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PLANS OF PROPOSED IMPROVEMENT ON THE
INTERSTATE ROAD SYSTEM
POTTAWATTAMIE COUNTY
HMA Resurfacing
At Various Bridge Locations on I-80

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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



SITE 1	
DESIGN DATA RURAL	
20 24	AADT 22,400 V.P.D.
20 --	AADT -- V.P.D.
20 --	DHV -- V.P.H.
TRUCKS	40.27 %
Total	
Design ESALs	--

SITE 2	
DESIGN DATA RURAL	
20 24	AADT 20,900 V.P.D.
20 --	AADT -- V.P.D.
20 --	DHV -- V.P.H.
TRUCKS	43.01 %
Total	
Design ESALs	--

SITE 3	
DESIGN DATA RURAL	
20 24	AADT 25,000 V.P.D.
20 --	AADT -- V.P.D.
20 --	DHV -- V.P.H.
TRUCKS	40.27 %
Total	
Design ESALs	--

REVISIONS	
PROJECT IDENTIFICATION NUMBER	
26-78-000-010	
PROJECT NUMBER	
MBIN-000-4(001)19--0M-78	
R.O.W. PROJECT NUMBER	

TOTAL
10

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

Signature

Date

Travis R. Malone

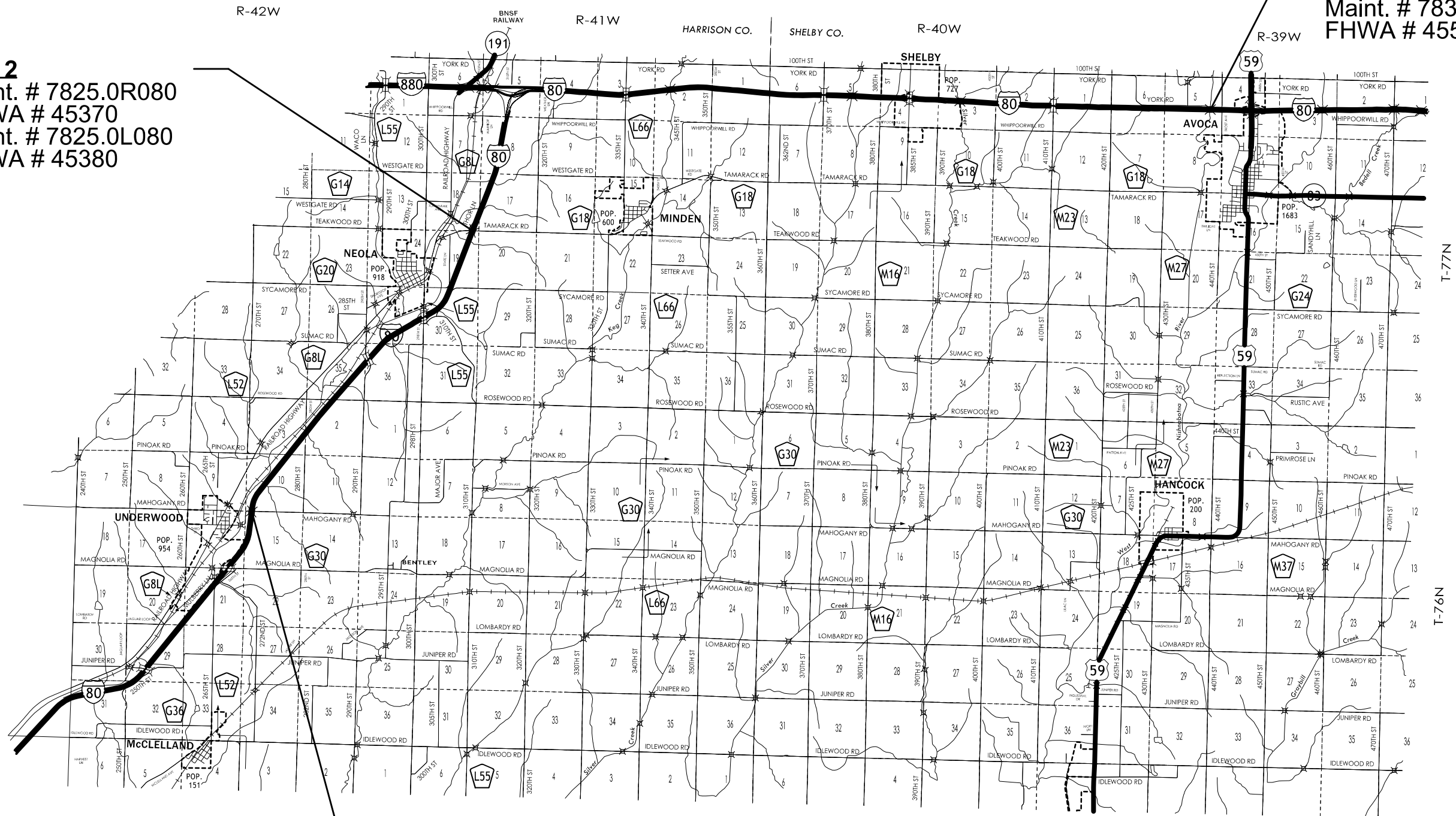
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My license renewal date is December 31, 2026

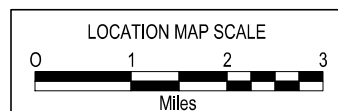
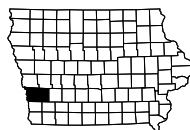
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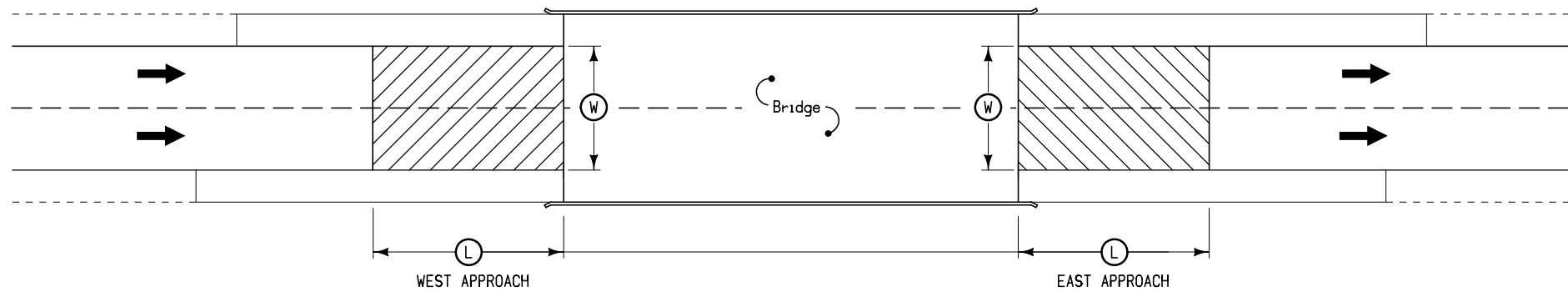
Site 2
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 FHWA # 45370
 Maint. # 7825.0L080
 FHWA # 45380

Site 3
 Maint. # 7839.5R080
 FHWA # 45531



Site 1
 Maint. # 7818.8R080
 FHWA # 45330
 Maint. # 7818.8L080
 FHWA # 45340



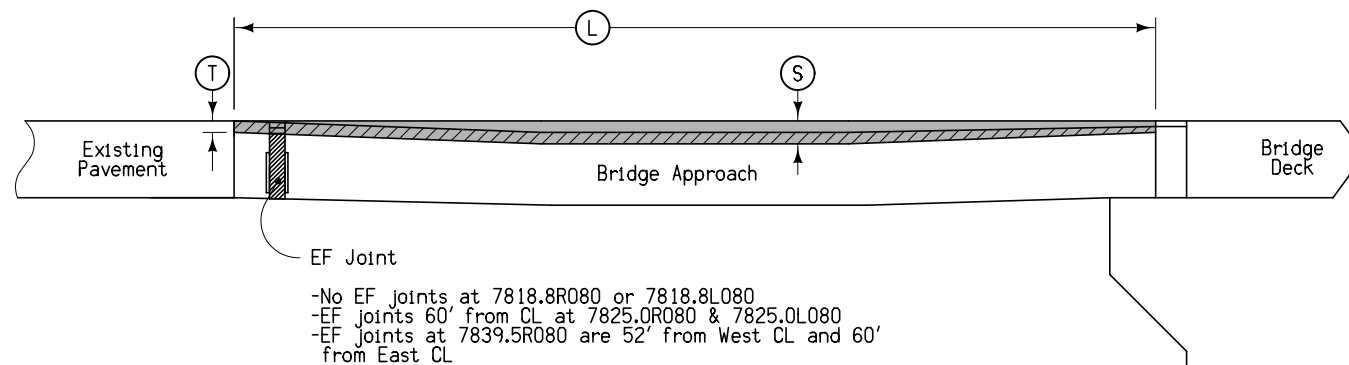


Plan View

- Ⓛ - Measured along roadway centerline.
 ▨ - Area of Milling and Leveling (Shoulders to be included)

- = HMA Resurfacing
 ▨ = Pavement Scarification

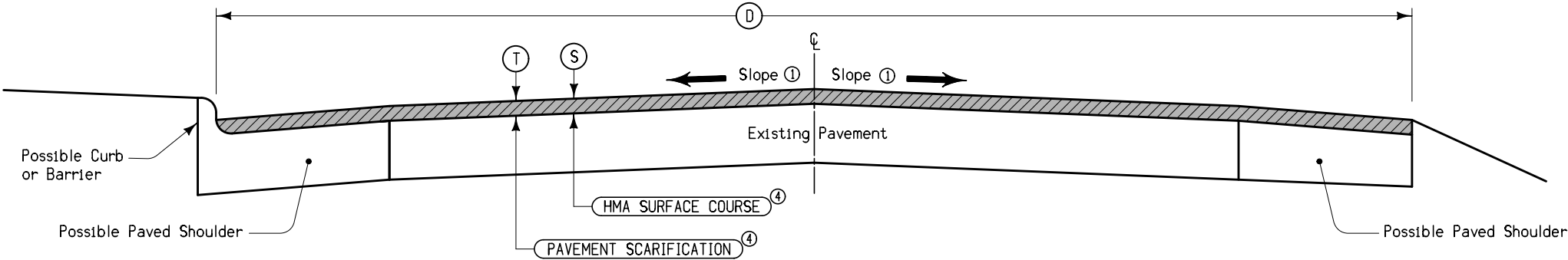
7307
MODIFIED



- Ⓛ = Approximate Length of Resurfacing.
 Ⓢ = Surface Course (Minimum 1.0" Thickness)
 Ⓣ = Pavement Scarification as needed to obtain smoothness.
 Depth of Surface Notch shall be 1.0".

LONGITUDINAL SECTION FOR
HMA RESURFACING
AT BRIDGE APPROACH

[Solid Gray Box] = HMA Resurfacing
[Hatched Box] = Pavement Scarification



- Notes:
- ① Finished slope shall match existing pavement.
 - ② Milepost indicates center of bridge.
 - ③ Not a bid item.
 - ④ Refer to Typ. 7307. Dimensions \textcircled{D} and \textcircled{L} may be adjusted by the engineer to fit existing conditions.
 - ⑤ Shape resurfacing to existing bridge end drain grate in outside shoulder.

TABLE OF DESIGN QUANTITIES Per Location												
LOCATION ②			BRIDGE MAINTENANCE NUMBER	\textcircled{D} ④	\textcircled{L} ④	\textcircled{S} ④	TACK COAT Gallons ③	ASPHALT BINDER Tons	HOT MIX ASPHALT SURFACE COURSE Tons	PAVEMENT SCARIFICATION Sq. Yds.	EXISTING PAVEMENT SURFACE	REMARKS
ROAD ID	MILEPOST	APPROACH		Feet	Feet	Inches						
I-80 EB	18.8	West	7818.8R080	40	100	1.0	22.2	1.83	30.2	444.4	PCC/HMA	Over Mahogany Road
I-80 EB	18.8	East	7818.8R080	40	50	1.0	11.1	0.91	15.1	222.2	PCC	Over Mahogany Road
I-80 WB	18.8	West	7818.8L080	40	50	1.0	11.1	0.91	15.1	222.2	PCC/HMA	Over Mahogany Road
I-80 WB	18.8	East	7818.8L080	40	180	1.0	40.0	3.26	54.4	800	PCC/HMA	Over Mahogany Road
I-80 EB	25.0	West	7825.0R080	40	70	1.0	15.6	1.26	21.1	311.1	PCC	Over Tamarack Avenue/Co Rd G18
I-80 EB	25.0	East	7825.0R080	40	85	1.0	18.9	1.54	25.7	377.8	PCC	Over Tamarack Avenue/Co Rd G18
I-80 WB	25.0	West	7825.0L080	40	85	1.0	18.9	1.54	25.7	377.8	PCC	Over Tamarack Avenue/Co Rd G18
I-80 WB	25.0	East	7825.0L080	40	70	1.0	15.6	1.26	21.1	311.1	PCC	Over Tamarack Avenue/Co Rd G18
I-80 EB	39.5	West	7839.5R080	40	80	1.0	17.8	1.45	24.2	355.6	PCC	Over East Branch West Nishnabotna River
I-80 EB	39.5	East	7839.5R080	40	80	1.0	17.8	1.45	24.2	355.6	PCC	Over East Branch West Nishnabotna River
TOTALS					850			15.41	256.8	3777.8		

DESIGN RATES	
ITEM	RATE
Surface Course	145 lbs./cu. ft.
Tack Coat	0.05 gal./sq. yd.

PROPOSED CROSS SECTION
HMA RESURFACING WITH MILLING
(BRIDGE APPROACH)

ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

Roadway Items : Roadway Items

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Roadway Items	
1	2214-5145150	PAVEMENT SCARIFICATION	SY	3,777.8	Refer to Tab 2602-A Modified. Milling shall be a 1" nominal thickness. At no point shall milling depth be greater than the top of the reinforcing steel
2	2303-0001000	HOT MIX ASPHALT MIXTURE, WEDGE, LEVELING OR STRENGTHENING COURSE	TON	256.8	Refer to Tab 2602-A Modified. HMA thickness is a nominal 1". Depth may vary due to uneven pavement surface. Finished surface shall provide smooth transition from pavement to bridge. Includes a 25% increase to account for pavement irregularities and to accomplish a smooth ride. HMA shall be Very High Traffic Surface Course, 1/2" mix, L-3 friction required.
3	2303-1258285	ASPHALT BINDER, PG 58-28V, VERY HIGH TRAFFIC	TON	15.4	Refer to Tab 2602-A Modified. Estimated at 6% of HMA Mixture.
4	2527-9263216	PAINTED PAVEMENT MARKINGS, MULTI-COMPONENT LIQUID	STA	21.24	Refer to Tab 108_22.
5	2527-9270112	GROOVES CUT FOR PAVEMENT MARKINGS	STA	21.24	Refer to Tab 108_22. This item to be used with BLW6.
6	2528-8445110	TRAFFIC CONTROL	LS	1	Refer to Traffic Control Plan.
7	2533-4980005	MOBILIZATION	LS	1	

PROJECT DESCRIPTION	100_01D 8/15/22
HMA Resurfacing of bridge approaches on I-80 over Mahogany Road (MP 18.8 EB & WB), Tamarack Avenue/Co. Rd. G18 (MP 25.0 EB & WB), and West Branch East Nishnabotna River (MP 39.5 EB only).	

STANDARDS			105_04 4/21/26
The following Standards apply to construction work on this project.			
Number	Date	Title	
PM-110	10-15-24	Line Types	
PM-115	04-15-25	Grooving for Line Types	
PR-202	10-21-14	Notches for Resurfacing (with or without Runout)	
SI-881	04-16-19	Special Signs for Workzones	
TC-1	10-15-19	Work Not Affecting Traffic (Two-Lane or Multi-Lane)	
TC-402	04-18-23	Work Within 15 ft of Traveled Way	
TC-418	04-18-23	Lane Closure on Divided Highway	
TC-431	04-15-25	Slow Moving Vehicle Operating in the Traffic Lane	
TC-433	10-17-17	Pavement Marking Operations	
TC-482	04-19-22	Uneven Lanes	

UTILITIES (NOT A POINT 25 PROJECT)	262_06 9/28/22
This is NOT a POINT 25 project and is not subject to the provisions of IAC 761-115.25.	

PAVEMENT MARKING LINE TYPES														108_22 11/25/25
Line factors based on 6-inch wide continuous line. *BCY4 - Place on the same side of the roadway to match existing markings near the project. **NPY4 - Estimating purposes only. No Passing Zone Lines will be located in the field. ***MNY6 - Factor of 1.00 includes number of 6-inch passes to cover median nose area. BCY4: Broken Centerline (Yellow) @ 0.17 BCY6: Broken Centerline (Yellow) @ 0.25 BLC6: Broken Line Contrast (White/Black) @ 0.50 BLW4: Broken Lane Line (White) @ 0.17 BLW6: Broken Lane Line (White) @ 0.25 CBW6: Crosswalk Bar (White) @ 10.00 CHW8: Channelizing Line (White) @ 1.33 CHW10: Channelizing Line (White) @ 1.67 CHY8: Channelizing Line (Yellow) @ 1.33 CHY10: Channelizing Line (Yellow) @ 1.67 CLW6: Crosswalk Line (White) @ 2.00 DCY4: Double Centerline (Yellow) @ 1.34 DCY6: Double Centerline (Yellow) @ 2.00 DDY4: Double Dotted Line (Yellow) @ 0.44 DDY6: Double Dotted Line (Yellow) @ 0.67 DLW4: Dotted Line (White) @ 0.22 DLW6: Dotted Line (White) @ 0.33 DLY4: Dotted Line (Yellow) @ 0.22 DLY6: Dotted Line (Yellow) @ 0.33 ELW4: Edge Line Right (White) @ 0.67 ELW6: Edge Line Right (White) @ 1.00 ELY4: Edge Line Left (Yellow) @ 0.67 ELY6: Edge Line Left (Yellow) @ 1.00 LDW8: Lane Drop (White) @ 0.33 LDW10: Lane Drop (White) @ 0.42 MNY6: Median Nose (Yellow) @ 1.00 NPY4: No Passing Zone Line (Yellow) @ 0.84 NPY6: No Passing Zone Line (Yellow) @ 1.25 RLW4: Ramp Edge Line Right (White) @ 0.67 RLW6: Ramp Edge Line Right (White) @ 1.00 RLY4: Ramp Edge Line Left (Yellow) @ 0.67 RLY6: Ramp Edge Line Left (Yellow) @ 1.00 SLW2: Stop Line (White) @ 4.00 SLW4: Solid Lane Line (White) @ 0.67 SLW6: Solid Lane Line (White) @ 1.00 SPW4: Sloped Curb 4" (White) @ 2.16 SPW6: Sloped Curb 6" (White) @ 2.28 SPY4: Sloped Curb 4" (Yellow) @ 2.16 SPY6: Sloped Curb 6" (Yellow) @ 2.28 STW6: Standard Curb 6" (Yellow) @ 2.03 STY6: Standard Curb 6" (Yellow) @ 2.03 YLW2: Yield Line (White) @ 1.15														
Line No.	Road ID	Station From	Station To	Lane	Marking Type	Left	Center	Right	Groove Marking Needed?	Groove Qty. (STA)	BLC6 Factored (STA)	ELW6 Factored (STA)	ELY6 Factored (STA)	Remarks
1.0	I-80	767+95.30	768+95.30	EB	Multi-Component Liquid Material	X	X	X	Yes	2.50	0.50	1.00	1.00	
2.0	I-80	770+33.86	770+83.86	EB	Multi-Component Liquid Material	X	X	X	Yes	1.25	0.25	0.50	0.50	
3.0	I-80	768+29.50	768+79.50	WB	Multi-Component Liquid Material	X	X	X	Yes	1.25	0.25	0.50	0.50	
4.0	I-80	770+34.99	772+14.99	WB	Multi-Component Liquid Material	X	X	X	Yes	4.50	0.90	1.80	1.80	
5.0	I-80	1103+95.99	1104+65.99	EB	Multi-Component Liquid Material	X	X	X	Yes	1.75	0.35	0.70	0.70	
6.0	I-80	1106+29.82	1107+14.82	EB	Multi-Component Liquid Material	X	X	X	Yes	2.12	0.42	0.85	0.85	
7.0	I-80	1103+54.37	1104+39.37	WB	Multi-Component Liquid Material	X	X	X	Yes	2.12	0.42	0.85	0.85	
8.0	I-80	1106+03.20	1106+73.20	WB	Multi-Component Liquid Material	X	X	X	Yes	1.75	0.35	0.70	0.70	
9.0	I-80	1613+61.00	1614+41.00	EB	Multi-Component Liquid Material	X	X	X	Yes	2.00	0.40	0.80	0.80	
10.0	I-80	1617+60.00	1618+40.00	EB	Multi-Component Liquid Material	X	X	X	Yes	2.00	0.40	0.80	0.80	
Total:										21.24	4.24	8.5	8.5	

102_05 9/29/23																				
EXISTING PAVEMENT																				
Line No.	County	Route	Direction of Travel	Begin Ref. Location Sign	End Ref. Location Sign	Year	Type	Project Number	Surface Type	Surface Depth (IN)	Base Type	Base Depth (IN)	Subbase Type	Subbase Depth (IN)	Removal Type	Removal Depth (IN)	Coarse Aggregate Source	Coarse Aggregate Type	Course Aggregate Durability Class	Remarks
1.0	Pottawattamie	I-80	Both	18.79	19.29	2024	M	MPIN-080-4(728)0--0N-78	PCC											PCC patching
2.0	Pottawattamie	I-80	Both	18.79	19.29	2023	M	MPIN-080-4(726)0--0N-78												PCC patching
3.0	Pottawattamie	I-80	Both	18.79	19.29	2022	M	MPIN-080-4(725)0--0N-78	PCC											PCC patching
4.0	Pottawattamie	I-80	Both	18.79	19.29	2021	M	MPIN-080-4(723)0--0N-78												PCC patching
5.0	Pottawattamie	I-80	Both	18.79	19.29	2021	M	MPIN-080-4(722)5--0N-78												HMA crack sealing
6.0	Pottawattamie	I-80	Both	18.79	19.29	2020	M	MPIN-080-4(721)0--0N-78	PCC											PCC patching
7.0	Pottawattamie	I-80	Both	18.79	19.29	2019	M	MPIN-080-4(720)0--0N-78	PCC											PCC patching
8.0	Pottawattamie	I-80	Both	18.79	19.29	2017	M	MPIN-080-4(718)11--0N-78	SS											Slurry seal & Fog seal
9.0	Pottawattamie	I-80	Both	18.79	19.29	2017	M	IMN-080-1(422)0--0E-78	PCC	11.5										PCC Patching
10.0	Pottawattamie	I-80	Both	18.79	19.29	2006		IMN-080-1(299)10--0E-78	HMA	2.0	HMA	3.0			MIL	5.0	DELL RAPIDS	QUARTZ		
11.0	Pottawattamie	I-80	Both	18.79	19.29	1989		IR-80-1(170)6	AAC	2.0										
12.0	Pottawattamie	I-80	Both	18.79	19.29	1984		IR-80-1(146)0	AAC	1.5	AAC	2.5					DELL RAPIDS	QUARTZ		VL 1.1KM 83AC
13.0	Pottawattamie	I-80	Both	18.79	19.29	1969		I-80-1(69)19--01-78	PCC	8.0	ATB	4.0					WOODBINE SACTON	GRAVEL	3	CRC
14.0																				
15.0	Pottawattamie	I-80	Both	21.7	28.04	2024	M	MPIN-080-4(728)0--0N-78	PCC											PCC patching
16.0	Pottawattamie	I-80	Both	21.7	28.04	2022	S	MPIN-080-4(724)22--0N-78	SS											
17.0	Pottawattamie	I-80	Both	21.7	28.04	2022	M	MPIN-080-4(725)0--0N-78	PCC											PCC patching
18.0	Pottawattamie	I-80	Both	21.7	28.04	2021	M	MPIN-080-4(723)0--0N-78												PCC patching
19.0	Pottawattamie	I-80	Both	21.7	28.04	2021	M	MPIN-080-4(722)5--0N-78												HMA crack sealing
20.0	Pottawattamie	I-80	Both	21.7	28.04	2019	M	MPIN-080-4(720)0--0N-78	PCC											PCC patching
21.0	Pottawattamie	I-80	Both	21.7	28.04	2018	M	MPIN-080-4(719)22--0N-78												HMA crack & PCC joint filling
22.0	Pottawattamie	I-80	Both	21.7	28.04	2017	M	IMN-080-1(422)0--0E-78	PCC	11.5										PCC Patching
23.0	Pottawattamie	I-80	Both	21.7	28.04	2017	M	MPIN-080-4(718)11--0N-78	SS											Slurry seal & Fog seal
24.0	Pottawattamie	I-80	Both	21.7	28.04	1998		IM-80-1(235)23--13-78	PCC	12.0	GSB	10.5					WEEPING WATER		I	RECYCLED PCC GSB
25.0																				
26.0	Pottawattamie	I-80	Both	35.09	39.5	2024	M	MPIN-080-4(728)0--0N-78	PCC											PCC patching
27.0	Pottawattamie	I-80	Both	35.09	39.5	2022	M	MPIN-080-4(725)0--0N-78	PCC											PCC patching
28.0	Pottawattamie	I-80	Both	35.09	39.5	2021	M	MPIN-080-4(722)5--0N-78												HMA crack sealing
29.0	Pottawattamie	I-80	Both	35.09	39.5	2021	M	MPIN-080-4(723)0--0N-78												PCC patching
30.0	Pottawattamie	I-80	Both	35.09	39.5	2020	M	MPIN-080-4(721)0--0N-78	PCC											PCC patching
31.0	Pottawattamie	I-80	Both	35.09	39.5	2019	M	MPIN-080-4(720)0--0N-78	PCC											PCC patching
32.0	Pottawattamie	I-80	Both	35.09	39.5	2018	M	MPIN-080-4(719)22--0N-78												HMA crack & PCC joint filling
33.0	Pottawattamie	I-80	Both	35.09	39.5	2017	M	IMN-080-1(422)0--0E-78	PCC	11.5										PCC Patching
34.0	Pottawattamie	I-80	Both	35.09	39.5	2005		IM-80-1(286)35--13-78	PCC	11.5	GSB	12.5					FT. DODGE	C.LST.	I	LAST 0.2MI 2008 OVERLAY

102_16
11/1/24

NOTCHES AND RUNOUTS FOR RESURFACING									
Refer to PR-201 and PR-202.									
(1) Bid item. Applies only to Types 'N1' and 'N3' on PR-202. Refer to 100-25 for remaining values.									
Line No.	Station	Type of Notch or Runout	S (IN)	I (IN)	DI (IN)	L (FT)	M (IN)	Pavement Scarification (SY) (1)	Remarks
1.0	767+95.03	Type N2	1.0				1.0		See Note 1
2.0	768+95.03	Type N2	1.0				1.0		See Note 1
3.0	770+33.86	Type N2	1.0				1.0		See Note 1
4.0	770+83.86	Type N2	1.0				1.0		See Note 1
5.0	+ .00								
6.0	768+29.50	Type N2	1.0				1.0		See Note 1
7.0	768+79.50	Type N2	1.0				1.0		See Note 1
8.0	770+34.99	Type N2	1.0				1.0		See Note 1
9.0	772+14.99	Type N2	1.0				1.0		See Note 1
10.0	+ .00								
11.0	1103+95.99	Type N2	1.0				1.0		See Note 2
12.0	1104+65.99	Type N2	1.0				1.0		See Note 2
13.0	1106+29.82	Type N2	1.0				1.0		See Note 2
14.0	1107+14.82	Type N2	1.0				1.0		See Note 2
15.0	+ .00								
16.0	1103+54.37	Type N2	1.0				1.0		See Note 2
17.0	1104+39.37	Type N2	1.0				1.0		See Note 2
18.0	1106+03.20	Type N2	1.0				1.0		See Note 2
19.0	1106+73.20	Type N2	1.0				1.0		See Note 2
20.0	+ .00								
21.0	1613+61.00	Type N2	1.0				1.0		See Note 3
22.0	1614+41.00	Type N2	1.0				1.0		See Note 3
23.0	1617+60.00	Type N2	1.0				1.0		See Note 3
24.0	1618+40.00	Type N2	1.0				1.0		See Note 3

Notes:

1) Station locations taken from Iowa DOT project BRFIMX-080-1(297)19--14-78

2) Station locations taken from Iowa DOT project BRFIMX-080-1(298)25--14-78

3) Station locations taken from Iowa DOT project ISSN-080-1(350)40--1T-78

108_23A
8/15/22

TRAFFIC CONTROL PLAN

Through traffic will be maintained on the project at all times. Traffic control on this project shall be in accordance with the TC series of the Standard Road Plans on Tabulation 105-4. Refer to the current Standard Specifications for additional information. The contractor shall coordinate traffic control with other projects in the area.

511 TRAVEL RESTRICTIONS													108_25 3/28/24
Line No.	Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No. or Structure ID or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
1.0	I-80	EB	Pottawattamie	MP 18.80		Traffic Control Device	7818.8R080	Horizontal					
2.0	I-80	WB	Pottawattamie	MP 18.80		Traffic Control Device	7818.8L080	Horizontal					
3.0	I-80	EB	Pottawattamie	MP 25.0		Traffic Control Device	7825.0R080	Horizontal					
4.0	I-80	WB	Pottawattamie	MP 25.0		Traffic Control Device	7825.0L080	Horizontal					
5.0	I-80	EB	Pottawattamie	MP 39.5		Traffic Control Device	7839.5R080	Horizontal					

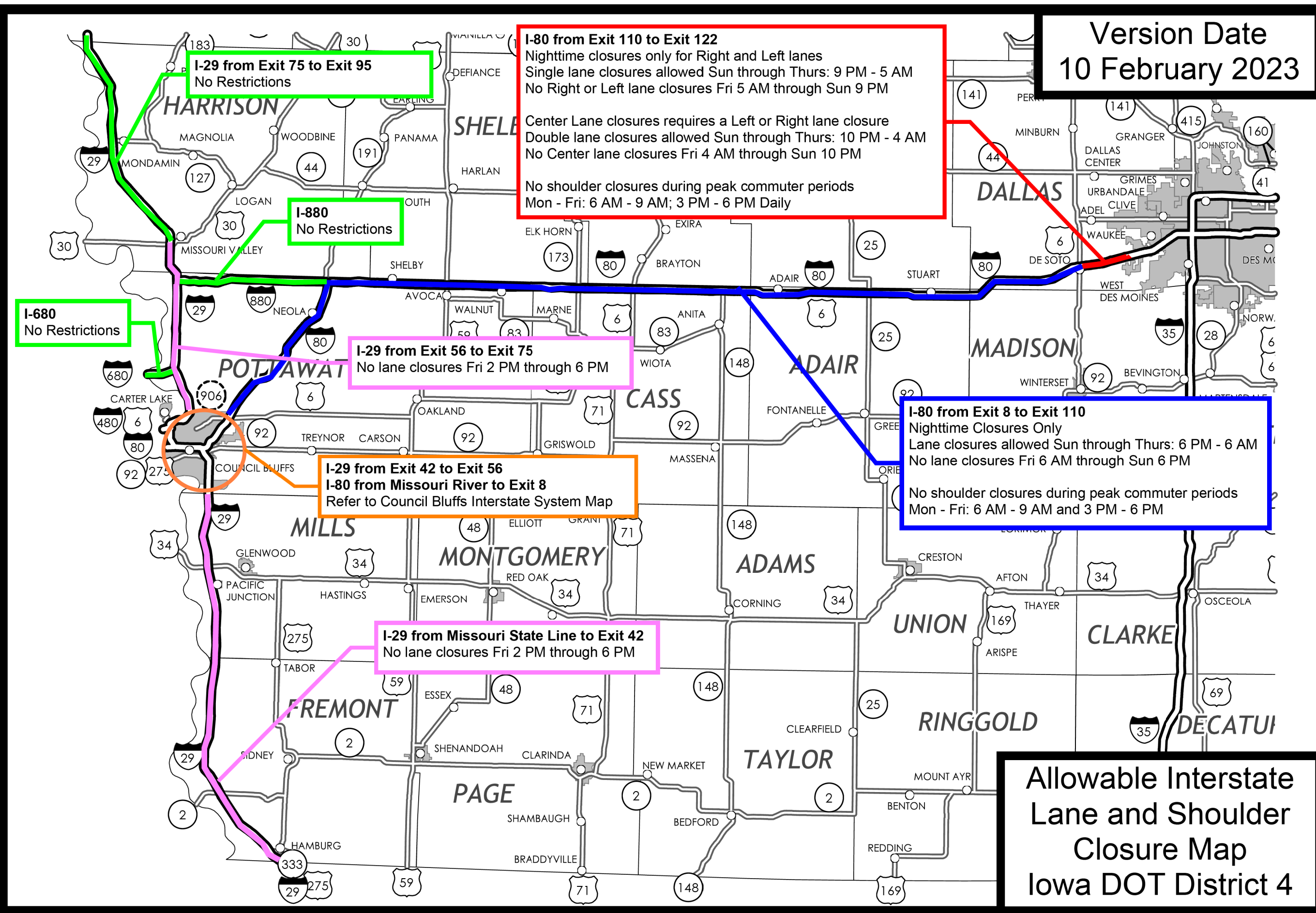
111_01
10/14/22

COORDINATED OPERATIONS

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

Project	Type of Work
MPIN-080-4(732)0--0N-78	PCC Patching
IMN-080-1(559)28--0E-78	PCC Patching
IMX-080-1(573)17--02-78	HMA Resurfacing with Milling
IMX-080-1(565)12--02-78	HMA Resurfacing with Milling

Version Date
10 February 2023



Allowable Interstate
Lane and Shoulder
Closure Map
Iowa DOT District 4