LETTING DATE 6-21-2022

PCC PAVEMENT - REPLACE
NHSX-030-5(290)--3H-85

STORY COUNTY

IOWA DOT

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM

STORY COUNTY

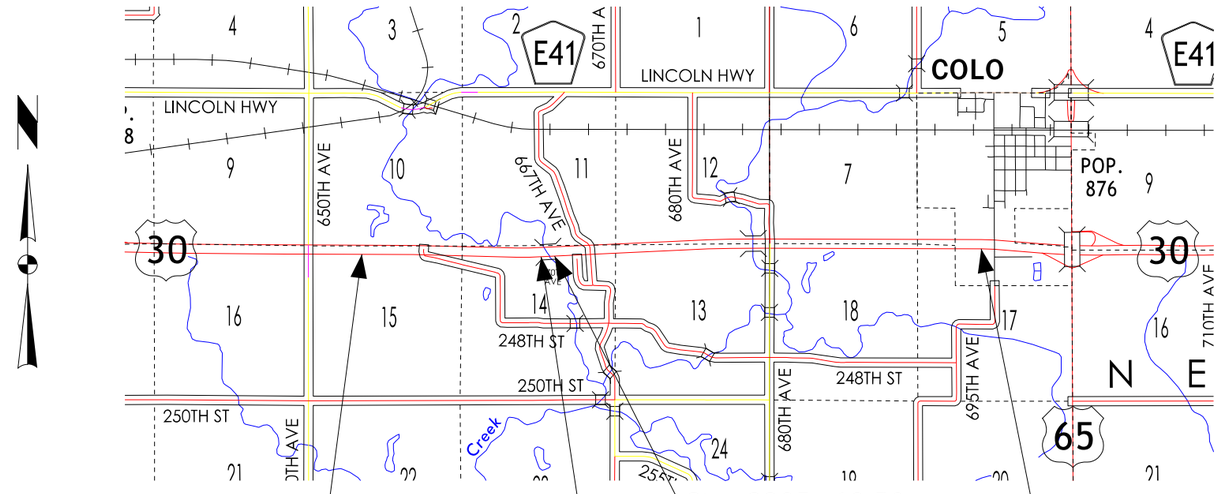
PCC PAVEMENT - REPLACE

E of Co Rd S27 to 0.4 mi W of US 65 (EB)

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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



Sta. 2215+00
Begin Construction

Sta. 2291+67.50
Stop Construction

Sta. 2295+18.50
Resume Construction

Sta. 2442+00
End Construction

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

REVISIONS

TOTAL
90
PROJECT IDENTIFICATION NUMBER
20-85-030-050
PROJECT NUMBER
NHSX-030-5(290)--3H-85
R.O.W. PROJECT NUMBER

INDEX OF SHEETS

LOCATION MAP SCALE
0 0.5 1 1.5
Miles

DESIGN DATA RURAL		
2022	AADT	4,800 V.P.D.
2042	AADT	5,600 V.P.D.
2042	DHV	580 V.P.H.
TRUCKS		14 %
Total Design ESALs		--

INDEX OF SEALS

SHEET NO.	NAME	TYPE
A.1	Benjamin Adey	Primary Signature Block

ROADWAY DESIGN

LICENSED PROFESSIONAL ENGINEER
Benjamin Adey
26457
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.

Benjamin Adey — 4-12-2022
Signature — Date
Benjamin Adey
Printed or Typed Name

My license renewal date is December 31, 2022

Pages or sheets covered by this seal: A.1, B.1-6, C.1-16, D.1-10, G.1-4, J.1-18, L.1-17, RC.1-2, RR.1-4, T.1-4, W.1-8

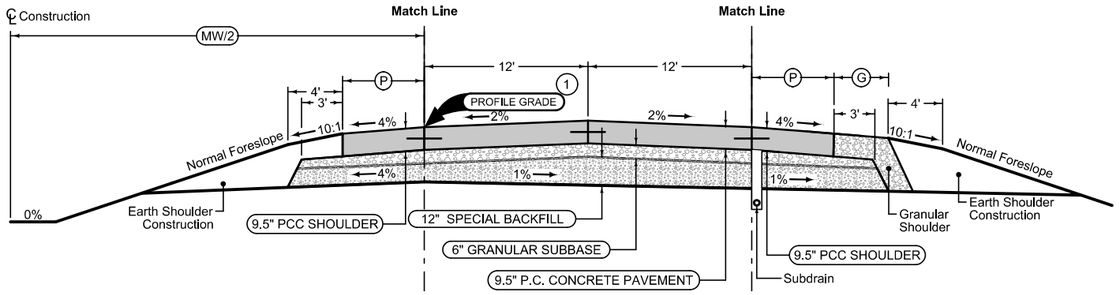
FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER A.1

10:09:02 AM 4/12/2022 badey c:\pw_work\pwmain\idotcentral_badey\d1045386\85030290_A01.dgn

Full Depth PCC Shoulder

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

			4_P_FullPCC_ 04-21-20
Direction of Travel	BEGIN STATION	END STATION	(P) Feet
EB	2215+00.00	2248+66.80	6
EB	2251+05.99	2288+89.59	6
EB	2288+89.59	2290+67.49	13.4-5.9
EB	2295+18.50	2298+57.73	6
EB	2308+28.93	2360+39.07	6
EB	2370+10.26	2378+51.97	6
EB	2380+91.15	2437+50.00	6



Section shown in the direction of traffic.

Mainline Jointing:
Transverse joints: CD at 17' spacing
Longitudinal joint: L-2

			4DP_ 04-21-20
Direction of Travel	BEGIN STATION	END STATION	(MW) Feet
EB	2215+00.00	2290+67.50	50
EB	2295+18.50	2442+00.00	50

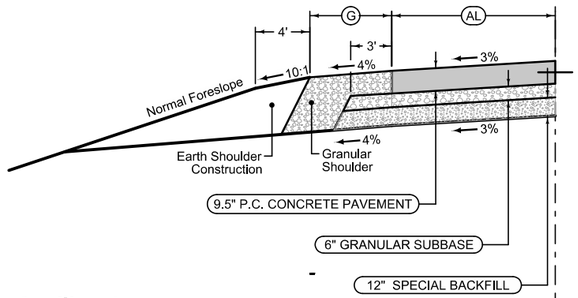
Full Depth PCC Combination Shoulder

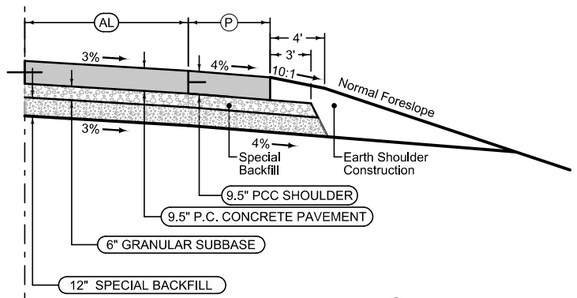
Shoulder Jointing:
Longitudinal joint: L-2 or KT-2
Transverse joints: C at 17' spacing

			4_C_FullPCC_ 10-20-20	
Direction of Travel	BEGIN STATION	END STATION	(P) Feet	(G) Feet
EB	2215+00.00	2288+66.81	6	4
EB	2288+66.81	2290+67.50	7.3-5.7	0
EB	2295+18.50	2360+43.59	6	4
EB	2369+15.97	2379+12.45	6	4
EB	2379+97.55	2442+00.00	6	4

(1) The proposed profile grade will match the top of the existing HMA surface.

(2) Refer to L Sheets





(2) Auxiliary Lane
Auxiliary Lane Granular Shoulder

Longitudinal joint: L or KT
Transverse joint: Match Mainline

			4_AuxLane_PCC_ 10-18-16		4_AL_Shldr_G_ 04-21-20
Direction of Travel	BEGIN STATION	END STATION	(AL) Feet	(G) Feet	
EB	2298+57.73	2300+37.73	6-12	6	
EB	2300+37.73	2306+07.73	12	6	
EB	2360+39.07	2362+19.27	6-12	6	
EB	2362+19.27	2367+89.27	12	6	
EB	2437+50.00	2439+30.00	6-12	6	
EB	2439+30.00	2442+00.00	12	6	

(2) Auxiliary Lane
Auxiliary Lane Full Depth Shoulder

Longitudinal joint: L or KT
Transverse joint: Match Mainline

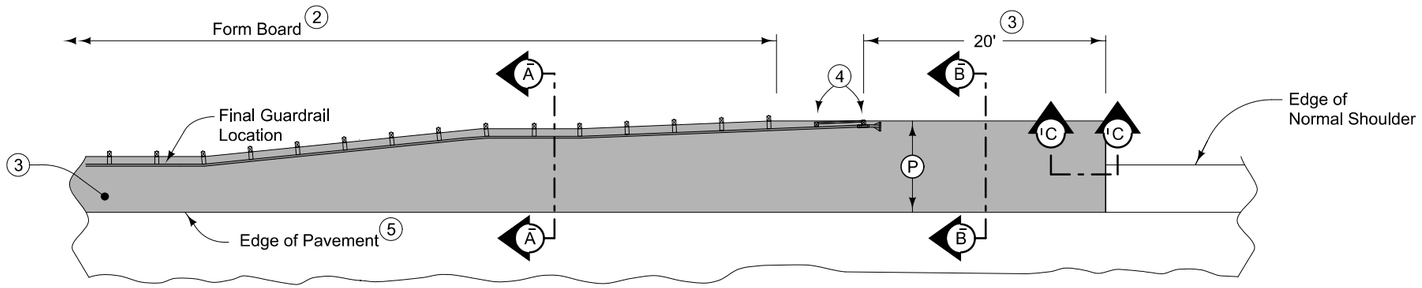
Shoulder Jointing:
Longitudinal joint: L-2 or KT-2
Transverse joints: C at 17' spacing

			4_AuxLane_PCC_ 10-18-16		4_AL_Shldr_FullPCC_ 04-21-20
Direction of Travel	BEGIN STATION	END STATION	(AL) Feet	(P) Feet	
EB	2360+43.59	2367+65.81	6-26.5	6	

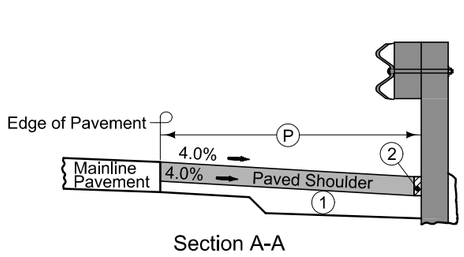
See Tab 100-24 or 100-25 for pavement quantities.

See Tab 112-9 for shoulder quantities.

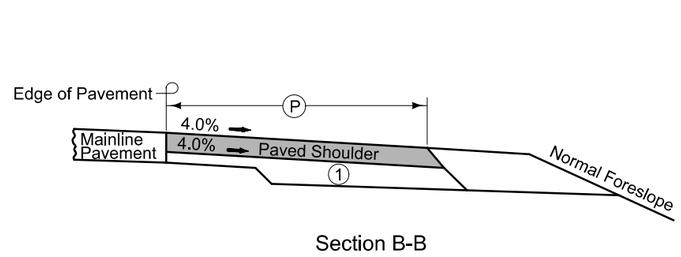
US 30



PLAN VIEW

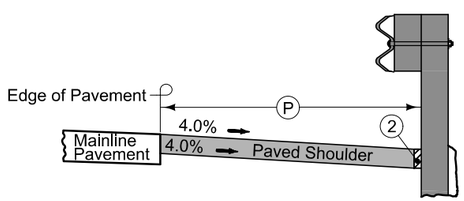


Section A-A

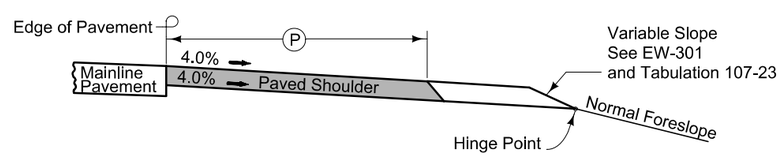


Section B-B

NEW CONSTRUCTION



Section A-A



Section B-B

EXISTING SHOULDER

DESIGNER INFO

7156
04-18-17

9" HMA Paved Shoulder at guardrail. 8" PCC may be substituted with the following jointing layout:

Match mainline pavement joint spacing. When mainline pavement is 8" or greater in thickness, place additional transverse 'C' joints in shoulder at mid-panel of the mainline pavement. Place longitudinal 'C' joint at P/2 from edge of mainline pavement when P is greater than 10' wide. Terminate longitudinal joint at transverse joint less than 10' in length.

Compaction of HMA is required to face of guardrail post. Hand compaction will be allowed under guardrail. Removal and reinstallation of guardrail will be allowed with no additional payment.

Refer to Tabulation 112-9 for shoulder quantities.

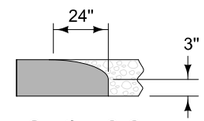
(1) For subgrade treatment, refer to other details in the plan.

(2) PCC option only: When guardrail posts are installed prior to construction of PCC paved shoulder, fasten form board to the face of guardrail posts for the length shown. Refer to note 4 for final 2 posts.

(3) Continue paved shoulder to existing paved shoulder or 20 feet beyond the center of the first post.

(4) Shoulder may be notched for final 2 posts or post sleeves may be installed through pavement. Do not drive posts through pavement.

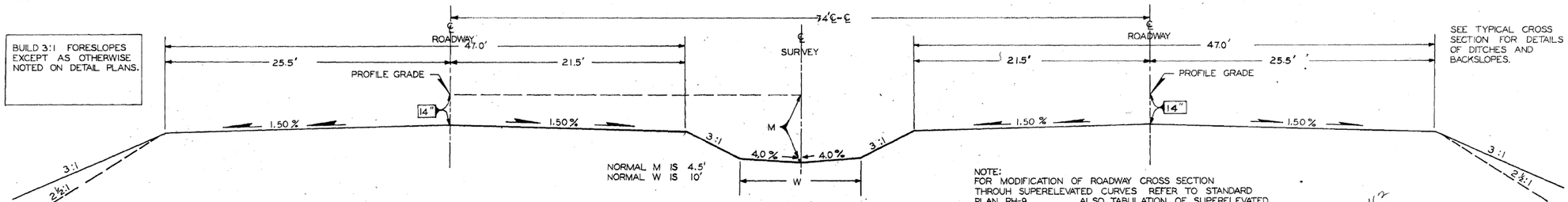
(5) 'KT-1 joint for PCC shoulder.
'B' joint for HMA shoulder.



Section C-C
Roll down at granular shoulder or earth.

PAVED SHOULDER AT GUARDRAIL

BUILD 3:1 FORESLOPES EXCEPT AS OTHERWISE NOTED ON DETAIL PLANS.

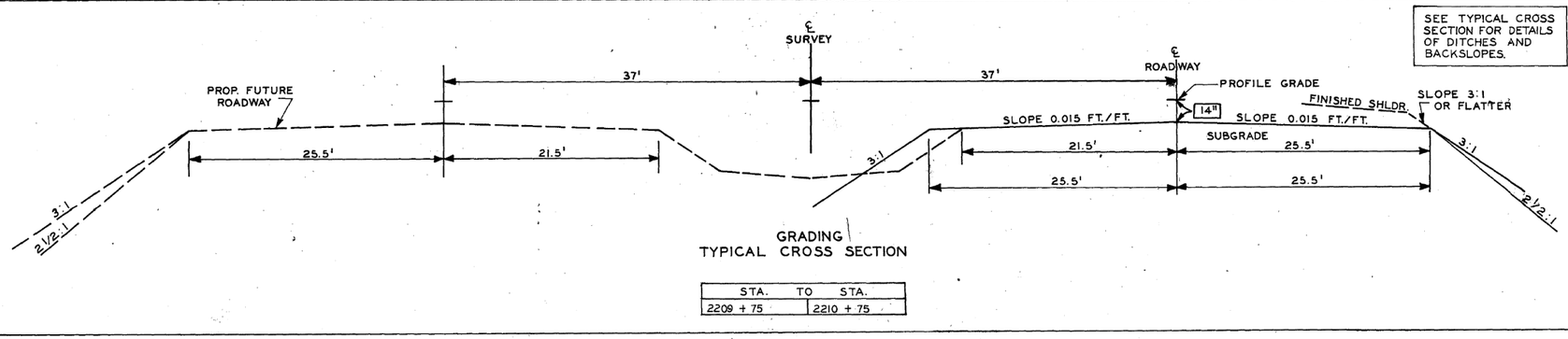


SEE TYPICAL CROSS SECTION FOR DETAILS OF DITCHES AND BACKSLOPES.

NOTE:
FOR MODIFICATION OF ROADWAY CROSS SECTION THROUH SUPERELEVATED CURVES REFER TO STANDARD PLAN RH-9 ALSO TABULATION OF SUPERELEVATED CURVES.

GRADING
TYPICAL CROSS SECTION
~~PROPOSED~~ HIGHWAY IMPROVEMENT

STA.	TO	STA.
2445 + 74.2		2445 +96.2

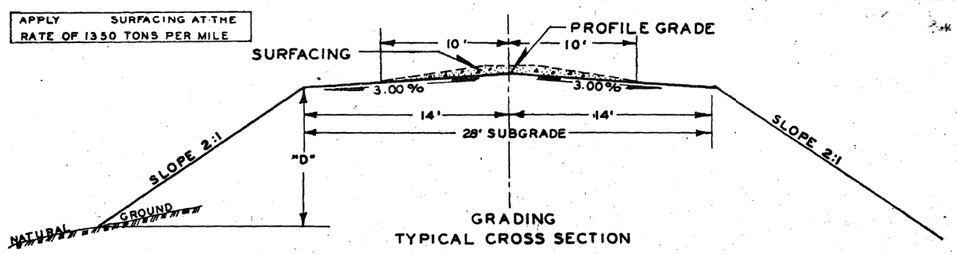


SEE TYPICAL CROSS SECTION FOR DETAILS OF DITCHES AND BACKSLOPES.

GRADING
TYPICAL CROSS SECTION

STA.	TO	STA.
2209 + 75		2210 + 75

APPLY SURFACING AT THE RATE OF 1350 TONS PER MILE

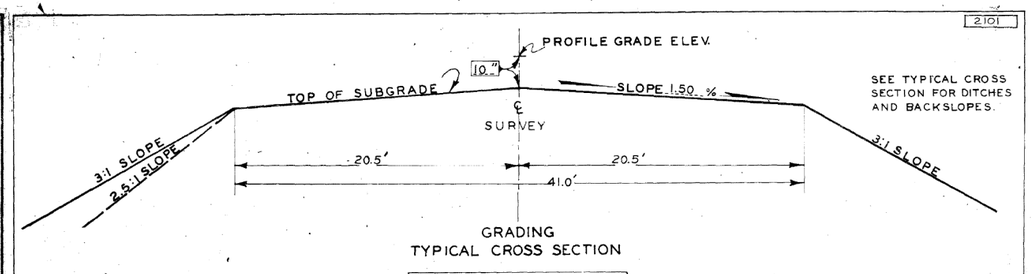


BUILD FORESLOPES ON 2:1 SLOPE EXCEPT AS OTHERWISE NOTED ON PLANS

GRADING
TYPICAL CROSS SECTION

LOCATION
SIDE ROAD RT. STA. 2445 + 84.2

2.101



SEE TYPICAL CROSS SECTION FOR DITCHES AND BACKSLOPES.

BUILD 3:1 FORESLOPES EXCEPT AS OTHERWISE NOTED ON PLANS.

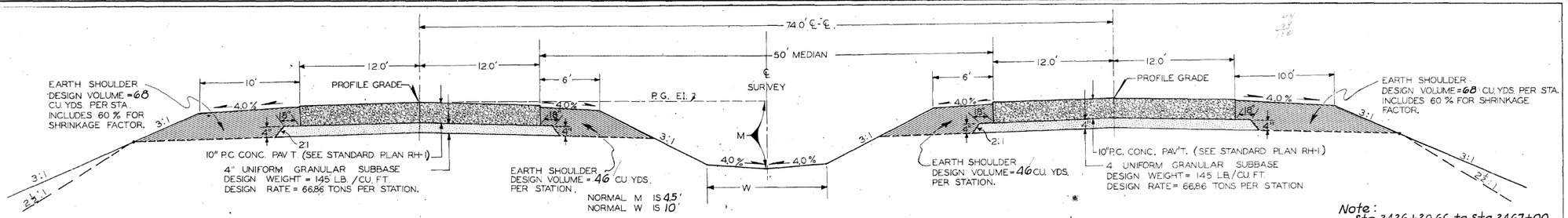
GRADING
TYPICAL CROSS SECTION

LOCATION
SIDE ROAD AT STA. 2210 + 23.3
SIDE ROAD LT. STA. 2445 + 84.2

ETS

Story COUNTY F-FG PROJECT NO. 1065(18

This Sheet
For Information Only



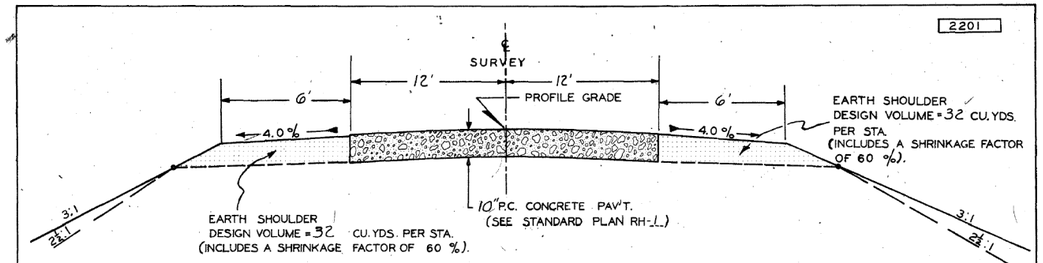
Note:
Sta. 2426+20.66 to Sta. 2467+00
Use straight line crown.
~~See Standard Plan RH-18.~~

TYPICAL CROSS SECTION
~~PROPOSED~~ HIGHWAY IMPROVEMENT

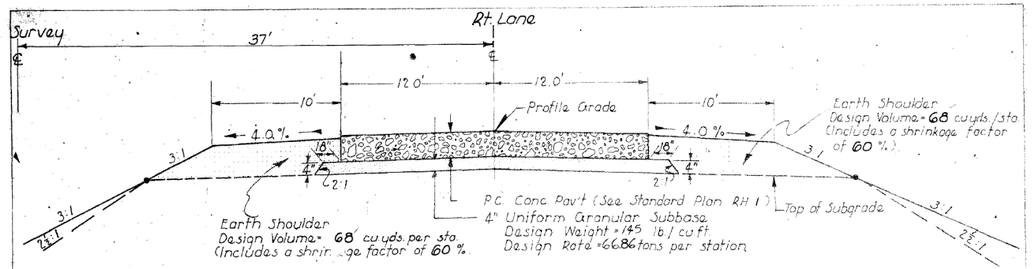
STA.	TO	STA.
2029+03.5		2101+91.3
2426+20.7		2467+00.0

~~NOTE~~
~~FOR MODIFICATION OF ROADWAY CROSS SECTION THROUGH SUPERELEVATED CURVES, REFER TO STANDARD PLAN RH-9. ALSO SEE TABULATION OF SUPERELEVATED CURVES.~~

2201



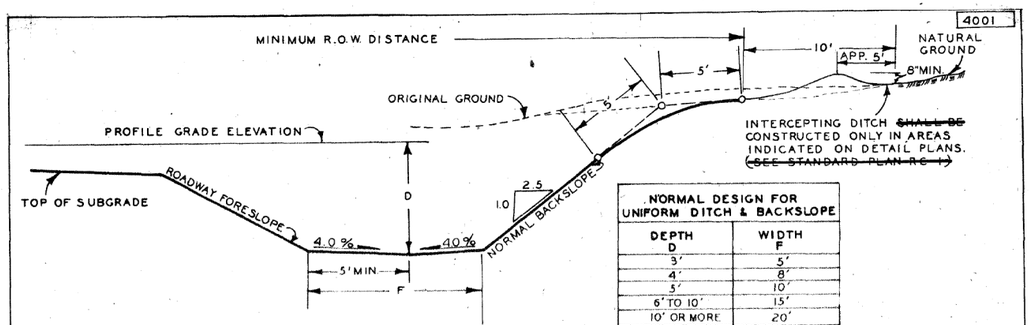
TYPICAL CROSS SECTION
~~PROPOSED~~ HIGHWAY IMPROVEMENT
Location
Side Road at Sta. 2053+52.4 (Co. Trunk Rd. "H")
Side Road at Sta. 2210+23.3 (Co. Trunk Rd. "B")
Side Road at Sta. 2445+84.2 (Colo Conn.) (Lt.)



TYPICAL CROSS SECTION
~~PROPOSED~~ HIGHWAY IMPROVEMENT

STA.	TO	STA.
1607+05.4		2029+03.5
2101+91.3		2426+20.7

4001

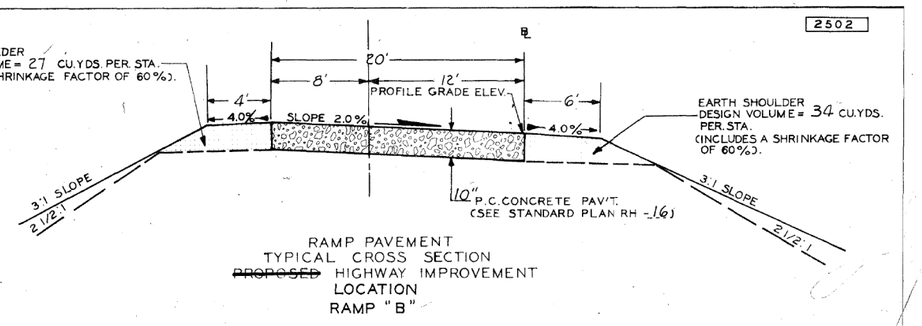


NORMAL DESIGN FOR UNIFORM DITCH & BACKSLOPE

DEPTH D	WIDTH F
3'	5'
4'	8'
5'	10'
6' TO 10'	15'
10' OR MORE	20'

TYPICAL CROSS SECTION
OF DITCHES & BACKSLOPES

2502



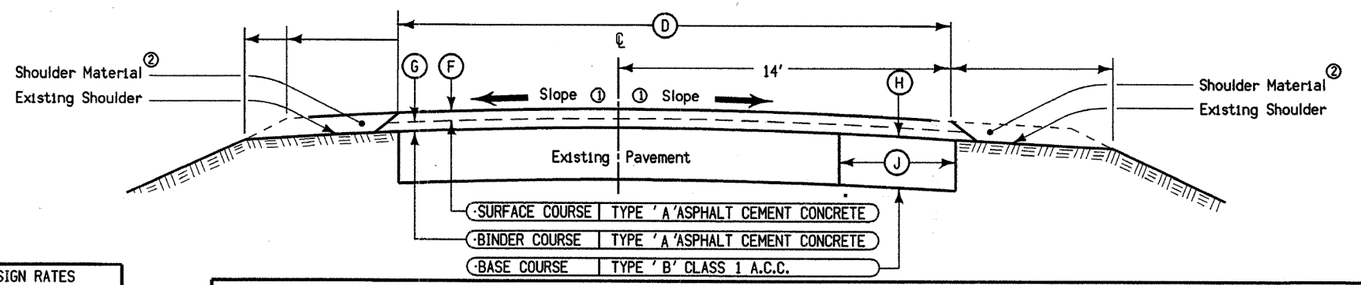
RAMP PAVEMENT
TYPICAL CROSS SECTION
~~PROPOSED~~ HIGHWAY IMPROVEMENT
LOCATION
RAMP "B"

ET-5

Story COUNTY F-FG PROJECT NO. 1065(

This Sheet
For Information Only

2602A
MODIFIED



DESIGN RATES	
ITEM	RATE
Surface Course	145 lbs./cu.ft
Binder Course	145 lbs./cu.ft
Tack Coat	0.05 gal./sq.yd.
Base (Class 1)	145 lbs./cu.ft

Note: See appropriate details and tabulations for additional information.

TABLE OF DESIGN QUANTITIES — Per Station

LOCATION		DIMENSIONS					TRENCH EXCAVATION	PRIME AND TACK COAT	ASPHALT CEMENT	ASPHALT CEMENT CONCRETE Tons		
ROAD IDENTIFICATION	STATION TO STATION	(F)	(G)	(D)	(H)	(J)	Cu.Yds. ④	Gallons ③	Tons	SURFACE	BINDER	BASE
EB U.S. 30 (STORY)	2212+00-2449+20±	1.5"	4"	26'	4.5"	2'	4.01	32.68	6.37	23.68	37.00	5.44
WB U.S. 30 STORY	2440+80-2449+20±	1.5"	4"	26'	4.5"	2'	4.01	32.68	6.37	23.68	37.00	5.44

Notes:

① Finished slope shall match existing pavement except that the maximum allowable slope is 3.0 %, minimum allowable slope is 2.0 %. Section may be modified as directed by the engineer through areas of special shaping.

Refer to tabulation listing of superelevated curves and Standard Road Plans for additional requirements through superelevated curves.

② Shoulder material as specified elsewhere in these plans; refer to typical for "Type 'B' Granular Surfaced Shoulders".

③ Quantity includes 3.33 gal. for placement of both widening units.

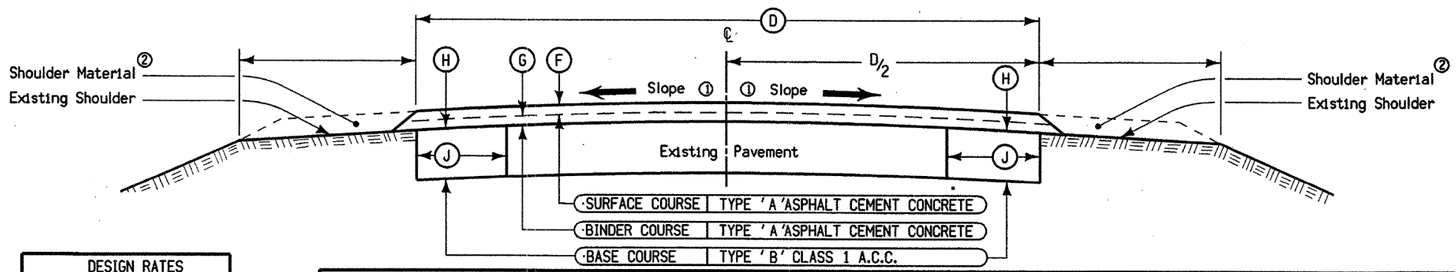
④ Quantity is for placement of both widening units.

⑤ Quantity increased 5.08 tons for crown correction.

⑥ Binder is to be dropped from Sta. 2305+00.00 to Sta. 2309+00.00.

TYPICAL CROSS SECTION ASPHALT CEMENT CONCRETE RESURFACING

2602B
MODIFIED



DESIGN RATES	
ITEM	RATE
Surface Course	145 lbs./cu.ft
Binder Course	145 lbs./cu.ft
Tack Coat	0.05 gal./sq.yd.
Base (Class 1)	145 lbs./cu.ft

Note: See appropriate details and tabulations for additional information.

TABLE OF DESIGN QUANTITIES — Per Station

LOCATION		DIMENSIONS					TRENCH EXCAVATION	PRIME AND TACK COAT	ASPHALT CEMENT	ASPHALT CEMENT CONCRETE Tons		
ROAD IDENTIFICATION	STATION TO STATION	(F)	(G)	(D)	(H)	(J)	Cu.Yds. ④	Gallons ③	Tons	SURFACE	BINDER ⑤	BASE
U.S. 30 (MARSHALL)	198+00-535+00±	1.5"	4.0"	28'	4.5"	2'	5.56	51.59	6.37	25.49	76.19	10.88

Notes:

① Finished slope shall match existing pavement except that the maximum allowable slope is 3.0 %, minimum allowable slope is 2.0 %. Section may be modified as directed by the engineer through areas of special shaping.

Refer to tabulation listing of superelevated curves and Standard Road Plans for additional requirements through superelevated curves.

② Shoulder material as specified elsewhere in these plans; refer to typical for "Type 'B' Granular Surfaced Shoulders".

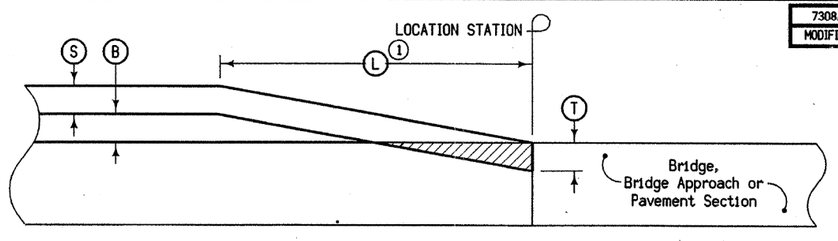
③ Quantity includes 4.44 gal. for placement of both widening units.

④ Quantity is for placement of both widening units.

⑤ Quantity increased 7.11 tons for crown correction.

TYPICAL CROSS SECTION ASPHALT CEMENT CONCRETE RESURFACING

7308A
MODIFIED



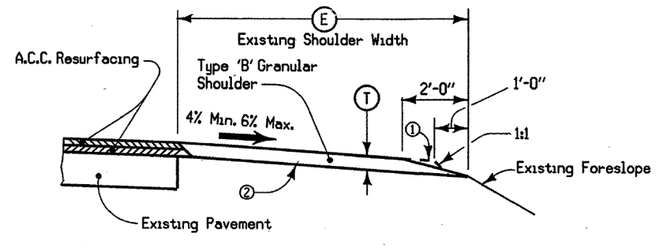
Ⓢ Surface Course
Ⓑ Binder Course
Ⓣ Milling

① Taper 50' per inch

LOCATION STATION	(L) Feet	(S) Inches	(B) Inches	(T) Inches
2212+00 (BOP) (Story)	175	1.5	2	1.5
2291+40.19 (Story)	175	1.5	2	1.5
2294+45.81 (Story)	175	1.5	2	1.5
2449+20 (EOP) (Story)	175	1.5	2	1.5
198+00 (BOP) (Marshall)	175	1.5	2	1.5
535+00 (EOP) (Marshall)	175	1.5	2	1.5

SURFACE NOTCH - BINDER RUNOUT FOR DOUBLE COURSE RESURFACING

7135
09-21-93



LOCATION				TONS ③	(T) Inches	(E) Feet
ROAD IDENTIFICATION	STATION TO STATION		SIDE			
U.S. 30 (Story) EB	2212+00 ±	2449+20 ±	Inside	14	3.5	6
U.S. 30 (Story) EB	2212+00 ±	2449+20 ±	Outside	20	3.5	8
U.S. 30 (Marshall)	198+00 ±	535+00 ±	Both	27	5.5	

Notes:

Quantities have been determined on the basis of a design weight of 145 lbs. per cubic foot.

① Place and compact material to the dashed lines; then blade and shape to foreslope that portion above the solid line in the outer 2' and roll with loaded truck tire.

② Existing shoulder surface to be shaped to a uniform cross slope prior to placing granular shoulder material. Shape to ensure the thickness of the granular shoulder material is not less than the thickness of the resurfacing. Shaping shall be paid for in accordance with Section 2121 of the Standard Specifications.

③ Tons per side per station.

TYPICAL SECTION FOR TYPE 'B' GRANULAR SHOULDER ADJACENT TO ASPHALT CEMENT

This Sheet
For Information Only

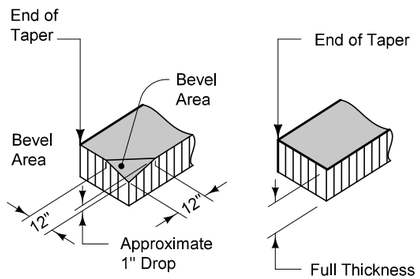
OFFICE OF DESIGN • CADD • PRODUCED	STATE OF IOWA	FHWA REGION 7	FISCAL YEAR	STORY/MARSHALL COUNTY	PROJECT NUMBER	NHSX-30-5(159)--3H-8

21-JUN-2000 15:48 ddobso2 s:\PROJECTS\85030020A99\Design\k85030159.b01

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER B.5

7:56:59 AM 4/14/2022 badey pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\8503005020\DistrictDesign\85030290_B01.dgn

7101
10-19-10

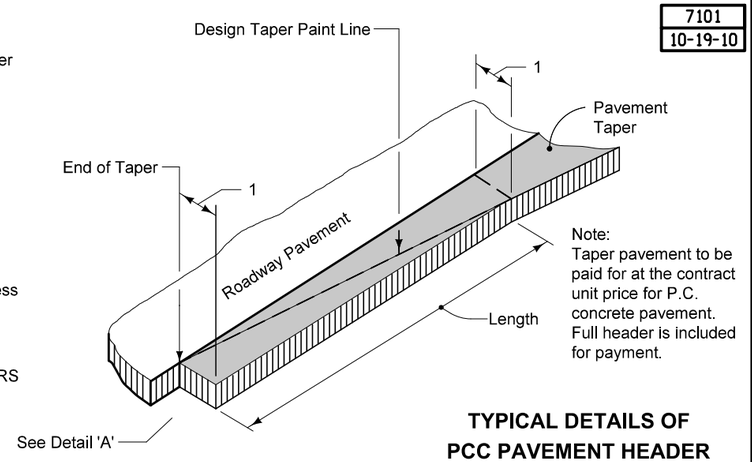


DETAIL 'A'

FOR
GRANULAR SHOULDERS

DETAIL 'A'

FOR
PAVED SHOULDERS

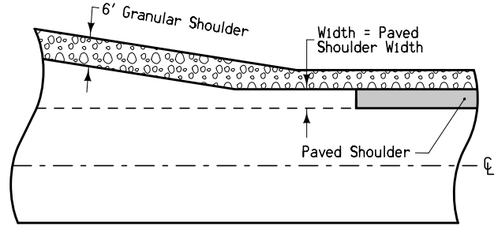


Note:
Taper pavement to be paid for at the contract unit price for P.C. concrete pavement. Full header is included for payment.

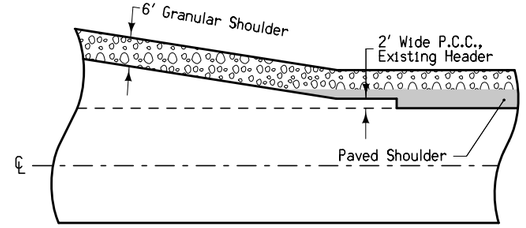
1 Normal width is 2'-0". Construct 4'-0" width when butting into 4' wide HMA shoulders (See Typical 7154A).

TYPICAL DETAILS OF PCC PAVEMENT HEADER

7154A
10-20-09



With Newly Constructed Turn Lanes



At UAC Turn Lanes

PAVED SHOULDER DETAIL AT TURN LANES

NOTES:
Refer to Tabulation 108-35.

Refer to Standard Raod Plan TC-61.

(1) Only Place R3-2 at Side Roads

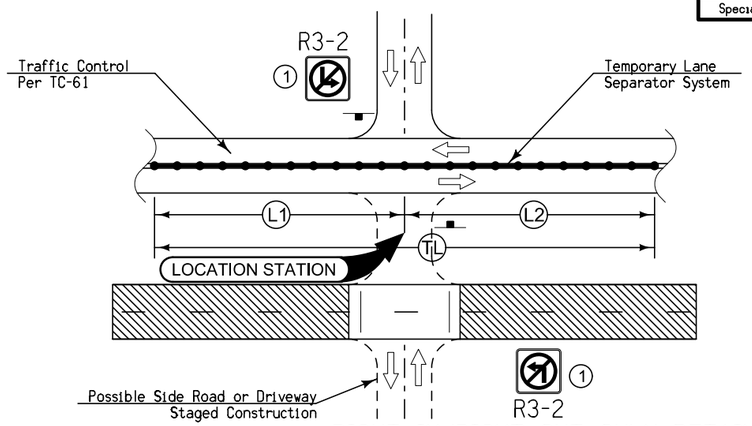
LEGEND

- Traffic Sign
- Work Area
- Direction of Traffic

LOCATION	MAINLINE		
LOCATION STATION	(L1) Feet	(L2) Feet	(TL) Feet
2210+22	300	300	600
2223+63	300	100	400
2236+03	300	100	400
2249+79	300	300	600
2287+21	300	100	400
2307+02	300	300	600
2368+75	300	300	600
2428+00	100	300	400
2445+79	300	710	1010

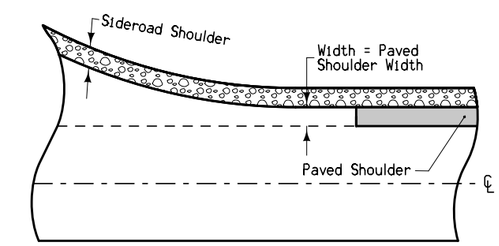
Stage 2, US 30 at Side Roads and Driveways

TLSS-1
Special

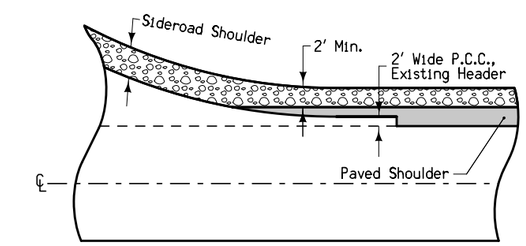


RIGHT IN/RIGHT OUT ONLY DETAIL

7154B
10-20-09



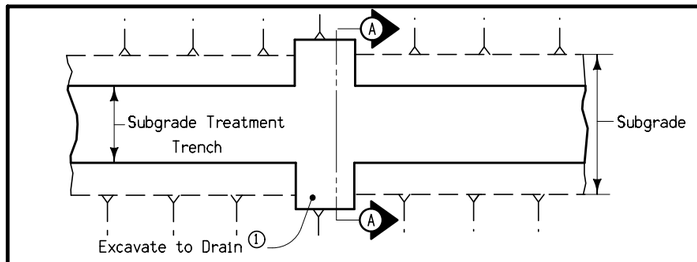
With Newly Constructed Returns



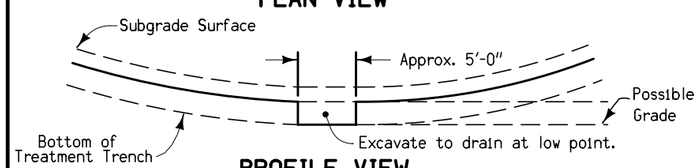
At UAC Returns

PAVED SHOULDER DETAIL AT RETURNS

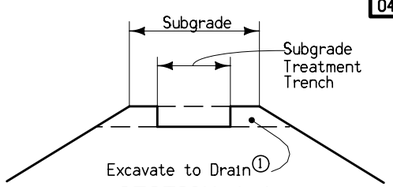
8301
04-20-04



PLAN VIEW



PROFILE VIEW



SECTION A-A

(1) The contractor shall excavate a portion of subgrade as necessary to provide drainage for the treatment trench. When the subgrade treatment is granular soils, the contractor shall excavate a portion of the subgrade and backfill it with the granular soils every 300 feet.

This excavation shall be considered incidental.

TYPICAL DETAILS OF DRAIN FOR SUBGRADE TREATMENT TRENCH

ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

Roadway Items : Iowa DOT

Item no.	Item Code	Item	Unit	Quantities Estimated Roadway Items	Estimate Reference Notes
1	2102-0425070	SPECIAL BACKFILL	TON	80,830.7	Includes 50,077.9 tons for US 30 paving. Refer to Tab. 100-24 for additional information. Includes 29,642.8 tons for shoulders. Refer to Tab. 112-9 for additional information. Includes 1,110 tons for medians crossovers. Refer to Tab. 112-8 for additional information.
2	2102-2625000	EMBANKMENT-IN-PLACE	CY	2,960	Includes 1,081 cu. yds. needed for crossovers. Refer to J Sheets and Tab. 112-8 for additional information. Includes 271 cu. yds. needed for guardrail grading. Refer to L Sheets and Tab. 107-23 for additional information. Includes 1,608 cu. yds. needed for offset right turn lane construction. Refer to T Sheets and Tab. 107-28 for additional information. Provide borrow material according to Section 2102 of the Standard Specifications.
3	2102-2710070	EXCAVATION, CLASS 10, ROADWAY AND BORROW	CY	1,803	Includes 1,594 cu. yds. of suitable material to be used in the roadway fill. Refer to T Sheets and Tab. 107-28 for additional information. Includes 209 cu. yds. for Crossovers. Refer to Tab. 112-8 and J sheets for additional information. Overhaul is incidental to roadway excavation on this project and will not be paid for separately.
4	2102-2713090	EXCAVATION, CLASS 13, WASTE	CY	42,665	Includes 18,675 cu. yds. from Shoulders Includes 23,990 cu. yds. from below existing eastbound pavement. Excavation below existing pavement estimated to be 12 inches deep based on existing 15.5 inch pavement section and proposed 27.5 inch section. Refer to B Sheet Typicals, Tab. 110-1 and Tab. 112-9 for additional information.
5	2105-8425015	TOPSOIL, STRIP, SALVAGE AND SPREAD	CY	1,297	Refer to Tab. 103-10 and the T Sheets. Strip 12 inches of topsoil within the limits of grading. After excavating to the sub grade elevations, spread the stockpiled topsoil to an 8 inch depth across the grading area. Seed the disturbed topsoil stockpile area as per section 2601.05 of the standard specifications. Seeding of the stockpile areas shall be considered incidental to this bid item. Any remaining topsoil may be used for earth shoulder construction or spread on foreslope. No topsoil shall leave the project.
6	2107-0875100	COMPACTION WITH MOISTURE CONTROL	CY	2,833	Refer to Tab. 103-6 and T Sheets. Cubic yards shown on the contract documents as determined by the template fill volume. Shrinkage will not be included in the moisture control quantity.

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Roadway Items	
7	2111-8174100	GRANULAR SUBBASE	SY	107,126.8	Refer to B Sheet Typicals. Includes 65,249.4 SY for US 30 paving. Refer Tab. 100-24 for additional information. Includes 41,877.4 SY for US 30 shoulders. Refer Tab. 112-9 for additional information.
8	2121-7425010	GRANULAR SHOULDERS, TYPE A	TON	11,226.2	Includes 10,826.2 tons for US 30 shoulders. Refer to Tab. 112-9 for additional information. Includes 400 tons for median crossovers. Refer to Tab. 112-8 for additional information.
9	2122-5190095	PAVED SHOULDER, P.C. CONCRETE, 9.5 IN.	SY	27,358.6	Refer to B Sheet Typicals and Tab. 112-9 for additional information.
10	2122-5500090	PAVED SHOULDER, HOT MIX ASPHALT MIXTURE, 9 IN.	SY	359.6	
11	2123-7450000	SHOULDER CONSTRUCTION, EARTH	STA	435.5	Requires 18,958 CY of Class 10 material for Earth Shoulder Fill, which is incidental to this item. No payment for overhaul allowed for this material. Requires a minimum of 4 inches of topsoil. Place according to Article 2105.03, B of the Standard Specifications. Refer to B Sheet Typicals and Tab. 112-9 for additional information.
12	2213-7100400	RELOCATION OF MAIL BOXES	EACH	4	Refer to the Existing Mailboxes Tabulation in the C Sheets for additional information.
13	2301-0690201	BRIDGE APPROACH, BR-201	SY	45	Item is for the replacement of the bridge approach shoulders on the west end of the westbound bridge over Indian Creek.
14	2301-1003095	STANDARD OR SLIP-FORM PORTLAND CEMENT CONCRETE PAVEMENT, QM-C, CLASS 3 DURABILITY, 9.5 IN.	SY	65,249.4	Refer to B Sheet Typicals and Tab. 100-24 for additional information.
15	2301-6911722	PORTLAND CEMENT CONCRETE PAVEMENT SAMPLES	LS	1	
16	2301-7000110	PAYMENT ADJUSTMENT INCENTIVE/DISINCENTIVE FOR PCC PAVEMENT THICKNESS (BY SCHEDULE)	EACH	76,342	
17	2304-0100000	DETOUR PAVEMENT	SY	2,515.2	Refer to J Sheets and L Sheets for additional information. Includes 2280.0 SY for median crossovers. Refer to Tab. 112-8 for additional information. Includes 235.2 SY for intersections. Refer to Tab. DET for additional information.
18	2312-8260050	GRANULAR SURFACING ON ROAD, CLASS A CRUSHED STONE	CY	99.2	Refer to Tab. 102-3 for additional information.
19	2315-8275055	SURFACING, DRIVEWAY	TON	500.8	
20	2317-7000110	PAYMENT ADJUSTMENT INCENTIVE/DISINCENTIVE FOR PCC PAVEMENT SMOOTHNESS (BY SCHEDULE)	EACH	48,937	
21	2502-8212034	SUBDRAIN, LONGITUDINAL, (SHOULDER) 4 IN. DIA.	LF	24,579	Refer to Tab. 104-9 for additional information.

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Roadway Items	
22	2502-8221306	SUBDRAIN OUTLET, DR-306	EACH	98	
23	2505-4008120	REMOVAL OF STEEL BEAM GUARDRAIL	LF	366	Refer to Tab. 110-7A for additional information.
24	2505-4008300	STEEL BEAM GUARDRAIL	LF	300	Refer to Tab. 108-8A for additional information.
25	2505-4008410	STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION, BA-201	EACH	2	
26	2505-4021010	STEEL BEAM GUARDRAIL END ANCHOR, BOLTED	EACH	2	
27	2505-4021720	STEEL BEAM GUARDRAIL TANGENT END TERMINAL, BA-205	EACH	2	
28	2507-3250005	ENGINEERING FABRIC	SY	311.1	Refer to Tab. 100-23 and R Sheets for additional information.
29	2507-8029000	EROSION STONE	TON	268.8	Refer to Tab. 100-23 and R Sheets for additional information.
30	2510-6745850	REMOVAL OF PAVEMENT	SY	75,062.3	Includes 74,509.3 SY from Tab. 110-1. Includes 553.0 SY from Tab. 112-8. Refer to Tab. 102-5 for additional information.
31	2520-3350015	FIELD OFFICE	EACH	1	
32	2524-6765010	REMOVE AND REINSTALL SIGN AS PER PLAN	EACH	9	Refer to Tab. 190-62 and Tab. 110-13 The Contractor shall remove each sign and the hardware used to secure the sign to another sign, posts, or sign support structure. For signs mounted directly to posts, removal of the sign shall include removal of the posts. Posts may be either wood posts or steel breakaway sign posts. The removal of concrete footings for steel breakaway sign posts will be measured and paid for separately. Holes remaining from the removal of wood posts shall be backfilled with suitable earth to the original level or to the natural ground surface in accordance with Article 2402.09 of the Standard Specifications. All steel posts removed shall become the property of the Contractor. Unless otherwise noted, wood posts removed shall remain the property of DOT. The Contractor shall deliver the wood posts to the Ames Maintenance Garage. The Contractor shall furnish all necessary hardware to install the signs. When the new installation is similar to the original installation, unless otherwise noted, the existing hardware may be used to reinstall the sign. Signs damaged by the Contractor's activities shall be replaced at the Contractor's expense. Replacement materials shall be new. The DOT will furnish all details necessary for fabrication of the replacement materials. METHOD OF MEASUREMENT: The Engineer will count each sign removed and reinstalled. BASIS OF PAYMENT: For each sign removed and reinstalled, the Contractor shall be paid the contract unit price.
33	2526-8285000	CONSTRUCTION SURVEY	LS	1	Item is included for recreating the horizontal and vertical alignments. Submit the proposed profile grade to the Engineer for approval. Refer to TC-283 for traffic control layout. Restore any existing centerline and section corner monuments disturbed by this project.

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Roadway Items	
34	2527-9263109	PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED	STA	822.48	Refer to Tab. 108-22 and J Sheets for additional information.
35	2527-9263112	PAINTED PAVEMENT MARKINGS, HIGH-BUILD WATERBORNE	STA	1,029.36	
36	2527-9263131	WET RETROREFLECTIVE REMOVABLE TAPE MARKINGS	STA	77.22	
37	2527-9263137	PAINTED SYMBOLS AND LEGENDS, WATERBORNE OR SOLVENT-BASED	EACH	8	Refer to Tab. 108-29 and J Sheets for additional information.
38	2527-9263180	PAVEMENT MARKINGS REMOVED	STA	1,187.5	Refer to Tab. 108-22 and J Sheets for additional information.
39	2527-9263190	SYMBOLS AND LEGENDS REMOVED	EACH	8	Refer to Tab. 108-29 and J Sheets for additional information.
40	2527-9270111	GROOVES CUT FOR PAVEMENT MARKINGS	STA	1,029.36	Refer to Tab. 108-22 and J Sheets for additional information.
41	2528-2518000	SAFETY CLOSURE	EACH	20	Refer to Tab. 108-13A and J Sheets for additional information.
42	2528-8400048	TEMPORARY BARRIER RAIL, CONCRETE	LF	137.5	Refer to Tab. 108-33 and J Sheets for additional information.
43	2528-8400157	TEMPORARY FLOODLIGHTING LUMINAIRE	EACH	4	Refer to Tab. 108-27 and J Sheets for additional information.
44	2528-8445110	TRAFFIC CONTROL	LS	1	Refer to J Sheets for additional information.
45	2528-9109020	TEMPORARY LANE SEPARATOR SYSTEM	LF	5,730	Refer to B Sheet details, Tab. 108-35 and J Sheets for additional information.
46	2528-9290050	PORTABLE DYNAMIC MESSAGE SIGN (PDMS)	CDAY	0	See Proposal. Refer to J Sheets for additional information.
47	2533-4980005	MOBILIZATION	LS	1	--
48	2548-0000200	MILLED SHOULDER RUMBLE STRIPS, PCC SURFACE	STA	375.7	Refer to Tab. 112-10 for additional information.
49	2551-0000130	TEMP CRASH CUSHION, SEVERE USE (SU)	EACH	3	Refer to Tab. 108-30 for additional information.
50	2555-0000010	DELIVER AND STOCKPILE SALVAGED MATERIALS	LS	1	Refer to Tab. 110-13.
51	2601-2634100	MULCHING	ACRE	2.72	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.MULCHING Mulching shall be applied as described in standard speification section 2601. After seeding, mulch all areas disturbed by grading except where slope protection has been applied.

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Roadway Items	
52	2601-2636015	NATIVE GRASS SEEDING	ACRE	0.93	Seed all areas outside eight feet adjacent to outside shoulder along mainline, and side roads 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.Seeding and seed bed preparation shall be as described in the Standard Specifications Section 2601. Only source identified seeds from Minnesota, Wisconsin, South Dakota, Nebraska, Missouri, Illinois or Iowa growers and previous year harvest shall be used on this project. Seed mixtures for this mitigation plan are subject to the availability of seeds. Any seed substitutions will need the approval of the Engineer. 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 Contractor shall flag the seeding limits and obtain the Engineers review of the limits prior to seeding. No fertilizer shall be required for any of the seed mixtures associated with this Mitigation Plan. All seed weights are shown as Pure Live Seed(PLS).
53	2601-2636043	SEEDING AND FERTILIZING (RURAL)	ACRE	1.79	Seed and fertilize all areas 8 foot adjacent to the shoulder mainline, medians, and side according to Article 2601.03, C, 3, of the Standard Specifications. Use ground driven equipment.
54	2601-2642100	STABILIZING CROP - SEEDING AND FERTILIZING	ACRE	2.72	Item is included for disturbed areas. Seed and fertilize all disturbed areas according to Article 2601.03, C, 1, of the Standard Specifications. If permanent seeding cannot be placed due to the restrictive planting dates, stabilizing crop will need to be placed on all disturbed areas as temporary erosion control. Preparation and seeding shall be performed in accordance with Section 2601. Stabilizing crop will not be used when the application dates in Section 2601 allows permanent seeding. If stabilizing crop must be used, place immediately following completions of finished grading. Reseeding of these areas will be required at contractors expense if damage occurs due to contractors negligence during the contract period. It is not necessary to place stabilizing crop in locations that have be covered by Wood Excelsior Mat.

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Roadway Items	
55	2602-0000020	SILT FENCE	LF	700	Refer to R Sheets and Tab. 100-17. The plans include estimated locations for placement of "Silt Fence" 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.
56	2602-0000071	REMOVAL OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS	LF	700	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. This item is included for silt fence and silt fence for ditch check removal. Remove silt fence and posts after mulching or vegetation is established and approved by the engineer.
57	2602-0000101	MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECK	LF	70	This item is included for clean-out and repair of the silt fence and silt fence for ditch checks during the project.
58	2602-0000320	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 20 IN. DIA.	LF	1,000	Refer to R Sheets. 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.
59	2602-0000351	REMOVAL OF PERIMETER AND SLOPE OR DITCH CHECK SEDIMENT CONTROL DEVICE	LF	1,000	Refer to R Sheets. 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.
60	2602-0010010	MOBILIZATIONS, EROSION CONTROL	EACH	1	
61	2602-0010020	MOBILIZATIONS, EMERGENCY EROSION CONTROL	EACH	1	

100-1D
10-18-05

PROJECT DESCRIPTION

This project on eastbound US 30 involves PCC pavement reconstruction, paved shoulders, granular shoulders, longitudinal subdrains, and a new offset right turn lane at 680th Ave.

105-4
10-18-11

STANDARD ROAD PLANS

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

Number	Date	Title
BA-200	04-20-21	Steel Beam Guardrail Components
BA-201	04-19-22	Steel Beam Guardrail Barrier Transition Section (MASH TL-3)
BA-202	10-20-15	Steel Beam Guardrail Bolted End Anchor
BA-205	10-19-21	Steel Beam Guardrail Tangent End Terminal (MASH TL-3)
BA-250	04-20-21	Steel Beam Guardrail Installation at Concrete Barrier or Bridge End Post (MASH TL-3)
BA-401	04-20-21	Temporary Barrier Rail (Precast Concrete)
BA-500	04-20-21	Temporary Crash Cushions Sand Barrel
BR-101	04-21-15	Bridge Approach Section (General Details)
BR-104	10-17-17	Bridge Approach Section (at Existing Bridges, PCC Pavement)
BR-201	10-19-21	Double Reinforced 10" Approach
DR-303	10-17-17	Subdrains (Longitudinal)
DR-306	10-16-18	Precast Concrete Headwall for Subdrain Outlets
EC-201	04-20-21	Silt Fence
EC-204	10-19-21	Perimeter, Slope and Ditch Check Sediment Control Devices
EC-301	10-18-16	Rock Erosion Control (REC)
EC-502	04-21-15	Seeding in Rural Areas
EW-301	04-20-21	Guardrail Grading
EW-501	10-20-15	Rural Entrance
LI-130	10-17-17	Temporary Floodlighting Luminaires
PM-110	04-21-20	Line Types
PM-111	04-21-20	Symbols and Legends
PM-120	10-21-14	Stop Lines and Islands
PM-310	04-21-20	Entrance and Exit Ramps
PM-561	10-15-19	Divided Multi-Lane Roadway with Right Turn Lanes
PM-562	10-15-19	Divided Multi-Lane Roadway with Left Turn Lanes
PM-760	10-15-19	Divided Multi-Lane Roadway Median
PV-12	10-20-20	Milled Shoulder Rumble Strips
PV-101	04-19-22	Joints
PV-121	04-21-15	Jointing PCC Pavement Widening
PV-501	04-21-20	Median Crossover (50' Median) 16' Wide 1 Lane
SI-101	04-19-16	Locations - Type 'A' Signs
SI-102	04-19-16	Locations - Type 'B' Signs
SI-173	04-19-16	Object Markers
SI-211	10-18-16	Object Marker and Delineator Placement with Guardrail
SI-881	04-16-19	Special Signs for Workzones
TC-1	10-15-19	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-61	04-19-22	Two-Lane, Two-way Operation
TC-202	10-19-21	Work Within 15 ft of Traveled Way
TC-252	04-21-20	Routes Closed to Traffic
TC-283	10-15-19	Surveying Operations
TC-402	10-19-21	Work Within 15 ft of Traveled Way
TC-418	04-19-22	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.

103-6
10-17-17

EMBANKMENT WITH MOISTURE CONTROL

Moisture Control is required for all Class 10 fill placed in all locations and depths. Stability berms placed outside the normal foreslope template and topsoil will not require Moisture Control.

253-1
10-18-11

MEDIAN CROSSOVER

The Contractor is prohibited from using any established or other type median crossover on this project unless specifically designated for the Contractor's use by this plan.

252-1
10-16-12

TEMPORARY CROSSINGS AND DETOURS

Blading, shaping, and other work in preparation for maintaining temporary crossings or detours is incidental to other work. Furnish and spread additional granular surfacing needed for temporary crossings or detours during construction at the contract price.

111-25
10-18-11

INDEX OF TABULATIONS

100-27
04-17-18

PROPOSED POSTED SPEED LIMIT

Road Identification	Begin Station	End Station	Proposed Posted Speed Limit			Remarks
			35 or less	40 - 45	over 45	
US 30	2215+00.00	2442+00.00			X	

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	Story	US 30	EB	159.96	164.47	2001		NHSX-30-5(159)--3H-85	AAC	1.5	AAC	4					AMES MINE	C.LST.			
						1964		F-FG-1065(18)	PCC	10	GSB	4					FERGUSON	C.LST.	3		

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
2215+00.00	2248+66.80	Rt	PCC/HMA	9726.3	26.0	
2232+10.00	2235+70.00	Rt	PCC/HMA	1360.0	0.0	
2235+70.00	2248+66.80	Rt	PCC/HMA	3746.3	0.0	
2248+66.80	2251+06.00	Rt	PCC/HMA	972.8	67.5	248th St Intersection
2251+06.00	2290+67.50	Rt	PCC/HMA	11444.3	26.0	
2290+65.00	2290+77.00	Left	PCC	6.5	12.0	Remove the approach shoulder pannel from the WB Bridge
2290+65.00	2290+99.50	Left	PCC	21.5	30.0	Remove the approach shoulder pannel from the WB Bridge
2295+18.50	2303+37.73	Rt	PCC/HMA	2366.7	26.0	
2303+37.73	2308+28.93	Rt	PCC/HMA	2061.0	87.0	667th Ave Intersection
2308+28.93	2365+19.27	Rt	PCC/HMA	16438.8		
2365+19.27	2370+10.26	Rt	PCC/HMA	2204.4	159.0	680th Ave Intersection
2370+10.26	2378+51.97	Rt	PCC/HMA	2431.6		
2378+51.97	2380+91.15	Rt	PCC/HMA	1087.1	130.5	Twin Anchors Intersection
2380+91.15	2437+47.45	Rt	PCC/HMA	16340.4		
2437+47.45	2442+00.00	Rt	PCC/HMA	1789.9	38.0	695th Ave Intersection
2194+56.30	2203+93.71	Both	Detour	1138.2	710.0	Crossover Pavement, Note 1
2249+13.84	2249+45.83	Both	Detour	58.8	79.0	248th St Intersection
2250+13.34	2250+36.82	Both	Detour	29.5	59.0	248th St Intersection
2290+42.50	2290+77.00	Left	Detour	21.5	55.0	Temporary shoulder at west end of WB Bridge
2290+69.50	2291+02.50	Left	Detour	18.5	53.0	Temporary shoulder at west end of WB Bridge
2367+45.43	2368+30.78	Both	Detour	106.8	122.0	680th Ave Intersection
2450+31.31	2459+68.69	Both	Detour	1138.2	710.0	Crossover Pavement, Note 1
			Total:	**74509.3**	**2390.0**	

(1) Leave detour pavement in place and match existing paved shoulder width.

110-7A
04-17-12

REMOVAL OF STEEL BEAM GUARDRAIL

(1) Lane(s) to which the installation is adjacent.
(2) Includes length of End Terminals and End Anchors.

No.	Location: Direction (1) of Traffic	Location: Station to Station		Location: Side	Removal of Guardrail (2) LF
1	EB	2289+07.00	2291+20.50	Med	240.0
2	EB	2290+20.00	2291+47.50	Out	126.0
			Total:		**366.0**

108-35
04-17-12

TEMPORARY LANE SEPARATOR SYSTEM

See TC-61

Station to Station		Length LF	Remarks
Stage 2			
2198+16.00	2205+36.00	720	West Crossover
2207+22.00	2213+22.00	600	S27 Intersection
2220+63.00	2224+63.00	400	Driveway
2233+03.00	2237+03.00	400	Driveway
2246+79.00	2252+79.00	600	248th St Intersection
2284+21.00	2288+21.00	400	Driveway
2304+02.00	2310+02.00	600	687th Ave Intersection
2365+75.00	2371+75.00	600	680th Ave Intersection
2427+00.00	2431+00.00	400	Driveway
2442+79.00	2452+89.00	1010	695th Ave & East Crossover
	Total:	**5730**	

108-27
10-17-17

TEMPORARY FLOODLIGHTING LUMINAIRES

Possible Standard: LI-130

No.	Location Station	Offset	Number Lumin.	Remarks
1	2198+40.00	X	1	Stage 2
2	2200+10.00	X	1	Stage 2
3	2453+25.00	X	1	Stage 2
4	2455+85.00	X	1	Stage 2

108-13A
08-01-08

SAFETY CLOSURES

Refer to Section 2518 of the Standard Specifications

Station	Closure Type: Road Qty.	Closure Type: Hazard Qty.	Remarks
2249+85.00	1		Stage 1
2249+85.00	1		Stage 1
2199+25.00	1		Stage 2
2209+52.00	1		Stage 2
2211+24.00	1		Stage 2
2249+00.00	1		Stage 2A
2249+75.00	1		Stage 2A
2249+80.00	1		Stage 2B
2250+40.00	1		Stage 2B
2306+85.00	1		Stage 2
2306+91.00	1		Stage 2
2368+65.00	1		Stage 2A
2369+30.00	1		Stage 2A
2367+75.00	1		Stage 2B
2368+55.00	1		Stage 2B
2379+54.00	1		Stage 2
2379+65.00	1		Stage 2
2445+07.00	1		Stage 2
2446+36.00	1		Stage 2
2454+00.00	1		Stage 2
Total:	**20**		

108-30
04-16-13

CRASH CUSHIONS

* Bid Item
(1) Lane(s) to which the installation is adjacent.
(2) Complete this section when using the Temporary Crash Cushion bid item and Earthwork is needed for Sand Barrel placement. Refer to BA-500

No.	Direction (1) of Traffic	Location Station	Side	Obstacle Width FT	Crash Cushion (Select One)*: Temporary	Temporary Redirective	Temporary Severe Use	Permanent	Permanent Severe Use	Sand Barrel Details (2): V Length FT	W Length FT	X Length FT	Y Length FT	Z Length FT	Earthwork*: Excavation Class 10 CY	Embankment in Place CY	Spare Parts Kit (Select One)*: Permanent EACH	Permanent Severe Use EACH	Obstacle Description	Remarks
1	WB	2290+72.50	Out				1												Bridge End	Stage 2
2	WB	2290+99.50	Med				1												Bridge End	Stage 2
3	WB	2452+89.00	Med				1			6.00									TBR	Stage 2

108-33
10-15-19

TEMPORARY BARRIER RAIL

Possible Standard: BA-401 Possible Detail: 560-7

* Not a bid item. Anchorage requirements are based on TBR locations shown in the plans. TBR alignments that vary from what is shown in the plans may result in additional TBR sections requiring anchorage.

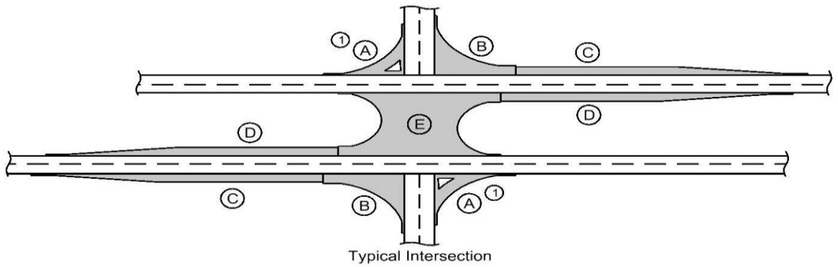
No.	Station to Station		Length LF	(Select One): Concrete BA-401	Steel 560-7	Anchored* (Y/N)	Modular Glare Screen System (Y/N)	Remarks
1	2452+89.00	2454+26.50	137.5	X		No	No	Stage 2

103-10
04-18-17

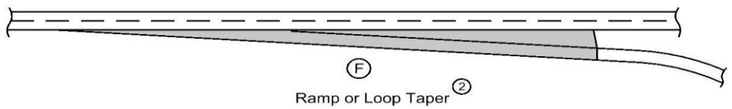
TOPSOIL STRIPPING AND PLACEMENT

Location: Road Identification	Location: Dir. of Traffic	Location: Begin Station	Location: End Station	Topsoil Stripping Thickness IN	Topsoil Placement Thickness IN	Remarks
US 30	EB	2360+43.59	2368+61.89	12.0	8.0	

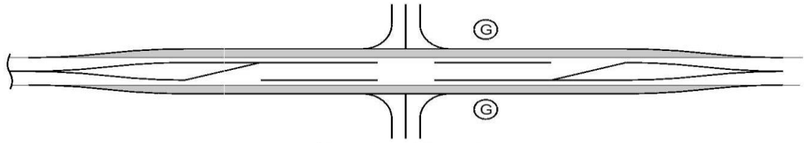
PCC PAVEMENT



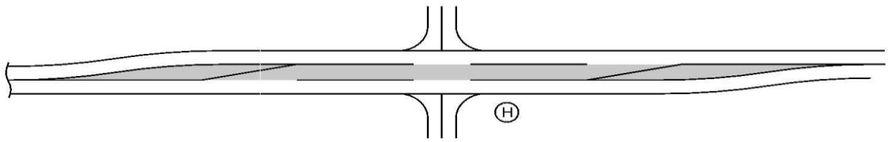
Typical Intersection



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	10½ IN	TONS	CY	SY	
US 30	EB	2215+00.00	2290+67.50	24.0	7567.5	20180									20180.0		15764.6		20180.0	
US 30 at 248th St	EB										331.4				331.4		208.8		331.4	
US 30	EB	2295+18.50	2442+00.00	24.0	14682	39151									39150.7		30584.5		39150.7	
US 30 at 667th Ave	EB									910.0					910.0		573.3		910.0	
US 30 at 667th Ave	EB										388.5				388.5		244.8		388.5	
US 30 at 680th Ave	EB								1314.9						1314.9		828.4		1314.9	
US 30 at 680th Ave	EB							574.6							574.6		362.0		574.6	
US 30 at 680th Ave	EB									910.0					910.0		573.3		910.0	
US 30 at 680th Ave	EB										387.9				387.9		244.4		387.9	
US 30 at 680th Ave	EB						100.6								100.6		63.4		100.6	
US 30 at Twin Anchors	EB						79.7	79.7			331.4				490.9		309.3		490.9	
US 30 at 695th Ave	EB									509.8					509.8		321.2		509.8	
													Totals:		65249.4		50077.9		65249.4	

MEDIAN CROSSOVERS

Refer to PV-500 Series.

* Not a bid item

Road Ident.	Location Station	Standard Road Plan	Detour Pavement	Special Backfill	Granular Shoulder	Embankment in Place	Class 10 Excavation	Class 13 Excavation	Removal of Pavement	Saw Cut*	18" Unclassified Roadway Pipe	36" CMP Slotted Drain/ 6" Grate	Beveled Pipe and Guard	Remarks
		No.	SY	TON	TON	CY	CY	CY	SY	LF	LF	LF	No.	
US 30	2199+25.00	PV-501	1140.0	555.0	200.0	257.0	124.0	70.0	237.0	368.0				
US 30	2455+00.00	PV-501	1140.0	555.0	200.0	824.0	85.0	0.0	316.0	728.0				
	Totals:		**2280.0**	**1110.0**	**400.0**	**1081.0**	**209.0**	**70.0**	**553.0**	**1096.0**				

DETOUR PAVEMENT

Location	Total SY	Remarks
2249+46.00	58.8	248th St, Stage 1
2250+13.50	29.5	248th St, Stage 2A
2290+60.00	21.5	Indian Creek Bridge, Outside Shoulder
2290+82.00	18.5	Indian Creek Bridge, Inside Shoulder
2368+31.00	106.8	680th Ave, Stage 2A
Total:	**235.2**	

ACCESS POINTS AND SAFETY RAMPS

Refer to Cross-Sections

Length of Unclassified Pipe calculated is based on using Corrugated Metal Pipe.
(1) Refer to MI-210
(2) Refer to EW-501.
(3) Refer to EW-501 or EW-502.
*Predetermined for access point not constructed with this project.

Location		Type	Length of Opening (1)			W	(1) (2) PR	(2) SR	Pipe Culvert (3)					Aprons	Driveway Surface Area		Driveway Surfacing Material	Remarks
Station	Side	A, B, C, Safety Ramp, or Predetermined*	Case	1½" Dropped Curb	3" Dropped Curb				H	Size	Pipe Length	Lt.	Rt.		HMA	PCC		
			1 or 2	LF	LF	FT	FT	FT	FT	IN	LF	LF	LF	No.	SY	SY	TON	
2223+40.00	Rt	C				20.0		UAC									20.020	
2223+40.00	Med	C				40.0		UAC									32.025	Median Crossover
2236+05.00	Rt	C				20.0		UAC									20.020	
2236+05.00	Med	C				40.0		UAC									32.025	Median Crossover
248th St	Rt	B				24.0		UAC									47.425	Note 1
2263+00.00	Rt	C				20.0		UAC									20.020	
2263+00.00	Med	C				40.0		UAC									32.025	Median Crossover
2287+00.00	Rt	C				20.0		UAC									20.020	
2287+00.00	Med	C				40.0		UAC									32.025	Median Crossover
667th Ave	Rt	B				24.0		UAC									51.695	Note 1
2342+25.00	Rt	C				20.0		UAC									20.020	
2342+25.00	Med	C				40.0		UAC									32.025	Median Crossover
2392+78.00	Rt	C				20.0		UAC									20.020	
2392+78.00	Med	C				40.0		UAC									32.025	Median Crossover
2405+90.00	Rt	C				20.0		UAC									20.020	
2405+90.00	Med	C				40.0		UAC									32.025	Median Crossover
2428+00.00	Rt	C				20.0		UAC									20.020	
2428+00.00	Med	C				40.0		UAC									32.025	Median Crossover
2+84.00	Lt	C				20.0		UAC									20.335	
2453+00.00	Med	C				40.0		19.0									64.050	Median Crossover, Stage 3
																Totals:	500.745	Driveway Surfacing Material
																	99.120	Class A Crushed Stone

(1) Surface with Class A Crushed Stone

SHOULDERS

(1) Lane(s) to which the shoulder is adjacent.
(2) See Typ. 7156, 7157, or 7158.
(3) Bid Item.
(4) Applies only for Paved Shoulders constructed on project with existing granular shoulders.
(5) Bid Item. Typ. 7156, 7157, or 7158.
(6) 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	(1) Direction Of Traffic	Station to Station		Side	(P) Width	(P_{SG}) Width	(G) Width	(L) Length	Class 13 (4) Excavation	Hot Mix Asphalt		Binder	Paved Shoulder	9" Paved Shoulder at Guardrail	Reinforced Paved Shoulder	Special Backfill				Granular Subbase	Granular Shoulder		Earth Shoulder Construction Alternates			Remarks
																HMA Alternate		PCC Alternate					STA (3)	HMA	PCC	
					FT	FT (2)	FT	FT	CY (3)	TON	TON/STA	TONS	SY (3)	SY (5)	SY (3)	TON (3)	TON/STA	TON (3)	TON/STA	SY (3)	TON (3)	TON/STA		CY (6)	CY (6)	
US 30	EB	2215+00.00	2248+66.80	Med	6.0			3366.8	571.1				2244.5					2363.830	70.210	3366.8			33.7		1270.7	
US 30	EB	2215+00.00	2288+66.81	Out	6.0		4.0	7366.8	5001.2				4911.2					5172.237	70.210	7366.8	3264.234	44.310	73.7		3582.5	
US 30	EB	2251+05.99	2288+89.51	Med	6.0			3783.5	641.8				2522.3					2656.409	70.210	3783.5			37.8		1427.9	
US 30	EB	2288+66.81	2288+96.95	Out		7.3		30.1	20.5					24.4				15.402	51.100	24.4			0.3		12.5	
US 30	EB	2288+89.61	2289+09.59	Med		13.7		20.0	3.4					30.4				19.161	95.900	30.4			0.2		8.3	
US 30	EB	2288+96.95	2289+34.24	Out		.3 to 5.7		37.3	25.3					26.9				16.967	45.500	26.9			0.4		15.5	
US 30	EB	2289+09.59	2289+56.95	Med		7 to 11.9		47.4	8.0					67.4				42.435	89.600	67.4			0.5		19.6	
US 30	EB	2289+34.24	2290+67.50	Out		5.7		133.3	64.2					84.4				53.171	39.900	84.4			1.3		55.2	
US 30	EB	2289+56.95	2290+07.25	Med		11.9		50.3	8.5					66.5				41.900	83.300	66.5			0.5		20.8	
US 30	EB	2290+07.25	2290+67.50	Med		.9 to 5.9		60.3	10.2					59.6				37.536	62.300	59.6			0.6		25.0	
US 30	EB	2295+18.50	2298+57.73	Med	6.0			339.2	57.5				226.2					238.173	70.210	339.2			3.4		128.0	
US 30	EB	2295+18.50	2359+15.08	Out	6.0		4.0	6396.6	4342.6				4264.4					4491.039	70.210	6396.6	2834.325	44.310	64.0		3110.6	
US 30	EB	2298+57.73	2306+07.73	Med			6.0	750.0	127.2									212.625	28.350	20.1	568.575	75.810	7.5		364.7	
US 30	EB	2308+28.93	2360+39.27	Med	6.0			5210.3	883.8				3473.6					3658.180	70.210	5210.3			52.1		1966.4	
US 30	EB	2359+15.08	2360+43.59	Out			4.0	128.5	87.2									36.343	28.280	42.8	56.943	44.310	1.3		62.5	
US 30	EB	2360+39.27	2367+89.27	Med			6.0	750.0	127.2									212.625	28.350	250.0	568.575	75.810	7.5		364.7	
US 30	EB	2360+43.59	2367+65.81	Out	6.0			722.2	490.3				481.5					507.071	70.210	722.2			7.2		272.6	
US 30	EB	1+00.00	2+97.82	Out	6.0			197.8	134.3				131.9					138.889	70.210	197.8			2.0		74.7	
US 30	EB	2369+15.97	2378+90.00	Out	6.0		4.0	974.0	661.3				649.4					683.866	70.210	974.0	431.593	44.310	9.7		473.7	
US 30	EB	2370+10.26	2378+51.97	Med	6.0			841.7	142.8				561.1					590.965	70.210	841.7			8.4		317.7	
US 30	EB	2378+90.00	2379+18.28	Out			4.0	28.3	19.2									7.998	28.280	9.4	12.531	44.310	0.3		13.8	
US 30	EB	2379+97.55	2380+20.00	Out			4.0	22.5	15.2									6.349	28.280	7.5	9.948	44.310	0.2		10.9	
US 30	EB	2380+20.00	2442+00.00	Out	6.0		4.0	6180.0	4195.5				4120.0					4338.978	70.210	6180.0	2738.358	44.310	61.8		3005.3	
US 30	EB	2380+91.15	2437+50.00	Med	6.0			5658.9	959.9				3772.6					3973.079	70.210	5658.9			56.6		2135.7	
US 30	EB	2437+50.00	2442+00.00	Med			6.0	450.0	76.3									127.575	28.350	150.0	341.145	75.810	4.5		218.8	
			Totals:						**18674.8**				**27358.6**	**359.6**				**29642.8**		**41877.4**	**10826.2**		**435.5**		**18958.0**	

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
CHW8: Channelizing Line (White) @ 2.00
CHY8: Channelizing Line (Yellow) @ 2.00
SLW4: Solid Lane Line (White) @ 1.00
SLW2: Stop Line (White) @ 6.00

Location				Length by Line Type (Unfactored)																
Road ID	Station to Station		Dir. of Travel	Marking Type	Side			BCY4*	DCY4	NPY4**	BLW4	ELW4	ELY4	CHW8	CHY8	SLW4	SLW2				Remarks
					L	C	R	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	
Stage 2																					
	2169+26.00	2199+25.00	EB	Removal of Paint		X					29.99										
	2176+76.00	2199+25.00	EB	Removal of Paint			X					22.49									
	2194+56.00	2199+25.00	EB	Removal of Paint	X								4.69								
	2198+16.00	2209+80.00	WB	Removal of Paint	X								11.64								
	2210+66.00	2249+46.00	WB	Removal of Paint	X								38.80								
	2250+13.00	2306+50.00	WB	Removal of Paint	X								56.37								
	2307+36.00	2368+31.00	WB	Removal of Paint	X								60.95								
	2369+17.00	2379+31.00	WB	Removal of Paint	X								10.14								
	2379+98.00	2445+41.00	WB	Removal of Paint	X								65.43								
	2446+04.00	2510+10.00	WB	Removal of Paint	X								64.06								
	2455+00.00	2459+69.00	EB	Removal of Paint	X								4.69								
	2455+00.00	2459+69.00	EB	Removal of Paint		X					4.69										
	2455+00.00	2460+80.00	EB	Removal of Paint			X					5.80									
	2458+25.00	2459+25.00	EB	Removal of Paint			X							1.00							
	2458+25.00	2460+82.00	EB	Removal of Paint			X							2.57							
	2501+00.00	2517+60.00	WB	Removal of Paint		X					16.60										
	2176+76.00	2194+56.30	EB	Waterborne/Solvent Paint			X					17.80									
	2194+56.30	2203+93.71	EB	Wet Retroreflective Removable Tape			X							9.37							
	2194+56.30	2203+93.71	EB	Wet Retroreflective Removable Tape			X								9.37						
	2198+16.00	2203+93.71	WB	Waterborne/Solvent Paint		X							5.78								
	2203+93.71	2450+31.31	BOTH	Waterborne/Solvent Paint		X			246.38												
	2203+93.71	2209+75.00	EB	Waterborne/Solvent Paint			X					5.81									
	2210+66.00	2249+46.00	EB	Waterborne/Solvent Paint			X					38.80									
	2250+13.00	2368+31.00	EB	Waterborne/Solvent Paint			X					118.18									

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
CHW8: Channelizing Line (White) @ 2.00
CHY8: Channelizing Line (Yellow) @ 2.00
SLW4: Solid Lane Line (White) @ 1.00
SLW2: Stop Line (White) @ 6.00

Location								Length by Line Type (Unfactored)														Remarks
Road ID	Station to Station		Dir. of Travel	Marking Type	Side			BCY4*	DCY4	NPY4**	BLW4	ELW4	ELY4	CHW8	CHY8	SLW4	SLW2					
					L	C	R	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	
	2369+17.00	2445+33.00	EB	Waterborne/Solvent Paint			X					76.16										
	2446+05.00	2450+31.31	EB	Waterborne/Solvent Paint			X					4.26										
	2450+31.31	2460+80.13	EB	Wet Retroreflective Removable Tape			X							10.49								
	2450+31.31	2459+68.69	EB	Wet Retroreflective Removable Tape	X										9.37							
	2459+24.93	2460+81.94	EB	Waterborne/Solvent Paint			X								1.57							
	2450+31.31	2510+10.00	WB	Waterborne/Solvent Paint	X								59.79									
Stage 3	2176+76.00	2194+56.30	EB	Removal of Paint			X					17.80										Placed in Stage 2
	2194+56.30	2203+93.71	EB	Removal of Removable Tape			X							9.37								Placed in Stage 2
	2194+56.30	2203+93.71	EB	Removal of Removable Tape			X								9.37							Placed in Stage 2
	2198+16.00	2203+93.71	WB	Removal of Paint		X							5.78									Placed in Stage 2
	2203+93.71	2450+31.31	BOTH	Removal of Paint		X			246.38													Placed in Stage 2
	2203+93.71	2209+75.00	EB	Removal of Paint			X					5.81										Placed in Stage 2
	2210+66.00	2249+46.00	EB	Removal of Paint			X					38.80										Placed in Stage 2
	2250+13.00	2368+31.00	EB	Removal of Paint			X					118.18										Placed in Stage 2
	2369+17.00	2445+33.00	EB	Removal of Paint			X					76.16										Placed in Stage 2
	2446+05.00	2450+31.31	EB	Removal of Paint			X					4.26										Placed in Stage 2
	2450+31.31	2460+80.13	EB	Removal of Removable Tape			X							10.49								Placed in Stage 2
	2450+31.31	2459+68.69	EB	Removal of Removable Tape	X										9.37							Placed in Stage 2
	2459+24.93	2460+81.94	EB	Removal of Paint			X								1.57							Placed in Stage 2
	2450+31.31	2510+10.00	WB	Removal of Paint	X								59.79									Placed in Stage 2
	2169+26.00	2199+25.00	EB	Highbuild Waterborne Paint		X					29.99											Removed in Stage 2
	2169+26.00	2199+25.00	EB	Grooves Cut for Pavement Markings		X					29.99											Removed in Stage 2
	2176+76.00	2199+25.00	EB	Highbuild Waterborne Paint			X					22.49										Removed in Stage 2
	2176+76.00	2199+25.00	EB	Grooves Cut for Pavement Markings			X					22.49										Removed in Stage 2
	2194+56.00	2199+25.00	EB	Highbuild Waterborne Paint	X								4.69									Removed in Stage 2
	2194+56.00	2199+25.00	EB	Grooves Cut for Pavement Markings	X								4.69									Removed in Stage 2
	2198+16.30	2517+60.00	WB	Highbuild Waterborne Paint		X					319.44											Removed in Stage 2
	2198+16.30	2517+60.00	WB	Grooves Cut for Pavement Markings		X					319.44											Removed in Stage 2
	2198+16.00	2209+80.00	WB	Highbuild Waterborne Paint	X								11.64									Removed in Stage 2
	2198+16.00	2209+80.00	WB	Grooves Cut for Pavement Markings	X								11.64									Removed in Stage 2
	2210+66.00	2249+46.00	WB	Highbuild Waterborne Paint	X								38.80									Removed in Stage 2
	2210+66.00	2249+46.00	WB	Grooves Cut for Pavement Markings	X								38.80									Removed in Stage 2
	2250+14.00	2306+49.00	WB	Highbuild Waterborne Paint	X								56.35									Removed in Stage 2
	2250+14.00	2306+49.00	WB	Grooves Cut for Pavement Markings	X								56.35									Removed in Stage 2
	2307+36.00	2368+31.00	WB	Highbuild Waterborne Paint	X								60.95									Removed in Stage 2
	2307+36.00	2368+31.00	WB	Grooves Cut for Pavement Markings	X								60.95									Removed in Stage 2
	2369+17.00	2379+31.00	WB	Highbuild Waterborne Paint	X								10.14									Removed in Stage 2
	2369+17.00	2379+31.00	WB	Grooves Cut for Pavement Markings	X								10.14									Removed in Stage 2
	2379+98.00	2445+40.00	WB	Highbuild Waterborne Paint	X								65.42									Removed in Stage 2
	2379+98.00	2445+40.00	WB	Grooves Cut for Pavement Markings	X								65.42									Removed in Stage 2
	2446+04.00	2510+10.00	WB	Highbuild Waterborne Paint	X								64.06									Removed in Stage 2
	2446+04.00	2510+10.00	WB	Grooves Cut for Pavement Markings	X								64.06									Removed in Stage 2
	2215+00.00	2249+45.00	EB	Highbuild Waterborne Paint	X								34.45									Removed in Stage 2
	2215+00.00	2249+45.00	EB	Grooves Cut for Pavement Markings	X								34.45									Removed in Stage 2
	2455+00.00	2459+69.00	EB	Highbuild Waterborne Paint	X								4.69									Removed in Stage 2
	2455+00.00	2459+69.00	EB	Grooves Cut for Pavement Markings	X								4.69									Removed in Stage 2
	2455+00.00	2459+69.00	EB	Highbuild Waterborne Paint		X					4.69											Removed in Stage 2
	2455+00.00	2459+69.00	EB	Grooves Cut for Pavement Markings		X					4.69											Removed in Stage 2
	2455+00.00	2460+80.00	EB	Highbuild Waterborne Paint			X					5.80										Removed in Stage 2
	2455+00.00	2460+80.00	EB	Grooves Cut for Pavement Markings			X					5.80										Removed in Stage 2
	2458+25.00	2459+25.00	EB	Highbuild Waterborne Paint			X							1.00								Removed in Stage 2
	2458+25.00	2459+25.00	EB	Grooves Cut for Pavement Markings			X							1.00								Removed in Stage 2
	2458+25.00	2460+82.00	EB	Highbuild Waterborne Paint			X							2.57								Removed in Stage 2
	2458+25.00	2460+82.00	EB	Grooves Cut for Pavement Markings			X							2.57								Removed in Stage 2
	2215+00.00	2249+45.00	EB	Highbuild Waterborne Paint	X								34.45									
	2215+00.00	2249+45.00	EB	Grooves Cut for Pavement Markings	X								34.45									
	2215+00.00	2249+19.00	EB	Highbuild Waterborne Paint			X					34.19										
	2215+00.00	2249+19.00	EB	Grooves Cut for Pavement Markings			X					34.19										
	2250+13.00	2306+50.00	EB	Highbuild Waterborne Paint	X								56.37									
	2250+13.00	2306+50.00	EB	Grooves Cut for Pavement Markings	X								56.37									
	2250+46.00	2306+08.00	EB	Highbuild Waterborne Paint			X					55.62										
	2250+46.00	2306+08.00	EB	Grooves Cut for Pavement Markings			X					55.62										
	2300+38.00	2306+08.00	EB	Highbuild Waterborne Paint		X										5.70						
	2300+38.00	2306+08.00	EB	Grooves Cut for Pavement Markings		X										5.70						
	2307+36.00	2368+31.00	EB	Highbuild Waterborne Paint	X								60.95									
	2307+36.00	2368+31.00	EB	Grooves Cut for Pavement Markings	X								60.95									
	2307+69.00	2367+66.00	EB	Highbuild Waterborne Paint			X					59.97										
	2307+69.00	2367+66.00	EB	Grooves Cut for Pavement Markings			X					59.97										
	2363+01.00	2368+62.00	EB	Highbuild Waterborne Paint			X							5.61								Offset Right Turn
	2363+01.00	2368+62.00	EB	Grooves Cut for Pavement Markings			X							5.61								Offset Right Turn
	2363+01.00	2367+67.00	EB	Highbuild Waterborne Paint			X							4.66								Offset Right Turn
	2363+01.00	2367+67.00	EB	Grooves Cut for Pavement Markings			X							4.66								Offset Right Turn
	2367+61.50	2367+61.50	EB	Highbuild Waterborne Paint			X							0.89								Offset Right Turn
	2367+61.50	2367+61.50	EB	Grooves Cut for Pavement Markings			X							0.89								Offset Right Turn

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 | CHW8: Channelizing Line (White) @ 2.00 | CHY8: Channelizing Line (Yellow) @ 2.00 | SLW4: Solid Lane Line (White) @ 1.00 | SLW2: Stop Line (White) @ 6.00

Location						Length by Line Type (Unfactored)															
Road ID	Station to Station		Dir. of Travel	Marking Type	Side	BCY4*	DCY4	NPY4**	BLW4	ELW4	ELY4	CHW8	CHY8	SLW4	SLW2						Remarks
					L C R	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	
	2363+01.00	2368+62.00	EB	Highbuild Waterborne Paint	X							4.79									Offset Right Turn Hatching
	2363+01.00	2368+62.00	EB	Grooves Cut for Pavement Markings	X							4.79									Offset Right Turn Hatching
	1+00.00	2+14.00	EB	Highbuild Waterborne Paint	X							1.14									Offset Right Turn
	1+00.00	2+14.00	EB	Grooves Cut for Pavement Markings	X							1.14									Offset Right Turn
	1+00.00	2+97.00	SB	Highbuild Waterborne Paint	X					1.97											
	1+00.00	2+97.00	SB	Grooves Cut for Pavement Markings	X					1.97											
	2362+19.00	2367+89.00	EB	Highbuild Waterborne Paint	X									5.70							
	2362+19.00	2367+89.00	EB	Grooves Cut for Pavement Markings	X									5.70							
	2368+74.00	2368+74.00	BOTH	Highbuild Waterborne Paint	X		0.07														680th Ave
	2368+74.00	2368+74.00	BOTH	Grooves Cut for Pavement Markings	X		0.07														680th Ave
	2368+74.00	2368+98.00	NB	Highbuild Waterborne Paint	X										0.27						
	2368+74.00	2368+98.00	NB	Grooves Cut for Pavement Markings	X										0.27						
	2368+98.00	2379+04.00	EB	Highbuild Waterborne Paint	X					10.06											
	2368+98.00	2379+04.00	EB	Grooves Cut for Pavement Markings	X					10.06											
	2369+17.00	2379+31.00	EB	Highbuild Waterborne Paint	X						10.14										
	2369+17.00	2379+31.00	EB	Grooves Cut for Pavement Markings	X						10.14										
	2379+98.00	2442+00.00	EB	Highbuild Waterborne Paint	X						62.02										
	2379+98.00	2442+00.00	EB	Grooves Cut for Pavement Markings	X						62.02										
	2380+31.00	2442+00.00	EB	Highbuild Waterborne Paint	X					61.69											
	2380+31.00	2442+00.00	EB	Grooves Cut for Pavement Markings	X					61.69											
	2439+30.00	2442+00.00	EB	Highbuild Waterborne Paint	X									2.70							
	2439+30.00	2442+00.00	EB	Grooves Cut for Pavement Markings	X									2.70							
	2215+00.00	2442+00.00	EB	Highbuild Waterborne Paint	X				227.00												
	2215+00.00	2442+00.00	EB	Grooves Cut for Pavement Markings	X				227.00												
				Factored Total: Waterborne/Solvent Paint		-	492.75	-	-	261.02	65.56	-	3.14	-	-	-	-	-	-	-	
				Factored Total: Highbuild Waterborne Paint		-	0.13	-	145.28	251.79	575.12	41.31	-	14.10	1.64	-	-	-	-	-	
				Factored Total: Grooves Cut for Pavement Markings		-	0.13	-	145.28	251.79	575.12	41.31	-	14.10	1.64	-	-	-	-	-	
				Factored Total: Wet Retroreflective Removable Tape		-	-	-	-	-	-	39.72	37.50	-	-	-	-	-	-	-	
				Factored Total: Removal of Paint		-	492.75	-	12.82	289.31	382.33	7.14	3.14	-	-	-	-	-	-	-	
				Factored Total: Removal of Removable Tape		-	-	-	-	-	-	39.72	37.50	-	-	-	-	-	-	-	
				Bid Quantity: Painted Pavement Markings, Waterborne or Solvent-Based					**822.48**												
				Bid Quantity: Painted Pavement Markings, Highbuild Waterborne					**1029.36**												
				Bid Quantity: Grooves Cut for Pavement Markings					**1029.36**												
				Bid Quantity: Wet Retroreflective Removable Tape Markings					**77.22**												
				Bid Quantity: Pavement Markings Removed					**1187.50**												
				Incidental Removal of Removable Tape					**77.22**												

PAVEMENT MARKING SYMBOLS AND LEGENDS

Refer to PM-111

Road Identification	Location															SCHOOL	XING	STOP	AHEAD	ONLY	BIKE	LANE	EXIT	Groove Cuts	Remarks
	Station	Side	STAW	RTAW	LTAW	CSRW	CSLW	CSTW	CRLW	FERW	LLRW	RLRW	RRCW	BLSW	WCSW	WPSB	SCLW	XNGW	STPW	AHDW	ONLW	BIKW	LANW	XITW	EACH	
Stage 2																										
US 30	2154+26.00	Rt										1														
US 30	2155+26.00	Rt										1														
US 30	2164+26.00	Rt										1														
US 30	2165+26.00	Rt										1														
US 30	2521+60.00	Lt									1															
US 30	2522+60.00	Lt									1															
US 30	2531+60.00	Lt									1															
US 30	2532+60.00	Lt									1															
	Totals:										4	4														

112-10
10-20-20

MILLED RUMBLE STRIPS

See PV-12 and PV-13

* Calculated at 18" width for Shoulder.

Location						Installation Length		Fog Seal*	Effective Shoulder Width			
Road Identification	Station to Station		Shoulder Pavement Type	Rumble Strip Type (Centerline, Rt or Lt Shoulder)	(L)	PCC	HMA	(Milled Rumble Strip) Shoulder	PCC Paved	HMA Paved	Granular\ Earth	Remarks
					IN	STA	STA	GAL	FT	FT	FT	
US 30	2215+00.00	2248+67.00	PCC	Left Shoulder	12"	33.67		0.0				
US 30	2215+00.00	2221+59.00	PCC	Right Shoulder	12"	6.59		0.0				
US 30	2223+89.00	2234+26.00	PCC	Right Shoulder	12"	10.37		0.0				
US 30	2236+56.00	2247+98.00	PCC	Right Shoulder	12"	11.42		0.0				
US 30	2250+28.00	2261+14.00	PCC	Right Shoulder	12"	10.86		0.0				
US 30	2251+06.00	2290+07.50	PCC	Left Shoulder	12"	39.02		0.0				
US 30	2263+44.00	2285+28.00	PCC	Right Shoulder	12"	21.84		0.0				
US 30	2287+58.00	2290+07.50	PCC	Right Shoulder	12"	2.50		0.0				
US 30	2295+78.50	2298+08.00	PCC	Left Shoulder	12"	2.30		0.0				
US 30	2295+78.50	2305+13.00	PCC	Right Shoulder	12"	9.35		0.0				
US 30	2307+43.00	2340+38.00	PCC	Right Shoulder	12"	32.95		0.0				
US 30	2308+29.00	2359+90.00	PCC	Left Shoulder	12"	51.61		0.0				
US 30	2342+68.00	2358+85.00	PCC	Right Shoulder	12"	16.17		0.0				
US 30	2369+74.00	2377+75.00	PCC	Right Shoulder	12"	8.01		0.0				
US 30	2370+10.00	2378+52.00	PCC	Left Shoulder	12"	8.42		0.0				
US 30	2380+55.00	2390+95.00	PCC	Right Shoulder	12"	10.40		0.0				
US 30	2380+91.00	2437+00.00	PCC	Left Shoulder	12"	56.09		0.0				
US 30	2393+25.00	2404+10.00	PCC	Right Shoulder	12"	10.85		0.0				
US 30	2406+40.00	2426+16.00	PCC	Right Shoulder	12"	19.76		0.0				
US 30	2428+46.00	2442+00.00	PCC	Right Shoulder	12"	13.54		0.0				
				Totals		**PCC**	**HMA**	**Fog Seal**				
				HMA Shoulders			**0.00**	**0.0**				
				PCC Shoulders		**375.70**						
				PCC or HMA Shoulders		**0.00**	**0.00**	**0.0**				
				HMA Centerlines			**0.00**					
				PCC Centerlines		**0.00**						
				PCC or HMA Centerlines		**0.00**	**0.00**					

107-23
10-18-11

GRADING FOR GUARDRAIL INSTALLATIONS

(1) Lane(s) to which the installation is adjacent. Refer to EW-301

Location				Foreslope at Guardrail	Dimensions (Feet)									Earthwork		Remarks
No.	(1) Direction of Traffic	Station	Side		X1	Y1	X2	Y2	X3	Y3	X4	Y4	Z	Excavation Class 10	Embankment In Place	
														CY	CY	
1	EB	2291+20.50	M	4:1	51.1	5.0	125.3	9.7	166.9	9.7	223.1	12.4	87.9		74	
2	EB	2291+47.50	O	4:1	208.0	5.0					264.1	5.9	62.6		197	
													Total:		**271**	

108-8A
10-16-18

STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE RAIL END SECTION

Possible Standards: BA-200, BA-201, BA-202, BA-205, BA-206, BA-210, BA-211, BA-221, BA-225, BA-250, BA-260, LS-625, LS-626, LS-630, LS-635, SI-172, SI-173 and SI-211.

(1) Lane(s) to which the obstacle is adjacent.
(2) Not a bid item. Incidental to guardrail installation.

Location					Layout Lengths				Long-Span System		Delineators and Object Markers (2)				Bid Items										Remarks
					BA-250, BA-260, LS-630, or LS-635							Delineator	Object Marker							BA-250 or LS-630				BA-260 or LS-635	
												SI-172	SI-173			Bolted End Anchor	Post Adapter	Steel Beam Guardrail	Barrier Transition Section	End Terminal				Barrier Transition Section	End Terminal
No.	(1) Direction of Traffic	Side O = Outside M = Median	Station	Offset	VT1	VF	VT2	ET			SI-211	Type 1	Type 2	Type 3						Tangent	Flared	Tangent	Flared		Tangent
									BA-211			White	OM2-2	OM3-L	OM3-R	BA-202		BA-210	BA-200	BA-201	BA-205	BA-206	LS-625	LS-626	BA-221	BA-225
				FT	LF	LF	LF	LF	STATION	TYPE	TYPE	EACH	EACH	EACH	EACH	TYPE	EACH	EACH	LF	EACH	EACH	EACH	EACH	EACH	EACH	
1	EB	M	2291+20.50	19.7	215.625	0.00		47.7			2		9	1	1	B	1		175.0	1	1					
2	EB	O	2291+47.50	54.2	53.125	62.50	50.00	47.7			2		7	1	1	B	1		125.0	1	1					

LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE

Refer to Soils Sheets

* Not a bid item. Bridge berm quantities assume a trench depth of 24 inches.

Location						Longitudinal Subdrain (DR-303)							Subdrain Outlet		Porous* Backfill	Class "A"* Crushed Stone	Remarks
Line No.	Road or Lane Identification	Station to Station		Side	Depth (D)	Shoulder		Backslope		Bridge Berm (EW-203 or EW-204)			DR-303, DR-305 or DR-306				
						Size	Length	Size	Length	Standard Road Plan and Type	Size	Length	Station	Standard Road Plan and Type			
					IN	IN	FT	IN	FT		IN	FT			CY	CY	
1	US 30 EB	2215+00.00	2219+75.00	Rt	48.0	4.0	535.0						2215+00.00	DR-306	57.8		
													2219+75.00	DR-306			
2	US 30 EB	2219+75.00	2224+50.00	Rt	48.0	4.0	535.0						2219+75.00	DR-306	57.8		
													2224+50.00	DR-306			
3	US 30 EB	2224+50.00	2229+25.00	Rt	48.0	4.0	535.0						2224+50.00	DR-306	57.8		
													2229+25.00	DR-306			
4	US 30 EB	2229+25.00	2234+00.00	Rt	48.0	4.0	535.0						2229+25.00	DR-306	57.8		
													2234+00.00	DR-306			
5	US 30 EB	2234+00.00	2238+00.00	Rt	48.0	4.0	460.0						2234+00.00	DR-306	49.7		
													2238+00.00	DR-306			
6	US 30 EB	2238+00.00	2242+00.00	Rt	48.0	4.0	460.0						2238+00.00	DR-306	49.7		
													2242+00.00	DR-306			
7	US 30 EB	2242+00.00	2246+00.00	Rt	48.0	4.0	460.0						2242+00.00	DR-306	49.7		
													2246+00.00	DR-306			
8	US 30 EB	2246+00.00	2249+25.00	Rt	48.0	4.0	385.0						2246+00.00	DR-306	41.6		
													2249+25.00	DR-306			
9	US 30 EB	2250+20.00	2254+90.00	Rt	48.0	4.0	530.0						2250+20.00	DR-306	57.3		
													2254+90.00	DR-306			
10	US 30 EB	2254+90.00	2259+60.00	Rt	48.0	4.0	530.0						2254+90.00	DR-306	57.3		
													2259+60.00	DR-306			
11	US 30 EB	2259+60.00	2264+30.00	Rt	48.0	4.0	530.0						2259+60.00	DR-306	57.3		
													2264+30.00	DR-306			
12	US 30 EB	2264+30.00	2269+00.00	Rt	48.0	4.0	530.0						2264+30.00	DR-306	57.3		
													2269+00.00	DR-306			
13	US 30 EB	2269+00.00	2273+30.00	Rt	48.0	4.0	490.0						2269+00.00	DR-306	52.9		
													2273+30.00	DR-306			
14	US 30 EB	2273+30.00	2277+60.00	Rt	48.0	4.0	490.0						2273+30.00	DR-306	52.9		
													2277+60.00	DR-306			
15	US 30 EB	2277+60.00	2281+90.00	Rt	48.0	4.0	490.0						2277+60.00	DR-306	52.9		
													2281+90.00	DR-306			
16	US 30 EB	2281+90.00	2286+20.00	Rt	48.0	4.0	490.0						2281+90.00	DR-306	52.9		
													2286+20.00	DR-306			
17	US 30 EB	2286+20.00	2290+67.50	Rt	48.0	4.0	507.5						2286+20.00	DR-306	54.8		
													2290+67.50	DR-306			
18	US 30 EB	2295+18.50	2298+93.50	Rt	48.0	4.0	435.0						2295+18.50	DR-306	47.0		
													2298+93.50	DR-306			
19	US 30 EB	2298+93.50	2302+68.50	Rt	48.0	4.0	435.0						2298+93.50	DR-306	47.0		
													2302+68.50	DR-306			
20	US 30 EB	2302+68.50	2306+40.00	Rt	48.0	4.0	431.5						2302+68.50	DR-306	46.6		
													2306+40.00	DR-306			
21	US 30 EB	2307+40.00	2310+95.00	Rt	48.0	4.0	415.0						2307+40.00	DR-306	44.8		
													2310+95.00	DR-306			
22	US 30 EB	2310+95.00	2314+50.00	Rt	48.0	4.0	415.0						2310+95.00	DR-306	44.8		
													2314+50.00	DR-306			
23	US 30 EB	2314+50.00	2319+35.00	Rt	48.0	4.0	545.0						2314+50.00	DR-306	58.9		
													2319+35.00	DR-306			
24	US 30 EB	2319+35.00	2324+20.00	Rt	48.0	4.0	545.0						2319+35.00	DR-306	58.9		
													2324+20.00	DR-306			
25	US 30 EB	2324+20.00	2329+00.00	Rt	48.0	4.0	540.0						2324+20.00	DR-306	58.3		
													2329+00.00	DR-306			
26	US 30 EB	2329+00.00	2333+05.00	Rt	48.0	4.0	465.0						2329+00.00	DR-306	50.2		
													2333+05.00	DR-306			
27	US 30 EB	2333+05.00	2337+10.00	Rt	48.0	4.0	465.0						2333+05.00	DR-306	50.2		
													2337+10.00	DR-306			
28	US 30 EB	2337+10.00	2341+15.00	Rt	48.0	4.0	465.0						2337+10.00	DR-306	50.2		
													2341+15.00	DR-306			
29	US 30 EB	2341+15.00	2345+25.00	Rt	48.0	4.0	470.0						2341+15.00	DR-306	50.8		
													2345+25.00	DR-306			
30	US 30 EB	2345+25.00	2349+45.00	Rt	48.0	4.0	480.0						2345+25.00	DR-306	51.9		
													2349+45.00	DR-306			
31	US 30 EB	2349+45.00	2353+65.00	Rt	48.0	4.0	480.0						2349+45.00	DR-306	51.9		
													2353+65.00	DR-306			
32	US 30 EB	2353+65.00	2357+85.00	Rt	48.0	4.0	480.0						2353+65.00	DR-306	51.9		
													2357+85.00	DR-306			
33	US 30 EB	2357+85.00	2362+00.00	Rt	48.0	4.0	475.0						2357+85.00	DR-306	51.3		
													2362+00.00	DR-306			
34	US 30 EB	2362+00.00	2366+00.00	Rt	48.0	4.0	460.0						2362+00.00	DR-306	49.7		
													2366+00.00	DR-306			
35	US 30 EB	2369+25.00	2374+15.00	Rt	48.0	4.0	550.0						2369+25.00	DR-306	59.4		
													2374+15.00	DR-306			
36	US 30 EB	2374+15.00	2379+10.00	Rt	48.0	4.0	555.0						2374+15.00	DR-306	60.0		
													2379+10.00	DR-306			
37	US 30 EB	2380+00.00	2385+00.00	Rt	48.0	4.0	560.0						2380+00.00	DR-306	60.5		
													2385+00.00	DR-306			
38	US 30 EB	2385+00.00	2390+00.00	Rt	48.0	4.0	560.0						2385+00.00	DR-306	60.5		
													2390+00.00	DR-306			
39	US 30 EB	2390+00.00	2395+00.00	Rt	48.0	4.0	560.0						2390+00.00	DR-306	60.5		
													2395+00.00	DR-306			

LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE

Refer to Soils Sheets

* Not a bid item. Bridge berm quantities assume a trench depth of 24 inches.

Location					Longitudinal Subdrain (DR-303)							Subdrain Outlet				
Line No.	Road or Lane Identification	Station to Station		Side	Depth (D)	Shoulder		Backslope		Bridge Berm (EW-203 or EW-204)			DR-303, DR-305 or DR-306		Porous* Backfill	Class "A"* Crushed Stone	Remarks
						Size	Length	Size	Length	Standard Road Plan and Type	Size	Length	Station	Standard Road Plan and Type			
					IN	IN	FT	IN	FT		IN	FT			CY	CY	
40	US 30 EB	2395+00.00	2400+00.00	Rt	48.0	4.0	560.0						2395+00.00	DR-306	60.5		
													2400+00.00	DR-306			
41	US 30 EB	2400+00.00	2405+00.00	Rt	48.0	4.0	560.0						2400+00.00	DR-306	60.5		
													2405+00.00	DR-306			
42	US 30 EB	2405+00.00	2410+00.00	Rt	48.0	4.0	560.0						2405+00.00	DR-306	60.5		
													2410+00.00	DR-306			
43	US 30 EB	2410+00.00	2415+00.00	Rt	48.0	4.0	560.0						2410+00.00	DR-306	60.5		
													2415+00.00	DR-306			
44	US 30 EB	2415+00.00	2420+00.00	Rt	48.0	4.0	560.0						2415+00.00	DR-306	60.5		
													2420+00.00	DR-306			
45	US 30 EB	2420+00.00	2425+00.00	Rt	48.0	4.0	560.0						2420+00.00	DR-306	60.5		
													2425+00.00	DR-306			
46	US 30 EB	2425+00.00	2430+00.00	Rt	48.0	4.0	560.0						2425+00.00	DR-306	60.5		
													2430+00.00	DR-306			
47	US 30 EB	2430+00.00	2433+00.00	Rt	48.0	4.0	360.0						2430+00.00	DR-306	38.9		
													2433+00.00	DR-306			
48	US 30 EB	2433+00.00	2437+50.00	Rt	48.0	4.0	510.0						2433+00.00	DR-306	55.1		
													2437+50.00	DR-306			
49	US 30 EB	2437+50.00	2442+00.00	Rt	48.0	4.0	510.0						2437+50.00	DR-306	55.1		
													2442+00.00	DR-306			
Totals							**24579.0**		**0.0**					**DR-306 = 98**	**2655.4**	**0.0**	

NOTE: ALL LONGITUDINAL SUBDRAINS ARE TYPE 7 WITH PCC UNLESS OTHERWISE NOTED IN REMARKS COLUMN.

190-62
MODIFIED

EXISTING SIGNS TO BE REMOVED AND REINSTALLED

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
R1-2 & R6-1	2249+30	NB/SB			1					
R1-2	2250+20	NB/SB			1					
Story County Cons.	2363+25	EB				1				
680th Ave	2366+00	EB				1				
R5-1	2368+00	EB			2					
R6-1	2368+50	EB			1					
R1-2 & R6-1	2368+60	NB/SB			1					
R1-2 & R6-1	2369+30	NB/SB			1					
		Totals:			**7**	**2**				

110-2
MODIFIED

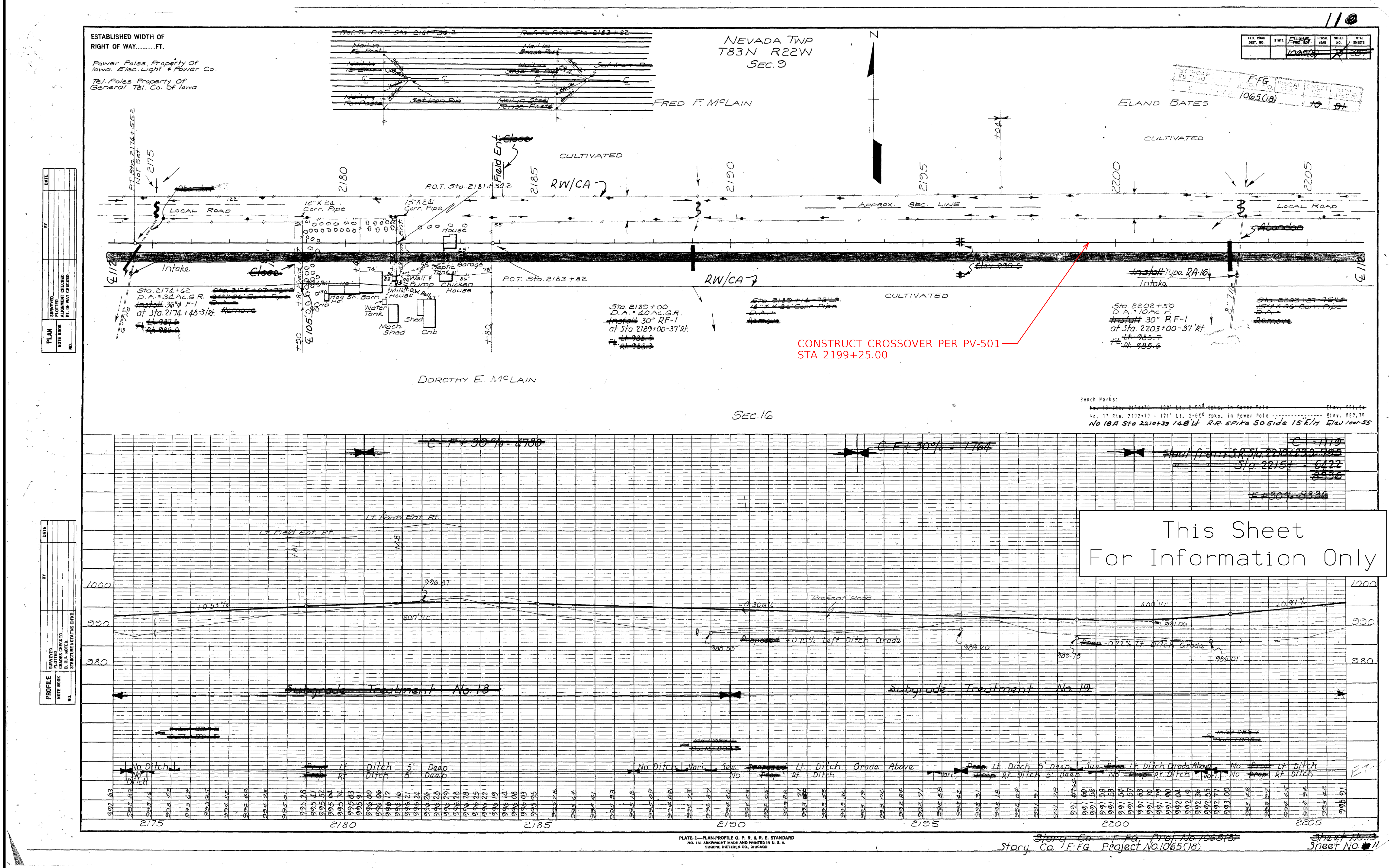
EXISTING MAILBOXES

Location	Description	Remarks
2223+00	Mailbox	Mailbox located south of US 30
2235+85	Mailbox	Mailbox located south of US 30
2249+50	Mailbox	Mailbox located south of US 30
2286+76	Mailbox	Mailbox located south of US 30

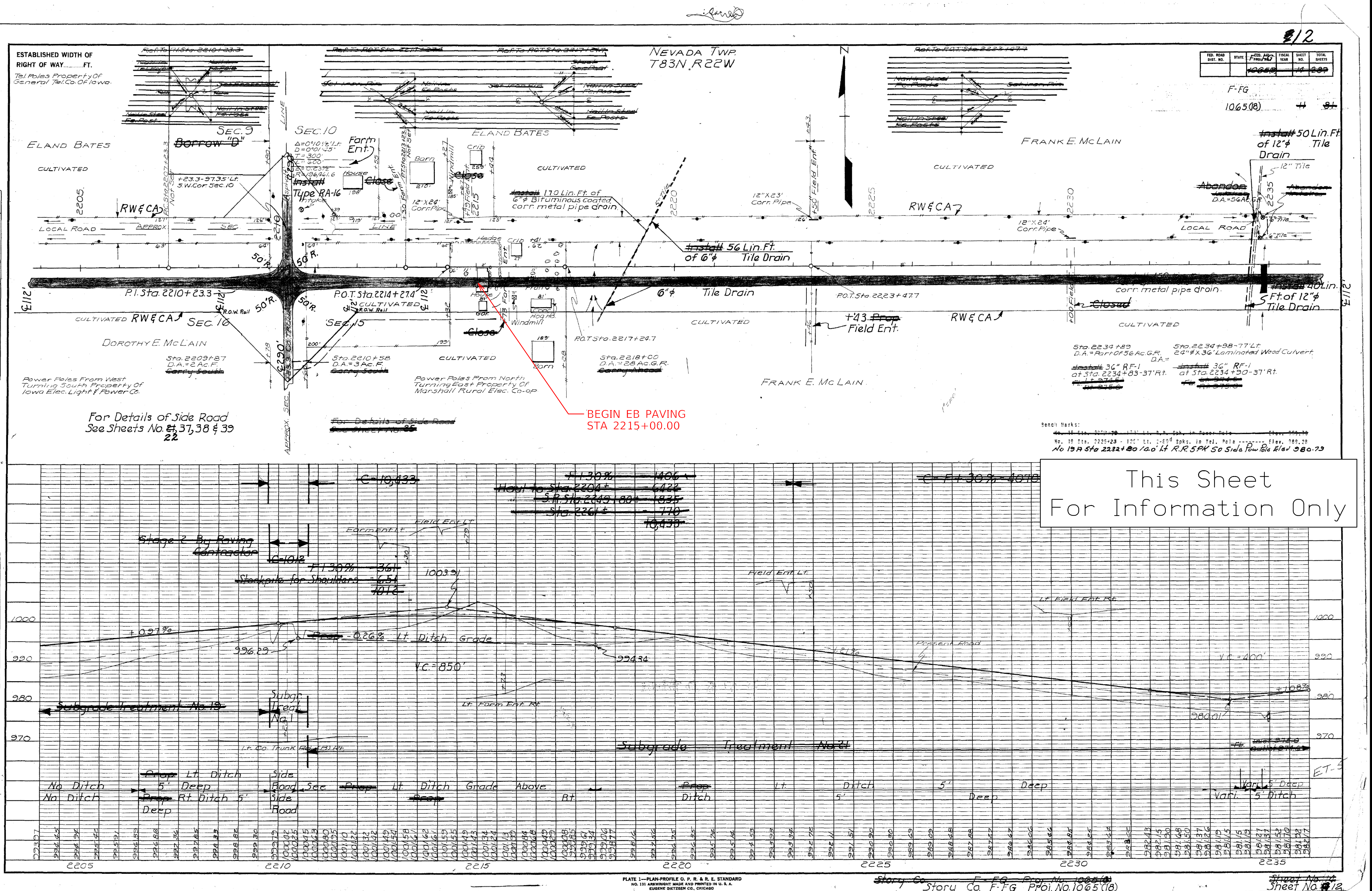
110-13
04-20-10

DELIVERY AND STOCKPILING

Item Description	Quantity	Units	Delivery Location	Contact Name & Number	Remarks
Signs	9	EA	Ames Maintenance	Scott Robinson	
				515-290-2105	



110
ESTABLISHED WIDTH OF RIGHT OF WAY.........FT.
Power Poles Property of Iowa Elec. Light & Power Co.
Tel. Poles Property of General Tel. Co. of Iowa
NEVADA TWP
T83N R22W
SEC. 9
FRED F. McLAIN
ELAND BATES
CULTIVATED
LOCAL ROAD
APPROX. SEC. LINE
P.O.T. Sta. 2181+34.2
P.O.T. Sta. 2183+82
RW/CA
Field Ent.
Close
Abandon
Intake
House
Garage
Hog Sh. Barn
Milk House
Pump
Chicken House
Water Tank
Shed
Mach. Shed
Crib
12" X 24' Corr. Pipe
15" X 24' Corr. Pipe
Sta. 2174+62
D.A. = 34 Ac. G.R.
Install 36" F-1
at Sta. 2174+48-37' Rt.
Sta. 2189+00
D.A. = 40 Ac. G.R.
Install 30" RF-1
at Sta. 2189+00-37' Rt.
Sta. 2202+50
D.A. = 10 Ac. F.
Install 30" RF-1
at Sta. 2203+00-37' Rt.
Install Type RA-16
DOROTHY E. McLAIN
SEC. 16
CULTIVATED
CONSTRUCT CROSSOVER PER PV-501
STA 2199+25.00
Bench Marks:
No. 17 Sta. 2192+78 - 121' Lt. 2-60d Spks. in Power Pole ---------- Elev. 993.79
No 18A Sta 2210+39 148' Lt R.R. Spike S. Side 15" K/H Elev 1001.55
C-F+30% = 4780
C-F+30% = 1764
Haul from S.R. Sta 2210+23 = 3925
Sta. 2215 = 6422
8336
F+30% = 8336
This Sheet
For Information Only
Lt. Farm Ent. Rt.
Lt. Field Ent. Rt.
+0.33%
-0.306%
+0.97%
600' V.C.
400' V.C.
996.87
988.55
987.20
986.78
986.01
Present Road
Proposed +0.10% Left Ditch Grade
Prop. -0.72% Lt. Ditch Grade
Subgrade Treatment No. 18
Subgrade Treatment No. 19
No Ditch
Prop. Lt Ditch 5' Deep
Prop. Rt Ditch 5' Deep
Vari.
1000
990
980
2175
2180
2185
2190
2195
2200
2205
PLATE 1—PLAN-PROFILE C. P. R. & R. E. STANDARD
NO. 131 ARKWRIGHT MADE AND PRINTED IN U. S. A.
EUGENE DIETZGEN CO., CHICAGO
Story Co. F-FG Project No. 1065(18)
Sheet No. 11



FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER D.2

FED. ROAD DIST. NO.	STATE	~~FED. AID PROJ. NO.~~	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
		~~1065(8)~~ 1065(18)		~~15~~ 13	~~207~~ 81

F-FG

ESTABLISHED WIDTH OF RIGHT OF WAY.....FT.

Power Poles Property Of Marshall Rural Electric Co-op

Tel. Poles Property Of General Tel. Co. of Io.

~~Ref. To P.O.T. Sta. 2241+33.9~~ ~~Ref. To Pl. Sta. 2244+74.3~~ ~~Ref. To P.O.T. Sta. 2254+89.3~~ ~~Ref. To P.O.T. Sta. 2260+29.4~~ ~~Ref. To P.O.T. Sta. 2263+83.6~~

Nail in Cedar Fence Post Shed Set Iron Pin Nail in Fence Post Set Iron Pin Nail in 18" Oak Set Iron Pin Nail in 24" Oak Nail in 3" Ash Set Iron Pin Nail in Telephone Pole Nail in Telephone Pole

NEVADA TWP T83N R22W

Sec. 10 Sec. 11

~~Install 150 lin. ft. of 12"φ Bit. Coated C.M.P. Drain~~

Field Ent. ~~Closed~~

CULTIVATED

~~Abandon~~ Intake D.A.= Part of 56 Ac. G.R.

~~+93 Prop.~~ Residential Entr.

Local Road

~~Install 50 lin. ft. 12"φ Tile Drain~~

~~Install 40 lin. ft.~~ 12"φ Tile Drain

P.O.T. Sta. 2241+33.9

Sta. 2234+83 D.A.= Part of 56 Ac. G.R.

~~Install~~ 36" R.F-1 at Sta. 2234+83 - 37' Rt.

~~Lt. 974.6~~ ~~Rt. 975.0~~

~~Lt.~~ ~~Rt.~~

~~+93 Prop.~~ Field Entr.

Sta. 2234+98 - 77' Lt. 24'-9" X 36' Laminated Wood Cul. D.A.=

~~Install~~ 36" R.F-1 at Sta. 2234+90 - 37' Rt.

~~Lt. 974.6~~ ~~Rt. 975.0~~

~~Lt.~~ ~~Rt.~~

Field Ent. ~~Closed~~

~~Borrow "E"~~

Δ=19°13' Rt. D=6°12'10" T=500' L=600' E=19.7' R=28,268.3

Pl. Sta. 2241+74.3 Not Set

Pl. Sta. 2244+74.3 Not Set

FRANK E. McLAIN

~~ABANDONED 2.6 Ac. Dec. 11, 1963~~

~~For Details of Side Road See Sheet No. 86~~

Sta. 2247+00 D.A.= 1 Ac. F ~~Corn Field~~

Sta. 2250+00 D.A.=

Sta. 2251+85 D.A.=

~~+80 Prop.~~ Farm Ent.

Field Ent. ~~Closed~~

FRANK E. McLAIN

P.O.T. Sta. 2249+80 (Survey)

P.I. Sta. 2249+46.75

R.O.W. Rail

RW & CA

TIMBER & PASTURE

P.O.T. Sta. 2254+89.3

P.O.T. Sta. 2260+29.4

~~Prop.~~ Field Ent.

CULTIVATED

R.O.W. Rail

RW & CA

Barn

~~Prop.~~ Field Ent.

P.O.T. Sta. 2263+83.6

Sta. 2263+64 D.A.= 64 Ac. R.H.

~~Install~~ 18" RF-1 at Sta. 2262+98

~~Lt. 944.6~~ ~~Rt. 948.6~~

~~For Details of Field Entrances See Sheet No. 89~~

Sec. 15 Sec. 14

Bench Marks:

No. 20 Sta. 2241+72 - 140' Lt. 2-60d Spks. in 15" Elm ---------- Elev. 988.74

No. 21 Sta. ~~2256+00~~ 2256+00 - 115' Rt. 2-60d Spks. in N. Side 24" Oak ---------- Elev. 978.87

~~C - F + 30% - 421.4~~

Field Ent. Lt.

~~C - F + 30% - 521.6~~

~~C - F + 30% - 877.6~~

~~Haul from Sta. 2220+00 - 770~~

~~F + 10% - 337.6~~

~~1107.6~~

~~Haul from Sta. 2208+00 - 3500~~

~~4,608~~

~~939.2~~

994.59

400' V.C.

+1.08%

1700' V.C.

-0.10% Lt. Ditch Grade

980.01 ℄

982.00

981.50

-1.20%

Lt. Field Ent. Rt.

Local Rd. Rt.

~~Subgrade Treatment No. 81~~

Vari. 5' Ditch Dt.

No Ditch

~~Prop.~~ Lt. Ditch 5' Deep

No Ditch

~~Prop.~~ Rt. Ditch 5' Deep

No ~~Prop.~~ Lt. Ditch

No ~~Prop.~~ Rt. Ditch

~~Sag~~ Lt. Ditch Grade Above

~~Prop.~~ Rt. Ditch 5' Deep Side Road

~~Prop.~~ Rt. Ditch 5' Deep

No ~~Prop.~~ Lt. Ditch

No ~~Prop.~~ Rt. Ditch

~~Prop.~~ 2½:1 Rt. Foreslope

~~Revised April 22, 1965~~

ET-5

980 970 960 950 940

2235 2240 2245 2250 2255 2260 2265

PLATE 1—PLAN-PROFILE O. P. R. & R. E. STANDARD NO. 131 ARCHIBOLT MADE AND PRINTED IN U. S. A. EUGENE DIETZGEN CO., CHICAGO

~~Story Co. F-FG Proj. No. 1065(8)~~

Story Co. F-FG Proj. No. 1065(18)

~~Sheet No. 15~~

Sheet No. 13

This Sheet For Information Only

PLAN — SURVEYED | PLOTTED | PLANS CHECKED | R. W. L. NOTED | STRUCTURE NO(S) & TYPE | CH. KD. | NOTE BOOK | NO. | BY | DATE | RT. OF WAY CHECKED

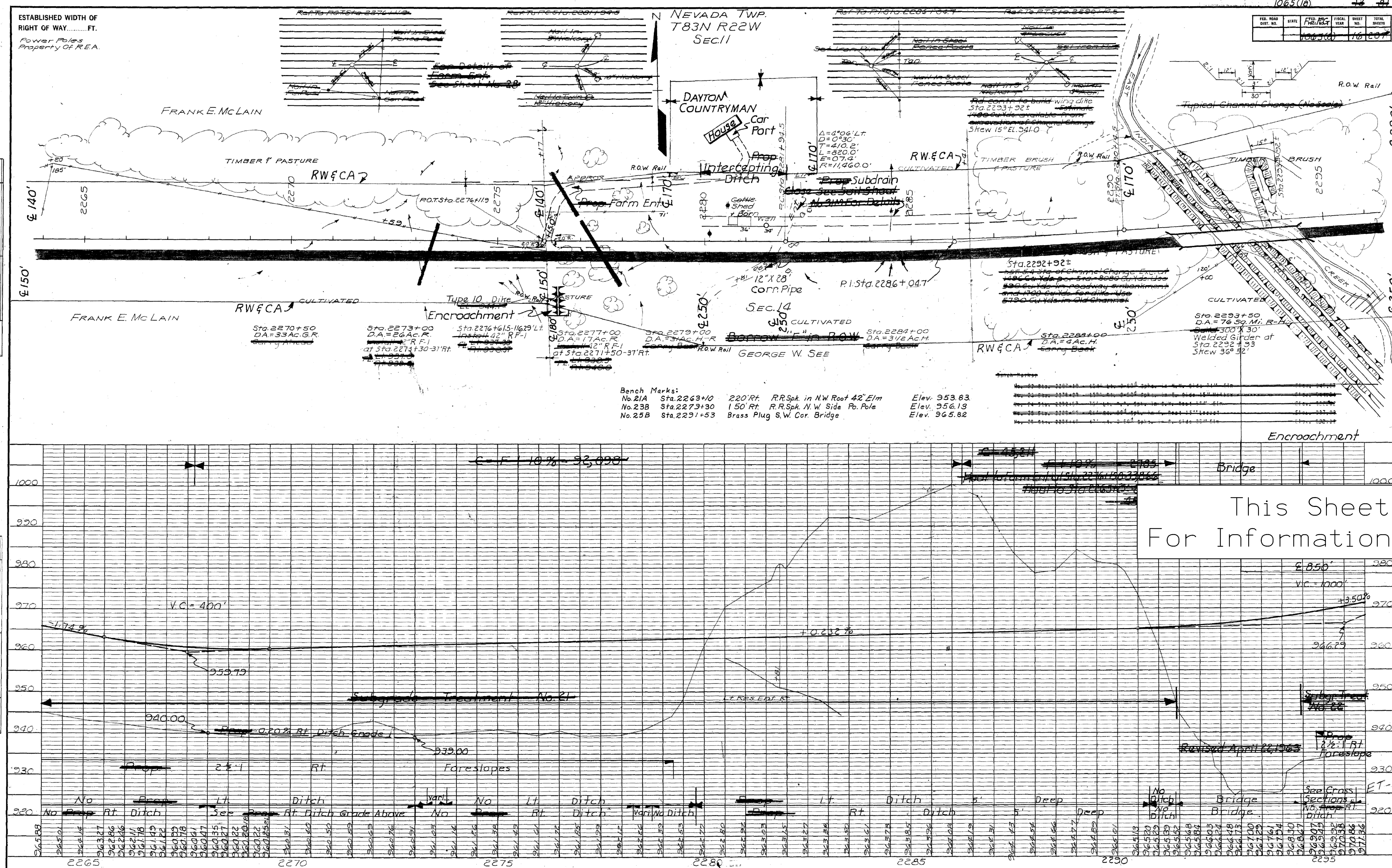
PROFILE — SURVEYED | PLOTTED | PLANS CHECKED | R. W. L. NOTED | STRUCTURE NO(S) & TYPE | CH. KD. | NOTE BOOK | NO. | BY | DATE

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER D.3

11:59:12 AM 3/26/2022 badey c:\pw_work\pwmain\idotcentral_badey\d1045386\85030290_D01.dgn

13 14

F-FG 1065(18)

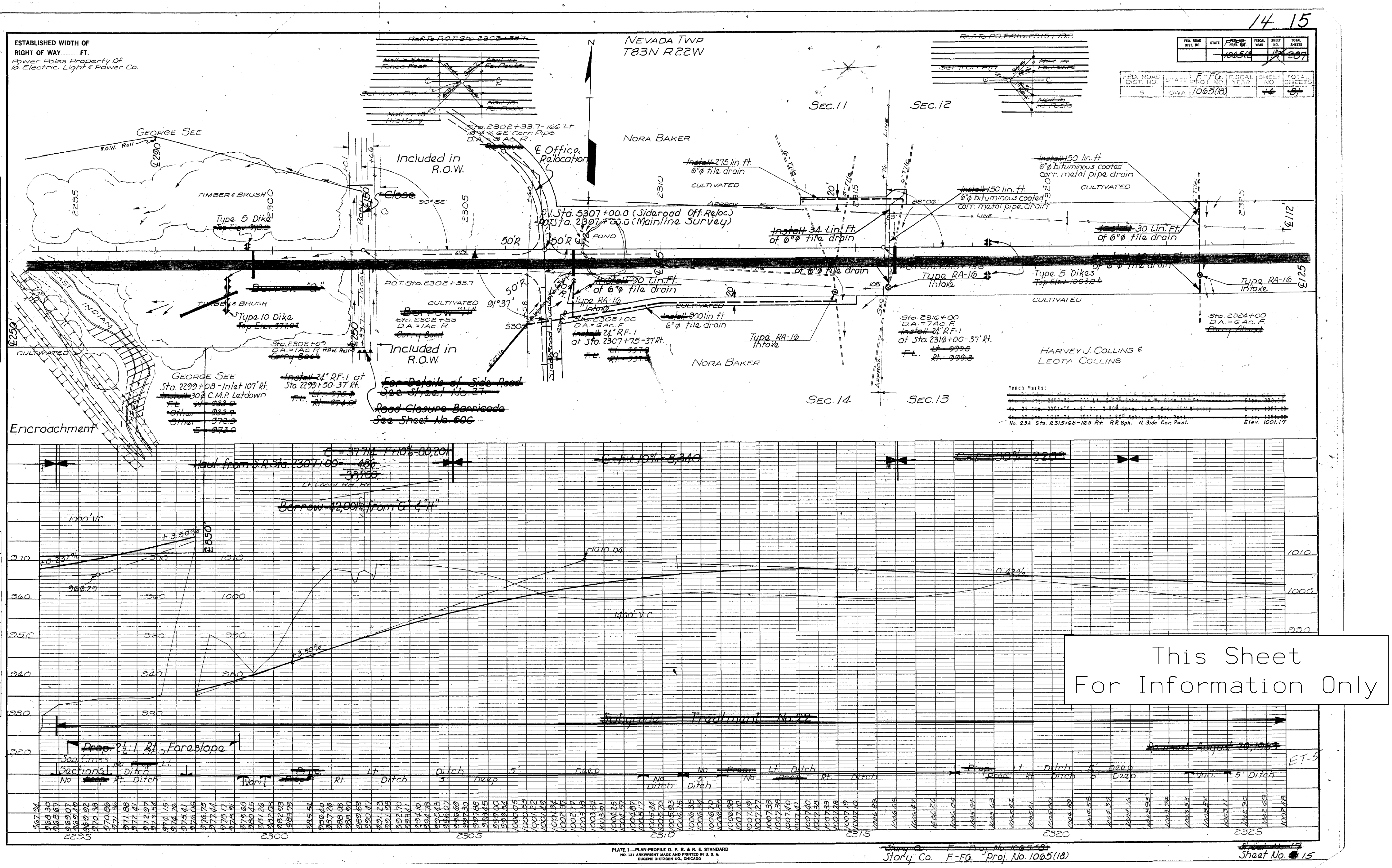


This Sheet
For Information Only

Story Co. F-FG Proj. No.1065(18)

Sheet No. 14

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey		STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER D.4	



FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER D.5

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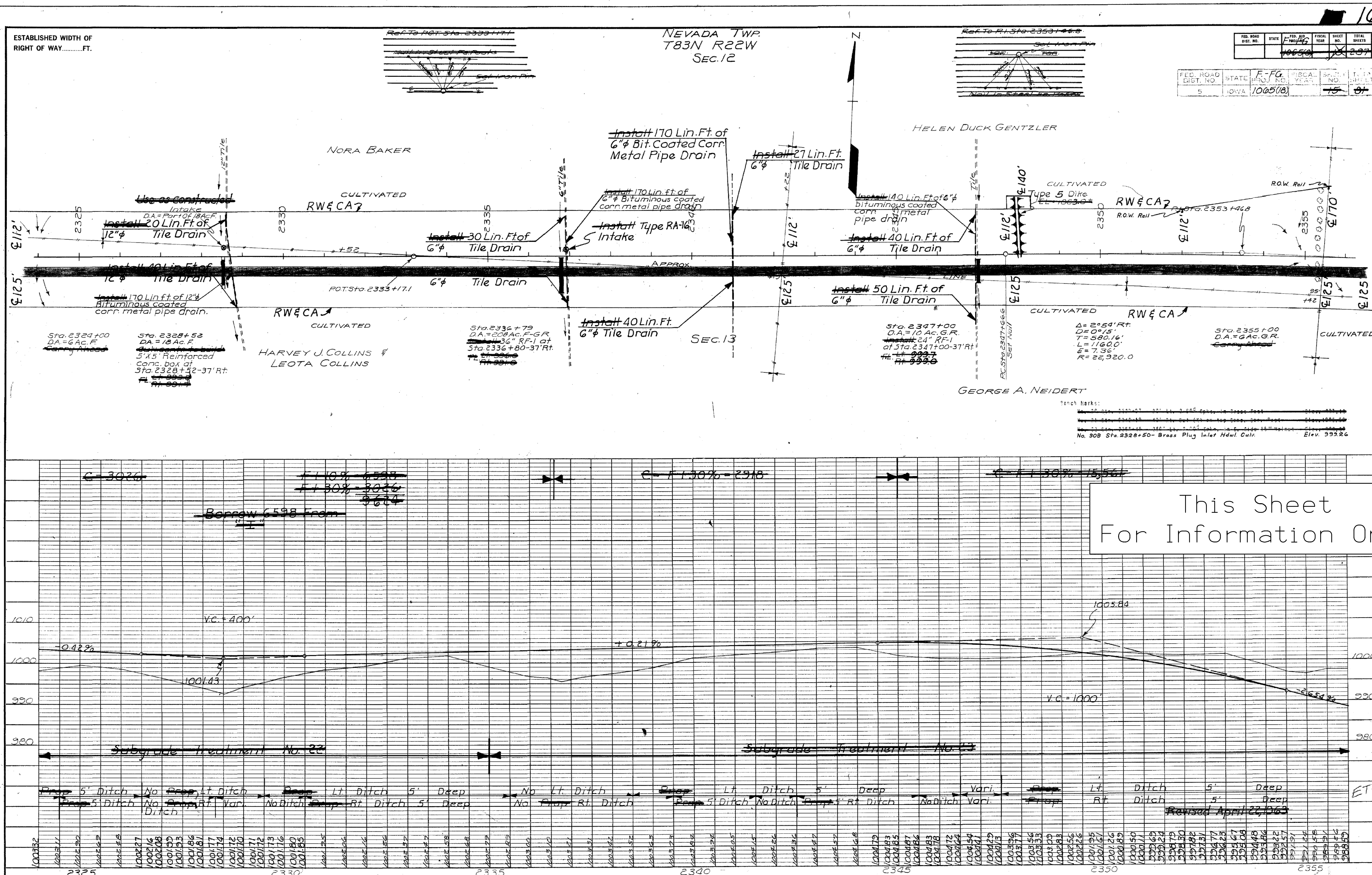

ESTABLISHED WIDTH OF RIGHT OF WAY..........FT.
NEVADA TWP.
T83N R22W
SEC. 12
N
HELEN DUCK GENTZLER
NORA BAKER
CULTIVATED
RW & CA
Install 170 Lin. Ft. of 6"φ Bit. Coated Corr. Metal Pipe Drain
Install 27 Lin. Ft. 6"φ Tile Drain
Use as constructed Intake
Install 20 Lin. Ft. of 12"φ Tile Drain
Install 30 Lin. Ft. of 6"φ Tile Drain
Install Type RA-16 Intake
Install 140 Lin. Ft. of 6"φ bituminous coated corr. metal pipe drain
Install 40 Lin. Ft. of 6"φ Tile Drain
Type 5 Dike
Install 40 Lin. Ft. of 12"φ Tile Drain
Install 170 Lin. Ft. of 12"φ Bituminous coated corr. metal pipe drain.
6"φ Tile Drain
POT Sta. 2333+17.1
APPROX.
Install 50 Lin. Ft. of 6"φ Tile Drain
Install 40 Lin. Ft. 6"φ Tile Drain
SEC. 13
R.O.W. Rail
Sta. 2353+46.8
Sta. 2324+00 D.A.=6 Ac. F. Carry Ahead
Sta. 2328+52 D.A.=18 Ac. F. 5'x5' Reinforced conc. box at Sta. 2328+52-37' Rt.
HARVEY J. COLLINS & LEOTA COLLINS
Sta. 2336+79 D.A.=20.8 Ac. F-GR Install 36" RF-1 at Sta. 2336+80-37' Rt.
Sta. 2347+00 D.A.=10 Ac. G.R. Install 24" RF-1 at Sta. 2347+00-37' Rt.
PC Sta. 2347+66 Set Nail
Δ=2°54' Rt. D=0°15' T=580.16' L=1160.0' E=7.36' R=22,920.0
Sta. 2355+00 D.A.=6 Ac. G.R. Carry Ahead
GEORGE A. NEIDERT
Bench Marks:
No. 308 Sta. 2328+50- Brass Plug Inlet Hdwl. Culv. Elev. 999.26
C=3026
F+10%=6598
F+30%=3026
Borrow 6598 From "I"
C=F+30%=2918
C=F+30%=15,561
1005.84
V.C.=400'
-0.42%
+0.21%
1001.43
V.C.=1000'
-0.654%
1010
1000
990
980
Subgrade Treatment No. 22
Subgrade Treatment No. 23
5' Ditch
No Ditch
Lt. Ditch
Rt. Ditch
Vari.
5' Deep
ET-5
Revised April 22, 1963
2325
2330
2335
2340
2345
2350
2355
16

This Sheet
For Information Only

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey		STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER D.6

11:59:21 AM 3/26/2022 badey c:\pw_work\pwmain\idotcentral_badey\d1045386\85030290_D01.dgn

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
		~~1065(8)~~		~~16~~	~~51~~
		1065(18)		16	51

FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
		F-FG			
		1065(18)		16	51

ESTABLISHED WIDTH OF RIGHT OF WAY.....FT.

Power Poles Property Of Marshall Rural Electric Co-op

Tel. Poles Property Of Colo Tel. Co.

~~Ref. to P.O.T. 573.3' Ahead of Pl. Sta. 2355+42.6~~

~~Set Iron Pin~~

~~Encroachment~~

HELEN DUCK GENTZLER

FOREST F. McCOLLOM

~~R.O.S.T. 573.3' Ahead of Pl.~~

RW&CA

CULTIVATED

℄ 170'

2355

2360

2365

2370

2375

2380

2385

℄ 125'

~~Δ = 2°54' Rt.~~
~~D = 0°15'~~
~~T = 580.16'~~

~~Sta. 2355+00~~
~~D.A. = 6 Ac. G.R.~~
~~Carry Ahead~~

~~Borrow "I"~~

GEORGE A. NEIDERT

POND

Earth Dam

~~Sta. 2361+00~~
~~D.A. = 84.9 Sq. Mi. R-H~~
~~Bents 13-16'-13' X 12' X 105~~
~~R.C.B. at Sta. 2363+00~~
~~Fl. El. 953.0~~
~~Rl. 952.4~~

~~Sta. 2364+60~~
~~D.A. = 48 Ac. +- R.~~

HAROLD S. KIMBERLY

DYE CREEK

~~Encroachment~~

NEVADA TWP
T83N R22W
Sec. 12

NEW ALBANY TWP
T83N R21W
Sec. 7

SEC. 13

SEC. 18

~~Sta. 2363+00 Lt & Rt. Est. 10 Sta. of Channel Change. Excavation at 910 cu yds. per Sta. 9100 cu yds. Material to be wasted in old channel~~

~~Ref. to P.O.T. Sta. 2368+58.3~~

WALLACE McCOLLOM

~~Set Iron Pin~~

~~Nail in C. Post~~

~~Nail in Ep. Rock~~

~~Set Iron Pin~~

~~Nail in Ep. Rock~~

~~Ref. to P.O.T. Sta. 2378+74.8~~

Set Iron Pin

C. R. REED

Pl. Sta. 4368+58.8 (Off Reloc.)
P.O.T. Sta. 2368+88.2 (Main Line)
290' Rt. Sta. 4368+57.8 (Survey)

PASTURE

R.O.W. Rail

85°06'

℄ 170'

~~Install Type RA-10 Intake~~

Type 5 Dike
~~Top Elev. 1001.0~~

P.O.T. Sta. 2368+58.3
P.O.T. Sta. 4368+58.3

50' R.

℄ 140'

℄ 125'

CULTIVATED

RW&CA

~~Close~~

P.O.T. Sta. 2378+74.8

Field Ent.

Type 5 Dike
~~Top Elev. 1005.0~~

LOCAL ROAD

℄ 125'

RW&CA

CULTIVATED

~~Δ = 2°54' Rt.~~
~~D = 0°15'~~
~~T = 580.16'~~

~~Sta. 2355+00~~
~~D.A. = 6 Ac. G.R.~~
~~Carry Ahead~~

~~Borrow "I"~~

~~Sta. 2368+78~~
~~D.A. =~~
~~Carry Back~~

Borrow Well & Elec. Pump

+65 Form Ent.

Cond. Drive

House

~~Close~~

R.O.W. Rail

℄ 200'

℄ 380'

~~Sta. 2374+50~~
~~D.A. = 4 Ac. F.~~
~~Install 24" R.F.-1~~
~~of Sta. 2374+50 37' Rt.~~
~~Fl. El. 1000.7~~
~~Rl. 1000.1~~

250' from R.O.W.
~~Sta. 2373+72 72' Rt.~~
~~18"-X-36" Conc. Pipe~~
~~Drive~~
~~Remove~~

~~Borrow "L"~~

Field Ent.

CULTIVATED

RW&CA

~~Close~~

+65 ~~Prop.~~ Comm. Ent.

LOCAL ROAD

HAROLD KIMBERLY & CORA B. KIMBERLY

~~For Detail of Side Road See Sheet No. 24~~

Bench Marks:

No. 33A	Sta. 2362+75 Brass Plug Inlet Hdwl. Culv.		Elev. 966.90
No. 34D	Sta. 2368+15-125' Rt.	R.R. Spk. N. Side Po. Pole	Elev. 994.23
No. 34E	Sta. 2382+95-125' Rt.	R.R. Spk. N. Side Po. Pole	Elev. 1013.20

~~C = 3052~~

~~Haul from S.P.S. Sta. 2358+58.3 - 18787~~
~~26,035~~

~~F = 1.20% = 7572~~
~~F = 1.20% = 26839~~
~~34,411~~

~~Borrow 7572 From "I"~~

~~C = F = 1.20% = 1465~~

TYPICAL CHANNEL CHANGE SECTION

2:1

8' Ave.

30' Bottom

℄ 750'

750' V.C.

-2.65% ±

+0.76% ±

Present Road

1000' V.C.

+0.189% ±

1020

1010

1000

990

980

970

960

950

Subgrade Treatment No. 23

~~Subgrade Treatment No. 24~~

~~Prop. 2% Lt. Rt. Fore Slope~~
~~Sub. Prop. Lt. Rt. Ditch Grade Below~~
~~Prop. 20% Lt. Rt. Ditch Grade~~

~~Prop. Lt. Ditch 5' Deep~~
~~Prop. Rt. Ditch 5' Deep~~
~~No Prop. Rt. Ditch~~
Vari. Ditch
~~Prop. Lt. Ditch 5' Deep~~
~~Prop. Rt. Ditch 5' Deep~~
~~Sideroad~~
~~Sideroad~~
~~Prop. Lt. Ditch 5' Deep~~
~~Prop. 5' Ditch~~
~~Prop. Lt. Ditch 5' Deep~~
~~No Prop. Rt. Ditch~~

+74 Lt. 953.60 Elev.
+76 907.70 Rt.

+74 Lt. 953.75 Elev.
+76 907.85 Rt.

~~95.95~~

~~Revised April 22, 1965~~

ET-6

This Sheet
For Information Only

PLATE 1—PLAN-PROFILE O. P. R. & R. E. STANDARD
NO. 111 ARKWRIGHT MADE AND PRINTED IN U. S. A.
EUGENE DIETZGEN CO., CHICAGO

~~Story Co. F-FG Proj. No. 1065(8)~~
Story Co. F.-FG. Proj. No. 1065(18)

~~Sheet No.~~ Sheet No. 17

PLAN — SURVEYED, DRAWN, ALIGNMENT CHECKED, FT. OF WAY CHECKED, NOTE BOOK, NO., BY, DATE

PROFILE — SURVEYED, DRAWN, CURVES CHECKED, B. M.'s NOTED, STRUCTURE REPORT NO. OR NO.

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER D.7	

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FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
		~~F-FG~~			
		~~100S(18)~~			~~81~~

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IOWA	100S(18)		~~17~~	~~81~~

ESTABLISHED WIDTH OF RIGHT OF WAY.....FT.

Po. Poles Property Of R.E.A.

Tel. Poles Property Of Cole Tel. Co.

New Albany Twp. T83N R21W Sec. 7

Ref. to P.O.T. Sta. 2392+85.6

Nail in Fe. Posts

Set Iron Pin

Nail in Fe. Posts

C.R. Reed

Forest A. Levi

Borrow ℄ 200'

~~Borrow "L"~~

Type RA-16 Intake

~~Install~~ 290 Lin. ft. of 6"ϕ Bituminous coated corr. metal pipe drain

~~Install~~ 110 Lin. Ft. of 8"ϕ Bituminous coated corr. metal pipe drain

P.O.T. Sta. 2392+85.6

~~Install~~ 40 Lin. Ft. of 8"ϕ Tile Drain

~~Install~~ 46 Lin. Ft. of 8"ϕ Tile Drain

~~Install~~ 14 Lin. Ft. of 8"ϕ Tile Drain

8"ϕ Tile Drain

Local Road

12"x48' Corr. Pipe

Use as Constructed

Pond

Approx. Sec. Line

℄ RW & CA

Cultivated

Sta. 2390+43 Sta. 2390+43-75' Rt. 24"x19"x36' Corr. Pipe. D.A. = 20 Ac. F-G.R. ~~Install~~ 30" RF-1 at Sta. 2390+43-37' Rt. ~~Ft. Elev. 1019.5~~ ~~Rt. Elev. 1019.0~~

Sec. 18

Harold Kimberly & Cora Kimberly

Sta. 2409+50 D.A. = 24 Ac. F ~~Install~~ 30" RF-1 at Sta. 2409+50-37' Rt. ~~Ft. Elev. 1022.5~~ ~~Rt. Elev. 1022.0~~

+12 County Road

Type 5 Dike ~~Elev. 1020.0~~

+27 Farm Ent.

House 800 ft

Bench Marks:

~~No. 34F~~	~~Sta. 2394+88~~	~~110 Lt.~~	R.R. Spk S.E. Cor. 18" Elm	Elev. 1024.15
~~No. 35A~~	~~Sta. 2399+35~~	~~125 Rt.~~	R.R. Spk N. Side Po. Pole	Elev. 1019.75
~~No. 36A~~	~~Sta. 2419+30~~	~~125 Rt.~~	R.R. Spk N. Side Po. Pole	Elev. 1025.19

~~Bench Marks~~

~~Ex. 28 Pcs. 24" RCP, 1 22" RCP, 1 24" Spike in Tel. Pole Elev. 1019.75~~

PLAN — SURVEYED; PLOTTED; NOTE BOOK; NO.; BY; DATE; QUANTITY CHECKED; RT. OF WAY CHECKED

PROFILE — SURVEYED; PLOTTED; GRADES CHECKED; B. M.'S NOTED; STRUCTURE NO'S & TYP. (IN PO.); BY; DATE

~~C = F + 30% = 3356~~ ~~C = 2424~~ ~~F + 30% = 3432~~ ~~Borrow "L" 3278~~ ~~"J" 3000~~ ~~C = F + 30% = 3057~~

Form Ent. Rt. Lt. Field Ent. Rt. Lt. Field Ent. Rt. Field Ent. Rt.

V.C. = 400' V.C. = 400'

+0.18% +0.44%

Present Road

1021.33 1015.20 1015.20 1030.25

~~Prop.~~ 0.60% Lt. Ditch Grade

~~Subgrade Treatment No. 24~~

~~Prop. Lt. Ditch 5' Deep~~ ~~Prop. Rt. Ditch 5' Deep~~ No Ditch Vari. See ~~Prop.~~ ~~Prop.~~ Lt. Rt. Ditch Grade Above ~~No Prop. Lt. Ditch Vari.~~ ~~Prop. Lt. Ditch 5' Deep~~ ~~Prop. Rt. Ditch Vari. 5' Deep~~ No Ditch

1030 1020 1010

2385 2390 2395 2400 2405 2410 2415

PLATE 1—PLAN-PROFILE O. P.R. & R. E. STANDARD NO. 131 ARKWRIGHT MADE AND PRINTED IN U. S. A. EUGENE DIETZGEN CO., CHICAGO

~~Story Co. F-FG Proj. No. 100S(18)~~

Story Co. F-FG Proj. No. 100S(18)

~~Sheet No. 20~~

Sheet No. 18

This Sheet For Information Only

ET-5

~~Revised April 22, 1946~~

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER D.8

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FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
		~~1065(18)~~		~~17~~ 19	207

ESTABLISHED WIDTH OF RIGHT OF WAY.....FT.

Power Poles Property Of Iowa Elec. Light & Po. Co.

Tel Poles Property Of Colo Tel. Co.

NEW ALBANY TWP. T83N R21W

~~By Paving Contractor~~
Sta. 2432+99 - 22.5' Rt.
~~Install~~ 12" RF-1 & 1-Special RA-16 Intake
~~Ft.~~ ~~Rt. 1010.50~~
~~Lt. 1017.60~~
Intake ~~1022.00~~

~~Ref To P.O.T. Sta 2419+23.9~~

Set Iron Pin — North 11 Steel Fence Posts — North 11 Steel Fence Posts — Set Iron Pin

SEC. 7 — SEC. 8 — SEC. 18 — SEC. 17

FOREST A LEVI

VERA RAY HOPKINS

HAROLD KIMBERLY & CORA B. KIMBERLY

THOMAS R. GRANGER & BERDINA GRANGER

ANNA PEARL MEAD & J. E. MEAD

ANNA WYATT

~~Borrow "K"~~

~~Close~~

50' Transition Parabolic Crown to Straight Line Crown

RW & CA

~~Install~~ 50 Lin. Ft. of 15" Tile Drain

~~Install~~ 210 lin. ft. 15" bituminous coated corr. metal pipe drain

END EB PAVING
STA 2442+00.00

~~Install~~ 200 lin. ft. 6" bituminous coated corr. metal pipe drain

Type 5 Dike
~~Elev. 1022.0~~

~~Install~~ 40 Lin. Ft. of 6" Tile Drain

Type 5 Dike
~~Elev. 1025.4~~

~~Install~~ 20 Lin. Ft. of 6" Tile Drain

~~Sta. 2448+74.20~~
~~END OF PROJECT~~

Sta. 2445+84.2 - 8C' Lt.
18"ø X 36' Corr. Pipe
D.A. = 6 Ac. F.

Sta. 2445+84.2 - 113.5' Rt.
18"X40' Corr. Pipe
D.A. = 8 Ac. F.

P.O.T. Sta 2419+23.9

Field Ent.

POND

12"X22' Corr. Pipe

12"X30' Corr. Pipe

12"X24' Vit. Pipe

+3.12 - 51.5' Rt. S.E. Cor. Sec. 7

Sta. 2432+60
D.A. = 1.58 Ac. F.G.R.
~~Culv. Contr. to~~
~~Build~~ 6'x 4' R.C.B.
~~Ft. Lt. 1016.2~~
~~Rt. 1015.0~~

~~Sta. 2432+76 - 75' Rt.~~
~~30"ø X 36' Corr. Pipe~~
~~C.M.~~
~~Extend~~

Intake
~~Use as constructed~~

Sta. 2435+50
D.A. = 1.8 Ac. F.
~~Install~~ 24" RF-1
at Sta. 2439+50
~~Ft. Lt. 1028.0~~
~~Rt. 1018.3~~

~~Sta. 2435+08 - 75' Rt.~~
~~24"ø X 36' Corr. Pipe~~
~~Culv.~~
~~Remove~~

(Median Drain)
Sta. 2439+37.83-0.12' Lt.
~~Install 18~~" RF-1
~~Ft. Inlet 1022.1~~
~~Outlet 1013.73~~

(Median Drain)
~~Install~~ 18" RF-1 at Sta. 2439+62.20-0.18' Rt.
~~Ft. Lt. 1022.10~~
~~Rt. 1019.84~~

Sta. 2441+39.7 ~~Close~~

Sta. 2445+ Rt.
DA = Side Ditch
~~Carry Ditch~~

Ref To P.O.T. Sta 2441+39.7

Set Iron Pin — North 10 Pole — Wall In Car Ports

Δ = 4° 26 1/2" Rt.
D = 0° 30'
T = 444.4'
L = 888.3'
E = 8.6'
R = 11460.0'

ORCHARD

Field Ent.

Sta. 2445+88.6 Lt.

Set Iron Pin — Set Post Nail — LOCAL ROAD

Approx. Sec. Line

Approx. Sec. Line

Farm Ent. Lt.

Farm Ent. Rt.

Lt. Field Ent. Rt.

Field Ent. Lt.

Lt. Local Rd. Rt.

Farm Ent. Rt.

1030.25

-0.45%

400' V.C.

+0.60%

1021.93

~~Subgrade Treatment No. 24~~

~~Subgrade Treatment No. 26~~

No Ditch — ~~Prop.~~ Lt. Ditch 5' Deep — No Ditch — ~~Prop.~~ Rt. Ditch 5' Deep — No ~~Prop.~~ Lt. Ditch ~~Exist.~~ ~~Drain~~ — Vari. No Ditch — Vari. ~~Prop.~~ Median Ditch 3' Deep — ~~Prop.~~ Median Ditch 4' Deep — ~~Prop.~~ Mod. Ditch — 5' Ditch Sd. Rd. — ~~Clean & Use Existing Ditch~~

~~Remove No. 2 1965~~

Bench Marks:
No. 37A Sta. 2426+66 - 149' Rt. R.R. Spk. N. Side 12" Ash
No. 37B Sta. 2432+93 - Brass Plug Inlet Hdwl. Culv.
No. 38A Sta. 2447+10 - 234' Rt. "X" on N.W. Cor. Small Porch

Elev. 1027.75
Elev. 1021.95
Elev. 1033.55

Story Co. F-FG Proj No. 1065(18)

~~Sheet No. 84~~
Sheet No. ~~18~~ 19

PLATE 1—PLAN-PROFILE O. P. R. & R. E. STANDARD NO. 131 ARKWRIGHT MADE AND PRINTED IN U. S. A. EUGENE DIETZGEN CO., CHICAGO

This Sheet For Information Only

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER D.9	

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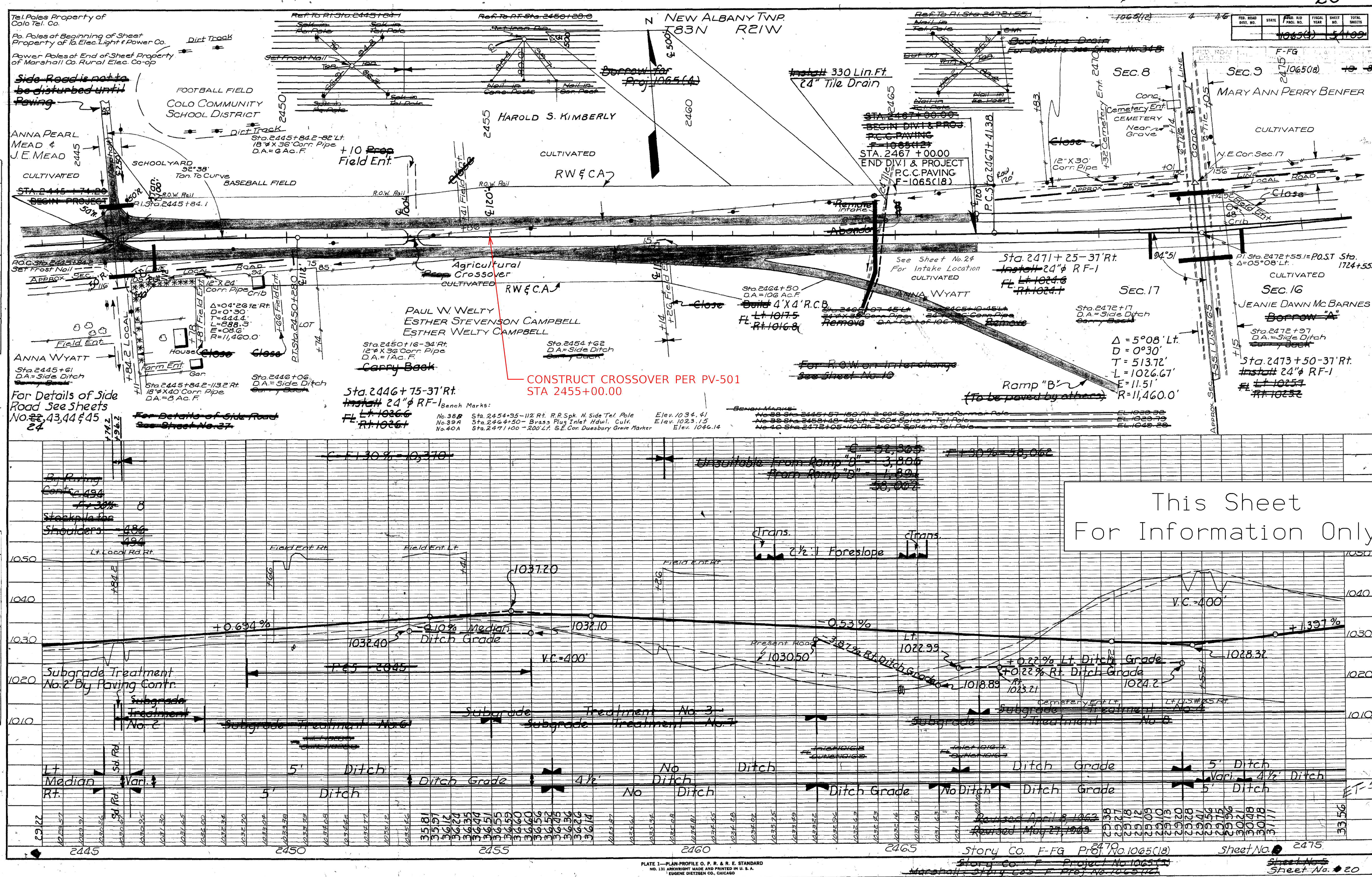


FILE NO. | ENGLISH | DESIGN TEAM Smyth \ Adey | STORY COUNTY | PROJECT NUMBER NHSX-030-5(290)--3H-85 | SHEET NUMBER D.10

General Information

Measurement units for this survey are U.S. survey feet. This survey was completed to assist in the design of a right turn lane from east bound U.S. 30 to south bound 680th Ave.

Vertical Control

The vertical datum for this survey is NAVD88. The vertical control for this project is relative to said datum, computed using GEOID 12b, and is dependent on the Iowa Real-Time Network (IaRTN) reference stations. Control point elevations were established by 5 redundantly averaged RTK GPS shots utilizing the IaRTN.

Horizontal Control

The horizontal project coordinate system basis for this survey is from the Iowa Regional Coordinate System Zone 8 projection. The Geodetic Datum is NAD83 (2011) EPOCH 2010.0. Control Point horizontal coordinate positions were established by 5 redundantly averaged RTK GPS shots utilizing the Iowa Real-Time Network.

Alignment Information

The horizontal centerline alignment for U.S. 30 is a retrace of as-built plans F-1065(18), NHS-30-5(71)--19-85, NHS-30-5(122)--19-85, and NHSX-030-5(209)--3H-85. Stationing was held at PI 2171+55.20 (NHS-30-5(71)--19-85) and was ran ahead without equation.

Survey Information

County: Story
PIN: 20-85-030-050
Project Number: NHSX-030-5(290)--3H-85
Location: In the northeast quarter of Section 13, Township 83 North, Range 22 West of the 5th P.M. of Story County, Iowa in the southwest quadrant of U.S. 30 and 680th Ave.
Type of Work: Design survey for an addition of a right turn lane from east bound U.S. 30 to south bound 680th Ave.
Project Directory: 8503005020

Survey stationing relates to as-built stationing as follows:

PI Sta. 2171+55.20 (Plan NHS-30-5(71)--19-85) = PI Sta. 2171+55.20 (this survey)
Found ⅝" re-rod with cap 22468 (4" deep).

PI Sta. 2210+21.97 (Plan NHS-30-5(71)--19-85) = PI Sta. 2210+22.18 (this survey)
Found lead plug w/ hub tack.

P.I. Sta. 2244+71.59 (Plan NHS-30-5(122)--19-85) = PI Sta. 2244+71.93 (this survey)
Found ½" iron pin (3" deep).

P.I. Sta. 2286+00.47 (Plan NHS-30-5(122)--19-85) = PI Sta. 2286+00.67 (this survey)
Found ½" iron pin (3" deep).

P.I. Sta. 2353+38.00 (Plan NHS-30-5(122)--19-85) = PI Sta. 2353+38.18 (this survey)
Found ½" iron pin (2" deep).

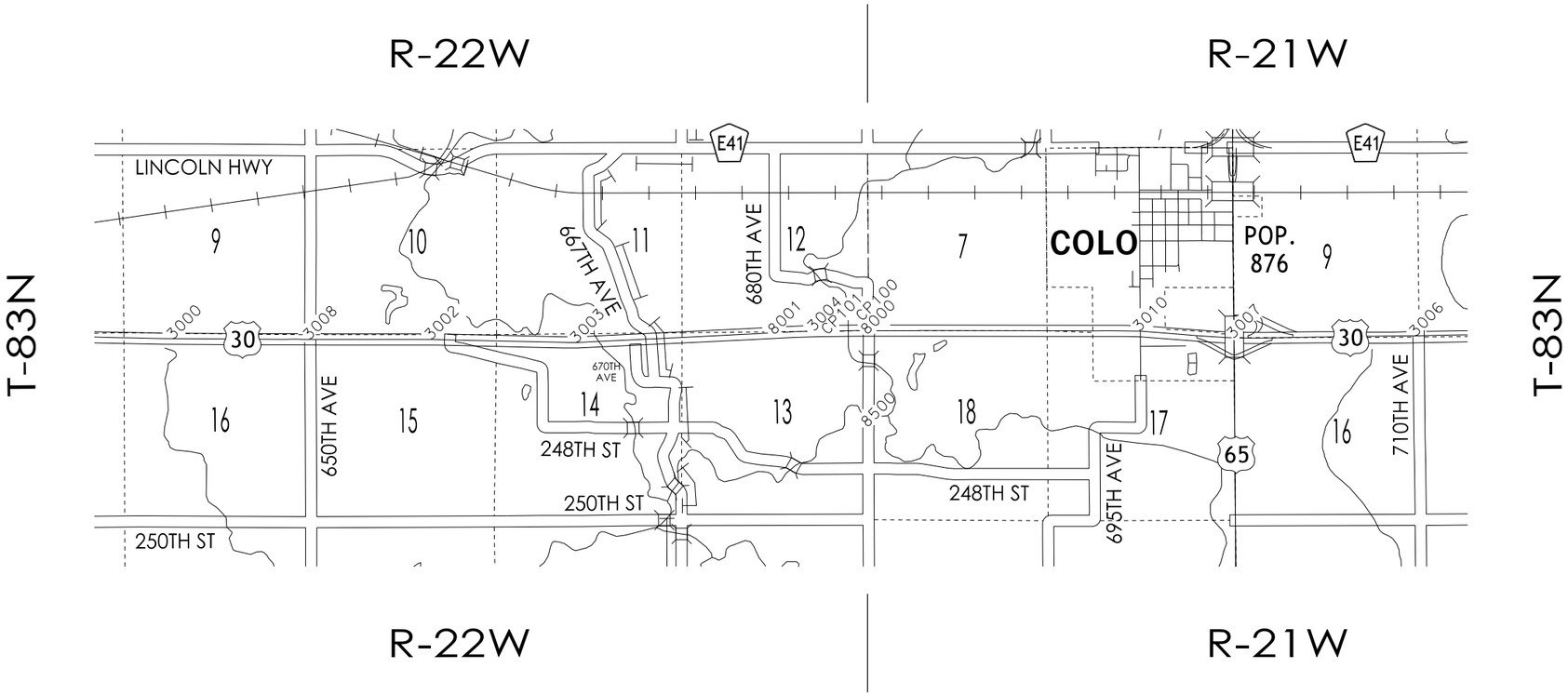
P.I. Sta. 2445+72.07 (Plan NHS-30-5(122)--19-85) = PI Sta. 2445+72.16 (this survey)
Found "X" in old conc. (6" deep under asphalt). Set 60d spike, in asphalt patch, directly above found "X".

P.I. Sta. 2472+55.10 (Plan F-1065(18)) = PI Sta. 2472+42.96 (this survey)
Found ½" iron pin (flush), under bridge.

P.I. Sta. 2524+29.69 (Plan NHSX-030-5(209)--3H-85) = PI Sta. 2524+17.45 (this survey)
Found ⅝" re-rod (24" deep)

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.



VERT. DATUM: NAVD88
Ia. Regional Coordinate System Zone 8

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

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER G.2

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HORIZONTAL AND VERTICAL PROJECT CONTROL COORDINATE LISTING

VERT. DATUM: NAVD88
Ia. Regional Coordinate System Zone 8

Point	Northing	Easting	Elevation	Description
8000	7640817.819	18600316.357		NE COR. 13-83-22 FOUND 3/4" IRON PIPE (4" DEEP)
8001	7640810.797	18597681.014		N 1/4 13-83-22 FOUND MAG NAIL
8500	7638189.475	18600324.564		E 1/4 13-83-22 SET MAG NAIL FROM REF. TIES
CP100	7641043.777	18600275.126	992.470	SET 5/8 RE-ROD (FLUSH)
CP101	7640813.010	18599193.904	985.002	SET 5/8 RE-ROD (FLUSH)
3000	7640678.700	18580631.253		PI 2171+55.20 FOUND 5/8" RE-ROD W/ CAP 22468
3002	7640663.315	18587947.956		PI 2244+71.59 FOUND 1/2" IRON PIN (3" DEEP)
3003	7640574.187	18592075.758		PI 2286+00.47 FOUND 1/2" IRON PIN (3" DEEP)
3004	7640909.881	18598805.246		PI 2353+38.00 FD 1/2" IRON PIN (2" DEEP)
3006	7640761.923	18615877.446		PI 2524+29.69 FOUND 5/8" RE-ROD (24" DEEP)
3007	7640699.560	18610702.641		PI 2472+55.10 FOUND 1/2" IRON PIN (FLUSH)
3008	7640665.096	18584498.214		PI 2210+21.97 FOUND TACK IN LEAD PLUG
3010	7640907.078	18608039.477		PI 2445+72.07 FOUND "X" IN OLD CONC.

ALIGNMENT COORDINATES

Name	Location	Point on Tangent			Begin Spiral			Begin Curve			Simple Curve PI or Master PI of SCS			End Curve			End Spiral		
		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates	
			Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)
ROWLMA030	US 30	2171+55.20	7640678.70	18580631.25															
								2207+22.19	7640666.15	18584198.22	2210+22.19	7640665.10	18584498.21	2213+22.19	7640664.94	18584798.21			
								2241+71.92	7640663.47	18587647.95	2244+71.93	7640663.32	18587947.96	2247+71.92	7640656.84	18588247.90			
								2281+90.94	7640583.03	18591666.12	2286+00.67	7640574.19	18592075.76	2290+10.05	7640594.60	18592484.98			
								2347+58.06	7640880.98	18598225.85	2353+38.18	7640909.88	18598805.25	2359+18.05	7640909.71	18599385.36			
								2441+27.76	7640907.21	18607595.08	2445+72.16	7640907.08	18608039.48	2450+16.12	7640872.55	18608482.54			
								2467+29.28	7640739.47	18610190.51	2472+42.96	7640699.56	18610702.64	2477+55.95	7640705.75	18611216.28			
		2524+17.45	7640761.92	18615877.45															
RET_680	SW Return 680th							1+00.00	7640833.99	18600233.10	1+66.06	7640831.91	18600299.13	2+13.98	7640768.30	18600316.94			
								2+13.98	7640768.30	18600316.94	2+56.18	7640727.66	18600328.32	2+97.82	7640685.46	18600328.04			

SPIRAL OR CIRCULAR CURVE DATA

Name	Location	ΔSCS	Horizontal Alignment Data													Remarks
			Spiral Data								Curve Data					
			θS	Ls	Ts	Es	Xc	Yc	L.T.	S.T.	ΔC	T	L	R	E	
ROWLMA030	US 30										0.172	300	600	199885.192	0.225	
ROWLMA030	US 30										1.207	300.011	600	28473.134	1.581	
ROWLMA030	US 30										4.093	409.729	819.11	11467.073	7.318	
ROWLMA030	US 30										0.248	580.117	1159.99	23132.133	7.273	
ROWLMA030	US 30										4.438	444.402	888.360	11468.493	8.607	
ROWLMA030	US 30										5.146	513.68	1026.670	11430.921	11.536	
RET_680	SW Return 680th										72.561	66.064	113.978	90	21.644	
RET_680	SW Return 680th										16.013	42.198	83.846	300	2.953	

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
US 30	Both	Story	Detours During Construction		Traffic Control Device		Horizontal					

108-23A
08-01-08

TRAFFIC CONTROL PLAN

US 30 Traffic shall be maintained at all times via staging.

The Contractor shall attain approval from the Engineer prior to starting any stage after September 1st.

Side Road Traffic shall be maintained at all times via offsite detours unless otherwise noted in the J sheets.

Contractor shall sign and maintain all detours.

While crossovers are not in use, weighted drums shall be placed along the inside shoulder for the length of the crossover. Device spacing and layout shall match TC-402.

Special events have been planned in the area around this project. Temporary lane closures during Stage 1 shall not be allowed during any of the events listed below.

Event	Location	Date
State Games of America	Ames	7/9-10, 7/22-24, 7/27-7/31 2022
Farm Progress Show	Central Iowa Expo-Boone	8-30, 9-1 2022
Iowa State vs SE Missouri	Ames	09/03/2022
Iowa State vs Ohio	Ames	09/17/2022
Iowa State vs Baylor	Ames	09/24/2022
Iowa State vs Kansas St	Ames	10/08/2022
Iowa State vs Oklahoma (Thursday Night)	Ames	10/27/2022
Iowa State vs West Virginia	Ames	11/05/2022
Iowa State vs Texas Tech	Ames	11/19/2022

108-26A
08-01-08

STAGING NOTES

During construction, US 30 traffic will be maintained via two lane, two way operation.
Side Roads will be detoured as shown in the J Sheets.

Construction will be staged as follows:

Stage 1: US 30 traffic will be restricted to the outside lanes in each direction.

Construct Crossovers per PV-501 at Stations 2199+25 and 2455+00.

Stage 2: US 30 traffic on the Westbound lanes. 667th Ave is detoured south of US 30. 248th St and 680th Ave shall be stage constructed to allow right-in/right-out access at all times. TLSS shall be installed at each side road and driveway. Refer to B and J Sheets for locations and details.

Construct Eastbound lanes from Station 2215+00 to 2442+00.

Stage 3: Remove Crossovers and Detour Pavement.

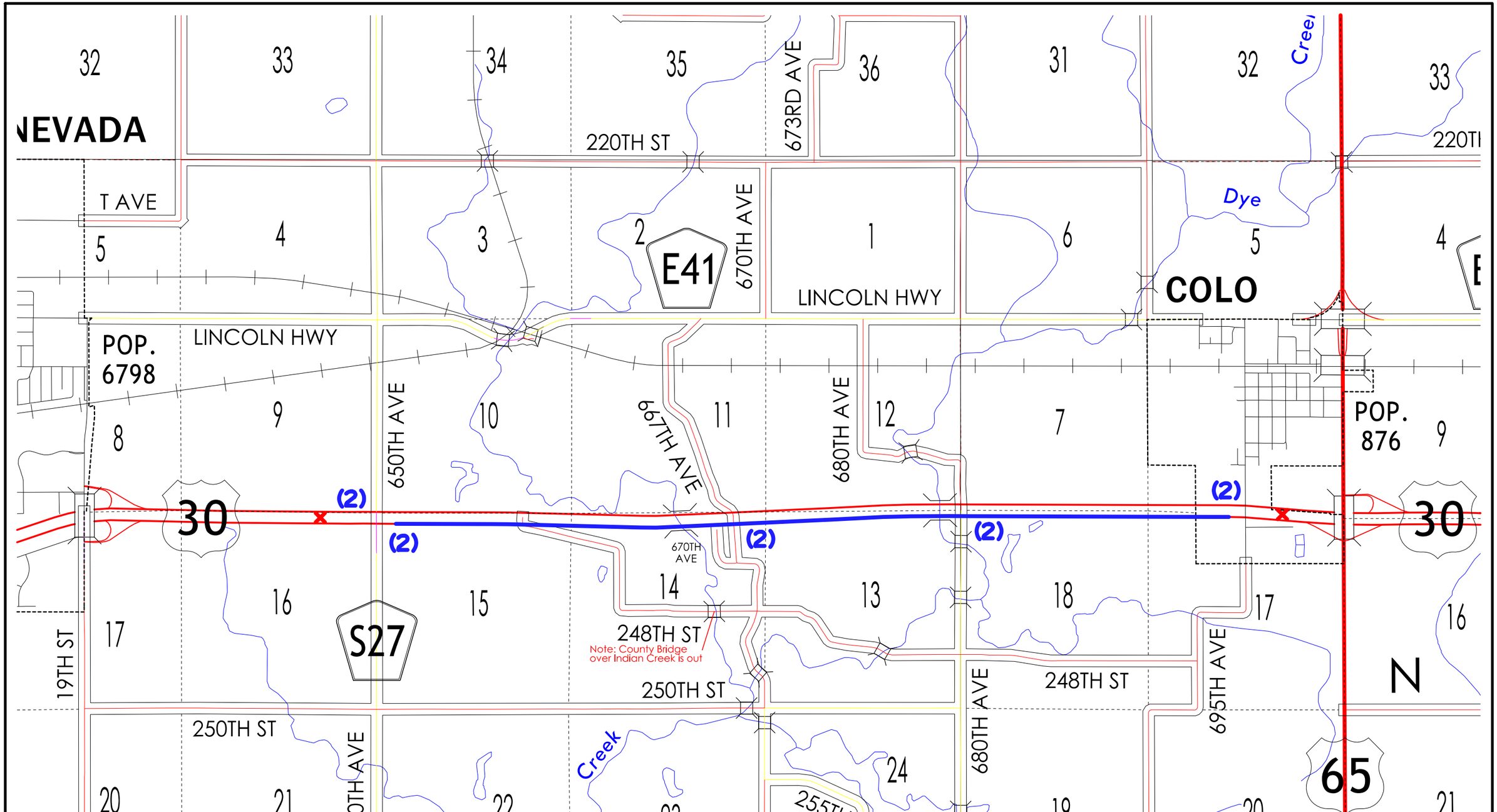
No detours or two lane, two way operations will be allowed over the winter.

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
NHSX-030-5(276)--3H-85	Bridge - PPCB



× STAGE 1: CONSTRUCT CROSSOVERS

— STAGE 2: EASTBOUND PAVING

(2) STAGE 2: PDMS LOCATIONS

PROJECT STAGING MAP

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER J.2

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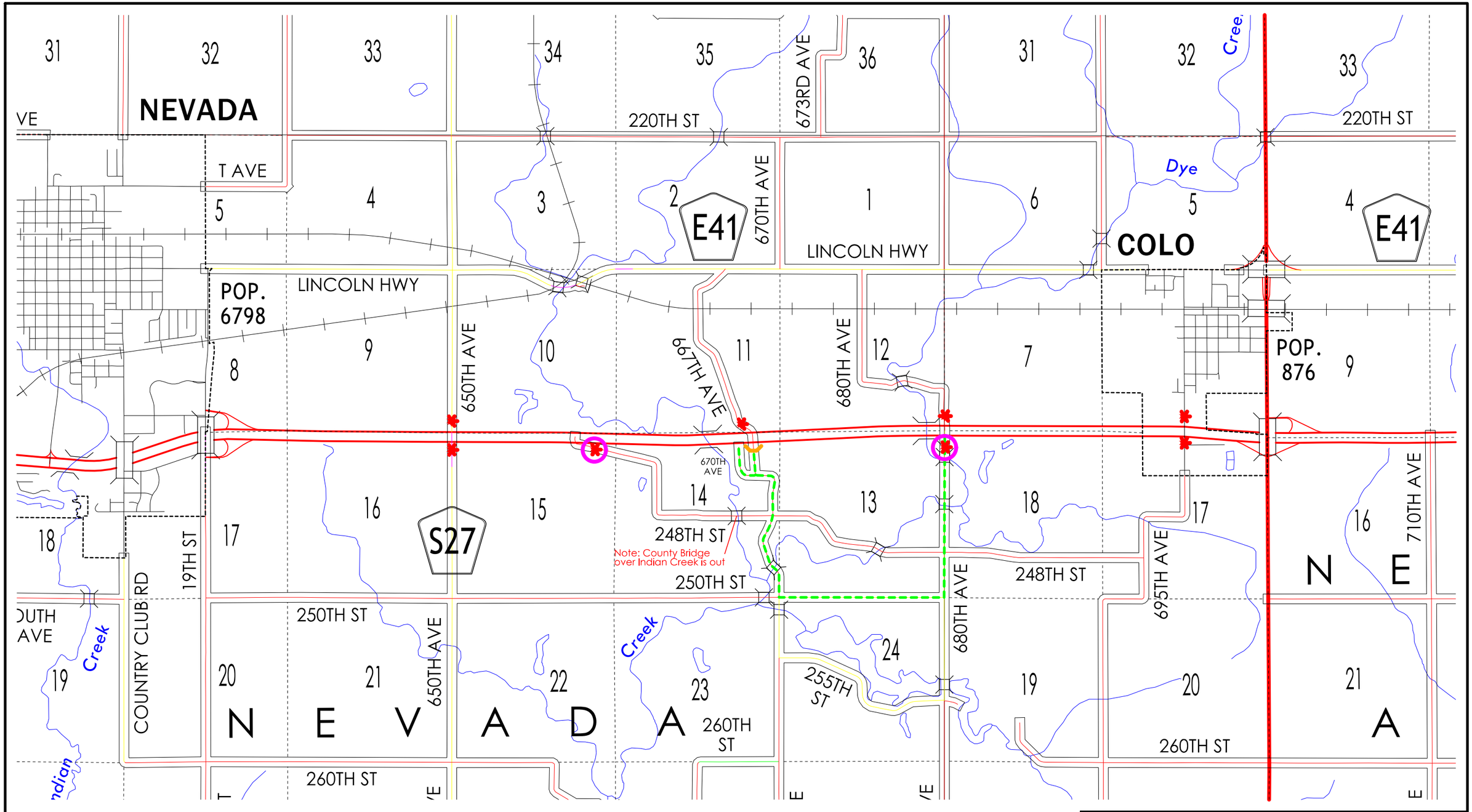

✱ RIGHT-IN/RIGHT-OUT

SIDE ROAD CLOSED

DETOUR ROUTE

STAGE CONSTRUCT INTERSECTION

INTERSECTION STAGING, CLOSURES AND DETOUR ROUTES

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER J.3

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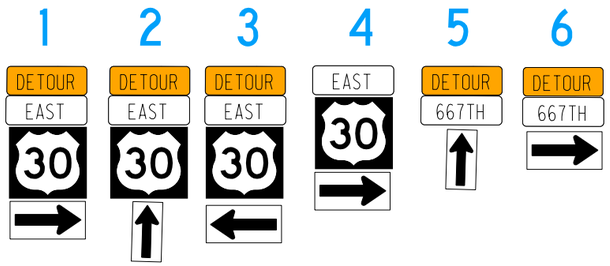

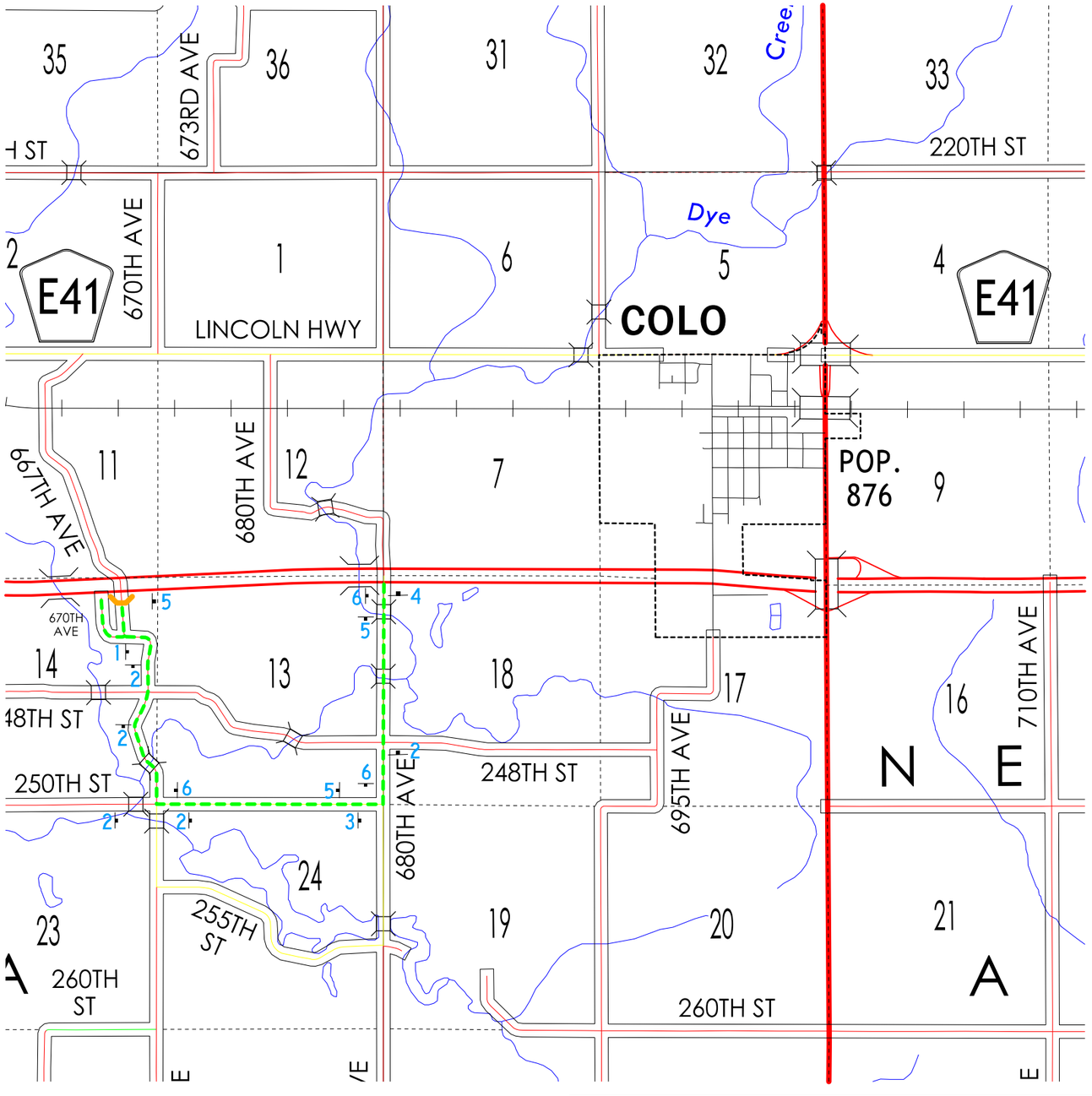

DETOUR SIGNAGE FOR US 30

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER J.4

7:59:32 AM 4/14/2022 badey c:\pw_work\pwmain\idotcentral_badey\d1045386\85030290_J02.dgn

CROSS SECTION VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

SHADING	Design Color No.	
Green, Light	(225)	Existing Pavement Shading
Gray, Light	(48)	Previously Constructed Pavement Shading
Gray, Med	(80)	Previously Constructed Granular Surface Shading
Blue, Light	(230)	Proposed Pavement Shading
Lavender	(9)	Temporary Pavement Shading
Brown, Med	(237)	Future Proposed Pavement Shading

CROSS SECTION VIEW PATTERN AND SYMBOL LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

	Pavement Removal		Proposed Granular Shoulder
	Proposed Granular Subbase		Temporary Shoulder
	Proposed Special Backfill		Existing Shoulder Strengthening
	Temporary Barrier Rail		Permanent Barrier Rail
			Channelizing Device

PLAN VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

LINEWORK	Design Color No.	
Green	(2)	Existing Topographic Features and Labels
Magenta	(5)	Pavement Marking Call Outs
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Yellow	(4)	Pavement Markings, Yellow
Off White	(254)	Pavement Markings, White
Violet	(15)	Temporary barrier rail, Unpinned
Flush Orange	(228)	Temporary barrier rail, Pinned

SHADING	Design Color No.	
Green, Light	(225)	Existing Pavement Shading
Gray, Light	(48)	Previously Constructed Pavement Shading
Gray, Med	(80)	Proposed Granular Surface Shading
Gray, Med	(80)	Previously Constructed Granular Surface Shading
Blue, Light	(230)	Proposed Pavement Shading
Lavender	(9)	Temporary Pavement Shading
Brown, Light	(236)	Proposed Grading Limits Shading
Pink, Dark	(13)	Proposed MSE or CIP Wall Shading
Red	(3)	Proposed Bridge Shading and Sign Trusses
Black w/Gray, Light Fill	(0,48)	Previously Constructed Structure

PLAN VIEW PATTERN AND SYMBOL LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

●	Channelizing Device		Crash Cushion (Temp or Perm)
✕	Drum		Traffic Signal
◘	Temporary Lane Separator		Flagger
◆	Tubular Marker		Temporary Floodlighting
♦	Channelizer Marker		Traffic Sign
△	Concrete Barrier Marker		Type III Barricade
⊰	Delineator		Type A Warning Light
———	Temporary Barrier Rail		Direction of Traffic
	Pavement Removal		Safety Closure
	Sand Barrel Layout	1	Lane Identification

NOTE: Device spacing according to Standard Road Plans unless specifically dimensioned.

TRAFFIC CONTROL AND STAGING LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES J)

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER J.5

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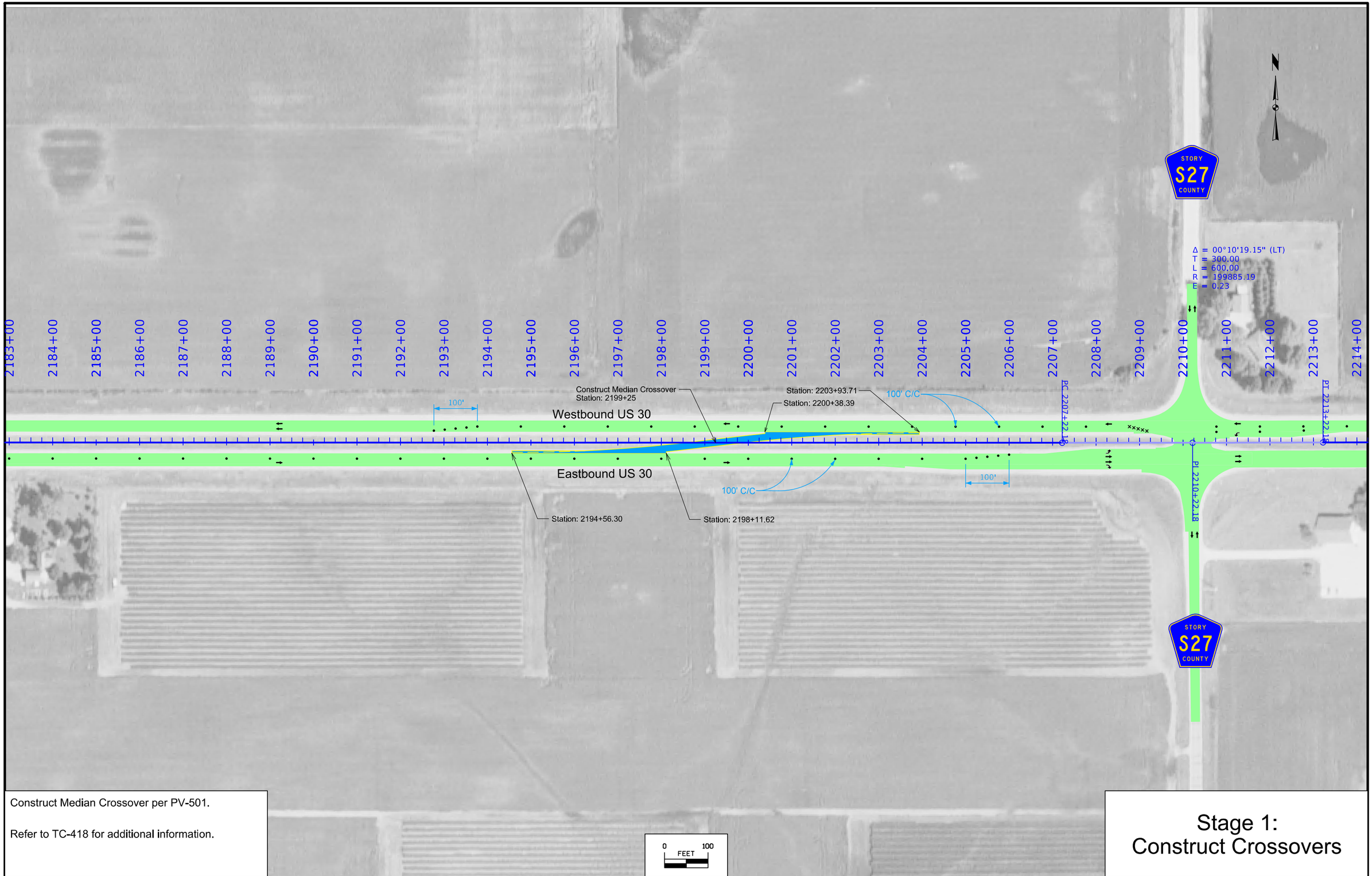

Construct Median Crossover per PV-501.

Refer to TC-418 for additional information.

0 FEET 100

Stage 1: Construct Crossovers

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER J.6

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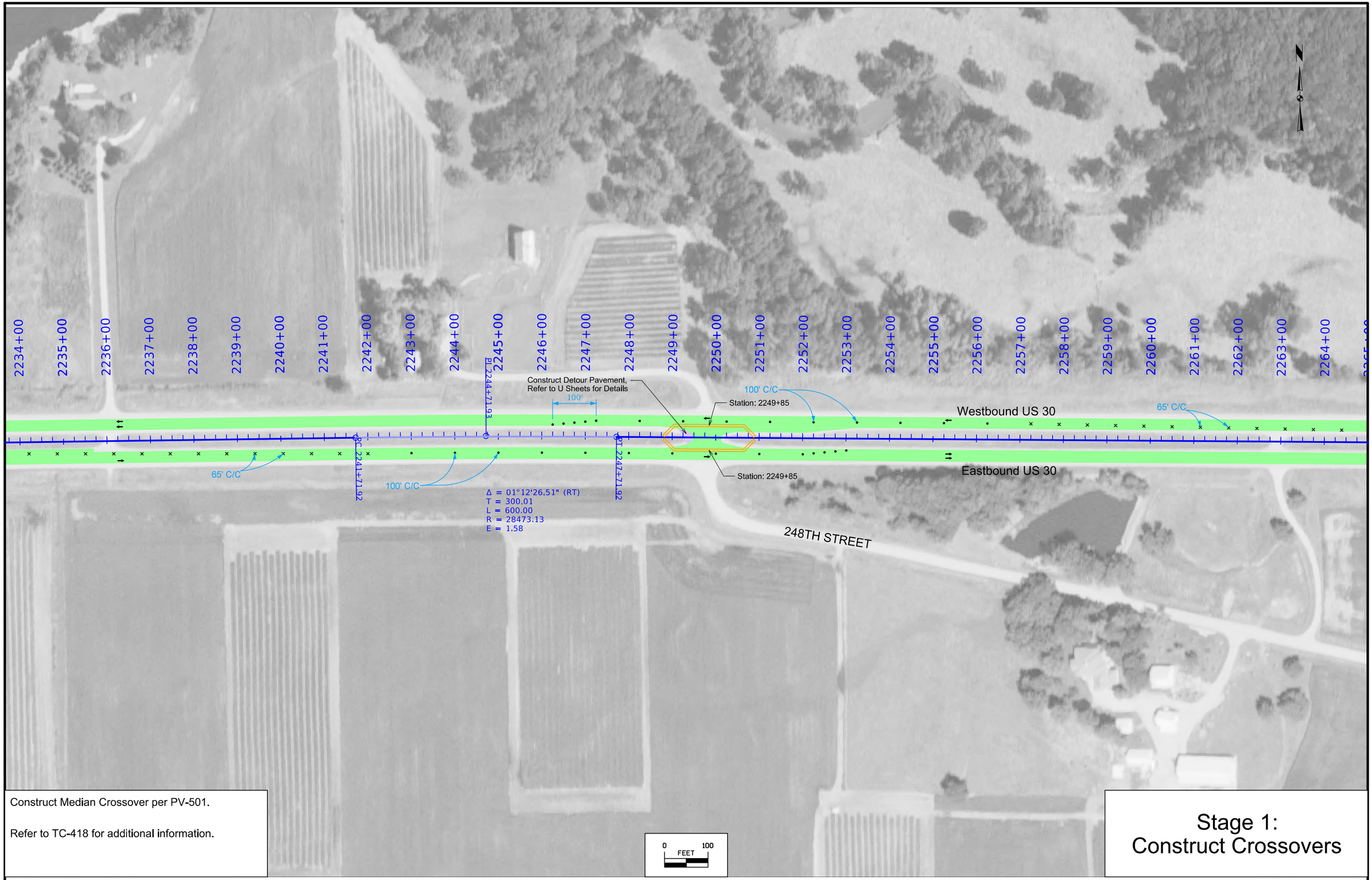

Construct Median Crossover per PV-501.

Refer to TC-418 for additional information.

Stage 1: Construct Crossovers

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER J.7

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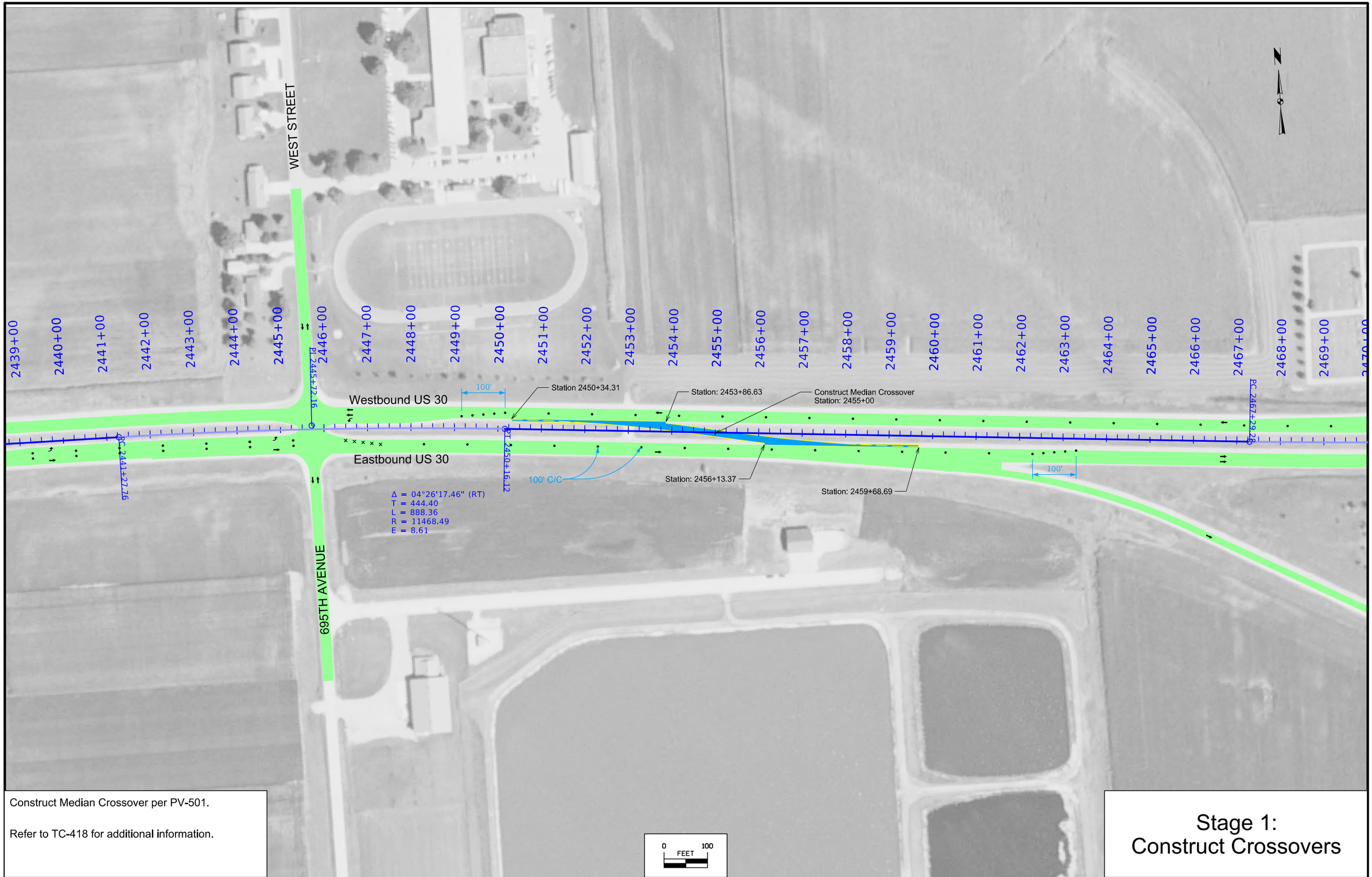

Construct Median Crossover per PV-501.

Refer to TC-418 for additional information.

Stage 1: Construct Crossovers

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER J.8

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2173+00 2174+00 2175+00 2176+00 2177+00 2178+00 2179+00 2180+00 2181+00 2182+00 2183+00 2184+00 2185+00 2186+00 2187+00 2188+00 2189+00 2190+00 2191+00 2192+00 2193+00 2194+00 2195+00 2196+00 2197+00 2198+00 2199+00 2200+00 2201+00 2202+00 2203+00

WB Pavement Marking Removal Limits
Station: 2198+16

Station: 2200+10

Westbound US 30

Eastbound US 30

65' C/C

40' C/C

40' C/C

Station: 2176+76

Station 2184+56

Station: 2194+56

Station: 2199+25

Station: 2198+40

Begin EB Pavement Marking Removals
Station: 2169+26

0 100
FEET

Traffic in westbound lanes.
Pave Eastbound lanes.
Place all signing per TC-61.
Refer to TC-61, TC-418 and TLSS-1 for additional information.

Stage 2: Eastbound Paving

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER J.9	

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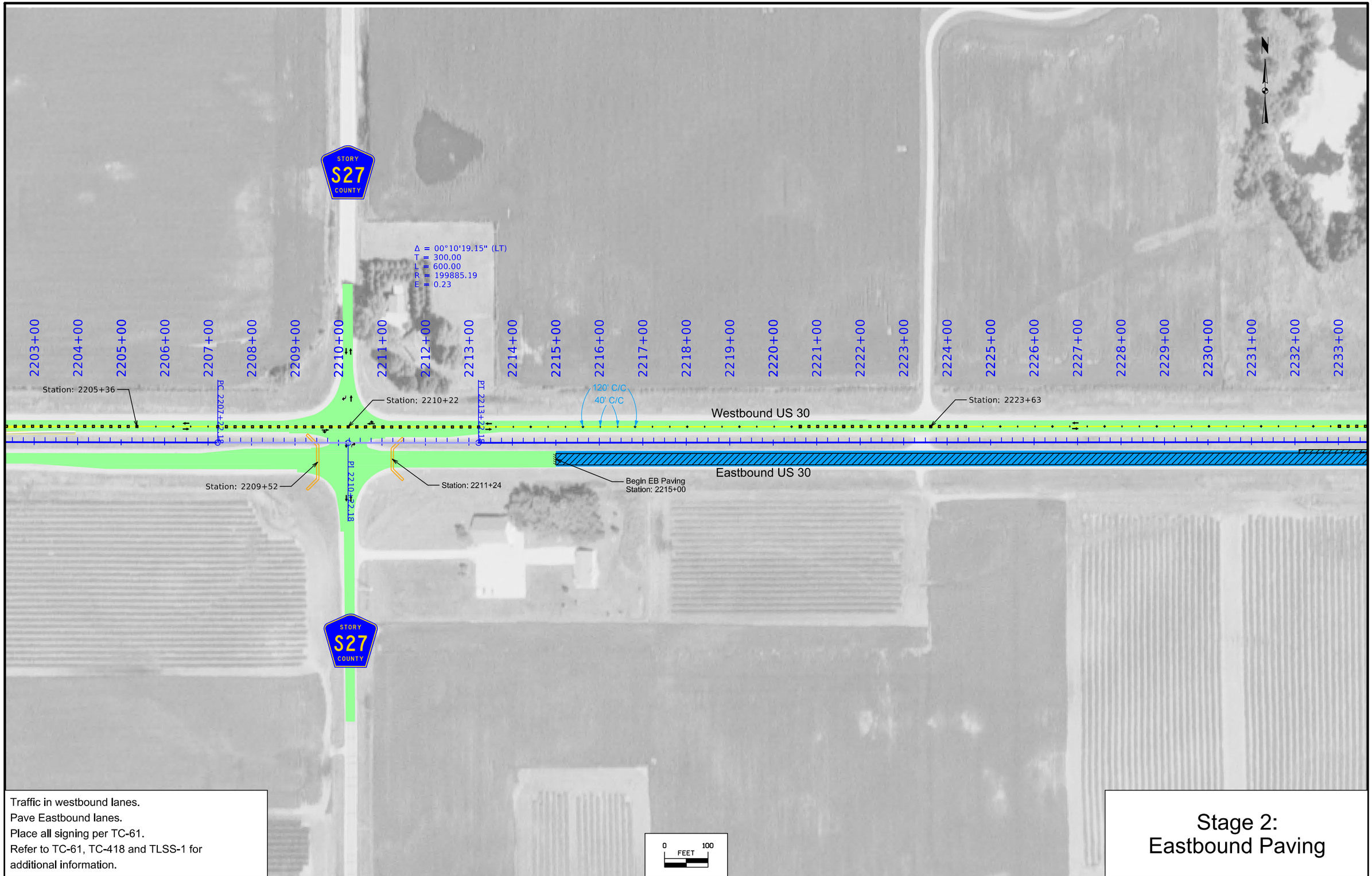

Traffic in westbound lanes.
Pave Eastbound lanes.
Place all signing per TC-61.
Refer to TC-61, TC-418 and TLSS-1 for additional information.

Stage 2: Eastbound Paving

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER J.10

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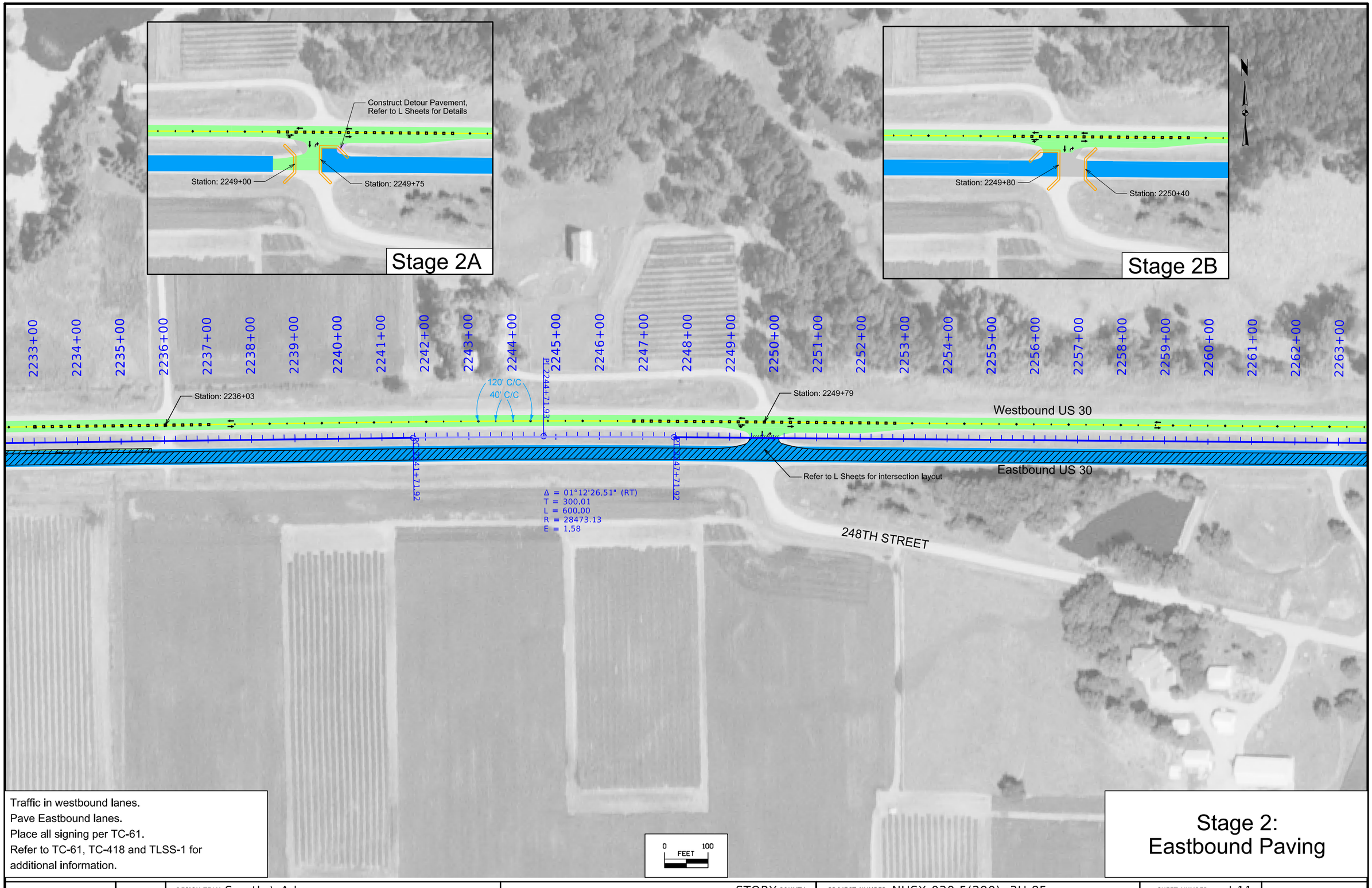

Traffic in westbound lanes.
Pave Eastbound lanes.
Place all signing per TC-61.
Refer to TC-61, TC-418 and TLSS-1 for additional information.

Stage 2: Eastbound Paving

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER J.11

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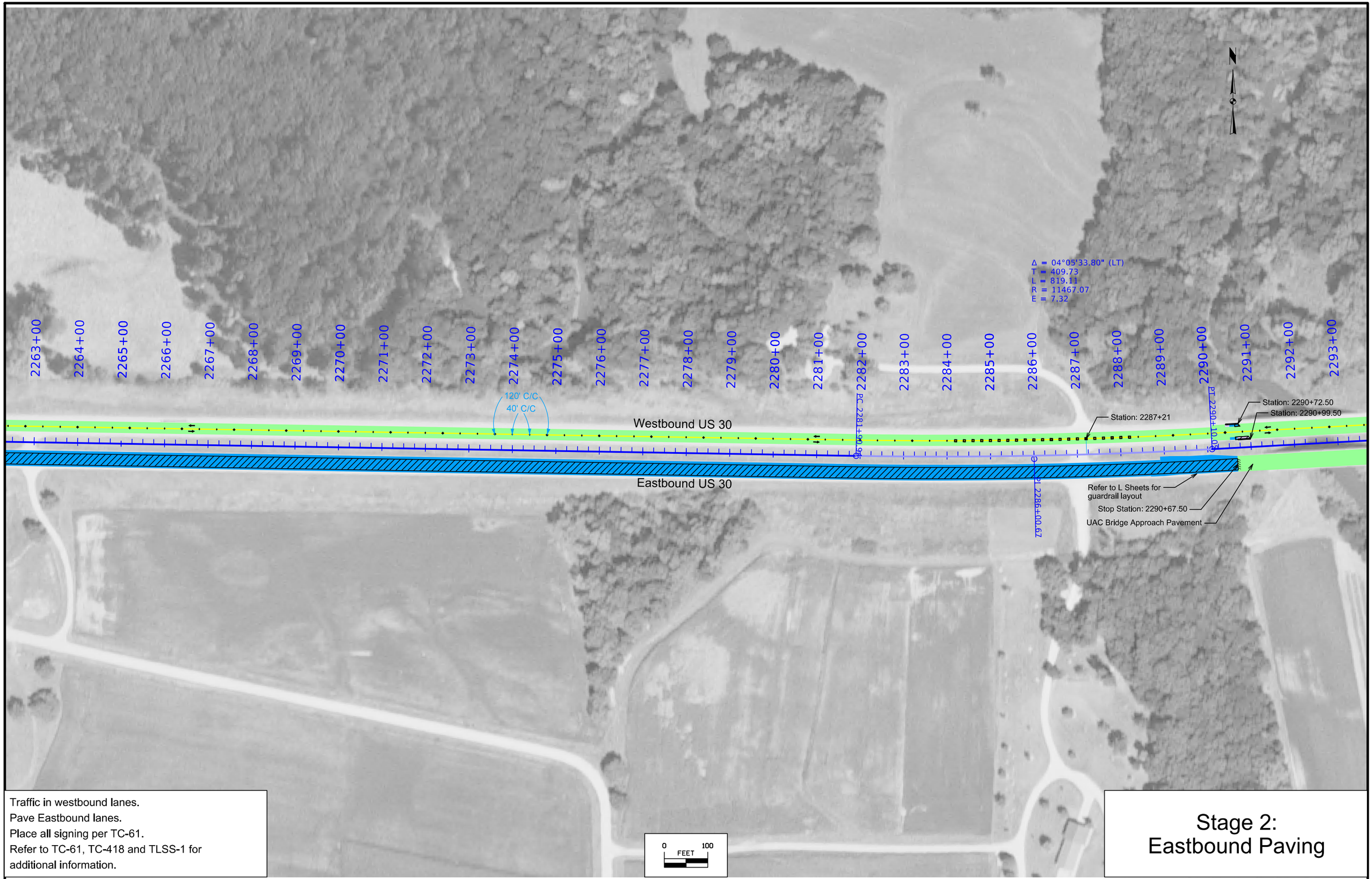

Traffic in westbound lanes.
Pave Eastbound lanes.
Place all signing per TC-61.
Refer to TC-61, TC-418 and TLSS-1 for additional information.

Stage 2: Eastbound Paving

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER J.12

8:00:38 AM 4/14/2022 badey c:\pw_work\pwmain\idotcentral_badey\d1045386\85030290_J09.dgn

667TH AVENUE

2293+00 2294+00 2295+00 2296+00 2297+00 2298+00 2299+00 2300+00 2301+00 2302+00 2303+00 2304+00 2305+00 2306+00 2307+00 2308+00 2309+00 2310+00 2311+00 2312+00 2313+00 2314+00 2315+00 2316+00 2317+00 2318+00 2319+00 2320+00 2321+00 2322+00 2323+00

90+99.50

Station 2306+91

Station 2307+02

120' C/C

40' C/C

Westbound US 30

Eastbound US 30

Resume Station: 2295+18.50

UAC Bridge Approach Pavement

Refer to L Sheets for intersection layout

Station 2306+85

670TH AVENUE

667TH AVENUE

0 FEET 100

Traffic in westbound lanes.
Pave Eastbound lanes.
Place all signing per TC-61.
Refer to TC-61, TC-418 and TLSS-1 for additional information.

Stage 2: Eastbound Paving

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER J.13

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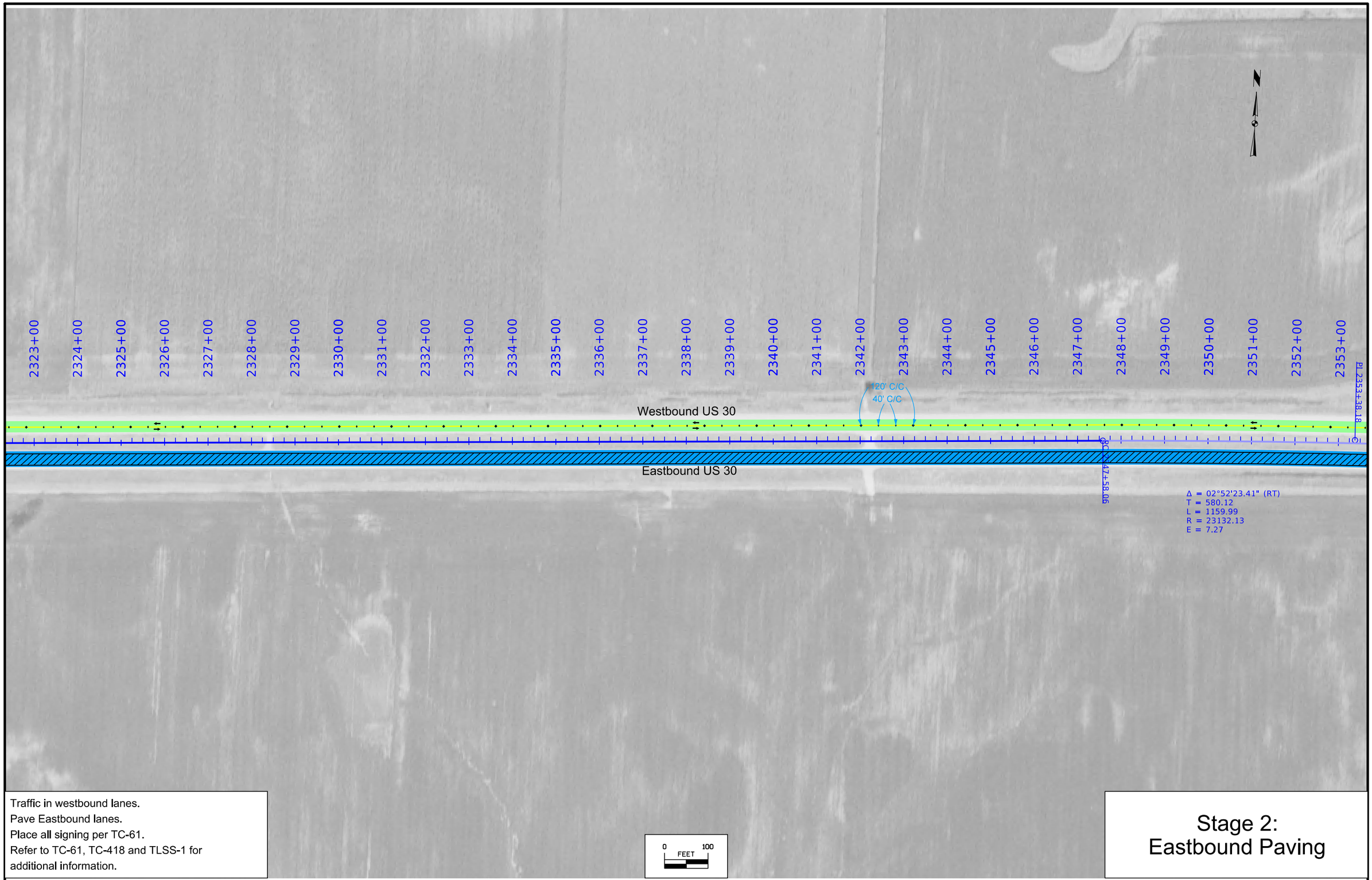

Traffic in westbound lanes.
Pave Eastbound lanes.
Place all signing per TC-61.
Refer to TC-61, TC-418 and TLSS-1 for additional information.

Stage 2: Eastbound Paving

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER J.14

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Traffic in westbound lanes.
Pave Eastbound lanes.
Place all signing per TC-61.
Refer to TC-61, TC-418 and TLSS-1 for additional information.

Stage 2: Eastbound Paving

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER J.15

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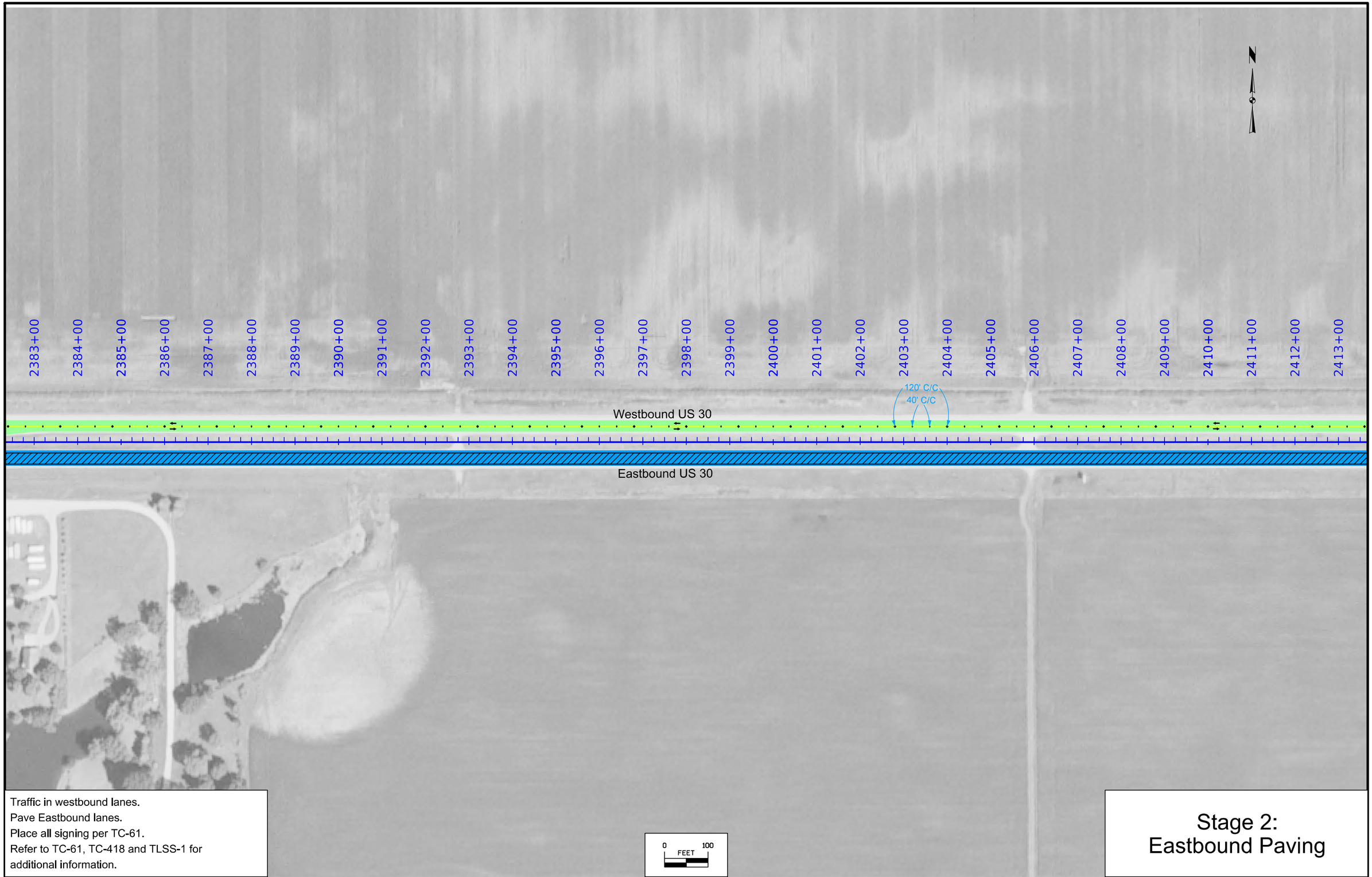

Traffic in westbound lanes.
Pave Eastbound lanes.
Place all signing per TC-61.
Refer to TC-61, TC-418 and TLSS-1 for additional information.

Stage 2: Eastbound Paving

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER J.16

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Traffic in westbound lanes.
Pave Eastbound lanes.
Place all signing per TC-61.
Refer to TC-61, TC-418 and TLSS-1 for additional information.

Stage 2: Eastbound Paving

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER J.17

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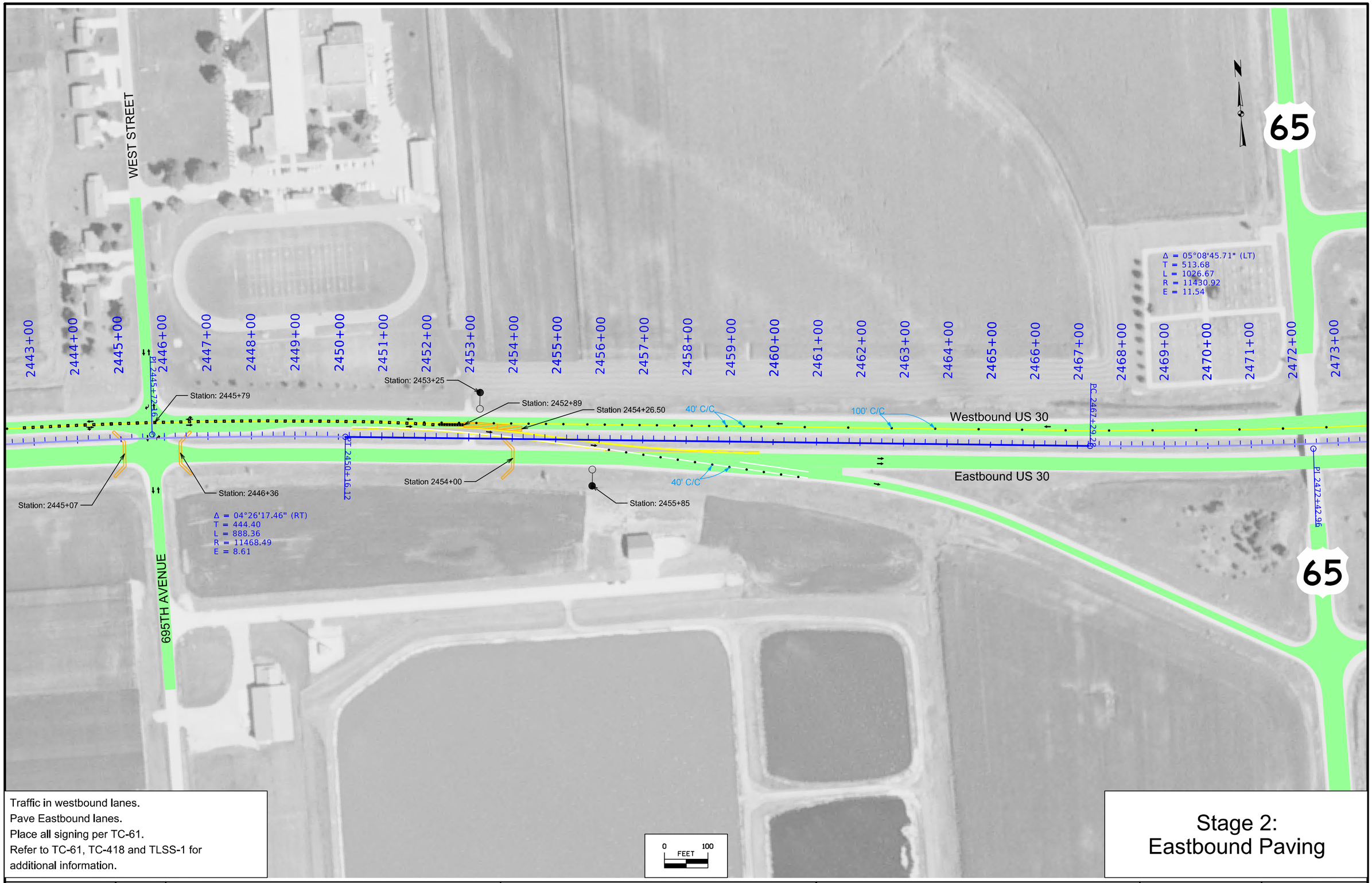

Traffic in westbound lanes.
Pave Eastbound lanes.
Place all signing per TC-61.
Refer to TC-61, TC-418 and TLSS-1 for additional information.

Stage 2: Eastbound Paving

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER J.18

8:00:58 AM 4/14/2022 badey c:\pw_work\pwmain\idotcentral_badey\d1045386\85030290_J09.dgn

Westbound US 30

2247+00

2248+00

2249+00

2250+00

2251+00

2252+00

Station: 2249+13.84
Offset: 19.05sf Lt.

Station: 2249+45.84
Offset: 0.00sf Rt.

Station: 2250+13.34
Offset: 0.00sf Rt.

Station: 2250+36.82
Offset: 11.36sf Lt.

Station: 2249+35.41
Offset: 14.29sf Rt.

Station: 2249+18.42
Offset: 19.00sf Rt.

Station: 2250+20.06
Offset: 12.43sf Rt.

Station: 2250+46.29
Offset: 19.00sf Rt.

Station: 2248+66.80
Offset: 19.00sf Rt.

Station: 2248+66.80
Offset: 25.00sf Rt.

Station: 2251+05.99
Offset: 19.00sf Rt.

Station: 2251+05.99
Offset: 25.00sf Rt.

℄ Int 2247+71.82

Eastbound US 30

248TH STREET

0 20
FEET

Geometrics & Staking - Intersection US 30 and 248th Street

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER L.1

8:07:01 AM 4/14/2022 badey c:\pw_work\pwmain\idotcentral_badey\d1045386\85030290_L01.dgn

Westbound US 30

2247+00 2248+00 2249+00 2250+00 2251+00 2252+00

BT 2247+71.82

BT-2 12' BT-2 20' BT-2 20' BT-2 20'

L-2 17' L-2 17'

C 6' CD 6' CD 12' CD 12' CD 12' C 6'

17' 17' 17' 17' 17' 17' 20' 20' 17' 17' 17' 17' 17' 17' 17'

CD 13' CD 12' L-2 L-2 L-2 L-2

CD 6' C 6' CD 12' CD 12' C 6'

Eastbound US 30

248TH STREET

0 20 FEET

Jointing - Intersection US 30 and 248th Street

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER L.2	

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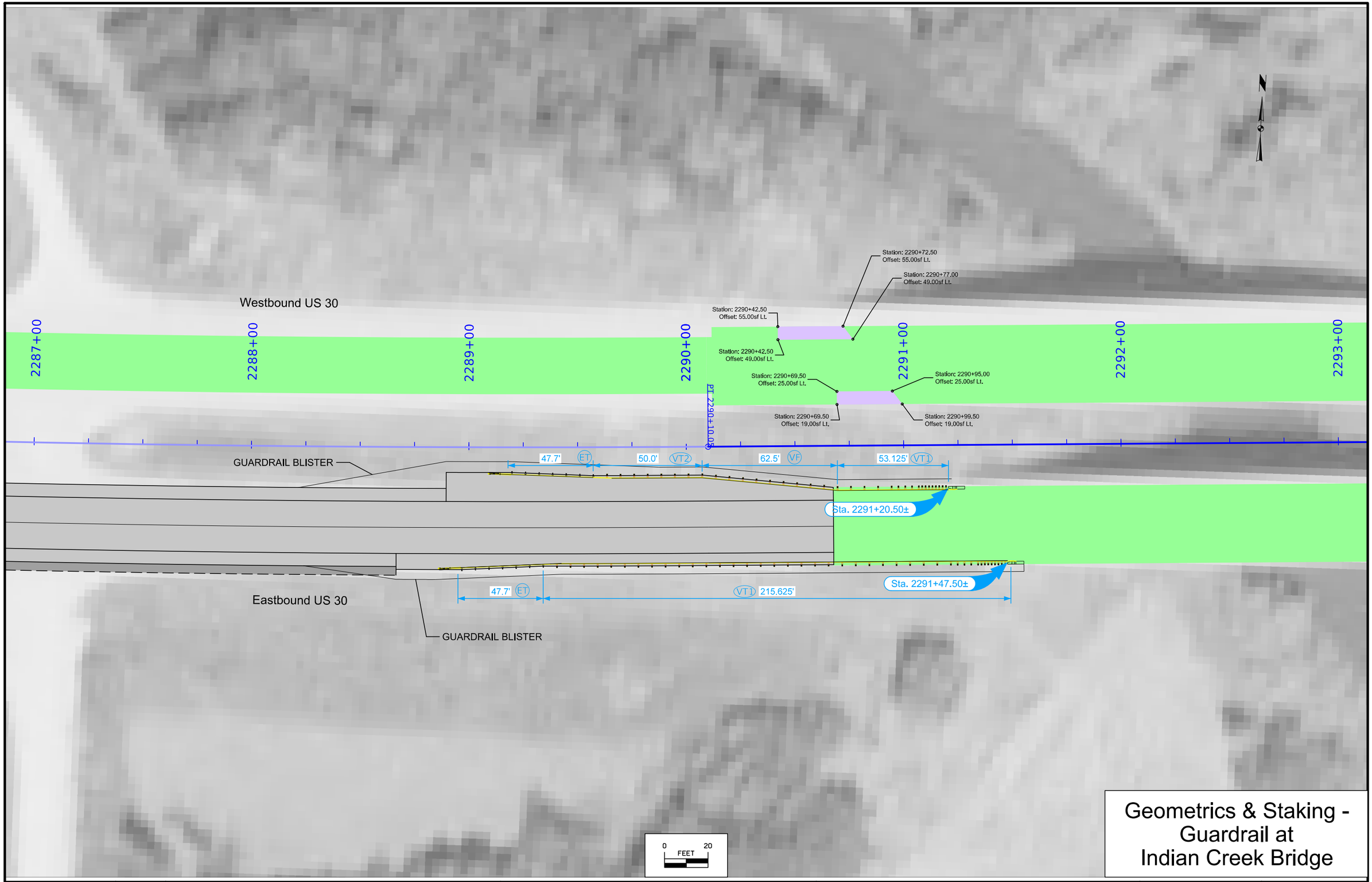

Geometrics & Staking - Guardrail at Indian Creek Bridge

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER L.3

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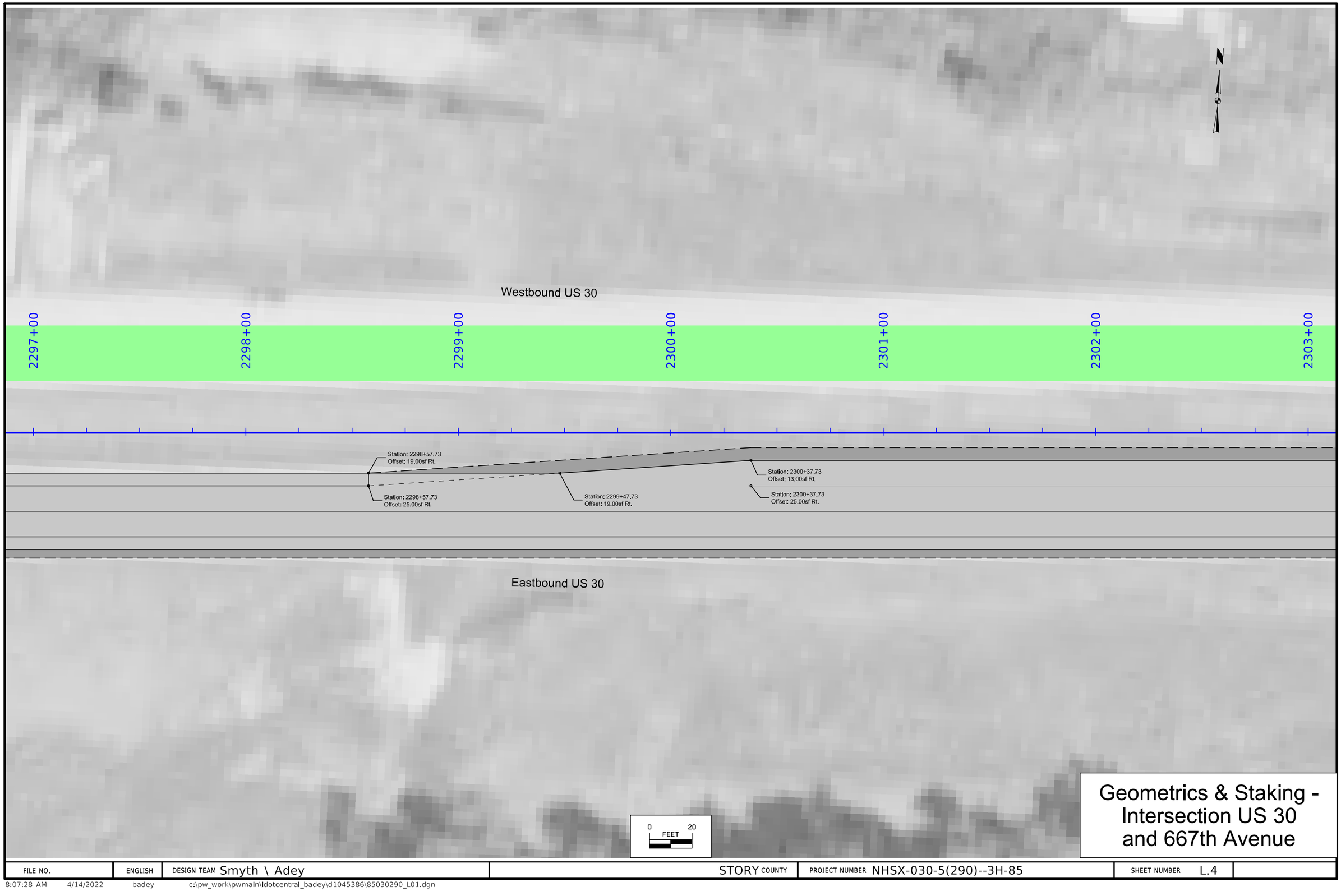

Geometrics & Staking - Intersection US 30 and 667th Avenue

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER L.4

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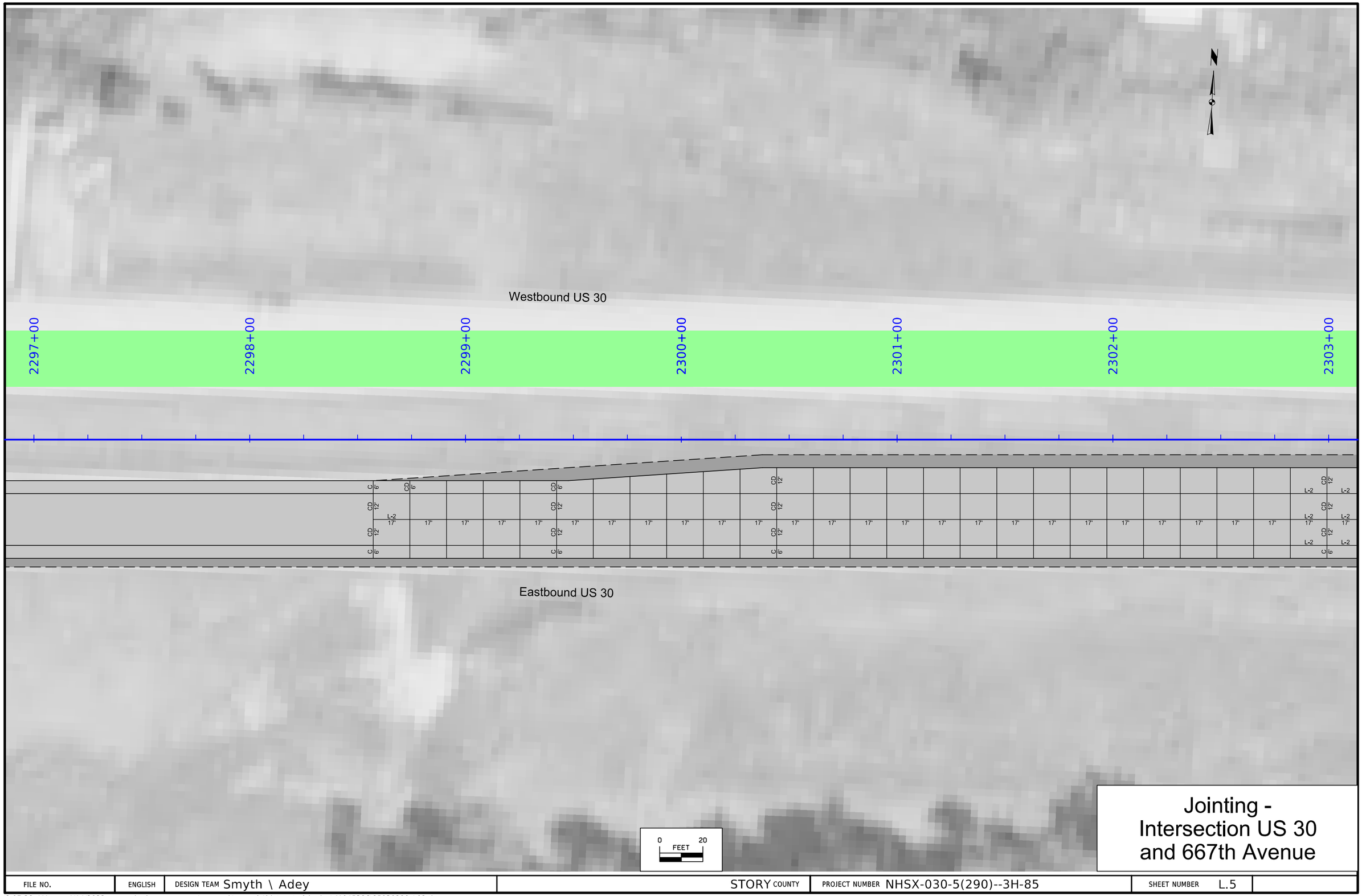

Jointing - Intersection US 30 and 667th Avenue

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER L.5

8:07:38 AM 4/14/2022 badey c:\pw_work\pwmain\idotcentral_badey\d1045386\85030290_L02.dgn

667th Avenue

Westbound US 30

2303+00

2304+00

2305+00

2306+00

2307+00

2308+00

2309+00

Station: 2306+49.24
Offset: 0.00sf Lt.

Station: 2307+36.28
Offset: 0.00sf Rt.

Station: 2306+43.20
Offset: 6.50sf Rt.

Station: 2306+07.73
Offset: 13.00sf Rt.

Station: 2306+07.73
Offset: 25.00sf Rt.

Station: 2307+43.01
Offset: 12.43sf Rt.

Station: 2307+69.23
Offset: 19.00sf Rt.

Station: 2308+28.93
Offset: 19.00sf Rt.

Station: 2308+28.93
Offset: 25.00sf Rt.

Eastbound US 30

667th Avenue

0 20
FEET

Geometrics & Staking - Intersection US 30 and 667th Avenue

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER L.6

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Jointing - Intersection US 30 and 667th Avenue

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER L.7

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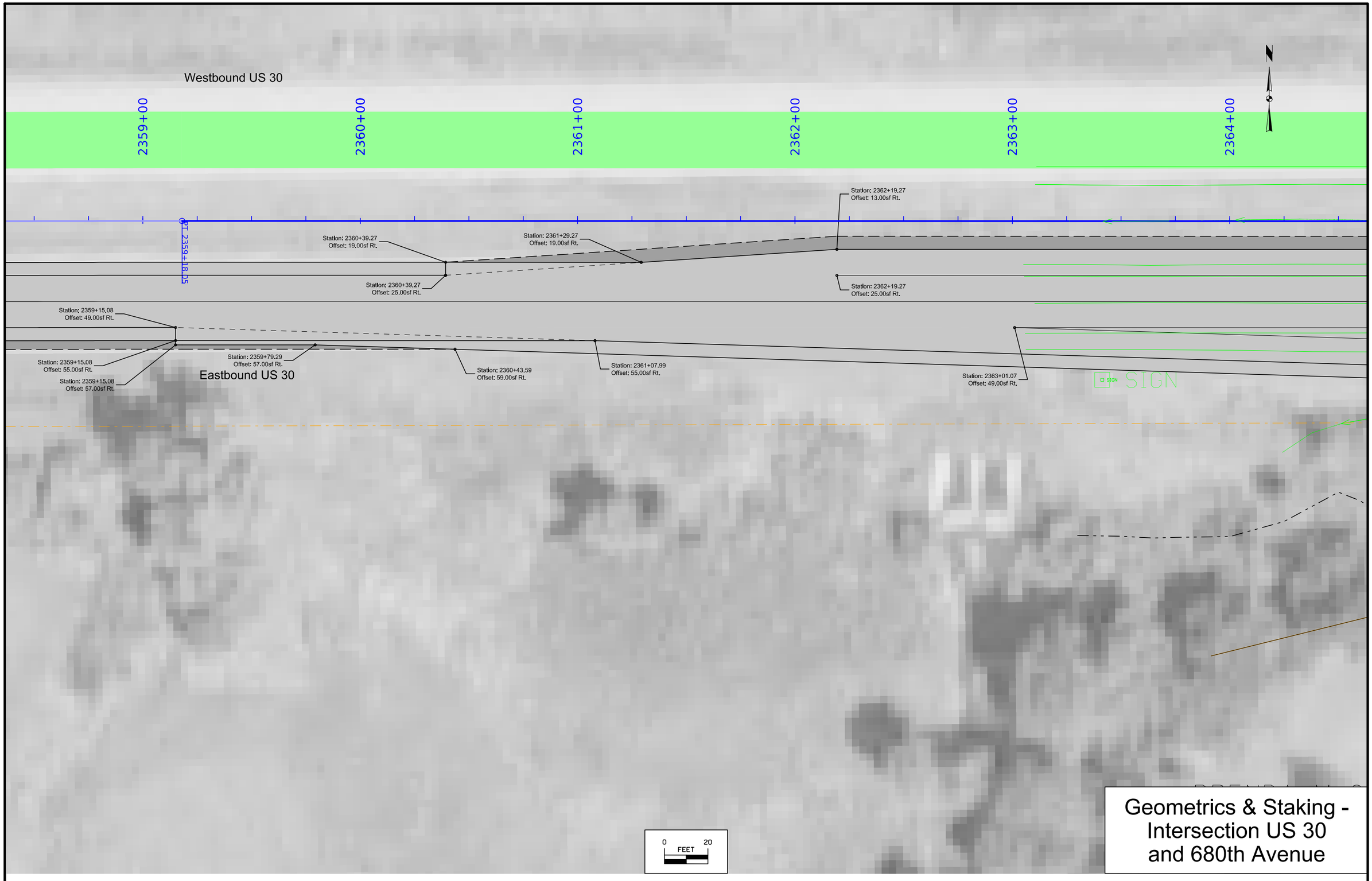

Geometrics & Staking - Intersection US 30 and 680th Avenue

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER L.8

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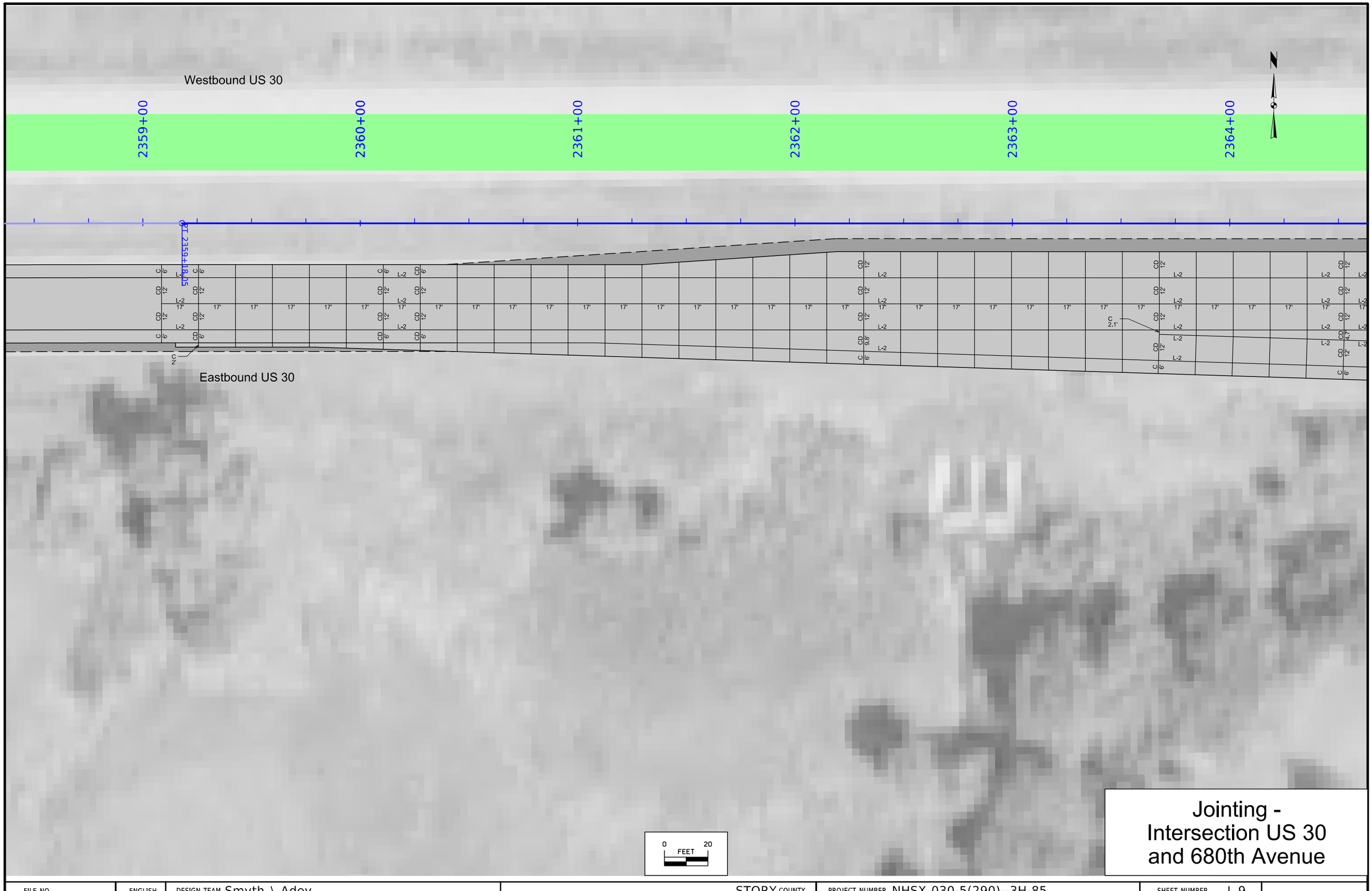

Jointing - Intersection US 30 and 680th Avenue

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER L.9	

8:08:22 AM 4/14/2022 badey c:\pw_work\pwmain\idotcentral_badey\d1045386\85030290_L02.dgn

Westbound US 30

Eastbound US 30

680th Avenue

2365+00

2366+00

2367+00

2368+00

2369+00

2370+00

Station: 2367+45.43
Offset: 24.18sf Lt.

Station: 2368+09.00
Offset: 11.03sf Rt.

Station: 2367+89.27
Offset: 13.00sf Rt.

Station: 2367+89.27
Offset: 25.00sf Rt.

Station: 2368+24.74
Offset: 6.50sf Rt.

Station: 2368+30.78
Offset: 0.00sf Rt.

Station: 2369+17.61
Offset: 0.00sf Lt.

Station: 2369+24.34
Offset: 12.43sf Rt.

Station: 2369+50.56
Offset: 19.00sf Rt.

Station: 2370+10.26
Offset: 19.00sf Rt.

Station: 2370+10.26
Offset: 25.00sf Rt.

Station: 2368+61.89
Offset: 49.00sf Rt.

Station: 2369+35.58
Offset: 49.00sf Rt.

Station: 2369+15.97
Offset: 55.00sf Rt.

Station: 2369+08.43
Offset: 59.00sf Rt.

Station: 2368+99.21
Offset: 66.67sf Rt.

Station: 2368+61.78
Offset: 66.44sf Rt.

Station: 2367+65.81
Offset: 75.46sf Rt.

PC 1+00.00

PI 1+66.06

2+00

FO

TP

FO W

PCC 2+13.98

PI 2+56.18

PCC 2+97.82

POE 2+97.82

Δ = 72°33'38.86" (RT)
T = 66.06
L = 113.98
R = 90.00
E = 21.64

SCS PI Sta 1+95.94
Δ = 88°34'27.0"
Θ = 00°00'00.0"
Ls = 0.0000sf
Ts = 95.9388sf
Es = 41.5456sf
P = 0.0000
K = 0.0000
Xc = 0.0000sf
Yc = 0.0000sf
LT = 0.0000sf
ST = 0.0000sf
LC = 0.0000sf

Δ = 16°00'48.11" (RT)
T = 42.20
L = 83.85
R = 300.00
E = 2.95

SIGN

0 20
FEET

Geometrics & Staking - Intersection US 30 and 680th Avenue

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER L.10

8:08:39 AM 4/14/2022 badey c:\pw_work\pwmain\idotcentral_badey\d1045386\85030290_L01.dgn

Westbound US 30

Eastbound US 30

680th Avenue

2365+00

2366+00

2367+00

2368+00

2369+00

2370+00

0 FEET 20

Jointing - Intersection US 30 and 680th Avenue

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER L.11

8:08:46 AM 4/14/2022 badey c:\pw_work\pwmain\idotcentral_badey\d1045386\85030290_L02.dgn

1035
1030
1025
1020
1015
1010
1005
1000
995
990
985
980
975
970
965
960
955
950
RT 945
940

APPROXIMATE CENTERLINE PROFILE

EXISTING GROUND AT CENTERLINE

RT +00
980.54

RT +60
968.84

Ditch Grade — 2.5' Ditch — VAR. Refer to L.13 for Ditch Grades around Return

2364+00 2365+00 2366+00 2367+00 2368+00 2369+00 2370+00 2371+00 2372+00 2373+00 2374+00 2375+00 2376+00 2377+00 2378+00 2379+00

US 30 Profile and Ditch Grades

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER L.12

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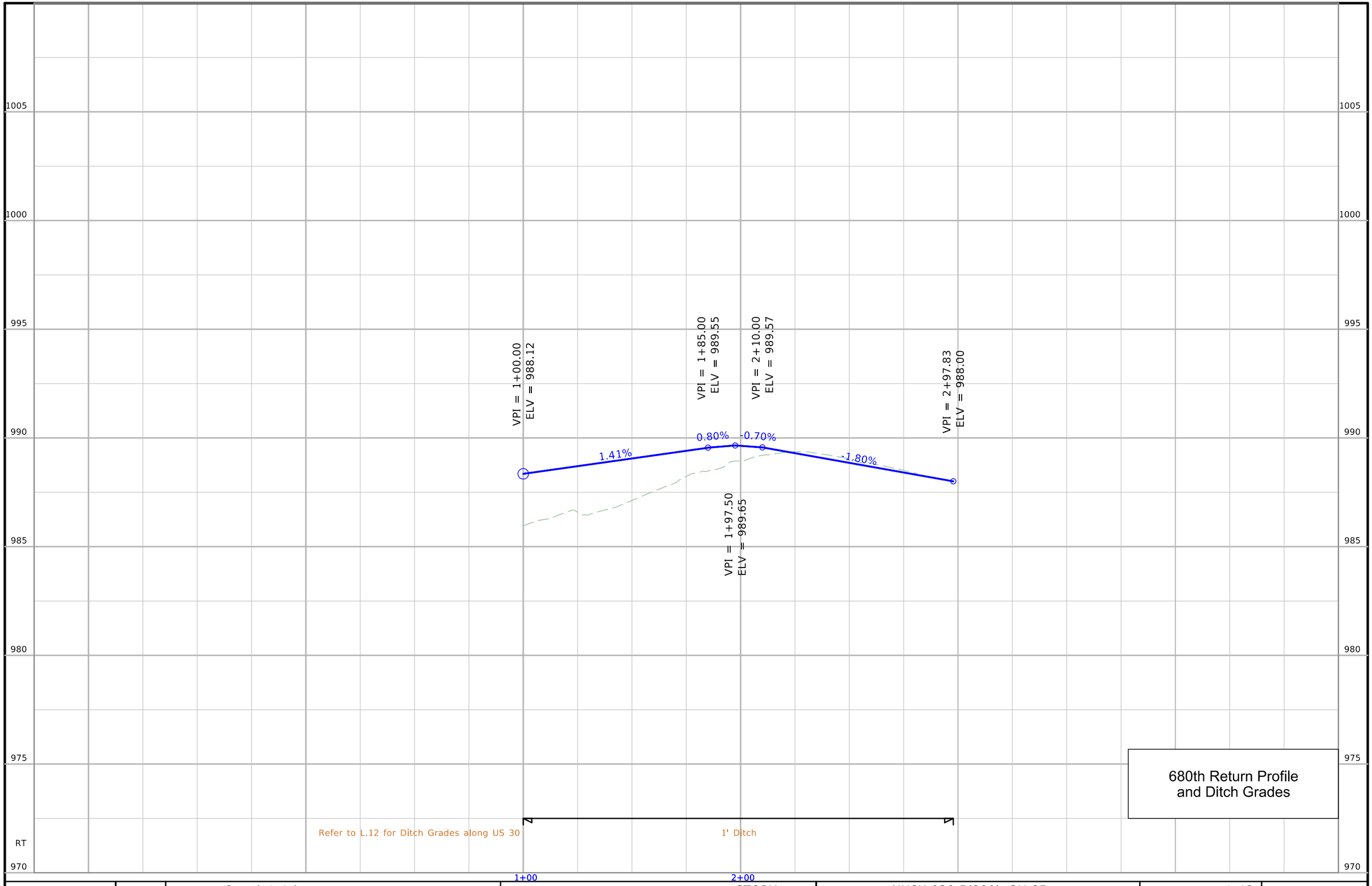

680th Return Profile and Ditch Grades

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER L.13

8:08:58 AM 4/14/2022 badey c:\pw_work\pwmain\idotcentral_badey\d1045386\85030290_L01.dgn

Westbound US 30

2377+00 2378+00 2379+00 2380+00 2381+00 2382+00 2383+00

Station: 2379+31.00
Offset: 0.00sf Rt.

Station: 2379+98.50
Offset: 0.00sf Rt.

Station: 2378+51.97
Offset: 19.00sf Rt.

Station: 2379+03.58
Offset: 19.00sf Rt.

Station: 2379+20.57
Offset: 14.29sf Rt.

Station: 2380+05.23
Offset: 12.43sf Rt.

Station: 2380+31.45
Offset: 19.00sf Rt.

Station: 2380+91.15
Offset: 19.00sf Rt.

Station: 2378+51.97
Offset: 25.00sf Rt.

Station: 2380+91.15
Offset: 25.00sf Rt.

Station: 2378+90.00
Offset: 49.00sf Rt.

Station: 2380+20.00
Offset: 49.00sf Rt.

Station: 2378+90.00
Offset: 55.00sf Rt.

Station: 2380+20.00
Offset: 55.00sf Rt.

Station: 2379+12.45
Offset: 55.00sf Rt.

Station: 2379+97.55
Offset: 55.00sf Rt.

Station: 2379+91.72
Offset: 59.00sf Rt.

Station: 2379+23.54
Offset: 64.00sf Rt.

Station: 2379+86.46
Offset: 64.00sf Rt.

Eastbound US 30

0 20
FEET

Geometrics & Staking - Intersection US 30 and Twin Anchors Camp Ground

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER L.14

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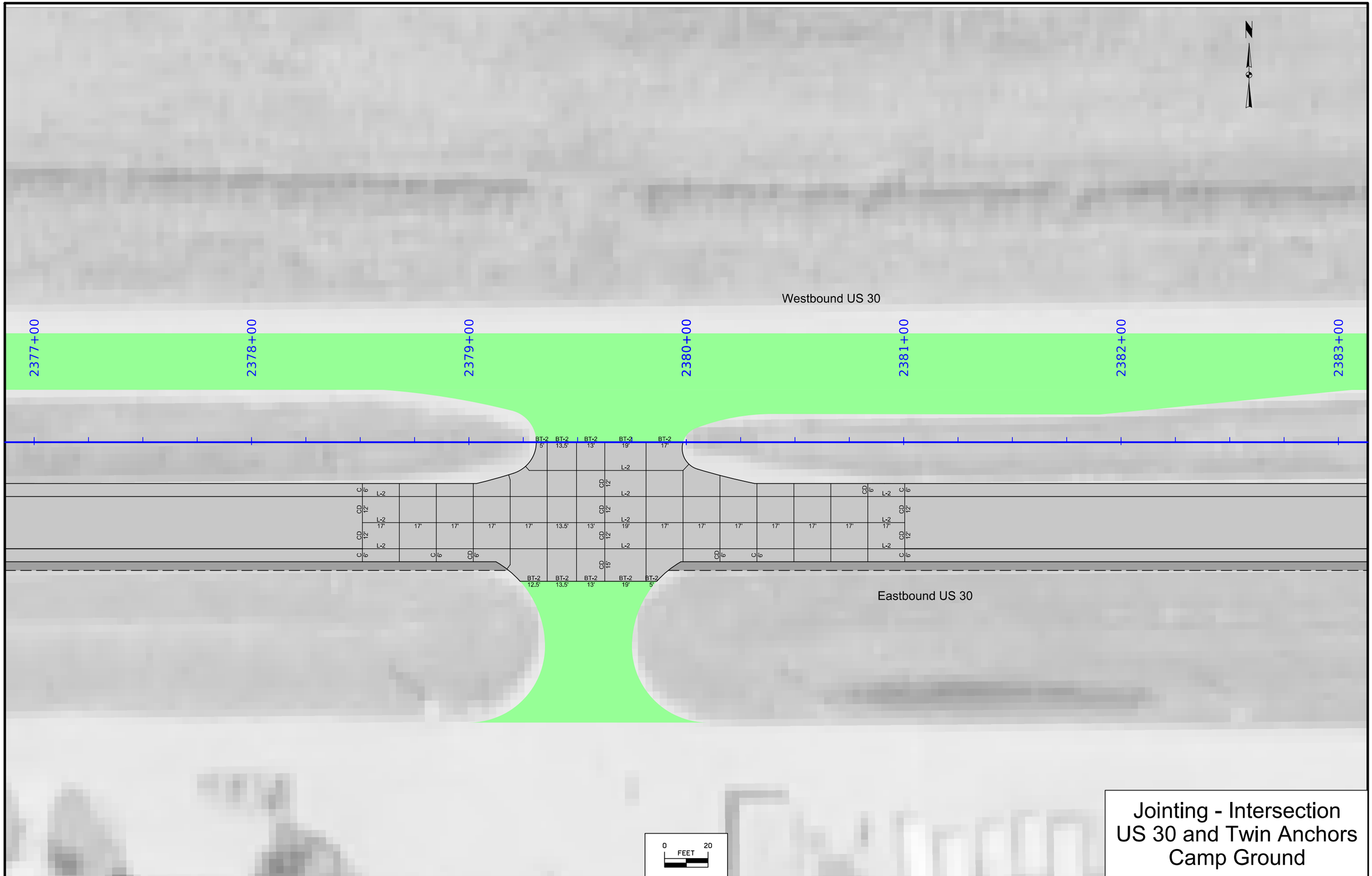

Jointing - Intersection US 30 and Twin Anchors Camp Ground

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER L.15

8:09:09 AM 4/14/2022 badey c:\pw_work\pwmain\idotcentral_badey\d1045386\85030290_L02.dgn

Westbound US 30

2437+00 2438+00 2439+00 2440+00 2441+00 2442+00 2443+00

Station: 2437+50.00
Offset: 19.00sf Rt.

Station: 2437+50.00
Offset: 25.00sf Rt.

Station: 2438+40.00
Offset: 19.00sf Rt.

Station: 2439+30.00
Offset: 13.00sf Rt.

Station: 2439+30.00
Offset: 25.00sf Rt.

PC 2441+27.76

Station: 2442+00.00
Offset: 13.00sf Rt.

Station: 2442+00.00
Offset: 25.00sf Rt.

Eastbound US 30

0 20
FEET

Geometrics & Staking - Intersection US 30 and 695th Avenue

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER L.16

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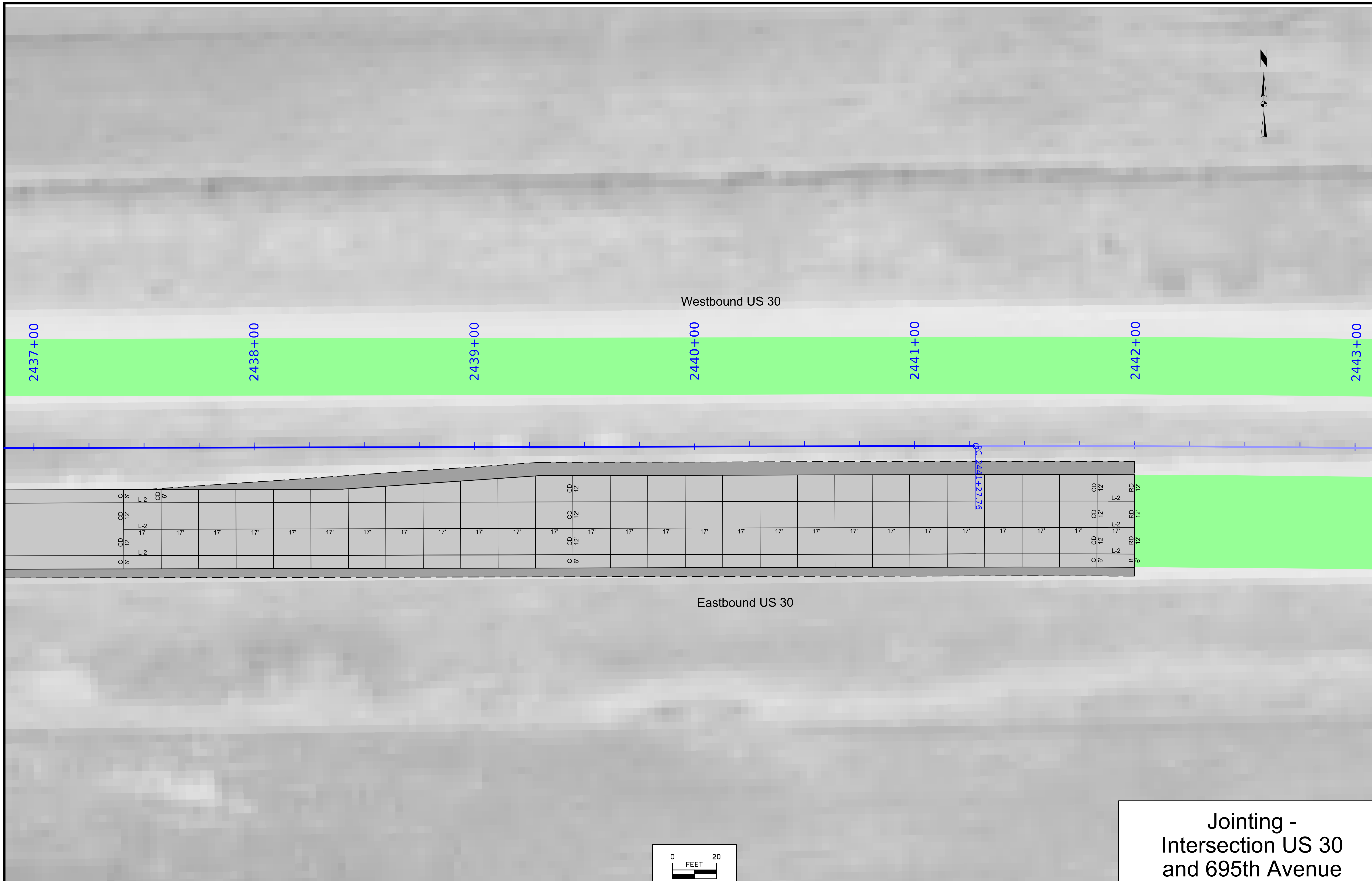

Jointing - Intersection US 30 and 695th Avenue

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER L.17

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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 during construction, 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 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. If consultant designed, signature from Contracting Authority is also required.

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 as documented through Subcontractor Request Forms (Form 830231).
5. Supervises and implements good housekeeping practices according to Paragraph III, C, 2.
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.
8. Submits amended PPP site map according to 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; involved in land disturbing activities; or perorming work that is a source of potential pollution as defined in this PPP. Subcontracted work items are identified in Subcontractor Request Forms (Form 830231). All mco-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 according to Paragraph III, C, 2.

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 periodically monitoring inspection reports 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.
11. Maintains an up-to-date record of contractors, subcontractors, and subcontracted work items through Subcontractor Request Forms (Form 830231).
12. Makes information to determine permit compliance available to the DNR upon their request.

E. Inspector:
1. Updates PPP through fieldbook entries and storm water site inspection reports if there is a change in design, construction, operation, or maintenance which has a significant effect on the discharge of pollutants from the project.
2. Makes information to determine permit compliance available to the DNR upon their request.
3. Conducts joint required inspections of the site with the contractor/subcontractor.
4. Completes an inspection report after each inspection.
5. Is signature authority on storm water inspection reports.

II. PROJECT SITE DESCRIPTION

A. This Pollution Prevention Plan (PPP) is for the reconstruction of the eastbound lanes of a four-lane expressway.

B. This PPP covers approximately 3.75 acres with an estimated 3.75 acres being disturbed. The portion of the PPP covered by this contract has 3.75 acres disturbed.

C. The PPP is located in an area of 1 soil association Clarion-Nicollet-Webster). The estimated weighted average runoff coefficient number for this PPP after completion will be 0.44.

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 and amended PPP site map.

F. Runoff from this work will flow into Indian Creek.

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, amended PPP site map, or by contract modification. Additional erosion and sediment control items may be required as determined by the inspector and/or contractor during storm water site 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, Estimated Project Quantities (100-0A, 100-1A, or 100-1C), and Estimate Reference Information (100-4A) located in the C or R 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 or R 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 or R 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, Estimated Project Quantities (100-0A, 100-1A, or 100-1C), and Estimate Reference Information (100-4A) located in the C or R 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 or R sheets or are referenced in the Standard Road Plans Tabulation (105-4) located in the C or R sheets.

c. Storm Water Management
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 and Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C or R 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

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.

a. Vehicle Entrances and Exits - Construct and maintain entrances and exits to prevent tracking of sediments onto roadways.
b. Material Delivery, Storage and Use - Implement practices to prevent discharge of construction materials during delivery, storage, and use.
c. Stockpile Management - Install controls to reduce or eliminate pollution of storm water from stockpiles of soil and paving.
d. Waste Disposal - Do not discharge any materials, including building materials, into waters of the state, except as authorized by a Section 404 permit.
e. 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.
f. 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.
g. 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.
h. 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.
i. 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.
j. 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

110-12
10-20-20

POLLUTION PREVENTION PLAN

110-12
10-20-20

POLLUTION PREVENTION PLAN

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.

V. INSPECTION REQUIREMENTS

A. Inspections shall be made jointly by the Contractor and the Contracting Authority's inspector at least once every seven calendar days. Storm water site 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 site 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 - Base PPP amended during construction. May include Plan Revisions or Contract Modifications for new items, storm water site inspection reports, fieldbook entries made by the inspector, amended PPP site map by the Contractor, ECIP, NOI, co-permittee certifications, and Subcontractor Request Forms. Items amending the PPP are stored electronically and are readily available upon request.
C. Fieldbook Entries – 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

Benjamin Adey

Printed or Typed Name

Signature

Printed or Typed Name

100-23
04-17-18

ROCK EROSION CONTROL

Refer to EC-301 and Detail 570-8

Location				(L)	(W)	Rock Erosion Control (REC)					Material Bid Quantities			Remarks
Road Identification	Begin Station	End Station	Side			Type 1	Type 2	Type 3	Type 4	Type 5	Eng. Fabric	Class E Revetment	Erosion Stone	
			Lt./Rt.	FT	FT	Rock Ditch Check	Rock Ditch	Rock Flume	Rock Splash Basin	Rock Slope Protection	SY	TON	TON	
US 30	2364+60.00	2366+00.00	Rt	140	16		X				311.1		268.8	

100-17
04-20-10

TABULATION OF SILT FENCES

Refer to EC-201

Location			Length	Remarks
Begin Station	End Station	Side	LF	
Stage 2				
2360+39.00	2364+98.00	Rt	550.0	
Total:			550.0	
Tab Quantity			550.0	
			x1.25	
Silt Fence Bid Quantity			**700.0**	
Bid Quantity			**700.0**	
			x0.10	
Maintenance of Silt Fence			**70.0**	
Bid Quantity			**700.0**	
			x1.00	
Removal of Silt Fence			700.0	

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 Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER R.1

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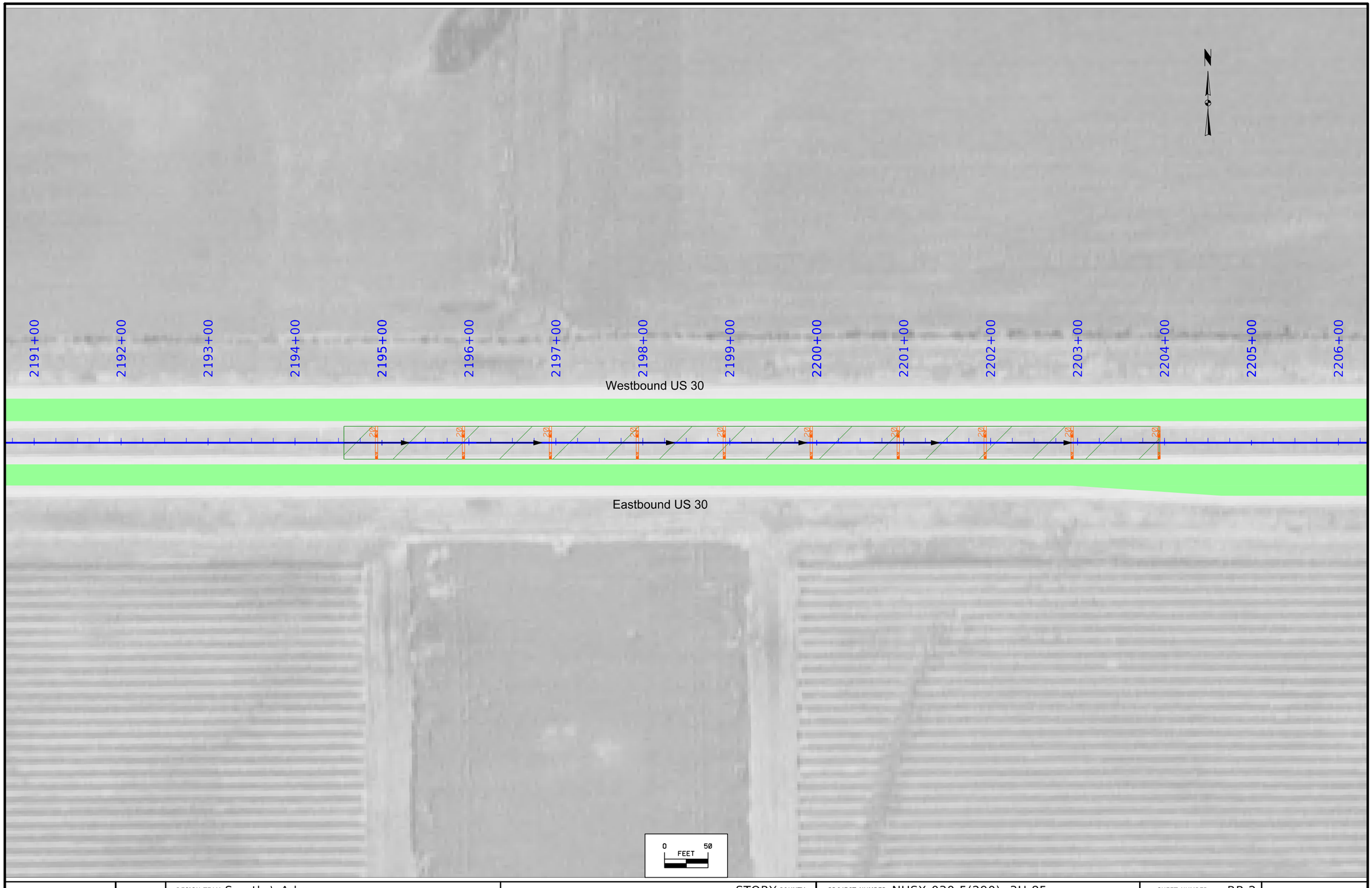

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER RR.2	

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680TH AVE

2357+00 2358+00 2359+00 2360+00 2361+00 2362+00 2363+00 2364+00 2365+00 2366+00 2367+00 2368+00 2369+00 2370+00 2371+00 2372+00

Westbound US 30

Westbound US 30

PT 2359+18.05

Eastbound US 30

Eastbound US 30

N

P

680TH AVENUE

0 50
FEET

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER RR.3

2:17:40 PM 4/7/2022 badey c:\pw_work\pwmain\idotcentral_badey\d1045386\85030290_RR01.dgn

2448+00 2449+00 2450+00 2451+00 2452+00 2453+00 2454+00 2455+00 2456+00 2457+00 2458+00 2459+00 2460+00 2461+00 2462+00 2463+00

Westbound US 30

20 20 20 20 20 20 20 20 20

℄ PT 2450+16.12

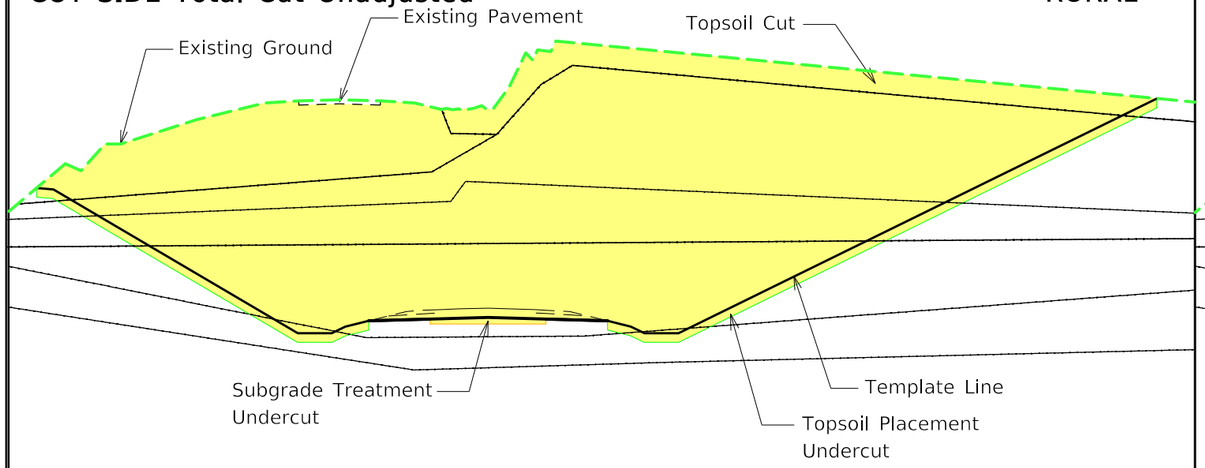
Eastbound US 30

0 50
FEET

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER RR.4	

2:17:43 PM 4/7/2022 badey c:\pw_work\pwmain\idotcentral_badey\d1045386\85030290_RR01.dgn

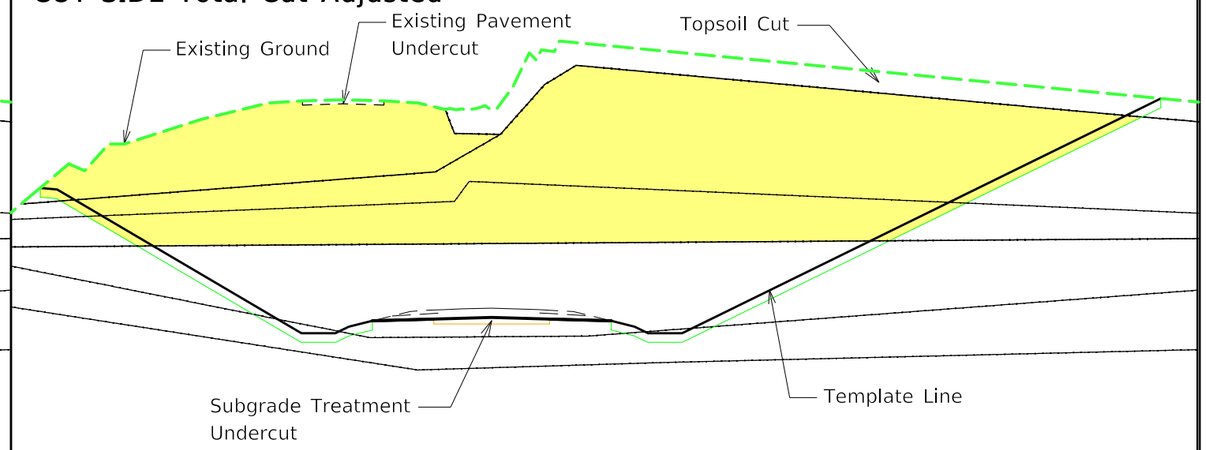
CUT SIDE Total Cut Unadjusted — RURAL



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.

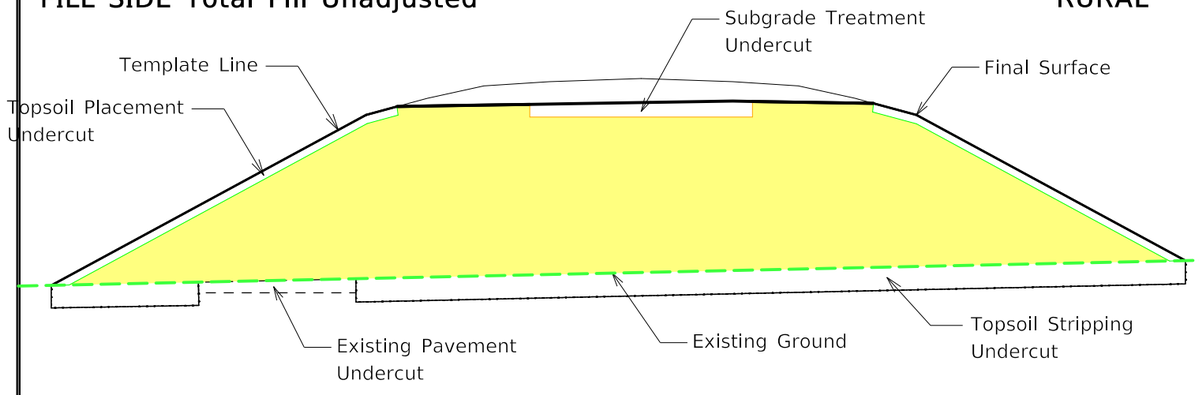
CUT SIDE Total Cut Adjusted



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.

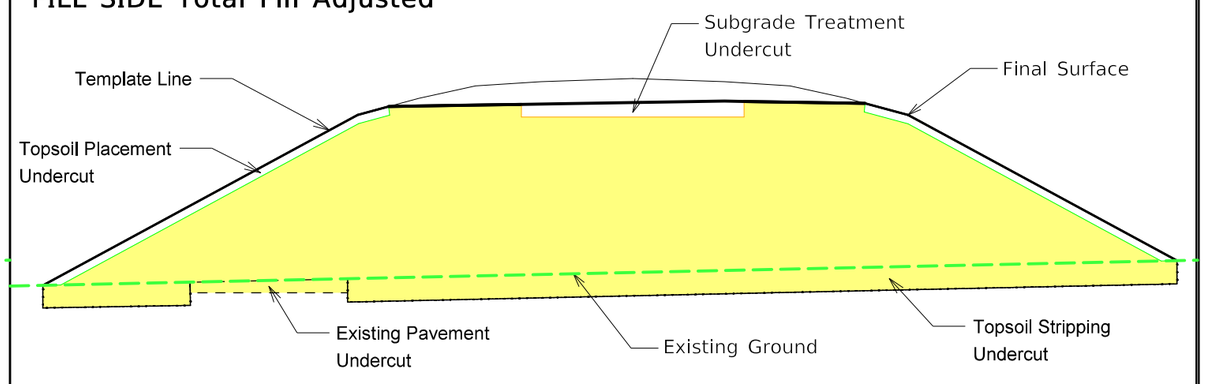
FILL SIDE Total Fill Unadjusted — RURAL



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.

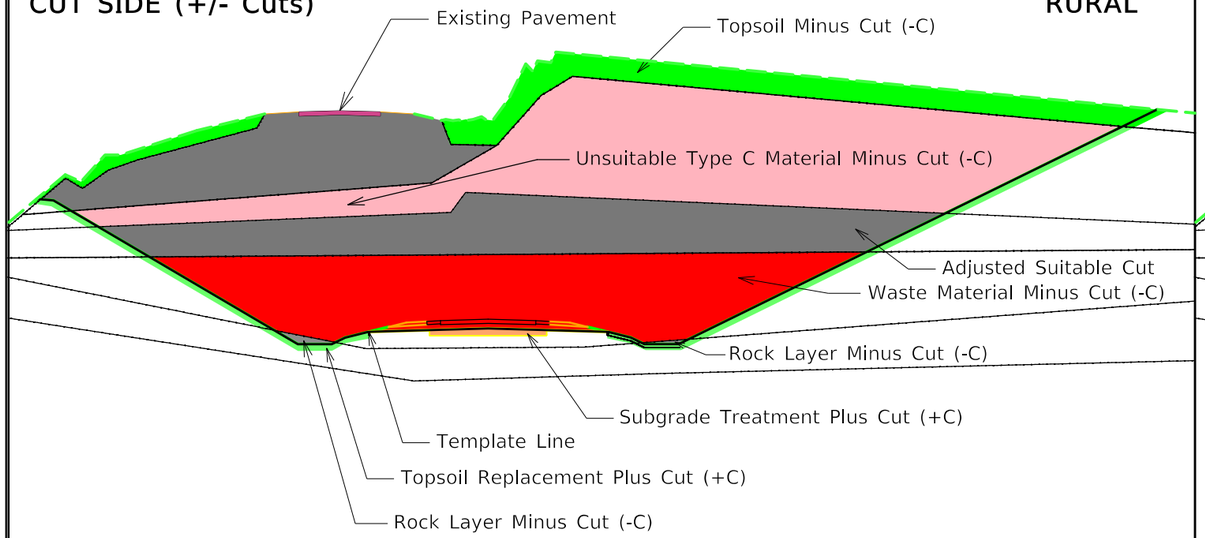
FILL SIDE Total Fill Adjusted



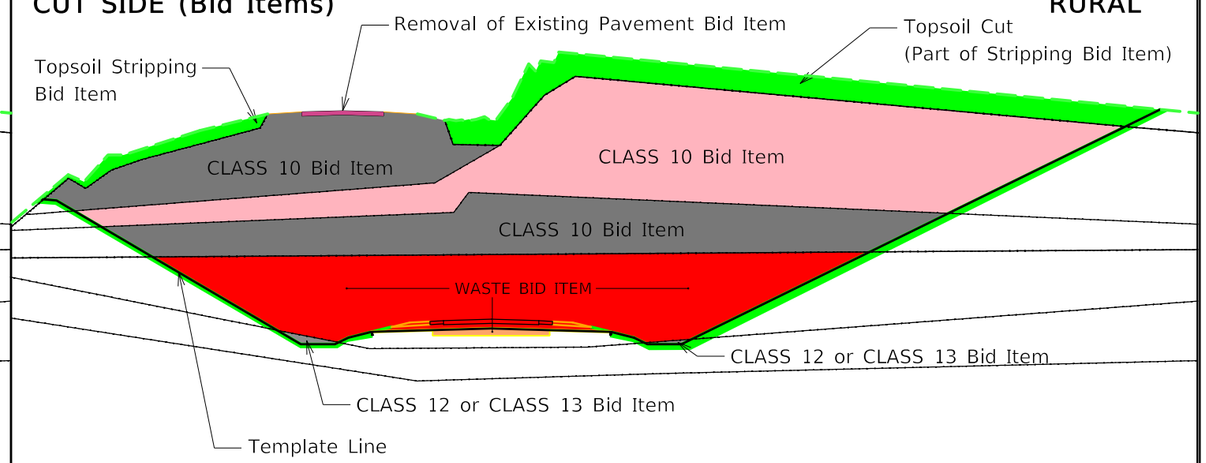
Notes:

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

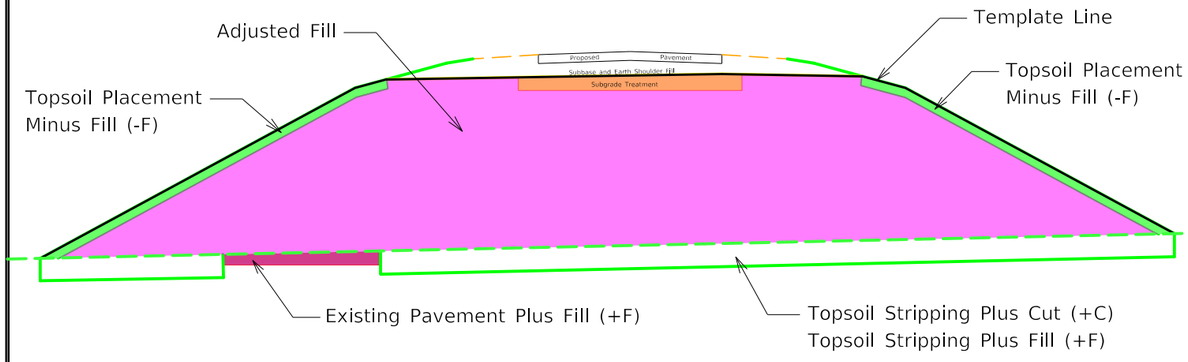
CUT SIDE (+/- Cuts) — RURAL



CUT SIDE (Bid Items) — RURAL



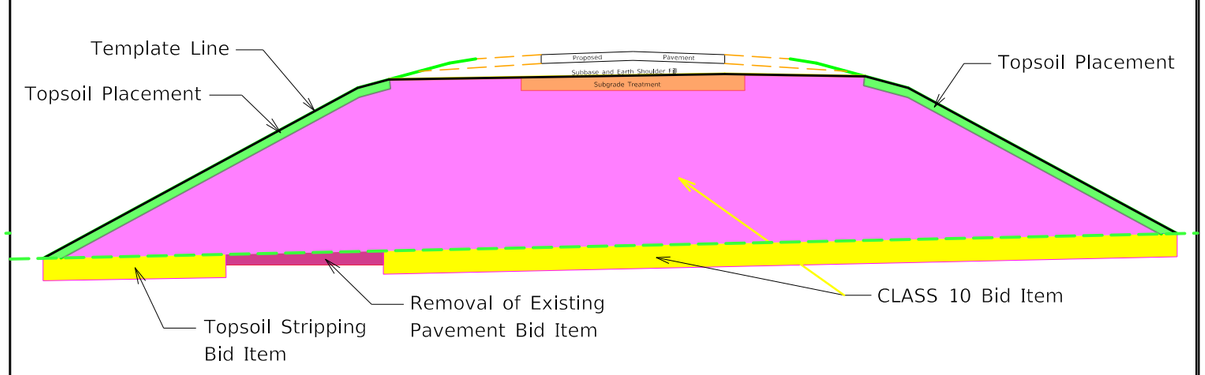
FILL SIDE (+/- Fills) — RURAL



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.

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER T.2

1:25:17 PM 4/1/2022 badey c:\pw_work\pwmain\idotcentral_badey\d1045386\85030290_LGD.dgn

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							
ROWML030																						
2360+43.59																						
2363+50.00	0	0	0	0	0		0	0	0	0	0	0	0	0	0							
2363+75.00	51	11	40	11	110	36	146	189	-178	0	0	40	19	27	12							
2364+00.00	102	23	80	23	251	72	324	421	-398	0	0	80	39	55	25							
2364+25.00	103	23	80	23	307	73	380	494	-471	0	0	80	39	54	26							
2364+50.00	99	24	76	24	329	70	399	519	-496	0	0	76	36	50	26							
2364+75.00	90	24	66	24	292	61	353	459	-435	0	0	66	29	41	25							
2365+00.00	120	54	66	54	213	47	260	338	-285	0	0	66	29	40	26							
2365+25.00	233	153	80	153	144	35	179	233	-80	0	0	80	37	52	28							
2365+50.00	311	226	86	226	105	31	136	177	48	0	0	86	41	57	29							
2365+75.00	276	194	81	194	80	28	108	140	55	0	0	81	38	53	29							
2366+00.00	193	123	70	123	62	25	86	113	10	0	0	70	30	42	28							
2366+25.00	119	63	56	63	50	23	73	95	-32	0	0	56	20	28	28							
2366+50.00	88	40	49	40	39	21	60	78	-39	0	0	49	15	20	28							
2366+75.00	96	46	50	46	35	20	55	71	-26	0	0	50	15	21	29							
2367+00.00	114	60	54	60	33	21	54	70	-10	0	0	54	17	24	30							
2367+25.00	126	71	55	71	30	21	51	67	4	0	0	55	18	25	30							
2367+50.00	122	69	54	69	29	21	49	64	5	0	0	54	17	23	30							
2367+75.00	96	48	48	48	27	20	48	62	-15	0	0	48	14	19	29							
2368+00.00	74	32	42	32	20	17	37	49	-16	0	0	42	10	14	28							
2368+25.00	80	38	42	38	12	11	23	30	8	0	0	42	8	12	30							
2368+50.00	124	69	55	69	5	5	10	13	57	0	0	55	12	16	39							
2368+60.80	273	204	68	204	0	0	1	1	203	0	0	68	11	15	54							
ROWML030																						
Totals:	2,890	1,594	1,297	1,594	2,175	659	2,833	3,683	-2,090	0	0	1,297	493	691	607							

FILE NO.		DESIGN TEAM Smyth\Adey		STORY	COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER T.3	

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:																						
ROWML030	2,890	1,594	1,297	1,594	2,175	659	2,833	3,683	-2,090	0	0	1,297	493	691	607							
Project Totals:	2,890	1,594	1,297	1,594	2,175	659	2,833	3,683	-2,090	0	0	1,297	493	691	607							

Bid Items:	Bid Qty	
Excavation, Class 10, Roadway and Borrow	1,594	[4]
Embankment in Place	1,608	[9]/1.3
Compaction with Moisture Control	2,833	[7]
Topsoil, Strip, Salvage and Spread	1,297	[12]

FILE NO.		DESIGN TEAM Smyth\Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER T.4	

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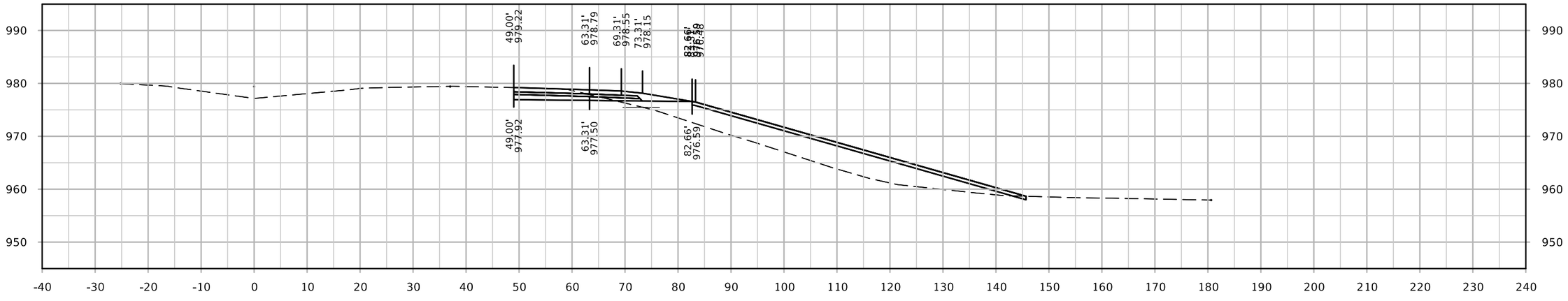
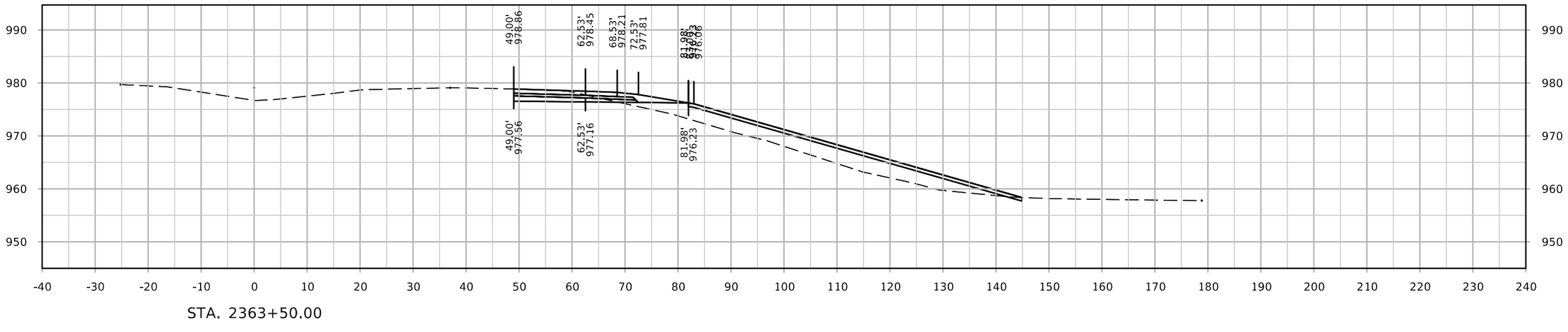


STA. 2363+75.00



STA. 2363+50.00

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER W.1

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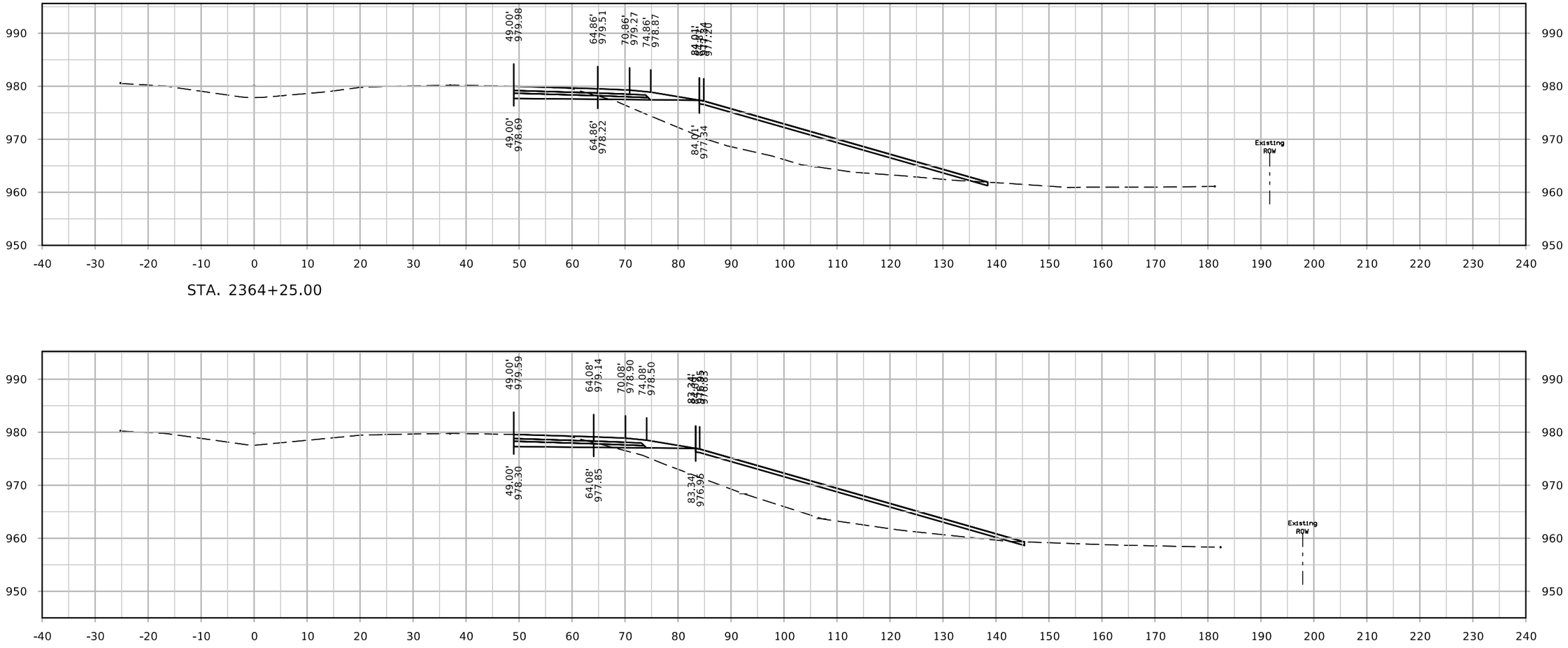

STA. 2364+25.00

STA. 2364+00.00

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER W.2

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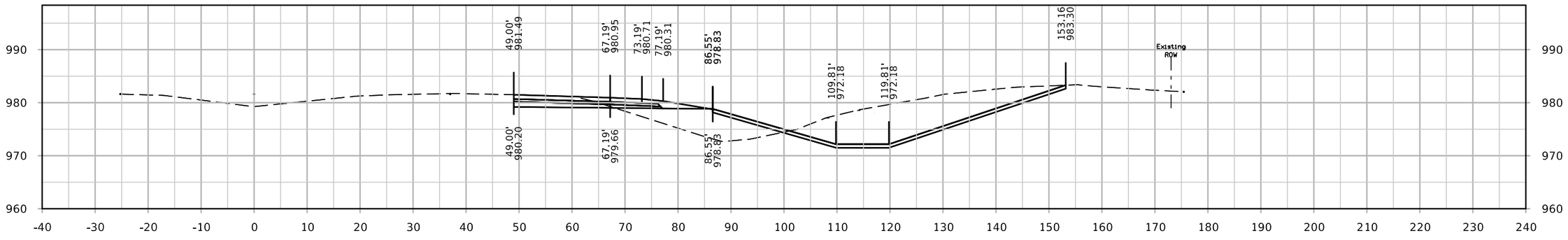

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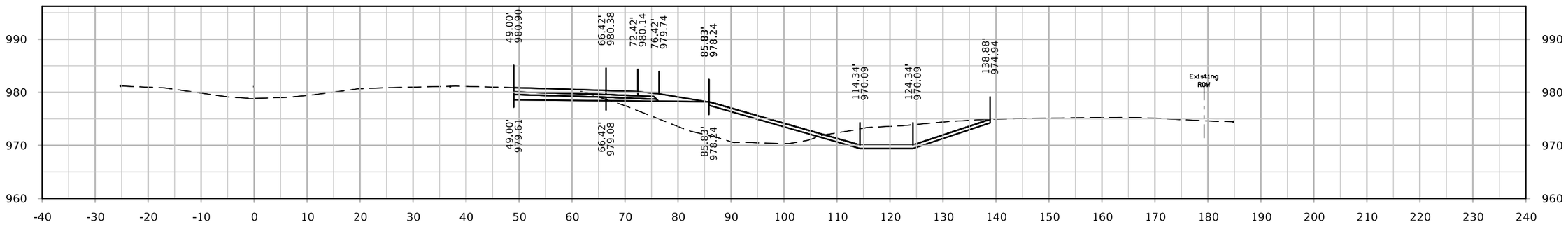

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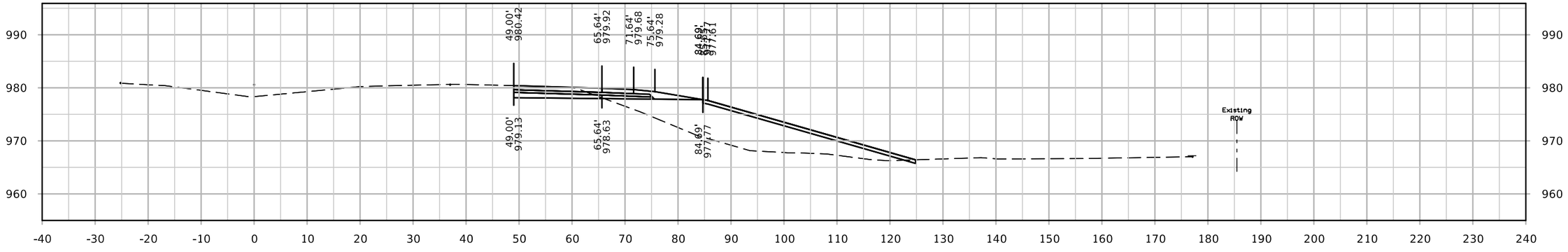

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FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER W.3

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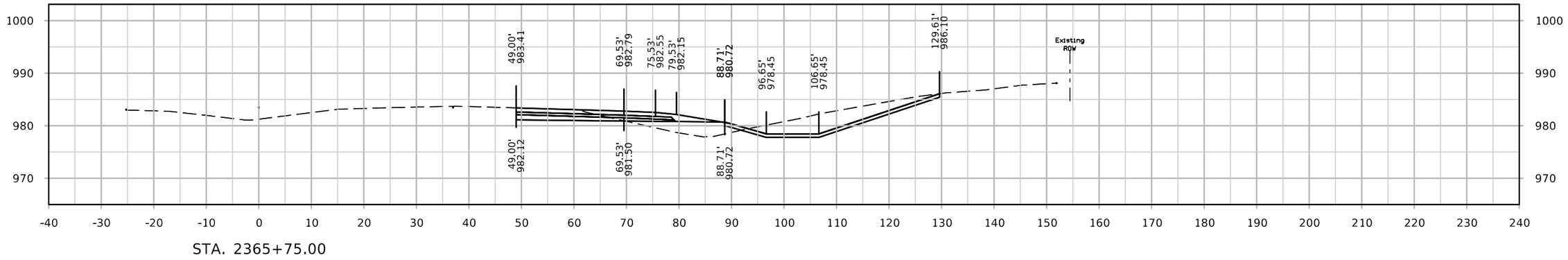
US 30



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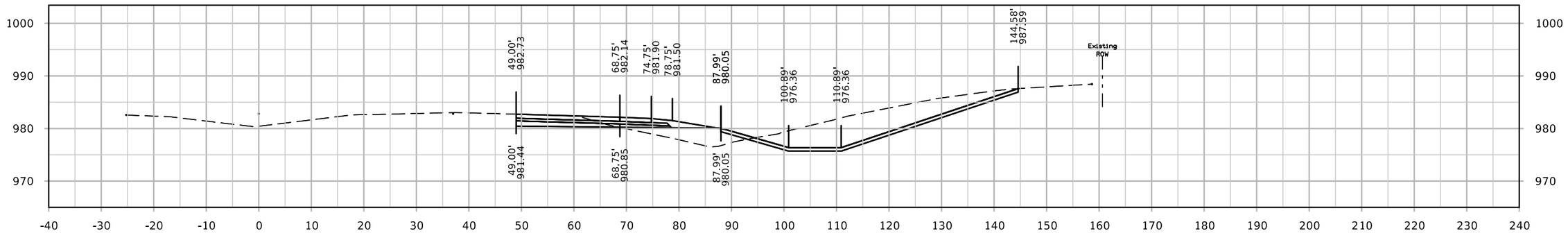

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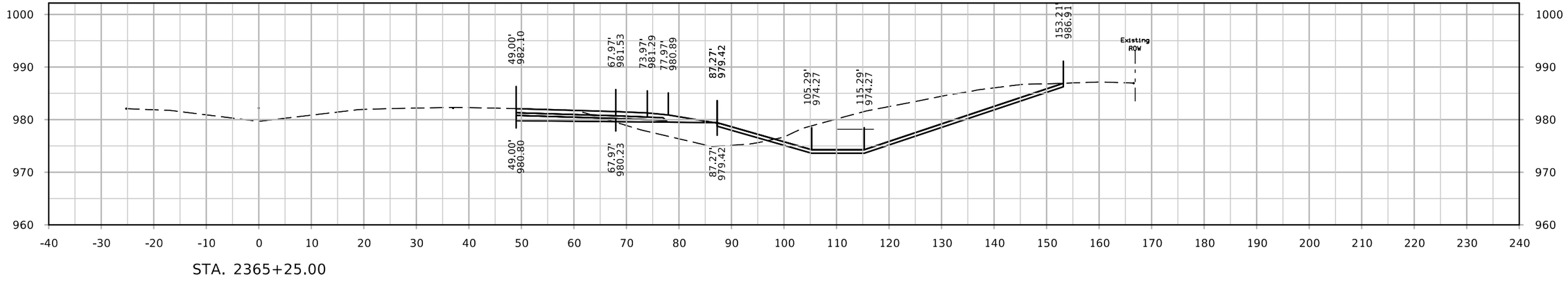

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FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER W.4

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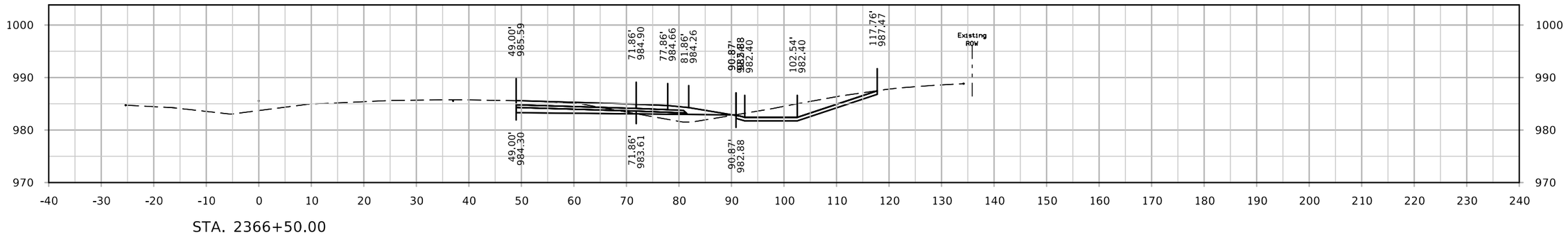
US 30



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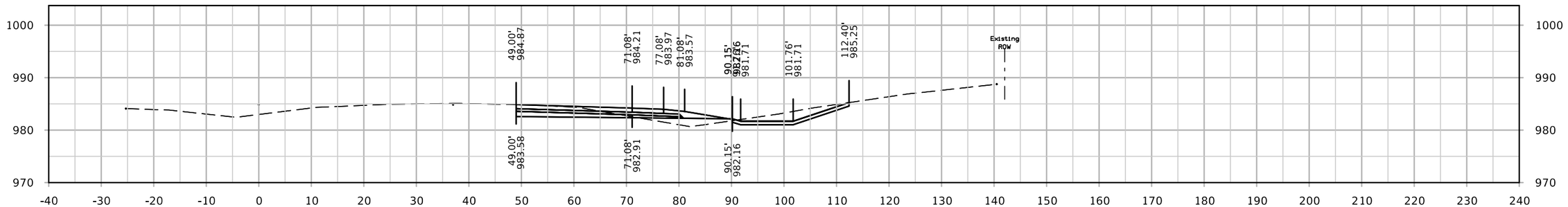

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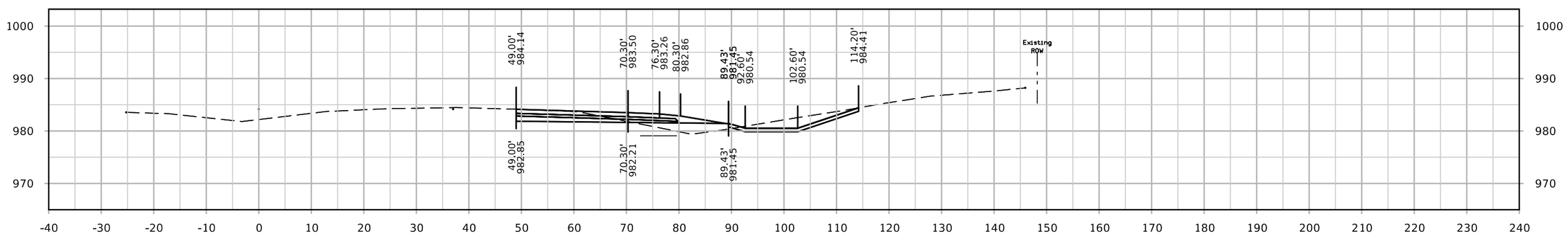

STA. 2366+00.00

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER W.5

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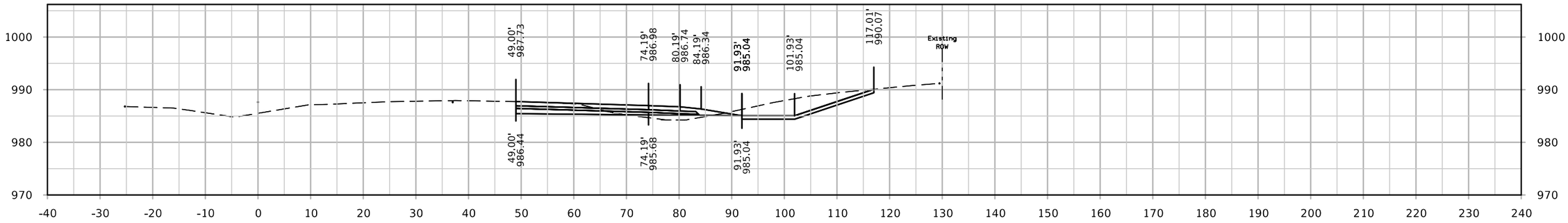
US 30



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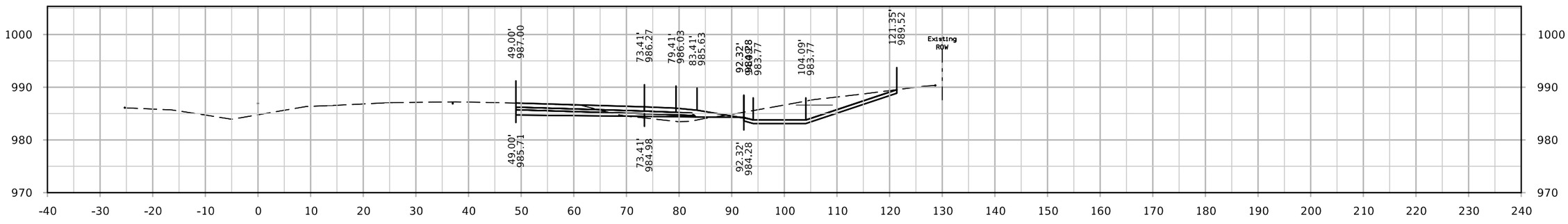

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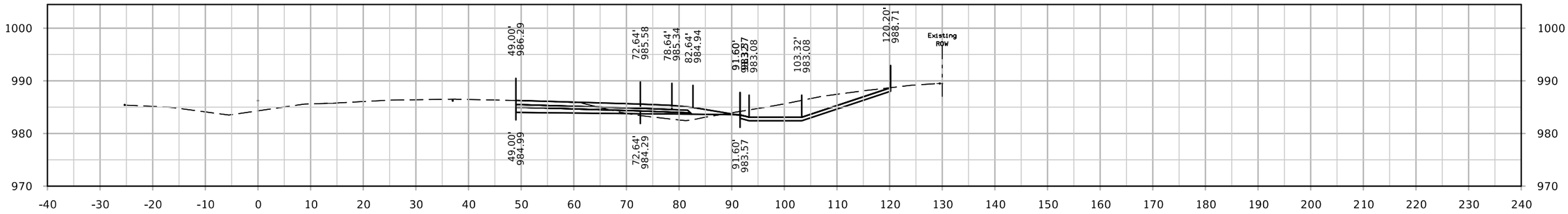

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FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER W.6

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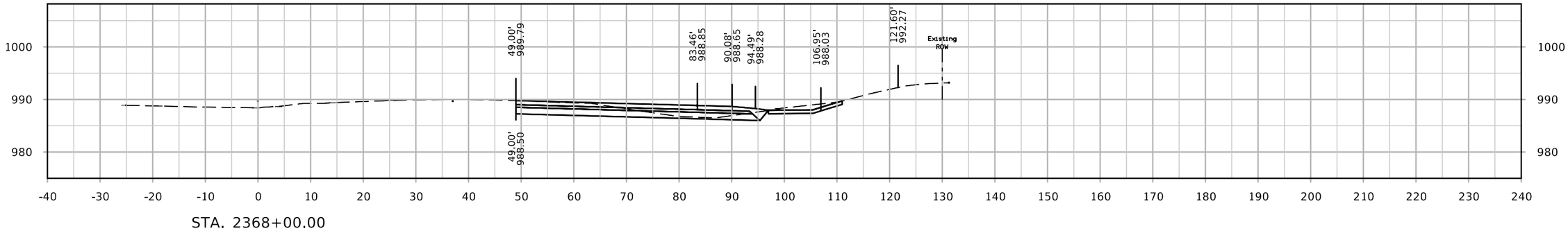
US 30



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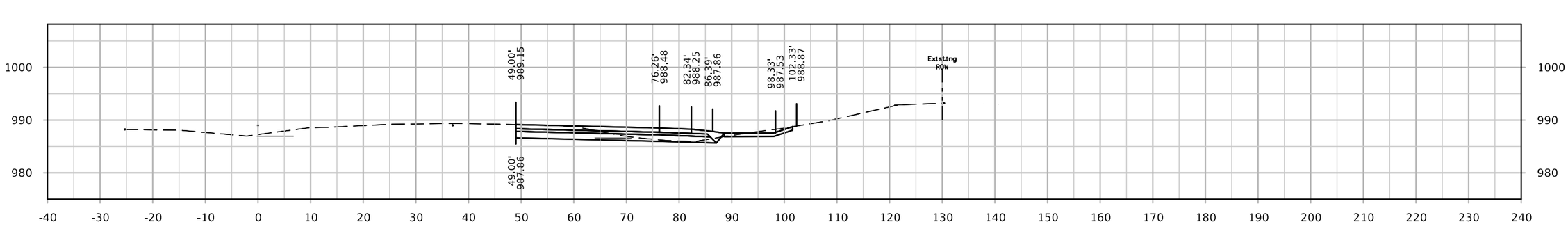

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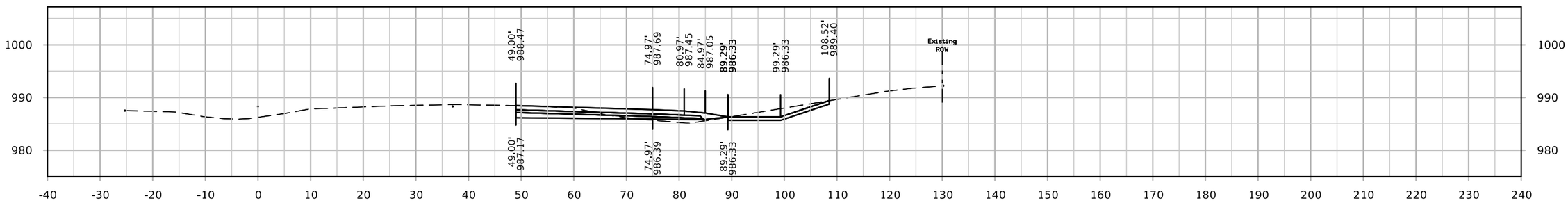

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FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER W.7

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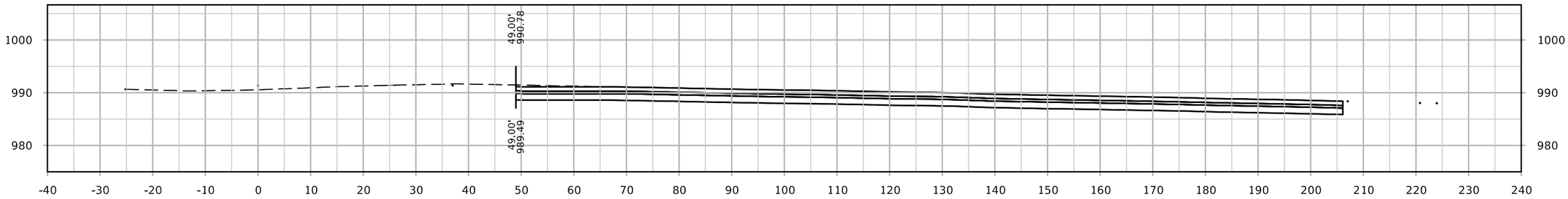
US 30



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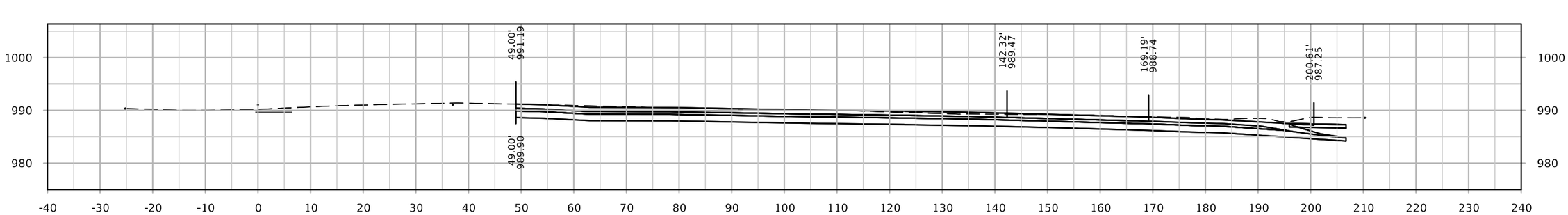
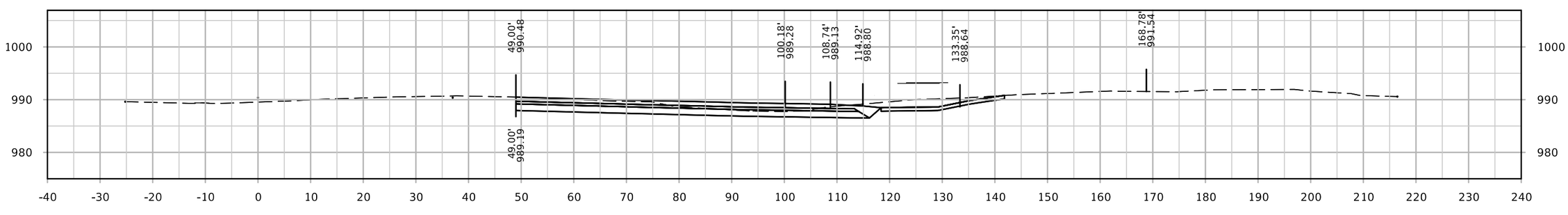


STA. 2368+50.00



STA. 2368+25.00

FILE NO.	ENGLISH	DESIGN TEAM Smyth \ Adey	STORY COUNTY	PROJECT NUMBER NHSX-030-5(290)--3H-85	SHEET NUMBER W.8

8:14:02 AM 4/14/2022 badey pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\8503005020\DistrictDesign\85030290_W01.dgn