

INDEX OF SHEETS	
No.	DESCRIPTION
<b>A Sheets</b>	<b>Title Sheets</b>
A.1	Title Sheet
A.2	Location Map Sheet
<b>B Sheets</b>	<b>Typical Cross Sections and Details</b>
B.1 - 3	Typical Cross Sections and Details
<b>D Sheets</b>	<b>Mainline Plan and Profile Sheets</b>
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2	US Highway 59
<b>G Sheets</b>	<b>Survey Sheets</b>
G.1 - 3	Reference Ties and Bench Marks
G.4	Horizontal Control Tab. & Super for all Alignments
<b>J Sheets</b>	<b>Traffic Control and Staging Sheets</b>
J.1	Traffic Control Plan and Staging Notes
<b>V Sheets</b>	<b>Culvert Situation Plans</b>
V.1	Situation Plan
V.2	Situation Plan - Site
<b>W Sheets</b>	<b>Mainline Cross Sections</b>
W.1	Cross Sections Legend & Symbol Information Sheet
W.2 - 5	US Highway 59
	* Color Plan Sheets



PLANS OF PROPOSED IMPROVEMENT ON THE  
**PRIMARY ROAD SYSTEM**  
**CRAWFORD COUNTY**  
**BRIDGE REPLACEMENT - OTHER**  
 US 59 OVER COON CREEK  
 2.1 MILES SOUTH OF US 30

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

Value Engineering Saves. Refer to Article 1105.14 of the Specifications.



MILEAGE SUMMARY			
Div.	Location	Lin. Ft.	Miles
	US Highway 59 Sta. 419+60.00 to Sta. 423+15.00	355.00	0.0672
	Total Length of Roadway	355.00	0.0672
	Total Length of Project	355.00	0.0672

For Project Location Map  
Refer to Sheet No. A.2

EARTHWORK SUMMARY		
Cut	2900	CY
Fill +30%	2980	CY
Borrow	60	CY

DESIGN DATA RURAL			
2024	AADT	4,200	V.P.D.
2044	AADT	4,500	V.P.D.
20--	DHV	--	V.P.H.
	TRUCKS	18	%
	Total Design ESALs	--	

INDEX OF SEALS		
SHEET NO.	NAME	TYPE
A.1	X	Primary Signature Block
V.1	DALLAS R. SCHECHINGER	Hydraulic Design

ROADWAY DESIGN	
	I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.
	<b>D5 PLAN - Date: 10-15-2021</b>
Signature	Date
Printed or Typed Name	My license renewal date is December 31, 20XX
Pages or sheets covered by this seal: X	

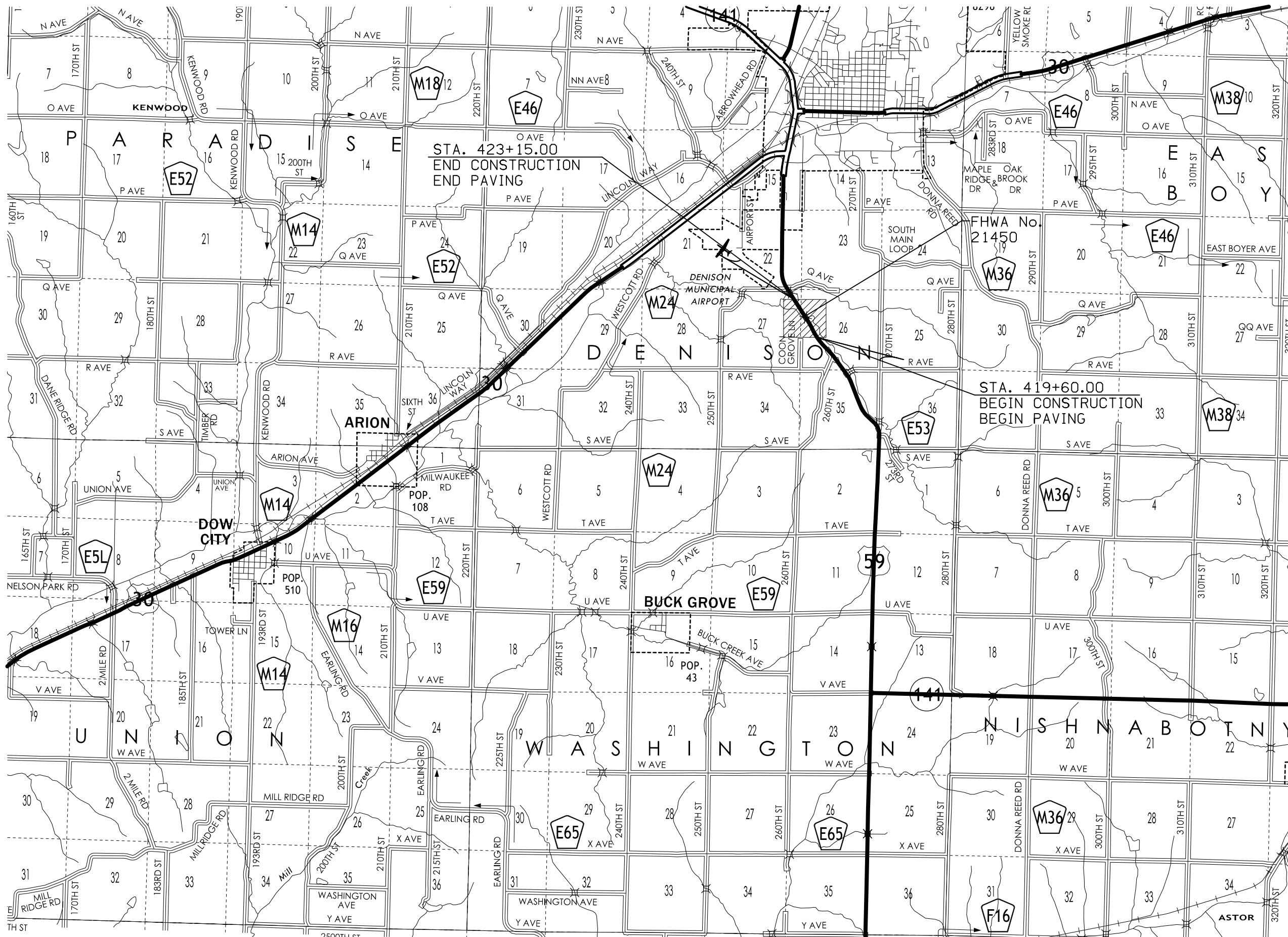
REVISIONS

TOTAL
19
PROJECT IDENTIFICATION NUMBER
19-24-059-010
PROJECT NUMBER
BRFN-059-5(58)--39-24
R.O.W. PROJECT NUMBER

R-40W

R-39W

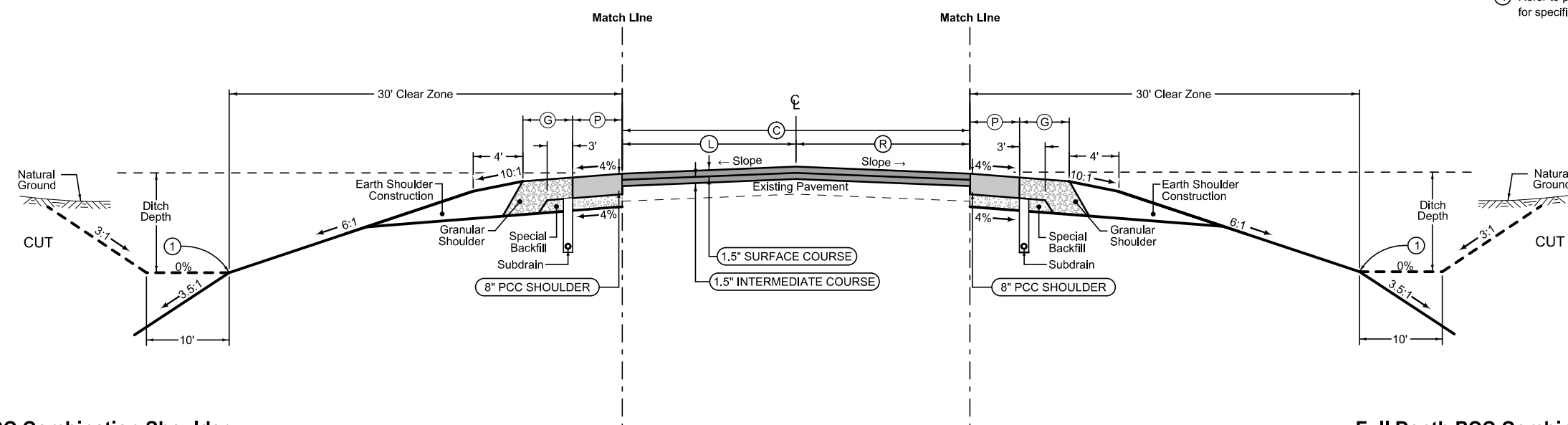
R-38W



T-83N

T-82N

① Refer to project plan and cross sections for specific location of foreslope change.



Normal section shown may be modified appropriately in areas of superelevated curves or other locations specifically designated by the Engineer.

See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.

**Full Depth PCC Combination Shoulder**

Shoulder Jointing:  
 Longitudinal joint: BT-2, L-2 or KT-2  
 Transverse joints: C at 17' spacing

2_C_FullPCC_04-20-21			
STATION TO STATION		(P) Feet	(G) Feet
419+60.00	419+75.00	VARIABLES	VARIABLES
419+75.00	423+00.00	4.0	6.0
423+00.00	423+15.00	VARIABLES	VARIABLES

3R_Overlay_04-19-11				
STATION TO STATION		(C) Feet	(L) Feet	(R) Feet
419+60.00	423+15.00	24.0	12.0	12.0

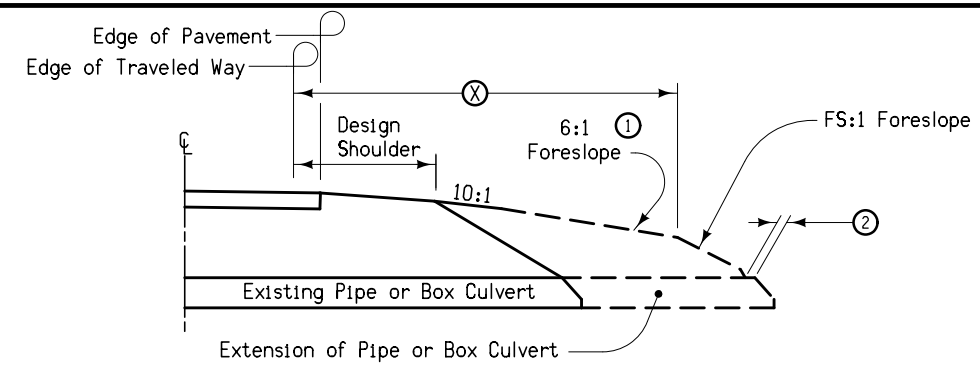
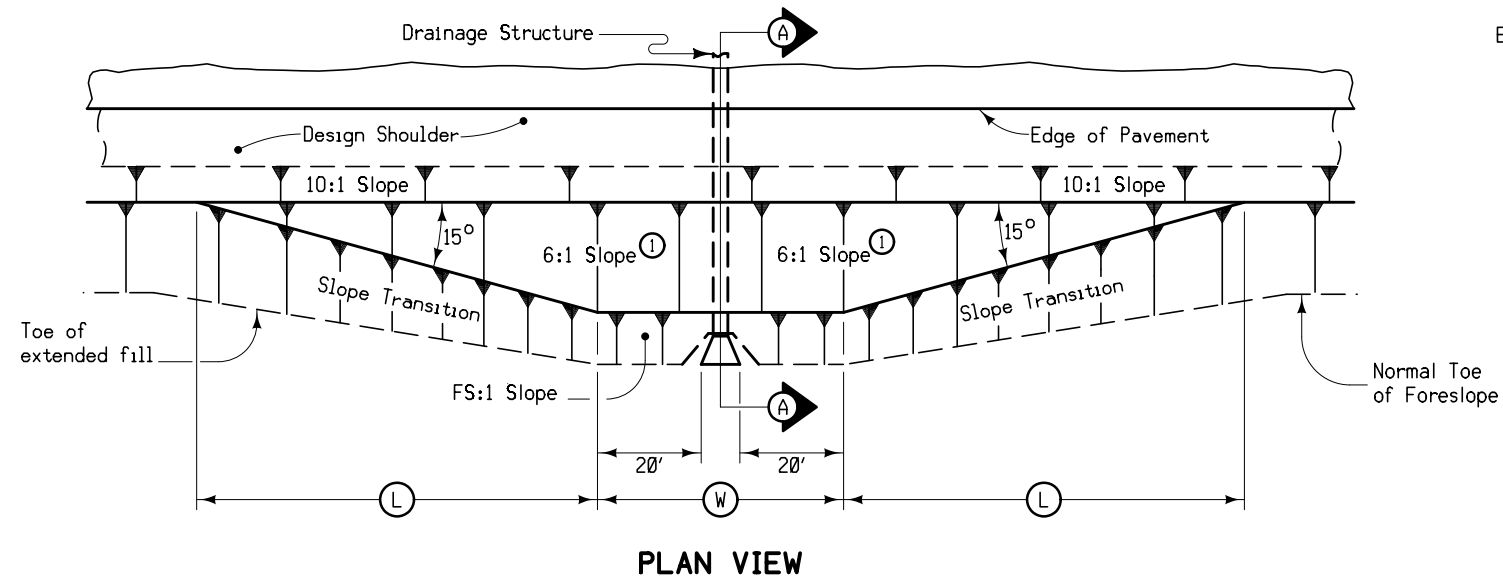
**Full Depth PCC Combination Shoulder**

Shoulder Jointing:  
 Longitudinal joint: BT-2, L-2 or KT-2  
 Transverse joints: C at 17' spacing

2_C_FullPCC_04-20-21			
STATION TO STATION		(P) Feet	(G) Feet
419+60.00	419+75.00	VARIABLES	VARIABLES
419+75.00	423+00.00	4.0	6.0
423+00.00	423+15.00	VARIABLES	VARIABLES

Refer to Tab. 100-24 for Pavement Quantities  
 Refer to Tab. 112-9 for Shoulder Quantities

**TYPICAL CROSS SECTION  
 US HIGHWAY 59**



STRUCTURE LOCATION		W	L	X	FS
STATION	SIDE	Feet	Feet	Feet	
421+36.00	RT	90	60	30	3.5:1
421+36.00	LT	90	60	30	3.5:1

Notes:

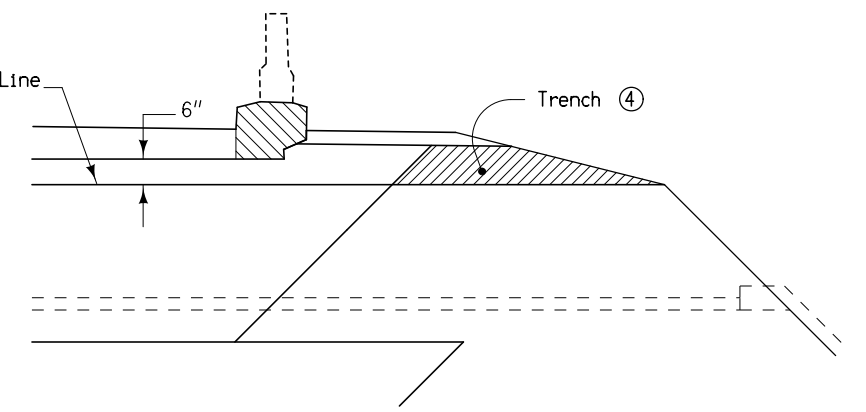
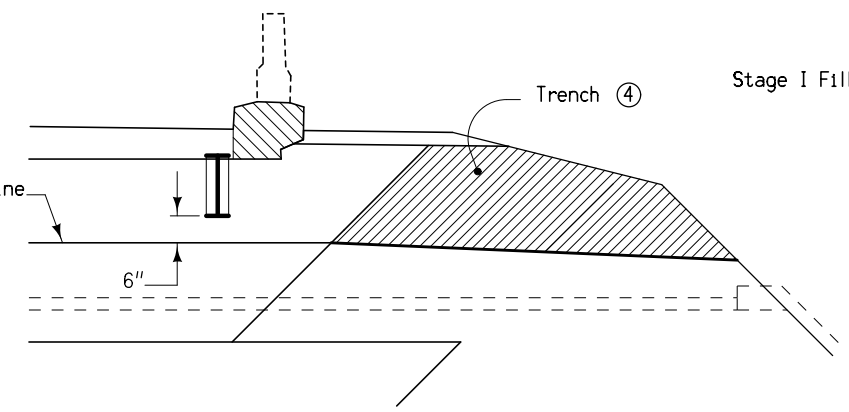
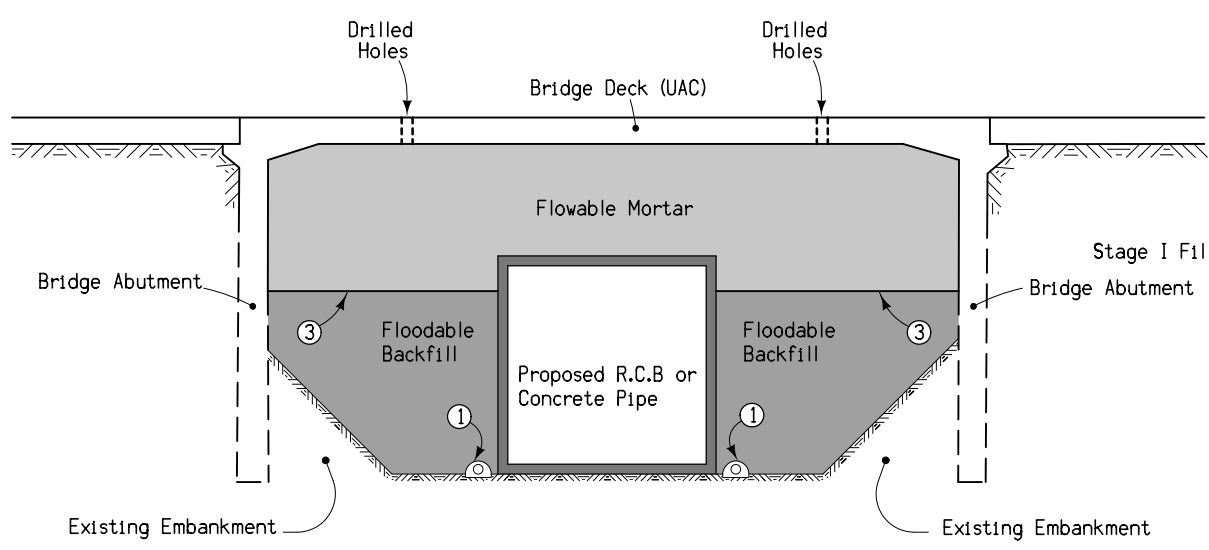
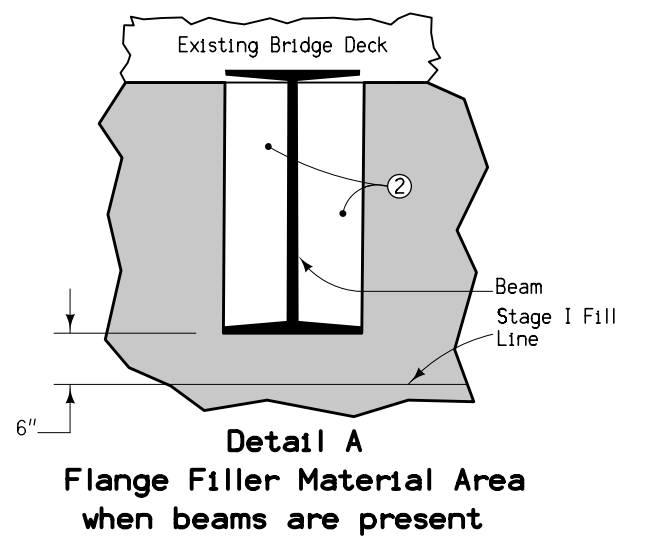
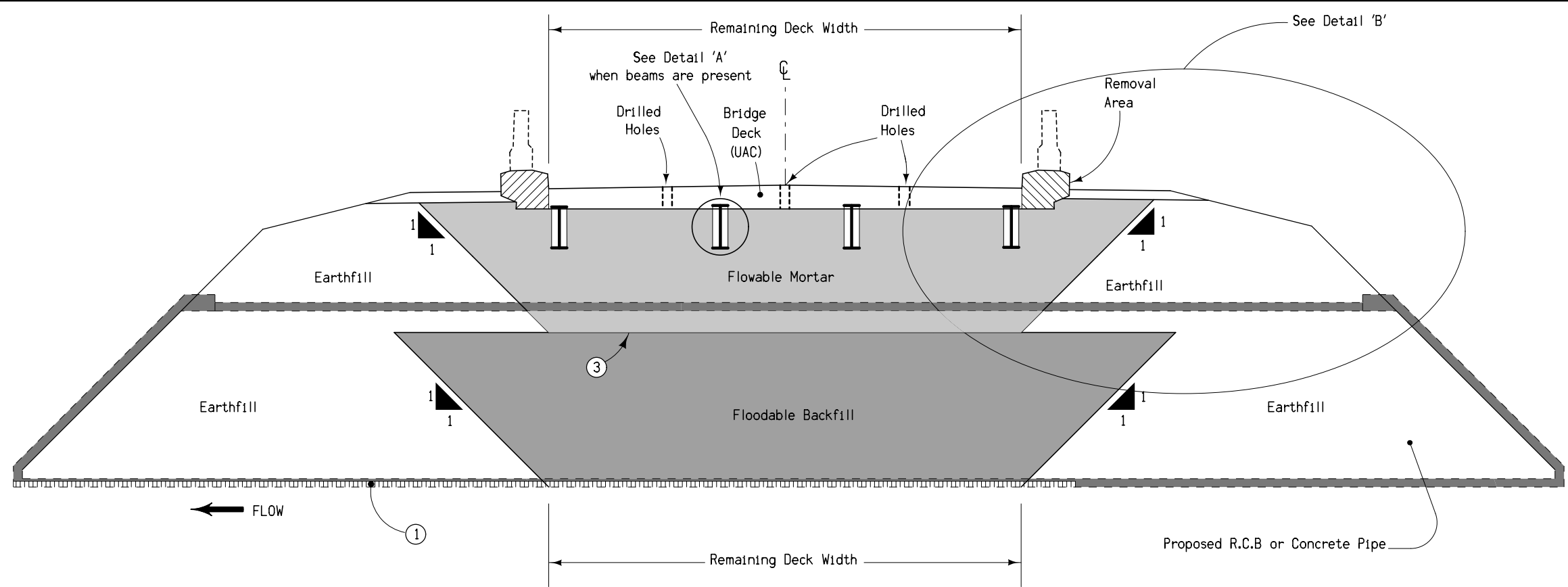
At locations where an extended or newly constructed drainage structure extends beyond the normal foreslope cover, flatten the foreslope as indicated so as to cover the structure. Minimum earth cover is 6".

① Slope may be flatter than 6:1.

② 6" Minimum for pipe installations or to top of headwall on R.C.B.

W = Pipe or R.C.B. opening width plus 20 feet each side.

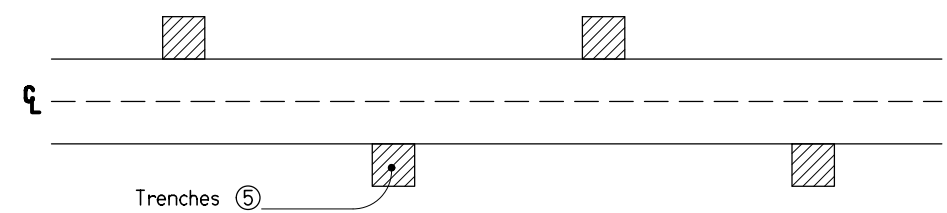
**BARNROOF FORESLOPE  
AT DRAINAGE STRUCTURE**



Section along Centerline

Detail B (Beam Bridge)

Detail B (Slab Bridge)



Trench Layout

Denotes pay limits for flowable mortar  
Denotes pay limits for flooded backfill

- ① 4" Subdrain at flowline elevation of culvert with 4" cover of porous backfill.
- ② Place Flange Filler Material to fill pocket area between flanges to prevent flowable mortar from building up. Flange Filler Material is incidental to flowable mortar.
- ③ Fill void with the maximum amount of Floodable Backfill possible. Distance from Floodable Backfill to bridge beams (when present) or bridge deck shall not exceed 5'.
- ④ Cut trenches in the soil plug to provide drainage for the flowable mortar. Backfill the trenches with open graded crushed stone, gravel, or recycled PCC to allow water to drain. Backfill material is incidental to flowable mortar.
- ⑤ Place trenches at 20' spacing with a minimum of two trenches on each side of the roadway.

**FILL FOR CULVERT USED IN BRIDGE REPLACEMENTS**

### SURVEY SYMBOLS

	Interstate Highway Symbol		Cistern
	U.S. Highway Symbol		L.P. Gas Tank (No Footing)
	Iowa Highway Symbol		Underground Storage Tank
	County Road Highway Symbol		Latrine
	Evergreen Tree		Luminaire
	Deciduous Tree		Traffic Signal
	Fruit Tree		Traffic Signal with Luminaire
	Shrub (Bushes)		Telephone Pedestal
	Timber		Television Pedestal
	Hedge		Telephone Pole
	Stump		Telephone Pole (Second Company)
	Swamp		Telephone Pole (Third Company)
	Rock Outcrop		Telephone Pole (Fourth Company)
	Broken Concrete		Telephone Pole (Fifth Company)
	Revetment (Rip Rap)		Power Pole
	Cemetery		Power Pole (Second Company)
	Grave		Power Pole (Third Company)
	Cave		Power Pole (Fourth Company)
	Sink Hole		Power Pole (Fifth Company)
	Board Fence		Electrical Highline Tower (Metal or Concrete)
	Chain Link or Security Fence		Telephone Riser Pole
	Wire Fence		Power Riser Pole
	Terrace		Telegraph Pole
	Earth Dam or Dike (Existing)		Satellite TV Dish
	Earth Dam or Dike (Proposed)		Water Hook Up
	Tile Outlet		Radio Tower
	Edge of Water		Tower Anchor
	Existing Drainage		Guardrail (Beam or Cable)
	Proposed Drainage		Guard Post (one or two)
	Right of Way Rail or Lot Corner		Guard Post (over two)
	Concrete Monument		Gas Valve
	Well		Water Valve
	Windmill		Speed Limit Sign
	Beehive Intake		Mile Marker Post
	Existing Intake		Sign
	Proposed Intake		Traffic Signal Control Box
	Existing Utility Access (Manhole)		Rail Road Signal Control Box
	Proposed Utility Access (Manhole)		Telephone Switch Box
	Fire Hydrant		Electric Box
	Water Hydrant (Rural)		

### UTILITY LEGEND

	TI	Fronteir Communications
	FO	Centurylink

### PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK		Design Color No.	
Green	(2)		Existing Topographic Features and Labels
Blue	(1)		Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Magenta	(5)		Existing Utilities
SHADING		Design Color No.	
Yellow	(4)		Highlight for Critical Notes or Features
Red	(3)		Delineates Restricted Areas
Lavender	(9)		Temporary Pavement Shading
Gray, Light	(48)		Proposed Pavement Shading
Gray, Med	(80)		Proposed Granular Shading
Gray, Dark	(112)		Proposed Grade and Pave Shading "In conjunction with a paving project"
Brown, Light	(236)		Grading Shading
Tan	(8)		Proposed Sidewalk Shading
Blue, Light	(230)		Proposed Sidewalk Landing Shading
Pink	(11)		Proposed Sidewalk Ramp Shading

### PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK		Design Color No.	
Green	(2)		Existing Ground Line Profile
Blue	(1)		Proposed Profile and Annotation
Magenta	(5)		Existing Utilities
Blue, Light	(230)		Proposed Ditch Grades, Left
Black	(0)		Proposed Ditch Grades, Median
Rust	(14)		Proposed Ditch Grades, Right

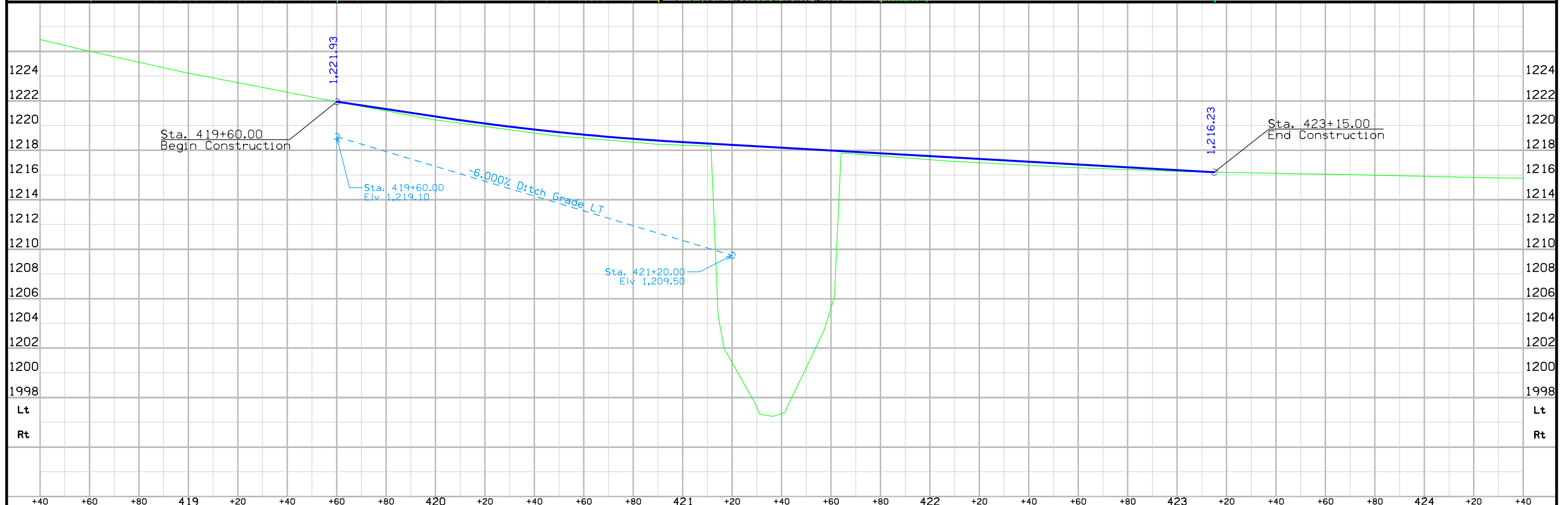
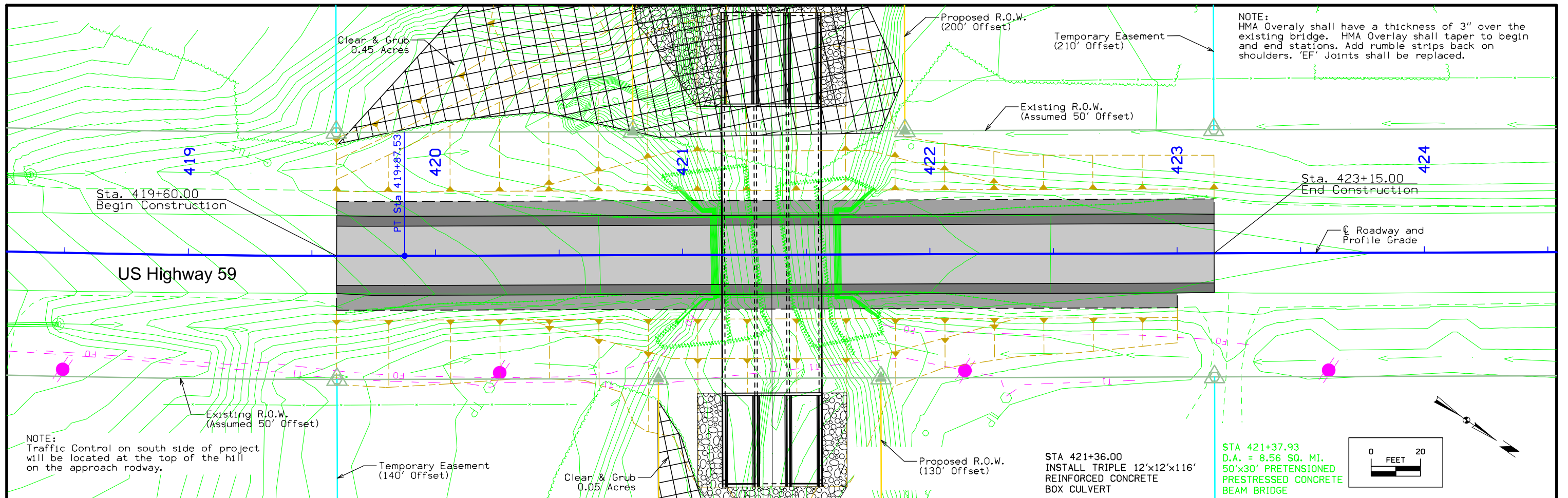
Reference Point	
	Station
	Survey Line
	Section Corner
	Ground Line Intercept
	Saw Cut
	Guardrail
	Trench Drain
	HighTension Cable Guardrail
	Sheet Pile
	Pavement Removal
	Clearing & Grubbing Area

RIGHT-OF-WAY LEGEND	
	Proposed Right-of-Way
	Existing Right of Way
	Existing and Proposed Right-of-Way
	Easement and Existing Right-of-Way
	Easement (Temporary)
	Easement
	C/A Access Control
	Property Line

## PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES D, E, F, & K)





## Survey Information

**County: Crawford**  
**PIN: 19-24-059-010**  
**Project Number: BRFN-059-5(58)--39-24**  
**Location: Drainage Ditch 2.1 mi S of US 30**  
**Type of Work: Bridge-Unspecified**  
**Project Directory: 2405901019**  
**SAP 627.2**

### Survey Personnel

#### Field personnel:

Jason Arn – Survey Party Chief  
Clayton Henningsen - Survey Party Chief  
Paul Harry - Assistant Survey Party Chief

#### Office personnel:

Norman Miller- Survey Manager

### Date(s) of Survey

Begin Date 03/31/2020  
End Date 05/14/2020

### General Information

Measurement units for this survey are US survey feet. This project involves a bridge over a drainage ditch 2.1 miles S of us 30. Type of work is unspecified. Project datum and control information is provided by Design Survey Office. This is a full field survey. The survey request was made for the purpose of developing a concept. It may be necessary to gather more data for roadway design at a later stage of development.

### Vertical Control

Vertical datum for this survey is NAVD88 (Computed using Geoid12b). GRS80 Ellipsoidal Height was computed at project Pts. DENIPORT, 2459005, and 2459006 by doing concurrent 6 hour static observations. The project control is relative to nearby Iowa RTN Base Stations. A previous survey near this site used project control points DENIPORT and 2459005. This project established 2459006. The nearby Iowa RTN reference station was held for both surveys. The RTN network was readjusted between the date of the previous survey and this survey changing the height of the reference station and the project control by 0.07' up.

The previous survey observed two NGS GSVS second order vertical control marks:

NGS 2nd. order class I mark designated GSVS002 has a published Elev. Of 1183.75 ft. Previous Survey Elev. = 1183.685 ft. This survey elev. applying the 0.07' height adjustment = 1183.75.

NGS 2nd. order class I mark designated GSVS003 has a published Elev. Of 1197.00 ft. Previous Survey Elev. = 1196.948 ft. This survey elev. applying the 0.07' height adjustment = 1197.02. This indicates that the RTN reference stations in the area and this project control are more in harmony with the leveling done by NGS for the 2014 gravity study than before the adjustment.

### Horizontal Control

Horizontal Control was established on 3 monuments on the project designated as points DENIPORT, 2459005, and 2459006. These monuments are stable and are expected to hold vertical reasonably well. The horizontal datum is NAD83(2011) (EPOCH 2010.00). Datum was transferred from the Iowa RTN reference station at Denison to the projects monuments mentioned above by using concurrent 6 hour static measurements and post processing connecting vectors. Iowa Regional Coordinate System Zone 6 is used. The Zone 6 coordinates used at the Denison reference station are: N= 7236897.899, E= 16597218.892. For horizontal validation the survey North and East coordinate of DENIPORT is within 0.1' of the NGS datasheet position and the survey North and East coordinate of GSVS002 from the previous survey (SAP 627.1) is within 0.05' of the NGS datasheet position. The adjusted difference in the RTN reference station at Denison between surveys in N and E is insignificant.

### Survey Alignment Information

The horizontal alignment for this survey is a retrace of As-built Plans No. P-508. Survey stationing was equated to the plan PT at Sta. 411+34.6 and run back and ahead without equation throughout the survey.

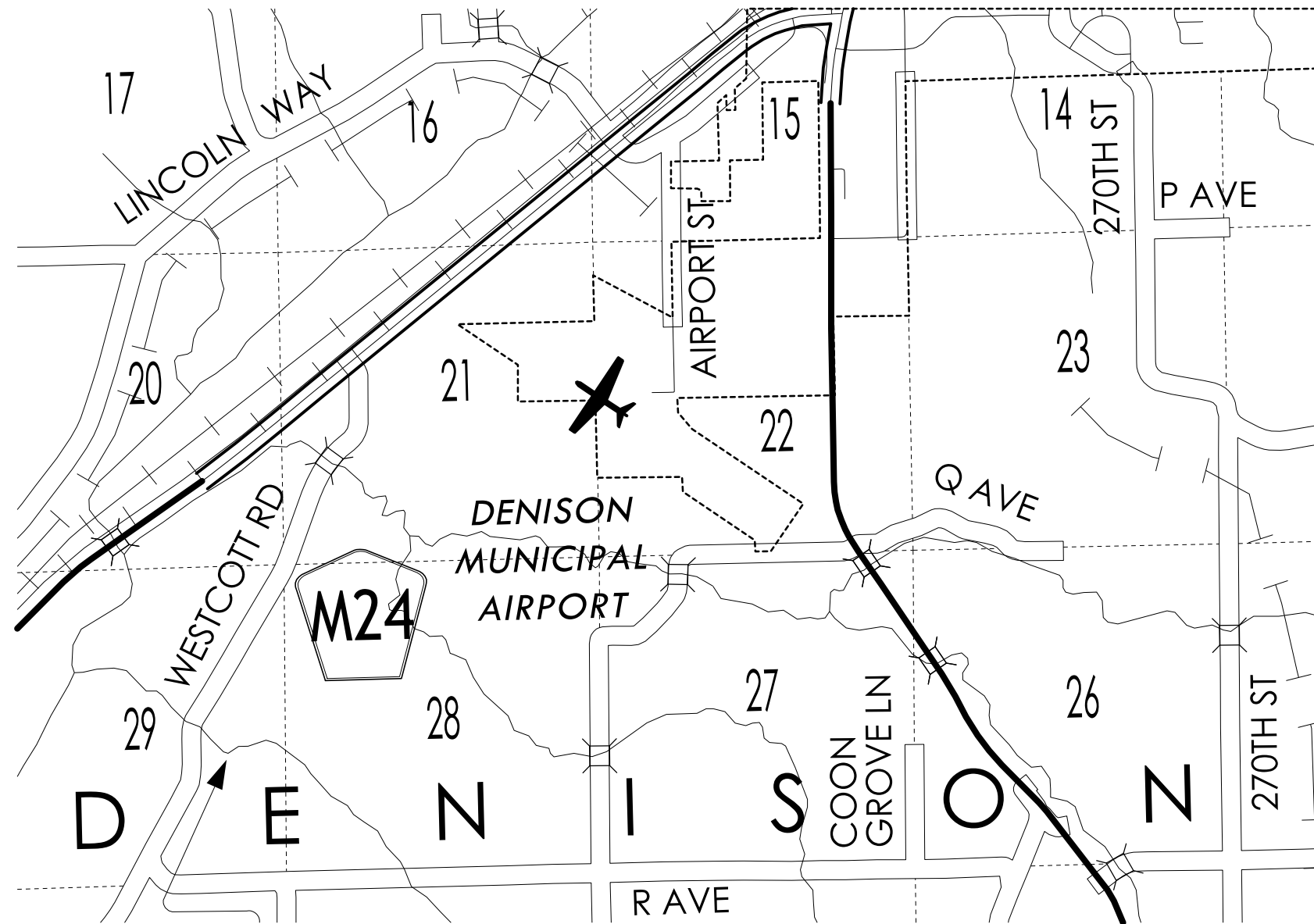
Survey stationing relates to as built plan stationing as follows:

PT Sta. 411+34.6 As-built Plans Project No. P-508  
Survey PT Sta. 411+34.6



### CONTROL POINT VICINITY MAP

This map is a guide to the vicinity of the primary project control points  
 Primary control is for use with RTK base stations and for RTN validation.  
 Future surveys will use primary project control to establish temporary control as needed for construction or other surveying applications.



HORIZ. DATUM: NAD83(2011) EPOCH 2010.00

VERT. DATUM: NAVD88

1a. Regional Coordinate System Zone 6

Coordinate listing from next sheet will be used with 1aRTN for monument recovery. No other reference ties are given.

HORIZONTAL AND VERTICAL PROJECT CONTROL COORDINATE LISTING

HORIZ. DATUM: NAD83(2011) EPOCH 2010.00

VERT. DATUM: NAVD88

1a. Regional Coordinate System Zone 6

Point Name	Northing	Easting	Elevation	Feature Definition	Description
2459005	7228135.045	16601521.145	1252.507	CP	2459005 AT SOUTH INTERSECTION OF US 30 AND US 59 GO 2.3 MI S ALONG US 59 FND IRON PIN IN CONC MONUMENT 62 FEET E OF US 59 CL 27 FEET E OF LITTER REMOVAL SIGN 27 FEET S OF P POLE
2459006	7230784.397	16599636.936	1215.461	CP	2459006 AT SOUTH INTERSECTION OF US 30 AND US 59 GO 1.7 MI S ALONG US 59 TO INTERSECTION OF 250 TH ST/Q AVE AND US 59 FND IRON PIN SET IN CONC MONUMENT 48 FEET W OF US 59 CL 39 FEET N OF P POLE 61 FEET N OF TEL PED
DENIPORT	7232942.162	16595890.384	1263.99	CP	DENIPORT <a href="http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?pidbox">HTTP://WWW.NGS.NOAA.GOV/CGI-BIN/DS_MARK.PRL?PIDBOX</a>

**ALIGNMENT COORDINATES**

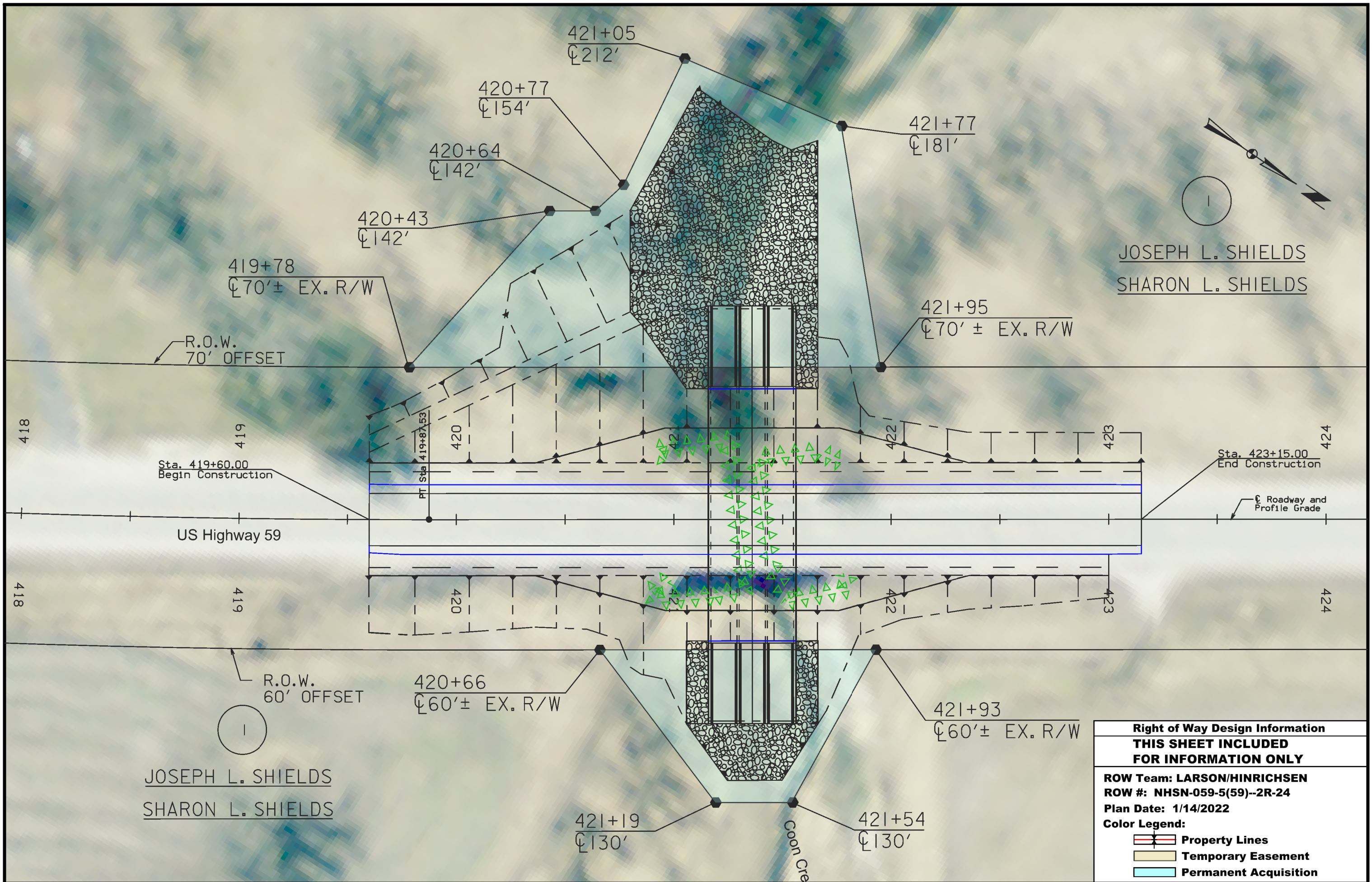
Name	Location	Point on Tangent			Begin Spiral			Begin Curve			Simple Curve PI or Master PI of SCS			End Curve			End Spiral		
		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates	
			Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)
Point 1	US 59	411+34.60	7227967.78	16601538.40															
							413+29.24	7228140.06	16601447.84	416+58.74	7228431.73	16601294.53	419+87.53	7228704.04	16601109.01				
Point 2	US 59	440+93.59	7230444.57	16599923.23															

**SPIRAL OR CIRCULAR CURVE DATA**

Name	Location	ΔSCS	Horizontal Alignment Data												Remarks				
			Spiral Data						Curve Data										
			θS	Ls	Ts	Es	Xc	Yc	L.T.	S.T.	ΔC	T	L	R		E			
ML_US59_3	US 59													6° 32' 14.96" (LT)	329.5003	658.2855	5769.3382	9.4016	



NO ACCESS RIGHTS ARE TO BE ACQUIRED ON THIS PROJECT.





JOSEPH L. SHIELDS  
SHARON L. SHIELDS

JOSEPH L. SHIELDS  
SHARON L. SHIELDS

<b>Right of Way Design Information</b>	
<b>THIS SHEET INCLUDED FOR INFORMATION ONLY</b>	
ROW Team: LARSON/HINRICHSEN	
ROW #: NHSN-059-5(59)--2R-24	
Plan Date: 1/14/2022	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition

**TRAFFIC CONTROL PLAN**

Traffic control on this project shall be in accordance with the standard road plans shown in Tabulation 105-4 and the specific layouts shown in the plans. For additional complementary information, refer to Part 6 of the Manual of Uniform Traffic Control Devices (MUTCD) and the current standard specifications and supplemental specifications.

The Contractor shall coordinate traffic control with projects listed in Tabulations 111-01 and other projects in the area.

The Contractor shall notify the Resident Construction Engineer and Crawford County two (2) weeks prior to temporary road closures and changes in traffic patterns during construction.

The Contractor shall be responsible for furnishing, installing, maintaining, and removing the signage for the temporary detours.

The Contractor shall remove existing signs and posts within the project limits, as required for construction. The Contractor shall provide Iowa DOT and Crawford County two (2) weeks advance notice prior to removal of existing signs.

The Contractor shall maintain clean pavement in and out of the work area at all times.

All signs to be in place longer than three days must be mounted.

The Contractor will be responsible for securing a safe storage area for equipment and materials to be used on the project.

US 59 is to remain open to traffic during construction. Route shall remain open to two lanes for operations that allow, and shall be reduced to one lane when needed.

**STAGING NOTES**

General Notes:

1. Access to properties shall be maintained at all times.
2. The Contractor shall coordinate traffic control with project listed in Tabulation 111-01 and other projects in the area.

Stage 1 - Traffic Control

- Install temporary traffic control as required for construction.
- Traffic control shall be in accordance with Standard Road Plans TC-1 and TC-202, as needed.

Stage 1 - Construction

- Install temporary erosion control.
- Install new box culvert under bridge.
- Remove guardrail from bridge.
- Place backfill to Stage I Fill Line per Detail 4317.

Stage 2 - Traffic Control

- Install temporary traffic control as required for construction.
- Traffic control shall be in accordance with Standard Road Plan TC-216.

Stage 2 - Construction

- Place flowable mortar above Stage I Fill Line per Detail 4317.
- Mill and fill HMA pavement.

Stage 3 - Traffic Control

- Install temporary traffic control as required for construction.
- Traffic control shall be in accordance with Standard Road Plans TC-1 and TC-202, as needed.

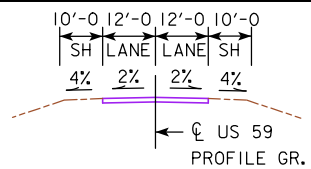
Stage 3 - Construction

- Complete final grading.
- Install final erosion control.

Stage 4 - Traffic Control

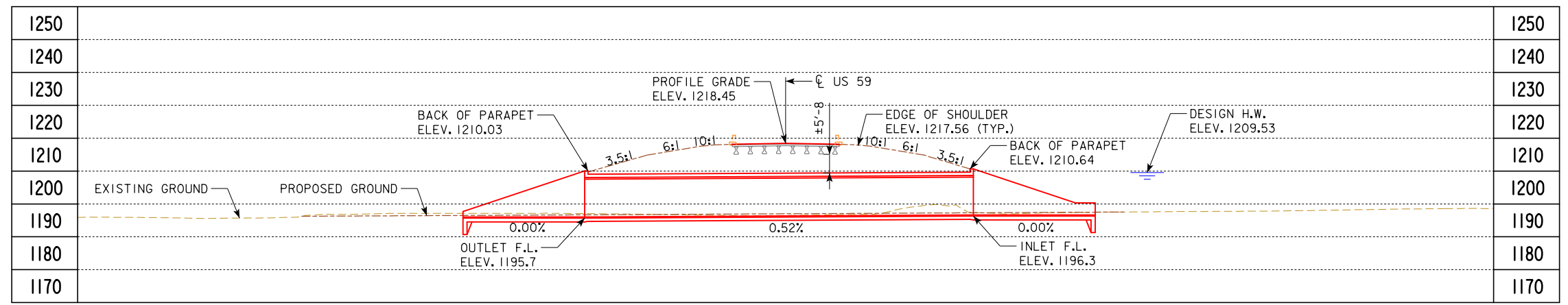
- Remove remaining traffic control.





CONTROL POINT 2459005: AT S INTERSECTION OF US 30/US 59 GO 2.3 MI S ALONG US 59 FIND IRON PIN IN CONC MONUMENT 62 FT E OF US 59 CL 27 FT E OF LITTER REMOVAL SIGN 27 FT S OF P POLE

TYPICAL APPROACH SECTION



LONGITUDINAL SECTION ALONG  $\phi$  CULVERT

ANTICIPATED SETTLEMENT = UNKNOWN

NOTE: FLOW LINE OF CULVERT HAS BEEN SET 1' BELOW STREAMBED.

HYDRAULIC DESIGN

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Signature: *Dallas R. Schechinger* Date: 9-30-21  
 Printed or Typed Name: Dallas R. Schechinger

My license renewal date is December 31, 2022



Pages or sheets covered by this seal: V.1 - V.2

NOTES:  
 EXISTING BRIDGE WINGS NEED TO BE REMOVED TO 1' BELOW GRADE. ADD ERI NOTE TO INCLUDE WING REMOVAL IF NECESSARY.

PROFILE GRADE

US 59 (U.A.C.)

EXISTING STRUCTURE

50'x30' PRETENSIONED PRESTRESS CONCRETE BEAM BRIDGE (REMOVE BARRIER RAILS)

UTILITIES LEGEND:

FO - FIBER OPTIC  
 TI - TELEPHONE

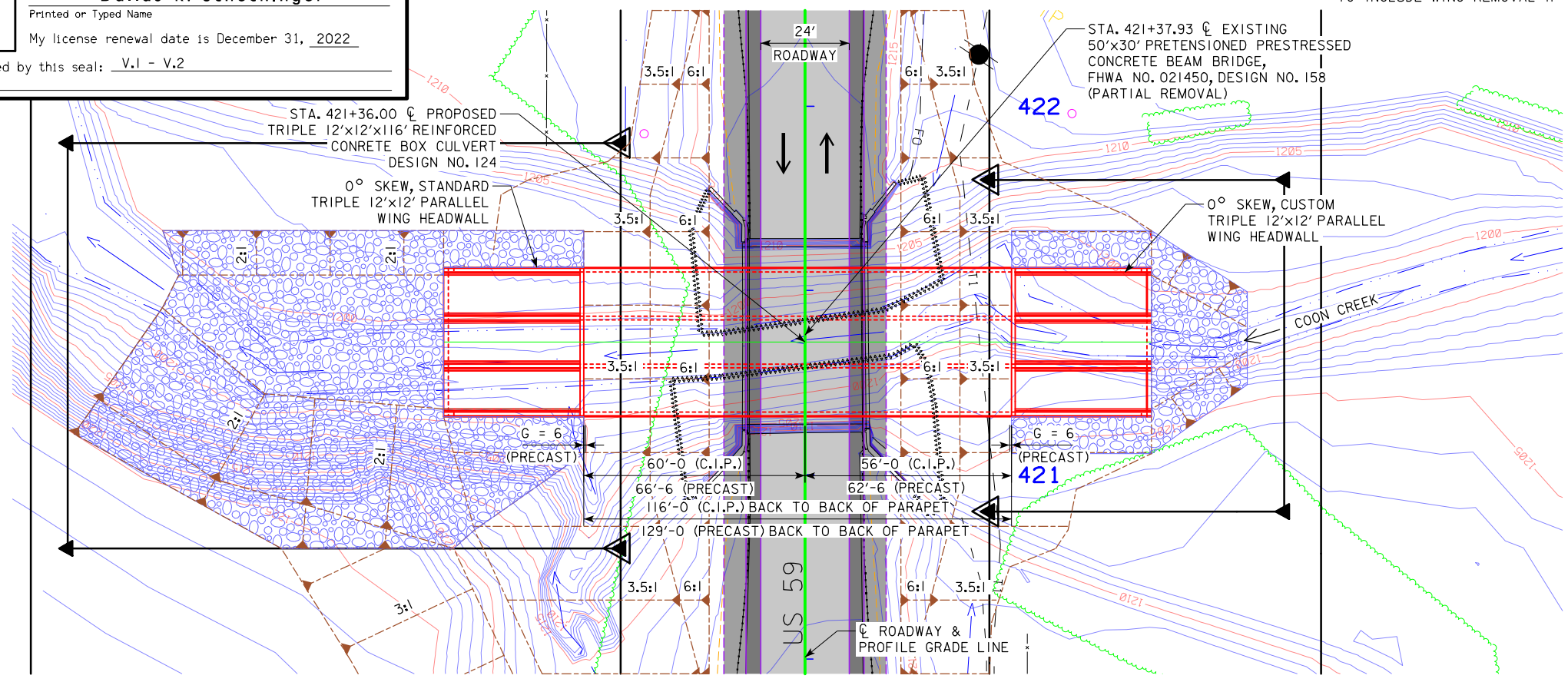
UTILITIES SHOWN ON THIS SHEET ARE FOR INFORMATION ONLY, SEE ROAD DESIGN SHEETS FOR FINAL UTILITY INFORMATION.

HYDRAULIC DATA

DRAINAGE AREA = 8.56 SQ. MI.  
 $Q_{50} = 3,270$  CFS  
 HW ELEV. = 1209.53  
 STREAM SLOPE = 22.91 FT./MI.

TRAFFIC ESTIMATE

2019 AADT	4,200	V.P.D.
2044 AADT	4,500	V.P.D.
2044 DHV	-	V.P.H.
TRUCKS	18	%
TOTAL DESIGN ESALs	-	-



LOCATION

US 59  
 OVER COON CREEK  
 T-83N R-39W  
 SECTION 26  
 DENISON TOWNSHIP  
 CRAWFORD COUNTY  
 FHWA NO. 021451  
 BRIDGE MAINT NO. 2499.6S059  
 LATITUDE 41.975187°  
 LONGITUDE -95.361829°

SITUATION PLAN

NOTE:  
 THIS DESIGN IS FOR THE REPLACEMENT OF THE EXISTING 50'x30' PPCB BRIDGE, CRAWFORD DESIGN NO. 158, FHWA NO. 021450, MAINT. NO. 2499.6S059.

DESIGN FOR 0° SKEW  
**TRIPLE 12'x12'x116' REINFORCED CONCRETE BOX CULVERT**

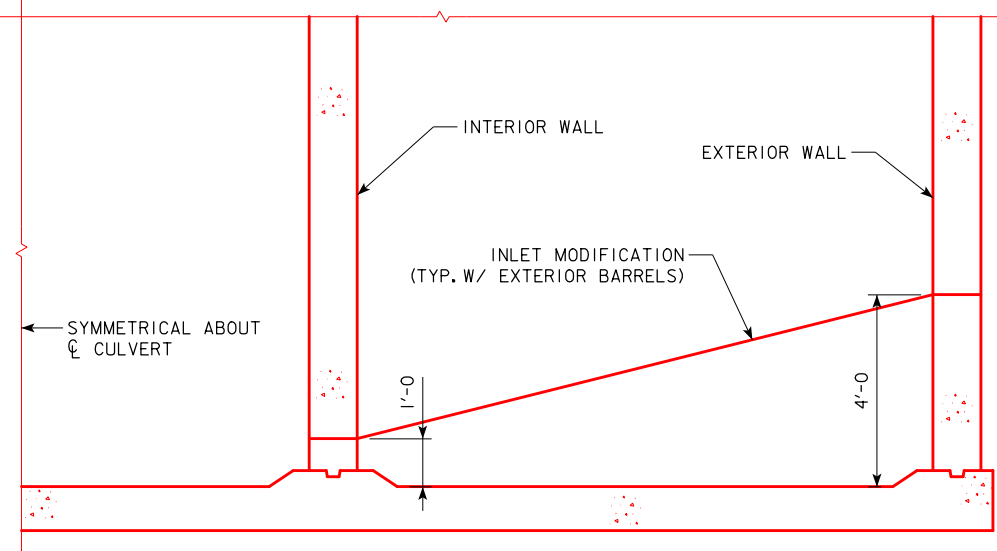
SITUATION PLAN

STA. 421+36.00 (US 59) SEPTEMBER 2021

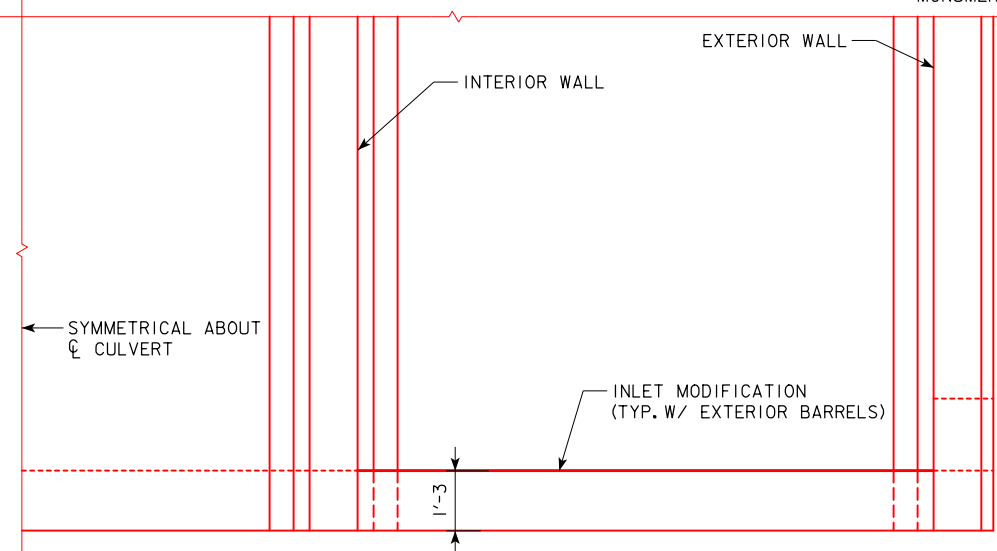
CRAWFORD COUNTY

IOWA DEPARTMENT OF TRANSPORTATION

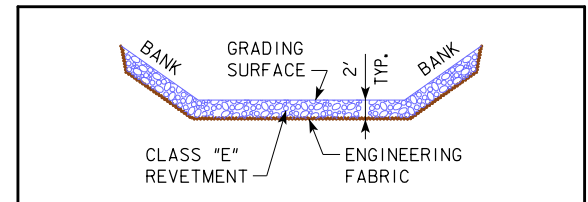
DESIGN SHEET NO. 1 OF 2 FILE NO. 32076 DESIGN NO. 124



INLET WEIR SECTION



INLET WEIR PLAN



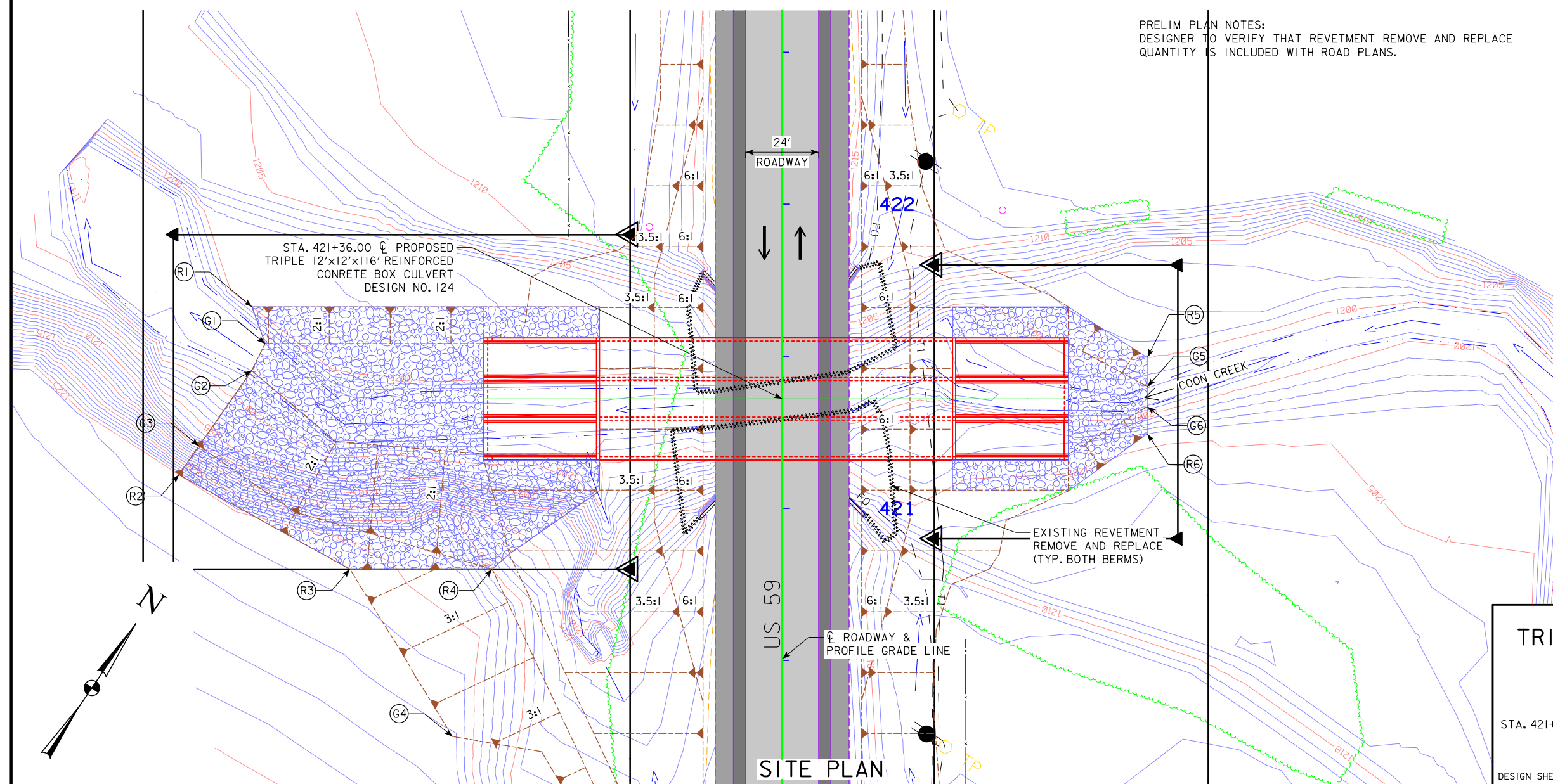
TYPICAL CHANNEL PROTECTION

ESTIMATED REVELTMENT QUANTITIES INCLUDED WITH ROAD PLANS

LOCATION	REVELTMENT CL. "E" (TON)	ENGINEERING FABRIC (SY)	EXCAVATION (CY)
INLET	225	210	140
OUTLET	1300	1220	815
TOTALS	1525	1430	955

EXCAVATION QUANTITY CALCULATED FROM GRADING SURFACE. QUANTITIES SHOWN FOR INFORMATION ONLY. SEE ROAD SHEETS.

ESTIMATED 305 CY OF REVELTMENT AVAILABLE ON-SITE TO BE REMOVED AND REPLACED. THE TOTAL REVELTMENT QUANTITY IN THE TABLE REFLECTS THE ESTIMATED REVELTMENT, REMOVE AND REPLACE QUANTITY PLUS THE REVELTMENT, CLASS E QUANTITY.



SITE PLAN

PRELIM PLAN NOTES:  
DESIGNER TO VERIFY THAT REVELTMENT REMOVE AND REPLACE QUANTITY IS INCLUDED WITH ROAD PLANS.

REVELTMENT LAYOUT:

- (R1) STA. 421+66.25, 174.2' LT.
- (R2) STA. 421+11.07, 198.2' LT.
- (R3) STA. 420+80.00, 142.1' LT.
- (R4) STA. 420+80.00, 95.3' LT.
- (R5) STA. 421+49.65, 120.0' RT.
- (R6) STA. 421+24.49, 120.0' RT.

GRADING CONTROL:

- (G1) STA. 421+54.17, 169.9' LT., STREAMBED, ELEV. 1,196.0
- (G2) STA. 421+45.29, 174.3' LT., STREAMBED, ELEV. 1,196.0
- (G3) STA. 421+20.51, 191.6' LT., GRADE BREAK, ELEV. 1,120.0
- (G4) STA. 420+25.00, 108.3' LT., BACKSLOPE, ELEV. 1,227.1
- (G5) STA. 421+40.04, 120.0' RT., STREAMBED, ELEV. 1,198.4
- (G6) STA. 421+33.42, 120.0' RT., STREAMBED, ELEV. 1,198.3

DESIGN FOR 0° SKEW  
**TRIPLE 12'x12'x116' REINFORCED CONCRETE BOX CULVERT**  
 SITUATION PLAN - SITE  
 STA. 421+36.00 (US 59) SEPTEMBER 2021  
**CRAWFORD COUNTY**  
 IOWA DEPARTMENT OF TRANSPORTATION  
 DESIGN SHEET NO. 2 OF 2 FILE NO. 32076 DESIGN NO. 124

**LINE STYLE LEGEND OF CROSS SECTION SHEETS (ROAD)**

- - - - - - Existing Ground Line
- Proposed Template
- Proposed Topsoil Placement
- - - - - Additional Topsoil Removal
- Subgrade Treatment
- - - - - Granular Shoulder
- Pavement
- - - - - Existing Pipe\RCB
- Proposed Pipe\RCB
- Proposed Dike
- All Elements Associated with Proposed Entrances

**LINE STYLE LEGEND OF CROSS SECTION SHEETS (SOILS)**

- Topsoil (Class 10)
- Slope Dressing Only
- Class 10 Materials
- Select Loams And Clay-Loams
- Select Sand
- Unsuitable Type A Disposal
- Unsuitable Type B Disposal
- Unsuitable Type C Disposal
- Shale
- Waste
- Broken and Weathered Rock
- Solid Rock
- Boulders

Note: All layer lines and descriptions identify layers above the line.

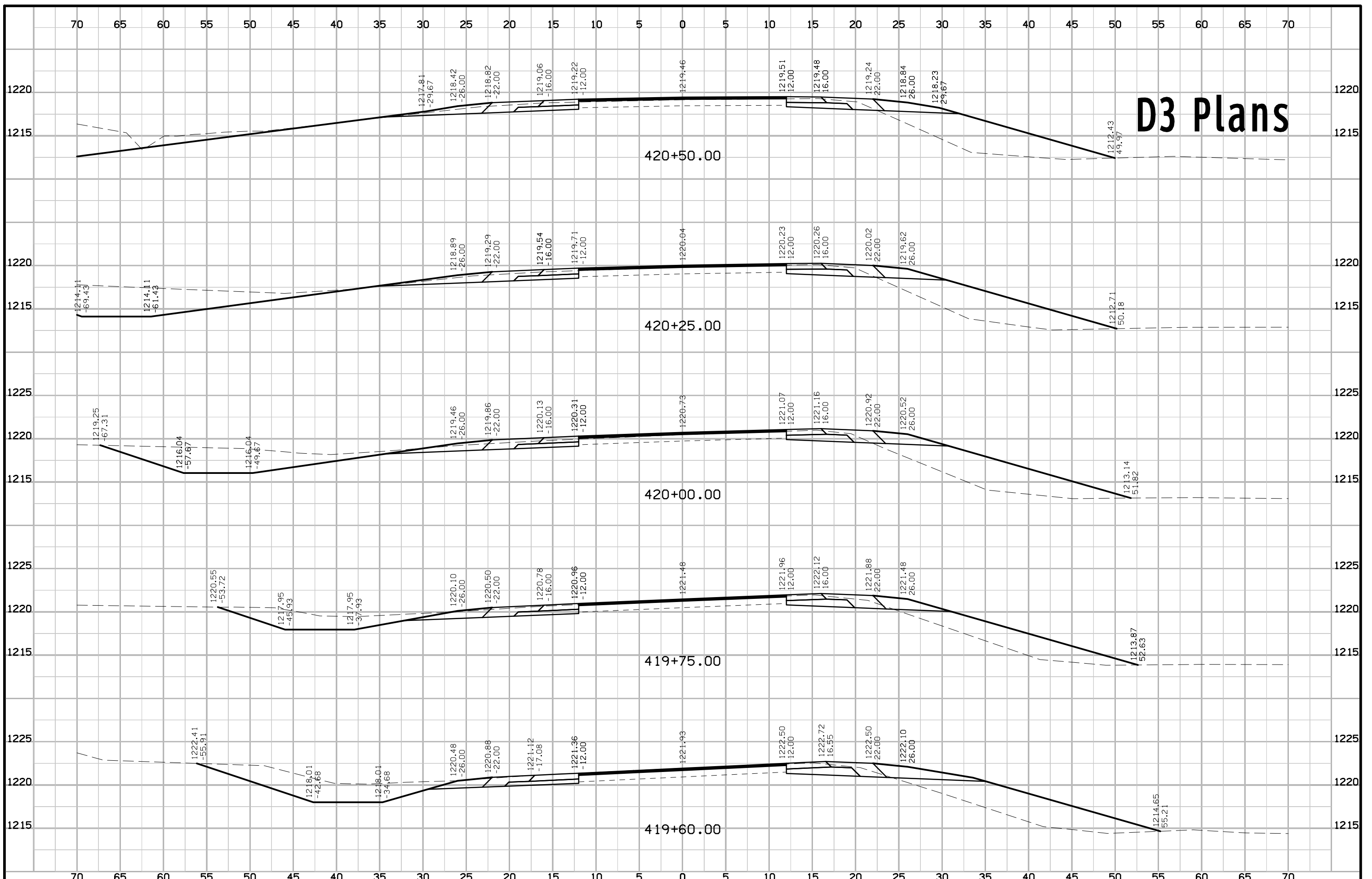
Note: Vertical or near vertical lines connecting soil layers at edges of cross sections are only for the purpose of calculating template quantities and do not depict soil stratification.

**SYMBOL LEGEND OF CROSS SECTION SHEETS**

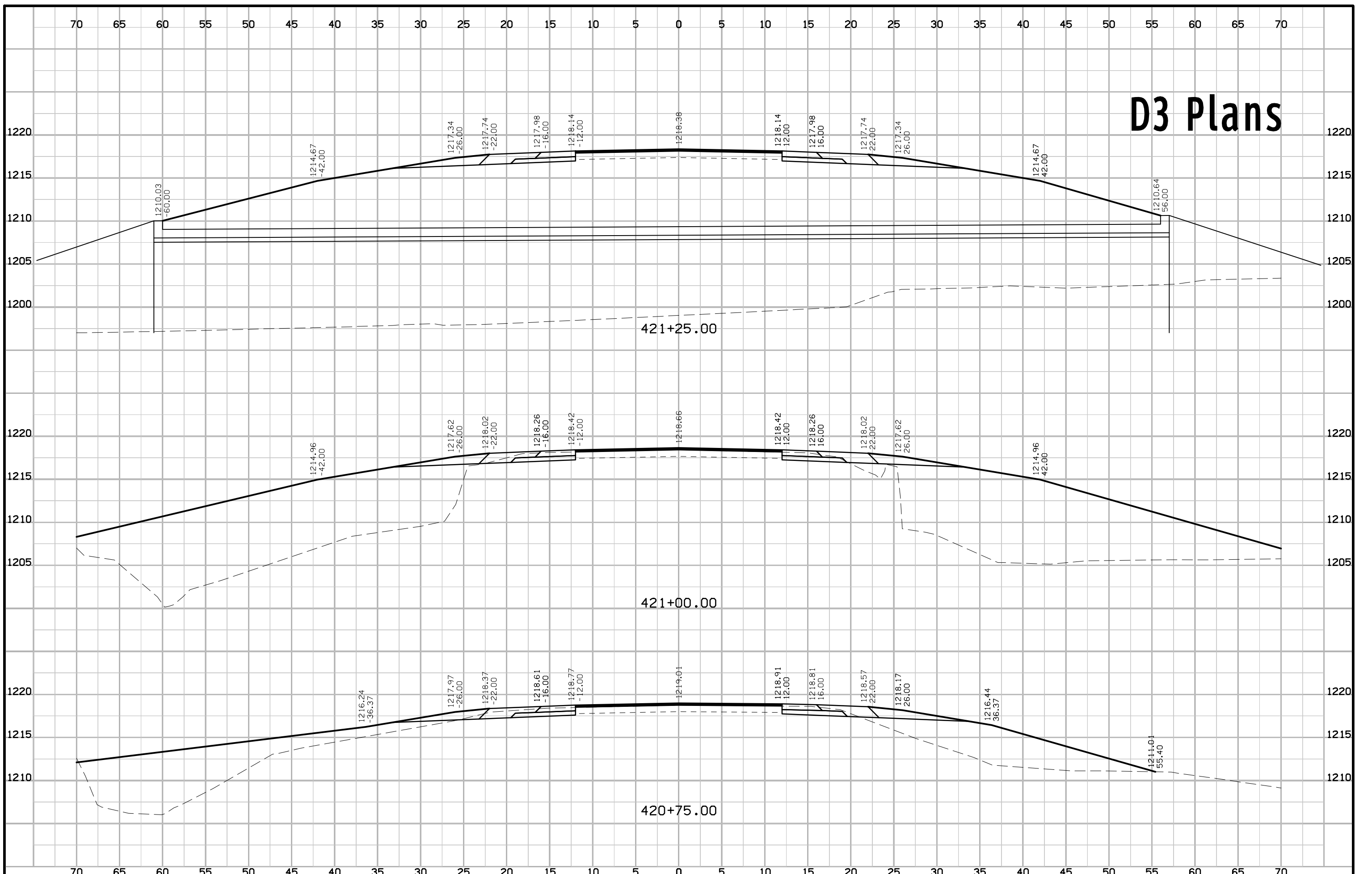
- Existing ROW  
|  
Existing Right-of-Way Limit
- Proposed ROW  
|  
Proposed Right-of-Way Limit
- Temporary ROW  
|  
Temporary Right-of-Way Limit

**CROSS SECTION  
LEGEND AND SYMBOL  
INFORMATION SHEET  
(COVERS SHEET SERIES W, X, Y, & Z)**

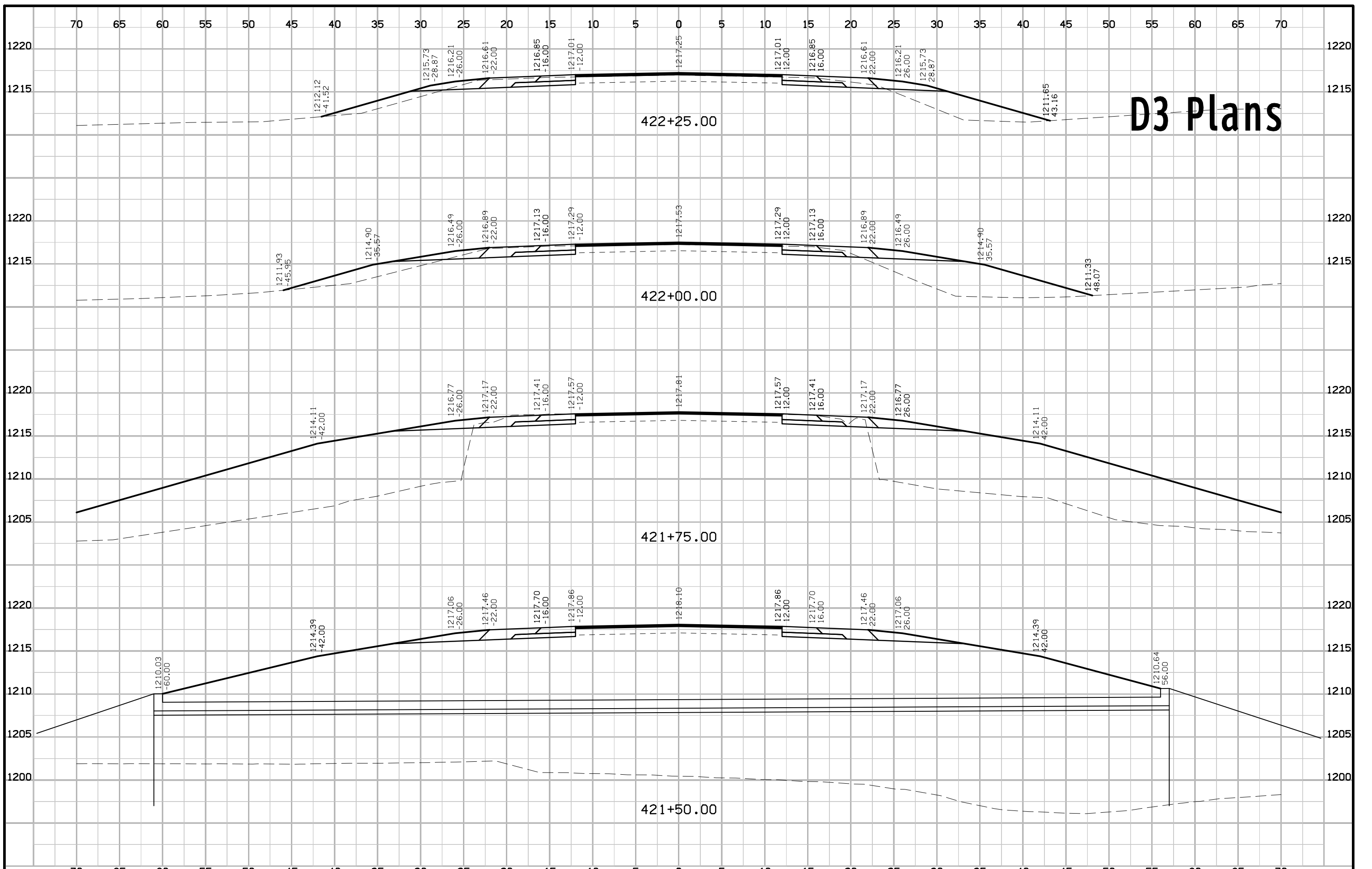
# D3 Plans



# D3 Plans



# D3 Plans





# D3 Plans

