



Iowa Department of Transportation
Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM
SIoux COUNTY

HMA PAVEMENT - GRADE AND REPLACE\RCB

US 18 Over Stream 0.8 Mile West of Road K-30 In Rock Valley

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

Value Engineering Saves. Refer to Article 1105.15 of the Specifications.



For Project Location Map
Refer to Sheet A.2

REVISIONS

TOTAL

45

PROJECT IDENTIFICATION NUMBER

08-84-018-020

PROJECT NUMBER

NHSX-018-1(72)--3H-84\BRF-018-1(66)--38-84

R.O.W. PROJECT NUMBER

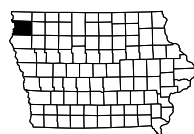
NHSN-018-1(67)--2R-84

INDEX OF SHEETS

No.	DESCRIPTION
A Sheets	Title Sheets
A.1	Title Sheet
A.2	Location Map Sheet
B Sheets	Typical Cross Sections and Details
B.1 - 8	Typical Cross Sections and Details
D Sheets	Mainline Plan and Profile Sheets
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2 - 3	"U.S. 18"
G Sheets	Survey Sheets
G.1 - 2	Reference Ties and Bench Marks
G.3	Horizontal Control Tab. & Super for all Alignments
J Sheets	Traffic Control and Staging Sheets
* J.1	Traffic Control Plan
* J.1	Staging Notes Stage
* J.1	Tabulation of Special Events
W Sheets	Mainline Cross Sections
W.1	Cross Sections Legend & Symbols Information Sheet
W.2 - 28	Mainline Cross Sections
	* Color Plan Sheets

SIoux Co. HMA PAVEMENT - GRADE AND REPLACE\RCB
NHSX-018-1(72)--3H-84\BRF-018-1(66)--38-84

LETTING DATE
01/16/2013



101-4 04-30-02			
DESIGN DATA RURAL			
2013	AADT	4,500	V.P.D.
2033	AADT	6,700	V.P.D.
2033	DHV	694	V.P.H.
	TRUCKS	16	%
	Total		
	Design ESALs		

INDEX OF SEALS		
SHEET NO.	NAME	TYPE
A.1	Kelly C. Bell	Primary Signature Block
X	X	X

D4 PLAN - Date: September 11, 2012
DM5 PLAN - Date: October 2, 2012
Letting - Date: January 16, 2013

PRELIMINARY PLANS

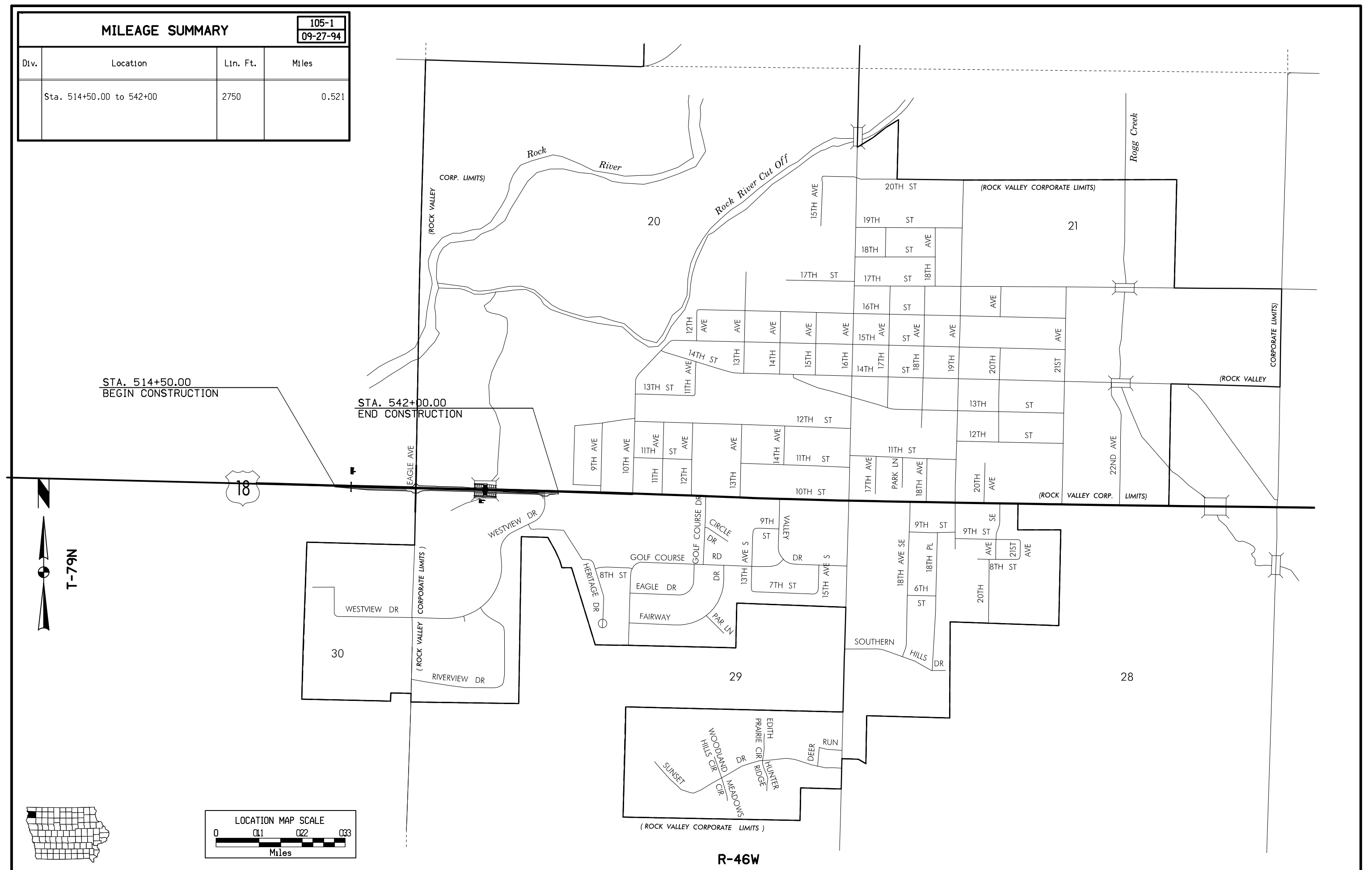
Subject to change by final design.

D5 PLAN - October 31, 2011

MILEAGE SUMMARY

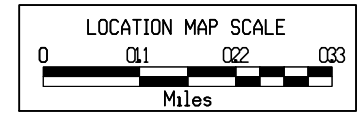
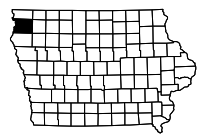
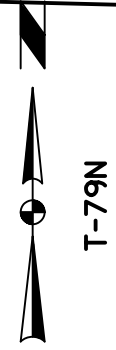
105-1
09-27-94

Div.	Location	Lin. Ft.	Miles
	Sta. 514+50.00 to 542+00	2750	0.521



STA. 514+50.00
BEGIN CONSTRUCTION

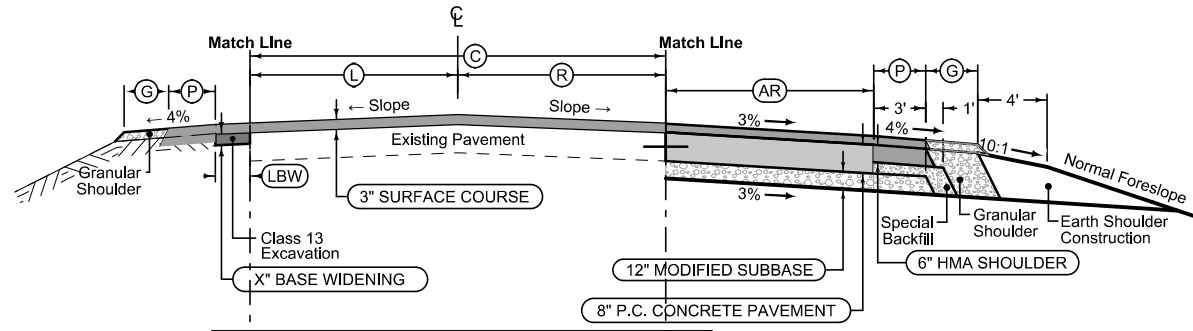
STA. 542+00.00
END CONSTRUCTION



R-46W

Combination Shoulder

3R_Shldr_C_Overlay_04-19-11			
STATION TO STATION	(P) Feet	(G) Feet	
514+50.0	516+94.1	4	6

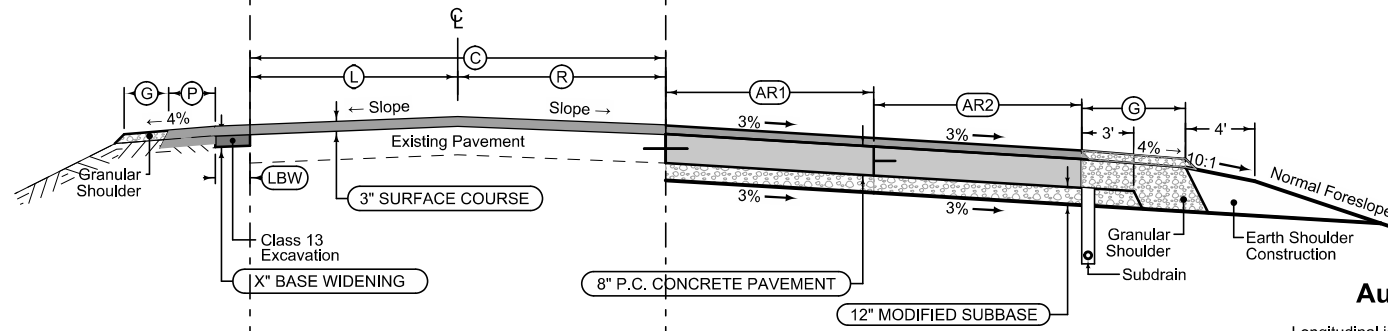


3R_WidenOverlay_04-19-11					
STATION TO STATION	(C) Feet	(L) Feet	(R) Feet	(LBW) Feet	
514+50.0	516+94.1	22	11	11	1
531+90.0	532+70.0	22	11	11	1

Auxiliary Lane		Auxiliary Lane	
2_AuxLane_PCC_10-19-10		2_AL_Shldr_C_10-19-10	
STATION TO STATION	(AR) Feet	(P) Feet	(G) Feet
514+50.0	516+94.1	0-17	4

Combination Shoulder

3R_Shldr_C_Overlay_04-19-11			
STATION TO STATION	(P) Feet	(G) Feet	
516+94.1	523+40.0	4	6
532+70.0	535+25.0	4	6

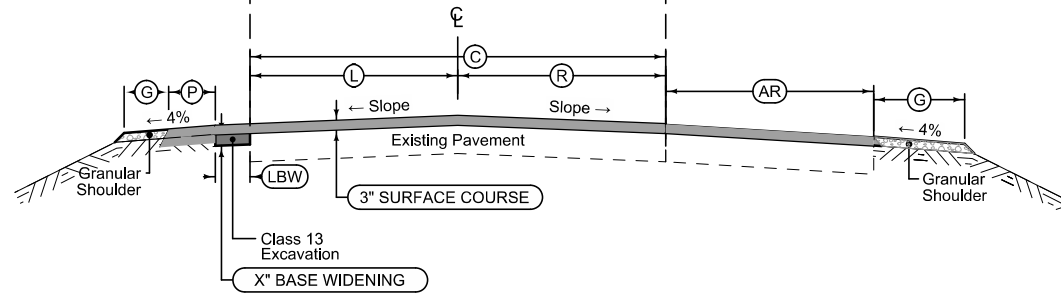


3R_WidenOverlay_04-19-11					
STATION TO STATION	(C) Feet	(L) Feet	(R) Feet	(LBW) Feet	
516+94.1	523+40.0	22	11	11	1
532+70.0	535+25.0	22	11	11	1

Auxiliary Lane		Auxiliary Lane	
2_AuxLane_PCC_10-19-10		2_AL_Shldr_G_10-19-10	
STATION TO STATION	(AR) Feet	(AR) Feet	(G) Feet
516+94.1	518+70.0	17	0-12
518+70.0	523+40.0	17	12
532+70.0	534+50.0	17	0-12
534+50.0	535+25.0	17	12

Combination Shoulder

3R_Shldr_C_Overlay_04-19-11			
STATION TO STATION	(P) Feet	(G) Feet	
523+40.0	523+83.0	4	6
539+50.0	541+51.0	4	6



3R_WidenOverlay_04-19-11					
STATION TO STATION	(C) Feet	(L) Feet	(R) Feet	(LBW) Feet	
523+40.0	523+83.0	22	11	11	1
539+50.0	541+51.0	22	11	11	1

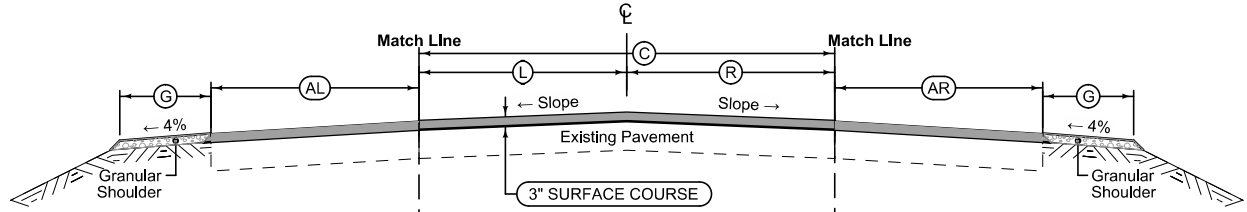
Auxiliary Lane		Auxiliary Lane	
2_AuxLane_PCC_10-19-10		2_AL_Shldr_G_10-19-10	
STATION TO STATION	(AR) Feet	(G) Feet	
523+40.0	523+83.0	13	6
539+50.0	541+51.0	13	6

See Tab 100-24 for pavement quantities.
See Tab 112-9 for shoulder quantities.

U.S. 18

Auxiliary Lane Granular Shoulder
 Longitudinal joint: L or KT
 Transverse joint: Match Mainline

2_AuxLane_PCC_10-19-10		2_AL_Shldr_G_10-19-10	
STATION TO STATION	AL Feet	G Feet	
523+83.0	525+59.0	0 - 35	6



Auxiliary Lane Granular Shoulder
 Longitudinal joint: L or KT
 Transverse joint: Match Mainline

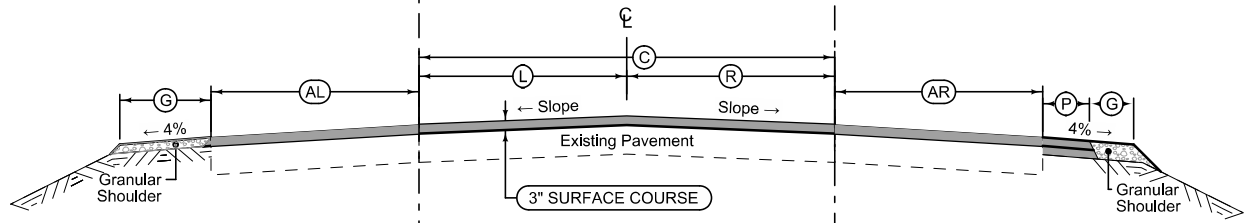
2_AuxLane_PCC_10-19-10		2_AL_Shldr_G_10-19-10	
STATION TO STATION	AR Feet	G Feet	
523+83.0	525+59.0	13 - 51	6

3R_WidenOverlay_04-19-11

STATION TO STATION		C Feet	L Feet	R Feet
523+83.0	525+59.0	22	11	11

Auxiliary Lane Granular Shoulder
 Longitudinal joint: L or KT
 Transverse joint: Match Mainline

2_AuxLane_PCC_10-19-10		2_AL_Shldr_G_10-19-10	
STATION TO STATION	AL Feet	G Feet	
525+59.0	526+07.0	13	6



Auxiliary Lane Combination Shoulder
 Longitudinal joint: L or KT
 Transverse joint: Match Mainline
 Shoulder Jointing: Longitudinal joint: B

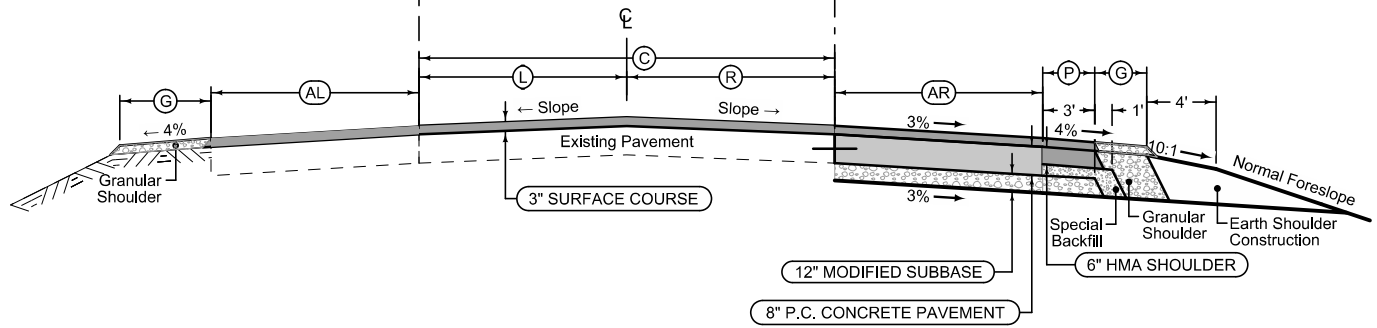
2_AuxLane_PCC_10-19-10		2_AL_Shldr_C_10-19-10		
STATION TO STATION	AR Feet	P Feet	G Feet	
525+59.0	526+07.0	13	4	6

3R_WidenOverlay_04-19-11

STATION TO STATION		C Feet	L Feet	R Feet
525+59.0	526+07.0	22	11	11

Auxiliary Lane Granular Shoulder
 Longitudinal joint: L or KT
 Transverse joint: Match Mainline

2_AuxLane_PCC_10-19-10		2_AL_Shldr_G_10-19-10	
STATION TO STATION	AL Feet	G Feet	
526+07.0	527+01.0	13	6



Auxiliary Lane Combination Shoulder
 Longitudinal joint: L or KT
 Transverse joint: Match Mainline
 Shoulder Jointing: Longitudinal joint: B

2_AuxLane_PCC_10-19-10		2_AL_Shldr_C_10-19-10		
STATION TO STATION	AR Feet	P Feet	G Feet	
526+07.0	527+01.0	17	4	6

3R_WidenOverlay_04-19-11

STATION TO STATION		C Feet	L Feet	R Feet
526+07.0	527+01.0	22	11	11

See Tab 100-24 for pavement quantities.
 See Tab 112-9 for shoulder quantities.

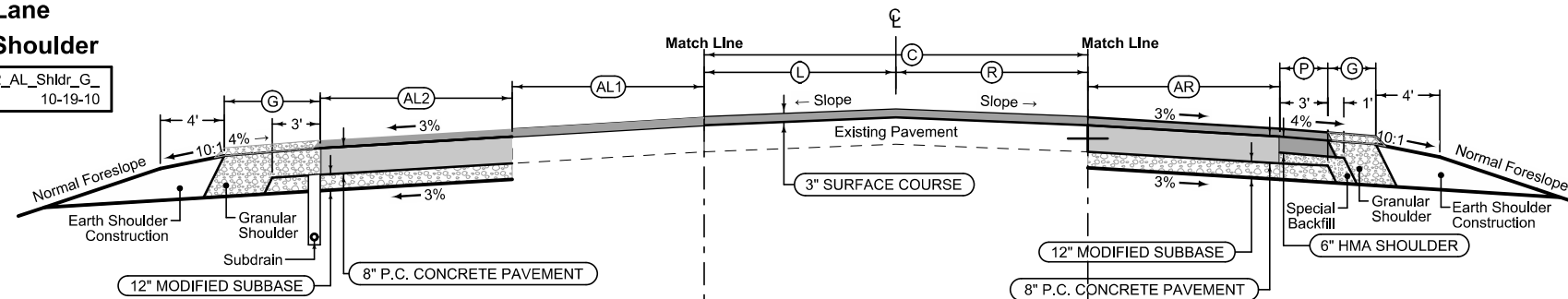
U.S. 18

Auxiliary Lane

Longitudinal joint: L or KT
Transverse joint: Match Mainline

2_AuxLane_PCC_ 10-19-10		2_AL_Shldr_G_ 10-19-10		
STATION TO STATION	AL1 Feet	AL2 Feet	G Feet	
527+01.0	528+27.0	13 - 2	0 - 11	6

Auxiliary Lane Granular Shoulder



3R_WidenOverlay_ 04-19-11				
STATION TO STATION	C Feet	L Feet	R Feet	
527+01.0	528+27.0	22	11	11

Auxiliary Lane

Longitudinal joint: L or KT
Shoulder Jointing: Match Mainline

2_AuxLane_PCC_ 10-19-10		2_AL_Shldr_C_ 10-19-10		
STATION TO STATION	AR Feet	P Feet	G Feet	
527+01.0	528+27.0	17	4	6

Auxiliary Lane Combination Shoulder

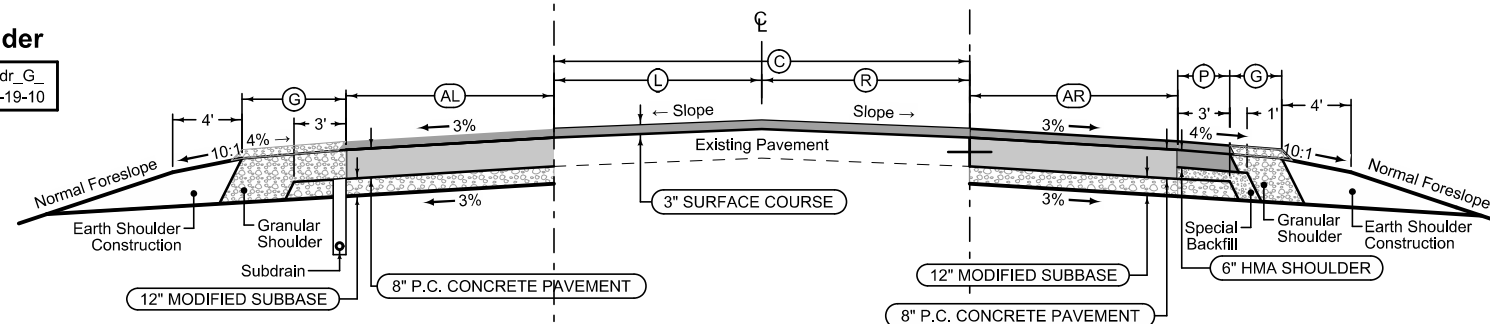
Shoulder Jointing: Match Mainline
Longitudinal joint: B

Auxiliary Lane

Longitudinal joint: L or KT
Transverse joint: Match Mainline

2_AuxLane_PCC_ 10-19-10		2_AL_Shldr_G_ 10-19-10			
STATION TO STATION	AL Feet	G Feet			
528+27.0	530+10.0	12	6		
530+10.0	531+90.0	12 - 0	6		

Auxiliary Lane Granular Shoulder



3R_WidenOverlay_ 04-19-11				
STATION TO STATION	C Feet	L Feet	R Feet	
528+27.0	531+90.0	22	11	11

Auxiliary Lane

Longitudinal joint: L or KT
Transverse joint: Match Mainline

2_AuxLane_PCC_ 10-19-10		2_AL_Shldr_C_ 10-19-10		
STATION TO STATION	AR Feet	P Feet	G Feet	
528+27.0	531+90.0	17	4	6

Auxiliary Lane Combination Shoulder

Shoulder Jointing: Match Mainline
Longitudinal joint: B

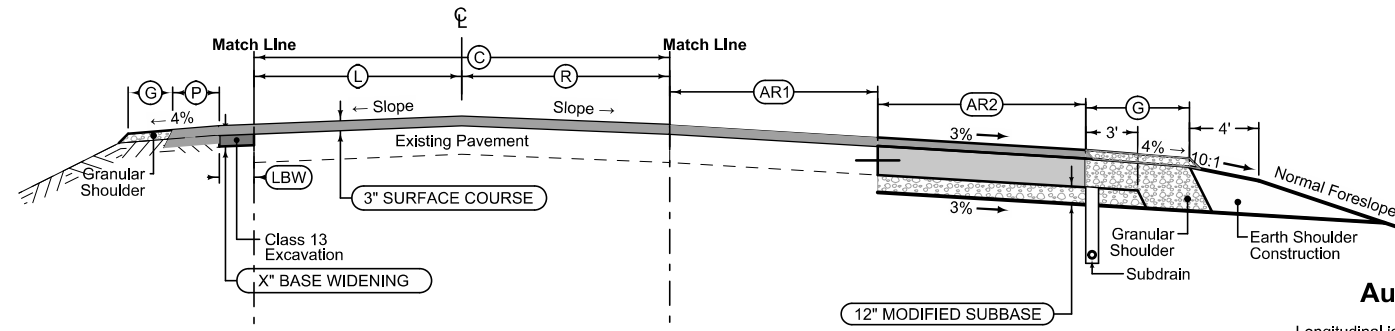
See Tab 100-24 for pavement quantities.

See Tab 112-9 for shoulder quantities.

U.S. 18

Combination Shoulder

3R_Shldr_C_Overlay_04-19-11			
STATION TO STATION	(P) Feet	(G) Feet	
535+25.0	539+50.0	4	6



3R_WidenOverlay_04-19-11					
STATION TO STATION	(C) Feet	(L) Feet	(R) Feet	(LBW) Feet	
535+25.0	539+50.0	22	11	11	1

Auxiliary Lane

Longitudinal joint: L or KT
Transverse joint: Match Mainline

2_AuxLane_PCC_10-19-10				
STATION TO STATION	(AR) Feet	(AR2) Feet	(G) Feet	
535+25.0	539+50.0	11	18	6

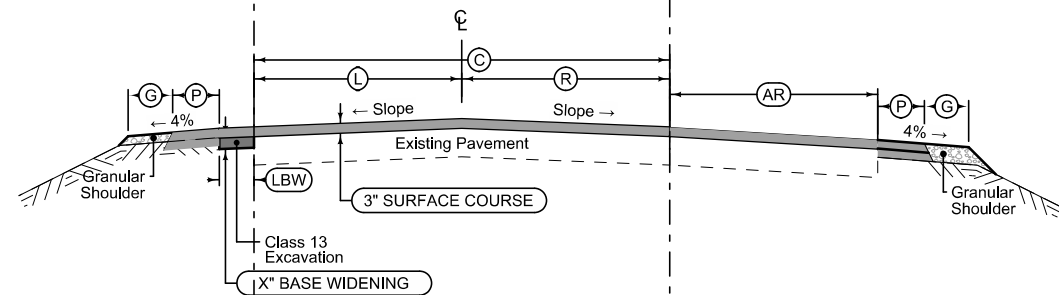
Auxiliary Lane Granular Shoulder

Longitudinal joint: B

2_AL_Shldr_G_10-19-10			
STATION TO STATION	(P) Feet	(G) Feet	
535+25.0	539+50.0	4	6

Combination Shoulder

3R_Shldr_C_Overlay_04-19-11			
STATION TO STATION	(P) Feet	(G) Feet	
541+51.0	542+00.0	4	6



3R_WidenOverlay_04-19-11					
STATION TO STATION	(C) Feet	(L) Feet	(R) Feet	(LBW) Feet	
541+51.0	542+00.0	22	11	11	1

Auxiliary Lane

Longitudinal joint: L or KT
Transverse joint: Match Mainline

2_AuxLane_PCC_10-19-10			
STATION TO STATION	(AR) Feet	(P) Feet	(G) Feet
541+51.0	542+00.0	13	4

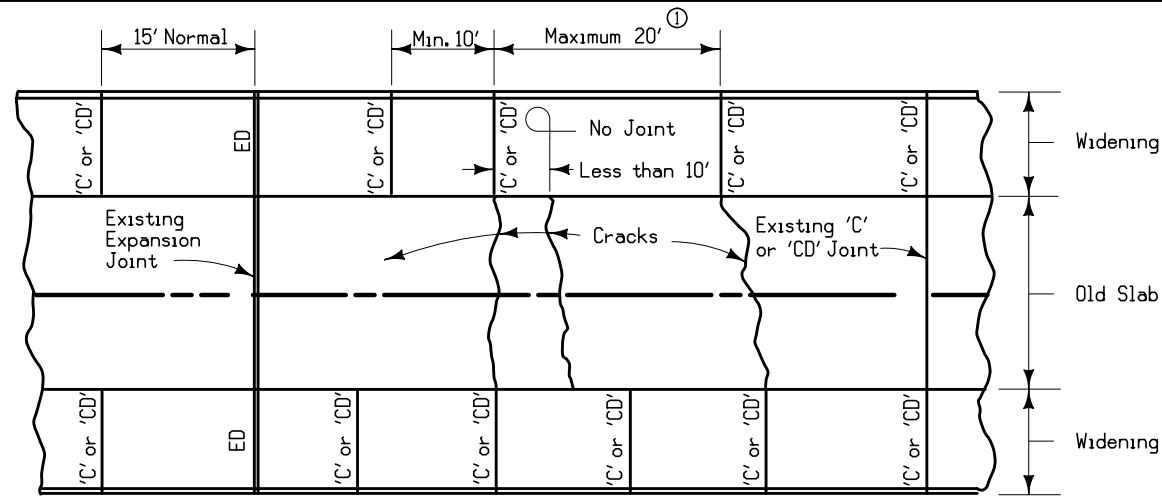
Auxiliary Lane Combination Shoulder

Shoulder Jointing: Longitudinal joint: B

2_AL_Shldr_C_10-19-10		
STATION TO STATION	(P) Feet	(G) Feet
541+51.0	542+00.0	4

See Tab 100-24 for pavement quantities.
See Tab 112-9 for shoulder quantities.

U.S. 18

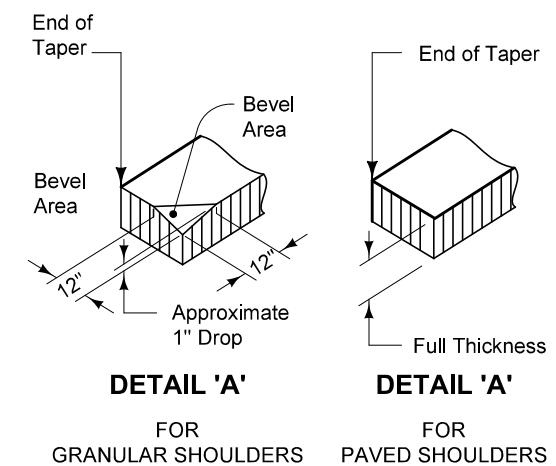


7203
04-19-11

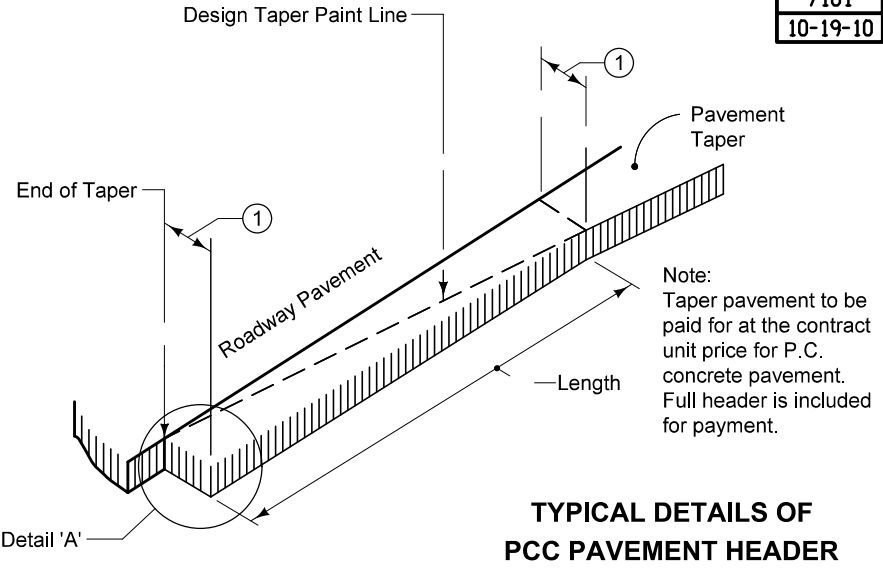
JOINTING DIAGRAM FOR WIDENING EXISTING PAVEMENT

For joint details see PV-101.
① If more than 20' make extra joint 1/2 distance.

15' Normal
Cut joints opposite existing joints first, then make intermediate cuts.

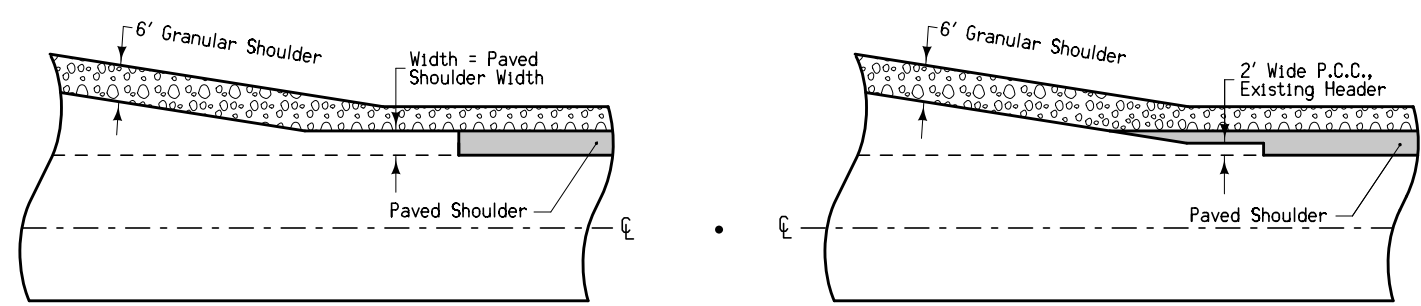


① Normal width is 2'-0". Construct 4'-0" width when butting into 4' wide HMA shoulders (See Typical 7154A).



7101
10-19-10

TYPICAL DETAILS OF PCC PAVEMENT HEADER

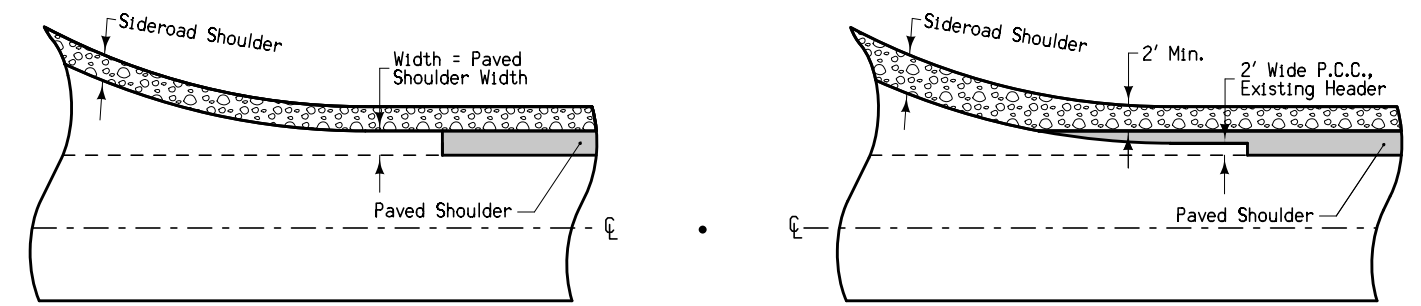


7154A
10-20-09

PAVED SHOULDER DETAIL AT TURN LANES

With Newly Constructed Turn Lanes

At UAC Turn Lanes



7154B
10-20-09

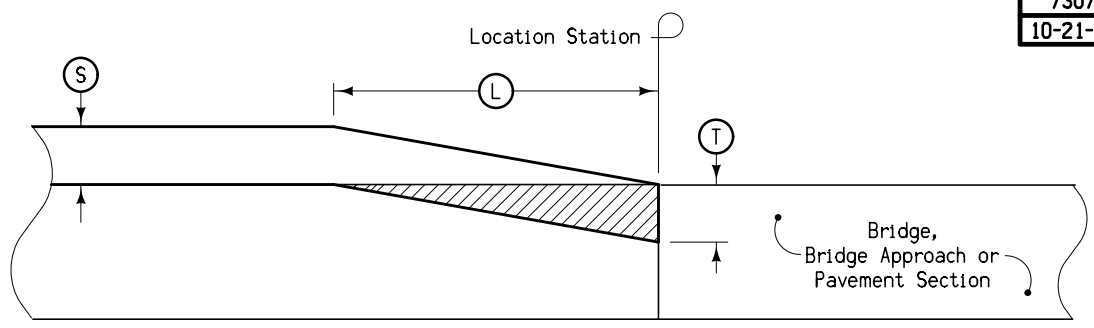
PAVED SHOULDER DETAIL AT RETURNS

With Newly Constructed Returns

At UAC Returns

Posted Speed Limit (mph)	Runout Ratio (ft per inch)
45 or More	50
20 to 45	25
Under 20	10 *

* Based on turning maneuvers at side roads and intersections.

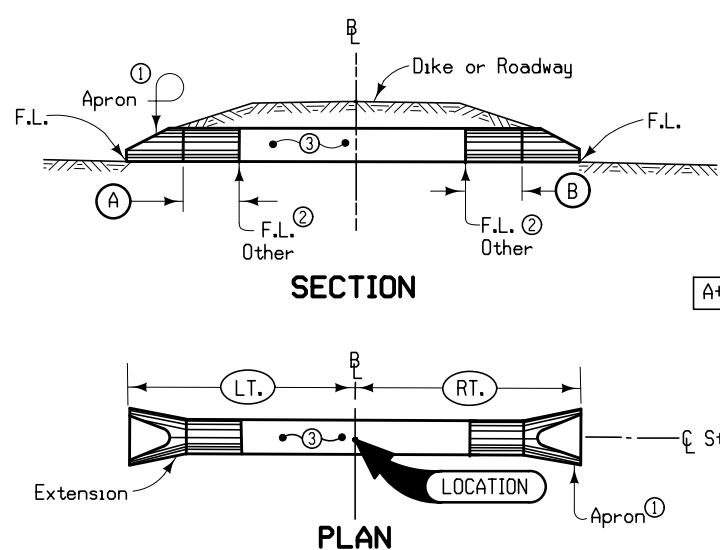


7307
10-21-03

SURFACE NOTCH FOR SINGLE COURSE RESURFACING

Ⓢ Surface Course
Ⓣ Milling

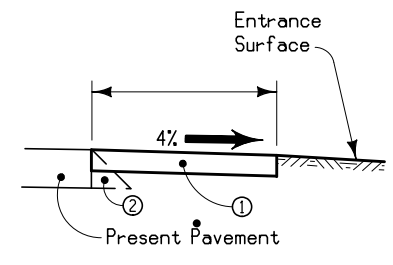
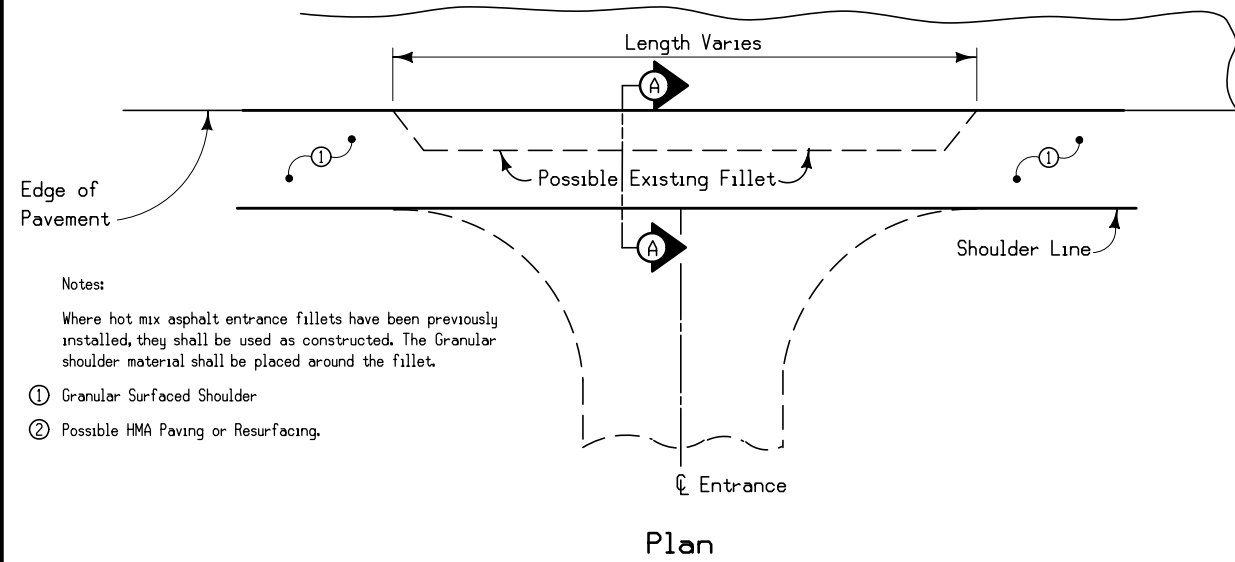
Location Station	L Feet	S Inches	T Inches



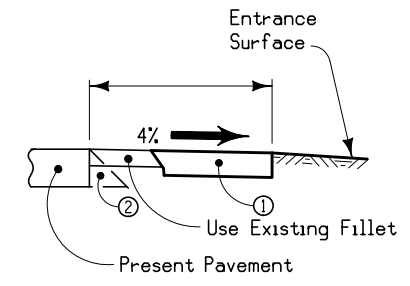
1301
10-03-00

PIPE EXTENSION

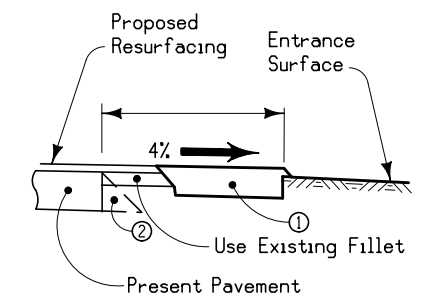
Notes:
 Ⓢ shall be Ⓢ of roadway, dike, survey, or other; as detailed on plans.
 Extension shall be on line of existing structure to Lt., Rt. or both as specified. Adaptors may be required, see Standard Road Plan RF-2.
 Refer to tabular listing and other plans for additional information.
 ① See Standard Road Plan RF-3 for concrete, RF-5 for metal.
 ② Optional type "D" section only when specified in tabulation.
 ③ Existing structure.



Section A-A
Without Fillet



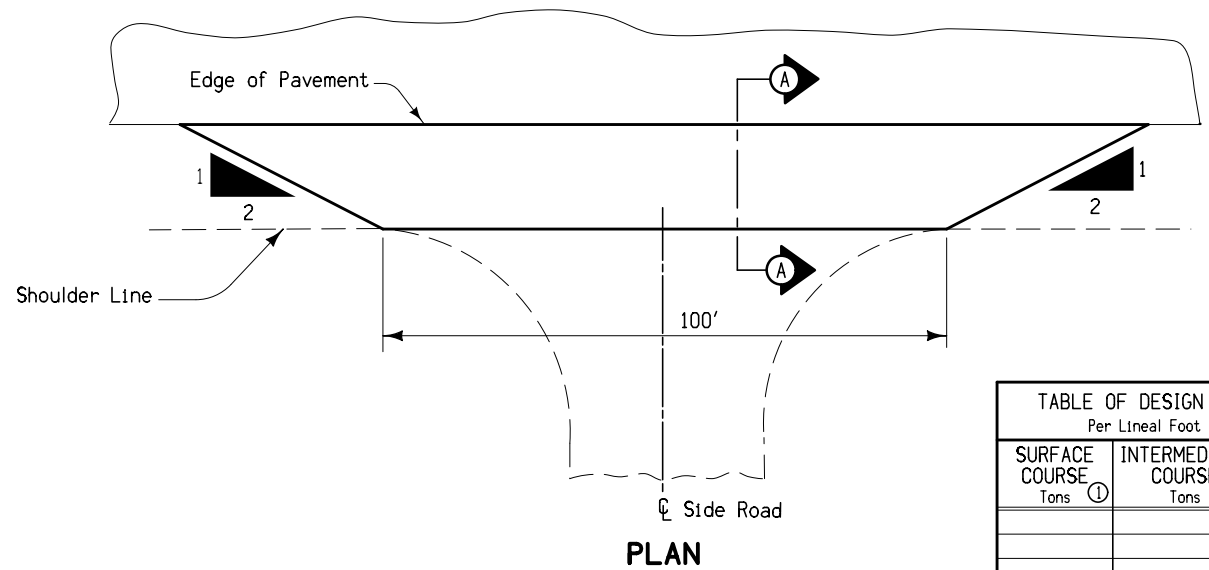
Section A-A
With Previous Fillet



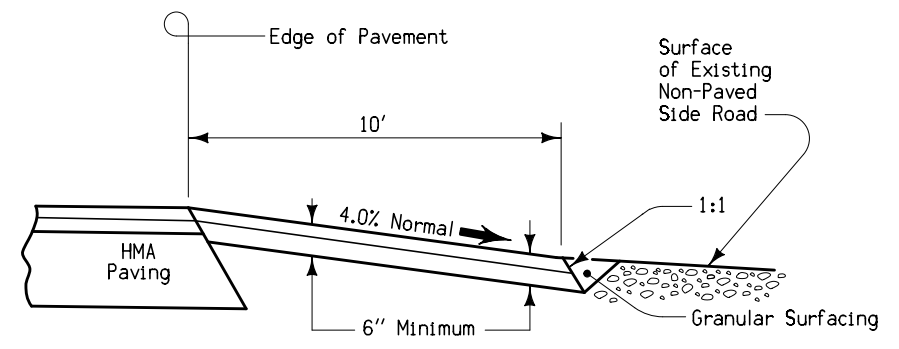
Section A-A
With Previous Fillet
And Resurfacing Less than 1 1/2"

- Notes:
- Where hot mix asphalt entrance fillets have been previously installed, they shall be used as constructed. The Granular shoulder material shall be placed around the fillet.
 - ① Granular Surfaced Shoulder
 - ② Possible HMA Paving or Resurfacing.

GRANULAR SHOULDER CONSTRUCTION THRU ENTRANCES



PLAN

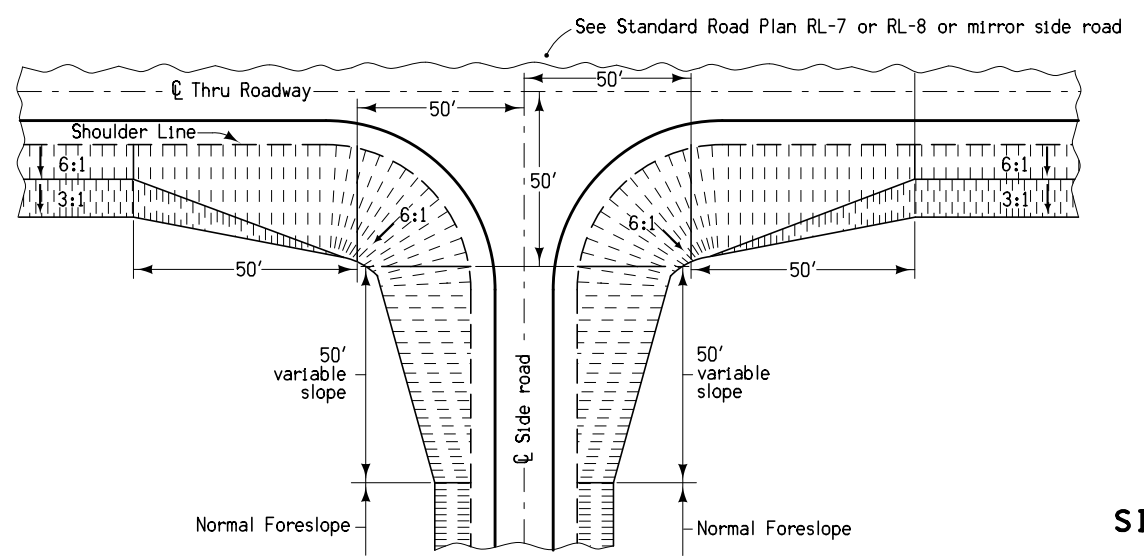


SECTION A-A

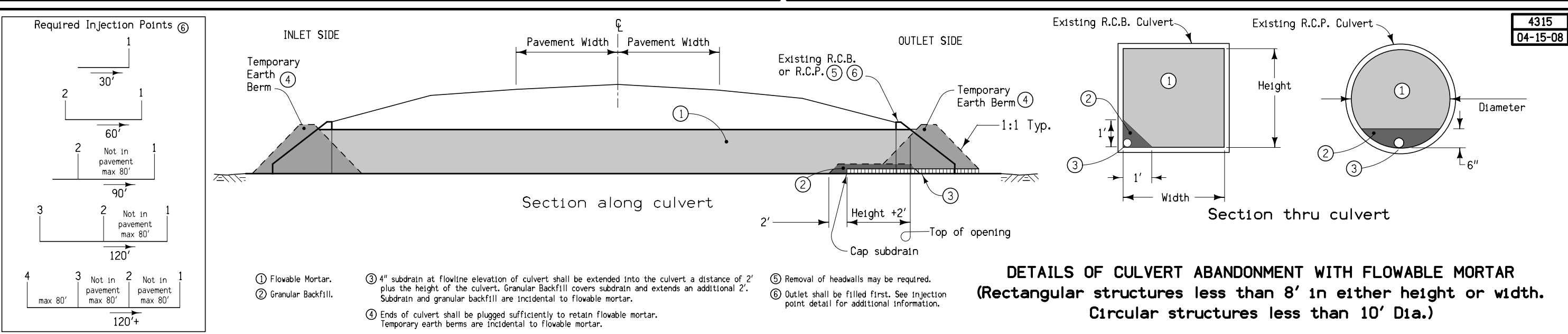
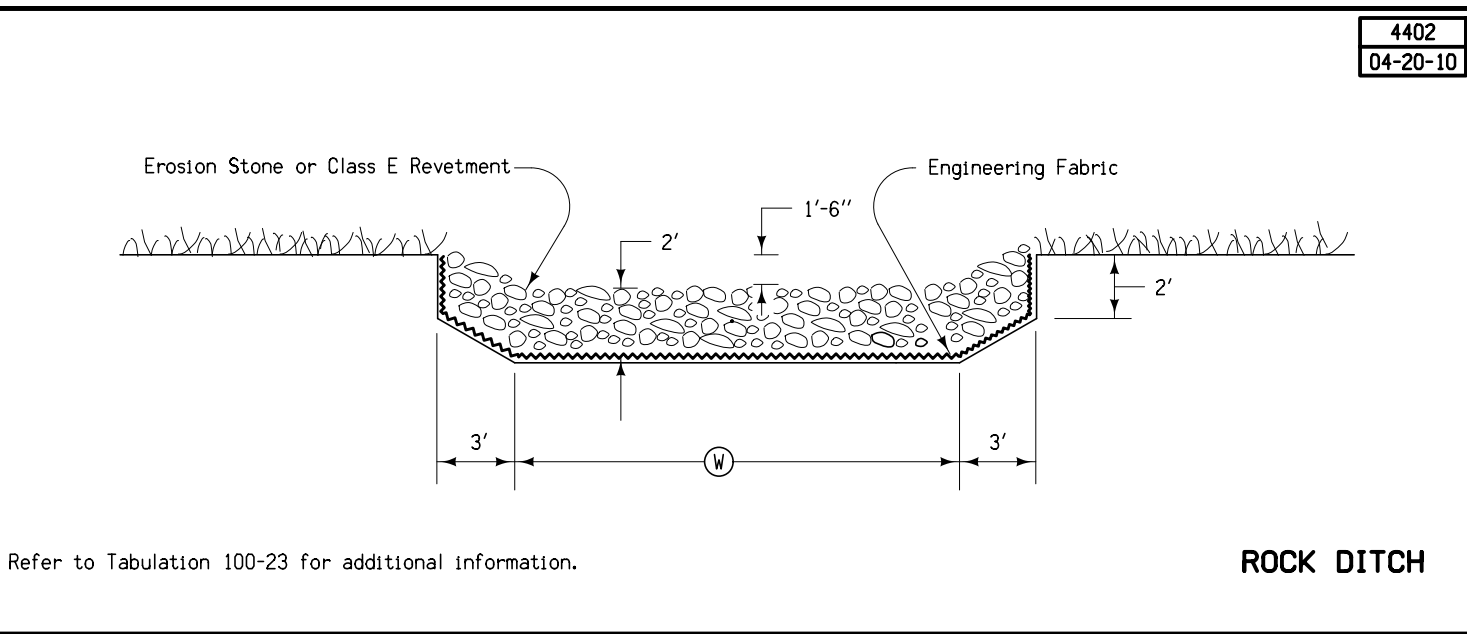
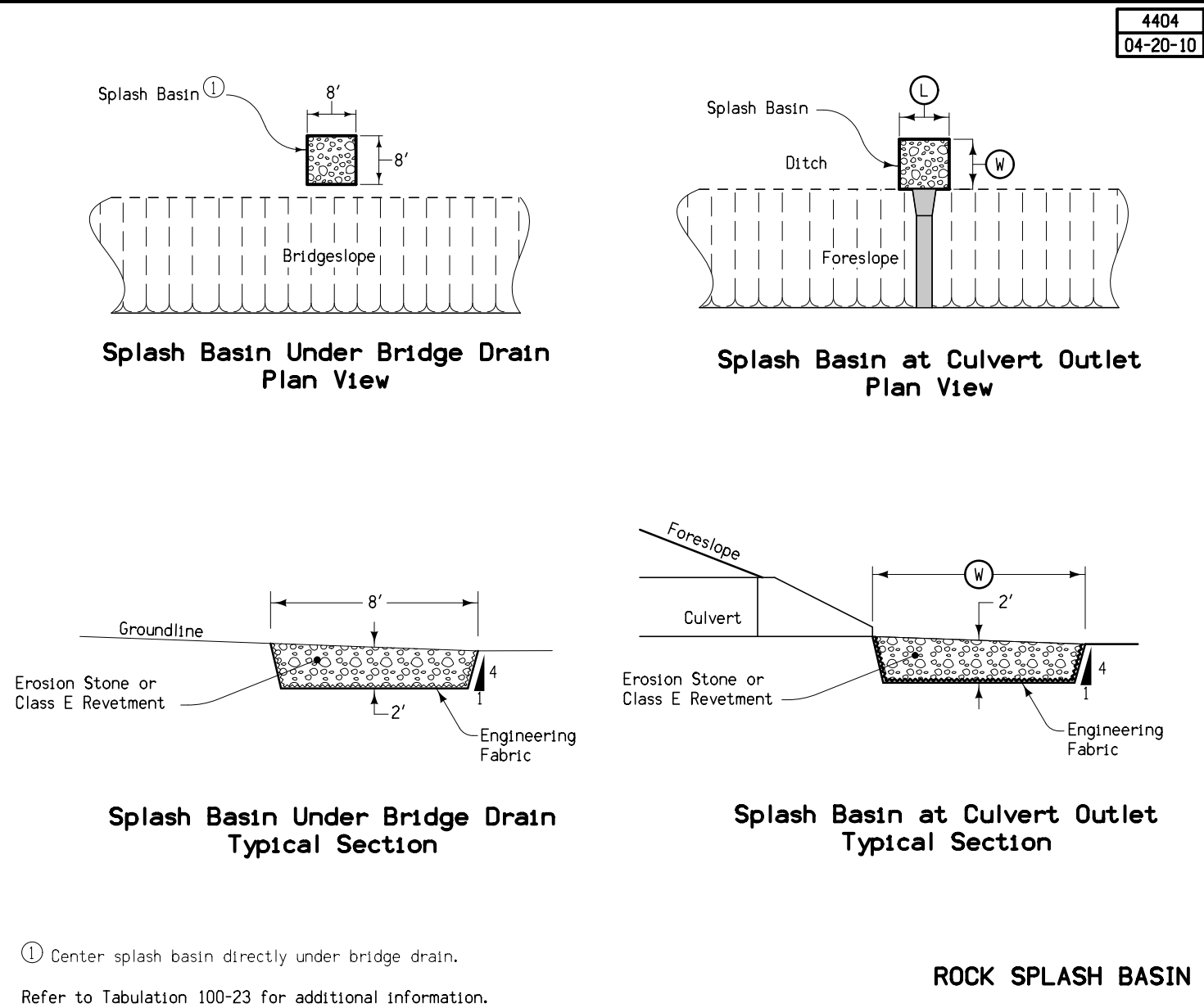
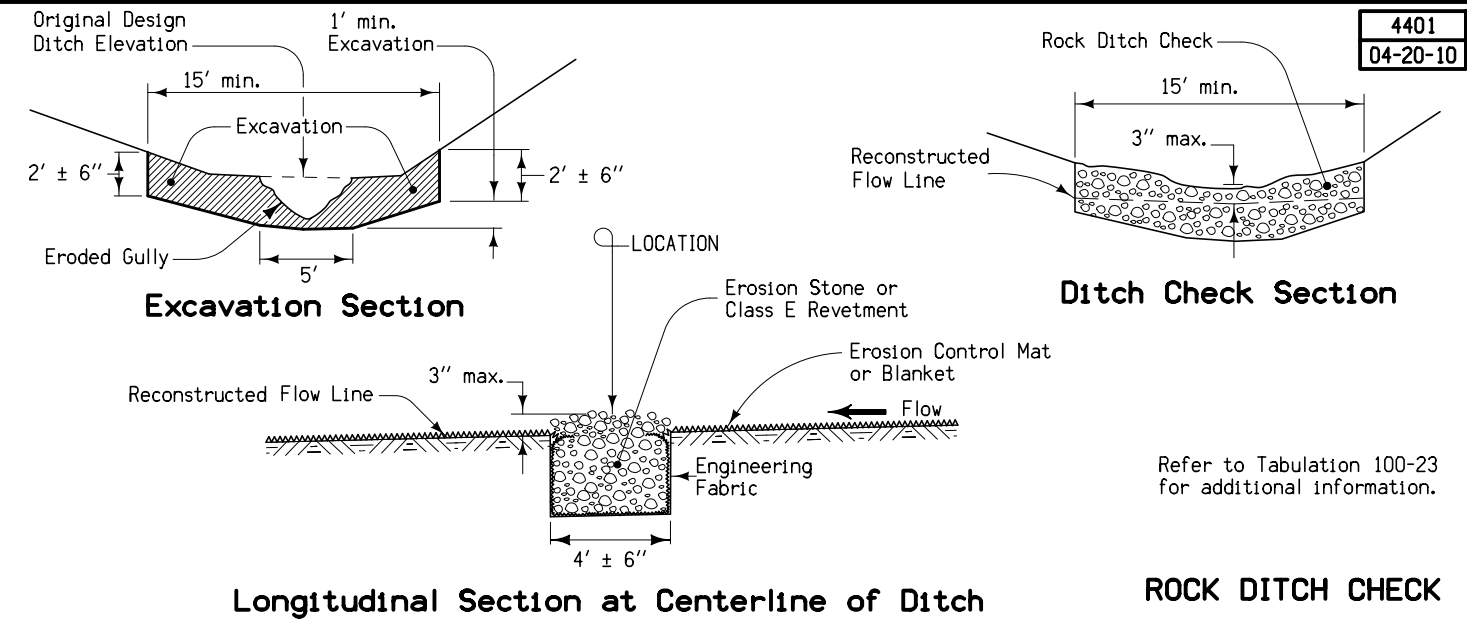
- Note:
- Uniform thickness fillets of hot mix asphalt shall be constructed at non-paved side roads.
 - Fillet sizes as shown are recommended and shall be used for design and estimating purposes. The Engineer shall establish the size of each individual fillet to accommodate conditions at the site.
 - Special shaping of existing surface prior to placement of fillet may be required by the Engineer and shall be considered incidental to other work on the project.
 - ① Estimated at 145 lbs./cu. ft.
 - ② Estimated for 2 applications at 0.05 gal./sq. yd. The tack coat for entrance fillets may be eliminated when so directed by the Engineer.

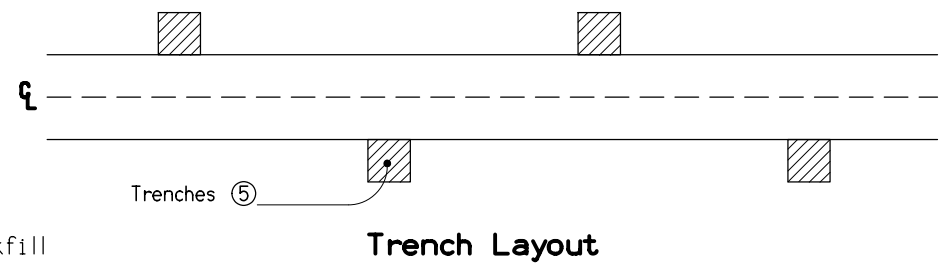
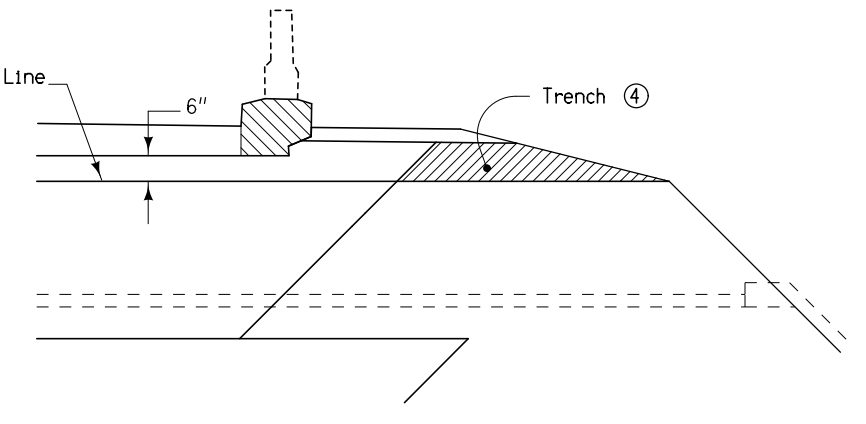
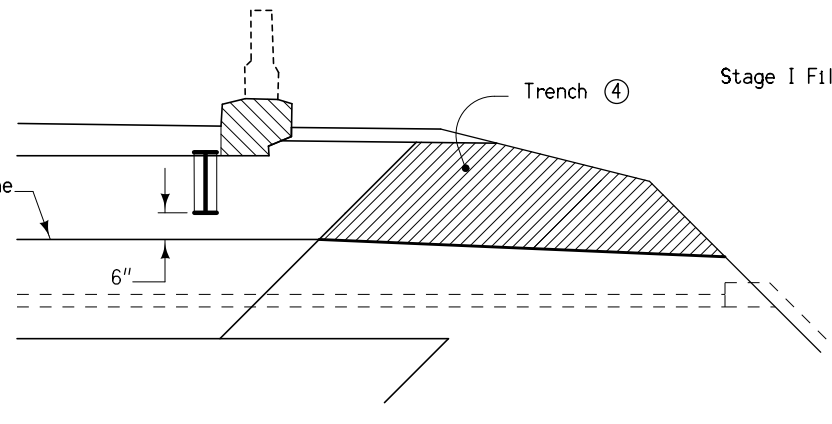
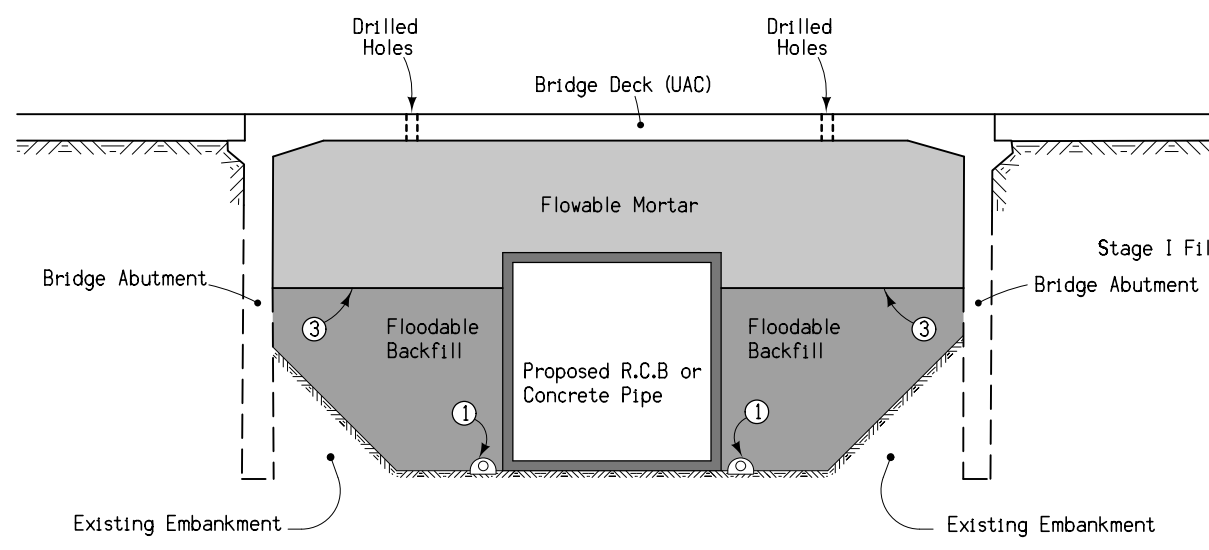
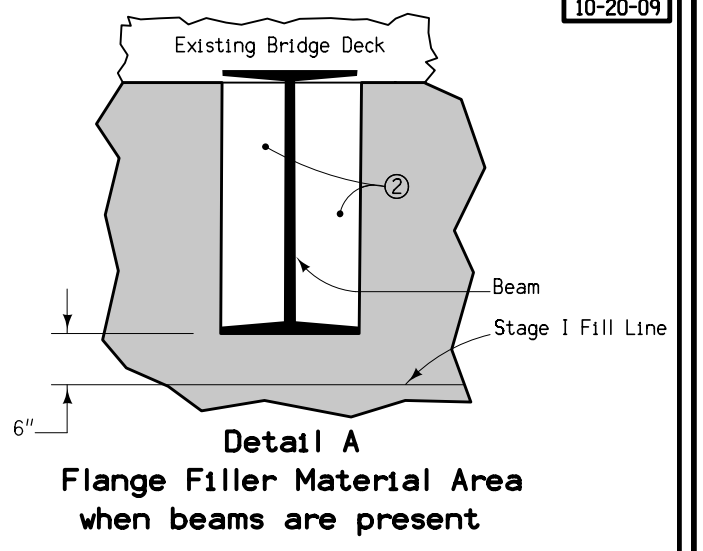
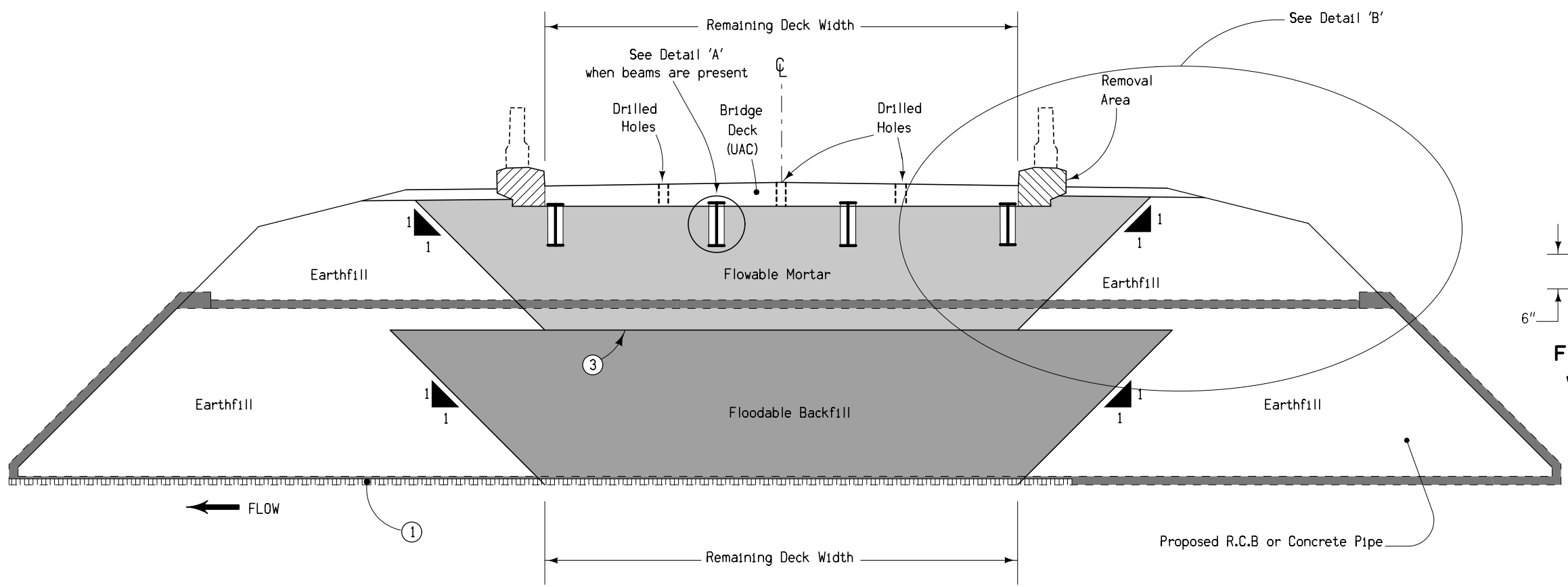
**FILLET FOR NON-PAVED SIDE ROADS
(Full Depth HMA Paving Project)**

TABLE OF DESIGN QUANTITIES Per Lineal Foot of Fillet		
SURFACE COURSE Tons ①	INTERMEDIATE COURSE Tons ①	TACK COAT Gal. ②



**SIDE ROAD GRADING
(BARNROOF)**





- ① 4" Subdrain at flowline elevation of culvert with 4" cover of porous backfill.
- ② 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

Denotes pay limits for flooded backfill

SURVEY SYMBOLS

- PPA Power Pole Co. 1
- LUM Luminaire
- SI Sign
- GDL Guard Rail (Rail and Cable)
- MM Mile Marker Post
- TPD Telephone Pedestal
- EB Electrical Box
- RET Retaining Walls
- MIS Miscellaneous
- SL Speed Limit Sign
- OUT Tile Outlet
- TIL Tile Line
- PR Electric Riser Pole
- UB Utility Box
- FW Wire Fence
- FCL Chain Link and Security Fence
- WV Water Valve
- IN Storm Sewer Intake
- MH Utility Access (Manhole)
- SNP Unpaved Shoulder
- DU Centerline Draw or Stream (Up)
- D Centerline Draw or Stream (Down)
- EG Edge of Gravel Road
- ENU Edge Unpaved Entrance & Parking
- ENT Centerline BL of Entrance
- DIK Centerline of Dike or Dam
- EW Edge of Water
- BNK Stream Bank
- T1 TLA Underground Telephone Line Co. 1
- F0 FOA Underground Fiber Optic Co. 1
- St.S. STA Storm Sewer Line Co. 1
- W WLA Underground Water Line Co. 1
- WLB Underground Water Line Co. 2
- E1 ELA Underground Electric Line Co. 1
- E2 ELB Underground Electric Line Co. 2
- G GLA Underground Gas Line Co. 1
- TDC Tree Deciduous

UTILITY LEGEND

SUB-SURFACE MAPPING QUALITY LEVEL
 LEVEL (A) POTHOLE LOCATION OR ACTUAL XYZ Location
 LEVEL (B) UTILITY FLAG LOCATION
 LEVEL (C) PLOTTED FROM REFERENCE TO GROUND FEATURES
 LEVEL (D) PLOTTED FROM UTILITY MAPS OR HEARSAY

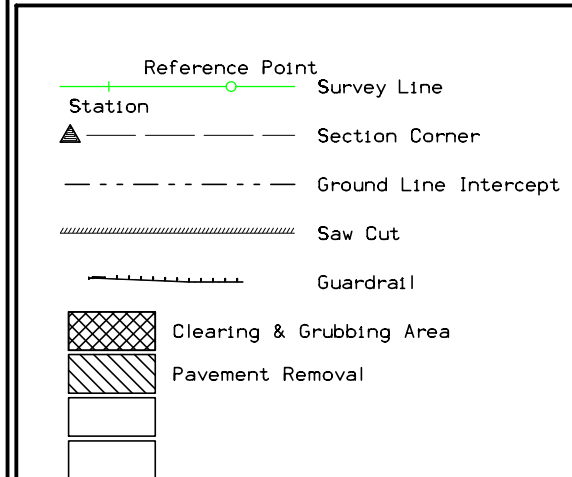
- T1 - TLA Hickory Tech (B)
- F0 - FOA Premier Communications (B)
- St.S. - STA City of Rock Valley (A)
- W - WLA City of Rock Valley (B)
- W2 - WLB Rock Valley Rural Water (B)
- E1 - ELA Mid American Energy (B)
- E2 - ELB North West REC (B)
- G - GLA Mid American Energy (B)
- PPA Mid American Energy

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
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

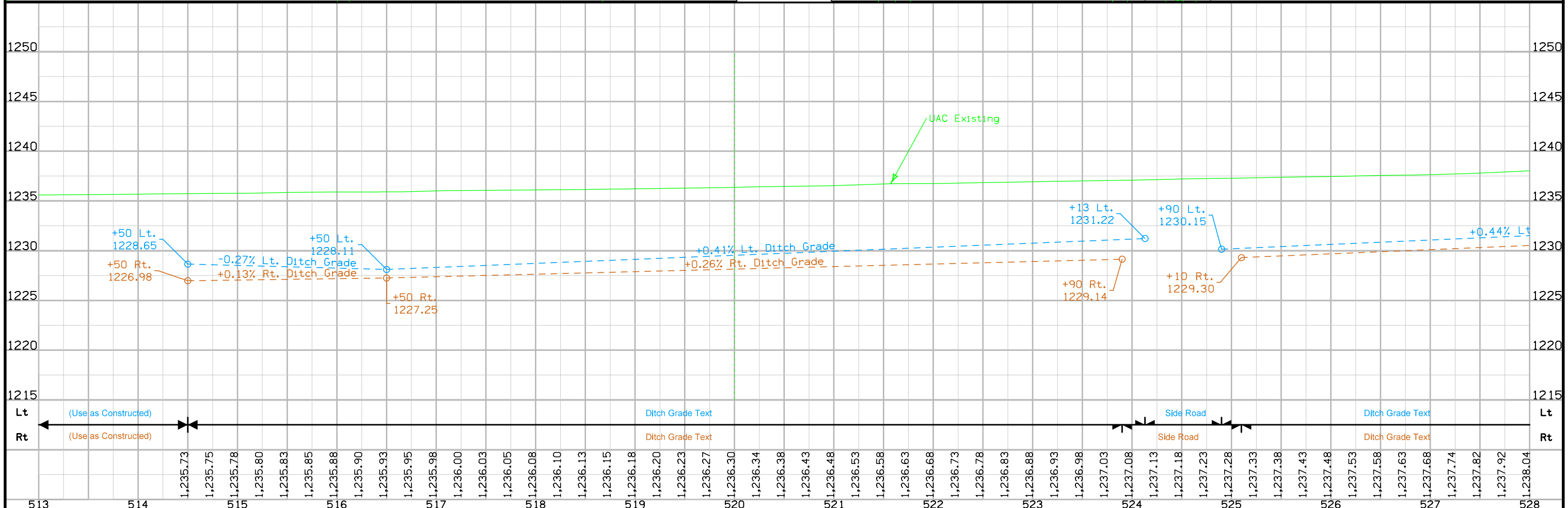
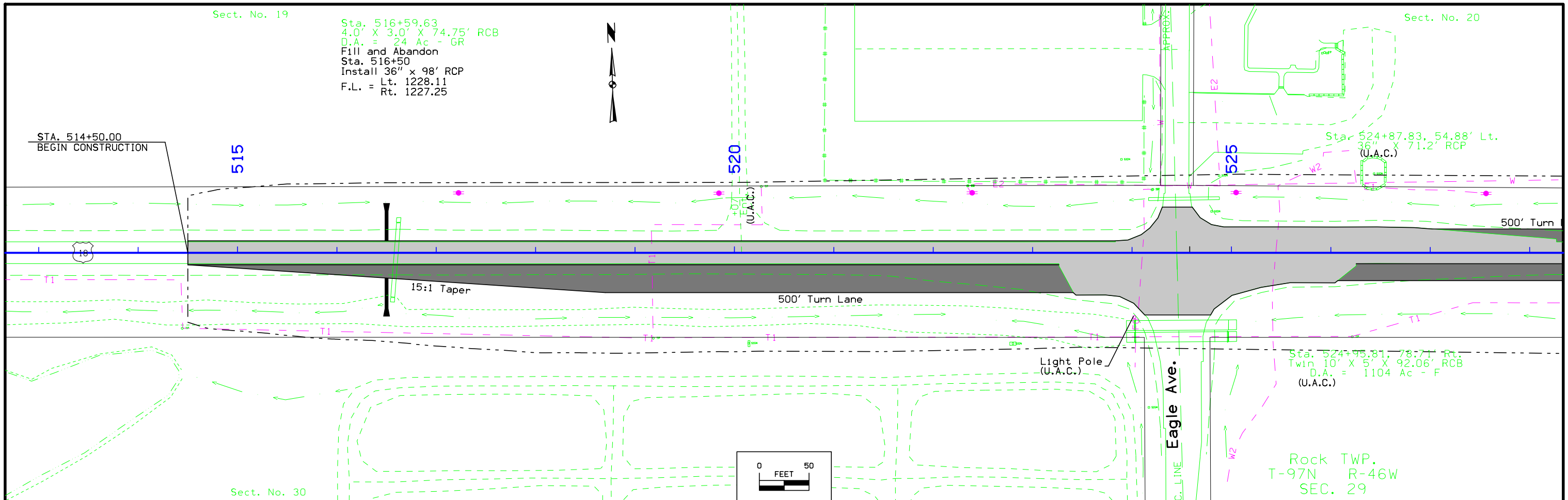


RIGHT-OF-WAY LEGEND

- Proposed Right-of-Way
- Existing and Proposed Right-of-Way
- Easement and Existing Right-of-Way
- Borrow
- Easement (Temporary)
- Easement
- Excess
- A/C Access Control

PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

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



Survey Information

General Information

Measurement units for this survey are US survey feet. This survey is to be supplemented by aerial survey information. Features collected in the field are only those that require field survey accuracy. This is known as a partial dtm survey in the Design Office.

Vertical Control

Vertical datum for this survey is relative to NAVD88.

An elevation was brought in via GPS observations from NGS BM V 12 Reset and held at bm # 500. A 3-wire level loop was run from BM #500 through the project benchmarks and returned to BM # 500. The loop error was allowable and the error was distributed proportionately among the project marks.

Survey datum is related to previous plan datum as follows:

BM # 504 this survey Elevation = 1232.17 ft.
= BM 50A Plan FA 542 (8) Elevation= 1235.87 ft. (+3.70)

BM # 500 this survey Elevation = 1242.34 ft.
= IHC BM SE Cor Bridge Plan FA 542 (8) Elevation= 1246.08 ft. (+3.74)

East end Br. Floor this survey Elevation = 1242.07 ft.
= East end Br. Floor Plan F-542 Design 348 Elevation= 1245.68 ft. (+3.61)

West end Br. Floor this survey Elevation = 1241.96 ft.
= East end Br. Floor Plan F-542 Design 348 Elevation= 1245.53 ft. (+3.57)

Horizontal Control

This survey control is relative to laRTN reference stations. laRTN Reference station coordinates are relative to the National Reference Station network: (NAD83(1996CORS) for Epoch 2002.00. Fully constrained adjusted coordinates of the laRTN reference stations are reported to be accurate to about +/-0.02 ft. in horizontal and +/-0.05 ft. in vertical at 95% confidence level (2 sigma). Project Control coordinates were determined by averaging redundant laRTN observations. The horizontal standard deviation of these observations was less than 0.05 ft. The coordinate system for this project is Iowa State Plane North Zone in U.S Survey ft. units. This project was not scaled to ground because it was assigned to be a pilot project to investigate the affects of using a state plane coordinate system in design of a smaller project.

The linear error on this project between state plane grid and surface is: 0.07 ft. in 1000'. Therefore a measured surface distance of 1000.00 ft will yield a project (state plane) coordinate pair inverse distance of 999.93'. Project control was spaced appropriately along the project so that the effects of accumulating surface distance error would be negated by distributing it proportionately at intermediate control points. This spacing will ensure that when measuring a surface distance using a scale of 1.0000 between any control point and the nearest control point in any direction there will never be more than 0.05' variance between the observed surface distance and the inversed project coordinate pairs. Therefore total station construction staking can be done using a scale factor of 1.00 from a nearby project control point. Also construction staking using GPS equipment can be done using the state plane Iowa North coordinate system in US ft. units.

Alignment Information

The horizontal alignment for this survey is a retrace of As-built Plans F Project No. 542(8). Survey stationing was equated to the plan at Sta. 474+14.5 and carried ahead without equation throughout the survey.

Equations are as follows:

POT Sta. 474+14.5 This Survey
= POT Sta. 474+14.5 As-built Plans F Project No. 542(8)

PI Sta. 538+91.92 This Survey
= PI Sta. 538+91.7 As-built Plans F Project No. 542(8)

POT Sta. 551+11.95 This Survey
= POT Sta. 551+12.8 As-built Plans F Project No. 542(8)

VERTICAL CONTROL

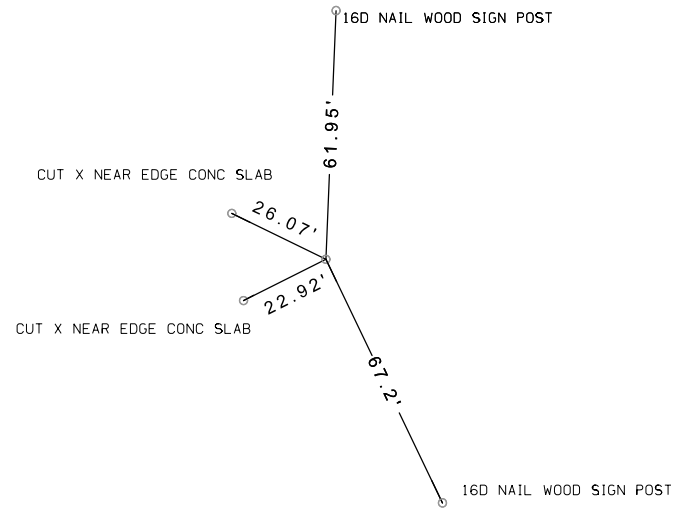
SURVEYED UTILITY OWNER SYMBOLS

SUB-SURFACE MAPPING QUALITY LEVEL
LEVEL (A) POTHOLE LOCATION OR ACTUAL XYZ Location
LEVEL (B) UTILITY FLAG LOCATION
LEVEL (C) PLOTTED FROM REFERENCE TO GROUND FEATURES
LEVEL (D) PLOTTED FROM UTILITY MAPS OR HEARSAY

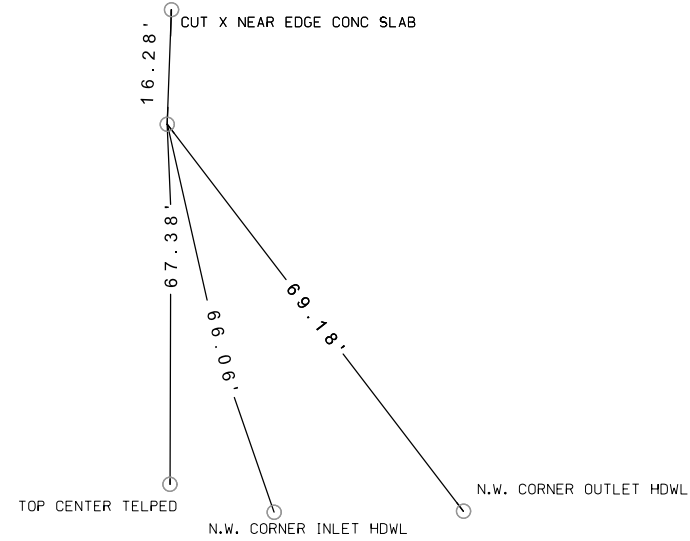
- T1 - TLA Hickory Tech (B)
- F0 - FOA Premier Communications (B)
- St.S. - STA City of Rock Valley (A)
- W - WLA City of Rock Valley (B)
- W2 - WLB Rock Valley Rural Water (B)
- E1 - ELA Mid American Energy (B)
- E2 - ELB North West REC (B)
- G - GLA Mid American Energy (B)
- PPA Mid American Energy

Point	North	East	Elevation	Station	Offset	Feature	Description
500	3912793.5970	4171693.6380	1242.3412	533+22.47	15.5358	BM	500 FD IHC BUTTON SE CORNER
501	3912889.2270	4170877.8340	1233.2670	525+04.52	-59.5127	BM	501 RR SPIKE S SIDE P.POLE
502	3912833.2490	4172839.1290	1241.2200	544+66.10	-58.1280	BM	502 RR SPIKE SOUTH SIDE P.POLE
503	3912807.8580	4168149.3070	1236.9710	497+78.90	90.5654	BM	503 FD IDOT BUTTON INLET HDWL
504	3912881.3630	4170034.8670	1232.1670	516+62.01	-30.4158	BM	504 FD IHC INLET HDWL

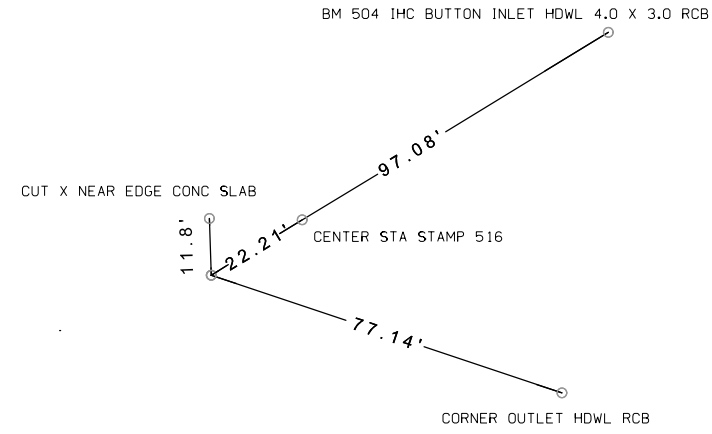
P.I. Sta. 474+14.50
 CP 100, Found Lead Plug
 N=3912957.957, E=4165787.934



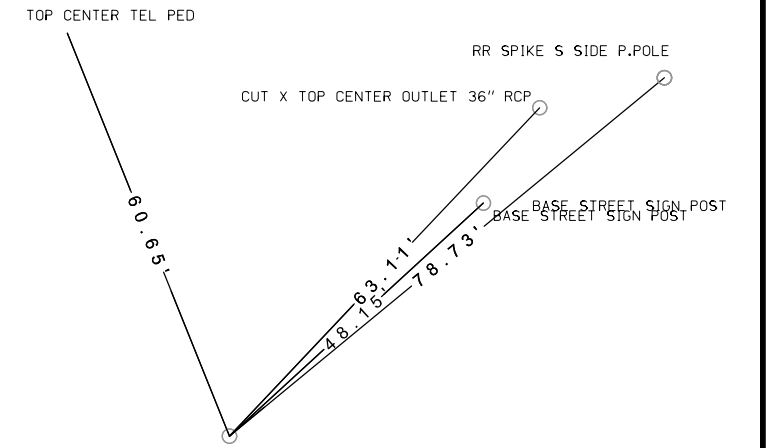
CP Sta. 497+61.63, 26.80 Rt.
 CP 300, Set Iron Pin
 N=3912872.035, E=4168133.640



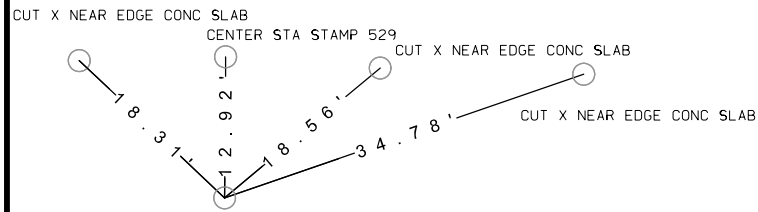
CP Sta. 515+80.46, 22.29 Rt.
 CP 301, Set Iron Pin
 N=3912830.725, E=4169952.012



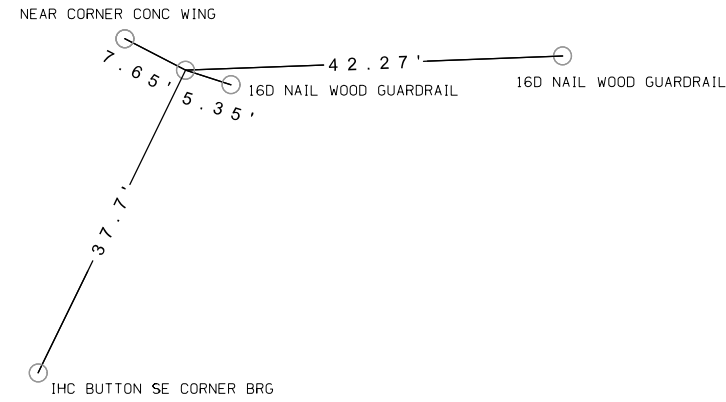
CP Sta. 524+45.02, 7.94 Lt.
 CP 101, Found Lead Plug
 N=3912839.167, E=4170817.054



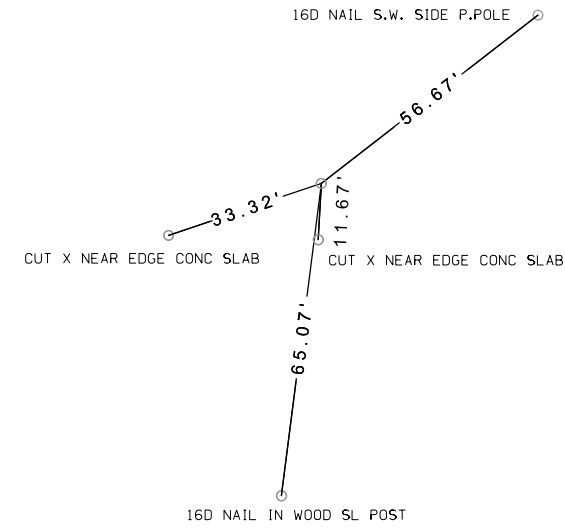
CP Sta. 529+01.03, 23.00 Rt.
 CP 4, Set 1/2 Iron Pin
 N=3912796.752, E=4171272.144



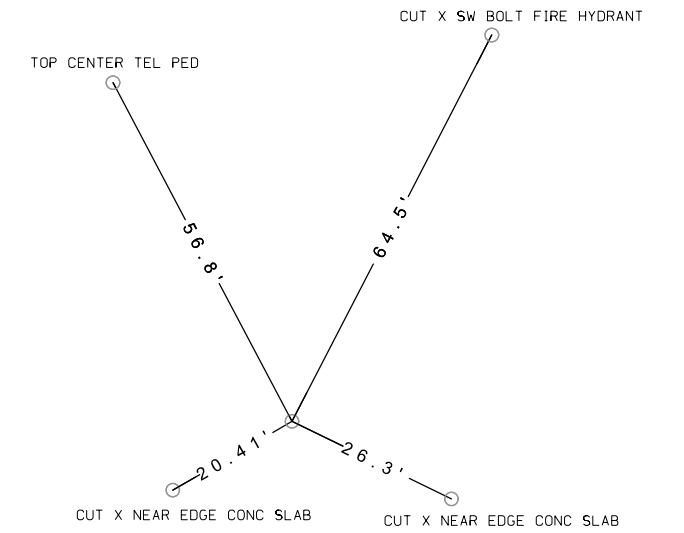
CP Sta. 533+38.08, 18.74 Lt.
 CP 5, Set 1/2 Iron Pin
 N=3912827.467, E=4174170.105



CP Sta. 537+15.42, 22.20 Lt.
 CP 6, Set 1/2 Iron Pin
 N=3912821.301, E=4172087.457



P.I. Sta. 551+11.95
 CP 102, Found Iron Pin
 N=3912753.077, E=4173482.622



ALIGNMENT COORDINATES

101-16
10-20-09

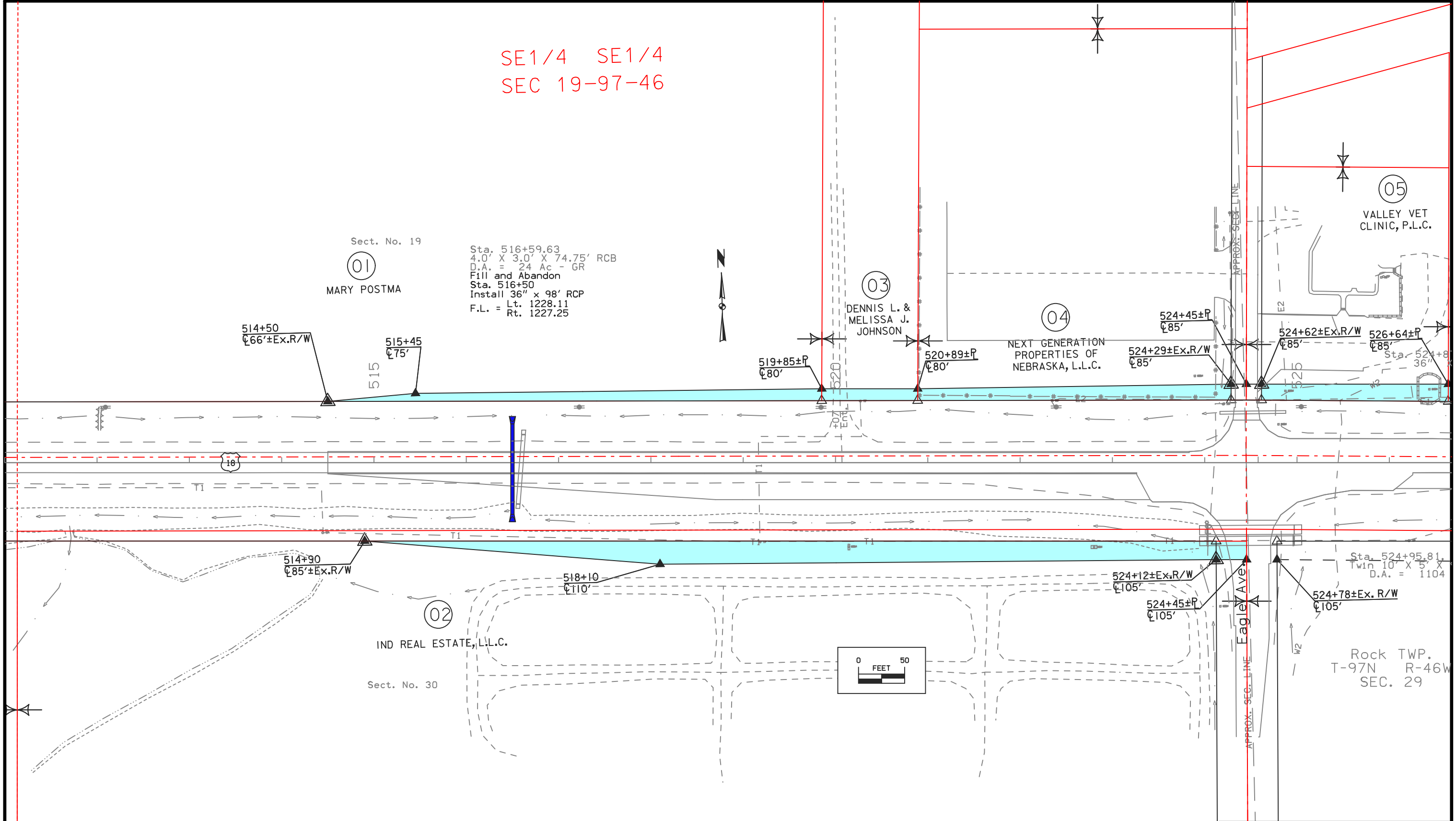
Name	Location	Point on Tangent			Begin Spiral			Begin Curve			Simple Curve PI or Master PI of SCS			End Curve			End Spiral		
		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates	
			Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)
SUR018																			
100		474+14.50	3,912,957.96	4,165,787.93															
C1							535+87.68	3,912,802.45	4,171,959.15	538+91.92	3,912,794.78	4,172,263.29	541+96.15	3,912,784.38	4,172,567.36				
102		551+11.95	3,912,753.08	4,173,482.62															

SPIRAL OR CIRCULAR CURVE DATA

101-17
04-19-11

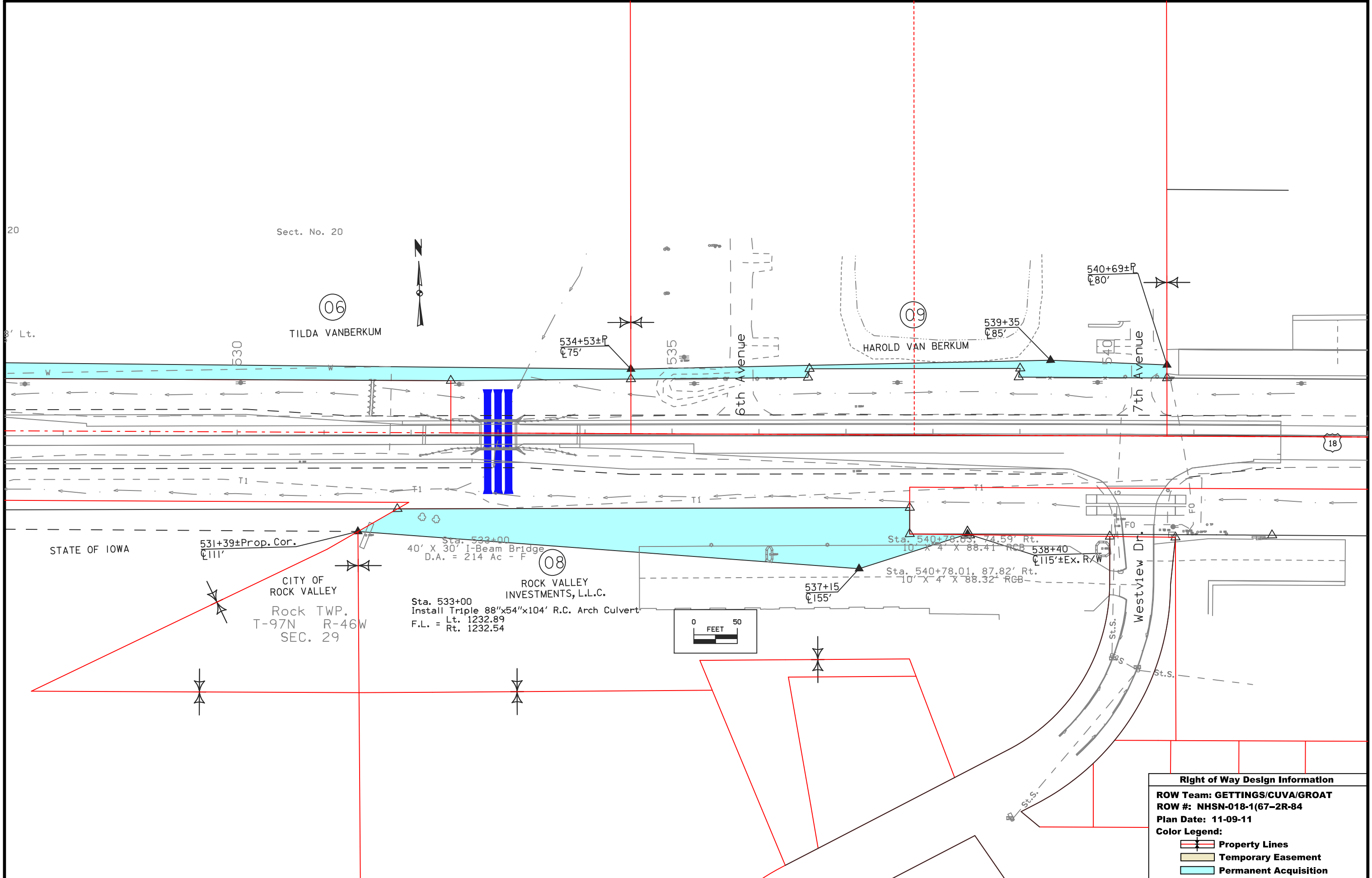
Name	Location	Δ_{scs}	Horizontal Alignment Data												Remarks										
			Spiral Data						Curve Data																
			θ_s	Ls	Ts	Es	Xc	Yc	L.T.	S.T.	Δ_c	T	L	R		E									
C1																									

SE1/4 SE1/4
SEC 19-97-46



NE 1/4 NE1/4
SEC 30-97-46

Right of Way Design Information	
ROW Team:	GETTINGS/CUVA/GROAT
ROW #:	NHSN-018-1(67)--2R-84
Plan Date:	11-09-11
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition

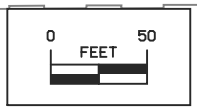


STATE OF IOWA

531+39±Prop. Cor.
 CITY OF ROCK VALLEY
 Rock TWP.
 T-97N R-46W
 SEC. 29

Sta. 533+00
 40' X 30' I-Beam Bridge
 D.A. = 214 Ac - F
 (08)
 ROCK VALLEY INVESTMENTS, L.L.C.
 Sta. 533+00
 Install Triple 88"x54"x104' R.C. Arch Culvert
 Lt. 1232.89
 F.L. = Rt. 1232.54

Sta. 540+78.85, 74.59' Rt.
 10' X 4' X 88.41' RGB
 Sta. 540+78.01, 87.82' Rt.
 10' X 4' X 88.32' RGB



Right of Way Design Information	
ROW Team: GETTINGS/CUVA/GROAT	
ROW #: NHSN-018-1(67-2R-84)	
Plan Date: 11-09-11	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition

PARCEL CHECK BY PROJ UPDATED 11/09/11 13:27

PAGE: 1

AND: 2

R2360003 PARCEL CHECK LIST BY PROJECT NUMBER

COUNTY : SIOUX

PROJECT NO. :NHSN-018-1(67)--2R-84

PIN: 08-84-018020-00

CONSTRUCTION NO.:NHSX-018-1(72)--3H-84

ASSIGNED TO: NLC

DESCRIPTION : Over Stream 0.8 Mile West Of Road K-30 In Rock Valley

PARCEL	KEY	OWNER	TYPE	R/W W.D OR EASE.	BORROW W.D OR EASE.	HOUSE OR
--------	-----	-------	------	------------------	---------------------	----------

0001	26158	MARY POSTMA	FEE STATE OF IOWA	0.12	WD ACRE	
0002	26159	IND REAL ESTATE, L.L.C.	FEE STATE OF IOWA	0.40	WD ACRE	
0003	26160	DENNIS L. JOHNSON MELISSA J. JOHNSON	FEE STATE OF IOWA FEE	0.03	WD ACRE	
0004	26161	NEXT GENERATION PROPERTIES OF NEBRASKA	FEE STATE OF IOWA	0.12	WD ACRE	
0005	26162	VALLEY VET CLINIC, PLC	FEE STATE OF IOWA	0.08	WD ACRE	
0006	26163	TILDA VAN BERKUM	FEE STATE OF IOWA	0.29	WD ACRE	
0007	26164	PARCEL R. DELETED UNKNOWN	FEE			
0008	26165	ROCK VALLEY INVESTMENTS, L.L.C.	FEE STATE OF IOWA	0.72	WD ACRE	
0009	26166	HAROLD VAN BERKUM	FEE STATE OF IOWA	0.16	WD ACRE	

STATE OF IOWA

0.16 WARRANTY DEED ACRES

8 TOTAL PARCELS ON PROJECT

108-23A
08-01-08

TRAFFIC CONTROL PLAN

Traffic will be maintained at all times on U.S. Highway 18 during construction operations.

Traffic control on this project shall be in accordance with the Standard Roads Plans shown in Tab. 105-4, and appropriate detail sheets contained in the plans. For additional complementary information refer to Part 6 of the "Manual on Uniform Traffic Control Devices" and to the current Standard Specifications.

108-26A
08-01-08

STAGING NOTES

It is not the intent of the sequence of construction to confine the Contractor's activities to the area of the suggested stages alone. It is understood that some of the various steps, though listed in numerical order, may occur simultaneously. Therefore, the Contractor may conduct several operations concurrently on the project, provided that the existing traffic is maintained and that these operations do not conflict with the staging indicated here in.

It is recognized that as various activities related to the construction progress, certain situations may arise which will preclude adhering to the original construction sequence or, which in the opinion of the Contractor, would readily adhere itself to a more efficient staging operation. Should this occur, and the Contractor desires to deviate from the original plan, they shall submit an alternate plan for approval by the Engineer.

The staging shown is one method for construction for the project. If the contractor should desire to deviate from the staging as shown, he should avail himself of Article 1105.15 of the Standard Specifications to request changes. Maintenance of traffic shall be according to Tab. 108-23; no deviations from the intent of the traffic control plan will be acceptable for Value Engineering proposal acceptance.

102-15
08-01-08

TABULATION OF SPECIAL EVENTS

Event	Location	Date
NONE PROVIDED		

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

LEGEND OF CROSS SECTION SHEETS (SOILS)

- TS----- Topsoil (Class 10)
- TS A----- Topsoil (Type A Disposal)
- TS B----- Topsoil (Type B Disposal)
- TS C----- Topsoil (Type C Disposal)
- CL 10----- Class 10 Materials
- SEL LO----- Select Loams And Clay-Loams
- SEL SA----- Select Sand
- UNS A----- Unsuitable Type A Disposal
- UNS B----- Unsuitable Type B Disposal
- UNS C----- Unsuitable Type C Disposal
- SHALE----- Shale
- WASTE----- Waste
- B&W LS----- Broken and Weathered Rock
- ROCK----- Solid Rock
- BLDRS----- Boulders

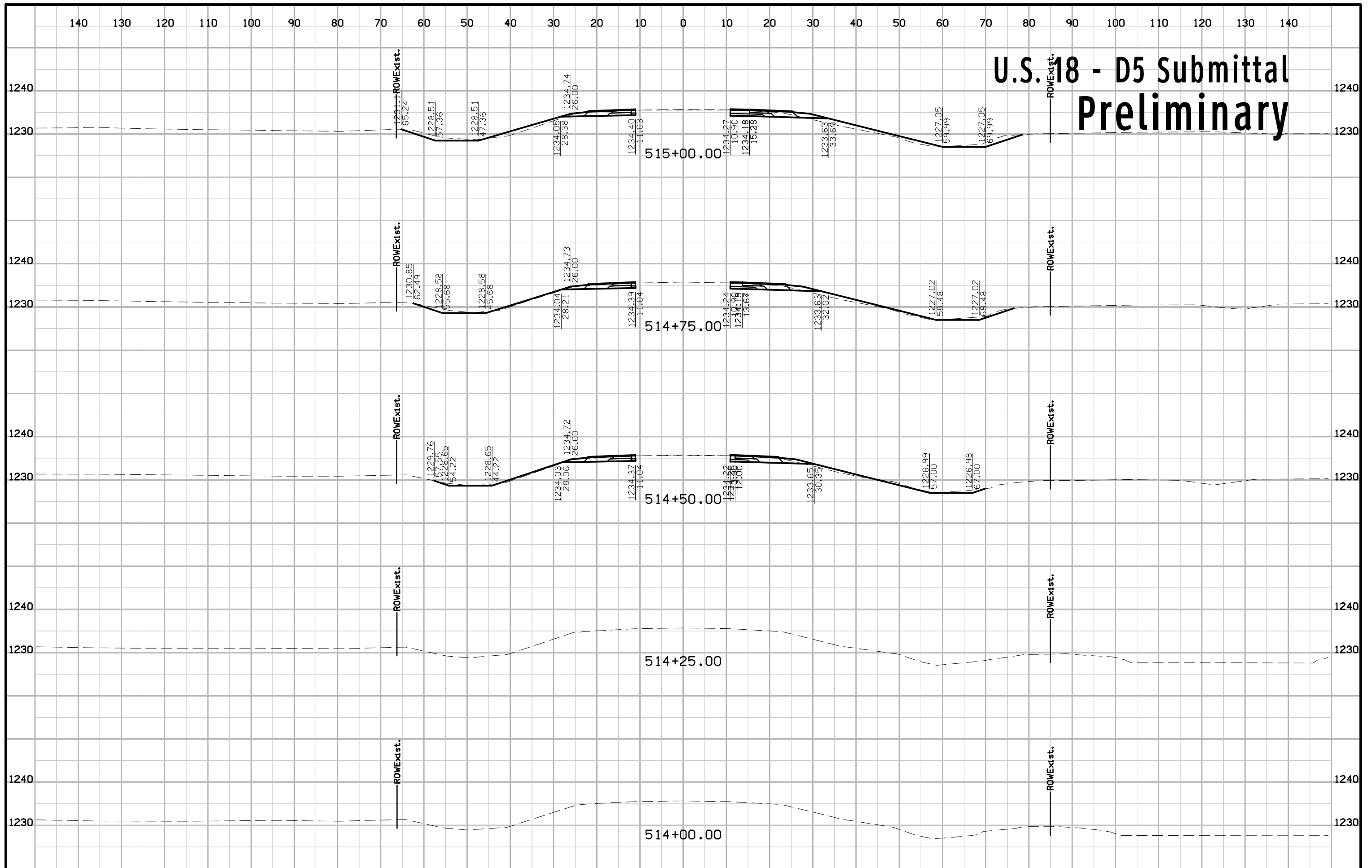
Note: All layer lines and descriptions identify layers above the line.

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.

**CROSS SECTION
LEGEND AND SYMBOL
INFORMATION SHEET**

(COVERS SHEET SERIES W)

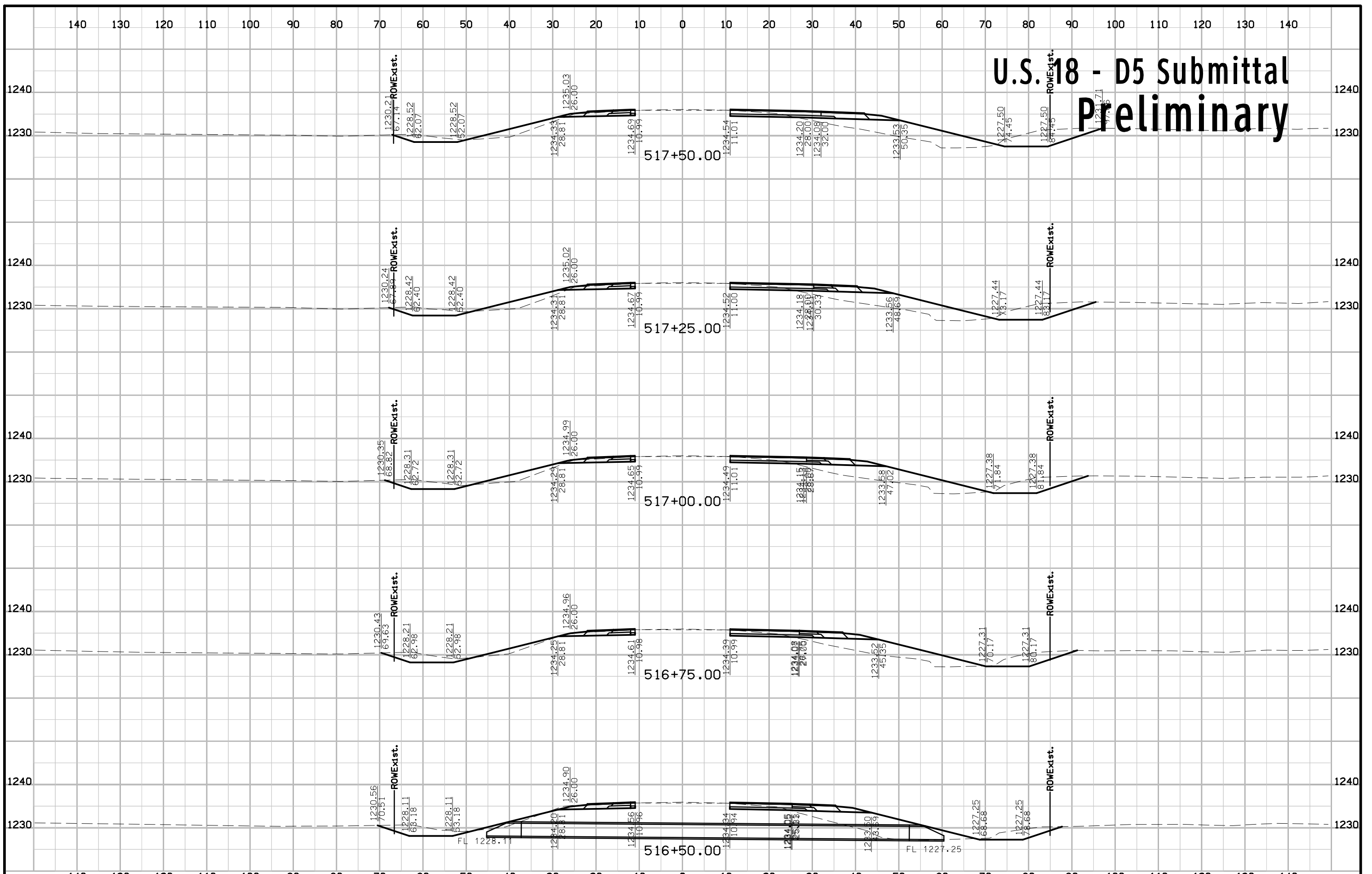
U.S. 18 - D5 Submittal Preliminary



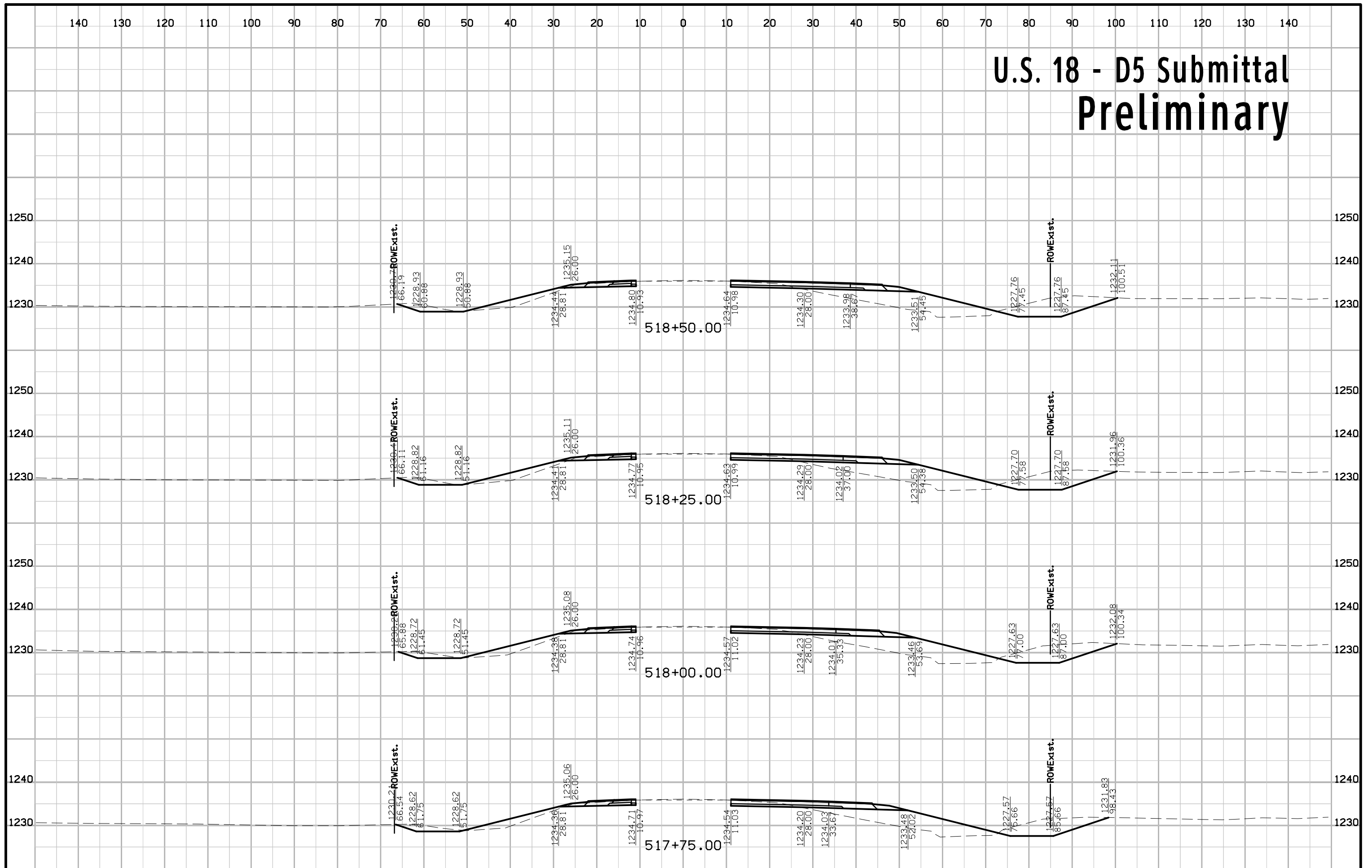
U.S. 18 - D5 Submittal Preliminary



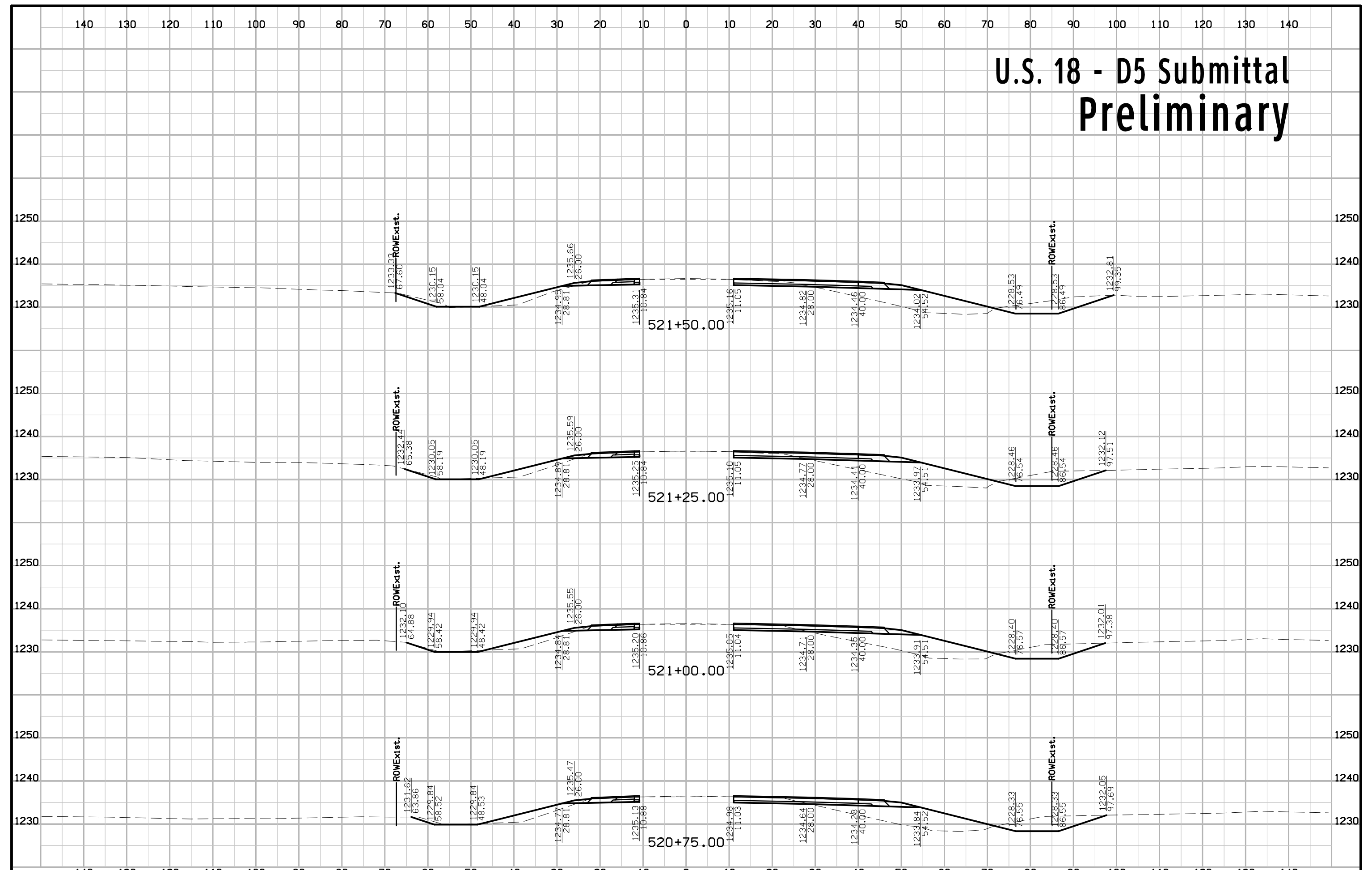
U.S. 18 - D5 Submittal Preliminary



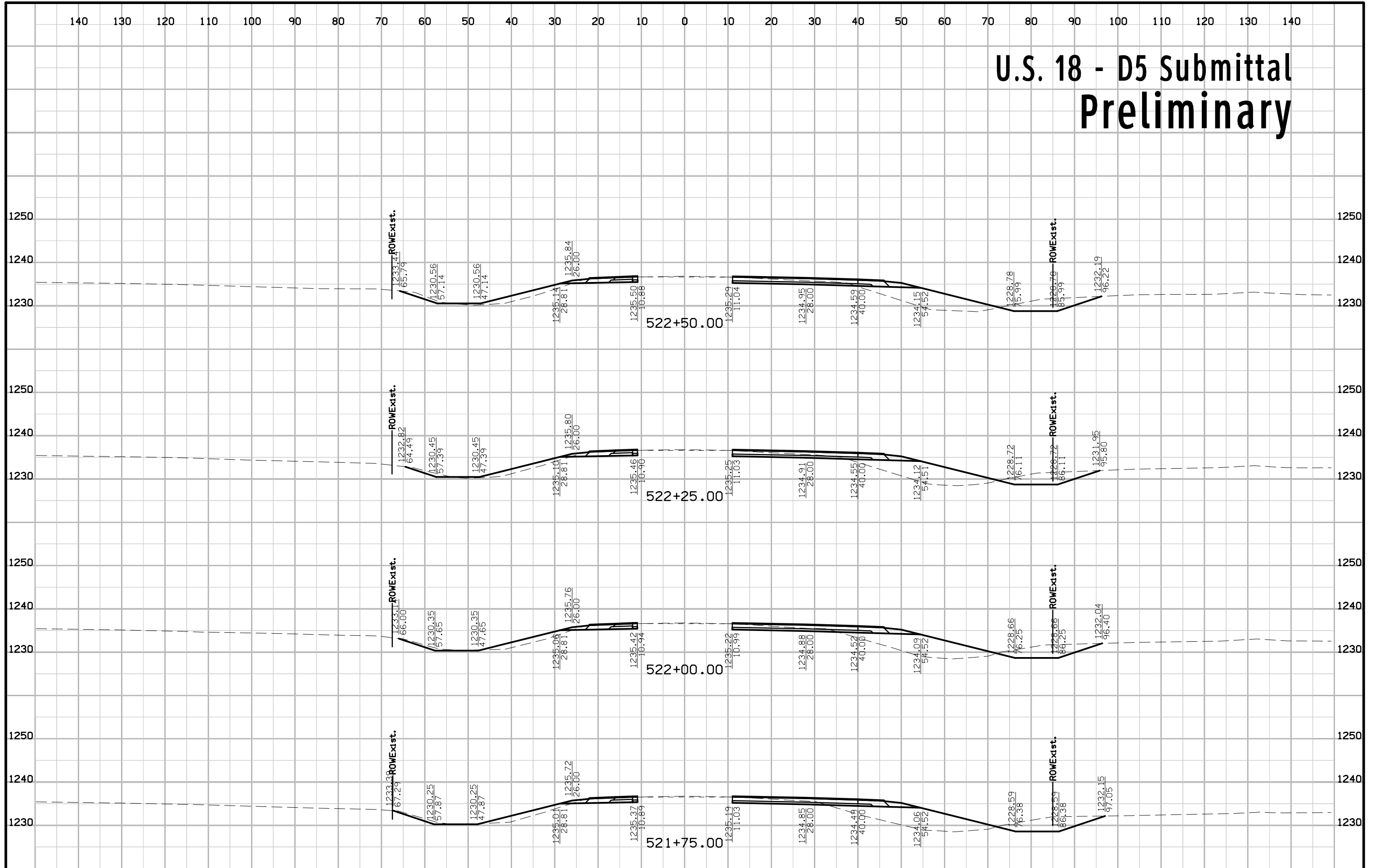
U.S. 18 - D5 Submittal Preliminary



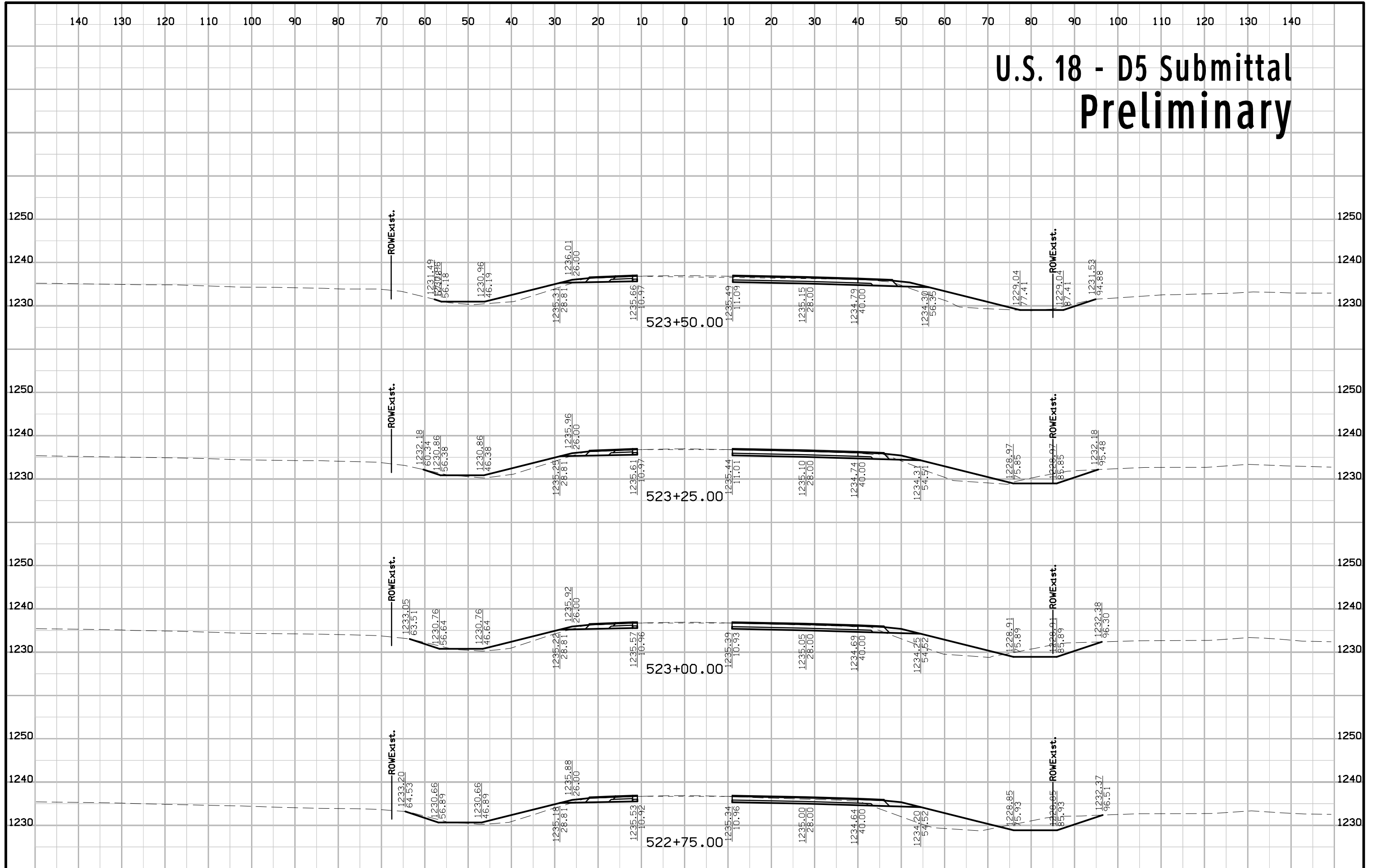
U.S. 18 - D5 Submittal Preliminary



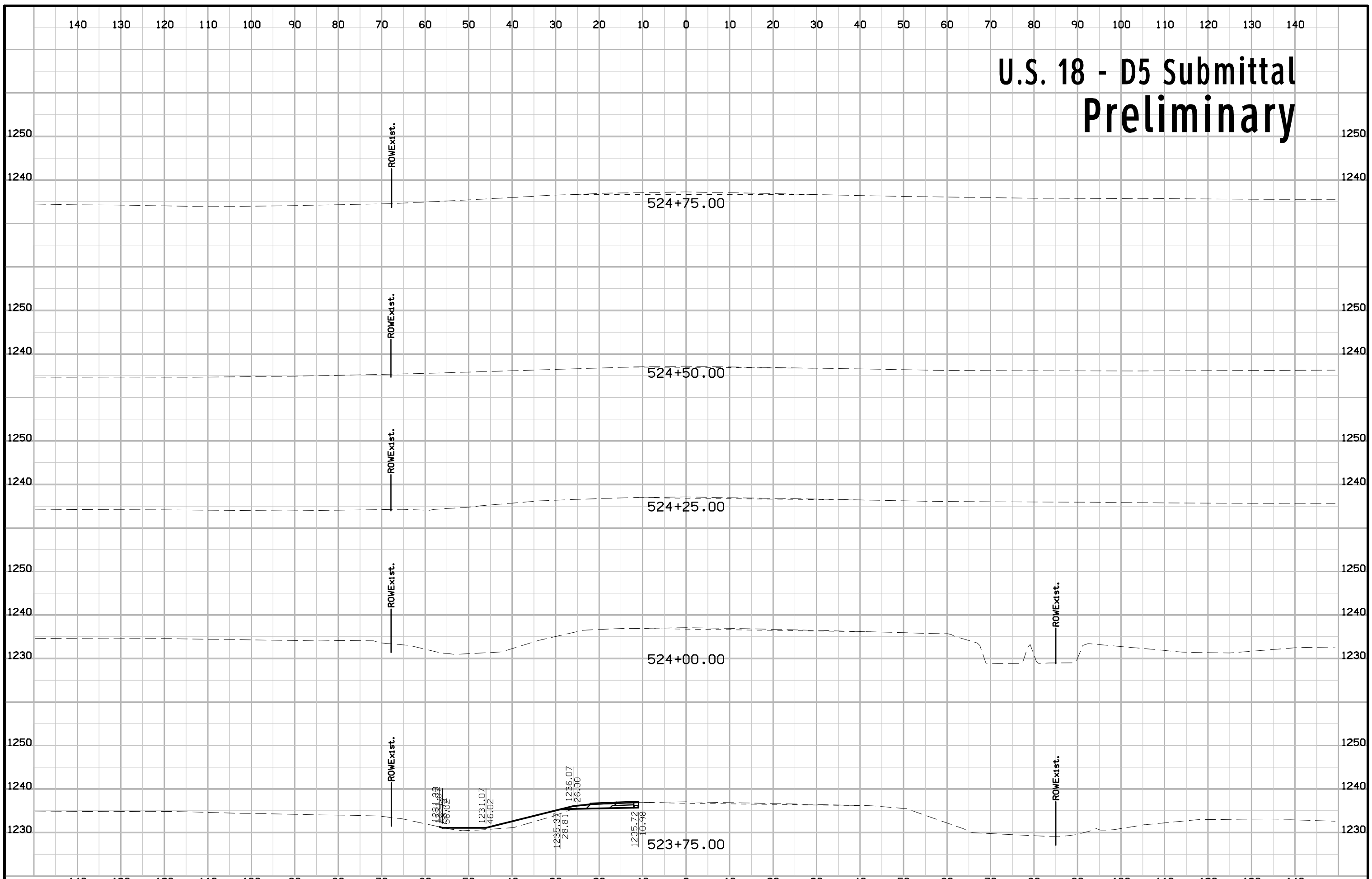
U.S. 18 - D5 Submittal Preliminary



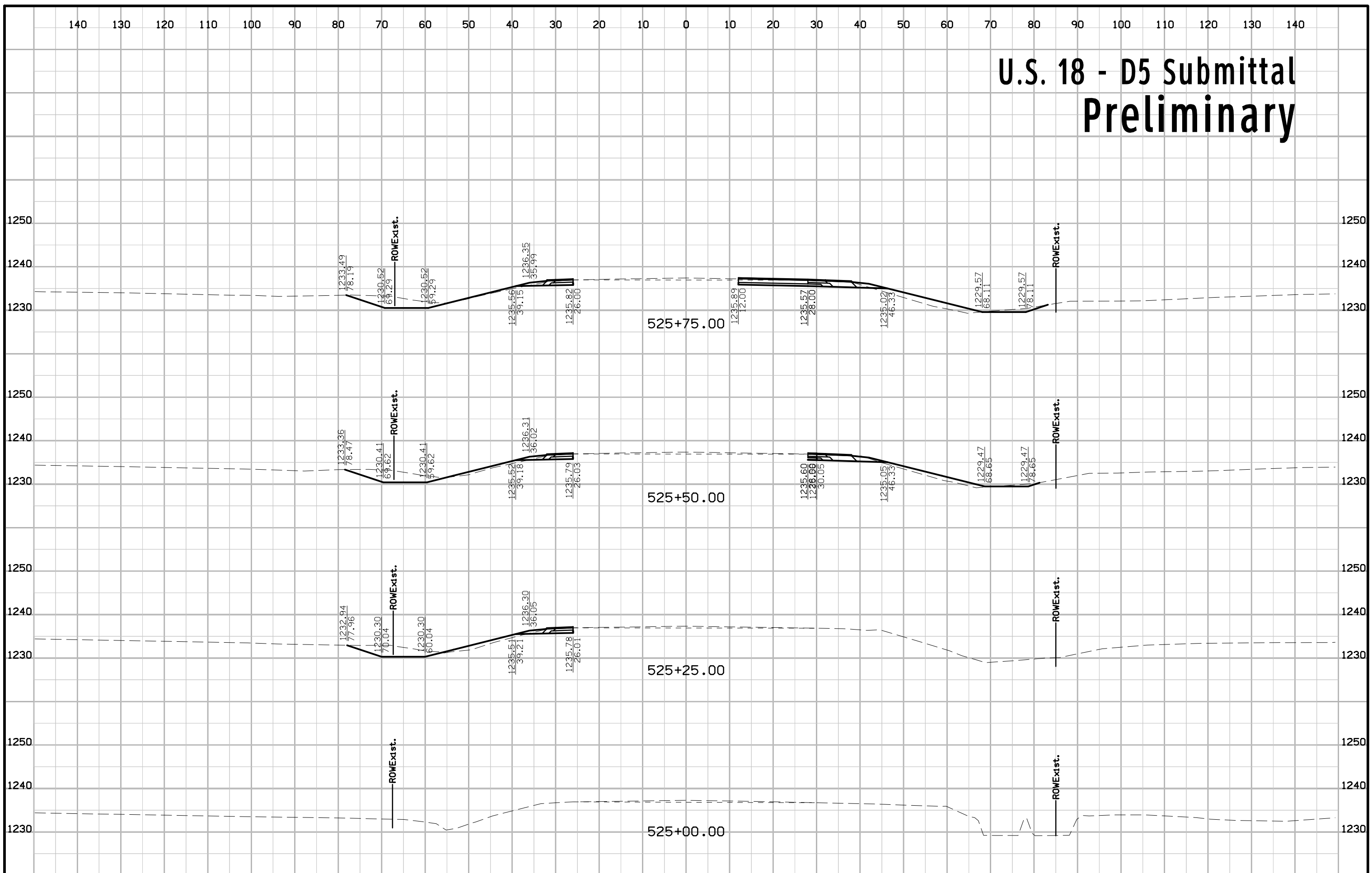
U.S. 18 - D5 Submittal Preliminary



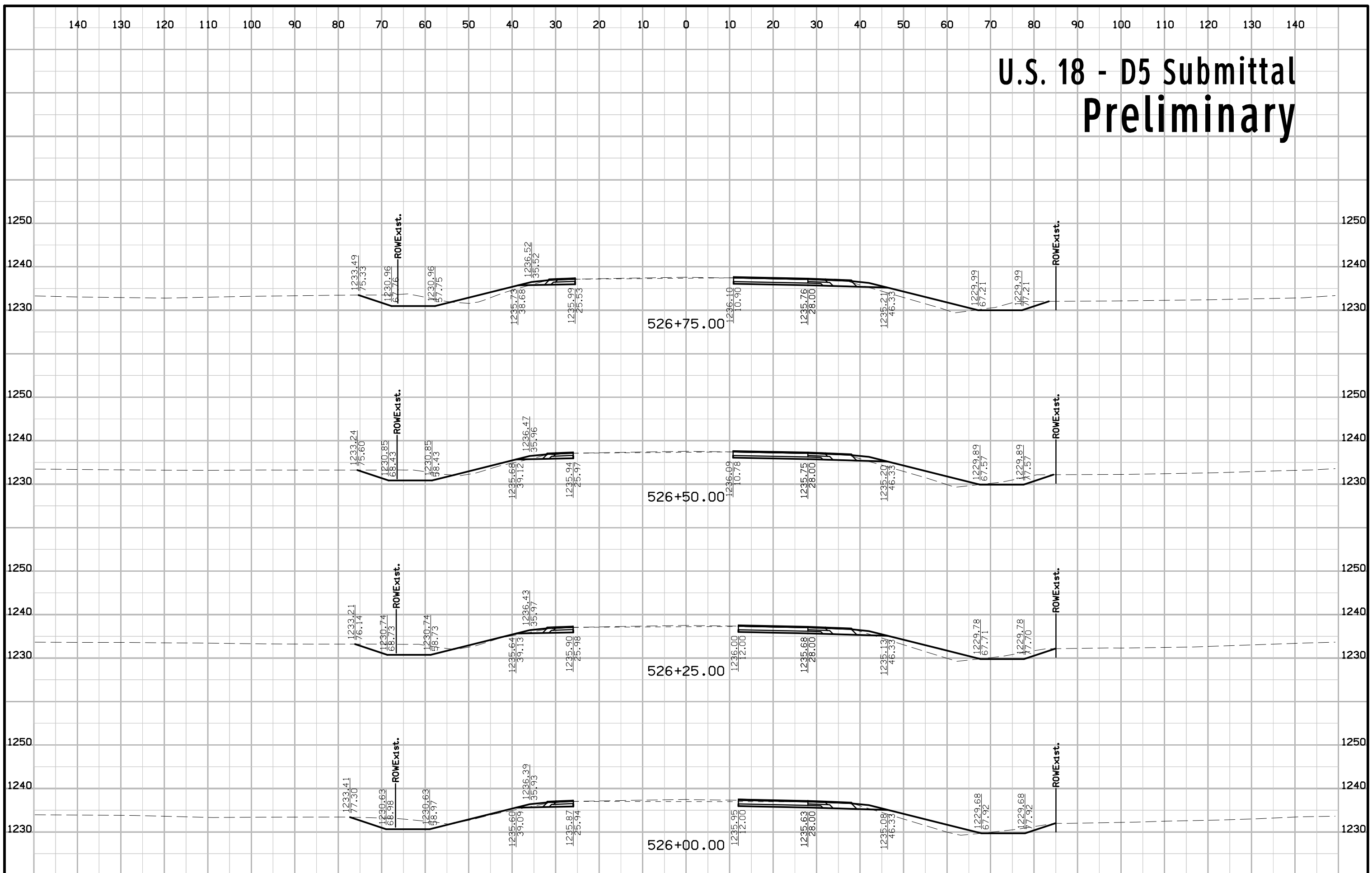
U.S. 18 - D5 Submittal Preliminary



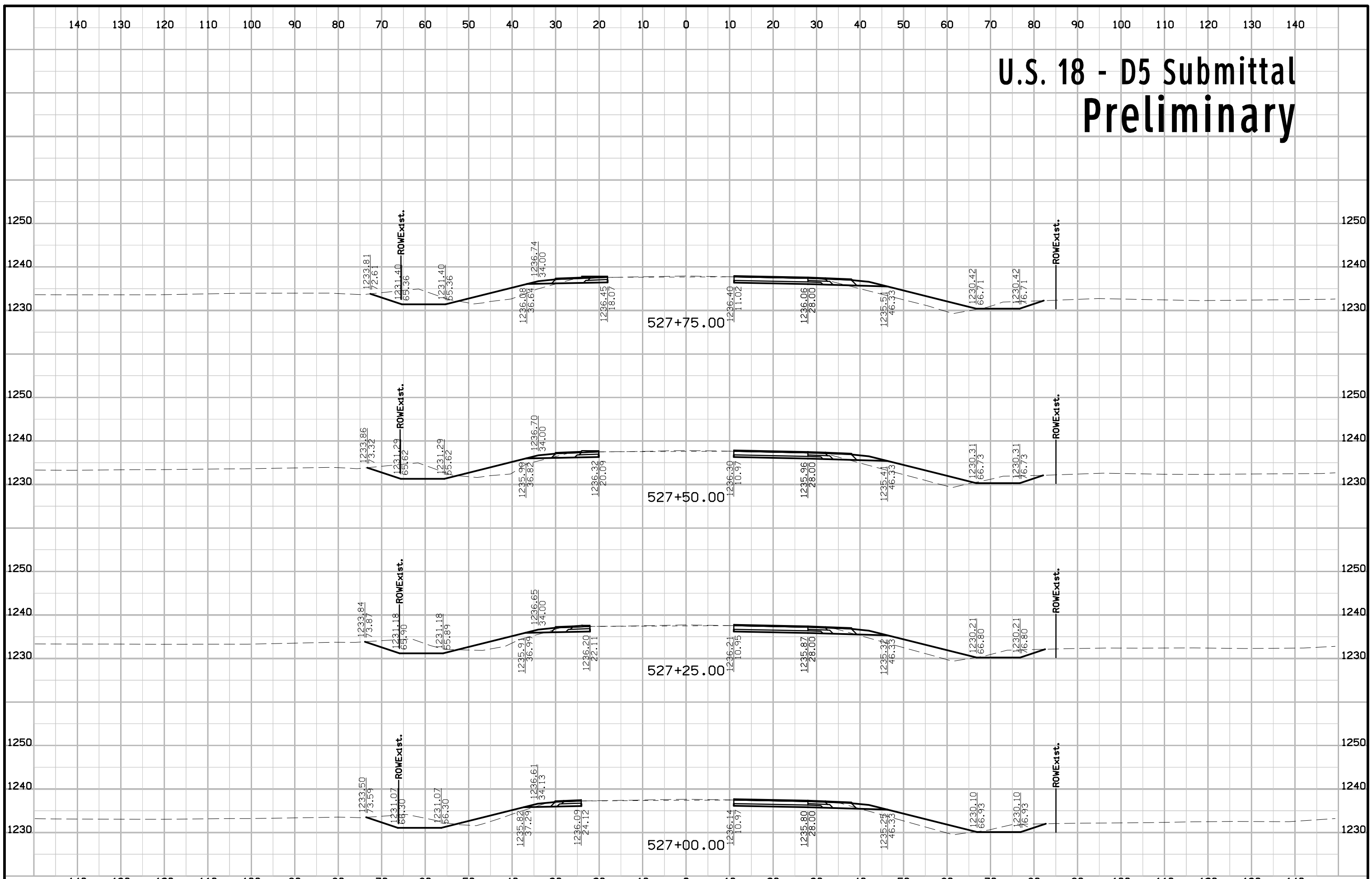
U.S. 18 - D5 Submittal Preliminary



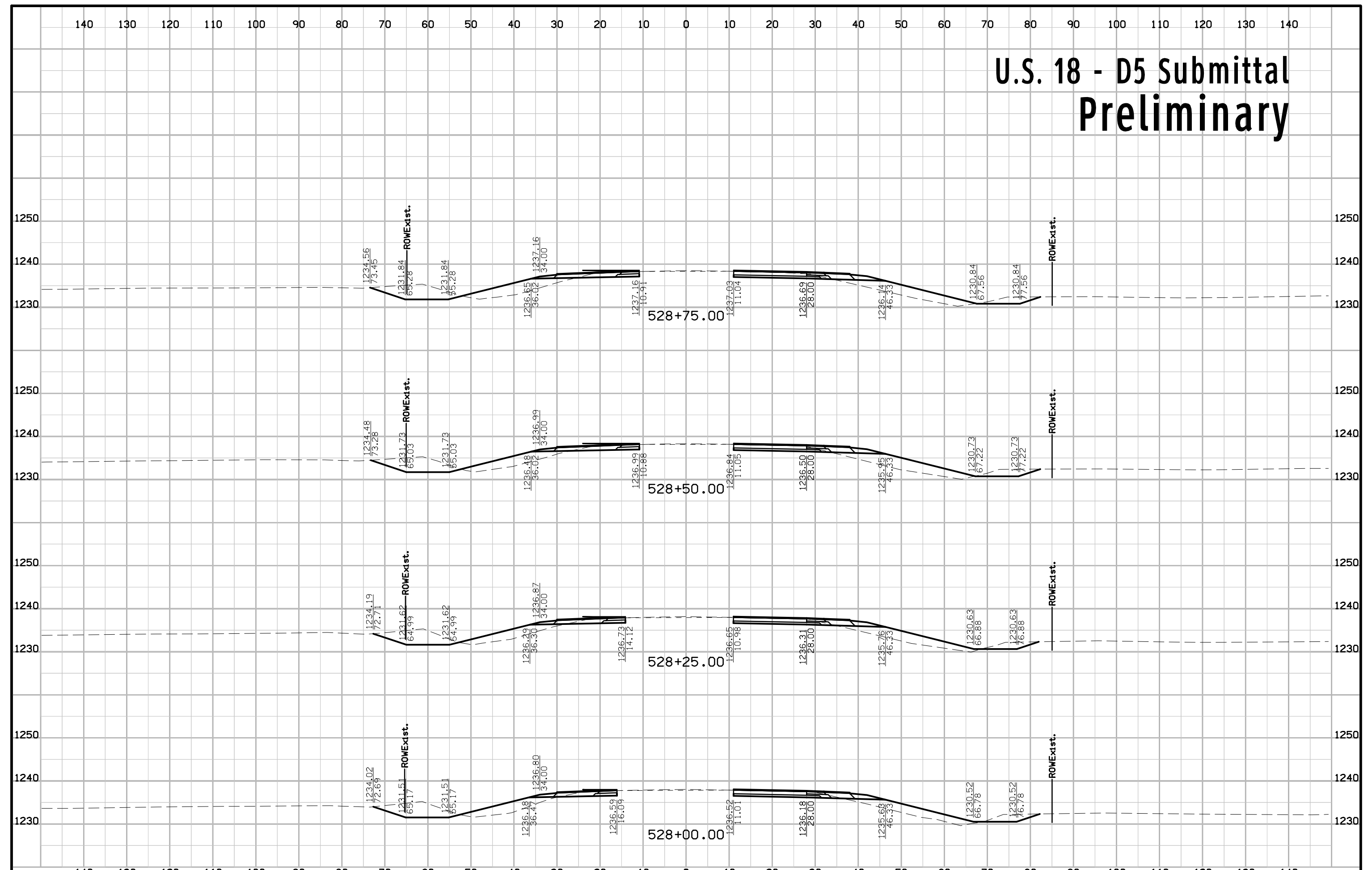
U.S. 18 - D5 Submittal Preliminary



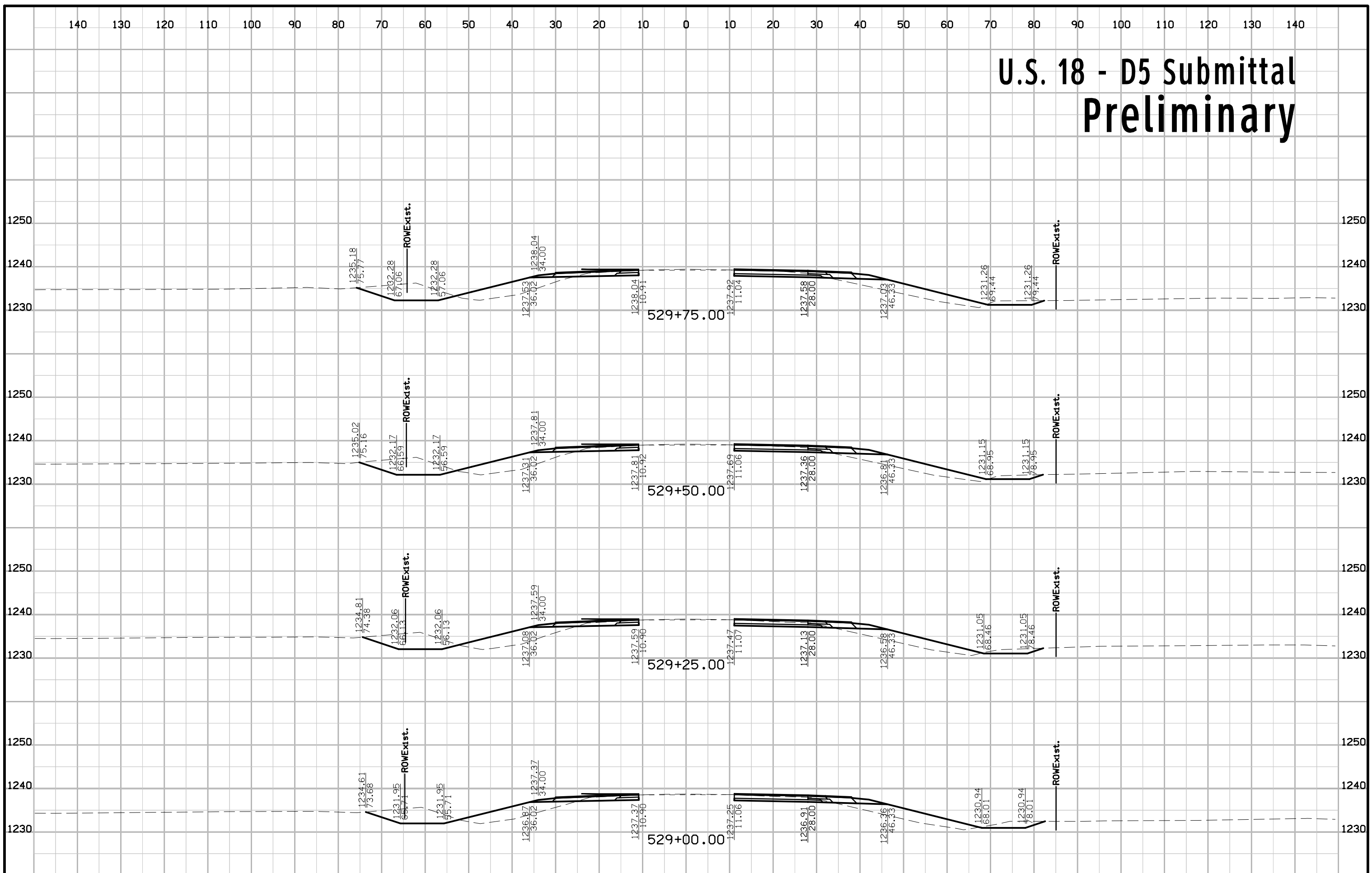
U.S. 18 - D5 Submittal Preliminary



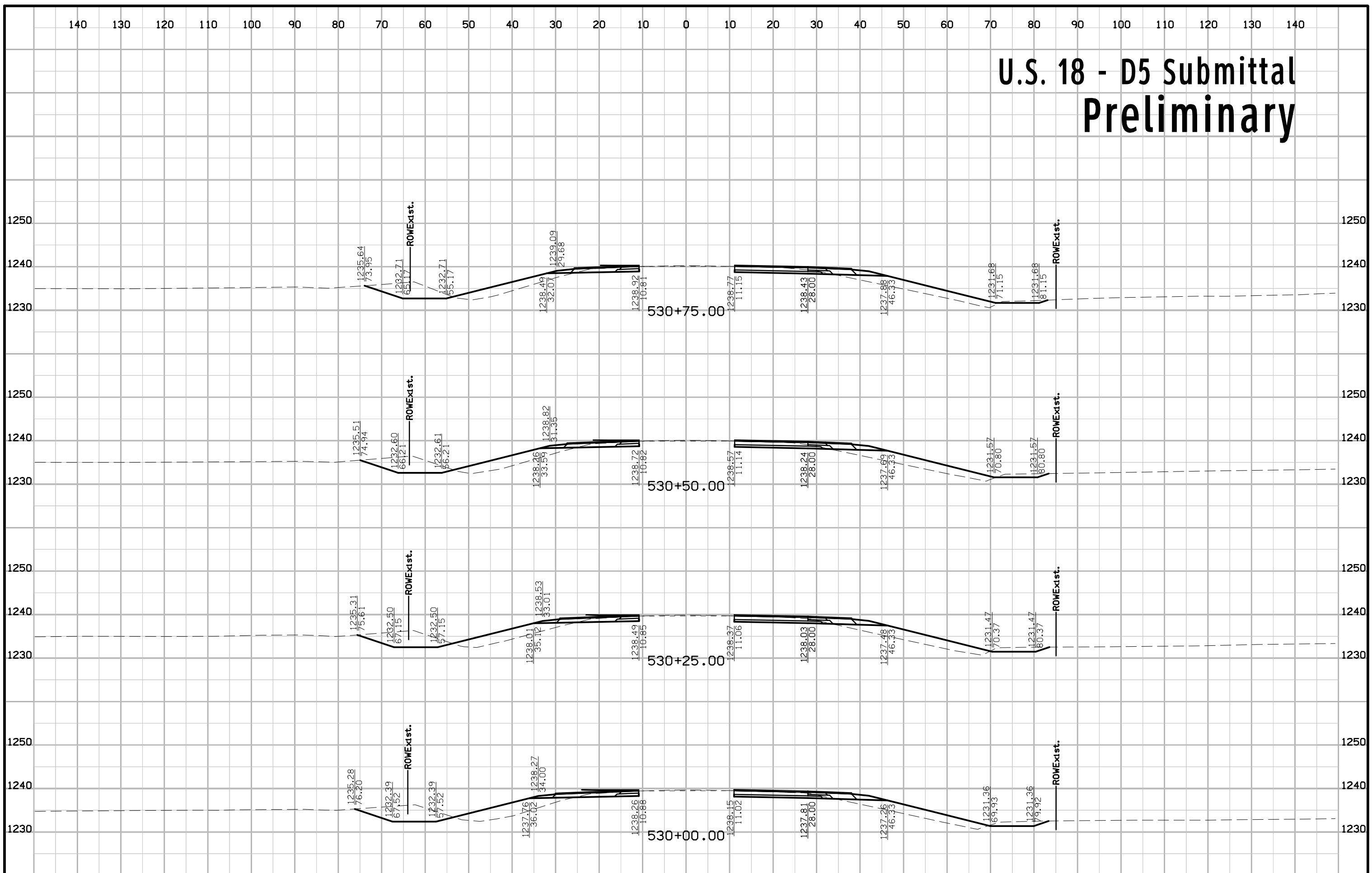
U.S. 18 - D5 Submittal Preliminary



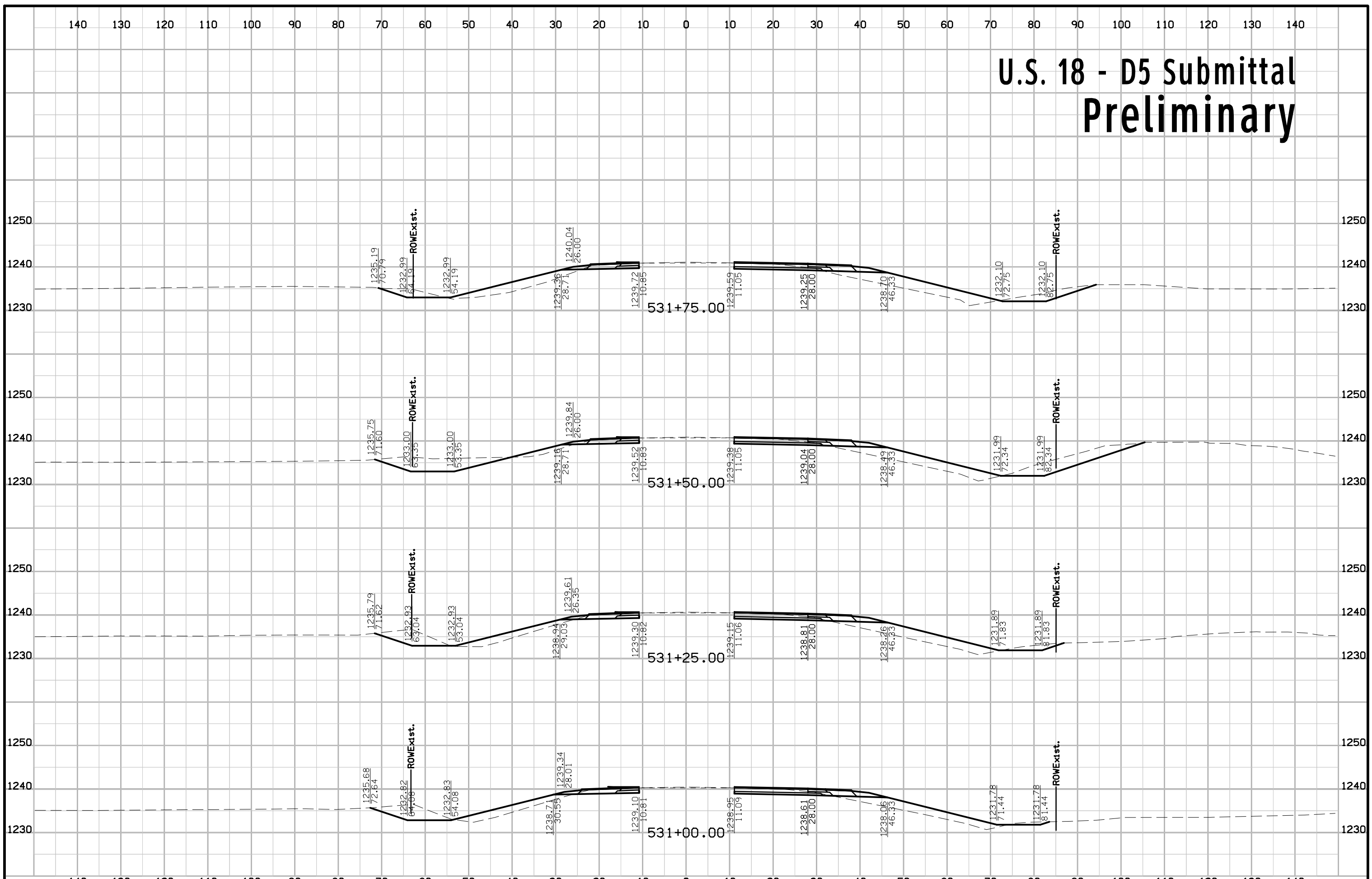
U.S. 18 - D5 Submittal Preliminary



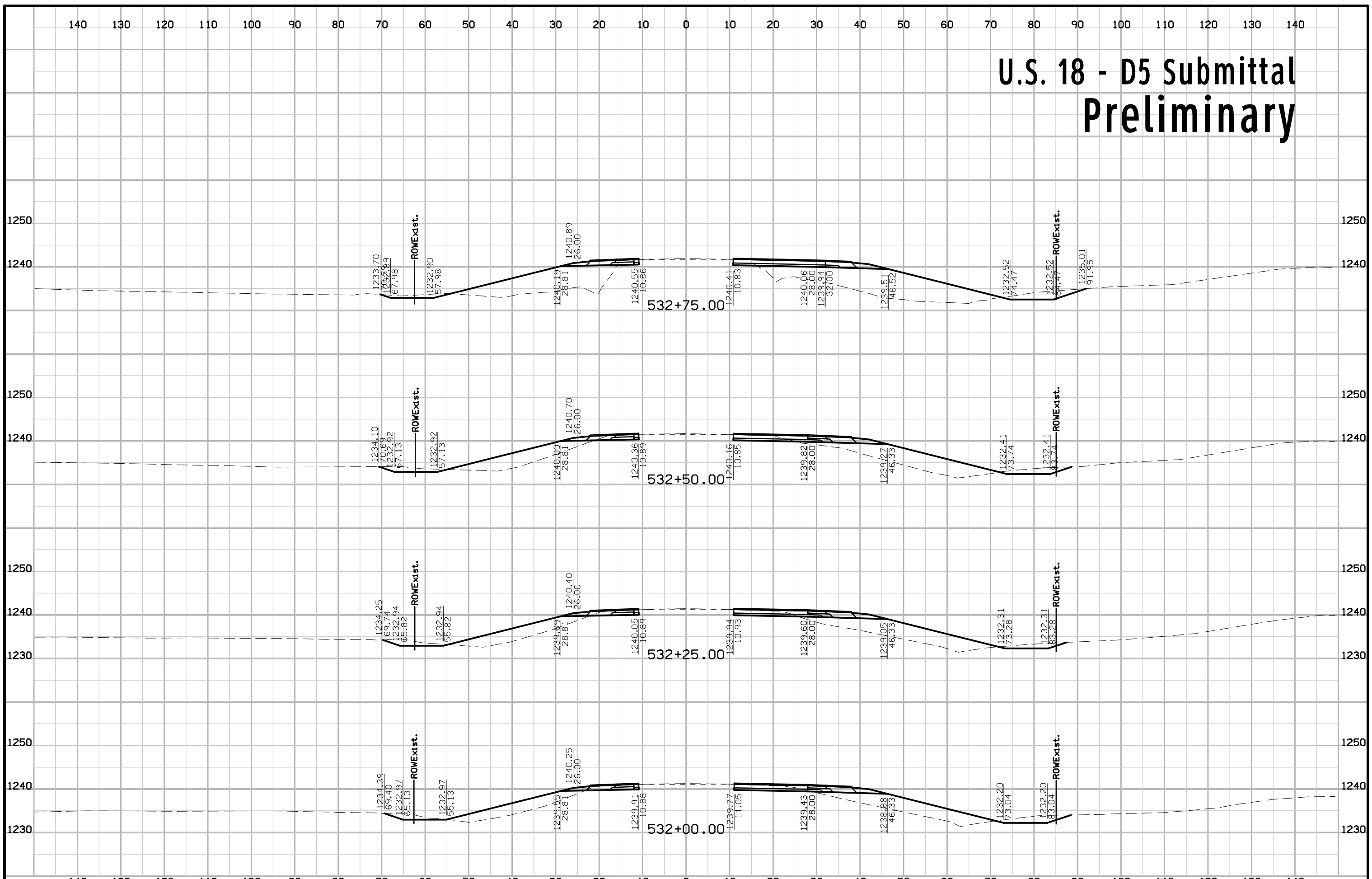
U.S. 18 - D5 Submittal Preliminary



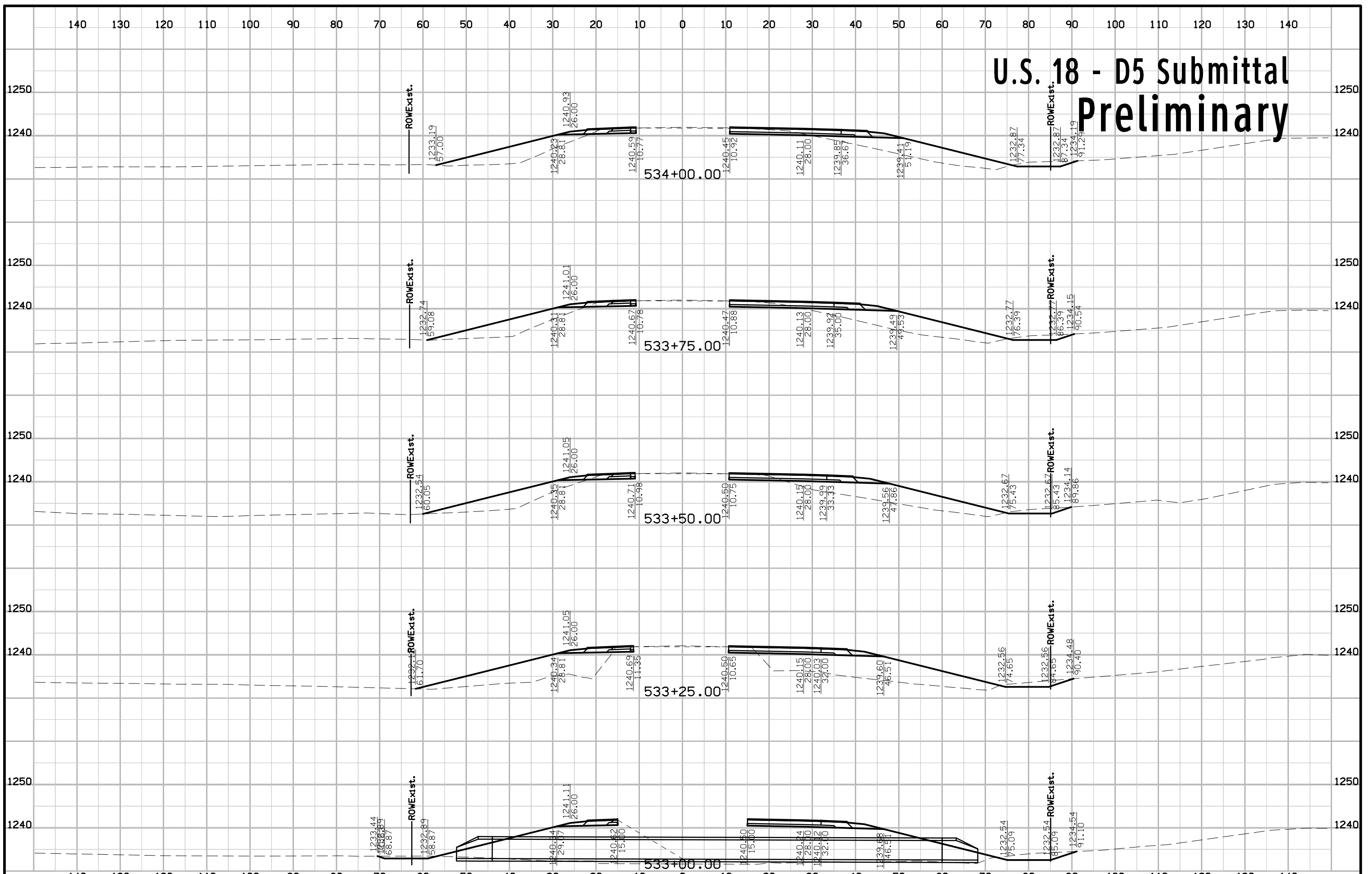
U.S. 18 - D5 Submittal Preliminary



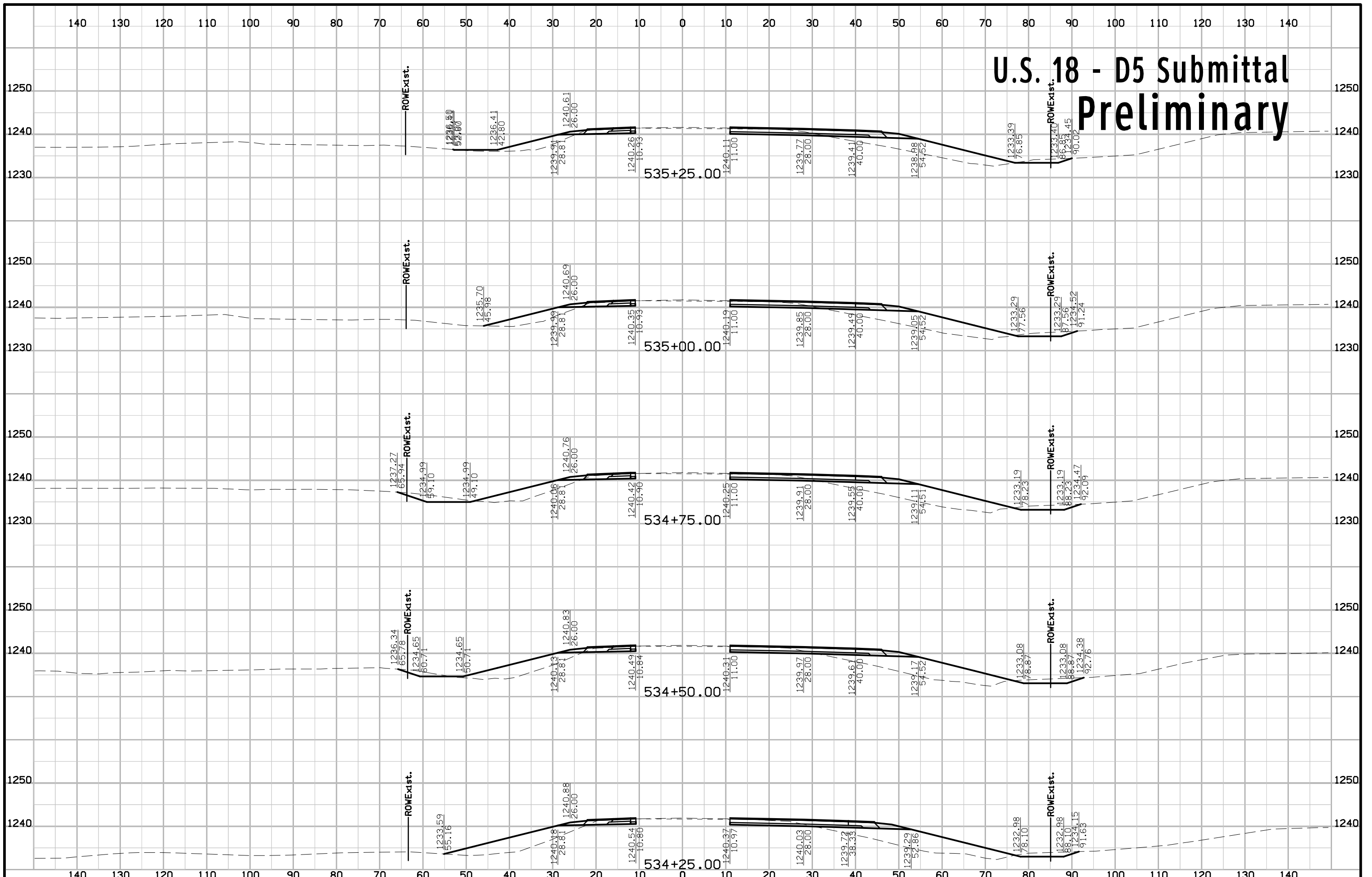
U.S. 18 - D5 Submittal Preliminary



U.S. 18 - D5 Submittal Preliminary



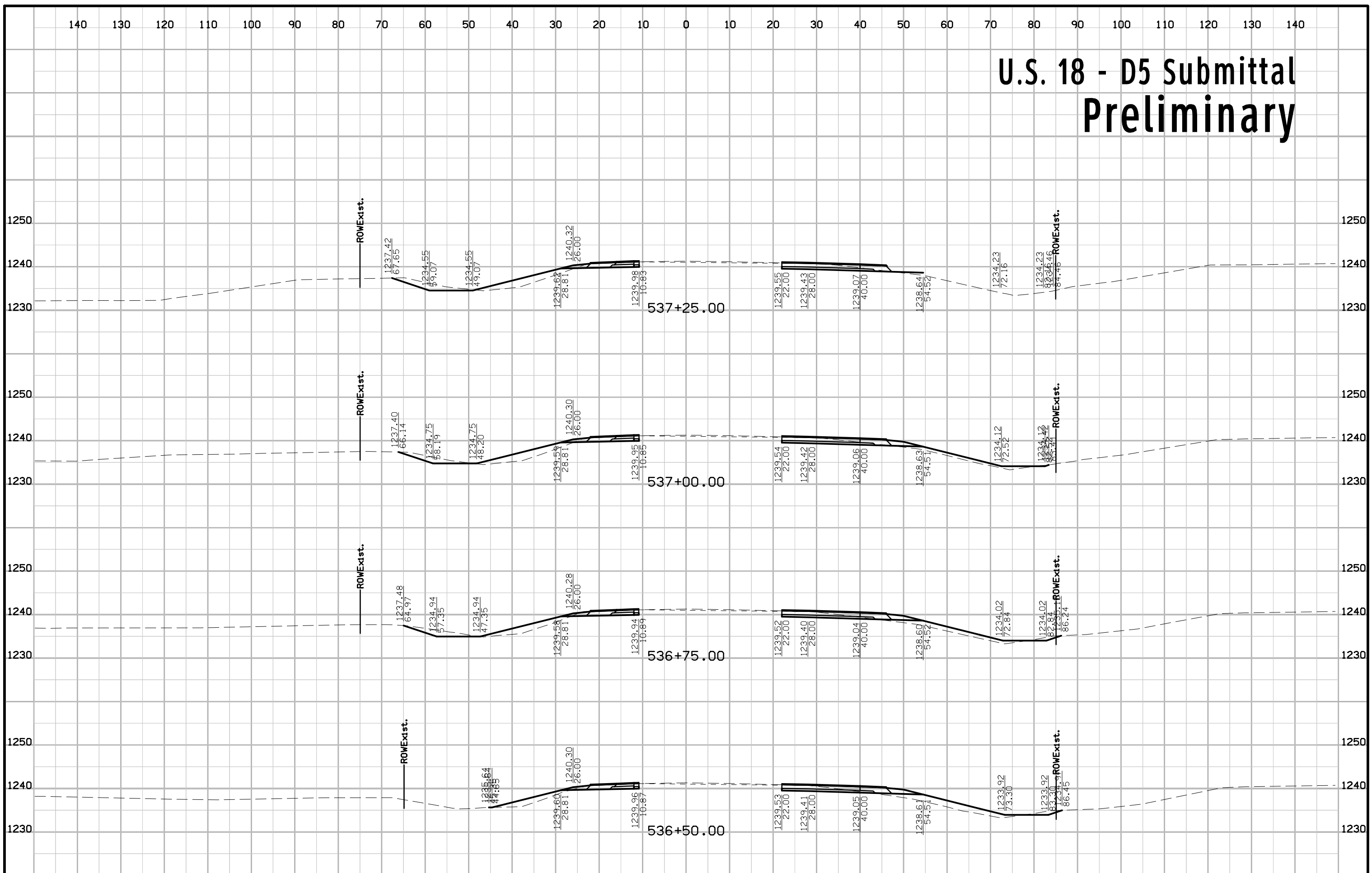
U.S. 18 - D5 Submittal Preliminary



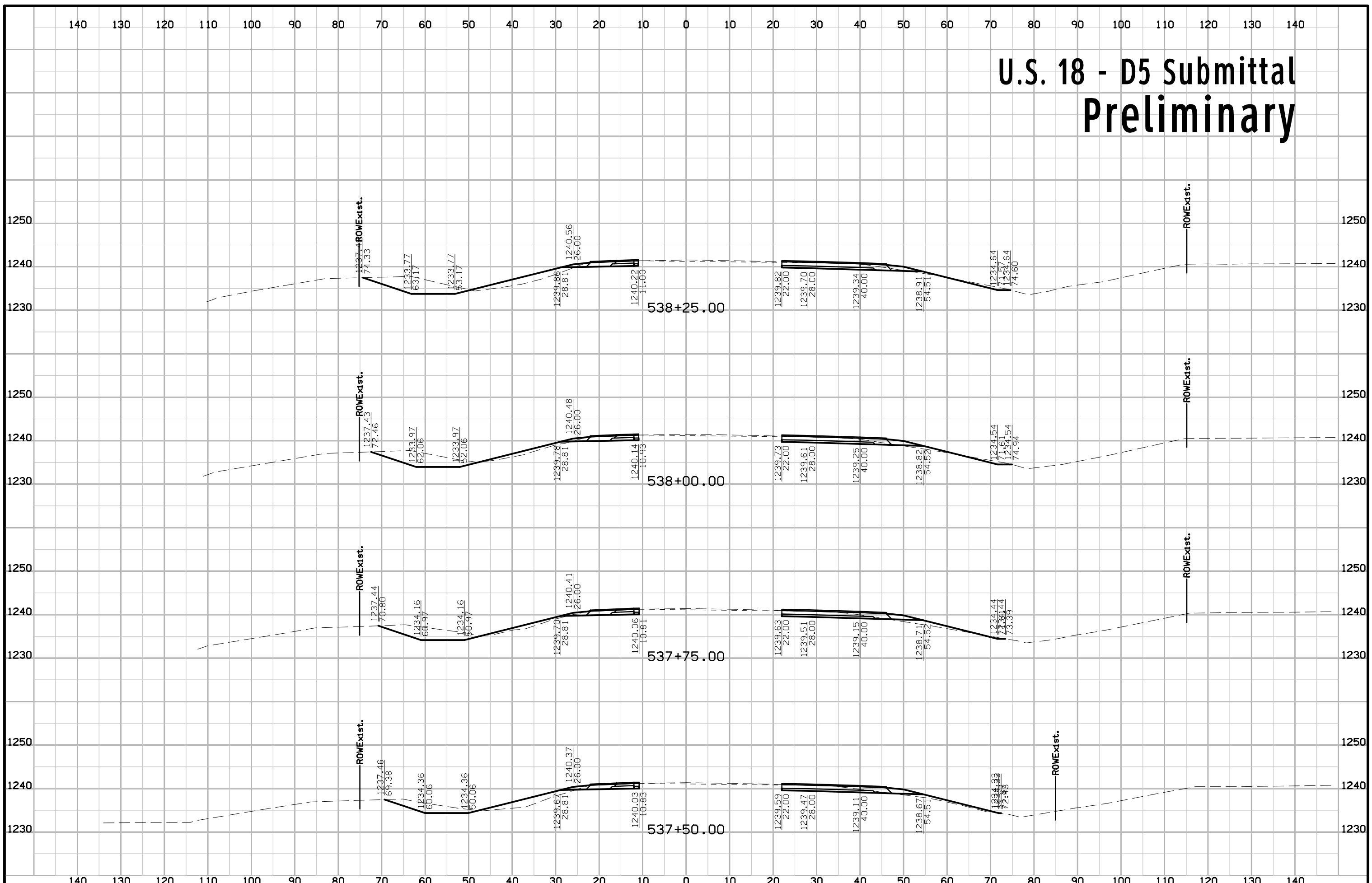
U.S. 18 - D5 Submittal Preliminary



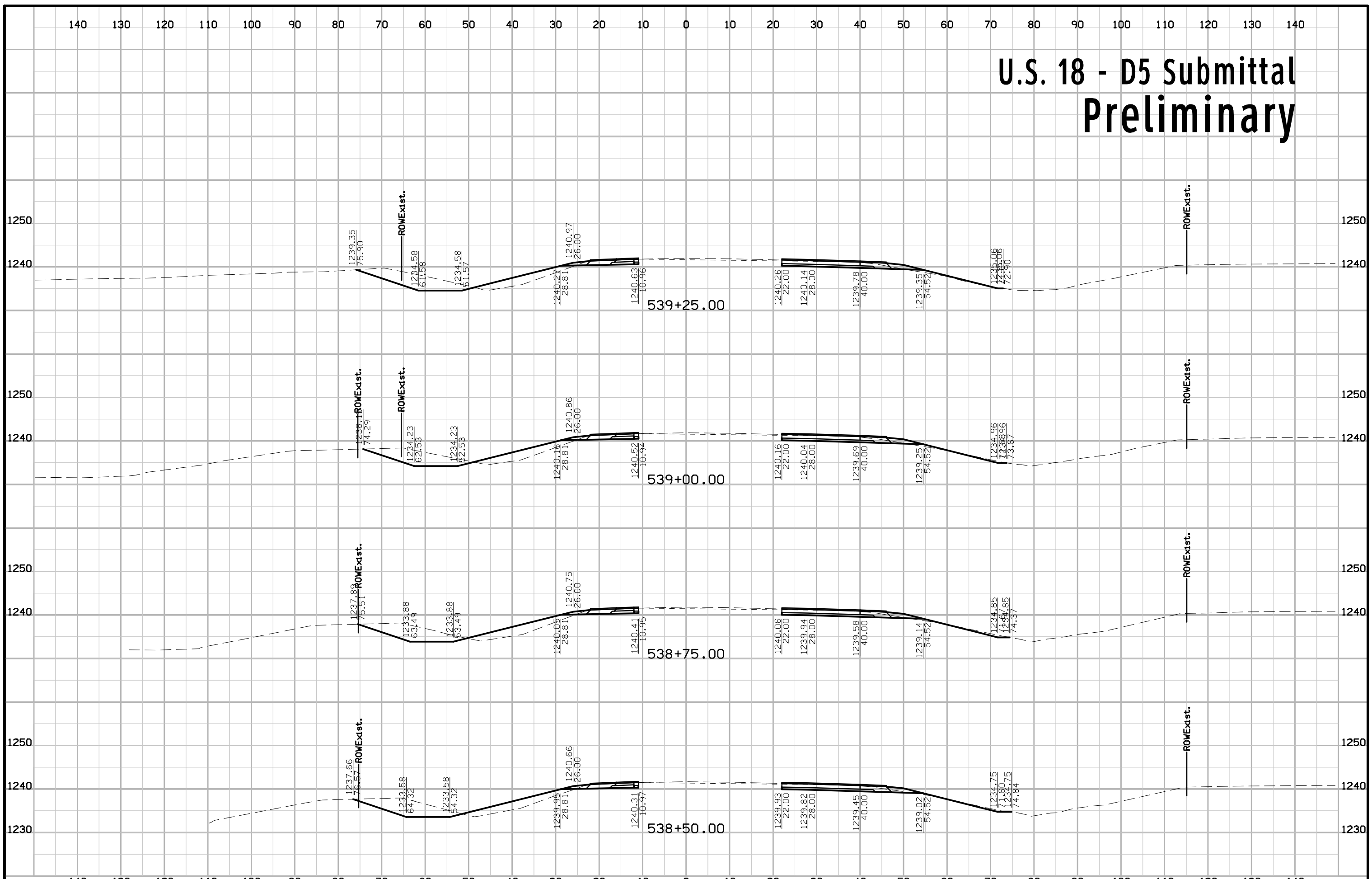
U.S. 18 - D5 Submittal Preliminary



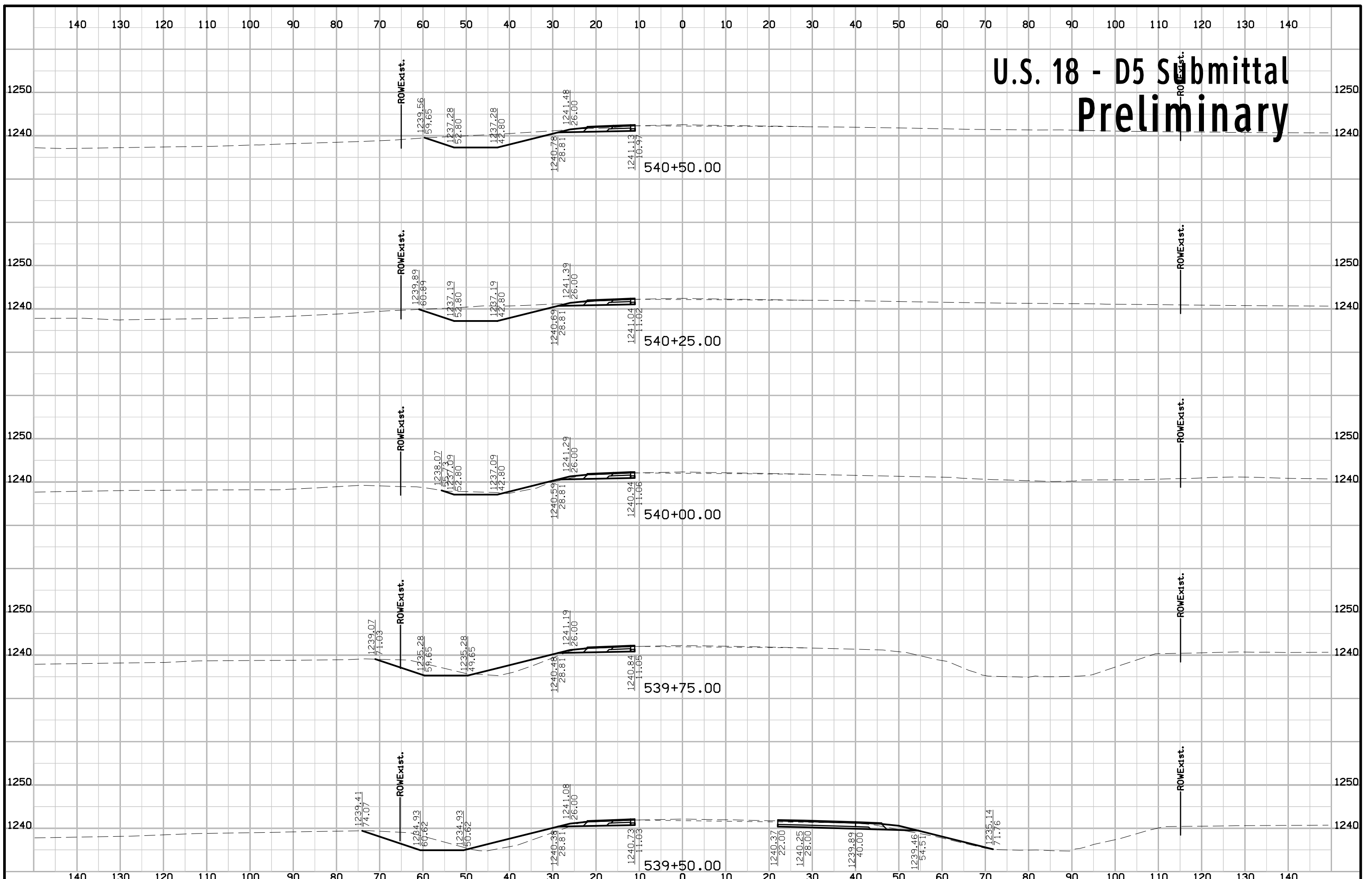
U.S. 18 - D5 Submittal Preliminary



U.S. 18 - D5 Submittal Preliminary



U.S. 18 - D5 Submittal Preliminary



U.S. 18 - D5 Submittal Preliminary

