

GENERAL NOTES:

THIS DESIGN IS FOR REPAIRS TO THE EXISTING 215'-5 x 28' PRESTRESSED, PRETENSIONED CONCRETE BEAM BRIDGE ON N. DIVISION ST. OVER I-80. COPIES OF ORIGINAL DESIGN PLANS WILL BE MADE AVAILABLE TO THE CONTRACTOR AS PART OF THE E-FILES SUPPLIED WITH THE CONTRACT DOCUMENTS. SEE SITUATION PLAN FOR LIST OF REPAIR ITEMS.

ALL ALIGNMENT, STATIONING, AND CONNECTING DIMENSIONS USED IN THE NEW DETAILS IN THESE PLANS WERE DEVELOPED BASED ON THE EXISTING BRIDGE PLANS. ELEVATIONS ARE BASED ON FIELD SURVEY PERFORMED AS PART OF THIS DESIGN. THE BRIDGE CONTRACTOR SHALL FIELD VERIFY THESE DIMENSIONS AND DETAILS BEFORE STARTING CONSTRUCTION.

FAINT LINES ON PLANS INDICATE EXISTING PORTIONS OF THE BRIDGE.

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 STARTING DATE.

CONCRETE BARRIER RAILS PLACED USING THE SLIPFORM METHOD WILL REQUIRE THE USE OF A CLASS BR CONCRETE IN ACCORDANCE WITH ARTICLE 2513.03, A, 2, OF THE STANDARD SPECIFICATIONS. CAST-IN-PLACE BARRIER RAILS SHALL USE CLASS C MIX. CLASS D CONCRETE IS NOT PERMITTED FOR CONCRETE BARRIER RAILS (CAST-IN-PLACE OR SLIPFORMED METHOD).

THE BRIDGE DECK IS DESIGNED FOR HS20-44 LOADING PLUS 20 LB. PER SQUARE FOOT FOR FUTURE WEARING SURFACE.

IT SHALL BE THE BRIDGE CONTRACTOR'S RESPONSIBILITY TO PROVIDE SITES FOR EXCESS EXCAVATED MATERIAL. NO PAYMENT FOR OVERHAUL WILL BE ALLOWED FOR MATERIAL HAULED TO THESE SITES.

THE LUMP SUM BID FOR "REMOVALS, AS PER PLAN" SHALL INCLUDE ALL COSTS ASSOCIATED WITH REMOVING THE BRIDGE DECK, CURBS, BARRIER RAILS, AND THE ABUTMENT DIAPHRAGMS. REMOVAL OF SCHEDULED ITEMS SHALL BE IN ACCORDANCE WITH SECTION 2401 OF THE 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.

MINIMUM CLEAR DISTANCE FROM THE FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN.

KEYWAY DIMENSIONS SHOWN ON THE 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.

TRAFFIC CONTROL PLAN

NOTE: THE ROADWAY WILL BE CLOSED TO THRU TRAFFIC. REFER TO THE TRAFFIC CONTROL PLAN SHOWN ELSEWHERE IN THESE PLANS.

THESE BRIDGE PLANS LABEL ALL REINFORCING STEEL WITH ENGLISH NOTATION (501 IS $\frac{5}{8}$ 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.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING STABILITY OF PRESTRESSED CONCRETE BEAMS DURING CONSTRUCTION UP THROUGH THE CONCRETE BRIDGE DECK REACHING ITS FULL 28-DAY STRENGTH. THE CONTRACTOR SHALL PROVIDE SUFFICIENT TEMPORARY ANCHOR BRACING AT BEAM ENDS AND TEMPORARY INTERMEDIATE BRACING AS NEEDED TO ENSURE PRESTRESSED BEAM STABILITY. PARTIALLY OR FULLY INSTALLED PERMANENT BRACING AS SHOWN IN THESE OR EXISTING DESIGN PLANS SHALL NOT BE ASSUMED SUFFICIENT TO BRACE PRESTRESSED BEAMS DURING CONSTRUCTION. TEMPORARY BRACING SHALL NOT BE WELDED TO PRESTRESSED BEAM STIRRUPS.

THE SEMI-INTEGRAL ABUTMENT AS SHOWN SHALL BE CONSTRUCTED USING STRUCTURAL CONCRETE CLASS C. PROMPTLY AFTER THE CONCRETE HAS BEEN PLACED AND VIBRATED AS PROVIDED IN ARTICLES 2403.03, C, AND 2403.03, D, OF STANDARD SPECIFICATIONS, IT SHALL BE HAND FINISHED TO PROVIDE A SMOOTH SURFACE WITH THE PROPER CROWN. THE CONTRACTOR MAY ELECT TO USE FORMWORK WHICH IS MARKED OR TRIMMED TO THE CORRECT ELEVATION AND CROWN TO PROVIDE THE LIMITS FOR THE HAND FINISHING.

IN ADDITION TO THE REQUIREMENTS OF ARTICLE 3413.03, G, OF THE STANDARD SPECIFICATIONS, BOTH EXPOSED ABUTMENT BRIDGE SEATS AND WASH SURFACES SHALL HAVE AN APPLICATION OF CONCRETE SEALER IN ACCORDANCE WITH ARTICLE 2403.03, P, 3, OF THE STANDARD SPECIFICATIONS.

ABUTMENT BEARINGS (SOLE PLATES AND MASONRY PLATES) ARE TO BE CLEANED AND PAINTED. CLEANING BY VACUUM BLASTING OR BY A NON-BLASTING METHOD IS REQUIRED. SURFACE TO BE PAINTED SHALL BE PREPARED IN ACCORDANCE WITH STEEL STRUCTURES PAINTING COUNCIL (SSPC) SP3. SURFACES OF THE ABUTMENT BEARINGS ARE TO BE GIVEN ONE COAT OF BOTH A RUST INHIBITOR TYPE PRIMER AND FINAL COAT AS APPROVED BY THE ENGINEER. THE COLOR OF THE DRY PAINT SHOULD APPROXIMATE THE COLOR OF CONCRETE. THIS WORK SHALL BE MEASURED AND PAID FOR AT THE CONTRACT UNIT PRICE PER LUMP SUM FOR THE BID ITEM, "PAINTING OF STRUCTURAL STEEL".

CONTAINMENT AND DISPOSAL OF WASTE SHALL BE IN ACCORDANCE WITH SECTION 2508, OF THE STANDARD SPECIFICATIONS. ALL COSTS ASSOCIATED WITH HAULING AND DEPOSITING OF WASTE AT THE DESIGNATED SITE/FACILITY SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND INCLUDED IN THE CONTRACT PRICE BID FOR THE "CONTAINMENT" ITEM.

A SCRAPE SAMPLE WAS TAKEN FROM AN AREA OF THIS BRIDGE TO GET AN INDICATION OF THE EXISTENCE OF AND LEVEL OF TOTAL LEAD AND TOTAL CHROMIUM. ANALYSIS OF TOTAL LEAD ON THIS SAMPLE WAS 670 PARTS PER MILLION (PPM). ANALYSIS OF TOTAL CHROMIUM ON THIS SAMPLE WAS 480 PPM. THESE ANALYSES SHOW THE EXISTENCE OF THESE TWO TOXIC CONSTITUENTS. LEVELS INDICATED BY THESE TESTS COULD CREATE CONDITIONS ABOVE REGULATORY LIMITS FOR HEALTH AND SAFETY REQUIREMENTS. NO OTHER CONSTITUENTS WERE ANALYZED. THE BIDDER SHOULD NOT RELY ON THE IOWA DOT'S TESTING AND ANALYSIS FOR ANY PURPOSE OTHER THAN AS AN INDICATION OF THE EXISTENCE OF THESE TWO TOXIC CONSTITUENTS.

DECK REMOVAL NOTES:

THE BRIDGE CONTRACTOR IS TO USE EXTREME CARE WHEN REMOVING THE DECK CONCRETE AT THE GIRDER LOCATIONS TO AVOID DAMAGING THE TOP FLANGE AND $\frac{1}{2}$ INCH DIA. HOOP BARS OF THE BEAM. PRIOR TO COMMENCING ANY DECK REMOVAL WORK, THE CONTRACTOR SHALL SUBMIT A DEMOLITION PLAN TO THE ENGINEER FOR APPROVAL. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF THE START DATE FOR DECK REMOVAL WORK IN ORDER TO DEMONSTRATE THE REMOVAL PROCEDURE ON A SMALL PORTION OF THE DECK WHILE THE INSPECTOR IS PRESENT. DAMAGE MAY REQUIRE THE CONTRACTOR TO MODIFY THE REMOVAL PROCESS PRIOR TO APPROVAL TO PROCEED.

ONCE THE DECK CONCRETE OVER THE BEAM IS REMOVED, ALL REMAINING DEBRIS SHALL BE CLEANED FROM THE BEAMS TO PROVIDE A SUITABLE BOND TO THE CONCRETE DECK.

THE EXISTING $\frac{1}{2}$ INCH DIA. HOOP BARS ARE AN INTEGRAL PART OF THE EXISTING BEAM. ALL DAMAGE SUSTAINED TO THE TOP FLANGE AND/OR $\frac{1}{2}$ INCH DIA. HOOP BARS SHALL BE IDENTIFIED AND REPAIRED.

IF ONE OR MORE OF THE EXISTING BEAMS OR HOOP BARS ARE DAMAGED DURING REMOVALS, THE CONTRACTOR SHALL REPAIR OR REPLACE THE DAMAGED BEAM OR BEAMS. ADJACENT BEARINGS SHALL ALSO BE REPLACED. THE ENGINEER WILL DETERMINE WHAT REPAIRS AND/OR REPLACEMENTS ARE REQUIRED.

ALL MATERIAL, EQUIPMENT, AND LABOR ASSOCIATED WITH REMOVAL OF THE DECK AND REPAIR OF ANY DAMAGE OR BEAM AND BEARING REPLACEMENT SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "REMOVALS, AS PER PLAN".

DESIGN HISTORY AT THIS SITE

(INCLUDES THIS DESIGN)

DES. NO.	TYPE OF WORK
158	ORIGINAL DESIGN
186	BARRIER RAIL RETROFIT
288	BEAM REPLACEMENT
393	BRIDGE DECK OVERLAY
1015	BARRIER RAIL END REPLACEMENT
123	BRIDGE DECK REPLACEMENT

BRIDGE DECK DIMENSIONS TABLE

NO.	ITEM	UNIT	QUANTITY
1	DECK LENGTH	L.F.	218.3
2	DECK WIDTH	L.F.	33.2
3	DECK AREA	S.F.	7248

- DECK LENGTH IS MEASURED FROM FACE-TO-FACE OF PAVING NOTCHES ALONG THE CENTERLINE OF THE ROADWAY.
- DECK WIDTH IS MEASURED FROM OUT-TO-OUT OF DECK PERPENDICULAR TO THE CENTERLINE OF ROADWAY.
- DECK AREA IS TO BE BASED ON THE FACE-TO-FACE PAVING NOTCH DISTANCE AND OUT-TO-OUT DECK DIMENSIONS.

SHOP DRAWING SUBMITTALS

SHOP DRAWINGS SHALL BE SUBMITTED FOR THE FOLLOWING ITEMS SHOWN IN THE TABLE BELOW. (NOTE ADDITIONAL SHOP DRAWINGS MAY BE REQUIRED IN ACCORDANCE WITH ARTICLE 1105.03 OF THE STANDARD SPECIFICATIONS.)

SUBMITTAL REQUIREMENTS FOR SHOP DRAWINGS SHOULD BE IN ACCORDANCE WITH ARTICLE 1105.03, OF THE STANDARD SPECIFICATIONS, FOR HIGHWAY AND BRIDGE CONSTRUCTION OF THE IOWA DEPARTMENT OF TRANSPORTATION.

SHOP DRAWINGS SHALL BE SUBMITTED WITH THE FOLLOWING NAMING CONVENTION:
(Paren).County_DesignNumber_SubmittalDescription.pdf
Example: (090).BlackHawk_Design915_DeckDrains.pdf

1	DECK DRAINS
2	DECK DEMOLITION PLAN
3	BEARINGS

SPECIFICATIONS:

DESIGN: AASHTO SERIES OF 2002.

CONSTRUCTION: IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, SERIES 2015, PLUS APPLICABLE GENERAL SUPPLEMENTAL SPECIFICATIONS, DEVELOPMENTAL SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS SHALL APPLY TO CONSTRUCTION WORK ON THIS PROJECT.

DEVELOPMENTAL SPECIFICATIONS FOR HIGH PERFORMANCE CONCRETE FOR STRUCTURES.

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.
STRUCTURAL STEEL IN ACCORDANCE WITH SECTION 10. ASTM A709 GRADE 36 (AASHTO M270 GRADE 36)

DESIGN FOR REPAIRS TO A 0°44' SKEW

**215'-5 x 30-0' PRETENSIONED
PRESTRESSED CONCRETE BEAM BRIDGE**
38'-11 END SPANS 68'-9 INTERIOR SPANS

GENERAL NOTES

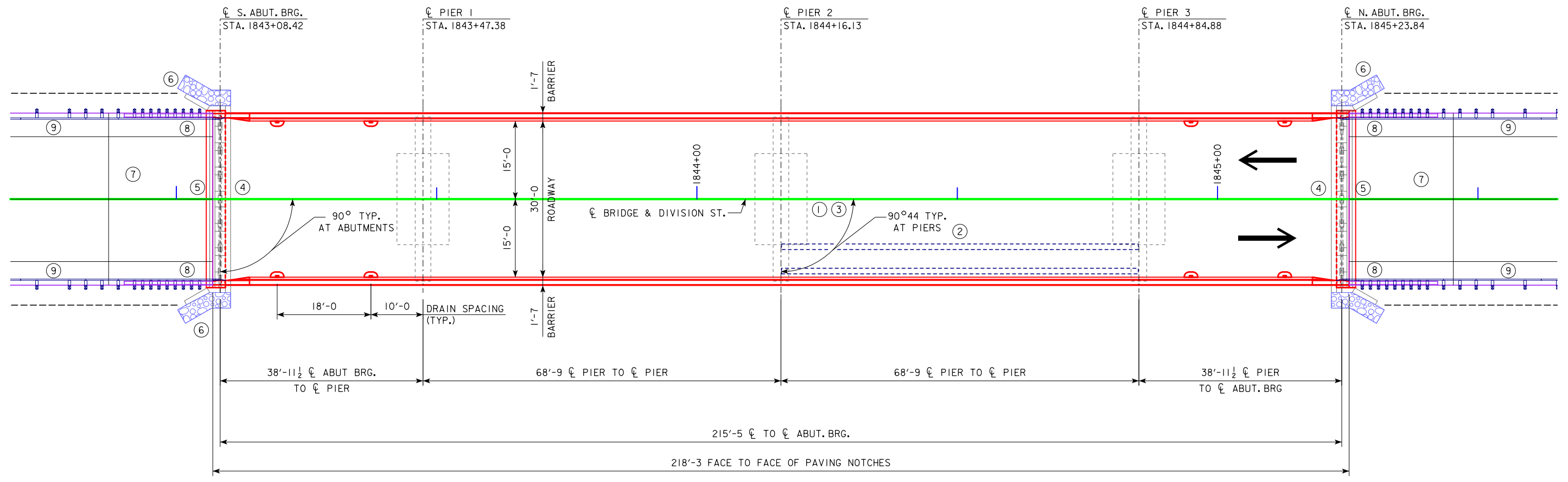
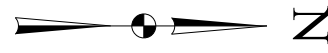
STA. 1844+16.13

DECEMBER, 2021

SCOTT COUNTY

IOWA DEPARTMENT OF TRANSPORTATION

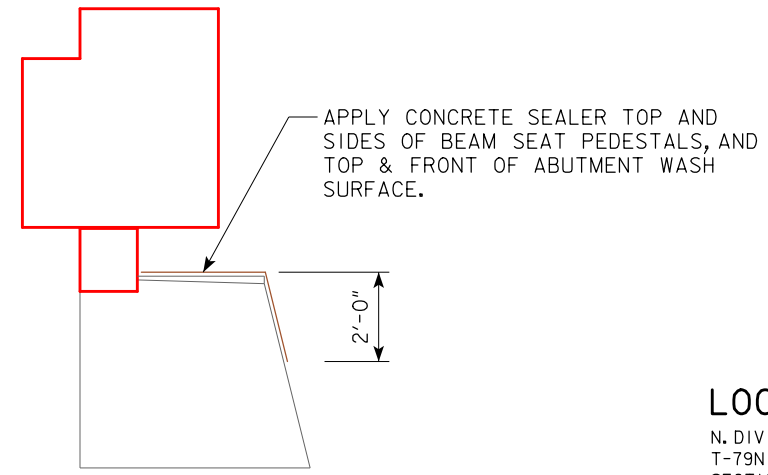
DESIGN SHEET NO. 2 OF 21 FILE NO. 32074 DESIGN NO. 123



SITUATION PLAN

REPAIRS SHALL CONSIST OF:

- ① REMOVE EXISTING DECK, CURB, RAILS, ABUTMENT DIAPHRAGMS, AND ABUTMENT STUB BACKWALLS.
- ② REMOVE BEAMS 6 AND 7 OF SPAN 3. REPLACE BEAMS WITH STANDARD BEAMS B67. REPLACE BEARINGS IN-KIND. CLEAN AND SEAL ANY AREAS OF REMAINING PIER DIAPHRAGMS WHERE REBAR IS EXPOSED.
- ③ CONSTRUCT NEW DECK WITH STANDARD BARRIER RAILS AND 30'-0" WIDE ROADWAY.
- ④ REPLACE ABUTMENT DIAPHRAGMS WITH SEMI-INTEGRAL ABUTMENTS. CLEAN AND SEAL ABUTMENT BEAM SEATS. CLEAN AND PAINT BEARINGS.
- ⑤ INSTALL SUBDRAIN AND NEW BACKFILL AT BACKFACE OF BOTH ABUTMENTS.
- ⑥ INSTALL WING ARMORING.
- ⑦ REMOVE AND REPLACE APPROACH PAVEMENT ON EACH END WITH 70'-0" STANDARD BRIDGE APPROACHES.
- ⑧ REMOVE AND REPLACE EXISTING GUARDRAIL. STOCKPILE EXISTING GUARDRAIL AT DAVENPORT MAINTENANCE GARAGE.
- ⑨ INSTALL PAVED SHOULDERS NEXT TO GUARDRAIL.



ABUTMENT CONCRETE SEALER DETAILS

LOCATION:
 N. DIVISION ST. OVER I-80
 T-79N R-03E
 SECTION 34
 SHERIDAN TOWNSHIP
 SCOTT COUNTY
 BRIDGE MAINT. NO. 8294.10080
 FHWA NO. 047520
 LATITUDE: 41.599480°
 LONGITUDE: -90.597958°

TRAFFIC ESTIMATE			
2014 AADT	4,160	V.P.D.	
TRUCKS	--	%	

+3.36% -3.10%

V.P.I. STA. = 1844+00.00
 ELEV. = 748.35
 L = 540'

**PROPOSED P.G.L.
 ON N. DIVISION STREET**

NOTE:
 PROPOSED P.G.L. DIFFERS FROM EXISTING P.G.L. DUE TO SURVEY AND INCREASED DECK THICKNESS.

DESIGN FOR REPAIRS TO A 0°44' SKEW

**215'-5" x 30'-0" PRETENSIONED
 PRESTRESSED CONCRETE BEAM BRIDGE**

38'-11" END SPANS 68'-9" INTERIOR SPANS

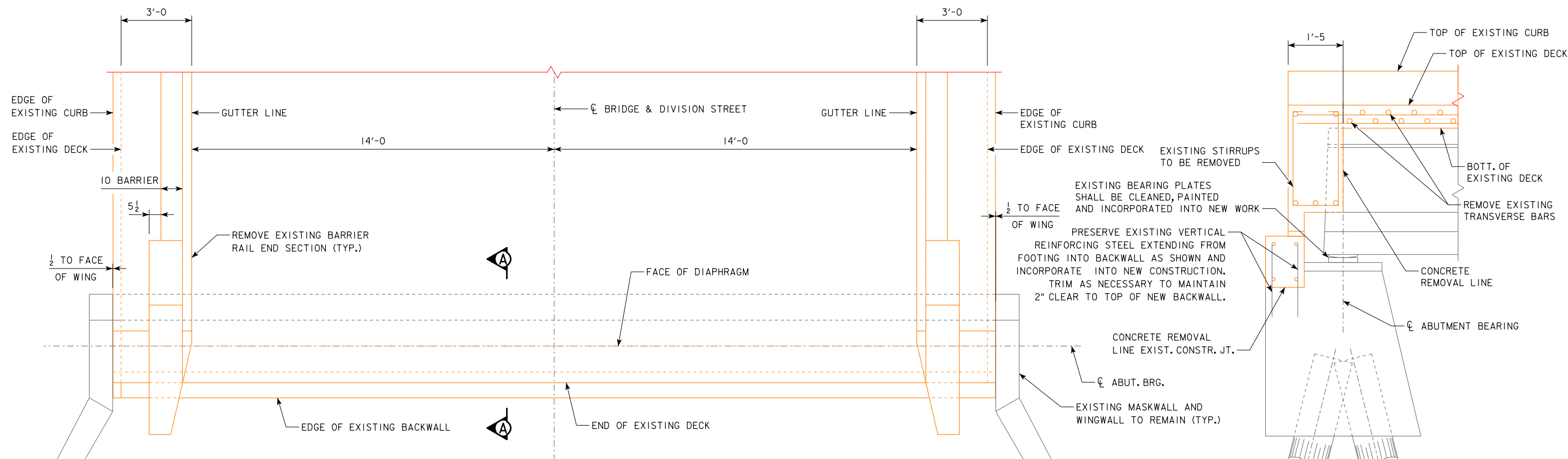
SITUATION PLAN

STA. 1844+16.13 DECEMBER, 2021

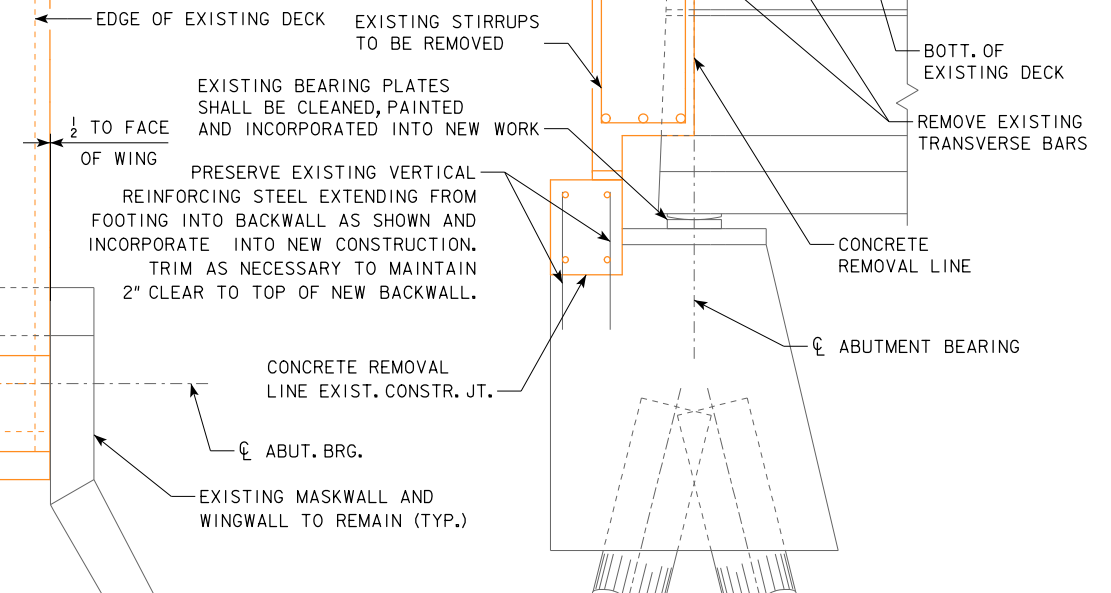
SCOTT COUNTY

IOWA DEPARTMENT OF TRANSPORTATION

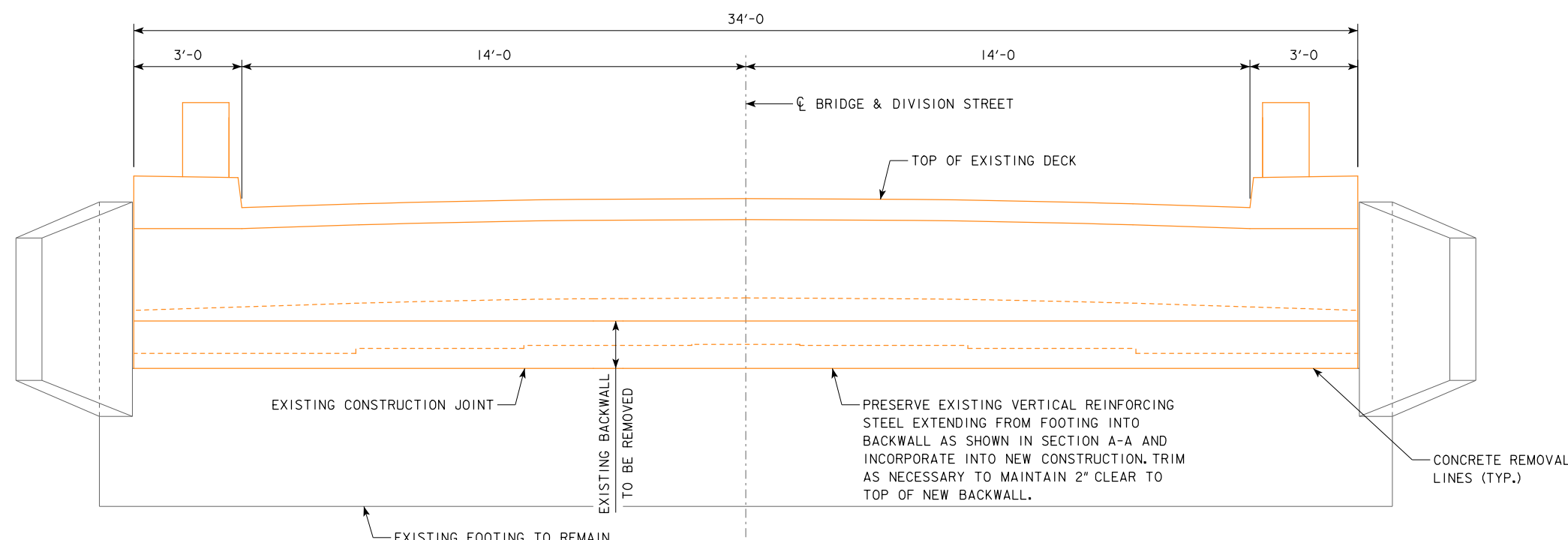
DESIGN SHEET NO. 3 OF 21 FILE NO. 32074 DESIGN NO. 123



PLAN VIEW AT ABUTMENT
(SOUTH ABUTMENT SHOWN, NORTH ABUTMENT SIMILAR)

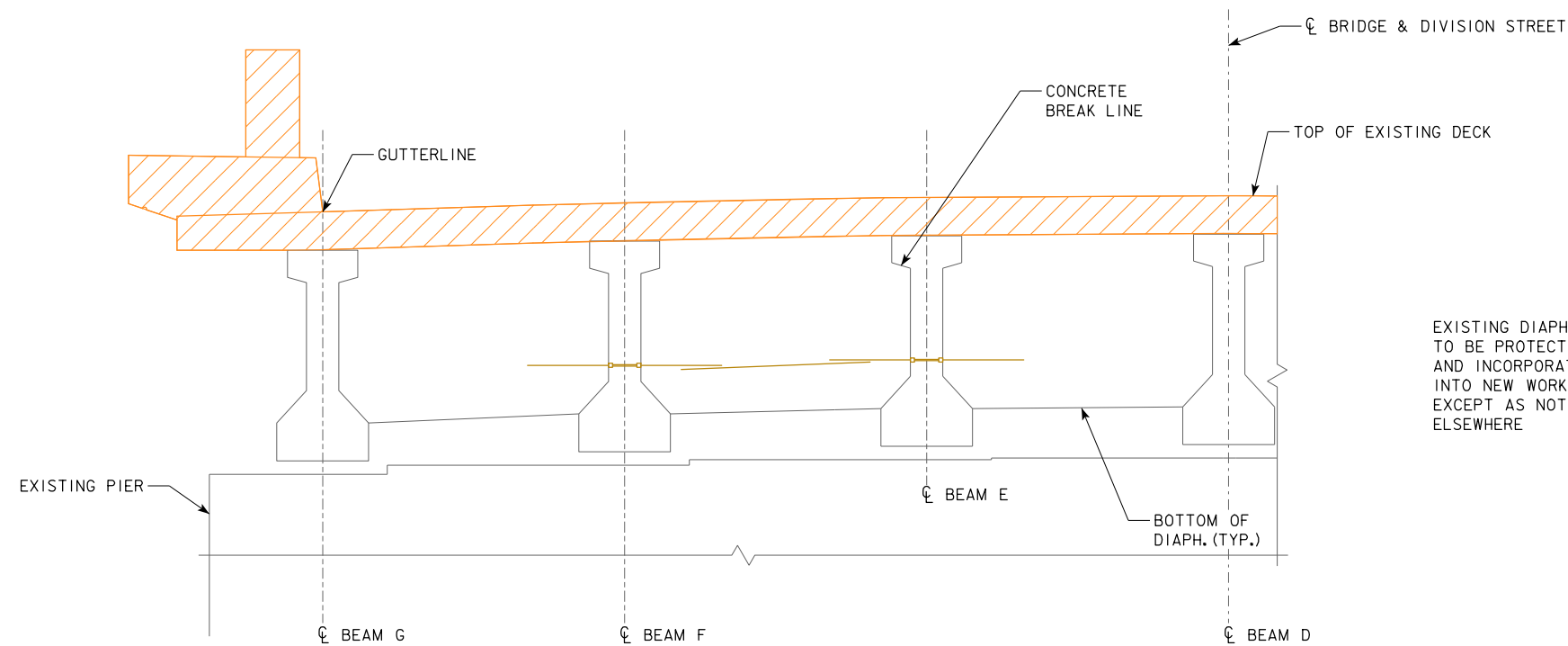


SECTION A-A

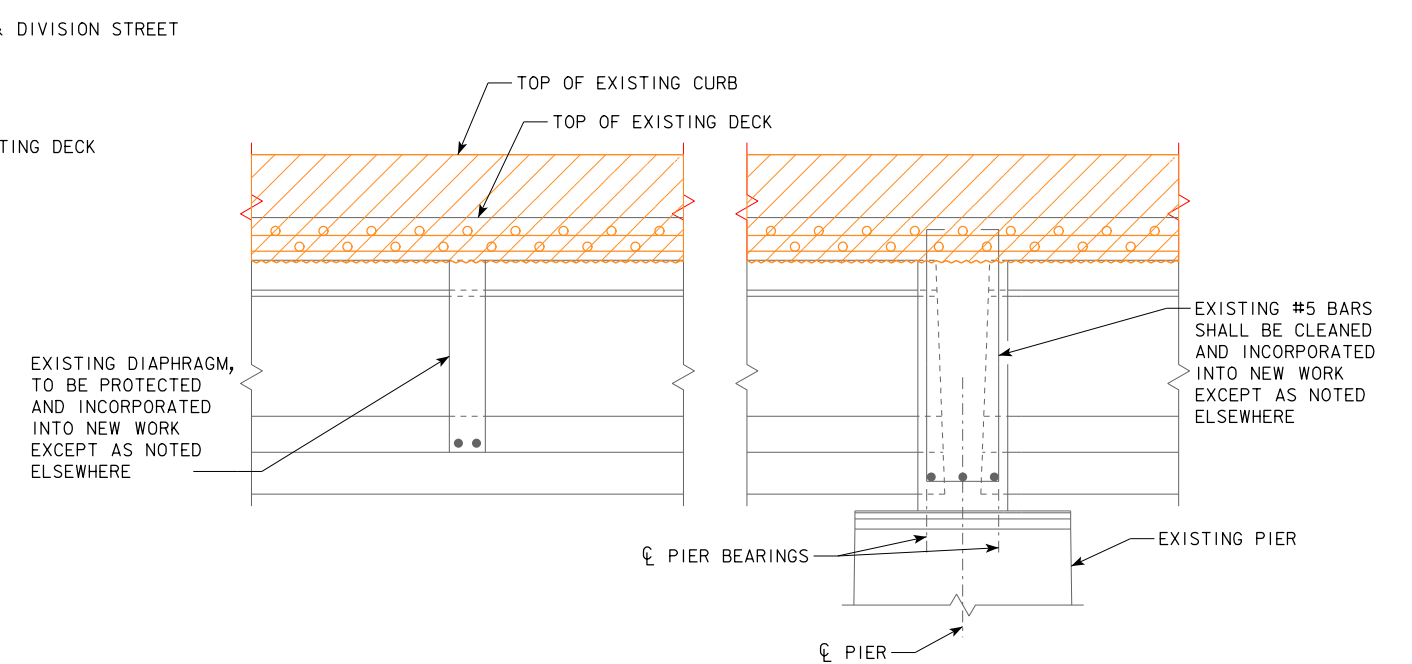


REAR ELEVATION VIEW AT ABUTMENT
(SOUTH ABUTMENT SHOWN, NORTH ABUTMENT SIMILAR)

DESIGN FOR REPAIRS TO A 0°44' SKEW
**215'-5 x 30'-0' PRETENSIONED
 PRESTRESSED CONCRETE BEAM BRIDGE**
 38'-11 END SPANS 68'-9 INTERIOR SPANS
REMOVAL DETAILS
 STA. 1844+16.13 DECEMBER, 2021
SCOTT COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION
 DESIGN SHEET NO. 4 OF 21 FILE NO. 32074 DESIGN NO. 123



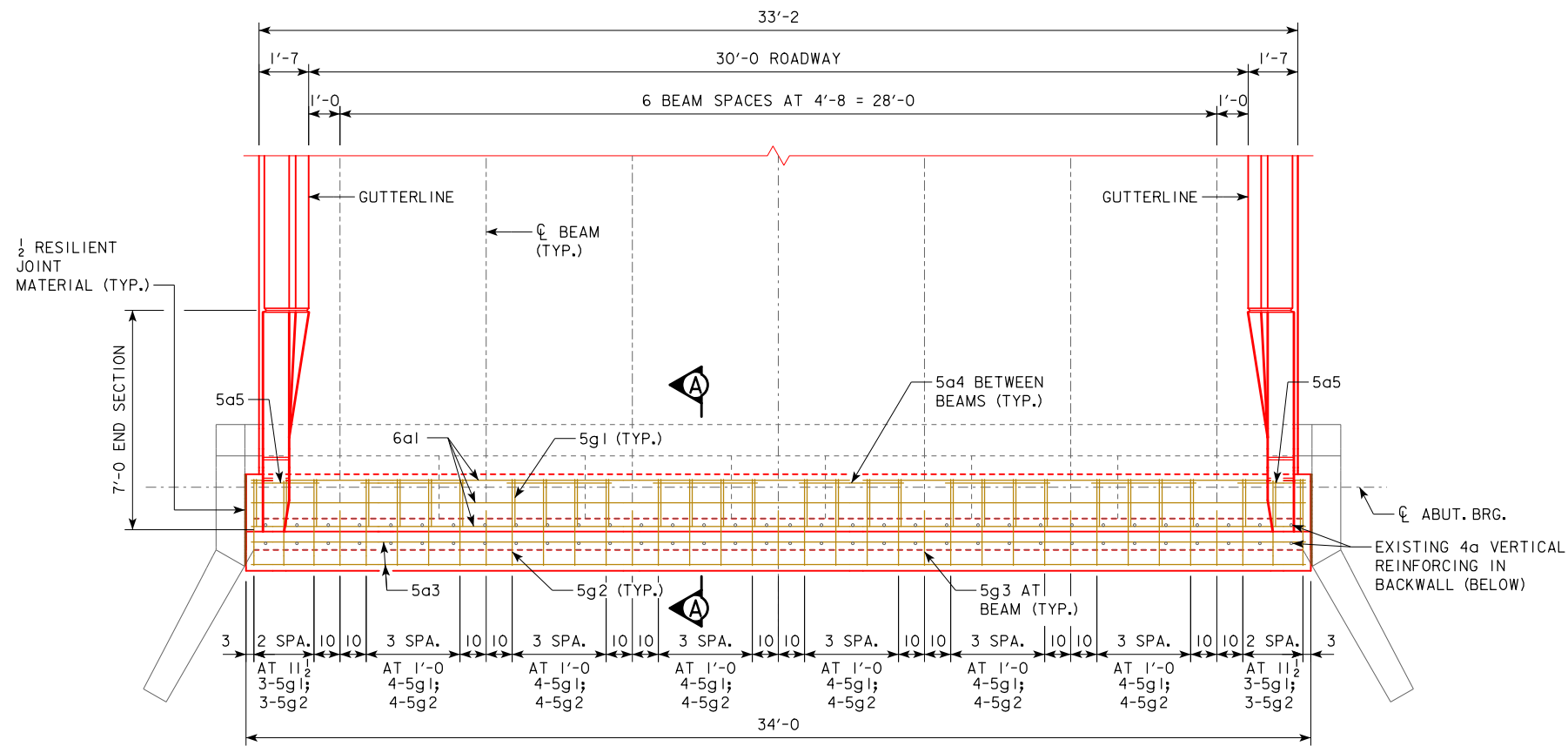
HALF TRANSVERSE SECTION
THRU PIER DIAPHRAGM
(LOOKING SOUTH DOWNSTATION)



PART LONGITUDINAL REMOVAL SECTION
OF DECK OVER PIER AND DIAPHRAGM

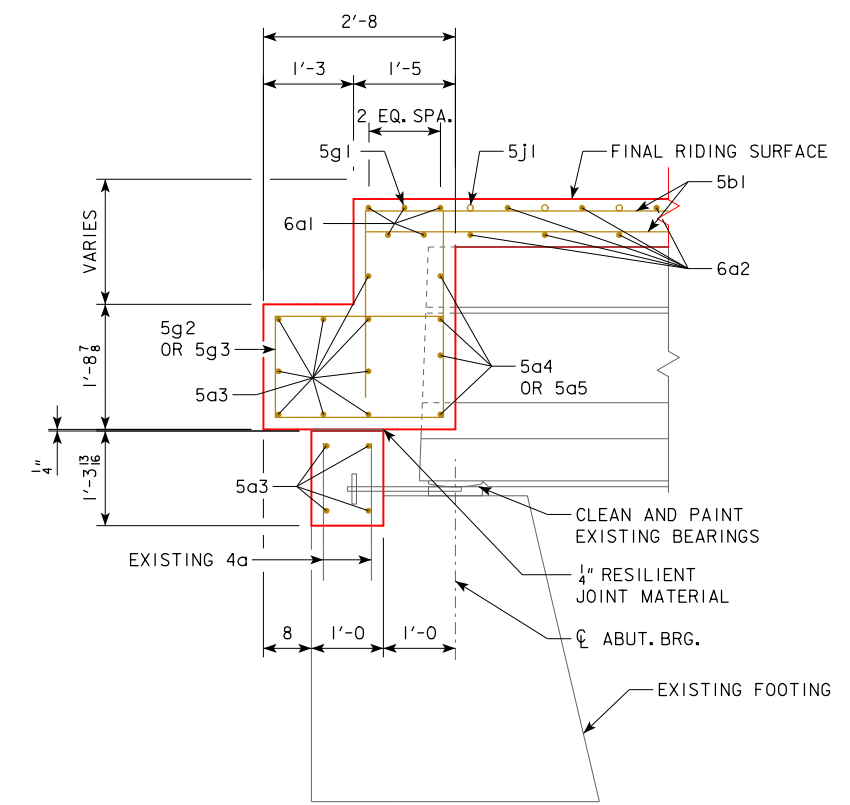
NOTE:
FOR BEAM AND DIAPHRAGM REMOVAL, SEE DESIGN SHEET 9.

DESIGN FOR REPAIRS TO A 0°44' SKEW
**215'-5 x 30'-0' PRETENSIONED
 PRESTRESSED CONCRETE BEAM BRIDGE**
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REMOVAL DETAILS
 STA. 1844+16.13 DECEMBER, 2021
SCOTT COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION
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PLAN VIEW AT ABUTMENT

NOTE:
SOUTH ABUTMENT SHOWN, NORTH ABUTMENT SIMILAR.
APPROACH SLAB NOT SHOWN.

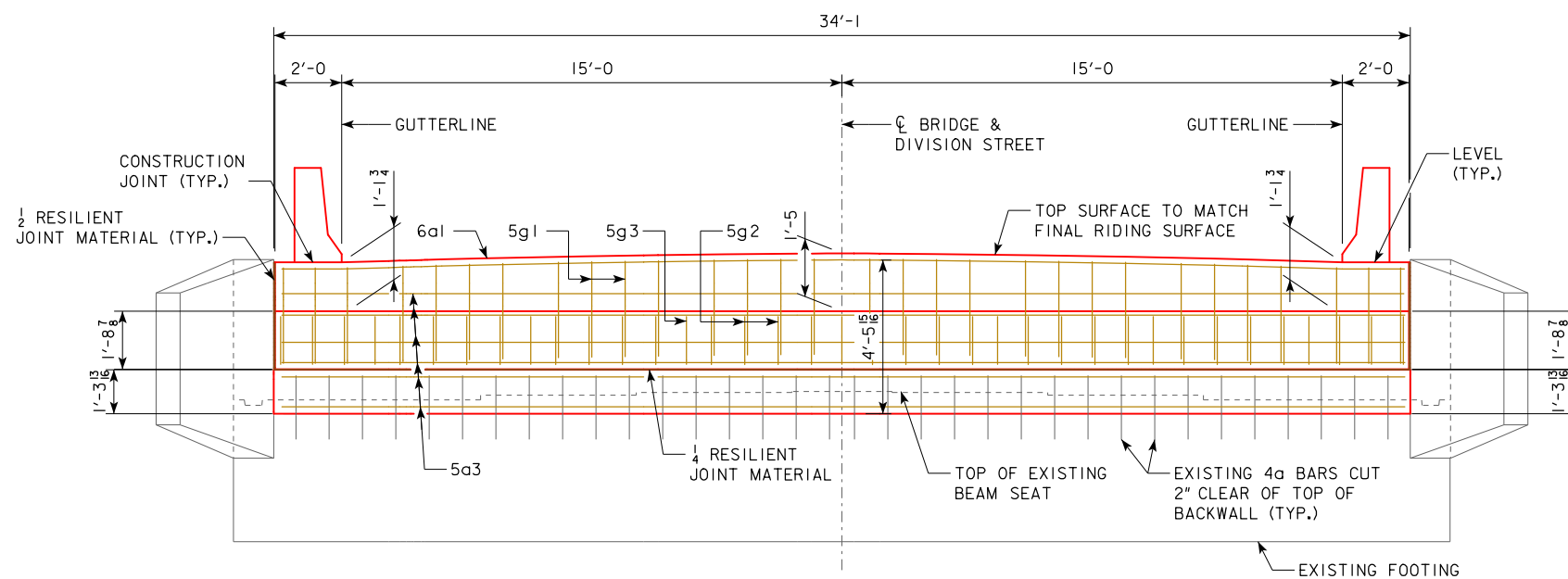


SECTION A-A

NOTE:

EXISTING BACKWALL VERTICAL 4a DOWELS EXPOSED BY REMOVAL OPERATIONS SHALL BE CLEANED AND INCORPORATED INTO THE NEW WORK. CUT EXISTING BACKWALL VERTICAL DOWELS AS NECESSARY TO MAINTAIN 2" CLEAR TO TOP OF NEW BACKWALL. BARS OR DOWELS THAT ARE DAMAGED OR RENDERED UNSERVICEABLE BY REMOVAL OPERATIONS SHALL BE REPLACED BY THE CONTRACTOR AT NO EXTRA COST TO THE STATE.

EXISTING BEAM COIL TIES SHALL BE CLEANED AND INCORPORATED INTO NEW CONSTRUCTION.



REAR ELEVATION VIEW AT ABUTMENT

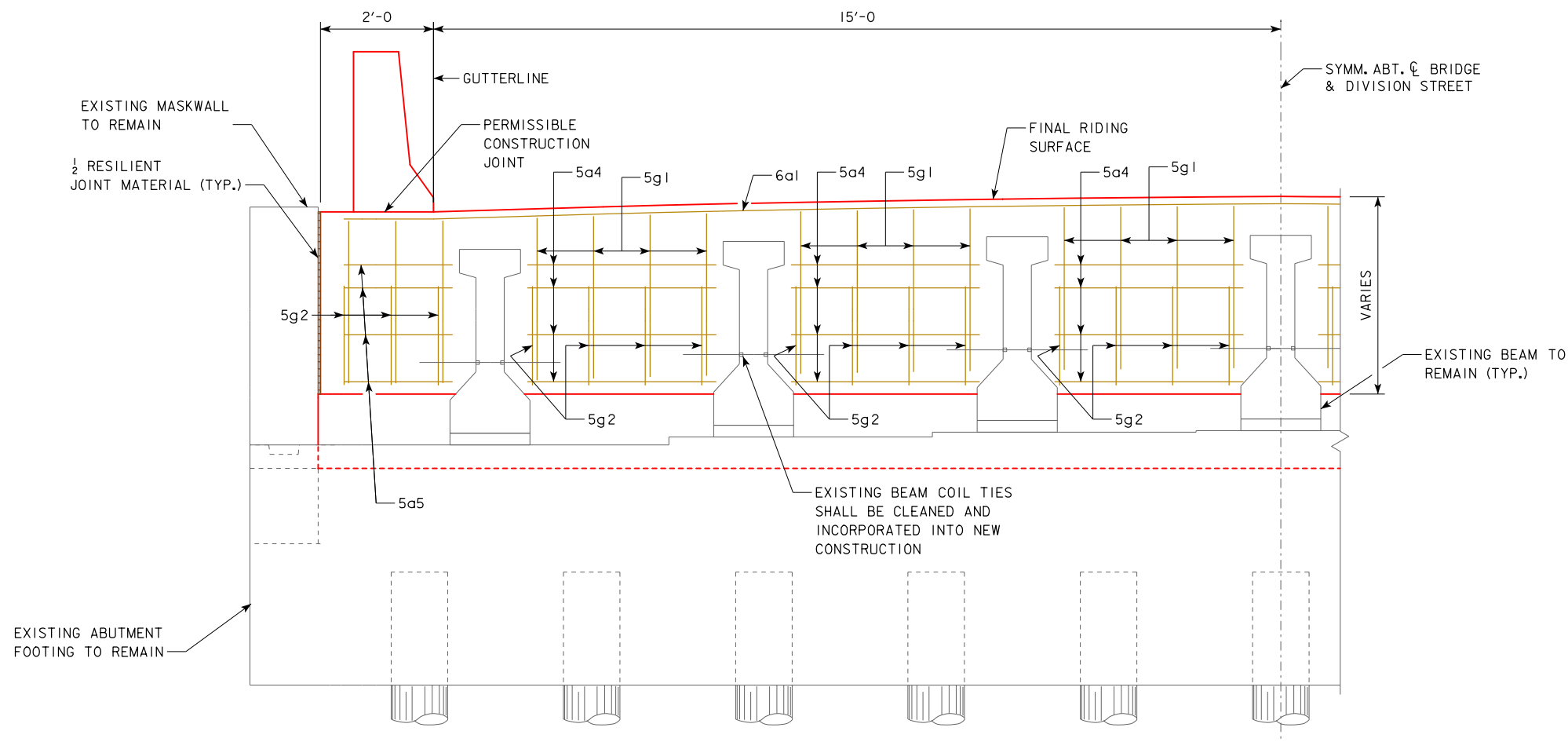
SEE DESIGN SHEET 7 FOR ADDITIONAL DETAILS, NOTES, AND QUANTITIES.

SEE DESIGN SHEETS 15 & 16 FOR BARRIER END SECTION DETAILS AND QUANTITIES.

DESIGN FOR REPAIRS TO A 0°44' SKEW
**215'-5 x 30'-0' PRETENSIONED
 PRESTRESSED CONCRETE BEAM BRIDGE**
 38'-11 END SPANS 68'-9 INTERIOR SPANS
ABUTMENT AND DECK DETAILS
 STA. 1844+16.13 DECEMBER, 2021
SCOTT COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION
 DESIGN SHEET NO. 6 OF 21 FILE NO. 32074 DESIGN NO. 123

REINFORCING BAR LIST - BOTH ABUTS.

BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
6a1	SLAB, LONGIT.		10	33'-8"	506
5a3	SLAB AND DIAPHRAGM, LONGIT.		26	33'-8"	913
5a4	DIAPHRAGM, F.F., LONGIT.		48	3'-4"	167
5a5	DIAPHRAGM, F.F., LONGIT., END		16	1'-11"	32
5g1	DIAPHRAGM, BETWEEN BEAMS, VERT.		60	5'-11"	370
5g2	PAVING NOTCH, BETWEEN BEAMS, VERT.		60	8'-2"	511
5g3	PAVING NOTCH, AT BEAMS, VERT.		14	4'-9"	69
REINFORCING STEEL EPOXY COATED - TOTAL (LBS.)					2,568



PART FRONT ELEVATION VIEW

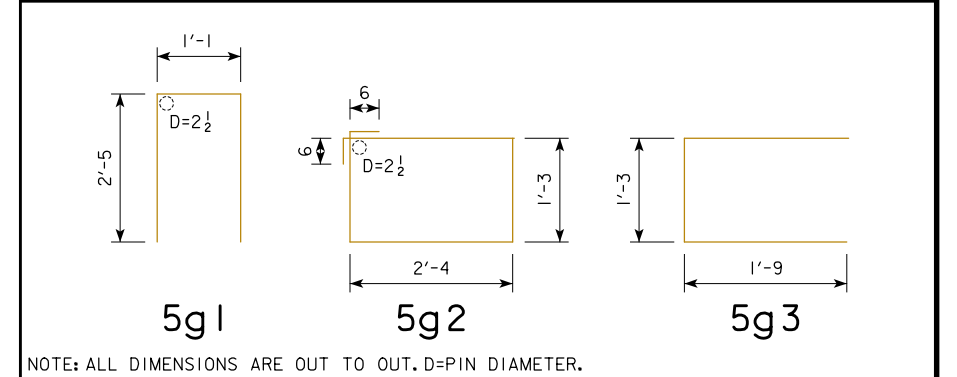
NOTES:
 SOUTH ABUTMENT SHOWN, NORTH ABUTMENT SIMILAR.
 BACKWALL REINFORCING NOT SHOWN.
 EXISTING DECK LONGITUDINAL REINFORCING NOT SHOWN.

*CONCRETE PLACEMENT SUMMARY - BOTH ABUTS.

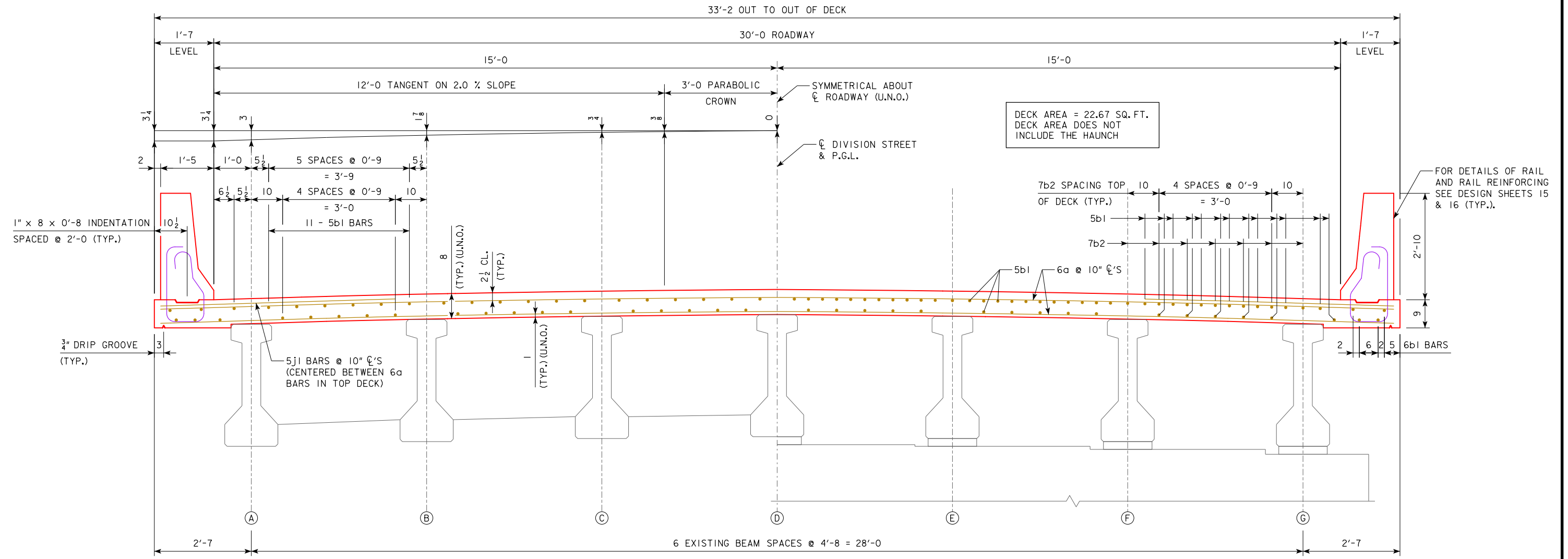
LOCATION	TOTAL
BACKWALLS (2 @ 1.7 CY EACH)	3.4
TOTAL (CY)	3.4

* FOR ABUTMENT DIAPHRAGM CONCRETE QUANTITY, SEE DESIGN SHEET 11

BENT BAR DETAILS

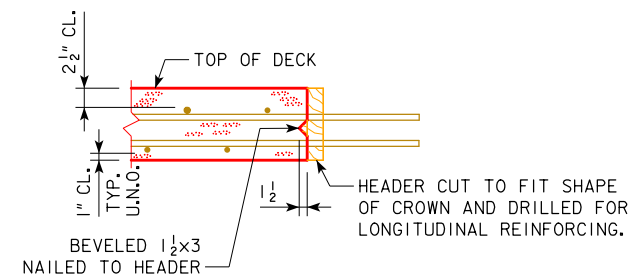


DESIGN FOR REPAIRS TO A 0°44' SKEW
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SCOTT COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION
 DESIGN SHEET NO. 7 OF 21 FILE NO. 32074 DESIGN NO. 123



HALF SECTION NEAR MID SPAN
LOOKING NORTH

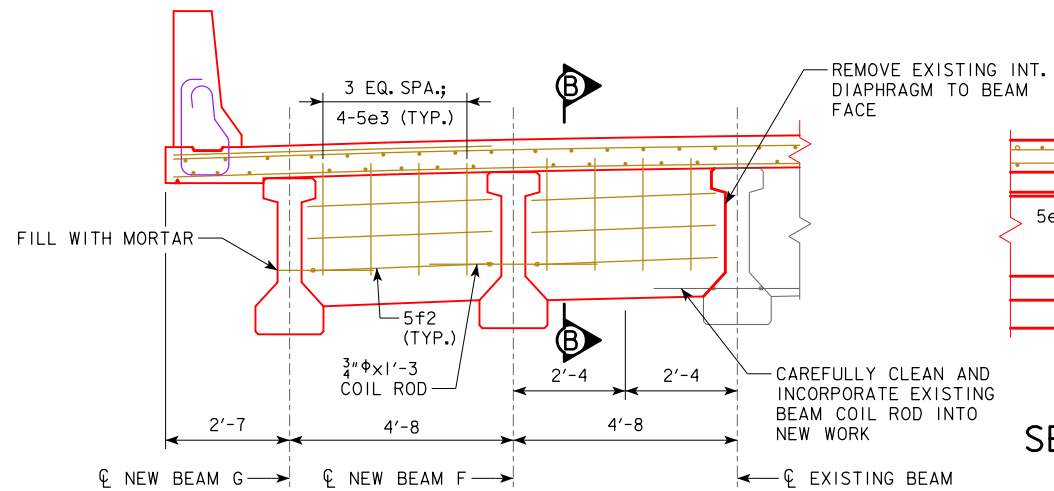
HALF SECTION NEAR PIER
LOOKING NORTH



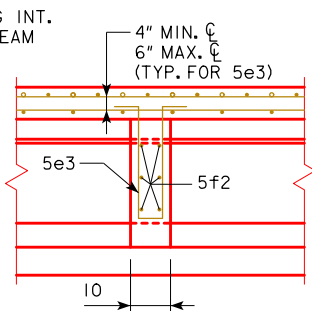
PERMISSIBLE TRANSVERSE
DECK CONSTRUCTION JOINT

- NOTES:
- SEE DESIGN SHEET 11 FOR SUPERSTRUCTURE NOTES.
 - SEE DESIGN SHEET 7 FOR TRANSVERSE SECTION AT ABUTMENT.
 - SEE DESIGN SHEET 9 FOR SECTIONS THROUGH NEW BEAMS.
 - U.N.O DENOTES "UNLESS NOTED OTHERWISE".

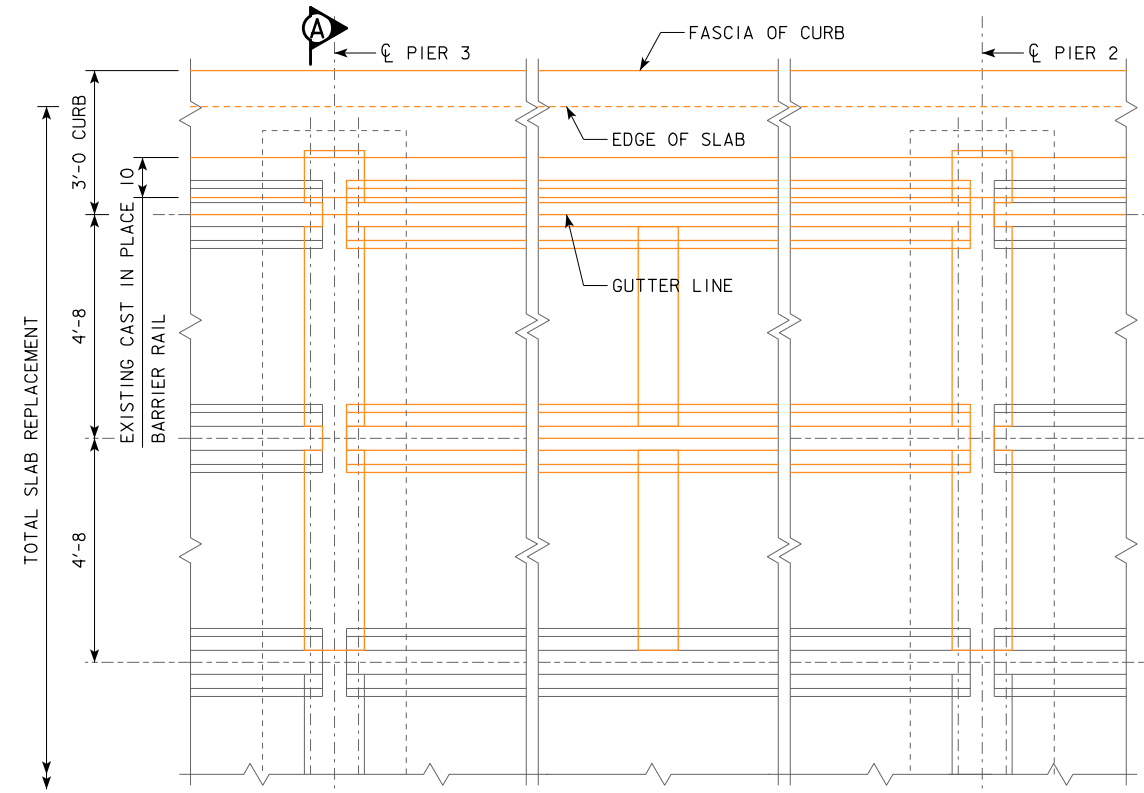
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TRANSVERSE SECTION
 STA. 1844+16.13 DECEMBER, 2021
SCOTT COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION
 DESIGN SHEET NO. 8 OF 21 FILE NO. 32074 DESIGN NO. 123



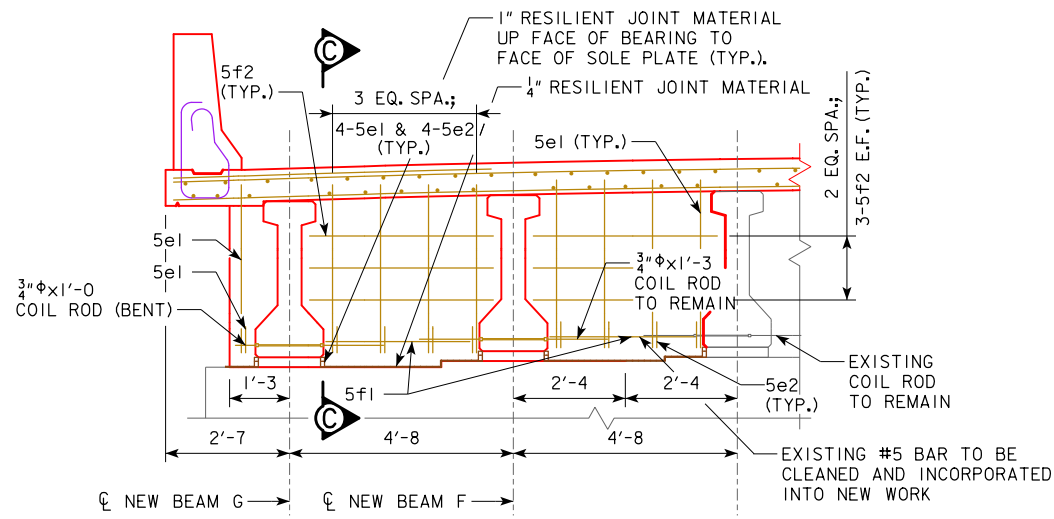
PART SECTION NEAR MID SPAN
(SPAN 3 LOOKING SOUTH)



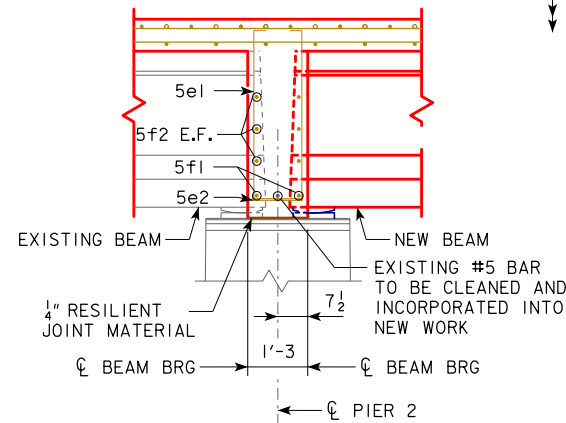
SECTION B-B



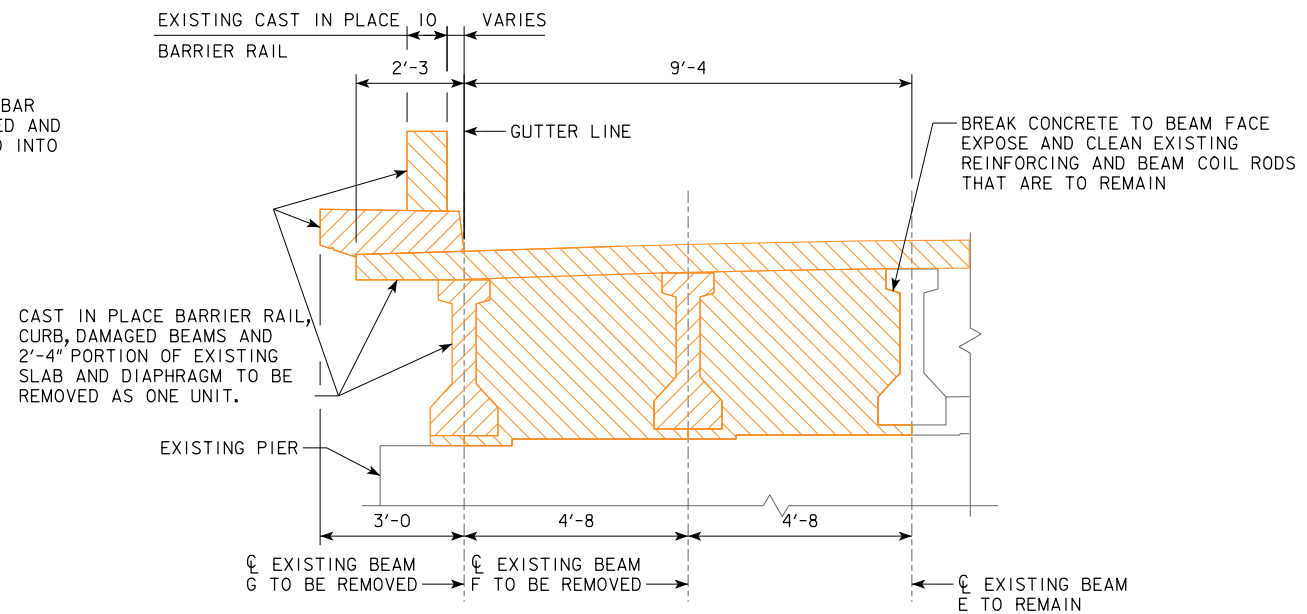
REMOVAL PART PLAN VIEW



PART SECTION NEAR PIER
(SPAN 3 LOOKING SOUTH)

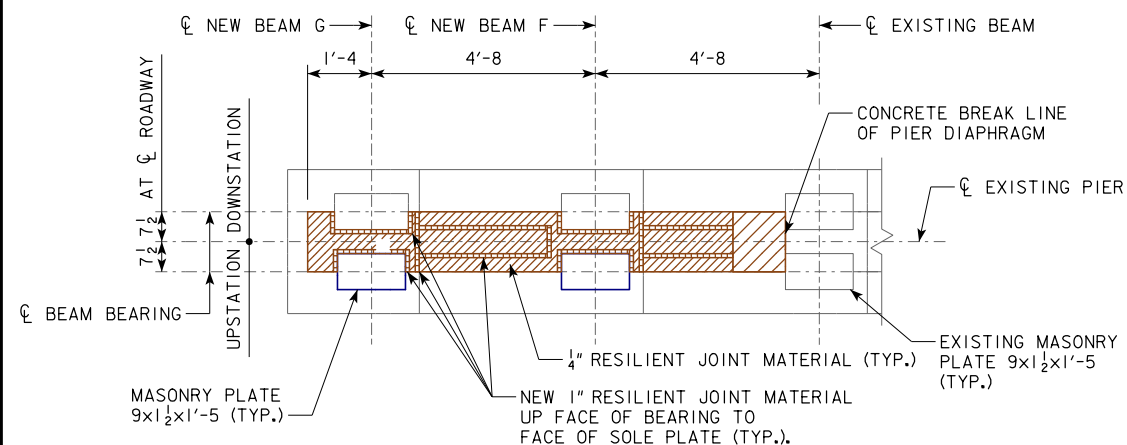


SECTION C-C



SECTION A-A
(SHOWING REMOVAL CRITERIA
IN SPAN 3 ONLY)

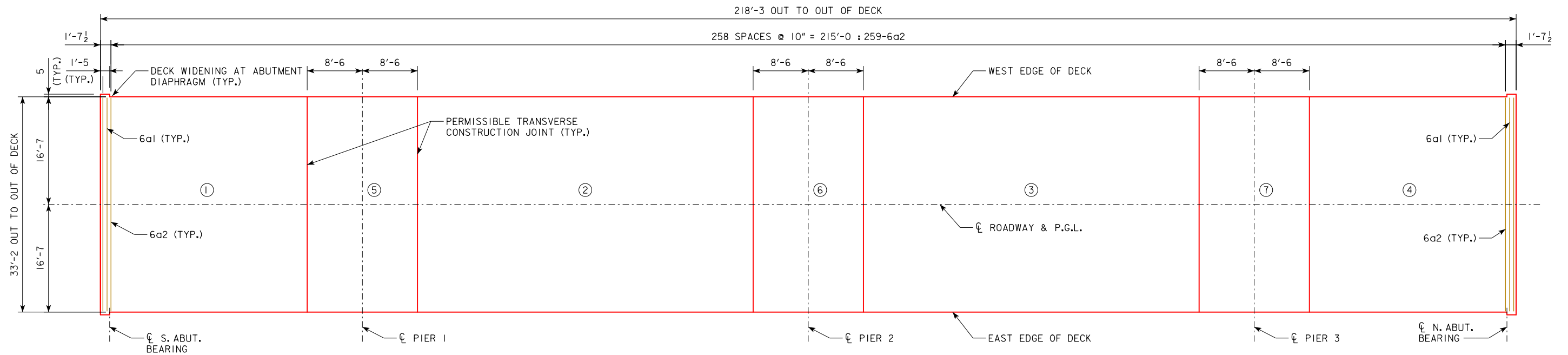
NOTE:
THE CONTRACTOR SHALL MAINTAIN THE LATERAL STABILITY OF THE BEAMS AFTER CUTTING LOOSE ALONG BREAK LINE PRIOR TO LIFTING THE BEAMS FROM THE PIERS. WHEN LIFTING THE BEAMS, PICK UP POINTS TO BE NEAR THE ENDS OF BEAMS.



PART PIER CAP DETAILS
(PIER 2 SHOWN, PIER 3 SIMILAR)

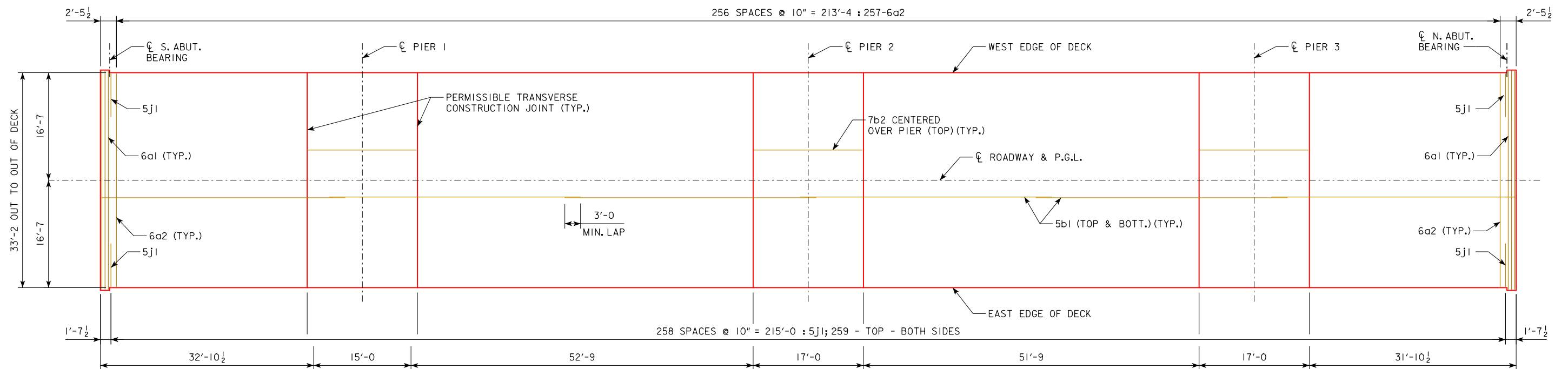
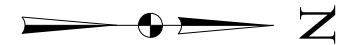
NOTES:
PIER AND INTERMEDIATE DIAPHRAGM CONCRETE IS TO BE PLACED MONOLITHICALLY WITH THE SLAB.
EXISTING COIL RODS SHOWN IN PIER AND INTERMEDIATE DIAPHRAGMS ARE TO BE CAREFULLY EXPOSED AND INCORPORATED INTO NEW WORK.
CARE SHALL BE TAKEN WHEN EXPOSED EXISTING REINFORCING SO THE BOND TO EXISTING CONCRETE IS NOT BROKEN AT THE CONCRETE BREAK LINES.
CONCRETE REMOVAL IS TO BE DONE CAREFULLY TO AVOID ANY DAMAGE TO PORTIONS OF STRUCTURE REMAINING IN PLACE. THE CONTRACTOR IS TO PROVIDE A METHOD OF REMOVAL THAT WILL PREVENT FEATHER EDGING AT THE BOTTOM OF THE EXISTING SLAB.

DESIGN FOR REPAIRS TO A 0°44' SKEW
**215'-5 x 30-0' PRETENSIONED
 PRESTRESSED CONCRETE BEAM BRIDGE**
 38'-11 END SPANS 68'-9 INTERIOR SPANS
BEAM REPLACEMENT DETAILS
 STA. 1844+16.13 DECEMBER, 2021
SCOTT COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION
 DESIGN SHEET NO. 9 OF 21 FILE NO. 32074 DESIGN NO. 123



BOTTOM TRANSVERSE DECK REINFORCING & CONCRETE PLACEMENT DIAGRAM

⊕ = CONCRETE PLACEMENT SEQUENCE



LONGITUDINAL & TOP TRANSVERSE DECK REINFORCING DIAGRAM

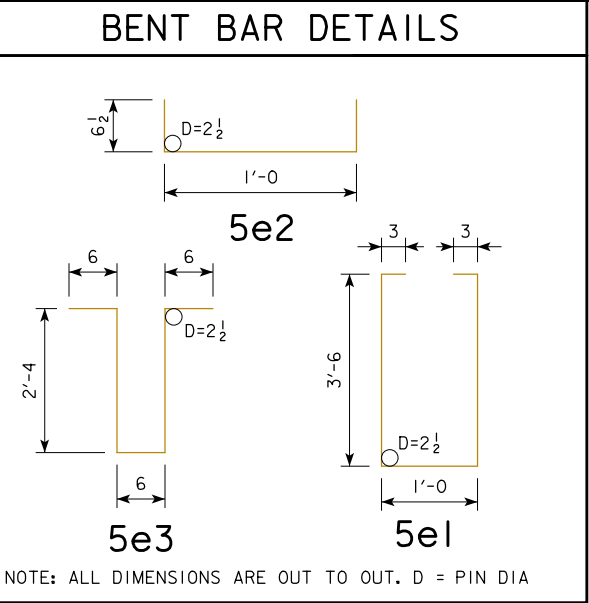
CONCRETE DECK SHALL BE PLACED IN SECTIONS AND SEQUENCES INDICATED. AN APPROVED ALTERNATE PROCEDURE IS TO PLACE THE CONCRETE DECK IN ONE CONTINUOUS POUR BEGINNING AT ONE END OF THE BRIDGE. ALTERNATE PROCEDURES FOR PLACING DECK CONCRETE MAY BE SUBMITTED FOR APPROVAL TOGETHER WITH A STATEMENT OF THE PROPOSED METHOD AND EVIDENCE THAT THE CONTRACTOR POSSESSES THE NECESSARY EQUIPMENT AND FACILITIES TO ACCOMPLISH THE REQUIRED RESULTS. THE BRIDGE ENGINEER SHALL REVIEW ANY ALTERNATE PROCEDURES. THE COST OF ANY ADDITIONAL ANALYSIS AND PLAN MODIFICATIONS SHALL BE PAID FOR BY THE CONTRACTOR. THE ENGINEER SHALL DETERMINE IF A RETARDING ADMIXTURE IS REQUIRED TO MAINTAIN PLASTICITY OF THE CONCRETE DECK DURING PLACEMENT. DECK CONCRETE SECTIONS SHALL CURE FOR A MINIMUM OF 48 HOURS AND SHALL ACHIEVE A MINIMUM STRENGTH OF 75% OF THE 28 DAY DECK CONCRETE STRENGTH PRIOR TO REMOVING DECK HEADERS AND BEGINNING AN ADJACENT POUR

DESIGN FOR REPAIRS TO A 0°44' SKEW
**215'-5 x 30'-0' PRETENSIONED
 PRESTRESSED CONCRETE BEAM BRIDGE**
 38'-11 END SPANS 68'-9 INTERIOR SPANS
REINFORCING LAYOUT
 STA. 1844+16.13 DECEMBER, 2021
SCOTT COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION
 DESIGN SHEET NO. 10 OF 21 FILE NO. 32074 DESIGN NO. 123

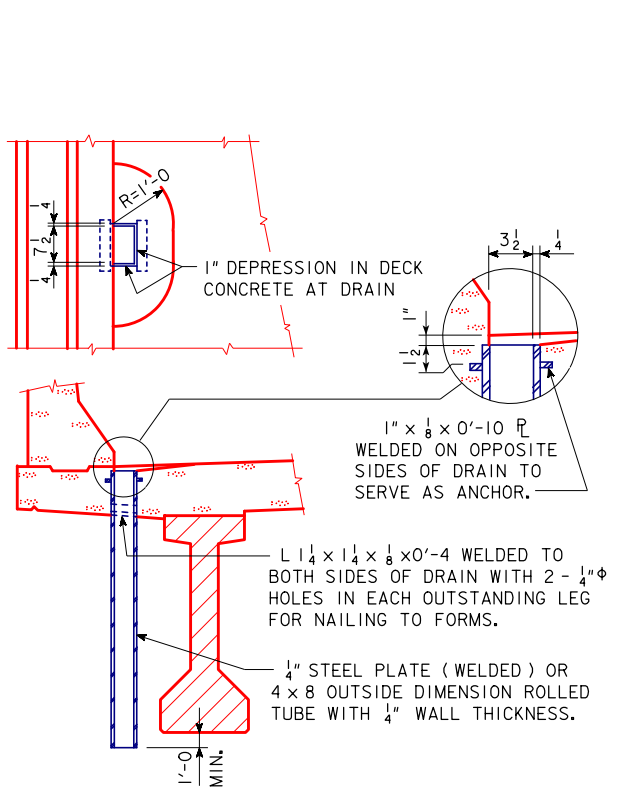
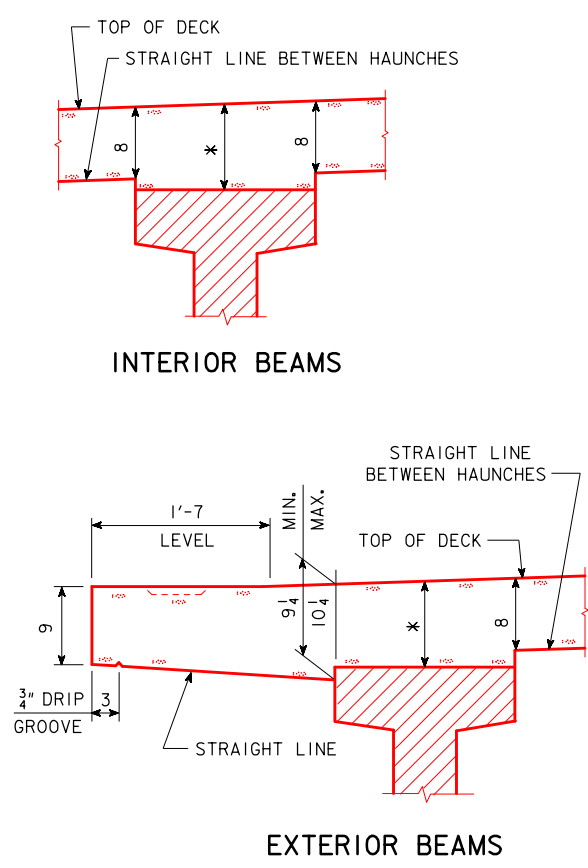
REINFORCING BAR LIST-SUPERSTRUCTURE					
BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
6a2	DECK TRANSVERSE, TOP & BOTTOM	—	516	32'-10	25,447
5b1	DECK LONGITUDINAL, TOP & BOTTOM	—	468	38'-10	18,955
7b2	DECK LONGITUDINAL, TOP, OVER PIERS	—	111	16'-8	3,781
5e1	PIER DIAPHRAGM, VERTICAL	U	18	8'-6	160
5e2	PIER DIAPHRAGM, HAIRPIN	U	18	2'-1	39
5e3	INT. DIAPHRAGM, VERTICAL	U	8	6'-2	51
5f1	DIAPHRAGM, LONGIT.	—	8	3'-0	25
5f2	DIAPHRAGM, LONGIT.	—	36	3'-10	144
5j1	DECK TRANSVERSE, TOP - AT RAIL	—	518	6'-3	3,377
REINFORCING STEEL - EPOXY COATED - TOTAL (LBS.)					51,979

EPOXY COATED REINFORCING

CONCRETE PLACEMENT QUANTITY	
LOCATION	QUANTITY
SECTION 1, DECK & ABUTMENT	33.1
SECTION 2, DECK	43.5
SECTION 3, DECK & DIAPHRAGM	44.2
SECTION 4, DECK & ABUTMENT	33.1
SECTION 5, DECK	14.3
SECTION 6, DECK & DIAPHRAGM	15.6
SECTION 7, DECK & DIAPHRAGM	15.6
TOTAL CONC. (CU. YDS.)	199.4



DATA FOR ONE DRAIN	
WT. LBS.	96
LENGTH FT.	4'-11 3/4

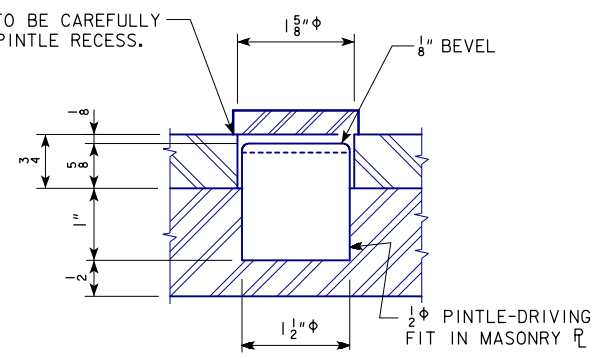


DRAIN DETAILS

NOTE:
DRAINS ARE TO BE GALVANIZED. 8 DRAINS REQUIRED. SEE "SITUATION PLAN" ON DESIGN SHEET 3 FOR LOCATION. WEIGHT IS BASED ON ROLLED TUBE. COST OF DRAINS TO BE INCLUDED IN PRICE BID FOR "STRUCTURAL CONCRETE (BRIDGE)".

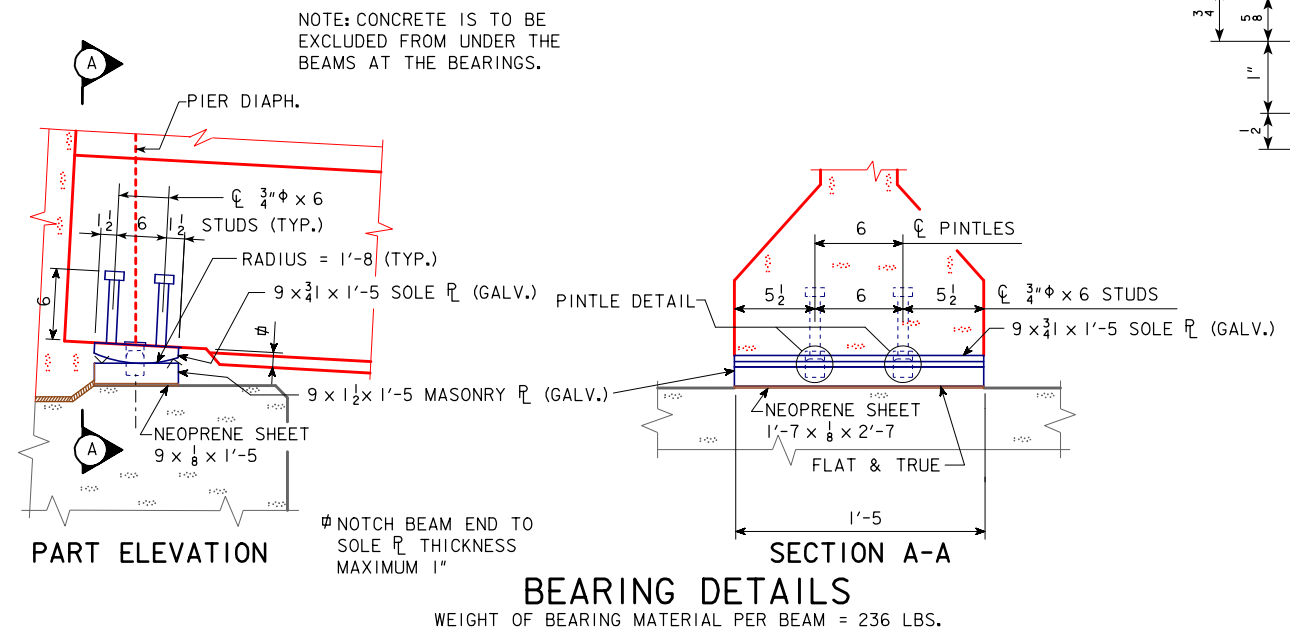
TYPICAL DECK AND HAUNCH DETAIL

* FOR DECK THICKNESS OVER BEAMS SEE "DECK THICKNESS DETAILS" ON DESIGN SHEET 13.



PINTLE DETAIL

NOTES:
SURFACES MARKED "V" SHALL BE FINISHED ANSI 250. MASONRY PLATES ARE TO BE SET ON A 1/8" NEOPRENE SHEET. COST OF MASONRY PLATES, NEOPRENE PADS AND ANCHORED CURVED SOLE PLATES ARE INCLUDED IN THE PRICE BID FOR PRETENSIONED PRESTRESSED CONCRETE BEAMS. THE SOLE PLATES AND MASONRY PLATES SHALL BE GALVANIZED. ALL WELDING SHALL BE COMPLETED PRIOR TO GALVANIZING. SOLE PLATES ARE TO BE SET IN FORMS WHEN BEAMS ARE CAST AND THE BOTTOM OF BEAMS FORMED OUT AS SHOWN TO EXCLUDE CONCRETE. NEOPRENE SHEETS ARE TO BE 50, 60 OR 70 DUROMETER HARDNESS. SOLE PLATES SHALL COMPLY WITH ONE OF THE FOLLOWING:
ASTM A514 GRADE B
ASTM A709 GRADE HPS 70W



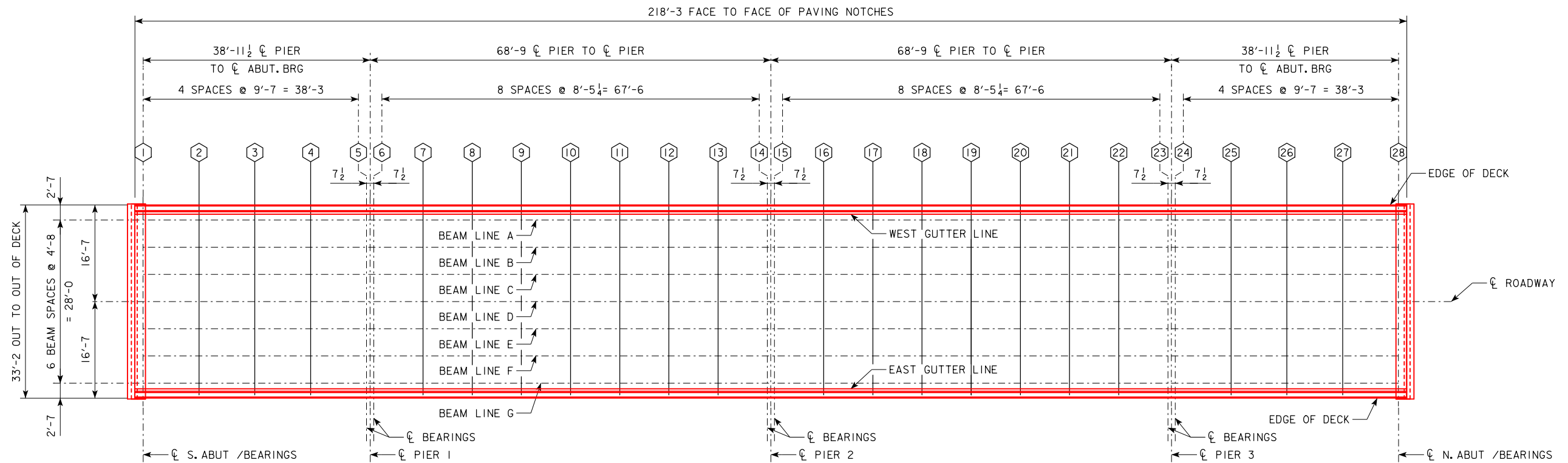
BEARING DETAILS

WEIGHT OF BEARING MATERIAL PER BEAM = 236 LBS.

SUPERSTRUCTURE NOTES:

THE BRIDGE DECK AS SHOWN INCLUDES 1/2" INTEGRAL WEARING SURFACE.
THE PIER AND ABUTMENT DIAPHRAGM CONCRETE IS TO BE PLACED MONOLITHICALLY WITH THE BRIDGE DECK.
COST OF ALL RESILIENT EXPANSION JOINT MATERIAL IS TO BE INCLUDED IN THE PRICE BID FOR "STRUCTURAL CONCRETE (BRIDGE)".
FORMS FOR THE BRIDGE DECK AND BARRIER RAIL ARE TO BE SUPPORTED BY THE PRESTRESSED CONCRETE BEAMS.
BEAMS ARE TO BE SET VERTICAL.
CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR SHALL BE 2 INCHES UNLESS OTHERWISE NOTED OR SHOWN.
ALL DIAPHRAGM AND DECK REINFORCING STEEL IS TO BE WIRED IN PLACE AND ADEQUATELY SUPPORTED BEFORE CONCRETE IS PLACED.
TOP TRANSVERSE REINFORCING STEEL IS TO BE PARALLEL TO AND 2 1/2" CLEAR BELOW TOP OF DECK. BOTTOM TRANSVERSE REINFORCING STEEL IS TO BE PARALLEL TO AND 1" CLEAR ABOVE BOTTOM OF DECK, UNLESS OTHERWISE SHOWN. TOP AND BOTTOM REINFORCING STEEL IS TO BE SUPPORTED BY INDIVIDUAL BAR CHAIRS SPACED AT NOT MORE THAN 3'-0 CENTERS LONGITUDINALLY AND TRANSVERSELY, OR BY CONTINUOUS ROWS OF BAR HIGH CHAIRS OR DECK BOLSTERS SPACED 4'-0 APART. I.M. 451.01 REQUIREMENTS SHALL APPLY FOR BAR CHAIRS, BAR HIGH CHAIRS, AND DECK BOLSTERS.
COST OF BEARING MATERIAL IS TO BE INCLUDED IN THE PRICE BID FOR "PRETENSION PRESTRESSED CONCRETE BEAMS".

DESIGN FOR REPAIRS TO A 0°44' SKEW
215'-5 x 30'-0' PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE
 38'-11 END SPANS 68'-9 INTERIOR SPANS
SUPERSTRUCTURE DETAILS
 STA. 1844+16.13 DECEMBER, 2021
SCOTT COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION
 DESIGN SHEET NO. 11 OF 21 FILE NO. 32074 DESIGN NO. 123

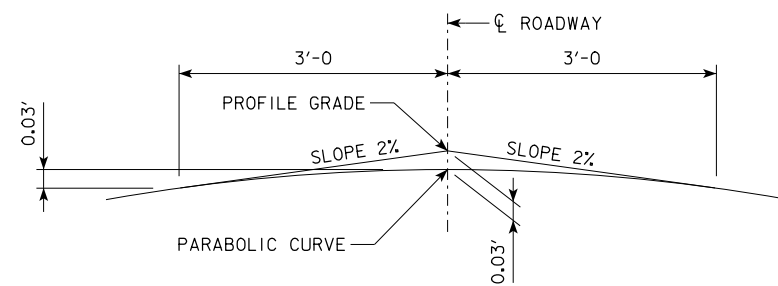


DECK ELEVATION PLAN



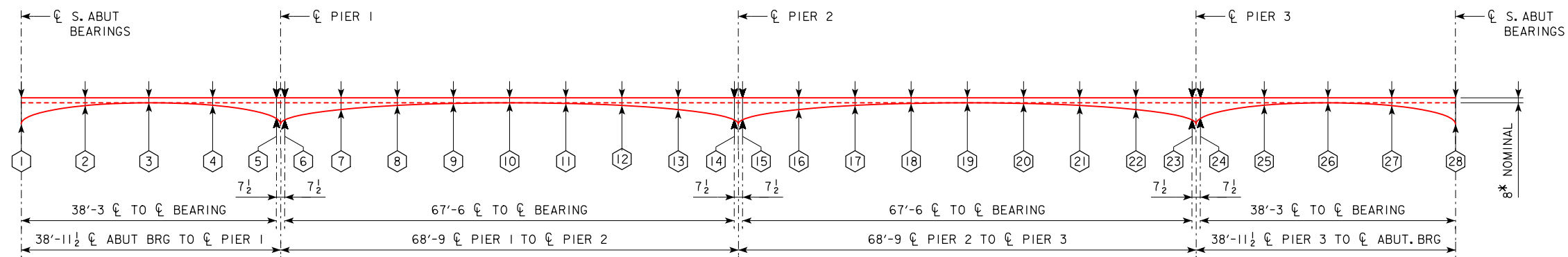
TOP OF DECK ELEVATION PLAN

LOCATION	☐ S. ABUT. BRG.				☐ PIER 1 BRG.								☐ PIER 2 BRG.								☐ PIER 3 BRG.				☐ N. ABUT. BRG.			
	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7	☐ 8	☐ 9	☐ 10	☐ 11	☐ 12	☐ 13	☐ 14	☐ 15	☐ 16	☐ 17	☐ 18	☐ 19	☐ 20	☐ 21	☐ 22	☐ 23	☐ 24	☐ 25	☐ 26	☐ 27	☐ 28
WEST GUTTER LINE	743.07	743.18	743.28	743.37	743.45	743.46	743.52	743.57	743.61	743.65	743.67	743.69	743.70	743.70	743.69	743.68	743.67	743.64	743.60	743.56	743.51	743.44	743.37	743.36	743.27	743.17	743.06	742.93
BEAM LINE A	743.09	743.20	743.30	743.39	743.47	743.48	743.54	743.59	743.63	743.67	743.69	743.71	743.72	743.72	743.71	743.70	743.69	743.66	743.62	743.58	743.53	743.46	743.39	743.38	743.29	743.19	743.08	742.95
BEAM LINE B	743.18	743.29	743.40	743.49	743.56	743.57	743.63	743.68	743.73	743.76	743.78	743.80	743.81	743.81	743.81	743.80	743.78	743.75	743.72	743.67	743.62	743.56	743.49	743.48	743.39	743.28	743.17	743.05
BEAM LINE C	743.28	743.39	743.49	743.58	743.66	743.67	743.73	743.78	743.82	743.85	743.88	743.89	743.90	743.90	743.90	743.89	743.87	743.85	743.81	743.76	743.71	743.65	743.58	743.57	743.48	743.38	743.26	743.14
BEAM LINE D/ ☐ RDWY	743.34	743.45	743.55	743.64	743.72	743.73	743.79	743.84	743.88	743.92	743.94	743.96	743.97	743.97	743.96	743.95	743.94	743.91	743.87	743.83	743.78	743.71	743.64	743.63	743.54	743.44	743.33	743.20
BEAM LINE E	743.28	743.39	743.49	743.58	743.66	743.67	743.73	743.78	743.82	743.85	743.88	743.89	743.90	743.90	743.90	743.89	743.87	743.85	743.81	743.76	743.71	743.65	743.58	743.57	743.48	743.38	743.26	743.14
BEAM LINE F	743.18	743.29	743.40	743.49	743.56	743.57	743.63	743.68	743.73	743.76	743.78	743.80	743.81	743.81	743.81	743.80	743.78	743.75	743.72	743.67	743.62	743.56	743.49	743.48	743.39	743.28	743.17	743.05
BEAM LINE G	743.09	743.20	743.30	743.39	743.47	743.48	743.54	743.59	743.63	743.67	743.69	743.71	743.72	743.72	743.71	743.70	743.69	743.66	743.62	743.58	743.53	743.46	743.39	743.38	743.29	743.19	743.08	742.95
EAST GUTTER LINE	743.07	743.18	743.28	743.37	743.45	743.46	743.52	743.57	743.61	743.65	743.67	743.69	743.70	743.70	743.69	743.68	743.67	743.64	743.60	743.56	743.51	743.44	743.37	743.36	743.27	743.17	743.06	742.93



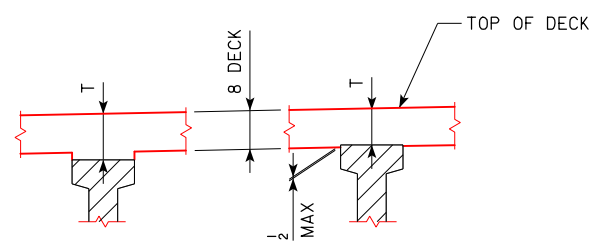
CROWN TEMPLATE
NO SCALE

DESIGN FOR REPAIRS TO A 0°44' SKEW
**215'-5 x 30-0' PRETENSIONED
 PRESTRESSED CONCRETE BEAM BRIDGE**
 38'-11 END SPANS 68'-9 INTERIOR SPANS
DECK ELEVATIONS
 STA. 1844+16.13 DECEMBER, 2021
SCOTT COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION
 DESIGN SHEET NO. 12 OF 21 FILE NO. 32074 DESIGN NO. 123



DECK THICKNESS AT EXISTING BEAMS (T)

LOCATION	CL S. ABUT. BRG.				CL PIER 1 BRG.								CL PIER 2 BRG.								CL PIER 3 BRG.				CL N. ABUT. BRG.			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
BEAM LINE A	8 1/4	8 5/16	8 5/16	8 1/4	8 3/16	8 5/16	---	8 3/16	---	8 1/4	---	8 5/16	---	8 1/2	8 1/2	---	8 7/16	---	8 7/16	---	8 3/8	---	8 5/16	8 3/16	8 1/4	8 5/16	8 1/4	8 1/4
BEAM LINE B	8 1/4	8 1/4	8 5/16	8 1/4	8 3/16	8 5/16	---	8 5/16	---	8 7/16	---	8 7/16	---	8 1/2	8 1/2	---	8 7/16	---	8 7/16	---	8 5/16	---	8 5/16	8 3/16	8 1/4	8 1/4	8 1/4	8 1/4
BEAM LINE C	8 1/4	8 1/4	8 5/16	8 1/4	8 3/16	8 5/16	---	8 5/16	---	8 7/16	---	8 7/16	---	8 1/2	8 1/2	---	8 7/16	---	8 7/16	---	8 5/16	---	8 5/16	8 3/16	8 1/4	8 1/4	8 1/4	8 1/4
BEAM LINE D	8 1/4	8 1/4	8 5/16	8 1/4	8 3/16	8 5/16	---	8 5/16	---	8 7/16	---	8 7/16	---	8 1/2	8 1/2	---	8 7/16	---	8 7/16	---	8 5/16	---	8 5/16	8 3/16	8 1/4	8 1/4	8 1/4	8 1/4
BEAM LINE E	8 1/4	8 1/4	8 5/16	8 1/4	8 3/16	8 5/16	---	8 5/16	---	8 7/16	---	8 7/16	---	8 1/2	8 1/2	---	8 7/16	---	8 7/16	---	8 5/16	---	8 5/16	8 3/16	8 1/4	8 1/4	8 1/4	8 1/4
BEAM LINE F	8 1/4	8 1/4	8 5/16	8 1/4	8 3/16	8 5/16	---	8 9/16	---	8 15/16	---	9 3/16	---	9 1/2	9 1/2	---	8 1/2	---	8 3/16	---	8 1/2	---	9 9/16	9 7/16	9 3/16	8 7/8	8 9/16	8 1/4
BEAM LINE G	8 1/4	8 5/16	8 5/16	8 1/4	8 3/16	8 5/16	---	8 5/8	---	8 5/16	---	9 3/16	---	9 1/2	9 1/2	---	8 1/2	---	8 1/4	---	8 9/16	---	9 9/16	9 7/16	9 3/16	8 15/16	8 9/16	8 1/4



DECK THICKNESS DETAIL

NOTE: THE DECK THICKNESS (T) AT BEAMS IS ESTIMATED BASED ON PROPOSED TOP OF SLAB ELEVATIONS AND ANTICIPATED BEAM CAMBER AND DEFLECTION DATA FROM EXISTING PLANS. THESE SLAB HAUNCH THICKNESS VALUES ARE ESTIMATES AND NOT GUARANTEED FOR CONSTRUCTION.

NOTE: HAUNCH LOCATIONS ARE AT THE SAME LOCATION AS THE ENCIRCLED LETTERS NUMBERS SHOWN ON DECK ELEVATIONS SHEET.

DESIGN FOR REPAIRS TO A 0°44' SKEW
**215'-5 x 30'-0' PRETENSIONED
 PRESTRESSED CONCRETE BEAM BRIDGE**
 38'-11 END SPANS 68'-9 INTERIOR SPANS
DECK AND HAUNCH DATA DETAIL
 STA. 1844+16.13 DECEMBER, 2021
SCOTT COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION
 DESIGN SHEET NO. 13 OF 21 FILE NO. 32074 DESIGN NO. 123

TABLE OF BEAM LINE DECK HAUNCH ELEVATIONS

BEAM LINE	☉ S. ABUT. BEARING				☉ PIER NO. 1 BEARINGS									☉ PIER NO. 2 BEARINGS									☉ PIER NO. 3 BEARINGS				☉ N. ABUT. BEARING	
	LINE 1	LINE 2	LINE 3	LINE 4	LINE 5	LINE 6	LINE 7	LINE 8	LINE 9	LINE 10	LINE 11	LINE 12	LINE 13	LINE 14	LINE 15	LINE 16	LINE 17	LINE 18	LINE 19	LINE 20	LINE 21	LINE 22	LINE 23	LINE 24	LINE 25	LINE 26		LINE 27
A	742.42	742.54	742.64	742.73	742.80	742.81	742.90	742.97	743.03	743.06	743.08	743.09	743.07	743.05	743.05	743.07	743.07	743.06	743.03	742.98	742.91	742.83	742.73	742.72	742.63	742.53	742.42	742.29
B	742.52	742.63	742.74	742.83	742.90	742.91	742.99	743.06	743.12	743.16	743.18	743.18	743.17	743.14	743.14	743.16	743.16	743.15	743.12	743.07	743.00	742.92	742.82	742.81	742.73	742.63	742.51	742.38
C	742.61	742.73	742.83	742.92	742.99	743.00	743.09	743.16	743.21	743.25	743.27	743.28	743.26	743.24	743.23	743.25	743.25	743.24	743.21	743.16	743.09	743.01	742.91	742.90	742.82	742.72	742.60	742.47
D	742.67	742.79	742.89	742.98	743.05	743.06	743.15	743.22	743.28	743.32	743.34	743.34	743.33	743.30	743.30	743.31	743.32	743.30	743.27	743.22	743.16	743.07	742.98	742.97	742.88	742.78	742.67	742.54
E	742.61	742.73	742.83	742.92	742.99	743.00	743.09	743.16	743.21	743.25	743.27	743.28	743.26	743.24	743.23	743.25	743.25	743.24	743.21	743.16	743.09	743.01	742.91	742.90	742.82	742.72	742.60	742.47
F	742.52	742.63	742.74	742.83	742.90	742.91	742.99	743.06	743.12	743.16	743.18	743.18	743.17	743.14	743.14	743.16	743.16	743.15	743.12	743.07	743.00	742.92	742.82	742.81	742.73	742.63	742.51	742.38
G	742.42	742.54	742.64	742.73	742.80	742.81	742.90	742.97	743.03	743.06	743.08	743.09	743.07	743.05	743.05	743.07	743.07	743.06	743.03	742.98	742.91	742.83	742.73	742.72	742.63	742.53	742.42	742.29

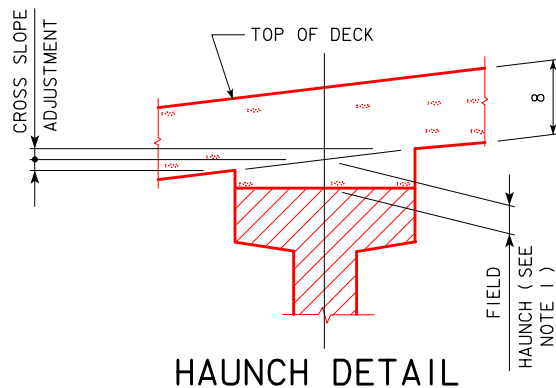
MISCELLANEOUS DATA TABLE

	BEAM LINE	☉ S. ABUT. BEARING				☉ PIER NO. 1 BEARINGS									☉ PIER NO. 2 BEARINGS											
		LINE 1	LINE 2	LINE 3	LINE 4	LINE 5	LINE 6	LINE 7	LINE 8	LINE 9	LINE 10	LINE 11	LINE 12	LINE 13	LINE 14	LINE 15	LINE 16	LINE 17	LINE 18	LINE 19	LINE 20	LINE 21	LINE 22			
ANTICIPATED DEFLECTION DUE TO DECK (IN.)	A	0	1/16	8/16	1/16	0	0	5/16	9/16	11/16	3/4	11/16	9/16	5/16	0	0	5/16	5/8	13/16	7/8	13/16	5/8	5/16			
	B, C, D, E, & F	0	1/16	8/16	1/16	0	0	5/16	9/16	3/4	13/16	3/4	9/16	5/16	0	0	5/16	9/16	3/4	13/16	3/4	9/16	5/16			
	G	0	1/16	8/16	1/16	0	0	5/16	5/8	13/16	7/8	13/16	5/8	5/16	0	0	5/16	5/8	13/16	7/8	13/16	5/8	5/16			
CROSS SLOPE ADJUSTMENTS (IN.)	A, B, C, E, F, & G	1/8																								
	D	0																								
ALLOWABLE FIELD HAUNCH (IN. & FT.)	MAX.	2 (0.167)																								
	MIN.	ALL	-3/8 (-0.031)																							
		A, B, C, E, F, & G	-1/2 (-0.041)																							

MISCELLANEOUS DATA TABLE (CONT.)

	BEAM LINE	☉ PIER NO. 3 BEARINGS					☉ N. ABUT. BEARING
		LINE 23	LINE 24	LINE 25	LINE 26	LINE 27	
ANTICIPATED DEFLECTION DUE TO DECK (IN.)	A	0	0	1/16	8/16	1/16	0
	B, C, D, E, & F	0	0	1/16	8/16	1/16	0
	G	0	0	1/16	8/16	1/16	0
CROSS SLOPE ADJUSTMENTS (IN.)	A, B, C, E, F, & G	1/8					
	D	0					
ALLOWABLE FIELD HAUNCH (IN. & FT.)	MAX.	2 (0.167)					
	MIN.	ALL	-3/8 (-0.031)				
		A, B, C, E, F, & G	-1/2 (-0.041)				

NOTE:
HAUNCH LOCATIONS ARE AT THE SAME LOCATION AS THE ENCIRCLED LETTERS AND NUMBERS SHOWN ON DECK ELEVATIONS SHEET.



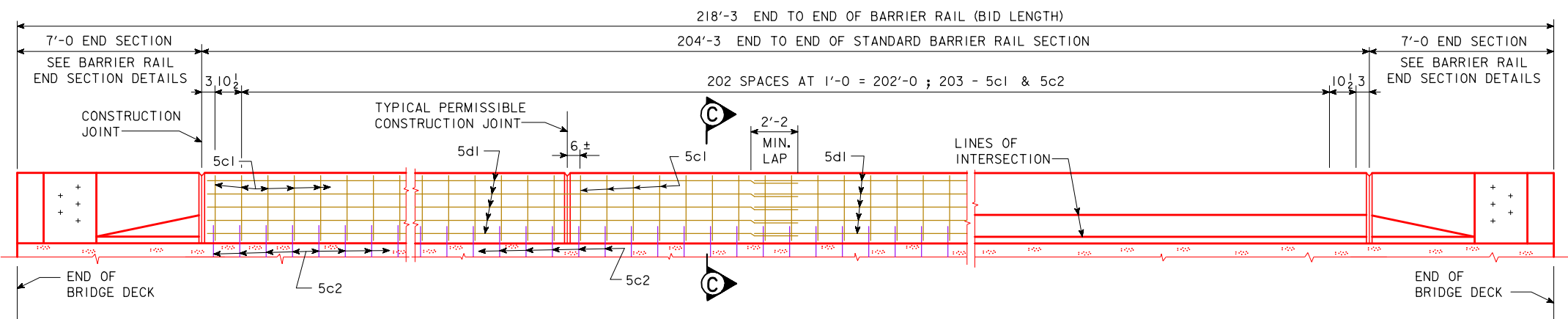
NOTE:
BRIDGE SEAT ELEVATIONS ARE SET BASED ON THEORETICAL CAMBER AND BEAM DEFLECTIONS. THESE BRIDGE SEATS WILL PROVIDE A THEORETICAL BEAM HAUNCH WITHIN DESIGN PARAMETERS. FIELD HAUNCHES ARE DETERMINED USING SURVEYED TOP OF BEAM ELEVATIONS AND "BEAM LINE HAUNCH ELEVATION" DATA. ALLOWABLE MAXIMUM AND MINIMUM "FIELD HAUNCH" VALUES ARE GIVEN IN INCHES AND DECIMALS OF FEET IN THE "MISCELLANEOUS DATA" TABLE. "CROSS SLOPE ADJUSTMENT" VALUES WILL AID THE CONTRACTOR IN DETERMINING ACTUAL FORMED HAUNCH DIMENSIONS AT THE EDGES OF THE TOP FLANGE.

NOTE 1:
TO CALCULATE FIELD HAUNCH REQUIRED AT EACH LOCATION, SURVEY THE BEAM TOPS CONSISTENT WITH THE SPACINGS SHOWN ON THE "TOP OF DECK ELEVATIONS LAYOUT". SUBTRACT THE SURVEYED BEAM SHOT FROM THE "BEAM LINE HAUNCH ELEVATION". THIS VALUE WILL BE THE HAUNCH NEEDED (SEE "FIELD HAUNCH" IN HAUNCH DETAIL). THE "BEAM LINE HAUNCH ELEVATION" INCLUDES ADJUSTMENTS FOR DECK THICKNESSES AND ANTICIPATED DEFLECTIONS. NO ADDITIONAL CALCULATIONS ARE REQUIRED. IF THE FIELD HAUNCH EXCEEDS THE MAXIMUMS AND MINIMUMS SHOWN IN INCHES AND DECIMALS OF FEET IN THE MISCELLANEOUS DATA TABLE, ADJUSTMENTS TO THE GRADE OR ADDITIONAL HAUNCH REINFORCEMENT WILL BE REQUIRED.

DESIGN FOR REPAIRS TO A 0°44' SKEW
215'-5 x 30'-0' PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE
 38'-11 END SPANS 68'-9 INTERIOR SPANS
DECK AND HAUNCH DATA DETAILS
 STA. 1844+16.13 DECEMBER, 2021
SCOTT COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION
 DESIGN SHEET NO. 14 OF 21 FILE NO. 32074 DESIGN NO. 123

REVISION 06-12 - THE ALLOWABLE FIELD HAUNCH MAX. & MIN. WAS CHANGED TO INCHES & DECIMALS OF FEET. NOTE & NOTE 1 WERE CHANGED. THE SLAB HAUNCH LOCATIONS EXAMPLE WAS REPLACED WITH A NOTE.
 REVISION 07-2019: CHANGED ALL REFERENCES OF "SLAB" TO "DECK".
 ENGLISH\MISCELLANEOUS\BRIDGES.DGN - 1066 - THIS SHEET ISSUED 02-08.

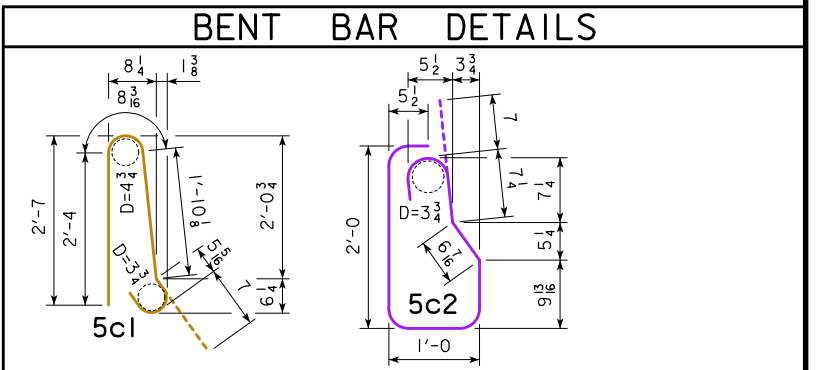
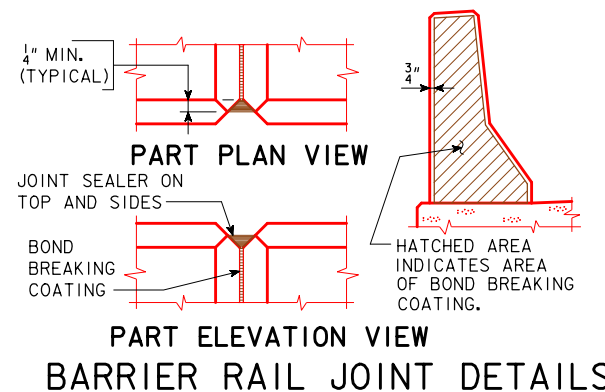
ENGLISHDECKRAILBRIDGES.DGN 1020SA THIS SHEET ISSUED 04-14 - ADDED STAINLESS STEEL REINFORCING BAR LIST AND CHANGED 5c2 BARS TO STAINLESS STEEL.



ELEVATION OF BARRIER RAIL LAYOUT

EPOXY COATED REINF. STEEL - TWO RAILS						
SECTION	BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
STANDARD SECTIONS	5c1	BARRIER RAIL, VERTICAL		410	5'-11	2,530
	5d1	BARRIER RAIL, LONGITUDINAL		108	35'-10	4,036
EPOXY STEEL TOTAL (LBS.)						6,566

STAINLESS STEEL REINF. STEEL - TWO RAILS						
SECTION	BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
STANDARD SECTIONS	5c2	BARRIER RAIL, VERTICAL		410	6'-0	2,566
	STAINLESS STEEL TOTAL (LBS.)					



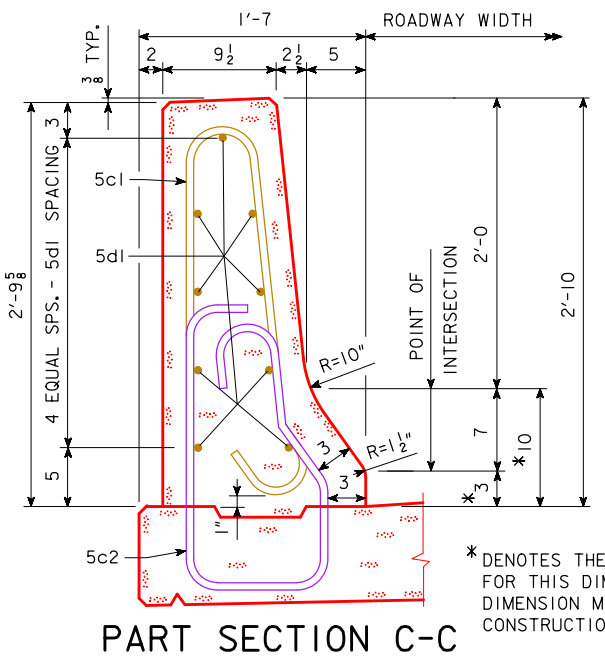
NOTE:
ALL DIMENSIONS ARE OUT TO OUT.
D = PIN DIAMETER.

BARRIER RAIL NOTES:

MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN.
 THE PERMISSIBLE CONSTRUCTION JOINTS ARE TO BE PLACED BETWEEN VERTICAL BARS AT A MINIMUM SPACING OF 20 FEET. CONSTRUCTION JOINT CONTACT SURFACES ARE TO BE COATED WITH AN APPROVED BOND BREAKER.
 COST OF THE JOINT SEALER AND BOND BREAKER SHALL BE CONSIDERED INCIDENTAL TO OTHER CONSTRUCTION.
 ALL BARRIER RAIL REINFORCING STEEL IS TO BE EITHER EPOXY COATED OR STAINLESS STEEL AS SHOWN. THE STAINLESS STEEL REINFORCING STEEL SHALL BE DEFORMED BAR GRADE 60 MEETING THE REQUIREMENTS OF MATERIALS I.M. 452.
 THE CONCRETE BARRIER RAIL IS TO BE BID ON A LINEAL FOOT BASIS.
 THE NUMBER OF LINEAL FEET OF BARRIER RAIL INSTALLED WILL BE PAID FOR AT THE CONTRACT PRICE PER LINEAL FOOT BASED ON PLAN QUANTITIES. PRICE BID FOR CONCRETE BARRIER RAILING SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIAL, EXCLUDING REINFORCING STEEL, AND ALL OF THE EQUIPMENT AND LABOR REQUIRED TO ERECT THE RAIL IN ACCORDANCE WITH THESE PLANS AND CURRENT SPECIFICATIONS. THE RIGID STEEL CONDUIT, JUNCTION BOXES AND FITTINGS INCLUDING LABOR AND ANY ADDITIONAL WORK TO DO THE INSTALLATION IS CONSIDERED INCIDENTAL TO THE COST OF THE RAILING.
 THE JOINT SEALER SHALL BE LIGHT GRAY NONSAG LATEX CAULKING SEALER MARKETED FOR OUTDOOR USE. NO TESTING OR CERTIFICATION IS REQUIRED.
 TOP OF THE BARRIER RAIL IS TO BE PARALLEL TO THE THEORETICAL ϕ GRADE.
 CROSS SECTIONAL AREA OF THE STANDARD SECTION OF THE BARRIER RAIL = 2.84 SQUARE FEET.
 STAINLESS STEEL REINFORCING SHALL NOT BE ALLOWED TO BE IN CONTACT WITH THE UNCOATED REINFORCING, BARE METAL FORMING HARDWARE, OR TO GALVANIZED ATTACHMENTS OR GALVANIZED CONDUIT.

CONCRETE PLACEMENT SUMMARY	
SECTION	TOTAL
NORTH BARRIER RAIL - 204'-3 @ 0.1052 CU. YD. PER FT.	21.5
SOUTH BARRIER RAIL - 204'-3 @ 0.1052 CU. YD. PER FT.	21.5
TOTAL (CU. YD.)	43.0

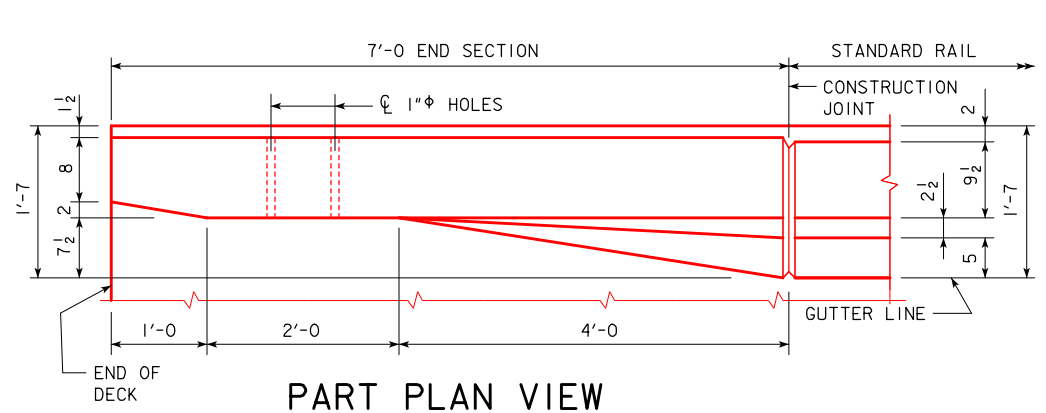
CONCRETE BARRIER RAIL QUANTITIES		
ITEM	UNIT	QUANTITY
CONCRETE BARRIER RAILING	L.F.	436.5



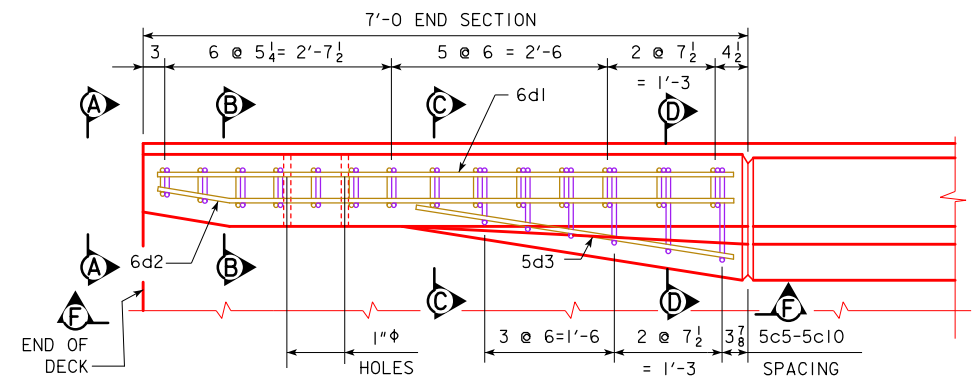
PART SECTION C-C

DESIGN FOR REPAIRS TO A 0°44' SKEW
**215'-5 x 30'-0' PRETENSIONED
 PRESTRESSED CONCRETE BEAM BRIDGE**
 38'-11 END SPANS 68'-9 INTERIOR SPANS
BARRIER RAIL DETAILS
 STA. 1844+16.13 DECEMBER, 2021
SCOTT COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION
 DESIGN SHEET NO. 15 OF 21 FILE NO. 32074 DESIGN NO. 123

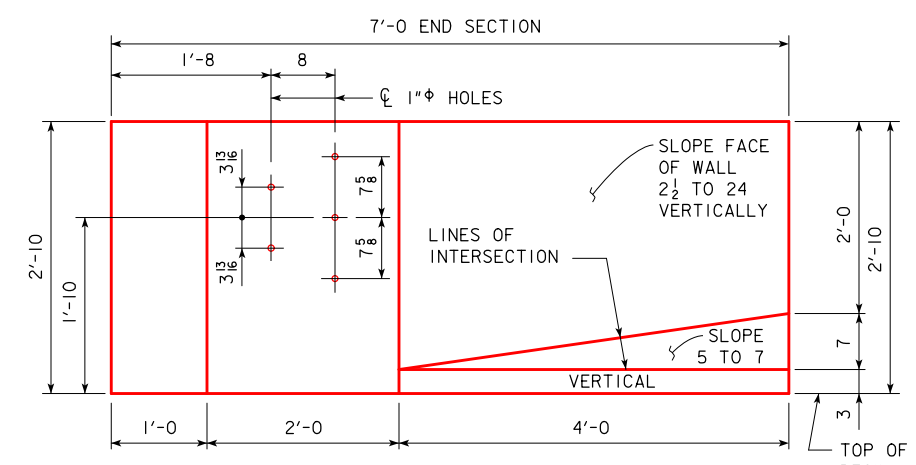
ENGLISHDECKRAILBRIDGES.DGN 1017S - THIS SHEET ISSUED 04-14 - ADDED STAINLESS STEEL REINFORCING BAR LIST AND CHANGED 6c3, 6c4 & 5c5-10 BARS TO STAINLESS STEEL.



PART PLAN VIEW

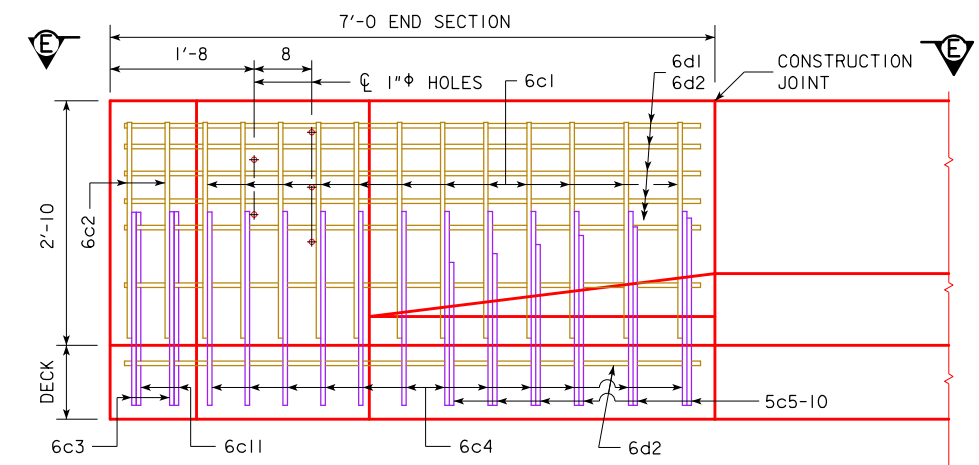


PART VIEW E-E

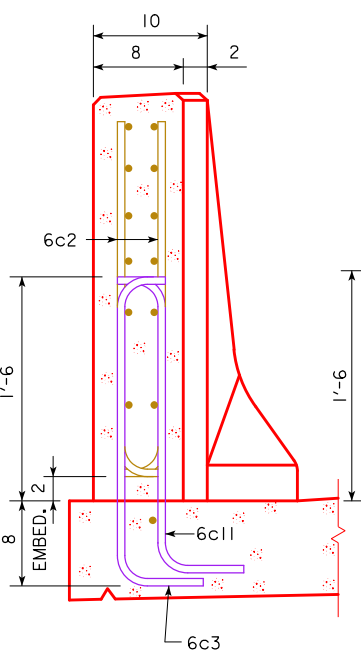


PART ELEVATION VIEW

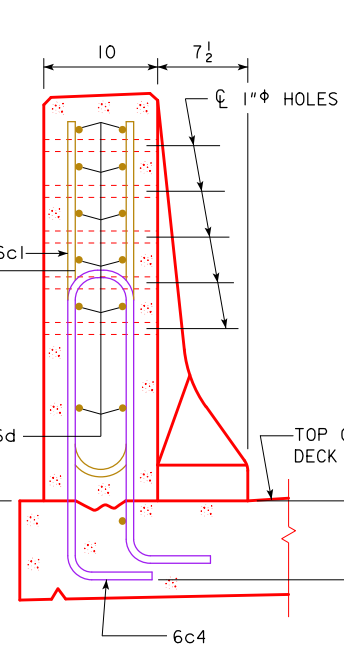
PROVIDE 5 HOLES FORMED WITH 1" PLASTIC CONDUIT. COST TO BE INCLUDED IN PRICE BID FOR CONCRETE BARRIER RAILING.



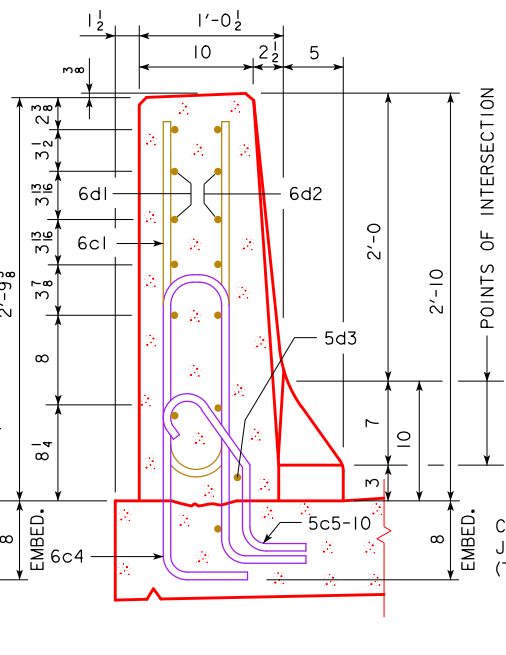
PART VIEW F-F



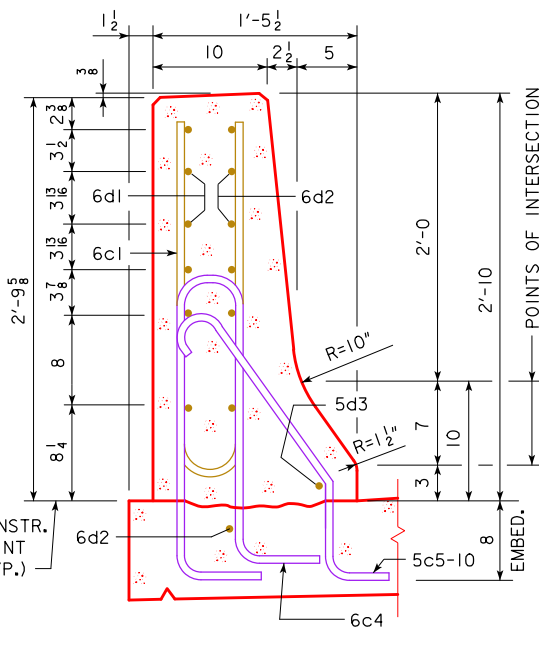
VIEW A-A



SECTION B-B



SECTION C-C



SECTION D-D

NOTE:
CONSTRUCTION JOINT BETWEEN TOP OF DECK AND BARRIER RAIL IS ROUGHENED CONCRETE.

NOTE:
THE 10" RADIUS AND 1 1/2" RADIUS ARE TYPICAL AND SHALL BE USED WHEN CONSTRUCTING THE CORNERS FOR VIEW A-A, SECTION B-B, SECTION C-C AND SECTION D-D.

NOTE:
THE 6c4, 6c3, 5c5-10, 6c11 & 6d2 BARS ARE TO BE PLACED WITH THE DECK.

EPOXY COATED REINF. STEEL-FOUR END SECT.					
BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
6c1	RAIL, VERTICAL	U	48	5'-6"	397
6c2	RAIL, VERTICAL	J	16	2'-10"	68
6d1	RAIL, HORIZONTAL	—	24	6'-8"	240
6d2	RAIL, HORIZONTAL	—	28	6'-9"	284
5d3	RAIL, HORIZONTAL	—	4	3'-9"	16
EPOXY REINF. TOTAL WEIGHT (LBS.)					1,005

STAINLESS STEEL REINF. STEEL-FOUR END SECT.					
BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
6c3	RAIL, VERTICAL	L	8	3'-6"	42
6c4	RAIL, VERTICAL	J	48	6'-10"	493
5c5-10	RAIL, VERTICAL	J	24	VARIABLES	83
6c11	RAIL, VERTICAL	J	8	3'-6"	42
STAINLESS STEEL TOTAL WEIGHT (LBS.)					660

CONCRETE PLACEMENT SUMMARY	
SECTION	TOTAL
BARRIER RAIL, FOUR END SECTIONS @ 0.65 CU. YD. EA.	2.6
TOTAL (CY)	2.6

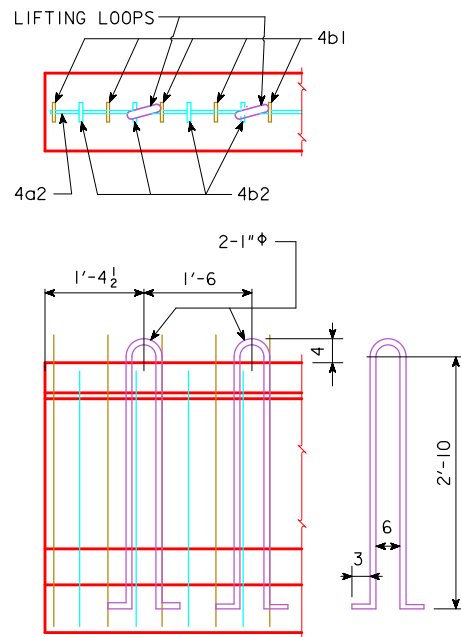
BENT BAR DETAILS

BAR	"X"
5c5	0'-6 1/2"
5c6	0'-8 1/2"
5c7	0'-10 1/4"
5c8	1'-0 1/4"
5c9	1'-2"
5c10	1'-4"

NOTE: ALL DIMENSIONS ARE OUT TO OUT. D = PIN DIAMETER.

DESIGN FOR REPAIRS TO A 0°44' SKEW
**215'-5 x 30'-0' PRETENSIONED
 PRESTRESSED CONCRETE BEAM BRIDGE**
 38'-11 END SPANS 68'-9 INTERIOR SPANS
BARRIER RAIL END SECTION DETAILS
 STA. 1844+16.13 DECEMBER, 2021
SCOTT COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION
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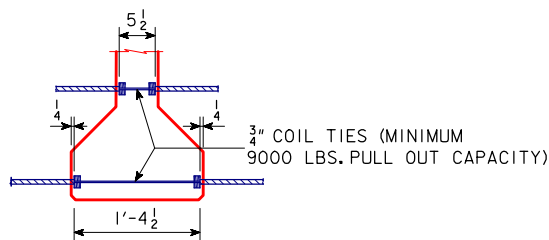
REVISION 08-12 - I.M. REFERENCE NOTE FOR SEALING BEAM ENDS DISTINGUISHES BETWEEN THE FABRICATOR AND CONTRACTOR. ENGLISHBEAMS.DGN - 4610 - LRFD - THIS SHEET RE-ISSUED 09-06.



TYPICAL AT EACH END OF THE BEAM

LIFTING LOOP DETAIL

ALTERNATE TYPES MAY BE SUBSTITUTED WITH THE APPROVAL OF THE ENGINEER. LIFTING LOOPS ARE TO BE STRUCTURAL GRADE.



COIL TIE DETAIL

NUMBER AND EXACT LOCATION OF COIL TIES TO BE AS DETAILED ON DESIGN SHEET 18.

ΔΔ4b1 BARS TO BE EPOXY COATED.

** WHERE DEFLECTING STRANDS INTERFERE WITH PLACEMENT, SOME IN-PLACE BENDING MAY BE NECESSARY.

REINFORCING BAR LIST			
BEAM	SPAN	B67 67'-6	
BAR	SHAPE	NO.	LENGTH
6a1		4	35'-7
4a2		2	4'-2
ΔΔ 4b1		56	7'-10
4b2		12	6'-2
4b5		12	3'-3
3c1		56	1'-5
** 3d		136	2'-10
3e		24	1'-8

ALL DIMENSIONS ARE OUT TO OUT. RADIUS TO ϕ BAR. D = PIN DIAMETER.

B BEAM DATA

BEAM	SPAN LENGTH ϕ - ϕ BEARING	OVERALL BEAM LENGTH (L)	STRAND SIZE DIA. (inches)	NO. OF STRANDS		TOTAL INITIAL PRESTRESS ⁽³⁾ KIPS	HOLD DOWN FORCE-KIPS	CAMBER (in.)		DEFLECTION (in.) Δ_D		PERMISSIBLE SPACING		WEIGHT (TONS)	CONCRETE (C. Y.)	REINFORCING STEEL-(lb)		
				STRAIGHT	DEFLECTED			AT RELEASE	AFTER LOSSES	IMMEDIATE ⁽¹⁾ (ELASTIC) Δ_T		TIME ⁽²⁾ (PLASTIC) Δ_T					HL93 LOADING	
										CONC.	STEEL	CONC.	STEEL				CONC.	STEEL
*B67	67'-6	68'-6	0.60	14	3	723	11.6	1.69	2.98	1.16	1.09	0.29	0.27	7'-6	7'-6	13.6	6.74	778

BEAM NOTES:

⁽¹⁾ DEFLECTIONS AT MID-SPAN DUE TO WEIGHT OF SLAB AND DIAPHRAGM. THE DEFLECTIONS SHOWN ARE FOR A SLAB WEIGHT OF 757 #/FT. (8" SLAB AND 7'-6 BEAM SPACING) AND ONE CONCRETE DIAPHRAGM (2270 #) OR ONE STEEL DIAPHRAGM (285 #) AT ϕ OF SPAN. FOR DIFFERENT SLAB AND DIAPHRAGM WEIGHTS, DEFLECTIONS WILL BE DIRECTLY PROPORTIONAL.

⁽²⁾ DEFLECTIONS DUE TO THE COMBINED EFFECT OF CREEP DUE TO WEIGHT OF SLAB AND SHRINKAGE OF SLAB.

TOTAL BEAM DEFLECTIONS AT ϕ OF SPAN, Δ , DUE TO WEIGHT OF SLAB AND DIAPHRAGMS FOR DETAILING PURPOSE:

- (A) $\Delta_D = \Delta_1 + \Delta_T$ FOR SIMPLE SPAN.
- (B) $\Delta_D = \Delta_1 + \frac{3}{4}\Delta_T$ FOR END SPANS OF CONTINUOUS BRIDGE.
- (C) $\Delta_D = \Delta_1 + \frac{1}{2}\Delta_T$ FOR INTERIOR SPANS OF CONTINUOUS BRIDGE.

⁽³⁾ TOTAL INITIAL PRESTRESS IS BASED ON 72.6% $f's$, $f's = 270$ ksi AND $A_s = 0.217$ sq. in.

* MINIMUM CONCRETE $f'c$ (AT 28 DAYS) SHALL BE 7,000 psi. MINIMUM $f'ci$ AT RELEASE SHALL BE 6,000 psi.

THESE BEAMS ARE DESIGNED FOR AASHTO LIVE LOADS AS INDICATED IN ABOVE TABLE WITH AN ALLOWANCE OF 20 lb. PER SQUARE FOOT OF ROADWAY FOR FUTURE WEARING SURFACE. ALL PPC BEAMS SHALL USE HIGH PERFORMANCE CONCRETE (HPC) IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. HOLD DOWN POINTS FOR DEFLECTED STRANDS MAY BE MOVED TOWARD ENDS OF BEAM A DISTANCE OF 0.05 L MAXIMUM AT PRODUCER'S OPTION.

ALL PRESTRESSING STRANDS SHALL CONFORM TO ASTM A416 GRADE 270 LOW RELAXATION STRANDS. TOPS OF BEAMS ARE TO BE STRUCK OFF LEVEL AND FINISHED AS PER MATERIALS IM570.

BEARINGS SHALL BE AS DETAILED ON OTHER DESIGN SHEETS. BEAMS TO BE USED IN BRIDGES MADE CONTINUOUS BY THE POURED IN PLACE FLOOR, ARE TO BE AT LEAST 28 DAYS OLD BEFORE THE FLOOR IS PLACED UNLESS A SHORTER CURING TIME IS APPROVED BY THE BRIDGE ENGINEER.

THE PORTIONS OF THE PRESTRESS BEAMS THAT ARE TO BE EMBEDDED IN THE ABUTMENT AND PIER DIAPHRAGMS SHALL BE ROUGHENED FOR A DISTANCE OF 10" FROM THE BEAM END BY SANDBLASTING OR OTHER APPROVED METHODS TO PROVIDE SUITABLE BOND BETWEEN THE BEAM AND THE DIAPHRAGM IN ACCORDANCE WITH ARTICLE 2403.03, I, OF THE STANDARD SPECIFICATIONS.

ALL BEAMS ARE TO BE INCREASED IN LENGTH TO COMPENSATE FOR ELASTIC SHORTENING, CREEP AND SHRINKAGE.

SOLE PLATE IS TO BE SET IN FORMS WHEN BEAM IS CAST AND FORMED OUT BELOW TO EXCLUDE CONCRETE AS DETAILED ON DESIGN SHEET 11.

0.6" DIAMETER STRANDS STRESSED TO NOT MORE THAN 5,000 LBS. EACH MAY BE USED IN LIEU OF THE ϕ BARS WHICH RUN THE FULL LENGTH OF THE BEAM IN THE TOP FLANGE.

SPECIFICATIONS:

CONSTRUCTION: STANDARD SPECIFICATIONS OF THE IOWA DEPARTMENT OF TRANSPORTATION, CURRENT SERIES, WITH CURRENT APPLICABLE SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS.

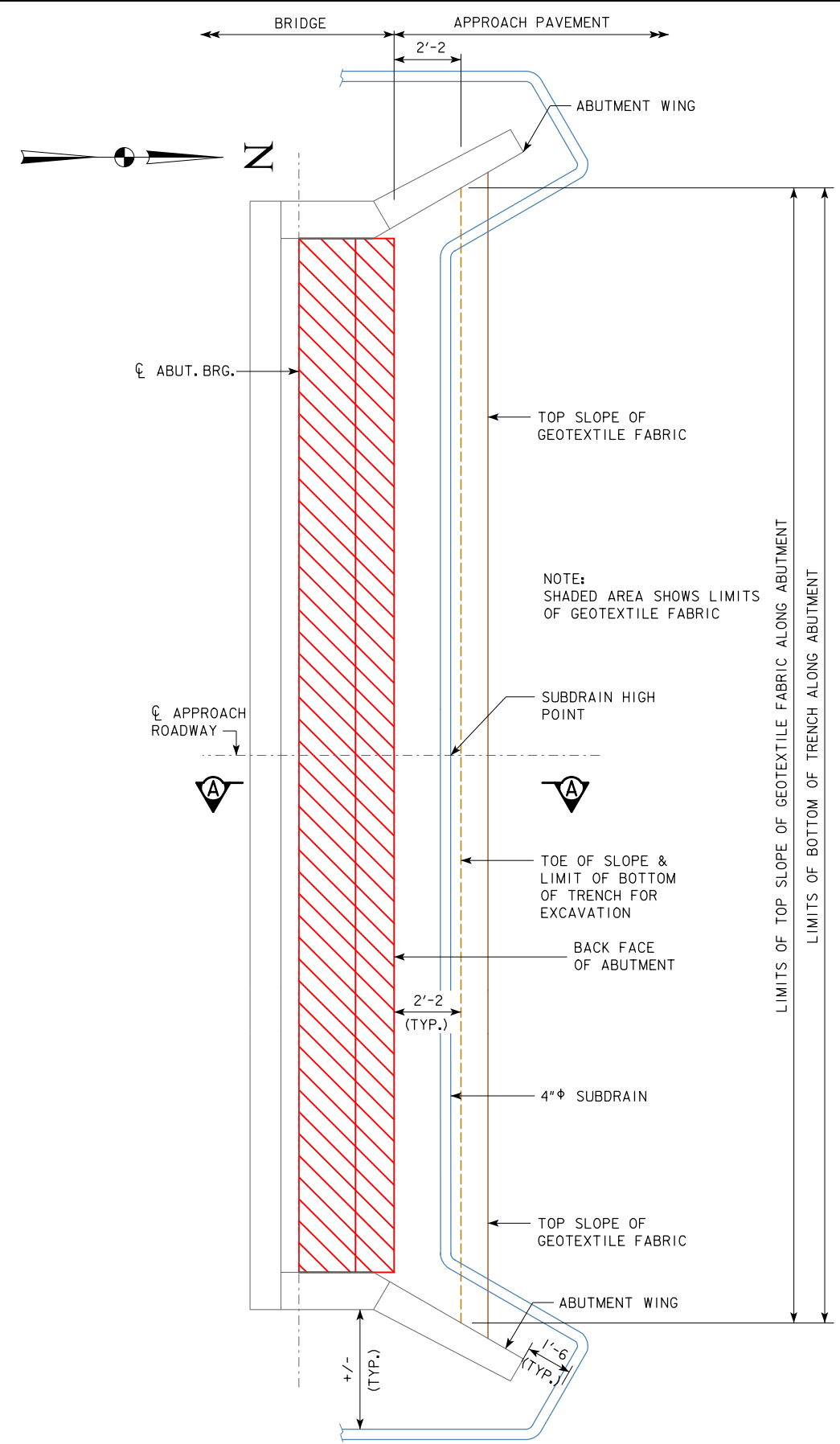
DESIGN: A.A.S.H.T.O. LRFD, SERIES OF 2007, WITH MINOR MODIFICATIONS.

DESIGN STRESSES:

DESIGN STRESSES FOR THE FOLLOWING MATERIALS ARE TO BE IN ACCORDANCE WITH A.A.S.H.T.O. LRFD SPECIFICATIONS FOR HIGHWAY BRIDGES, SERIES OF 2007:
 REINFORCING STEEL IN ACCORDANCE WITH SECTION 5, GRADE 60.
 CONCRETE IN ACCORDANCE WITH SECTION 5, $f'c = 5000$ psi (EXCEPT AS NOTED)
 PRESTRESSING STEEL IN ACCORDANCE WITH SECTION 5, $f's = 270,000$ psi.

DESIGN FOR REPAIRS TO A 0°44' SKEW
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B67 BEAM DETAILS
 STA. 1844+16.13 DECEMBER, 2021
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REVISED 09-14 - THE TECHNICAL DATA INFORMATION TABLE WAS REMOVED AND IS LOCATED IN THE STANDARD SPECIFICATIONS. CHANGED SURFACE FLOODING TIME TO 5 MINUTE INCREMENTS.
 REVISED 09-2016 - CHANGED THE BRIDGE APPROACH PAVEMENT STANDARD TO "BR" (WAS "PK"), ENGLISH FORESLOPE PROTECTION BRIDGES.DGN - 1007D - THIS SHEET ISSUED 08-07.



ABUTMENT PLAN WITHOUT WING EXTENSIONS
 (NORTH ABUTMENT SHOWN, SOUTH ABUTMENT SIMILAR)

ABUTMENT BACKFILL PROCESS:

THE BASE OF THE EXCAVATION SUBGRADE BEHIND THE ABUTMENT IS TO BE GRADED WITH A 4% SLOPE AWAY FROM THE ABUTMENT FOOTING AND A 2% CROSS SLOPE IN THE DIRECTION OF THE SUBDRAIN OUTLET. THIS EXCAVATION SHAPING IS TO BE DONE PRIOR TO BEGINNING INSTALLATION OF THE GEOTEXTILE AND BACKFILL MATERIAL.

AFTER THE SUBGRADE HAS BEEN SHAPED, THE GEOTEXTILE FABRIC SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILS SHOWN. THE FABRIC IS INTENDED TO BE INSTALLED IN THE BASE OF THE EXCAVATION AND EXTENDED VERTICALLY UP THE ABUTMENT BACKWALL, ABUTMENT WING WALLS, AND EXCAVATION FACE TO A HEIGHT THAT WILL BE APPROXIMATELY 1 TO 2 FOOT HIGHER THAN THE HEIGHT OF THE POROUS BACKFILL PLACEMENT AS SHOWN IN THE "BACKFILL DETAILS" ON THIS SHEET. THE STRIPS OF THE FABRIC PLACED SHALL OVERLAP APPROXIMATELY 1 FOOT AND SHALL BE PINNED IN PLACE. THE FABRIC SHALL BE ATTACHED TO THE ABUTMENT BY USING LATH FOLDED IN THE FABRIC AND SECURED TO THE CONCRETE WITH SHALLOW CONCRETE NAILS. THE FABRIC PLACED AGAINST THE EXCAVATION FACE SHALL BE PINNED.

WHEN THE FABRIC IS IN PLACE, THE SUBDRAIN SHALL BE INSTALLED DIRECTLY ON THE FABRIC AT THE TOE OF THE REAR EXCAVATION SLOPE. A SLOT WILL NEED TO BE CUT IN THE FABRIC AT THE POINT WHERE THE SUBDRAIN EXITS THE FABRIC NEAR THE END OF THE ABUTMENT WING WALL.

POROUS BACKFILL IS THEN PLACED AND LEVELED, NO COMPACTION IS REQUIRED.

NO FLOODABLE BACKFILL IS REQUIRED. BACKFILL FLOODING IS REQUIRED AFTER POROUS BACKFILL LAYER IS COMPLETE IN ORDER TO TEST THE SUBDRAIN.

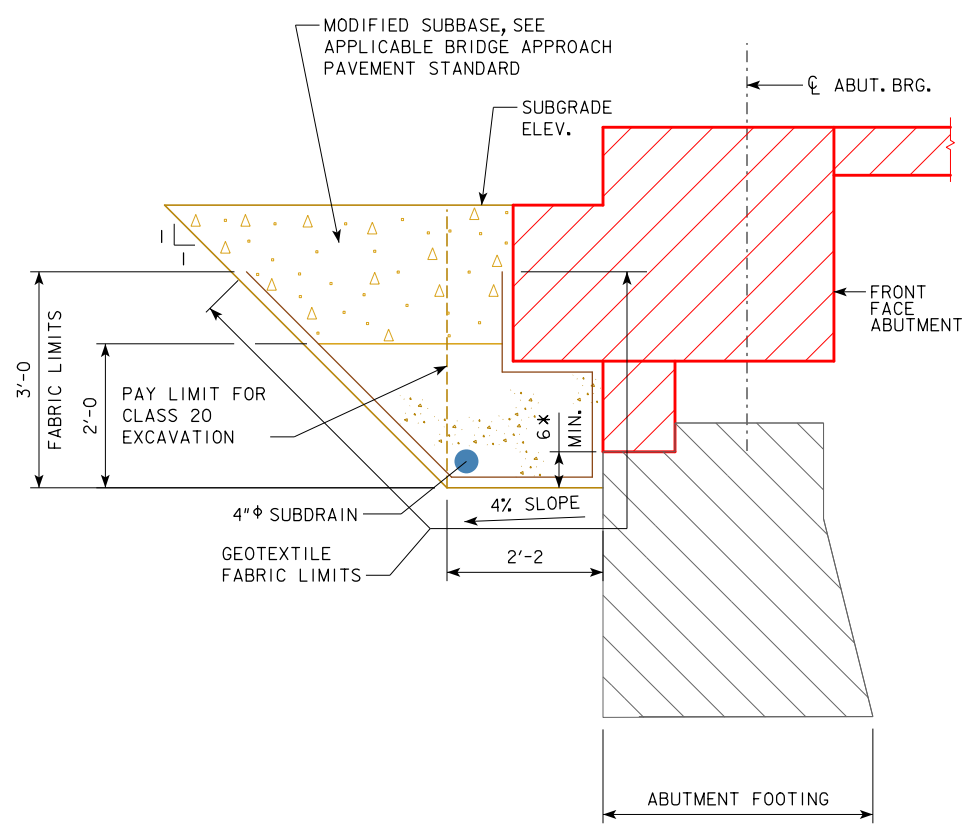
START BACKFILL FLOODING AT THE HIGH POINT OF THE SUBDRAIN AND PROGRESS TO THE LOW POINT WHERE THE SUBDRAIN EXITS THE FABRIC.

WATER REQUIRED FOR FLOODING, SUBDRAINS, POROUS BACKFILL, AND GEOTEXTILE FABRIC FURNISHED AT THE BRIDGE ABUTMENTS WILL NOT BE MEASURED SEPARATELY FOR PAYMENT.

THE COST OF WATER REQUIRED FOR FLOODING, SUBDRAINS, POROUS BACKFILL, AND GEOTEXTILE FABRIC FURNISHED AT THE BRIDGE ABUTMENTS SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR "EXCAVATION, CLASS 20".

NOTE:

SUBDRAIN SHALL SLOPE DOWNWARD 2% FROM ϕ N. DIVISION STREET.
 THE GEOTEXTILE FABRIC SHALL BE IN ACCORDANCE WITH ARTICLE 4196.01, B, 6 OF THE STANDARD SPECIFICATIONS. IF THE ENGINEERING FABRIC IS LAPPED THE LAPS SHALL BE A MINIMUM OF ONE FOOT IN LENGTH, SHINGLE FASHION WITH UP SLOPE LAP PIECE ON TOP AND STAPLED FOR CONTINUITY.



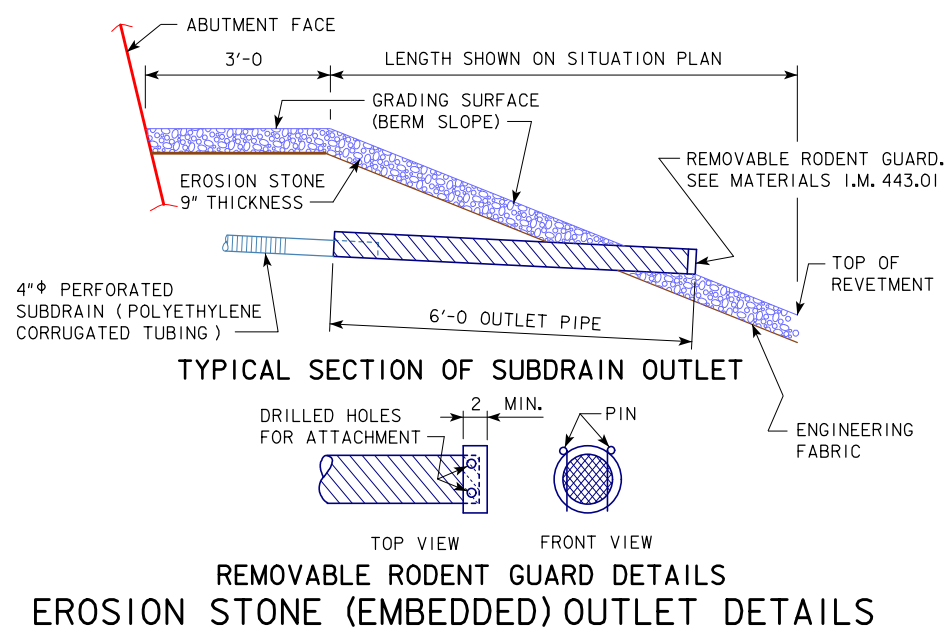
**SECTION A-A
 BACKFILL DETAILS**

NOTE: GEOTEXTILE FABRIC WILL BE ATTACHED TO FACE OF ABUTMENT FOOTING AND WINGS.
 * DIMENSION VARIES DUE TO 2% SUBDRAIN SLOPE.

NOTE:
 SEE SUBDRAIN DETAILS SHEET FOR DETAILS NOT SHOWN ON THIS SHEET WHICH ARE PERTINENT TO THIS STRUCTURE.

DESIGN FOR REPAIRS TO A 0°44' SKEW
**215'-5 x 30'-0' PRETENSIONED
 PRESTRESSED CONCRETE BEAM BRIDGE**
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ABUTMENT BACKFILL DETAILS
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REVISED 10-14 - TWO ADDITIONAL FORESLOPE PROTECTION DETAILS WERE ADDED OUTSIDE OF THE BORDER TO SHOW REVETMENT UP TO BACK OF ABUTMENT FOOTING. ENGLISH FORESLOPE PROTECTION BRIDGES.DGN 1007C - THIS SHEET ISSUED 06-02 FOR WATER CROSSINGS.



SUBDRAIN OUTLET ELEVATIONS	
LOCATION	ELEVATION
NORTH ABUTMENT	3'-6" BELOW BRG. SEAT ELEV.
SOUTH ABUTMENT	3'-6" BELOW BRG. SEAT ELEV.

SUBDRAIN NOTES :

THIS PLAN SHEET SHOWS DETAILS FOR PLACING ALL SUBDRAINS AND SUBDRAIN OUTLETS REQUIRED FOR THIS STRUCTURE.

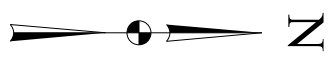
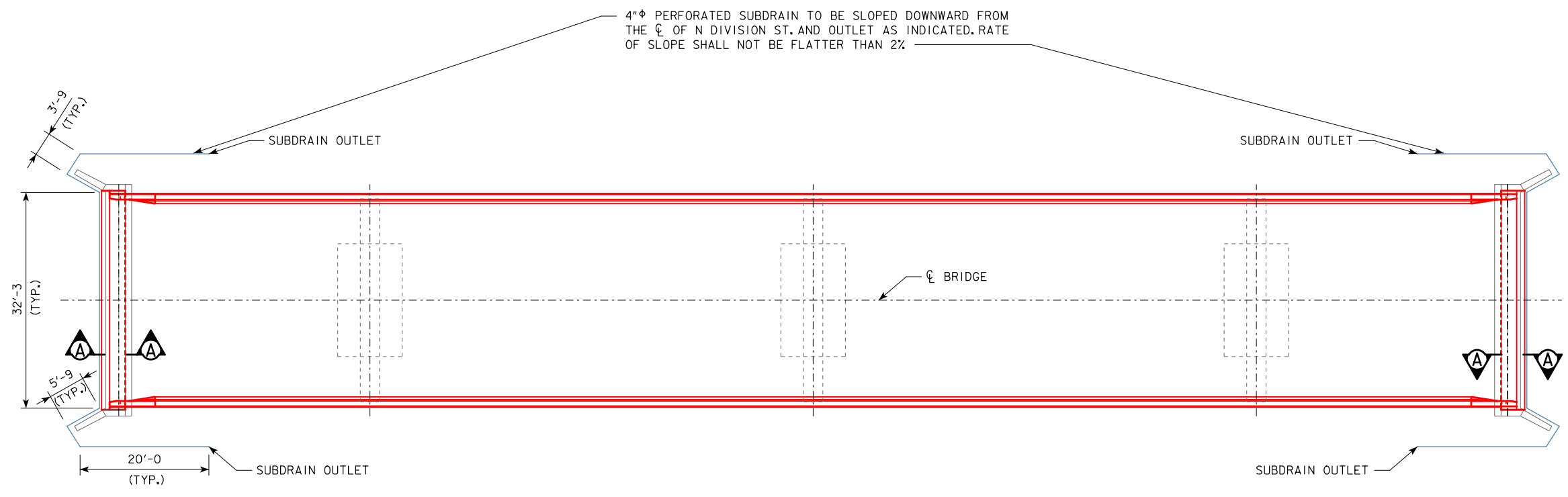
THE SUBDRAINS SHALL BE 4" IN DIAMETER AND SHALL BE IN ACCORDANCE WITH ARTICLE 4143.01, B, OF THE STANDARD SPECIFICATIONS.

THE SUBDRAIN OUTLET SHALL CONSIST OF A LENGTH OF PIPE WITH A REMOVABLE RODENT GUARD AS DETAILED ON THIS SHEET. THE LENGTH OF THE OUTLET PIPE SHALL BE DETERMINED BY THE REVETMENT AND ITS PLACEMENT LOCATION. THE CONTRACTOR IS TO INSURE THE OUTLET PIPE IS ADEQUATELY STRONG ENOUGH AND WILL NOT BE DAMAGED WHEN REVETMENT IS PLACED. A CHECK WILL BE MADE AT THE SUBDRAIN OUTLET TO INSURE THAT THE SUBDRAIN IS NOT DAMAGED AND IS DRAINING PROPERLY DURING THE BACKFILL FLOODING PROCESS. IF A METAL OUTLET PIPE IS USED, IT SHALL BE 6 INCHES IN DIAMETER AND COUPLED TO THE 4 INCH DIAMETER SUBDRAIN IN ONE OF THE TWO FOLLOWING WAYS.

1. USE AN INSIDE FIT REDUCER COUPLER (COUPLER MUST BE INSERTED A MINIMUM OF 1'-0" INTO THE METAL OUTLET PIPE).
2. INSERT 1'-0" OF THE 4" ϕ SUBDRAIN INTO THE 6" ϕ METAL OUTLET PIPE, THEN FULLY SEAL THE ENTIRE OPENING WITH GROUT.

THE COST OF FURNISHING AND PLACING SUBDRAIN (INCLUDING EXCAVATION), GRANULAR BACKFILL, POROUS BACKFILL, AND SUBDRAIN OUTLET IS TO BE INCLUDED IN THE PRICE BID FOR "EXCAVATION, CLASS 20". NO EXTRA PAYMENT WILL BE MADE.

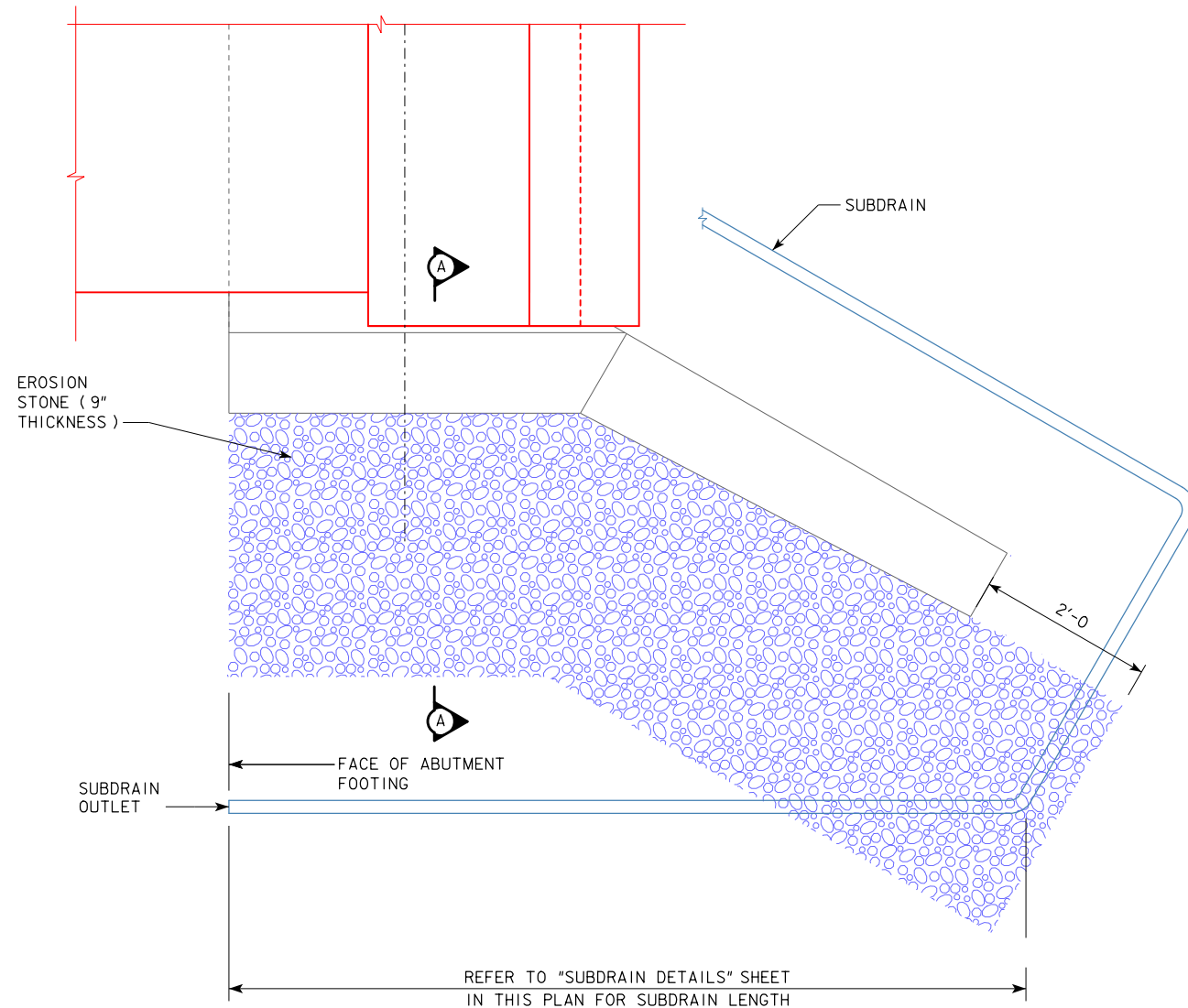
THE DIMENSIONS SHOWN FOR THE PROPOSED SUBDRAINS ARE BASED ON THE EXISTING ABUTMENT GEOMETRY AND GRADING OF BRIDGE BERMS. THE DIMENSIONS SHOWN ARE FOR ESTIMATING ONLY. REQUIRED LENGTHS AND GENERAL LOCATIONS OF SUBDRAINS ARE SUBJECT TO CHANGE DUE TO FIELD ADJUSTMENTS OF THE GRADING LAYOUT.



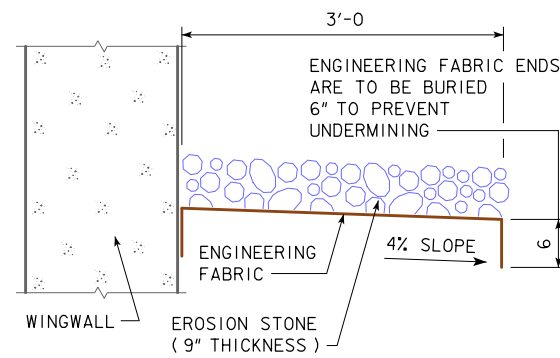
NOTE:
SECTION A-A IS SHOWN ON ABUTMENT BACKFILL DETAILS SHEET.

DESIGN FOR REPAIRS TO A 0°44' SKEW
215'-5" x 30'-0" PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE
 38'-11" END SPANS 68'-9" INTERIOR SPANS
SUBDRAIN DETAILS
 STA. 1844+16.13 DECEMBER, 2021
SCOTT COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION
 DESIGN SHEET NO. 20 OF 21 FILE NO. 32074 DESIGN NO. 123

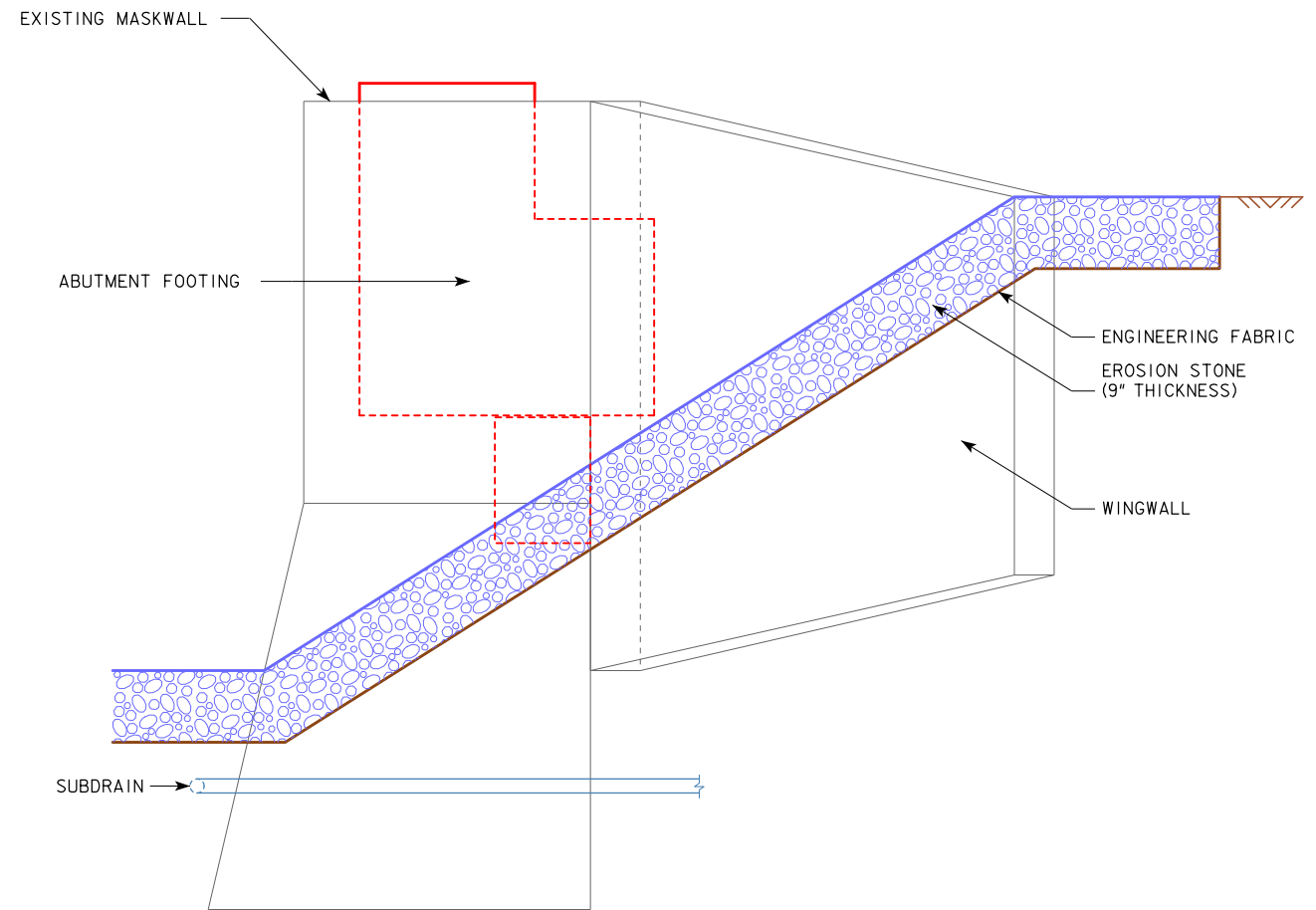
REVISED 06-14 - ADDED 2 FEET OF LENGTH OF EROSION STONE IN FRONT OF THE BRIDGE WING. ENGLISH FOR PROTECTION BRIDGES.DGN 1005A - THIS SHEET ISSUED 06-02.



TOP VIEW OF WING ARMORING



SECTION A-A



PROFILE VIEW OF WING ARMORING

GENERAL NOTES:

EROSION STONE SHALL BE PLACED ALONG THE SIDES OF THE WINGS AND ABUTMENT FOOTING AS SHOWN IN SECTION A-A. THIS IS TYPICAL AT EACH CORNER OF THE BRIDGE UNLESS OTHERWISE NOTED IN THE PLANS. THE EROSION STONE AT THESE LOCATIONS SHALL BE UNDERLAYED WITH ENGINEERING FABRIC IN ACCORDANCE WITH ARTICLE 4196.01, B, 3, OF THE STANDARD SPECIFICATIONS.

THE EROSION STONE SHALL BE IN ACCORDANCE WITH SECTION 4130, OF THE STANDARD SPECIFICATIONS. MATERIAL PASSING THE 3 INCH SCREEN BUT 100% RETAINED ON A 1 INCH SCREEN MAY BE USED AS CHOKE STONE.

THE EROSION STONE SHALL BE DEPOSITED, SPREAD, CONSOLIDATED AND SHAPED BY MECHANICAL OR HAND METHODS THAT WILL PROVIDE UNIFORM 9" DEPTH AND DENSITY AND PROVIDE UNIFORM SURFACE APPEARANCE.

PAYMENT FOR THE BRIDGE WING ARMORING WILL BE BID PER SQUARE YARD. COST WILL INCLUDE ENGINEERING FABRIC, EROSION STONE, EXCAVATION, SHAPING, AND COMPACTION TO DIMENSIONS SHOWN IN THESE PLANS. BID ITEM SHALL BE "BRIDGE WING ARMORING - EROSION STONE".

DESIGN FOR REPAIRS TO A 0°44' SKEW
**215'-5 x 30-0' PRETENSIONED
 PRESTRESSED CONCRETE BEAM BRIDGE**
 38'-11 END SPANS 68'-9 INTERIOR SPANS
BRIDGE WING ARMORING DETAILS
 STA. 1844+16.13 DECEMBER, 2021
SCOTT COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION
 DESIGN SHEET NO. 21 OF 21 FILE NO. 32074 DESIGN NO. 123

INDEX OF SHEETS

No.	DESCRIPTION
A Sheets	Title Sheets
A.1	Title Sheet
B Sheets	Typical Cross Sections and Details
B.1	Typical Cross Sections and Details
C Sheets Creation	Quantities and General Information
C.1 - C.3	Estimated Roadway Quantities
C.1 - C.3	Estimate Reference Information
C.4	Project Description and General Information
C.4	Index of Tabulations
C.4	Standard Road Plans
C.4	General Notes
C.5 - C.7	Tabulations
D Sheets	Mainline Plan and Profile Sheets
* D.1	Plan and Profile Legend and Symbol Information Sheet
* D.2	Division St. Plan and Profile Sheet
* D.3	RM-1827(689)--9D-82 Plan and Profile Sheet
G Sheets	Survey Sheets
G.1 - G.2	Reference Ties and Bench Marks
G.3	Alignment Coordinates
J Sheets	Traffic Control and Staging Sheets
J.1	Traffic Control Plan
J.1	Staging Notes
J.1	Coordinated Operations
J.1	511 Travel Restrictions
J.1	Traffic Control Closure Table
* J.2 - J.5	I-80 Detour Detail Sheets
* J.6	Modified TC-454
* J.7 - J.8	RM-1827(689)--9D-82 Traffic Control Plan and Detour Detail Sheets
U Sheets	Special Details and Modified Standards
* U.1	Modified BR-211
	 * Color Plan Sheets

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.

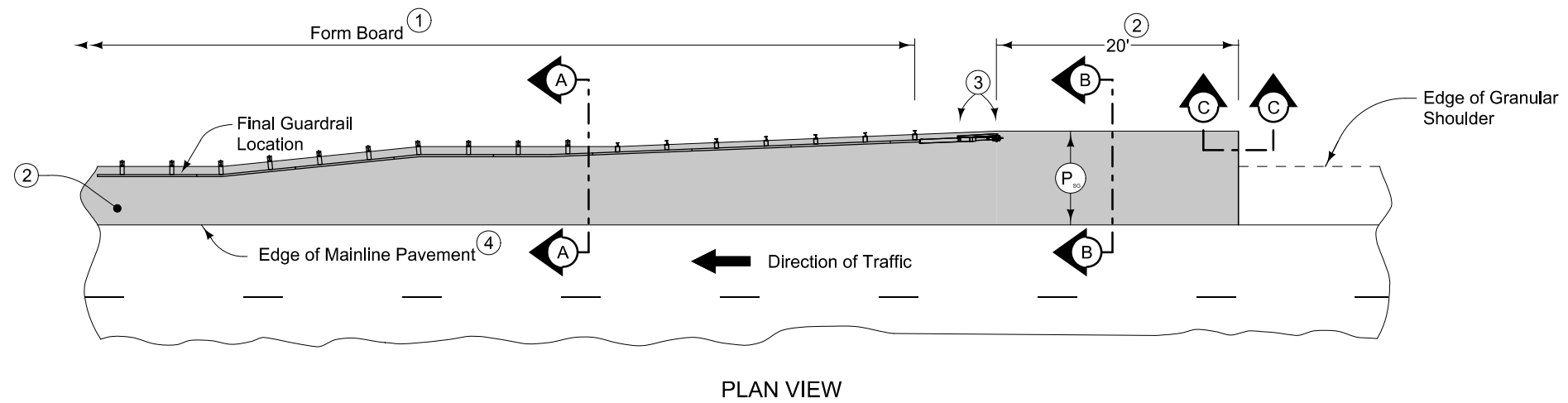
11/19/2021

Signature Date
Stephanie A. Hemberger

Printed or Typed Name

My license renewal date is December 31, 2022

Pages or sheets covered by this seal: A.1, B.1, C.1 - C.7, D.1 - D.2, G.1 - G.3, J.1 - J.6, U.1



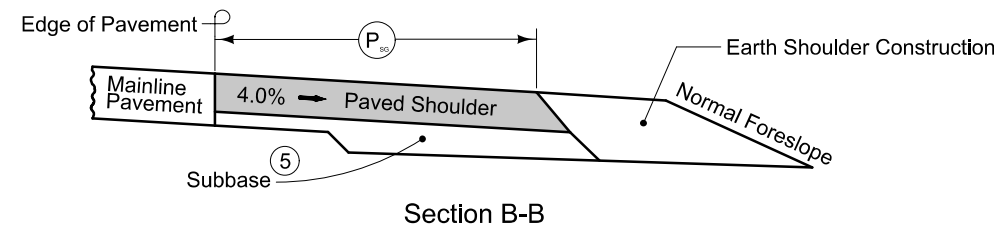
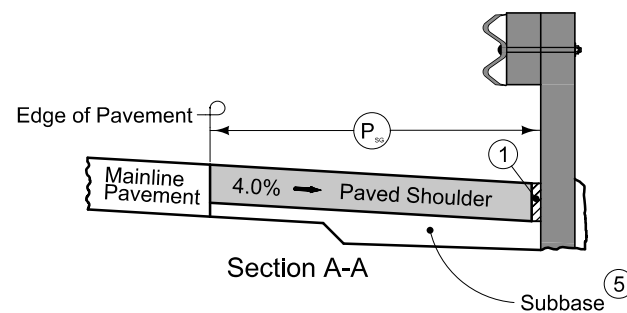
9" HMA Paved Shoulder at guardrail. 8" PCC may be substituted with the following jointing layout:

Match mainline pavement joint spacing. When mainline pavement is 8" or greater in thickness, place additional transverse 'CD' joints in shoulder at mid-panel of the mainline pavement. Place longitudinal 'CD' 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.

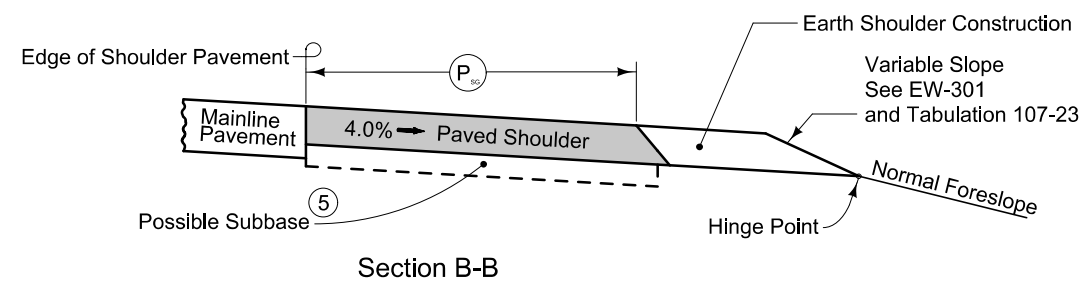
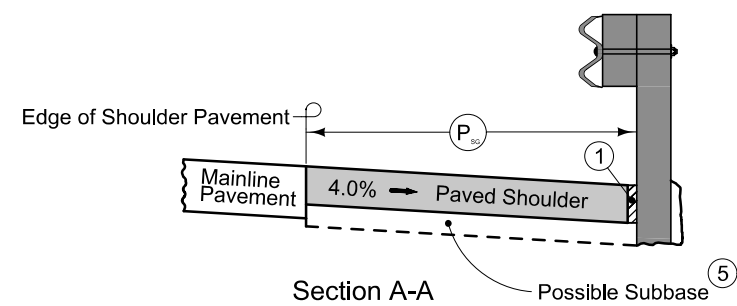
Compaction of HMA is required to face of guardrail post. Hand compaction will be allowed under guardrail.

Refer to Tabulation 112-9 for shoulder quantities.

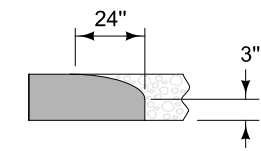
- ① PCC option only: When guardrail posts are installed prior to construction of PCC paved shoulder, fasten form board to the face of guardrail posts for the length shown.
- ② Continue paved shoulder 20 feet beyond the center of the first post.
- ③ Shoulder may be notched for first 2 posts or post sleeves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



NEW CONSTRUCTION



EXISTING SHOULDER



Section C-C
Roll down at granular shoulder or earth.
PAVED SHOULDER AT GUARDRAIL
(GRANULAR SHOULDER ADJACENT TO MAINLINE)

ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

Roadway Items : Roadway Items

Item no.	Item Code	Item	Unit	Quantities		Estimate Reference Notes
				Estimated	Roadway Items	
1	2102-0425070	SPECIAL BACKFILL	TON	75.1		<p>This item is for subgrade treatment to be placed under paved shoulders at guardrail.</p> <p>Reclaimed asphalt pavement (RAP) and reclaimed HMA shall not be used for the special backfill.</p> <p>Refer to Detail 7156 Modified on B Sheets, and Tab. 112-9 for details.</p>
2	2102-2625000	EMBANKMENT-IN-PLACE	CY	14.7		<p>This item is for construction of grading for guardrail installations. Provide borrow material according to Section 2102 of the Standard Specifications. Allow for the placement of topsoil. Cross sections are not provided with the contract documents.</p> <p>Refer to Tab. 107-23 for details.</p>
3	2102-2713090	EXCAVATION, CLASS 13, WASTE	CY	51.1		<p>This item is for the removal of existing granular shoulder and subbase material to place new paved shoulder. Waste material shall be hauled offsite and it is the Contractor's responsibility to provide sides for waste material. No payment for overhaul will be allowed.</p> <p>Refer to Tab. 112-9 for material to be removed.</p>
4	2105-8425015	TOPSOIL, STRIP, SALVAGE AND SPREAD	CY	51.1		<p>This item is for stripping and salvaging 6 inches of topsoil from grading for guardrail installations prior to placement of embankment-in-place. After embankment-in-place, topsoil shall be spread to a 4 inch minimum thickness, after shrinkage, over disturbed areas to finished grade.</p> <p>No cross sections are provided with the contract documents.</p> <p>Excess topsoil shall be used for Earth Shoulder Construction.</p> <p>Refer to Tabs. 103-10 and 107-23 for details.</p>
5	2122-5500090	PAVED SHOULDER, HOT MIX ASPHALT MIXTURE, 9 IN.	SY	216		<p>This item is for paved shoulder at guardrail. Use PG-28S binder at 6%.</p> <p>Refer to Detail 7156 Modified on B Sheets, and Tab. 112-9 for details.</p>
6	2123-7450000	SHOULDER CONSTRUCTION, EARTH	STA	3.26		<p>This item is for shoulder construction behind guardrail.</p> <p>Refer to Tab. 112-9 for details.</p>
7	2301-0690204	BRIDGE APPROACH, BR-204	SY	516.2		<p>Refer to Tab. 112-6, D Sheet and U Sheets for details.</p>
8	2412-0000100	LONGITUDINAL GROOVING IN CONCRETE	SY	1,130.6		<p>Refer to Tab. 100-28 for details.</p>

Item no.	Item Code	Item	Unit	Quantities		Estimate Reference Notes
				Estimated		
				Roadway Items		
9	2505-4008120	REMOVAL OF STEEL BEAM GUARDRAIL	LF	500		Refer to Tab. 110-7A for details.
10	2505-4008300	STEEL BEAM GUARDRAIL	LF	175		Eliminate BTS Post #15 per Note 3, Standard Road Plan BA-201. Refer to Tab. 108-8A for details.
11	2505-4008410	STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION, BA-201	EACH	4		Eliminate BTS Post #15 per Note 3, Standard Road Plan BA-201. Refer to Tab. 108-8A for details.
12	2505-4021010	STEEL BEAM GUARDRAIL END ANCHOR, BOLTED	EACH	4		
13	2505-4021720	STEEL BEAM GUARDRAIL TANGENT END TERMINAL, BA-205	EACH	4		
14	2510-6745850	REMOVAL OF PAVEMENT	SY	720.1		Refer to Tab. 110-1 for details.
15	2526-8285000	CONSTRUCTION SURVEY	LS	1		This item is for any construction survey need, as determined by the Contractor. The Engineer will not establish or provide any control monuments or benchmarks. The Contractor shall provide survey locations and elevations utilizing lines, grades, points, dimensions, and distances; relating between existing field information and the contract documents.
16	2527-9263109	PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED	STA	14.33		Refer to Tab. 108-22 for details.
17	2528-8445110	TRAFFIC CONTROL	LS	1		Refer to Traffic Control Plan on Sheet J.1 for details. Detour for Division St. to be provided by City of Davenport RM-1837(689)--9D-82 project.
18	2528-8445113	FLAGGERS	EACH	8		See Proposal.
19	2528-9290050	PORTABLE DYNAMIC MESSAGE SIGN (PDMS)	CDAY	84		See Proposal.

Item no.	Item Code	Item	Unit	Quantities		Estimate Reference Notes
				Estimated	Roadway Items	
20	2602-0000320	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 20 IN. DIA.	LF	950		<p>Refer to Tab. 100-19. The tabulation includes estimated locations for placement of "Perimeter and Slope Sediment Control Device, 20 in. dia." to address erosion to be encountered during construction.</p> <p>Verify the specific locations with the Engineer prior to beginning placement.</p> <p>Bid item includes 25% additional quantity for field adjustments and replacements.</p> <p>Use Perimeter and Slope Sediment Control Devices fabricated in accordance with the Standard Specifications.</p> <p>Removal of devices may be completed for areas that have achieved 70% permanent growth, as approved by the Engineer.</p>
21	2602-0000351	REMOVAL OF PERIMETER AND SLOPE OR DITCH CHECK SEDIMENT CONTROL DEVICE	LF	950		<p>Refer to Tab. 100-19. The tabulation includes estimated locations for placement of "Perimeter and Slope Sediment Control Device, 20 in. dia." to address erosion to be encountered during construction.</p> <p>Verify the specific locations with the Engineer prior to beginning placement.</p> <p>Bid item includes 25% additional quantity for field adjustments and replacements.</p> <p>Use Perimeter and Slope Sediment Control Devices fabricated in accordance with the Standard Specifications.</p> <p>Removal of devices may be completed for areas that have achieved 70% permanent growth, as approved by the Engineer.</p>

100-1D 10-18-05
PROJECT DESCRIPTION
This project is for a bridge deck replacement and approach work for a 215'-5 x 28'-0 pretensioned prestressed concrete beam bridge on N. Division Street over I-80, located 1.1 miles east of Jct. IA-130.

105-4 10-18-11																																																															
STANDARD ROAD PLANS																																																															
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100-1D	PROJECT DESCRIPTION	C.4																																																																																					
100-4A	ESTIMATE REFERENCE INFORMATION	C.1 - C.3																																																																																					
100-19	PERIMETER, SLOPE AND DITCH CHECK SEDIMENT CONTROL DEVICES	C.6																																																																																					
100-28	LONGITUDINAL GROOVING	C.5																																																																																					
103-10	TOPSOIL STRIPPING AND PLACEMENT	C.6																																																																																					
105-4	STANDARD ROAD PLANS	C.4																																																																																					
107-23	GRADING FOR GUARDRAIL INSTALLATIONS	C.6																																																																																					
108-8A	STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE RAIL END SECTION	C.6																																																																																					
108-22	PAVEMENT MARKING LINE TYPES	C.7																																																																																					
110-1	REMOVAL OF PAVEMENT	C.5																																																																																					
110-7A	REMOVAL OF STEEL BEAM GUARDRAIL	C.6																																																																																					
110-13	DELIVERY AND STOCKPILING	C.6																																																																																					
111-25	INDEX OF TABULATIONS	C.4																																																																																					
112-6	BRIDGE APPROACH SECTION	C.5																																																																																					
112-9	SHOULDERS	C.5																																																																																					
232-3A	EROSION CONTROL (RURAL SEEDING)	C.4																																																																																					
232-3C	EROSION CONTROL (NATIVE GRASS SEEDING)	C.4																																																																																					
232-11	EROSION CONTROL (STABILIZING CROP SEEDING)	C.4																																																																																					
254-1	INCIDENT MANAGEMENT	C.4																																																																																					
262-6	UTILITIES (NOT A POINT 25 PROJECT)	C.4																																																																																					
J Sheets																																																																																							
108-23A	TRAFFIC CONTROL PLAN	J.1																																																																																					
108-23B	TRAFFIC CONTROL CLOSURE TABLE	J.1																																																																																					
108-25	511 TRAVEL RESTRICTIONS	J.1																																																																																					
108-26A	STAGING NOTES	J.1																																																																																					
111-01	COORDINATED OPERATIONS	J.1																																																																																					

232-3C 10-19-21																
EROSION CONTROL (NATIVE GRASS SEEDING)																
<p>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.</p> <p>Following the completion of work in a disturbed area and according to the seeding dates in Section 2601 of the Standard Specifications, place seed and mulch on the disturbed area lying 8 feet or more beyond the shoulder as follows:</p> <p>SEED MIX:</p> <table border="0"> <tr><td>Big bluestem (Andropogon gerardii)</td><td>6 lbs. PLS/Acre (7.0 kg/ha)</td></tr> <tr><td>Indiangrass (Sorghastrum nutans)</td><td>6 lbs. PLS/Acre (7.0 kg/ha)</td></tr> <tr><td>Little bluestem (Schizachyrium scoparium)</td><td>6 lbs. PLS/Acre (7.0 kg/ha)</td></tr> <tr><td>Partridge Pea (Chamaecrista fasciculata)</td><td>4 lbs. PLS/Acre (4.5 kg/ha)</td></tr> <tr><td>Sideoats grama (Bouteloua curtipendula)</td><td>4 lbs. PLS/Acre (4.5 kg/ha)</td></tr> <tr><td>Canada wildrye (Elymus canadensis)</td><td>2 lbs. PLS/Acre (2.2 kg/ha)</td></tr> <tr><td>Switchgrass (Panicum virgatum)</td><td>1 lbs. PLS/Acre (1.1 kg/ha)</td></tr> <tr><td>Oats (Avena sativa)</td><td>32 lbs./Acre (36.0 kg/ha)</td></tr> </table> <p>Furnish Big bluestem, Indiangrass, Canada wildrye and Little bluestem that is debarbed or equal to facilitate the application of seed.</p> <p>Furnish seed certified as Source Identified Class (Yellow Tag) Source G0-Iowa. Oats are excluded from this requirement.</p> <p>Place seed according to the requirements of Article 4169.02 of the Standard Specifications.</p> <p>Place mulch according to the requirements of Articles 2601.03,E,2,a and 4169.07,A of the Standard Specifications.</p> <p>Preparing the seedbed, furnishing and applying seed and mulch are incidental to mobilization and will not be paid for separately.</p>	Big bluestem (Andropogon gerardii)	6 lbs. PLS/Acre (7.0 kg/ha)	Indiangrass (Sorghastrum nutans)	6 lbs. PLS/Acre (7.0 kg/ha)	Little bluestem (Schizachyrium scoparium)	6 lbs. PLS/Acre (7.0 kg/ha)	Partridge Pea (Chamaecrista fasciculata)	4 lbs. PLS/Acre (4.5 kg/ha)	Sideoats grama (Bouteloua curtipendula)	4 lbs. PLS/Acre (4.5 kg/ha)	Canada wildrye (Elymus canadensis)	2 lbs. PLS/Acre (2.2 kg/ha)	Switchgrass (Panicum virgatum)	1 lbs. PLS/Acre (1.1 kg/ha)	Oats (Avena sativa)	32 lbs./Acre (36.0 kg/ha)
Big bluestem (Andropogon gerardii)	6 lbs. PLS/Acre (7.0 kg/ha)															
Indiangrass (Sorghastrum nutans)	6 lbs. PLS/Acre (7.0 kg/ha)															
Little bluestem (Schizachyrium scoparium)	6 lbs. PLS/Acre (7.0 kg/ha)															
Partridge Pea (Chamaecrista fasciculata)	4 lbs. PLS/Acre (4.5 kg/ha)															
Sideoats grama (Bouteloua curtipendula)	4 lbs. PLS/Acre (4.5 kg/ha)															
Canada wildrye (Elymus canadensis)	2 lbs. PLS/Acre (2.2 kg/ha)															
Switchgrass (Panicum virgatum)	1 lbs. PLS/Acre (1.1 kg/ha)															
Oats (Avena sativa)	32 lbs./Acre (36.0 kg/ha)															

232-3A 10-19-21
EROSION CONTROL (RURAL SEEDING)
<p>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.</p> <p>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 disturbed area lying 8 feet adjacent to shoulder and median as follows:</p> <p>Place seed and fertilize according to the requirements of Article 2601.03,C,3 and Section 4169 of the Standard Specifications.</p> <p>Place mulch according to the requirements of Articles 2601.03,E,2,a and 4169.07,A of the Standard Specifications.</p> <p>Preparing the seedbed, furnishing and applying seed, fertilizer, and mulch are all incidental to mobilization and will not be paid for separately.</p>












254-1 10-02-01
INCIDENT MANAGEMENT
An incident management plan, provided by the District Office, will be discussed at the pre-construction conference.

262-6 10-18-05
UTILITIES (NOT A POINT 25 PROJECT)
<p>This is NOT a POINT 25 project and is not subject to the provisions of IAC 761-115.25.</p> <p>MidAmerican Energy (Electrical Distribution) Contact Name : Nick Benhart Contact Phone: 563-333-8718 Contact Email: ncbenhart@midamerican.com</p> <p>MidAmerican Energy (Gas) Contact Name : Paul Swanson Contact Phone: 309-236-7716 Contact Email: pcswanon@midamerican.com</p> <p>MidAmerican Energy (Fiber Optic) Contact Name : Brian Recker Contact Phone: 515-242-4377 Contact Email: brian.recker@midamerican.com</p> <p>Central Scott Telephone Contact Name : Brent Lindle Contact Phone: 563-345-8800 Contact Email: brent@scstech.com</p> <p>BDC Group INC. Contact Name : Larry Lehman Contact Phone: 319-389-3624 Contact Email: llehman@bdcgroupinc.com</p> <p>Lumen / Centurylink (Long Distance) Contact Name : Robert Sampson Contact Phone: 636-887-4725 Contact Email: robert.sampson@lumen.com</p> <p>Lumen / Centurylink (Local) Contact Name : Antonio Glessner Contact Phone: 563-355-6402 Contact Email: antonio.glessner@lumen.com</p> <p>MediaCom Communications Contact Name : Mitch Hancock Contact Phone: 309-743-4735 Contact Email: mhancock@mediacomcc.com</p>

262-6 10-18-05
UTILITIES (NOT A POINT 25 PROJECT)
<p>ICN Contact Name : Mike Broderick Contact Phone: 515-725-4610 Contact Email: mike.broderick@iowa.gov</p> <p>Iowa American Water Contact Name : Monica De La Paz Contact Phone: 563-650-7526 Contact Email: Monica.delapaz@amwater.com</p> <p>IADOT / ITS Contact Name : Jason Dale Contact Phone: 515-239-1995 Contact Email: DOT-IOC-Traffic@iowadot.uc</p>

232-11 10-19-21
EROSION CONTROL (STABILIZING CROP SEEDING)
<p>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.</p> <p>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:</p> <p>Place seed and fertilize according to the requirements of Article 2601.03,C,1 and Section 4169 of the Standard Specifications.</p> <p>Place mulch according to the requirements of Articles 2601.03,E,2,a and 4169.07,A of the Standard Specifications.</p> <p>Preparing the seedbed, furnishing and applying seed, fertilizer, and mulch are incidental to mobilization and will not be paid for separately.</p>

SURVEY SYMBOLS






-  BRG Bridge
-  LIN Miscellaneous Line
-  SH Paved Shoulder
-  EP Edge of Paved Roads (ML or SR)
-  SNP Unpaved Shoulder
-  FCL Chain Link and Security Fence
-  TLNR Tree Line Right
-  FW Wire Fence
-  TLNL Tree Line Left
-  GDG Guard Rail Steel
-  PIP Pipe Culvert

SURVEYED UTILITY OWNER SYMBOLS




Sub-Surface Utility Mapping Quality Level is in accordance with CI/ASCE 38-02 Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data.




Remark Abbreviations

- QLA Quality Level A Highest guideline quality level
- QLD Quality Level D Lowest guideline quality level




-  TPD Telephone Pedestal
-  PPA Power Pole Co. 1
-  UB Utility Box
-  EB Electrical Box
-  PR Electric Riser Pole

PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS


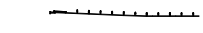

LINWORK	Design Color No.	
Green	(2)	 Existing Topographic Features and Labels
Blue	(1)	 Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Magenta	(5)	 Existing Utilities

SHADING	Design Color No.	
Gray, Light	(48)	 Proposed Approach Pavement Shading
Gray, Med	(80)	 Proposed Shoulder Granular Shading
Brown, Light	(236)	 Grading Shading

PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

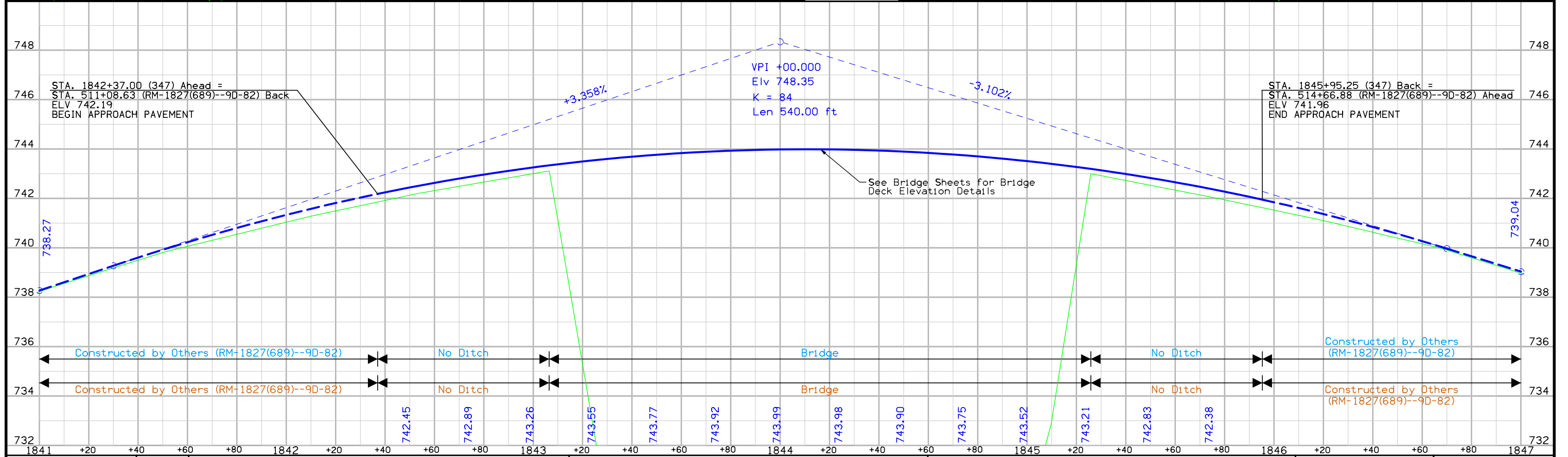
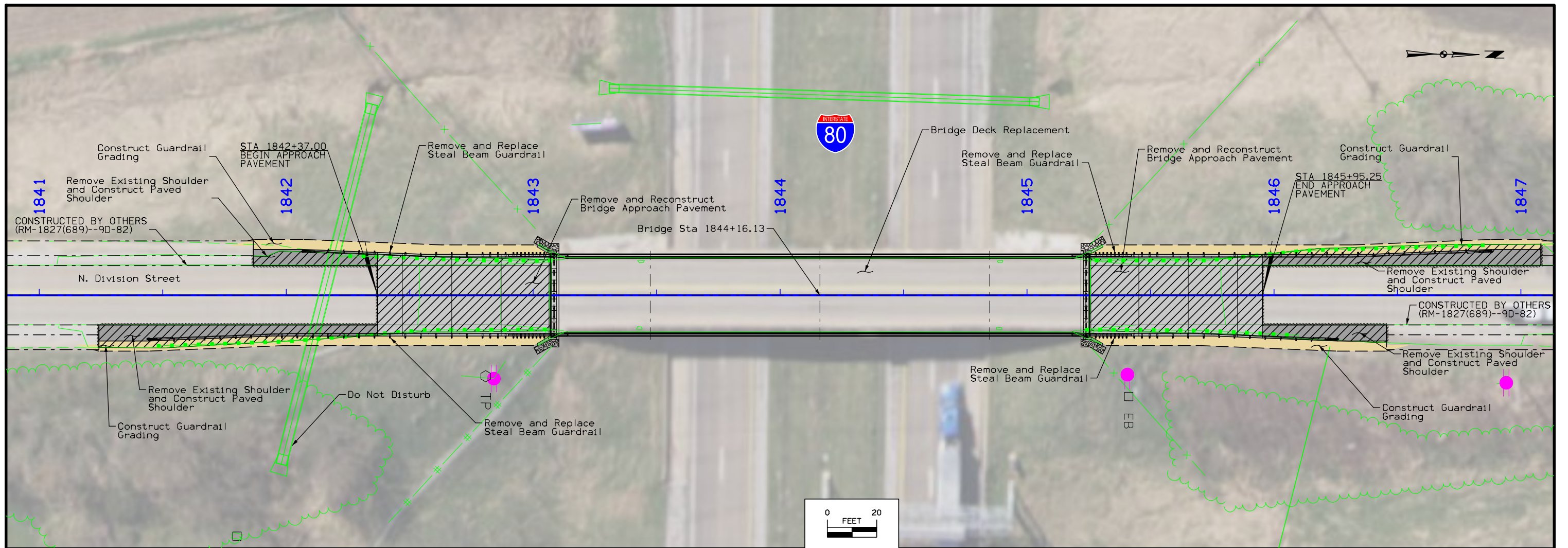
LINWORK	Design Color No.	
Green	(2)	 Existing Ground Line Profile
Blue	(1)	 Proposed Profile and Annotation
Magenta	(5)	 Existing Utilities

Reference Point

-  Saw Cut
-  Guardrail
-  Pavement Removal

PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES D)

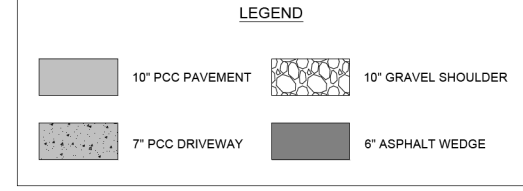
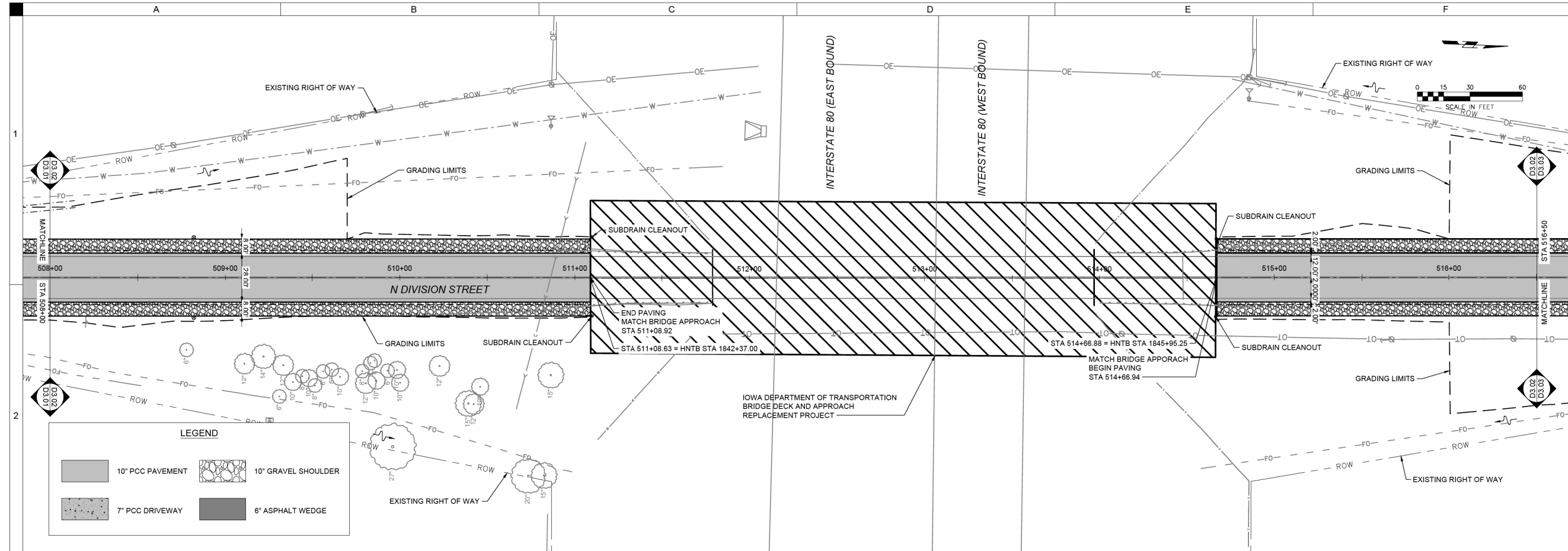


**PRELIMINARY
- NOT FOR
CONSTRUCTION**

DRAWN: TAZ
APPROVED: BH
ISSUED FOR: CHECK PLAN REVIEW
DATE: 10/28/2021
PROJECT NO: 4211921
FIELD BOOK: -
RISE NO: RM+827(889)-90-82

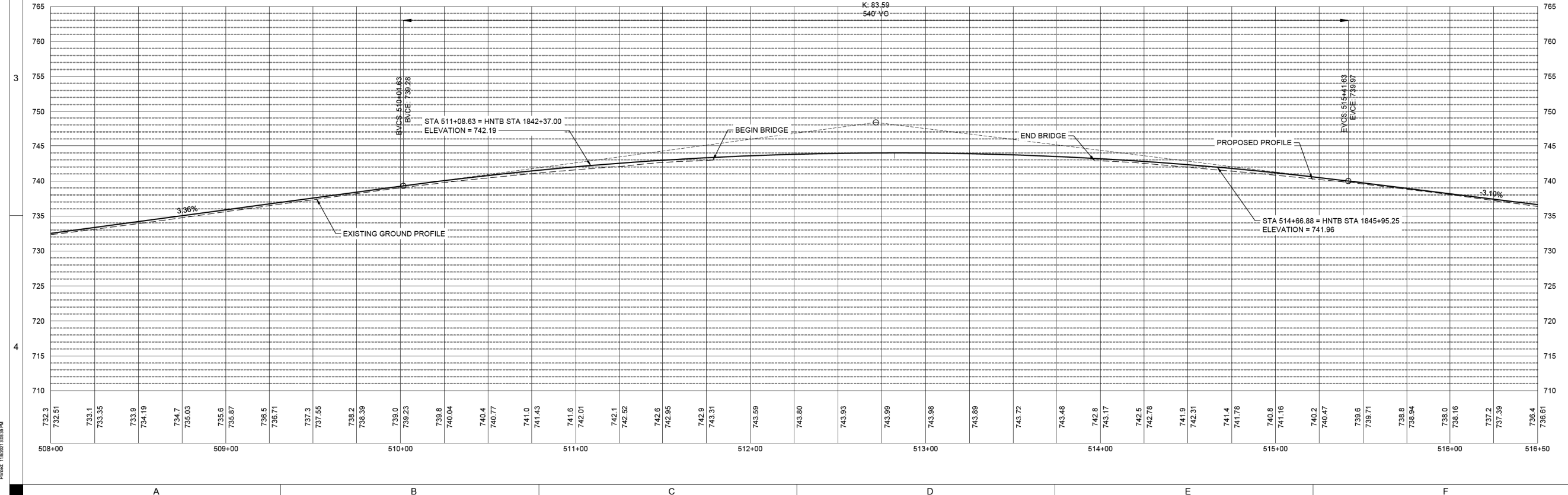
**MAINLINE PLAN
AND PROFILE**

D3.02



NOTE:
1. BRIDGE OVER INTERSTATE 80 NOT INCLUDED IN PROJECT.
2. CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES AND ACCESS WITH SEPARATE BRIDGE CONTRACTOR DURING CONSTRUCTION OCCURRING CONCURRENTLY WITH THIS PROJECT.

HP STA: 512+82.33
HP ELEV: 744.00
PVI STA: 512+71.63
PVI ELEV: 748.35
AD: -0.06
K: 83.59
540' VC



Survey Information

General Information

Measurement units for this survey are US survey feet. This survey is for proposed Bridge Deck Overlay of Division Street Bridge over I-80. This project is a Partial Survey with RCS.

Vertical Control

This survey observed NGS Control Monument with Designation DVN A 1975 (PID=AB5747) with published NAVD88 elevation.

Horizontal Control

The project coordinate system for this survey is derived from the Iowa Regional Coordinate System for Region 11. Control Point 1 was established relative to IaRTN reference stations. IaRTN Reference Station coordinates are relative to the National Reference Station network datum: NAD83 (2011) for Epoch 2010.00. Additional control points were placed throughout the project using a GNSS Base-Rover setup relative to Control Point 1.

Alignment Information

The horizontal alignment for this survey is based on best-fit centerline. Stationing has been developed using center point of deck stationing POT Sta. 1844+16.13. Available project alignment indicates tangent alignment throughout project limits.

Survey stationing relates to as built plan stationing as follows:

POT Sta. 1844+16.13; As-built Plans Project No. IN-80-8(122)295—15-82

HORIZONTAL AND VERTICAL PROJECT CONTROL COORDINATE LISTING

HORIZ. DATUM: NAD83(2011) EPOCH 2010.00

VERT. DATUM: NAVD88

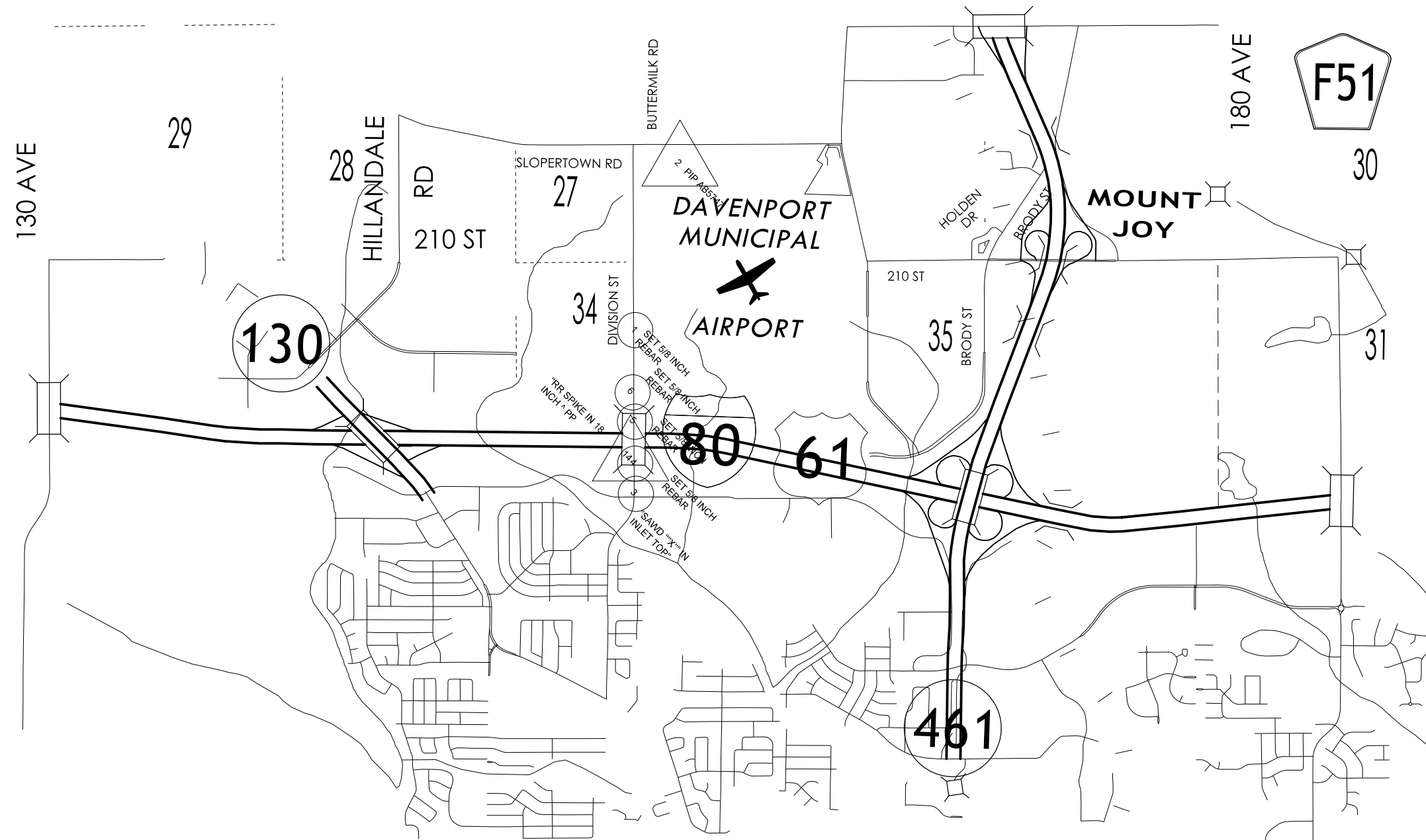
Ia. Regional Coordinate System Zone 11

Control Point Information

Point	Description	Northing	Easting	Elevation	Feature
1	SET 5/8 INCH REBAR	8094310.56	21482352.85	753.44	CP
3	SAWD X IN INLET TOP	8090591.94	21482368.44	723.26	CP
4	SET 5/8 INCH REBAR	8091276.25	21482352.95	730.55	CP
5	SET 5/8 INCH REBAR	8092229.71	21482347.56	733.47	CP
6	SET 5/8 INCH REBAR	8092895.99	21482296.00	731.25	CP
14	RR SPIKE IN 18 IN PP	8091384.93	21482250.64	731.13	BM
2	PIP AB5747	8098080.54	21483370.81	751.9	BM

CONTROL POINT VICINITY MAP

This map is a guide to the vicinity of the primary project control points. Primary control is for use with RTK base stations and for RTN validation. Future surveys will use primary project control to establish temporary control as needed for construction or other surveying applications.



HORIZ. DATUM: NAD83(2011) EPOCH 2010.00
 VERT. DATUM: NAVD88
 1a. Regional Coordinate System Zone 11
 Coordinate listing from previous sheet will be used with laRTN for monument recovery. No other reference ties are given.

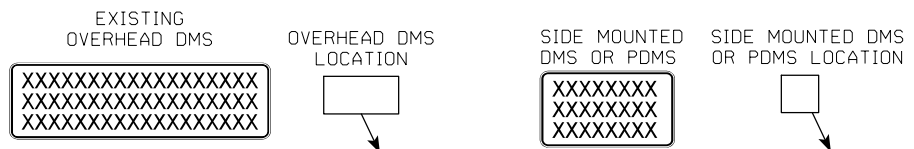
ALIGNMENT COORDINATES

Name	Location	Point on Tangent			Begin Spiral			Begin Curve			Simple Curve PI or Master PI of SCS			End Curve			End Spiral		
		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates	
			Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)
SR DIVISION 9 10	N. DIVISION STREET	1830+96.02 1869+41.96	8090482.32 8094328.24	21482328.54 21482316.96															

DETOUR APPLICABILITY		
REASON	STAGE	DURATION
Bridge deck and beam replacement on N. Division Street over existing I-80	Overnight	Short-term

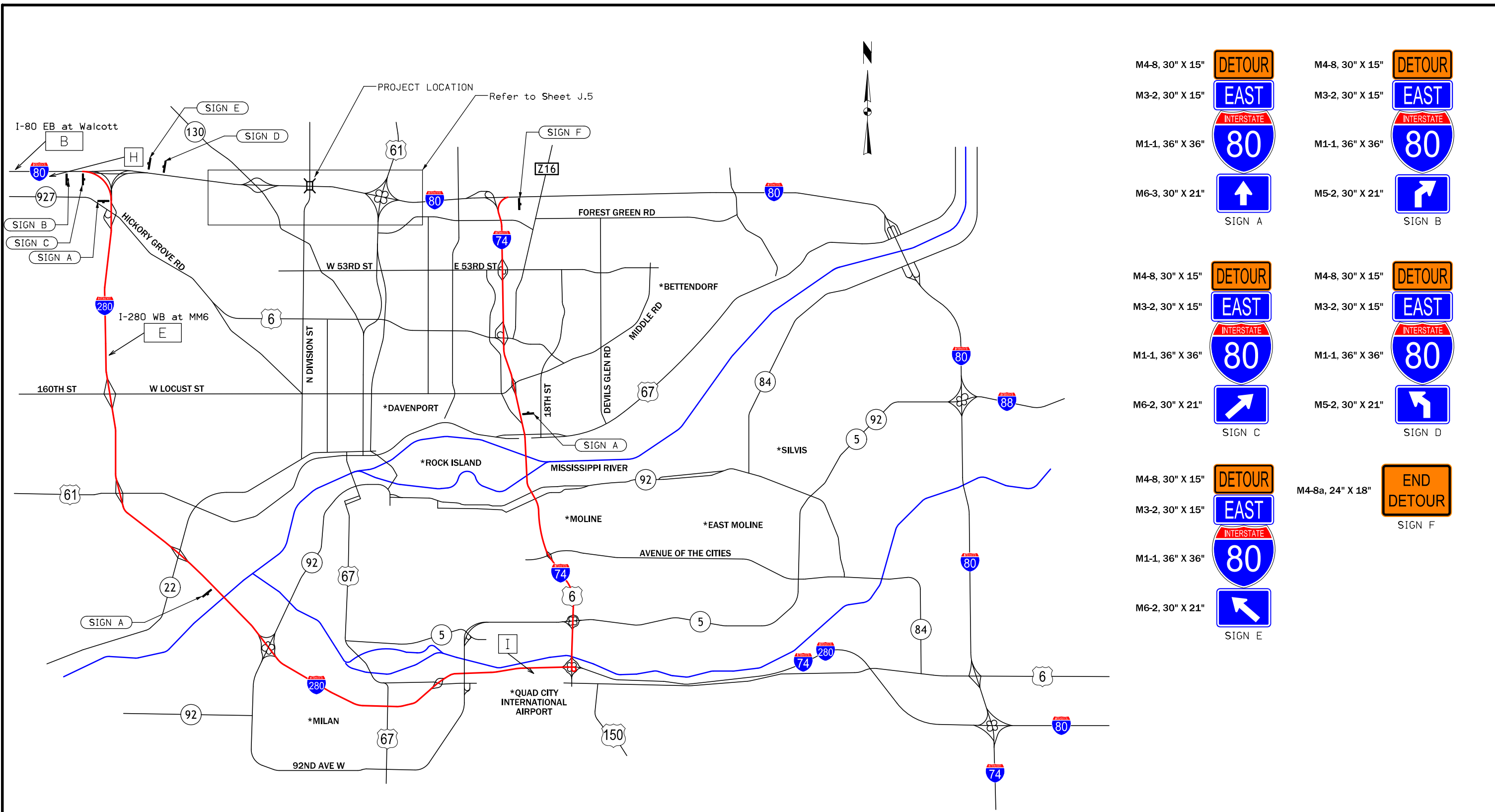
Notes

1. All sign locations are approximate and may be adjusted to fit field conditions.
2. All portable dynamic message signs (PDMS) shall be connected to the Iowa Traffic Management Center (TMC). Contractor to provide the TMC with necessary PDMS connection information. The Iowa TMC will post all messages in Iowa and coordinate all messages needed in Illinois.
3. For road closure details, see additional J Sheets and Modified TC-454 on Sheet J.6.



- | | |
|---|---|
| <p><u>DMS Detour Messages</u></p> <p><u>6 Days Prior</u></p> <p>A I-80 WEST CLOSING
• FROM
•• TO •••</p> <p>B I-80 EAST CLOSING
• FROM
•• TO •••</p> <p><u>During Closure</u></p> <p>B I-80 EAST
CLOSED AHEAD
USE I-280 EAST</p> <p>C I-80 WEST TRAFFIC
USE I-74 EAST
TO I-280 WEST</p> <p>D I-80 WEST
CLOSED AT
DIVISION ST</p> <p>E I-80 EAST
CLOSED AT
DIVISION ST</p> | <p><u>Side Mounted
DMS Detour Messages</u></p> <p><u>6 Days Prior</u></p> <p>F I-80 WEST CLOSING *
•• TO •••</p> <p><u>During Closure</u></p> <p>F I-80 WEST TRAFFIC USE
I-74 EAST</p> <p><u>PDMS Detour Messages</u></p> <p>G I-80 WEST TRAFFIC USE
I-280 WEST</p> <p>H I-80 EAST TRAFFIC USE
I-280 EAST</p> <p>I I-80 EAST LOCAL TRAFFIC USE
I-74 WEST</p> <p>J I-80 EAST CLOSED FOLLOW
DETOUR</p> <p>K I-80 WEST CLOSED FOLLOW
DETOUR</p> |
|---|---|

•Day of Closure (e.g. TONIGHT or THURSDAY)
 ••Start time of Closure (XX PM)
 •••End time/day of Closure (e.g. FRI 5 AM)



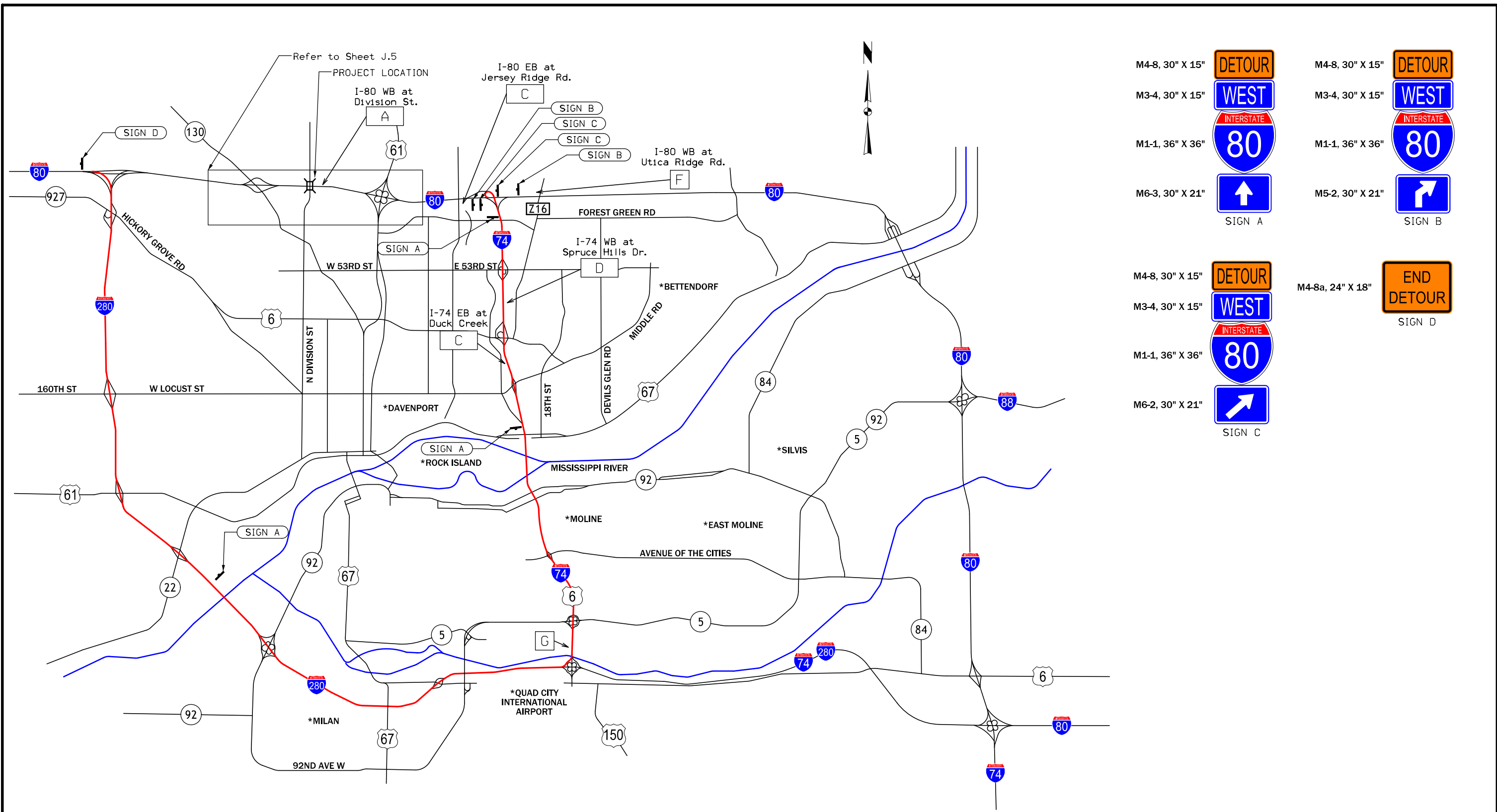
M4-8, 30" X 15"		M4-8, 30" X 15"	
M3-2, 30" X 15"		M3-2, 30" X 15"	
M1-1, 36" X 36"		M1-1, 36" X 36"	
M6-3, 30" X 21"		M5-2, 30" X 21"	
	SIGN A		SIGN B
M4-8, 30" X 15"		M4-8, 30" X 15"	
M3-2, 30" X 15"		M3-2, 30" X 15"	
M1-1, 36" X 36"		M1-1, 36" X 36"	
M6-2, 30" X 21"		M5-2, 30" X 21"	
	SIGN C		SIGN D
M4-8, 30" X 15"		M4-8a, 24" X 18"	
M3-2, 30" X 15"			SIGN F
M1-1, 36" X 36"			
M6-2, 30" X 21"			
	SIGN E		

DETOUR MAP
NTS

NOTES:

1. Contractor to supply, install, maintain and remove all detour signing, including signing installed on Iowa DOT routes as well as City and County routes, for the duration of the project.
2. All sign locations are approximate and may be adjusted to fit field conditions.
3. For ramp closure details, see Standard Road Plan TC-417 and Standard Specification 2528.
4. Contractor to cover all detour signing when in between overnight closures when detour not in use.

**EASTBOUND I-80
DETOUR ROUTE**

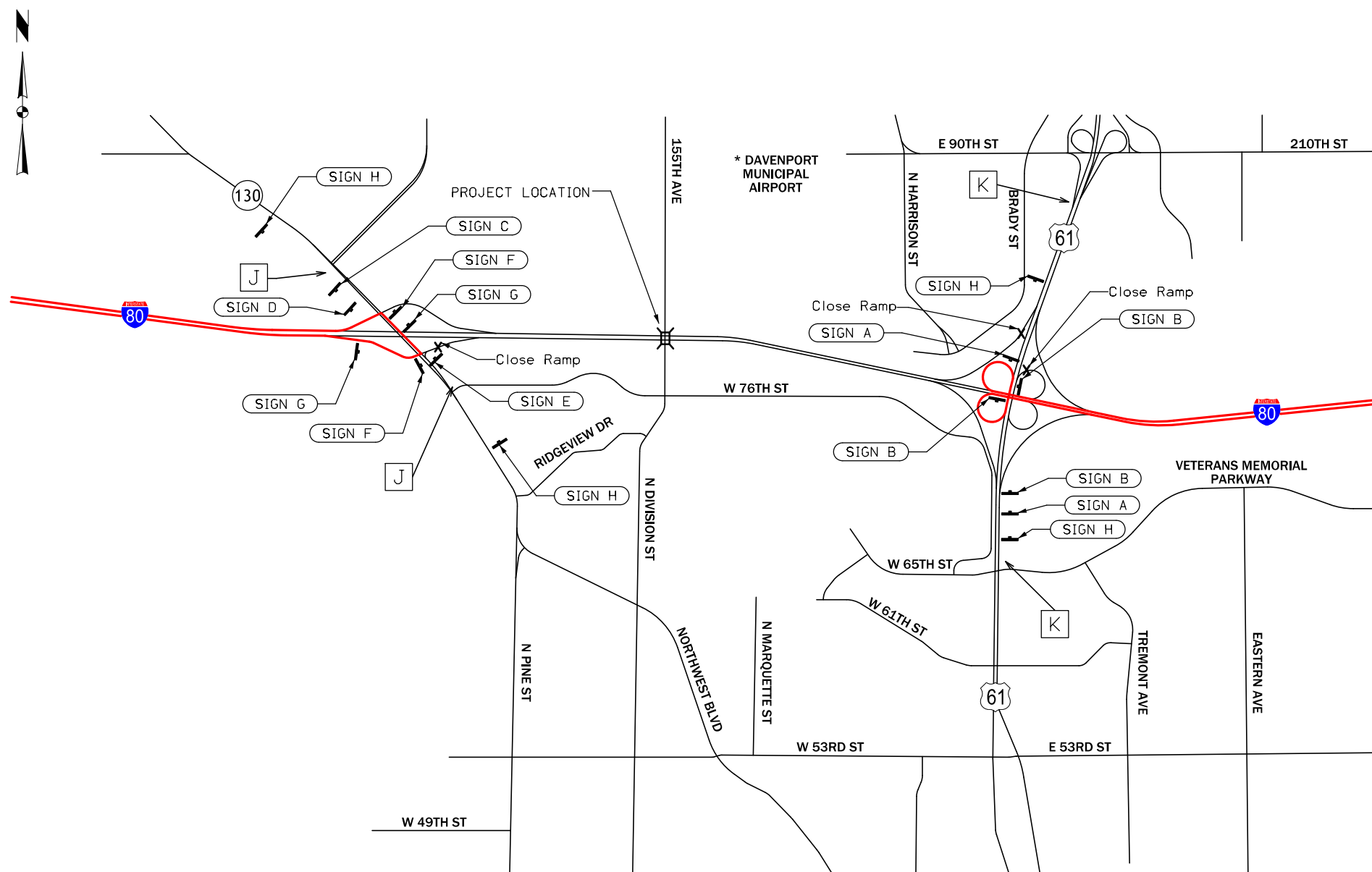


DETOUR MAP
NTS

NOTES:

1. Contractor to supply, install, maintain and remove all detour signing, including signing installed on Iowa DOT routes as well as City and County routes, for the duration of the project.
2. All sign locations are approximate and may be adjusted to fit field conditions.
3. For ramp closure details, see Standard Road Plan TC-417 and Standard Specification 2528.
4. Contractor to cover all detour signing in between overnight closures when detour not in use.

**WESTBOUND I-80
DETOUR ROUTE**



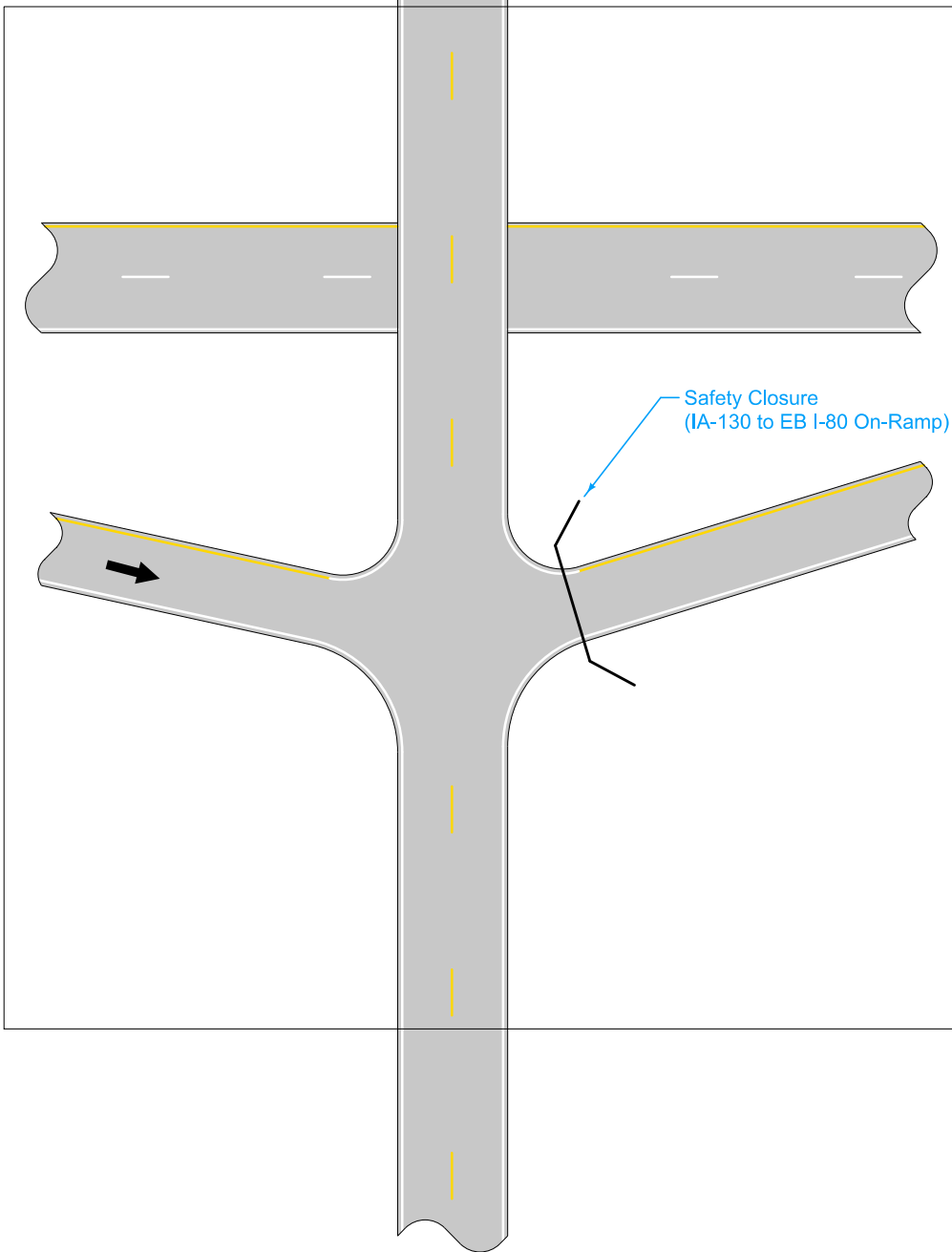
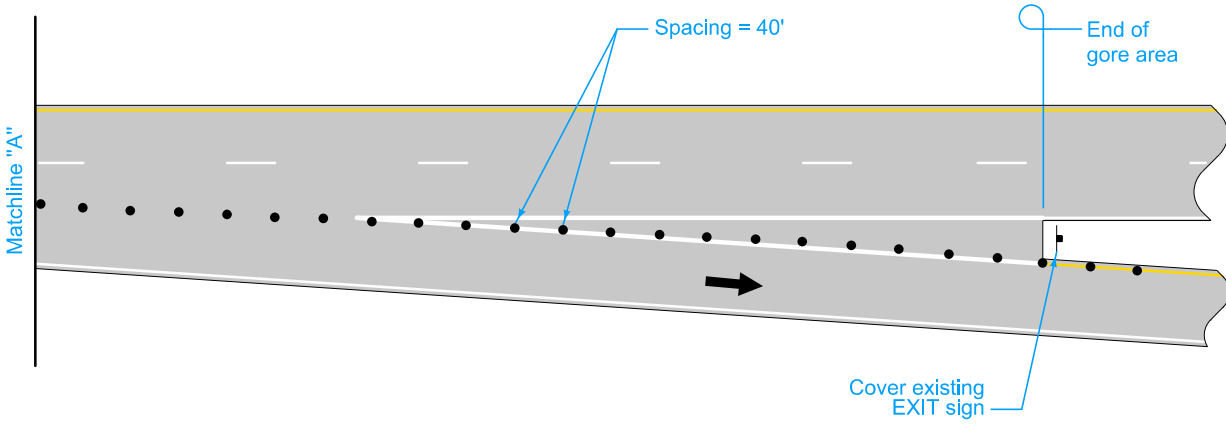
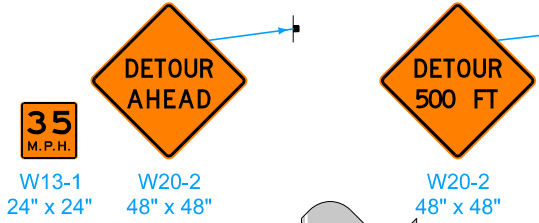
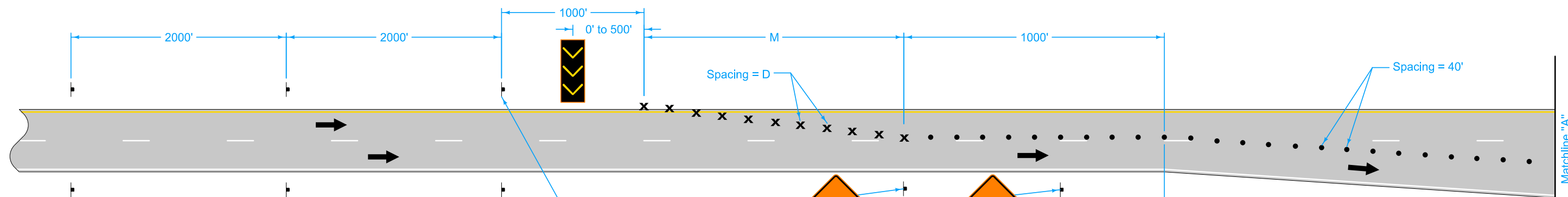
DETOUR MAP
NTS

NOTES:

1. Contractor to supply, install, maintain and remove all detour signing, including signing installed on Iowa DOT routes as well as City and County routes, for the duration of the project.
2. All sign locations are approximate and may be adjusted to fit field conditions.
3. For ramp closure details, see Standard Road Plan TC-417 and Standard Specification 2528.
4. Contractor to cover all detour signing in between overnight closures when detour not in use.

M4-8, 30" X 15"		M4-8, 30" X 15"	
M3-4, 30" X 15"		M3-4, 30" X 15"	
M1-1, 36" X 36"		M1-1, 36" X 36"	
M5-2, 30" X 21"		M6-2, 30" X 21"	
	SIGN A		SIGN B
M4-8, 30" X 15"		M4-8, 30" X 15"	
M3-2, 30" X 15"		M3-2, 30" X 15"	
M1-1, 36" X 36"		M1-1, 36" X 36"	
M5-1, 30" X 21"		M6-1, 30" X 21"	
	SIGN C		SIGN D
M4-8, 30" X 15"		M4-8, 30" X 15"	
M3-2, 30" X 15"		M3-2, 30" X 15"	
M1-1, 36" X 36"		M1-1, 36" X 36"	
M6-3, 30" X 21"		M6-1, 21" X 15"	
	SIGN E		SIGN F
M4-8, 30" X 15"			
M3-2, 30" X 15"			
M1-1, 36" X 36"			
M5-1, 21" X 15"			
	SIGN G		
		W20 - 2 48" X 48"	
			SIGN H

I-80
DETOUR ROUTE



SPEED LIMIT (mph)	M	D
55 - 60	770'	55'
65 - 70	910'	65'

LEGEND

- x** Drum
- |** Traffic Sign
- 42" Channelizer
- ▶▶▶▶** Arrow Board
- ➔** Direction of Traffic

Give priority to mainline traffic on the ramp.
 Stop side road traffic before mainline traffic is rerouted onto ramp.
 Refer to J Sheets for detour signage.
 ① Refer to SI-881 for sign details.

Possible Contract Items:
 Flaggers
 Traffic Control

MODIFIED STANDARD ROAD PLAN	REVISION
	TC-454
SHEET 1 of 1	

MODIFICATIONS: Changed SRP to reflect ramp closures and removal of work area, flaggers, and law enforcement vehicle due to existing signalized intersection at IA-130 and existing loop ramps at U.S. 61.

**TEMPORARY DETOUR USING
RAMPS ON DIVIDED HIGHWAY**

STAGING NOTES

1. THESE STAGING NOTES ARE NOT INTENDED TO CONFINE THE CONTRACTOR'S ACTIVITIES TO THE AREAS OF SUGGESTED STAGES ALONE. IT IS UNDERSTOOD THAT VARIOUS STEPS INCLUDED HEREIN MAY OCCUR SIMULTANEOUSLY. THE CONTRACTOR MAY CONDUCT SEVERAL OPERATIONS CONCURRENTLY, PROVIDED THAT TRAFFIC IS MAINTAINED AND THESE OPERATIONS DO NOT CONFLICT WITH THE STAGING INDICATED HEREIN, OTHER PORTIONS OF THIS PROJECT, AND OTHER CONSTRUCTION ACTIVITIES.
2. AS LONG AS WORK REMAINS ON THE PROJECT, THE CONTRACTOR SHALL REMAIN ON THE PROJECT. IF ISSUES EXIST WITHIN A STAGE OF THE PROJECT WHICH ARE BEYOND THE CONTRACTOR'S CONTROL (SUCH AS OBSTRUCTIONS OR UTILITY ISSUES), THE CITY HAS THE OPTION TO REVISE THE CONTRACT STAGING AND DIRECT THE CONTRACTOR TO WORK ON OTHER "UNAFFECTED" STAGES OR AREAS OF THE PROJECT AS SHOWN WITHIN THE CONTRACT DOCUMENTS, AT NO ADDITIONAL COST TO THE OWNER. THE OWNER MAY, AT THE OWNERS DISCRETION, PROVIDE ADDITIONAL DAYS TO THE CONTRACTOR BASED UPON RELOCATION EFFORTS AND SCHEDULING JUSTIFICATION, IN ACCORDANCE WITH THE SUPPLEMENTARY CONDITIONS.
3. ONCE WORK WITHIN A STAGE HAS COMMENCED, THE CONTRACTOR SHALL CONTINUE WORK WITHIN THAT STAGE UNTIL ALL WORK WITHIN THAT STAGE HAS BEEN COMPLETED. IF WORK WITHIN THAT STAGE IS NOT COMPLETED AND THE CONTRACTOR REMOVES THE "NORMAL" SIZE CREW (AND/OR EQUIPMENT) FROM THE PROJECT WITHOUT WRITTEN AUTHORIZATION FROM THE OWNER, THEN THE CONTRACTOR WILL BE CHARGED A DAY AND IMMEDIATELY ASSESSED THE DISINCENTIVE RATE FOR EACH DAY THE CONTRACTOR'S "NORMAL" SIZE CREW AND EQUIPMENT ARE NOT WORKING ON THE PROJECT. DISINCENTIVES WILL BE ASSESSED AT THE TIME OF MONTHLY PAY APPLICATIONS COVERING ANY PERIOD DURING WHICH THE CONTRACTOR HAD UNAUTHORIZED PERIODS OF WORK STOPPAGES.
4. CONTRACTOR TO COORDINATE WITH THE CITY'S CONSTRUCTION REPRESENTATIVE AND WILL NOTIFY 5 DAYS PRIOR TO A CHANGE IN PHASES WHICH REQUIRES A TRAFFIC CONTROL CHANGE. ONCE THE CONSTRUCTION REPRESENTATIVE IS NOTIFIED OF A CHANGE IN TRAFFIC CONTROL, THE PROJECT WEBSITE WILL BE REVISED TO INDICATE THE NEW TRAFFIC PATTERNS.
5. CONTRACTOR TO COORDINATE WITH CONSTRUCTION OCCURRING CONCURRENTLY ON OTHER PRIVATE, CITY OF DAVENPORT, AND IOWA DOT PROJECTS.



1
W16-8P
30" X 15"
M4-9L
30" X 30"



2
W16-8P
30" X 15"
M4-9L
30" X 30"



3
M4-8
30" X 15"
W16-8P
30" X 15"
M5-1R
30" X 21"



4
M4-8
30" X 15"
W16-8P
30" X 15"
M5-1L
30" X 21"



5
M4-8
30" X 15"
W16-8P
30" X 15"
M5-1L
30" X 21"



6
M4-8A
24" X 18"



7
W20-3



8
R3-5R



9
R3-5L



10
R9-11AR



11
R11-2



12
W20-1F

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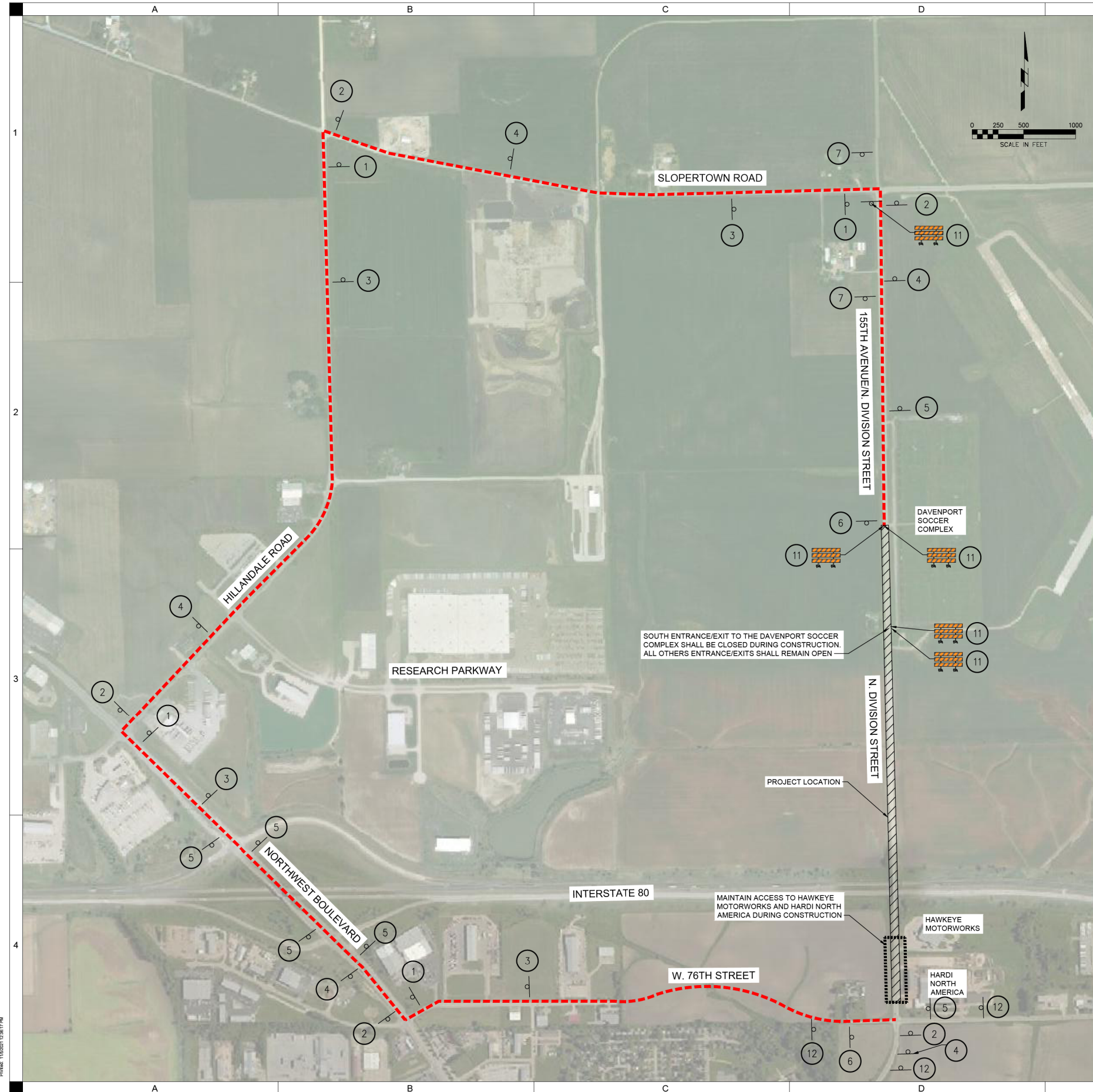
DIVISION STREET
IMPROVEMENTS
CITY OF DAVENPORT
SCOTT COUNTY, IOWA

PRELIMINARY
- NOT FOR
CONSTRUCTION

DRAWN: TAZ
APPROVED: BH
ISSUED FOR: CHECK PLAN REVIEW
DATE: 10/28/2021
PROJECT NO: 4211921
FIELD BOOK: -
CLIENT NO: RM-1827(889)-90-82

TRAFFIC CONTROL
PLAN

J3.01



LEGEND

● ●	42" CHANNELIZERS	➔	DIRECTION OF TRAFFIC
⊗	DRUM	▨	TYPE III BARICADE
⊕	TRAFFIC CONTROL SIGN	⊙ 3	SIGN DETAIL NO. SEE SHEET J.01
- - -	DETOUR ROUTE		
▨	WORK AREA		

- DETOUR ROUTE**
- TRAFFIC WILL BE INSTRUCTED TO FOLLOW THE SHOWN DETOUR ROUTE TO ACCESS LOCATIONS ALONG N. DIVISION STREET DURING CONSTRUCTION
 - TRAFFIC WILL FOLLOW THE SHOWN TRAFFIC CONTROL ON PAGES J3.04 - J3.07 IN CONJUNCTION WITH ACTIVE PHASE
 - TRAFFIC WILL NOT BE ALLOWED BETWEEN THE DAVENPORT SOCCER CENTER AND HAWKEYE MOTORWORKS DURING ANY PHASE OF CONSTRUCTION

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DIVISION STREET IMPROVEMENTS
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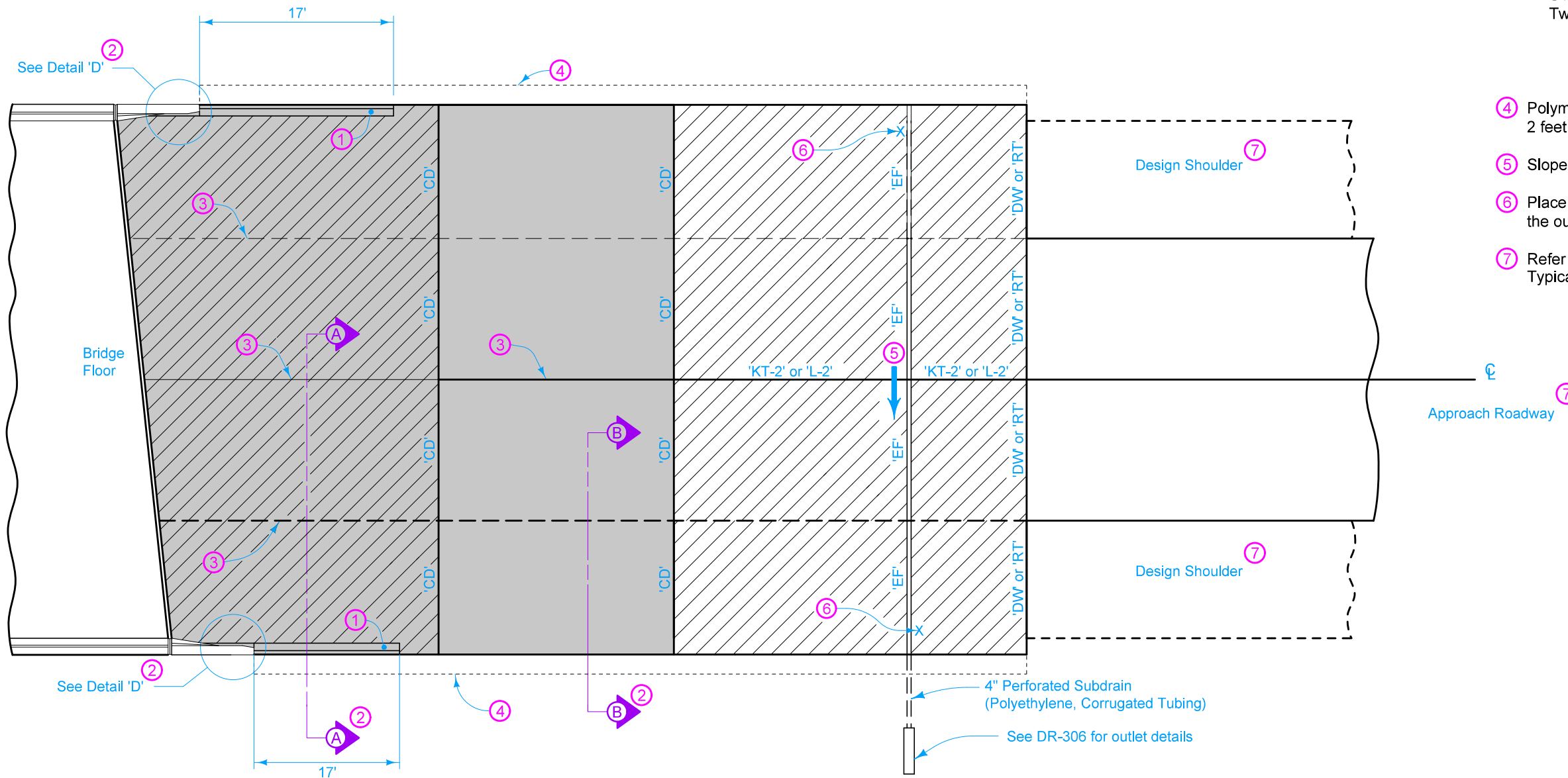
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TRAFFIC CONTROL DETOUR ROUTE
J3.03

For joint details, see PV-101.

- ① Build 4 inch Sloped Curb.
- ② See BR-204.
- ③ Longitudinal Joint (PV-101):
Single Pour - Saw cut joint per Detail B.
Two Pours - Use 'KS-1' joint (Single Reinforced Section).
Use 'KS-2' joint (Double Reinforced Section).
- ④ Polymer Grid and excavation limits of Modified Subbase 2 feet outside of pavement edge. See BR-204.
- ⑤ Slope subdrain to drain.
- ⑥ Place an "X" in the plastic concrete near the 'EF' joint at the outside edge of pavement.
- ⑦ Refer to (RM-1827(689)--9D-82) Project for Typical Drawings.



PLAN VIEW

Pay limits for contract item include the following areas:

- Double Reinforced Section
- Single Reinforced Section
- Non-Reinforced Section

MODIFIED STANDARD ROAD PLAN	REVISION
	BR-211
SHEET 1 of 1	
MODIFICATIONS: Changed SRP to reflect revised curb length. Modified shoulders and approach pavement to reference City Project.	
BRIDGE APPROACH (ABUTTING PCC OR COMPOSITE PAVEMENT)	