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C.1	Estimated Quantities - Road



PLANS OF PROPOSED IMPROVEMENT ON THE  
**PRIMARY ROAD SYSTEM  
WINNESHIEK COUNTY**  
Bridge Deck Overlay

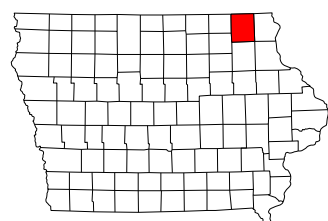
Iowa #9 over Trout Creek  
6.1 miles east of Jct. U.S. 52

Refer to the Plan Sheets for list of applicable specifications.

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



TOTAL	21
PROJECT IDENTIFICATION NUMBER	20-96-009-010
CONTRACT ID NUMBER	96-0525-044
PROJECT NUMBER	BRFN-009-8(44)--39-96
R.O.W. PROJECT NUMBER	--
PROJECT DIRECTORY NUMBER	9600901020



**Standard Road Plans**  
Standard Road Plans are listed on Sheet No. C.2

Design Data Rural	
2022 AADT	5,400 V.P.D.
TRUCKS	12.7 %
Total Design ESALs	2,100,000

Index Of Seals		
Sheet No.	Name	Type
A.1	Kevin M. Placzek	Structural Design
B.1	Jeffrey J. Tardy	Roadway Design

**Structural Design**

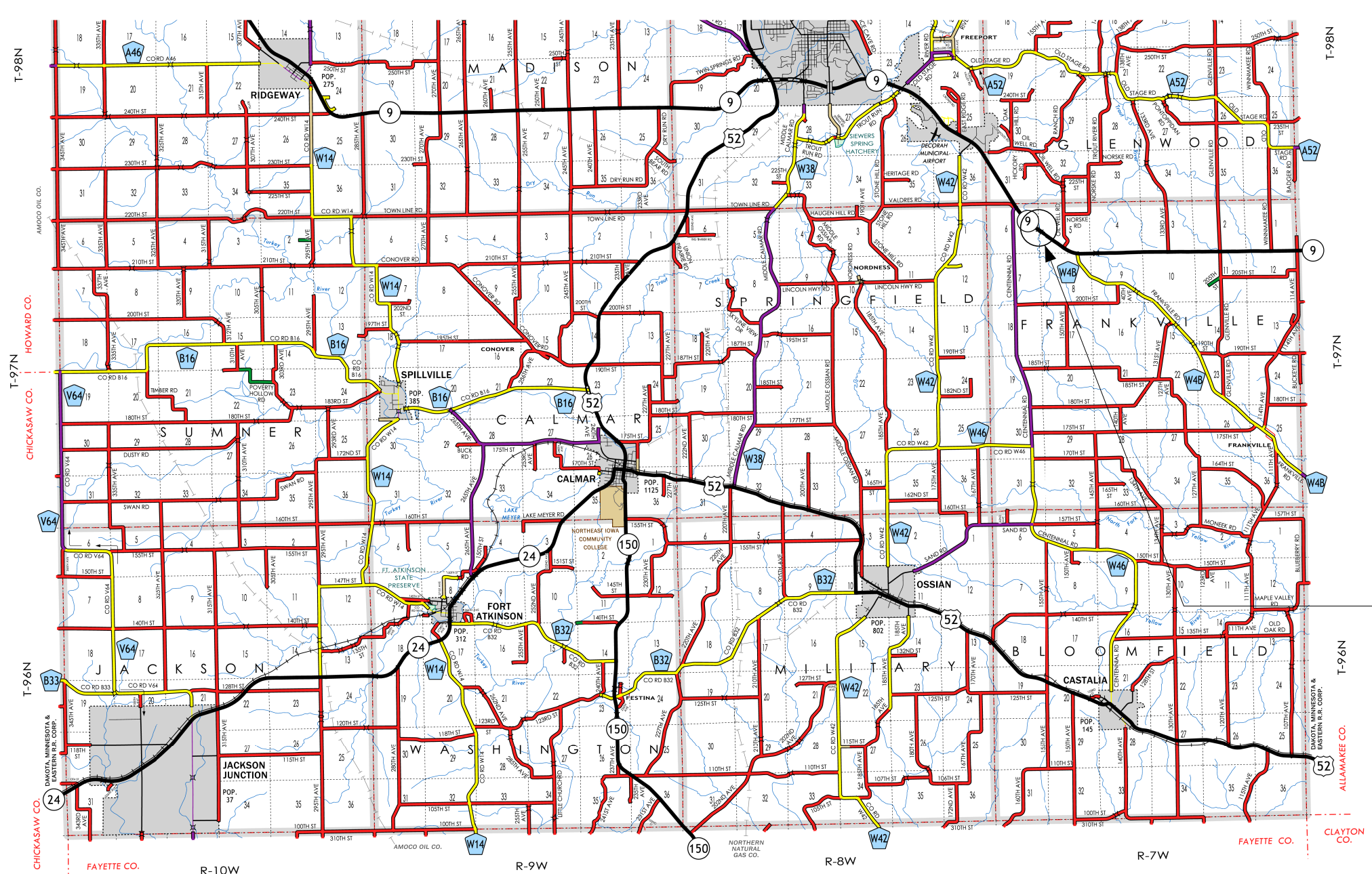
I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Signature: Kevin M. Placzek Date: 11-13-2023

Printed or Typed Name: Kevin M. Placzek

My license renewal date is December 31, 2025

Pages or sheets covered by this seal: Sheets A.1, A.2, V.1 thru V.8



**LEGEND**

- INTERSTATE HIGHWAY
- PRIMARY HIGHWAY-DIVIDED
- PRIMARY HIGHWAY
- PORTLAND CEMENT CONCRETE ROAD
- ASPHALT ROAD
- BITUMINOUS ROAD
- GRAVEL ROAD
- EARTHEN ROAD

- INTERSTATE HIGHWAY
- UNITED STATES HIGHWAY
- STATE HIGHWAY
- COUNTY HIGHWAY

- RAILROAD
- PIPELINE
- AIRPORT
- HYDROLOGY
- BRIDGE

- STATE BOUNDARY
- COUNTY BOUNDARY
- CORPORATE BOUNDARY
- TOWNSHIP LINE
- SECTION LINE
- ROAD NAMES
- UNINCORPORATED PLACE

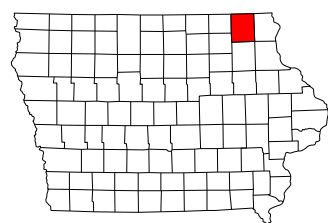
- STATE PARKS
- STATE INSTITUTIONS
- FEDERAL LAND

Design No. 125  
FHWA No. 52620



Winneshiek County Location Map

Not To Scale



**General Notes:**

This design is for repair to the existing 125'-0" x 44'-0" Continuous Concrete Slab Bridge on IA #9 over Trout Creek in Winneshiek County.

Electronic copies of original design plans are available to the contractor as part of the e-files supplied with the contract documents. Dimensions shown on these plans are based on design plans (original Design No. 467).

See design sheet 2 for list of repair items.

Faint lines on plans indicate the existing structure.

All dimensions and details shown on these plans pertinent to new construction shall be verified in the field by the contractor before starting construction.

Utility Companies and Municipalities whose facilities are shown on the plans or known to be within the construction limits shall be notified by the Contractor of the construction starting date.

Keyway dimensions shown on these plans are based on nominal dimensions unless stated otherwise. In addition, the bevel used on the keyway shall be limited to a maximum of 10 degrees from vertical.

These bridge plans label all reinforcing steel with english notation (5a1 is 5/8 inch diameter bar). English reinforcing steel received in the field may display the following "Bar Designation". The "Bar Designation" is the stamped impression on the reinforcing bars, and is equivalent to the bar diameter in millimeters.

English Size	3	4	5	6	7	8	9	10	11
Bar Designation	10	13	16	19	22	25	29	32	36

All reinforcing bars and bars noted as dowels supplied for this structure shall be deformed reinforcement unless otherwise noted or shown.

Minimum clear distance from face of concrete to near reinforcing bar is to be 2" unless otherwise noted or shown.

The Road and Weather Information System (RWIS) sensor embedded in the deck shall be removed and replaced. Cost included in the unit price bid item "Deck Overlay".

Plan quantity of deck repair is based on the "Deck Repair Plot" as shown in these plans and 2' wide deck repairs at both ends of deck. Shaded areas represent Class A bridge deck repair found by the delamtect plot. The plan quantity for "Deck Repair, Class A" is estimated as 106.3 SY based on automated sounding of the deck plus 25% increase for estimating purposes.

Present deck thickness is about 19 inches. The contractor shall exercise care in order to prevent unnecessary removal of concrete below the top of the top reinforcing. The energy of hand tools shall be restricted near the bottom of the designated Class A repair areas in order to prevent unbonding of reinforcing. No concrete shall be removed below the top of the top longitudinal reinforcing without prior permission from the Bridge Engineer.

Upon completion of the removal of concrete down to the classification line, the Engineer shall determine the areas of bridge deck to be repaired as "Deck Repair, Class A" or "Deck Repair, Class B". Actual hollow areas, as determined by the Engineer, shall be repaired.

Surface raise, as shown on the plans, shall be considered a minimum. In order to limit the additional dead load surface raise shall be restricted to a maximum of 1/2" more than shown on the plans. Profile may be adjusted to the extent possible within these limits.

The top and interior faces of the existing concrete railing, curb and end sections are to be cleaned and sealed in accordance with Article 2403.03, P, of the Standard Specifications. If new sections of rail are constructed, the new sections shall not be sealed. All costs associated with cleaning and sealing of the concrete rails shall be included in the unit price bid item "Deck Overlay".

Ready mix trucks are not allowed on the bridge during construction.

Surface preparation shall be according to Article 2413.03,B and C of the Standard Specifications. The contractor shall ensure the vertical edge of the Stage 1 overlay is prepared for placement of the new concrete for Stage 2 by sandblasting or shot blasting, followed by an air blast. Ensure this cleaning removes all dirt, oil, and other foreign material. Ensure it removes all unsound concrete, laitance, or loose material from the surface and edges against which the surface mixture is to be placed. The cleaning should roughen the surface in order to provide satisfactory bond with the surfacing mixture.

Construction shall be done in stages with at least one lanes of traffic maintained at all times in accordance with "Traffic Control Plan" note.

Construction Stages 1 & 2 as detailed on these plans may be reversed at the contractor's option subject to the Engineer's approval.

Refer to title sheet for traffic data.

The Contractor shall provide temporary shoring (sheet pile or other) to prevent the earth under the traffic lane, from sloughing in during construction. All cost of shoring, will be considered incidental to construction and no direct payment will be made. All material used for shoring shall remain the property of the Contractor. Shoring is to be removed only after backfilling has been completed. The Contractor shall submit shoring plans for review. In addition to the requirements noted above, Article 1107.07 of the Standard Specifications, still applies.

**Estimate Project Quantities and Reference Notes - Design #125**

Item No.	Item Code	Item	Unit	Quantities Estimated Design No. 125	As-built Quantities Design No. 125	Estimate Reference Notes
1	2413-0698074	Deck Repair, Class A	SY	108.9		Method of measurement and basis of payment are included in the general notes.
2	2426-6772016	Concrete Repair	SF	6		---
3	2499-0800000	Paving Notch Replacement	LF	103		Includes 7.4 CY Structural Concrete, Class C, 1670 lbs. epoxy-coated reinforcing steel, excavation, removing and disposing of the existing paving notch and concrete removed from shear keyways, drilling holes for the dowel bars, and polymer grout material.
4	2533-4980005	Mobilization	LS	1		----
		Alternative AA Option 1				
5A	2413-0698066	Deck Overlay (Class O PCC)	SY	629		Includes all costs associated with installation of "CF-1" joint at both abutments. Includes all resilient joint filler required. Includes cleaning and existing concrete barrier railing, curbs and end sections, furnishing and placing concrete sealer.
		Alternative AA Option 2				
5B	2599-9999005	Trial Batch and Test Placement	EACH	1		Refer to the Special Provisions for Fiber Reinforced HPC-O Concrete Bridge Deck Overlay for additional information.
5C	2599-9999018	Deck Overlay (Fiber-reinforced Class HPC-0 PCC)	SY	629		Refer to the Special Provisions for Fiber Reinforced HPC-O Concrete Bridge Deck Overlay for additional information. Includes all costs associated with installation of "CF-1" joint at both abutments. Includes all resilient joint filler required. Includes cleaning and existing concrete barrier railing, curbs and end sections, furnishing and placing concrete sealer.

**Specifications:**

**Design:**

AASHTO LRDD 8th Edition, Series of 2017, except as noted in the current Iowa Bridge Design Manual.

**Construction:**

Iowa Department of Transportation Standard Specifications for Highway and Bridge Construction, Series 2023, plus applicable General Supplemental Specifications, Developmental Specifications, Supplemental Specifications and Special Provisions shall apply to construction work on this project.

Special Provisions for Fiber Reinforced HPC-O Concrete Bridge Deck Overlay

**Design Stresses:**

Design stresses for the following materials are in accordance with the AASHTO Standard Specifications for Highway Bridges, Series of 2002.

Reinforcing steel in accordance with Section 8, Grade 60.

Concrete in accordance with Section 8, f'c = 4.0 ksi.

Roadway Quantities shown elsewhere in these plans.

Traffic Control Plan The roadway will be open to thru traffic. Refer to the Traffic Control Plan shown elsewhere in these plans.

Design For 30 Degree RA  
**125'-0" x 44'-0" Continuous Concrete Slab Bridge**  
 38'-0 End Spans 49'-0 Interior Span  
**Estimated Quantities & General Notes**  
 STA. 342+08.00 (IA #9) Turn-In Date: December 2023  
**Winneshiek County**  
 IOWA DEPARTMENT OF TRANSPORTATION  
 Design No. 125 Design Sheet No. 1 of 8 FHWA No. 52620

## Design History at this Site

(Includes this Design)

Des. No.	Type of Work
467	Original Design
586	Retrofit Rail
101	Retrofit Rail
125	Bridge Deck Overlay

### Working Drawing and Calculation Submittals

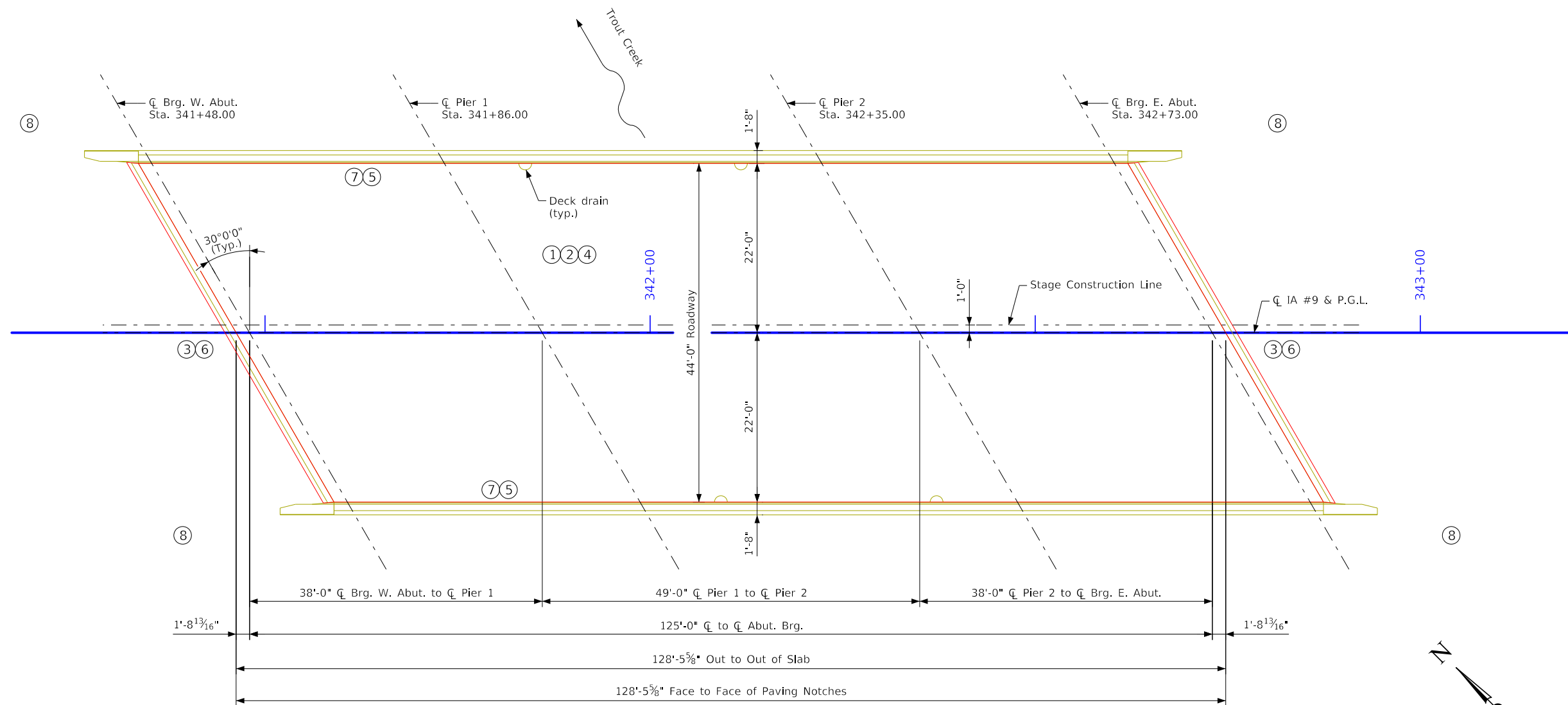
Working drawings and calculations shall be submitted for the following items shown in the table below. (Note additional working drawings and calculations may be required in accordance with Article 1105.03 of the Standard Specifications.)

Submittal requirements for working drawings and calculations shall be in accordance with 1105.03 of the Standard Specifications for Highway and Bridge Construction of the Iowa Department of Transportation. The absence of a certification requirement for a submittal does not relieve the Contractor of the responsibility to attain certification.

Calculation submittals in this table which are associated with working drawing submittals shall be submitted on the same day. Review time for calculation submittals shall be of the same duration as and run concurrently with review time for associated working drawings. The calculation submittals listed in the table are not meant to be an exhaustive list and do not relieve the Contractor from providing additional calculation submittals if requested by the Engineer.

No.	Working Drawing Description	Working Drawing File Name Convention For Submittal	Certified by Iowa P.E. (Yes/No)
1	Temporary Shoring	096_Winneshiek_Design125_TempShoring.pdf	Yes

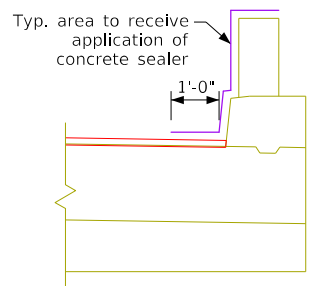
Design For 30 Degree RA  
**125'-0" x 44'-0" Continuous  
 Concrete Slab Bridge**  
 38'-0 End Spans 49'-0 Interior Span  
**General Notes**  
 STA. 342+08.00 (IA #9) Turn-In Date: December 2023  
**Winneshiek County**  
 IOWA DEPARTMENT OF TRANSPORTATION  
 Design No. 125 Design Sheet No. 2 of 8 FHWA No. 52620



Situation Plan

Repairs shall consist of:

- ① Scarify deck and perform deck repair, class A and class B.
  - ② Deck overlay.
  - \* ③ Remove and replace existing approaches.
  - ④ Remove and replace RWIS sensor embedded in the deck.
  - ⑤ Seal existing barrier rails and barrier end sections.
  - ⑥ Remove and reconstruct existing paving notches.
  - ⑦ Perform concrete repairs on barrier rails.
  - \* ⑧ Remove and replace existing guardrails and install paved shoulders.
- \* Refer to roadway plans for additional information.

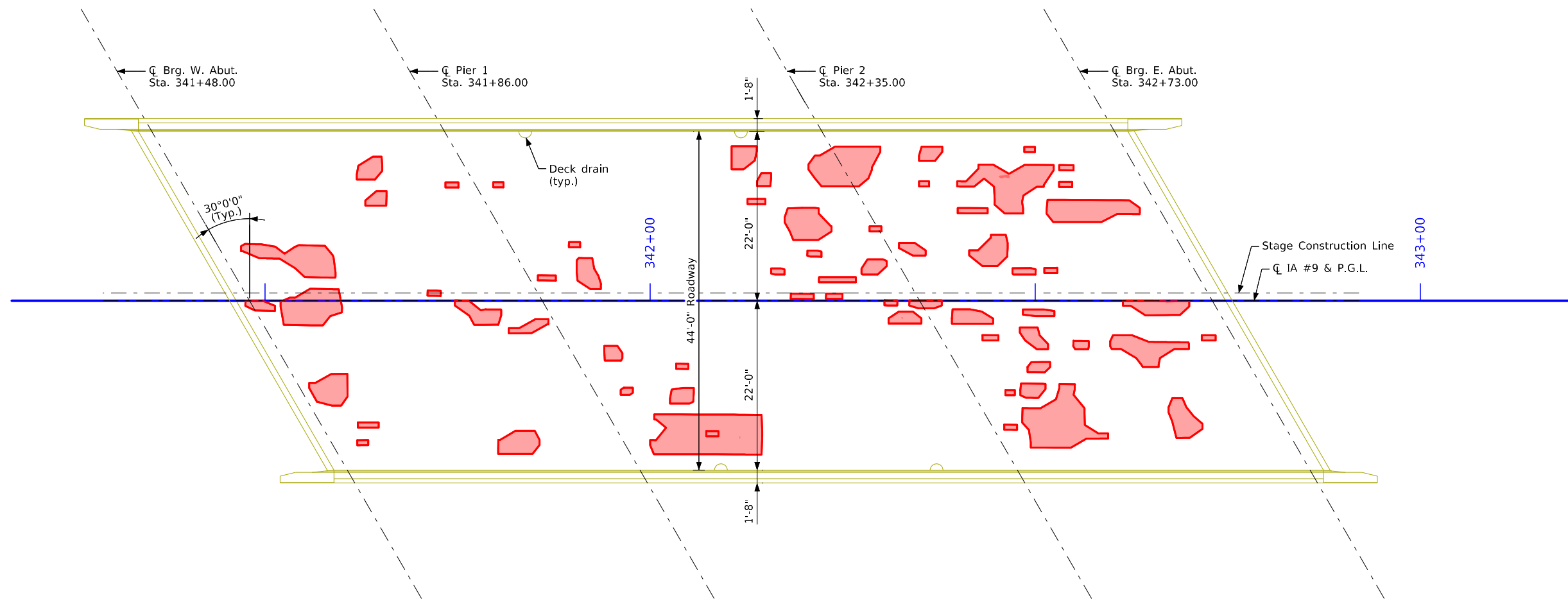


Detail of Concrete Sealer Area

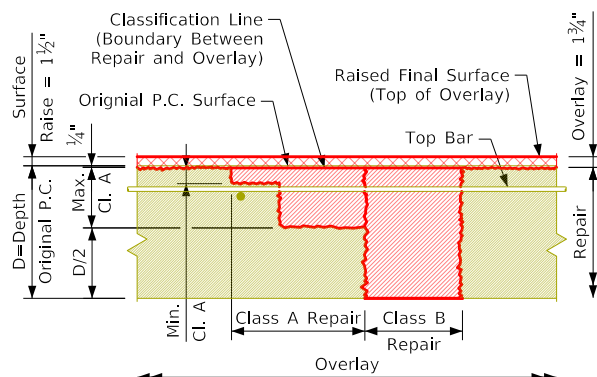
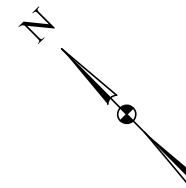
Location

IOWA #9 over Trout Creek  
 Section 5  
 T-97N & R-7W  
 Frankville Township  
 City of Decorah  
 Winneshiek County  
 Maintenance No 9665.05009  
 FHWA No. 52620  
 Latitude 43.247783°  
 Longitude -91.703682°

Design For 30 Degree RA	
<b>125'-0" x 44'-0" Continuous Concrete Slab Bridge</b>	
38'-0" End Spans	49'-0" Interior Span
<b>Situation Plan</b>	
STA. 342+08.00 (IA #9)	Turn-In Date: December 2023
<b>Winneshiek County</b>	
IOWA DEPARTMENT OF TRANSPORTATION	
Design No. 125	Design Sheet No. 3 of 8
FHWA No. 52620	



Deck Repair Plot



Repair and Overlay Definition

Deck Repair Quantities		
Type	Units	Quantity
Class A Repair	Sq. Yd.	108.9
Class B Repair	Sq. Yd.	---

Note:  
Repair areas were determined from Iowa DOT Delamtect plot (June 2023 Report). Actual areas and quantities shall be determined by the Engineer at the time of construction.

Legend	
<span style="display: inline-block; width: 15px; height: 10px; background-color: #f08080; border: 1px solid black;"></span>	Indicates Class A Repair

Design For 30 Degree RA

**125'-0" x 44'-0" Continuous Concrete Slab Bridge**

38'-0" End Spans 49'-0" Interior Span

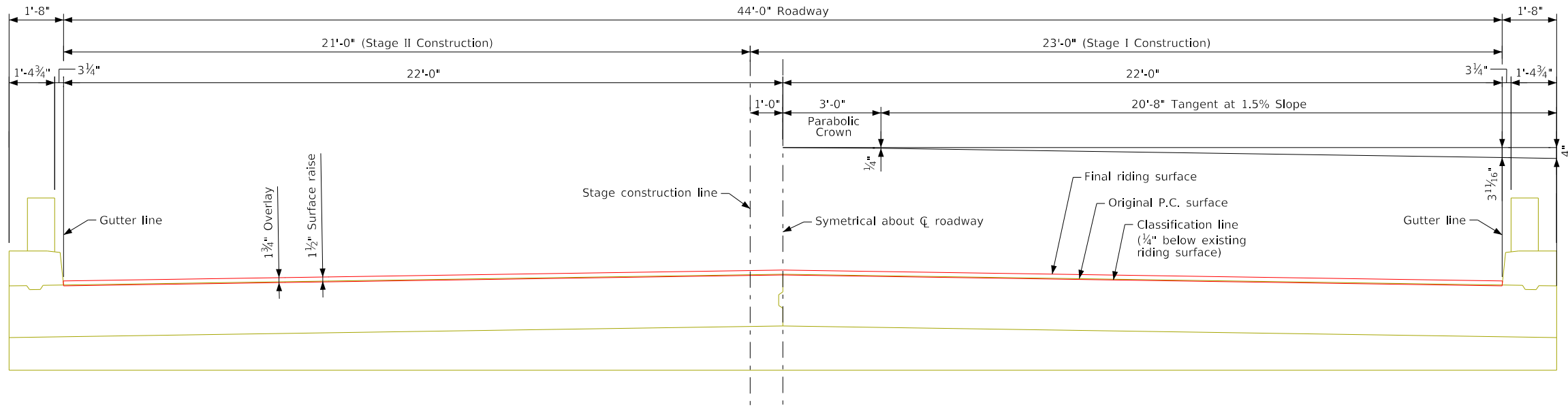
**Deck Repair Plot**

STA. 342+08.00 (IA #9) Turn-In Date: December 2023

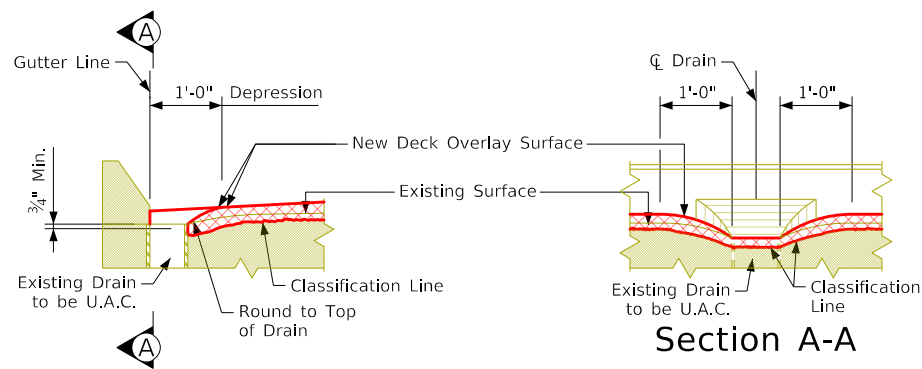
**Winneshiek County**

IOWA DEPARTMENT OF TRANSPORTATION

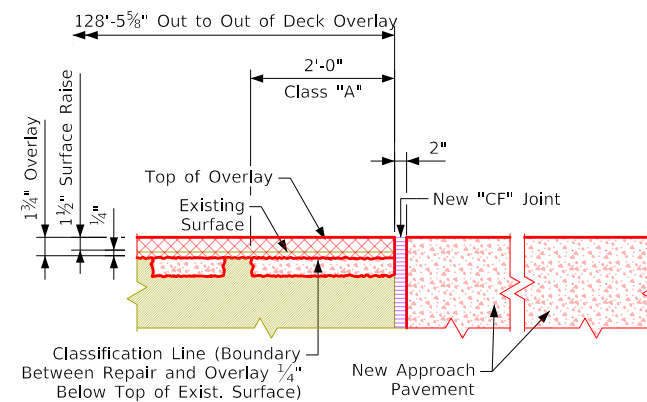
Design No. 125 Design Sheet No. 4 of 8 FHWA No. 52620



Typical Section  
(Looking East)



Deck Repair Detail at Drain  
(Required at 4 Locations)



Part Longitudinal Section Along Roadway  
(Both Abutments)

Design For 30 Degree RA

**125'-0" x 44'-0" Continuous Concrete Slab Bridge**

38'-0" End Spans 49'-0" Interior Span

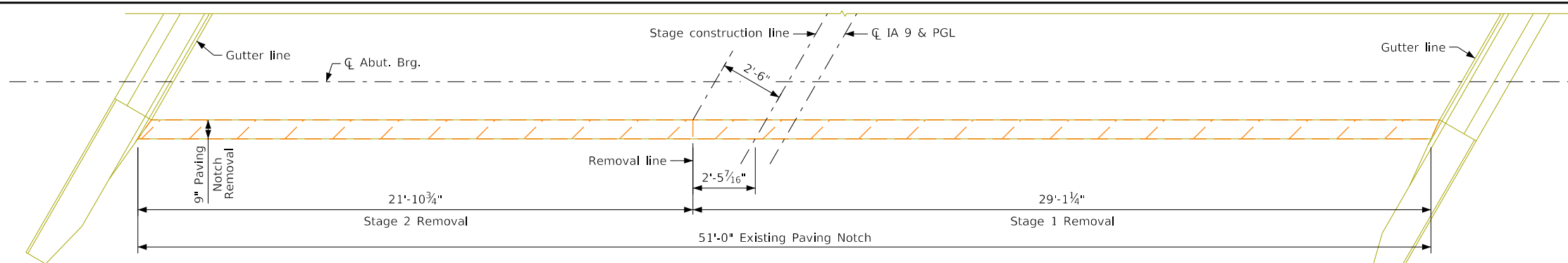
**Deck Overlay Details**

STA. 342+08.00 (IA #9) Turn-In Date: December 2023

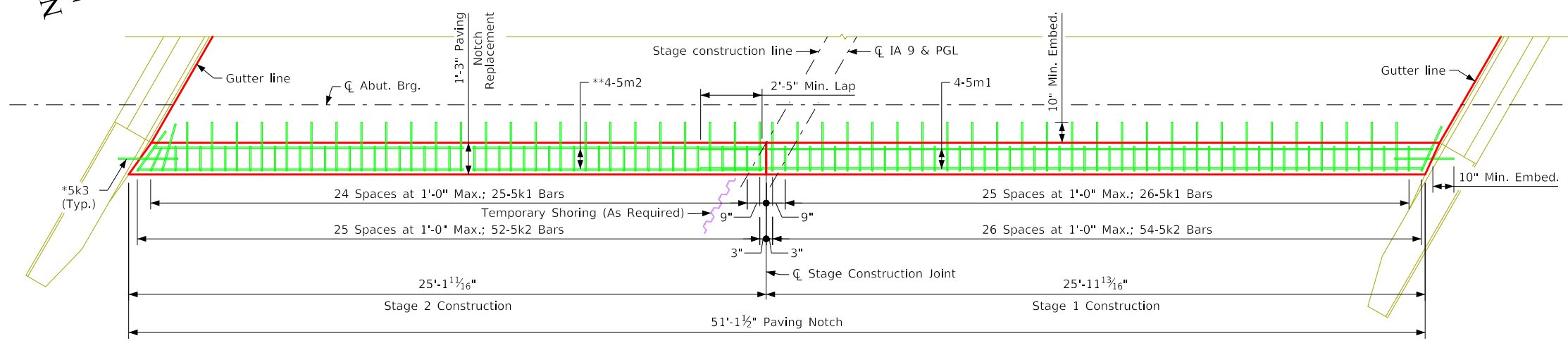
**Winneshiek County**

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 125 Design Sheet No. 5 of 8 FHWA No. 52620



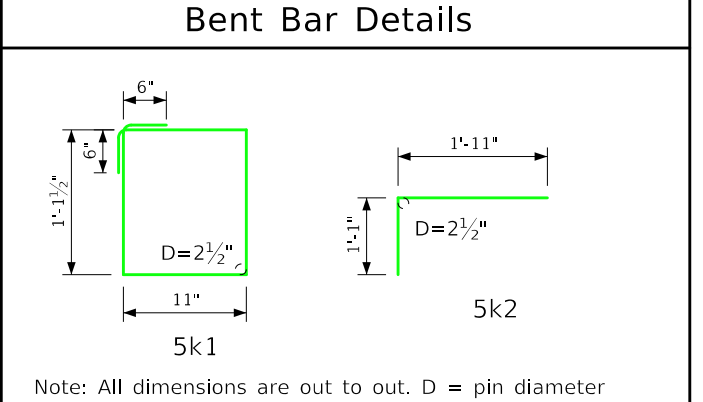
Abutment Paving Notch Removal Plan



Abutment Paving Notch Repair Plan

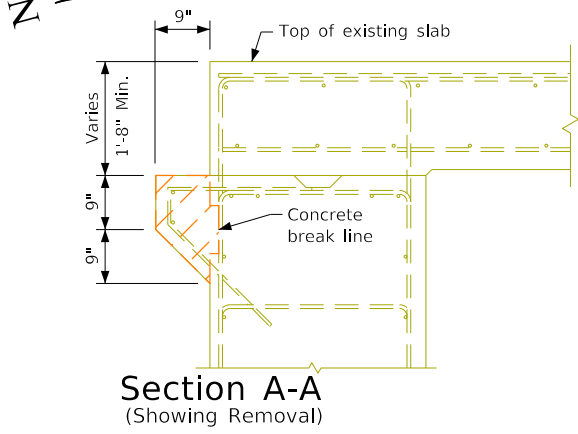
### Epoxy-Coated Reinforcing Bar List - Two Paving Notches

Bar	Location	Shape	No.	Length	Weight
5k1	Paving Notch, Transverse	□	102	5'-1"	541
5k2	Paving Notch, Dowels	┌	212	3'-0"	663
5k3	Wingwall, Dowels	—	8	2'-4"	19
5m1	Paving Notch, Longitudinal	—	8	28'-11"	241
5m2	Paving Notch, Longitudinal	—	8	24'-8"	206
(For Information Only) - Total (Lbs.)					1670



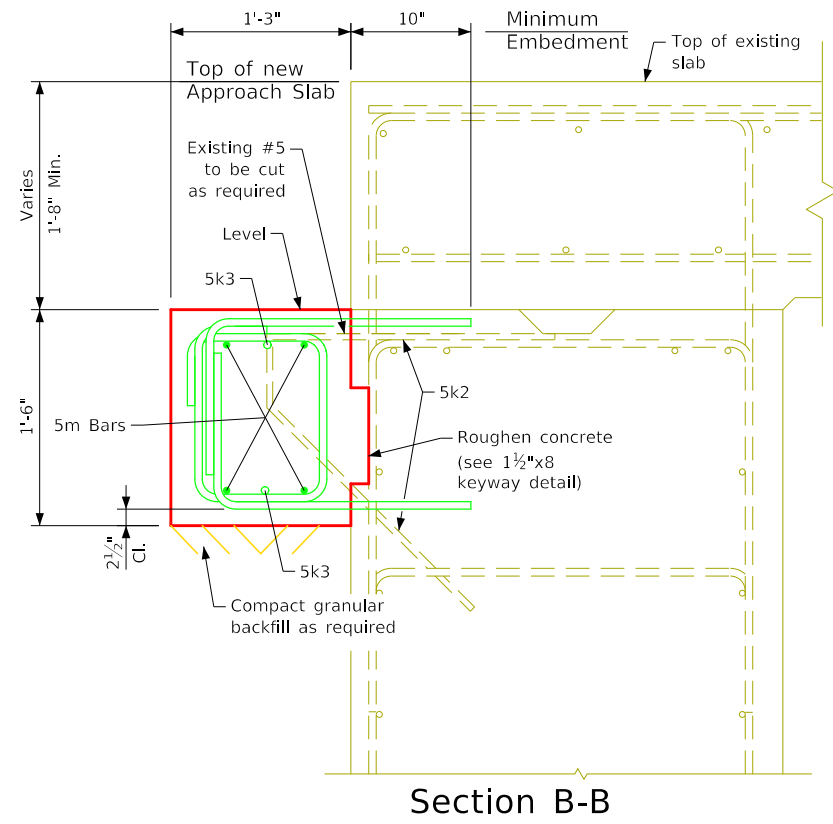
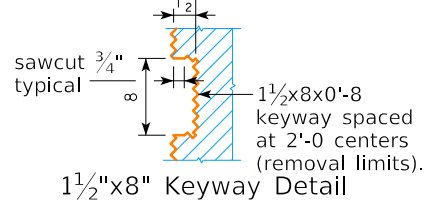
### Concrete Placement Both Paving Notches

Location	Total
Paving Notches	7.4
Total (Cu. Yd.)	
	7.4



Section A-A (Showing Removal)

Note: If any portion of the existing #5 bars is located within the new paving notch, it shall be carefully exposed and incorporated into new work. The bar shall be cut off to provide 2 inches of cover from the extents of the new paving notch. All portions of the existing #5 bars that are removed and left exposed outside of new paving notch area shall be cut off flush or slightly below the existing concrete surface and the ends painted with 2 coats of zinc rich paint.



Section B-B

Note: New paving notch should extend from bridge wingwall to bridge wingwall.

\* Note: 5k3 bars shall be set as dowels embedded 10 inches minimum into the existing bridge wingwalls and extending a minimum of 1'-6" into the new paving notch replacement.

\*\* Note: 5m2 bars shall be cut in field as required to maintain 2" clear cover.

Note: 5k2 bars at 1'-0" centers are to be placed at the top and bottom of the paving notch. The 5k1 bars at 1'-0" centers are centered between the 5k2 bars.

Note: Dowels may be shifted to miss any reinforcing steel.

Note: Use BR-203 Approach Pavement Standard for fixed abutment.

### Paving Notch Replacement Notes:

The paving notch replacement is to be Class "C" Structural Concrete.

Minimum clear distance from face of concrete to near reinforcing bar is to be 2" unless otherwise noted or shown.

The bid item "Paving Notch Replacement" linear feet, shall include all costs of labor and materials associated with excavation, removing and disposing of the existing paving notch, supplying and compacting granular backfill, and installing the new notch. This work shall include cutting of existing #5 bars, painting the ends of the #5 bars, removing the concrete for the shear keyways, drilling the holes for the deformed dowels and constructing the new notch to the dimensions shown.

Removals shall be in accordance with Section 2401, of the Standard Specifications.

### Dowel Setting Note:

The 5k2 and 5k3 bars shall be set as dowels in drilled holes. Holes are to be 10" deep. A polymer grout system shall be used to install the deformed dowel bars in accordance with Article 2301.03,E, of the Standard Specifications, and the grout manufacturer's recommendations.

Design For 30 Degree RA

## 125'-0" x 44'-0" Continuous Concrete Slab Bridge

38'-0" End Spans 49'-0" Interior Span

### Paving Notch Replacement

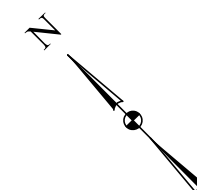
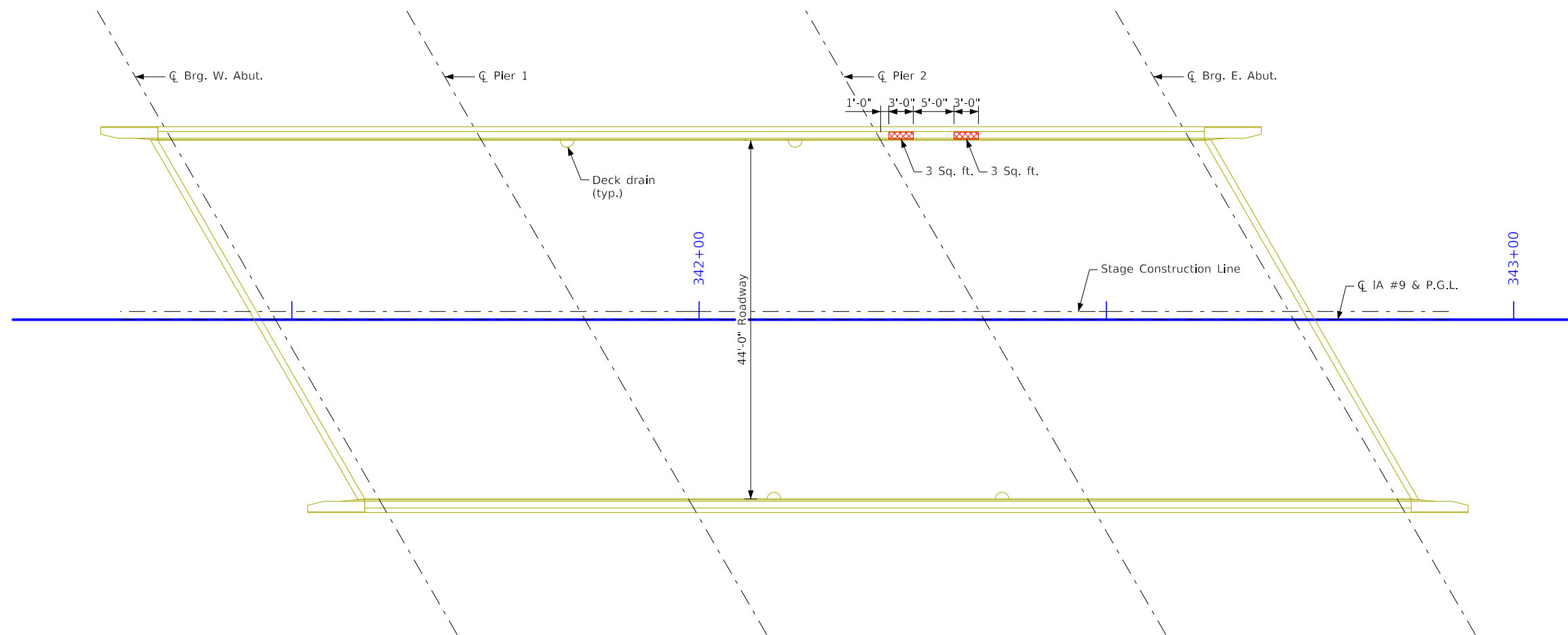
STA. 342+08.00 (IA #9) Turn-In Date: December 2023

## Winneshiek County

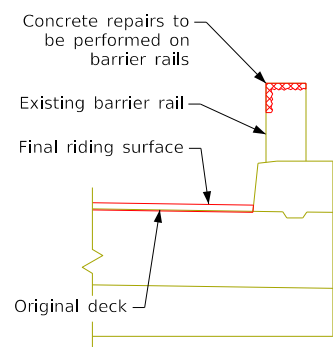
IOWA DEPARTMENT OF TRANSPORTATION

Design No. 125 Design Sheet No. 6 of 8 FHWA No. 52620





Barrier Rail Repair Plan



Barrier Rail Repair

Curb Repair Quantities		
Location	Shallow	Regular
Concrete Repair (SF)	0	6

Concrete repair locations for estimating purposes. The actual quantity is determined at the time of repair. Actual spalled and hollow areas as determined by the engineer shall be repaired.

Legend	
	Regular Repair

Design For ####  
####  
####

#### End Spans                      #### Interior Span

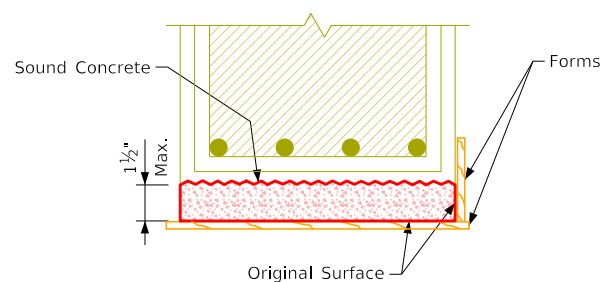
### Concrete Repair Details

STA. #### (####)                      Turn-In Date: ####

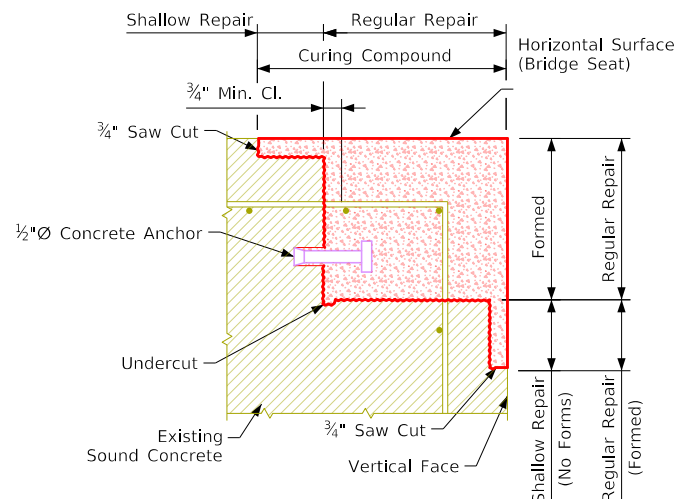
## #### County

IOWA DEPARTMENT OF TRANSPORTATION

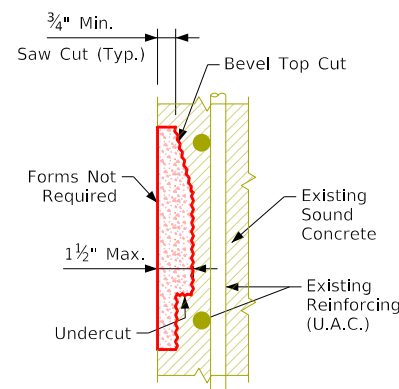
Design No. ####    Design Sheet No. 7 of ####    FHWA No. ####



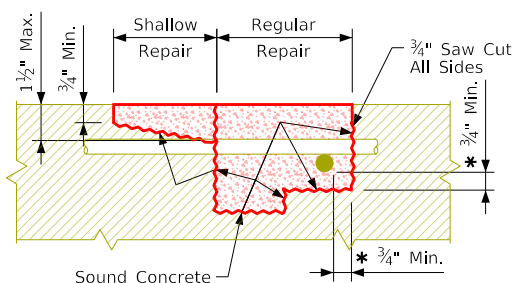
**Shallow Repair Bottom Surface**



**Corner Repair**

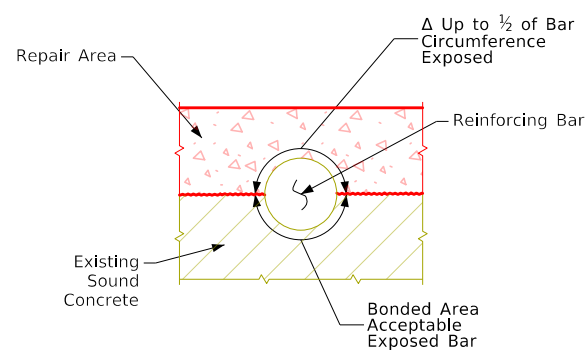


**Shallow Repair Vertical Face**

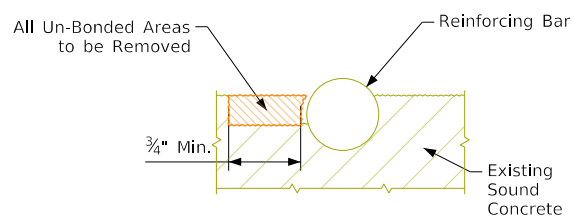


**Repair Definition**

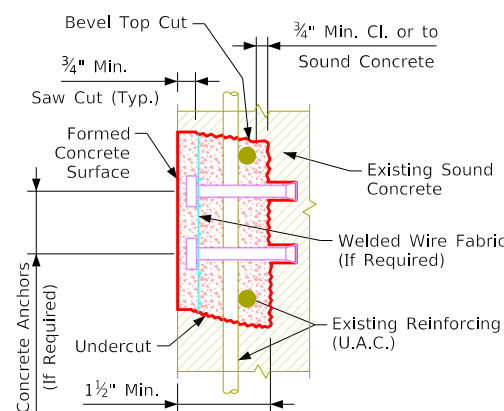
\* Indicates Clearance for an Un-Bonded Rebar.



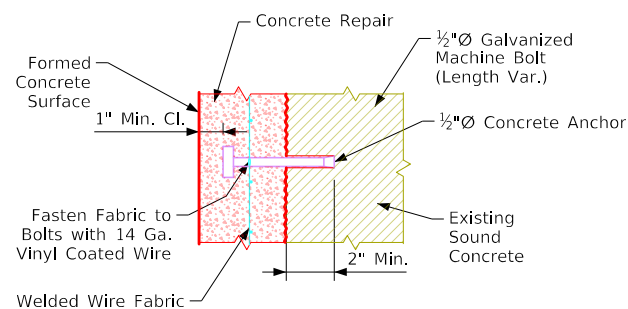
Δ If more than 1/2 of the rebar is exposed it shall be treated as an un-bonded rebar.



**Concrete Removal Adjacent to Reinforcing**



**Regular Repair Vertical Face**



**Anchor Detail**

For Spacing and Use of Concrete Anchors and WWF See the Repair Notes.

**Repair Notes:**

The spalled and hollow areas of this bridge as noted and shown in these plans shall be repaired as follows:

- All the costs of equipment and materials required to repair the spalled and hollow areas of this bridge shall be included in the price bid for "Concrete Repair".
- The price bid for "Concrete Repair" shall include the cost of all concrete anchors and welded wire fabric required by the plans.
- The Engineer shall determine and outline by visual and audible inspection the actual areas of the concrete repairs. The Contractor shall be paid for the actual amount of repairs made on a square foot basis based on the price bid per square foot.
- All existing reinforcing bars that are exposed by the concrete removal shall be cleaned and carefully incorporated into the new work, except badly deteriorated existing reinforcing which shall be replaced as directed by the Engineer.
- The concrete anchors required shall have a minimum pull out of 5,000 lbs based on 4,000 psi concrete. An anchor meeting the requirements of Iowa D.O.T. Materials I.M. 453.09 and the pull out load above is required. The anchors shall be galvanized and shall be installed according to recommendations of the Manufacturer. The cost of furnishing and installing the concrete anchors shall be included in the price bid for "Concrete Repair".
- The welded wire fabric shall be ASTM A185 and galvanized as per ASTM A-641. The WWF wires shall be spaced 3x3 or 4x4 and the wires shall have a nominal area of 0.014 to 0.029 sq in inclusive, example "WWF 3x3 - W1.4xW2.9".

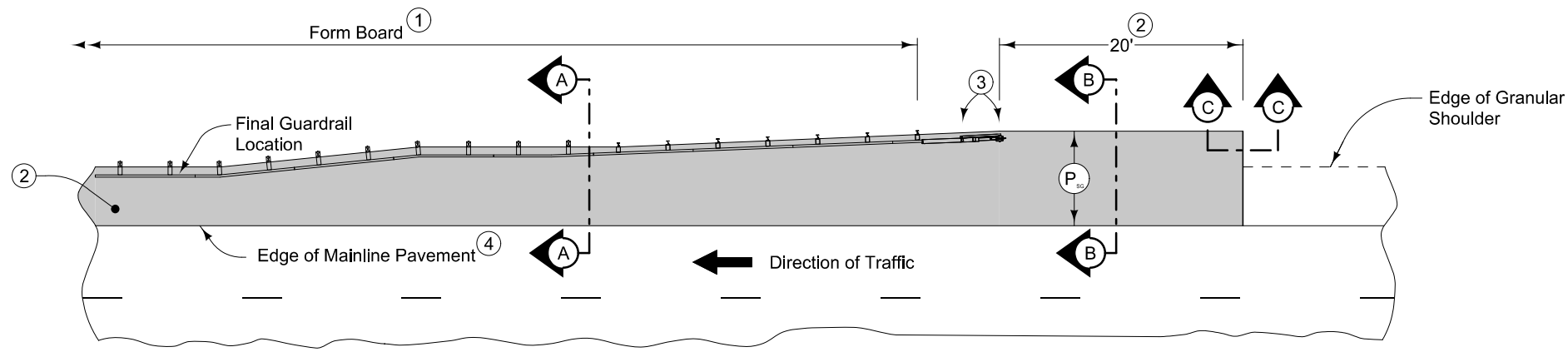
Where reinforcement has been exposed and clearance around the periphery of the existing bar is provided, no supplemental reinforcing is required, except where existing reinforcement density and pattern are such that individual open spaces between bars are of 1.5 sq ft or larger. For this condition 1/2"Ø concrete anchors and welded wire fabric shall be installed at the rate of one concrete anchor with WWF per each 1.5 sq ft of area within each open space.

Repairing the structural concrete shall be in accordance with Section 2426, of the Standard Specifications.

Concrete Placement Quantities			
Mark	Type	Units	Quantity
①	Shallow repair	Sq. Ft.	0
②	Regular repair	Sq. Ft.	6
		Total (Sq. Ft.)	6

Estimated Concrete Repair Quantities		
Description	Units	Amount
Concrete Repair	Sq. Ft.	6

Design For 30 Degree RA  
**125'-0" x 44'-0" Continuous Concrete Slab Bridge**  
 38'-0" End Spans 49'-0" Interior Span  
**Concrete Repair Details**  
 STA. 342+08.00 (IA #9) Turn-In Date: December 2023  
**Winneshiek County**  
 IOWA DEPARTMENT OF TRANSPORTATION  
 Design No. 125 Design Sheet No. 8 of 8 FHWA No. 52620



PLAN VIEW

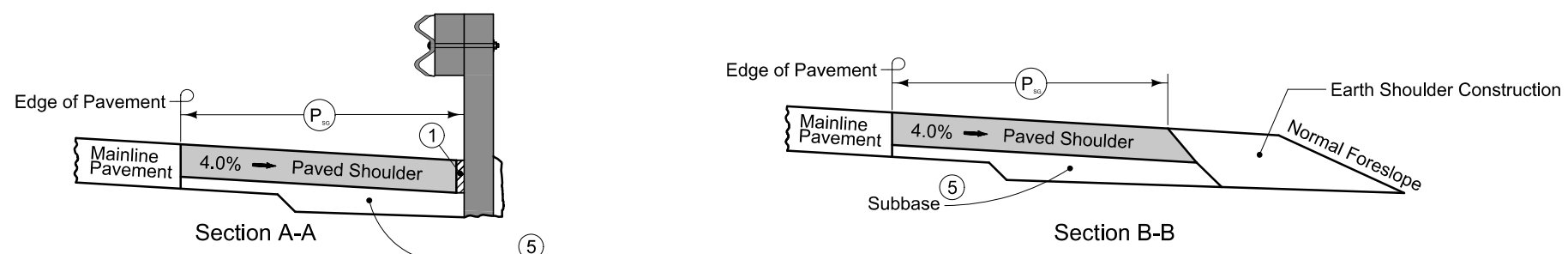
9" HMA Paved Shoulder at guardrail. 8" PCC may be substituted with the following jointing layout:

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

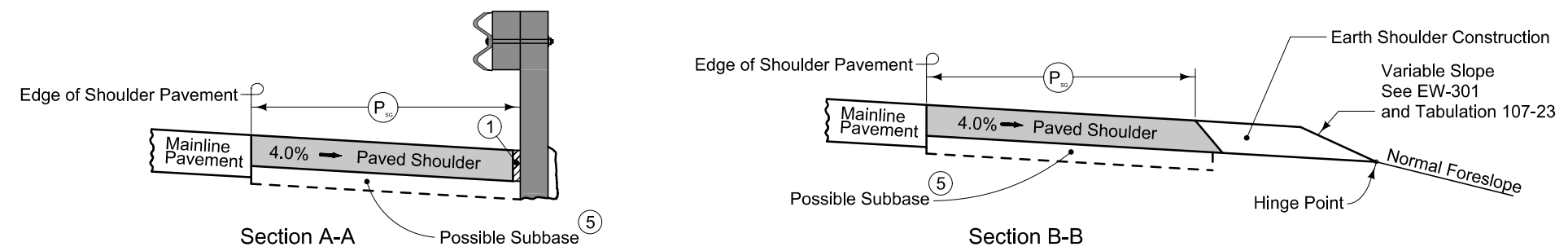
Compaction of HMA is required to face of guardrail post. Hand compaction will be allowed under guardrail. Removal and reinstallation of guardrail will be allowed with no additional payment.

Refer to Tabulation 112-9 for shoulder quantities.

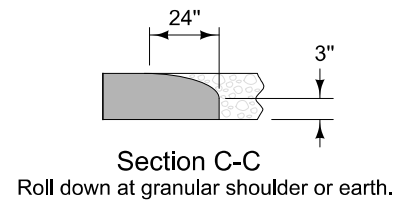
- ① PCC option only: When guardrail posts are installed prior to construction of PCC paved shoulder, fasten form board to the face of guardrail posts for the length shown.
- ② Continue paved shoulder 20 feet beyond the center of the first post.
- ③ Shoulder may be notched for first 2 posts or post sleeves may be installed through pavement. Do not drive posts through pavement.
- ④ 'KT' joint (per PV-101) for PCC shoulder. 'B' joint (per PV-101) for HMA shoulder.
- ⑤ Refer to other details in the plan.



NEW CONSTRUCTION



EXISTING SHOULDER



PAVED SHOULDER AT GUARDRAIL  
(GRANULAR SHOULDER ADJACENT TO MAINLINE)

ROADWAY DESIGN

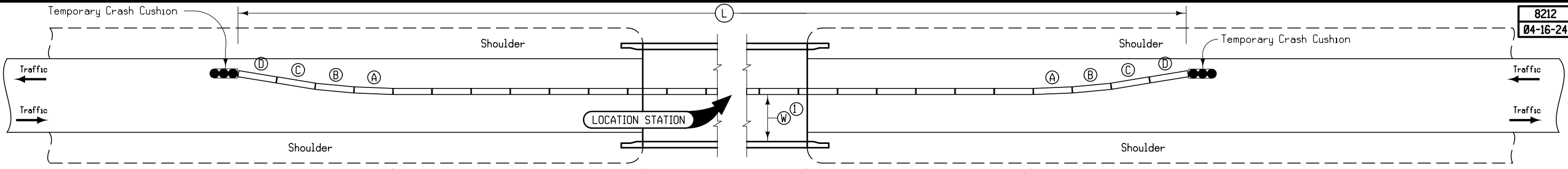
I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

*Jeffrey J. Tardy* 11/13/2023  
Signature Date

Jeffrey J. Tardy  
Printed or Typed Name

My license renewal date is December 31, 2023

Pages or sheets covered by this seal: B.1-B.2, C.1-C.5, D.1-D.2, J.1-J.2

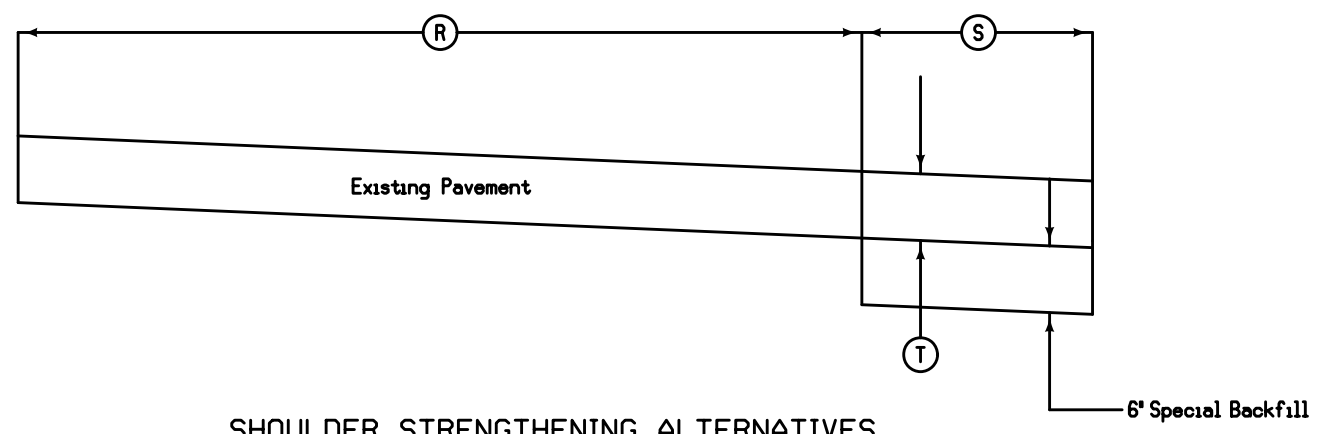
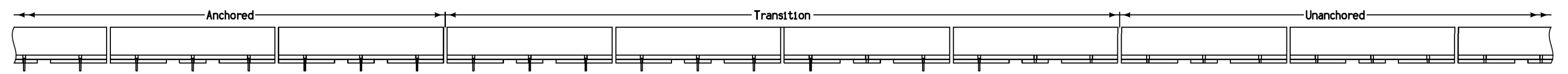


① Where (W) is less than 15'-6", install restricted width signing as per Standard Road Plan TIC-04

**BARRIER OFFSETS FOR FLARE SECTIONS**

Station	Side	(AA)	(WL)	(TA)	(L)	Anchored	(W) ①	Remarks
		Feet	Feet	Feet	Feet	X	Ft-Inches	
342+00.00	RT	20	382	20	525.0	X	16-0	Stage 1 TBR should only be anchored on approach slab. See BENESCH-2 below and Tab 108-33 on Sheet C.4.
342+00.00	LT	20	382	20	525.0		16-0	Stage 2

**TEMPORARY CONCRETE BARRIER LAYOUT for Two-Way Traffic**



**SHOULDER STRENGTHENING ALTERNATIVES**

Direction of Travel	Location		Pavement Alternates		Existing Pavement	Shoulder Strengthening	6" Special Backfill	Shoulder Strengthening	Class 13 Excavation Waste	Remarks
			HMA	PCC						
	Station to Station	(T)	(T)	(R)	(S)	Tons	SY	CY		
WB	337+93.15	341+38.47	8	7	12	VAR 2' - 10'	97.5	309.4	120.3	Stage 1
WB	342+62.90	346+14.95	8	7	12	VAR 2' - 10'	99.8	316.9	123.2	Stage 1
EB	337+91.00	340+26.05	8	7	12	VAR 2' - 10'	59.7	189.6	73.7	Stage 2
EB	344+07.85	346+14.76	8	7	12	VAR 2' - 10'	50.1	159.1	61.9	Stage 2
TOTALS							307.1	975.0	379.1	

**PROJECT DESCRIPTION**

This project is for construction of bridge approach pavements, paved shoulders, guardrails, and the traffic control associated with a bridge deck overlay and repair project on IA 9 over Trout Creek in Winneshiek County.

**ESTIMATED PROJECT QUANTITIES  
(1 DIVISION PROJECT)**

Item No.	Item Code	Item	Unit	Total	As Built Qty.
1	2102-0425070	SPECIAL BACKFILL	TON	307.1	
2	2102-2625000	EMBANKMENT-IN-PLACE	CY	120.9	
3	2102-2713090	EXCAVATION, CLASS 13, WASTE	CY	489.6	
4	2105-8425005	TOPSOIL, FURNISH AND SPREAD	CY	60.5	
5	2115-0100000	MODIFIED SUBBASE	CY	221.1	
6	2122-5500090	PAVED SHOULDER, HOT MIX ASPHALT MIXTURE, 9 IN.	SY	331.6	
7	2122-7450080	SHOULDER STRENGTHENING, OPTIONAL HOT MIX ASPHALT MIXTURE OR PORTLAND CEMENT CONCRETE, 8 IN.	SY	975	
8	2123-7450000	SHOULDER CONSTRUCTION, EARTH	STA	2.3	
9	2301-0690203	BRIDGE APPROACH, BR-203	SY	811	
10	2412-0000100	LONGITUDINAL GROOVING IN CONCRETE	SY	1448	
11	2505-4008120	REMOVAL OF STEEL BEAM GUARDRAIL	LF	272.4	
12	2505-4008300	STEEL BEAM GUARDRAIL	LF	100	
13	2505-4008410	STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION, BA-201	EACH	4	
14	2505-4021010	STEEL BEAM GUARDRAIL END ANCHOR, BOLTED	EACH	4	
15	2505-4021720	STEEL BEAM GUARDRAIL TANGENT END TERMINAL, BA-205	EACH	4	
16	2510-6745850	REMOVAL OF PAVEMENT	SY	414.6	
17	2524-6765010	REMOVE AND REINSTALL SIGN AS PER PLAN	EACH	2	
18	2527-9263109	PAINTED PAVEMENT MARKINGS, WATERBORNE OR SOLVENT-BASED	STA	30.33	
19	2527-9263131	WET RETROREFLECTIVE REMOVABLE TAPE MARKINGS	STA	3.3	
20	2527-9263180	PAVEMENT MARKINGS REMOVED	STA	30.33	
21	2528-8400048	TEMPORARY BARRIER RAIL, CONCRETE	LF	1050	
22	2528-8400256	TEMPORARY TRAFFIC SIGNAL	EACH	1	
23	2528-8445110	TRAFFIC CONTROL	LS	1	
24	2528-8445113	FLAGGERS	EACH	SEE PROPOSAL	
25	2548-0000100	MILLED SHOULDER RUMBLE STRIPS, HMA SURFACE	STA	2.32	
26	2548-0000110	ASPHALT EMULSION FOR FOG SEAL (SHOULDER RUMBLE STRIP)	GAL	2.8	
27	2551-0000110	TEMP CRASH CUSHION	EACH	4	
28	2602-0000020	SILT FENCE	LF	840.1	
29	2602-0000071	REMOVAL OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS	LF	840.1	
30	2602-0000101	MAINTENANCE OF SILT FENCE OR SILT FENCE DITCH CHECKS	LF	84.01	
31	2602-0000312	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA.	LF	200	
32	2602-0000320	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 20 IN. DIA.	LF	200	
33	2602-0000351	REMOVAL OF PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE	LF	400	

**ESTIMATE REFERENCE INFORMATION**

Item No.	Item Code	Description
1	2102-0425070	SPECIAL BACKFILL See Benesch-1 on sheet B.2 for details.
2	2102-2625000	EMBANKMENT-IN-PLACE Assume average depth of 1 foot. Contractor to furnish borrow. See Tab 107-23 on C sheets.
3	2102-2713090	EXCAVATION, CLASS 13, WASTE Assume average depth of 1 foot except for locations of shoulder strengthening. Excavated material may be used as embankment in place. See Benesch-1 on sheet B.2 and Tab 112-9 for location and details.
4	2105-8425005	TOPSOIL, FURNISH AND SPREAD See Tab 103-10 on C sheets for location and details.
5	2115-0100000	MODIFIED SUBBASE Item is for roadway subgrade underneath paved shoulder See typical detail 7156 on sheet B.1 and Tab 112-9 on C Sheets.

**ESTIMATE REFERENCE INFORMATION**

Item No.	Item Code	Description
6	2122-5500090	PAVED SHOULDER, HOT MIX ASPHALT MIXTURE, 9 IN. Item is for paved shoulder adjacent to guardrail. See Tab 112-9 on C sheets.
7	2122-7450080	SHOULDER STRENGTHENING, OPTIONAL HOT MIX ASPHALT MIXTURE OR PORTLAND CEMENT CONCRETE, 8 IN. See Benesch-1 on sheet B.2 for details.
8	2123-7450000	SHOULDER CONSTRUCTION, EARTH Refer to Tab 112-9 on C sheets.
9	2301-0690203	BRIDGE APPROACH, BR-203 Refer to Tab 112-6 on C sheets for details.
10	2412-0000100	LONGITUDINAL GROOVING IN CONCRETE Refer to Tab 100-28 on the C Sheets.
11	2505-4008120	REMOVAL OF STEEL BEAM GUARDRAIL See D Sheets and Tab 110-7A on C Sheets for details.
12	2505-4008300	STEEL BEAM GUARDRAIL
13	2505-4008410	STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION, BA-201
14	2505-4021010	STEEL BEAM GUARDRAIL END ANCHOR, BOLTED
15	2505-4021720	STEEL BEAM GUARDRAIL TANGENT END TERMINAL, BA-205 Refer to Tab 108-8A on C sheets.
16	2510-6745850	REMOVAL OF PAVEMENT Refer to Tab 110-1 on C sheets for location and details.
17	2524-6765010	REMOVE AND REINSTALL SIGN AS PER PLAN Refer to Sheet D.2 for locations.
18	2527-9263109	PAINTED PAVEMENT MARKINGS, WATERBORNE OR SOLVENT-BASED
19	2527-9263131	WET RETROREFLECTIVE REMOVABLE TAPE MARKINGS
20	2527-9263180	PAVEMENT MARKINGS REMOVED Refer to Tab 108-22 on C Sheets for locations and details. Painted pavement markings, waterborne or solvent based are for use on temporary longitudinal markings and all final markings. Wet retroreflective tape markings are for use on all diagonal temporary markings.
21	2528-8400048	TEMPORARY BARRIER RAIL, CONCRETE See Tab 108-33 on C Sheets for locations and details.
22	2528-8400256	TEMPORARY TRAFFIC SIGNAL Refer to Tab 108-28 and C Sheets for locations and details.
23	2528-8445110	TRAFFIC CONTROL See Traffic Control Plan on J Sheets.
24	2528-8445113	FLAGGERS See Proposal.
25	2548-0000100	MILLED SHOULDER RUMBLE STRIPS, HMA SURFACE Refer to tab 112-10 on C sheets for locations and details.
26	2548-0000110	ASPHALT EMULSION FOR FOG SEAL (SHOULDER RUMBLE STRIPS) Refer to tab 112-10 on C sheets for locations and details.
27	2551-0000110	TEMP CRASH CUSHION Refer to Tab 108-30 on C sheets for locations.
28	2602-0000020	SILT FENCE Refer to Tab 100-17 on C sheets. The Tabulation includes estimated locations for placement of silt fence to address possible erosion during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 25% additional quantity for field adjustments and replacements. Verify the specific locations with the Engineer prior to beginning placement.
29	2602-0000071	REMOVAL OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS This item is included for silt fence and silt fence ditch check removal required for staging reasons, for replacement (replacement to be paid separately), or for areas that have achieved 70% permanent growth. This item is for 100% of the silt fence Bid quantity.
30	2602-0000101	MAINTENANCE OF SILT FENCE OR SILT FENCE DITCH CHECKS This item is included for cleanout and repair of the silt fence for ditch checks during the project This item is for 10% of the silt fence Bid quantity.
31	2602-0000312	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA.
32	2602-0000320	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 20 IN. DIA. Refer to Tab 100-19 on C sheets. Specific locations not determined
33	2602-0000351	REMOVAL OF PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE Refer to Tab 100-19 on C sheets.

103-10  
04-18-17

### TOPSOIL STRIPPING AND PLACEMENT

Road Identification	Location			Topsoil Stripping Thickness	Topsoil Placement Thickness	Remarks
	Dir. of Traffic	Begin Station	End Station			
IA 9	WB	339+62.16	341+33.56	6.0	6.0	15.4 CY
IA 9	EB	339+94.53	341+58.97	6.0	6.0	14.8 CY
IA 9	WB	342+62.03	344+25.91	6.0	6.0	14.7 CY
IA 9	EB	342+87.44	344+59.79	6.0	6.0	15.6 CY
						60.5 TOTAL CY

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	10-18-22	Steel Beam Guardrail Barrier Transition Section (MASH TL-3)
BA-202	10-20-15	Steel Beam Guardrail Bolted End Anchor
BA-205	10-17-23	Steel Beam Guardrail Tangent End Terminal (MASH TL-3)
BA-250	04-20-21	Steel Beam Guardrail Installation at Concrete Barrier or Bridge End Post (MASH TL-3)
BA-401	04-20-21	Temporary Barrier Rail (Precast Concrete)
BA-500	04-20-21	Temporary Crash Cushions Sand Barrel
BR-203	10-19-21	Double Reinforced 12" Approach
BR-212	10-18-22	Bridge Approach (Abutting HMA Pavement)
EC-201	04-20-21	Silt Fence
EC-204	10-19-21	Perimeter, Slope and Ditch Check Sediment Control Devices
EW-301	04-20-21	Guardrail Grading
PM-110	04-21-20	Line Types
PV-12	10-20-20	Milled Shoulder Rumble Strips
PV-101	04-19-22	Joints
SI-173	04-19-16	Object Markers
SI-211	10-18-22	Object Marker and Delineator Placement with Guardrail
SI-881	04-16-19	Special Signs for Workzones
TC-1	10-15-19	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-202	04-18-23	Work Within 15 ft of Traveled Way
TC-213	04-18-23	Lane Closure With Flaggers
TC-217	04-18-23	Lane Closure With Signals and TBR
TC-233	10-17-17	Pavement Marking Operations Two-Lane

100-19  
10-19-21

### PERIMETER, SLOPE AND DITCH CHECK SEDIMENT CONTROL DEVICES

Possible Standards: EC-204

Location			Perimeter and Slope			Ditch Check			Remarks	
Begin Station	End Station	Side	Length of Installation			Length of Installation				
			9 inch Dia	12 inch Dia	20 inch Dia	12 inch Dia	20 inch Dia			
			LF	LF	LF	LF	LF			
339+81.62	341+33.56	LT		50					Specific Location Not Determined	
339+94.53	341+58.97	RT		50					Specific Location Not Determined	
342+62.03	344+25.91	LT		50					Specific Location Not Determined	
342+87.44	344+39.33	RT		50					Specific Location Not Determined	
				200						TOTAL

100-17  
04-20-10

### TABULATION OF SILT FENCES

Refer to EC-201

Location			Length LF	Remarks
Begin Station	End Station	Side		
339+62.16	341+33.56	LT	171.4	
339+94.53	341+58.97	RT	164.4	
342+62.03	344+25.91	LT	163.9	
342+87.44	344+59.79	RT	172.4	
			672.1	TAB QUANTITY
			840.1	BID QUANTITY (25% INC.)

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.

111-25  
10-18-11

### INDEX OF TABULATIONS

Tabulation	Tabulation Title	Sheet No.
<b>C Sheets</b>		
100-1A	Estimated Project Quantities	C.1
100-1D	Project Description	C.1
100-4A	Estimate Reference Information	C.1
100-17	Tabulation of Silt Fences	C.2
100-19	Perimeter, Slope and Ditch Check Sediment Control Devices	C.2
100-28	Longitudinal Grooving	C.3
103-10	Topsoil Stripping and Placement	C.2
105-4	Standard Road Plans	C.2
107-23	Grading for Guardrail Installations	C.3
108-8A	Steel Beam Guardrail at Concrete Barrier or Bridge Rail End Section	C.3
108-22	Pavement Marking Line Types	C.5
108-28	Temporary Traffic Signals	C.4
108-30	Crash Cushions	C.3
108-33	Temporary Barrier Rail	C.4
110-1	Removal of Pavement	C.4
110-7A	Removal of Steel Beam Guardrail	C.3
111-25	Index of Tabulations	C.2
112-6	Bridge Approach Section	C.4
112-9	Shoulders	C.4
112-10	Milled Rumble Strips	C.4
232-3A	Erosion Control (Rural Seeding)	C.2
232-11	Erosion Control (Stabilizing Crop Seeding)	C.2
262-6	Utilities (Not a Point 25 Project)	C.2
<b>J Sheets</b>		
108-23A	Traffic Control Plan	J.1
108-25	511 Travel Restrictions	J.1
108-26A	Staging Notes	J.1
111-01	Coordinated Operations	J.1

232-3A  
10-19-21

### EROSION CONTROL (RURAL SEEDING)

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

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

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

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

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

232-11  
10-19-21

### EROSION CONTROL (STABILIZING CROP SEEDING)

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

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

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

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

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

107-23  
10-18-11

GRADING FOR GUARDRAIL INSTALLATIONS

Refer to EW-301

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

Location				Dimensions (Feet)									Earthwork		Remarks	
No.	Direction of Traffic	Station	Side	Foreslope at Guardrail	X1	Y1	X2	Y2	X3	Y3	X4	Y4	Z	Excavation Class 10		Embankment In Place
1	WB	341+33.56	RT	3:1	51.1	16.3						120.5	18.4	43.9	30.8	Note: Side designations are in direction of travel
2	EB	341+58.97	RT	3:1	63.6	16.3						120.5	18.4	43.9	29.5	
3	WB	342+62.03	RT	3:1	63.6	16.3						120.5	18.4	43.9	29.5	
4	EB	342+87.44	RT	3:1	51.1	16.3						120.5	18.4	43.9	31.1	
															120.9	Total

100-28  
10-19-10

LONGITUDINAL GROOVING

Location	Total	Remarks
	SY	
340+67.65	405.8	West Approach
341+45.37	636.7	Bridge
342+75.63	405.6	East Approach
	1448.0	TOTAL

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.

No.	Direction of Traffic	Side	Station	Offset	Layout Lengths					Long-Span System	Delineators and Object Markers ②					Bid Items							Remarks			
					BA-250, BA-260, LS-630, or LS-635						SI-211	Delineator SI-172	Object Marker SI-173			Bolted End Anchor	Post Adapter	Steel Beam Guardrail	BA-250 or LS-630					BA-260 or LS-635		
					VT1	VF	VT2	ET	Type 1				Type 2	Type 3	Barrier Transition Section				End Terminal					Barrier Transition Section	End Terminal	
					FT	LF	LF	LF	LF		White	OM2-2	OM3-L	OM3-R	BA-202	BA-210	BA-200	BA-201	BA-205	BA-206	LS-625	LS-626		BA-221	BA-225	
1	WB	0	341+33.56	22.0	59.375			47.7		3				1	B	1	25.0	1	1							
2	EB	0	341+58.97	22.0	59.375			47.7		3			1	B	1	25.0	1	1								
3	WB	0	342+62.03	22.0	59.375			47.7		3			1	B	1	25.0	1	1								
4	EB	0	342+87.44	22.0	59.375			47.7		3			1	B	1	25.0	1	1								
													2		2	4	100.0	4	4							TOTAL

108-30  
04-16-13

CRASH CUSHIONS

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

No.	Direction of Traffic	Location Station	Side	Obstacle Width	Crash Cushion (Select One)*					Sand Barrel Details ②					Earthwork*		Spare Parts Kit (Select One)*		Obstacle Description	Remarks
					Temporary	Temporary Redirective	Temporary Severe Use	Permanent	Permanent Severe Use	V	W	X	Y	Z	Excavation Class 10	Embankment in Place	Permanent	Permanent Severe Use		
1	EB	339+56.05	RT	2.00	1														TBR	EB STAGE 1
2	WB	344+77.85	RT	2.00	1														TBR	WB STAGE 1
3	EB	339+43.15	RT	2.00	1														TBR	EB STAGE 2
4	WB	344+64.95	RT	2.00	1														TBR	WB STAGE 2
					4															TOTAL

110-7A  
04-17-12

REMOVAL OF STEEL BEAM GUARDRAIL

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

No.	Direction of Traffic	Location			Removal of Guardrail
		Station to Station	Side	LF	
1	WB	340+66.82	341+33.56	RT	67.1
2	EB	340+90.68	341+58.97	RT	68.4
3	WB	342+62.03	343+28.74	RT	67.1
4	EB	342+87.44	343+57.04	RT	69.7
				Total	272.4
					TOTAL

108-33 10-15-19										
TEMPORARY BARRIER RAIL										
Possible Standard: BA-401 Possible Detail: 560-7										
* Not a bid item. Anchorage requirements are based on TBR locations shown in the plans. TBR alignments that vary from what is shown in the plans may result in additional TBR sections requiring anchorage.										
No.	Station to Station		Length LF	(Select One)		Anchored* (Y/N)	Modular Glare Screen System (Y/N)	Remarks	STAGE	
	Begin	End		Concrete BA-401	Steel 560-7				1	2
1	339+56.05	340+67.65	112.5	X		No	No		STAGE 1	
2	340+67.65	341+45.37	75.0	X		Yes	No		STAGE 1	
3	341+45.37	342+75.63	137.5	X		No	No		STAGE 1	
4	342+75.63	343+53.35	75.0	X		Yes	No		STAGE 1	
5	343+53.35	344+77.85	125.0	X		No	No		STAGE 1	
6	339+43.15	344+64.95	525.0	X		No	No		STAGE 2	
TOTAL										

110-1 04-16-13							
REMOVAL OF PAVEMENT							
Refer to Tabulation 102-5							
* Not a Bid Item							
Begin Station	End Station	Side	Pavement Type	Area		Saw Cut*	Remarks
				SY	LF		
340+67.65	341+45.37	LT/RT		207.3		51.7	
342+75.63	343+53.35	LT/RT		207.3		51.7	
TOTAL				414.6		103.5	

112-6 04-18-17																				
BRIDGE APPROACH SECTION																				
Refer to the BR Series.																				
* Not a bid item																				
Bridge Station	End	Location			Approach Pavement					Standard Road Plans BR Series			Subdrain							Remarks
		Skew Ahead Degrees	T Thickness Inches	Pay Length FT	Non-Reinf. Pavement Area SY	Single- Reinf. Pavement Area SY	Double- Reinf. Pavement Area SY	Approach	Fixed or Movable Abutment	Abutting Pavement	Perforated Subdrain 4" LF	Subdrain Outlet STA	Side	Porous Backfill CY	Class 'A' Crushed Stone Backfill CY	Modified Subbase TON	Polymer Grid SY	Special Backfill TON		
																			LEFT	
		TOTAL																		
342+00.00	W		30	12.0	70.0	158.6	103.5	143.4	BR-203	Movable	BR-212				298.400	324.5				
342+00.00	E		30	12.0	70.0	158.6	103.5	143.4	BR-203	Movable	BR-212				298.400	324.5				
TOTAL														596.800	649.0					

112-9 10-20-20																									
SHOULDERS																									
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	Direction of Traffic	Location							Quantities															Remarks	
		Station to Station	Side	P Width FT	P <sub>SG</sub> Width FT	G Width FT	L Length FT	Class 13 Excavation CY	Hot Mix Asphalt		Binder TONS	Paved Shoulder SY	" Paved Shoulder at Guardrail SY	Reinforced Paved Shoulder SY	Special Backfill				Modified Subbase CY	Granular Shoulder		Earth Shoulder Construction Alternates			
									TON	TON/STA					HMA Alternate		PCC Alternate			TON	TON/STA	STA	HMA CY		PCC CY
		FT	FT	FT	FT	CY	TON	TON/STA	TON	TON/STA	TON	TON/STA	TON	TON/STA	TON	TON/STA	TON	TON/STA	TON						
IA 9	WB	339+93.15	R	12.0-13.4			74.5	34.9			104.6								69.8				0.7		
IA 9	EB	340+26.05	R	12.6-13.4			41.6	20.4			61.1								40.7				0.4		
IA 9	WB	343+53.35	R	12.4-13.3			41.6	20.1			60.4								40.3				0.4		
IA 9	EB	343+53.35	R	12.1-13.7			74.0	35.2			105.5								70.3				0.7		
TOTAL								110.5			331.6								221.1				2.3		















112-10 10-20-2020												
MILLED RUMBLE STRIPS												
See PV-12 and PV-13.												
* Calculated at 18" width for Shoulder.												
Road Identification	Location			Shoulder Pavement Type	Rumble Strip Type (Centerline, Rt or Lt Shoulder)	L Installation Length IN	Fog Seal* (Milled Rumble Strip)		Effective Shoulder Width			Remarks
	Station to Station	Type	RT				Shoulder		PCC Paved FT	HMA Paved FT	Granular\ Earth FT	
							PCC	HMA				
	STA	STA					GAL					
IA 9 WB	339+93.15	340+67.65	HMA	Right Shoulder	12"			0.75			0.9	
IA 9 EB	340+26.05	340+67.65	HMA	Right Shoulder	12"			0.42			0.5	
IA 9 WB	343+53.35	343+94.95	HMA	Right Shoulder	12"			0.42			0.5	
IA 9 EB	343+53.35	344+27.32	HMA	Right Shoulder	12"			0.74			0.9	
TOTAL								2.32			2.8	

108-28 08-01-08					
TEMPORARY TRAFFIC SIGNALS					
No.	Location Station	Type			Remarks
		One Lane Traffic	Haul Road	Intersection	
1	342+00.00	EB, WB		Trout Creek	To be used in Stages 1 and 2
TOTAL					

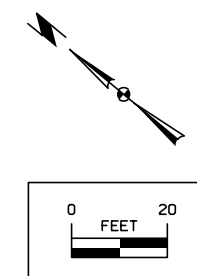
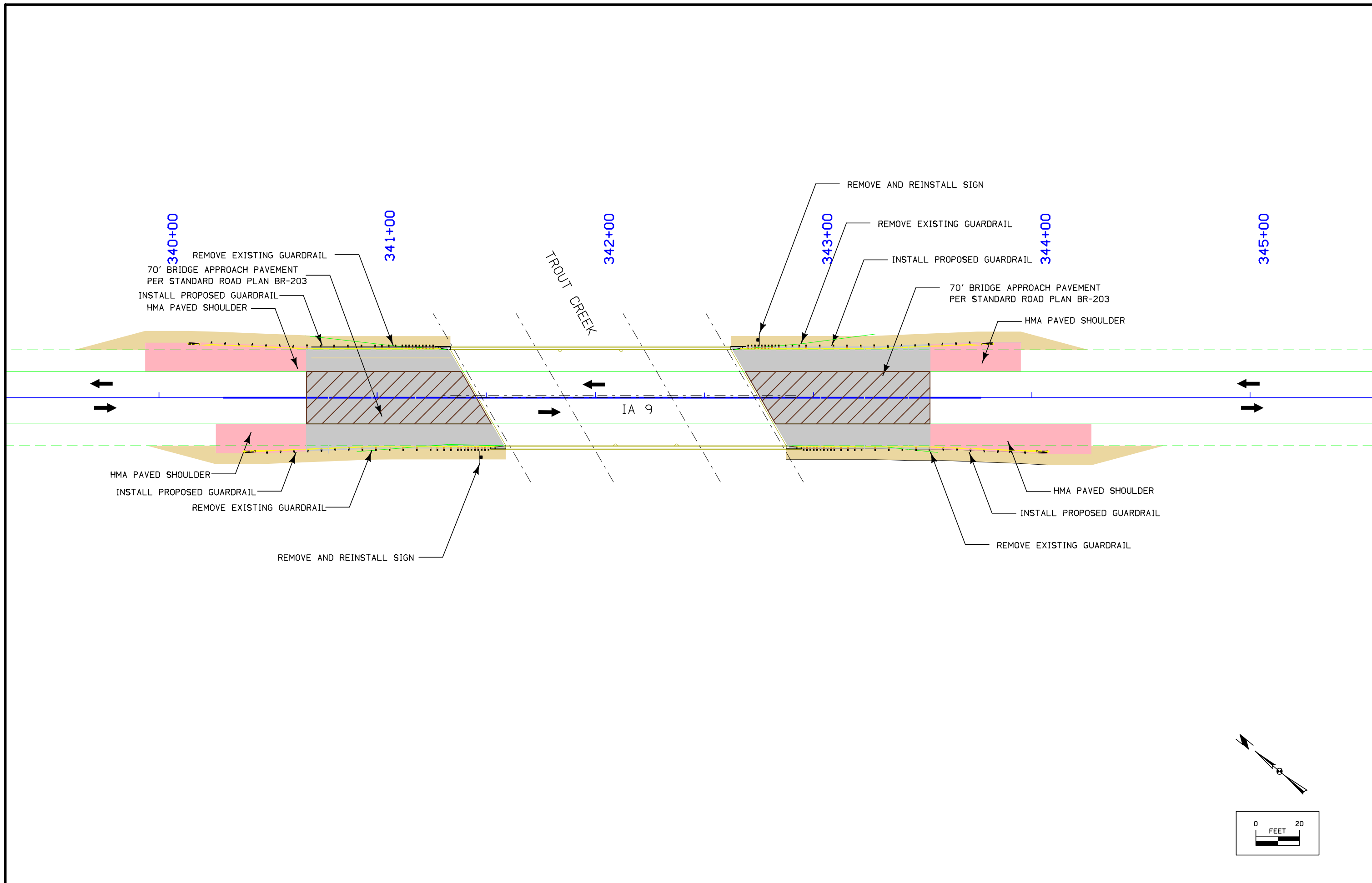




**PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS (ROAD)**

LINE WORK	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.		
Yellow	(4)		Highlight for Critical Notes or Features
Red	(3)		Delineates Restricted Areas
Lavender	(9)		PCC Paved Shoulder Shading
Gray, Light	(48)		Proposed Pavement and Bridge Shading
Gray, Dark	(112)		Previously Constructed Pavement Shading
Brown, Light	(236)		Proposed Grading Shading
Tan	(8)		Proposed Sidewalk Shading
Pink	(11)		HMA Paved Shoulder Shading
Gray, Dark	(112)		HMA Shoulder Runout
Brown, Dark	(216)		Pavement Removal
Blue	(216)		Shoulder Strengthening and Pavement Removal

**Legend And Symbol  
Information Sheet**  
D SHEETS



108-23A  
08-01-08

### TRAFFIC CONTROL PLAN

Traffic will be maintained on IA 9 Bridge over Trout Creek at all times. Construction will be performed in 2 stages of single lane closures. See Sheets J.2 for details. EB and WB traffic will share a single 16'-0" lane on the bridge and traffic will be controlled using temporary traffic signals per TC-217. Use TC-213 while setting up the TBR used in Stages 1 and 2. Access to all driveways and cross streets shall be maintained at all times.

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
None Anticipated	

108-26A  
08-01-08

### STAGING NOTES

**Prestage**  
Install temporary traffic signals to be used in Stage 1 and Stage 2 and construct shoulder strengthening used in Stage 1 using TC-213.

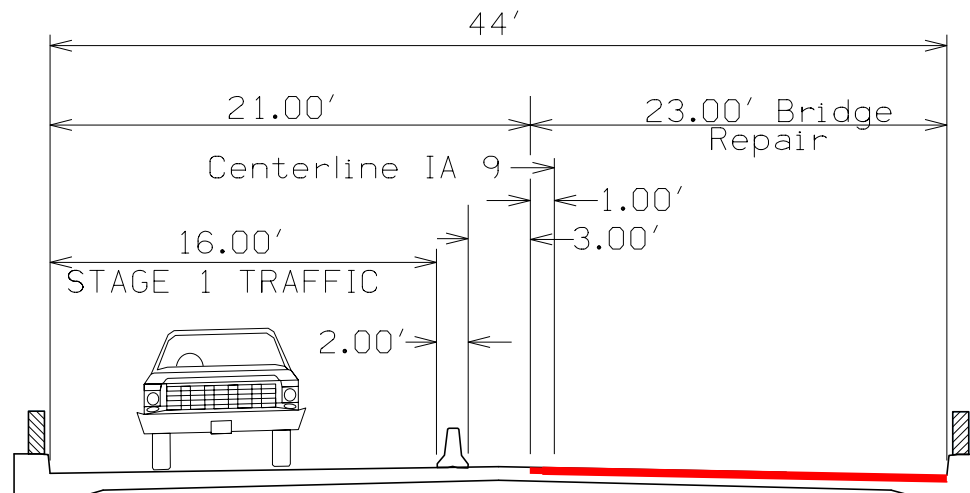
**Stage 1**  
Close the EB lane of IA 9. EB and WB traffic will share a single 16'-0" lane on the North half of the bridge per TC-217 and traffic will be controlled using the temporary traffic signals installed in the Prestage. Perform all approach pavement, shoulder, guardrail and shoulder strengthening construction and bridge repairs on the South side of the bridge.

**Stage 2**  
Close the WB lane of IA 9. EB and WB traffic will share a single 16'-0" lane on the South half of the bridge per TC-217 and traffic will be controlled using the temporary traffic signals installed in the Prestage. Perform all approach pavement, shoulder and guardrail construction and bridge repairs on the North side of the bridge.

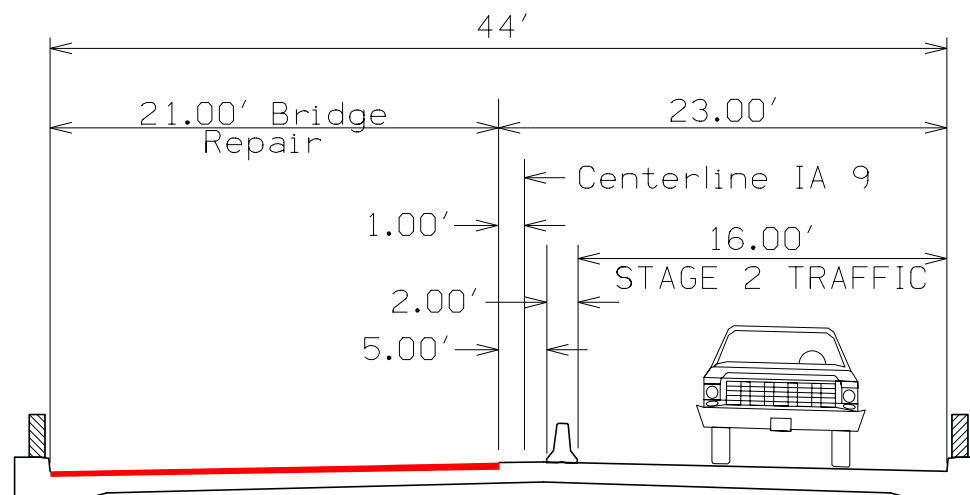
10-21-14

### 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 9	EB	Winneshiek	6.1 miles east of Jct. US 52	Trout Creek	Barrier	9665.05009	Horizontal	44'-0"	16'-0"	N/A	44'-0"	
IA 9	WB	Winneshiek	6.1 miles east of Jct. US 52	Trout Creek	Barrier	9665.05009	Horizontal	44'-0"	16'-0"	N/A	44'-0"	



STAGE 1  
(Looking Ahead Station)



STAGE 2  
(Looking Ahead Station)

TYPICAL CONSTRUCTION SECTIONS