

INDEX OF SHEETS	
No.	DESCRIPTION
A Sheets	Title Sheets
A.1	Title Sheet
B Sheets	Typical Cross Sections and Details
B.1 - 2	Typical Cross Sections and Details
C Sheets	Quantities and General Information
C.1	Estimated Project Quantities
C.2	Project Description, Index of Tabulations
C.2	Standard Road Plans
C.3	Tabulations
D Sheets	Mainline Plan and Profile Sheets
D.1	Plan & Profile Legend & Symbol Information Sheet
D.2 - 7	"IA 5"
J Sheets	Traffic Control and Staging Sheets
J.1	Traffic Control Plan, 511 Travel Restrictions
J.1	Coordinated Operations



PLANS OF PROPOSED IMPROVEMENT ON THE
PRIMARY ROAD SYSTEM
WARREN COUNTY
HMA Paved Shoulder- New
Scotch Ridge Rd to US 65

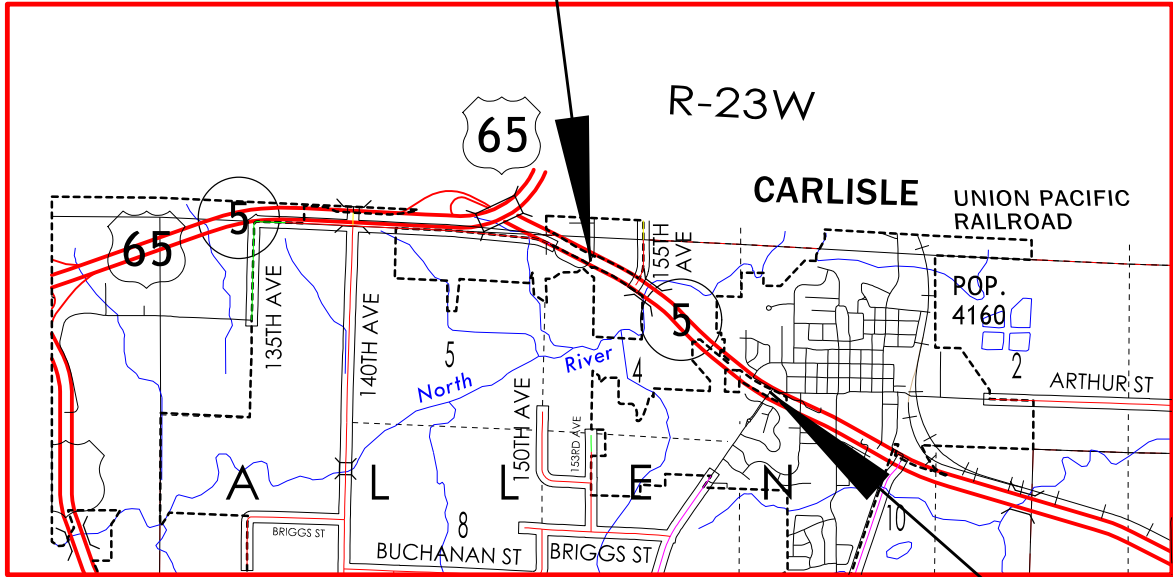
SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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

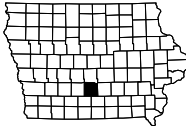
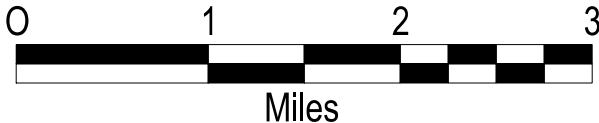


BEGIN PROJECT
EST. LOC. SIGN 88.95



EST. LOC. SIGN 90.60
END PROJECT

LOCATION MAP SCALE



INDEX OF SEALS			
SHEET NO.	NAME	TYPE	BID QUANTITY SHEETS
A.1	DEVENDRA TAMRAKAR	Primary Signature Block	C.1

ROADWAY DESIGN

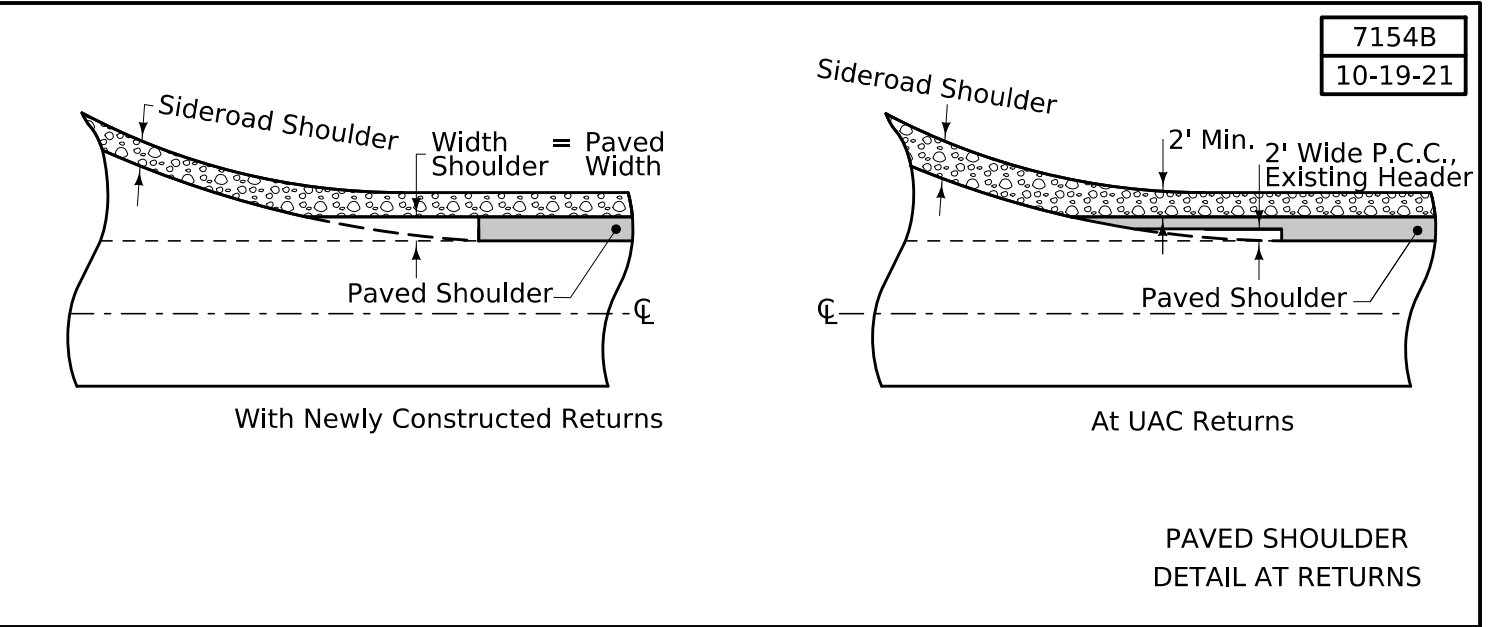
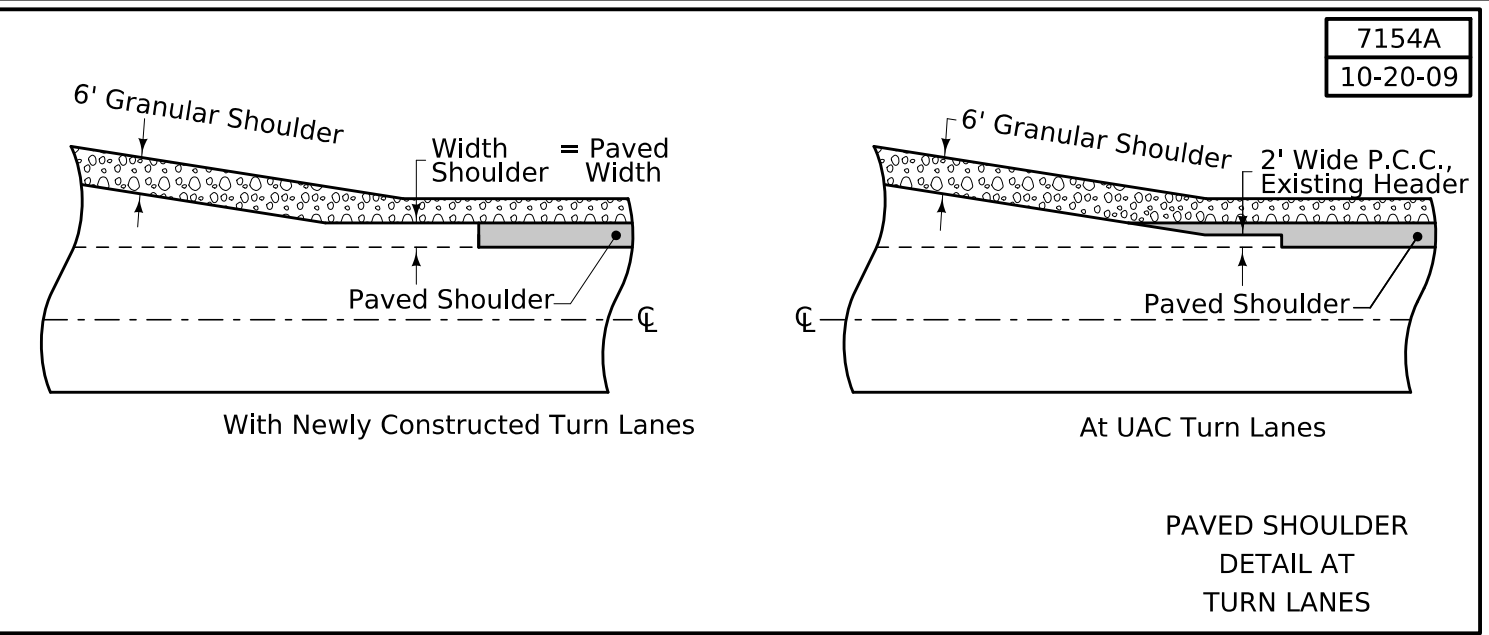
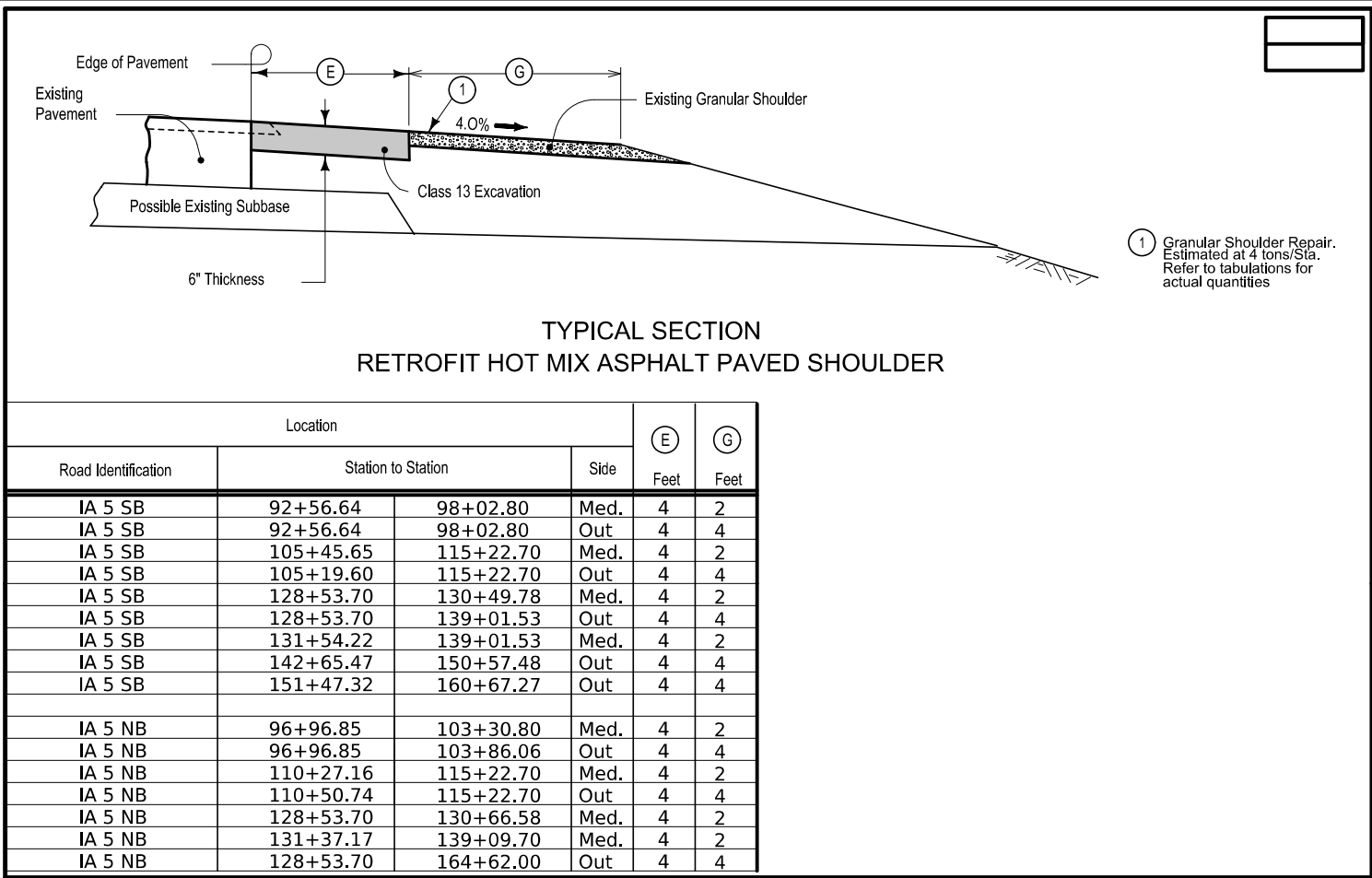
I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

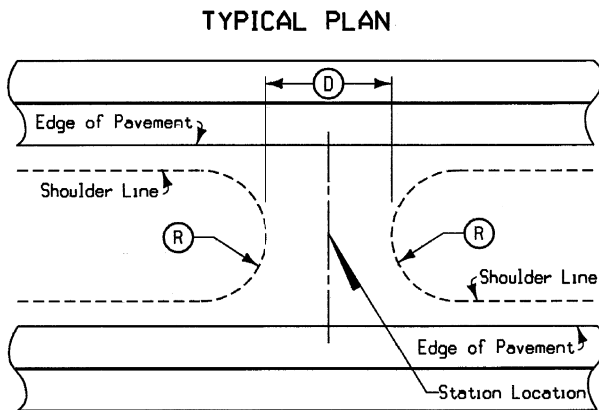
Signature _____ Date 07-30-2026
Devendra Tamrakar
Printed or Typed Name

My license renewal date is December 31, 20 27



Pages or sheets covered by this seal: A.1; B.1-B.2; C.1-C.3; D.1-D.7; J.1
X



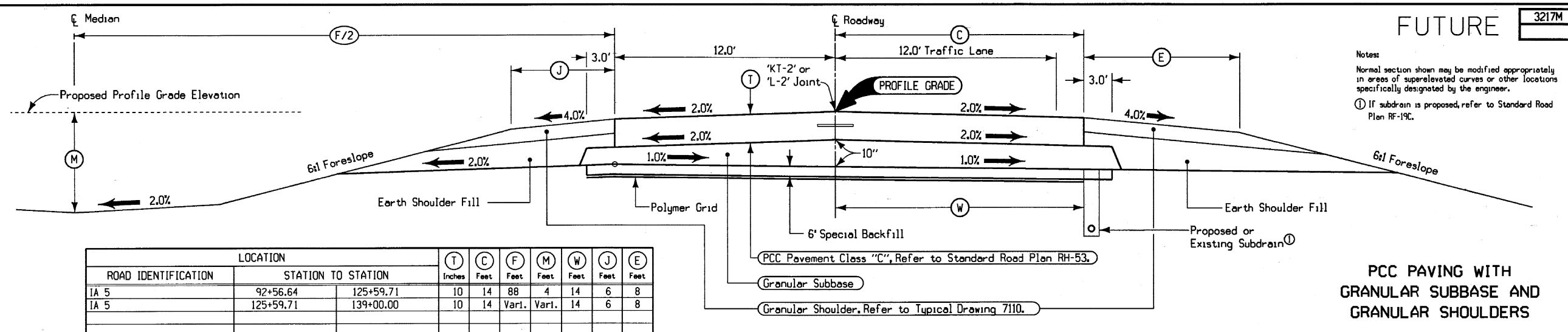


TABULATION OF LOCATIONS		
STATION	(R)	(D)
106+20	26'	40
131+00	*	40

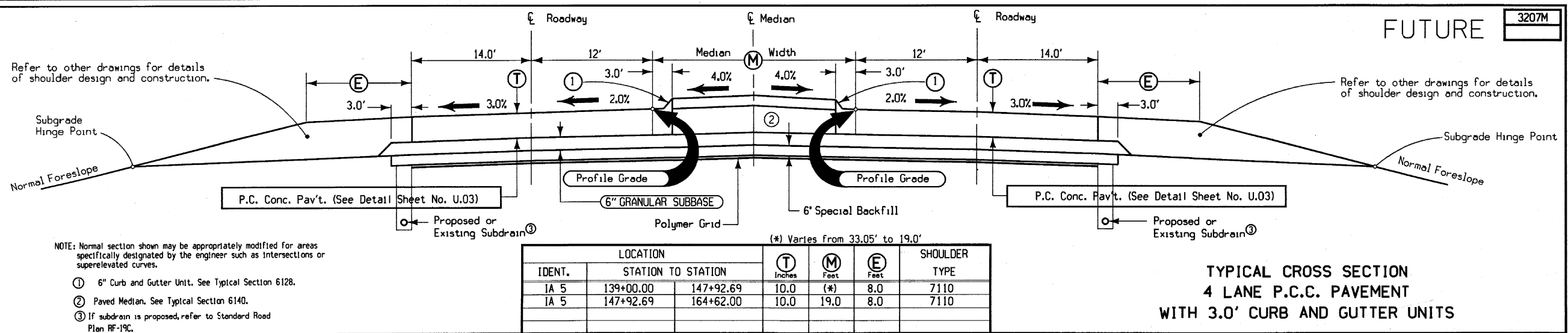
* 22.75' Rad. Bk., 21.88' Rad. Ahd.

DETAILS OF MEDIAN CROSSING (GRAVEL) & AVG. THICKNESS 6"

This Sheet is For Information Only.



PCC PAVING WITH GRANULAR SUBBASE AND GRANULAR SHOULDERS



TYPICAL CROSS SECTION 4 LANE P.C.C. PAVEMENT WITH 3.0' CURB AND GUTTER UNITS

OFFICE OF DESIGN • CADD • PRODUCED

STATE OF IOWA

FHWA REGION 7

FISCAL YEAR

WARREN

COUNTY

PROJECT NUMBER

STP-5-4(20)--2C-91

SHEET NUMBER

B.03

ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

Roadway Items : Roadway Items

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Roadway Items	
1	2102-2713090	EXCAVATION, CLASS 13, WASTE	CY	1,011.9	Refer to Tab. 112-9 on C sheets.
2	2121-7425020	GRANULAR SHOULDERS, TYPE B	TON	915.37	
3	2122-5500060	PAVED SHOULDER, HOT MIX ASPHALT MIXTURE, 6 IN.	SY	6,071.1	
4	2123-7450000	SHOULDER CONSTRUCTION, EARTH	STA	136.6	
5	2528-8445110	TRAFFIC CONTROL	LS	1	Refer to Traffic Control Plan on J Sheet.
6	2533-4980005	MOBILIZATION	LS	1	--
7	2548-0000100	MILLED SHOULDER RUMBLE STRIPS, HMA SURFACE	STA	45.82	Refer to Tab. 112-10 on C sheets.
8	2548-0000110	ASPHALT EMULSION FOR FOG SEAL (SHOULDER RUMBLE STRIPS)	GAL	50	
9	2548-0000200	MILLED SHOULDER RUMBLE STRIPS, PCC SURFACE	STA	90.79	

PROJECT DESCRIPTION		100-1D 10-18-05
This project involves adding 4' paved inside and outside shoulders with milled rumbles strips along IA 5, from Scotch Ridge Rd to US 65.		

INDEX OF TABULATIONS			111-25 10-18-11
Tabulation	Tabulation Title	Sheet No.	
C Sheets			
100-1D	PROJECT DESCRIPTION	C.2	
105-4	STANDARD ROAD PLANS	C.2	
111-25	INDEX OF TABULATIONS	C.2	
112-10	MILLED RUMBLE STRIPS	C.3	
112-9	SHOULDERS	C.3	

STANDARD ROAD PLANS			105-4 10-18-11
The following Standard Road Plans apply to construction work on this project.			
Number	Date	Title	
PV-12	10/20/2026	Milled Shoulder Rumble Strips	
TC-1	10/15/2019	Work Not Affecting Traffic (Two-Lane or Multi-Lane)	
TC-402	4/18/2023	Work Within 15 ft of Traveled Way	
TC-418	4/18/2023	Lane Closure on Divided Highway	
TC-432	10/17/2017	Shoulder Rumble Strip Operations	

SHOULDERS

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

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

Road Identification	Location				P Width FT	P _{SG} Width FT ②	G Width FT	L Length FT	Quantities															Remarks		
	① Direction Of Traffic	Station to Station		Side					Class 13 ^④ Excavation	Hot Mix Asphalt		Binder	Paved Shoulder	" Paved Shoulder at Guardrail	Reinforced Paved Shoulder	Special Backfill				Subbase	Granular Shoulder		Earth Shoulder Construction Alternates			
																HMA Alternate		PCC Alternate					STA ③			
																TON ③	TON/STA	TON ③	TON/STA				CY ③		TON ③	TON/STA
IA 5	SB	92+56.64	98+02.80	M	4.0		2.0	546.2	40.5				242.7							23.895	4.375	5.5				
IA 5	SB	92+56.64	98+02.80	O	4.0		4.0	546.2	40.5				242.7							43.010	7.875	5.5				
IA 5	SB	105+45.65	115+22.70	M	4.0		2.0	977.1	72.4				434.2							42.746	4.375	9.8				
IA 5	SB	105+19.60	115+22.70	O	4.0		4.0	1003.1	74.3				445.8							78.994	7.875	10.0				
IA 5	SB	128+53.70	130+49.78	M	4.0		2.0	196.1	14.5				87.1							8.579	4.375	2.0				
IA 5	SB	128+53.70	139+01.53	O	4.0		4.0	1047.8	77.6				465.7							82.517	7.875	10.5				
IA 5	SB	131+54.22	139+01.53	M	4.0		2.0	747.3	55.4				332.1							32.695	4.375	7.5				
IA 5	SB	142+65.47	150+57.48	O	4.0		4.0	792.0	58.7				352.0							62.371	7.875	7.9				
IA 5	SB	151+47.32	160+67.27	O	4.0		4.0	920.0	68.1				408.9							72.446	7.875	9.2				
IA 5	NB	96+96.85	103+30.80	M	4.0		2.0	633.9	47.0				281.8							27.735	4.375	6.3				
IA 5	NB	96+96.85	103+86.06	O	4.0		4.0	689.2	51.1				306.3							54.275	7.875	6.9				
IA 5	NB	110+27.16	115+22.70	M	4.0		2.0	495.5	36.7				220.2							21.680	4.375	5.0				
IA 5	NB	110+50.74	115+22.70	O	4.0		4.0	472.0	35.0				209.8							37.167	7.875	4.7				
IA 5	NB	128+53.70	130+66.58	M	4.0		2.0	212.9	15.8				94.6							9.313	4.375	2.1				
IA 5	NB	131+37.17	139+09.70	M	4.0		2.0	772.5	57.2				343.3							33.798	4.375	7.7				
IA 5	NB	128+53.70	164+62.00	O	4.0		4.0	3608.3	267.3				1603.7							284.154	7.875	36.1				
								Totals:	1011.9				6071.1							915.374		136.6				

MILLED RUMBLE STRIPS

See PV-12 and PV-13

* Calculated at 18" width for Shoulder.

Road Identification	Station to Station		Location			Installation Length		Fog Seal* (Milled Rumble Strip)	Effective Shoulder Width			Remarks
			Shoulder Pavement Type	Rumble Strip Type (Centerline, Rt or Lt Shoulder)		PCC	HMA		PCC Paved	HMA Paved	Granular\ Earth	
						Shoulder						
						IN	STA	STA				
IA 5 SB	92+56.64	98+02.80	HMA	Left Shoulder	12"		5.46	6.0	0.0	4.0	2.0	
IA 5 SB	92+56.64	98+02.80	PCC	Right Shoulder	12"	5.46		0.0	2.0	4.0	4.0	
IA 5 SB	105+45.65	115+22.70	HMA	Left Shoulder	12"		9.77	10.6	0.0	4.0	2.0	
IA 5 SB	105+19.60	115+22.70	PCC	Right Shoulder	12"	10.03		0.0	2.0	4.0	4.0	
IA 5 SB	128+53.70	130+49.78	HMA	Left Shoulder	12"		1.96	2.2	0.0	4.0	2.0	
IA 5 SB	128+53.70	139+01.53	PCC	Right Shoulder	12"	10.48		0.0	2.0	4.0	4.0	
IA 5 SB	131+54.22	139+01.53	HMA	Left Shoulder	12"		7.47	8.1	0.0	4.0	2.0	
IA 5 SB	142+65.47	150+57.48	PCC	Right Shoulder	12"	7.92		0.0	2.0	4.0	4.0	
IA 5 SB	151+47.32	160+67.27	PCC	Right Shoulder	12"	9.20		0.0	2.0	4.0	4.0	
IA 5 NB	96+96.85	103+30.80	HMA	Left Shoulder	12"		6.34	6.9	0.0	4.0	2.0	
IA 5 NB	96+96.85	103+86.06	PCC	Right Shoulder	12"	6.89		0.0	2.0	4.0	4.0	
IA 5 NB	110+27.16	115+22.70	HMA	Left Shoulder	12"		4.96	5.4	0.0	4.0	2.0	
IA 5 NB	110+50.74	115+22.70	PCC	Right Shoulder	12"	4.72		0.0	2.0	4.0	4.0	
IA 5 NB	128+53.70	130+66.58	HMA	Left Shoulder	12"		2.13	2.4	0.0	4.0	2.0	
IA 5 NB	131+37.17	139+09.70	HMA	Left Shoulder	12"		7.73	8.4	0.0	4.0	2.0	
IA 5 NB	128+53.70	164+62.00	PCC	Right Shoulder	12"	36.08		0.0	2.0	4.0	4.0	
				Totals			PCC	HMA	Fog Seal			
				HMA Shoulders				45.82	50.0			
				PCC Shoulders			90.79					
				PCC or HMA Shoulders			0.00	0.00	0.0			
				HMA Centerlines				0.00				
				PCC Centerlines			0.00					
				PCC or HMA Centerlines			0.00	0.00				

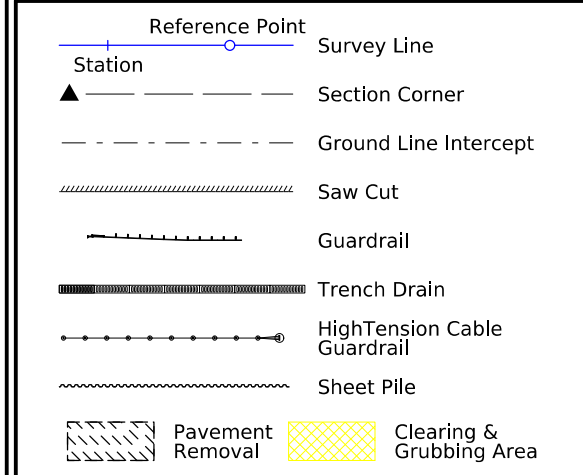
FILE NO.	ENGLISH	DESIGN TEAM	VORTHERMS\TAMRAKAR\BOOTH	WARREN	COUNTY	PROJECT NUMBER	HSIPX-005-4(085)-3L-91	SHEET NUMBER	C.3
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	Interstate Highway Symbol
	U.S. Highway Symbol
	Iowa Highway Symbol
	County Road Highway Symbol
	Evergreen Tree
	Deciduous Tree
	Fruit Tree
	Shrub (Bushes)
	Timber
	Hedge
	Stump
	Swamp
	Rock Outcrop
	Broken Concrete
	Revetment (Rip Rap)
	Cemetery
	Grave
	Cave
	Sink Hole
	Board Fence
	Chain Link or Security Fence
	Wire Fence
	Terrace
	Earth Dam or Dike (Existing)
	Tile Outlet
	Edge of Water
	Existing Drainage
	Right of Way Rail or Lot Corner
	Concrete Monument
	Well
	Windmill
	Beehive Intake
	Existing Intake
	Existing Utility Access (Manhole)
	Fire Hydrant
	Water Hydrant (Rural)

	Septic Tank
	Cistern
	L.P. Gas Tank (No Footing)
	Underground Storage Tank
	Latrine
	Satellite TV Dish
	WHU Water Hook Up
	RT Radio Tower
	TA Tower Anchor
	Guardrail (Beam or Cable)
	GP Guard Post (one or two)
	Guard Post (over two)
	FP Filler Pipe
	GV Gas Valve
	WV Water Valve
	SL Speed Limit Sign
	MM Mile Marker Post
	SIGN Sign
	TCB Traffic Signal Control Box
	RRB Rail Road Signal Control Box
	TSB Telephone Switch Box
	EB Electric Box

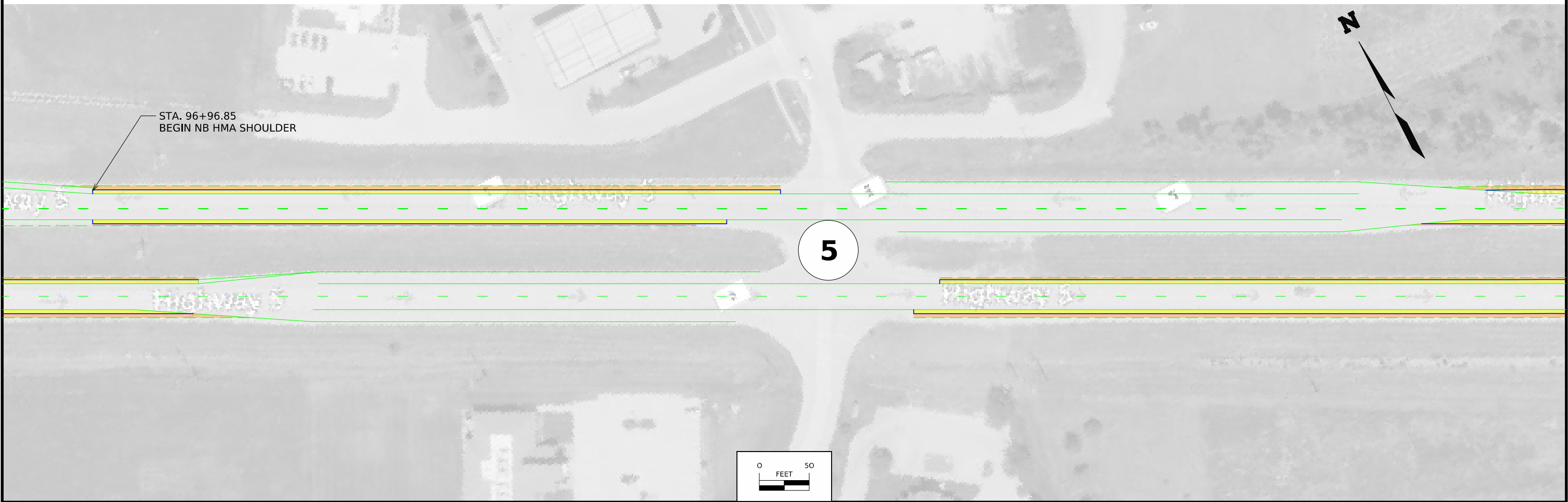
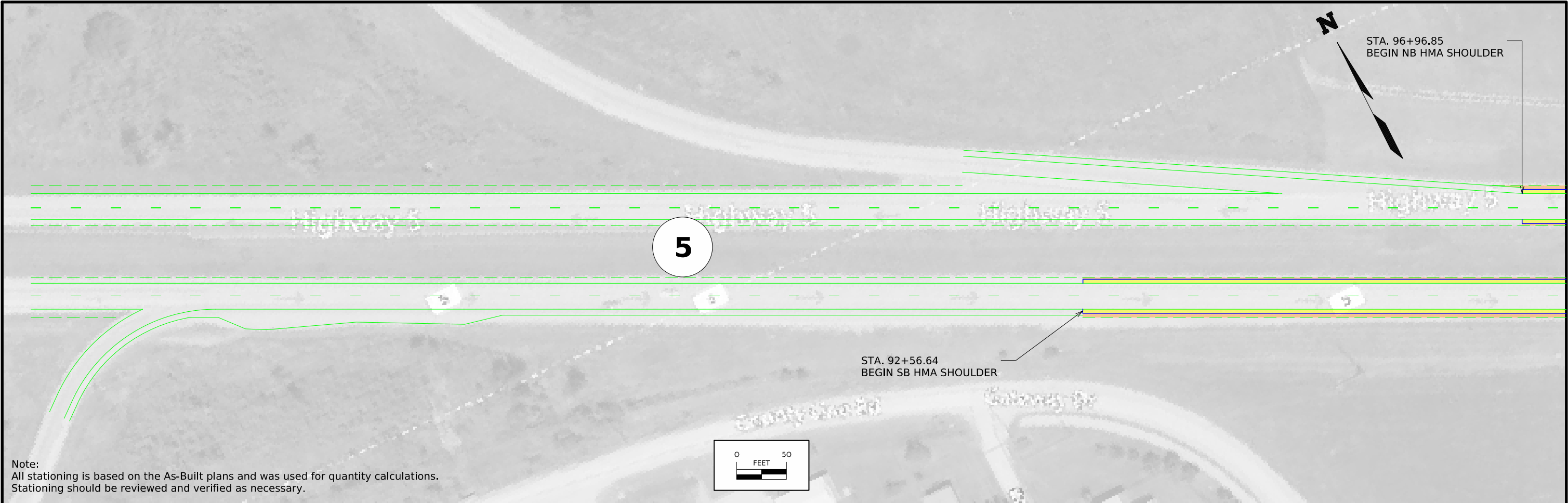
LINEWORK	Design Color No.			
Green	(2)		Existing Topographic Features and Labels	
Blue	(1)		Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation	
Magenta	(5)		Existing Utilities	
SHADING	Design Color No.		Transparency	
Pink, Dark	(13)		Temporary Pavement Shading	50%
Yellow	(4)		Proposed Pavement Shading	50%
Orange	(6)		Proposed Granular Shading	50%
Orange	(70)		Proposed Shoulder Granular Shading	50%
Yellow	(68)		Proposed Shoulder Paved Full Depth Shading	50%
Yellow	(132)		Proposed Shoulder Paved Partial Depth Shading	50%
Brown, Light	(236)		Grading Shading	50%
Orange, Light	(134)		Proposed Granular Entrance Shading	50%
Yellow	(220)		Proposed Paved Entrance Shading	50%
Tan	(8)		Proposed Sidewalk Shading	50%
Blue, Light	(230)		Proposed Sidewalk Landing Shading	50%
Pink	(11)		Proposed Sidewalk Ramp Shading	50%
Red	(3)		Proposed Structure Shading	50%
Red	(3)		Delineates Restricted Areas	0%

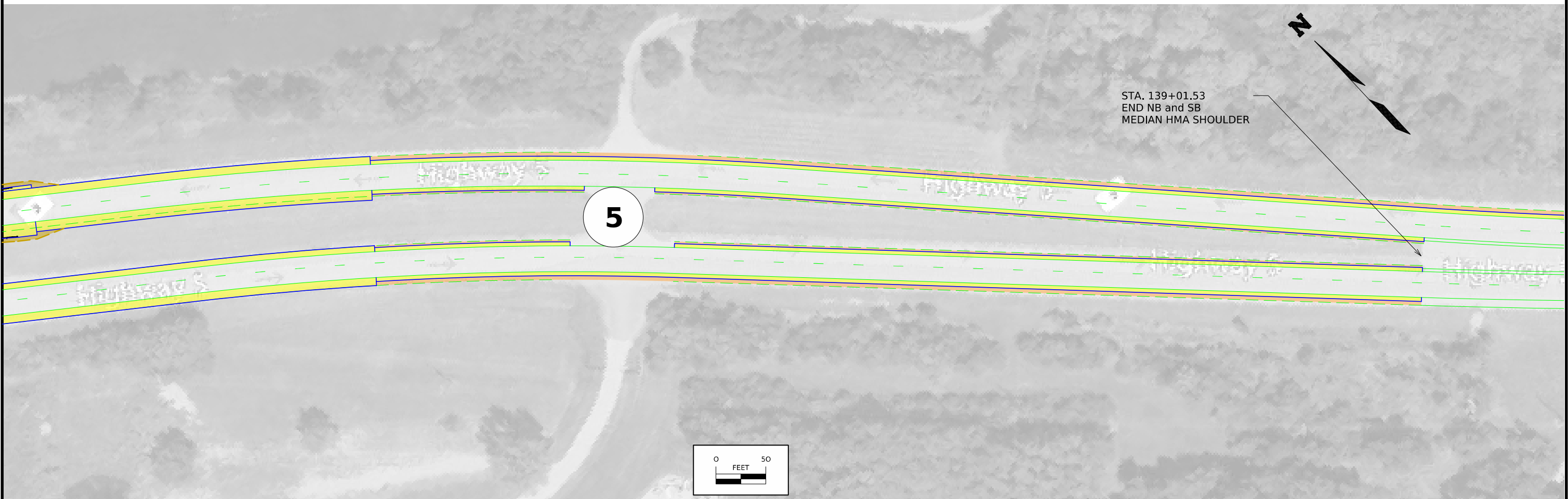
LINEWORK	Design Color No.	
Green	(10)	Existing Ground Line Profile
Blue	(1)	Proposed Profile and Annotation
Magenta	(5)	Existing Utilities
Blue, Light	(230)	Proposed Ditch Grades, Left
Black	(0)	Proposed Ditch Grades, Median
Rust	(14)	Proposed Ditch Grades, Right

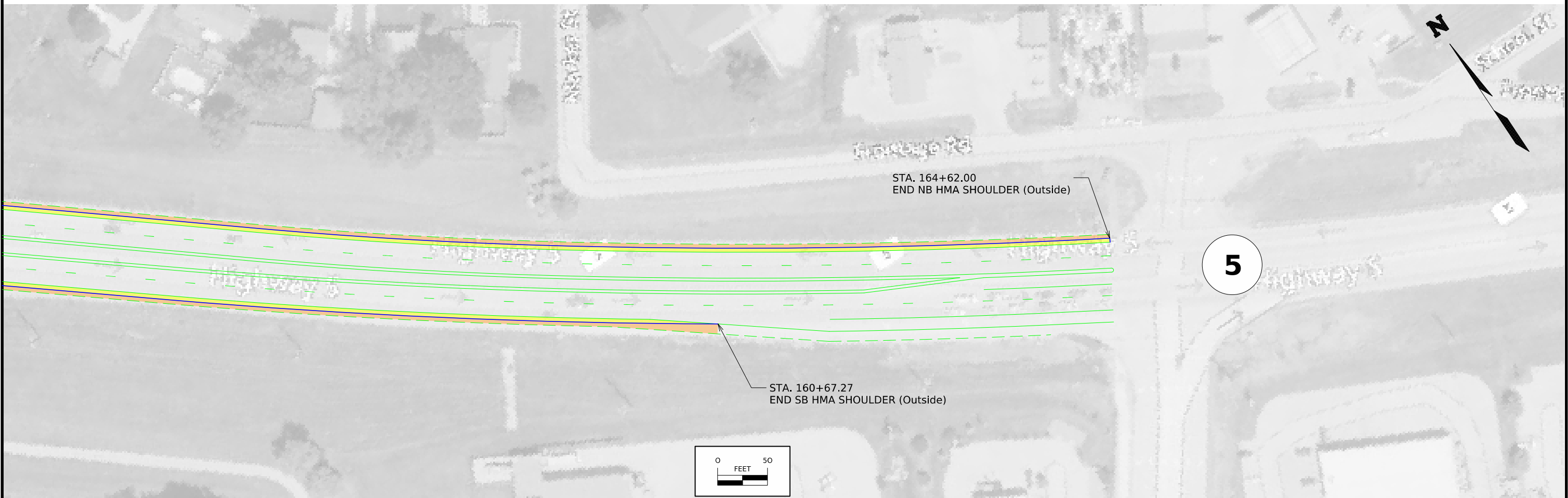


- Proposed Right-of-Way Symbol
- Proposed Right-of-Way Line
- Existing Right of Way
- Existing and Proposed Right-of-Way
- Easement and Existing Right-of-Way
- Easement (Temporary) Symbol
- Easement (Temporary) Line
- Easement
- Access Control
- Property Line Symbol
- Property Line

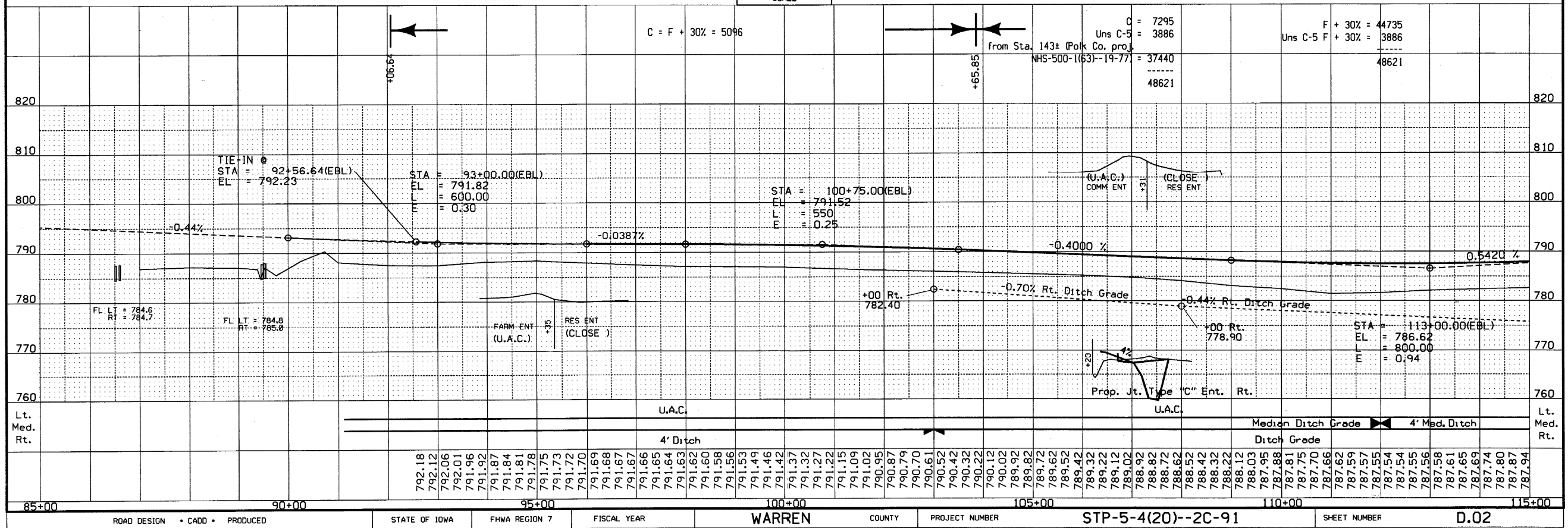
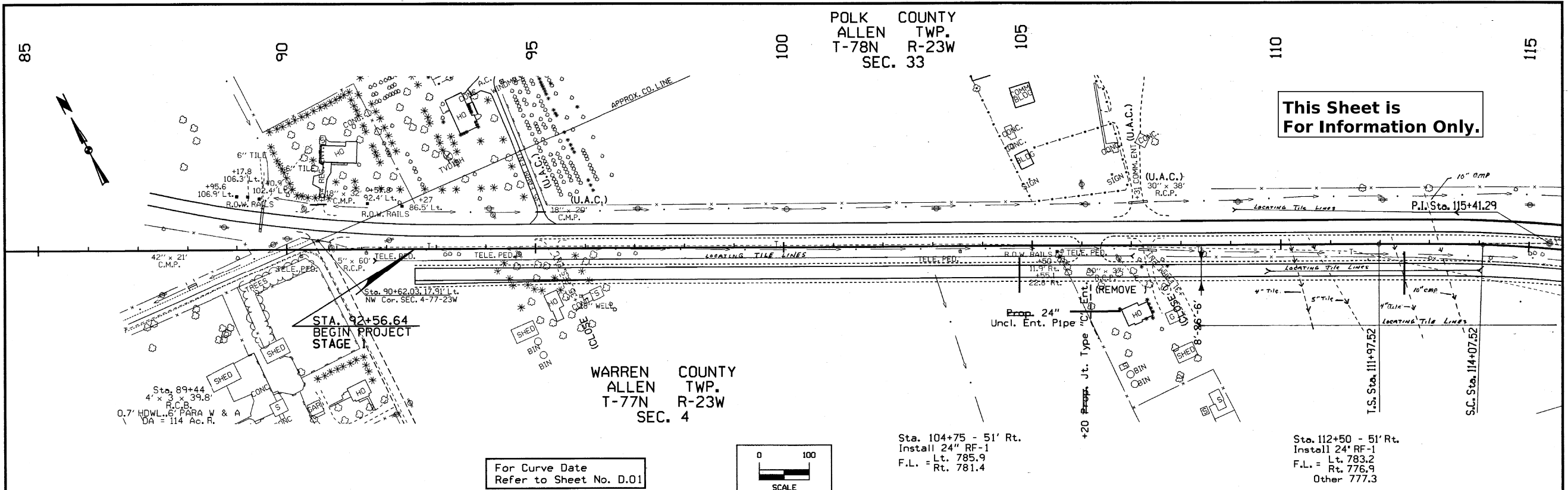
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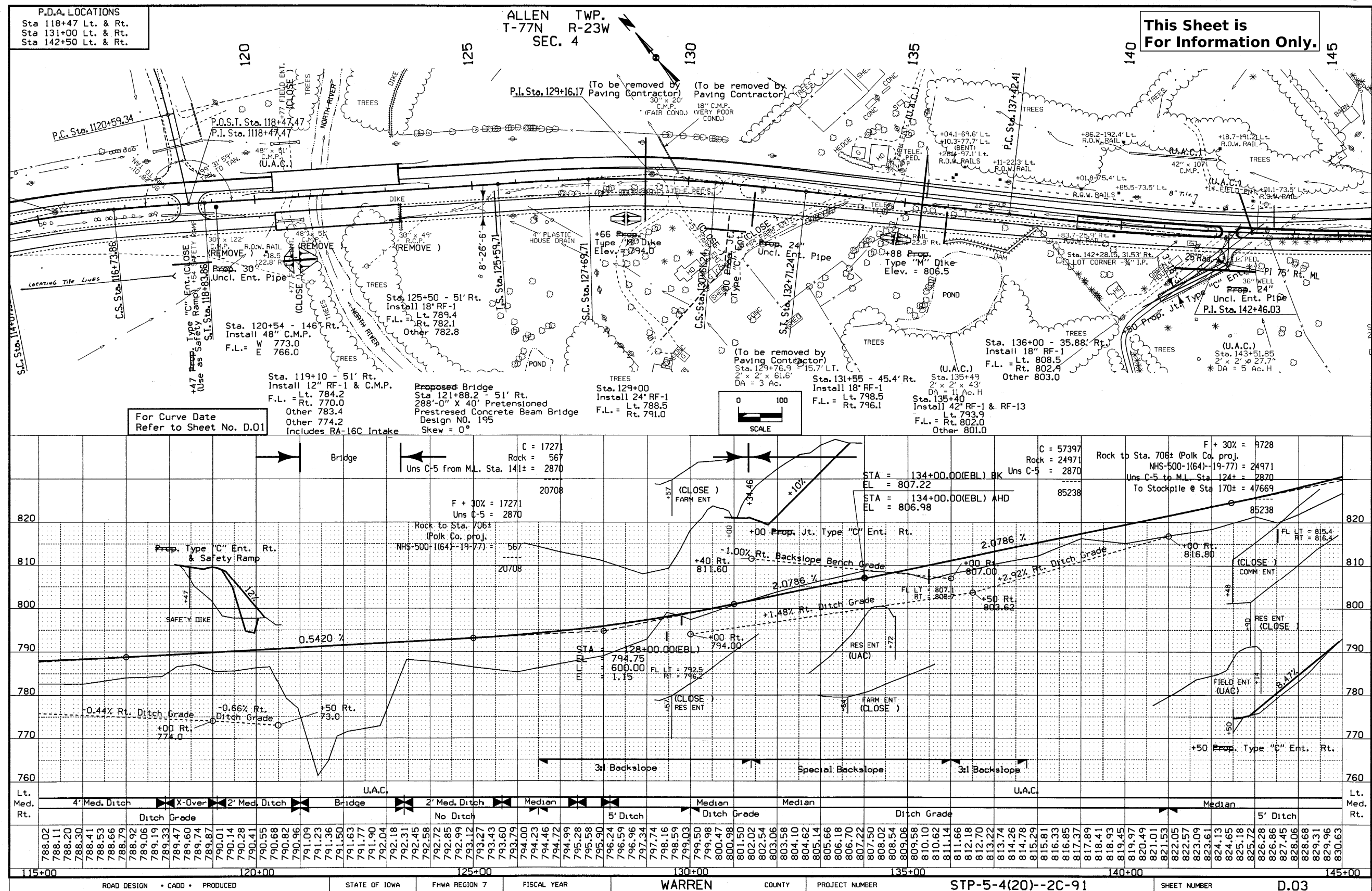






FILE NO. --	ENGLISH	DESIGN TEAM VORTHERMS/TAMRAKAR/BOOTH	WARREN COUNTY	PROJECT NUMBER HSIPX-005-4(085)--3L-91	SHEET NUMBER D.4
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108-23A
08-01-08

TRAFFIC CONTROL PLAN

Traffic shall be maintained on IA 5 at all times. Lane closures will be allowed from 8:30 am to 3:30 pm each weekday and from 6:00 pm to 6:00 am Sunday night to Friday morning.

511 TRAVEL RESTRICTIONS												108-25 10-21-14
Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No., Structure ID, or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
			No restrictions									

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
MB-005-(505)90--77-91	Bridge approach repair