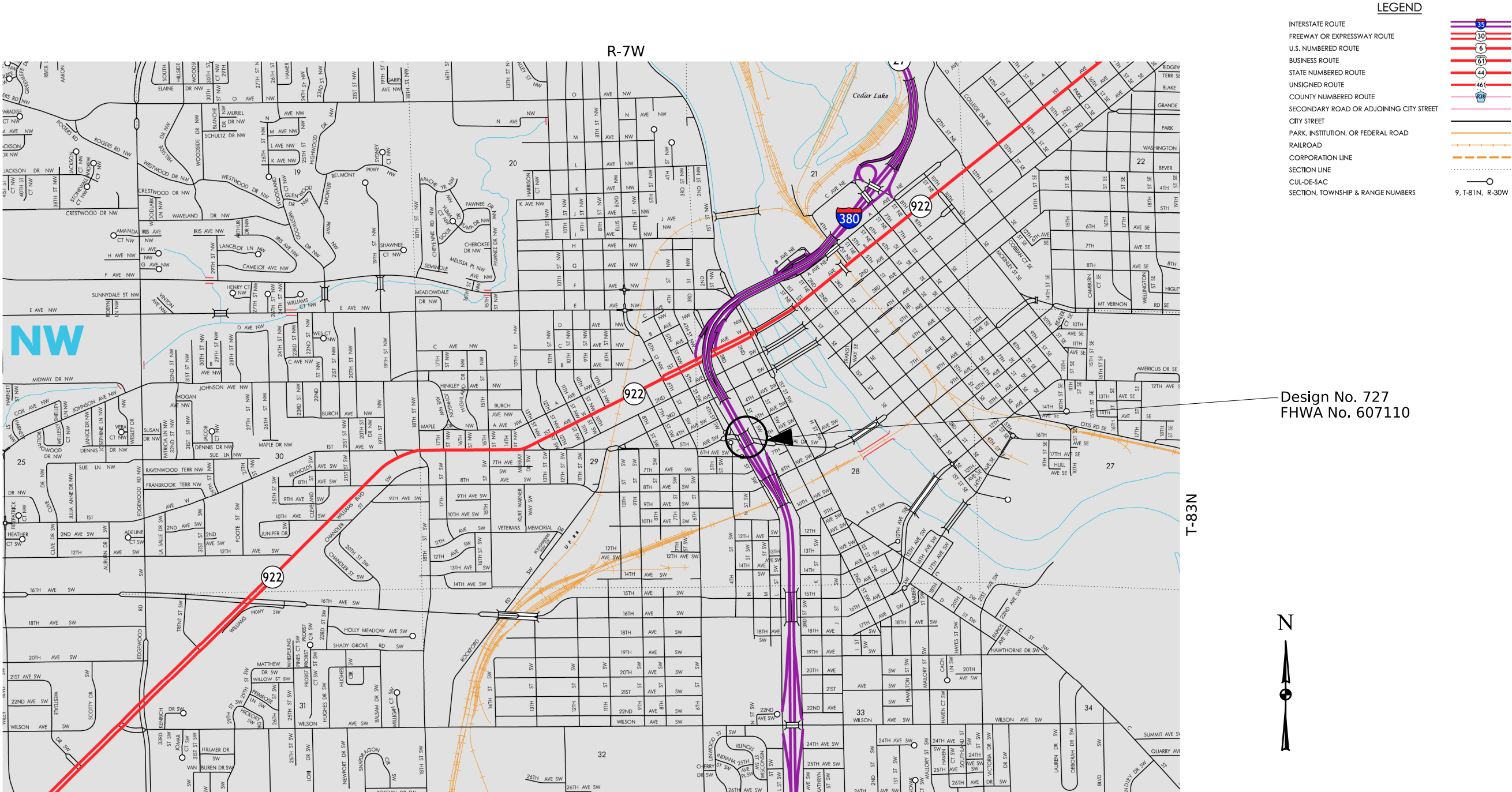


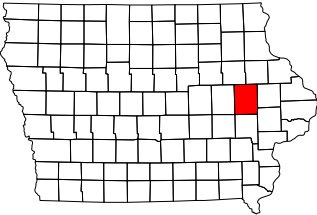
Sept. 29, 2026

SHEET NUMBER A.1



Part of City of Cedar Rapids Location Map

Not To Scale



Estimated Bridge Repair Quantities and Reference Notes - Design 727					
Item No.	Item Code	Item	Unit	Quantities Estimated	Estimate Reference Notes
1	2401-6750001	REMOVAL, AS PER PLAN	LS	1	Includes all work for removal and off-site disposal of the southeast retrofit barrier rail. Removal of scheduled items shall be in accordance with Section 2401, of the Standard Specifications. Any damage to material not to be removed shall be the responsibility of the Contractor and repaired at no extra cost to the State.
2	2403-0100000	STRUCTURAL CONCRETE (MISCELLANEOUS)	CY	1.2	See retrofit barrier rail design on Design Sheet No. 4. Includes protecting and touching up epoxy coating on any exposed U.A.C. reinforcing. Includes steel plate hardware, see Design Sheet No. 5.
3	2404-7775005	REINFORCING STEEL, EPOXY COATED	LB	8	Refer to Design Sheet No. 4 for locations and details.
4	2533-4980005	MOBILIZATION	LS	1	- - -

General Notes:

This design is for repairs to the existing 267'-0" x 52'-0" Continuous Welded Plate Girder Bridge on I-380 S.B. over 5th Ave. SW. Electronic copies of original design plans will be made available to the contractor as part of the e-files supplied with the contract documents.

All alignment, stationing, connecting dimensions, and elevations used in the new details in these plans were developed based on the existing bridge plans. The Bridge Contractor shall field verify these details before starting construction.

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

The Contractor shall restore any surfaces disturbed by construction to their original condition. This includes any grading, mulching, seeding, and fertilizing necessary. Seeding shall be rural seeding and shall be in accordance with Section 2601 of the Standard Specifications. Cost for this work shall be included in the "Mobilization" bid item.

Faint lines on plans indicate existing structure.

The city and utility companies whose facilities are shown on the plans or known to be within the construction limits shall be notified by the bridge contractor of the construction starting date.

The lump sum bid for "Removals, As Per Plan" shall include all costs associated with removing the existing southwest retrofit barrier rail. Removal of scheduled items shall be in accordance with Section 2401, of the Standard Specifications. Any damage to any steel or concrete not to be removed shall be the responsibility of the Contractor and repaired at no extra cost to the State.

Fillet all exposed corners with a ¾" dressed and beveled strip for corners with a 90-degree or sharper angle.

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

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

These bridge plans label all reinforcing steel with english notation (5a1 is ⅝ inch diameter bar). English reinforcing steel recieved 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

Dowel Setting Note:

It is intended for the existing dowel bars to be used as constructed. Dowel bars shall be replaced in kind if determined to be damaged in the field by the engineer. The new dowel bars shall be installed in accordance with the manufacturer's recommendations. Either of the following systems may be used as a bonding agent for vertical dowels, but only system "A" may be used for horizontal dowels.

- A. Polymer grout system in accordance with Article 2301.03, E, of the Standard Specifications.
- B. Hydraulic cement grout systems. Drilled holes are to be 2½ times the dowel diameter and are to be blown clean with compressed air immediately prior to placing grout. The hydraulic cement grout shall be one of those approved in Materials I.M. 491.13 and shall be used in accordance with the manufacturer's recommendations.

Utility Contacts:

- (AEF) ALLIANT ENERGY
Contact Name : Customer Support
Contact Phone : 1-800-255-4268
- (ANE) ALLIANT ENERGY
Contact Name : Lisa Zingula
Contact Phone : 1-800-289-1901
Contact Email : locate.desk@windstream.com
- (CER) CITY OF CEDAR RAPIDS
Contact Name : Ken DeKeyser
Contact Phone : 319-286-5778
Contact Email : k.dekeyser@cedar-rapids.org
- (ICR) IOWA DOT
Contact Name : George Morrell
Contact Phone : 319-560-4864
Contact Email : george.morrell@iowadot.us
- (MD2G) MIDAMERICAN - GAS
Contact Name : Customer Service - Gas/Emergency
Contact Phone : 800-595-5325
- (ME1) MEDIACOM
Contact Name : Cedar Rapids Office
Contact Phone : 855-633-4226
- (UPN) UNITED PRIVATE NETWORKS, LLC / SEGRA
Contact Name : Screening Team
Contact Phone : 816-368-9039
Contact Email : segrascreening@segrafiber.com

Specifications:

Design:
AASHTO series of 2002.

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.

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.

Design History
at this Site

(Includes this Design)

Des. No.	Type of Work
2170	Original Design
485	Bridge Deck Overlay & Concrete Barrier Retrofit
212	Concrete Barrier Rail Retrofit
320	Deck Joint Repair
727	Concrete Barrier Rail Repair

Note:
Roadway Quantities are shown elsewhere in these plans.

Note:
The roadway will be open to thru traffic. Refer to the traffic control plan shown elsewhere in these plans.

Design For Repairs to 40°06'27.8" Skew (L.A.)

267'-0" x 52'-0" Continuous
Welded Plate Girder S.B. Bridge

53'-0" End Spans72'-9" & 88'-3" Interior Spans

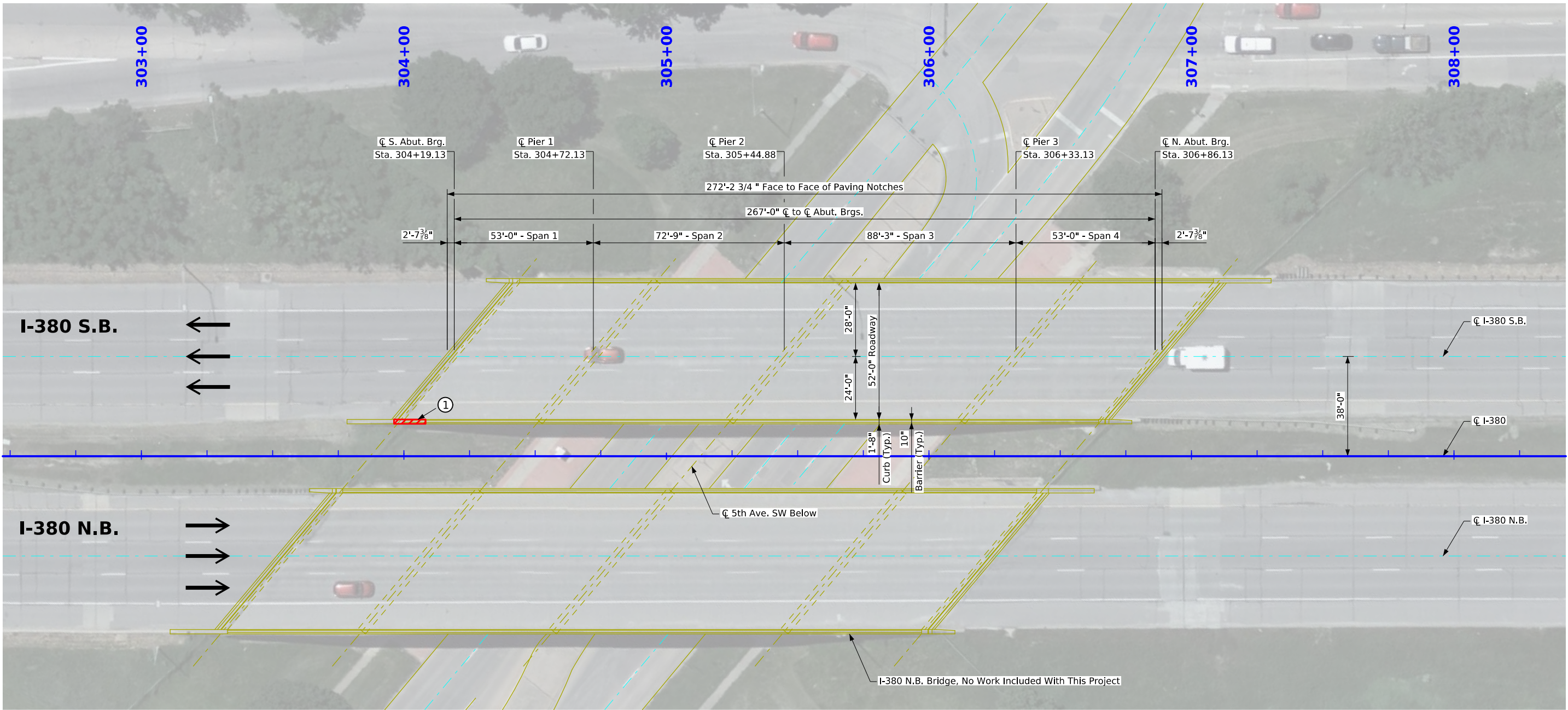
General Notes and Quantities

STA. 305+12.87 (☒ I-380)Turn-In Date: August 2026

Linn County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 727Design Sheet No. 1 of 5FHWA No. 607110



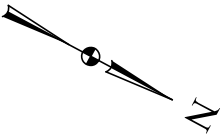
 Estimated Repair.
Actual areas as designated by
the Engineer shall be repaired.

Repairs Shall Consist Of:

1. Removal and replace sections of damaged southeast barrier rail.

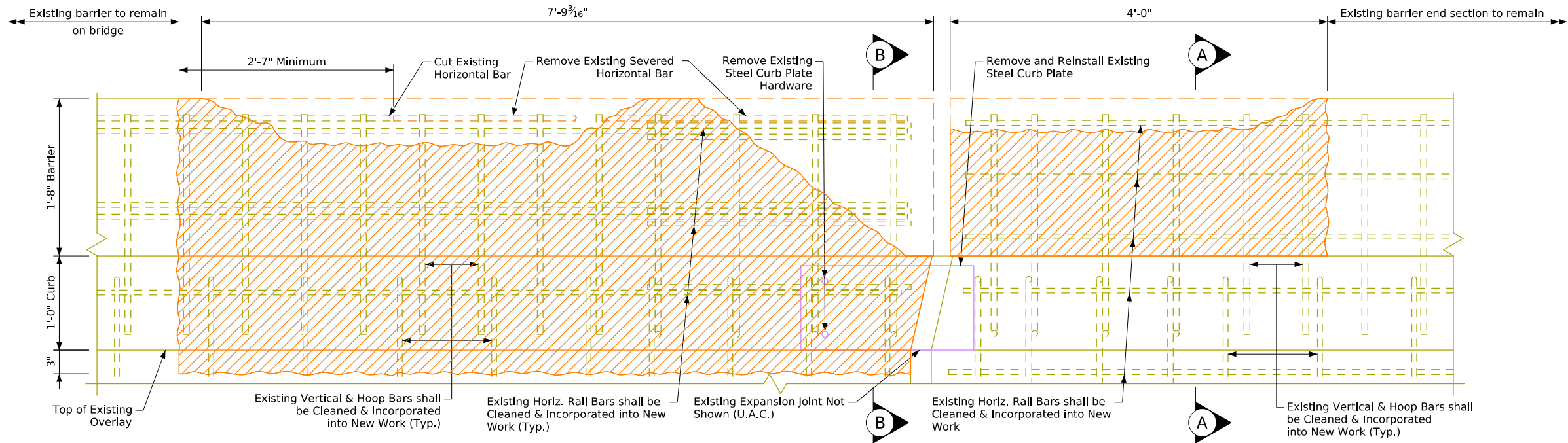
Location

I-380 S.B over 5th Ave SW
In City of Cedar Rapids
T-83N R-7W
Section 28
Rapids Twp.
Linn County
FHWA No. 607110
Bridge Maint. No. 5719.4L380
Latitude 41.971363°
Longitude -91.674033°

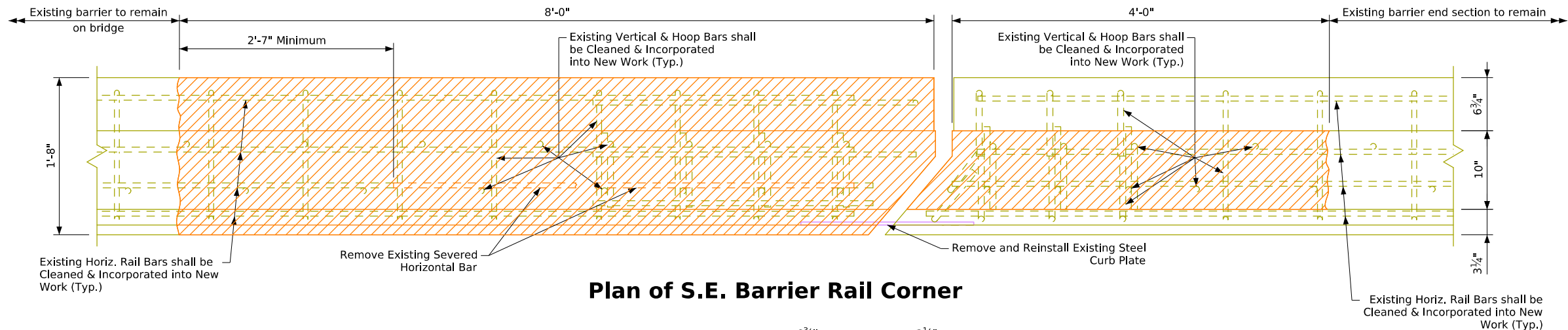


Design For Repairs to 40°06'27.8" Skew (L.A.)
**267'-0" x 52'-0" Continuous
Welded Plate Girder S.B. Bridge**
53'-0" End Spans 72'-9" & 88'-3" Interior Spans

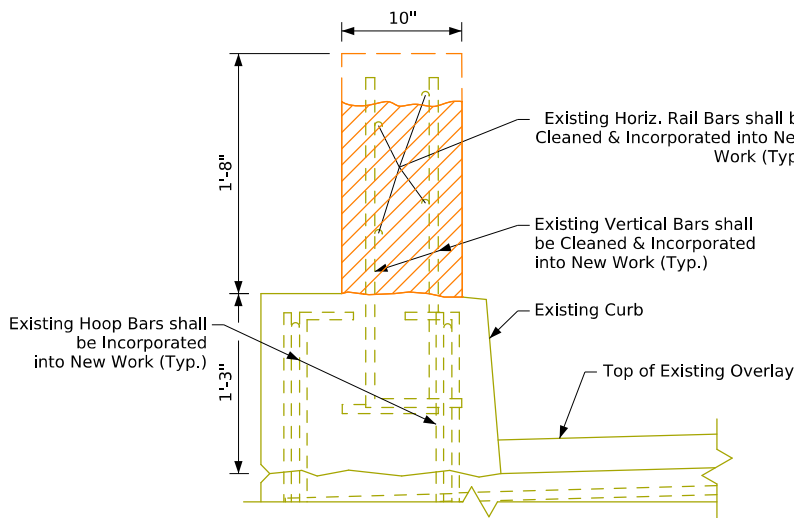
Situation Plan
STA. 305+12.87 (C I-380) Turn-in Date: August 2026
Linn County
IOWA DEPARTMENT OF TRANSPORTATION
Design No. 727 Design Sheet No. 2 of 5 FHWA No. 607110



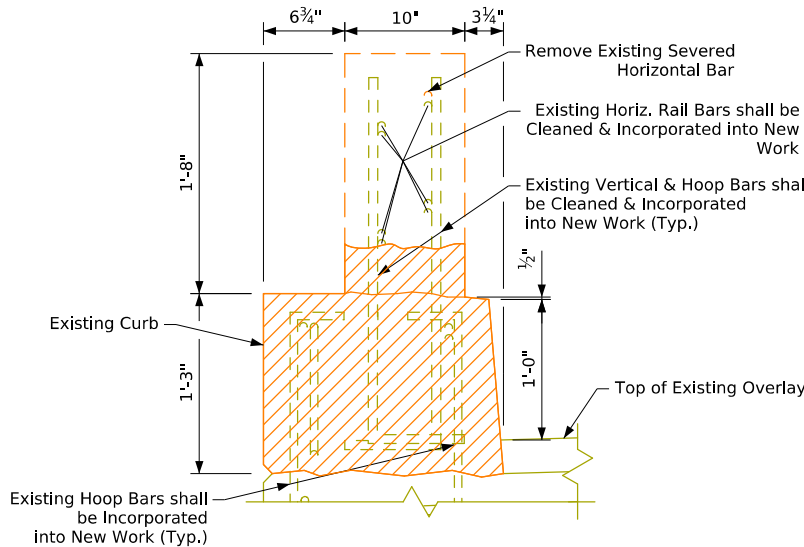
Elevation of S.E. Barrier Rail Corner
(Looking East)



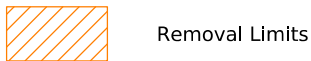
Plan of S.E. Barrier Rail Corner



Section A-A

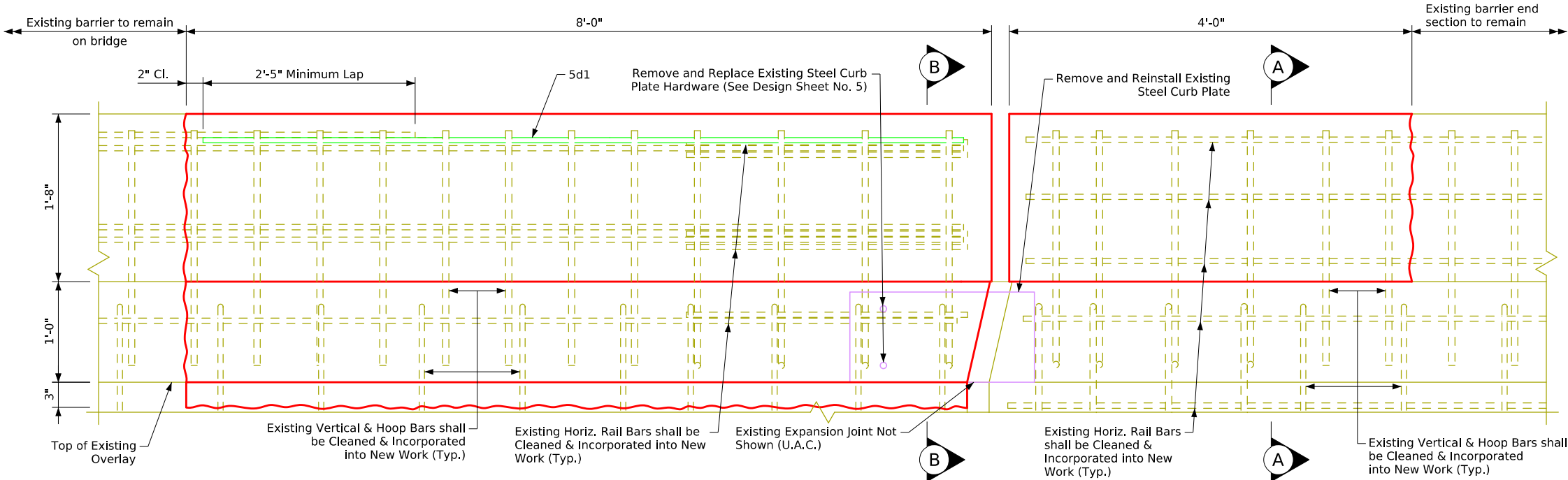


Section B-B

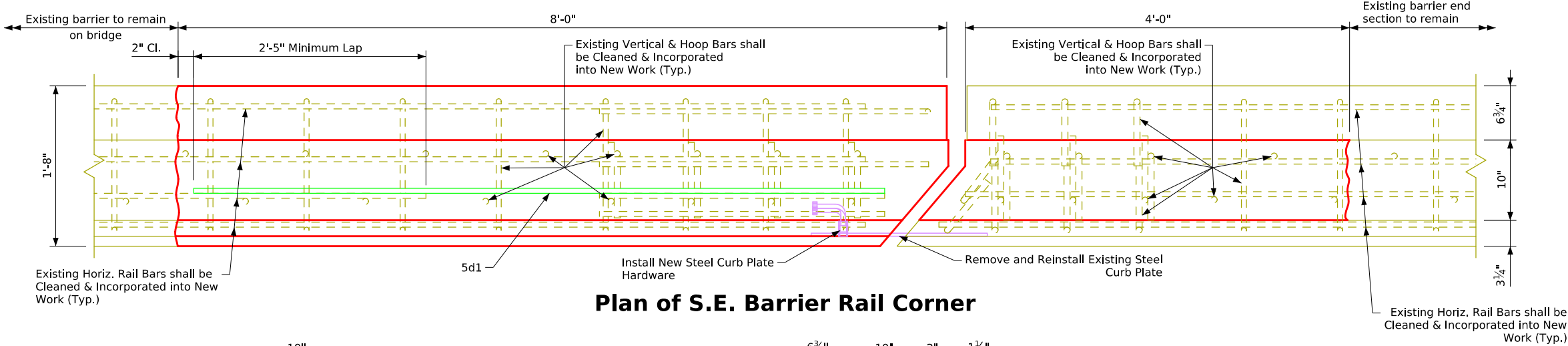


Note: Areas of damage shown are approximate.

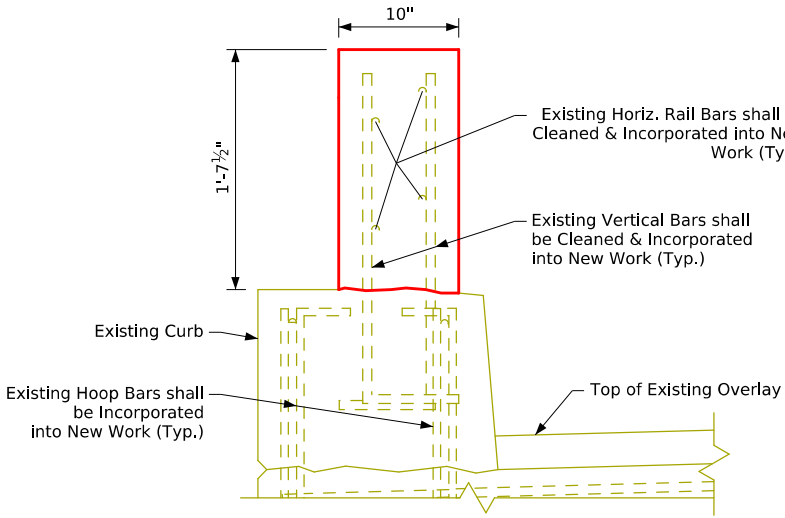
Design For Repairs to 40°06'27.8" Skew (L.A.)
267'-0" x 52'-0" Continuous
Welded Plate Girder S.B. Bridge
53'-0" End Spans 72'-9" & 88'-3" Interior Spans
Removal Details
STA. 305+12.87 (C 1-380) Turn-In Date: August 2026
Linn County
IOWA DEPARTMENT OF TRANSPORTATION
Design No. 727 Design Sheet No. 3 of 5 FHWA No. 607110



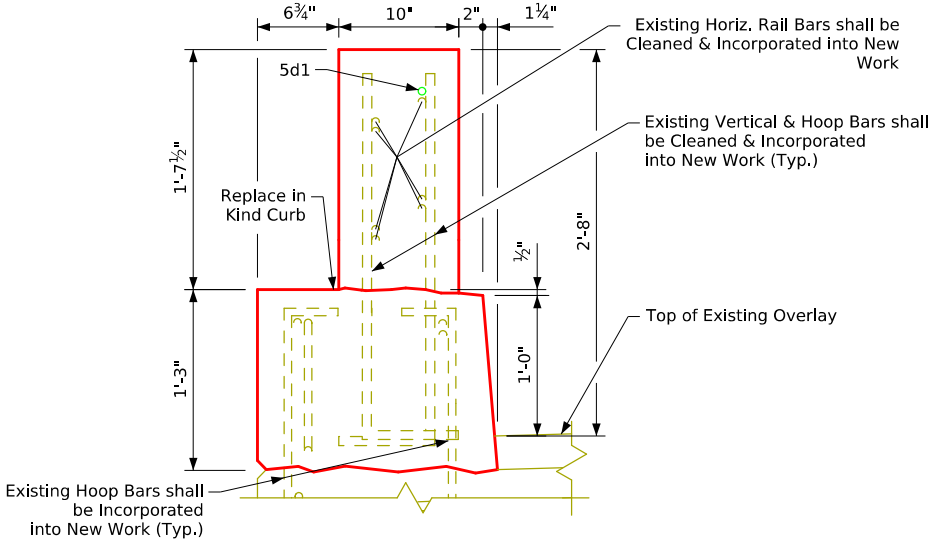
Elevation of S.E. Barrier Rail Corner
(Looking East)



Plan of S.E. Barrier Rail Corner



Section A-A



Section B-B

Epoxy Coated Reinforcing Steel Bar List

Bar	Location	Shape	No.	Length	Weight
5d1	Longitudinal		1	7'-8"	8
Reinforcing Steel - Epoxy Coated - Total Weight (lbs.)					8

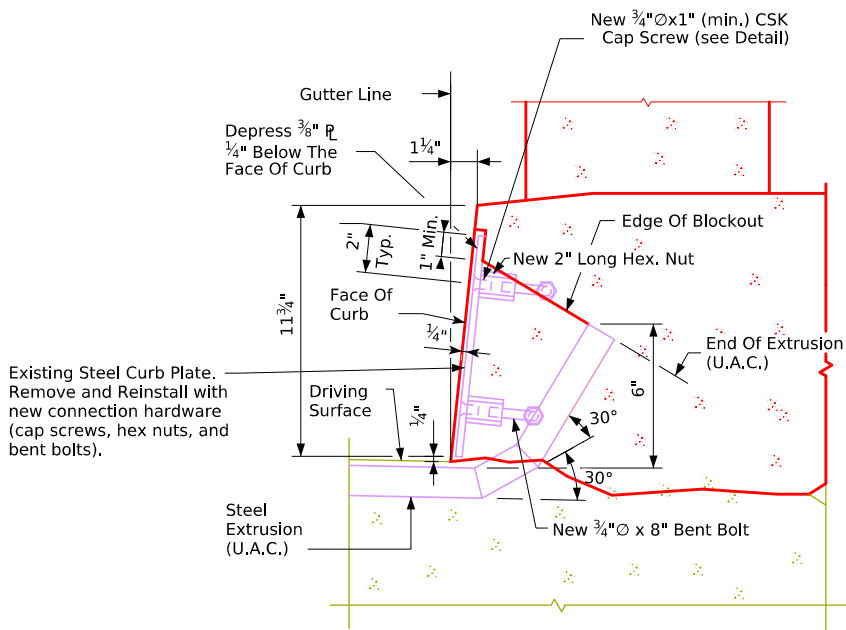
Concrete Placement Quantities

Location	Quantity
Barrier Rail & Curb	1.2
Total (cu. yds.)	1.2

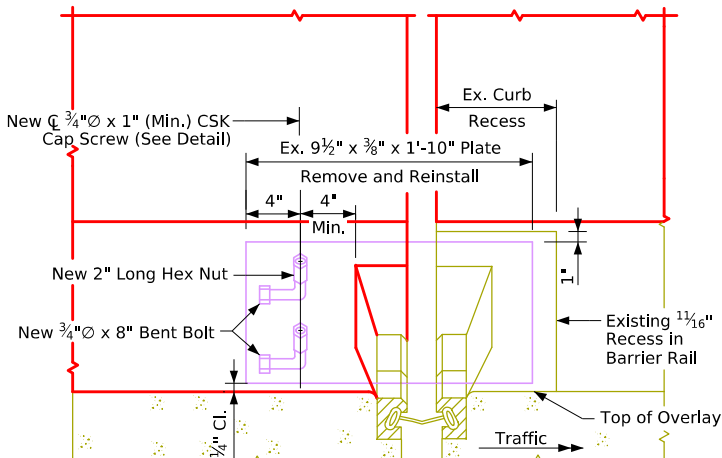
Note: Quantity of reinforcing steel is based on replacement of bars as shown. Reinforcing steel can be used as constructed if approved by the engineer in the field.

Note: Existing barrier reinforcing is epoxy coated, Protect and touch up the epoxy coating as required on any exposed U.A.C. reinforcing. Cost to be included in price bid for "Structural Concrete (Miscellaneous)".

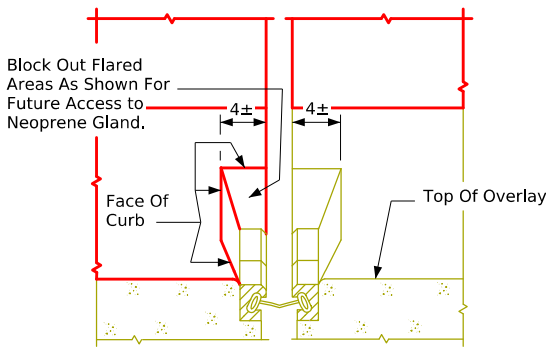
Design For Repairs to 40°06'27.8" Skew (L.A.)
267'-0" x 52'-0" Continuous Welded Plate Girder S.B. Bridge
53'-0" End Spans 72'-9" & 88'-3" Interior Spans
Repair Details
STA. 305+12.87 (Ç I-380) Turn-in Date: August 2026
Linn County
IOWA DEPARTMENT OF TRANSPORTATION
Design No. 727 Design Sheet No. 4 of 5 FHWA No. 607110



Section of Steel Plate Installation



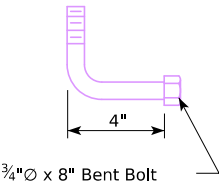
Elevation of Steel Plate Installation



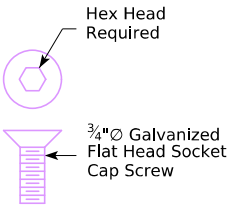
Blockout Detail

(Drawn for 0° Skew for Illustrative Purposes)

Contractor to note that the cap screw anchorage system for the 3/8" curb plates are always to be placed on the oncoming traffic side.



Bent Bolt Detail

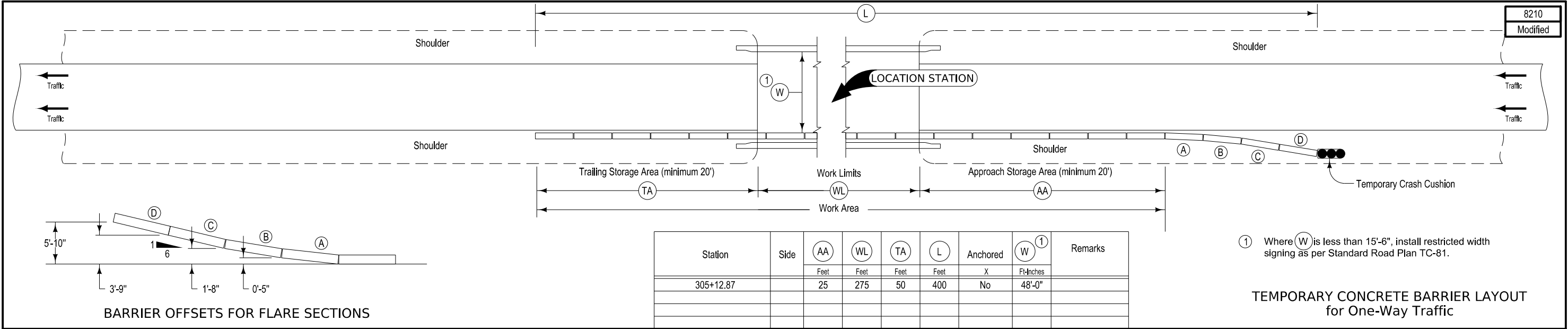


Cap Screw Detail

Curb Plate Hardware Notes:
The bolts shall meet the requirements of ASTM A307. The plates, bolts, nuts and cap screws are to be galvanized in accordance with Article 4100.07 of the Standard Specifications. Steel curb plate hardware cost to be included in price bid for "Structural Concrete (Miscellaneous)".

Design For Repairs to 40°06'27.8" Skew (L.A.)
267'-0" x 52'-0" Continuous Welded Plate Girder S.B. Bridge
53'-0" End Spans 72'-9" & 88'-3" Interior Spans
Curb Plate Repair Details
STA. 305+12.87 (C I-380) Turn-In Date: August 2026
Linn County
IOWA DEPARTMENT OF TRANSPORTATION
Design No. 727 Design Sheet No. 5 of 5 FHWA No. 607110

Index of Sheets	
No.	Description
A Sheets	Title Sheets
A.3	Index of Sheets
B Sheets	Typical Cross Sections and Details
B.1	Temporary Concrete Barrier Layout
C Sheets	Quantities and General Information
C.1	Estimated Roadway Quantities and Estimate Reference Information
C.2	Project Description
C.3	Index of Tabulations
C.4	Standard Road Plans
C.2 - C.7	Tabulations
J Sheets	Traffic Control Sheets
J.1	Traffic Control Plan
J.2	511 Travel Restrictions
J.3	Coordinated Operations
J.4	Allowable Interstate Closure Map



Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Roadway Items	
1	2528-8400048	TEMPORARY BARRIER RAIL, CONCRETE	LF	400	Refer to Sheet B.1and Tab. 108-33 on Sheet C.6. All temporary barrier rail shall be nominal 12'-6 long concrete units. Only one setup will be measured for this project. No measurement or payment will be made for moving temporary barrier rail for this project.
2	2528-8445110	TRAFFIC CONTROL	LS	1	Refer to Traffic Control Plan on Sheet J.1 for details.
3	2528-9290050	PORTABLE DYNAMIC MESSAGE SIGN (PDMS)	CDAY	0	See Proposal.
4	2551-0000130	TEMP CRASH CUSHION, SEVERE USE (SU)	EACH	1	Refer to Tab. 108-30 on Sheet C.5 and Section 2551 of the Standard Specifications.

PROJECT DESCRIPTION		100_01D 8/15/22
This project is for the repairs to the existing 267' x 52' Continuous Welded Plate Girder Bridge (Design 727) on I-380 S.B. over 5th Ave. SW, 0.3 mi. S. of IA 922 in Cedar Rapids. The repair work shall involve repairing the east barrier rail and curb in locations of damage near the southeast corner of the bridge.		

INDEX OF TABULATIONS				111_25 4/21/26
Line No.	Tabulation	Tabulation Title	Sheet No.	
1.0		C Sheets		
2.0	100_01D	PROJECT DESCRIPTION	C.2	
3.0	105_04	STANDARD ROAD PLANS	C.4	
4.0	111_25	INDEX OF TABULATIONS	C.3	
5.0	108_30	CRASH CUSHIONS	C.5	
6.0	108_33	TEMPORARY BARRIER RAIL	C.6	
7.0	262_06	UTILITIES (NOT A POINT 25 PROJECT)	C.7	
8.0		J Sheets		
9.0	108_23A	TRAFFIC CONTROL PLAN	J.1	
10.0	108_25	511 TRAVEL RESTRICTIONS	J.2	
11.0	111_01	COORDINATED OPERATIONS	J.3	

105_04 4/21/26 STANDARDS The following Standards apply to construction work on this project.		
Number	Date	Title
BA-401	04-20-21	Temporary Barrier Rail (Precast Concrete)
BA-500	04-20-21	Temporary Crash Cushions Sand Barrel
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-421	10-21-25	Lane Closure with TBR

CRASH CUSHIONS

108_30
4/16/24

- * 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.

Line No.	Lane	Station	Side	Obstacle Width (FT)	Crash Cushion Type	Crash Cushion Quantity	V (FT) (2)	W (FT) (2)	X (FT) (2)	Y (FT) (2)	Z (FT) (2)	Excavation Class 10* (CY)	Embankment in Place* (CY)	Obstacle Description	Remarks
1.0	SB	307+10.00	Right		Temporary Severe Use	1								Temporary Barrier Rail	Daytime non-working hours traffic control

108_33

8/15/22

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.

Line No.	No.	Station From	Station To	Length (FT)	Barrier Rail Type	Anchored*	Modular Glare Screen System	Remarks
1.0		303+10.00	307+10.00	400.0	Concrete BA-401	No	No	Daytime non-working hours traffic control

262.06
9/28/22

UTILITIES (NOT A POINT 25 PROJECT)

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

TRAFFIC CONTROL PLAN		108_23A 8/15/22
I-380 S.B. shall remain open during the duration of the project. Construction activities will be carried out exclusively during nighttime, between 8 P.M. and 6 A.M. Sunday through Thursday. Refer to Allowable Closure Map on Sheet J.4. Nighttime Closure Construction Traffic Control: Utilize Standard Road Plan TC-418 for nighttime lane closure on I-380 S.B. Provide temporary mobile speed feedback sign along I-380 S.B. that is operable during lane closure. Daytime Non-Work Hours Site Traffic Control: Utilize Modified Standard Road Plan TC-402 with Temporary Barrier Rail placed along the shoulder line to protect bridge rail on I-380 S.B. during non-working hours. See Sheet B.1 for more details. Temporary Barrier Rail to be removed during nighttime lane closure once concrete has reached design strength. Provide Portable Dynamic Message Sign (PDMS) for 3 days prior to beginning construction through the duration of the project. Traffic control on this project shall be in accordance with the standard road plans shown in Tabulation 105-4 and the specific layouts shown in the plans. See Allowable Closure Map on Sheet J.4. For additional complementary information, refer to Part 6 of the Manual of Uniform Traffic Control Devices (MUTCD) and the current standard specifications and supplemental specifications. The Contractor shall notify the Resident Construction Engineer and City of Cedar Rapids two (2) weeks prior to temporary road closures and changes in traffic patterns during construction. The Contractor shall maintain clean pavement in and out of the work area at all times. All signs to be in place longer than three (3) days must be mounted. All sign supports and hardware shall be incidental to the price bid for "Traffic Control". The Contractor will be responsible for securing a safe storage area for equipment and materials to be used on the project. Access to individual properties shall be maintained at all times. All signs shall follow MUTCD design and installation guidelines and standards.		

108_25
3/28/24

511 TRAVEL RESTRICTIONS													
Line No.	Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No. or Structure ID or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
	I-380	SB	Linn	0.3 Mi. S. of IA 922	5th Ave. SW	Traffic Control Device	5719.4L380	Horizontal	52'	34'	N/A	52'	Night Closures Only. See Sheet J.4

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
None Expected	

