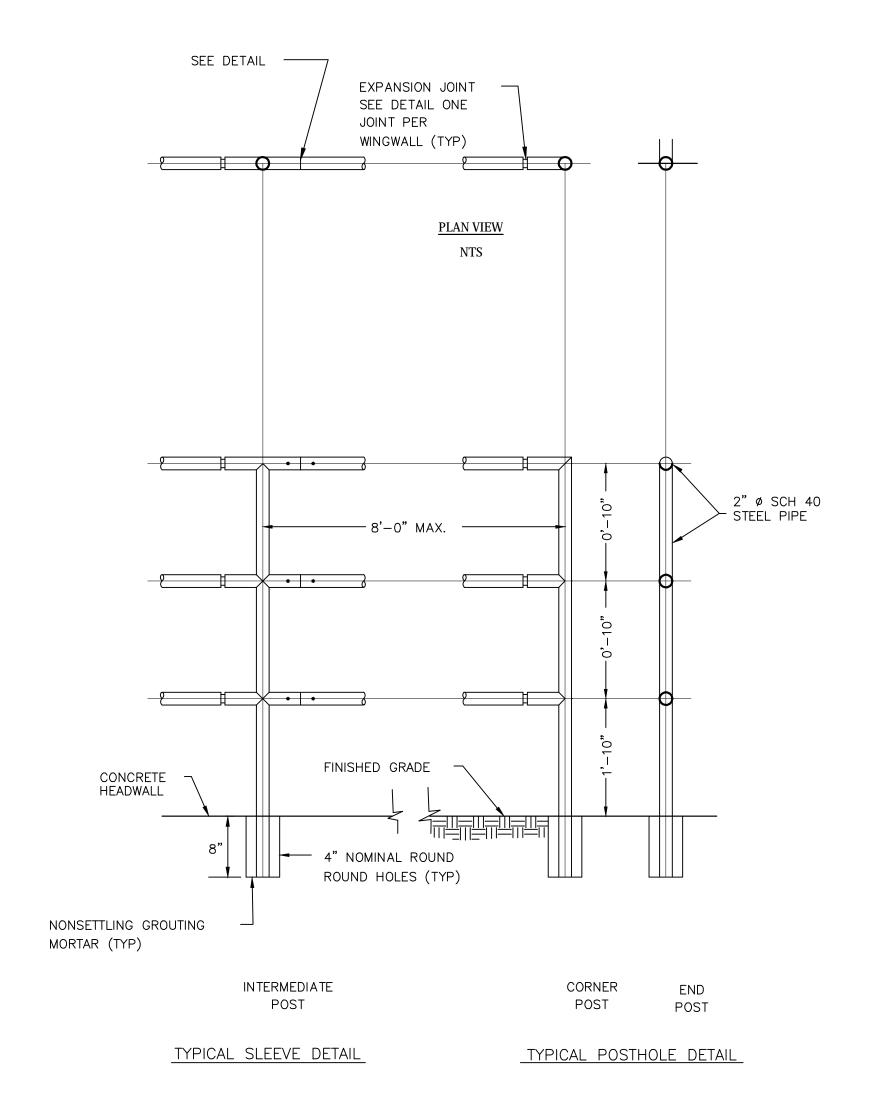
PRECAST HEADWALL w/ 42" HIGH HANDRAIL



# ALTERNATE HANDRAIL POST CONNECTION DETAIL NTS



HANDRAIL DETAIL



**ELEVATION** 

NTS

HANDRAIL PAINT NOTE:

HANDRAIL FINISH SHALL BE ONE COAT METAL PRIMER AND TWO COATS SHERWIN WILLIAMS "BRIDGE GREEN" COLOR, ACROLON 218 HS ACRYLIC POLYURETHANE, SEMI-GLOSS. COLOR SHALL BE VERIFIED BY THE ENGINEER.

BRIDGE GREEN CUSTOM MANUAL MATCH

844 COLORANT OZ 32 64 128
LB-LAMP BLACK 2 16 - PG-PHTH GREEN 10 - - TW-WHITE 2 46 - YO-YELLOW OX - 50 - PB-PHTH - 50 - 4 GALLON KIT ULTRADEEP
B65T00654 640335618



# STERLING RANCH DEVELOPMEN BRIARGATE BOULEVARD BRIDGE DESIGN PL HANDRAIL DETAILS EL PASO COUNTY, COLORADO

Project No.: 19032

Date: 8/4/21

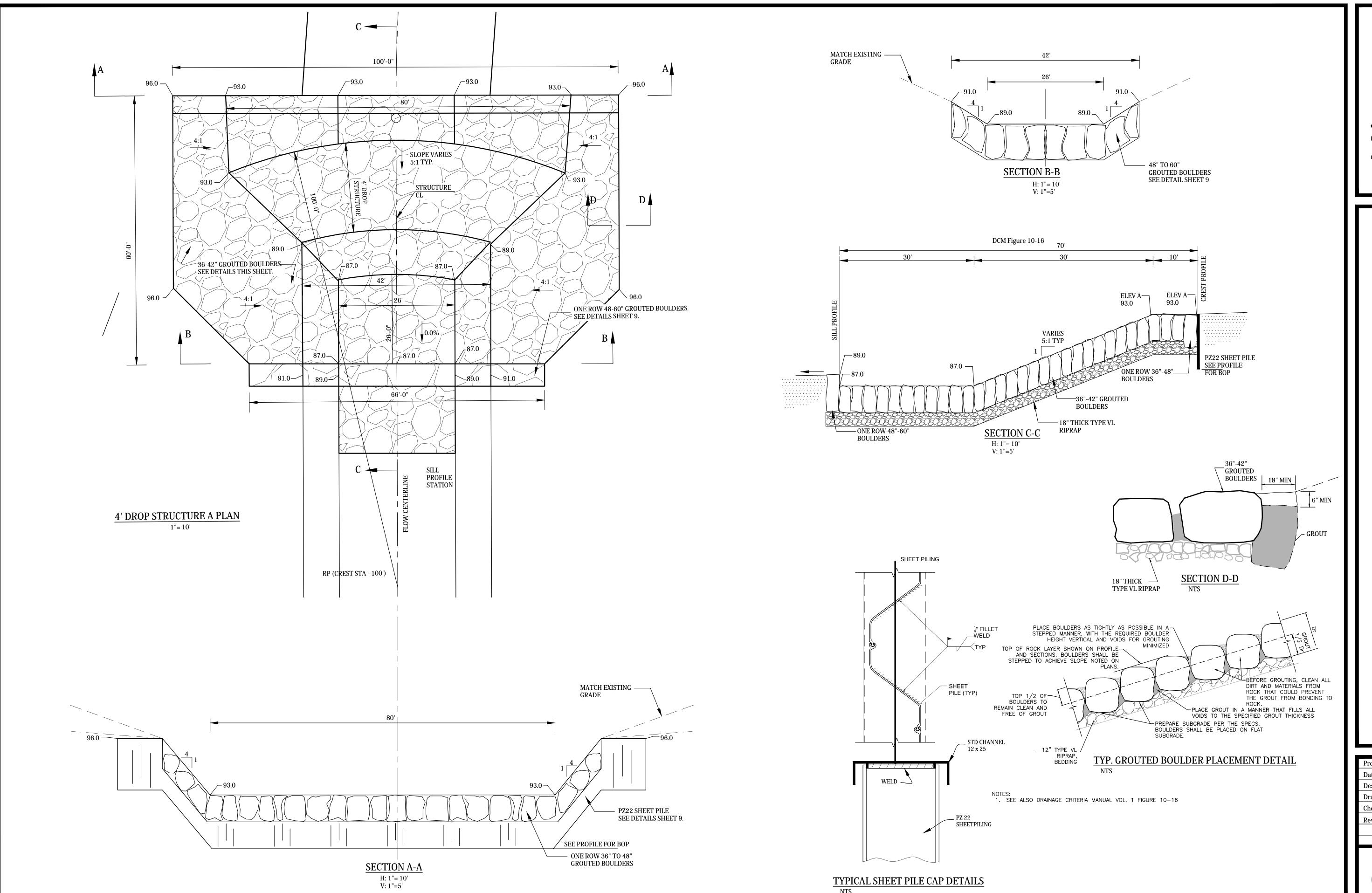
Design: TAC

Drawn: PAV

Check:

Revisions:

C213



Engineering Corporation
1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342

STERLING RANCH DEVELOPMENT
BRIARGATE BOULEVARD BRIDGE DESIGN PLANS
4' DROP STRUCTURE A DETAILS
EL PASO COUNTY, COLORADO

Project No.: 19032

Date: 8/4/21

Design: TAC

Drawn: PAV

Check:

Revisions:

C301

19032 Sand Creek at Sterling Ranch/drawings/Const dwg/19032 10-13.dwg

H: 1"= 10' V: 1"=5'



STERLING RANCH DEVELOPMENT
BRIARGATE BOULEVARD BRIDGE DESIGN PLANS
3' DROP STRUCTURE B DETAILS
EL PASO COUNTY, COLORADO

Project No.: 19032

Date: 8/4/21

Design: TAC

Drawn: PAV

Check:

Revisions:

C302

19032 Sand Creek at Sterling Ranch/drawings/Const dwg/19032 10-13.dwg



# STERLING RANCH DEVELOPMENT BRIARGATE BOULEVARD BRIDGE DESIGN PLANS DROP STRUCTURE DETAILS EL PASO COUNTY, COLORADO

Project No.: 19032			
Date:	8/4/2	21	
Design:	TAC		
Drawn:	PAV	·	
Check:		·	
Revision	ıs:		

C303

19032 Sand Creek at Sterling Ranch/drawings/Const dwg/19032 10-13.dwg

TYPE M SOIL RIPRAP

SECTION C-C

H: 1"=5'
V: 1"=5'

label grade control sheet pile

