LETTING DATE 08-18-2020

PCC PAVEMENT - GRADE AND NEW
NHSN-061-1(187)--2R-56

LEE Co.

IOWA DOT

Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM

LEE COUNTY

PCC PAVEMENT - GRADE AND NEW

260th St Intersection 1 mi S of Co Rd J62

SCALES: As Noted

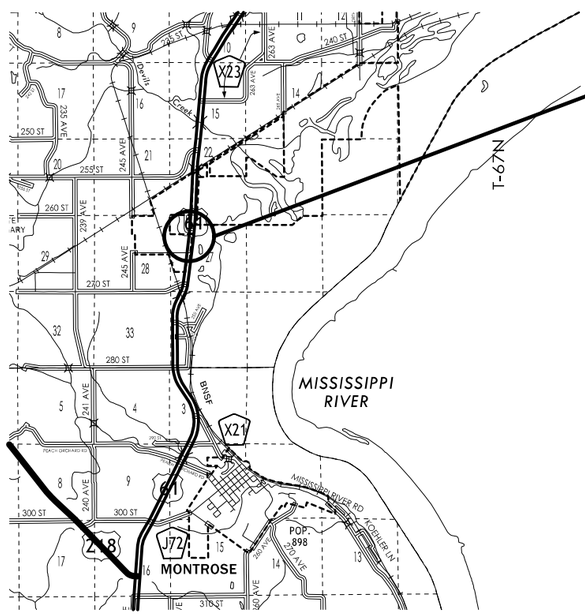
Refer to the Proposal Form for list of applicable specifications.

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

IOWA ONE CALL
1-800-292-8989
www.iowaonecall.com
811 Know what's below. Call before you dig.

REVISIONS

	TOTAL
	59
PROJECT IDENTIFICATION NUMBER	
20-56-061-010	
PROJECT NUMBER	
NHSN-061-1(187)--2R-56	
R.O.W. PROJECT NUMBER	
NHSN-061-1(188)--2R-56	



LOCATION MAP SCALE
0 1 2 3
Miles

INDEX OF SHEETS

No.	DESCRIPTION
A Sheets	**Title Sheets**
A.1	Title Sheet
A.1	Location Map Sheet
B Sheets	**Typical Cross Sections and Details**
B.1 - 3	Typical Cross Sections and Details
C Sheets	**Quantities and General Information**
C.1	Project Description
C.1	Estimated Project Quantities
C.1	Estimate Reference Information
C.2	Standard Road Plans
C.2	Index of Tabulations
C.2	General Notes
C.3 - 5	Tabulations
D Sheets	**Mainline Plan and Profile Sheets**
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2 - 3	US 61 Slip Ramp
D.4 - 5	US 61 ML Stationing (For Information Only)
G Sheets	**Survey Sheets**
G.1	Reference Ties and Bench Marks
G.2	Control Point Vicinity Map
G.3	Horizontal Control Tab. & Super for all Alignments
H Sheets	**Right-of-Way Sheets**
H.1 - 2	US 61 Slip Ramp
J Sheets	**Traffic Control and Staging Sheets**
J.1	Traffic Control Plan
J.1	511 Travel Restrictions
J.1	Coordinated Operations
L Sheets	**Geometric, Staking and Jointing Sheets**
* L.1 - 4	Staking US 61 Slip Ramp
* L.5 - 8	Jointing US 61 Slip Ramp
R Sheets	**Erosion Control Sheets**
RC.1 - 4	Est. Quantities, PPP, General Notes and Tabulations
* RR.1 - 5	Erosion Control Legend and Symbol Information Sheet
T Sheets	**Earthwork Quantity Sheets**
* T.1A - 1B	Earthwork Typicals
T.2 - 3	Earthwork Quantity Sheets
Y Sheets	**Ramp Cross Sections**
Y.1 - 18	US 61 Slip Ramp Cross Sections
	* Color Plan Sheets

INDEX OF SEALS

SHEET NO.	NAME	TYPE
A.1	Dung Ta	Primary Signature Block
RC.1	Seana Godbold	Roadside Design

ROADWAY DESIGN

LICENSED PROFESSIONAL ENGINEER Dung T. Ta 21117 IOWA

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.

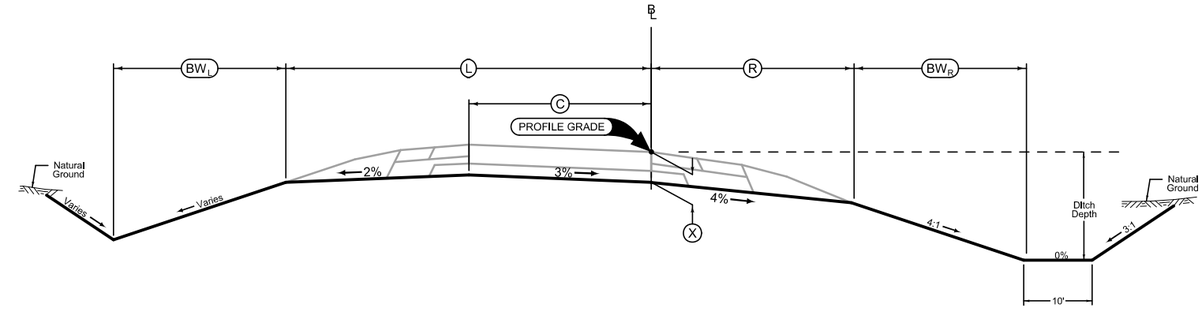
Signature 06-12-2020 Date
Dung T. Ta
Printed or Typed Name

My license renewal date is December 31, 2021

Pages or sheets covered by this seal: A.1; B.1-B.3; C.1-C.5; D.1-D.5; J.1; L.1-L.8; T.1-T.3; and Y.1-Y.18

LOCATION				DIMENSIONS					
INTERCHANGE	RAMP	STATION TO STATION		(L) Feet	(R) Feet	(C) Feet	(X) Inches	(BW_L) Feet	(BW_R) Feet
		1235+94.15	1236+44.15		11.7	0	22	0	0
		1236+44.15	1243+92.67	2-18.4	11.7-17.6	16	22	0	0-21
		1243+92.67	1245+69.07	18.4-38	17.6-16.1	16	22	0	21-28.8
		1245+69.07	1247+80.67	22-35.2	16.1	16	22	0-34.1	13.1-28.8

G_1R_Grade
Modified



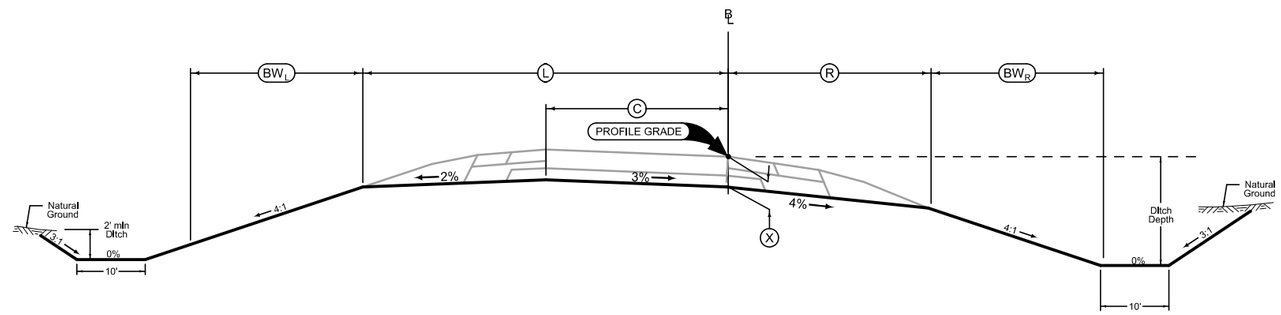
Section view is in direction of traffic.

Normal sections shown may be appropriately modified for areas specifically designated by the Engineer such as intersections or superelevated curves.

RAMP GRADING

LOCATION				DIMENSIONS					
INTERCHANGE	RAMP	STATION TO STATION		(L) Feet	(R) Feet	(C) Feet	(X) Inches	(BW_L) Feet	(BW_R) Feet
		1247+80.67	1249+75.18	34.9-39	16.1	16	22	7.0-34.1	0-17.8

G_1R_Grade
Modified



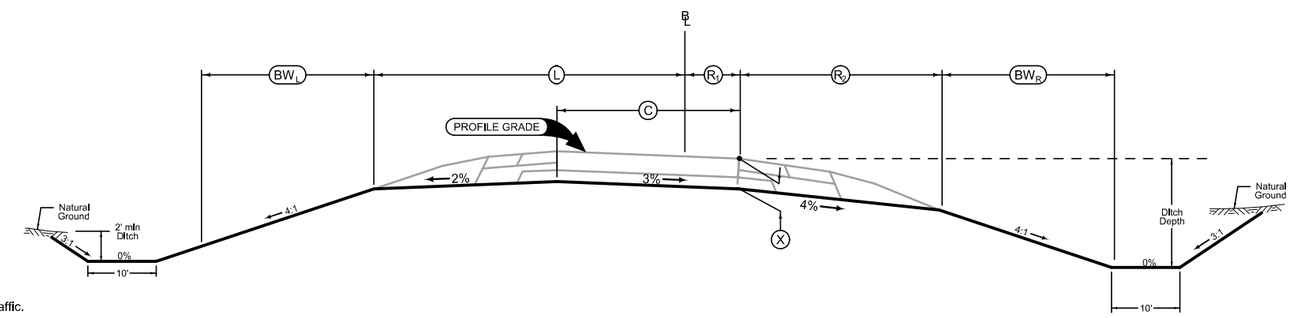
Section view is in direction of traffic.

Normal sections shown may be appropriately modified for areas specifically designated by the Engineer such as intersections or superelevated curves.

RAMP GRADING

LOCATION				DIMENSIONS						
INTERCHANGE	RAMP	STATION TO STATION		(L) Feet	(R_1) Feet	(R_2) Feet	(C) Feet	(X) Inches	(BW_L) Feet	(BW_R) Feet
		1249+75.18	1251+12.07	0-39.1	0-19.5	16.1	16-34.7	22	0-7	7.5-10

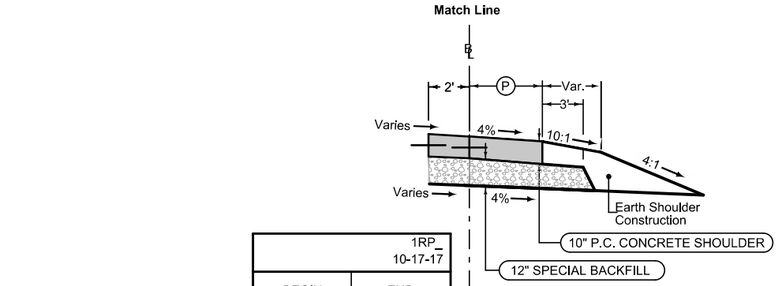
G_1R_Grade
Modified



Section view is in direction of traffic.

Normal sections shown may be appropriately modified for areas specifically designated by the Engineer such as intersections or superelevated curves.

RAMP GRADING



1RP_ 10-17-17	
BEGIN STATION	END STATION
1235+94.15	1236+44.15

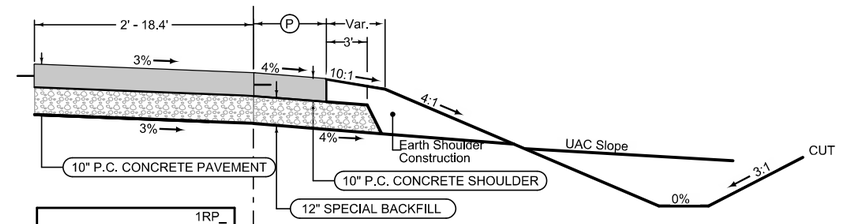
Section shown in the direction of traffic.

Ramp Jointing:
Transverse joints: CD at 15' spacing.
Longitudinal joints: L-2

SHOULDER

1R_P_ALT_ Modified		
STATION TO STATION		P Feet
1235+94.15	1236+44.15	6

PCC Shoulder Jointing:
Longitudinal joint: BT_1 or BT-5
Transverse joints: C at 15' spacing



1RP_ 10-17-17	
BEGIN STATION	END STATION
1236+44.15	1243+92.67

Section shown in the direction of traffic.

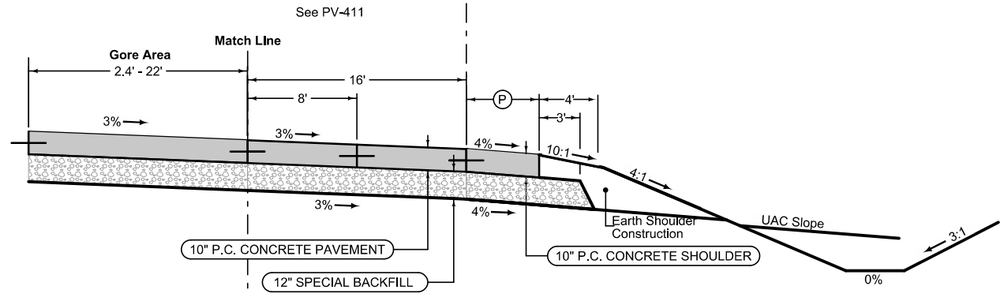
Ramp Jointing:
Transverse joints: CD at 15' spacing.
Longitudinal joints: L-2

SHOULDER

1R_P_ALT_ Modified		
STATION TO STATION		P Feet
1236+44.15	1243+92.67	6

PCC Shoulder Jointing:
Longitudinal joint: BT_1 or BT-5
Transverse joints: C at 15' spacing

See PV-411



Section shown in the direction of traffic.

Ramp Jointing:
Transverse joints: CD at 15' spacing.
Longitudinal joints: L-2

1RP_ 10-17-17	
BEGIN STATION	END STATION
1243+92.67	1245+69.07

Gore Area

2_P_ Modified		
STATION TO STATION		P Feet
1243+92.67	1245+69.07	2.4'-22'

SHOULDER

1R_P_ALT_ Modified		
STATION TO STATION		P Feet
1243+92.67	1245+69.07	6

PCC Shoulder Jointing:
Longitudinal joint: BT_1 or BT-5
Transverse joints: C at 15' spacing

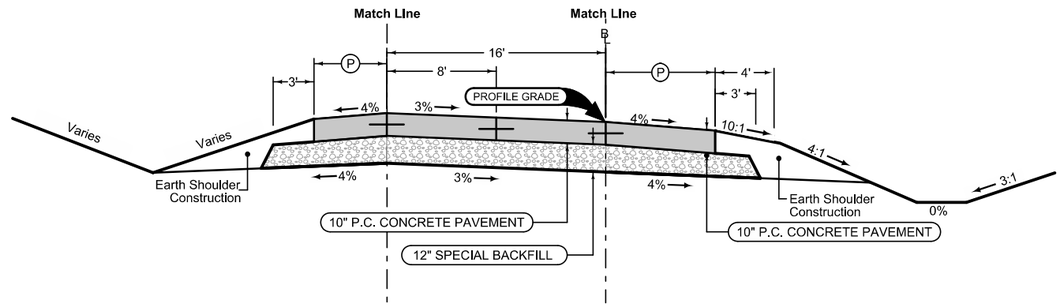
See Tab 100-24 or 100-25 for pavement quantities.

See Tab 112-9 for shoulder quantities.

US 61 SB SLIP RAMP

SHOULDER

		2_P_ Modified
STATION TO STATION		(P) Feet
1245+69.07	1247+80.67	4



Section shown in the direction of traffic.

Ramp Jointing:
Transverse joints: CD at 15' spacing.
Longitudinal joints: L-2

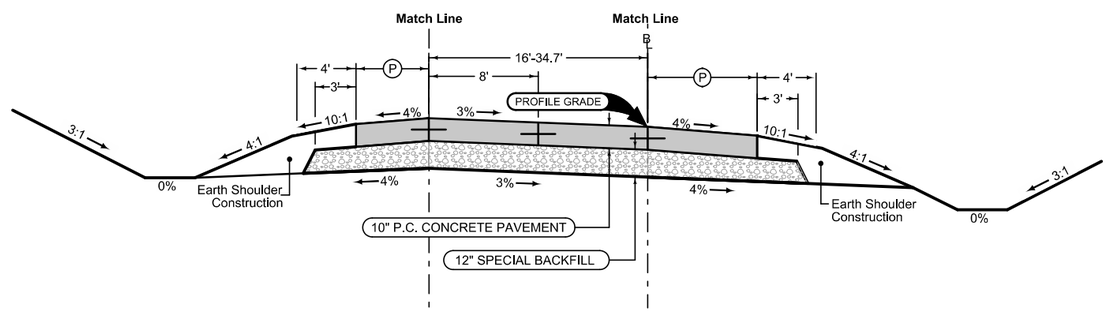
	1RP_ 10-17-17
BEGIN STATION	END STATION
1245+69.07	1247+80.67

SHOULDER

		2_P_ 10-21-14
STATION TO STATION		(P) Feet
1245+69.07	1247+80.67	6

SHOULDER

		2_P_ 10-21-14
STATION TO STATION		(P) Feet
1247+80.67	1251+05.07	4



Section shown in the direction of traffic.

Ramp Jointing:
Transverse joints: CD at 15' spacing.
Longitudinal joints: L-2

	1RP_ 10-17-17
BEGIN STATION	END STATION
1247+80.67	1251+12.07

SHOULDER

		2_P_ 10-21-14
STATION TO STATION		(P) Feet
1247+80.67	1251+22.60	6

See Tab 100-24 or 100-25 for pavement quantities.

See Tab 112-9 for shoulder quantities.

US 61 SB SLIP RAMP

100-1D
10-18-05

PROJECT DESCRIPTION

This is a grade and pave project for the proposed new slip ramp starting at 260th St. and ending by merging with US 61.
Also included in this project is the installation of a new pipe and signage.

100-0A
10-28-97

ESTIMATED ROADWAY QUANTITIES
(1 DIVISION PROJECT)

Item No.	Item Code	Item	Unit	Total	As Built Qty.
1	2102-0425070	SPECIAL BACKFILL	TON	2,925.6	
2	2102-2710070	EXCAVATION, CLASS 10, ROADWAY AND BORROW	CY	1,103.0	
3	2102-2710090	EXCAVATION, CLASS 10, WASTE	CY	5,625.0	
4	2102-2713090	EXCAVATION, CLASS 13, WASTE	CY	1,325.3	
5	2105-8425005	TOPSOIL, FURNISH AND SPREAD	CY	221.4	
6	2105-8425015	TOPSOIL, STRIP, SALVAGE AND SPREAD	CY	2,719.0	
7	2121-7425020	GRANULAR SHOULDERS, TYPE B	TON	6.4	
8	2122-5190010	PAVED SHOULDER, P.C. CONCRETE, 10 IN.	SY	1,329.8	
9	2123-7450000	SHOULDER CONSTRUCTION, EARTH	STA	20.60	
10	2301-1003100	STANDARD OR SLIP-FORM PORTLAND CEMENT CONCRETE PAVEMENT, QM- C, CLASS	SY	2,475.2	
		3 DURABILITY, 10 IN.			
11	2401-6745910	REMOVAL OF SIGN	EACH	1	
12	2402-0425040	FLOODED BACKFILL	CY	636.4	
13	2402-2720100	EXCAVATION, CLASS 20, FOR ROADWAY PIPE CULVERT	CY	636.4	
14	2416-0100030	APRONS, CONCRETE, 30 IN. DIA.	EACH	2	
15	2416-1180030	CULVERT, CONCRETE ROADWAY PIPE, 30 IN. DIA.	LF	116	
16	2510-6745850	REMOVAL OF PAVEMENT	SY	707.6	
17	2518-6910000	SAFETY CLOSURE	EACH	1	
18	2524-6765010	REMOVE AND REINSTALL SIGN AS PER PLAN	EACH	2	
19	2524-9276010	PERFORATED SQUARE STEEL TUBE POSTS	LF	56.0	
20	2524-9276027	PERFORATED SQUARE STEEL TUBE POST ANCHOR, TRIANGULAR SLIP BA SE	EACH	4	
		ASSEMBLY			
21	2524-9325001	TYPE A SIGNS, SHEET ALUMINUM	SF	23	
22	2527-9263109	PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED	STA	29.56	
23	2527-9263180	PAVEMENT MARKINGS REMOVED	STA	9.75	
24	2528-8445110	TRAFFIC CONTROL	LS	1.00	
25	2533-4980005	MOBILIZATION	LS	1.00	

Refer to RC Sheets for further items and quantities.

100-4A
10-29-02

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
1	2102-0425070	SPECIAL BACKFILL
		Refer to Tabs. 100-24 and 112-9 in the C Sheets for details.
		Includes 1366.2 tons used for constructing shoulders and 1559.4 tons used for constructing mainline of slip ramp.
		Existing HMA and PCC from Pavement removal may be used on the project as
		special backfill.
-	-	-
2	2102-2710070	EXCAVATION, CLASS 10, ROADWAY AND BORROW
		Refer to T Sheets for details.
		Special Shaping will be required on this project at locations where proposed ditches intercept existing ditches
		and at locations where additional cover over the existing water main is required.
		See cross sections for further details.
		Overhaul is incidental to roadway excavation on this project and will not be
		paid for separately.
-	-	-
3	2102-2710090	EXCAVATION, CLASS 10, WASTE
		Refer to T Sheets for details.
-	-	-

100-4A
10-29-02

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
4	2102-2713090	EXCAVATION, CLASS 13, WASTE
		Refer to Tab. 112-9 in the C Sheets for details.
-	-	-
5	2105-8425005	TOPSOIL, FURNISH AND SPREAD
		Refer to Tab. 103-10 and the T Sheets.
-	-	-
6	2105-8425015	TOPSOIL, STRIP, SALVAGE AND SPREAD
		Refer to T Sheets, cross sections, and Tab. 103-10 in the C Sheets for details.
-	-	-
7	2121-7425020	GRANULAR SHOULDERS, TYPE B
		Refer to Tab. 112-9 in the C Sheets for details.
		This bid item is included to provide 2" of granular shoulder material for replacement of lost material
		from existing granular shoulder due to adjacent construction activities.
-	-	-
8	2122-5190010	PAVED SHOULDER, P.C. CONCRETE, 10 IN.
		Refer to D Sheets and Tab. 112-9 in the C Sheets for details.
-	-	-
9	2123-7450000	SHOULDER CONSTRUCTION, EARTH
		Refer to Tab. 112-9 in the C Sheets for details.
		Requires a minimum of 4 inches of topsoil. Place according to Article 2105.03,B
		of the Standard Specifications.
-	-	-
10	2301-1003100	STANDARD OR SLIP-FORM PORTLAND CEMENT CONCRETE PAVEMENT, QM- C, CLASS 3 DURABILITY, 10 IN.
		Refer to D Sheets and Tab. 100-24 in the C Sheets for details.
-	-	-
11	2401-6745910	REMOVAL OF SIGN
		Bid item is for the removal of existing W1-6 sign along 260th St.
		Refer to Tab. 190-62 in the C Sheets for details.
-	-	-
12	2402-0425040	FLOODED BACKFILL
13	2402-2720100	EXCAVATION, CLASS 20, FOR ROADWAY PIPE CULVERT
14	2416-0100030	APRONS, CONCRETE, 30 IN. DIA.
15	2416-1180030	CULVERT, CONCRETE ROADWAY PIPE, 30 IN. DIA.
		Refer to Tab. 104-3 in the C Sheets for details.
-	-	-
16	2510-6745850	REMOVAL OF PAVEMENT
		Refer to Tab. 110-1 and Tab. 102-5 in the C Sheets for details.
-	-	-
17	2518-6910000	SAFETY CLOSURE
		Refer to Tab. 108-13A in the C Sheets for details.
-	-	-
18	2524-6765010	REMOVE AND REINSTALL SIGN AS PER PLAN
		Refer to Tab. 190-62 and Tab. 190-61 in the C Sheets for details.
-	-	-
19	2524-9276010	PERFORATED SQUARE STEEL TUBE POSTS
20	2524-9276027	PERFORATED SQUARE STEEL TUBE POST ANCHOR, TRIANGULAR SLIP BA SE ASSEMBLY
21	2524-9325001	TYPE A SIGNS, SHEET ALUMINUM
		Refer to Tab. 190-51 in the C Sheets for details.
-	-	-
22	2527-9263109	PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED
23	2527-9263180	PAVEMENT MARKINGS REMOVED
		Refer to Tab. 108-22 in the C Sheets for details.
-	-	-
24	2528-8445110	TRAFFIC CONTROL
		- -
-	-	-
25	2533-4980005	MOBILIZATION
		- -
-	-	-

105-4
10-18-11

STANDARD ROAD PLANS

The following Standard Road Plans apply to construction work on this project.

Number	Date	Title
DR-101	04-18-17	Pipe Culvert (Bedding and Backfill)
DR-102	04-21-15	Pipe Culvert (Cover and Camber)
DR-103	04-21-15	Pipe Culvert (Installation Details)
DR-104	04-19-16	Depth of Cover Tables for Concrete and Corrugated Pipe
DR-201	04-21-20	Concrete Aprons
DR-205	04-21-20	Concrete Apron with End Wall
DR-601	04-18-17	Reinforced Concrete Pipe Culvert
EW-101	10-17-17	Embankment and Rebuilding Embankments
EW-103	10-20-15	Embankment Subgrade Treatment, Moisture Density Control and Special Compaction
PM-110	04-21-20	Line Types
PM-310	04-21-20	Entrance and Exit Ramps
PV-101	04-21-20	Joints
PV-121	04-21-15	Jointing PCC Pavement Widening
PV-411	04-21-20	Acceleration Taper for 16' Entrance Ramp
SI-101	04-19-16	Locations - Type 'A' Signs
SI-112	04-19-16	Footings For Steel Breakaway Posts
SI-113	10-15-19	Support Structures - Steel Breakaway Posts
SI-131	10-18-16	Installation - Type 'A' Signs
SI-172	04-19-16	Delineators
SI-881	04-16-19	Special Signs for Workzones
TC-1	10-15-19	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-202	04-21-15	Work Within 15 ft of Traveled Way
TC-402	04-21-15	Work Within 15 ft of Traveled Way
TC-417	04-21-20	Ramp Closure
TC-418	04-21-20	Lane Closure on Divided Highway

262-6
10-18-05

UTILITIES
(NOT A POINT 25 PROJECT)

This is NOT a POINT 25 project and is not subject to the provisions of IAC 761-115.25.

111-25
10-18-11

INDEX OF TABULATIONS

Tabulation	Tabulation Title	Sheet No.
C Sheets		
100-0A	ESTIMATED ROADWAY QUANTITIES (1 DIVISION PROJECT)	C.1
100-1D	PROJECT DESCRIPTION	C.1
100-4A	ESTIMATE REFERENCE INFORMATION	C.1
100-24	PCC PAVEMENT	C.4
100-27	PROPOSED POSTED SPEED LIMIT	C.4
102-5	EXISTING PAVEMENT	C.3
103-10	TOPSOIL STRIPPING AND PLACEMENT	C.3
104-3	DRAINAGE STRUCTURE BY ROAD CONTRACTOR	C.3
105-4	STANDARD ROAD PLANS	C.2
108-13A	SAFETY CLOSURES	C.4
108-22	PAVEMENT MARKING LINE TYPES	C.5
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111-25	INDEX OF TABULATIONS	C.2
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190-51	MATERIALS FOR TYPE 'A' SIGNS	C.3
190-61	EXISTING SIGNS TO BE REINSTALLED	C.3
190-62	EXISTING SIGNS TO BE REMOVED	C.3

102-5
04-18-17

EXISTING PAVEMENT

No.	Location					Year	Type	Project Number	Surface		Base		Subbase		Removal		Coarse Aggregate			Reinforcement	Remarks
	County	Route	Dir. of Travel	Begin Ref. Loc. Sign	End Ref. Loc. Sign				Type	Depth IN	Type	Depth IN	Type	Depth IN	Type	Depth IN	Source	Type	Durability Class	Type	
1	56	US 61	2	9.77	18.2	2000		NHS-61-1(77)--19-56	PCC	9.5	GSB	11					HUNTINGTON - MO.	C. LST.	I		

110-1
04-16-13

REMOVAL OF PAVEMENT

Refer to Tabulation 102-5

* Not a Bid Item

Begin Station	End Station	Side	Pavement Type	Area SY	Saw Cut* LF	Remarks
ML US 61						
235+94.15	246+10.00	Rt.	HMA	451.5		
235+94.15	246+10.00	Rt.	PCC	225.7		
260th St.						
West corner	Prop. EOS Rt.	Rt.	HMA	30.4		
Total=				707.6		

190-62
10-15-13

EXISTING SIGNS TO BE REMOVED

SIGN NUMBER OR DESCRIPTION	LOCATION STATION	DIRECTION OF TRAVEL	TYPE 'A' SIGN ASSEMBLY (RA) EACH	TYPE 'B' SIGN ASSEMBLY (RB) EACH	REMOVE & REINSTALL EXISTING SIGNS TYPE 'A' (RR) EACH	REMOVE & REINSTALL EXISTING SIGNS TYPE 'B' (RR) EACH	CONCRETE FOUNDATION (RF) EACH	SUPPORT STRUCTURE & FOUNDATION (RS) EACH	APPLICABLE SIGNING NOTES	REMARKS
Heron Bend Guide Sign	1244+15.72	SB			1					
South US 61	1246+94.76	SB			1					
W1-6	1251+01.56	SB			1					

103-10
04-18-17

TOPSOIL STRIPPING AND PLACEMENT

Location: Road Identification	Dir. of Traffic	Begin Station	End Station	Topsoil Stripping Thickness IN	Topsoil Placement Thickness IN	Remarks
US 61	SB	1236+44.15	1251+12.07	8.0	8.0	See T Sheets for further details

190-61
10-15-13

EXISTING SIGNS TO BE REINSTALLED

SIGN DESCRIPTION	DIRECTION OF TRAVEL	LOCATION STATION	NUMBER OF POSTS	SQUARE TUBE STEEL POSTS	WOOD POSTS 4" x 4" LF	WOOD POSTS 4" x 6" LF	INSTALLATION TYPE	INSTALLATION DIM 'X'	SEE SIGNING NOTES
Heron Bend Guide Sign	SB	1244+15.72	3.0						
South US 61	SB	1246+94.76	1.0		14.0				

190-51
10-15-13

MATERIALS FOR TYPE 'A' SIGNS

TYPE A SIGNING TYPICALS	SIGN NUMBER	DIR OF TRAVEL	SIGN LOCATION STATION	WOOD POSTS NO. OF POSTS	WOOD POSTS 4 x 6 LEG 1 FT	WOOD POSTS 4 x 6 LEG 2 FT	PERFORATED SQUARE STEEL TUBE LEG 1 FT	PERFORATED SQUARE STEEL TUBE LEG 2 FT	PERFORATED SQUARE STEEL TUBE LEG 3 FT	ANCHOR CONC	ANCHOR SOIL	ANCHOR SLIPBASE	Steel Rect. Tube NO. OF POSTS	Steel Rect. Tube POST LENGTH FT	Steel Rect. Tube ANCHORS EACH	TYPE A SIGN MOUNTING BRACKETS ONE POST BRACKET	TWO POST	AUXILIARY	(H)	(F)	(F1)	INSTALLATION TYPE	DIM 'X' FT	SEE SIGNING NOTES	REMARKS
	W4-1	SB	MP 14.67	-	-	-	14	14	-	-	-	2	-	-	-	-	-	-	-	-	-	1	30	-	48"x48"
	R1-2	SB	STA. 1243+00	-	-	-	14	14	-	-	-	2	-	-	-	-	-	-	-	-	-	1	24	-	48"x48"x48"

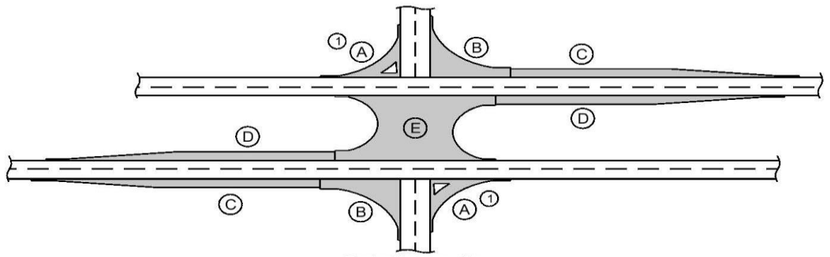
104-3
Modified

DRAINAGE STRUCTURE BY ROAD CONTRACTOR

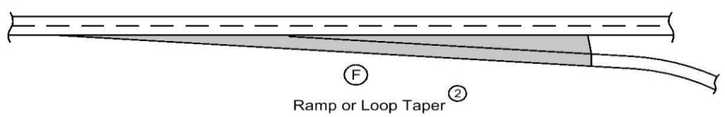
Length of unclassified pipe calculated is based on using Reinforced Concrete Pipe.
* Not a bid item
(1) Diameter or equivalent diameter
(2) UNCL = Unclassified Pipe CMP = Corrugated Metal Pipe RCP = Reinforced Concrete Pipe LCP = Arch or Elliptical Low Clearance Pipe SARC = Steel Arch Pipe
(3) Backfill according to DR-101

Drainage Area ACRE	Location	Type	Size (1) IN	Kind Of Pipe (2)	Length New Const. LF	Bedding Class	Design Cover (H) FT	Camber* (DR-102) FT	Apron No. IN	Apron No. OUT	12" end wall* (DR-205) No.	Elbow* (DR-141) No.	Diaphragm* (DR-501) No.	Tee Section* (DR-142) No.	"D" Section* (DR-141) No.	Reducer* No.	Type 'C' Connections* (DR-122) Type	Type 'C' Connections* (DR-122) No.	Connected Pipe Joint* (DR-121) Type	4" Perforated Subdrain* FT	Flow Line Elevations Lt.	Flow Line Elevations Rt.	Flow Line Elevations Other	Flow Line Elevations Other	Dimensions Lin. Ft. Total Lt.	Dimensions Lin. Ft. Total Rt.	Dimensions Lin. Ft. Extensions Lt.	Dimensions Lin. Ft. Extensions Rt.	Skew Ahead Degrees Lt.	Skew Ahead Degrees Rt.	Dike Rt. Lt.	Dike Location Station	Dike Top Elevation	Dike Type	Class 20 CY	Flowable Mortar CY	Floodable* Backfill (A) CY	Porous* Backfill (B) CY	Flooded Backfill (3) (A+B) CY	Remarks
11.0	1247+35.00	Trench	30	RCP	116	B	5.9	0.17	1	1	1										523.30	524.50			43.6	84.7				29					636.4		595.2	41.2	636.4	

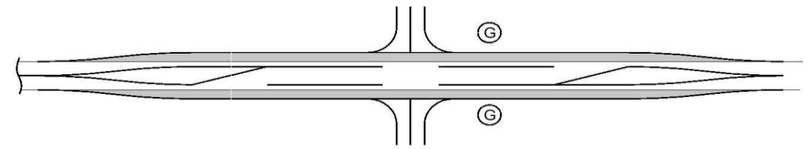
PCC PAVEMENT



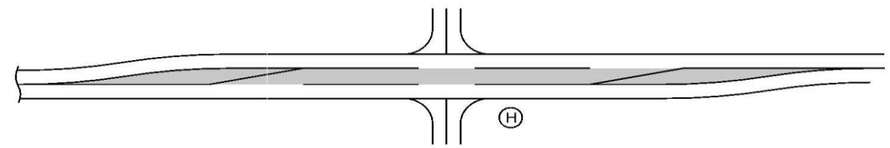
Typical Intersection



Ramp or Loop Taper (2)



Channelized Intersection
Widen Existing Roadway



Channelized Intersection
Reconstructed Roadway

(1) Does not include raised island area or curb. Refer to tabulation 112-4 for quantities.

(2) Refer to PV-410, PV-411, PV-412, and PV-414.

(3) Quantity includes Pavement Header.

Location				Mainline			Area (3)								Total Area By Pavement Thickness		Special Backfill	Modified Subbase	Granular Subbase	Remarks
Road Identification	Direction of Travel	Station to Station		Width	Length	Area	A (1)	B	C	D	E	F (2)	G	H	SY					
				FT	FT	SY	SY	SY	SY	SY	SY	SY	SY	SY	10 IN	10% IN	TONS	CY	SY	
US 61 ramp	SB	1235+94.15	1236+44.15	2.0	50.0	11.1									11.1		7.0			
US 61 ramp	SB	1236+44.15	1242+44.15	2-14	600.0	533.3									533.3		336.0			
US 61 ramp	SB	1242+44.15	1242+55.23	14.0	11.1	17.2									17.2		10.9			
US 61 ramp	SB	1242+55.23	1243+92.67	14-18	137.4	244.3									244.3		153.9			
US 61 ramp	SB	1243+92.67	1245+69.07	16.0	176.4	313.6									313.6		197.6			
gore area	SB	1243+92.67	1245+69.07	2-22	176.4	235.2									235.2		148.2			
US 61 ramp	SB	1245+69.07	1249+68.02	16.0	398.9	709.2									709.2		446.8			
US 61 ramp	SB	1249+68.02	1251+12.07	16-34.66	144.1	405.4									405.4		255.4			
US 61 ramp (fillet)	SB	1251+12.07		Var.	Var.	5.7									5.7		3.6			
Total=															2475.2		1559.4			

PROPOSED POSTED SPEED LIMIT

Road Identification	Begin Station	End Station	Proposed Posted Speed Limit			Remarks
			35 or less	40 - 45	over 45	
US 61 slip ramp	1235+94.15	1251+12.07	X			

SAFETY CLOSURES

Refer to Section 2518 of the Standard Specifications

Station	Closure Type		Remarks
	Road Qty.	Hazard Qty.	
1251+12.07		1	Ramp Entrance off 260th St.

SHOULDERS

(1) Lane(s) to which the shoulder is adjacent.
(2) Bid Item
(3) Applies only for Paved Shoulders constructed on project with existing granular shoulders.
(4) Does not include shrink.

Calculations assume a HMA unit weight (lbs/cf) of 0, a Special Backfill unit weight (lbs/cf) of 140, and a Granular Shoulder unit weight (lbs/cf) of 140.

Location								Quantities																
Road Identification	Direction Of Traffic (1)	Station to Station		Side	(P) Width	(G) Width	(L) Length	Class 13 Excavation (3)	Hot Mix Asphalt		Binder	Paved Shoulder	Reinforced Paved Shoulder	Special Backfill				Modified Subbase	Granular Shoulder		Earth Shoulder Construction Alternates			Remarks
														HMA Alternate		PCC Alternate						HMA	PCC	
					FT	FT	FT	CY (2)	TON	TON/STA	TONS	SY (2)	SY (2)	TON (2)	TON/STA	TON (2)	TON/STA	CY (2)	TON (2)	TON/STA	STA (2)	CY (4)	CY (4)	
US 61 slip ramp	SB	1235+94.15	1251+22.60	O	6.0		1528.5	985.9				1019.0				1016.419	66.500				15.3			*Includes 2"
																								for replacement
US 61 slip ramp	SB	1245+69.11	1251+05.57	M	4.0		536.5	273.2				238.4				281.642	52.500				5.4			of lost mat'l
																								from pave exc.
ML US 61	SB	235+94.15	236+44.15	O	8.0		50.0	39.0				44.4				40.250	80.500							
* (See Remark)	SB	235+94.15	236+44.15	O			50.0												3.500	7.000				
ML US 61	SB	245+68.00	246+10.00	O	6.0		42.0	27.1				28.0				27.930	66.500							
* (See Remark)	SB	245+68.00	246+10.00	O		6.0	42.0												2.940	7.000				
			Total=					1325.3				1329.8				1366.241			6.440		20.6			

PAVEMENT MARKING LINE TYPES

See PM-110

*BCY4 - Place on the same side of the roadway to match existing markings near the project.
**NPY4 - For estimating purposes only. No Passing Zone Lines will be located in the field.
***MNY4 - Factor of 1.00 as value includes number of 4-inch passes to cover median nose area.

BCY4: Broken Centerline (Yellow) @ 0.25
DCY4: Double Centerline (Yellow) @ 2.00
NPY4: No Passing Zone Line (Yellow) @ 1.25
BLW4: Broken Lane Line (White) @ 0.25
ELW4: Edge Line Right (White) @ 1.00
ELY4: Edge Line Left (Yellow) @ 1.00
RLW4: Ramp Edge Line Right (White) @ 1.00
RLY4: Ramp Edge Line Left (Yellow) @ 1.00
CHW8: Channelizing Line (White) @ 2.00

Location					Side			Length by Line Type (Unfactored)															Remarks
Road ID	Station to Station		Dir. of Travel	Marking Type	L	C	R	BCY4*	DCY4	NPY4**	BLW4	ELW4	ELY4	RLW4	RLY4	CHW8							
								STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	
US 61 ramp	1236+44.15	1251+22.60	SB	Waterborne/Solvent Paint			X							14.78									
US 61 ramp	1245+69.07	1251+08.66	SB	Waterborne/Solvent Paint	X										5.40								
US 61 ramp	1243+46.84	1245+69.07	SB	Waterborne/Solvent Paint	X											2.22							
US 61 ML	1235+94.15	1245+69.07	SB	Removal of Paint			X					9.75											
US 61 ML	1243+46.84	1245+69.07	SB	Waterborne/Solvent Paint			X									2.22							
US 61 ML	1235+94.15	1236+44.15	SB	Waterborne/Solvent Paint			X					0.50											
				Factored Total: Waterborne/Solvent Paint				-	-	-	-	0.50	-	14.78	5.40	8.88	-	-	-	-	-	-	
				Factored Total: Removal of Paint				-	-	-	-	9.75	-	-	-	-	-	-	-	-	-	-	
				Bid Quantity: Painted Pavement Markings, Waterborne or Solvent-Based							29.56												
				Bid Quantity: Pavement Markings Removed							9.75												

SURVEY SYMBOLS

- BM Bench Mark
- WC Wild Card (Misc. Field Shot)
- SNP Unpaved Shoulder
- EP Edge of Paved Roads (ML or SR)
- C Centerline BL of Road (ML or SR)
- BL Topo Breakline
- TL1D Telephone Line Co. 1 - Quality D
- D Centerline Draw or Stream (Down)
- BNK Stream Bank
- DU Centerline Draw or Stream (Up)
- EL1D Electric Line Co. 1 - Quality D
- EW Edge of Water
- GR Ground Shot
- OUT Tile Outlet
- TIL Tile Line
- RIP Rip-Rap
- CON Concrete or A/C Slab
- CUL Culvert
- PRO Profile Shot
- CP Control Point
- PIP Pipe Culvert
- TDC Tree Deciduous
- TEV Evergeen Tree
- PLG Location of General Photo
- SOP Size of Pipe or Culvert
- DAB Drainage Area Boundary

UTILITY LEGEND

FO

Danville TELECOM- Quality D
Lennis Kelley
Manager
102 S Main Street
Danville, IA 52623
(319) 392-4251
danville@danvilletelco.net

W

Fort Madison Water Main - Quality D
Larry Driscoll
Public Works Director
811 Ave E
Fort Madison, IA 52627
(319) 372-7700
ldriscoll@fortmadison-ia.com

San.

Fort Madison Sanitary Sewer - Quality D
Mark Bousselot
Public Works Director
811 Ave E
Fort Madison, IA 52627
(319) 372-7700 Ext. 204
mbousselot@fortmadison-ia.com

T1

Alliant Energy (IPL) Overhead Electrical Line - Quality D
Mary Montgomery
ROW Representative II
PO Box 351
Cedar Rapids, IA 52406-9874
(319) 786-4768
MaryMontgomery@alliantenergy.com

T2

Windstream Communications Telephone Line - Quality D
Albert Prah
Analyst II - Engineering Support
4001 N. Rodney Parham, 3rd floor
Little Rock, AR 72212
(501) 748-4760
Albert.Prah@windstream.com

FO2

Windstream Communications Fiber Optic Line - Quality D
Albert Prah
Analyst II - Engineering Support
4001 N. Rodney Parham, 3rd floor
Little Rock, AR 72212
(501) 748-4760
Albert.Prah@windstream.com

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

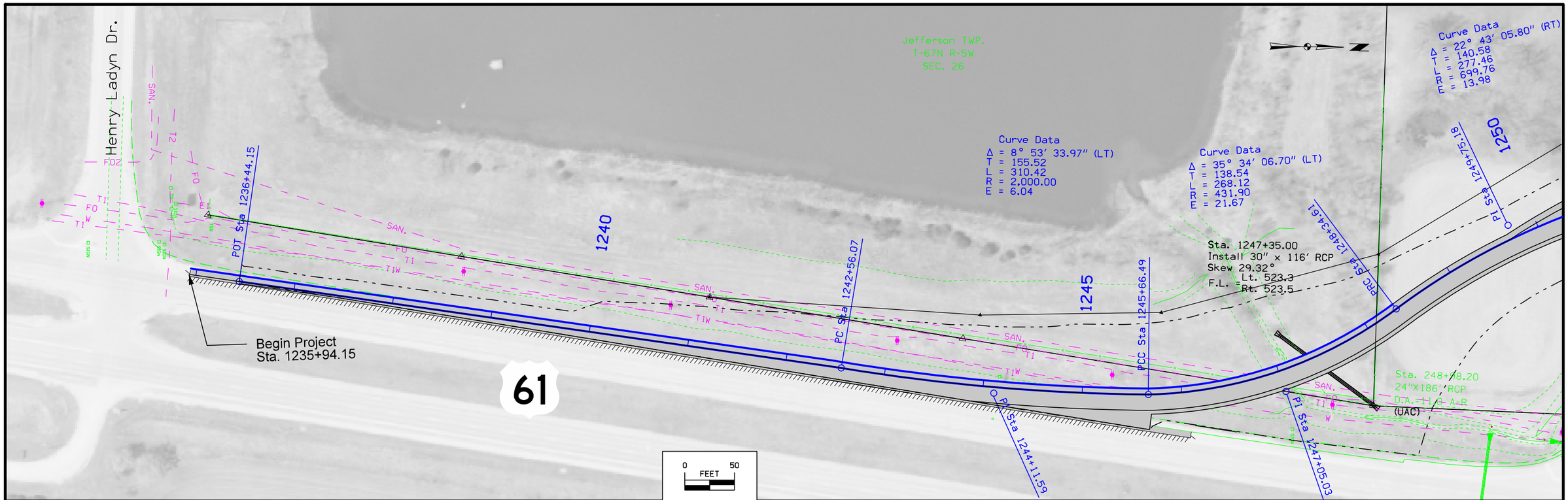
- Reference Point
- Station
- Survey Line
- Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail
- Trench Drain
- HighTension Cable Guardrail
- Sheet Pile
- Pavement Removal
- Clearing & Grubbing Area

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)



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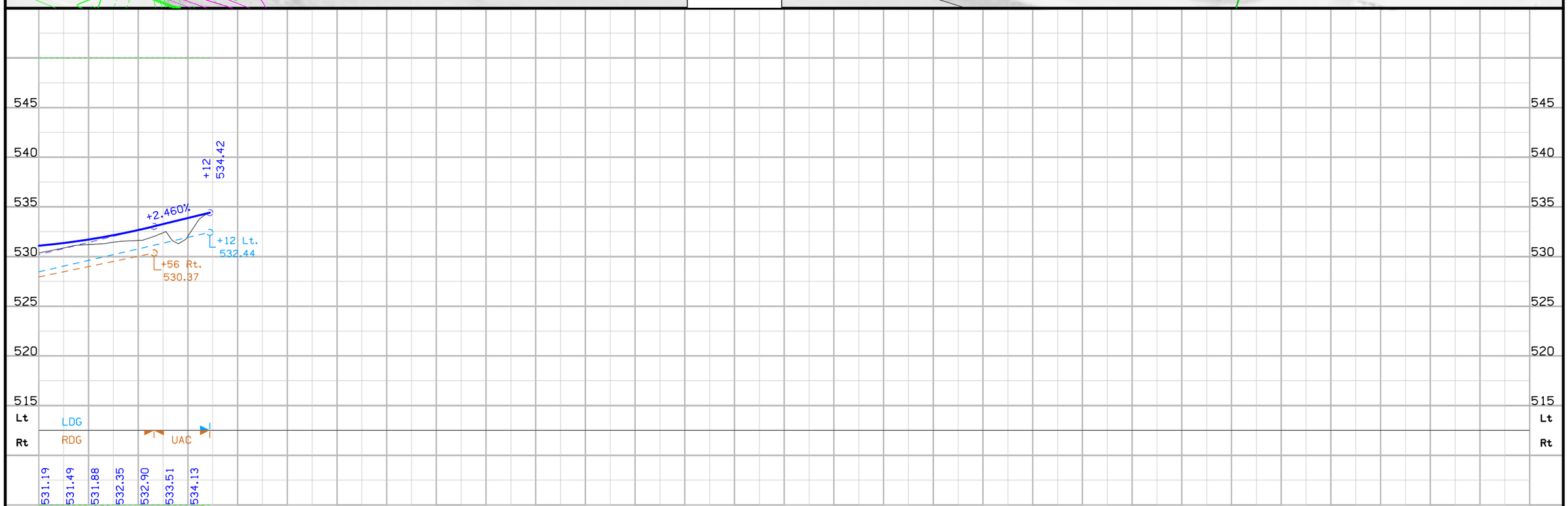

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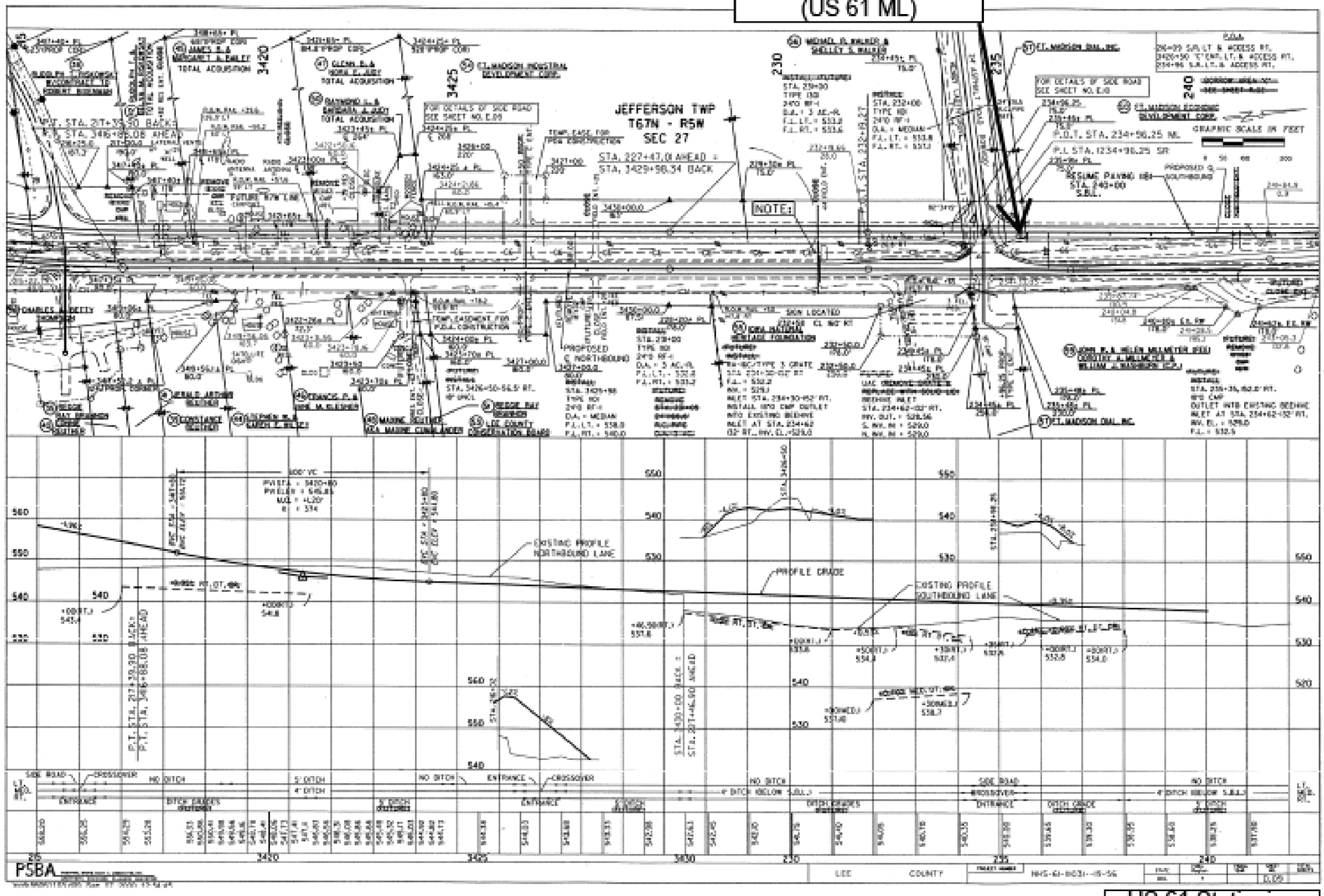
Begin Sta. 235+94.15
(US 61 ML)



US 61 Stationing

For Information Only

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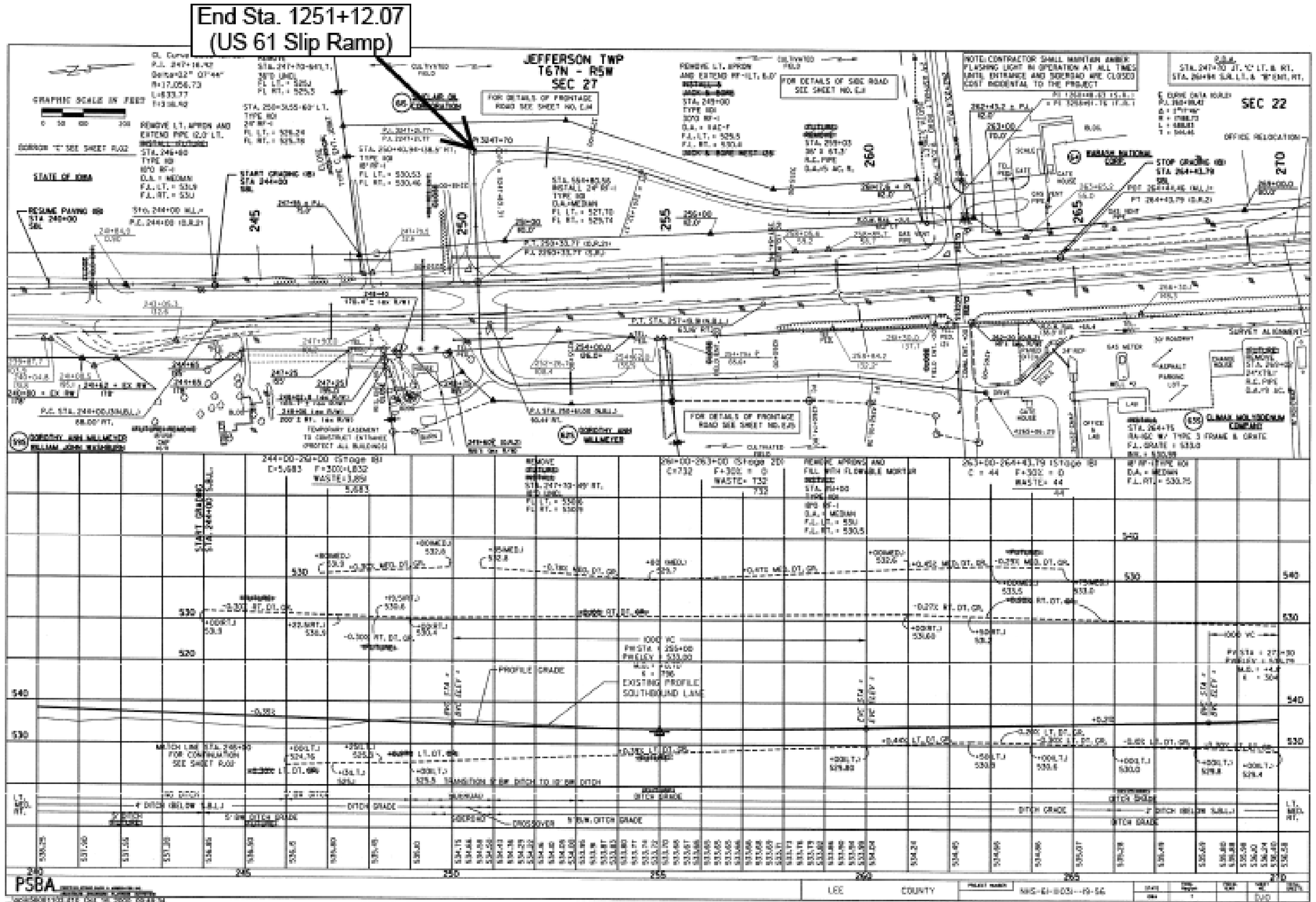

US 61 Stationing

For Information Only

FILE NO.	ENGLISH	DESIGN TEAM TA \ TAP \ VAIS	LEE COUNTY	PROJECT NUMBER NHSN-061-1(187)--2R-56	SHEET NUMBER D.5

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Survey Information

County: Lee
SAP 950
PIN: 20-56-061-010
Project Number: NHSN-061-1(187)--2R-56
Location: 260th St Intersection 1 mi S of Co Rd J62
Type of Work: PCC Pavement - Grade and New
Project Directory: 5606101020

Party Personnel

Nels Sutherland- Party Chief
Myron Fox- Assistant Survey Party Chief

Date(s) of Survey

Begin Date	08/12/2019
End Date	09/04/2019

General Information

Measurement units for this survey are US survey feet. This survey is for proposed PCC Pavement at the intersection of 260th St 1 mile south of Co Rd J62 on Hwy61. Project datum and control information is provided by Design Survey Office. This project is a Full Field Survey. This survey request was for the Hwy61 corridor only.

Vertical Control

Vertical datum for this survey is NAVD88 (Computed using Geoid12B). Benchmarks were placed throughout the project using post processed static observations relative to IaRTN Base Network. A minimum of 6hrs of data was simultaneously collected on each of the primary control points.

NGS BM #LD0480 was checked for vertical tolerance. The difference was less than 0.10ft.

Horizontal Control

The project coordinate system for this survey is IaRCS Zone 14 (U.S. Survey Feet). This survey control is relative to IaRTN reference stations. IaRTN Reference Station coordinates are relative to the National Reference Station network datum: NAD83 (2011) for Epoch 2010.00

Lee County GPS Control Pt# 118 was checked for horizontal tolerance. The difference was less than 0.10ft.

Alignment Information

SURML061

The horizontal alignment for this survey is a retrace of As-built Plans No. NHS-61-1(103)—19-56. Survey stationing was equated to the plan PC at Sta. 244+00 and ran back and ahead without equation throughout the survey.

Survey stationing relates to as built plan stationing as follows:

Survey "Best Fit" POB Sta. 229+99.2

PC Sta. 244+00 As-built Plans Project No. NHS-61-1(103)—19-56
Survey PC Sta. 244+00

PI Sta. 247+16.92 Project No. NHS-61-1(103)—19-56
Survey PI Sta. 247+16.86

PT Sta. 250+33.77 Project No. NHS-61-1(103)—19-56
Survey PT Sta. 250+33.64

PC POE Sta. 257+54.96 Project No. NHS-61-1(103)—19-56
Survey PC POE Sta. 257+55.07

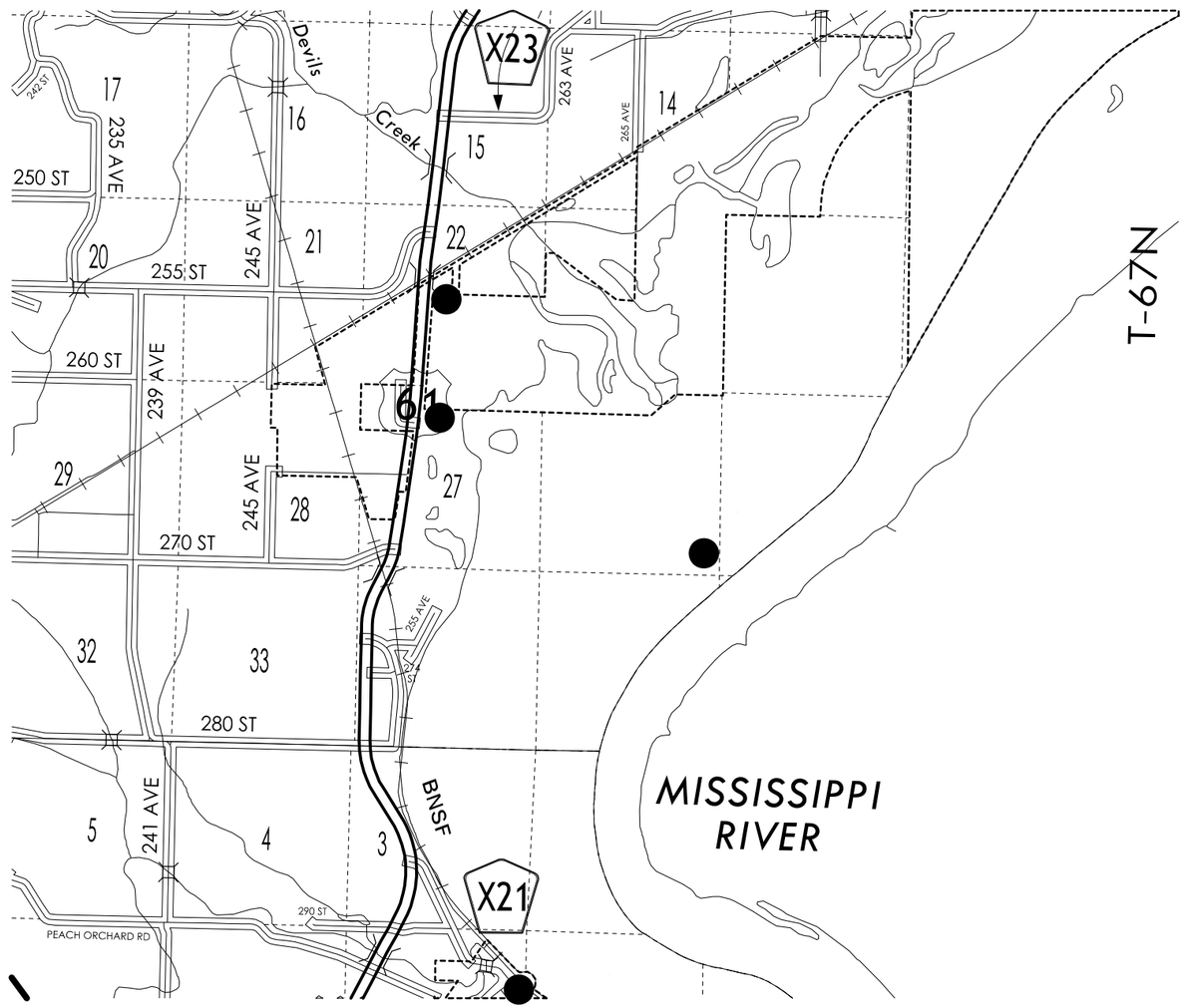
SURSR260

The horizontal alignment for this survey is a retrace of the Iowa DOT Acquisition Plat Exhibit "A", Lee County, Project No. NHSN-61-1(58)—2R-56, and Parcel No. 61S from Sinclair Oil Company. Survey stationing was equated to the PI at Sta. 2250+33.77 and ran ahead without equation throughout the survey. "Best Fit".

SR PI Sta. 2250+33.77 Iowa DOT Acquisition Plat
Survey SR PI Sta. 2250+33.77

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
Ia. Regional Coordinate System Zone 14

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

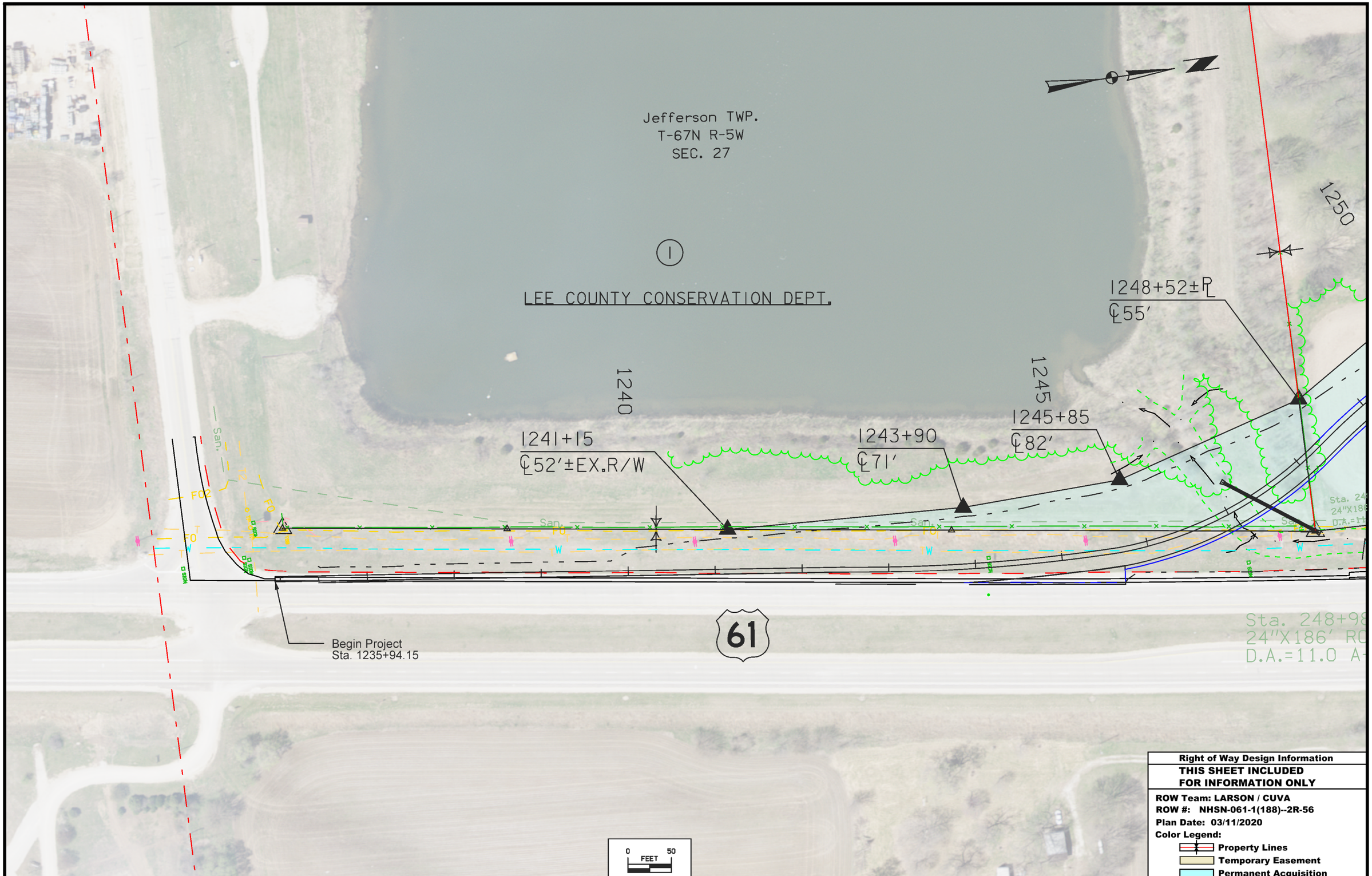
HORIZONTAL AND VERTICAL PROJECT CONTROL COORDINATE LISTING

HORIZ. DATUM: NAD83(2011) EPOCH 2010.00

VERT. DATUM: NAVD88

Ia. Regional Coordinate System Zone 14

Point Name	North	East	Height	Codes
301	6302982.595	24454197.741	525.480	CP CUT X IN CONCRETE INTERSECTION OF N 1ST ST AND MAIN ST NW 43FT THEN NE 31FT
302	6319747.528	24451230.198	535.201	FENO1 4IN BELOW SURFACE INTERSECTION OF HWY61 AND 260TH ST GO 170FT E THEN N 118FT
303	6323760.310	24451482.449	578.537	FENO2 4IN BELOW SURFACE INTERSECTION OF HWY61 AND 260TH ST GO N 4133FT ALONG HWY61 THEN 8FT E OF E EDGE OF NBL
118	6315212.746	24452353.014	520.454	CP LEE CO MON NO 118 ROD AND CAP IN PVC W LID 175FT E OF PVT DRV 50FT W OF MISSISSIPPI RIVER



Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: LARSON / CUVA
ROW #: NHSN-061-1(188)--2R-56
Plan Date: 03/11/2020
Color Legend:
- **Property Lines**
- **Temporary Easement**
- **Permanent Acquisition**

FILE NO.	ENGLISH	DESIGN TEAM TA \ TAP \ VAIS	LEE COUNTY	PROJECT NUMBER NHSN-061-1(187)--2R-56	SHEET NUMBER H.1

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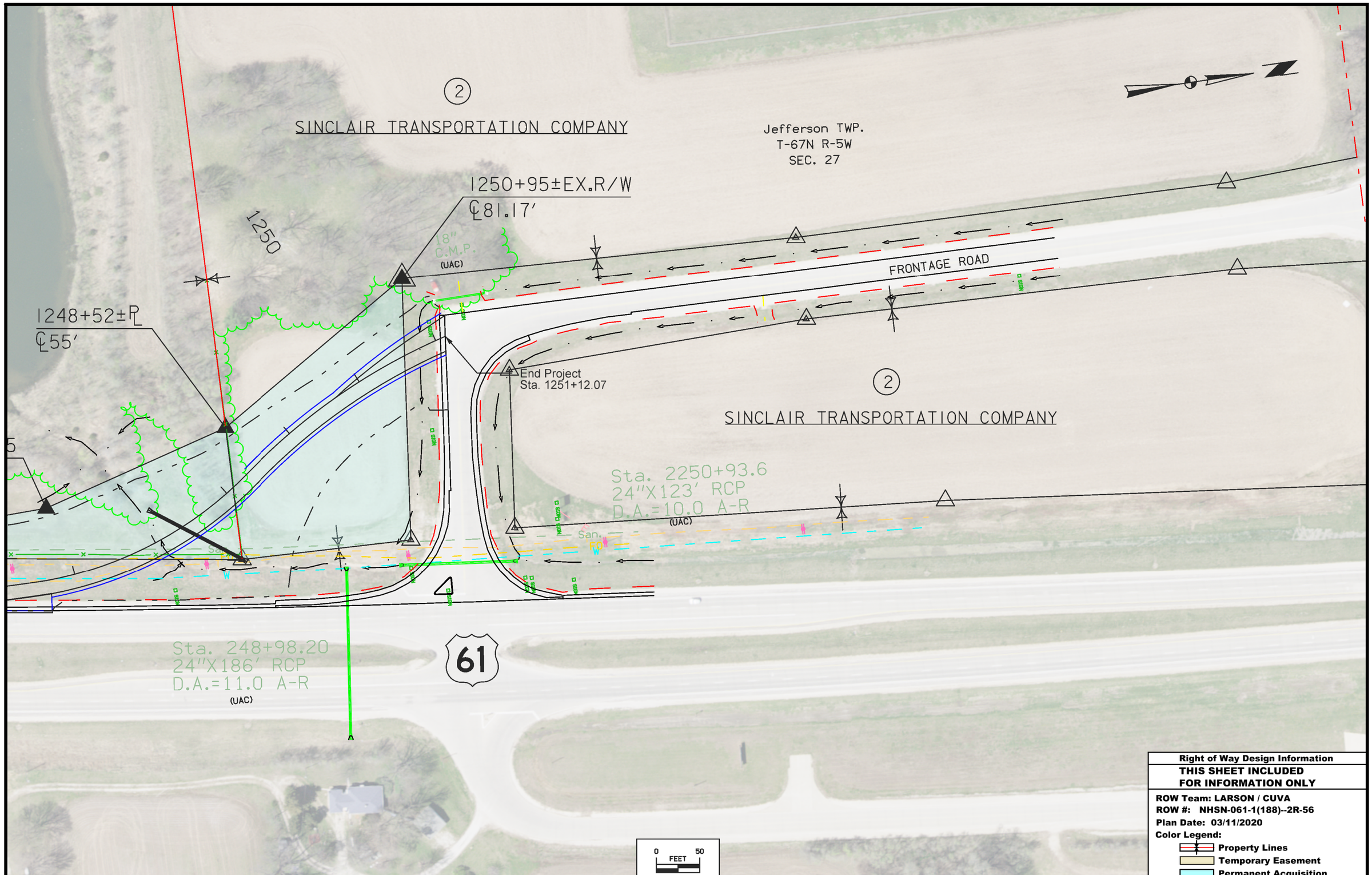

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: LARSON / CUVA
ROW #: NHSN-061-1(188)--2R-56
Plan Date: 03/11/2020
Color Legend:
- Property Lines
- Temporary Easement
- Permanent Acquisition

FILE NO.	ENGLISH	DESIGN TEAM TA \ TAP \ VAIS	LEE COUNTY	PROJECT NUMBER NHSN-061-1(187)--2R-56	SHEET NUMBER H.2

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108-23A
08-01-08

TRAFFIC CONTROL PLAN

Traffic on NB and SB US 61 and all side streets shall be maintained at all times.

111-01
04-17-12

COORDINATED OPERATIONS

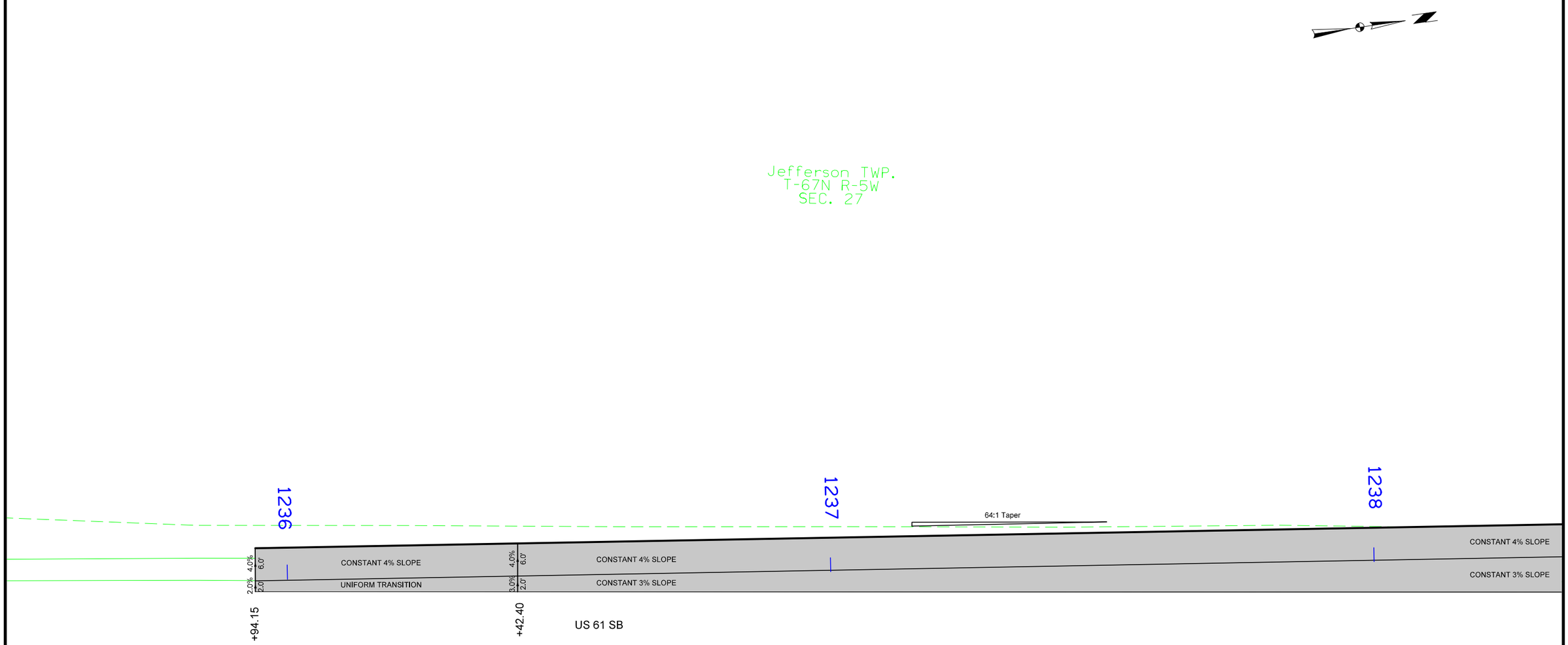
Other work in progress during the same period of time will include the construction of the projects listed. Coordinate operations with those of other contractors working within the same area.

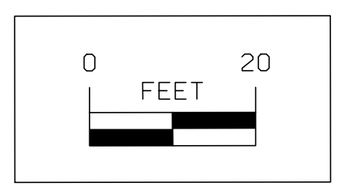
Project	Type of Work
None Provided	

108-25
10-21-14

511 TRAVEL RESTRICTIONS

Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No., Structure ID, or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
			No restrictions anticipated									





US 61 SB
Slip Ramp
Staking Details
Sheet 1 of 4

FILE NO.	ENGLISH	DESIGN TEAM TA \ TAP \ VAIS	LEE COUNTY	PROJECT NUMBER NHSN-061-1(187)--2R-56	SHEET NUMBER L.1

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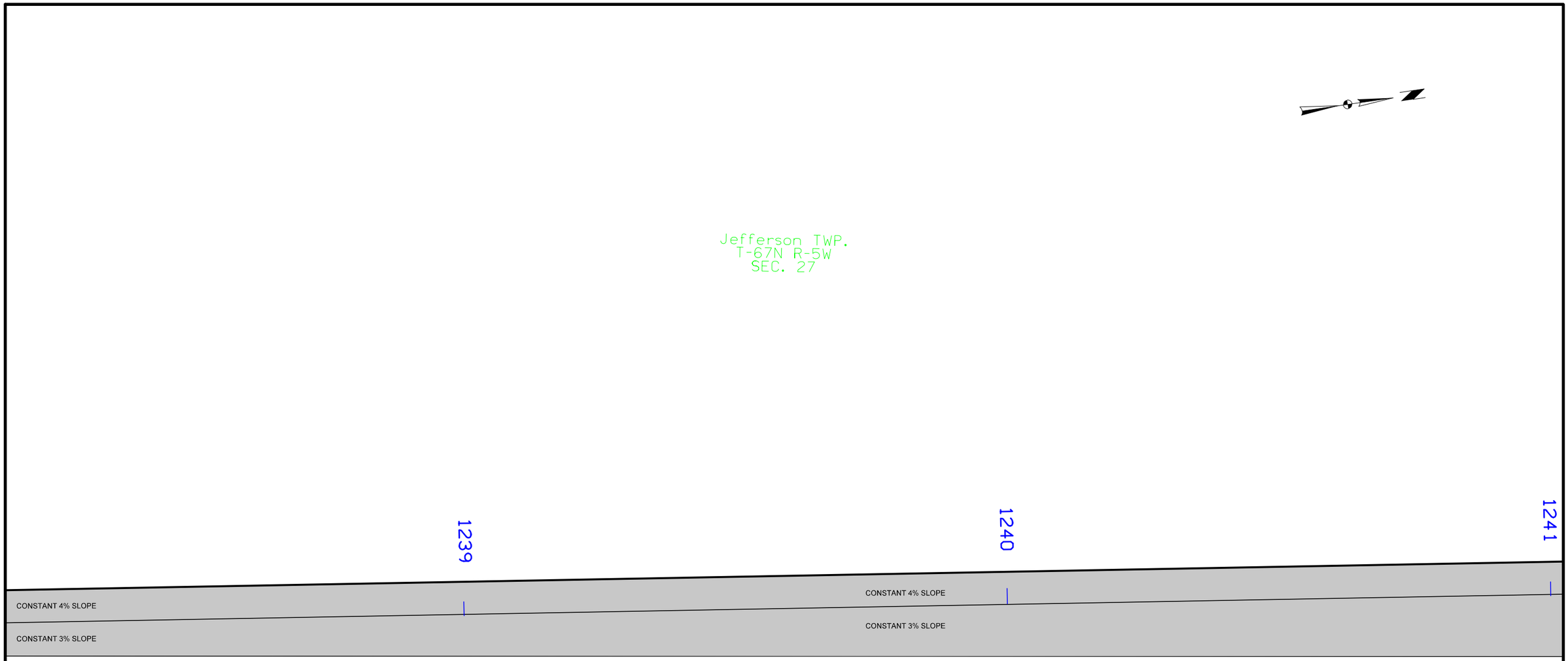

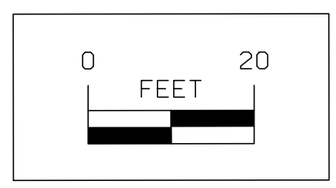

US 61 SB
Slip Ramp
Staking Details
Sheet 2 of 4

FILE NO.	ENGLISH	DESIGN TEAM TA \ TAP \ VAIS	LEE COUNTY	PROJECT NUMBER NHSN-061-1(187)--2R-56	SHEET NUMBER L.2

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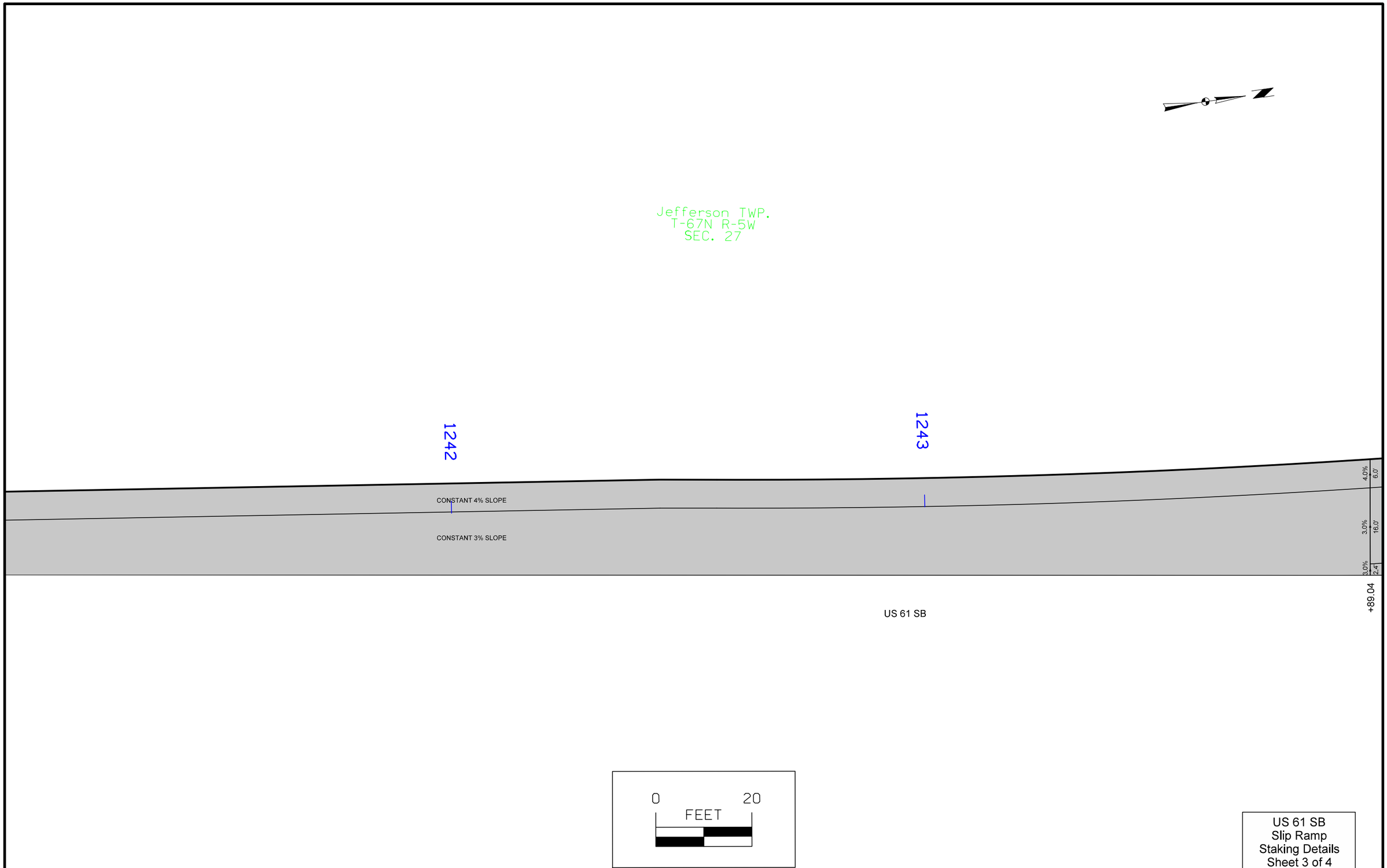

US 61 SB
Slip Ramp
Staking Details
Sheet 3 of 4

FILE NO.	ENGLISH	DESIGN TEAM TA \ TAP \ VAIS	LEE COUNTY	PROJECT NUMBER NHSN-061-1(187)--2R-56	SHEET NUMBER L.3

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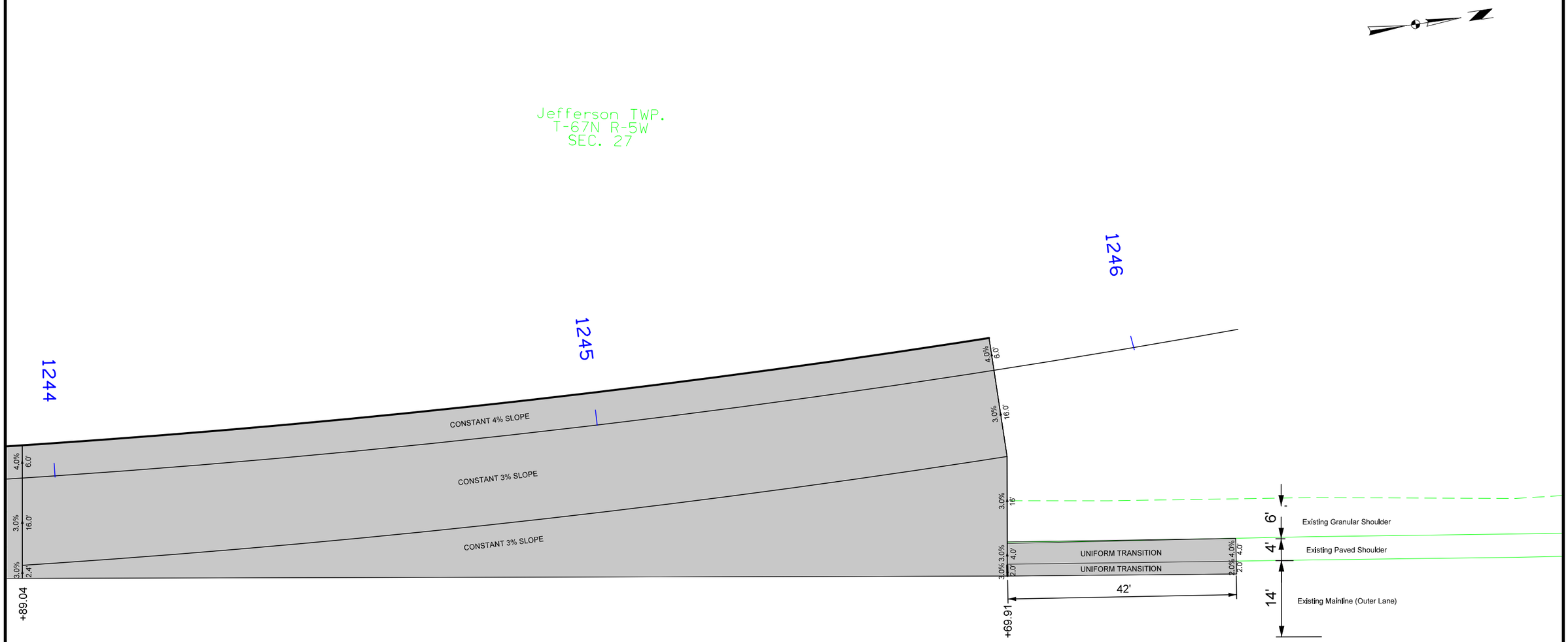

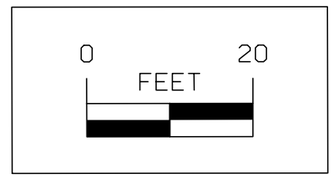

US 61 SB
Slip Ramp
Staking Details
Sheet 4 of 4

FILE NO.	ENGLISH	DESIGN TEAM TA \ TAP \ VAIS	LEE COUNTY	PROJECT NUMBER NHSN-061-1(187)--2R-56	SHEET NUMBER L.4

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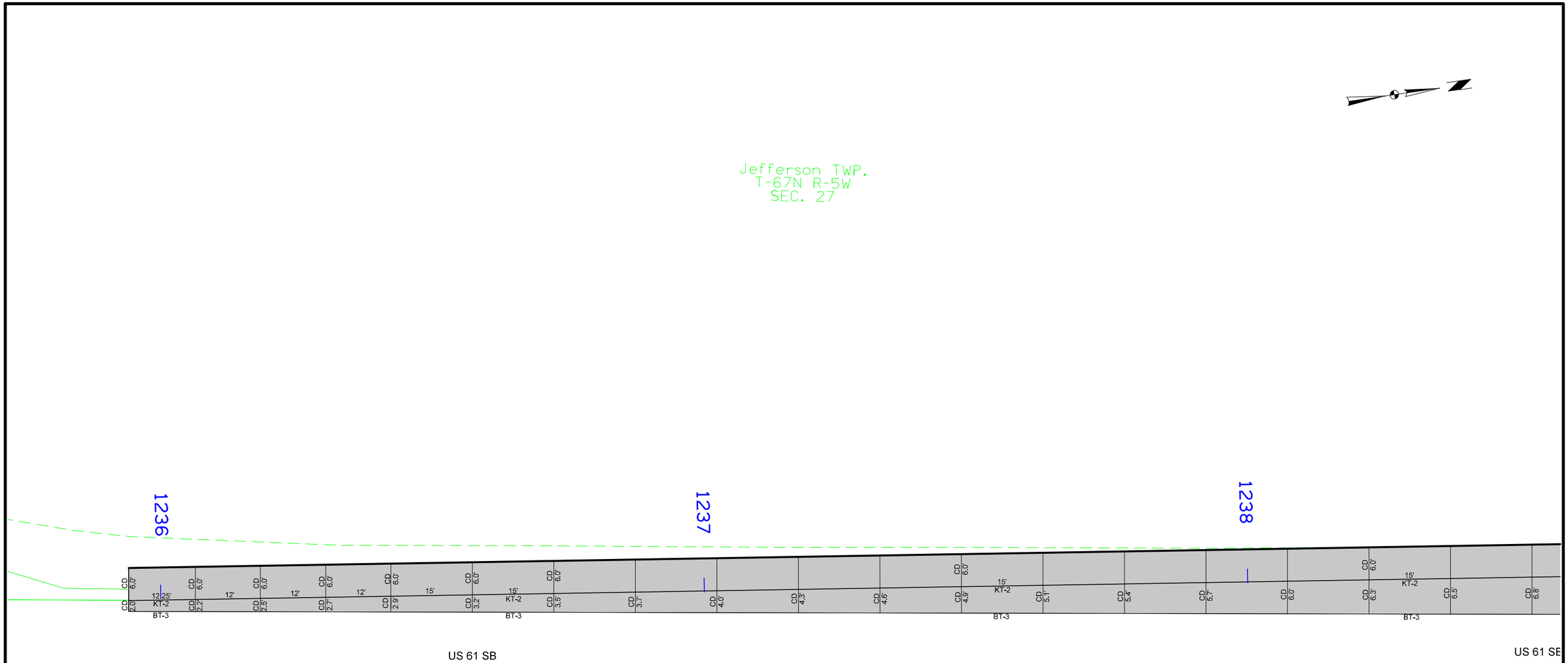

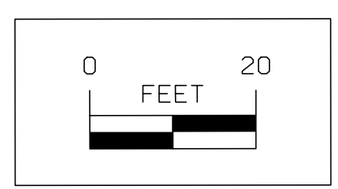

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Slip Ramp
Jointing Layout
Sheet 1 of 4

FILE NO.	ENGLISH	DESIGN TEAM TA \ TAP \ VAIS	LEE COUNTY	PROJECT NUMBER NHSN-061-1(187)--2R-56	SHEET NUMBER L.5

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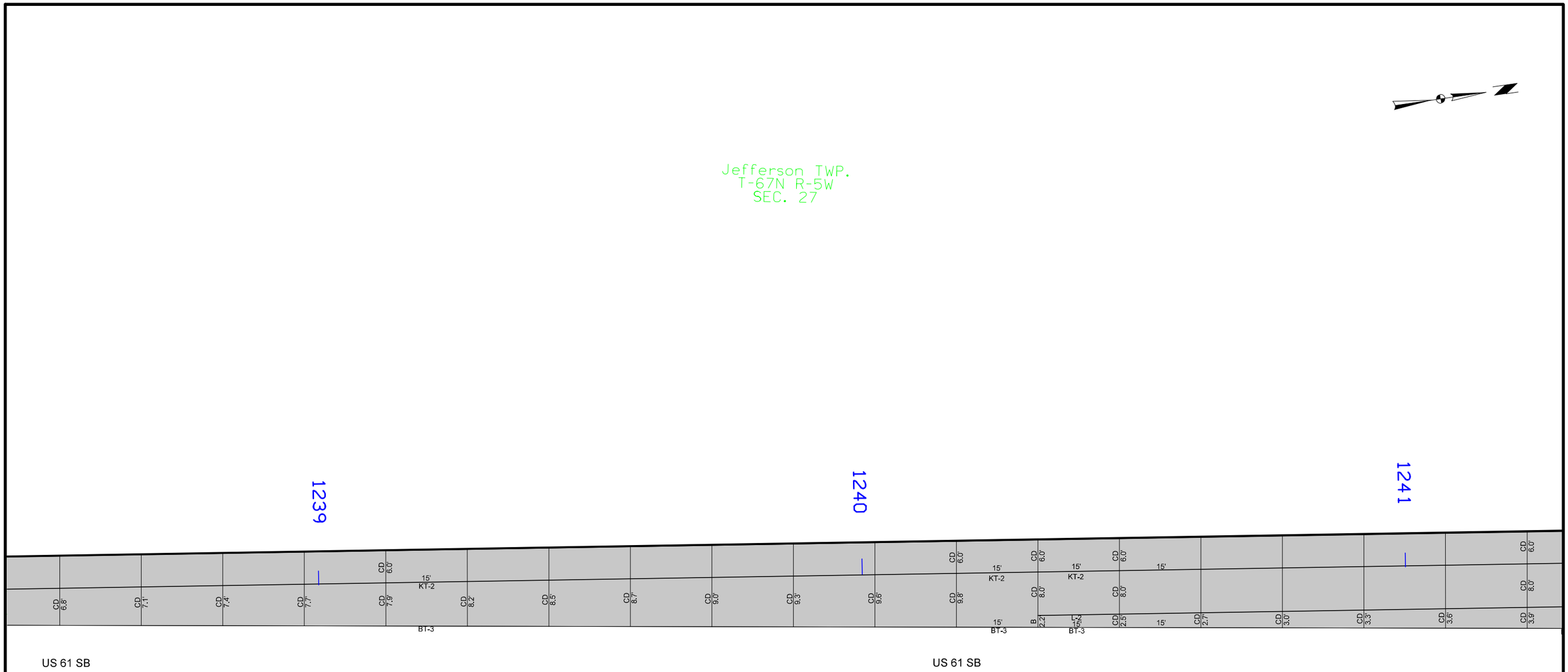

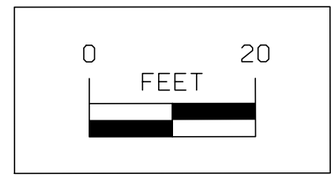

US 61 SB
Slip Ramp
Jointing Layout
Sheet 2 of 4

FILE NO.	ENGLISH	DESIGN TEAM TA \ TAP \ VAIS	LEE COUNTY	PROJECT NUMBER NHSN-061-1(187)--2R-56	SHEET NUMBER L.6

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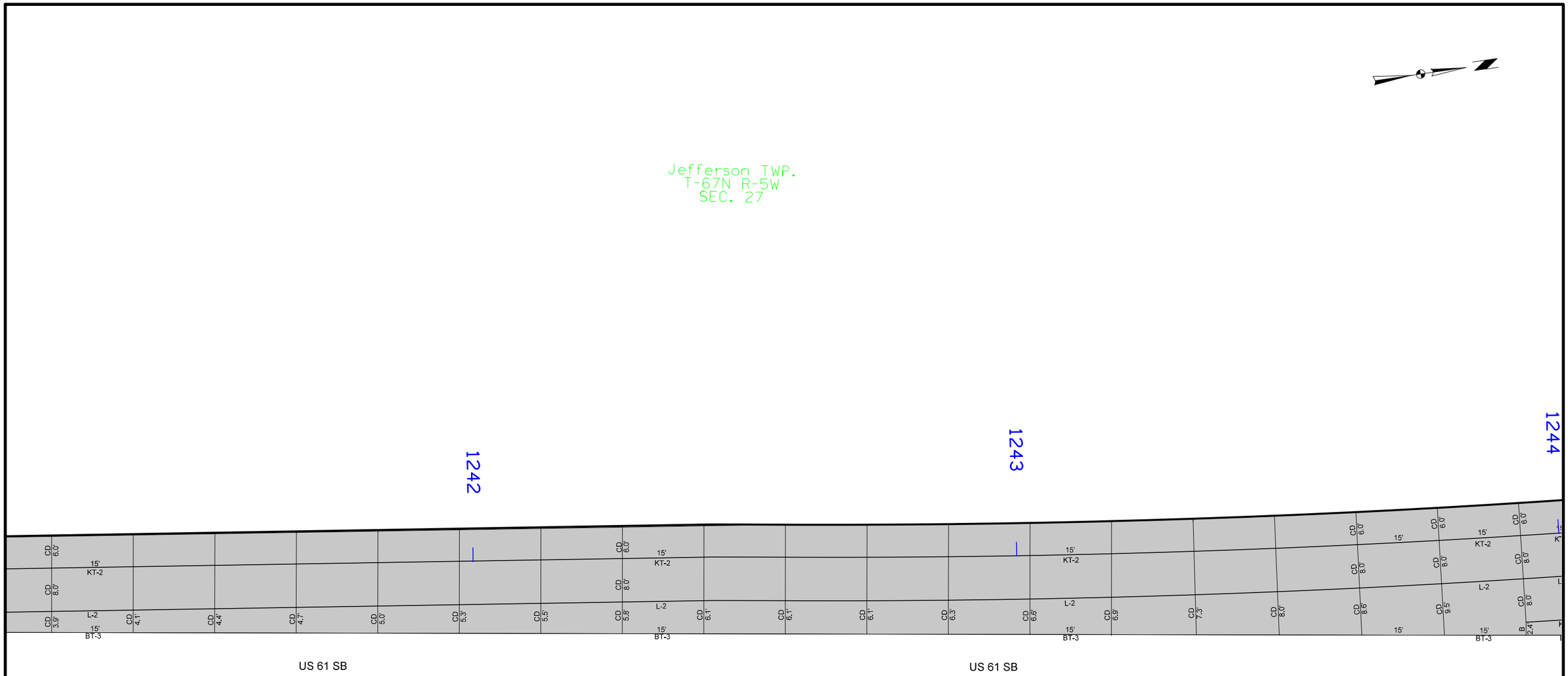

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US 61 SB
Slip Ramp
Jointing Layout
Sheet 3 of 4

FILE NO.	ENGLISH	DESIGN TEAM TA \ TAP \ VAIS	LEE COUNTY	PROJECT NUMBER NHSN-061-1(187)--2R-56	SHEET NUMBER L.7

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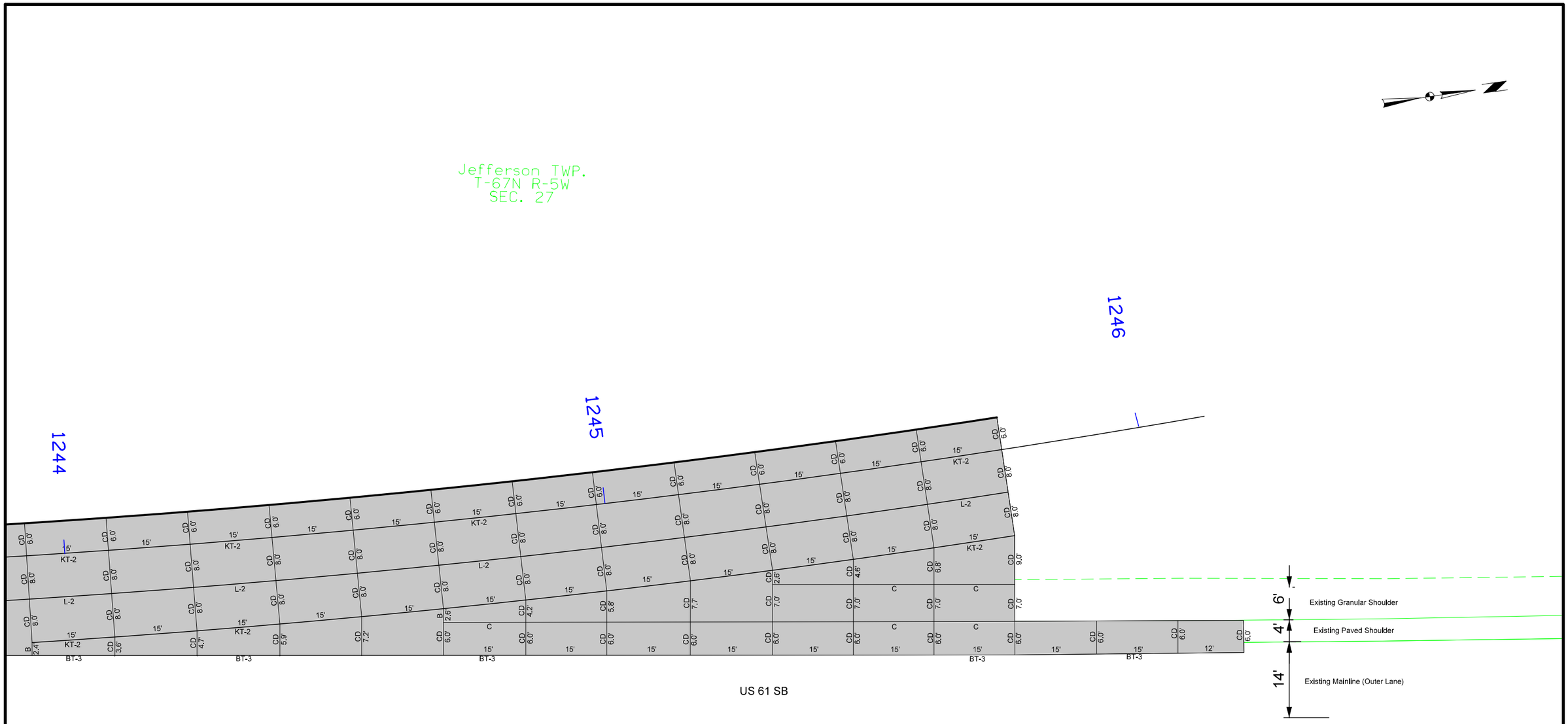

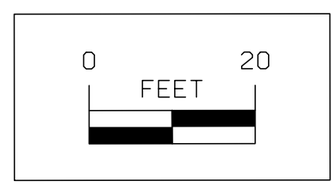

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Jointing Layout
Sheet 4 of 4

FILE NO.	ENGLISH	DESIGN TEAM TA \ TAP \ VAIS	LEE COUNTY	PROJECT NUMBER NHSN-061-1(187)--2R-56	SHEET NUMBER L.8

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100-1A
07-15-97

ESTIMATED PROJECT QUANTITIES
(1 DIVISION PROJECT)

Item No.	Item Code	Item	Unit	Total	As Built Qty.
1	2601-2634100	MULCHING	ACRE	2.5	
2	2601-2636015	NATIVE GRASS SEEDING	ACRE	2.1	
3	2601-2642100	STABILIZING CROP - SEEDING AND FERTILIZING	ACRE	2.5	
4	2602-0000030	SILT FENCE FOR DITCH CHECKS	LF	106.4	
5	2602-0000071	REMOVAL OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS	LF	160.0	
6	2602-0000101	MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECK	LF	16.0	
7	2602-0000312	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA.	LF	200.0	
8	2602-0000320	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 20 IN. DIA.	LF	2,702.5	
9	2602-0000350	REMOVAL OF PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE	LF	2,902.5	
10	2602-0010010	MOBILIZATIONS, EROSION CONTROL	EACH	1	
11	2602-0010020	MOBILIZATIONS, EMERGENCY EROSION CONTROL	EACH	1	

100-4A
10-29-02

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
1	**2601-2634100**	**MULCHING**
		Perform mulching according to Article 2601.03, E, 2, of the Standard Specifications. Anchor mulch into the soil using mulch anchoring equipment with a minimum of two passes.
		Item is included for areas requiring reshaping and seedbed preparation. Use mulch that is Certified Noxious Weed Seed Free Mulch as certified by the Iowa Crop Improvement Association or adjacent states Crop Improvement Associations.
		Mulch Rate: 1 1/2 tons of dry cereal straw or native grass straw per acre.
-	-	-
2	**2601-2636015**	**NATIVE GRASS SEEDING**
		Seed all areas outside eight feet adjacent to outside shoulder along mainline, side roads, and infield areas at interchanges with "Native Grass Seeding".
		Supply all seed for "Native Grass Seeding".
		Apply all forb seed through the native grass drill wildflower or small seed box.
		Do not mix and apply Forb seed with the native grass seed.
		Apply cover crop through the cool season or through cover crop seed box.
		Do not mix and apply cover crop seed with the native grass seed.
		Remove seed remaining in the drill at the end of each day. At the completion of all seeding, remove remaining seed from the drill by vacuum or other means. Hand broadcast remaining seed on the project.
		The Engineer will review the limits with the Contractor prior to seeding.
-	-	-
3	**2601-2642100**	**STABILIZING CROP - SEEDING AND FERTILIZING**
		Item is included for disturbed areas.
		Seed and fertilize all disturbed areas according to Article 2601.03, C, 1, of the Standard Specifications.
-	-	-
4	**2602-0000030**	**SILT FENCE FOR DITCH CHECKS**
		Refer to Tab 100-18.
		The tabulation includes estimated locations for placement of "Silt Fence for Ditch Checks" to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes tab quantities for the paving project for new locations and 10% of the original tab quantity for the grading project (insert original tab quantity from the grading project) for field adjustments and replacements.
-	-	-
5	**2602-0000071**	**REMOVAL OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS**
		This item is included for silt fence and silt fence for ditch check removal required for staging reasons, removal to allow for replacement (replacement to be paid separately), or for areas that have achieved 70% permanent growth.
-	-	-
6	**2602-0000101**	**MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECK**
		This item is included for maintaining the new silt fence and silt fence ditch checks installed for the paving project and existing silt fence and silt fence ditch checks installed as part of the grading project.
-	-	-

100-4A
10-29-02

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
7	**2602-0000312**	**PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA.**
		Item is included for temporary perimeter sediment control, inlet protection, and water velocity reduction on slopes or ditches at locations to be determined during construction. Verify specific locations with the Engineer prior to beginning placement.
		Use Perimeter and Slope Sediment Control Devices fabricated using wood excelsior.
-	-	-
8	**2602-0000320**	**PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 20 IN. DIA.**
		Refer to Tab. 100-19.
		The tabulation includes estimated locations for placement of "Perimeter and Slope Sediment Control Device, 20 in. dia." to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 25% additional quantity for field adjustments and replacements.
		Use Perimeter and Slope Sediment Control Devices fabricated using wood excelsior.
-	-	-
9	**2602-0000350**	**REMOVAL OF PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE**
		- -
-	-	-
10	**2602-0010010**	**MOBILIZATIONS, EROSION CONTROL**
		- -
-	-	-
11	**2602-0010020**	**MOBILIZATIONS, EMERGENCY EROSION CONTROL**
		- -
-	-	-
-	-	-

LANDSCAPE DESIGN

STATE OF IOWA
Seana K. Godbold
LANDSCAPE ARCHITECT
NO. 508
PROFESSIONAL LANDSCAPE ARCHITECT

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: Seana K. Godbold — Date: 5/13/2020

Seana K. Godbold
Printed or Typed Name

My license renewal date is December 31, 20 21

Pages or sheets covered by this seal: RC.1 - RC.4, RR.1 - RR.5

111-25
10-18-11

INDEX OF TABULATIONS

Tabulation	Tabulation Title	Sheet No.
C Sheets		
100-1A	ESTIMATED PROJECT QUANTITIES (1 DIVISION PROJECT)	RC.1
100-4A	ESTIMATE REFERENCE INFORMATION	RC.1
100-19	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE	RC.2
100-18	SILT FENCES FOR DITCH CHECKS	RC.2
100-34	STORMWATER DRAINAGE BASIN AND STORAGE	RC.2
105-4	STANDARD ROAD PLANS	RC.2
110-12	POLLUTION PREVENTION PLAN	RC.3 - RC.4
111-25	INDEX OF TABULATIONS	RC.2

105-4
10-18-11

STANDARD ROAD PLANS

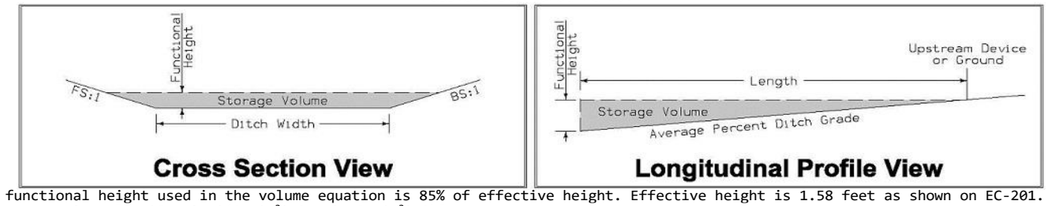
The following Standard Road Plans apply to construction work on this project.

Number	Date	Title
EC-201	10-15-19	Silt Fence
EC-204	04-21-20	Perimeter and Slope Sediment Control Devices
EC-502	04-21-15	Seeding in Rural Areas

100-18
10-16-18

SILT FENCES FOR DITCH CHECKS

Possible Standard: EC-201



* The functional height used in the volume equation is 85% of effective height. Effective height is 1.58 feet as shown on EC-201.
* Volume equation: $[0.5*Spacing*(0.5*H^2*FS+DW*H+0.5*H^2*BS)]$

Basin No.	Type	Location Station	Location Side	Bid Items Installation LF	Bid Items Maintenance LF	Bid Items Removal LF	Stormwater Storage Volume Summary Foreslope FS:1	Backslope BS:1	Ditch Width FT	Avg.% Slope Ditch Grade	Volume* CF	Remarks
1	1	1246+85.00	Lt	56.2	2.2	22.0	3.0	3.0	10.0	1.6%	706.5	
2	1	1247+40.00	Lt	50.2	2.2	22.0	3.0	3.0	10.0	1.6%	706.5	
			SFDC Tab Totals:	106.4								
			SFDC Bid Totals:	160.0	150% of Tab Total							
			SFDC Maintenance Totals:	16.0	10% of Bid Total							
			SFDC Removal Totals:	160.0	100% of Bid Total							

100-19
04-19-16

PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE

Possible Standards: EC-204

Location Begin Station	Location End Station	Location Side	Length of Installation 9 inch Dia LF	12 inch Dia LF	20 inch Dia LF	Remarks
1236+35.00	1246+55.00	Lt			1010.0	Slope Protection
1247+20.00	1251+00.00	Lt			385.0	Slope Protection
1246+00.00	1248+25.00	Rt			200.0	Slope Protection
1248+15.00		Rt			40.0	Outlet Protection
1248+25.00	1250+95.00	Rt			280.0	Slope Protection
1241+15.00		Lt			28.0	Ditch Check
1242+45.00		Lt			27.0	Ditch Check
1243+90.00		Lt			72.0	Ditch Check
1245+20.00		Lt			52.0	Ditch Check
1248+58.00		Lt			34.0	Ditch Check
1249+10.00		Lt			34.0	Ditch Check
				Tab Total:	2162.0	
			12 inch PSSCD Bid Totals:		200.0	Consult Engineer for Locations
			20 inch PSSCD Bid Totals:		2702.5	125% of Tab Total
			PSSCD Removal Totals:		2902.5	100% of Bid Total

281-3
10-17-17

STORM WATER BEST MANAGEMENT PRACTICES

When the following best management practices are used, they are intended to account for disturbed areas where storage volume cannot be provided: Silt Fences and Sediment Control Logs.

100-34
10-17-17

STORMWATER DRAINAGE BASIN AND STORAGE

Refer to EC Standards and 570s Details.

Drainage Basin Location Basin No.	Station to Station		Side	Discharge Point Station	Discharge Point Side	Summary of Stormwater Storage Total Disturbed Area Acres	Disturbed Area with Storage Provided Acres	Disturbed Area without Storage Provided Acres	Best Management Practice	Total Storage Volume Provided CF	Total Storage Volume Required CF	Storage Volume Met? Yes/No	Remarks
1	1236+50.00	1247+10.00	Lt	1247+10.00	North	0.9	0.9	0.0			3240.0		
									Silt Fence for Ditch Check (EC-201)	706.5			
2	1247+10.00	1251+20.00	Lt	1247+10.00	South	0.3	0.3	0.0			1080.0		
									Silt Fence for Ditch Check (EC-201)	706.5			
3	1245+65.00	1250+90.00	Rt	1247+45.00	West	1.0	1.0	0.0			3600.0		

231-2
10-16-12

HERBICIDE

For all herbicide applications, the following provisions shall apply.

1. Follow all laws, rules and regulations related to the handling of pesticides, including but not limited to:
   a. Follow all herbicide label directions, restrictions, and precautions.
   b. The company responsible for the herbicide applicator must be licensed with Iowa Department of Agriculture and Land Stewardship (IDALS) as a commercial pesticide applicator company.
   c. The person applying the herbicide must be certified through IDALS as a pesticide applicator in Category 6, Right-of-Way. For herbicide applications that require an aquatic certification, the applicator must also be certified as a pesticide applicator in Category 5, Aquatics.
   d. Use herbicide and adjuvant products labeled for the application site:
      i. For applications on the primary highway right-of-way, use only products labeled for use on highway rights-of-way or roadsides.
      ii. For applications to or over water, use only products labeled for corresponding use in aquatic sites, unless intermittent pockets of standing water, such as tire ruts, and the product is labeled for such use.
      iii. For applications to areas in the water conveyance portion of the ditch that do not contain water at the time of application, use only products labeled for non-irrigation ditch banks or aquatic sites.
   e. Do not apply any herbicide to or over standing or flowing water unless required coverage is obtained under a National Pollutant Discharge and Elimination System (NPDES) Pesticide Discharge Permit through Iowa DNR. If standing or flowing water is encountered in areas when they need to be sprayed, notify Iowa DOT (Roadside Development) to determine if submittal of a Notice of Intent (NOI) is required.

2. Schedule work according to weather conditions and take measures to avoid off-target damage, such as runoff, leaching, drift and volatilization.
   a. Do not spray herbicide 24 hours prior to forecast precipitation that is expected to cause significant runoff conditions.
   b. For areas with saturated soil, such as ditch bottoms, do not spray herbicide 24 hours prior to forecast precipitation, unless using products labeled for aquatic sites.
   c. For conventional applications, avoid applications when wind speed exceeds 10 mph. For invert applications, avoid applications when wind speed exceeds 15 mph.
   d. For conventional foliar applications, use a drift retardant and maintain drift control throughout the application period by adding more to the tank as it breaks down from agitation.
   e. Avoid spraying volatile products when temperatures are forecast to exceed 85° F within 3 days.
   f. Check the IDALS Sensitive Crops Directory and do not spray adjacent to a listed operation when wind is blowing towards it.

3. Respond to allegations of any off-target damage attributed to handling and spraying of herbicide.

4. Provide the following documents to the Engineer for approval not less than 2 weeks prior to the application.
   a. A copy of the herbicide and adjuvant labels, including any applicable supplemental labels.
   b. A copy of the herbicide and adjuvant Material Safety Data Sheets (MSDS.)

5. Have copies of the herbicide and adjuvant labels and MSDSs on-hand and at locations of storage, transport, and application.

6. Schedule work to maximize efficiency of the herbicide application in relation to weather conditions and plant growth stage. Follow any label recommendations given as “for best results.”
   a. For weed applications:
      i. To determine if weeds are “actively growing,” use as a guideline that there needs to have been at least 1 hour of temperature above 65° F and 1 hour of sun in the day prior to, of, or forecast before a rain the day after the application.
      ii. For spring applications to thistles, apply after basal leaves of Canada thistles are fully extended, and after rosettes of musk thistle are at least 8 inches diameter, but before flower stage.
      iii. For fall applications to thistles, apply prior to the second hard freeze of 28° F, unless otherwise listed in the label directions.
   b. For tree and brush applications:

231-2
10-16-12

HERBICIDE

      i. For foliar applications and cut stump/surface applications with water-soluble products, apply after leaves are fully opened in the spring and prior to leaf discoloration in the fall.
      ii. For cut stump applications with oil soluble products, do not apply during periods of heavy sap flow. Use as a guideline that heavy sap flow occurs in late winter to early spring when nighttime temperatures below 32° F are followed by daytime temperatures above 32° F with sunny conditions.
      iii. For cut stump and basal bark applications, add sufficient dye so that treated areas are visible to inspection 7 days after application.

7. Notify the Engineer prior to calibrating, mixing and applying herbicides, including incidental items.

8. Provide copies of daily spray logs to the RCE at the end of each week of spraying (form provided by Iowa DOT).

9. If Contractor does not complete spray item on schedule, the Engineer may adjust the schedule.

110-12
04-16-19

POLLUTION PREVENTION PLAN

This project is regulated by the requirements of the Iowa Department of Natural Resources (DNR) National Pollutant Discharge Elimination System (NPDES) General Permit No. 2 OR an Iowa Department of Natural Resources (DNR) National Pollutant Discharge Elimination System (NPDES) individual storm water permit. The Contractor shall carry out the terms and conditions of this permit and the Pollution Prevention Plan (PPP).

This Base PPP includes information on Roles and Responsibilities, Project Site Description, Controls, Maintenance Procedures, Inspection Requirements, Non-Storm Water Controls, Potential Sources of Off Right-of-Way Pollution, and Definitions. This plan references other documents rather than repeating the information contained in the documents. A copy of this Base Pollution Prevention Plan, amended as needed per plan revisions or by contract modification, will be readily available for review.

All contractors shall conduct their operations in a manner that controls pollutants, minimizes erosion, and prevents sediments from entering waters of the state and leaving the highway right-of-way. The prime contractor shall be responsible for compliance and implementation of the PPP for their entire contract. This responsibility shall be further shared with subcontractors whose work is a source of potential pollution as defined in this PPP.

I. ROLES AND RESPONSIBILITES
   A. Designer:
      1. Prepares Base PPP included in the project plan.
      2. Prepares Notice of Intent (NOI) submitted to Iowa DNR.
      3. Is signature authority on the Base PPP.
   B. Contractor:
      1. Signs a co-permittee certification statement adhering to the requirements of the NPDES permit and this PPP. All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP.
      2. Designates a Water Pollution Control Manager (WPCM), who has the duties and responsibilities as defined in Section 2602 of the Standard Specifications.
      3. Submits an Erosion Control Implementation Plan (ECIP) and ECIP updates according to Section 2602 of the Standard Specifications.
      4. Installs and maintains appropriate controls. This work may be subcontracted.
      5. Supervises and implements good housekeeping practices.
      6. Conducts joint required inspections of the site with inspection staff. When Contractor is not mobilized on site, Contractor may delegate this responsibility to a trained or certified subcontractor. Contracting Authority also may waive joint inspection requirement during winter shutdown. In both circumstances, WPCM (or trained or certified delegate from the Contractor) is still responsible to review and sign inspection reports.
      7. Complies with training and certification requirements of Section 2602 of the Standard Specifications.
   C. Subcontractors:
      1. Sign a co-permittee certification statement adhering to the requirements of the NPDES permit and this PPP if responsible for sediment or erosion controls or involved in land disturbing activities. All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP.
      2. Implement good housekeeping practices.
   D. RCE/Project Engineer:
      1. Is Project Storm Water Manager.
      2. On projects where DOT is the Contracting Authority, is current with erosion control training or certification.
      3. Takes actions necessary to ensure compliance with storm water requirements including, where appropriate, issuing stop work orders, and directing additional inspections at construction project sites that are experiencing problems with achieving permit compliance.
      4. Orders the taking of measures to cease, correct, prevent, or minimize the consequences of non-compliance with the storm water requirements of the Applicable Permit.
      5. Supervises all work necessary to meet storm water requirements at the Project, including work performed by contractors and subcontractors.
      6. Requires employees, contractors, and subcontractors to take appropriate responsive action to comply with storm water requirements, including requiring any such person to cease or correct a violation of storm water requirements, and to order or recommend such other actions as necessary to meet storm water requirements.
      7. Is familiar with the Project PPP and storm water site map.
      8. On projects where DOT is Contracting Authority, is responsible for monitoring inspection reports on a monthly basis, to determine whether deficiencies identified in inspection reports were adequately and timely addressed, and if not, has the authority and responsibility to direct immediate actions to correct the deficiencies.
      9. Is the point of contact for the Project for regulatory officials, Inspector, contractors, and subcontractors regarding storm water requirements.
      10. Is signature authority on Notice of Discontinuation.
   E. Inspector:
      1. Updates PPP whenever there is a change in design, construction, operation, or maintenance which has a significant effect on the discharge of pollutants from the project.
      2. Maintains an up-to-date record that identifies contractors and subcontractors as co-permittees.
      3. Makes these plans available to the DNR upon their request.
      4. Conducts joint required inspections of the site with the contractor/subcontractor.
      5. Completes an inspection report after each inspection.
      6. Is signature authority on storm water inspection reports.

II. PROJECT SITE DESCRIPTION
   A. This Pollution Prevention Plan (PPP) is for the construction of a Slip Ramp.
   B. This PPP covers approximately 2.8 acres with an estimated 2.8 acres being disturbed. The The portion of the PPP covered by this contract has 2.8 acres disturbed.
   C. The PPP is located in an area of Colo-Chequest-Titus soil association. The estimated weighted average runoff coefficient number for this PPP after completion will be .46.
   D. Storm Water Site Map is located in the R sheets. Proposed slopes are shown in cross sections, details, or standard road plans. Supplemental information is located in the Tabulations in the C or CE sheets.
   E. The base storm water site map is amended by contract modifications and progress payments (fieldbook entries) of completed erosion control work. Also, due to project phasing, erosion and sediment controls shown on project plans may not be installed until needed, based on site conditions. For example, silt fence ditch checks will typically not be installed until the ditch has been installed. Installed locations may also be modified from tabulation locations by field staff. Installed locations will be documented by fieldbook entries.
   F. Runoff from this work will flow into the road ditch and then to a retention pond.

POLLUTION PREVENTION PLAN

III. CONTROLS

A. The Contractor's ECIP specified in Article 2602.03 of the Standard Specifications for accomplishment of storm water controls should clearly describe the intended sequence of major activities, and for each activity define the control measure and the timing during the construction process that the measure will be implemented.

B. Preserve vegetation in areas not needed for construction.

C. Sections 2601 and 2602 of the Standard Specifications define requirements to implement erosion and sediment control measures. Actual quantities used and installed locations may vary from the Base PPP and amendment of the plan will be documented via fieldbook entries or by contract modification. Additional erosion and sediment control items may be required as determined by the inspector and/or contractor during storm water monitoring inspections. If the work involved is not applicable to any contract items, the work will be paid for according to Article 1109.03 paragraph B of the Standard Specifications.

1. EROSION AND SEDIMENT CONTROLS

a. Stabilization Practices

1) Site plans will ensure that existing vegetation or natural buffers are preserved where attainable and disturbed portions of the site will be stabilized.

2) Initialize stabilization of disturbed areas immediately after clearing, grading, excavating, or other earth disturbing activities have:

a) Permanently ceased on any portion of the site, or

b) Temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days.

3) Staged permanent and/or temporary stabilizing seeding and mulching shall be completed as the disturbed areas are completed. Incomplete areas shall be stabilized according to paragraph III, C, 1, a, 2, b above.

4) Permanent and Temporary Stabilization practices to be used for this project are located in the storm water site map (when included), Estimated Project Quantities (100-0A, 100-1A, or 100-1C), and Estimate Reference Information (100-4A) located in the C sheets. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation (105-4) in the C sheets.

5) Preservation of existing vegetation within right-of-way or easements will act as vegetative buffer strips.

6) Preservation of topsoil: Bid items to be used for this project are located in the Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C sheets. Additional information may be found in the Tabulations in the C or T Tabulation sheets, or is referenced in Section 2105 of the Standard Specifications.

b. Structural Practices

1) Structural practices will be implemented to divert flows from exposed soils and detain or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Additionally, structural practices may include: silt basins that provide 3600 cubic feet of storage per acre drained or equivalent sediment controls, outlet structures that withdraw water from surface when discharging basins, and controls to direct storm water to vegetated areas.

2) Structural practices to be used for this project are located in the storm water site map (when included), Estimated Project Quantities (100-0A, 100-1A, or 100-1C), and Estimate Reference Information (100-4A) located in the C sheets, as well as all other item specific Tabulations. Typical drawings detailing construction of the devices to be used on this project can be found on the B sheets or are referenced in the Standard Road Plans Tabulation (105-4) located in the C sheets.

c. Storm Water Management

1) Measures shall be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed. This may include velocity dissipation devices at discharge locations and along length of outfall channel as necessary to provide a non-erosion velocity flow from structure to water course. If included with this project, these items are located in the storm water site map (when included) and Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C sheets, as well as all other item specific Tabulations. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation. The installation of these devices may be subject to Section 404 of the Clean Water Act.

2. OTHER CONTROLS

a. Contractor disposal of unused construction materials and construction material wastes shall comply with applicable state and local waste disposal, sanitary sewer, or septic system regulations. In the event of a conflict with other governmental laws, rules and regulations, the more restrictive laws, rules or regulations shall apply.

1) Vehicle Entrances and Exits - Construct and maintain entrances and exits to prevent tracking of sediments onto roadways.

2) Material Delivery, Storage and Use - Implement practices to prevent discharge of construction materials during delivery, storage, and use.

3) Stockpile Management - Install controls to reduce or eliminate pollution of storm water from stockpiles of soil and paving.

4) Waste Disposal - Do not discharge any materials, including building materials, into waters of the state, except as authorized by a Section 404 permit.

5) Spill Prevention and Control - Implement chemical spill and leak prevention and response procedures to contain and clean-up spills and prevent material discharges to the storm drain system and waters of the state.

6) Concrete Residuals and Washout Wastes - Waste shall not be discharged to a surface water and is not allowed to adversely affect a water of the state. Designate temporary concrete washout facilities for rinsing out concrete trucks. Provide directions to truck drivers where designated washout facilities are located. Designated washout areas should be located at least 50 feet away from storm drains, streams or other water bodies. Care should be taken to ensure these facilities do not overflow during storm events.

7) Concrete Grooving/Grinding Slurry – Do not discharge slurry to a waterbody or storm drain. Slurry may be applied on foreslopes or removed from the project.

8) Vehicle and Equipment Storage and Maintenance Areas - Perform on site fueling and maintenance in accordance with all environment laws such as proper storage of onsite fuels and proper disposal of used engine oil or other fluids on site. Employ washing practices that prevent contamination of surface and ground water from wash water. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge.

9) Litter Management - Ensure employees properly dispose of litter. Minimize exposure of trash if exposure to precipitation or storm water would result in a discharge of pollutants.

10) Dewatering – Properly treat water to remove suspended sediment before it re-enters a waterbody or discharges off-site. Measures are also to be taken to prevent scour erosion at dewatering discharge point.

3. APPROVED STATE OR LOCAL PLANS

During the course of this construction, it is possible that situations will arise where unknown materials will be encountered. When such situations are encountered, they will be handled according to all federal, state, and local regulations in effect at the time.

IV. MAINTENANCE PROCEDURES

The Contractor is required to maintain all temporary erosion and sediment control measures in proper working order, including cleaning, repairing, or replacing them throughout the contract period. This shall begin when the features have lost 50% of their capacity.

110-12
04-16-19

POLLUTION PREVENTION PLAN

V. INSPECTION REQUIREMENTS

A. Inspections shall be made jointly by the Contractor and the Contracting Authority at least once every seven calendar days. Storm water monitoring inspections will include:

1. Date of the inspection.
2. Summary of the scope of the inspection.
3. Name and qualifications of the personnel making the inspection.
5. Review of erosion and sediment control measures within disturbed areas for the effectiveness in preventing impacts to receiving waters.
6. Major observations related to the implementation of the PPP.
7. Identification of corrective actions required to maintain or modify erosion and sediment control measures.

B. Include storm water monitoring inspection reports in the Amended PPP. Incorporate any additional erosion and sediment control measures determined as a result of the inspection. Immediately begin corrective actions on all deficiencies found within 3 calendar days of the inspection and complete within 7 calendar days following the inspection. If it is determined that making the corrections less than 72 hours after the inspection is impracticable, it should be documented why it is impracticable and indicate an estimated date by which the corrections will be made.

VI. NON-STORM WATER DISCHARGES

This includes subsurface drains (i.e. longitudinal and standard subdrains) and slope drains. The velocity of the discharge from these features may be controlled by the use of headwalls or blocks, Class A stone, erosion stone or other appropriate materials. This also includes uncontaminated groundwater from dewatering operations, which will be controlled as discussed in Section III of the PPP.

VII. POTENTIAL SOURCES OF OFF RIGHT-OF-WAY (ROW) POLLUTION

Silts, sediment, and other forms of pollution may be transported onto highway right-of-way (ROW) as a result of a storm event. Potential sources of pollution located outside highway ROW are beyond the control of this PPP. Pollution within highway ROW will be conveyed and controlled per this PPP.

VIII. DEFINITIONS

A. Base PPP - Initial Pollution Prevention Plan.

B. Amended PPP - May include Plan Revisions or Contract Modifications for new items, storm water monitoring inspection reports, and fieldbook entries made by the inspector.

C. IDR - Inspector's Daily Report – this contains the inspector's daily diary and bid item postings.

D. Controls - Methods, practices, or measures to minimize or prevent erosion, control sedimentation, control storm water, or minimize contaminants from other types of waste or materials. Also called Best Management Practices (BMPs).

E. Signature Authority - Representative authorized to sign various storm water documents.

CERTIFICATION STATEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature

Seana K. Godbold
Print Name

LINE STYLE LEGEND OF EROSION CONTROL SHEETS

- Silt Fence
- Perimeter and Slope Sediment Control Device (9")
- Perimeter and Slope Sediment Control Device (12")
- Perimeter and Slope Sediment Control Device (20")
- Open-Throat Curb Intake Sediment Filter
- Concentrated Flow
- Sheet Flow

CELL LEGEND OF EROSION CONTROL SHEETS

- Temporary Sediment Control basin
- Erosion Control for Circular Intake or Manhole Well
- Erosion Control for Rectangular Intake or Manhole Well
- Grate Intake Sediment Filter Bag
- Silt Basin
- Silt Fence Tail
- Stormwater Drainage Basin Discharge Point

PLAN VIEW COLOR LEGEND OF EROSION CONTROL 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
Black	(0)		Permanent Erosion Control Features
Blaze Orange	(222)		Temporary Erosion Control Features

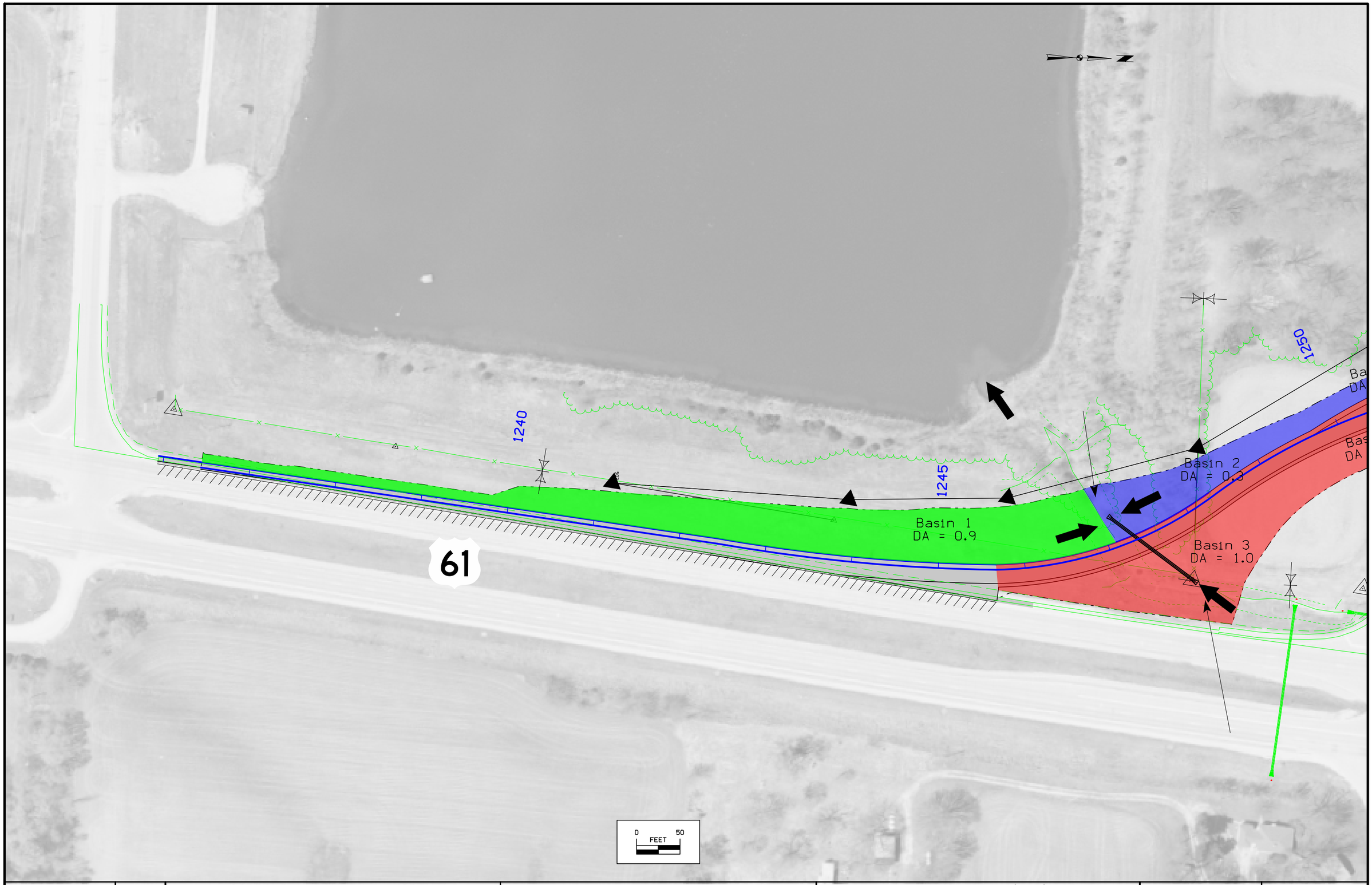
SHADING	Design Color No.			Transparency
Citron	(234)		Mulching, All Types	50%
Light Brown	(238)		Special Ditch Control, Wood Excelsior Mat	0%

PATTERN LEGEND OF EROSION CONTROL SHEETS

- Seeding and Fertilizing
- Seeding and Fertilizing (Rural) (R)
- Seeding and Fertilizing (Urban) (U)
- Native Grass Seeding (N)
- Salt Tolerant Seeding (ST)
- Wetland Grass Seeding (WL)
- Wildflower Seeding (WF)
- Sodding (SOD)
- Turf Reinforcement Mat Type 1
- Turf Reinforcement Mat Type 2
- Turf Reinforcement Mat Type 3
- Turf Reinforcement Mat Type 4
- Slope Protection, Wood Excelsior Mat
- Transition Mat
- Rock Features, Permanent
- Rock Features, Temporary

EROSION CONTROL LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES R)



FILE NO.	ENGLISH	DESIGN TEAM GODBOLD \ POHLEN \ MCDONALD	LEE COUNTY	PROJECT NUMBER NHSN-061-1(187)--2R-56	SHEET NUMBER RR.2

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FILE NO.	ENGLISH	DESIGN TEAM GODBOLD \ POHLEN \ MCDONALD	LEE COUNTY	PROJECT NUMBER NHSN-061-1(187)--2R-56	SHEET NUMBER RR.3

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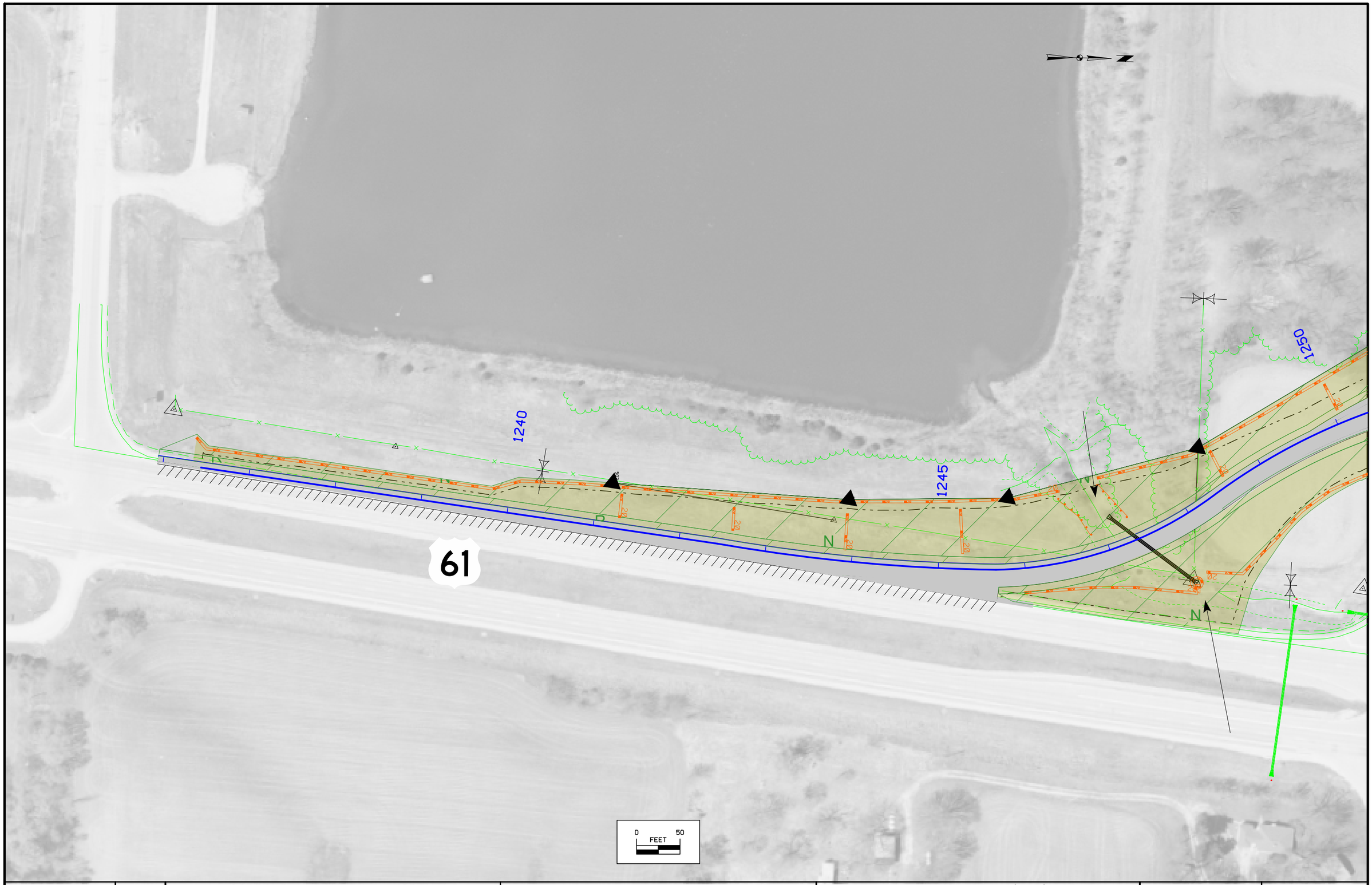

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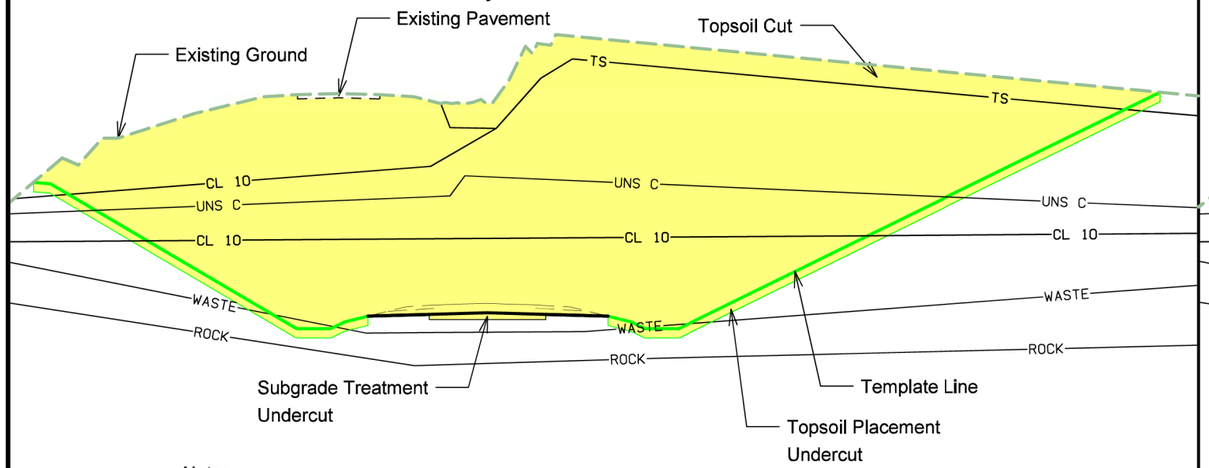
10:59:26 AM 2/5/2020 bmcdona pw:\\ntPwInt1.dot.int.lan:PWMain\Documents\Projects\5606101020\Roadside\56061187_SitePlan_RR04.dgn

FILE NO.	ENGLISH	DESIGN TEAM GODBOLD \ POHLEN \ MCDONALD	LEE COUNTY	PROJECT NUMBER NHSN-061-1(187)--2R-56	SHEET NUMBER RR.5

10:59:42 AM 2/5/2020 bmcdona pw:\\ntPwInt1.dot.int.lan:PWMain\Documents\Projects\5606101020\Roadside\56061187_SitePlan_RR04.dgn

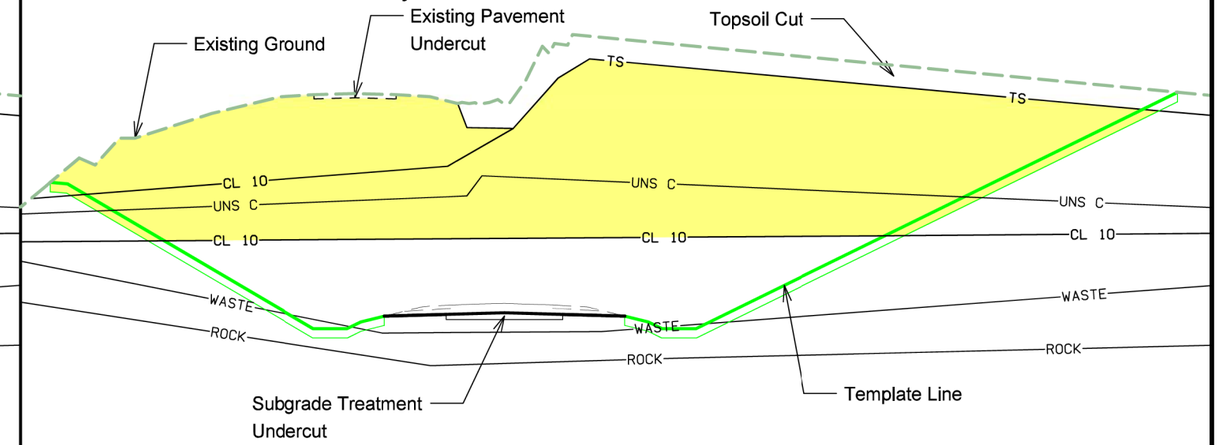
CUT SIDE Total Cut Unadjusted — RURAL



Notes:

1. "Total Cut Unadjusted" Column includes all cut values in the Station Range based on Typical, Topsoil and Subgrade Treatment needs.
2. "Total Cut Unadjusted" does not include and Existing Pavement values inside or outside the cut template as shown on cross sections.
3. Tabulated Plowing and Shaping operations are included in the "Total Cut Unadjusted" values.

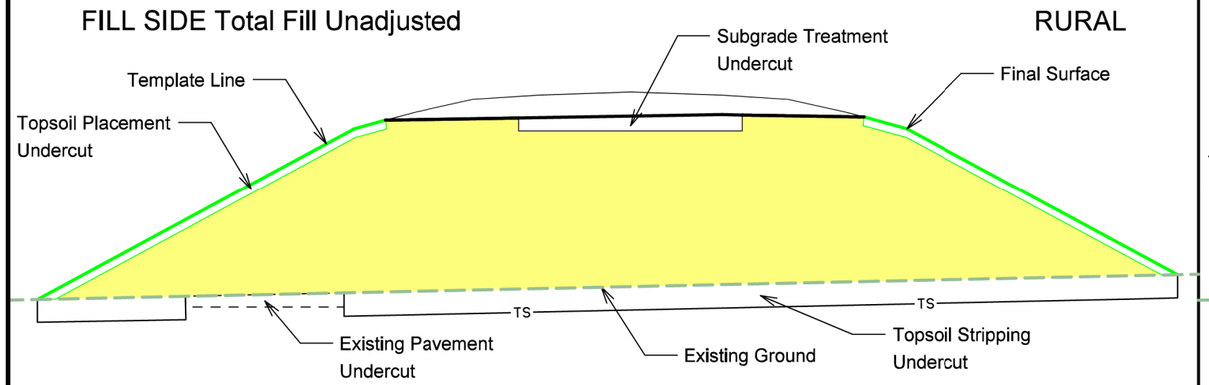
CUT SIDE Total Cut Adjusted



Notes:

1. "Total Cut Adjusted" Column includes all cut values usable as Class 10 material.
2. "Total Cut Adjusted" does not include and Existing Pavement , Existing Topsoil, or material to be wasted.

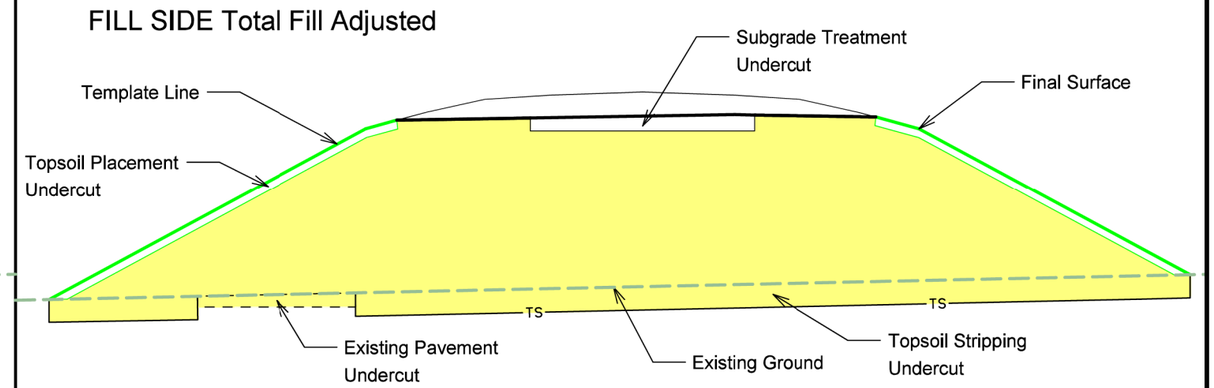
FILL SIDE Total Fill Unadjusted — RURAL



Notes:

1. "Total Fill Unadjusted" Column includes all Class 10, 12, and 13 fill. This excludes the topsoil, subgrade treatment, subbase, new pavement, and shoulder fill needs in that station range.
2. "Total Fill Unadjusted" Column does not include adjustments for additional fill from cuts such as existing pavement removed, plowing and shaping operations, entrances, dikes, or topsoil stripping.

FILL SIDE Total Fill Adjusted

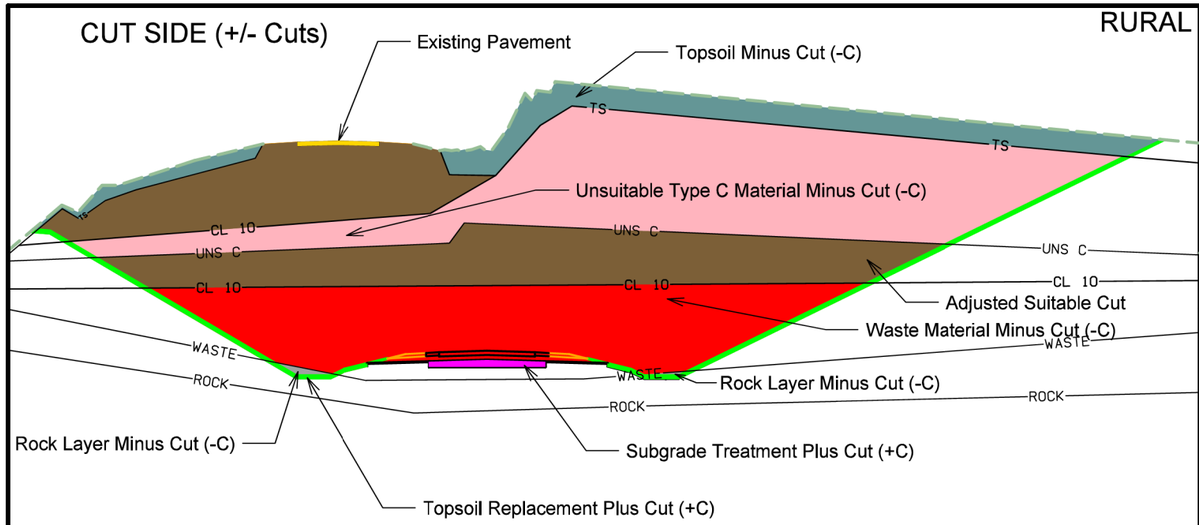


Notes:

1. "Total Fill Adjusted" Column includes all Class 10, 12, and 13 fill and adjustments for additional fill from cuts such as existing pavement, plowing and shaping operations, entrances, dikes, and topsoil stripping.
2. The available area to place unsuitable materials in the T Sheet tabulation does not include the undercut values from the topsoil stripping, existing pavement, or plowing and shaping

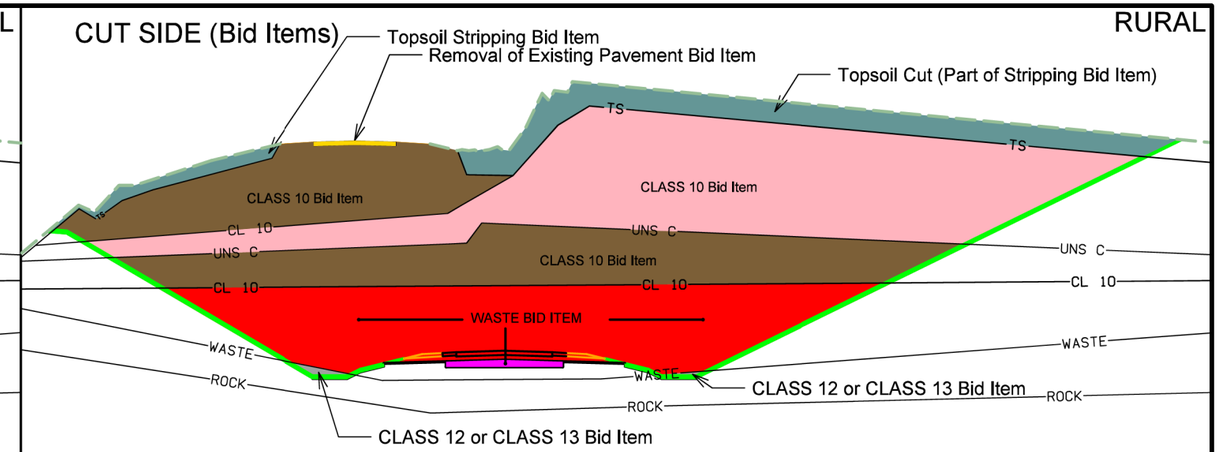
CUT SIDE (+/- Cuts)

RURAL



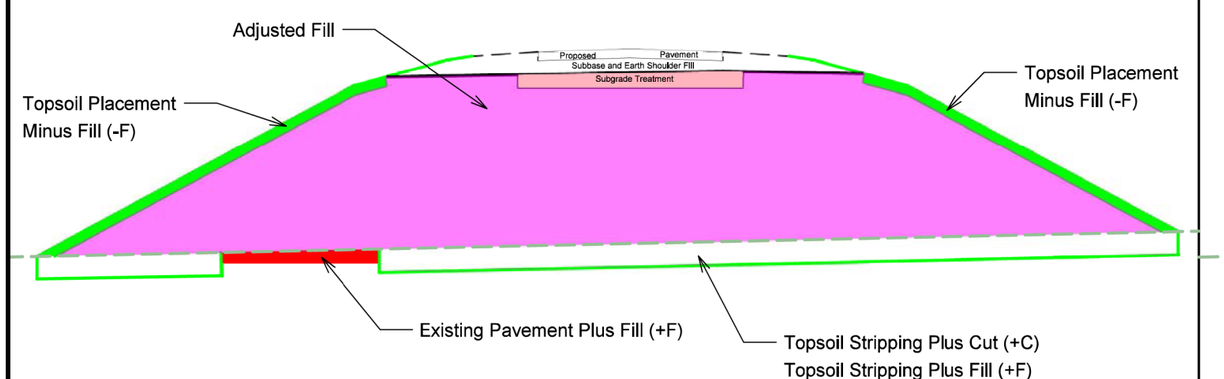
CUT SIDE (Bid Items)

RURAL



FILL SIDE (+/- Fills)

RURAL

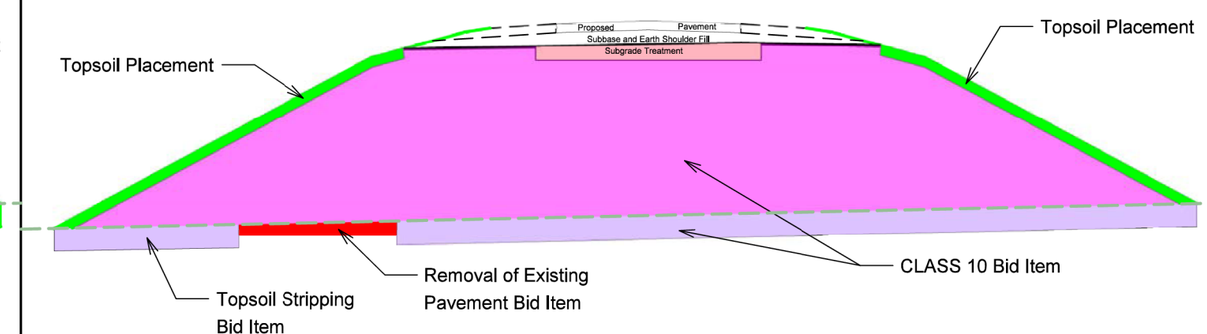


Notes:

1. "Add Quantity +C" columns are additional cut encountered that is not Typical, Topsoil, or Subgrade Treatment Based. (Entrance, Dike, Etc.)
2. "-C" columns are either soil types or Class 10, 12, or 13 designated material that is encountered in the cut station range that is paid for by other bid items.
3. The "(SoilType) Cut" columns are soil types encountered in the cut that are paid by either Class 10, 12 or 13.
4. The "Adjusted Clas (10,12 or 13)" columns are the sum of all various soil types encountered in that station range, that are paid by Class 10, 12, or 13 bid items.
5. Refer to Standard Road Plan EW-102 for placement of unsuitable soil types.

FILL SIDE (Bid Items)

RURAL



Notes:

1. Refer to Standard Road Plan EW-102 for placement of unsuitable soil types.

Refer to Standard Road Plans EW-101 and EW-102.

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut				Fill					Checks (EW-102)		Topsoil										
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Existing Topsoil Stripping Undercut (+ Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink							
MLUS61Ramp																						
1236+44.15																						
1236+50.00	4	3	2	3	0		0	0	3	0	0	2	1	1	1							
1236+75.00	19	12	7	12	0		0	0	12	0	0	7	2	3	4							
1237+00.00	19	12	7	12	0		0	0	12	0	0	7	2	3	4							
1237+25.00	20	12	7	12	0		0	0	12	0	0	7	2	3	4							
1237+50.00	22	14	9	14	0		0	0	14	0	0	9	3	4	5							
1237+75.00	27	15	11	15	0	1	1	1	14	0	0	11	4	6	5							
1238+00.00	27	16	11	16	0		0	0	16	0	0	11	4	6	5							
1238+25.00	28	16	11	16	0		0	0	16	0	0	11	4	6	5							
1238+50.00	29	17	12	17	0		0	0	17	0	0	12	4	6	6							
1238+75.00	30	17	13	17	0		0	0	17	0	0	13	5	7	6							
1239+00.00	32	17	15	17	0	1	1	1	16	0	0	15	7	10	5							
1239+25.00	32	17	15	17	0		0	0	17	0	0	15	7	10	5							
1239+50.00	32	17	15	17	0		0	0	17	0	0	15	7	10	5							
1239+75.00	32	17	15	17	0		0	0	17	0	0	15	6	8	7							
1240+00.00	36	18	18	18	0		0	0	18	0	0	18	9	13	5							
1240+25.00	45	21	24	21	0	1	1	1	20	0	0	24	14	20	4							
1240+50.00	51	24	28	24	0	1	1	1	23	0	0	28	18	25	3							
1240+75.00	58	28	30	28	0	3	3	4	24	0	0	30	19	27	3							
1241+00.00	64	33	31	33	0	4	4	5	28	0	0	31	21	29	2							
1241+25.00	69	37	33	37	0	5	5	7	31	0	0	33	22	31	2							
1241+50.00	73	39	34	39	0	5	5	7	33	0	0	34	22	31	3							
1241+75.00	80	45	35	45	0	5	5	7	39	0	0	35	24	34	1							
1242+00.00	91	54	37	54	57	6	63	82	-28	0	0	37	25	35	2							
1242+25.00	159	121	38	121	57	6	63	82	39	0	0	38	26	36	2							
1242+50.00	165	126	39	126	1	6	7	9	117	0	0	39	27	38	1							
1242+75.00	111	72	40	72	0	5	5	7	66	0	0	40	28	39	1							
1243+00.00	123	82	42	82	0	5	5	7	76	0	0	42	29	41	1							
1243+25.00	133	90	43	90	0	5	5	7	84	0	0	43	31	43	0							
1243+50.00	138	93	45	93	1	7	8	10	83	0	0	45	31	43	2							
1243+75.00	146	100	46	100	2	7	9	12	88	0	0	46	32	45	1							
1244+00.00	160	112	48	112	2	7	9	12	100	0	0	48	33	46	2							
1244+25.00	169	119	50	119	2	8	10	13	106	0	0	50	34	48	2							
1244+50.00	286	234	52	234	2	9	11	14	220	0	0	52	35	49	3							
1244+75.00	299	244	55	244	2	10	12	16	228	0	0	55	36	50	5							
1245+00.00	209	151	58	151	2	11	13	17	134	0	0	58	38	53	5							
1245+25.00	363	302	61	302	4	13	17	22	280	0	0	61	39	55	6							
1245+50.00	367	304	63	304	5		5	7	298	0	0	63	183	256	-193							
1245+75.00	230	167	62	167	5		5	7	161	0	0	62	185	259	-197							
1246+00.00	241	179	62	179	3	17	20	26	153	0	0	62	45	63	-1							
1246+25.00	274	207	67	207	0	14	14	18	189	0	0	67	49	69	-2							
1246+50.00	325	252	73	252	0	6	6	8	244	0	0	73	56	78	-6							
1246+75.00	383	305	79	305	0		0	0	305	0	0	79	62	87	-8							
1247+00.00	275	194	81	194	124	25	149	194	0	0	0	81	64	90	-9							
1247+25.00	231	150	81	150	171	47	218	283	-133	0	0	81	64	90	-9							
1247+50.00	406	309	96	309	48	25	73	95	214	0	0	96	79	111	-15							
1247+75.00	523	408	115	408	3	7	10	13	395	0	0	115	98	137	-22							
1248+00.00	487	381	106	381	2	6	8	10	371	0	0	106	88	123	-17							
1248+25.00	363	276	87	276	0	9	9	12	264	0	0	87	69	97	-10							
1248+50.00	284	205	79	205	0	10	10	13	192	0	0	79	61	85	-7							
1248+75.00	235	162	73	162	0	6	6	8	154	0	0	73	54	76	-3							
1249+00.00	194	127	67	127	0	6	6	8	119	0	0	67	48	67	0							
1249+25.00	166	104	62	104	0	3	3	4	100	0	0	62	44	62	0							
1249+50.00	161	102	59	102	0		0	0	102	0	0	59	41	57	2							
1249+75.00	161	103	58	103	0		0	0	103	0	0	58	39	55	3							
1250+00.00	146	89	57	89	0		0	0	89	0	0	57	37	52	5							
1250+25.00	123	65	58	65	0	2	2	3	62	0	0	58	36	50	8							
1250+50.00	102	44	58	44	0	3	3	4	40	0	0	58	33	46	12							
1250+75.00	184	118	66	118	8	12	20	26	92	0	0	66	40	56	10							
1251+00.00	170	113	57	113	8	10	18	23	90	0	0	57	31	43	14							
1251+12.07	32	16	16	16	0		0	0	16	0	0	16	6	8	8							
MLUS61Ramp																						
Totals:	9,444	6,727	2,719	6,727	509	339	848	1,103	5,625	0	0	2,719	2,163	3,029	-310							

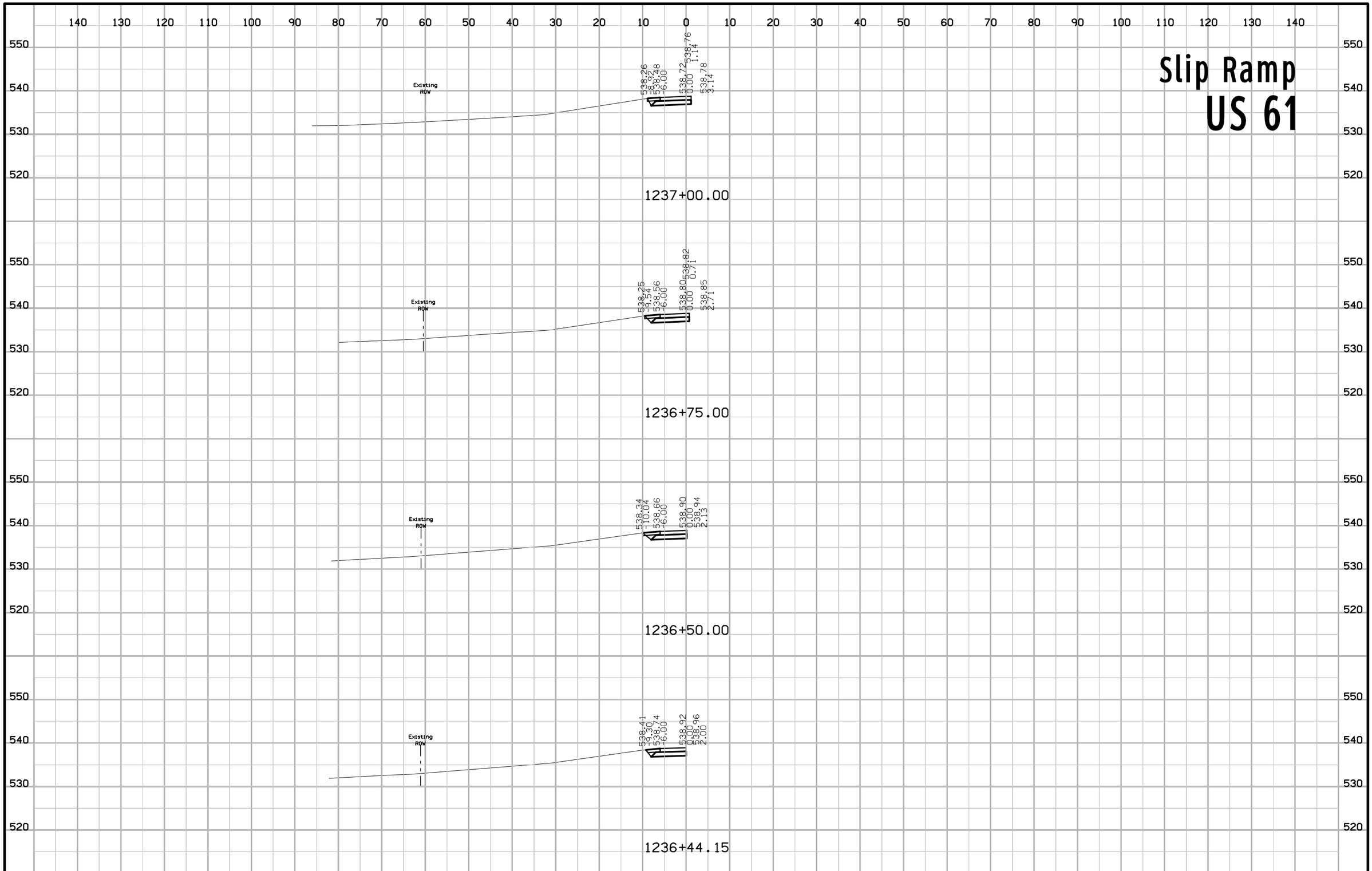
Refer to Standard Road Plans EW-101 and EW-102.

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut				Fill					Checks (EW-102)		Topsoil										
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Existing Topsoil Stripping Undercut (+ Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink							
Summary:																						
MLUS61Ramp	9,444	6,727	2,719	6,727	509	339	848	1,103	5,625	0	0	2,719	2,163	3,029	-310							
Project Totals:	9,444	6,727	2,719	6,727	509	339	848	1,103	5,625	0	0	2,719	2,163	3,029	-310							

Slip Ramp
US 61



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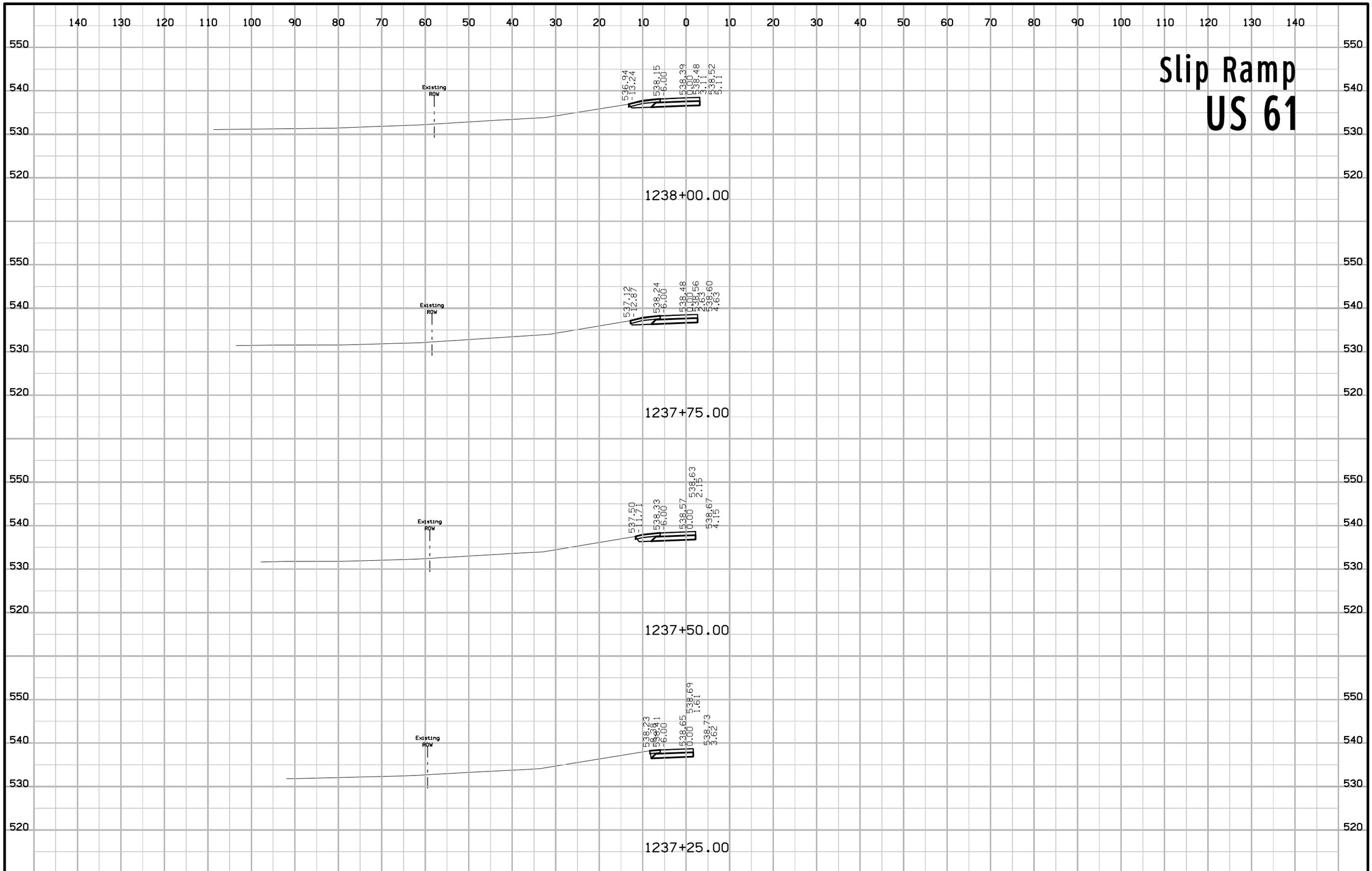
Slip Ramp
US 61



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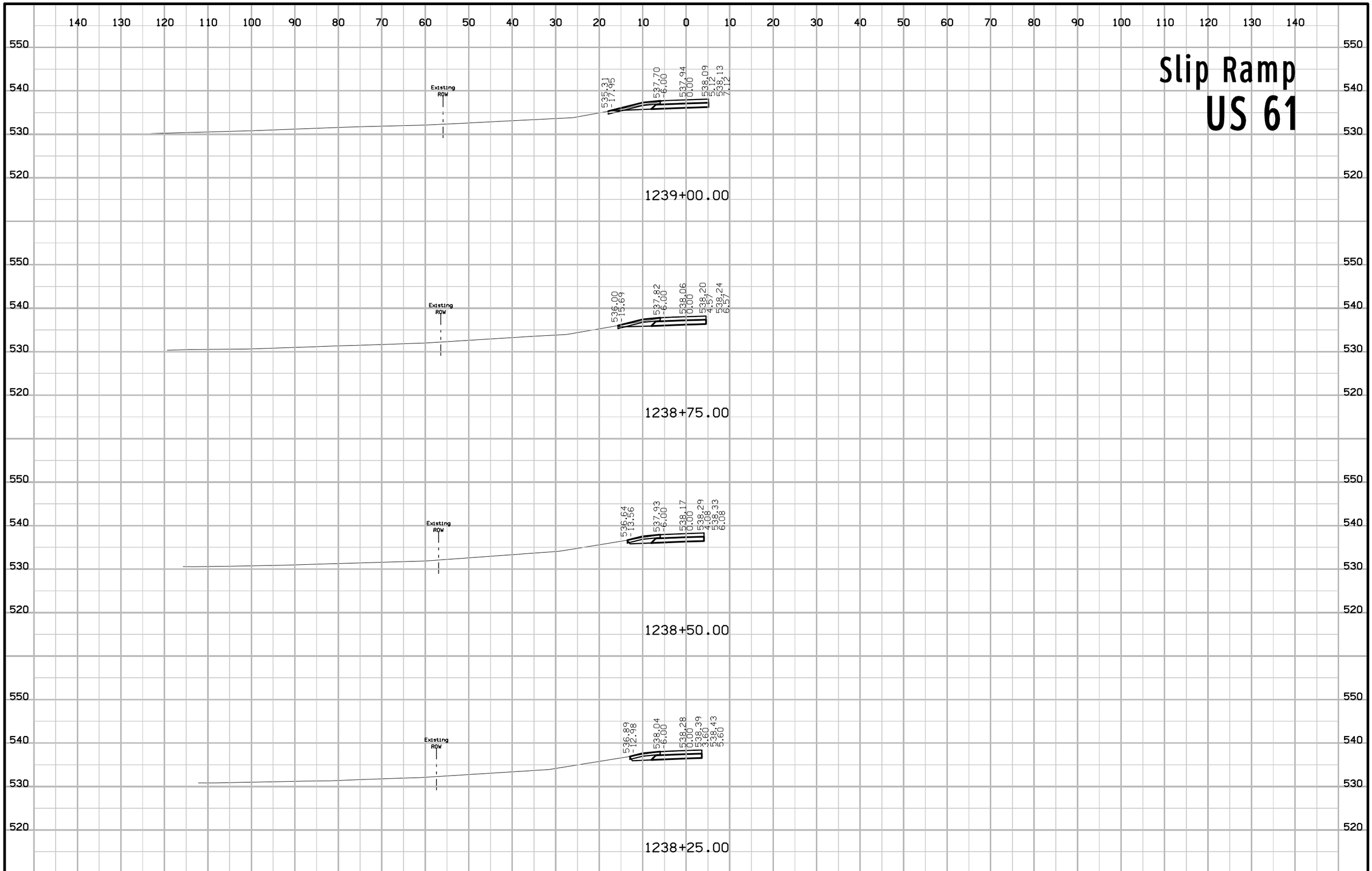
Slip Ramp
US 61



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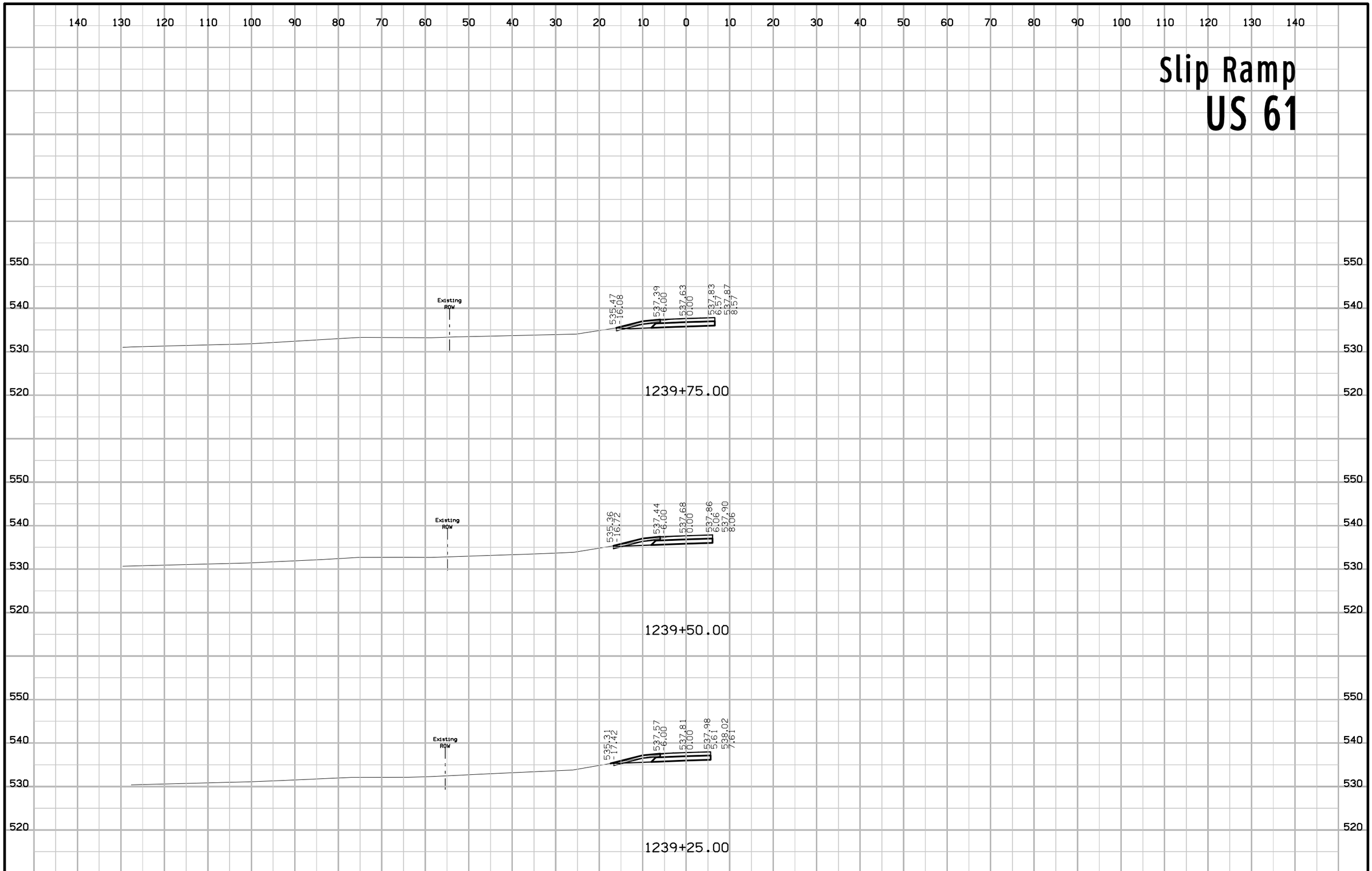
Slip Ramp
US 61



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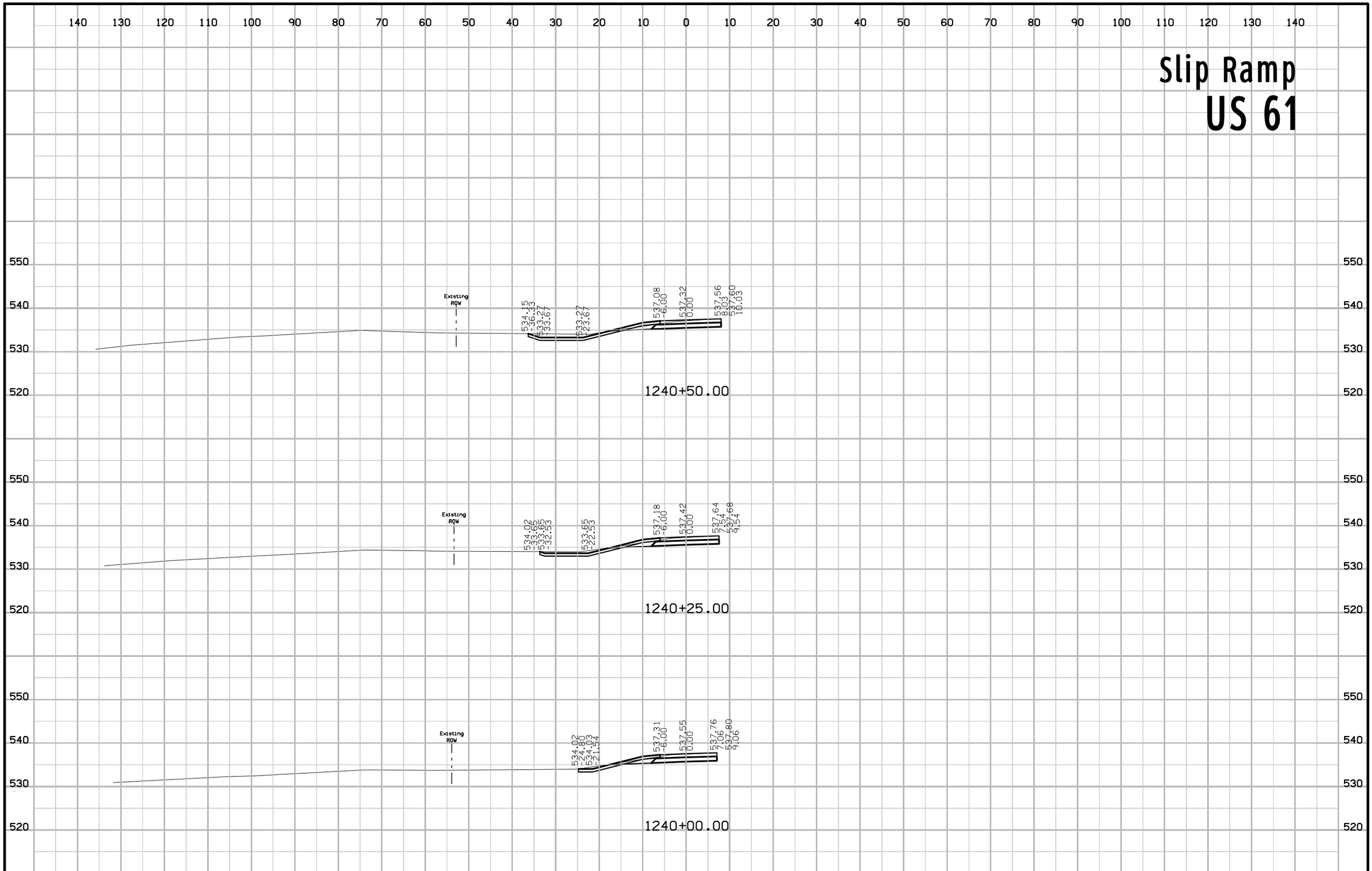
Slip Ramp
US 61



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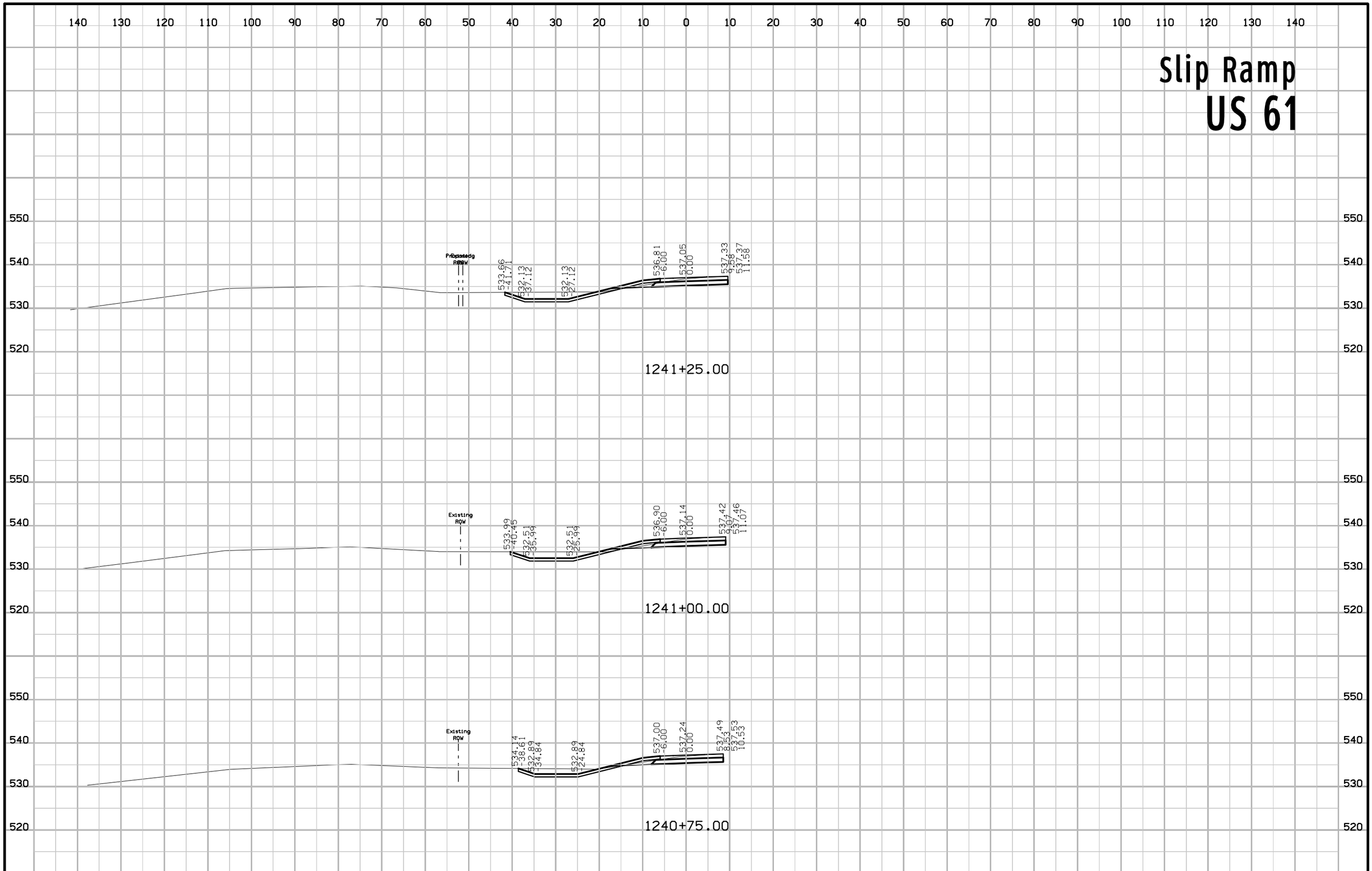
Slip Ramp
US 61



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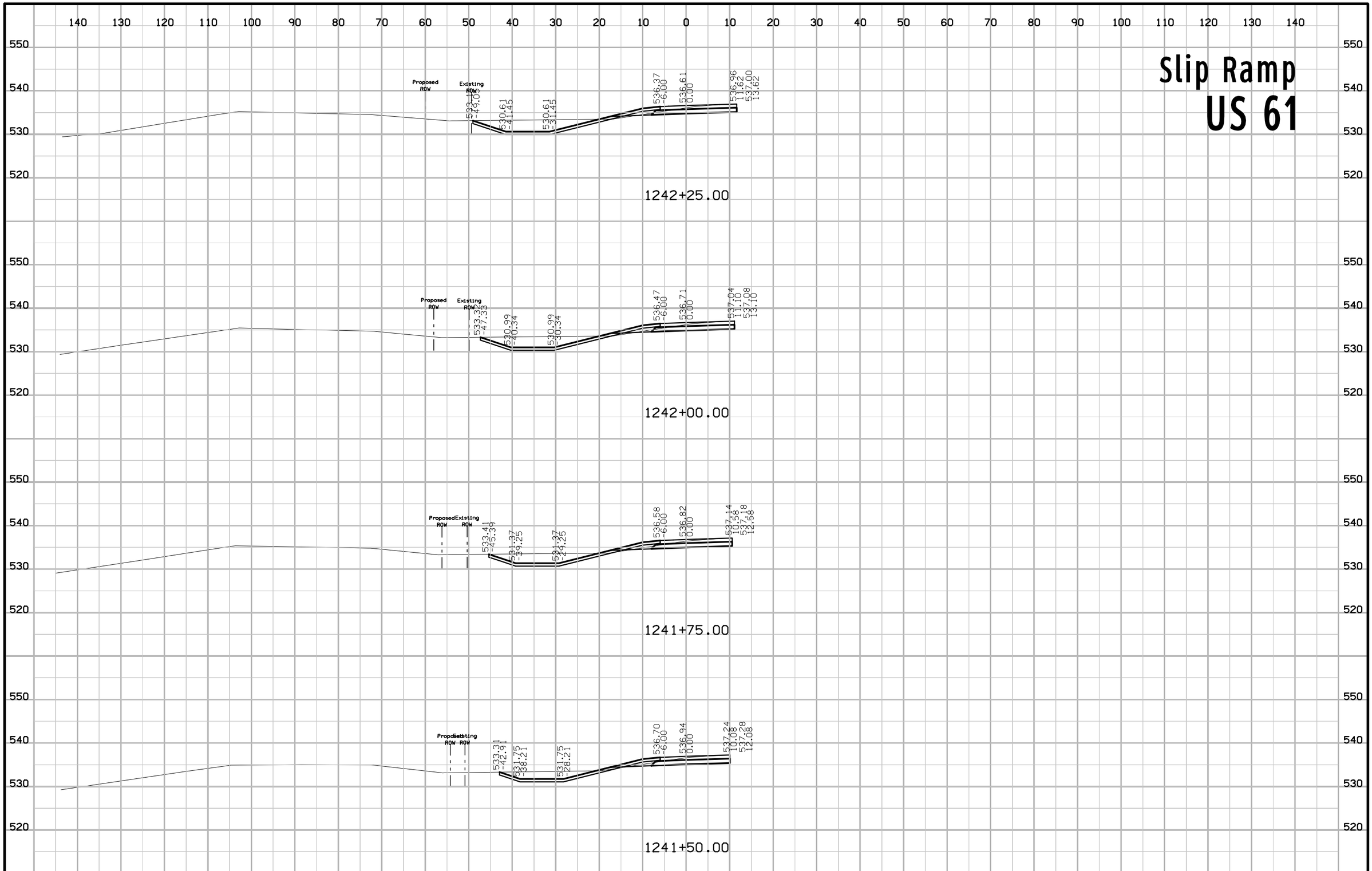
Slip Ramp
US 61



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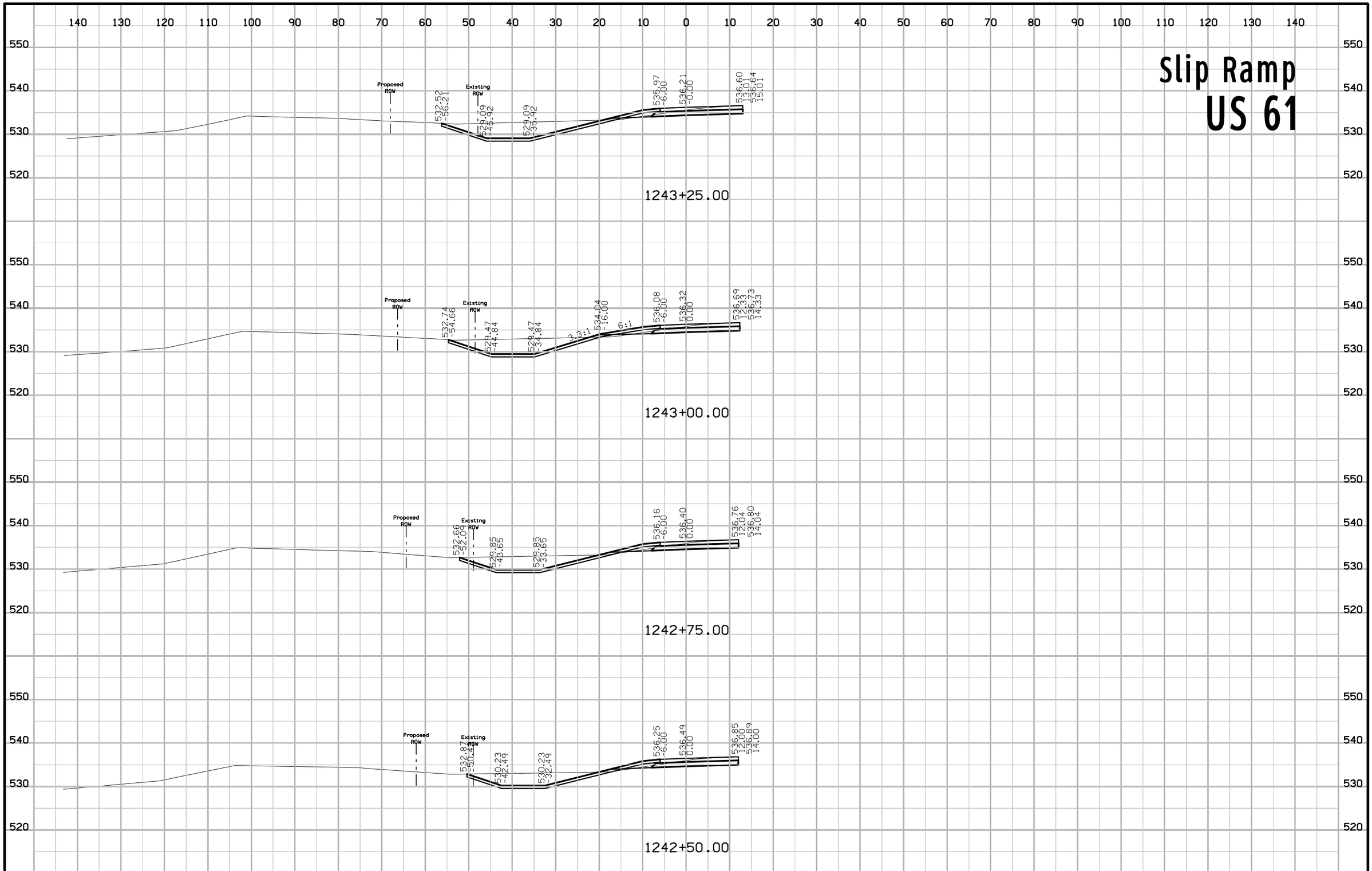
Slip Ramp
US 61



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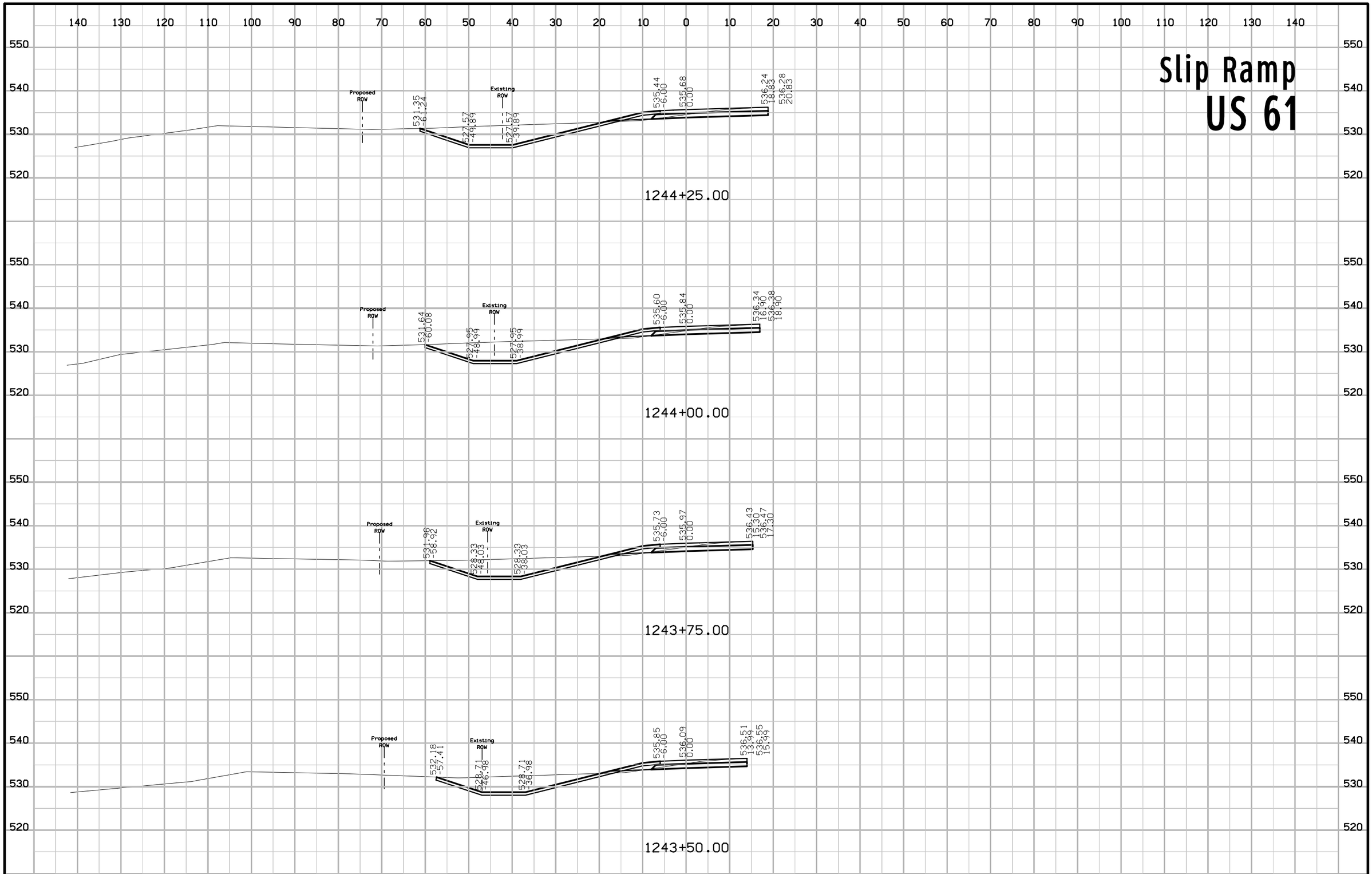
Slip Ramp
US 61



FILE NO.	ENGLISH	DESIGN TEAM TA \ TAP \ VAIS	LEE COUNTY	PROJECT NUMBER NHSN-061-1(187)--2R-56	SHEET NUMBER Y.9

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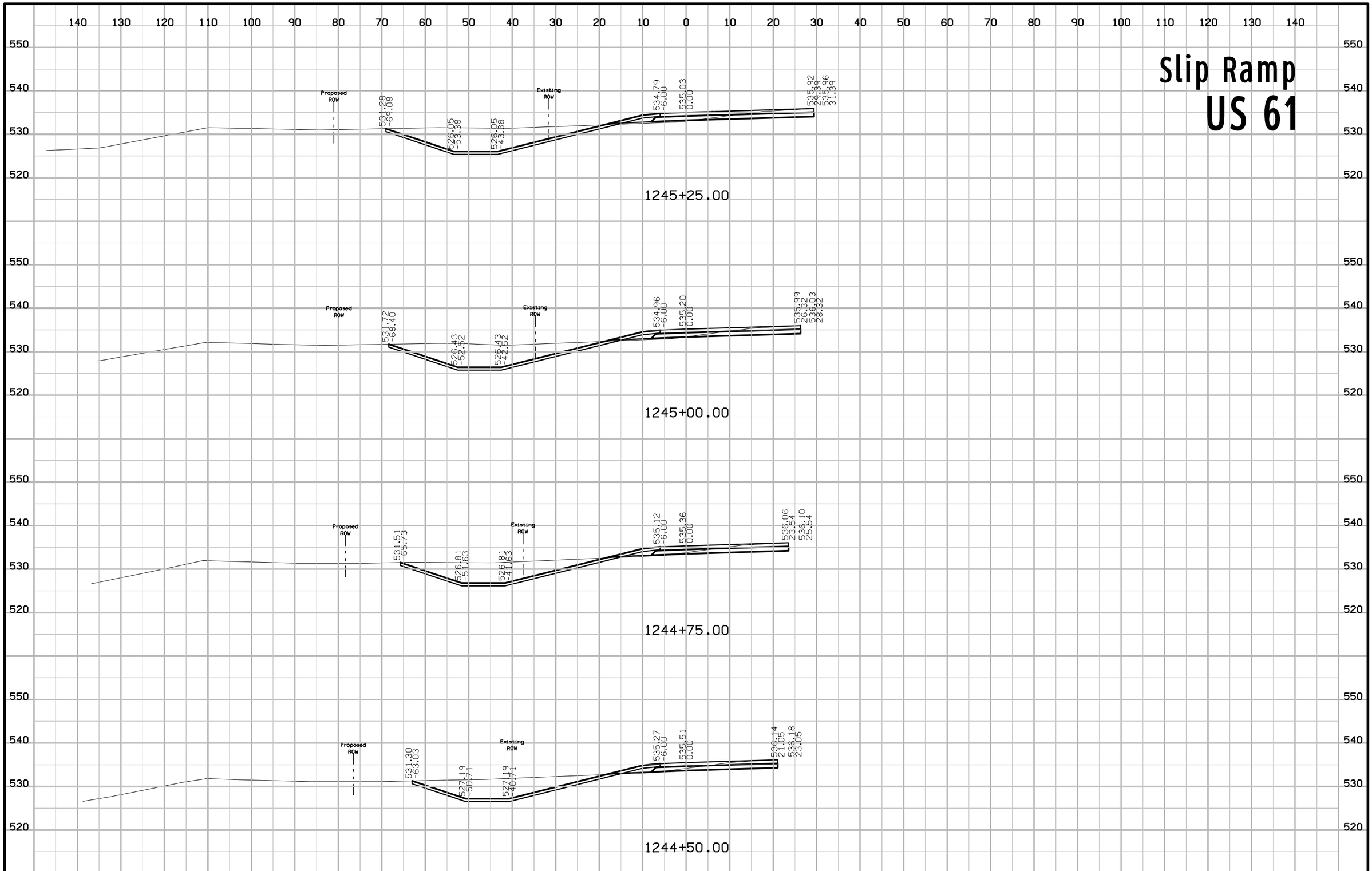
Slip Ramp
US 61



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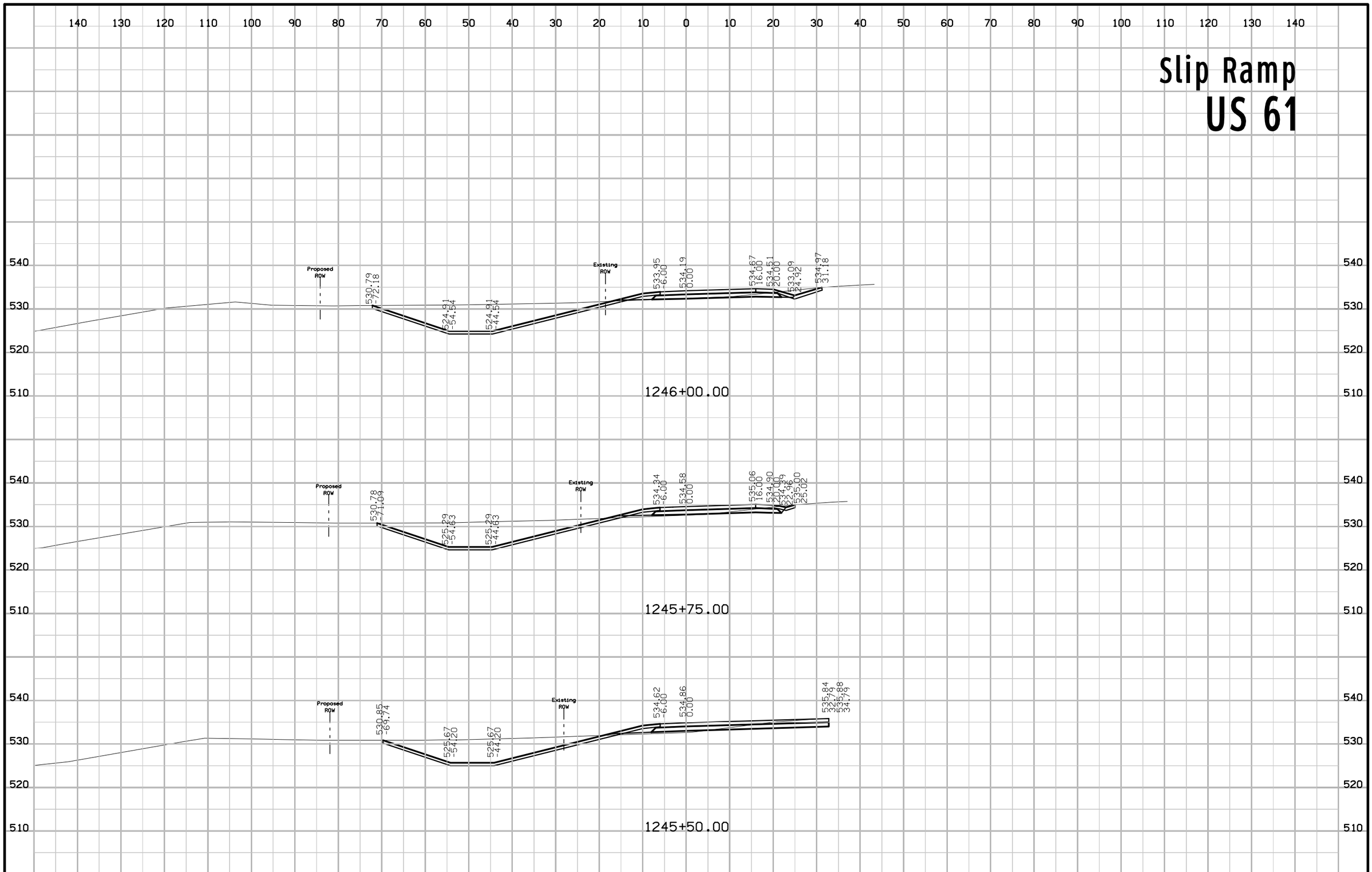
Slip Ramp
US 61



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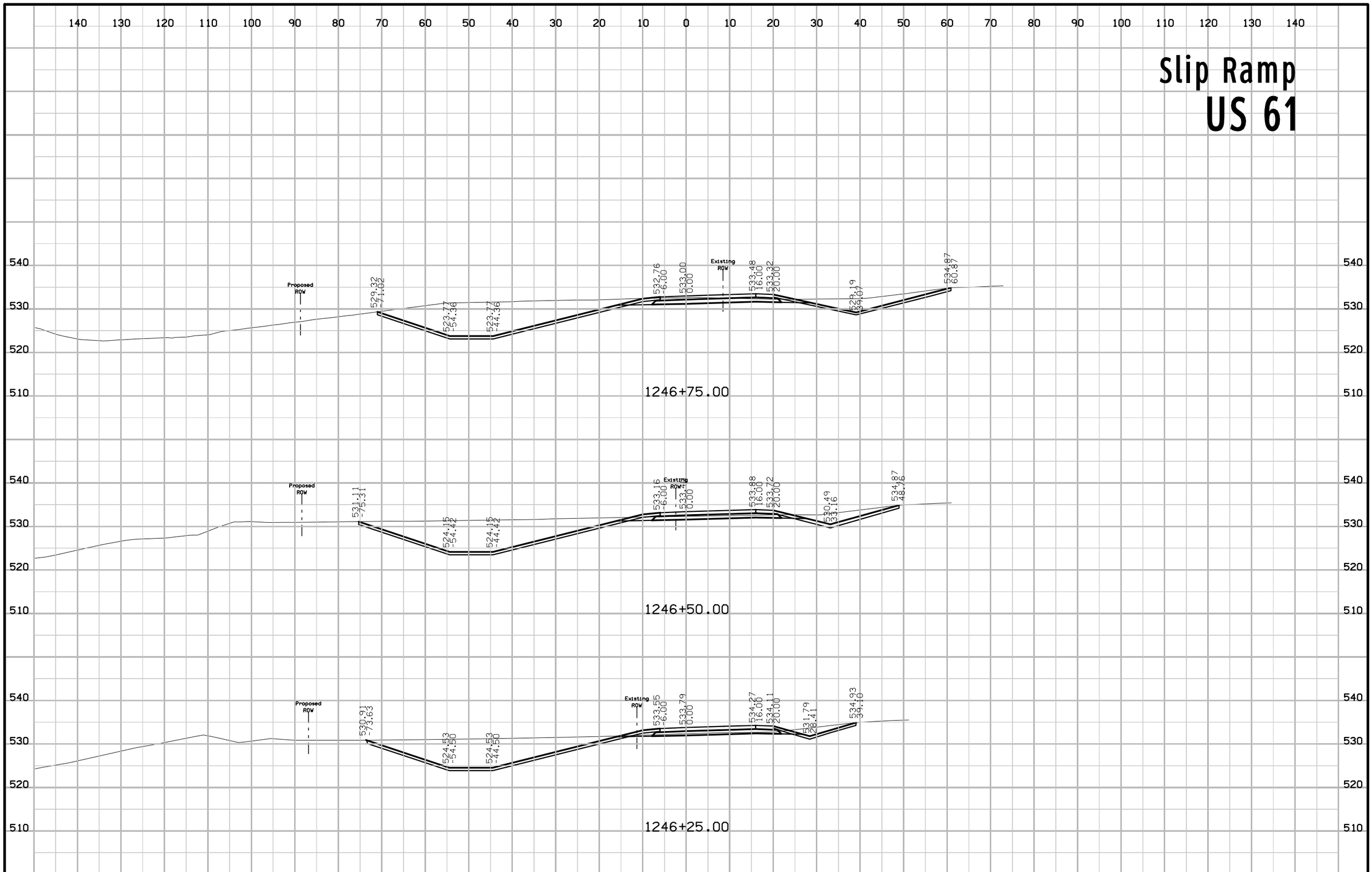
Slip Ramp
US 61



FILE NO.	ENGLISH	DESIGN TEAM TA \ TAP \ VAIS	LEE COUNTY	PROJECT NUMBER NHSN-061-1(187)--2R-56	SHEET NUMBER Y.12

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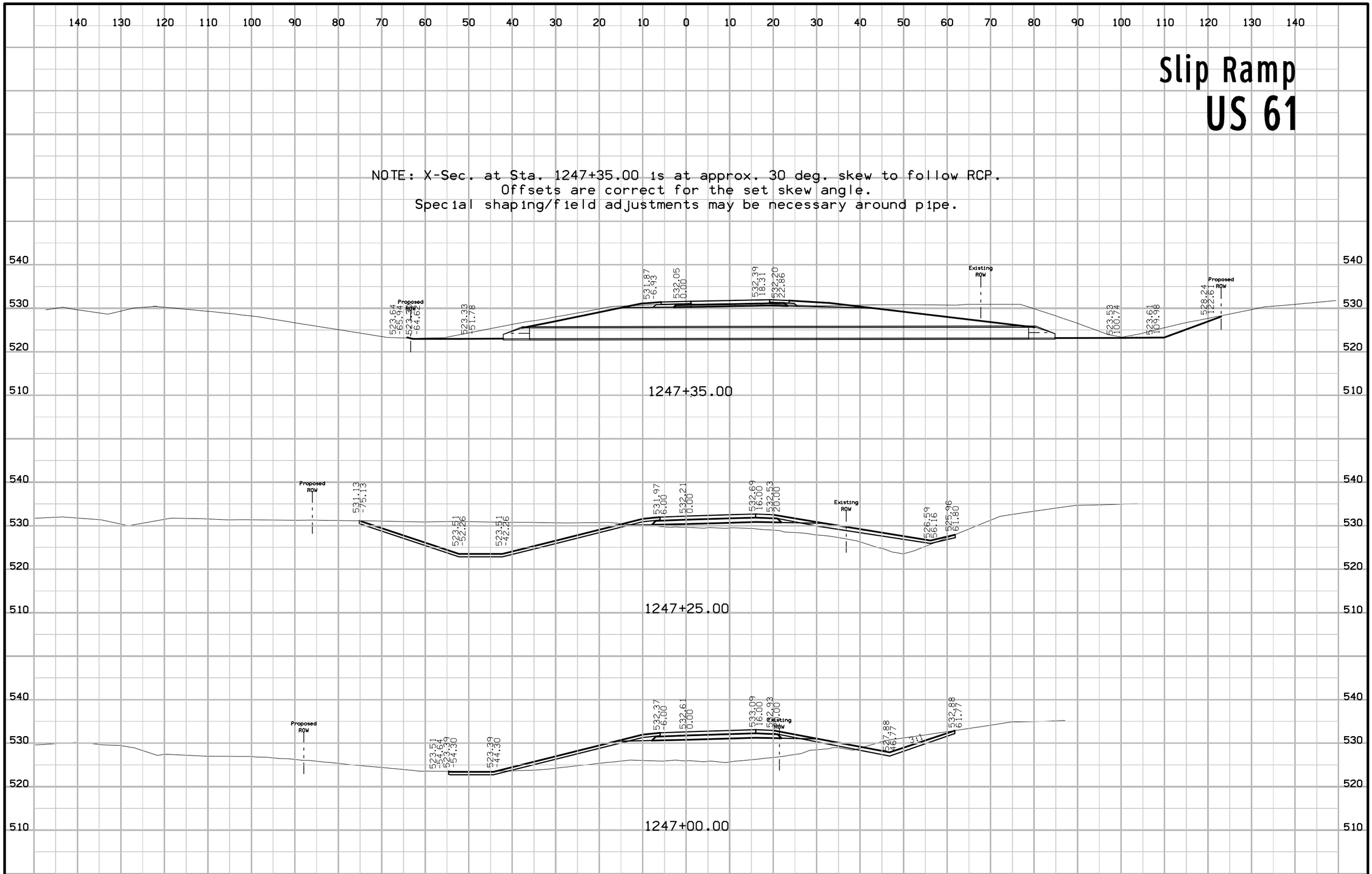
Slip Ramp
US 61

NOTE: X-Sec. at Sta. 1247+35.00 is at approx. 30 deg. skew to follow RCP.
Offsets are correct for the set skew angle.
Special shaping/field adjustments may be necessary around pipe.



FILE NO.	ENGLISH	DESIGN TEAM TA \ TAP \ VAIS	LEE COUNTY	PROJECT NUMBER NHSN-061-1(187)--2R-56	SHEET NUMBER Y.13

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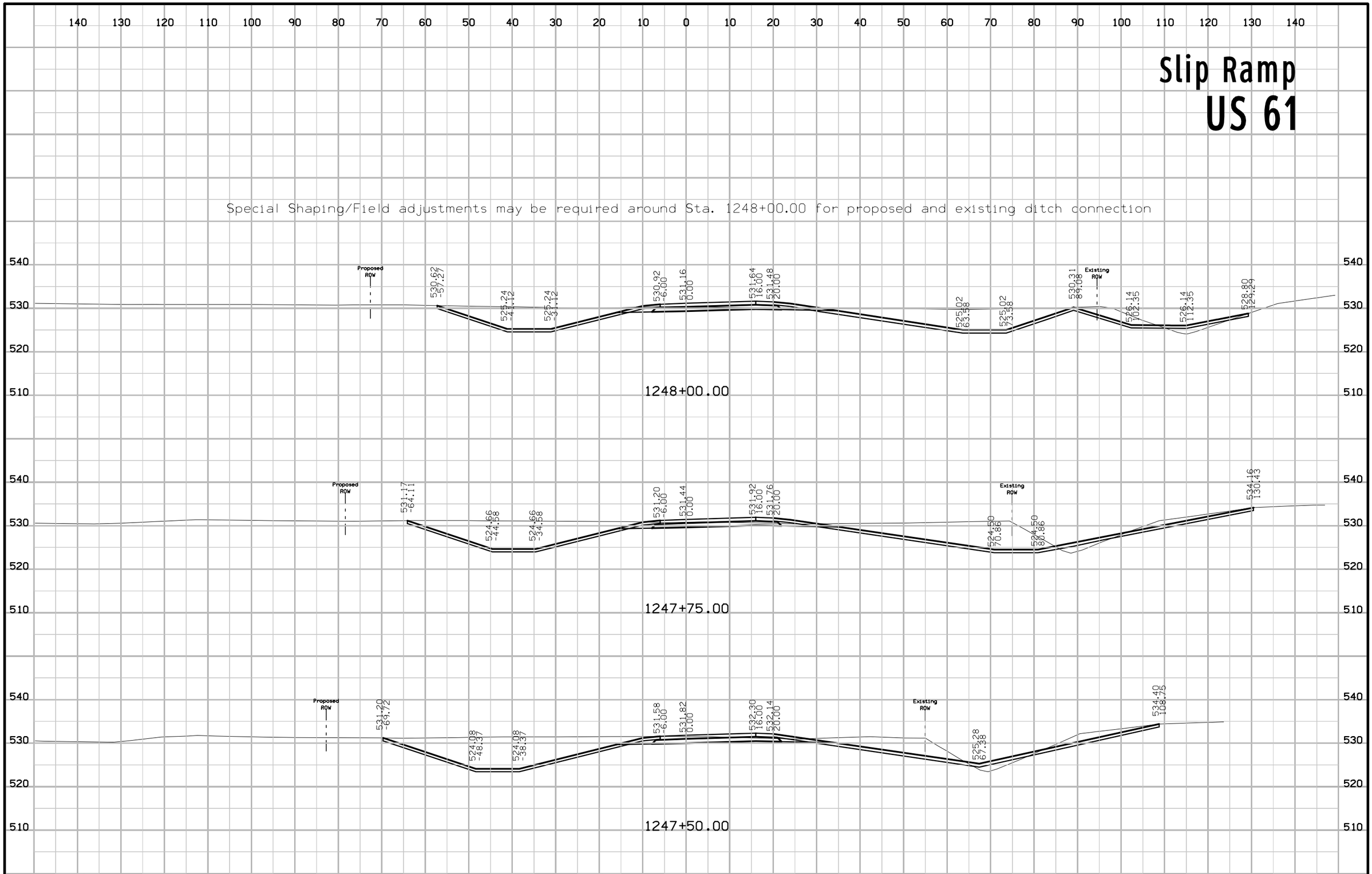
Slip Ramp
US 61

Special Shaping/Field adjustments may be required around Sta. 1248+00.00 for proposed and existing ditch connection



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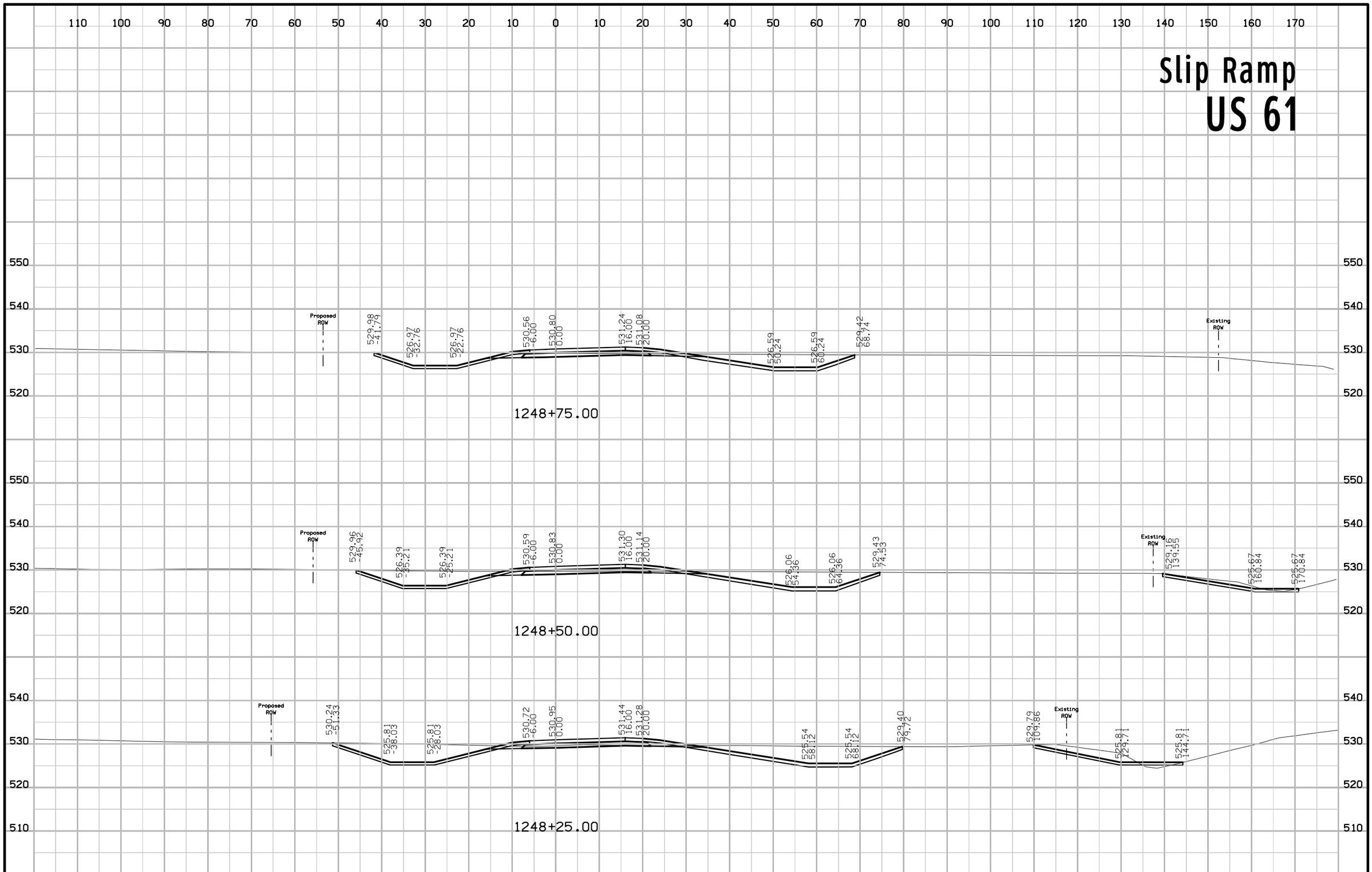
Slip Ramp
US 61



FILE NO.	ENGLISH	DESIGN TEAM TA \ TAP \ VAIS	LEE COUNTY	PROJECT NUMBER NHSN-061-1(187)--2R-56	SHEET NUMBER Y.15

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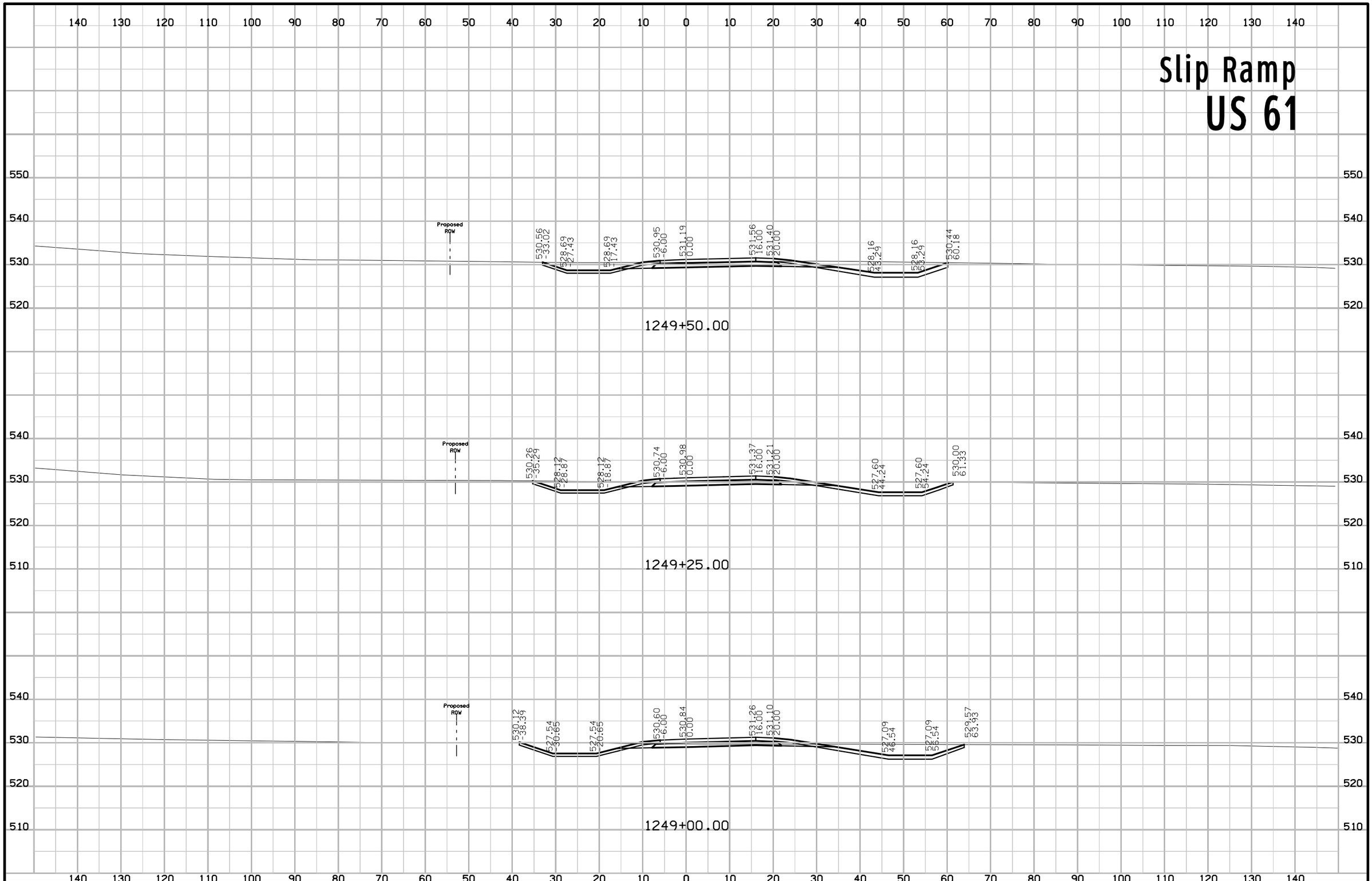
Slip Ramp
US 61



FILE NO.	ENGLISH	DESIGN TEAM TA \ TAP \ VAIS	LEE COUNTY	PROJECT NUMBER NHSN-061-1(187)--2R-56	SHEET NUMBER Y.16

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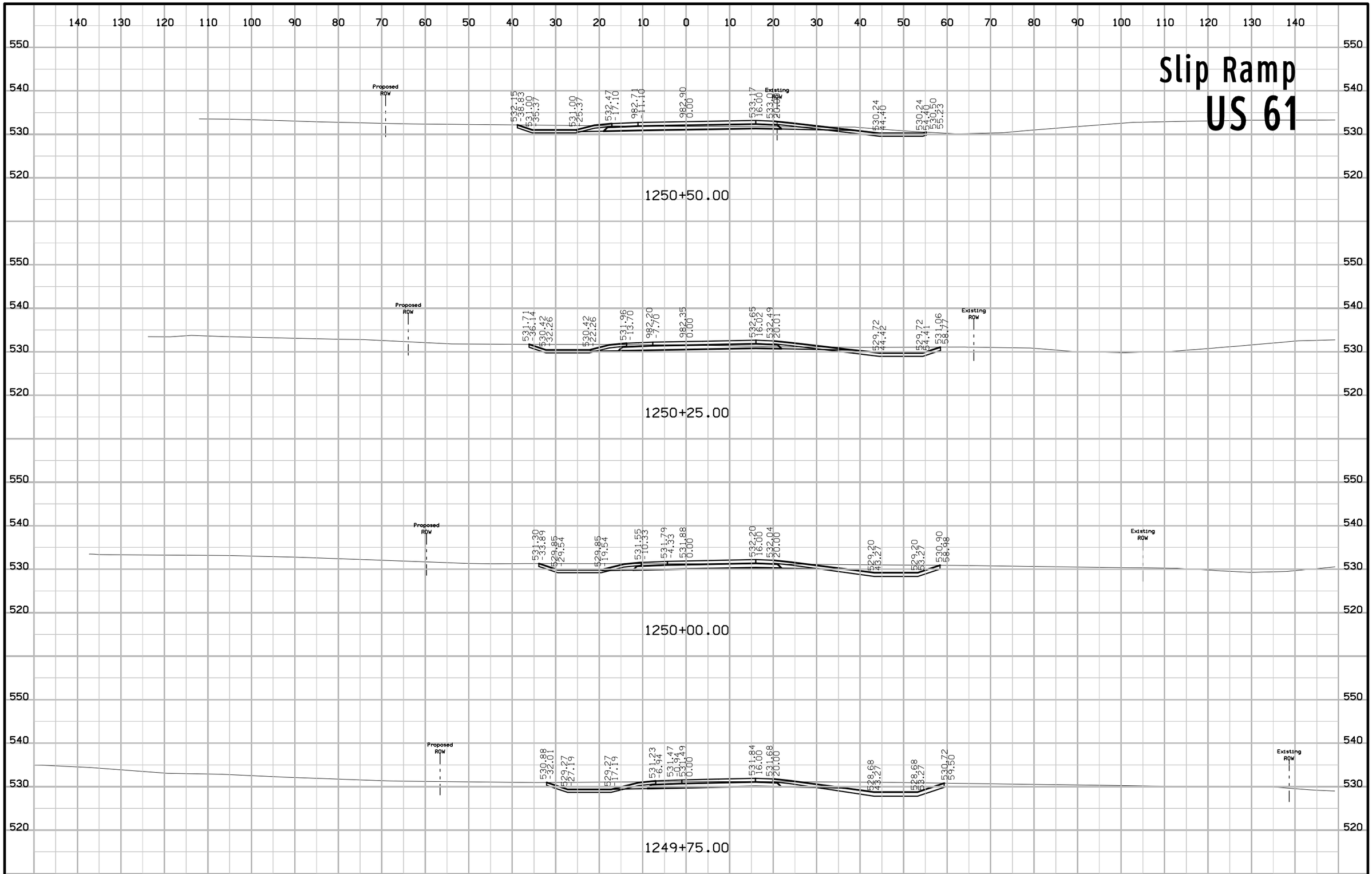
Slip Ramp
US 61



FILE NO.	ENGLISH	DESIGN TEAM TA \ TAP \ VAIS	LEE COUNTY	PROJECT NUMBER NHSN-061-1(187)--2R-56	SHEET NUMBER Y.17

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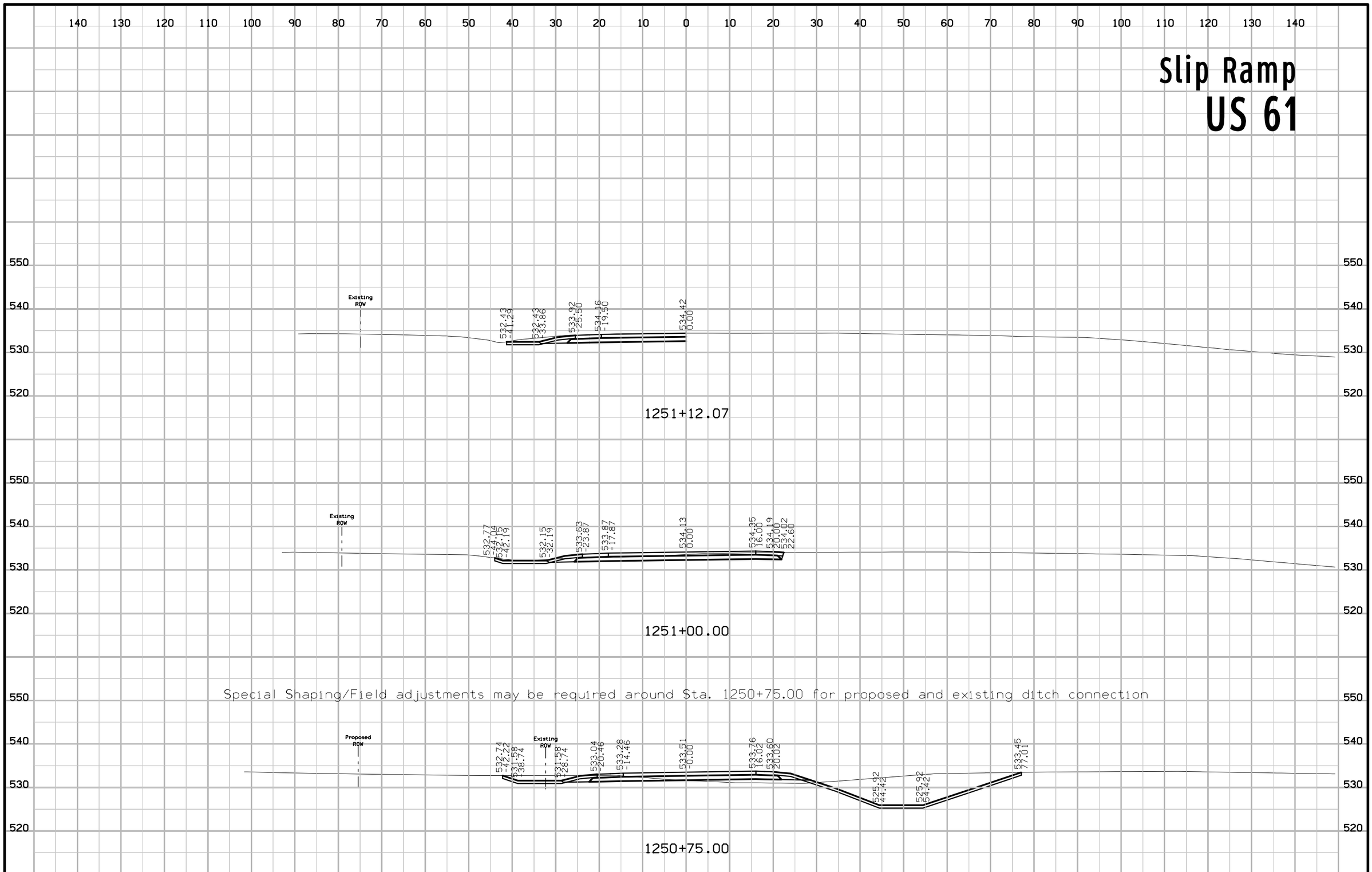
Slip Ramp
US 61



FILE NO.	ENGLISH	DESIGN TEAM TA \ TAP \ VAIS	LEE COUNTY	PROJECT NUMBER NHSN-061-1(187)--2R-56	SHEET NUMBER Y.18

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