LETTING DATE 02-21-2023

HMA RESURFACING
NHSX-092-8(43)--3H-54

KEOKUK COUNTY

IOWA DOT

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM
KEOKUK COUNTY
HMA RESURFACING
E of IA 21 to 200th St

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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

REVISIONS

	TOTAL
	51
PROJECT IDENTIFICATION NUMBER	
22-54-092-010	
PROJECT NUMBER	
NHSX-092-8(43)--3H-54	
R.O.W. PROJECT NUMBER	

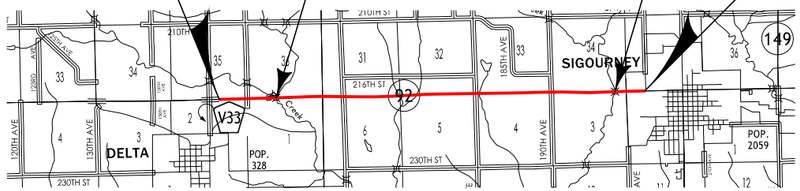
IOWA ONE CALL
1-800-292-8989
www.iowaonecall.com
811 Know what's below. Call before you dig.

BEGIN PROJECT
STA. 178+50
REF. LOC. 196.98

FHWA #32710
MAINT. #5498.9S092
183' x 30' PPCB Bridge

FHWA #32720
MAINT. #5403.4S092
127' x 30' Concrete Slab Bridge
FY' 26 BRFN-092-8(42)--39-54

END PROJECT
STA. 531+79
REF. LOC. 203.69



INDEX OF SHEETS

Project Design Events:
D7 – 12–06–2022

LOCATION MAP SCALE
0 1 2 3
Miles

KEOKUK COUNTY DESIGN DATA RURAL		
2023 AADT	1,836	V.P.D.
2043 AADT	2,294	V.P.D.
2043 DHV	240	V.P.H.
TRUCKS	13	%
Total Design ESALs	781,635	

INDEX OF SEALS

A.1	Jonathan W. Bahr	Primary Signature Block
X	X	X

PRELIMINARY PLANS

Subject to change by final design.

DM5 PLAN – Date: 11–14–2022

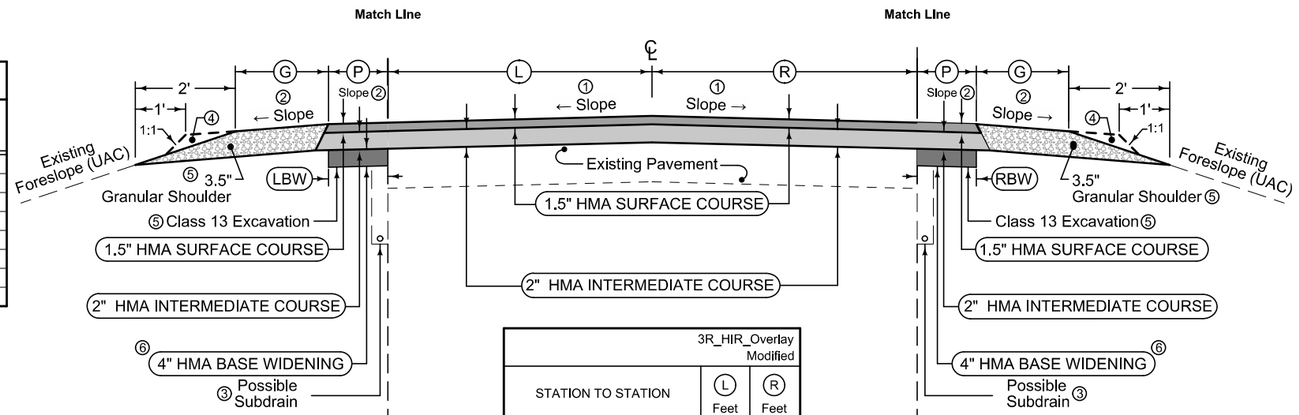
FILE NO.	ENGLISH	DESIGN TEAM HOLST / BAHR / CAMPBELL	KEOKUK COUNTY	PROJECT NUMBER NHSX-092-8(43)--3H-54	SHEET NUMBER A.1

4:04:04 PM 11/14/2022 jbahr1 pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\5409201022\Design\CADD_Files\Sheet_Files\SHT_54092043_A01.dgn

Combination Shoulder with 4' Widening

STATION TO STATION		(LBW) Feet	(P) Feet	(G) Feet	REMARKS
178+50	218+25	4	4	6	
254+00	278+90	4	4	6	
285+95	515+77	4	4	6	
521+70	531+79	4	4	6	

3R_Shldr_Paved_ Modified



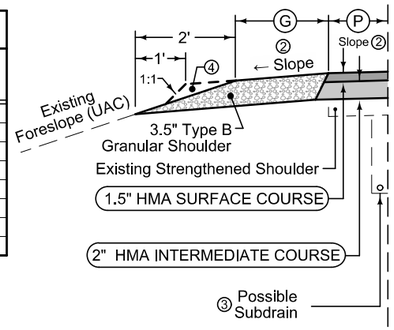
STATION TO STATION		(L) Feet	(R) Feet
178+50	218+25	12	12
254+00	280+78	12	12
284+10	517+37	12	12
520+04	531+79	12	12

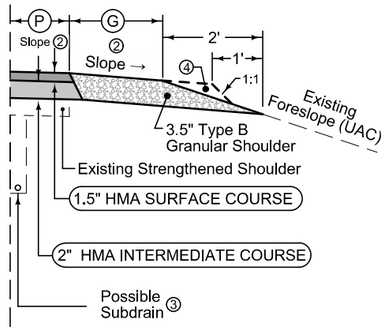
3R_HIR_Overlay Modified

Existing Strengthened Shoulder at Bridges

STATION TO STATION		(P) Feet	(G) Feet	REMARKS
278+90	280+07	4	6	
280+07	280+78	4	---	SEE DETAIL 7147-M
284+10	284+83	4	---	SEE DETAIL 7147-M
284+83	285+95	4	6	
515+77	516+84	4	6	
516+84	517+37	4	---	SEE DETAIL 7147-M
520+04	520+93	4	---	SEE DETAIL 7147-M
520+93	521+70	4	6	

3R_Shldr_Paved_ Modified





Combination Shoulder with 4' Widening

STATION TO STATION		(LBW) Feet	(P) Feet	(G) Feet	REMARKS
178+50	218+25	4	4	6	
254+00	278+90	4	4	6	
285+95	515+77	4	4	6	
521+70	531+79	4	4	6	

3R_Shldr_Paved_ Modified

Existing Strengthened Shoulder at Bridges

STATION TO STATION		(P) Feet	(G) Feet	REMARKS
278+90	279+90	4	6	
279+90	280+78	4	---	SEE DETAIL 7147-M
284+10	285+00	4	---	SEE DETAIL 7147-M
285+00	285+95	4	6	
515+77	516+47	4	6	
516+47	517+37	4	---	SEE DETAIL 7147-M
520+04	520+56	4	---	SEE DETAIL 7147-M
520+56	521+70	4	6	

3R_Shldr_Paved_ Modified

① 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.

② Finished slope of Shoulder shall have minimum allowable slope of 4% and a maximum allowable slope of 6%. Section may be modified as directed by the Engineer through areas of special shaping.

③ UAC existing subdrain. All existing subdrain shall remain functional at all times (do not plug or crush).

④ Place and compact material to the dashed lines; then blade and shape to foreslope that portion above the solid line in the outer 2 ft and roll with loaded truck tire.

⑤ The Contractor shall Blade the first 2" from the 4' wide Base Widening Trench and wind-row it onto the outer 6' of the existing granular shoulder (see Tabs 106-5 and 112-9 on C Sheets), this accounts for the lower 1.333" of the 3.5" granular shoulder total thickness. The remaining top 2.167" of the 3.5" granular shoulder total thickness shall consist of Type B Granular Shoulder Material. The lower material of the 4' wide Base Widening Trench (Class 13 Excavation Material) shall be hauled off and stockpiled (see Tab 110-13 on C Sheets).

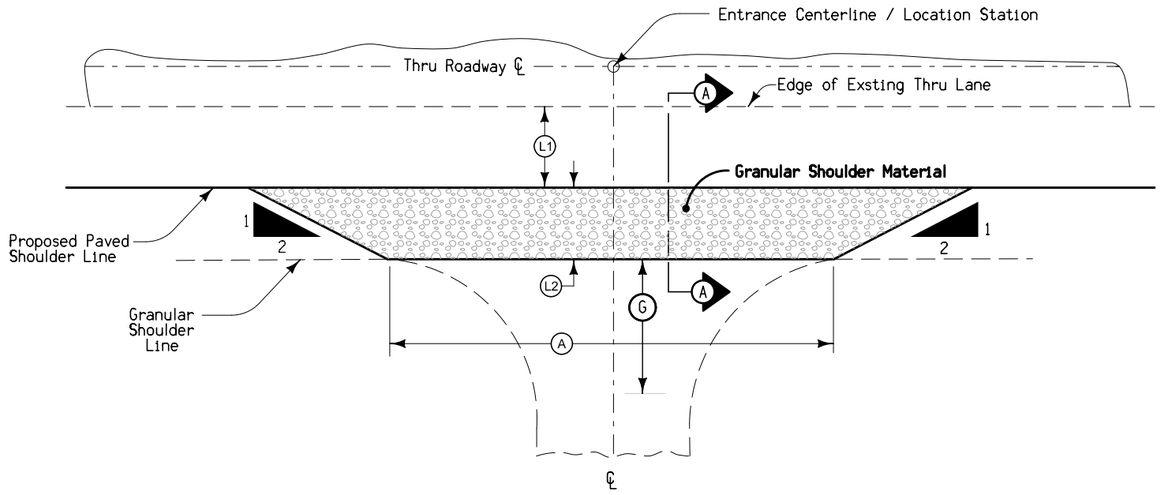
⑥ HMA Base Widening thickness shall be increased to 6" within Runout Length (L) as dimensioned on Notch 'N3-M1' on Modified Standard Road Plan PR-202 on U Sheets. See Tabs 106-5 and 102-16 on C Sheets.

General Notes:

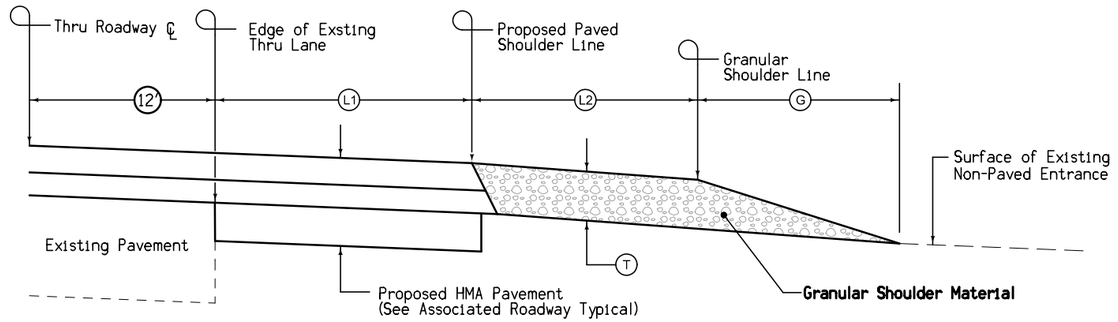
1. Stationing on typical sections does not include gapping for paved sideroads. Refer to Details.
2. See Tab 100-25 for pavement quantities.
3. See Tab 112-9 for granular shoulder quantities.
4. See Tab 106-5 for base widening quantities.

IA 92 HMA WIDENING AND RESURFACING

7117-M
Modified



PLAN



SECTION A-A

ENTRANCE TABULATION

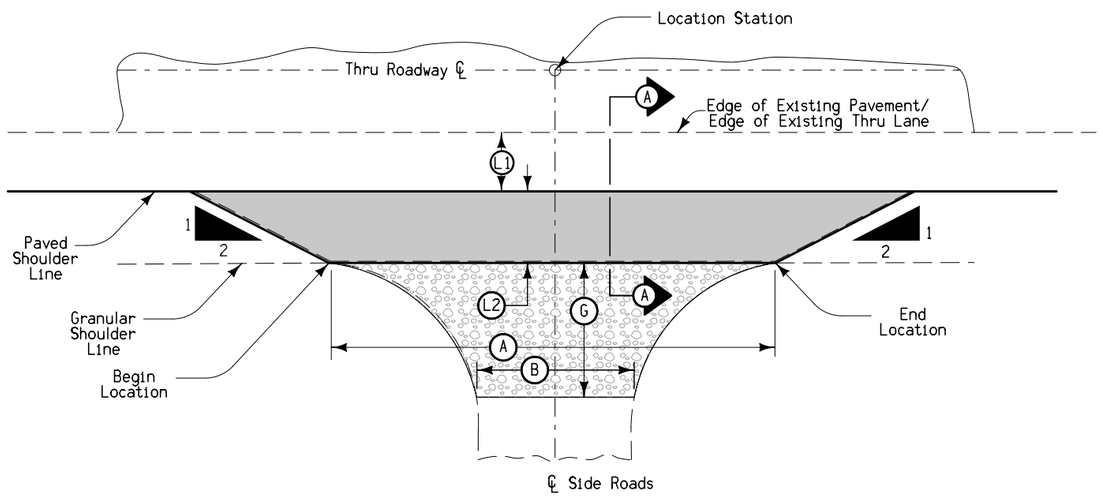
LOCATION STATION	Side	(A) Feet	(L1) Feet	(L2) Feet	(G) Feet	(T) Inches
47 Non-Paved Entrances	WB / EB	39 AVG	4	6	8	3.5

GENERAL NOTES:

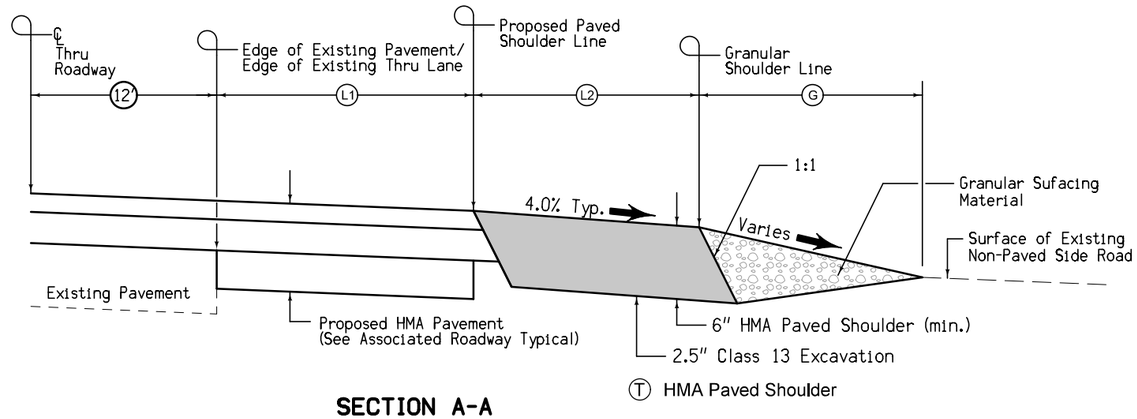
1. Refer to Tab 100-25 (HMA Pavement) and 106-5 (Base Widening) on the C Sheets for HMA Pavement, Widening, and Excavation Quantities associated with Dimension (L1) .
2. Granular Shoulder Material Quantities associated with Dimensions (L2) and (G) are tabulated on Tab. 112-9 (Shoulders) on C Sheets.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

7148-M
MODIFIED



PLAN



SECTION A-A

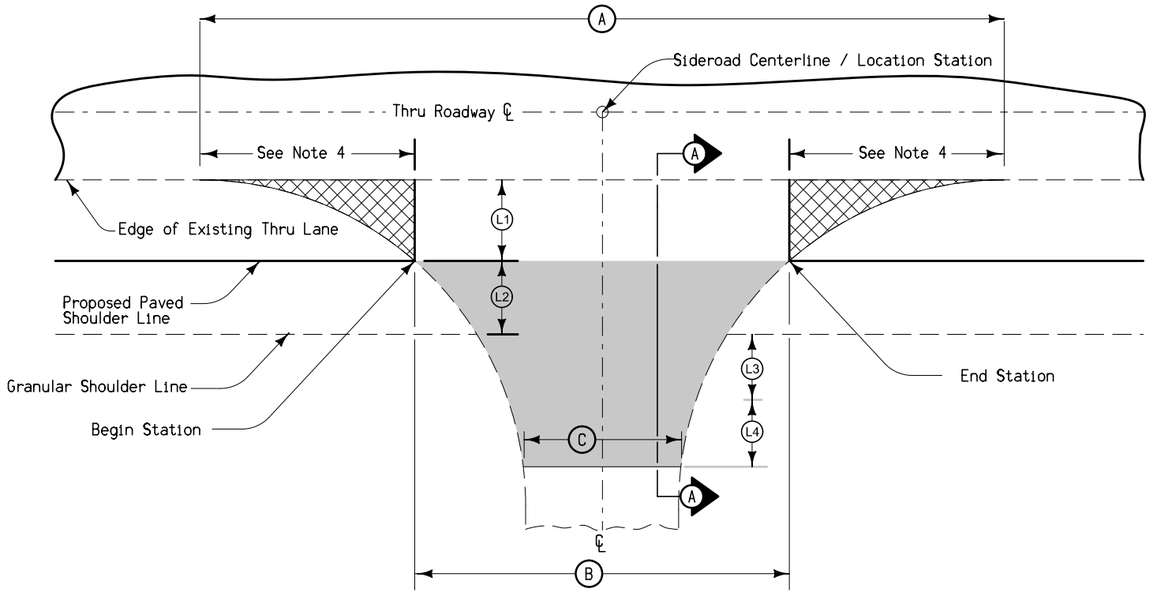
											Class 13 Excavation,	Paved Shoulder,	Granular Surfacing on Road,	
			Location	Begin	End	A	B	L1	L2	G	Waste	Hot Mix Asphalt Mixture, 6"	Type A Crushed Stone	FUNDING DIVISION
Location	Side	Mile Post	Station	Station	Station	feet	feet	feet	feet	feet	CY	SY	TONS	
138th Avenue	WB	197.32	196+50	195+98	197+02	104	24	4	6	35	4.9	70.7	39.200	DIVISION 1, IDOT RURAL
138th Avenue	EB	197.32	196+50	196+03	196+97	94	24	4	6	35	4.4	64.0	36.138	DIVISION 1, IDOT RURAL
150th Avenue	WB	198.57	262+12	261+67	262+57	90	30	4	6	35	4.3	61.3	36.750	DIVISION 1, IDOT RURAL
150th Avenue	EB	198.57	262+12	261+67	262+57	90	30	4	6	35	4.3	61.3	36.750	DIVISION 1, IDOT RURAL
190th Avenue	WB	202.60	474+30.8	473+81	474+81	100	30	4	6	35	4.7	68.0	39.813	DIVISION 1, IDOT RURAL
190th Avenue	EB	202.60	474+30.8	473+84	474+78	94	28	4	6	35	4.4	64.0	37.363	DIVISION 1, IDOT RURAL
TOTALS											**27.0**	**389.3**	**226.013**	**DIVISION 1, IDOT RURAL**

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).

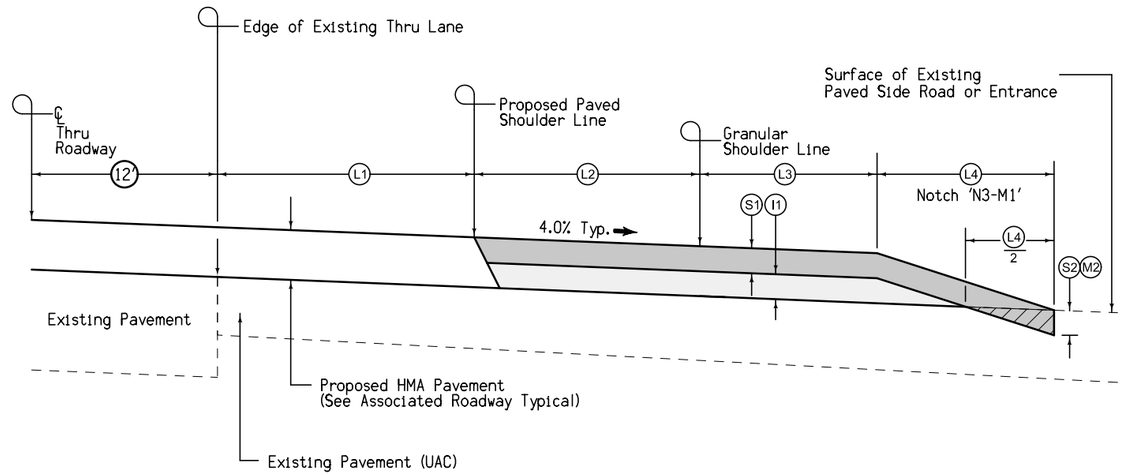
FILLET FOR NON-PAVED SIDE ROADS

7149-M
Modified



PLAN

Notch Type 'N3-M1'



SECTION A-A

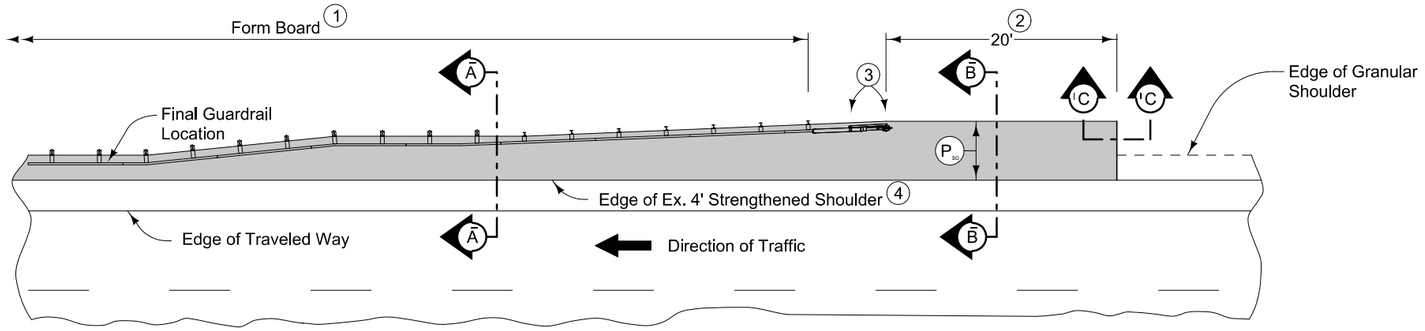
Ⓢ HMA Surface Course
Ⓘ HMA Intermediate Course
Ⓜ Pavement Scarification

Location	Side	Milepost	Location Station	Begin Station	End Station	Ex. Surface Material	Type of Notch	A feet	B feet	C feet	L1 feet	L2 feet	L3 feet	L4 feet	FUNDING DIVISION	REMARK
N James Street / Cemetery Road	WB	203.59	526+54.44	526+12	526+96	PCC	Type 'N3-M1'	118	84	24	4	6	---	27	DIVISION 1 (IDOT RURAL)	Notch at PCC Joint.
TOTALS															**DIVISION 1 (IDOT RURAL)**	

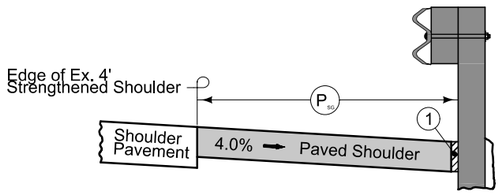
GENERAL NOTES:

1. Refer to Tab 100-25 and 102-16 on the C Sheets for HMA Pavement and Scarification Quantities associated with Dimension L1, L2, L3, and L4. Quantities for Dimension L1 are separated from Quantities associated with Dimensions L2, L3, and L4.
2. Refer to Tab 108-22 on the C Sheets for STOP LINE (SLW2) pavement markings for Side Road locations listed on this Detail.
3. The existing sideroad/entrance pavement outside the limits of Dimension B shall be removed and included in the cost of Class 13 Excavation. Class 13 Excavation and Base Widening (Tab 106-5) shall NOT occur within the limits of Dimension B.
4. If a Dimension is not provided, then it isn't necessary for the construction of tne respective treatment.
5. Dimensions are approximate and shall match existing.

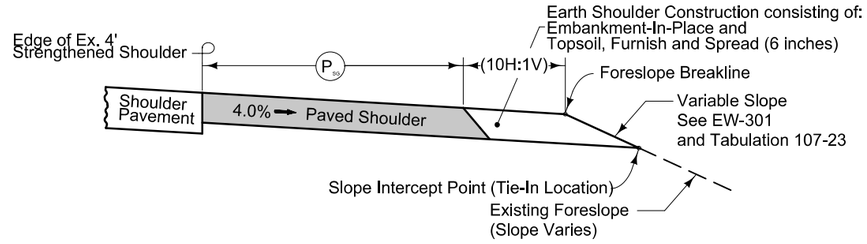
HMA RUNOUT FOR PAVED SIDE ROADS OR PAVED ENTRANCES ADJACENT TO AREAS WITH PROPOSED ROADWAY PROFILE ELEVATION RISE



PLAN VIEW



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.

The Contractor has the option to pave the paved shoulder at guardrail and the partial width paved shoulder as one operation.

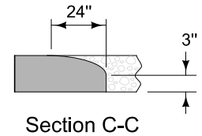
Refer to Tabulation 112-9 for shoulder quantities.

(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) 'KT' (per PV-101) joint for PCC shoulder.
'B' (per PV-101) joint for HMA shoulder.



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

PAVED SHOULDER AT GUARDRAIL
(EX. STRENGTHENED SHOULDER ADJACENT TO EDGE OF TRAFFIC)

ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

Roadway - DIVISION 1 : Iowa DOT and Federal Participation (RURAL)

Roadway - DIVISION 2 : Iowa DOT (100%)

Item no.	Item Code	Item	Unit	Quantities			Estimate Reference Notes
				Estimated			
				Roadway - DIVISION 1	Roadway - DIVISION 2	Total	
1	2101-0850001	CLEARING AND GRUBBING	ACRE	0.27		0.27	Refer to Tab 110-17 on C Sheets. All wood material generated as a result of Clearing and Grubbing must be disposed of according to Iowa Department of Agriculture and Land Stewardship Emerald Ash Borer Quarantine Order. For more information see www.iowatreepests.com. Suitable bat habitat will not be impacted. Iowa DOT Specification 2101.01A is not warranted and tree cutting date restrictions are not required. Woodland, per Iowa Code 314.23, will not be impacted.
2	2101-0850002	CLEARING AND GRUBBING	UNIT	116.3		116.3	Refer to Tab 110-17 on C Sheets. All wood material generated as a result of Clearing and Grubbing must be disposed of according to Iowa Department of Agriculture and Land Stewardship Emerald Ash Borer Quarantine Order. For more information see www.iowatreepests.com. Suitable bat habitat will not be impacted. Iowa DOT Specification 2101.01A is not warranted and tree cutting date restrictions are not required. Woodland, per Iowa Code 314.23, will not be impacted.
3	2102-2625000	EMBANKMENT-IN-PLACE	CY	612.7		612.7	Refer to Tab 102-3 on C Sheets. Class 13 Excavation Material from this project may be used for Embankment-In-Place.
4	2102-2713090	EXCAVATION, CLASS 13, WASTE	CY	143.1		143.1	Includes 27 CY from Detail 7148-M on B Sheets. Includes 116.1 CY from Tab 112-9 on C Sheets.
5	2105-8425005	TOPSOIL, FURNISH AND SPREAD	CY	136.2		136.2	Refer to Tab 107-23 on C Sheets. Minimum thickness of Topsoil shall be 6 inches.
6	2121-7425010	GRANULAR SHOULDERS, TYPE A	TON	4,679.94		4,679.94	Refer to Tab 112-9 on C Sheets.
7	2122-5500060	PAVED SHOULDER, HOT MIX ASPHALT MIXTURE, 6 IN.	SY	389.3		389.3	Refer to Detail 7148-M on B Sheets.
8	2122-5500090	PAVED SHOULDER, HOT MIX ASPHALT MIXTURE, 9 IN.	SY	237.3		237.3	Refer to Tab 112-9 on C Sheets.
9	2125-2225050	RESHAPING DITCHES	STA	4		4	Refer to Tab 3R-CULV on C Sheets.

Item no.	Item Code	Item	Unit	Quantities			Estimate Reference Notes
				Estimated			
				Roadway - DIVISION 1	Roadway - DIVISION 2	Total	
10	2212-0475095	CLEANING AND PREPARATION OF BASE	MILE	5.92		5.92	This bid item includes: 5.92 miles of two lane roadway
11	2212-5070310	PATCHES, FULL-DEPTH REPAIR	SY	2,023.4		2,023.4	Refer to Tab 102-6C Repair on C Sheets. Tabulation includes a 15% contingency.
12	2212-5070330	PATCHES BY COUNT (REPAIR)	EACH	158		158	
13	2213-2713300	EXCAVATION, CLASS 13, FOR WIDENING	CY	1,538.6		1,538.6	Refer to Tab 106-5 on C Sheets.
14	2213-8201040	BASE WIDENING, 4 IN. HOT MIX ASPHALT MIXTURE	SY	26,449.8		26,449.8	Refer to Tab 106-5 on C Sheets.
15	2213-8201060	BASE WIDENING, 6 IN. HOT MIX ASPHALT MIXTURE	SY	622.2		622.2	
16	2214-5145150	PAVEMENT SCARIFICATION	SY	2,539.9		2,539.9	Includes 51.0 SY from Tab 100-25 on C Sheets. Includes 2,488.9 SY from Tab 102-16 on C Sheets.
17	2214-7450050	BLADING AND SHAPING SHOULDER MATERIAL	STA	617		617	Refer to Tab 112-9 on C Sheets and Typical Note (5) on Sheet B.1.
18	2303-1032500	HOT MIX ASPHALT STANDARD TRAFFIC, INTERMEDIATE COURSE, 1/2 IN. MIX	TON	12,837.174		12,837.174	Refer to Tab 100-25 on C Sheets. Tabulation includes 5% contingency for irregularities.
19	2303-1033504	HOT MIX ASPHALT STANDARD TRAFFIC, SURFACE COURSE, 1/2 IN. MIX, FRICTION L-4	TON	9,632.308		9,632.308	
20	2303-1258283	ASPHALT BINDER, PG 58-28S, STANDARD TRAFFIC	TON	1,348.168		1,348.168	
21	2303-6911000	HOT MIX ASPHALT PAVEMENT SAMPLES	LS	1		1	
22	2303-7000610	PAYMENT ADJUSTMENT INCENTIVE/DISINCENTIVE FOR HMA MIXTURE LABORATORY VOIDS (FORMULA - BY PAY FACTOR)	EACH	11,234.74		11,234.74	
23	2303-7000620	PAYMENT ADJUSTMENT INCENTIVE/DISINCENTIVE FOR HMA MIXTURE FIELD VOIDS (FORMULA - BY PAY FACTOR)	EACH	11,234.74		11,234.74	
24	2312-8260250	GRANULAR SURFACING ON ROAD, CRUSHED STONE	TON	240.013		240.013	Includes 226.013 Tons from Detail 7148-M on B Sheets. Includes 14.00 Tons from Tab 104-3 on C Sheets.

Item no.	Item Code	Item	Unit	Quantities			Estimate Reference Notes
				Estimated			
				Roadway - DIVISION 1	Roadway - DIVISION 2	Total	
25	2317-7000120	PAYMENT ADJUSTMENT INCENTIVE/DISINCENTIVE FOR HMA PAVEMENT SMOOTHNESS (BY SCHEDULE)	EACH	39,878.4		39,878.4	
26	2402-2720100	EXCAVATION, CLASS 20, FOR ROADWAY PIPE CULVERT	CY	75		75	Includes 60.0 CY from Tab 104-3 on C Sheets. Includes 15.0 CY from Tab 3R-CULV on C Sheets.
27	2416-1160018	CULVERT, CONCRETE ENTRANCE PIPE, 18 IN. DIA.	LF	116		116	Refer to Tab 102-3 on C Sheets.
28	2416-1160024	CULVERT, CONCRETE ENTRANCE PIPE, 24 IN. DIA.	LF	28		28	
29	2416-1541036	REMOVE AND REINSTALL RIGID PIPE CULVERT LESS THAN OR EQUAL TO 36 IN.	LF	280		280	Refer to Tab 3R-CULV on C Sheets.
30	2417-0330024	APRONS, SAFETY SLOPE, 24 IN. DIA.	EACH	3		3	Includes 2 EACH on Tab 102-3 on C Sheets. Includes 1 EACH on Tab 104-3 on C Sheets.
31	2422-0360024	APRONS, UNCLASSIFIED, 24 IN. DIA.	EACH	1		1	Refer to Tab 104-3 on C Sheets.
32	2422-1722024	CULVERT, UNCLASSIFIED ENTRANCE PIPE, 24 IN. DIA.	LF	136		136	
33	2503-0200036	REMOVE STORM SEWER PIPE LESS THAN OR EQUAL TO 36 IN.	LF	136		136	Refer to Tab 110-2 on C Sheets.
34	2505-4008120	REMOVAL OF STEEL BEAM GUARDRAIL	LF	900		900	Refer to Tab 110-7A on C Sheets.
35	2505-4008300	STEEL BEAM GUARDRAIL	LF	325		325	Refer to Tab 108-8A on C Sheets.
36	2505-4008410	STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION, BA-201	EACH	8		8	
37	2505-4020580	GUARDRAIL, SPECIAL ANCHOR SECTION	EACH	2		2	Refer to Tabulation 108-9A on C Sheets. This contract item covers the permanent attachment of high tension cable guardrail to steel beam guardrail at the locations shown in the contract documents. Provide a connection meeting the high tension cable guardrail manufacturer's specifications. This item includes the following: Any additional lengths of cable required, attachment hardware, special steel beam guardrail sections, modifications to any existing steel beam guardrail sections, and any additional labor, equipment, or materials necessary to provide for a complete connection assembly. The Engineer will count the number of Guardrail, Special Anchor Sections. Payment will be contract unit price for each Guardrail, Special Anchor Section properly installed.
38	2505-4021010	STEEL BEAM GUARDRAIL END ANCHOR, BOLTED	EACH	8		8	Refer to Tab 108-8A on C Sheets.
39	2505-4021720	STEEL BEAM GUARDRAIL TANGENT END TERMINAL, BA-205	EACH	6		6	

Item no.	Item Code	Item	Unit	Quantities			Estimate Reference Notes
				Estimated			
				Roadway - DIVISION 1	Roadway - DIVISION 2	Total	
40	2505-4021721	STEEL BEAM GUARDRAIL FLARED END TERMINAL, BA-206	EACH	2		2	
41	2505-6000111	HIGH TENSION CABLE GUARDRAIL	LF	1,546		1,546	Refer to Tabulation 108-9A on C Sheets.
42	2505-6000121	HIGH TENSION CABLE GUARDRAIL, END ANCHOR	EACH	2		2	
43	2505-6000131	HIGH TENSION CABLE GUARDRAIL, SPARE PARTS KIT	EACH	1		1	To be delivered to Iowa DOT Maintenance Supervisor. IDOT Maintenance Garage (23301 IA 149, Sigourney, IA 52591) Supervisor: Matt Heuvelmann, (319) 931-4639
44	2507-3250005	ENGINEERING FABRIC	SY	203.1		203.1	Refer to Tab 100-23 on C Sheets.
45	2507-6800061	REVETMENT, CLASS E	TON	84		84	Refer to Tab 100-23 on C Sheets.
46	2507-8029000	EROSION STONE	TON	223.2		223.2	
47	2526-8285000	CONSTRUCTION SURVEY	LS	1		1	The preservation and referencing of existing Control Points, as indicated by article 2526.03, A, 10. HMA Overlays, will not be required by the Contractor. The replacing of Control Points after the work is complete, as part of this article, also will not be required by the Contractor. The District Land Surveyor will reset any land corner monuments or their associated permanent reference markers, as a result of their discovery during the progress of the project work. All other survey necessary for construction of the Project, as provided by Section 2526 (Construction Survey) will be required. The Contractor shall be responsible for maintaining the location of the roadway centerline.
48	2527-9263109	PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED	STA	2,562.09		2,562.09	Tab 108-22 on C sheets includes quantities for applications of Pavement Markings to temporary driving surfaces and the final driving surface. One additional application has been added for edgelines and centerlines in Rural areas to accommodate the final application of Pavement Markings over Milled Shoulder Rumble Stripes and Milled Centerline Rumble Strips, respectively. Refer to Modified Standard Road Plan PV-12 (Milled Shoulder Rumble Stripes) on U Sheets. The finish white edgelines shall be placed over the Rumble Stripes and the paint spray nozzle shall be slightly angled to paint the vertical edge of the rumble so as to gain some reflectivity for the traffic. Temporary edgelines shall be placed prior to Milled Rumble Stripe installation and shall be in the same location as the finish edgelines.
49	2528-8445110	TRAFFIC CONTROL	LS	1		1	Refer to Traffic Control Plan on J Sheets.
50	2528-8445113	FLAGGERS	EACH	0		0	See Proposal.
51	2528-8445115	PILOT CARS	EACH	0		0	See Proposal.
52	2529-2242304	CD JOINT ASSEMBLY	EACH	27		27	Refer to Tab 102-6C Repair on C Sheets.

Item no.	Item Code	Item	Unit	Quantities			Estimate Reference Notes
				Estimated			
				Roadway - DIVISION 1	Roadway - DIVISION 2	Total	
53	2529-2242320	CT JOINT	EACH	13		13	
54	2529-5070110	PATCHES, FULL-DEPTH FINISH, BY AREA	SY	32		32	Refer to Tab 102-6C Finish on C Sheets.
55	2529-5070120	PATCHES, FULL-DEPTH FINISH, BY COUNT	EACH	2		2	Refer to Tab 102-6C Finish on C Sheets.
56	2529-8201000	JOINT ASSEMBLY, EF	EACH	2		2	
57	2530-0400061	HOT MIX ASPHALT (PARTIAL DEPTH PATCH MATERIAL)	TON	67.197		67.197	Refer to Tab 102-11 on C Sheets. Tabulation includes a 15% contingency.
58	2530-5070221	REGULAR PARTIAL DEPTH HOT MIX ASPHALT FINISH PATCHES, BY AREA	SY	406.3		406.3	
59	2533-4980005	MOBILIZATION	LS	1		1	
60	2548-0000100	MILLED SHOULDER RUMBLE STRIPS, HMA SURFACE	STA	623.1		623.1	Refer to Tab 112-10 on C Sheets. Refer to Modified Standard Road Plan PV-12 (Milled Shoulder Rumble STRIPES) on U Sheets.
61	2548-0000310	MILLED CENTERLINE RUMBLE STRIPS, HMA SURFACE	STA	311.55		311.55	Refer to Tab 112-10 on C Sheets.
62	2555-0000010	DELIVER AND STOCKPILE SALVAGED MATERIALS	LS		1	1	Refer to Tab 110-13 on C Sheets.
63	2601-2636044	SEEDING AND FERTILIZING (URBAN)	ACRE	0.06		0.06	Refer to Tab 104-3 on C Sheets.
64	2601-2642100	STABILIZING CROP - SEEDING AND FERTILIZING	ACRE	0.06		0.06	Refer to Tab 104-3 on C Sheets.

100-1D
10-18-05

PROJECT DESCRIPTION

This project consists of an HMA Overlay and the construction of Combination Shoulders.
It also includes Patching, Guardrail Installation, Culvert Repair, and Erosion Repair.

111-25
10-18-11

INDEX OF TABULATIONS

232-10
04-18-17

EMERALD ASH BORER

Any living, dead, cut or fallen material of the ash (Fraxinus spp.) including trees, nursery stock, logs, firewood, stumps, roots, branches, and composted or uncomposted ash chips can be freely moved within the yellow areas of the most recent Federal EAB Quarantine & Authorized Transit.

https://www.aphis.usda.gov/plant_health/plant_pest_info/emerald_ash_b/downloads/eab_quarantine_map.pdf.

Obtain appropriate Compliance Agreements from USDA APHIS PPQ prior to moving any of the above listed ash articles to areas outside the yellow zone on the map.

For questions, concerns, and general assistance, contact:

USDA APHIS PPQ, Iowa office, 515-414-3295

Or

Iowa Department of Agriculture & Land Stewardship
515-725-1470
Entomology@IowaAgriculture.gov

262-6
10-18-05

UTILITIES
(NOT A POINT 25 PROJECT)

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

SEE RC SHEETS FOR ADDITIONAL BID ITEMS AND QUANTITIES.

105-4
10-18-11

STANDARD ROAD PLANS

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

Number	Date	Title
BA-200	04-20-21	Steel Beam Guardrail Components
BA-201	04-19-22	Steel Beam Guardrail Barrier Transition Section (MASH TL-3)
BA-202	10-20-15	Steel Beam Guardrail Bolted End Anchor
BA-205	10-19-21	Steel Beam Guardrail Tangent End Terminal (MASH TL-3)
BA-206	10-19-21	Steel Beam Guardrail Flared End Terminal For Cable Connection
BA-250	04-20-21	Steel Beam Guardrail Installation at Concrete Barrier or Bridge End Post (MASH TL-3)
BA-351	10-19-21	High Tension Cable Guardrail
DR-101	04-18-17	Pipe Culvert (Bedding and Backfill)
DR-102	04-21-15	Pipe Culvert (Cover and Camber)
DR-103	04-21-15	Pipe Culvert (Installation Details)
DR-104	04-19-16	Depth of Cover Tables for Concrete and Corrugated Pipe
DR-121	10-17-17	Connected Pipe Joints
DR-122	10-18-16	Construction of Type "C" Concrete Adaptors for Pipe Culvert Connections
DR-141	04-18-17	Pipe Bends and Half Pipe
DR-201	04-21-20	Concrete Aprons
DR-203	04-21-20	Metal Pipe Aprons and Beveled Ends
DR-211	04-21-20	Metal Safety Slope Apron 6:1 Slope
DR-501	04-17-18	Corrugated Metal Type "A" Diaphragm
DR-651	04-18-17	Unclassified Pipe Culvert
DR-652	04-18-17	Unclassified Letdown Structure Single Elbow
EC-301	10-18-16	Rock Erosion Control (REC)
EW-105	04-21-15	Reshaping Slopes and Ditches
EW-301	04-20-21	Guardrail Grading
EW-501	10-20-15	Rural Entrance
PM-110	04-21-20	Line Types
PM-420	10-15-19	Two-Lane Roadway with no Turn Lanes (One-Way Stop Condition)
PM-520	10-15-19	Two-Lane Roadway with no Turn Lanes (Two-Way Stop Condition)
PR-101	04-21-15	Full Depth Patch with 'EF' Joint in PCC
PR-103	04-21-20	Full Depth PCC Patch with Dowels
PV-13	10-17-17	Milled Centerline Rumble Strips
PV-101	04-19-22	Joints
SI-173	04-19-16	Object Markers
SI-211	10-18-16	Object Marker and Delineator Placement with Guardrail
SI-881	04-16-19	Special Signs for Workzones
SI-882	10-18-16	Special Signs for Restricted Width Traffic Control Zones
SW-211	04-17-18	Storm Sewer Pipe Connections
TC-1	10-15-19	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-81	10-15-19	Restricted Width Signing (Less Than 14.5 Feet)
TC-202	10-19-21	Work Within 15 ft of Traveled Way
TC-212	04-21-20	Spot Location Lane Closure with Flaggers
TC-213	10-15-19	Lane Closure with Flaggers
TC-214	04-21-20	Lane Closure with Flaggers for use with Pilot Car
TC-231	10-15-19	Slow Moving Vehicle Operating in the Traffic Lane
TC-232	10-21-14	Shoulder Rumble Strip Operations
TC-233	10-17-17	Pavement Marking Operations Two-Lane
TC-251	10-15-19	Temporary Road Closure
TC-252	04-21-20	Routes Closed to Traffic
TC-282	10-15-19	Uneven Lanes
TC-283	10-15-19	Surveying Operations

100-26
10-15-13

INCIDENTAL ITEMS

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

No.	Incidental Item	Unit	Quantity	Incidental To		Remarks
				Item Code	Item	
1	Grouting of inside of Intake	CY	2	2402-2720100	Excavation, Class 20, for Roadway Pipe Culvert	Tab 104-3
2	2 Unclassified Elbows, 4 Diaphragms	EACH	6	2422-1722024	Culvert, Unclassified Entrance Pipe, 24 in. Dia.	Tab 104-3

110-13
04-20-10

DELIVERY AND STOCKPILING

Item Description	Quantity	Units	Delivery Location	Contact Name & Number	Remarks
Class 13 Excavation Material	1681.7	CY	IDOT Maintenance Garage (23301 IA 149, Sigourney, IA 52591)	Matt Heuvelmann, (319) 931-4639	Note 1

NOTES:
Note 1: Class 13 Excavation Material includes "Excavation, Class 13, Waste" and
"Excavation, Class 13, for Widening" (see Typicals and Details on B Sheets for more information).
This work shall be bid as "Deliver and Stockpile Salvaged Materials".

100-27
MODIFIED

EXISTING POSTED SPEED LIMIT

Road Identification	Begin Station	End Station	Existing Posted Speed Limit			Remarks
			35 or less	40 - 45	over 45	
IA 92, WB Traffic	178+50.00	525+50.00			X	East of IA 21 to Sigourney (55 MPH)
IA 92, WB Traffic	525+50.00	531+79.00		X		In Sigourney (45 MPH)
IA 92, EB Traffic	178+50.00	527+85.00			X	East of IA 21 to Sigourney (55 MPH)
IA 92, EB Traffic	527+85.00	531+79.00		X		In Sigourney (45 MPH)

102-5
04-18-17

EXISTING PAVEMENT

No.	Location					Year	Type	Project Number	Surface		Base		Subbase		Removal		Coarse Aggregate			Reinforcement	Remarks
	County	Route	Dir. of Travel	Begin Ref. Loc. Sign	End Ref. Loc. Sign				Type	Depth IN	Type	Depth IN	Type	Depth IN	Type	Depth IN	Source	Type	Durability Class	Type	
1	54	IA-92	E & W	196.58	203.74	1964		F-34(5)*<1>	PCC	10							LANGSTRATT	C.LST.	3		

110-17
04-18-17

CLEARING AND GRUBBING

Location			Trees, Stumps, and Logs and Down Timber Material Diameters												All Other Materials		Estimated Quantities			
Station to Station or Ref. Loc. Sign to Ref. Loc. Sign or Description	Direction of Travel	Work and Material Type	3"-6"	>6"-9"	>9"-12"	>12"-15"	>15"-18"	>18"-24"	>24"-30"	>30"-36"	>36"-42"	>42"-48"	>48"-60"	>60"-72"	>72"	Length	Width	Units	Area	Herbicide Application	Remarks
																FT	FT	Units	Acres	Each	
DIVISION 1 - RURAL																					
Station 195+87	LT	Trees - Clearing and Grubbing	2		2	1	3											66.5			
Station 195+87	LT	Brush - Clearing														50.0	20.0		0.02		
Station 217+52	LT	Trees - Clearing and Grubbing	6		6													49.8			
Station 222+52	LT	Brush - Clearing														20.0	40.0		0.02		
Station 346+80	RT	Trees - Clearing and Grubbing														80.0	125.0		0.23		Box to fence.
DIVISION 1 - RURAL TOTAL																		**116.3**	**0.27**		

100-23
04-17-18

ROCK EROSION CONTROL

Refer to EC-301 and Detail 570-8

Location				L	W	Rock Erosion Control (REC)					Material Bid Quantities			Remarks
Road Identification	Begin Station	End Station	Side			Type 1 Rock Ditch Check	Type 2 Rock Ditch	Type 3 Rock Flume	Type 4 Rock Splash Basin	Type 5 Rock Slope Protection	Eng. Fabric	Class E Revetment	Erosion Stone	
			Lt./Rt.	FT	FT						SY	TON	TON	
DIVISION 1 - RURAL														
Crossroad Pipe	165+30		Rt.	15	8				1		23.6		14.4	Tile to pipe
RCB	165+30		Lt.	10	4					1	10.7		4.8	Wingwall
RCB	165+30		Lt.	10	4					1	10.7		4.8	Wingwall
RCB	165+30		Lt.	10	8				1		16.9		9.6	Front of RCB
Crossroad Pipe	176+80		Lt.	10	8				1		16.9		9.6	Front of pipe
Crossroad Pipe	195+87		Lt.	20	20		1				62.2	42.0		West Side
Crossroad Pipe	195+87		Rt.	20	20		1				62.2	42.0		East Side
RCB	346+80		Rt.	125	12		1						180.0	RCB to fence
DIVISION 1 - RURAL TOTAL							**3**		**3**	**2**	**203.1**	**84.0**	**223.2**	

110-2
04-16-13

REMOVAL OF EXISTING STRUCTURES

Location	Description	Remarks
DIVISION 1 - RURAL		
MP 197.97 Sta 226+15, 125'Lt.	24 in.x 90 lf CMP, 1 elbow and 1 diaphragm	Contractor to dispose.
		See record dwg F34(5), sh 12. Cemetery is adjacent property.
		See Tab 104-3 for new pipe.
		UAC the intake.
MP 197.97 Sta 226+55, 74' Lt.	24 in.x 46 lf CMP, 1 elbow and 1 diaphragm	Contractor to dispose.
		See record dwg F34(5), sh 12. Cemetery is adjacent property.
		See Tab 104-3 for new pipe.
		UAC the intake.
DIVISION 1 - RURAL TOTAL	**136**	**LF. (REMOVE STORM SEWER PIPE LESS THAN OR EQUAL TO 36 IN.)**

104-3
10-17-17

DRAINAGE STRUCTURE BY ROAD CONTRACTOR

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

Drainage Area	Location	Type	Size (1)	Kind Of Pipe (2)	Length New Const.	Bedding Class	Design Cover (H)	Camber* (DR-102)	Apron No.		Apron Guard* (DR-213)	Elbow* (DR-141)	Diaphragm* (DR-501)	Tee Section* (DR-142)	"D" Section* (DR-141)	Reducer*	Type 'C' Connections* (DR-122)		Connected Pipe Joint* (DR-121)	4" Perforated Subdrain*	Flow Line Elevations				Dimensions Lin. Ft.				Skew Ahead Degrees		Dike				Class 20	Flowable Mortar	Floodable* Backfill	Porous* Backfill	Flooded Backfill (3)	Remarks
																									Total		Extensions				Rt. / Lt.	Location Station	Top Elevation	Type						
ACRE			IN		LF		FT	FT	IN	OUT	No.	No.	No.	No.	No.	No.	Type	No.	Type	FT	Lt.	Rt.	Other	Other	Lt.	Rt.	Lt.	Rt.	Lt.	Rt.	Lt.				CY	CY	(A) CY	(B) CY	(A+B) CY	
DIVISION 1 - RURAL																																							
	MILEPOST 197.97																																						
	226+40 - 125' Lt	New	24	UNCL	90		8.0	0.17		1		1	2				C-3	1			W 733.3	E 745.0	732.00											45.0					Note 1,3
	226+55 - 74' Lt	New	24	UNCL	46		4.0	0.08	1			1	2								N 745.4	S 751.0	743.60											15.0					Note 2,3
DIVISION 1 - RURAL TOTALS			**24**	**UNCL**	**136**				**1**			**2**	**4**																				**60.0**					
			24	**METAL**						**1**							**C-3**	**1**																					

Note 1: Garrett Cemetery Entrance Culvert (Culvert flows from East [intake] to West [ditch]).
See Tab 110-2 for removal of 24" CMP. See Record Drawing 1964 F-34(5).
UAC existing intake. Grout the inside of the intake.
The primary long run of pipe is to be located where there is an existing 24" CMP, 125 ft. left of IA 92 Centerline.
Requires one (1) 10 degree Elbow (Standard Road Plan DR-652: F=41 ft, remainder=49 ft).

2422-1722024 CULVERT, UNCLASSIFIED ENTRANCE PIPE, 24 IN. DIA. (90 LF) plus 1 Elbow, 2 Diaphragms.
2417-0330024 Aprons, Safety Slope 24 in. Dia. 1.00 Each (per DR-211 Metal Safety Slope Apron and DR-122 Type 'C' Connections)
Incidental items (see Tab 100-26): Grouting Intake, Elbow, Diaphragms (2).
Applicable Standard Road Plans: DR-122, DR-141, DR-211, DR-501, DR-652, SW-211.

Note 2: Garrett Cemetery Frontage Road Culvert (Culvert flows from South [ditch] to North [intake]).
See Tab 110-2 for removal of 24" CMP. See Record Drawing 1964 F-34(5)
UAC existing intake. Grout the inside of the intake.
The primary long run of pipe is to be located where there is an existing 24" CMP, 74 ft. left of IA 92 Centerline.
Requires one (1) 10 degree Elbow (Standard Road Plan DR-652: F=15 ft, remainder=31 ft).

2422-1722024 CULVERT, UNCLASSIFIED ENTRANCE PIPE, 24 IN. DIA. (46 LF) plus 1 Elbow, 2 Diaphragms.
2422-0360024 Aprons, Unclassified, 24 in. Dia. 1.00 Each
2601-2642100 Stabilizing Crop - Seeding and Fertilizing 0.06 Ac
2601-2636044 Seeding and Fertilizing (Urban): 20 ft x 136 ft. 0.06 Ac
2312-8260250 Granular Surfacing on Road, Class A Crushed Stone: 20' x 20' 14.00 Ton
Incidental items (see Tab 100-26): Grouting Intake, Elbow, Diaphragms (2).
Applicable Standard Road Plans: DR-141, DR-201, DR-203, DR-501, DR-652, SW-211.

Note 3: Contractor shall not disturb the cemetery grounds.

DRAINAGE STRUCTURE REPAIR WORK

* Not a bid item
(1) UNCL = Unclassified Pipe CMP = Corrugated Metal Pipe RCP = Reinforced Concrete Pipe LCP = Arch or Elliptical Low Clearance Pipe SARC = Steel Arch Pipe

No.	Location	Size	Kind Of Pipe (1)	Length New Const.		Connected Pipe Joint* (DR-121)	New Apron		Flow Line Elevations		Remove and Reinstall Pipe Culvert				Remove and Reinstall Apron				Class 20 Excavation		Ditch Reshaping		Granular Backfill		Remarks
											Linear Feet				Each										
				Lin. Ft.			Each				Left Side		Right Side		Left Side		Right Side		CY		STA		TON		
		IN		Lt.	Rt.	Type	Lt.	Rt.	Lt.	Rt.	≤ 36"	>36"	≤ 36"	>36"	≤ 36"	>36"	≤ 36"	>36"	Lt.	Rt.	Lt.	Rt.	Lt.	Rt.	
DIV 1 - RURAL																									
1	Sta. 176+80	24	RCP								8														Pipe under roadway. Lt. side.
2	Sta. 187+05	18	RCP								16		16												Pipe under field ent. Rt. side inlet & oulet. Pipe under field ent. Lt. side inlet and outlet. See Tab 102-3.
3	Sta. 189+20																				1.0				Ditch Cleaning approx. 30'.
4	Sta. 210+13.7	3'x3'	RCB			TYPE 2													15.0						6' dia. x 7' deep sink hole Lt., 30' from fence. Utilize DR-121 (Type 2) ties to connect and seal pipe joints. Backfill, seed.
5	Sta. 217+52																				2.0				Ditch Cleaning approx. 200'.
6	Sta. 249+20	18	RCP										16												Driveway pipe Rt. side inlet & outlet.
7	Sta. 299+55	18	RCP										16												Pipe under field ent. Rt. side inlet & outlet.
8	Sta. 355+31	18	RCP								16														Pipe inder field ent. Lt. side inlet & outlet.
9	Sta. 358+64																				1.0				Ditch Cleaning approx. 100'.
10	Sta. 375+45	18	RCP										16												Driveway pipe Rt. side inlet & outlet. See Tab 102-3 for entrance slope flattening work.
11	Sta. 394+70	18	RCP								16														Pipe under field ent. Lt. side inlet & outlet. See Tab 102-3 for entrance slope flattening work.
12	Sta. 413+92	18	RCP										16												Pipe under field ent. Rt. side inlet & outlet.
13	Sta. 435+78	18	RCP								16														Pipe under field ent. Lt. side inlet & outlet. See Tab 102-3 for entrance slope flattening work.
14	Sta. 436+17	18	RCP										8												Pipe under driveway Rt. side outlet.
15	Sta. 456+60	18	RCP										16												Pipe under field ent. Rt. side inlet & outlet.
16	Sta. 494+00	30	RCP										16												Pipe under roadway. Rt. side.
17	Sta. 508+40	18	RCP										16												Pipe under field ent. Rt. side inlet & outlet. See Tab 102-3 for entrance slope flattening work.
18	Sta. 513+70	18	RCP								16														Pipe under field ent. Lt. side inlet & outlet. See Tab 102-3 for entrance slope flattening work.
19	Sta. 522+10	24	RCP								16														Pipe under field ent. Lt. side inlet & outlet. See Tab 102-3 for entrance slope flattening work.
20	Sta. 522+28	18	RCP										32												Pipe under field ent. Rt. side inlet & outlet. See Tab 102-3 for entrance slope flattening work.
21	Sta. 526+50	18	RCP								8														Pipe under driveway Rt. side inlet. See Tab 102-3 for entrance slope flattening work.
DIV 1 - RURAL											**280**								**15.0**		**4.0**				

ACCESS POINTS AND SAFETY RAMPS

Refer to Cross-Sections

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

Location		Type	Length of Opening (1)			W	(1)(2) PR	(2) SR	Pipe Culvert (3)					Aprons	Embankment In Place		Driveway Surface Area		Driveway Surfacing Material	Remarks
Station	Side	A, B, C, Safety Ramp, or Predetermined*	Case	1½" Dropped Curb	3" Dropped Curb				H	Size	Pipe Length	Lt.	Rt.		Lt.	Rt.	HMA	PCC		
			1 or 2	LF	LF	FT	FT	FT	FT	IN	LF	LF	LF	No.	CY	CY	SY	SY	TON	
DIVISION 1 - RURAL																				
187+05.00	RT	Predetermined								18.0		UAC	UAC							See 3R-CULV
191+60.00	LT	Predetermined								18.0		UAC	12.0			35.1				
299+55.00	LT	Predetermined								18.0		22.0	10.0		67.1	27.6				
375+45.00	RT	Predetermined								18.0		6.0	UAC		19.9					See 3R-CULV
385+46.00	RT	Predetermined								18.0		UAC	12.0			22.7				
394+70.00	LT	Predetermined								18.0		UAC	UAC							See 3R-CULV
435+78.00	LT	Predetermined								18.0		2.0	6.0		14.1	18.4				See 3R-CULV
508+40.00	RT	Predetermined								18.0		12.0	4.0		26.4	15.0				See 3R-CULV
513+70.00	LT	Predetermined								18.0		6.0	UAC		24.2					See 3R-CULV
522+10.00	LT	Predetermined								24.0		10.0	18.0	2	83.9	132.5				See 3R-CULV. (NOTE 2)
522+28.00	RT	Predetermined								18.0		16.0	4.0		75.3	29.0				See 3R-CULV
526+50.00	RT	Predetermined								18.0		4.0	UAC		21.5					See 3R-CULV
DIVISION 1 - RURAL TOTAL										**18.0**	**RCP**	**116.0**			**612.7**					**See NOTE (1)**
										24.0	**RCP**	**28.0**								
										24.0	**METAL**			**2**						**See NOTE (2)**

NOTES:
NOTE (1): Quantities are for the lengthening of Pipe Culverts and Embankment In-Place needed for the flattening of entrance foreslopes to an 8:1 slope as shown in Standard Road Plan EW-501.
Work associated with this tab shall be completed AFTER the culvert repair work outlined in Tab 3R-CULV.
NOTE (2): DR-211 Metal Safety Slope Aprons shall be utilized with DR-122 Type C-3 (outlet side) and Type C-4 (inlet side) adaptors. Adaptors associated with DR-122 are not bid items.

FULL-DEPTH PATCHES REPAIR

Possible Standards: PR-101, PR-102, PR-103, PR-104, PR-105, and PR-140.

Location				Dimension			PCC Patches													
Count	Station	Reference Location Sign	Lane	Length	Width	Patch Thickness	With Dowels	Without Dowels	C R C	Ramp with Dowels	HMA Patches	Composite HMA	Subbase Patches	Subbase Patch w/ 'EF' Joint	Patch Subdrain	'CD' Joints	'CT' Joints	'EF' Joints	Anchor Lugs Removal	Remarks
							PR-103	PR-102	PR-104	PR-105			PR-140	PR-101	PR-101 or PR-140			PR-101		
			L, R, or B	FT	FT	IN	SY	SY	SY	SY	SY	TON	SY	SY	No.	No.	No.	No.	No.	
DIVISION 1 - RURAL																				
1	169+65		RT	6.0	13.0	10.0	8.7													
1	169+85		LT	6.0	12.0	10.0	8.0													
1	169+85		RT	4.0	5.0	10.0	2.2													
1	170+06		RT	6.0	13.0	10.0	8.7													
1	170+55		RT	6.0	12.0	10.0	8.0													
1	170+91		LT	6.0	13.0	10.0	8.7													
1	171+26		RT	6.0	13.0	10.0	8.7													
1	171+46		CL	4.0	5.0	10.0	2.2													
1	171+66		LT	6.0	12.0	10.0	8.0													
1	171+66		RT	6.0	12.0	10.0	8.0													
1	171+86		RT	8.0	13.0	10.0	11.6													
1	172+76		RT	6.0	12.0	10.0	8.0													
1	172+86		LT	6.0	4.0	10.0	2.7													
1	174+43		LT	5.0	4.0	10.0	2.2													
1	174+50		RT	6.0	12.0	10.0	8.0													
1	174+81		RT	6.0	12.0	10.0	8.0													
1	175+15		RT	32.0	12.0	10.0	42.7									1				
1	176+50		RT	6.0	12.0	10.0	8.0													
1	179+60		RT	6.0	12.0	10.0	8.0													
1	179+80		RT	6.0	12.0	10.0	8.0													
1	180+00		RT	6.0	12.0	10.0	8.0													
1	180+20		RT	6.0	12.0	10.0	8.0													
1	183+22		CL	15.0	4.0	10.0	6.7													
1	184+62		RT	6.0	12.0	10.0	8.0													
1	184+70		RT	22.0	12.0	10.0	29.3									1				
1	197+27		RT	57.0	12.0	10.0	76.0									3	2			
1	197+37		LT	47.0	12.0	10.0	62.7									2				
1	198+00		LT	8.0	12.0	10.0	10.7													
1	198+00		RT	8.0	12.0	10.0	10.7													
1	199+94		RT	10.0	4.0	10.0	4.4													
1	202+70		LT	6.0	12.0	10.0	8.0													
1	202+90		LT	6.0	12.0	10.0	8.0													
1	203+10		LT	6.0	12.0	10.0	8.0													
1	205+05		LT	6.0	12.0	10.0	8.0													
1	205+20		LT	10.0	12.0	10.0	13.3													
1	205+50		LT	6.0	12.0	10.0	8.0													
1	206+60		RT	22.0	12.0	10.0	29.3									1				
1	209+40		RT	12.0	4.0	10.0	5.3													
1	210+10		RT	6.0	12.0	10.0	8.0													
1	212+78		RT	22.0	6.0	10.0	14.7									1				
1	213+45		LT	6.0	12.0	10.0	8.0													
1	213+80		RT	6.0	12.0	10.0	8.0													
1	214+02		LT	6.0	12.0	10.0	8.0													
1	217+70		LT	6.0	12.0	10.0	8.0													
1	217+70		RT	6.0	12.0	10.0	8.0													
1	218+07		LT	6.0	12.0	10.0	8.0													
1	218+07		RT	6.0	12.0	10.0	8.0													
1	259+67		CL	22.0	5.0	10.0	12.2									1				
1	265+22		CL	12.0	4.0	10.0	5.3													
1	268+15		CL	8.0	4.0	10.0	3.6													
1	276+92		RT	6.0	13.0	10.0	8.7													
1	277+30		RT	6.0	12.0	10.0	8.0													
1	279+62		LT	6.0	12.0	10.0	8.0													
1	279+62		RT	6.0	12.0	10.0	8.0													
1	284+20		RT	14.0	15.0	10.0	23.3													INCLUDES PCC SHOULDER
1	284+40		RT	20.0	3.0	10.0	6.7									1				PCC SHOULDER
1	284+70		RT	10.0	3.0	10.0	3.3													PCC SHOULDER
1	284+80		LT	6.0	12.0	10.0	8.0													
1	285+95		CL	16.0	4.0	10.0	7.1													
1	287+00		RT	6.0	12.0	10.0	8.0													
1	289+08		RT	6.0	13.0	10.0	8.7													
1	301+98		CL	10.0	8.0	10.0	8.9													
1	302+80		RT	6.0	13.0	10.0	8.7													
1	303+80		LT	6.0	13.0	10.0	8.7													
1	304+20		LT	6.0	12.0	10.0	8.0													
1	304+60		LT	8.0	12.0	10.0	10.7													
1	304+60		RT	6.0	12.0	10.0	8.0													
1	305+25		RT	42.0	13.0	10.0	60.7									2				
1	305+45		LT	6.0	12.0	10.0	8.0													
1	306+50		LT	6.0	12.0	10.0	8.0													
1	306+55		RT	12.0	12.0	10.0	16.0													
1	309+20		LT	6.0	13.0	10.0	8.7													
1	309+40		LT	6.0	13.0	10.0	8.7													
1	309+60		LT	6.0	12.0	10.0	8.0													
1	309+60		RT	6.0	12.0	10.0	8.0													
1	309+80		LT	6.0	13.0	10.0	8.7													

FULL-DEPTH PATCHES REPAIR

Possible Standards: PR-101, PR-102, PR-103, PR-104, PR-105, and PR-140.

Location				Dimension			PCC Patches													
Count	Station	Reference Location Sign	Lane	Length	Width	Patch Thickness	With Dowels	Without Dowels	C R C	Ramp with Dowels	HMA Patches	Composite HMA	Subbase Patches	Subbase Patch w/ 'EF' Joint	Patch Subdrain	'CD' Joints	'CT' Joints	'EF' Joints	Anchor Lugs Removal	Remarks
							PR-103	PR-102	PR-104	PR-105			PR-140	PR-101	PR-101 or PR-140			PR-101		
			L, R, or B	FT	FT	IN	SY	SY	SY	SY	SY	TON	SY	SY	No.	No.	No.	No.	No.	
1	310+20		LT	6.0	13.0	10.0	8.7													
1	311+60		LT	6.0	12.0	10.0	8.0													
1	311+98		LT	6.0	13.0	10.0	8.7													
1	312+58		LT	6.0	12.0	10.0	8.0													
1	312+58		LT	6.0	12.0	10.0	8.0													
1	313+18		LT	8.0	12.0	10.0	10.7													
1	346+25		LT	8.0	12.0	10.0	10.7													
1	346+25		RT	8.0	12.0	10.0	10.7													
1	355+27		RT	6.0	12.0	10.0	8.0													
1	355+47		RT	6.0	12.0	10.0	8.0													
1	355+67		RT	6.0	12.0	10.0	8.0													
1	355+87		RT	6.0	12.0	10.0	8.0													
1	356+07		RT	6.0	12.0	10.0	8.0													
1	356+87		LT	6.0	12.0	10.0	8.0													
1	357+07		LT	6.0	12.0	10.0	8.0													
1	362+20		LT	6.0	13.0	10.0	8.7													
1	362+40		LT	6.0	12.0	10.0	8.0													
1	363+60		LT	6.0	12.0	10.0	8.0													
1	363+80		RT	15.0	5.0	10.0	8.3													
1	367+01		LT	6.0	13.0	10.0	8.7													
1	368+01		LT	6.0	12.0	10.0	8.0													
1	369+01		LT	4.0	5.0	10.0	2.2													
1	369+51		LT	25.0	13.0	10.0	36.1									1				
1	371+60		LT	115.0	12.0	10.0	153.3									5	5			
1	371+60		RT	115.0	12.0	10.0	153.3									5	5			
1	380+72		CL	12.0	4.0	10.0	5.3													
1	380+92		LT	8.0	12.0	10.0	10.7													
1	385+40		LT	5.0	4.0	10.0	2.2													
1	388+40		RT	6.0	12.0	10.0	8.0													
1	389+22		RT	6.0	12.0	10.0	8.0													
1	393+70		LT	6.0	12.0	10.0	8.0													
1	393+70		RT	6.0	12.0	10.0	8.0													
1	424+06		LT	5.0	6.0	10.0	3.3													
1	424+66		LT	6.0	12.0	10.0	8.0													
1	424+66		RT	6.0	12.0	10.0	8.0													
1	430+25		LT	36.0	12.0	10.0	48.0									2	1			
1	430+70		LT	6.0	12.0	10.0	8.0													
1	435+42		RT	6.0	12.0	10.0	8.0													
1	437+02		LT	6.0	12.0	10.0	8.0													
1	437+10		RT	6.0	12.0	10.0	8.0													
1	437+75		RT	12.0	12.0	10.0	16.0													
1	438+36		RT	6.0	12.0	10.0	8.0													
1	438+65		RT	6.0	12.0	10.0	8.0													
1	439+25		LT	16.0	12.0	10.0	21.3													
1	439+25		RT	16.0	12.0	10.0	21.3													
1	450+20		LT	6.0	12.0	10.0	8.0													
1	454+18		LT	6.0	5.0	10.0	3.3													
1	459+45		RT	8.0	12.0	10.0	10.7													
1	466+15		CL	15.0	5.0	10.0	8.3													
1	477+03		LT	6.0	12.0	10.0	8.0													
1	512+90		LT	22.0	6.0	10.0	14.7									1				
1	515+40		LT	6.0	12.0	10.0	8.0													
1	520+40		LT	6.0	12.0	10.0	8.0													
1	520+40		RT	6.0	12.0	10.0	8.0													
1	520+80		LT	6.0	12.0	10.0	8.0													
1	520+80		RT	6.0	12.0	10.0	8.0													
1	519+10		LT	6.0	12.0	10.0	8.0													
1	523+12		RT	6.0	13.0	10.0	8.7													
1	524+12		RT	6.0	13.0	10.0	8.7													
1	524+92		RT	6.0	13.0	10.0	8.7													
1	528+00		LT	6.0	12.0	10.0	8.0													
137		SUBTOTAL FULL-DEPTH PATCHES, REPAIR (DIVISION 1 - RURAL)					1759.5									27	13			
21		15% CONTINGENCY					263.9													
158		**TOTAL FULL-DEPTH PATCHES, REPAIR (DIVISION 1 - RURAL)**					**2023.4**									**27**	**13**			

102-6C Finish
MODIFIED

FULL-DEPTH PATCHES FINISH

Possible Standards: PR-101, PR-102, PR-103, PR-104, PR-105, and PR-140.

Location				Dimension			PCC Patches													
Count	Station	Reference Location Sign	Lane	Length	Width	Patch Thickness	With Dowels	Without Dowels	C R C	Ramp with Dowels	HMA Patches	Composite HMA	Subbase Patches	Subbase Patch w/ 'EF' Joint	Patch Subdrain	'CD' Joints	'CT' Joints	'EF' Joints	Anchor Lugs Removal	Remarks
							PR-103	PR-102	PR-104	PR-105			PR-140	PR-101	PR-101 or PR-140			PR-101		
			L, R, or B	FT	FT	IN	SY	SY	SY	SY	SY	TON	SY	SY	No.	No.	No.	No.	No.	
DIVISION 1 - RURAL																				
1	280+80		LT	12.0	12.0	12.0	16.0											1		FHWA 32710 (MP 198.99), West Approach EF Joint
1	280+80		RT	12.0	12.0	12.0	16.0											1		FHWA 32710 (MP 198.99), West Approach EF Joint
2		**TOTAL FULL-DEPTH PATCHES, FINISH (DIVISION 1 - RURAL)**					**32.0**											**2**		

102-11
04-18-17

PARTIAL DEPTH REGULAR HMA FINISH PATCHES

Location				Dimension Of Patch			Estimated Quantities		Remarks
No.	Station	Reference Location Sign	Lane	Length x Width			SY	TON	
				FT					
DIVISION 1 - RURAL									
1	169+44		CL	2.0	x	2.0	0.4	0.074	
1	170+26		CL	2.0	x	2.0	0.4	0.074	
1	170+32		CL	2.0	x	2.0	0.4	0.074	
1	170+40		CL	2.0	x	2.0	0.4	0.074	
1	170+62		CL	2.0	x	2.0	0.4	0.074	
1	171+06		CL	2.0	x	2.0	0.4	0.074	
1	173+05		CL	2.0	x	2.0	0.4	0.074	
1	173+23		CL	2.0	x	2.0	0.4	0.074	
1	173+83		CL	3.0	x	2.0	0.7	0.074	
1	174+03		RT	2.0	x	2.0	0.4	0.110	
1	174+72		CL	2.0	x	2.0	0.4	0.074	
1	174+72		RT	2.0	x	2.0	0.4	0.074	
1	174+91		CL	3.0	x	2.0	0.7	0.074	
1	181+80		CL	8.0	x	2.0	1.8	0.110	
1	182+80		CL	2.0	x	2.0	0.4	0.294	
1	183+82		CL	4.0	x	2.0	0.9	0.074	
1	184+22		CL	4.0	x	2.0	0.9	0.147	
1	184+42		CL	4.0	x	2.0	0.9	0.147	
1	185+05		CL	12.0	x	2.0	2.7	0.147	
1	185+23		RT	3.0	x	2.0	0.7	0.441	
1	185+63		CL	6.0	x	2.0	1.3	0.110	
1	185+83		CL	2.0	x	2.0	0.4	0.221	
1	185+83		RT	2.0	x	2.0	0.4	0.074	
1	189+60		CL	2.0	x	2.0	0.4	0.074	
1	200+12		CL	6.0	x	2.0	1.3	0.074	
1	200+80		CL	2.0	x	2.0	0.4	0.221	
1	203+78		CL	2.0	x	2.0	0.4	0.074	
1	204+70		CL	30.0	x	2.0	6.7	0.074	
1	214+72		CL	4.0	x	2.0	0.9	1.103	
1	218+36		CL	3.0	x	2.0	0.7	0.147	
1	222+00		CL	2.0	x	2.0	0.4	0.110	
1	222+20		CL	2.0	x	2.0	0.4	0.074	
1	222+20		RT	2.0	x	2.0	0.4	0.074	
1	222+60		CL	2.0	x	2.0	0.4	0.074	
1	222+60		RT	2.0	x	2.0	0.4	0.074	
1	258+25		LT	3.0	x	4.0	1.3	0.074	
1	258+25		RT	2.0	x	3.0	0.7	0.221	
1	259+40		CL	6.0	x	2.0	1.3	0.110	
1	265+90		RT	2.0	x	2.0	0.4	0.221	
1	269+13		CL	2.0	x	2.0	0.4	0.074	
1	269+72		CL	3.0	x	2.0	0.7	0.074	
1	271+52		CL	3.0	x	2.0	0.7	0.110	
1	271+92		CL	3.0	x	2.0	0.7	0.110	
1	273+40		CL	4.0	x	3.0	1.3	0.110	
1	275+20		CL	2.0	x	2.0	0.4	0.221	
1	277+70		CL	2.0	x	2.0	0.4	0.074	
1	277+90		CL	3.0	x	2.0	0.7	0.074	
1	278+30		CL	2.0	x	2.0	0.4	0.110	
1	278+65		CL	2.0	x	2.0	0.4	0.074	
1	278+80		CL	2.0	x	2.0	0.4	0.074	
1	280+03		LT	2.0	x	2.0	0.4	0.074	
1	280+13		LT	2.0	x	2.0	0.4	0.074	
1	280+23		CL	2.0	x	2.0	0.4	0.074	
1	280+63		CL	2.0	x	2.0	0.4	0.074	
1	280+90		CL	2.0	x	2.0	0.4	0.074	
1	284+10		CL	2.0	x	2.0	0.4	0.074	

102-11
04-18-17

PARTIAL DEPTH REGULAR HMA FINISH PATCHES

Location				Dimension Of Patch			Estimated Quantities		Remarks
No.	Station	Reference Location Sign	Lane	Length x Width			SY	TON	
				FT					
1	284+30		CL	2.0	x	2.0	0.4	0.074	
1	284+50		CL	3.0	x	2.0	0.7	0.074	
1	285+10		CL	2.0	x	2.0	0.4	0.110	
1	285+30		CL	2.0	x	2.0	0.4	0.074	
1	285+50		CL	2.0	x	2.0	0.4	0.074	
1	285+70		CL	2.0	x	2.0	0.4	0.074	
1	286+10		CL	2.0	x	2.0	0.4	0.074	
1	286+30		CL	2.0	x	2.0	0.4	0.074	
1	286+85		CL	2.0	x	6.0	1.3	0.074	
1	287+10		CL	2.0	x	8.0	1.8	0.221	
1	287+30		CL	2.0	x	3.0	0.7	0.294	
1	287+60		CL	2.0	x	22.0	4.9	0.110	
1	287+85		CL	2.0	x	10.0	2.2	0.809	
1	288+08		CL	2.0	x	2.0	0.4	0.368	
1	288+28		CL	2.0	x	2.0	0.4	0.074	
1	288+68		CL	3.0	x	2.0	0.7	0.074	
1	288+88		CL	3.0	x	2.0	0.7	0.110	
1	289+02		CL	2.0	x	4.0	0.9	0.110	
1	289+28		CL	3.0	x	25.0	8.3	0.147	
1	289+70		CL	2.0	x	25.0	5.6	1.378	
1	289+99		LT	2.0	x	2.0	0.4	0.919	
1	290+05		CL	2.0	x	12.0	2.7	0.074	
1	290+19		CL	2.0	x	8.0	1.8	0.441	
1	290+39		CL	2.0	x	2.0	0.4	0.294	
1	290+39		RT	3.0	x	2.0	0.7	0.074	
1	290+59		CL	2.0	x	2.0	0.4	0.110	
1	290+69		CL	2.0	x	7.0	1.6	0.074	
1	290+79		CL	2.0	x	2.0	0.4	0.257	
1	291+00		CL	2.0	x	2.0	0.4	0.074	
1	291+20		CL	3.0	x	2.0	0.7	0.074	
1	291+40		CL	2.0	x	2.0	0.4	0.110	
1	291+60		CL	2.0	x	2.0	0.4	0.074	
1	291+80		CL	2.0	x	2.0	0.4	0.074	
1	292+00		CL	2.0	x	2.0	0.4	0.074	
1	292+20		CL	2.0	x	2.0	0.4	0.074	
1	292+50		CL	2.0	x	2.0	0.4	0.074	
1	292+70		CL	2.0	x	2.0	0.4	0.074	
1	292+90		CL	2.0	x	2.0	0.4	0.074	
1	293+60		CL	2.0	x	2.0	0.4	0.074	
1	293+80		CL	2.0	x	6.0	1.3	0.074	
1	294+00		CL	2.0	x	2.0	0.4	0.221	
1	294+00		RT	2.0	x	4.0	0.9	0.074	
1	295+00		LT	2.0	x	6.0	1.3	0.147	
1	295+00		RT	2.0	x	3.0	0.7	0.221	
1	295+15		LT	2.0	x	2.0	0.4	0.110	
1	296+00		LT	2.0	x	2.0	0.4	0.074	
1	296+00		CL	4.0	x	3.0	1.3	0.074	
1	296+40		RT	2.0	x	3.0	0.7	0.221	
1	297+21		LT	2.0	x	8.0	1.8	0.110	
1	297+40		RT	3.0	x	3.0	1.0	0.294	
1	297+60		RT	2.0	x	5.0	1.1	0.165	
1	297+80		CL	2.0	x	2.0	0.4	0.184	
1	297+99		CL	2.0	x	2.0	0.4	0.074	
1	298+19		CL	2.0	x	2.0	0.4	0.074	
1	298+39		CL	2.0	x	2.0	0.4	0.074	
1	298+59		CL	2.0	x	2.0	0.4	0.074	
1	298+99		CL	3.0	x	2.0	0.7	0.074	
1	299+19		LT	2.0	x	2.0	0.4	0.110	
1	299+19		CL	5.0	x	3.0	1.7	0.074	

PARTIAL DEPTH REGULAR HMA FINISH PATCHES

Location				Dimension Of Patch			Estimated Quantities		Remarks
No.	Station	Reference Location Sign	Lane	Length x Width FT			SY	TON	
1	299+35		CL	2.0	x	2.0	0.4	0.276	
1	299+39		CL	2.0	x	2.0	0.4	0.074	
1	299+59		CL	4.0	x	2.0	0.9	0.074	
1	299+79		CL	2.0	x	2.0	0.4	0.147	
1	299+99		CL	2.0	x	2.0	0.4	0.074	
1	300+19		CL	2.0	x	2.0	0.4	0.074	
1	300+19		CL	2.0	x	2.0	0.4	0.074	
1	300+39		CL	2.0	x	2.0	0.4	0.074	
1	300+59		CL	2.0	x	2.0	0.4	0.074	
1	300+79		CL	2.0	x	2.0	0.4	0.074	
1	301+00		CL	2.0	x	2.0	0.4	0.074	
1	301+60		CL	2.0	x	2.0	0.4	0.074	
1	301+82		CL	5.0	x	2.0	1.1	0.074	
1	302+20		LT	3.0	x	2.0	0.7	0.184	
1	302+20		CL	2.0	x	2.0	0.4	0.110	
1	302+40		CL	2.0	x	2.0	0.4	0.074	
1	302+45		RT	2.0	x	2.0	0.4	0.074	
1	302+60		CL	2.0	x	2.0	0.4	0.074	
1	303+00		CL	2.0	x	2.0	0.4	0.074	
1	303+20		CL	2.0	x	2.0	0.4	0.074	
1	303+40		CL	2.0	x	2.0	0.4	0.074	
1	303+60		CL	3.0	x	3.0	1.0	0.074	
1	304+10		CL	2.0	x	2.0	0.4	0.165	
1	304+20		RT	2.0	x	2.0	0.4	0.074	
1	304+40		CL	2.0	x	2.0	0.4	0.074	
1	304+45		CL	2.0	x	2.0	0.4	0.074	
1	304+60		CL	4.0	x	3.0	1.3	0.074	
1	304+70		CL	2.0	x	12.0	2.7	0.221	
1	304+80		LT	4.0	x	2.0	0.9	0.441	
1	305+45		CL	8.0	x	2.0	1.8	0.147	
1	305+60		CL	3.0	x	3.0	1.0	0.294	
1	305+80		CL	2.0	x	2.0	0.4	0.165	
1	306+00		CL	4.0	x	4.0	1.8	0.074	
1	306+20		CL	2.0	x	10.0	2.2	0.294	
1	360+80		CL	2.0	x	2.0	0.4	0.368	
1	307+00		CL	8.0	x	2.0	1.8	0.074	
1	307+20		CL	2.0	x	2.0	0.4	0.294	
1	307+40		CL	2.0	x	2.0	0.4	0.074	
1	307+50		CL	14.0	x	3.0	4.7	0.074	
1	307+80		CL	3.0	x	3.0	1.0	0.772	
1	308+20		CL	3.0	x	3.0	1.0	0.165	
1	308+40		CL	2.0	x	2.0	0.4	0.165	
1	308+60		CL	4.0	x	2.0	0.9	0.074	
1	308+80		CL	2.0	x	2.0	0.4	0.147	
1	309+00		CL	3.0	x	3.0	1.0	0.074	
1	310+00		CL	4.0	x	3.0	1.3	0.165	
1	310+40		CL	2.0	x	2.0	0.4	0.221	
1	310+60		CL	2.0	x	2.0	0.4	0.074	
1	311+20		CL	2.0	x	2.0	0.4	0.074	
1	311+40		CL	3.0	x	2.0	0.7	0.074	
1	311+80		CL	3.0	x	2.0	0.7	0.110	
1	312+18		CL	3.0	x	2.0	0.7	0.110	
1	312+38		CL	2.0	x	2.0	0.4	0.110	
1	312+98		CL	2.0	x	2.0	0.4	0.074	
1	313+18		CL	2.0	x	2.0	0.4	0.074	
1	321+60		CL	2.0	x	3.0	0.7	0.074	
1	321+72		RT	2.0	x	2.0	0.4	0.110	
1	321+80		CL	2.0	x	2.0	0.4	0.074	
1	322+00		CL	2.0	x	2.0	0.4	0.074	
1	325+52		CL	2.0	x	3.0	0.7	0.074	
1	325+60		CL	3.0	x	2.0	0.7	0.110	
1	328+50		CL	2.0	x	2.0	0.4	0.110	
1	329+60		CL	2.0	x	2.0	0.4	0.074	
1	332+60		CL	3.0	x	2.0	0.7	0.074	
1	332+80		CL	2.0	x	2.0	0.4	0.110	
1	333+00		CL	2.0	x	2.0	0.4	0.074	
1	333+23		CL	2.0	x	2.0	0.4	0.074	
1	333+43		CL	2.0	x	2.0	0.4	0.074	
1	333+63		CL	2.0	x	2.0	0.4	0.074	
1	333+83		CL	2.0	x	2.0	0.4	0.074	
1	334+03		CL	2.0	x	2.0	0.4	0.074	
1	334+23		CL	2.0	x	2.0	0.4	0.074	
1	334+43		CL	2.0	x	2.0	0.4	0.074	
1	339+50		CL	12.0	x	3.0	4.0	0.074	
1	343+06		CL	3.0	x	3.0	1.0	0.662	
1	343+66		LT	3.0	x	4.0	1.3	0.165	
1	343+78		CL	5.0	x	2.0	1.1	0.221	
1	343+86		CL	2.0	x	2.0	0.4	0.184	
1	344+46		CL	2.0	x	2.0	0.4	0.074	
1	344+60		CL	6.0	x	2.0	1.3	0.074	

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Location				Dimension Of Patch			Estimated Quantities		Remarks
No.	Station	Reference Location Sign	Lane	Length x Width FT			SY	TON	
1	345+32		CL	4.0	x	2.0	0.9	0.221	
1	345+52		CL	20.0	x	2.0	4.4	0.147	
1	347+85		LT	2.0	x	6.0	1.3	0.735	
1	349+05		CL	6.0	x	2.0	1.3	0.221	
1	349+38		CL	10.0	x	2.0	2.2	0.221	
1	350+42		RT	2.0	x	2.0	0.4	0.368	
1	350+65		LT	2.0	x	2.0	0.4	0.074	
1	351+05		CL	2.0	x	2.0	0.4	0.074	
1	351+65		CL	4.0	x	3.0	1.3	0.074	
1	351+85		CL	2.0	x	2.0	0.4	0.221	
1	352+46		CL	2.0	x	2.0	0.4	0.074	
1	352+66		CL	2.0	x	2.0	0.4	0.074	
1	353+47		CL	2.0	x	2.0	0.4	0.074	
1	353+67		CL	3.0	x	3.0	1.0	0.074	
1	353+87		CL	2.0	x	2.0	0.4	0.165	
1	354+07		CL	2.0	x	2.0	0.4	0.074	
1	354+27		LT	2.0	x	2.0	0.4	0.074	
1	354+47		CL	2.0	x	2.0	0.4	0.074	
1	354+67		CL	2.0	x	2.0	0.4	0.074	
1	354+87		CL	2.0	x	2.0	0.4	0.074	
1	356+47		CL	11.0	x	2.0	2.4	0.074	
1	357+27		CL	2.0	x	2.0	0.4	0.404	
1	360+00		CL	2.0	x	2.0	0.4	0.074	
1	365+01		CL	3.0	x	4.0	1.3	0.074	
1	366+01		LT	2.0	x	3.0	0.7	0.221	
1	366+41		LT	2.0	x	3.0	0.7	0.110	
1	368+21		CL	6.0	x	3.0	2.0	0.110	
1	368+81		CL	2.0	x	2.0	0.4	0.331	
1	369+17		CL	6.0	x	2.0	1.3	0.074	
1	369+78		CL	8.0	x	2.0	1.8	0.221	
1	373+08		CL	2.0	x	2.0	0.4	0.294	
1	375+90		CL	2.0	x	2.0	0.4	0.074	
1	376+72		CL	2.0	x	2.0	0.4	0.074	
1	377+10		RT	2.0	x	2.0	0.4	0.074	
1	381+19		CL	3.0	x	2.0	0.7	0.074	
1	381+25		CL	4.0	x	2.0	0.9	0.110	
1	381+45		CL	2.0	x	2.0	0.4	0.147	
1	382+15		CL	2.0	x	2.0	0.4	0.074	
1	383+13		CL	2.0	x	2.0	0.4	0.074	
1	383+33		CL	2.0	x	2.0	0.4	0.074	
1	383+53		CL	2.0	x	2.0	0.4	0.074	
1	384+23		CL	2.0	x	2.0	0.4	0.074	
1	384+43		CL	2.0	x	2.0	0.4	0.074	
1	384+63		CL	2.0	x	3.0	0.7	0.074	
1	384+83		CL	2.0	x	2.0	0.4	0.110	
1	385+05		CL	2.0	x	2.0	0.4	0.074	
1	387+58		CL	2.0	x	2.0	0.4	0.074	
1	388+00		CL	2.0	x	2.0	0.4	0.074	
1	388+60		CL	2.0	x	2.0	0.4	0.074	
1	389+12		CL	2.0	x	2.0	0.4	0.074	
1	390+99		CL	2.0	x	2.0	0.4	0.074	
1	393+84		CL	3.0	x	2.0	0.7	0.074	
1	395+40		CL	2.0	x	2.0	0.4	0.110	
1	404+71		LT	3.0	x	3.0	1.0	0.074	
1	405+27		CL	2.0	x	2.0	0.4	0.165	
1	406+85		CL	2.0	x	2.0	0.4	0.074	
1	407+85		RT	5.0	x	2.0	1.1	0.074	
1	411+18		LT	4.0	x	4.0	1.8	0.184	
1	414+38		LT	3.0	x	2.0	0.7	0.294	
1	414+80		RT	2.0	x	2.0	0.4	0.110	
1	418+27		CL	3.0	x	3.0	1.0	0.074	
1	418+87		CL	2.0	x	2.0	0.4	0.165	
1	422+35		LT	4.0	x	4.0	1.8	0.074	
1	422+75		LT	4.0	x	4.0	1.8	0.294	
1	424+86		LT	4.0	x	2.0	0.9	0.294	
1	426+26		LT	2.0	x	3.0	0.7	0.147	
1	426+66		LT	2.0	x	2.0	0.4	0.110	
1	426+24		CL	5.0	x	2.0	1.1	0.074	
1	429+24		CL	2.0	x	2.0	0.4	0.184	
1	429+40		CL	8.0	x	2.0	1.8	0.074	
1	429+64		LT	4.0	x	4.0	1.8	0.294	
1	431+25		CL	2.0	x	2.0	0.4	0.294	
1	432+45		CL	2.0	x	2.0	0.4	0.074	
1	434+16		CL	3.0	x	2.0	0.7	0.074	
1	434+24		CL	2.0	x	3.0	0.7	0.110	
1	436+64		CL	2.0	x	2.0	0.4	0.110	
1	438+00		CL	4.0	x	2.0	0.9	0.074	
1	438+00		RT	2.0	x	2.0	0.4	0.147	
1	438+12		CL	2.0	x	2.0	0.4	0.074	
1	438+12		RT	2.0	x	2.0	0.4	0.074	

PARTIAL DEPTH REGULAR HMA FINISH PATCHES

Location				Dimension Of Patch			Estimated Quantities		Remarks
No.	Station	Reference Location Sign	Lane	Length x Width FT			SY	TON	
1	438+24		CL	2.0	x	2.0	0.4	0.074	
1	438+24		RT	2.0	x	3.0	0.7	0.074	
1	438+75		LT	4.0	x	5.0	2.2	0.110	
1	438+85		LT	5.0	x	5.0	2.8	0.368	
1	439+00		LT	2.0	x	6.0	1.3	0.459	
1	441+83		LT	2.0	x	2.0	0.4	0.221	
1	442+16		CL	7.0	x	3.0	2.3	0.074	
1	442+24		CL	3.0	x	2.0	0.7	0.386	
1	442+40		CL	2.0	x	2.0	0.4	0.110	
1	442+45		LT	2.0	x	1.0	0.2	0.074	
1	442+65		CL	3.0	x	3.0	1.0	0.037	
1	451+62		CL	4.0	x	2.0	0.9	0.165	
1	452+20		CL	2.0	x	2.0	0.4	0.147	
1	453+18		CL	4.0	x	3.0	1.3	0.074	
1	453+78		CL	4.0	x	3.0	1.3	0.221	
1	454+88		RT	2.0	x	2.0	0.4	0.221	
1	456+24		CL	10.0	x	2.0	2.2	0.074	
1	459+25		LT	2.0	x	2.0	0.4	0.368	
1	460+10		LT	2.0	x	2.0	0.4	0.074	
1	460+50		CL	2.0	x	2.0	0.4	0.074	
1	461+26		CL	2.0	x	2.0	0.4	0.074	
1	461+46		CL	2.0	x	2.0	0.4	0.074	
1	463+30		CL	2.0	x	2.0	0.4	0.074	
1	465+25		CL	2.0	x	2.0	0.4	0.074	
1	465+45		CL	2.0	x	2.0	0.4	0.074	
1	465+87		CL	2.0	x	2.0	0.4	0.074	
1	466+00		CL	12.0	x	2.0	2.7	0.074	
1	466+40		CL	12.0	x	2.0	2.7	0.441	
1	466+55		CL	2.0	x	2.0	0.4	0.441	
1	467+22		CL	3.0	x	3.0	1.0	0.074	
1	467+42		CL	2.0	x	2.0	0.4	0.165	
1	468+35		CL	3.0	x	3.0	1.0	0.074	
1	468+55		CL	3.0	x	2.0	0.7	0.165	
1	468+75		CL	2.0	x	3.0	0.7	0.110	
1	469+35		LT	2.0	x	3.0	0.7	0.110	
1	469+63		CL	20.0	x	2.0	4.4	0.110	
1	469+79		LT	3.0	x	4.0	1.3	0.735	
1	469+99		LT	3.0	x	2.0	0.7	0.221	
1	470+41		CL	2.0	x	2.0	0.4	0.110	
1	470+72		CL	2.0	x	2.0	0.4	0.074	
1	470+92		CL	2.0	x	2.0	0.4	0.074	
1	471+30		CL	2.0	x	2.0	0.4	0.074	
1	471+40		CL	2.0	x	2.0	0.4	0.074	
1	472+50		CL	6.0	x	2.0	1.3	0.074	
1	472+91		CL	2.0	x	2.0	0.4	0.221	
1	477+03		CL	2.0	x	2.0	0.4	0.074	
1	477+23		CL	6.0	x	2.0	1.3	0.074	
1	477+33		RT	2.0	x	2.0	0.4	0.221	
1	479+55		CL	2.0	x	2.0	0.4	0.074	
1	481+52		CL	2.0	x	2.0	0.4	0.074	
1	481+92		CL	2.0	x	2.0	0.4	0.074	
1	484+10		CL	2.0	x	2.0	0.4	0.074	
1	484+50		CL	2.0	x	2.0	0.4	0.074	
1	484+90		CL	2.0	x	2.0	0.4	0.074	
1	485+50		CL	2.0	x	2.0	0.4	0.074	
1	485+65		RT	2.0	x	2.0	0.4	0.074	
1	486+15		CL	2.0	x	2.0	0.4	0.074	
1	487+80		CL	2.0	x	2.0	0.4	0.074	
1	499+70		CL	2.0	x	2.0	0.4	0.074	
1	499+90		CL	2.0	x	2.0	0.4	0.074	
1	500+12		CL	2.0	x	2.0	0.4	0.074	
1	500+85		CL	6.0	x	2.0	1.3	0.074	
1	501+08		CL	2.0	x	2.0	0.4	0.221	
1	501+28		CL	2.0	x	2.0	0.4	0.074	
1	501+68		CL	2.0	x	2.0	0.4	0.074	
1	502+08		CL	4.0	x	4.0	1.8	0.074	
1	502+28		CL	2.0	x	2.0	0.4	0.294	
1	502+68		CL	2.0	x	2.0	0.4	0.074	
1	502+88		CL	3.0	x	3.0	1.0	0.074	
1	503+08		CL	6.0	x	2.0	1.3	0.165	
1	503+28		CL	2.0	x	2.0	0.4	0.221	
1	503+48		CL	2.0	x	2.0	0.4	0.074	
1	504+10		CL	2.0	x	2.0	0.4	0.074	
1	504+90		CL	2.0	x	3.0	0.7	0.074	
1	505+10		CL	2.0	x	2.0	0.4	0.110	
1	505+90		CL	2.0	x	2.0	0.4	0.074	
1	506+30		CL	2.0	x	2.0	0.4	0.074	
1	506+50		CL	3.0	x	2.0	0.7	0.074	
1	506+70		CL	2.0	x	2.0	0.4	0.110	
1	507+28		CL	2.0	x	2.0	0.4	0.074	

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Location				Dimension Of Patch			Estimated Quantities		Remarks
No.	Station	Reference Location Sign	Lane	Length x Width FT			SY	TON	
1	508+03		CL	8.0	x	2.0	1.8	0.074	
1	509+08		CL	6.0	x	2.0	1.3	0.294	
1	509+28		CL	4.0	x	2.0	0.9	0.221	
1	509+78		CL	23.0	x	2.0	5.1	0.147	
1	510+08		CL	2.0	x	3.0	0.7	0.845	
1	510+28		CL	2.0	x	2.0	0.4	0.110	
1	510+58		CL	26.0	x	2.0	5.8	0.074	
1	511+42		CL	2.0	x	2.0	0.4	0.956	
1	511+62		CL	2.0	x	2.0	0.4	0.074	
1	511+82		CL	2.0	x	3.0	0.7	0.074	
1	512+02		CL	2.0	x	4.0	0.9	0.110	
1	512+22		CL	2.0	x	2.0	0.4	0.147	
1	512+42		CL	2.0	x	2.0	0.4	0.074	
1	512+62		CL	2.0	x	2.0	0.4	0.074	
1	513+60		CL	2.0	x	2.0	0.4	0.074	
1	513+70		CL	15.0	x	2.0	3.3	0.074	
1	513+97		CL	6.0	x	2.0	1.3	0.551	
1	514+20		CL	2.0	x	2.0	0.4	0.221	
1	514+40		CL	6.0	x	2.0	1.3	0.074	
1	515+40		RT	2.0	x	2.0	0.4	0.221	
1	518+90		CL	2.0	x	2.0	0.4	0.074	
1	519+00		LT	2.0	x	2.0	0.4	0.074	
1	519+20		CL	4.0	x	4.0	1.8	0.074	
1	519+92		CL	3.0	x	3.0	1.0	0.294	
1	520+12		CL	3.0	x	2.0	0.7	0.165	
1	520+22		CL	4.0	x	3.0	1.3	0.110	
1	520+42		CL	2.0	x	2.0	0.4	0.221	
1	520+62		CL	3.0	x	3.0	1.0	0.074	
1	520+82		CL	3.0	x	3.0	1.0	0.165	
1	521+02		CL	2.0	x	2.0	0.4	0.165	
1	521+22		CL	2.0	x	2.0	0.4	0.074	
1	521+62		CL	2.0	x	2.0	0.4	0.074	
1	521+82		CL	2.0	x	2.0	0.4	0.074	
1	523+32		CL	3.0	x	4.0	1.3	0.074	
1	523+52		CL	3.0	x	3.0	1.0	0.221	
1	523+72		RT	2.0	x	10.0	2.2	0.165	
1	523+92		LT	4.0	x	4.0	1.8	0.368	
1	524+32		CL	2.0	x	2.0	0.4	0.294	
1	524+52		CL	2.0	x	2.0	0.4	0.074	
1	524+72		CL	2.0	x	2.0	0.4	0.074	
1	524+72		RT	2.0	x	2.0	0.4	0.074	
1	525+12		CL	4.0	x	3.0	1.3	0.074	
1	525+22		CL	2.0	x	2.0	0.4	0.221	
1	525+42		CL	3.0	x	4.0	1.3	0.074	
1	525+62		CL	2.0	x	3.0	0.7	0.221	
1	525+82		CL	2.0	x	2.0	0.4	0.110	
1	526+12		CL	4.0	x	2.0	0.9	0.074	
1	526+75		CL	2.0	x	2.0	0.4	0.147	
1	527+16		CL	2.0	x	3.0	0.7	0.074	
1	527+56		CL	2.0	x	2.0	0.4	0.110	
1	527+76		CL	2.0	x	3.0	0.7	0.074	
1	528+20		CL	2.0	x	2.0	0.4	0.110	
1	528+80		CL	2.0	x	2.0	0.4	0.074	
1	529+00		CL	2.0	x	3.0	0.7	0.074	
1	530+20		CL	2.0	x	2.0	0.4	0.110	
1	530+40		CL	2.0	x	2.0	0.4	0.074	
1	530+90		CL	2.0	x	2.0	0.4	0.074	
1	531+15		CL	4.0	x	4.0	1.8	0.074	
1	531+75		CL	2.0	x	2.0	0.4	0.294	
414	SUBTOTAL (DIVISION 1 - RURAL)						353.3	58.433	
63	15% CONTINGENCY						53.0	8.765	
477	**TOTAL (DIVISION 1 - RURAL)**						**406.3**	**67.197**	**NOTE (1)**

NOTES:
(1) Partial Depth Patches have an estimated depth of 3 inches and a unit weight of 147 lbs/cf.
Associated Asphalt Binder shall be Standard Traffic Mix, PG58-28S.
Asphalt binder weight is calculated at a rate of 6% of the weight of the finish patch and shall be included as part of the cost of the patch.

NOTCHES AND RUNOUTS FOR RESURFACING

Refer to STANDARD ROAD PLANS PR-201 and PR-202 (MODIFIED PR-202 ON U SHEETS)

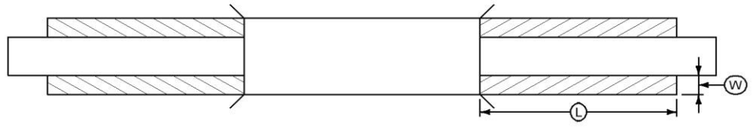
(1) Bid item. Refer to 100-25 for remaining values.

Location	Location Station	Direction of Traffic	Type of Notch or Runout	S1 IN	S2 IN	I1 IN	I2 IN	Z1 IN	Z2 IN	L IN	M1 IN	M2 IN	Pavement Scarification (1) SY	Remarks
IA 92	178+50.00	WB and EB	Type 'N3-M1'	1.5	1.5	2.0				175.0		1.5	311.1	Beginning of "HMA Resurfacing". Beginning of Project.
IA 92	218+25.00	WB and EB	Type 'N3-M1'	1.5	1.5	2.0				175.0		1.5	311.1	Stop "HMA Resurfacing".
IA 92	254+00.00	WB and EB	Type 'N3-M1'	1.5	1.5	2.0				175.0		1.5	311.1	Resume "HMA Resurfacing".
IA 92	280+78.00	WB and EB	Type 'N3-M1'	1.5	1.5	2.0				175.0		1.5	311.1	Stop "HMA Resurfacing" at west edge of west EF Joint (Bridge FHWA 32710 over Cedar Creek).
IA 92	284+10.00	WB and EB	Type 'N3-M1'	1.5	1.5	2.0				175.0		1.5	311.1	Resume "HMA Resurfacing" (74' east of Bridge Deck of FHWA 32710 over Cedar Creek).
IA 92	517+37.00	WB and EB	Type 'N3-M1'	1.5	1.5	2.0				175.0		1.5	311.1	Stop "HMA Resurfacing" (70' west of Bridge Deck of FHWA 32720 over Rock Creek, at "1096" STAMP).
IA 92	520+04.00	WB and EB	Type 'N3-M1'	1.5	1.5	2.0				175.0		1.5	311.1	Resume "HMA Resurfacing" (70' east of Bridge Deck of FHWA 32720 over Rock Creek, at "9130" STAMP).
IA 92	531+79.00	WB and EB	Type 'N3-M1'	1.5	1.5	2.0				175.0		1.5	311.1	End of "HMA Resurfacing". End of Project.
Paved Side Roads associated with Road Design Detail 7149-M on B Sheets:														
N James Street/Cemetery Rd	526+54.55	WB	Type 'N3-M1'	1.5	1.5	2.0						1.5		Notch at PCC Joint 37 feet from Edge of Traffic.
TOTALS													**2488.9**	**DIVISION 1 - RURAL**

Notes:
(1) Refer to Modified Standard Road Plan PR-202 (Notches for Resurfacing) on U Sheets.

AREAS FOR PAVEMENT OR BASE WIDENING

Refer to Standard Road Plans PV-105 or PV-203

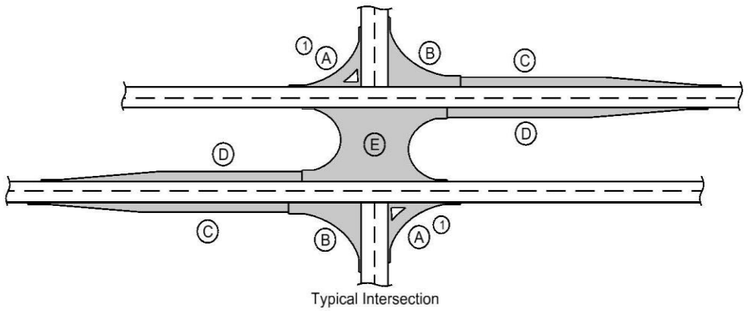


(1) Bid Item
(2) Estimated for two applications to achieve lifts and one application of 0.10 Gal/SY adjacent to existing pavement. Priming of subgrade or finished base is not required.
Calculations assume a HMA unit weight (lbs/cf) of 145, a Special Backfill unit weight (lbs/cf) of 140, and a Tack Coat unit weight (gal/sy) of 0.05.

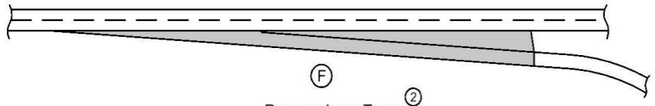
Station to Station		Side	Pavement Type	(L) Length	(W) Width	(T) Thickness	HMA Base Widening (1)	HMA Base Widening (1)	PCC Base Widening (1)	PCC Pavement Widening (1)	Tack Coat		Tack Coat (2)	Asphalt Binder (1)	Class 13 Excavation, Widening (1)	Special Backfill (1)	Remarks
											Lifts	Vertical Edge					
				FT	FT	IN	TONS	SY	SY	SY	GAL	GAL	GAL	TONS	CY	TONS	
DIVISION 1 - RURAL																	NOTE (1)(2)(3)
178+50.00	180+25.00	WB	HMA	175.00	4.0	6.0		77.8			7.78	0.97	8.75		8.6		NOTE (1)(2)(3)
180+25.00	216+50.00	WB	HMA	3625.00	4.0	4.0		1611.1			161.11	13.43	174.54		89.5		NOTE (1)(2)
216+50.00	218+25.00	WB	HMA	175.00	4.0	6.0		77.8			7.78	0.97	8.75		8.6		NOTE (1)(2)(3)
254+00.00	255+75.00	WB	HMA	175.00	4.0	6.0		77.8			7.78	0.97	8.75		8.6		NOTE (1)(2)(3)
255+75.00	278+90.00	WB	HMA	2315.00	4.0	4.0		1028.9			102.89	8.57	111.46		57.2		NOTE (1)(2)
285+95.00	515+77.00	WB	HMA	22982.00	4.0	4.0		10214.2			1021.42	85.12	1106.54		567.5		NOTE (1)(2)
521+70.00	530+04.00	WB	HMA	834.00	4.0	4.0		370.7			37.07	3.09	40.16		20.6		NOTE (1)(2)
530+04.00	531+79.00	WB	HMA	175.00	4.0	6.0		77.8			7.78	0.97	8.75		8.6		NOTE (1)(2)(3)
178+50.00	180+25.00	EB	HMA	175.00	4.0	6.0		77.8			7.78	0.97	8.75		8.6		NOTE (1)(2)(3)
180+25.00	216+50.00	EB	HMA	3625.00	4.0	4.0		1611.1			161.11	13.43	174.54		89.5		NOTE (1)(2)
216+50.00	218+25.00	EB	HMA	175.00	4.0	6.0		77.8			7.78	0.97	8.75		8.6		NOTE (1)(2)(3)
254+00.00	255+75.00	EB	HMA	175.00	4.0	6.0		77.8			7.78	0.97	8.75		8.6		NOTE (1)(2)(3)
255+75.00	278+90.00	EB	HMA	2315.00	4.0	4.0		1028.9			102.89	8.57	111.46		57.2		NOTE (1)(2)
285+95.00	515+77.00	EB	HMA	22982.00	4.0	4.0		10214.2			1021.42	85.12	1106.54		567.5		NOTE (1)(2)
521+70.00	530+04.00	EB	HMA	834.00	4.0	4.0		370.7			37.07	3.09	40.16		20.6		NOTE (1)(2)
530+04.00	531+79.00	EB	HMA	175.00	4.0	6.0		77.8			7.78	0.97	8.75		8.6		NOTE (1)(2)(3)
DIVISION 1 - RURAL TOTAL							**4" THICK**	**26449.8**							**1538.6**		**NOTE (1)(2)(3)**
							6" THICK	**622.2**									

NOTES:
NOTE (1): Class 13 Excavation and Base Widening shall not occur within the limits of Dimension B on Detail 7149-M (HMA Runout for Paved Sideroads) on B Sheets.
NOTE (2): The Contractor shall Blade the first 2" of material from the Base Widening Trench and wind-row it onto the outer 6' of existing granular shoulder (bid as Blading and Shaping Shoulder Material, see Tab 112-9).
The lower material from the Base Widening Trench (Class 13 Excavation Material) shall be hauled off and stockpiled (see Tab 110-13). See Typicals on B Sheets.
NOTE (3): HMA Base Widening thickness shall be increased to 6" within Runout Length (L) as dimensioned on Notch 'N3-M1' on Modified Standard Road Plan PR-202 on U Sheets. See Tab 102-16 on C Sheets.

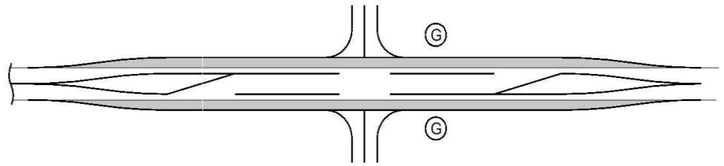
HMA PAVEMENT



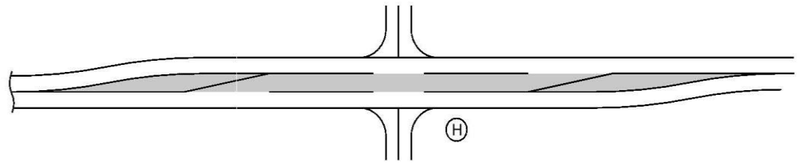
Typical Intersection



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.

Calculations assume a Surface Course unit weight (lbs/cf) of 147, an Intermediate Course unit weight (lbs/cf) of 147, a base course unit weight (lbs/cf) of 145, and a special backfill unit weight (lbs/cf) of 140.

Location				Mainline			Area (3)								Bid Items												
															Hot Mix Asphalt Pavement						Binder						
Road Identification	Direction of Travel	Station to Station		Width	Length	Area	A (1)	B	C	D	E	F (2)	G	H	Surface Course, Standard Traffic, 1/2 in. Mix, Friction L-4		Intermediate, Standard Traffic, 1/2 in. Mix		Base		Surface PG 58-28S 6% / Ton HMA	Intermediate PG 58-28S 6% / Ton HMA	Base	Special Backfill	Modified Subbase	Granular Subbase	Pavement Scarification	Remarks
				FT	FT	SY	SY	SY	SY	SY	SY	SY	SY	SY	TONS	SY	TONS	SY	TONS	SY	TONS	TONS	TONS	TONS	CY	SY	SY	
DIVISION 1 - RURAL																											
IA 92	WB	178+50.00	218+25.00	16.0	3975.0	7066.7									584.325	7066.7	779.100	7066.7			35.060	46.746						
IA 92	WB	254+00.00	280+78.00	16.0	2678.0	4760.9									393.666	4760.9	524.888	4760.9			23.620	31.493						
IA 92	WB	284+10.00	517+37.00	16.0	23327.0	41470.2									3429.069	41470.2	4572.092	41470.2			205.744	274.326						
IA 92	WB	520+04.00	531+79.00	16.0	1175.0	2088.9									172.725	2088.9	230.300	2088.9			10.364	13.818						
IA 92	EB	178+50.00	218+25.00	16.0	3975.0	7066.7									584.325	7066.7	779.100	7066.7			35.060	46.746						
IA 92	EB	254+00.00	280+78.00	16.0	2678.0	4760.9									393.666	4760.9	524.888	4760.9			23.620	31.493						
IA 92	EB	284+10.00	517+37.00	16.0	23327.0	41470.2									3429.069	41470.2	4572.092	41470.2			205.744	274.326						
IA 92	EB	520+04.00	531+79.00	16.0	1175.0	2088.9									172.725	2088.9	230.300	2088.9			10.364	13.818						
N James / Cemetery Rd	WB	526+54.44	Det. 7149-M								170.0				14.057	170.0	13.120	119.0			0.843	0.787					51.0	(1)
			SUBTOTAL												9173.627	110943.3	12225.880	110892.3			550.418	733.553					51.0	
			5% CONTINGENCY												458.681		611.294				27.521	36.678						
			DIVISION 1 - RURAL TOTALS												**9632.308**	**110943.3**	**12837.174**	**110892.3**			**577.938**	**770.230**					**51.0**	

NOTES:
(1) See Road Design Detail 7149-M (HMA Runout for Paved Side Roads or Paved Entrances Adjacent to Areas With Proposed Roadway Profile Elevation Rise) on B Sheets for more information.

SHOULDERS

(1) Lane(s) to which the shoulder is adjacent.
(2) See Typ. 7156, 7157, or 7158.
(3) Bid Item.
(4) Applies only for Paved Shoulders constructed on project with existing granular shoulders.
(5) Bid Item. Typ. 7156, 7157, or 7158.
(6) Does not include shrink.

Calculations assume a HMA unit weight (lbs/cf) of 145, a Special Backfill unit weight (lbs/cf) of 140, and a Granular Shoulder unit weight (lbs/cf) of 140.

Location					Quantities																				
Road Identification	(1) Direction Of Traffic	Station to Station		Side	(P) Width	(P_{SG}) Width	(G) Width	(L) Length	Class 13 (4) Excavation	Hot Mix Asphalt		Binder	Paved Shoulder	9" Paved Shoulder at Guardrai	Reinforced Paved Shoulder	Special Backfill				Subbase	Granular Shoulder		Blading and Shaping Shoulder Material			Remarks
																HMA Alternate		PCC Alternate					STA (3)	HMA	PCC	
					FT	FT (2)	FT	FT	CY (3)	TON	TON/STA	TONS	SY (3)	SY (5)	SY (3)	TON (3)	TON/STA	TON (3)	TON/STA	CY (3)	TON (3)	TON/STA		CY (6)	CY (6)	
DIVISION 1 - RURAL																									
IA 92	WB	178+50.00	218+25.00	LT			6.0	3975.0													301.484	7.585	39.8	98.1		(1)
IA 92	WB	254+00.00	280+07.00	LT			6.0	2607.0													197.728	7.585	26.1	64.4		(1)
IA 92 (GUARD)	WB	280+07.00	280+27.00	LT		3.6		20.0	3.1					8.0												(2)
IA 92 (GUARD)	WB	280+27.00	280+89.60	LT		3.6 to 1.1		62.6	9.6					16.3												(2)
IA 92 (GUARD)	WB	280+89.60	281+00.50	LT		1.1 to 0		10.9	1.7					0.7												(2)
IA 92 (GUARD)	WB	283+89.50	284+00.60	LT		0 to 1.1		11.1	1.7					0.7												(2)
IA 92 (GUARD)	WB	284+00.60	284+63.00	LT		1.1 to 3.6		62.4	9.5					16.3												(2)
IA 92 (GUARD)	WB	284+63.00	284+83.00	LT		3.6		20.0	3.1					8.0												(2)
IA 92	WB	284+83.00	516+84.00	LT			6.0	23201.0													1759.680	7.585	232.0	572.9		(1)
IA 92 (GUARD)	WB	516+84.00	517+04.00	LT		2.0		20.0	3.1					4.4												(2)
IA 92 (GUARD)	WB	517+04.00	517+53.30	LT		2 to 0		49.3	7.5					5.5												(2)
IA 92 (GUARD)	WB	519+86.50	520+09.30	LT		0 to 2.3		22.8	3.5					2.9												(2)
IA 92 (GUARD)	WB	520+09.30	520+73.00	LT		2.3 to 4.9		63.7	9.7					25.5												(2)
IA 92 (GUARD)	WB	520+73.00	520+93.00	LT		4.9		20.0	3.1					10.9												(2)
IA 92	WB	520+93.00	531+79.00	LT			6.0	1086.0													82.368	7.585	10.9	26.8		(1)
IA 92	EB	178+50.00	218+25.00	RT			6.0	3975.0													301.484	7.585	39.8	98.1		(1)
IA 92	EB	254+00.00	279+90.00	RT			6.0	2590.0													196.439	7.585	25.9	64.0		(1)
IA 92 (GUARD)	EB	279+90.00	280+18.00	RT		6.0		28.0	4.3					18.7												(2)
IA 92 (GUARD)	EB	280+18.00	280+50.60	RT		6 to 2.5		32.6	5.0					15.4												(2)
IA 92 (GUARD)	EB	280+50.60	280+75.60	RT		2.5		25.0	3.8					6.9												(2)
IA 92 (GUARD)	EB	280+75.60	281+00.50	RT		2.5 to 0		24.9	3.8					3.5												(2)
IA 92 (GUARD)	EB	283+89.50	284+14.40	RT		0 to 2.5		24.9	3.8					3.5												(2)
IA 92 (GUARD)	EB	284+14.40	284+39.40	RT		2.5		25.0	3.8					6.9												(2)
IA 92 (GUARD)	EB	284+39.40	284+72.00	RT		2.5 to 6		32.6	5.0					15.4												(2)
IA 92 (GUARD)	EB	284+72.00	285+00.00	RT		6.0		28.0	4.3					18.7												(2)
IA 92	EB	285+00.00	516+47.00	RT			6.0	23147.0													1755.584	7.585	231.5	571.5		(1)
IA 92 (GUARD)	EB	516+47.00	516+67.00	RT		4.9		20.0	3.1					10.9												(2)
IA 92 (GUARD)	EB	516+67.00	517+30.70	RT		4.9 to 2.3		63.7	9.7					25.5												(2)
IA 92 (GUARD)	EB	517+30.70	517+53.50	RT		2.3 to 0		22.8	3.5					2.9												(2)
IA 92 (GUARD)	EB	519+86.70	520+36.00	RT		0 to 2		49.3	7.5					5.5												(2)
IA 92 (GUARD)	EB	520+36.00	520+56.00	RT		2.0		20.0	3.1					4.4												(2)
IA 92	EB	520+56.00	531+79.00	RT			6.0	1123.0													85.174	7.585	11.2	27.7		(1)
DIVISION 1 - RURAL TOTALS									**116.1**					**237.3**							**4679.940**		**617.0**			**(1)**

NOTES:
(1) The Contractor shall Blade the first 2" from the 4' wide Base Widening Trench and wind-row it onto the outer 6' of the existing granular shoulder (see Tabs 106-5 and 112-9 on C Sheets).
The remaining 2.167" of the 3.5" granular shoulder total thickness shall consist of Type B Granular Shoulder Material. See Typicals on B Sheets.
(2) Width of Psg is measured from the outside edge of the existing 4' wide Strengthened Shoulder (16' from Centerline), refer to Road Design Detail 7156-M "Paved Shoulder at Guardrail (Ex. Strengthened Shoulder Adjacent to Edge of Traffic)".

110-7A
04-17-12

REMOVAL OF STEEL BEAM GUARDRAIL

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

Location				Removal of Guardrail (2)
No.	Direction of Traffic (1)	Station to Station	Side	LF
DIVISION 1 - RURAL				
1	WB	280+39.00	281+51.50	LT	112.5
2	WB	283+38.50	284+51.00	LT	112.5
3	EB	280+39.00	281+51.50	RT	112.5
4	EB	283+38.50	284+51.00	RT	112.5
5	WB	516+92.00	518+04.50	LT	112.5
6	WB	519+35.50	520+48.00	LT	112.5
7	EB	516+92.00	518+04.50	RT	112.5
8	EB	519+35.50	520+48.00	RT	112.5
DIVISION 1 - RURAL TOTAL					**900.0**

107-23
MODIFIED

GRADING FOR GUARDRAIL INSTALLATIONS

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

Location				Foreslope at Guardrail	Dimensions (Feet)									Earthwork			Remarks
No.	Direction of Traffic (1)	Station	Side		X1	Y1	X2	Y2	X3	Y3	X4	Y4	Z	Topsoil Furnish and Spread	Embankment In Place	Reshaping Ditch	
														CY	CY	STA	
DIVISION 1 - RURAL																	
1	WB	281+51.50	OUT	2.5H:1V	50.7	9.0	61.5	10.1			124.4	12.6	30.0	17.9			NWC FHWA 32710. (1)(2)(3).
2	WB	283+38.50	OUT	3H:1V	50.7	9.0	61.8	10.1			124.3	12.6	29.7	17.9			NEC FHWA 32710. (1)(2)(3).
3	EB	281+51.50	OUT	2.5H:1V	50.7	9.0	75.7	11.5	100.7	11.5	136.1	15.3	45.2	16.3			SWC FHWA 32710. (1)(2)(3).
4	EB	283+38.50	OUT	2.5H:1V	50.8	9.0	75.7	11.5	100.7	11.5	133.2	15.0	47.0	16.2			SEC FHWA 32710. (1)(2)(3).
5	WB	518+04.50	OUT	4.5H:1V	51.1						100.4	11.0	23.9	15.7			NWC FHWA 32720. (1)(2)(3).
6	WB	519+35.50	OUT	3H:1V	50.7	9.0	73.5	11.3			137.4	13.9	34.7	17.8			NEC FHWA 32720. (1)(2)(3).
7	EB	518+04.50	OUT	4H:1V	50.7	9.0	73.5	11.3			137.4	13.9	34.7	17.8			SWC FHWA 32720. (1)(2)(3).
8	EB	519+35.50	OUT	3H:1V	51.1	9.0					100.4	11.0	23.9	16.7			SEC FHWA 32720. (1)(2)(3).
DIVISION 1 - RURAL TOTAL														**136.2**			

NOTES:
(1) Location Station is provided at the end of Concrete Barrier Rail at the respective quadrant.
(2) "Y#" distances are measured from the Edge of Traffic Line of the respective Direction of Traffic. Edge of Traffic Line is 12' from Center Line.
(3) "Foreslope at Guardrail" is provided for information only and is the respective existing foreslope outside of the existing foreslope breakline.
Existing conditions are such that earthwork is not required outside of the existing foreslope breakline.
"Topsoil Furnish and Spread" is required between the Paved Shoulder and the existing foreslope breakline to ensure a 10H:1V earth shelf outside of the Paved Shoulder. See Detail 7157-M on B Sheets.

108-8A
10-16-18

STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE RAIL END SECTION

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

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

Location					Layout Lengths BA-250, BA-260, LS-630, or LS-635				Long-Span System BA-211		Delineators and Object Markers (2)					Bid Items												Remarks
												Delineator	Object Marker			Bolted End Anchor		Post Adapter	Steel Beam Guardrail	BA-250 or LS-630						BA-260 or LS-635		
																				Barrier Transition Section	End Terminal				Barrier Transition Section	End Terminal		
No.	Direction of Traffic (1)	Side O = Outside M = Median	Station	Offset	VT1	VF	VT	ET	STATION	TYPE	SI-211	SI-172 Type 1	SI-173 Type 2	SI-173 Type 3		BA-202		BA-210	BA-200	BA-201	Tangent BA-205	Flared BA-206	Tangent LS-625	Flared LS-626	BA-221	BA-225	
				FT	LF	LF	LF	LF			TYPE	White EACH	OM2-2 EACH	OM3-L EACH	OM3-R EACH	TYPE	EACH	EACH	LF	EACH	EACH	EACH	EACH	EACH	EACH	EACH	
DIVISION 1 - RURAL																												
1	WB	O	281+51.50	2.7	53.125	25.00		47.7			2		4	1		B	1		37.5	1	1							NWC FHWA 32710. (1)(2).
2	WB	O	283+38.50	2.7	53.125	25.00		47.7			2		4		1	B	1		37.5	1	1							NEC FHWA 32710. (1)(2).
3	EB	O	281+51.50	2.7	53.125	25.00	25.00	37.5			2		4		1	B	1		62.5	1		1						SWC FHWA 32710. (1)(2).
4	EB	O	283+38.50	2.7	53.125	25.00	25.00	37.5			2		4	1		B	1		62.5	1		1						SEC FHWA 32710. (1)(2).
5	WB	O	518+04.50	2.7	53.125			47.7			2		3	1		B	1		12.5	1	1							NWC FHWA 32720. (1)(2).
6	WB	O	519+35.50	2.7	53.125	37.50		47.7			2		4		1	B	1		50.0	1	1							NEC FHWA 32720. (1)(2).
7	EB	O	518+04.50	2.7	53.125	37.50		47.7			2		4		1	B	1		50.0	1	1							SWC FHWA 32720. (1)(2).
8	EB	O	519+35.50	2.7	53.125			47.7			2		3	1		B	1		12.5	1	1							SEC FHWA 32720. (1)(2).
DIVISION 1 - RURAL TOTAL														**4**	**4**		**8**		**325.0**	**8**	**6**	**2**						

NOTES:
(1) Location Station is provided at the end of Concrete Barrier Rail at the respective quadrant.
(2) "Do" (Offset) distance is measured from the Edge of Traffic Line of the respective Direction of Traffic to Face of Guardrail. Edge of Traffic Line is 12' from Center Line.

108-9A
MODIFIED

HIGH TENSION CABLE GUARDRAIL

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

Refer to BA-351.

Location					Dimensions			Bid Items			
No.	Direction of Traffic (1)	Station	Side	Offset D_θ	Approach C_A	Obstacle C_O	Trailing C_T	Protection Length (C_A+C_θ+C_T)	End Anchor	Special End Anchor	Remarks
				FT	FT	FT	FT	FT	No.	No.	
DIVISION 1 - RURAL											
3	EB	277+10.00	RT	See Notes (1)(3)	340.5			340.5	1	1	SWC FHWA 32710. Note (2).
4	EB	296+45.00	RT	See Notes (1)(4)	1205.5			1205.5	1	1	SEC FHWA 32710. Note (2).
DIVISION 1 - RURAL TOTALS								**1546.0**	**2**	**2**	

NOTES:
(1): Offset 'Do' is measured from Edge of Traveled Way. Edge of Traveled Way is 12' from the Centerline of IA 92.
(2): Earthwork is not required for the installation of High Tension Cable Guardrail at Bridge FHWA 32710.
(3): Offset 'Do' = 8' from STA 277+10 to STA 278+47. 50:1 Taper between STA 278+47 and STA 279+85. 'Do' = 5.23' from STA 279+85 to Special End Anchor at STA 280+50.5.
(4): Offset 'Do' = 8' from STA 296+45 to STA 286+43. 50:1 Taper between STA 286+43 and STA 285+05. 'Do' = 5.23' from STA 285+05 to Special End Anchor at STA 284+39.5.

112-10
10-20-20

MILLED RUMBLE STRIPS

See PV-12 and PV-13

* Calculated at 18" width for Shoulder.

Location						Installation Length		Fog Seal* (Milled Rumble Strip)	Effective Shoulder Width			Remarks
Road Identification	Station to Station		Shoulder Pavement Type	Rumble Strip Type (Centerline, Rt or Lt Shoulder)	(L)	PCC	HMA	Shoulder	PCC Paved	HMA Paved	Granular\ Earth	
					IN	STA	STA	GAL	FT	FT	FT	
DIVISION 1, RURAL												
IA 92	178+50.00	218+25.00	HMA	Centerline			39.75	0.0				
IA 92	254+00.00	280+78.00	HMA	Centerline			26.78	0.0				
IA 92	284+10.00	517+37.00	HMA	Centerline			233.27	0.0				
IA 92	520+04.00	531+79.00	HMA	Centerline			11.75	0.0				
IA 92	178+50.00	218+25.00	HMA	Left Shoulder	8"		39.75	0.0	4.0	6.0		Rumble Stripes (1)
IA 92	254+00.00	280+78.00	HMA	Left Shoulder	8"		26.78	0.0	4.0	6.0		Rumble Stripes (1)
IA 92	284+10.00	517+37.00	HMA	Left Shoulder	8"		233.27	0.0	4.0	6.0		Rumble Stripes (1)
IA 92	520+04.00	531+79.00	HMA	Left Shoulder	8"		11.75	0.0	4.0	6.0		Rumble Stripes (1)
IA 92	178+50.00	218+25.00	HMA	Right Shoulder	8"		39.75	0.0	4.0	6.0		Rumble Stripes (1)
IA 92	254+00.00	280+78.00	HMA	Right Shoulder	8"		26.78	0.0	4.0	6.0		Rumble Stripes (1)
IA 92	284+10.00	517+37.00	HMA	Right Shoulder	8"		233.27	0.0	4.0	6.0		Rumble Stripes (1)
IA 92	520+04.00	531+79.00	HMA	Right Shoulder	8"		11.75	0.0	4.0	6.0		Rumble Stripes (1)
				DIVISION 1, RURAL		**PCC**	**HMA**	**Fog Seal**				
				HMA Shoulders			**623.10**	**0.0**				Rumble Stripes (1)
				PCC Shoulders		**0.00**						
				PCC or HMA Shoulders		**0.00**	**0.00**	**0.0**				
				HMA Centerlines			**311.55**					
				PCC Centerlines		**0.00**						
				PCC or HMA Centerlines		**0.00**	**0.00**					

NOTES:
(1) Refer to Modified Standard Road Plan PV-12 on U Sheets for Rumble Stripe details. Fog Seal shall not be utilized on Rumble Stripes since Fog Seal negatively effects adhesion of pavement markings.

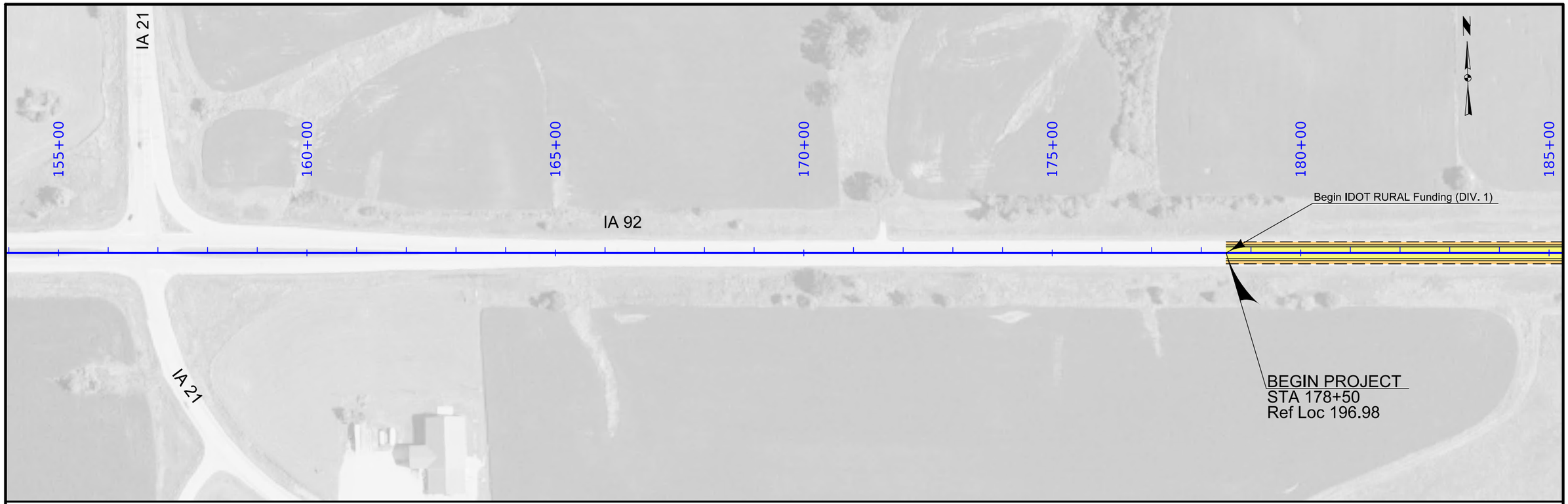
PAVEMENT MARKING LINE TYPES

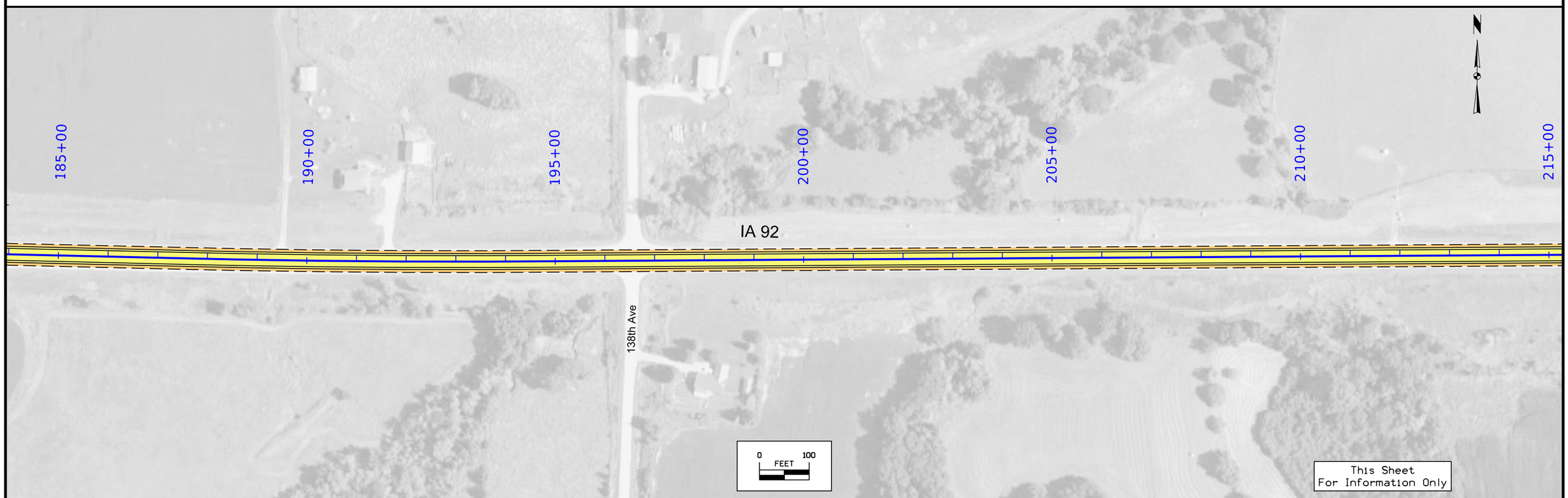
See PM-110

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

BCY4: Broken Centerline (Yellow) @ 0.25 DCY4: Double Centerline (Yellow) @ 2.00 NPY4: No Passing Zone Line (Yellow) @ 1.25 ELW4: Edge Line Right (White) @ 1.00 MNY4: Median Nose (Yellow) @ 1.00

Location								Length by Line Type (Unfactored)														Remarks
Road ID	Station to Station		Dir. of Travel	Marking Type	Side			BCY4*	DCY4	NPY4**	ELW4	MNY4***									# APPLICATIONS	TOTAL STA	
					L	C	R	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA			
DIVISION 1 - RURAL																							
IA 92	178+50.00	182+15.00	EB	Waterborne/Solvent Paint		X				3.65											3.00	10.95	
IA 92	182+15.00	191+95.00	WB	Waterborne/Solvent Paint		X				9.80											3.00	29.40	
IA 92	191+95.00	218+25.00	BOTH	Waterborne/Solvent Paint		X		26.30													3.00	78.90	
IA 92	254+00.00	263+43.00	WB	Waterborne/Solvent Paint		X				9.43											3.00	28.29	
IA 92	263+43.00	294+50.00	BOTH	Waterborne/Solvent Paint		X		31.07													3.00	93.21	
IA 92	294+50.00	304+20.00	EB	Waterborne/Solvent Paint		X				9.70											3.00	29.10	
IA 92	304+20.00	309+95.00	BOTH	Waterborne/Solvent Paint		X			5.75												3.00	17.25	
IA 92	309+95.00	319+25.00	WB	Waterborne/Solvent Paint		X				9.30											3.00	27.90	
IA 92	319+25.00	323+56.00	BOTH	Waterborne/Solvent Paint		X		4.31													3.00	12.93	
IA 92	323+56.00	332+62.00	EB	Waterborne/Solvent Paint		X				9.06											3.00	27.18	
IA 92	343+35.00	385+67.00	BOTH	Waterborne/Solvent Paint		X		42.32													3.00	126.96	
IA 92	385+67.00	394+12.00	EB	Waterborne/Solvent Paint		X				8.45											3.00	25.35	
IA 92	394+12.00	408+80.00	BOTH	Waterborne/Solvent Paint		X			14.68												3.00	44.04	
IA 92	408+80.00	412+11.00	WB	Waterborne/Solvent Paint		X				3.31											3.00	9.93	
IA 92	412+11.00	426+83.00	BOTH	Waterborne/Solvent Paint		X		14.72													3.00	44.16	
IA 92	426+83.00	436+42.00	EB	Waterborne/Solvent Paint		X				9.59											3.00	28.77	
IA 92	436+42.00	440+00.00	BOTH	Waterborne/Solvent Paint		X			3.58												3.00	10.74	
IA 92	440+00.00	449+50.00	WB	Waterborne/Solvent Paint		X				9.50											3.00	28.50	
IA 92	449+50.00	489+50.00	BOTH	Waterborne/Solvent Paint		X		40.00															
IA 92	489+50.00	499+35.00	EB	Waterborne/Solvent Paint		X				9.85											3.00	29.55	
IA 92	499+35.00	508+15.00	WB	Waterborne/Solvent Paint		X				8.80											3.00	26.40	
IA 92	508+15.00	522+00.00	BOTH	Waterborne/Solvent Paint		X		13.85													3.00	41.55	
IA 92	522+00.00	531+79.00	EB	Waterborne/Solvent Paint		X				9.79											3.00	29.37	
																					3.00	0.00	
IA 92	178+50.00	218+25.00	EB	Waterborne/Solvent Paint			X				39.75										3.00	119.25	
IA 92	254+00.00	531+79.00	EB	Waterborne/Solvent Paint			X				277.79										3.00	833.37	
IA 92	178+50.00	218+25.00	WB	Waterborne/Solvent Paint	X						39.75										3.00	119.25	
IA 92	254+00.00	531+79.00	WB	Waterborne/Solvent Paint	X						277.79										3.00	833.37	
				DIVISION 1 - RURAL																			
IA 92	254+00.00	531+79.00	WB	Waterborne/Solvent Paint	X						277.79										3.00	833.37	
				DIVISION 1 - RURAL																			
				Factored Total: Waterborne/Solvent Paint				99.43	144.06	413.36	1905.24	-	-	-	-	-	-	-	-	-	-	-	Includes Temp+Final Applics.
				Bid Quantity: Painted Pavement Markings, Waterborne or Solvent-Based							2562.09												DIVISION 1: IDOT RURAL





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215+00
220+00
225+00
230+00
235+00
145th Ave
240+00
245+00
IA 92
STOP RESURFACING
STA 218+25
Ref Loc 197.74
County Road V33

245+00
250+00
255+00
260+00
150th Ave
265+00
270+00
275+00
IA 92
RESUME RESURFACING
STA 254+00
Ref Loc 198.42
150th Ave
0 100
FEET
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For Information Only

FILE NO.	ENGLISH	DESIGN TEAM HOLST / BAHR / CAMPBELL	KEOKUK COUNTY	PROJECT NUMBER NHSX-092-8(43)--3H-54	SHEET NUMBER D.2

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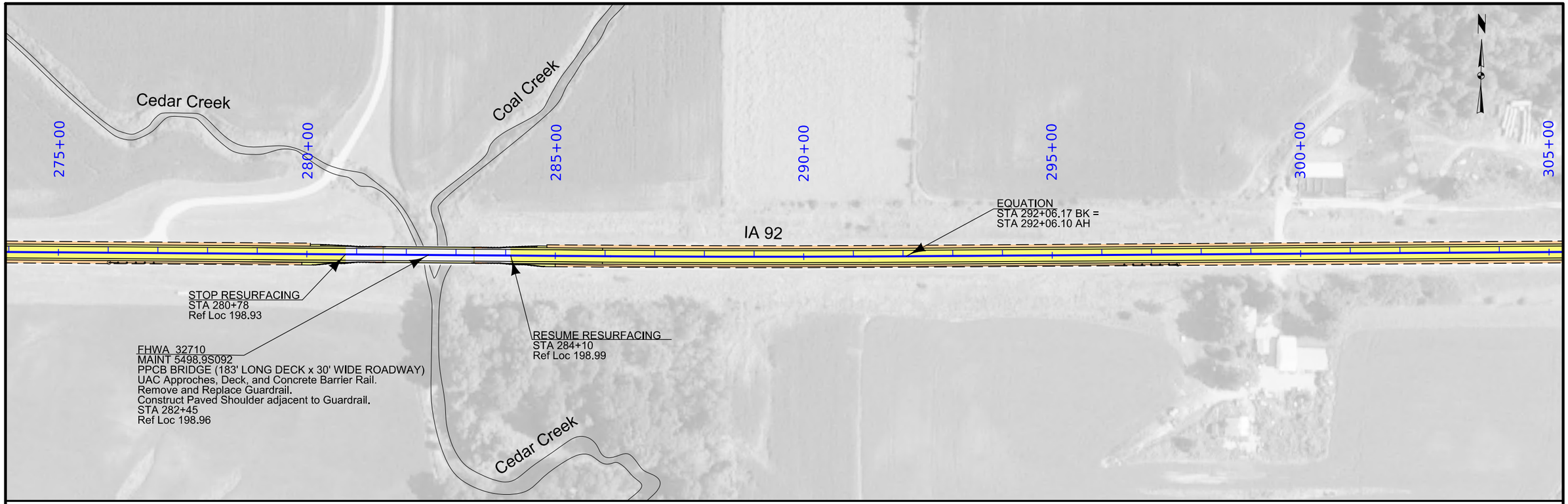

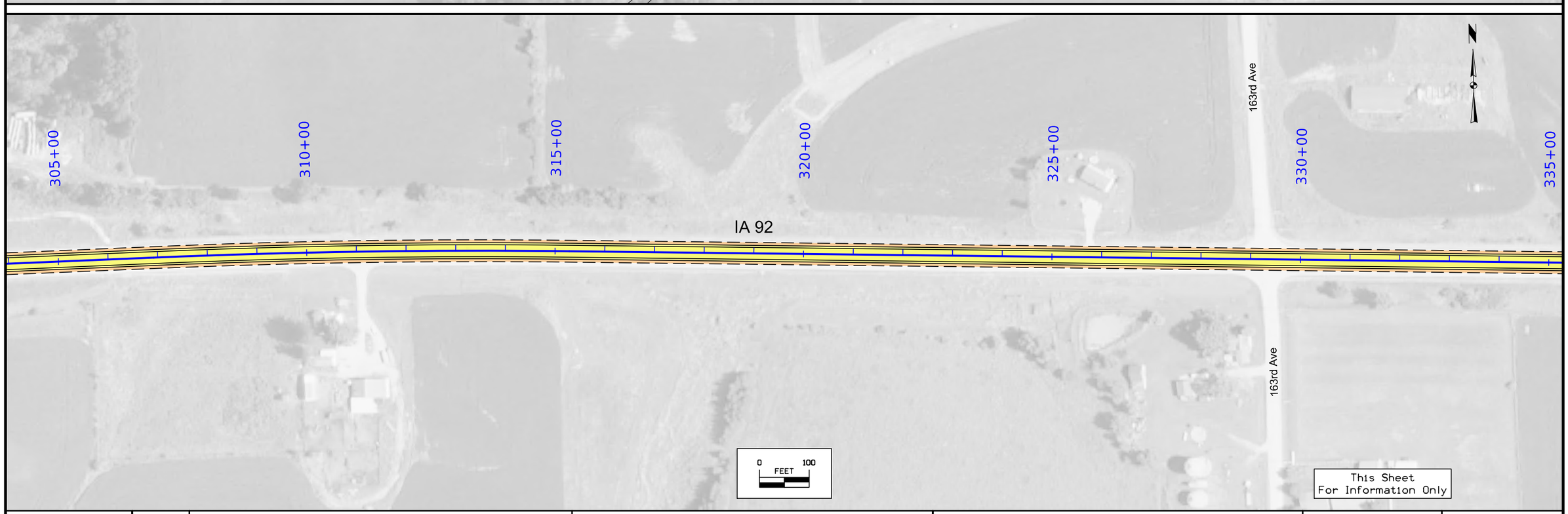

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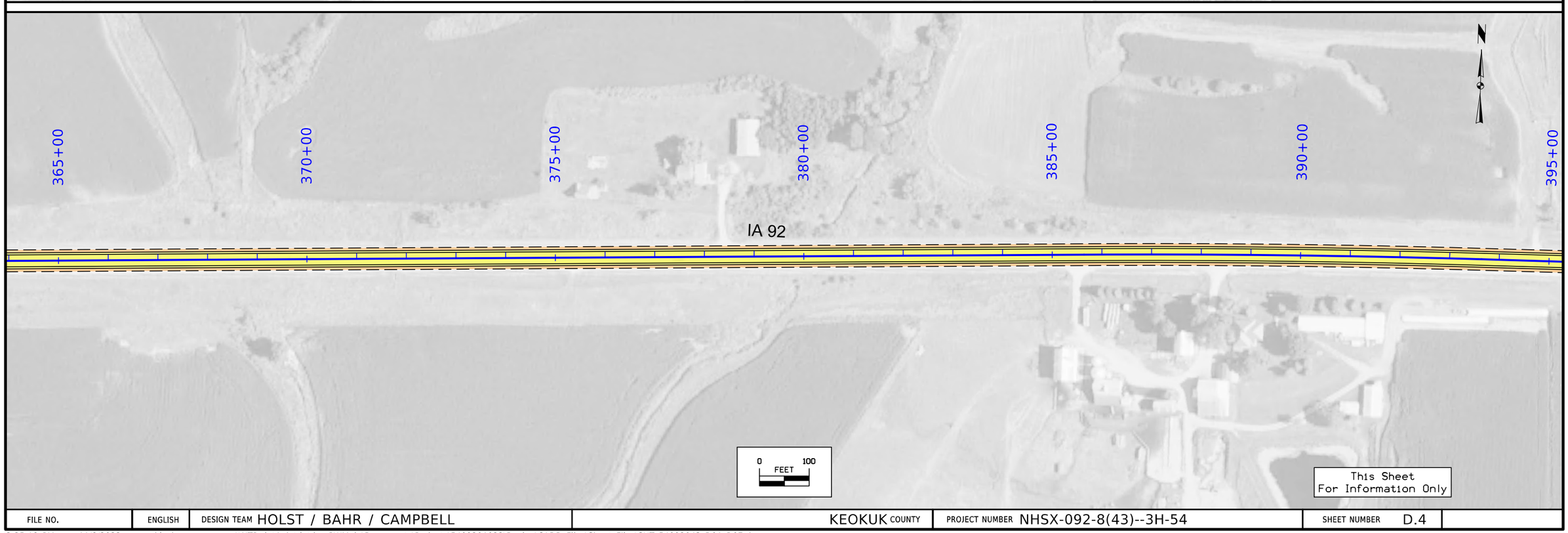

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395+00

400+00

405+00

410+00

415+00

420+00

180th Ave

425+00

IA 92

180th Ave

425+00

430+00

435+00

440+00

445+00

450+00

455+00

IA 92

0 100
FEET

This Sheet
For Information Only

FILE NO.	ENGLISH	DESIGN TEAM HOLST / BAHR / CAMPBELL	KEOKUK COUNTY	PROJECT NUMBER NHSX-092-8(43)--3H-54	SHEET NUMBER D.5

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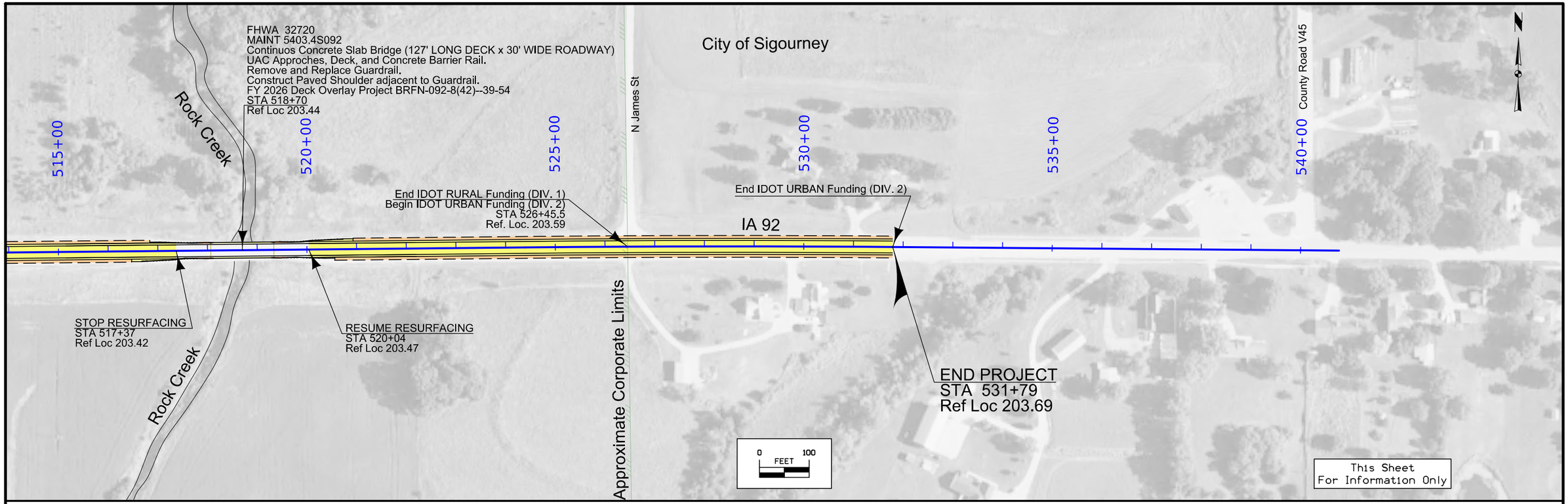

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108-23A
08-01-08

TRAFFIC CONTROL PLAN

1. Through traffic on IA 92 shall be maintained at all times.

2. Access to all properties shall be maintained at all times.

3. The following Special Events are expected to take place in the vicinity of this project:
   a. What Cheer Flea Market; begins with event in early May and held again in early August and late September/early October
   b. Keokuk County Fair; July 7-9, 2023, held in the City of What Cheer

   NOTE: The Contractor shall be responsible for contacting City officials prior to the events to confirm dates and plan not to work those dates. The Contractor shall allow normal traffic operations within the City of What Cheer during the duration of the Special Events.

4. The detail on J.2 is the Traffic Control Plan for Centerline Rumble Strip installation on HMA surfaces. Pavement markings shall be replaced within 48 hours of removal.

5. If necessary to complete sideroad pavement replacement; lane closures and street closures shall be in accordance with TC-212, TC-251, and TC-252. Safety Closures or Type III barricades placed to protect work area will not be counted or paid for separately.

6. The Detour Route of Tied Project NHSX-092-8(036)—3H-54 and the Traffic Control of this (43) project shall be constructed in a manner to prevent having traffic detoured to Iowa 22 while Iowa 22 has Traffic Control in operation for 1 Lane at a time for Project STPN-022-1(10)--2J-54 (PIN 17-54-022-010; March 21, 2023 Bid Letting). See Tab 111-01.

111-01
04-17-12

COORDINATED OPERATIONS

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

Project	Type of Work
STPN-022-1(10)--2J-54	Microsurfacing (IA 21 to West of Broadway St in South English)

108-25
10-21-14

511 TRAVEL RESTRICTIONS

Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No., Structure ID, or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
IA 92	BOTH	Keokuk	East of IA 21 to 200th Street in Sigourney		Traffic Control Device		Horizontal	N/A	12'	11'	N/A	(1)

NOTES:
(1) Restriction is during HMA Resurfacing operation.

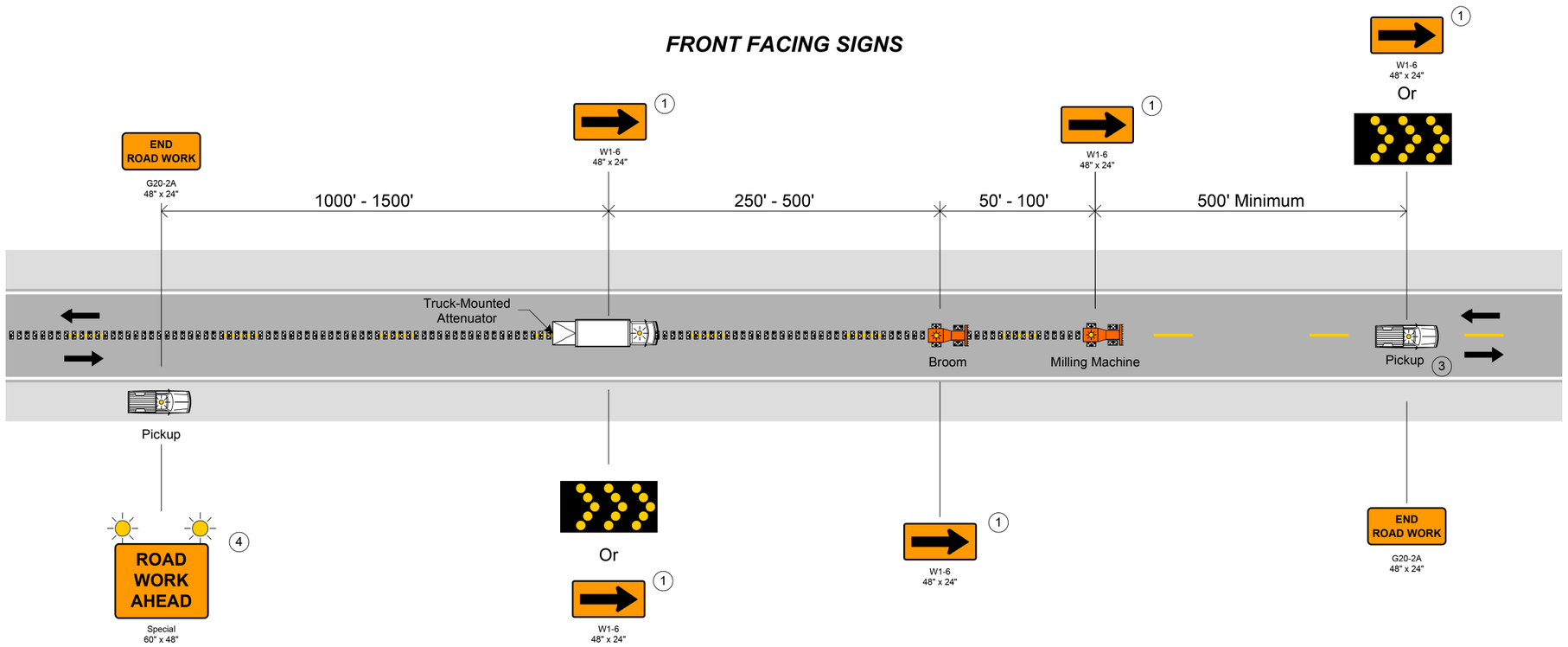
108-26A
08-01-08

STAGING NOTES

Suggested Sequence of Construction:
1. Clearing and Grubbing, Culvert Repair, and Patching shall be performed prior to other work on this project.

Note: Pavement Markings shall be placed on each driveable surface as construction progresses.

FRONT FACING SIGNS



REAR FACING SIGNS

All vehicles shall be equipped with an amber revolving light or an amber strobe light.

(1) Optional SYG sign background

(2) This arrow display may be operated in a four-corner caution mode.

(3) This vehicle should move to the shoulder to accommodate passing traffic.

(4) A vehicle-mounted CMS may be used in lieu of this sign.

01-17-19

CENTERLINE
RUMBLE STRIPS
TWO-LANE

ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Roadside	
1	2601-2634100	MULCHING	ACRE	22	Perform mulching according to Article 2601.03, E, 2, of the Standard Specifications. Anchor mulch into the soil using mulch anchoring equipment with a minimum of two passes. Item is included for areas requiring reshaping and seedbed preparation except where slope protection has been applied. Use mulch that is Certified Noxious Weed Seed Free Mulch as certified by the Iowa Crop Improvement Association or adjacent states Crop Improvement Associations. Mulch Rate: 1 1/2 tons of dry cereal straw or native grass straw per acre.
2	2601-2636043	SEEDING AND FERTILIZING (RURAL)	ACRE	11	Seed and fertilize all areas 8 foot adjacent to the shoulder mainline, medians, and side according to Article 2601.03, C, 3, of the Standard Specifications. Use ground driven equipment.
3	2601-2642100	STABILIZING CROP - SEEDING AND FERTILIZING	ACRE	11	Item is included for disturbed areas. Seed and fertilize all disturbed areas according to Article 2601.03, C, 1, of the Standard Specifications. If permanent seeding cannot be placed due to the restrictive planting dates, stabilizing crop will need to be placed on all disturbed areas as temporary erosion control. Preparation and seeding shall be performed in accordance with Section 2601. Stabilizing crop will not be used when the application dates in Section 2601 allows permanent seeding. If stabilizing crop must be used, place immediately following completions of finished grading. Reseeding of these areas will be required at contractors expense if damage occurs due to contractors negligence during the contract period. It is not necessary to place stabilizing crop in locations that have be covered by Wood Excelsior Mat.
4	2602-0000150	STABILIZED CONSTRUCTION ENTRANCE, EC-303	LF	800	
5	2602-0000312	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA.	LF	2,000	Item is included for temporary perimeter sediment control, inlet protection, and water velocity reduction on slopes or ditches at locations to be determined during construction. Verify specific locations with the Engineer prior to beginning placement.
6	2602-0000320	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 20 IN. DIA.	LF	2,000	
7	2602-0000351	REMOVAL OF PERIMETER AND SLOPE OR DITCH CHECK SEDIMENT CONTROL DEVICE	LF	4,000	

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INDEX OF TABULATIONS

Tabulation	Tabulation Title	Sheet No.
RC Sheets		
	ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES	RC.1
105-4	STANDARD ROAD PLANS	RC.2
110-12	POLLUTION PREVENTION PLAN	RC.2 - RC.3
111-25	INDEX OF TABULATIONS	RC.2
281-3	STORM WATER BEST MANAGEMENT PRACTICES	RC.2

105-4
10-18-11

STANDARD ROAD PLANS

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

Number	Date	Title
EC-204	10-19-21	Perimeter, Slope and Ditch Check Sediment Control Devices
EC-303	10-19-21	Stabilized Construction Entrance
EC-502	04-21-15	Seeding in Rural Areas

281-3
10-17-17

STORM WATER BEST MANAGEMENT PRACTICES

When the following best management practices are used, they are intended to account for disturbed areas where storage volume cannot be provided: Perimeter and Slope Sediment Control Devices and Seeding.

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POLLUTION PREVENTION PLAN

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

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

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

I. ROLES AND RESPONSIBILITES
- A. Designer:
  1. Prepares Base PPP included in the project plan.
  2. Prepares Notice of Intent (NOI) submitted to Iowa DNR.
  3. Is signature authority on the Base PPP. If consultant designed, signature from Contracting Authority is also required.
- B. Contractor:
  1. Signs a co-permittee certification statement adhering to the requirements of the NPDES permit and this PPP. All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP.
  2. Designates a Water Pollution Control Manager (WPCM), who has the duties and responsibilities as defined in Section 2602 of the Standard Specifications.
  3. Submits an Erosion Control Implementation Plan (ECIP) and ECIP updates according to Section 2602 of the Standard Specifications.
  4. Installs and maintains appropriate controls. This work may be subcontracted as documented through Subcontractor Request Forms (Form 830231).
  5. Supervises and implements good housekeeping practices according to Paragraph III, C, 2.
  6. Conducts joint required inspections of the site with inspection staff. When Contractor is not mobilized on site, Contractor may delegate this responsibility to a trained or certified subcontractor. Contracting Authority also may waive joint inspection requirement during winter shutdown. In both circumstances, WPCM (or trained or certified delegate from the Contractor) is still responsible to review and sign inspection reports.
  7. Complies with training and certification requirements of Section 2602 of the Standard Specifications.
  8. Submits amended PPP site map according to Section 2602 of the Standard Specifications.
- C. Subcontractors:
  1. Sign a co-permittee certification statement adhering to the requirements of the NPDES permit and this PPP if: responsible for sediment or erosion controls; involved in land disturbing activities; or peroming work that is a source of potential pollution as defined in this PPP. Subcontracted work items are identified in Subcontractor Request Forms (Form 830231). All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP.
  2. Implement good housekeeping practices according to Paragraph III, C, 2.
- D. RCE/Project Engineer:
  1. Is Project Storm Water Manager.
  2. On projects where DOT is the Contracting Authority, is current with erosion control training or certification.
  3. Takes actions necessary to ensure compliance with storm water requirements including, where appropriate, issuing stop work orders, and directing additional inspections at construction project sites that are experiencing problems with achieving permit compliance.
  4. Orders the taking of measures to cease, correct, prevent, or minimize the consequences of non-compliance with the storm water requirements of the Applicable Permit.
  5. Supervises all work necessary to meet storm water requirements at the Project, including work performed by contractors and subcontractors.
  6. Requires employees, contractors, and subcontractors to take appropriate responsive action to comply with storm water requirements, including requiring any such person to cease or correct a violation of storm water requirements, and to order or recommend such other actions as necessary to meet storm water requirements.
  7. Is familiar with the Project PPP and storm water site map.
  8. On projects where DOT is Contracting Authority, is responsible for periodically monitoring inspection reports to determine whether deficiencies identified in inspection reports were adequately and timely addressed, and if not, has the authority and responsibility to direct immediate actions to correct the deficiencies.

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10-20-20

POLLUTION PREVENTION PLAN

  9. Is the point of contact for the Project for regulatory officials, Inspector, contractors, and subcontractors regarding storm water requirements.
  10. Is signature authority on Notice of Discontinuation.
  11. Maintains an up-to-date record of contractors, subcontractors, and subcontracted work items through Subcontractor Request Forms (Form 830231).
  12. Makes information to determine permit compliance available to the DNR upon their request.
- E. Inspector:
  1. Updates PPP through fieldbook entries and storm water site inspection reports if there is a change in design, construction, operation, or maintenance which has a significant effect on the discharge of pollutants from the project.
  2. Makes information to determine permit compliance available to the DNR upon their request.
  3. Conducts joint required inspections of the site with the contractor/subcontractor.
  4. Completes an inspection report after each inspection.
  5. Is signature authority on storm water inspection reports.

II. PROJECT SITE DESCRIPTION
- A. This Pollution Prevention Plan (PPP) is for the construction of HMA Resurfacing in Keokuk County.
- B. This PPP covers approximately 125.2 acres with an estimated 3.6 acres being disturbed. The portion of the PPP covered by this contract has 3.6 acres disturbed.
- C. The PPP is located in an area of Otley – Ladoga soil association. The estimated weighted average runoff coefficient number for this PPP after completion will be 0.33.
- D. Storm Water Site Map is located in the R sheets. Proposed slopes are shown in cross sections, details, or standard road plans. Supplemental information is located in the Tabulations in the C or CE sheets.
- E. The base storm water site map is amended by contract modifications and progress payments (fieldbook entries) of completed erosion control work. Also, due to project phasing, erosion and sediment controls shown on project plans may not be installed until needed, based on site conditions. For example, silt fence ditch checks will typically not be installed until the ditch has been installed. Installed locations may also be modified from tabulation locations by field staff. Installed locations will be documented by fieldbook entries and amended PPP site map.
- F. Runoff from this work will flow into Coal Creek, Cedar Creek and Rock Creek.

III. CONTROLS
- A. The Contractor’s ECIP specified in Article 2602.03 of the Standard Specifications for accomplishment of storm water controls should clearly describe the intended sequence of major activities, and for each activity define the control measure and the timing during the construction process that the measure will be implemented.
- B. Preserve vegetation in areas not needed for construction.
- C. Sections 2601 and 2602 of the Standard Specifications define requirements to implement erosion and sediment control measures. Actual quantities used and installed locations may vary from the Base PPP and amendment of the plan will be documented via fieldbook entries, amended PPP site map, or by contract modification. Additional erosion and sediment control items may be required as determined by the inspector and/or contractor during storm water site inspections. If the work involved is not applicable to any contract items, the work will be paid for according to Article 1109.03 paragraph B of the Standard Specifications.
  1. EROSION AND SEDIMENT CONTROLS
     - a. Stabilization Practices
       1) Site plans will ensure that existing vegetation or natural buffers are preserved where attainable and disturbed portions of the site will be stabilized.
       2) Initialize stabilization of disturbed areas immediately after clearing, grading, excavating, or other earth disturbing activities have:
          a) Permanently ceased on any portion of the site, or
          b) Temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days.
       3) Staged permanent and/or temporary stabilizing seeding and mulching shall be completed as the disturbed areas are completed. Incomplete areas shall be stabilized according to paragraph III, C, 1, a, 2, b above.
       4) Permanent and Temporary Stabilization practices to be used for this project are located in the storm water site map, Estimated Project Quantities (100-0A, 100-1A, or 100-1C), and Estimate Reference Information (100-4A) located in the C or R sheets. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation (105-4) in the C or R sheets.
       5) Preservation of existing vegetation within right-of-way or easements will act as vegetative buffer strips.
       6) Preservation of topsoil: Bid items to be used for this project are located in the Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C or R sheets. Additional information may be found in the Tabulations in the C or T Tabulation sheets, or is referenced in Section 2105 of the Standard Specifications.
     - b. Structural Practices

POLLUTION PREVENTION PLAN

1) Structural practices will be implemented to divert flows from exposed soils and detain or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Additionally, structural practices may include: silt basins that provide 3600 cubic feet of storage per acre drained or equivalent sediment controls, outlet structures that withdraw water from surface when discharging basins, and controls to direct storm water to vegetated areas.
2) Structural practices to be used for this project are located in the storm water site map, Estimated Project Quantities (100-0A, 100-1A, or 100-1C), and Estimate Reference Information (100-4A) located in the C or R sheets, as well as all other item specific Tabulations. Typical drawings detailing construction of the devices to be used on this project can be found on the B or R sheets or are referenced in the Standard Road Plans Tabulation (105-4) located in the C or R sheets.

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

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

a. Vehicle Entrances and Exits - Construct and maintain entrances and exits to prevent tracking of sediments onto roadways.
b. Material Delivery, Storage and Use - Implement practices to prevent discharge of construction materials during delivery, storage, and use.
c. Stockpile Management - Install controls to reduce or eliminate pollution of storm water from stockpiles of soil and paving.
d. Waste Disposal - Do not discharge any materials, including building materials, into waters of the state, except as authorized by a Section 404 permit.
e. Spill Prevention and Control - Implement chemical spill and leak prevention and response procedures to contain and clean up spills and prevent material discharges to the storm drain system and waters of the state.
f. Concrete Residuals and Washout Wastes - Waste shall not be discharged to a surface water and is not allowed to adversely affect a water of the state. Designate temporary concrete washout facilities for rinsing out concrete trucks. Provide directions to truck drivers where designated washout facilities are located. Designated washout areas should be located at least 50 feet away from storm drains, streams or other water bodies. Care should be taken to ensure these facilities do not overflow during storm events.
g. Concrete Grooving/Grinding Slurry – Do not discharge slurry to a waterbody or storm drain. Slurry may be applied on foreslopes or removed from the project.
h. Vehicle and Equipment Storage and Maintenance Areas - Perform on site fueling and maintenance in accordance with all environment laws such as proper storage of onsite fuels and proper disposal of used engine oil or other fluids on site. Employ washing practices that prevent contamination of surface and ground water from wash water. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge.
i. Litter Management - Ensure employees properly dispose of litter. Minimize exposure of trash if exposure to precipitation or storm water would result in a discharge of pollutants.
j. Dewatering – Properly treat water to remove suspended sediment before it re-enters a waterbody or discharges off-site. Measures are also to be taken to prevent scour erosion at dewatering discharge point.

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

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

V. INSPECTION REQUIREMENTS
A. Inspections shall be made jointly by the Contractor and the Contracting Authority's inspector at least once every seven calendar days. Storm water site inspections will include:
1. Date of the inspection.
2. Summary of the scope of the inspection.
3. Name and qualifications of the personnel making the inspection.
5. Review of erosion and sediment control measures within disturbed areas for the effectiveness in preventing impacts to receiving waters.
6. Major observations related to the implementation of the PPP.
7. Identification of corrective actions required to maintain or modify erosion and sediment control measures.

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

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

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

VIII. DEFINITIONS
A. Base PPP - Initial Pollution Prevention Plan.
B. Amended PPP - Base PPP amended during construction. May include Plan Revisions or Contract Modifications for new items, storm water

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10-20-20

POLLUTION PREVENTION PLAN

site inspection reports, fieldbook entries made by the inspector, amended PPP site map by the Contractor, ECIP, NOI, co-permittee certifications, and Subcontractor Request Forms. Items amending the PPP are stored electronically and are readily available upon request.
C. Fieldbook Entries – This contains the inspector’s daily diary and bid item postings.
D. Controls - Methods, practices, or measures to minimize or prevent erosion, control sedimentation, control storm water, or minimize contaminants from other types of waste or materials. Also called Best Management Practices (BMPs).
E. Signature Authority - Representative authorized to sign various storm water documents.

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

LINE STYLE LEGEND OF LANDSCAPE SHEETS

LINESTYLE	Design Element
	Living Snow Fence Single Row
	Living Snow Fence Double Row
	Mechanical Edge

CELL LEGEND OF LANDSCAPE SHEETS

CELL	Design Element	Plant Diameter
	Clearing	
	Proposed Shrub	6 FT
	Proposed Understory Tree	12 FT
	Proposed Conifer Tree	18 FT
	Proposed Overstory Tree	30 FT

PATTERN LEGEND OF LANDSCAPE SHEETS

Brush Clearing	Spray Area
Clearing & Grubbing	

LINE STYLE LEGEND OF EROSION CONTROL SHEETS

LINESTYLE	Design Element
	Silt Fence
9	Perimeter and Slope Sediment Control Device (9")
12	Perimeter and Slope Sediment Control Device (12")
20	Perimeter and Slope Sediment Control Device (20")
	Open-Throat Curb Intake Sediment Filter
	Concentrated Flow
	Rock Check and Rock Check Dam
	Sheet Flow

CELL LEGEND OF EROSION CONTROL SHEETS

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

PLAN VIEW COLOR LEGEND OF EROSION CONTROL SHEETS

LINEWORK	Design Color No.	
Green	(2)	Existing Topographic Features and Labels
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Magenta	(5)	Existing Utilities
Black	(0)	Permanent Erosion Control Features
Blaze Orange	(222)	Temporary Erosion Control Features

SHADING	Design Color No.		Transparency
Citron	(234)	Mulching, All Types	50%
Light Brown	(238)	Special Ditch Control, Wood Excelsior Mat	0%
Grass Green	(233)	8FT Mow Strip	50%

PATTERN LEGEND OF EROSION CONTROL SHEETS

Pattern	Design Element	Pattern	Design Element
	Seeding and Fertilizing	01	Turf Reinforcement Mat Type 1
R	Seeding and Fertilizing (Rural)	02	Turf Reinforcement Mat Type 2
U	Seeding and Fertilizing (Urban)	03	Turf Reinforcement Mat Type 3
N	Native Grass Seeding	04	Turf Reinforcement Mat Type 4
ST	Salt Tolerant Seeding	S	Slope Protection, Wood Excelsior Mat
WL	Wetland Grass Seeding	TM	Transition Mat
WF	Wildflower Seeding	P	Rock Features, Permanent
SOD	Sodding	T	Rock Features, Temporary

EROSION CONTROL LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES R)

FILE NO.	ENGLISH	DESIGN TEAM Holst/Pohlen/McDonald	Keokuk COUNTY	PROJECT NUMBER NHSX-092-8(43)--3H-54	SHEET NUMBER RR.1

FILE NO.	ENGLISH	DESIGN TEAM Holst/Pohlen/McDonald	Keokuk COUNTY	PROJECT NUMBER NHSX-092-8(43)--3H-54	SHEET NUMBER RR.2

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FILE NO.	ENGLISH	DESIGN TEAM Holst/Pohlen/McDonald	Keokuk COUNTY	PROJECT NUMBER NHSX-092-8(43)--3H-54	SHEET NUMBER RR.3	

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FILE NO.	ENGLISH	DESIGN TEAM Holst/Pohlen/McDonald	Keokuk COUNTY	PROJECT NUMBER NHSX-092-8(43)--3H-54	SHEET NUMBER RR.6	

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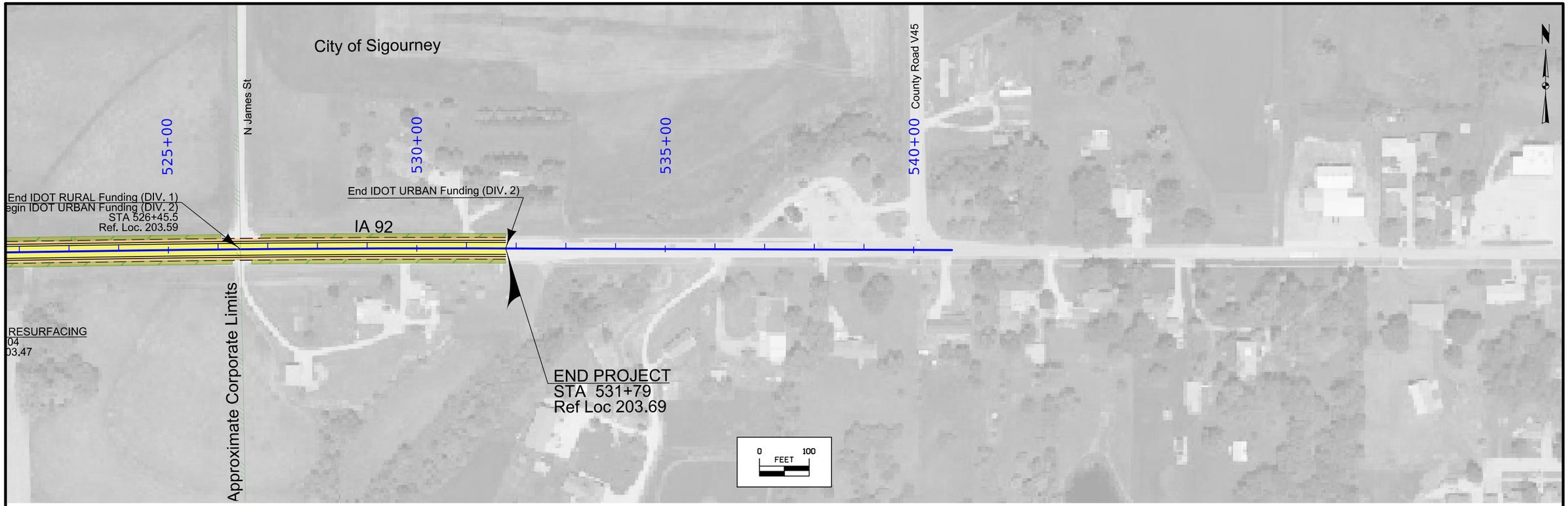

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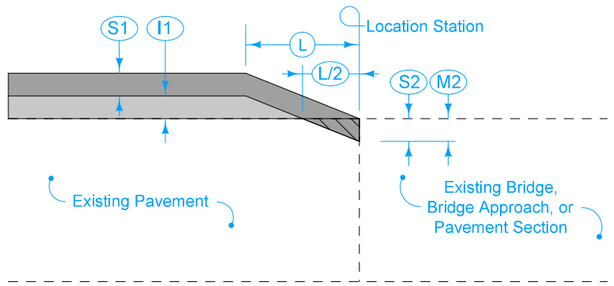

TYPE 'N3-M1'
SURFACE NOTCH - INTERMEDIATE
RUNOUT FOR DOUBLE COURSE RESURFACING

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

Posted Speed Limit (mph)	Runout Ratio (ft per inch)
Over 40	50
20 to 40	25
Under 20	10*

* Based on turning maneuvers
at side roads and intersections.

Contract Item:
Pavement Scarification

Tabulations:
100-25
102-16

MODIFIED
STANDARD ROAD PLAN

REVISION	
NEW	10-13-22

PR-202
SHEET 1 of 1

REVISIONS: Created notch 'N3-M1.
Removed notches not applicable to this project.

NOTCHES FOR RESURFACING
(WITH OR WITHOUT RUNOUT)

FILE NO.	ENGLISH	DESIGN TEAM HOLST / BAHR / CAMPBELL	KEOKUK COUNTY	PROJECT NUMBER NHSX-092-8(43)--3H-54	SHEET NUMBER U.1	

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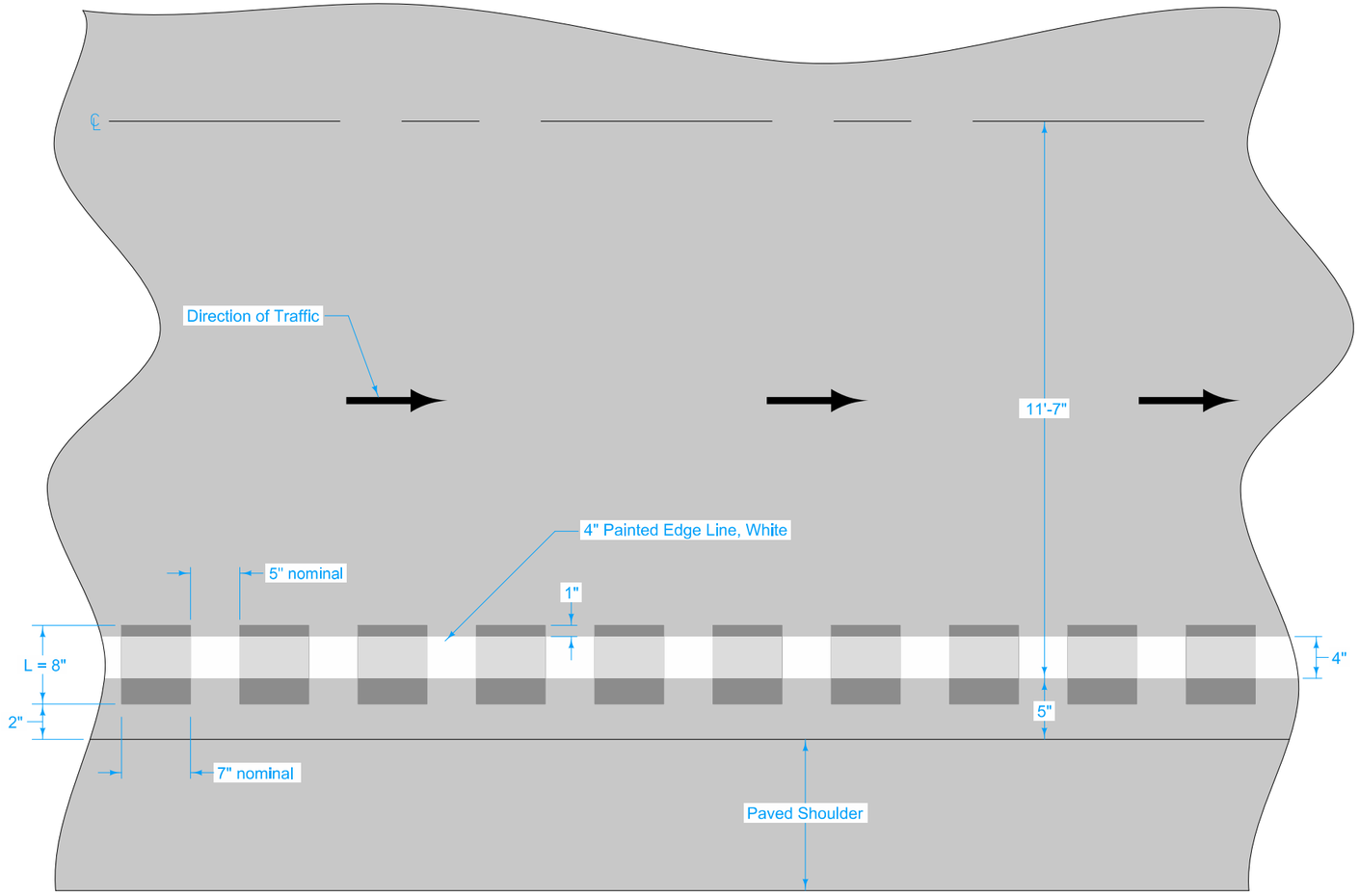
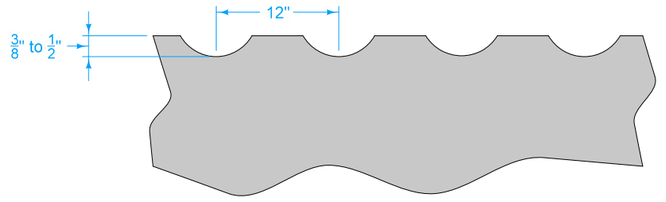
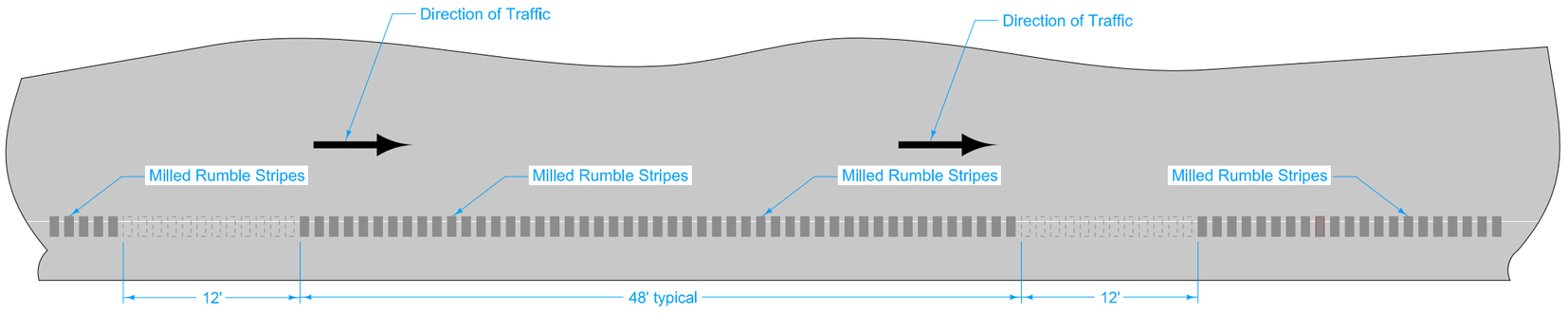


PLAN



SECTION

MILLED RUMBLE STRIPE



GAP DETAILS

Contract Items:
Milled Shoulder Rumble Strips, HMA Surface

Tabulation:
112-10

MODIFIED

STANDARD ROAD PLAN

REVISION	
New	10-13-22

PV-12

SHEET 1 of 2

MODIFICATIONS: Replaced Rumble Strips with Rumble Stripes.
Removed Asphalt Emulsion for Fog Seal.
Removed details and references not applicable to this project (PCC, Interstates, Median Shoulders, Divided Highways, Ramps, Pedestrian Crossings, and Railroad Crossings).
Added Dimensions related to Centerline, Edge Line Pavement Marking, and Shoulder Pavement.

MILLED SHOULDER RUMBLE STRIPES

FILE NO.	ENGLISH	DESIGN TEAM HOLST / BAHR / CAMPBELL	KEOKUK COUNTY	PROJECT NUMBER NHSX-092-8(43)--3H-54	SHEET NUMBER U.2

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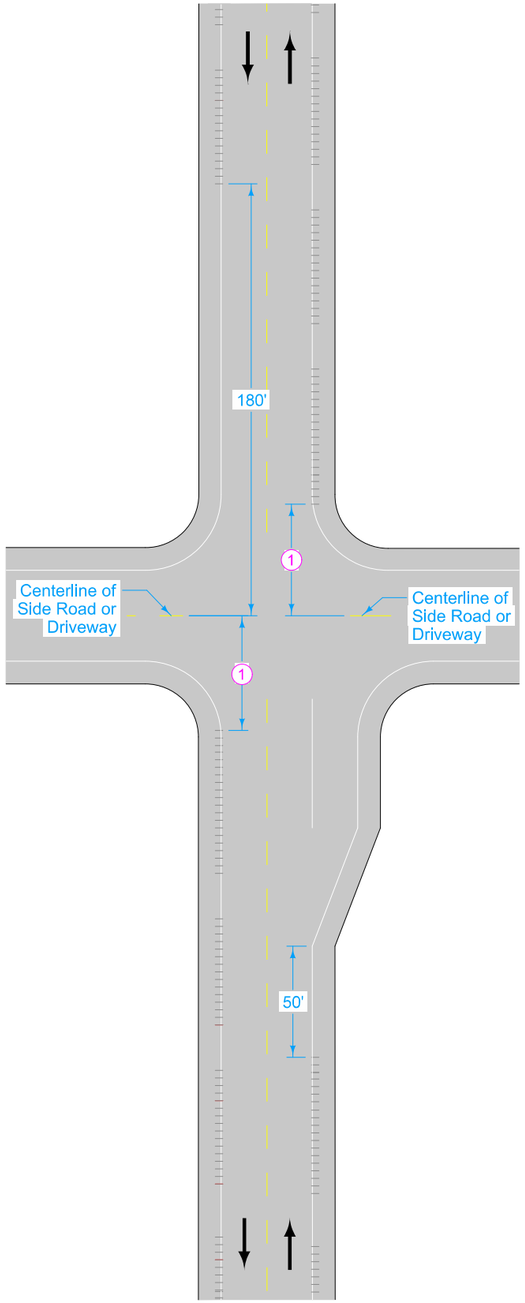
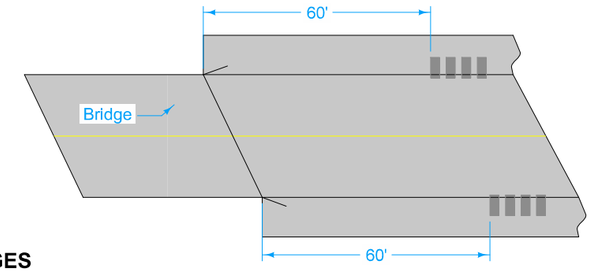


UNDIVIDED HIGHWAYS



BRIDGES

(1) Begin rumbles 100 feet beyond paved side roads or 50 feet for driveways or granular side roads.

INTERSECTION SITUATIONS

MODIFIED STANDARD ROAD PLAN

REVISION	
New	10-13-22

PV-12

SHEET 2 of 2

MODIFICATIONS: Replaced Rumble Strips with Rumble Stripes.
Removed Asphalt Emulsion for Fog Seal.
Removed details and references not applicable to this project (PCC, Interstates, Median Shoulders, Divided Highways, Ramps, Pedestrian Crossings, and Railroad Crossings).
Added Dimensions related to Centerline, Edge Line Pavement Marking, and Shoulder Pavement.

MILLED SHOULDER RUMBLE STRIPES

FILE NO.	ENGLISH	DESIGN TEAM HOLST / BAHR / CAMPBELL	KEOKUK COUNTY	PROJECT NUMBER NHSX-092-8(43)--3H-54	SHEET NUMBER U.3	

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