1523 - HMA Resurfacing
NHSX-218-1(088)-3H-56

LETTING DATE
Nov 17 2026

LEE COUNTY

INDEX OF SHEETS

No.	DESCRIPTION
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A.1	Title Sheet
A.2	Location Map Sheet
B Sheets	**Typical Cross Sections and Details**
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B.7 - 8	Existing Typicals - FOR INFORMATION ONLY
C Sheets	**Quantities and General Information**
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C.7 - 30	Tabulations
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U Sheets	**Traffic Control and Staging Sheets**
U.1	Guardrail Layout
	* Color Plan Sheets

IOWA | DOT

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM
LEE COUNTY
1523 - HMA Resurfacing

US 218
.25 MILES SOUTH OF 190TH ST
TO .5 MILES SOUTH OF IA 16 (NB)

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

Value Engineering Saves. Refer to Article 1105.13 of the Specifications.

IOWA ONE CALL
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www.iowaonecall.com
811 Know what's below. Call before you dig.

REVISIONS

TOTAL	60
PROJECT IDENTIFICATION NUMBER	26-56-218-010
PROJECT NUMBER	NHSX-218-1(088)-3H-56
R.O.W. PROJECT NUMBER	

Scan the QR code or click the link below to leave plan quality feedback and help us improve future projects.

DESIGN DATA RURAL

2024	AADT	4250	V.P.D.
20 --	AADT	--	V.P.D.
20 --	DHV	--	V.P.H.
TRUCKS		23	%
Total Design ESALs		--	

INDEX OF SEALS

SHEET NO.	NAME	TYPE	BID QUANTITY SHEETS
A.1	A. Jared Klein	Primary Signature Block	C.1 - C.6

LICENSED PROFESSIONAL ENGINEER
ANTHONY JARED KLEIN
21902
IOWA

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

Signature: Anthony J. Klein — Date: 9/23/26
Anthony J. Klein
Printed or Typed Name

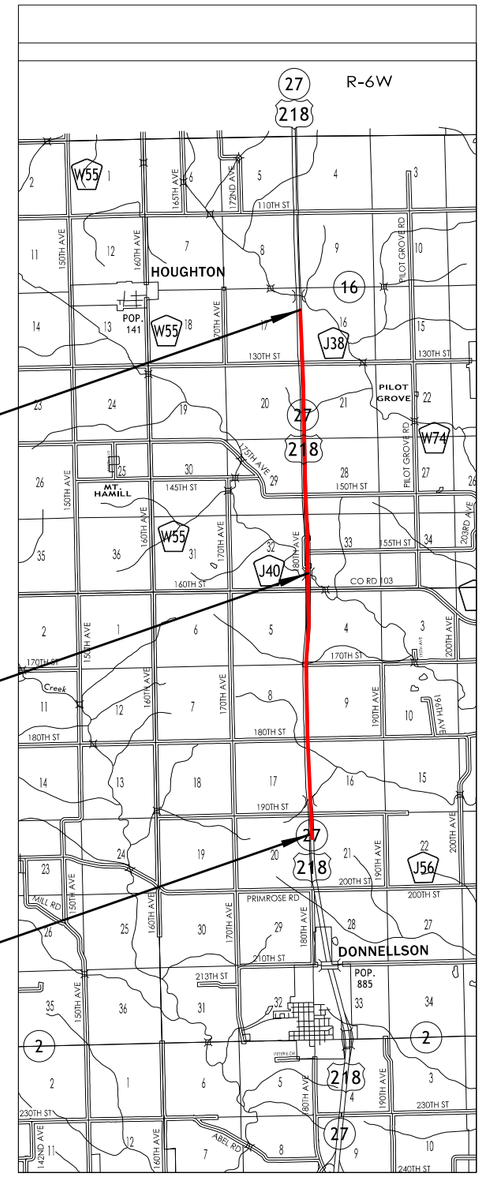
My license renewal date is December 31, 2026

Pages or sheets covered by this seal: ALL SHEETS

END PROJECT
U.S. 218 MP 29.00
STA 525+64.94 (ENGLISH)
NHSX-218-1(52)--3H-56 STA 216+00.00 (METRIC)

Bridge
FHWA No. 608280
MAINT. # 5625.6R218
224.7 X 39.37 PPCBB

BEGIN PROJECT
U.S. 218 MP 22.17
STA 362+53.28(ENGLISH)
NHSX-218-1(52)--3H-56 STA 110+50 (METRIC)



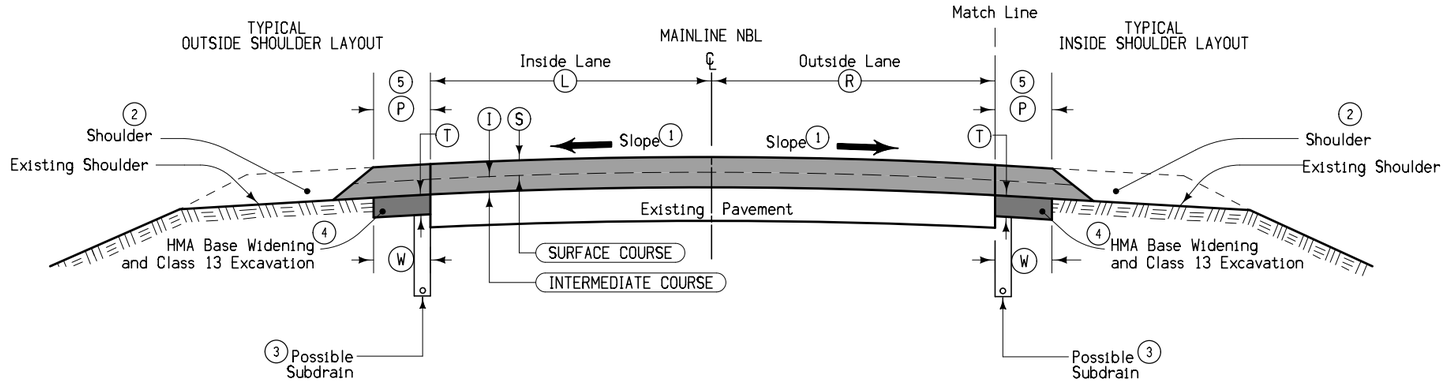
LOCATION MAP SCALE
0 1 2 3
Miles

LEE COUNTY

FILE NO.	ENGLISH	DESIGN TEAM McElmeel\Klein\Roberts\Freitag	LEE COUNTY	PROJECT NUMBER NHSX-218-1(088)-3H-56	SHEET NUMBER A.2

9:04:47 AM 9/23/2026 rfreita pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\5621801026\DistrictDesign\NHSX-218-1(088)–3H-56\Working\SHT_56-2181-088_A01.dgn

2617
MODIFIED



STATION TO STATION		L Feet	R Feet	S Inches	I Inches		Length Feet
							3R_Overlay Modified
347+93.36	362+21.61		14.0	1.0	1.5		1428.25
362+21.61	415+16.84		14.0	1.0	1.5		5295.23
415+16.84	468+23.02		14.0	1.0	1.5		5306.18
468+23.02	520+69.58		14.0	1.0	1.5		5246.56
520+69.58	530+17.25		14.0	1.0	1.5		947.67
534+05.48	537+51.63		14.0	1.0	1.5		346.15
537+51.63	547+44.73		14.0	1.0	1.5		993.10
547+44.73	557+13.40		14.0	1.0	1.5		968.67
557+13.40	587+30.52		14.0	1.0	1.5		3017.12
587+30.52	680+46.42		14.0	1.0	1.5		9315.90
680+46.42	708+66.00		14.0	1.0	1.5		2819.58
347+93.36	362+21.61	12.0		1.0	1.5		1428.25
362+21.61	415+16.84	12.0		1.0	1.5		5295.23
415+16.84	468+23.02	12.0		1.0	1.5		5306.18
468+23.02	520+69.58	12.0		1.0	1.5		5246.56
520+69.58	530+17.25	12.0		1.0	1.5		947.67
534+05.48	537+51.63	12.0		1.0	1.5		346.15
537+51.63	547+44.73	12.0		1.0	1.5		993.10
547+44.73	557+13.40	12.0		1.0	1.5		968.67
557+13.40	587+30.52	12.0		1.0	1.5		3017.12
587+30.52	680+46.42	12.0		1.0	1.5		9315.90
680+46.42	708+66.00	12.0		1.0	1.5		2819.58

Combination Shoulder with Widening
INSIDE LANE NBL

Shoulder Jointing:
Longitudinal joint: B

STATION TO STATION		S Inches	I Inches	W(4) Feet	P(5) Feet	T Inches	Length Feet	REMARKS
								3R_Shldr_Paved_ Modified
347+93.36	358+52.18	1.0	1.5	4.0	4.0	5.0	1058.82	
363+77.61	411+76.20	1.0	1.5	4.0	4.0	5.0	4798.59	
416+71.73	467+66.17	1.0	1.5	4.0	4.0	5.0	5094.44	
468+74.00	517+27.04	1.0	1.5	4.0	4.0	5.0	4853.04	
522+04.76	530+23.56	1.0	1.5	4.0	4.0	5.0	818.8	
538+80.75	546+93.65	1.0	1.5	4.0	4.0	5.0	812.9	
547+91.63	553+90.64	1.0	1.5	4.0	4.0	5.0	599.01	
558+52.60	583+94.10	1.0	1.5	4.0	4.0	5.0	2541.5	
588+80.81	677+15.87	1.0	1.5	4.0	4.0	5.0	8835.06	
681+32.30	708+66.16	1.0	1.5	4.0	4.0	5.0	2733.86	

Combination Shoulder with Widening
OUTSIDE LANE NBL

Shoulder Jointing:
Longitudinal joint: B

STATION TO STATION		S Inches	I Inches	W(4) Feet	P(5) Feet	T Inches	Length Feet	REMARKS
								3R_Shldr_Paved_ Modified
347+93.36	361+49.86	1.0	1.5	4.0	4.0	5.0	1357	
361+49.86	362+82.79	1.0	1.5	4.0	4.0	5.0	133	190th / Refer to Typical 7149 Sheet B.2
361+49.86	362+82.79	1.0	1.5	4.0	4.0	5.0	133	Refer to Typical 7149 Sheet B.2
362+82.79	414+49.26	1.0	1.5	4.0	4.0	5.0	5166	
414+49.26	415+82.63	1.0	1.5	4.0	4.0	5.0	133	180th / Refer to Typical 7149 Sheet B.2
414+49.26	415+82.63	1.0	1.5	4.0	4.0	5.0	133	Refer to Typical 7149 Sheet B.2
415+82.63	467+53.16	1.0	1.5	4.0	4.0	5.0	5171	
467+53.16	468+87.84	1.0	1.5	4.0	4.0	5.0	135	170th / Refer to Typical 7149 Sheet B.2
467+53.16	468+87.84	1.0	1.5	4.0	4.0	5.0	135	Refer to Typical 7149 Sheet B.2
468+87.84	519+14.23	1.0	1.5	4.0	4.0	5.0	5026	
522+92.04	530+23.64	1.0	1.5	4.0	4.0	5.0	732	
534+05.32	546+68.23	1.0	1.5	4.0	4.0	5.0	1263	
546+68.23	548+01.45	1.0	1.5	4.0	4.0	5.0	133	155th / Refer to Typical 7149 Sheet B.2
546+68.23	548+01.45	1.0	1.5	4.0	4.0	5.0	133	Refer to Typical 7149 Sheet B.2
548+01.45	586+64.16	1.0	1.5	4.0	4.0	5.0	3863	
586+64.16	587+97.86	1.0	1.5	4.0	4.0	5.0	134	Refer to Typical 7149 Sheet B.2
586+64.16	587+97.86	1.0	1.5	4.0	4.0	5.0	134	Refer to Typical 7149 Sheet B.2
587+97.86	658+31.29	1.0	1.5	4.0	4.0	5.0	7033	
664+66.92	678+89.34	1.0	1.5	4.0	4.0	5.0	1422	
681+79.95	708+65.84	1.0	1.5	4.0	4.0	5.0	2686	

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

Refer to shoulder typical 7152 modified for granular shoulder.

UAC existing subdrain. All existing subdrain shall remain functional at all times (do not plug or crush).

Base Widening (W) quantities are not included with Resurfacing quantities and can be found on Tab 106-5, Base Widening on C sheets.
W = Base Widening width on Tab 106-5, Base Widening.
See Standard Road Plan PV-203.

P = Paved Shoulder width on Tab 112_09, HMA Pavement on C sheets.

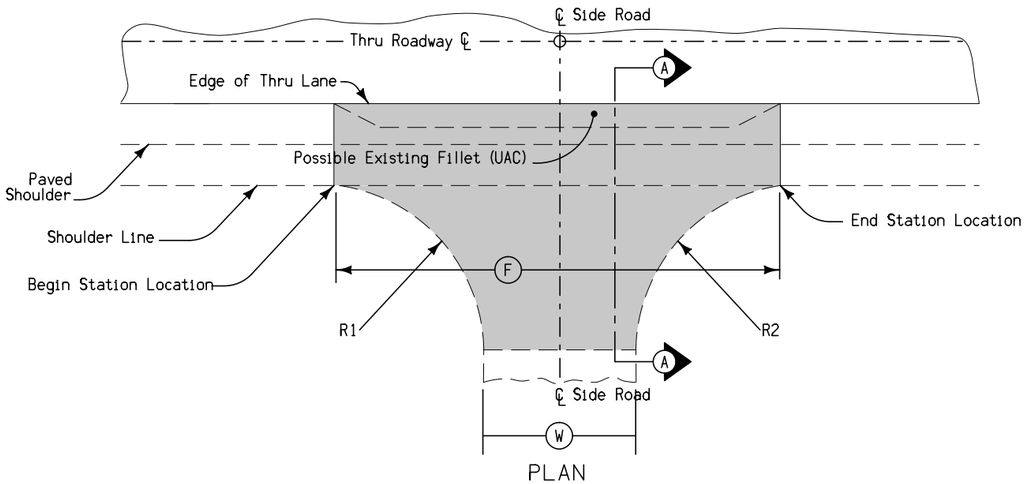
General Notes:

1. See Tab 100-25 for HMA Pavement quantities.

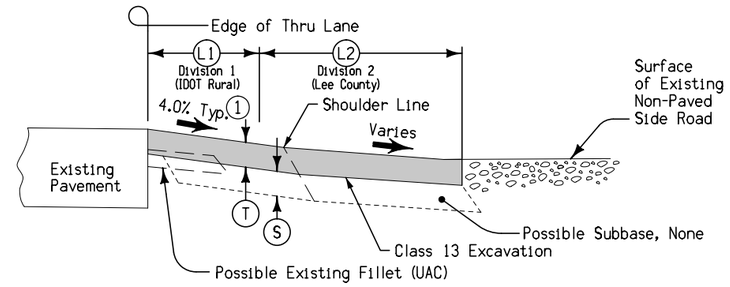
2. See Tab 106-5 for HMA Base Widening quantities.

NorthBound US 218
HMA Resurfacing and Base Widening

7149
MODIFIED



PLAN



SECTION A-A

NOTES:

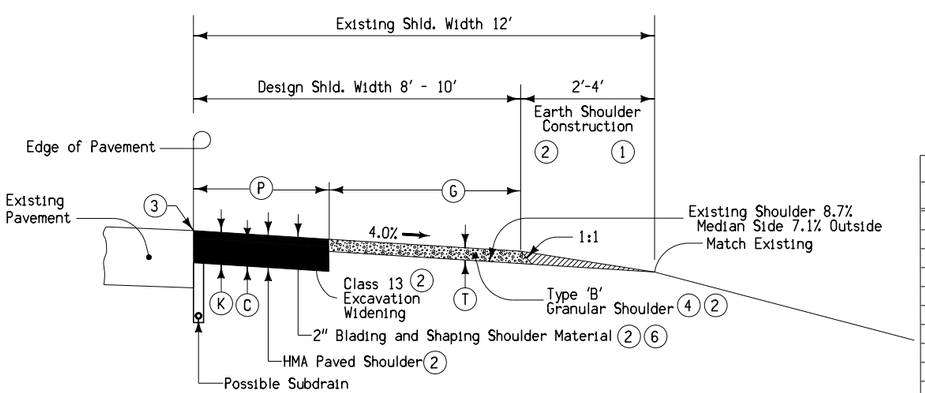
1. Special shaping of existing surface prior to placement of fillet or fillet extension may be required by the Engineer and is incidental to other work on the project.
2. Side road pavement quantities are separate from mainline quantities.
3. L1 dimension falls under Division 1 (IDOT Rural) Funding. L2 dimension falls under Division 2 (LEE County) Funding per Agreement 2026-2026-C-134.

(1) Match existing slope.

Location	F Feet	S Inches	T Inches	L1 Div. 1 (IDOT Rural) Feet	L2 Div. 2 Lee County) Feet	W Feet	Side Road Type
Sta. 362+21.61 190th St.	100	U.A.C.	8	8	50	24	County Gravel
Sta. 415+16.84 180th St.	100	U.A.C.	8	8	50	24	County Gravel
Sta. 468+23.02 170th St.	100	U.A.C.	8	8	50	24	County Gravel
Sta. 547+44.73 155th St.	100	U.A.C.	8	8	50	24	County Gravel
Sta. 587+30.52 150th St.	100	U.A.C.	8	8	50	24	County Gravel

5 LOCATIONS
DIVISION 1 AND 2
HMA FILLET EXTENSION FOR
NON-PAVED SIDE ROADS

7152
MODIFIED



TYPICAL SECTION
RETROFIT HOT MIX ASPHALT PAVED SHOULDER

LOCATION				P	G	K	C	T
ROAD IDENTIFICATION	SIDE	STATION TO STATION						
US 218 NB	RT	347+93.36	519+14.23	4.0	4.0	7.5	5.0	2.5
US 218 NB	RT	522+92.04	528+21.60	4.0	4.0	7.5	5.0	2.5
US 218 NB	RT	534+05.32	658+31.29	4.0	4.0	7.5	5.0	2.5
US 218 NB	RT	664+66.92	678+89.34	4.0	4.0	7.5	5.0	2.5
US 218 NB	RT	681+79.95	708+65.84	4.0	4.0	7.5	5.0	2.5
US 218 NB	LT	347+93.36	358+52.18	4.0	4.0	7.5	5.0	2.5
US 218 NB	LT	363+77.61	411+76.20	4.0	4.0	7.5	5.0	2.5
US 218 NB	LT	416+71.73	467+66.17	4.0	4.0	7.5	5.0	2.5
US 218 NB	LT	468+74.00	517+27.04	4.0	4.0	7.5	5.0	2.5
US 218 NB	LT	522+04.76	528+05.10	4.0	4.0	7.5	5.0	2.5
US 218 NB	LT	538+80.75	546+93.65	4.0	4.0	7.5	5.0	2.5
US 218 NB	LT	547+91.63	553+90.64	4.0	2.0	7.5	5.0	2.5
US 218 NB	LT	558+52.60	583+94.10	4.0	2.0	7.5	5.0	2.5
US 218 NB	LT	588+80.81	677+15.87	4.0	2.0	7.5	5.0	2.5
US 218 NB	LT	681+79.95	708+66.16	4.0	2.0	7.5	5.0	2.5

(1) Place Class 13 Excavation material and shape to existing shoulder in the outer 2 - 4 ft. and roll with loaded truck.

(2) Bid Items.

(3) Provide a vertical edge. Incidental to Class 13 Excavation Widening.

(4) Place and compact material.

(5) See Standard Road Plan PV-301 for shoulder cross slope variation along superelevated horizontal curves.

(6) First 2" of existing shoulder material is to be bladed out and used for Earth Shoulder Construction.

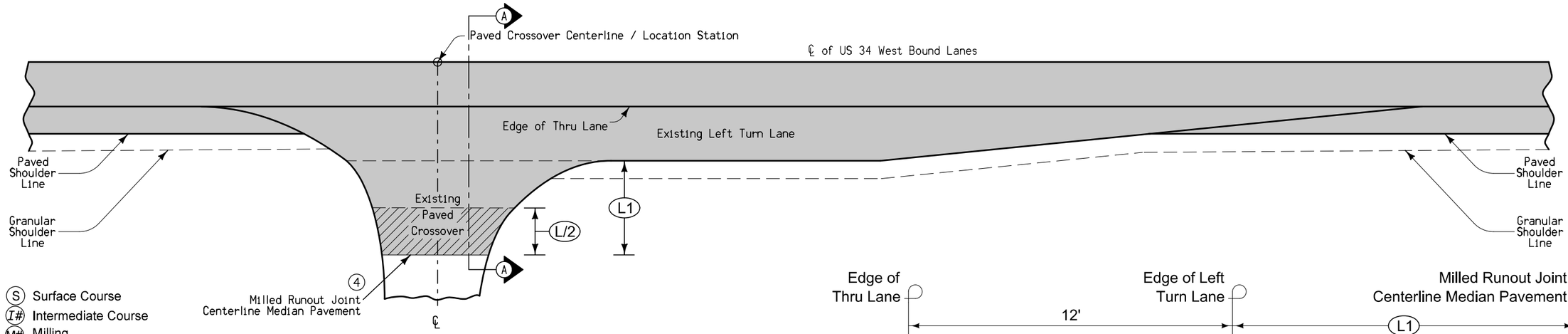
Additional details and quantities can be found on Tab 112-9, C sheets.

Refer to Typical 7149 on Sheet B.3 for additional details and quantities, HMA fillet extension for non-paved side roads.

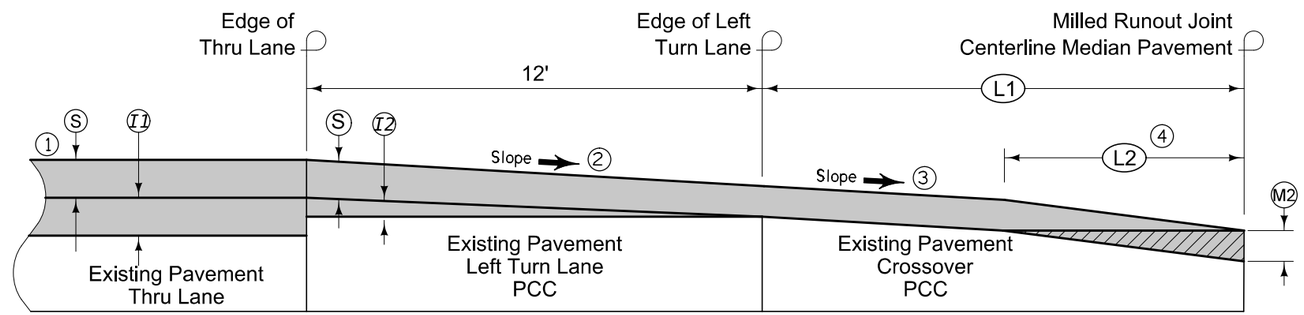
Refer to Typical 7148 on Sheet B. 3 for additional details, fillet for non-paved side roads and entrances.

See D sheets for additional information.

EX-TURN
Modified



PLAN



SECTION A-A

LEFT TURN LANE TABULATION

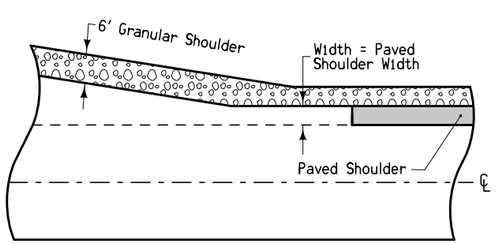
LOCATION STATION	S Inches	I1 Feet	I2 Inches		M2 Inches	L1 Feet	L2 (4) Inches	REMARKS
362+21.61	1.5	1.5	0.5-0		1.5	40	20	PCC Crossover
415+16.84	1.5	1.5	0.5-0		1.5	40	20	PCC Crossover
520+69.58	1.5	1.5	0.5-0		1.5	40	20	PCC Crossover
537+51.63	1.5	1.5	0.5-0		1.5	40	20	PCC Crossover
557+13.40	1.5	1.5	0.5-0		1.5	40	20	PCC Crossover
587+30.52	1.5	1.5	0.5-0		1.5	40	20	PCC Crossover

1. Consistent with Typical 2617 modified.
2. Varies, 4% max.
3. Match existing slope.
4. Length of run-out to be determined in the field by the Engineer.

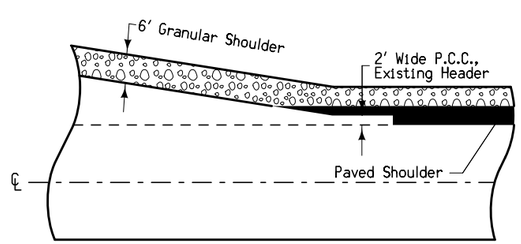
See Tabs 100-25 and 106-5 on C sheets for quantities and additional information.

2 LOCATIONS
HMA PAVED SHOULDER DETAIL
AT EXISTING PAVED LEFT TURN LANES

7154A
10-20-09



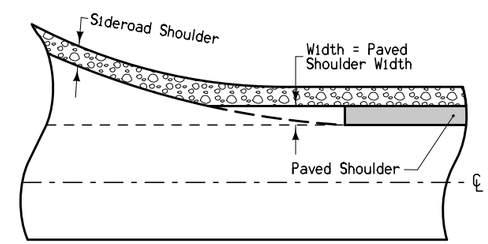
With Newly Constructed Turn Lanes



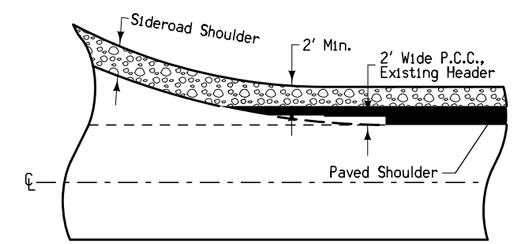
At UAC Turn Lanes

PAVED SHOULDER DETAIL AT TURN LANES

7154B
10-19-21



With Newly Constructed Returns

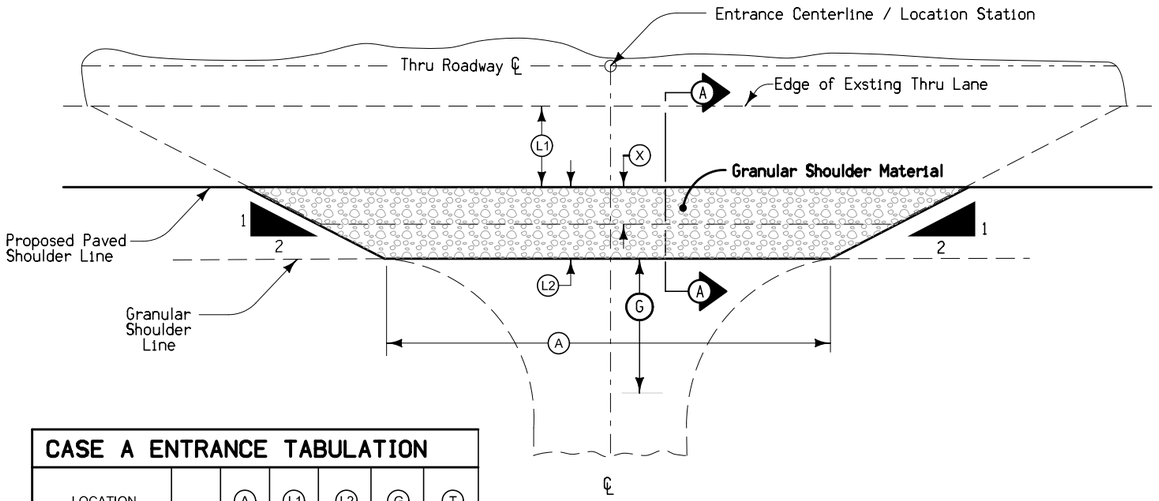


At UAC Returns

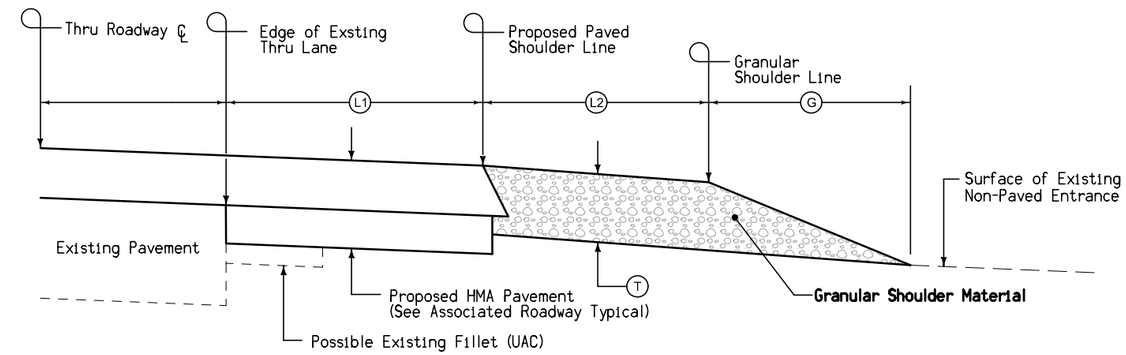
PAVED SHOULDER DETAIL AT RETURNS

7117-M
Modified

CASE 'A' - Existing Paved Fillet Less Than or Equal to (L1) (1)



PLAN



SECTION A-A

CASE A ENTRANCE TABULATION

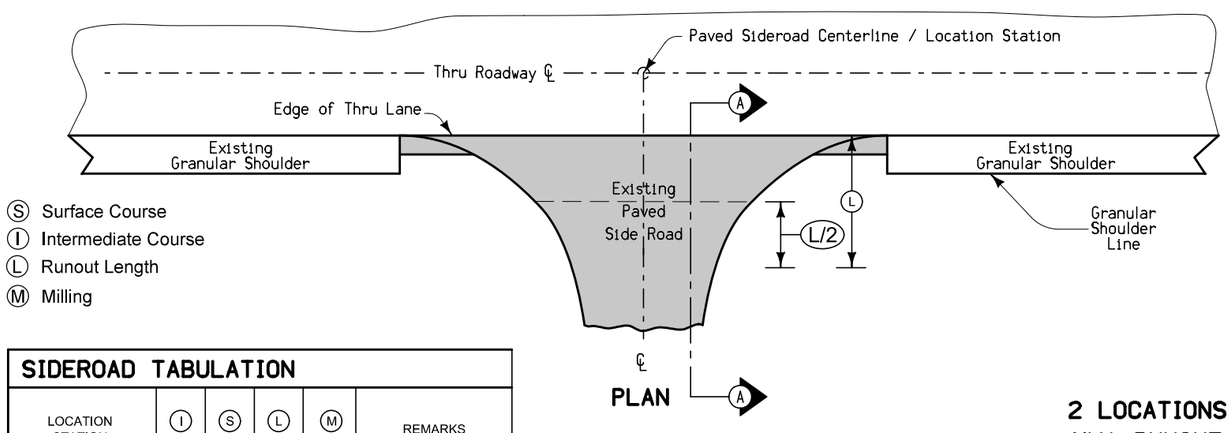
LOCATION STATION	Side	(A) Feet	(L1) Feet	(L2) Feet	(G) Feet	(T) Inches
4 Non-Paved Entrances	RT	25 AVG	4	4	4	3
19 Non-Paved Crossovers	LT	40 AVG	4	4	4	3

GENERAL NOTES:

1. Refer to Tab 100-25 (HMA Pavement) and 106-5 (Base Widening) on the C Sheets for HMA Pavement, Widening, and Excavation Quantities associated with Dimension (L1) .
2. Granular Shoulder Material Quantities associated with Dimensions (L2) and (G) are tabulated on Tab. 112-9 (Shoulders) on C Sheets. Refer to notes on Roadway Typical Sections on B sheets for more information.

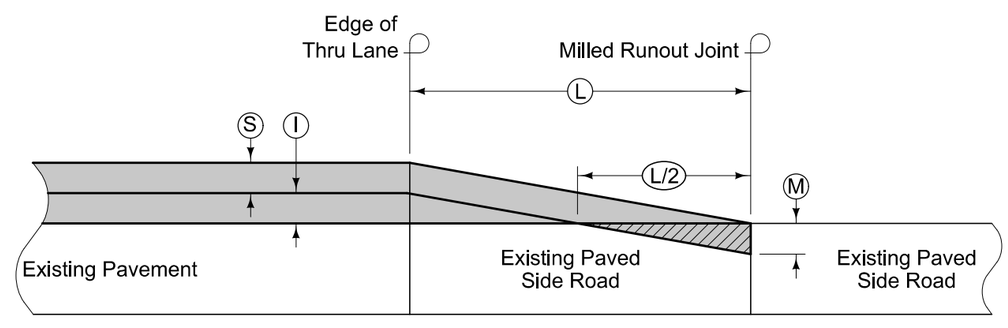
GRANULAR SHOULDER
CONSTRUCTION THRU NON-PAVED ENTRANCES
ADJACENT TO ROADWAY PROFILE ELEVATION RISE

R0-1
Modified



PLAN

(S) Surface Course
(I) Intermediate Course
(L) Runout Length
(M) Milling



SECTION A-A

SIDEROAD TABULATION

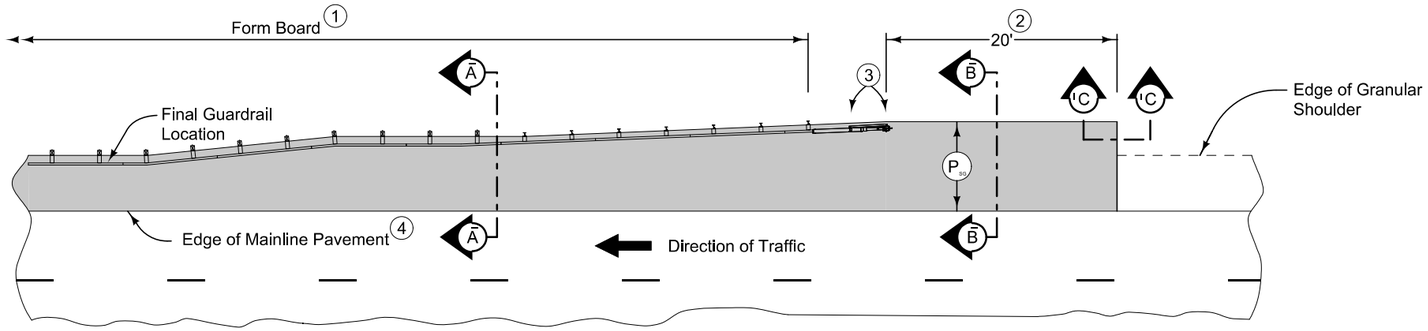
LOCATION STATION	(I) Inches	(S) Inches	(L) Feet	(M) Inches	REMARKS
520+69.58	1.5	1.0	25.0	1.5	PCC Sideroad / CR-103
680+46.42	1.5	1.0	25.0	1.5	PCC Sideroad / 130TH

2 LOCATIONS
HMA RUNOUT
AT EXISTING
PAVED SIDE ROADS

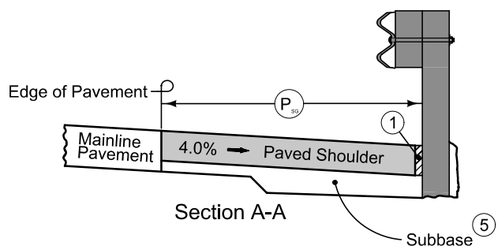
Notes:

1. Quantities included in Tab and 100-25, C Sheets.

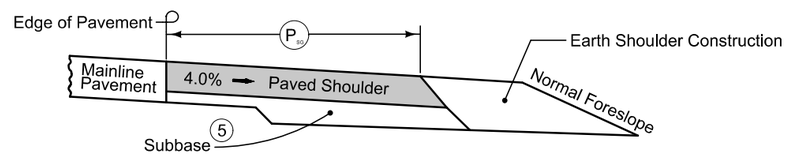
See Tabs 100-25 on C sheets for additional information.



PLAN VIEW

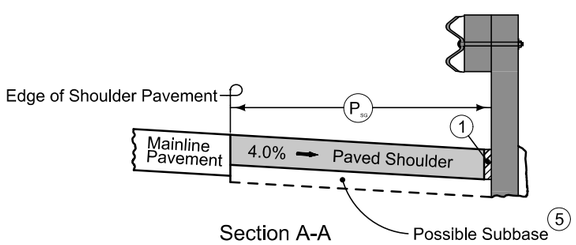


Section A-A

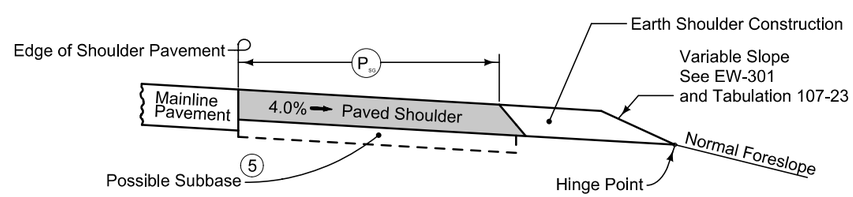


Section B-B

NEW CONSTRUCTION



Section A-A



Section B-B

EXISTING SHOULDER

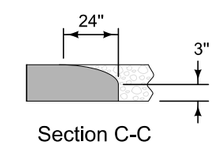
9" HMA Paved Shoulder at guardrail. 8" PCC may be substituted with the following jointing layout:

> 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.

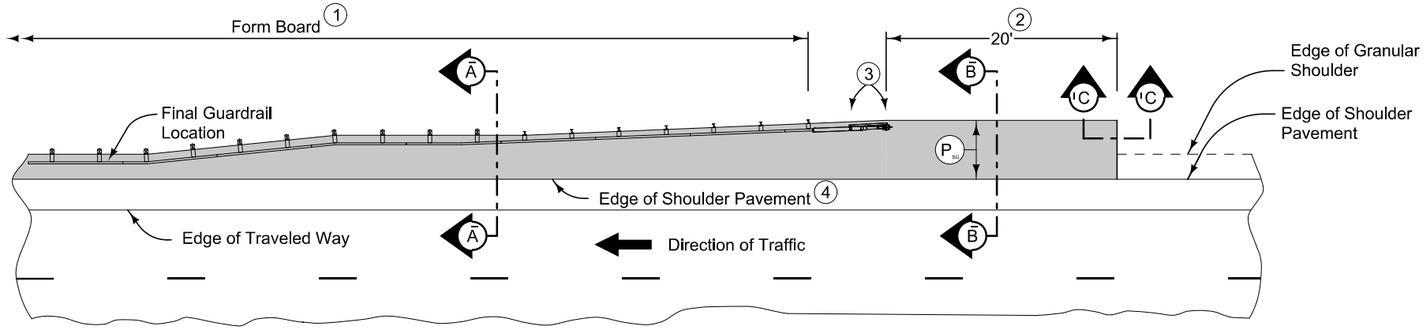
Refer to Tabulation 112-9 for shoulder quantities.

1. 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.
2. Continue paved shoulder 20 feet beyond the center of the first post.
3. Shoulder may be notched for first 2 posts or post sleeves may be installed through pavement. Do not drive posts through pavement.
4. 'BT' joint (per PV-101) for PCC shoulder.
   'B' joint (per PV-101) for HMA shoulder.
5. Refer to other details in the plan.

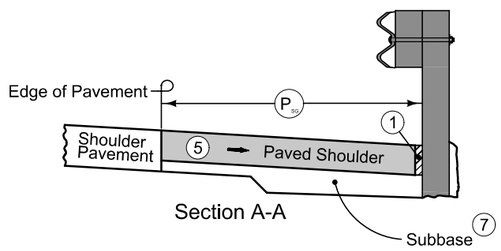


Section C-C
Roll down at granular shoulder or earth.

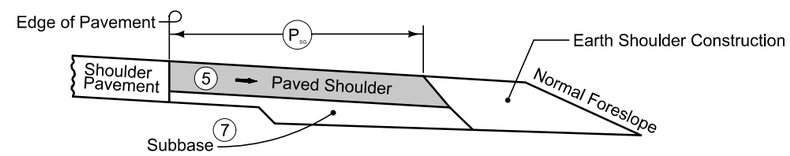
PAVED SHOULDER AT GUARDRAIL
(GRANULAR SHOULDER ADJACENT TO MAINLINE)



PLAN VIEW

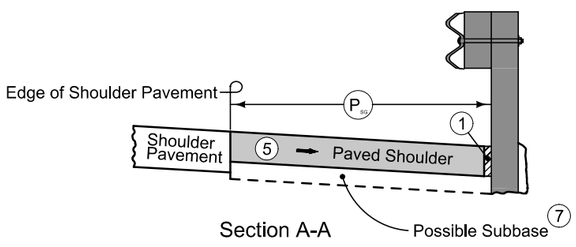


Section A-A

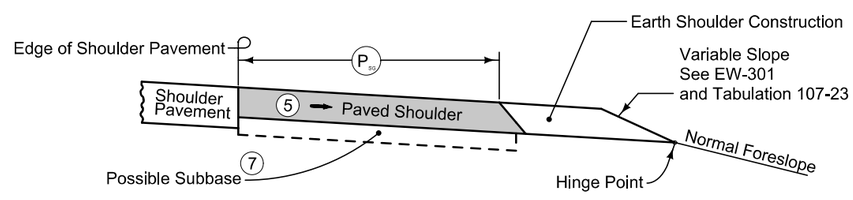


Section B-B

NEW CONSTRUCTION 6



Section A-A



Section B-B

EXISTING SHOULDER

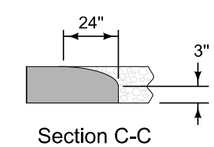
9" HMA Paved Shoulder at guardrail. 8" PCC may be substituted with the following jointing layout:

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.

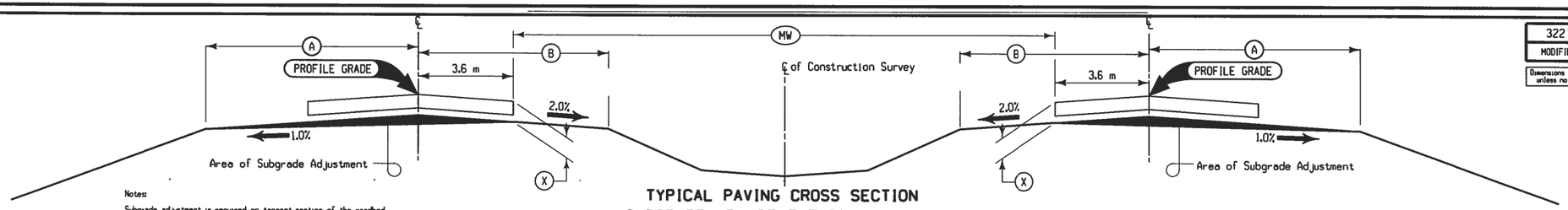
1. PCC option only: When guardrail posts are installed prior to construction of PCC paved shoulder, fasten form board to the face of guardrail posts for the length shown.
2. Continue paved shoulder 20 feet beyond the center of the first post.
3. Shoulder may be notched for first 2 posts or post sleeves may be installed through pavement. Do not drive posts through pavement.
4. 'BT' (per PV-101) joint for PCC shoulder.
   'B' (per PV-101) joint for HMA shoulder.
5. Match shoulder slope.
6. The Contractor has the option to pave the paved shoulder at guardrail and the partial width paved shoulder as one operation.
7. Refer to other details in the plan.



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

PAVED SHOULDER AT GUARDRAIL
(ADJACENT TO PARTIAL WIDTH PAVED SHOULDER)

3221
MODIFIED
Dimensions in mm unless noted.



Notes:

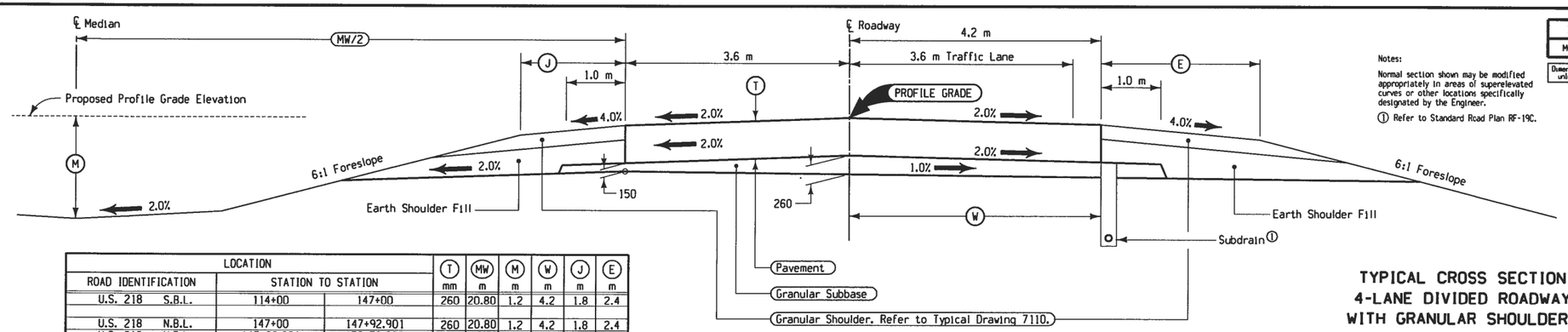
Subgrade adjustment is required on tangent section of the roadbed. Curved sections that require superelevation will not require subgrade adjustment once a 2% cross slope is attained across the entire subgrade.

TYPICAL PAVING CROSS SECTION
SUBGRADE ADJUSTMENT TO 1% SLOPE
4-LANE DIVIDED ROADWAY

LOCATION				(A) m	(B) m	(MW) m	(X) mm
ROAD IDENTIFICATION		STATION TO STATION					
U.S. 218	S.B.L.	114+00	147+00	9.8	8.6	20.80	412
U.S. 218	N.B.L.	147+00	147+92.901	9.8	8.6	20.80	412
U.S. 218	N.B.L.	147+92.901	152+58.006	9.8	8.6	VARIES	412
U.S. 218	N.B.L.	152+58.006	158+50	9.8	8.6	30.50	412
U.S. 218	S.B.L.	159+00	160+00	9.8	8.6	30.50	412
U.S. 218	BOTH	160+00	161+62.797	9.8	8.6	30.50	412
U.S. 218	BOTH	161+62.797	171+93.944	9.8	8.6	VARIES	412
U.S. 218	N.B.L.	171+93.944	181+00	9.8	8.6	20.80	412
U.S. 218	N.B.L.	181+00	206+00	9.8	8.6	VARIES	412
U.S. 218	S.B.L.	209+50	223+20	9.8	8.6	VARIES	412
U.S. 218	S.B.L.	224+00	256+13.75	9.8	8.6	VARIES	412

(X) is the distance between the inside edge of pavement and the bottom of the 1% grade line at the inside of pavement.

3217
MODIFIED
Dimensions in mm unless noted.



Notes:

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

① Refer to Standard Road Plan RF-19C.

TYPICAL CROSS SECTION
4-LANE DIVIDED ROADWAY
WITH GRANULAR SHOULDERS

LOCATION				(T) mm	(MW) m	(M) m	(W) m	(J) m	(E) m	
ROAD IDENTIFICATION		STATION TO STATION								
U.S. 218	S.B.L.	114+00	147+00	260	20.80	1.2	4.2	1.8	2.4	
U.S. 218	N.B.L.	147+00	147+92.901	260	20.80	1.2	4.2	1.8	2.4	
U.S. 218	N.B.L.	147+92.901	152+58.006	260	VARIES	1.2	4.2	1.8	2.4	
U.S. 218	N.B.L.	152+58.006	158+36.047	260	30.50	1.2	4.2	1.8	2.4	
U.S. 218	S.B.L.	159+06.750	160+00	260	30.50	1.2	4.2	1.8	2.4	
U.S. 218	N.B.L.	159+22.698	160+00	260	30.50	1.2	4.2	1.8	2.4	
U.S. 218	BOTH	160+00	161+62.797	260	30.50	1.2	4.2	1.8	2.4	
U.S. 218	BOTH	161+62.797	171+93.944	260	VARIES	1.2	4.2	1.8	2.4	OMIT FOR BRIDGES
U.S. 218	N.B.L.	171+93.944	181+00	260	20.80	1.2	4.2	1.8	2.4	
U.S. 218	N.B.L.	181+00	206+00	260	VARIES	1.2	4.2	1.8	2.4	
U.S. 218	S.B.L.	209+50	223+20	260	VARIES	1.2	4.2	1.8	2.4	OMIT FOR BRIDGES
U.S. 218	S.B.L.	223+20	224+00	260	VARIES	1.2	4.2	1.8	2.4	
U.S. 218	S.B.L.	224+00	256+13.75	260	VARIES	1.2	4.2	1.8	2.4	

DESIGN TEAM SKOGERBOE / PSBA	METRIC	IOWA DOT * OFFICE OF DESIGN	LEE COUNTY	PROJECT NUMBER NHSX-218-1(51)--3H-56	SHEET NUMBER B.02

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PROJECT # NHSX-218-1(51)--3H-56

FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM McElmeel\Klein\Roberts\Freitag	LEE COUNTY	PROJECT NUMBER NHSX-218-1(088)-3H-56	SHEET NUMBER B.7

7:11:16 AM 9/23/2026 rfreita pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\5621801026\DistrictDesign\NHSX-218-1(088)—3H-56\Working\SHT_56-2181-088_B01.dgn

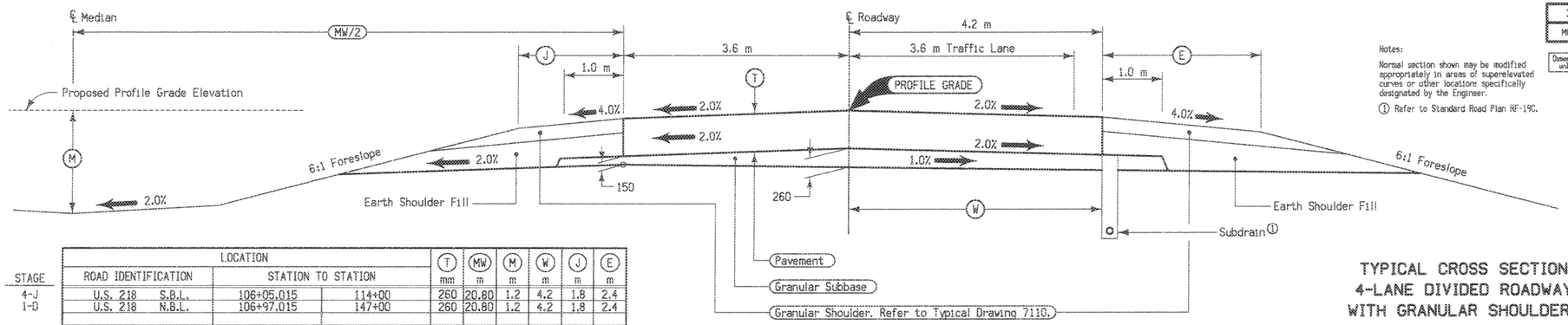
3217
MODIFIED

Dimensions in mm unless noted.

Notes:

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

① Refer to Standard Road Plan RF-19C.

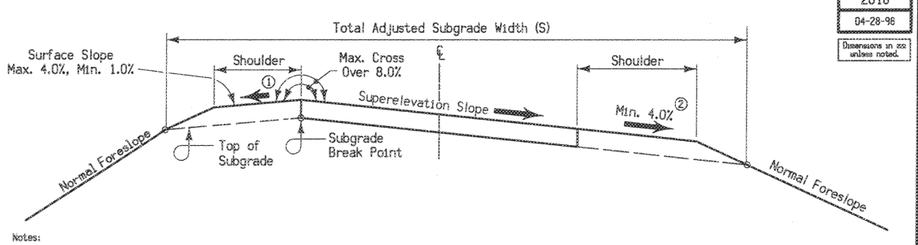


STAGE	LOCATION ROAD IDENTIFICATION		STATION TO STATION		T mm	MW m	M m	W m	J m	E m
4-J	U.S. 218	S.B.L.	106+05.015	114+00	260	20.80	1.2	4.2	1.8	2.4
1-D	U.S. 218	N.B.L.	106+97.015	147+00	260	20.80	1.2	4.2	1.8	2.4
4-K	U.S. 218	S.B.L.	147+00	147+92.901	260	20.80	1.2	4.2	1.8	2.4
4-K	U.S. 218	S.B.L.	147+92.901	152+58.066	260	VAR.	1.2	4.2	1.8	2.4
4-K	U.S. 218	S.B.L.	152+58.066	157+96.480	260	30.50	1.2	4.2	1.8	2.4
4-N	U.S. 218	S.B.L.	157+96.480	159+06.75	260	30.50	1.2	4.2	1.8	2.4
2-C	U.S. 218	N.B.L.	158+36.047	159+22.698	260	30.50	1.2	4.2	1.8	2.4
4-L	U.S. 218	S.B.L.	171+93.944	181+00	260	20.80	1.2	4.2	1.8	2.4
4-L	U.S. 218	S.B.L.	181+00	183+60	260	VAR.	1.2	4.2	1.8	2.4
3-F	U.S. 218	S.B.L.	202+40	206+75.274	260	VAR.	1.2	4.2	1.8	2.4
3-F	U.S. 218	S.B.L.	206+75.274	207+96.571	260	20.80	1.2	4.2	1.8	2.4
3-F	U.S. 218	S.B.L.	207+96.571	209+50	260	VAR.	1.2	4.2	1.8	2.4
3-B	U.S. 218	N.B.L.	206+00	206+75.274	260	VAR.	1.2	4.2	1.8	2.4
3-B	U.S. 218	N.B.L.	206+75.274	207+96.571	260	20.80	1.2	4.2	1.8	2.4
3-B	U.S. 218	N.B.L.	207+96.571	208+18.139	260	VAR.	1.2	4.2	1.8	2.4
1-E	U.S. 218	N.B.L.	208+18.139	216+00	260	VAR.	1.2	4.2	1.8	2.4

TYPICAL CROSS SECTION 4-LANE DIVIDED ROADWAY WITH GRANULAR SHOULDERS

2018
04-28-98

Dimensions in mm unless noted.



Notes:

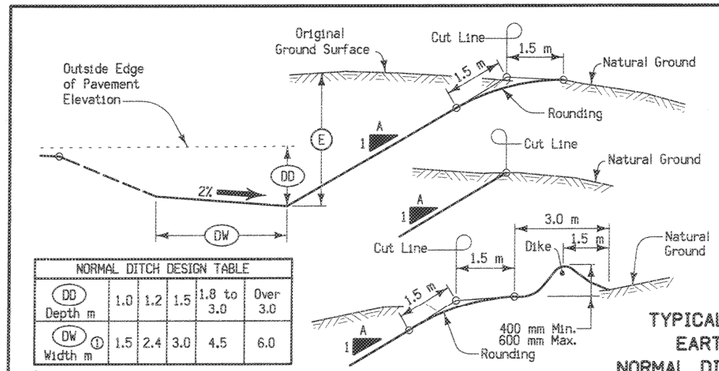
① High Side: The shoulder slope shall be maintained at the normal rate of 4.0% unless this slope produces a grade break with adjacent pavement of more than 8.0%. The shoulder slope shall then be determined by a 8.0% break with adjacent pavement. If superelevation slope exceeds 7.0%, use Typical 2014 for high side shoulder.

② Low Side: The shoulder slope shall be maintained at normal rate of 4.0% unless the adjacent pavement slope is steeper, in which case the shoulder will slope at the same slope as adjacent pavement.

TYPICAL CROSS SECTION SUPERELEVATION FOR MAINLINE ROADWAYS WITH NON-PAVED SHOULDERS (7% MAXIMUM SUPERELEVATION)

4101
04-15-03

Dimensions in mm unless noted.



NORMAL DITCH DESIGN TABLE					
DD Depth m	1.0	1.2	1.5	1.8 to 3.0	Over 3.0
DW ① Width m	1.5	2.4	3.0	4.5	6.0

① A 30 m transition should be used between width changes.

Notes:

For normal conditions, backslopes (A) shall be 2.5 on 1.0 for E depths less than 7.5 m, unless specified otherwise. Refer to detail project plans and cross sections for Ditch Depth or for Special Ditches.

Refer to project plans for locations of areas where rounding of the back slope is not required.

Refer to plans for locations of intercepting ditches. Dike for intercepting ditch shall be made by taking earth from roadway side. Do not excavate back of dike.

TYPICAL CROSS SECTION EARTH EXCAVATION NORMAL DITCH AND BACKSLOPE

DESIGN TEAM	METRIC	IOWA DOT » OFFICE OF DESIGN	COUNTY	PROJECT NUMBER	SHEET NUMBER
MAIFIELD / PSBA			LEE	NHSX-218-1(52)--3H-56	B.02

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PROJECT # NHSX-218-1(52)--3H-56

FOR INFORMATION ONLY

FILE NO.	ENGLISH	DESIGN TEAM	COUNTY	PROJECT NUMBER	SHEET NUMBER
		McElmeel\Klein\Roberts\Freitag	LEE	NHSX-218-1(088)-3H-56	B.8

7:11:20 AM 9/23/2026 rfreita pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\5621801026\DistrictDesign\NHSX-218-1(088)–3H-56\Working\SHT_56-2181-088_B01.dgn

ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

Division 1 : Roadway Items
Division 2 : Safety Funding HSIPX-218-1(91)--3I-56
Division 3 : County Agreement #2026-C-134
Division 4 : State Funds

Item no.	Item Code	Item	Unit	Quantities					Estimate Reference Notes
				Estimated					
				Division 1	Division 2	Division 3	Division 4	Total	
1	2102-2625000	EMBANKMENT-IN-PLACE	CY	52.4				52.4	Provide borrow material according to Section 2102 of the Standard Specifications. Refer to Tab 107-23 in the C Sheets for quantities and locations.
2	2102-2713090	EXCAVATION, CLASS 13, WASTE	CY		99.6	233.1		332.7	All milled material shall become property of the contractor and removed from the project site. Dispose of excess material according to Article 1106.07 of the current specifications. Refer to Tab 112_09 on Sheet C Sheets for areas and quantities. Dispose of excess material according to Article 1106.07 of the current specifications. All excavated material shall become property of the contractor and removed from the project site. Refer to Tab 112_09 on Sheet C Sheets for areas and quantities.
3	2121-7425020	GRANULAR SHOULDERS, TYPE B	TON		4,811.34			4,811.34	Refer to Typical 7152 modified and Tab 112-9 for locations and quantities. Quantity also included for granular shoulder construction thru non-paved entrances. Refer to Typical 7117-M modified for additional information and quantities. Quantity increased by 25% for irregularities.
4	2122-5500080	PAVED SHOULDER, HOT MIX ASPHALT MIXTURE, 8 IN.	SY			1,043.7		1,043.7	Item is for non-paved side road fillets with County participation. Refer to Typical 7149 modified in the B sheets and Refer to Tab 112_09 on Sheet C Sheets for areas and quantities.

Item no.	Item Code	Item	Unit	Quantities Estimated Division 1	Division 2	Division 3	Division 4	Total	Estimate Reference Notes
5	2122-5500090	PAVED SHOULDER, HOT MIX ASPHALT MIXTURE, 9 IN.	SY		438.59			438.59	Refer to Tab. 112-9 in C Sheets. Quantities are for paved shoulders at guardrails. All excavated material shall become property of the contractor and removed from the project site. Total includes 5% for inconsistencies.
6	2123-7450000	SHOULDER CONSTRUCTION, EARTH	STA		722			722	See Typical 7152 modified for information and Tab 112-9. Excavation, Class 13 material may be used.
7	2212-0475095	CLEANING AND PREPARATION OF BASE	MILE	6.83				6.83	This bid item includes: ____ miles of ramps __6.83__ miles of two lane roadway ____ miles of NB/EB four lane roadway ____ miles of SB/WB four lane roadway __6.83__ miles total
8	2213-2713300	EXCAVATION, CLASS 13, FOR WIDENING	CY		4,107.1			4,107.1	Refer to Tab. 106_05 in the C Sheets and Typical 2617.
9	2213-8201050	BASE WIDENING, 5 IN. HOT MIX ASPHALT MIXTURE	SY		29,570.1			29,570.1	Refer to Typical 2617 modified and 7152 modified in the B sheets and Tab 106-5 in the C sheets for locations and quantities. HMA fillets will be included only at non-paved public gravel sideroads and not at entrances per Design Manual 7D-8. Trench through existing fillets and replace with HMA. See Detail 7149 modified. Existing concrete entrances are to be skipped over, gapped. Refer to Typical RO-1 modified in the B sheets for additional information. Existing concrete/HMA left turn lanes and crossovers are to be skipped over, gapped. Refer to Typical EX-Turn.
10	2214-5145150	PAVEMENT SCARIFICATION, NOMINAL THICKNESS	SY	2,838.22				2,838.22	See Typicals 2617 modified, EX-TURN modified, EX-ENT01 modified, and EX-ENT02 modified in the B sheets for locations and details. See Tabs 100-25 and 102-16 for locations and additional information. All milled material shall become property of the contractor and removed from the project site.
11	2214-7450050	BLADING AND SHAPING SHOULDER MATERIAL	STA		722			722	Refer to Typical 7152 modified for additional information. First 2" of existing shoulder material is to be bladed out and used for Earth Shoulder Construction.
12	2303-0003380	HOT MIX ASPHALT MIXTURE THIN LIFT SURFACE COURSE, 3/8 IN. MIX	TON	6,088.66	2,401.91			8,490.57	See Typical 2617 Modified sheets B.1 and B.2 for locations and details. As per Developmental Specification: HMA High Performance Thin Lift Overlay Quantities increased by 5% for irregularities.
13	2303-1042500	HOT MIX ASPHALT HIGH TRAFFIC, INTERMEDIATE COURSE, 1/2 IN. MIX	TON	9,793.06	2,548.04			12,341.1	See Typical 2617 Modified sheets B.1 and B.2 for locations and details. Quantities increased by 5% for irregularities.

Item no.	Item Code	Item	Unit	Quantities Estimated Division 1	Division 2	Division 3	Division 4	Total	Estimate Reference Notes
14	2303-1043504	HOT MIX ASPHALT HIGH TRAFFIC, SURFACE COURSE, 1/2 IN. MIX, FRICTION L-4	TON	573.29				573.29	
15	2303-1258344	ASPHALT BINDER, PG 58-34H, HIGH TRAFFIC	TON	620.34	152.88			773.22	See Typical 2617 and 7152 Modified sheets B.1 and B.2 for locations and details. Quantities increased by 5% for irregularities. See Typical 2617 Modified sheets B.1 and B.2 for locations and details. Quantities increased by 5% for irregularities.
16	2303-1264347	ASPHALT BINDER, PG 64-34E+, EXTREMELY HIGH TRAFFIC, 90% ELASTIC RECOVERY	TON	365.32	99.84			465.16	See Typical 2617 and 7152 Modified sheets B.1 and B.2 for locations and details. Binder content is estimated at 8.0% per ton of HMA Thin Lift Surface Course Mixture used on this project. See Typical 2617 Modified sheets B.1 and B.2 for locations and details. Binder content is estimated at 8.0% per ton of HMA Thin Lift Surface Course Mixture used on this project.
17	2303-6911000	HOT MIX ASPHALT PAVEMENT SAMPLES	LS	1				1	As per current Standard Specifications and Road Standards.
18	2303-7000610	PAYMENT ADJUSTMENT INCENTIVE/DISINCENTIVE FOR HMA MIXTURE LABORATORY VOIDS (FORMULA - BY PAY FACTOR)	EACH	14,005.12				14,005.12	
19	2303-7000620	PAYMENT ADJUSTMENT INCENTIVE/DISINCENTIVE FOR HMA MIXTURE FIELD VOIDS (FORMULA - BY PAY FACTOR)	EACH	14,005.12				14,005.12	
20	2317-7000120	PAYMENT ADJUSTMENT INCENTIVE/DISINCENTIVE FOR HMA PAVEMENT SMOOTHNESS (BY SCHEDULE)	EACH	24,741.19				24,741.19	
21	2505-4008120	REMOVAL OF STEEL BEAM GUARDRAIL	LF	230				230	Refer to Tab 110-7A in C Sheets. Removed guardrail shall become property of the contractor and removed from the project site.
22	2505-4008300	STEEL BEAM GUARDRAIL	LF	1,583.6				1,583.6	Refer to Tab 108-8A in C Sheets.
23	2505-4008410	STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION, BA-201	EACH	2				2	
24	2505-4021010	STEEL BEAM GUARDRAIL END ANCHOR, BOLTED	EACH	2				2	
25	2505-4021720	STEEL BEAM GUARDRAIL TANGENT END TERMINAL, BA-205	EACH	2				2	Patches are for the removal of PCC raised islands at side roads. Refer to Tab. 102-6C on Sheet in C Sheets for quantities and locations.

Item no.	Item Code	Item	Unit	Quantities					Estimate Reference Notes
				Estimated					
				Division 1	Division 2	Division 3	Division 4	Total	
26	2520-0005010	POP-UP NETWORK DEVICE	EACH	1				1	This item is for furnishing and maintaining a portable, suitcase-style pop-up network case to provide high-speed wireless connectivity for digital site inspections and e-ticketing aggregate data transfers. The contractor shall ensure the device completely complies with all requirements outlined in Developmental Specification DS-23048. Hardware & Connectivity: The unit must be equipped with dual-SIM 5G mobile connectivity, dual Wi-Fi radios (2.4 GHz and 5 GHz), and a minimum expected broadcast range of 300 feet. Security & Management: The device must support remote cloud management and feature advanced cloud-managed threat protection. Project Coverage: Refer to the Project Communication Zone details on Plan Sheet [Insert Sheet Number, e.g., J.1] for the specified operational zones. Payment for this item will be full compensation for furnishing, cellular data service fees, remote management licensing, maintenance, and final removal of the device upon project completion.
27	2524-6765010	REMOVE AND REINSTALL SIGN AS PER PLAN	EACH	2				2	Refer to Tabulation 190-62 for location and details. Item is for the removal of sheet aluminum, galvanized sheet or plywood sign panel from its support structure ie: wood/steel posts. Measurement: Each. Payment: The Contractor will be paid the contract unit price for each Type A sign panel removed and reinstalled.
28	2524-9276027	PERFORATED SQUARE STEEL TUBE POST ANCHOR, TRIANGULAR SLIP BASE ASSEMBLY	EACH	4				4	Refer to Tabulation(s) 190-51 and/or 190-62 for locations and details.
29	2526-8285020	CONSTRUCTION SURVEY, CONTROL POINT SURVEY	LS	1				1	This item is for Division 1, 2 and 3.
30	2526-8285040	CONSTRUCTION SURVEY, LOCATION SURVEY	LS	1				1	
31	2527-9263155	PRE-CUT SYMBOLS AND LEGENDS, PREFORMED THERMOPLASTIC MARKING MATERIAL	EACH		2			2	Refer to Tab 108-29 in C sheets for information and locations.
32	2527-9263209	PAINTED PAVEMENT MARKINGS, WATERBORNE OR SOLVENT-BASED	STA		2,853.44			2,853.44	Refer to Tab 108-22 in the C sheets for information and locations. Painted pavement markings shall be Waterborne/Solvent Paint type. Tab 108-22 in the C Sheets includes quantities for applications of Pavement Markings to temporary driving surfaces and the final driving surface.

Item no.	Item Code	Item	Unit	Quantities					Estimate Reference Notes
				Estimated					
				Division 1	Division 2	Division 3	Division 4	Total	
33	2527-9270112	GROOVES CUT FOR PAVEMENT MARKINGS	STA		956.18			956.18	Refer to Tab 108-22 in the C sheets for information and locations.
34	2527-9270120	GROOVES CUT FOR SYMBOLS AND LEGENDS	EACH		2			2	Refer to Tab 108-29 in C sheets for information and locations.
35	2528-8445110	TRAFFIC CONTROL	LS	0.8	0.2			1	As per current Standard Specifications and Road Plans. Refer to Tab 108-23A on sheet J.1 and Tab 108-26A on sheet J.3 for more information. Bid item covers Divisions 1. As per current Standard Specifications and Road Plans. Refer to Tab 108-23A on sheet J.1 and Tab 108-26A on sheet J.3 for more information. Bid item covers Divisions 2 and 3.
36	2529-5070110	PATCHES, FULL-DEPTH FINISH, BY AREA	SY	72.9				72.9	Patches are for the removal of PCC raised islands at side roads. Refer to Tab. 102-6C on Sheet in C Sheets for quantities and locations.
37	2529-5070120	PATCHES, FULL-DEPTH FINISH, BY COUNT	EACH	2				2	
38	2533-4980005	MOBILIZATION	LS	0.8	0.2			1	Preparing the seedbed and furnishing and applying seed and mulch is incidental to mobilization and will not be paid for separately. Refer to Standard Notes 232-3A, 232-3C, 232-11 and Tab 100-26 in the C sheets for Incidental Items. Includes Mobilization for Divisions 2, and 3. Includes Mobilization for Divisions 1.
39	2548-0000100	MILLED SHOULDER RUMBLE STRIPS, HMA SURFACE	STA		722			722	Refer to Tab 112-10 in the C sheets for locations and information.
40	2548-0000110	ASPHALT EMULSION FOR FOG SEAL (SHOULDER RUMBLE STRIPS)	GAL		781.6			781.6	
41	2555-0000010	DELIVER AND STOCKPILE SALVAGED MATERIALS	LS				1	1	Refer to Tab. 110-13. Contractor will be required to provide equipment to stockpile material. So as to help minimize the square footage of the land space needed for stockpiling, the contractor shall consolidate and stockpile the dump struck material to a singular stockpile that is 10ft in height.
42	2602-0000020	SILT FENCE	LF		400			400	Refer to Tab 100-17 in the C sheets for information and locations. The tabulation includes 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.

Item no.	Item Code	Item	Unit	Quantities					Estimate Reference Notes
				Estimated					
				Division 1	Division 2	Division 3	Division 4	Total	
43	2602-0000071	REMOVAL OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS	LF		400			400	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.
44	2602-0000101	MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECK	LF		40			40	This item is for the clean out and repair of silt fence. Estimated at 10% of the silt fence quantity.
45	2602-0000309	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 9 IN. DIA.	LF		400			400	Refer to Tab. 100-19. The tabulation includes estimated locations for placement of "Perimeter and Slope Sediment Control Device, 9 in. dia." to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 25% additional quantity for field adjustments and replacements.
46	2602-0000351	REMOVAL OF PERIMETER AND SLOPE OR DITCH CHECK SEDIMENT CONTROL DEVICE	LF		400			400	This item is included for sediment control device removal. Remove sediment control device and posts after mulching or vegetation is established and approved by the engineer.

111_25
4/21/26

INDEX OF TABULATIONS

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4.0	100_25	HMA PAVEMENT	C.10
5.0	100_26	INCIDENTAL ITEMS	C.12
6.0	102_05	EXISTING PAVEMENT	C.13
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100_01D
8/15/22

PROJECT DESCRIPTION

This project is for HMA resurfacing along US 218 (NB) in Lee County, .25 mi S of 190th St to 0.5 mi S of IA 16.

This project also includes painted pavement markings for the inside and outside lanes, milled shoulder rumble strips inside & outside, upgraded guardrail, retrofit asphalt shoulders, and supplemental aggregate for the granular shoulders.

100_17
8/15/22

TABULATION OF SILT FENCES

Refer to EC-201

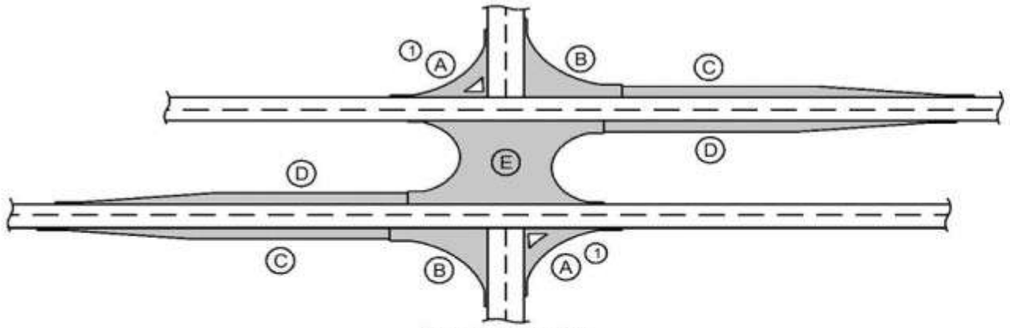
Line No.	Station From	Station To	Side	Length (FT)	Remarks
1.0	528+74.61	530+74.61	Right	200.00	Adjacent to guardrail construction
2.0	528+48.96	530+48.96	Median	200.00	Adjacent to guardrail construction
Total:				**400**	

PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE

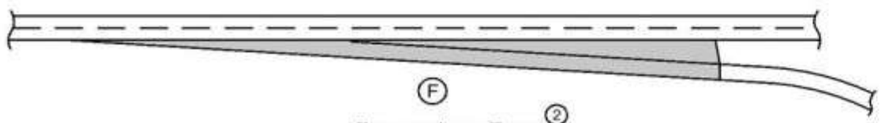
Possible Standards: EC-204

Line No.	Station From	Station To	Side	Sediment Control Device Type	Diameter Size	Length (LF)	Remarks
1.0	528+74.61	530+74.61	Right	Perimeter and Slope	9 inch	200.00	Adjacent to guardrail construction
2.0	528+48.96	530+48.96	Median	Perimeter and Slope	9 inch	200.00	Adjacent to guardrail construction
Total:						**400**	

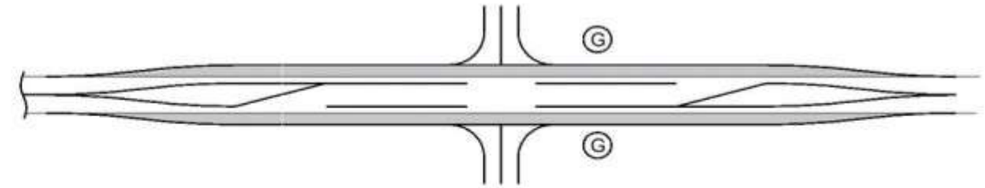
HMA PAVEMENT



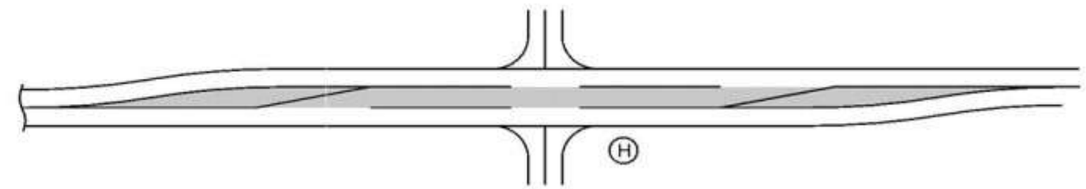
Typical Intersection



Ramp or Loop Taper (2)



Channelized Intersection
Widen Existing Roadway

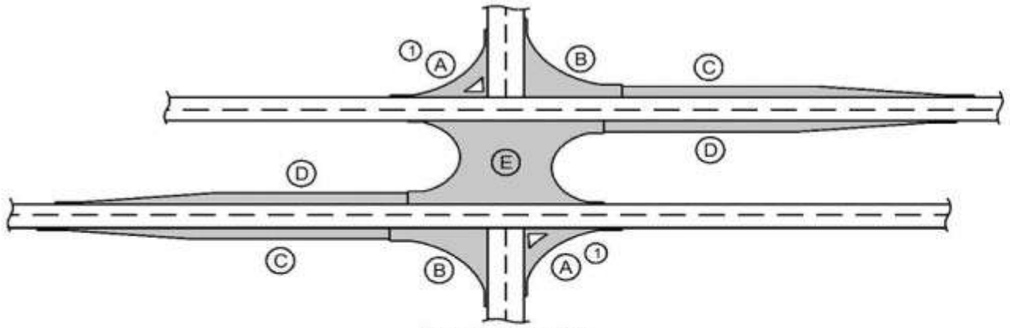


Channelized Intersection
Reconstructed Roadway

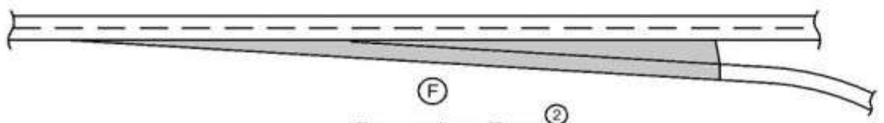
(1) Does not include raised island area or curb. Refer to tabulation 112-4 for quantities.
(2) Refer to PV-410, PV-411, PV-412, and PV-414.
(3) Quantity includes Pavement Header.

Line No.	Road Identification	Direction of Travel	Station From	Station To	Width (FT)	Length (FT)	Area A(1) (SY) (3)	Area B (SY) (3)	Area C (SY) (3)	Area D (SY)(3)	Area E(2) (SY)(3)	Area F (SY) (3)	Area G (SY)(3)	Total Area (SY)	Surface Course Unit Weight (lbs-cf)	Intermediate Course Unit Weight (lbs-cf)	Pavement Thickness Surface (IN)	Pavement Thickness Intermediate (IN)	HMA Pavement Surface (TONS)	HMA Pavement Surface (SY)	HMA Hi-Pro Surface (TONS)	HMA Pavement Intermediate (TONS)	HMA Pavement Intermediate (SY)	Binder Surface (TONS)	Binder Hi-Pro (TONS)	Binder Intermediate (TONS)	Pavement Scarification (SY)	Remarks
1.0	US 218 NB	Outside	347+93.36	362+21.61	14.0	1428.25								2221.72	150	147	1.0	1.5		2221.72	124.972	183.708	2221.72		7.498	11.022		See Note 1 and 2
2.0	US 218 NB	Outside	362+21.61	415+16.84	14.0	5295.23								8237.02	150	147	1.0	1.5		8237.02	463.332	681.099	8237.02		27.800	40.866		See Note 1 and 2
3.0	US 218 NB	Outside	415+16.84	468+23.02	14.0	5306.18								8254.06	150	147	1.0	1.5		8254.06	464.291	682.508	8254.06		27.857	40.950		See Note 1 and 2
4.0	US 218 NB	Outside	468+23.02	520+69.58	14.0	5246.56								8161.32	150	147	1.0	1.5		8161.32	459.074	674.839	8161.32		27.544	40.490		See Note 1 and 2
5.0	US 218 NB	Outside	520+69.58	530+17.25	14.0	947.67								1474.15	150	147	1.0	1.5		1474.15	82.921	121.894	1474.15		4.975	7.314		See Note 1 and 2
6.0	US 218 NB	Outside	534+05.48	537+51.63	14.0	346.15								538.46	150	147	1.0	1.5		538.46	30.288	44.524	538.46		1.817	2.671		See Note 1 and 2
7.0	US 218 NB	Outside	537+51.63	547+44.73	14.0	993.10								1544.82	150	147	1.0	1.5		1544.82	86.896	127.737	1544.82		5.214	7.664		See Note 1 and 2
8.0	US 218 NB	Outside	547+44.73	557+13.40	14.0	968.67								1506.82	150	147	1.0	1.5		1506.82	84.759	124.595	1506.82		5.086	7.476		See Note 1 and 2
9.0	US 218 NB	Outside	557+13.40	587+30.52	14.0	3017.12								4693.30	150	147	1.0	1.5		4693.30	263.998	388.077	4693.30		15.840	23.285		See Note 1 and 2
10.0	US 218 NB	Outside	587+30.52	680+46.42	14.0	9315.90								14491.40	150	147	1.0	1.5		14491.40	815.141	1198.258	14491.40		48.908	71.895		See Note 1 and 2
11.0	US 218 NB	Outside	680+46.42	708+66.00	14.0	2819.58								4386.01	150	147	1.0	1.5		4386.01	246.713	362.668	4386.01		14.803	21.760		See Note 1 and 2
12.0	US 218 NB	Inside	347+93.36	362+21.61	12.0	1428.25								1904.33	150	147	1.0	1.5		1904.33	107.119	157.464	1904.33		6.427	9.448		See Note 1 and 2
13.0	US 218 NB	Inside	362+21.61	415+16.84	12.0	5295.23								7060.31	150	147	1.0	1.5		7060.31	397.142	583.799	7060.31		23.829	35.028		See Note 1 and 2
14.0	US 218 NB	Inside	415+16.84	468+23.02	12.0	5306.18								7074.91	150	147	1.0	1.5		7074.91	397.964	585.007	7074.91		23.878	35.100		See Note 1 and 2
15.0	US 218 NB	Inside	468+23.02	520+69.58	12.0	5246.56								6995.41	150	147	1.0	1.5		6995.41	393.492	578.433	6995.41		23.610	34.706		See Note 1 and 2
16.0	US 218 NB	Inside	520+69.58	530+17.25	12.0	947.67								1263.56	150	147	1.0	1.5		1263.56	71.075	104.481	1263.56		4.264	6.269		See Note 1 and 2
17.0	US 218 NB	Inside	534+05.48	537+51.63	12.0	346.15								461.53	150	147	1.0	1.5		461.53	25.961	38.163	461.53		1.558	2.290		See Note 1 and 2
18.0	US 218 NB	Inside	537+51.63	547+44.73	12.0	993.10								1324.13	150	147	1.0	1.5		1324.13	74.482	109.489	1324.13		4.469	6.569		See Note 1 and 2
19.0	US 218 NB	Inside	547+44.73	557+13.40	12.0	968.67								1291.56	150	147	1.0	1.5		1291.56	72.650	106.796	1291.56		4.359	6.408		See Note 1 and 2
20.0	US 218 NB	Inside	557+13.40	587+30.52	12.0	3017.12								4022.83	150	147	1.0	1.5		4022.83	226.284	332.638	4022.83		13.577	19.958		See Note 1 and 2
21.0	US 218 NB	Inside	587+30.52	680+46.42	12.0	9315.90								12421.20	150	147	1.0	1.5		12421.20	698.692	1027.078	12421.20		41.922	61.625		See Note 1 and 2
22.0	US 218 NB	Inside	680+46.42	708+66.00	12.0	2819.58								3759.44	150	147	1.0	1.5		3759.44	211.469	310.859	3759.44		12.688	18.652		See Note 1 and 2
23.0	US 218 Runout	Inside	362+21.61	362+21.61				89.80		574.20	272.60			936.60	150	147	1.0	1.5	52.684	936.60		77.445	936.60	3.161		4.647	136.30	See Note 5, 6 and 7
24.0	US 218 Runout	Inside	415+16.84	415+16.84				88.70		632.20	268.50			989.40	150	147	1.0	1.5	55.654	989.40		81.811	989.40	3.339		4.909	134.25	See Note 5, 6 and 7

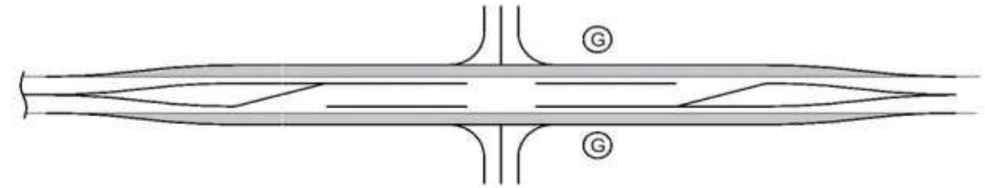
HMA PAVEMENT



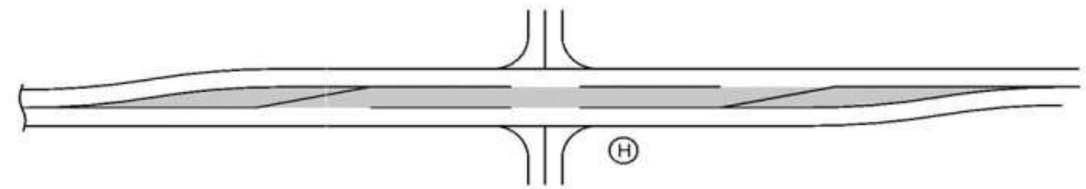
Typical Intersection



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.

Line No.	Road Identification	Direction of Travel	Station From	Station To	Width (FT)	Length (FT)	Area A(1) (SY) (3)	Area B (SY) (3)	Area C (SY) (3)	Area D (SY)(3)	Area E(2) (SY)(3)	Area F (SY) (3)	Area G (SY)(3)	Total Area (SY)	Surface Course Unit Weight (lbs-cf)	Intermediate Course Unit Weight (lbs-cf)	Pavement Thickness Surface (IN)	Pavement Thickness Intermediate (IN)	HMA Pavement Surface (TONS)	HMA Pavement Surface (SY)	HMA Hi-Pro Surface (TONS)	HMA Pavement Intermediate (TONS)	HMA Pavement Intermediate (SY)	Binder Surface (TONS)	Binder Hi-Pro (TONS)	Binder Intermediate (TONS)	Pavement Scarification (SY)	Remarks
25.0	US 218 Runout	Inside	468+23.02	468+23.02				88.20			272.30			360.50	150	147	1.0	1.5	20.278	360.50		29.809	360.50	1.217		1.789	136.15	See Note 5, 6 and 7
26.0	US 218 Runout	Inside	520+69.58	520+69.58				532.70		624.60	263.30			1420.60	150	147	1.0	1.5	79.909	1420.60		117.466	1420.60	4.795		7.048	330.62	See Note 5, 6 and 7
27.0	US 218 Runout	Inside	537+51.63	537+51.63						617.20	274.30			891.50	150	147	1.0	1.5	50.147	891.50		73.716	891.50	3.009		4.423	137.15	See Note 5, 6 and 7
28.0	US 218 Runout	Inside	547+44.73	547+44.73				89.20			228.40			317.60	150	147	1.0	1.5	17.865	317.60		26.262	317.60	1.072		1.576	114.20	See Note 5, 6 and 7
29.0	US 218 Runout	Inside	557+13.40	557+13.40						592.60	262.10			854.70	150	147	1.0	1.5	48.077	854.70		70.673	854.70	2.885		4.240	131.05	See Note 5, 6 and 7
30.0	US 218 Runout	Inside	587+30.52	587+30.52				87.80		604.10	277.20			969.10	150	147	1.0	1.5	54.512	969.10		80.132	969.10	3.271		4.808	138.60	See Note 5, 6 and 7
31.0	US 218 Runout	Inside	680+46.42	680+46.42						608.00	271.10		2087.40	2966.50	150	147	1.0	1.5	166.866	2966.50		245.292	2966.50	10.012		14.718	135.50	See Note 5, 6 and 7
Total:														**112794.79**					**545.992**	**112794.79**	**5798.715**	**9326.72**	**112794.79**	**32.761**	**347.923**	**559.604**	**1393.82**	

Refer to Typical 2617 modified "HMA Resurfacing and Milling With Base Widening" in B Sheets.
Hi Pro Surface only for Mainline Lanes. Turn Lanes, Crossovers and Sideroad surface mix will be HT.
Quantity Intermediate in Tons with 5% = 9793.06
Quantity Intermediate Binder in Tons with 5% = 587.58
Quantity Hi Pro Surface in Tons with 5% = 6088.66
Quantity Hi Pro Surface Binder in Tons with 5% = 365.32
Quantity Surface in Tons with 5% = 573.29
Quantity Surface Binder in Tons with 5% = 32.76

INCIDENTAL ITEMS

Special or unique items where method of measurement / basis of payment is not indicated in the specifications or other contract documents.

Line No.	Incidental Item	Unit	Quantity	Incidental to Item Code	Incidental to Item	Remarks
1.0	Rural Seeding	Acre	1	2533-498005	Mobilization	Refer to General Note Tab 232-3A
2.0	Native Seeding	Acre	1	2533-498005	Mobilization	Refer to General Note Tab 232-3C
3.0	Erosion Control (Stabilizing Crop Seed)	Acre	1	2533-498005	Mobilization	Refer to General Note Tab 232-11
4.0	Mulching	Acre	1	2533-498005	Mobilization	

EXISTING PAVEMENT

Line No.	County	Route	Direction of Travel	Begin Ref. Location Sign	End Ref. Location Sign	Year	Type	Project Number	Surface Type	Surface Depth (IN)	Base Type	Base Depth (IN)	Subbase Type	Subbase Depth (IN)	Removal Type	Removal Depth (IN)	Coarse Aggregate Source	Coarse Aggregate Type	Course Aggregate Durability Class	Reinforcement Type	Remarks
1.0	Lee	US 218	NB	22.17	29	2020	M	MP-027-5(708)0--76-56													PCC Patching
2.0	Lee	US 218	NB	22.17	29	2005	M	NHSX-218-1(51)--3H-56	PCC	10.5	GSB	10.5									

FULL-DEPTH PATCHES

Line No.	Count	Station	Reference Location Sign	Direction of Travel	Side	Length (FT)	Width (FT)	Patch Thickness (IN)	Patch Repair or Finish	PCC Patch Type	PCC Patch Quantity (SY)	HMA Patches (SY)	Composite HMA (TON)	Subbase Patches (PR-140) (SY)	Subbase Patch with 'EF' Joint (PR-101) (SY)	Patch Subdrain PR-101 or PR-140 (No.)	'CD' Joints (No.)	'CT' Joints (No.)	'EF' Joints PR-101 (No.)	Anchor Lugs Removal (No.)	Remarks
1.0	1	520+69.58		NB	Outside			12.0	Finish	PCC Without Dowels (PR-102)	21.6										Rmvl raised Island / 160th
2.0	1	680+48.42		NB	Outside			12.0	Finish	PCC Without Dowels (PR-102)	51.3										Rmvl raised Island / 130th
Total:											**72.9**										

NOTCHES AND RUNOUTS FOR RESURFACING

Refer to PR-201 and PR-202.

(1) Bid item. Applies only to Types 'N1' and 'N3' on PR-202. Refer to 100-25 for remaining values.

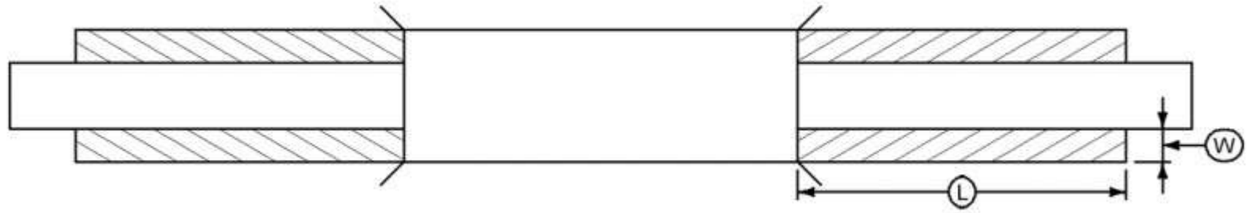
Line No.	Station	Type of Notch or Runout	S (IN)	I (IN)	DI (IN)	L (FT)	M (IN)	Pavement Scarification (SY) (1)	Remarks
1.0	347+93.36	Type N3	1.0	1.5		125.0	1.0	361.1	
2.0	528+92.25	Type N3	1.0	1.5		125.0	1.0	361.1	
3.0	534+05.48	Type N3	1.0	1.5		125.0	1.0	361.1	
4.0	707+40.59	Type N3	1.0	1.5		125.0	1.0	361.1	
Total:								**1444.4**	

STANDARDS

The following Standards apply to construction work on this project.

Number	Date	Title
BA-200	04-21-26	Steel Beam Guardrail Components
BA-201	10-18-22	Steel Beam Guardrail Barrier Transition Section (MASH TL-3)
BA-202	04-15-25	Steel Beam Guardrail Bolted End Anchor
BA-205	10-17-23	Steel Beam Guardrail Tangent End Terminal (MASH TL-3)
BA-250	10-21-25	Steel Beam Guardrail Installation at Concrete Barrier or Bridge End Post (MASH TL-3)
EC-201	04-20-21	Silt Fence
EC-502	04-21-15	Seeding in Rural Areas
EW-105	04-21-15	Reshaping Slopes and Ditches
PM-110	10-15-24	Line Types
PM-111	04-21-20	Symbols and Legends
PM-115	04-15-25	Grooving for Line Types
PM-116	04-16-24	Grooving for Symbols and Legends
PM-120	10-15-24	Stop Lines and Islands
PM-562	10-15-24	Divided Multi-Lane Roadway with Left Turn Lanes
PR-102	10-21-25	Full Depth PCC Patch without Dowels
PV-12	04-16-24	Milled Shoulder Rumble Strips
PV-101	10-21-25	Joints
PV-202	04-21-20	Hot Mix Asphalt Resurfacing
PV-203	04-21-20	HMA Base Widening
TC-1	10-15-19	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-416	10-15-19	Partial Lane Closure on Ramps
TC-418	04-18-23	Lane Closure on Divided Highway
TC-402	04-18-23	Work Within 15 ft of Traveled Way
TC-431	04-15-25	Slow Moving Vehicle Operating in the Traffic Lane
TC-432	10-17-17	Shoulder Rumble Strip Operations
TC-482	04-19-22	Uneven Lanes
TC-433	10-17-17	Pavement Marking Operations
TC-416	10-15-19	Partial Lane Closure on Ramps
TC-417	04-21-20	Ramp Closure
SI-101	04-19-16	Locations - Type 'A' Signs
SI-211	10-18-22	Object Marker and Delineator Placement with Guardrail
SI-173	04-19-16	Object Markers

AREAS FOR PAVEMENT OR BASE WIDENING



(1) Bid Item
(2) Estimated for two applications to achieve lifts and one application of 0.10 Gal/SY adjacent to existing pavement. Priming of subgrade or finished base is not required.

Line No.	Station From	Station To	Side	Pavement Type	Length (LF)	Width (LF)	Thickness (IN)	HMA Unit Wt. (lbs/cf)	HMA Base Widening (1) (TONS)	HMA Base Widening (1) (SY)	PCC Base Widening (1) (SY)	PCC Pavement Widening (1) (SY)	Tack Coat Unit Wt. (gal/sy)	Tack Coat Lifts (GAL)	Tack Coat Vertical Edge (GAL)	Tack Coat (2) (GAL)	Asphalt Binder (1) (TON)	Class 13 Excavation Widening (1) (CY)	Special Backfill Unit Weight (lbs-cf)	Special Backfill (1) (TONS)	Remarks
1.0	347+93.36	519+14.23	Right	HMA	17120.87	4.0	5.0	147		7609.3					79.26	79.26		1056.8			
2.0	522+92.04	530+23.64	Right	HMA	731.60	4.0	5.0	147		325.2					3.39	3.39		45.2			
3.0	534+05.32	658+31.29	Right	HMA	12425.97	4.0	5.0	147		5522.6					57.53	57.53		767.0			
4.0	664+66.92	678+89.34	Right	HMA	1422.42	4.0	5.0	147		632.2					6.59	6.59		87.8			
5.0	681+79.95	708+65.84	Right	HMA	2685.89	4.0	5.0	147		1193.7					12.43	12.43		165.8			
6.0	347+93.36	358+52.18	Left	HMA	1058.82	4.0	5.0	147		470.6					4.90	4.90		65.4			
7.0	363+77.61	411+76.20	Left	HMA	4798.59	4.0	5.0	147		2132.7					22.22	22.22		296.2			
8.0	416+71.73	467+66.17	Left	HMA	5094.44	4.0	5.0	147		2264.2					23.59	23.59		314.5			
9.0	468+74.00	517+27.04	Left	HMA	4853.04	4.0	5.0	147		2156.9					22.47	22.47		299.6			
10.0	522+04.76	530+23.56	Left	HMA	818.80	4.0	5.0	147		363.9					3.79	3.79		50.5			
11.0	538+80.75	546+93.65	Left	HMA	812.90	4.0	5.0	147		361.3					3.76	3.76		50.2			
12.0	547+91.63	553+90.64	Left	HMA	599.01	4.0	5.0	147		266.2					2.77	2.77		37.0			
13.0	558+52.60	583+94.10	Left	HMA	2541.50	4.0	5.0	147		1129.6					11.77	11.77		156.9			
14.0	588+80.81	677+15.87	Left	HMA	8835.06	4.0	5.0	147		3926.7					40.90	40.90		545.4			
15.0	681+32.30	708+66.16	Left	HMA	2733.86	4.0	5.0	147		1215.0					12.66	12.66		168.8			
Total:					**66532.77**					**29570.1**					**308.03**	**308.03**		**4107.1**			

Right = Outside Lane
Left = Inside Lane
Total with 5% = 31,048.605 S.Y.

GRADING FOR GUARDRAIL INSTALLATIONS

Refer to EW-301.

(1) Lane(s) to which the installation is adjacent.

Line No.	Direction of Traffic (1)	Station	Side	Foreslope at Guardrail	X1 (FT)	Y1 (FT)	X2 (FT)	Y2 (FT)	X3 (FT)	Y3 (FT)	X4 (FT)	Y4 (FT)	Z (FT)	Excavation Class 10 (CY)	Embankment-in-Place (CY)	Remarks
1.0	NB	530+82.59	Right		53.1	7.4	100.0	10.6	132.0	10.6	188.3	12.8	73.0		26.1	
2.0	NB	530+82.47	Median		53.1	4.9	100.0	7.5	157.2	7.5	214.0	10.5	63.6		26.3	
Total:															**52.4**	

Right = Outside Lane
Median = Inside Lane

STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE RAIL END SECTION

Possible Standards: BA-200, BA-201, BA-202, BA-205, BA-206, BA-209, 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.

Line No.	Direction of Travel (1)	Side	Station	Offset (FT)	Barrier Transition Section	Barrier Transition Section (EA)	End Terminal	End Terminal Count (EA)	VT1 (LF)	VF (LF)	VT2 (LF)	ET (LF)	BA-211 Station	BA-211 (Type)	SI-211 (Type) (2)	Delineator SI-172 Type 1 (EA) (2)	Object Marker Type 2 (EA) (2)	Object Marker Type 3 Lt (EA)(2)	Object Marker Type 3 Rt (EA)(2)	Bolted End Anchor BA-202 (Type)	Bolted End Anchor BA-202 (EA)	Post Adapter BA-210 (EA)	Steel Beam Guardrail BA-200 (LF)	Remarks
1.0	NB	Outside	530+82.59	67.2	BA-201	1	BA-205	1	53.125	50.00	37.50	47.70							1	C	1		100.0	
2.0	NB	Median	530+82.47	28.8	BA-201	1	BA-205	1	53.125	50.00	62.50	47.70						1		C	1		125.0	
Total:						**2**		**2**													**2**		**225**	

PAVEMENT MARKING LINE TYPES

Line factors based on 6-inch wide continuous line.
*BCY4 - Place on the same side of the roadway to match existing markings near the project.
**NPY4 - Estimating purposes only. No Passing Zone Lines will be located in the field.
***MNY6 - Factor of 1.00 includes number of 6-inch passes to cover median nose area.

BCY4: Broken Centerline (Yellow) @ 0.17
BCY6: Broken Centerline (Yellow) @ 0.25
BLC6: Broken Line Contrast (White/Black) @ 0.50
BLW4: Broken Lane Line (White) @ 0.17
BLW6: Broken Lane Line (White) @ 0.25
CBW6: Crosswalk Bar (White) @ 10.00
CHW8: Channelizing Line (White) @ 1.33
CHW10: Channelizing Line (White) @ 1.67
CHY8: Channelizing Line (Yellow) @ 1.33
CHY10: Channelizing Line (Yellow) @ 1.67
CLW6: Crosswalk Line (White) @ 2.00
DCY4: Double Centerline (Yellow) @ 1.34
DCY6: Double Centerline (Yellow) @ 2.00
DDY4: Double Dotted Line (Yellow) @ 0.44
DDY6: Double Dotted Line (Yellow) @ 0.67
DLW4: Dotted Line (White) @ 0.22
DLW6: Dotted Line (White) @ 0.33
DLY4: Dotted Line (Yellow) @ 0.22
DLY6: Dotted Line (Yellow) @ 0.33
ELW4: Edge Line Right (White) @ 0.67
ELW6: Edge Line Right (White) @ 1.00
ELY4: Edge Line Left (Yellow) @ 0.67
ELY6: Edge Line Left (Yellow) @ 1.00
LDW8: Lane Drop (White) @ 0.33
LDW10: Lane Drop (White) @ 0.42
MNY6: Median Nose (Yellow) @ 1.00
NPY4: No Passing Zone Line (Yellow) @ 0.84
NPY6: No Passing Zone Line (Yellow) @ 1.25
RLW4: Ramp Edge Line Right (White) @ 0.67
RLW6: Ramp Edge Line Right (White) @ 1.00
RLY4: Ramp Edge Line Left (Yellow) @ 0.67
RLY6: Ramp Edge Line Left (Yellow) @ 1.00
SLW2: Stop Line (White) @ 4.00
SLW4: Solid Lane Line (White) @ 0.67
SLW6: Solid Lane Line (White) @ 1.00
SPW4: Sloped Curb 4" (White) @ 2.16
SPW6: Sloped Curb 6" (White) @ 2.28
SPY4: Sloped Curb 4" (Yellow) @ 2.16
SPY6: Sloped Curb 6" (Yellow) @ 2.28
STW6: Standard Curb 6" (Yellow) @ 2.03
STY6: Standard Curb 6" (Yellow) @ 2.03
YLW2: Yield Line (White) @ 1.15

Line No.	Road ID	Station From	Station To	Lane	Marking Type	Left	Center	Right	Groove Marking Needed?	Groove Qty. (STA)	BLW6 Factored (STA)	DCY6 Factored (STA)	DLW6 Factored (STA)	ELW6 Factored (STA)	ELY6 Factored (STA)	SLW2 Factored (STA)	SLW6 Factored (STA)	YLW2 Factored (STA)	Remarks
1.0	US 218 NB Div 2	347+93.36	708+66.00	NB	Waterborne/Solvent Paint	X	X	X	No		90.18		0.26	359.94	360.73		12.95		Temporary - Intermediate Lift
2.0	US 218 NB Div 2	347+93.36	708+66.00	NB	Waterborne/Solvent Paint	X	X	X	No		90.18		0.26	359.94	360.73		12.95		Temporary - Surface Lift
3.0	US 218 NB Div 2	347+93.36	708+66.00	NB	Waterborne/Solvent Paint	X	X	X	Yes	824.06	90.18		0.26	359.94	360.73		12.95		Permanant - Surface Lift
4.0	US 218 NB Div 2	362+21.61	362+21.61	NB	Waterborne/Solvent Paint				No			0.40				9.20		0.69	Int. / US 218 Crossover @ 190th St
5.0	US 218 NB Div 2	362+21.61	362+21.61	NB	Waterborne/Solvent Paint				No			0.40				9.20		0.69	Temp / US 218 Crossover @ 190th St
6.0	US 218 NB Div 2	362+21.61	362+21.61	NB	Waterborne/Solvent Paint				Yes	10.29		0.40				9.20		0.69	Perm / US 218 Crossover @ 190th
7.0	US 218 NB Div 2	362+21.61	362+21.61	NB	Waterborne/Solvent Paint				No							6.40			Int. / Sideroad @ 190th
8.0	US 218 NB Div 2	362+21.61	362+21.61	NB	Waterborne/Solvent Paint				No							6.40			Temp / Sideroad @ 190th
9.0	US 218 NB Div 2	362+21.61	362+21.61	NB	Waterborne/Solvent Paint				Yes	6.40						6.40			Perm / Sideroad @ 190th
10.0	US 218 NB Div 2	415+16.84	415+16.84	NB	Waterborne/Solvent Paint				No			0.40				9.20		0.69	Int. / US 218 Crossover @ 180th St
11.0	US 218 NB Div 2	415+16.84	415+16.84	NB	Waterborne/Solvent Paint				No			0.40				9.20		0.69	Temp / US 218 Crossover @ 180th St
12.0	US 218 NB Div 2	415+16.84	415+16.84	NB	Waterborne/Solvent Paint				Yes	10.29		0.40				9.20		0.69	Perm / US 218 Crossover @ 180th St
13.0	US 218 NB Div 2	415+16.84	415+16.84	NB	Waterborne/Solvent Paint				No							6.40			Int. / Sideroad @ 180th St
14.0	US 218 NB Div 2	415+16.84	415+16.84	NB	Waterborne/Solvent Paint				No							6.40			Temp / Sideroad @ 180th St
15.0	US 218 NB Div 2	415+16.84	415+16.84	NB	Waterborne/Solvent Paint				Yes	6.40						6.40			Perm / Sideroad @ 180th St
16.0	US 218 NB Div 2	468+23.02	468+23.02	NB	Waterborne/Solvent Paint				No			0.40						0.46	Int. / US 218 Crossover @ 170th St
17.0	US 218 NB Div 2	468+23.02	468+23.02	NB	Waterborne/Solvent Paint				No			0.40						0.46	Temp / US 218 Crossover @ 170th St
18.0	US 218 NB Div 2	468+23.02	468+23.02	NB	Waterborne/Solvent Paint				Yes	0.86		0.40						0.46	Perm / US 218 Crossover @ 170th St
19.0	US 218 NB Div 2	468+23.02	468+23.02	NB	Waterborne/Solvent Paint				No							6.40			Int. / Sideroad @ 170th St
20.0	US 218 NB Div 2	468+23.02	468+23.02	NB	Waterborne/Solvent Paint				No							6.40			Temp / Sideroad @ 170th St
21.0	US 218 NB Div 2	468+23.02	468+23.02	NB	Waterborne/Solvent Paint				Yes	6.40						6.40			Perm / Sideroad @ 170th St
22.0	US 218 NB Div 2	520+69.58	520+69.58	NB	Waterborne/Solvent Paint				No			0.60				12.00			Int. / US 218 Crossover @ Co Rd 103
23.0	US 218 NB Div 2	520+69.58	520+69.58	NB	Waterborne/Solvent Paint				No			0.60				12.00			Temp / US 218 Crossover @ Co Rd 104
24.0	US 218 NB Div 2	520+69.58	520+69.58	NB	Waterborne/Solvent Paint				Yes	12.60		0.60				12.00			Perm / US 218 Crossover @ Co Rd 103
25.0	US 218 NB Div 2	520+69.58	520+69.58	NB	Waterborne/Solvent Paint				No							6.40			Int. / Sideroad @ Co Rd 103
26.0	US 218 NB Div 2	520+69.58	520+69.58	NB	Waterborne/Solvent Paint				No							6.40			Temp / Sideroad @ Co Rd 104
27.0	US 218 NB Div 2	520+69.58	520+69.58	NB	Waterborne/Solvent Paint				Yes	6.40						6.40			Perm / Sideroad @ Co Rd 103
28.0	US 218 NB Div 2	537+51.63	537+51.63	NB	Waterborne/Solvent Paint				No			0.60				10.00			Int. / US 218 Crossover @ 180th Ave
29.0	US 218 NB Div 2	537+51.63	537+51.63	NB	Waterborne/Solvent Paint				No			0.60				10.00			Temp / US 218 Crossover @ 180th Ave
30.0	US 218 NB Div 2	537+51.63	537+51.63	NB	Waterborne/Solvent Paint				Yes	10.60		0.60				10.00			Perm / US 218 Crossover @ 180th Ave
31.0	US 218 NB Div 2	547+44.73	547+44.73	NB	Waterborne/Solvent Paint				No			0.60						0.34	Int. / US 218 Crossover @ 155th St
32.0	US 218 NB Div 2	547+44.73	547+44.73	NB	Waterborne/Solvent Paint				No			0.60						0.34	Temp / US 218 Crossover @ 155th St
33.0	US 218 NB Div 2	547+44.73	547+44.73	NB	Waterborne/Solvent Paint				Yes	0.94		0.60						0.34	Perm / US 218 Crossover @ 155th St
34.0	US 218 NB Div 2	547+44.73	547+44.73	NB	Waterborne/Solvent Paint				No							6.40			Int. / Sideroad @ 155th St
35.0	US 218 NB Div 2	547+44.73	547+44.73	NB	Waterborne/Solvent Paint				No							6.40			Temp / Sideroad @ 155th St
36.0	US 218 NB Div 2	547+44.73	547+44.73	NB	Waterborne/Solvent Paint				Yes	6.40						6.40			Perm / Sideroad @ 155th St
37.0	US 218 NB Div 2	557+13.40	557+13.40	NB	Waterborne/Solvent Paint				No			0.40				9.60		0.57	Int. / US 218 Crossover @ 180th Ave
38.0	US 218 NB Div 2	557+13.40	557+13.40	NB	Waterborne/Solvent Paint				No			0.40				9.60		0.57	Temp / US 218 Crossover @ 180th Ave
39.0	US 218 NB Div 2	557+13.40	557+13.40	NB	Waterborne/Solvent Paint				Yes	10.57		0.40				9.60		0.57	Perm / US 218 Crossover @ 180th Ave
40.0	US 218 NB Div 2	587+30.52	587+30.52	NB	Waterborne/Solvent Paint				No			0.40				9.20		0.57	Int. / US 218 Crossover @ 150th St
41.0	US 218 NB Div 2	587+30.52	587+30.52	NB	Waterborne/Solvent Paint				No			0.40				9.20		0.57	Temp / US 218 Crossover @ 150th St
42.0	US 218 NB Div 2	587+30.52	587+30.52	NB	Waterborne/Solvent Paint				Yes	10.17		0.40				9.20		0.57	Perm / US 218 Crossover @ 150th St
43.0	US 218 NB Div 2	587+30.52	587+30.52	NB	Waterborne/Solvent Paint				No							6.40			Int. / Sideroad @ 150th St

PAVEMENT MARKING LINE TYPES

Line factors based on 6-inch wide continuous line.
*BCY4 - Place on the same side of the roadway to match existing markings near the project.
**NPY4 - Estimating purposes only. No Passing Zone Lines will be located in the field.
***MNY6 - Factor of 1.00 includes number of 6-inch passes to cover median nose area.

BCY4: Broken Centerline (Yellow) @ 0.17
BCY6: Broken Centerline (Yellow) @ 0.25
BLC6: Broken Line Contrast (White/Black) @ 0.50
BLW4: Broken Lane Line (White) @ 0.17
BLW6: Broken Lane Line (White) @ 0.25
CBW6: Crosswalk Bar (White) @ 10.00
CHW8: Channelizing Line (White) @ 1.33
CHW10: Channelizing Line (White) @ 1.67
CHY8: Channelizing Line (Yellow) @ 1.33
CHY10: Channelizing Line (Yellow) @ 1.67
CLW6: Crosswalk Line (White) @ 2.00
DCY4: Double Centerline (Yellow) @ 1.34
DCY6: Double Centerline (Yellow) @ 2.00
DDY4: Double Dotted Line (Yellow) @ 0.44
DDY6: Double Dotted Line (Yellow) @ 0.67
DLW4: Dotted Line (White) @ 0.22
DLW6: Dotted Line (White) @ 0.33
DLY4: Dotted Line (Yellow) @ 0.22
DLY6: Dotted Line (Yellow) @ 0.33
ELW4: Edge Line Right (White) @ 0.67
ELW6: Edge Line Right (White) @ 1.00
ELY4: Edge Line Left (Yellow) @ 0.67
ELY6: Edge Line Left (Yellow) @ 1.00
LDW8: Lane Drop (White) @ 0.33
LDW10: Lane Drop (White) @ 0.42
MNY6: Median Nose (Yellow) @ 1.00
NPY4: No Passing Zone Line (Yellow) @ 0.84
NPY6: No Passing Zone Line (Yellow) @ 1.25
RLW4: Ramp Edge Line Right (White) @ 0.67
RLW6: Ramp Edge Line Right (White) @ 1.00
RLY4: Ramp Edge Line Left (Yellow) @ 0.67
RLY6: Ramp Edge Line Left (Yellow) @ 1.00
SLW2: Stop Line (White) @ 4.00
SLW4: Solid Lane Line (White) @ 0.67
SLW6: Solid Lane Line (White) @ 1.00
SPW4: Sloped Curb 4" (White) @ 2.16
SPW6: Sloped Curb 6" (White) @ 2.28
SPY4: Sloped Curb 4" (Yellow) @ 2.16
SPY6: Sloped Curb 6" (Yellow) @ 2.28
STW6: Standard Curb 6" (Yellow) @ 2.03
STY6: Standard Curb 6" (Yellow) @ 2.03
YLW2: Yield Line (White) @ 1.15

Line No.	Road ID	Station From	Station To	Lane	Marking Type	Left	Center	Right	Groove Marking Needed?	Groove Qty. (STA)	BLW6 Factored (STA)	DCY6 Factored (STA)	DLW6 Factored (STA)	ELW6 Factored (STA)	ELY6 Factored (STA)	SLW2 Factored (STA)	SLW6 Factored (STA)	YLW2 Factored (STA)	Remarks
44.0	US 218 NB Div 2	587+30.52	587+30.52	NB	Waterborne/Solvent Paint				No							6.40			Temp / Sideroad @ 150th St
45.0	US 218 NB Div 2	587+30.52	587+30.52	NB	Waterborne/Solvent Paint				Yes	6.40						6.40			Perm / Sideroad @ 150th St
46.0	US 218 NB Div 2	680+46.42	680+46.42	NB	Waterborne/Solvent Paint				No			0.40				9.60		0.69	Int. / US 218 Crossover @ 130th St
47.0	US 218 NB Div 2	680+46.42	680+46.42	NB	Waterborne/Solvent Paint				No			0.40				9.60		0.69	Temp / US 218 Crossover @ 130th St
48.0	US 218 NB Div 2	680+46.42	680+46.42	NB	Waterborne/Solvent Paint				Yes	10.69		0.40				9.60		0.69	Perm / US 218 Crossover @ 130th St
49.0	US 218 NB Div 2	680+46.42	680+46.42	NB	Waterborne/Solvent Paint				No							7.68			Int. / Sideroad @ 130th St
50.0	US 218 NB Div 2	680+46.42	680+46.42	NB	Waterborne/Solvent Paint				No							7.68			Temp / Sideroad @ 130th St
51.0	US 218 NB Div 2	680+46.42	680+46.42	NB	Waterborne/Solvent Paint				Yes	7.68						7.68			Perm / Sideroad @ 130th St
52.0	US 218 NB Div 2	680+94.31	682+42.02	NB	Waterborne/Solvent Paint				No					1.48					Int./Weighstation ramp line
53.0	US 218 NB Div 2	680+94.31	682+42.02	NB	Waterborne/Solvent Paint				No					1.48					Temp/Weighstation ramp line
54.0	US 218 NB Div 2	680+94.31	682+42.02	NB	Waterborne/Solvent Paint				Yes	1.48				1.48					Perm/Weighstation ramp line
55.0	US 218 NB Div 2	680+46.42	680+46.42	NB	Waterborne/Solvent Paint				Yes	7.55				7.55					Perm/weighstation ramp hatch
Total:										**956.18**	**270.54**	**12.6**	**0.78**	**1091.81**	**1082.19**	**344.64**	**38.85**	**12.03**	

Grooving Quantity Total: 956.18 (STA)
Pavement Marking Quantity Total: 2,853.44 (STA)

108_29
4/15/25

PAVEMENT MARKING SYMBOLS AND LEGENDS

Refer to PM-111

Line No.	Roadway Identification	Station	Side	Pavement Symbol	Quantity (EA)	Groove Marking Needed?	Remarks
1.0	US 218 NB	680+46.42		FERW	2	Yes	NB Arrow, Both Lanes (Perm)

110_07A
8/15/22

REMOVAL OF STEEL BEAM GUARDRAIL

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

Line No.	No.	Direction of Traffic (1)	Station From	Station To	Side	Removal of Guardrail (2) (LF)
1.0		NB	530+82.59	531+40.09	Right	57.5
2.0		NB	533+35.40	533+92.90	Right	57.5
3.0		NB	530+82.47	531+39.97	Median	57.5
4.0		NB	533+35.48	533+92.98	Median	57.5
Total:						**230**

110_13
8/15/22

DELIVERY AND STOCKPILING

Line No.	Item Description	Quantity	Quantity Units	Delivery Location	Contact Name	Contact Number	Remarks
1.0	Class 13 Excavation for Widening	4107	CY	See Note 1	Lamont Sutter	319-470-0091	Available 7762 Tons (Only CL13 from Base Widening)

Note 1: Delivery Location - The junction of Highway 27 and Old US 218.

TABULATION OF REVISIONS

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.
(7) Paved shoulder thickness specified in Remarks.
(8) Subbase type specified in Remarks.

Roadway Identification	Direction of Travel (1)	Station From	Station To	Side	P Start Width (FT)	P End Width (FT)	P Width (FT)	P_SG Start Width (FT)	P_SG End Width (FT)	P SG Width (2) (FT)	G Width (FT)	L Length (FT)	Class 13 Excavation (CY)(3)(4)	HMA (TON)	HMA (TON/STA)	Binder (TONS)	Paved Shoulder (3) (SY)	Shoulder at Grdrail (5)(7)	Reinforced Paved Shoulder(3) (SY)	Granular Shoulder (3) (TON)	Granular Shoulder (TON/STA)	Remarks
US 218 DIV 2 GUARDRAIL	NB	528+74.77	528+94.22	Right	0.0	0.0		12.8	12.8	12.8		20.00	7.1	13.724	70.560	0.823		27.7				9 Inch Shdr
US 218 DIV 2 GUARDRAIL	NB	528+94.22	529+50.55	Right	0.0	0.0		12.8	10.6	11.7		47.80	15.5	36.351	64.533	2.181		73.2				9 Inch Shdr
US 218 DIV 2 GUARDRAIL	NB	529+50.55	529+82.76	Right	0.0	0.0		10.6	10.6	10.6		32.20	9.5	18.821	58.432	1.129		37.9				9 Inch Shdr
US 218 DIV 2 GUARDRAIL	NB	529+82.76	530+29.54	Right	0.0	0.0		10.6	7.4	9		46.90	11.7	23.209	49.612	1.393		46.8				9 Inch Shdr
US 218 DIV 2 GUARDRAIL	NB	530+29.54	530+82.59	Right	0.0	0.0		7.4	7.4	7.4		53.10	10.9	21.640	40.792	1.298		43.6				9 Inch Shdr
US 218 DIV 2 GUARDRAIL	NB	528+48.96	528+68.52	Left	0.0	0.0		10.5	10.5	10.5		20.00	5.8	11.329	57.918	0.680		22.8				9 Inch Shdr
US 218 DIV 2 GUARDRAIL	NB	528+68.52	529+25.35	Left	0.0	0.0		10.5	7.5	9		47.80	11.9	28.195	49.612	1.692		56.8				9 Inch Shdr
US 218 DIV 2 GUARDRAIL	NB	529+25.35	529+82.54	Left	0.0	0.0		7.5	7.5	7.5		57.20	11.9	23.666	41.380	1.420		47.7				9 Inch Shdr
US 218 DIV 2 GUARDRAIL	NB	529+82.54	530+29.38	Left	0.0	0.0		7.5	4.9	6.2		46.90	8.1	16.009	34.178	0.961		32.3				9 Inch Shdr
US 218 DIV 2 GUARDRAIL	NB	530+29.38	530+82.47	Left	0.0	0.0		4.9	4.9	4.9		53.10	7.2	14.360	27.048	0.862		28.9				9 Inch Shdr
													99.6	207.304		12.439		417.7				
Roadway Identification US 218 DIV 2 GUARDRAIL:																						
US 218 DIV 2 INTER	NB	347+93.36	519+14.23	Right	4.0	4.0	4	0.0	0.0			17120.87		629.192	3.675	37.752	7609.3			635.184	3.710	Intermediate
US 218 DIV 2 INTER	NB	524+15.53	528+74.77	Right	4.0	4.0	4	0.0	0.0			459.24		16.877	3.675	1.013	204.1			22.308	3.710	Intermediate
US 218 DIV 2 INTER	NB	534+05.32	658+31.29	Right	4.0	4.0	4	0.0	0.0			12425.97		456.654	3.675	27.399	5522.7			10.723	3.710	Intermediate
US 218 DIV 2 INTER	NB	664+66.92	678+79.84	Right	4.0	4.0	4	0.0	0.0			1412.92		51.925	3.675	3.115	628.0			27.764	3.710	Intermediate
US 218 DIV 2 INTER	NB	681+79.95	708+66.00	Right	4.0	4.0	4	0.0	0.0			2686.05		98.712	3.675	5.923	1193.8			104.018	3.710	Intermediate
US 218 DIV 2 INTER	NB	347+93.36	358+52.18	Left	4.0	4.0	4	0.0	0.0			1058.82		38.912	3.675	2.335	470.6			635.184	3.710	Intermediate
US 218 DIV 2 INTER	NB	363+77.61	411+76.20	Left	4.0	4.0	4	0.0	0.0			4798.59		176.348	3.675	10.581	2132.7			22.308	3.710	Intermediate
US 218 DIV 2 INTER	NB	416+71.73	467+66.17	Left	4.0	4.0	4	0.0	0.0			5094.44		187.221	3.675	11.233	2264.2			178.305	3.500	Intermediate
US 218 DIV 2 INTER	NB	468+74.00	517+27.04	Left	4.0	4.0	4	0.0	0.0			4853.04		178.349	3.675	10.701	2156.9			169.856	3.500	Intermediate
US 218 DIV 2 INTER	NB	522+04.76	528+05.10	Left	4.0	4.0	4	0.0	0.0			600.34		22.062	3.675	1.324	266.8			21.012	3.500	Intermediate
US 218 DIV 2 INTER	NB	538+80.75	546+93.65	Left	4.0	4.0	4	0.0	0.0			812.90		29.874	3.675	1.792	361.3			28.452	3.500	Intermediate
US 218 DIV 2 INTER	NB	547+91.63	553+90.64	Left	4.0	4.0	4	0.0	0.0			599.01		22.014	3.675	1.321	266.2			20.965	3.500	Intermediate
US 218 DIV 2 INTER	NB	558+52.60	583+94.10	Left	4.0	4.0	4	0.0	0.0			2541.50		93.400	3.675	5.604	1129.6			88.953	3.500	Intermediate
US 218 DIV 2 INTER	NB	588+80.81	677+15.87	Left	4.0	4.0	4	0.0	0.0			8835.06		324.688	3.675	19.481	3926.7			309.227	3.500	Intermediate
US 218 DIV 2 INTER	NB	681+32.30	708+66.16	Left	4.0	4.0	4	0.0	0.0			2733.86		100.469	3.675	6.028	1215.0			95.685	3.500	Intermediate
														2426.697		145.602	29347.9			2369.944		
Roadway Identification US 218 DIV 2 INTER:																						
US 218 DIV 2 SURF	NB	347+93.36	519+14.23	Right	4.0	4.0	4	0.0	0.0			17120.87		410.901	2.400	24.654	7609.3			383.507	2.240	Surface
US 218 DIV 2 SURF	NB	524+15.53	528+74.77	Right	4.0	4.0	4	0.0	0.0			459.24		11.022	2.400	0.661	204.1			10.287	2.240	Surface
US 218 DIV 2 SURF	NB	534+05.32	658+31.29	Right	4.0	4.0	4	0.0	0.0			12425.97		298.223	2.400	17.893	5522.7			278.342	2.240	Surface
US 218 DIV 2 SURF	NB	664+66.92	678+79.84	Right	4.0	4.0	4	0.0	0.0			1412.92		33.910	2.400	2.035	628.0			31.649	2.240	Surface
US 218 DIV 2 SURF	NB	681+79.95	708+66.00	Right	4.0	4.0	4	0.0	0.0			2686.05		64.465	2.400	3.868	1193.8			60.168	2.240	Surface
US 218 DIV 2 SURF	NB	347+93.36	358+52.18	Left	4.0	4.0	4	0.0	0.0			1058.82		25.412	2.400	1.525	470.6			23.718	2.240	Surface
US 218 DIV 2 SURF	NB	363+77.61	411+76.20	Left	4.0	4.0	4	0.0	0.0			4798.59		115.166	2.400	6.910	2132.7			107.488	2.240	Surface
US 218 DIV 2 SURF	NB	416+71.73	467+66.17	Left	4.0	4.0	4	0.0	0.0			5094.44		122.267	2.400	7.336	2264.2			114.115	2.240	Surface
US 218 DIV 2 SURF	NB	468+74.00	517+27.04	Left	4.0	4.0	4	0.0	0.0			4853.04		116.473	2.400	6.988	2156.9			108.708	2.240	Surface
US 218 DIV 2 SURF	NB	522+04.76	528+05.10	Left	4.0	4.0	4	0.0	0.0			600.34		14.408	2.400	0.864	266.8			13.448	2.240	Surface
US 218 DIV 2 SURF	NB	538+80.75	546+93.65	Left	4.0	4.0	4	0.0	0.0			812.90		19.510	2.400	1.171	361.3			18.209	2.240	Surface
US 218 DIV 2 SURF	NB	547+91.63	553+90.64	Left	4.0	4.0	4	0.0	0.0			599.01		14.376	2.400	0.863	266.2			13.418	2.240	Surface
US 218 DIV 2 SURF	NB	558+52.60	583+94.10	Left	4.0	4.0	4	0.0	0.0			2541.50		60.996	2.400	3.660	1129.6			56.930	2.240	Surface

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.
(7) Paved shoulder thickness specified in Remarks.
(8) Subbase type specified in Remarks.

Roadway Identification	Direction of Travel (1)	Station From	Station To	Side	P Start Width (FT)	P End Width (FT)	P Width (FT)	P_SG Start Width (FT)	P_SG End Width (FT)	P SG Width (2) (FT)	G Width (FT)	L Length (FT)	Class 13 Excavation (CY)(3)(4)	HMA (TON)	HMA (TON/STA)	Binder (TONS)	Paved Shoulder (3) (SY)	Shoulder at Grdrail (5)(7)	Reinforced Paved Shoulder(3) (SY)	Granular Shoulder (3) (TON)	Granular Shoulder (TON/STA)	Remarks
US 218 DIV 2 SURF	NB	588+80.81	677+15.87	Left	4.0	4.0	4	0.0	0.0			8835.06		212.041	2.400	12.722	3926.7			197.905	2.240	Surface
US 218 DIV 2 SURF	NB	681+32.30	708+66.16	Left	4.0	4.0	4	0.0	0.0			2733.86		65.613	2.400	3.937	1215.0			61.238	2.240	Surface
														1584.783		95.087	29347.9			1479.13		
Roadway Identification US 218 DIV 2 SURF:																						
US 218 DIV 3	NB	362+21.61	362+21.61	Right	0.0	0.0		0.0	0.0				46.6				208.6					190TH ST
US 218 DIV 3	NB	415+16.84	415+16.84	Right	0.0	0.0		0.0	0.0				46.5				208.3					180TH ST
US 218 DIV 3	NB	468+23.02	468+23.02	Right	0.0	0.0		0.0	0.0				46.9				210.1					170TH ST
US 218 DIV 3	NB	547+44.73	547+44.73	Right	0.0	0.0		0.0	0.0				46.6				208.5					155TH ST
US 218 DIV 3	NB	587+30.52	587+30.52	Right	0.0	0.0		0.0	0.0				46.5				208.2					150TH ST
													233.1				**1043.7**					
Roadway Identification US 218 DIV 3:																						
Total:													**332.7**	**4218.784**		**253.128**	**59739.5**	**417.7**		**3849.074**		

DIV 1 NHSX-218-1(088)--3H-56
DIV 2 HSIPX-218-1(091)--3L-56
DIV 3 COUNTY AGREEMENT #2026-C-134
RIGHT SIDE = OUTSIDE
LEFT SIDE = MEDIAN
Guardrail Shoulder Quantity in SY with 5% = 438.59
Shoulder Quantity Intermediate in Tons with 5% = 2548.04
Shoulder Quantity Intermediate Binder in Tons with 5% = 152.88
Shoulder Quantity Surface in Tons with 5% = 1664.02
Shoulder Quantity Surface Binder in Tons with 5% = 99.84

MILLED RUMBLE STRIPS

* Calculated at 18" width for Shoulder.
** For use with penetrating Engineered Fog Seal. Calculated at 2" wider than rumble strips.

Line No.	Road Identification	Station From	Station To	Shoulder Pavement Type	Rumble Strip Lane	Rumble Strip Type	Fog Seal Type	L (IN)	PCC Length (STA)	HMA Length (STA)	Fog Seal* Shoulder (GAL)	Fog Seal (SY)**	Effective Shoulder Width PCC (FT)	Effective Shoulder Width HMA (FT)	Effective Shoulder Width Granular\Earth (FT)	Remarks
1.0	US 218	347+93.36	708+66.00	HMA	Right Shoulder	Milled	Asphalt Emulsion	12"		360.73	390.8	6012.2		4.0	4.0	Outside Lane
2.0	US 218	347+93.36	708+66.00	HMA	Left Shoulder	Milled	Asphalt Emulsion	12"		360.73	390.8	6012.2		4.0	2.0	Inside Lane
Total:										**721.46**	**781.6**					

190_62
2/13/23

EXISTING SIGNS TO BE REMOVED

Line No.	Sign Number or Description	Location Station	Direction of Travel	Type 'A' Sign Assembly (RA) (EA)	Type 'B' Sign Assembly (RB) (EA)	Type 'A' Remove and Reinstall (RR) (EA)	Type 'B' Remove and Reinstall (RR) (EA)	Concrete Foundation (RF) (EA)	Support Structure & Foundation (RS) (EA)	Applicable Signing Notes	Remarks
1.0	R1-1, R6-3, R6-1(2)	520+69.58	NB			4			2		
2.0	R1-1, R6-3, R6-1(2)	680+65.00	NB			4			2		

232_03A
9/28/22

EROSION CONTROL (RURAL SEEDING)

Area to be seeded is estimated to be less than 1 acre. If the contractor determines the area exceeds 2 acres, notify the Engineer. Approved quantity in excess of 2 acres will be paid for as extra work according to Article 1109.03,B of the Standard Specifications.

Following the completion of work in a disturbed area and according to the seeding dates in Section 2601 of the Standard Specifications, place seed, fertilizer, and mulch on the disturbed area lying 8 feet adjacent to shoulder and median as follows:

Place seed and fertilize according to the requirements of Article 2601.03,C,3 and Section 4169 of the Standard Specifications.

Place mulch according to the requirements of Articles 2601.03,E,2,a and 4169.07,A of the Standard Specifications.

Preparing the seedbed, furnishing and applying seed, fertilizer, and mulch are all incidental to mobilization and will not be paid for separately.

232_03C
8/28/24

EROSION CONTROL (NATIVE GRASS SEEDING)

Area to be seeded is estimated to be less than 1 acre. If the Contractor determines the area exceeds 2 acres, notify the Engineer. Approved quantity in excess of 2 acres will be paid for as extra work according to Article 1109.03,B of the Standard Specifications.

Following the completion of work in a disturbed area and according to the seeding dates in Section 2601 of the Standard Specifications, place seed and mulch on the disturbed area lying 8 feet or more beyond the shoulder as follows:

SEED MIX:
Big bluestem (Andropogon geradii) 6 lbs. PLS/Acre (7.0 kg/ha)
Indiangrass (Sorghastrum nutans) 6 lbs. PLS/Acre (7.0 kg/ha)
Little bluestem (Schizachyrium scoparium)
6 lbs. PLS/Acre (7.0 kg/ha)
Partridge Pea (Chamaecrista fasciculata)
4 lbs. PLS/Acre (4.5 kg/ha)
Sideoats grama (Bouteloua curtipendula)
4 lbs. PLS/Acre (4.5 kg/ha)
Canada wildrye (Elymus canadensis) 2 lbs. PLS/Acre (2.2 kg/ha)
Switchgrass (Panicum virgatum) 1 lbs. PLS/Acre (1.1 kg/ha)
Oats (Avena sativa) 32 lbs./Acre (36.0 kg/ha)

Furnish Big bluestem, Indiangrass, Canada wildrye and Little bluestem that is debearded or equal to facilitate the application of seed.

Furnish seed certified as Source Identified Class (Yellow Tag) Source G0-Iowa. Oats are excluded from this requirement. Place seed according to the requirements of Article 4169.02 of the Standard Specifications.

Place mulch according to the requirements of Articles 2601.03,E,2,a and 4169.07,A of the Standard Specifications.

Preparing the seedbed, furnishing and applying seed and mulch are incidental to mobilization and will not be paid for separately.

232_11
6/21/23

EROSION CONTROL (STABILIZING CROP SEEDING)

Area to be seeded is estimated to be less than 1 acre. If the contractor determines the area exceeds 2 acres, notify the Engineer. Approved quantity in excess of 2 acres will be paid for as extra work according to Article 1109.03,B of the Standard Specifications.

If outside of permanent seeding dates in Section 2601 of the Standard Specifications, or if required by a storm water permit, place stabilizing crop, fertilizer, and mulch on the disturbed area as follows:

Place seed and fertilize according to the requirements of Article 2601.03,C,1 and Section 4169 of the Standard Specifications.

Place mulch according to the requirements of Articles 2601.03,E,2,a and 4169.07,A of the Standard Specifications.

Preparing the seedbed, furnishing and applying seed, fertilizer, and mulch are incidental to mobilization and will will not be paid for separately.

253_01
9/28/22

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.

259_01
10/15/25

SIGNING NOTES

The following tolerances will be allowed on all signs:

Accumulation error of not greater than +/-0.50" per line of copy, not greater than +/-0.50" for spacing between lines of copy, and the margin between lines of copy and the inside edge of the sign border.

The following tolerances will be allowed on each letter or numeral:

nominal height	variation in height	variation in width
4" thru 12"	-1/8" to +3/8"	-1/4" to +1/4"
over 12"	-1/8" to +3/8"	-3/8" to +3/8"

Type B signs can be separated into two categories:
- Major Guide Signs.
- Minor Guide Signs.

Major Guide Signs include the advance and exit direction guide signs for an interchange or intersection.

Minor Guide Signs include all other guide signs such as NEXT EXIT signs, supplemental guide signs, logo signs, exit gore signs, post-interchange mileage signs, ramp destination signs, and ramp logo signs for an interchange, as well as destination signs along sideroads.

Type A signs are not separated into categories, but special consideration should be given to regulatory signs.

Do not remove Type B signs until replacement signs have been installed. If construction activities require

259_01
10/15/25

SIGNING NOTES

the removal of a sign, the existing sign may be relocated to temporary posts, or a temporary plywood sign may be installed to replace the existing sign.

Existing non-regulatory Type A signs are NOT required to remain in place until installation of replacement signs. Existing regulatory Type A signs, particularly Stop signs, should not be removed until replacement signs are installed. Where a staged traffic control plan is contrary to this guidance, follow the direction of the traffic control plan.

Apply the following during the replacement or modification of signs:
- No more than one of the major guide signs for each direction of travel at an interchange out of service at any one time.
- No major guide sign out of service for more than 8 hours.
- No minor guide out of service for more than 24 hours.

Remove existing signs and posts within 24 hours following the installation of a new replacement sign.

In any case where the plans call for a new sign and posts to be installed at the same station location and offset as an existing sign, install the new posts at a minimum of either 5 ft ahead or behind the existing sign installation. Signs shall not be installed more than 25 ft ahead or behind the existing sign installation. Whenever posts for a replacement sign are erected directly in front of an existing sign, install the new replacement sign and remove the existing sign installation within 24 hours of the time that the new posts are erected.

Where signs are located behind guardrail, locate the near edge of the sign a minimum of 3 ft behind the guardrail posts.

Unless noted otherwise, leave auxiliary panels, such as exit number panels, in place or reattach to the sign using the existing mounting hardware. Also, when replacing an existing logo sign with a new logo sign, remove the business logo panel(s) from the existing sign and attach to the new sign as directed by the Engineer. Do not damage the auxiliary or logo panels when removing and reattaching them. This work is incidental to other work and no separate payment will be made.

The following notes apply to the corresponding sign installations shown on the plan sheets and listed in the tabulations.

IB INSTALL NEW TYPE B SIGN
IA INSTALL NEW TYPE A SIGN

Install new signs at the location identified in the plans.

For installation of new signs on an existing sign support structure, refer to note (L).

For installation of new signs on existing posts:

- if the new sign is taller than the existing sign, furnish the necessary hardware to extend the sign above the posts. Refer to Standard Road Plan SI-132.

- if the new sign is shorter than the existing sign:

- for wood posts and perforated square tube posts, install the sign at the proper height and cut off the excess post length.

- for MASSH-400 and steel breakaway posts, install

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the sign at the top of the posts.

For plywood signs, no vertical splices are allowed in signs less than or equal to 10 ft wide. No horizontal splices are allowed in signs less than or equal to 4 ft tall.

Each new sign installed shall have a sticker applied to the back of the sign that shows the date the sign was installed. The Contractor shall supply the sticker for all contractor suppled signs. The DOT will supply date stickers on any signs supplied by the department.

Payment for installing Type A signs or Type B signs includes furnishing hardware for mounting, extending signs above existing posts, and cutting posts to length.

MS MODIFICATION OF EXISTING SIGNS

For removal and/or installation of logo panels, and other sign modifications. Refer to the project plans and typical details for additional information.

SC SIGN COVER

For the installation or removal of temporary sign covers for the purposes of temporary traffic control. Sign covers shall completely cover the existing Sign. Care should be taken so that covers, fasteners, and installation practices do not damage the existing sign. Tape of any type shall not be applied to the sheeted face of the existing sign under any circumstances. Repair of damage to the existing sign caused by sign covers will be the responsibility of the Contractor.

SO OVERLAY TYPE B GUIDE SIGNS
MB INSTALL SPECIAL MOUNTING BRACKET

Install special mounting brackets at the locations identified in the plans. Refer to Tabulations 190-51 and/or 190-65.

PB INSTALL NEW BREAKAWAY STEEL POSTS AND FOOTING
PP INSTALL NEW PERFORATED SQUARE TUBE POSTS AND ANCHORS
PM INSTALL NEW MASSH-400 POSTS AND ANCHORS

Install new breakaway steel posts and footings, perforated square tube posts and anchors, or MASSH-400 posts and anchors at the locations identified in the plans. Refer to the Standard Road Plans, Typicals, and Tabulations 190-51 and 190-50 for post size and footing information.

New posts shall be installed in undisturbed soil. The new posts shall not be placed in the hole of removed posts.

Remove excess soil from footing hole. Do not spread soil on adjacent seeded or vegetated areas.

If note (RR) accompanies (PB), (PP), or (PM), install an existing sign on the new posts.

RR REMOVE AND REINSTALL SIGN AS PER PLAN

Do not remove existing major Type B guide signs on posts until the new posts are installed. Promptly remove sign and install at the new location.

Existing major Type B guide signs on overhead support structures, minor Type B guide signs, plywood signs, and Type A signs may be removed and stored. Transport the signs to a DOT storage area as designated by the Engineer. Transport the signs

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back to the job site when ready for installation at the new location.

Signs to be reinstalled shall not be stored for any length of time with the sheeted face in contact with the ground.

Replace signs damaged by the Contractor's activities at no additional cost to the Contracting Authority.

Payment for Remove and Reinstall Sign includes sign removal, delivery to and from the DOT storage area (if applicable), and reinstallation, including any hardware required for reinstallation. When noted in the plans, payment for delivery and stockpile of existing signs will be separate from the payment for Remove and Reinstall Sign.

RA REMOVAL OF TYPE A SIGN ASSEMBLY
RB REMOVAL OF TYPE B SIGN ASSEMBLY

Type A Sign Assembly consists of one or more signs installed on one or more posts, either directly mounted to the post or mounted to the post with special sign mounting brackets.

Type B Sign Assembly consists of the main sign, all auxiliary signs and brackets, and posts.

Unless stated otherwise in the plans, remove all posts with the signs and brackets.

Remove each sign assembly identified in the plans. Sign posts removed become the property of the Contractor. All other materials removed remain the property of the DOT.

For each sign assembly removed, disassemble each assembly before delivering to the DOT.

* For Type A sign assemblies, unbolt all signs, special mounting brackets, and posts from each other.

* For Type B assemblies, unbolt all extruded aluminum panels, brackets, and posts from each other. Do not damage the disassembled materials.

When the plans call for the removal of posts, the entire existing post shall be removed. The post shall not be broken off or cut off at the ground line. Place backfill in holes remaining from the removal of posts and restore to the surrounding conditions.

Deliver the removed signs, special sign mounting brackets, and extruded aluminum panels to a DOT storage area, as designated by the Engineer.

The concrete footings for steel posts are not considered part of the sign assembly. Refer to note RF for concrete footing removal.

Payment for Removal of Type A Sign Assembly or Removal of Type B Sign Assembly includes sign assembly removal and disassembly, post removal (if applicable), delivery to the DOT storage area, placing backfill in holes, and restoration of the surrounding conditions.

RF REMOVE EXISTING CONCRETE FOOTING FOR STEEL POST

Remove existing concrete footings to a depth of at least 1 ft below the natural groundline.
Place backfill in holes remaining from removal and restore to the normal surrounding conditions. This work

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is incidental to other work and no separate payment will be made.

RS REMOVE EXISTING TYPE B SIGN SUPPORT STRUCTURE

The following are considered Type B Sign Support Structures:
- Overhead sign trusses and foundations
- Cantilever sign trusses and foundations
- Bridge-mounted brackets

Unless stated otherwise in the plans, existing overhead trusses, cantilever trusses, and bridge brackets which are removed become the property of the Contractor. If stated in the plans, deliver overhead trusses, cantilever trusses, and bridge brackets to a DOT storage area, as designated by the Engineer.

Payment for Removal of Sign Support Structure and Foundation includes sign support structure removal, delivery to the DOT storage area (if applicable), and restoration of the surrounding conditions. Removal of the foundation includes removal of the stem to a minimum of 1 ft below the natural groundline.

L MODIFY SIGN SUPPORT ANGLES NEEDED TO INSTALL SIGNS ON EXISTING SIGN SUPPORT STRUCTURES

Refer to the sign support structure details for information on the required angle brackets.

Provided all specifications are met, the existing sign support angles may be reused. Install existing sign support angles to be reused only on the sign support structure from which they were removed.

Sign support angles removed and not reused become the property of the Contractor.

When reusing the existing sign support angles with a shorter replacement sign, the sign support angles may need to be trimmed. Refer to the sign support details to determine if and where to trim the sign support angles.

Do not use existing fasteners. Use new U-Bolts, stainless steel bolts and nuts to install the existing or new sign support angles to the sign support structure.

Removal of existing sign support angles is incidental to removal of the sign.

Reinstalling and/or modifying existing sign support angles; furnishing and installing new sign support angles (if required); and furnishing and installing new fasteners is incidental to work associated with Type B signs.

SIGN INSTALLATION QUALITY CONTROL NOTES

Post lengths have been derived from the proposed grading cross sections. Verify post lengths in the field prior to ordering or fabrication.

Slight differences between the design template and the actual conditions should be expected. These variations should be resolved by doing some localized shaping and grading. Obtain material needed to meet the site requirements of SI-112 from the excavation and/or the area immediately adjacent to the work. Ensure reshaping work does not substantially change foreslopes or the drainage in the vicinity of the sign.

Significant differences between the plan design and the actual field conditions shall be resolved in this manner:

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Survey the location and draw the actual template on the cross section. Recalculate each post length and compare to the maximum allowable leg length. If all of the maximum leg lengths are less than or equal to the maximum allowable leg length, then the proposed post design will be sufficient. If any leg is greater than the maximum allowable leg length, then submit the cross section with the actual template drawn (including offsets and elevation from the survey shown) to the Engineer. The Engineer may forward this information to the Engineer of Record in order to complete a new post design.

Install the footings, stub posts, and posts according to the tolerances shown on the applicable SI Series Standard Road Plans.

Footing construction is the controlling activity that substantially affects the quality of the site installation. Verify the elevation difference between the stubs is exactly the same as the elevation difference between the post lengths. If the Engineer requests, submit documentation detailing the site cross section in order to verify site installation.

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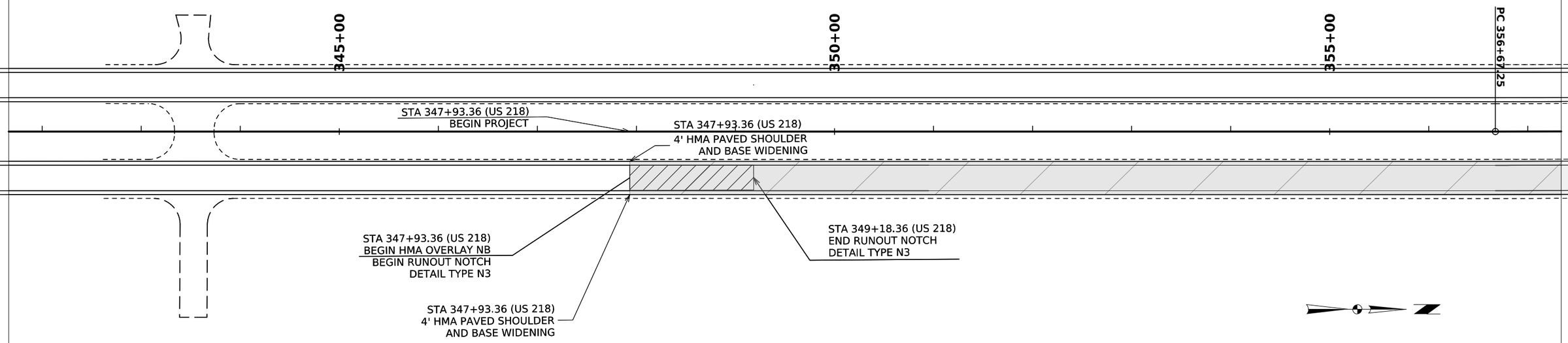
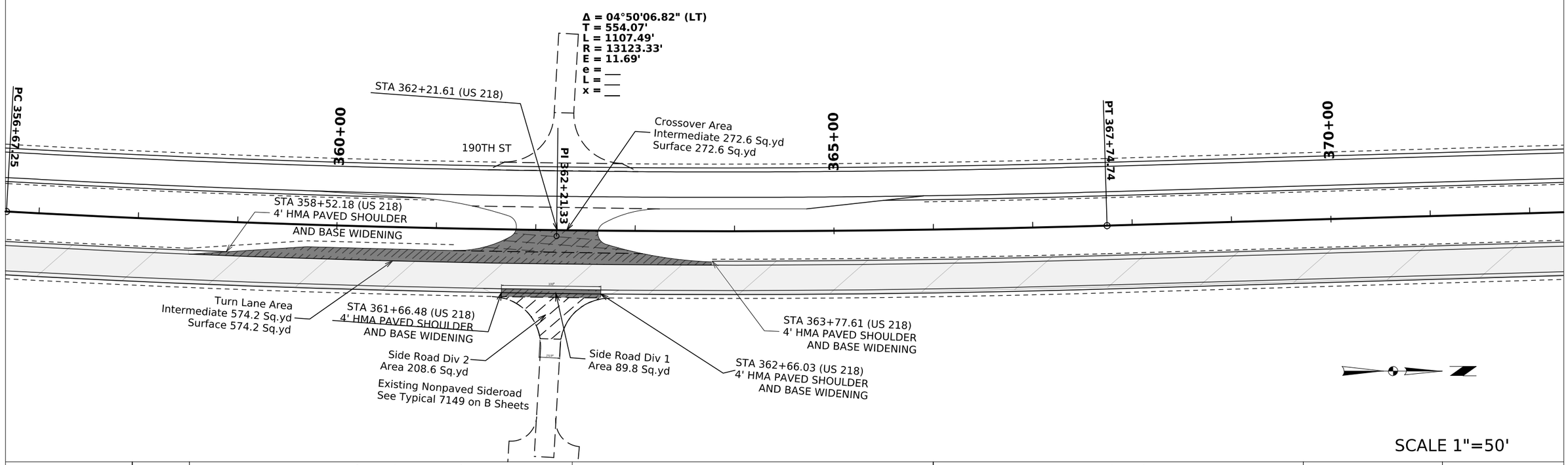
9/28/22

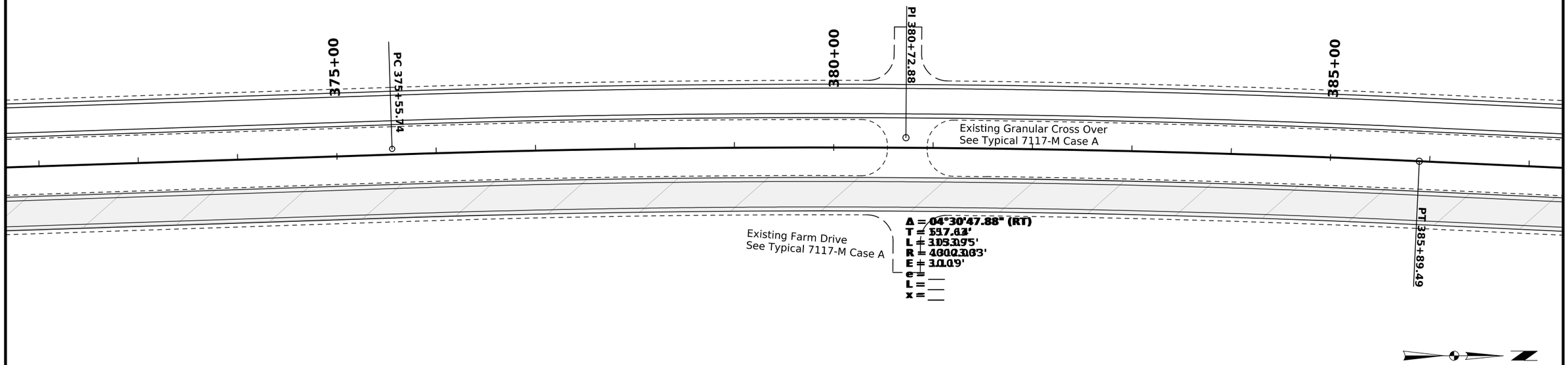
UTILITIES (NOT A POINT 25 PROJECT)

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





FILE NO.	ENGLISH	DESIGN TEAM McElmeel\Klein\Roberts\Freitag	LEE COUNTY	PROJECT NUMBER NHSX-218-1(088)-3H-56	SHEET NUMBER D.1



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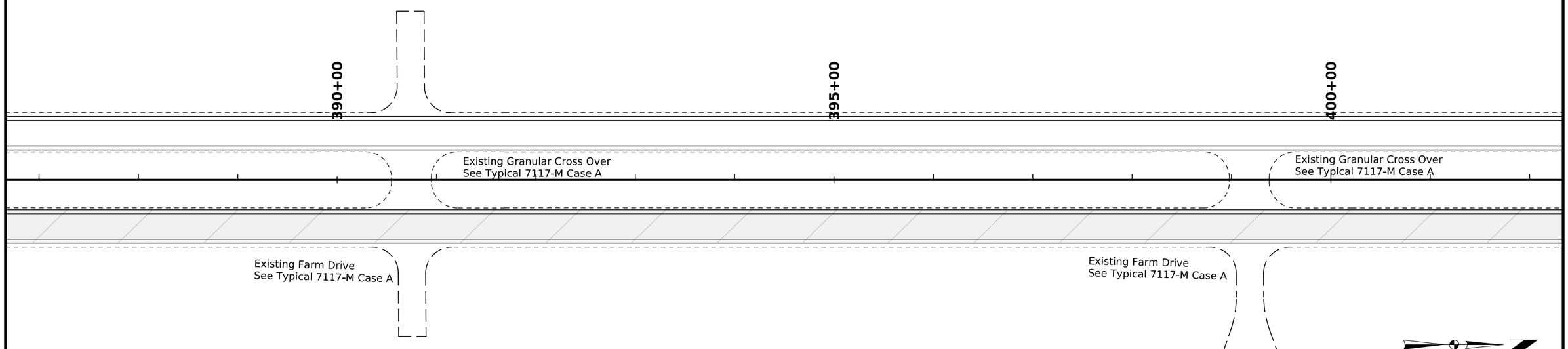

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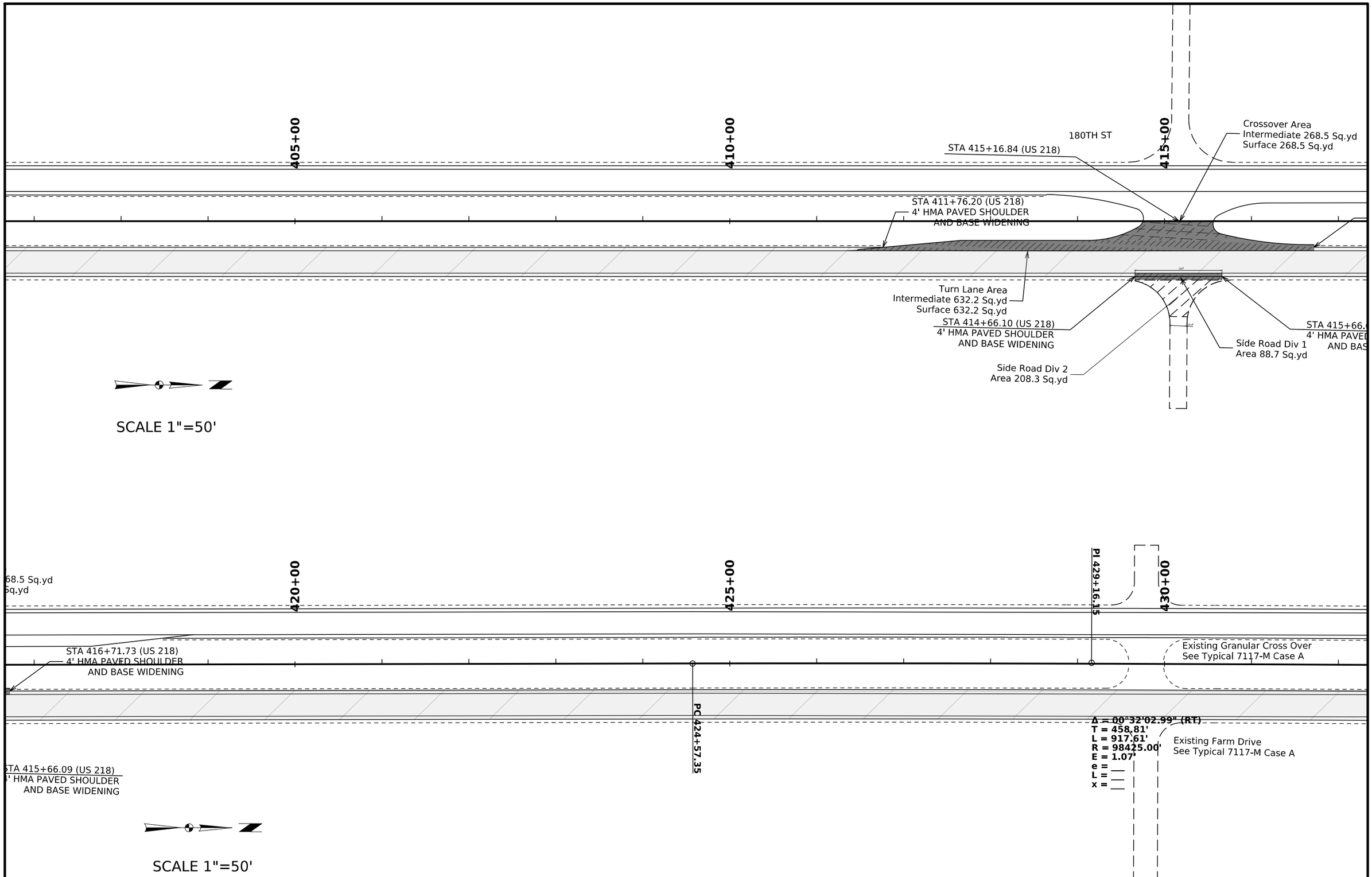

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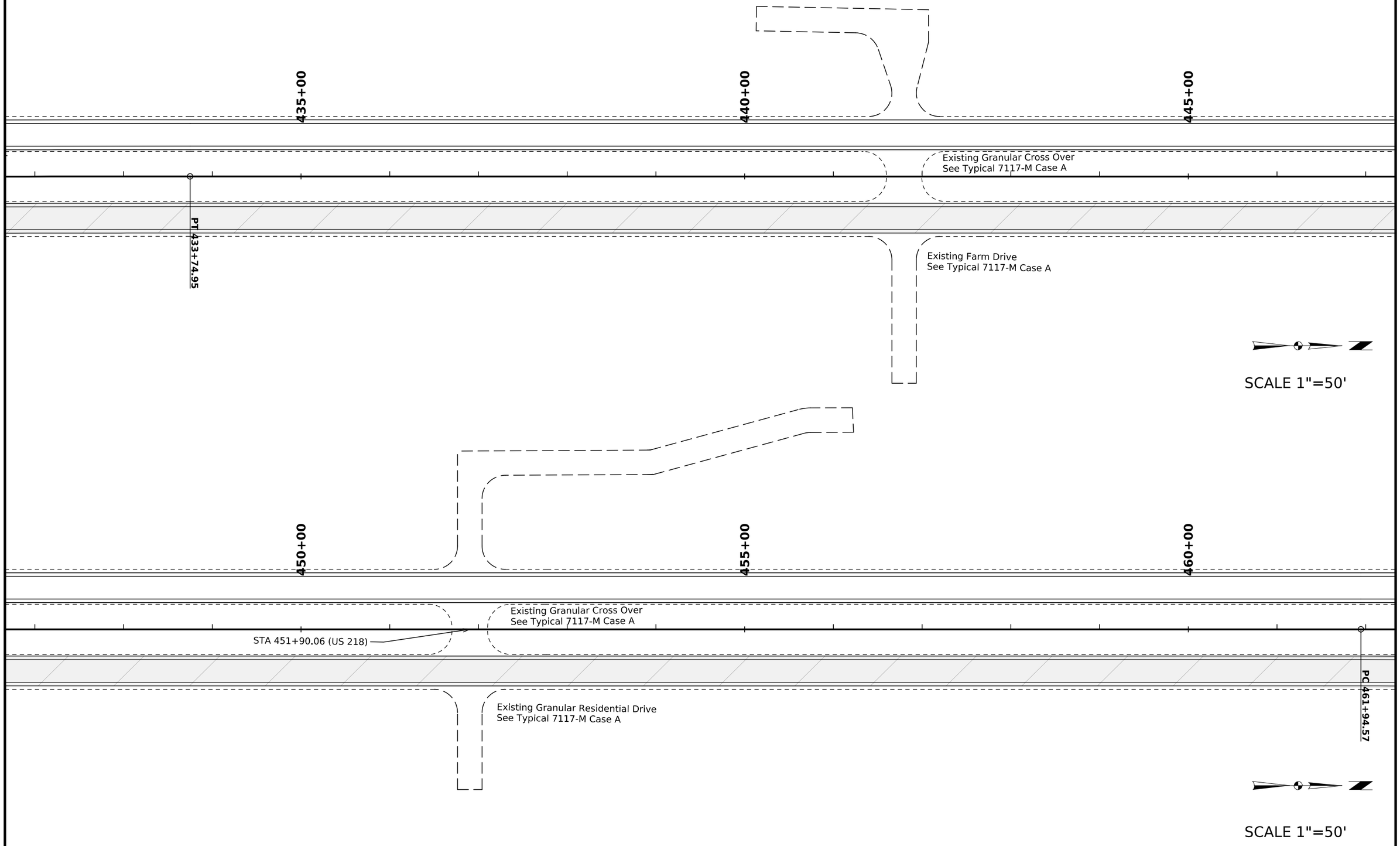

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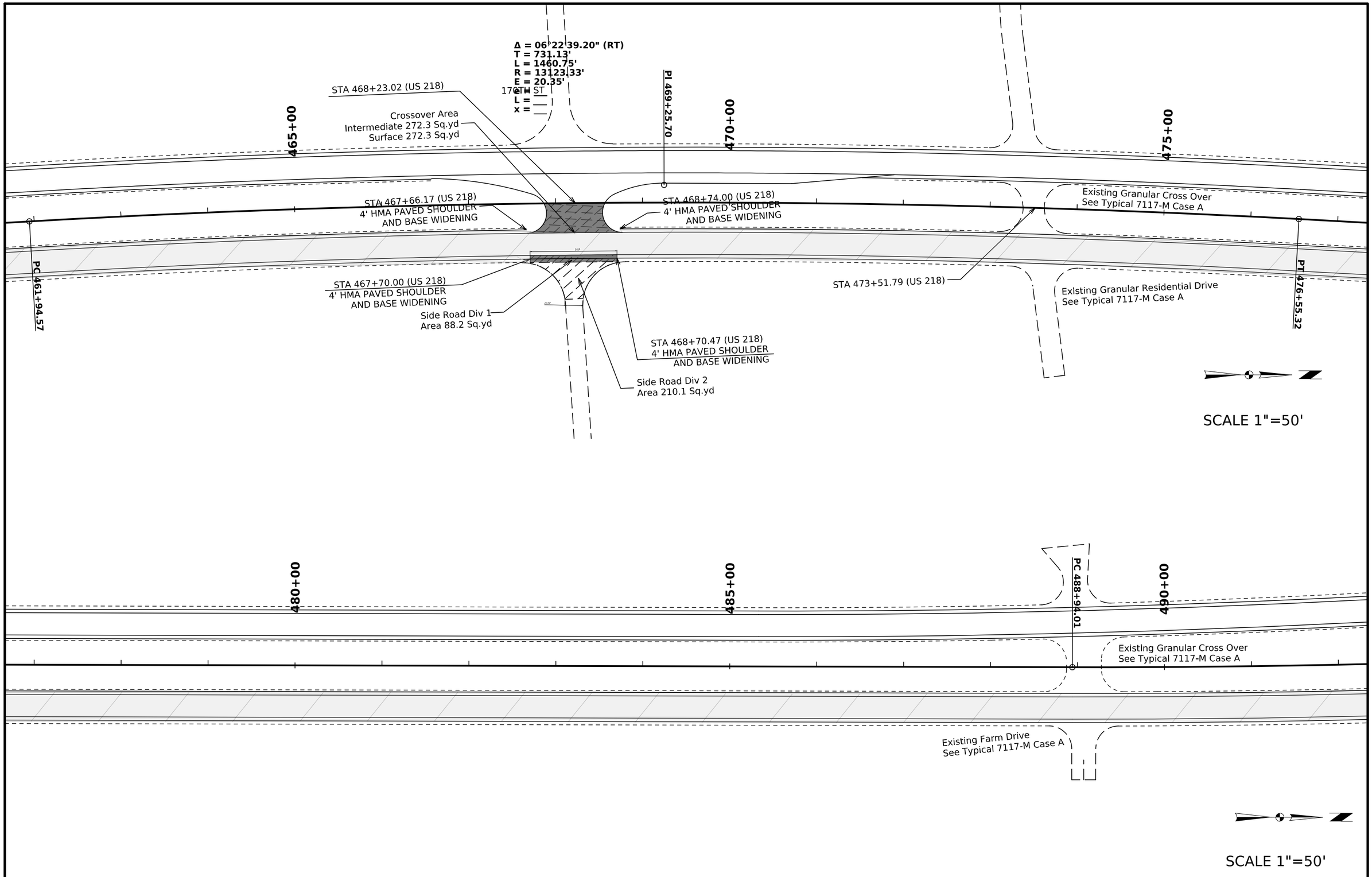

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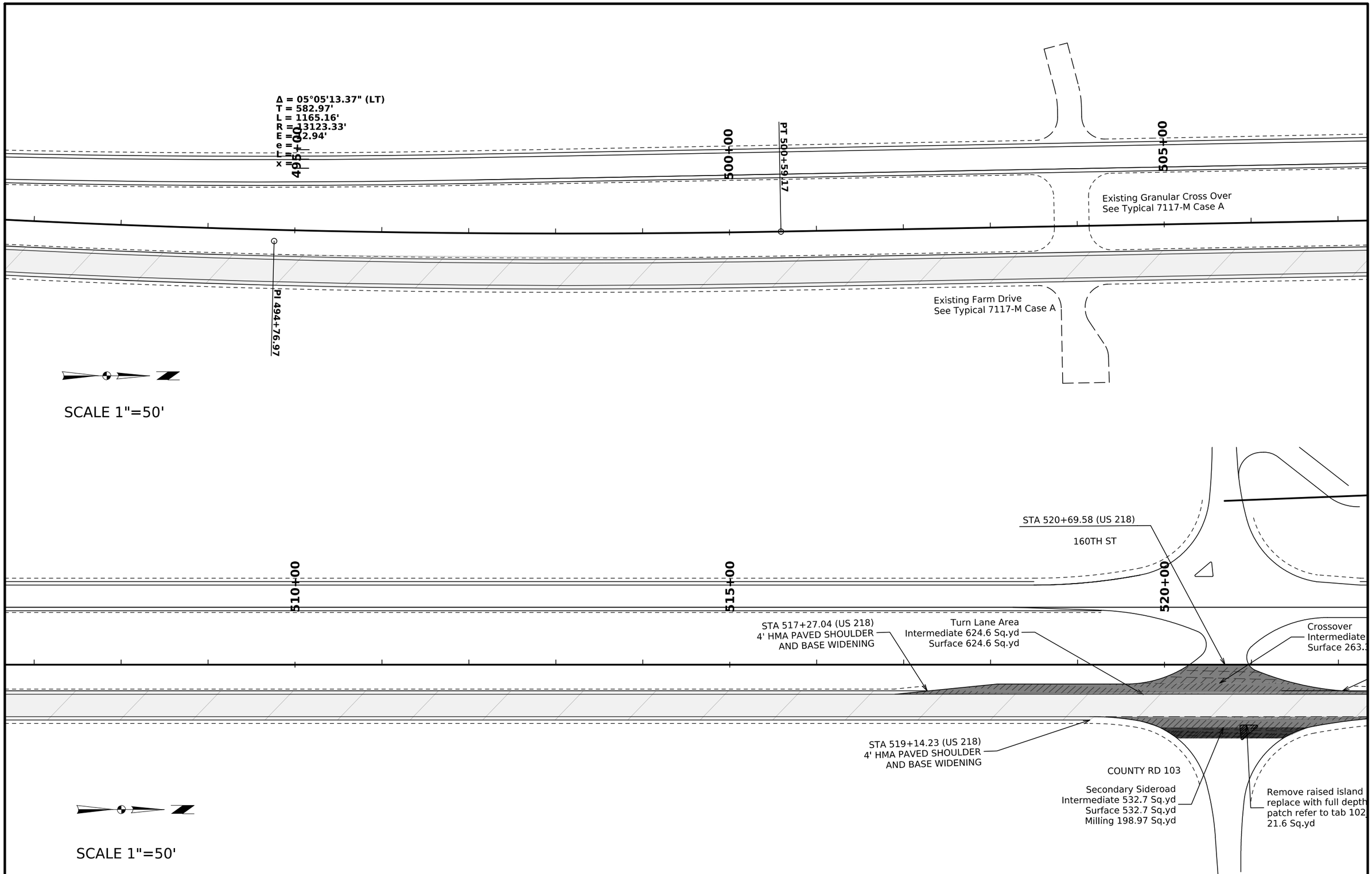

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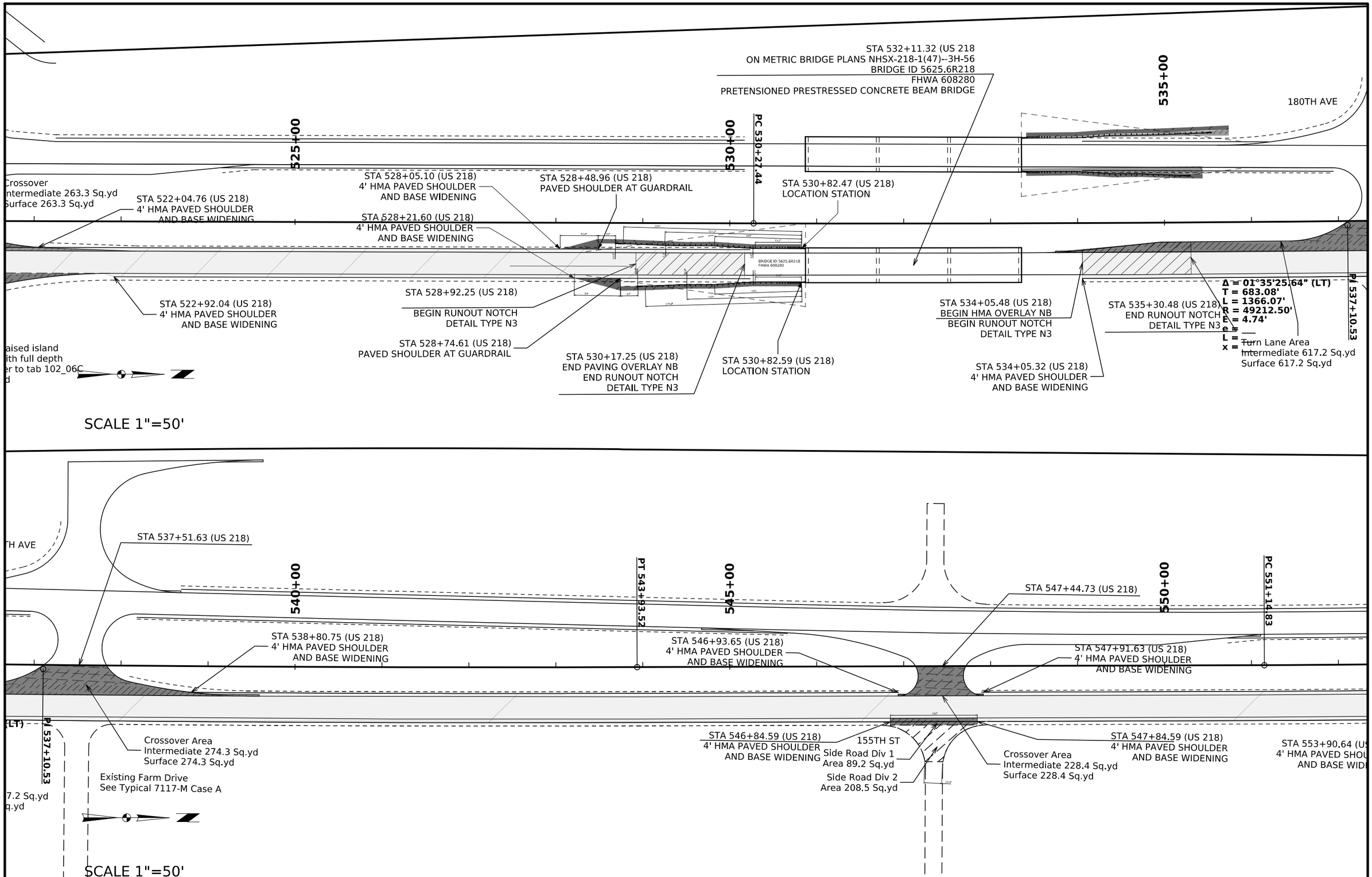

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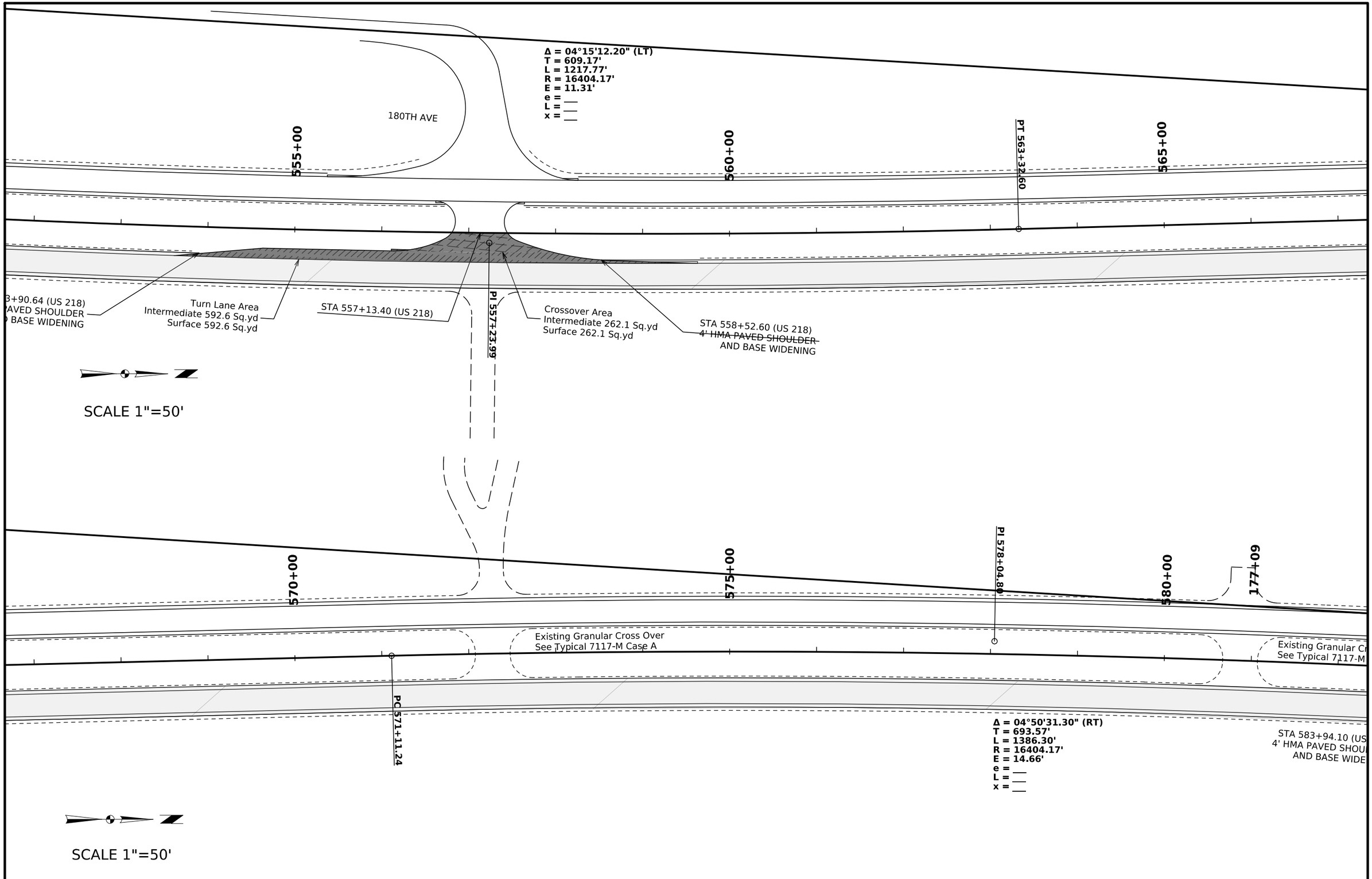

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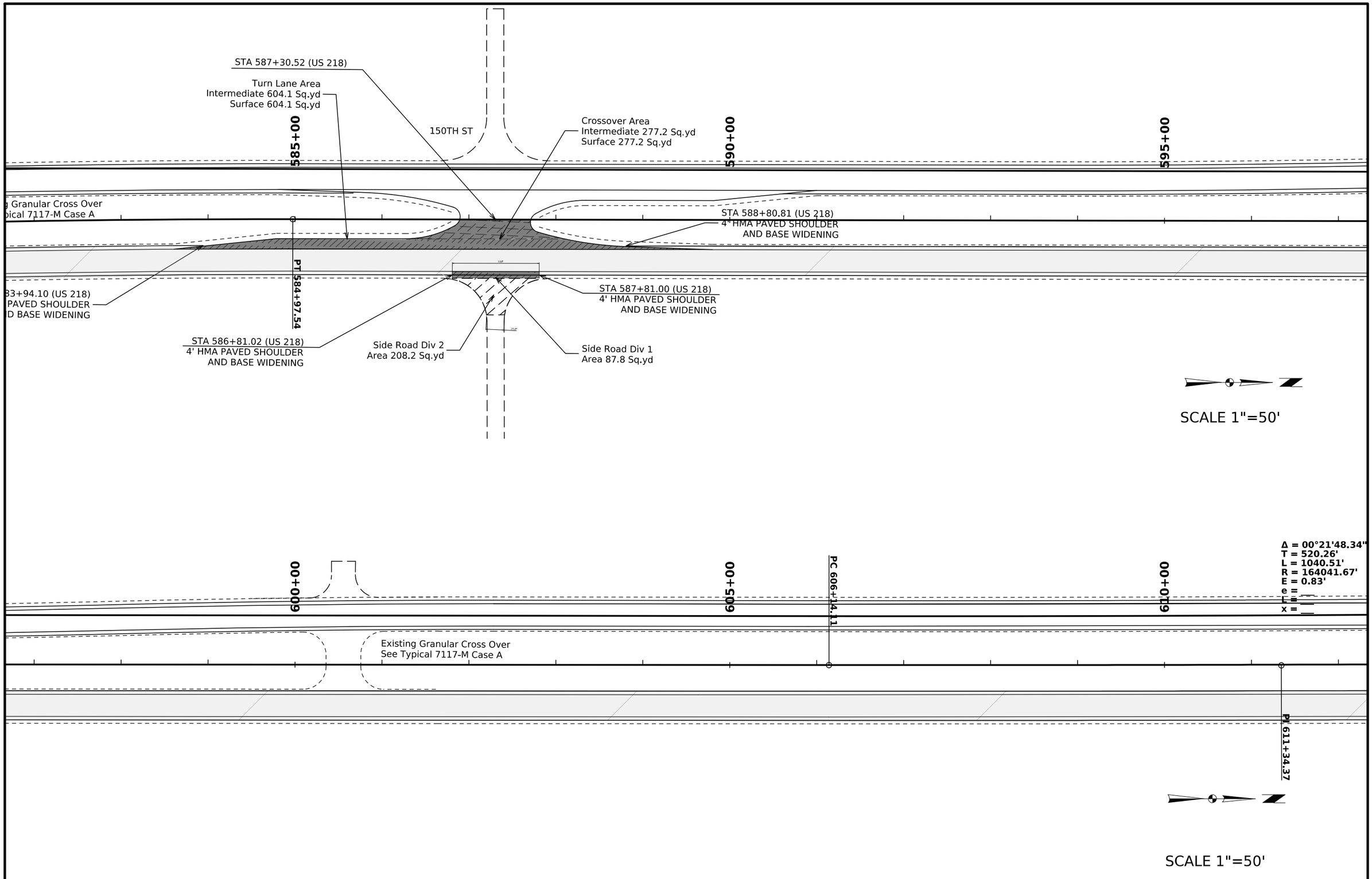

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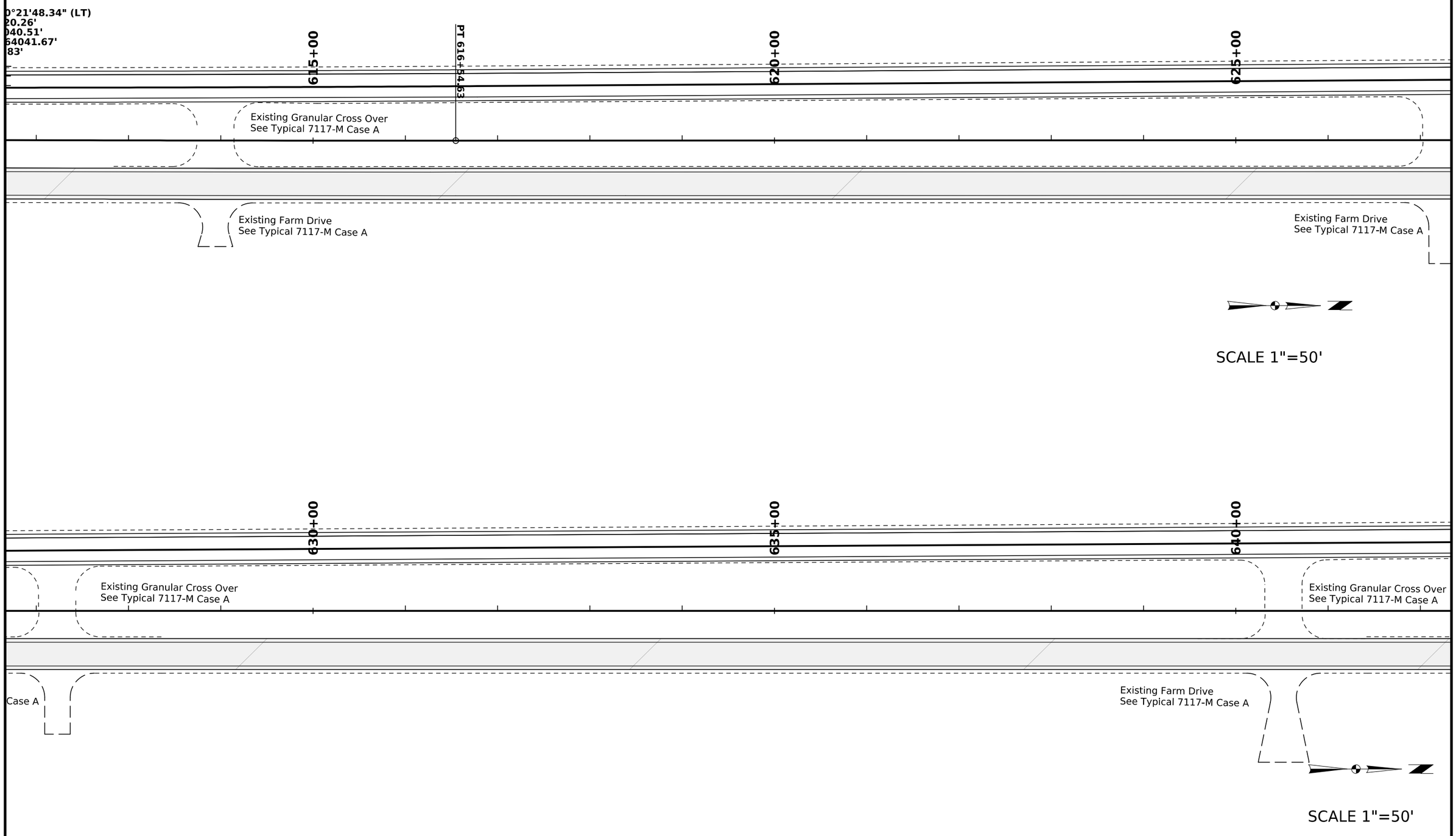

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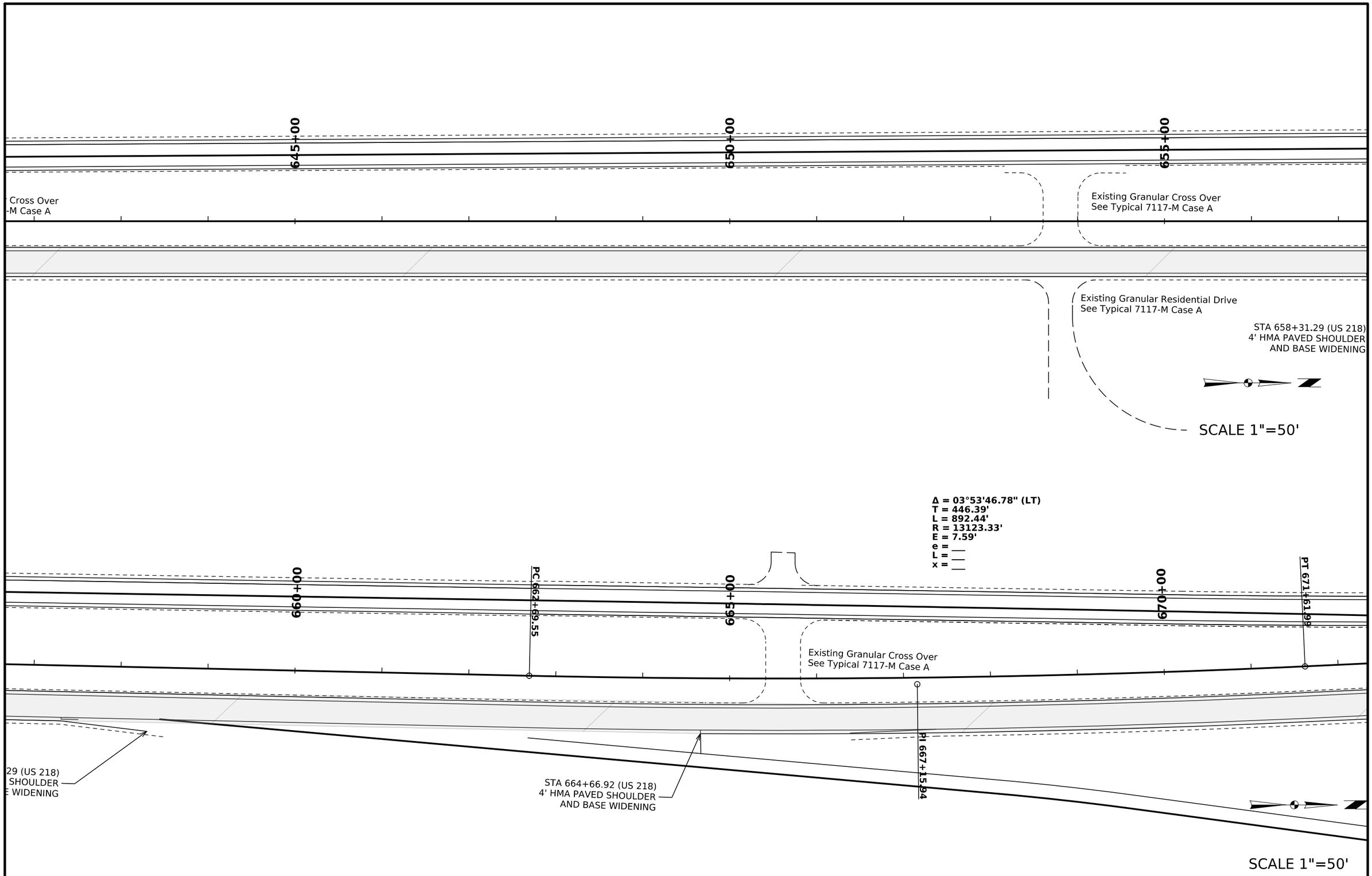

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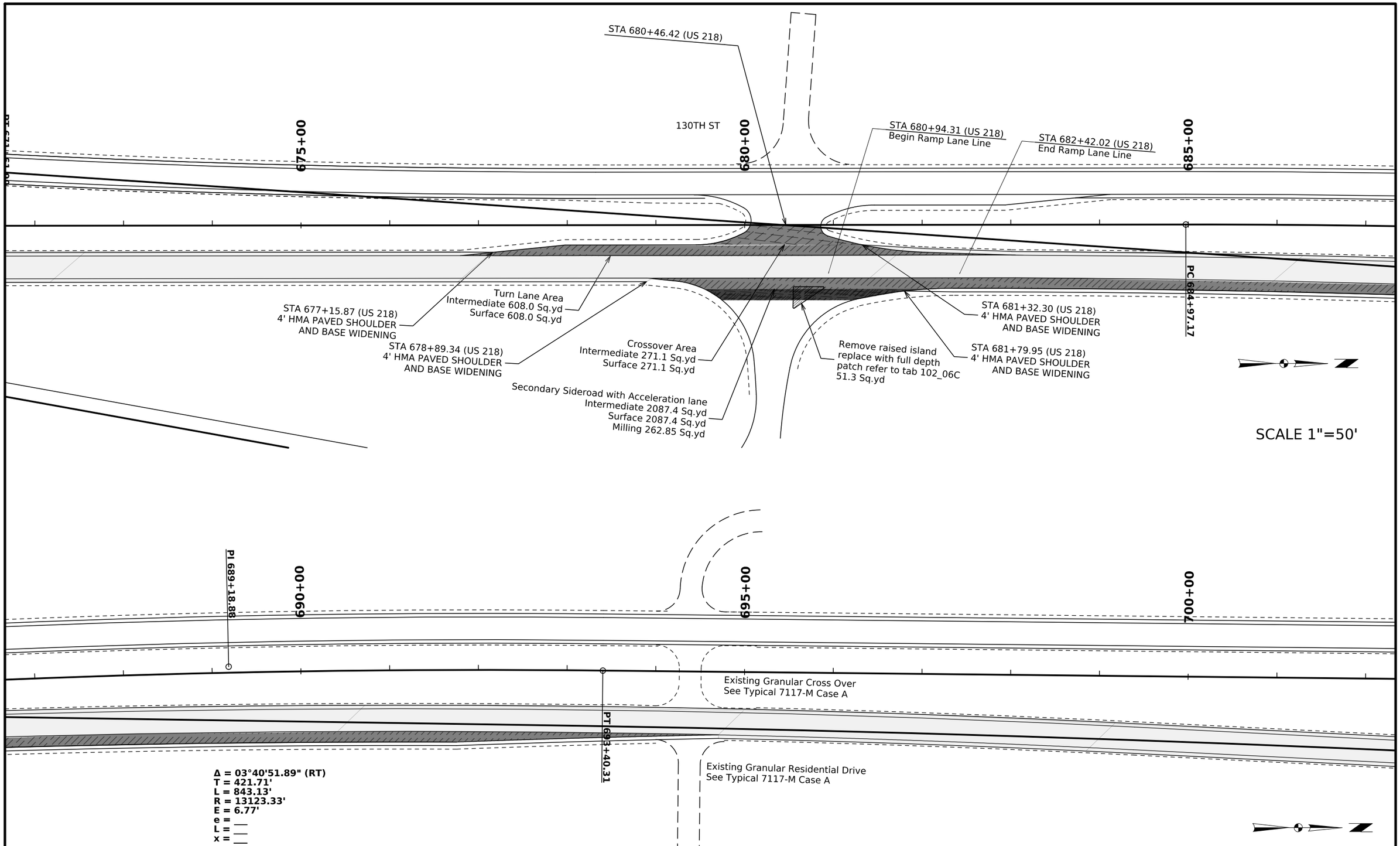

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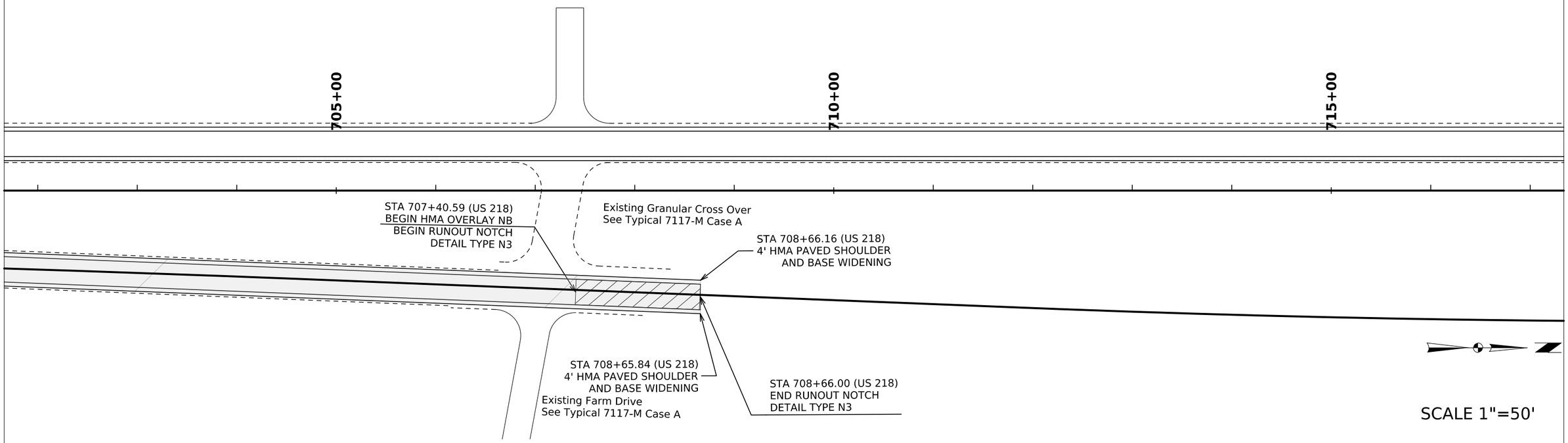
705+00
710+00
715+00
STA 707+40.59 (US 218)
BEGIN HMA OVERLAY NB
BEGIN RUNOUT NOTCH
DETAIL TYPE N3
Existing Granular Cross Over
See Typical 7117-M Case A
STA 708+66.16 (US 218)
4' HMA PAVED SHOULDER
AND BASE WIDENING
STA 708+65.84 (US 218)
4' HMA PAVED SHOULDER
AND BASE WIDENING
Existing Farm Drive
See Typical 7117-M Case A
STA 708+66.00 (US 218)
END RUNOUT NOTCH
DETAIL TYPE N3
SCALE 1"=50'

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8/15/22

TRAFFIC CONTROL PLAN

1. U.S. 218 through traffic will be maintained at all times.

2. Traffic control on this project shall be found in accordance with the TC series of Standard Road Plans found in Tab 105-4 and/or appropriate Detail Sheets included in the plans. For additional complimentary information, refer to Part 6 of the Manual on the Uniform Traffic Control Devices and the Current Standard Specifications.

3. Individual intersections that must be closed for the HMA overlay operation to pass through shall have a flagger stationed at each approach.

4. Northbound traffic may be restricted from 2 lanes to 1 lane of travel.

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511 TRAVEL RESTRICTIONS

Line No.	Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No. or Structure ID or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
1.0	US 218	NB	Lee	532+11.32 (US 218)	West Branch Sugar Creek	Barrier	5625.6R218	Horizontal	40'-0	17'-0			
2.0	US 218	NB	Lee	532+11.32 (US 218)	West Branch Sugar Creek	Barrier	5625.6R218	Horizontal	40'-0	14'-0			

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STAGING NOTES

Sequence of Construction:

A general sequence of construction is suggested below.

1. Place the HMA Resurfacing.
2. Place the Type B granular shoulder, Typ.7135
3. Place shoulder Milled Rumble Strips
4. Place Final Grooving and Painted Pavement Markings

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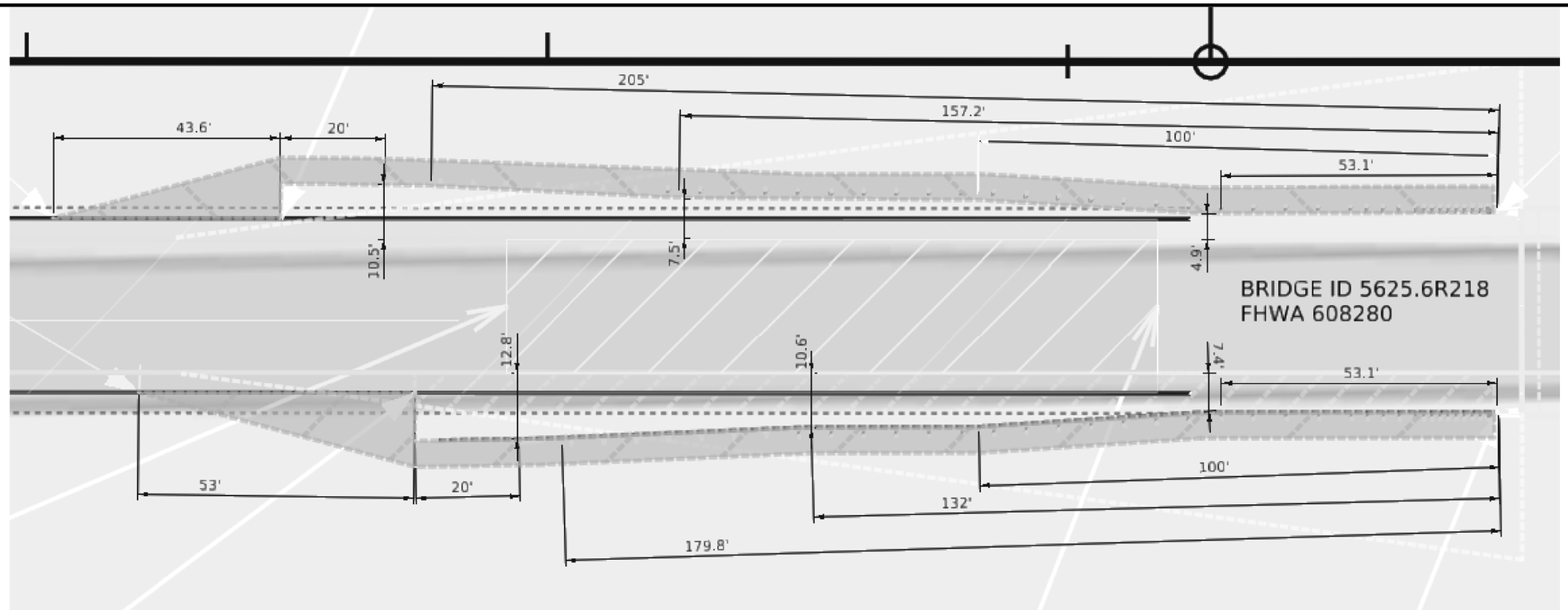
10/14/22

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
HSIPX-218-1(090)--3L-56 1013 - PCC	1013 - PCC Grade and New



FILE NO.	ENGLISH	DESIGN TEAM **McElmeel\Klein\Roberts\Freitag**	**LEE** COUNTY	PROJECT NUMBER **NHSX-218-1(088)-3H-56**	SHEET NUMBER **U.1**