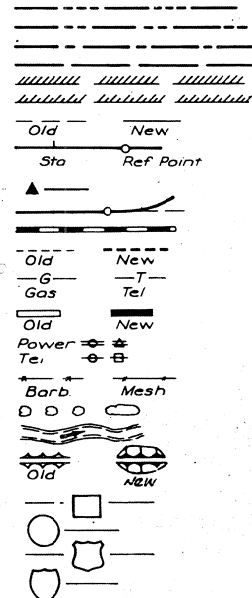


CONVENTIONAL SIGNS

State Line
 Co. Line
 Twp. Line
 Sec. Line
 Corp. Line
 Urban Bdry.
 R.O.W. Lines
 Survey Line
 Sec. Corner
 Profile Grade
 Railroad
 Field Tile
 Underground Lines
 Culverts
 Utility Poles
 Fences
 Trees Or Brush
 Stream
 Dike
 County Road No.
 Primary Road No.
 U. S. Road No.
 Interstate Road No.



IOWA
DEPARTMENT OF TRANSPORTATION
Highway Division
 PLANS OF PROPOSED IMPROVEMENT ON THE
PRIMARY ROAD SYSTEM
SCOTT COUNTY
BRIDGES

U.S. 561 FROM I-80 N. 4.5 MILES

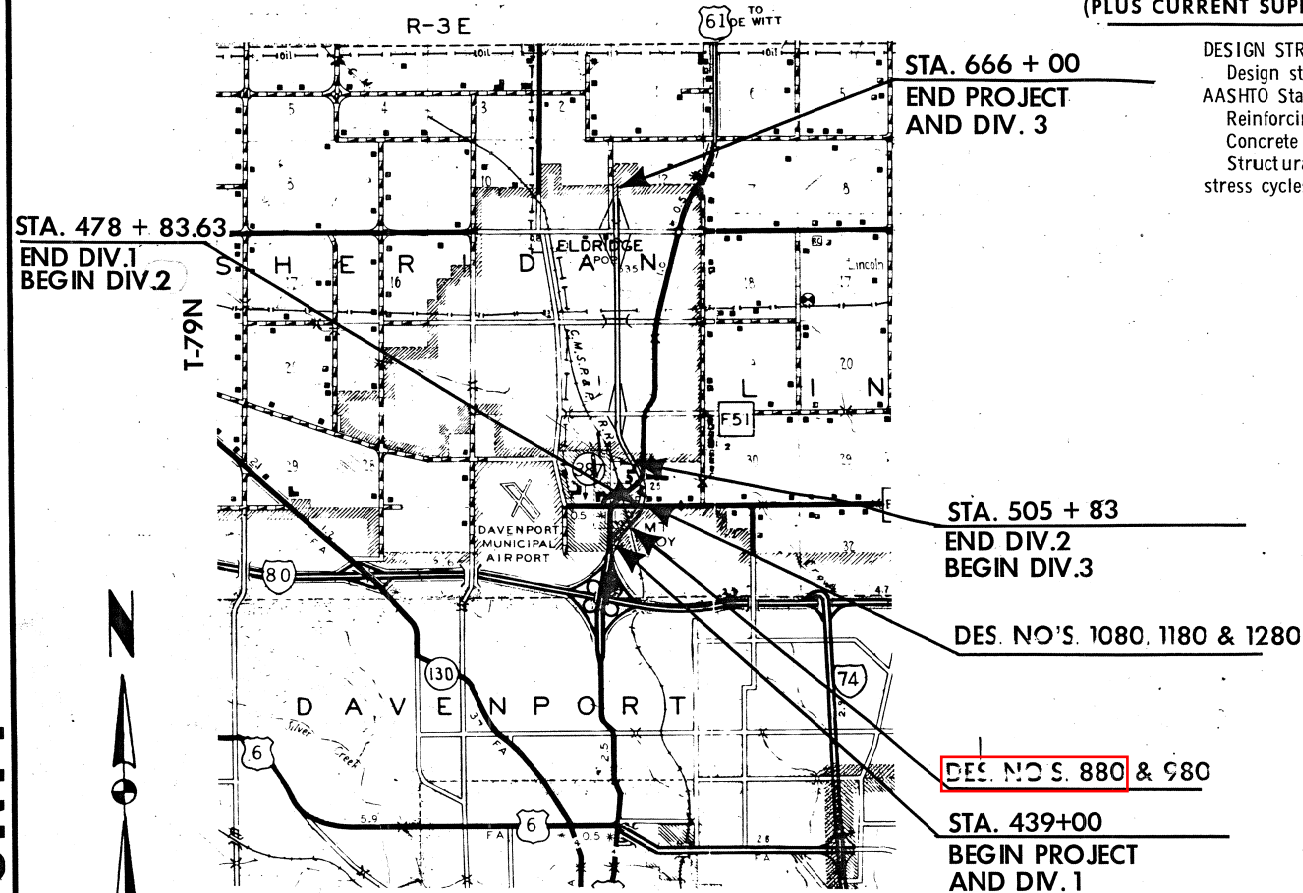
SCALES: AS NOTED

THE STANDARD SPECIFICATIONS, SERIES OF 1977
 OF THE IOWA DEPARTMENT OF TRANSPORTATION, ^{DID}
 SHALL APPLY TO CONSTRUCTION WORK ON THIS PROJECT

(PLUS CURRENT SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS)

DESIGN STRESSES:

Design stresses for the following materials are in accordance with the
 AASHTO Standard Specifications for Highway Bridges, Series of 1977.
 Reinforcing Steel in accordance with Section 1.5, Grade 40 and Grade 60.
 Concrete in accordance with Section 1.5, f'c = 3,500 psi.
 Structural Steel in accordance with Section 1.7. ASTM A-36. Fatigue
 stress cycles based on Case II.



DESIGN DATA					
RURAL			URBAN		
1979 AADT	14,250	V.P.D.	1979 AADT	14,250	V.P.D.
1999 AADT	29,910	V.P.D.	1999 AADT	29,910	V.P.D.
1999 DHV	3,424	V.P.H.	1999 DHV	3,424	V.P.H.
DIRECTIONAL		%	DIRECTIONAL		%
TRUCKS	11	%	TRUCKS	11	%
DESIGN V		M.P.H.	DESIGN V		M.P.H.
CLASS 1	ACCESS CONTROL		CLASS 1	ACCESS CONTROL	

MILEAGE SUMMARY				105.1
DIV.	LOCATION	LIN. FT.	MILES	
1	URBAN: (City of Davenport) Sta. 439+00.00 to Sta. 478+83.63 Bridges at Sta. 462+20.68 Bridges at Sta. 478+83.54 (South Half) Total Length of Roadway - Div. 1 Total Length of Bridges - Div. 1 Total Length of Div. 1	3,983.63 345.20 132.30 3,506.13 477.50 3,983.63	0.664 0.090 0.754	
2	RURAL: (Scott Co.) Sta. 478+83.63 to Sta. 505+83.00 Bridges at Sta. 478+83.54 (North Half) Bridges at Sta. 505+96.00 (South Half) Total Length of Roadway - Div. 2 Total Length of Bridges - Div. 2 Total Length of Div. 2	2,699.37 132.30 61.60 2,505.47 193.90 2,699.37	0.474 0.097 0.511	
3	URBAN: (City of Eldridge) Sta. 505+83.00 to Sta. 666+00.00 Bridges at Sta. 505+96.00 (North Half) Bridge at Sta. 545+86.00 (R.C.B.) Equation: Sta. 547+32.19 = Sta. 547+20.63 (Lengthens Line) Bridges at Sta. 640+66.91 Total Length of Roadway - Div. 3 Total Length of Bridges - Div. 3 Total Length of Div. 3	16,017.00 61.60 26.51 11.56 171.00 15,769.45 259.11 16,028.56	2.987 0.049 3.036	
	Total Length of Roadway in Project Total Length of Bridges in Project Total Length of Project	21,781.05 930.51 22,711.56	4.125 0.176 4.301	

REV
* 45 *

REVISED
SEE FOLLOWING SHEET 1A

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED
 UNDER MY SUPERVISION AND THAT ENGINEERING
 DECISIONS WITH REGARD TO THE DESIGN WERE
 MADE BY ME OR BY OTHER DULY REGISTERED
 PROFESSIONAL ENGINEERS UNDER THE LAWS OF
 THE STATE OF IOWA.
 See Design Sheet 1 of each
 Design
 IOWA REGISTRATION NUMBER DATE

STATE	FED. ROAD DIST. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	1		1	125
PROJECT NUMBER				
FFD-561-1(2)--2N-82				
R.O.W. PROJECT NUMBER				
F-561-1(3)--20-82				
PRELIMINARY ENGINEER NUMBER				
F-561-1(900)--20-82				

INDEX OF SHEETS	
NO.	DESCRIPTION
1	TITLE SHEET
1A	REVISION SHEET
2-3	ESTIMATE SHEET
4-32	BRIDGE DESIGN NO. 880
33-61	BRIDGE DESIGN NO. 980
62-84	BRIDGE DESIGN NO. 1080
85-108	BRIDGE DESIGN NO. 1180
109-125	BRIDGE DESIGN NO. 1280
CONSTRUCTION PLANS SHOWING PROJECT AS BUILT	
Plan Preparation Supervised By:	Bruce Kuehl Resident Construction Engineer
Date	1-16-86 Iowa Reg. No. 8371
REVIEWED AND FORWARDED TO AMES	
District Construction Engineer	
One 50% Reduced and Four Full-Size Prints To Be Made and Returned To	
R. C. Henely District Engineer	

AFTER MICROFILMING RETURN ORIGINAL TO DISTRICT NO. 6			
DEPARTMENT OF TRANSPORTATION, HIGHWAY DIVISION STANDARDS REQUIRED (Available at Bridge Design Services)			
YEAR	WORK	CONTRACTOR	PROJ. INSPECTOR
1981	Bridge 880	Lunda	F. Springer
1981	Bridge 980	Lunda	F. Springer
1981	Bridge 1080	Lunda	M. Jackson
1981	Bridge 1180	Lunda	M. Jackson
1981	Bridge 1280	Lunda	M. Jackson

DEPARTMENT OF TRANSPORTATION
 IOWA
 AUTHORIZED FOR LETTING
 DATE Feb. 27, 1980
 DEPUTY CHIEF ENGINEER

U.S. DEPT. TRANSPORTATION
 FEDERAL HIGHWAY ADMINISTRATION
 APPROVED
 DIVISION ENGINEER DATE

LISTING OF PROJECT REVISIONS

DATE	SHEET NUMBER	DESCRIPTION OF REVISIONS	DATE	SHEET NUMBER	DESCRIPTION OF REVISIONS															
3-6-81		Designs 880, 980, 1080 & 1180																		
	1A of 125 130	This sheet added to project (Revision Sheet).																		
		Design 880																		
	5 of 125 130	Reinforcing Steel and Epoxy Coated Reinforcing Steel quantities changed and/or corrected.																		
	9 of 125 130	Pier Column Reinforcing changed.																		
	10 of 125 130	Re-bar number and weight changed for Pier No. 1 and Pier No. 2																		
	13 of 125 130	"Tabulation of Epoxy Coated Re-bars" corrected.																		
	16 of 125 130	"Reinforcing Steel" list and "Total Estimated Quantities" list correcte.																		
	24 of 125 130	Epoxy Coated re-bar list and Estimated Qtynty list corrected.																		
		Design 980																		
	34 35 of 125 130	Reinforcing Steel and Epoxy Coated Reinforcing Steel quantittes changed and/or corrected.																		
	38 39 of 125 130	Pier Column reinforcing changed.																		
	39 40 of 125 130	Reinforcing Bar list--Pier No. 2 changed. Total Estimated Quantities changed.																		
	42 43 of 125 130	Weight corrected in tabulation of Epoxy Coated Re-bars.																		
	45 46 of 125 130	Reinforcing Steel list and Total Estimated Quantities list corrected.																		
		Design 1080																		
	63 64 of 125 130	Superstructure quantity for Epoxy Coated Reinforcing Steel corrected.																		
	75 76 of 125 130	Number and Weight of 5d1 reinforcing bars corrected.																		
		Design 1180																		
	86 87 of 125 130	Pier quantity for Reinforcing Steel corrected.																		
	93 94 of 125 130	Number and weight of 5c2 & 5c3 cap hoops corrected.																		
	97 98 of 125 130	Number and weight of 4e1 column hoops corrected.																		
	2 of 125 130	Designs 880 & 980---Reinforcing Steel weights changed and/or corrected.																		
	3 of 125 130	Design 1080--Epoxy Coated Reinforcing Steel weight corrected.																		
		Design 1180--Reinforcing Steel weight corrected.																		
	1 of 125 130	Sheet 1A added to "Index of Sheets."																		
		REASON: On Designs 880 & 980 there was a design omission concerning the effects of cap shrinkage in designing the Piers. The redesign shows a need for additional reinforcing in the exterior columns of Piers No. 2 in both designs. All other corrections were due to plan errors.																		
		<table><tr><td></td><td>Reinforcing Steel</td><td>Epoxy Coated Reinforcing Steel</td></tr><tr><td>Design 880</td><td>+217</td><td>-57</td></tr><tr><td>Design 980</td><td>+1060</td><td>+4</td></tr><tr><td>Design 1080</td><td></td><td>+57</td></tr><tr><td>Design 1180</td><td>-64</td><td></td></tr></table>		Reinforcing Steel	Epoxy Coated Reinforcing Steel	Design 880	+217	-57	Design 980	+1060	+4	Design 1080		+57	Design 1180	-64				
	Reinforcing Steel	Epoxy Coated Reinforcing Steel																		
Design 880	+217	-57																		
Design 980	+1060	+4																		
Design 1080		+57																		
Design 1180	-64																			

REVISION SHEET

April 1, 1980

IN LETTING OF

DESIGN NO. 880		OVER CM ST. P & P R.R.		STATION: 461 + 52.79
SCOTT COUNTY		R.R. CROSSING NO. 13272		E. N.B. LANE
SECTION 36		T-79N	R-3E	SHERIDAN TWP.
DESIGN FOR 57°03'00" SKEW 336'-0" X VARI. CONTINUOUS WELDED PLATE GIRDER BRIDGE				
FINAL ESTIMATE OF QUANTITIES				
NO.	ITEM			UNIT TOTAL
1	Structural Concrete			Cu. Yds. 1,510.5
2	Structural Steel			Lbs. 701,398
3	Reinforcing Steel			Lbs. 215,596
4	Reinforcing Steel-Epoxy Coated			Lbs. (118,118)
5	Creosoted Piling (25 ft)			Lin. Ft. 5,375.0
6	HP10X42 Steel	Furnish	Lin. Ft.	4,616
7	Bearing Piling	Drive	Lin. Ft.	4,616
8	Prebored Holes			Lin. Ft. 1,700
9	Granular Backfill			Cu. Yds. 564.2
10	Class 20 Excavation			Cu. Yds. 1,021
11	Concrete Barrier Rail			Lin. Ft. 747.5
12	Subdrain			Lin. Ft. 311.5
13	Bridge Seat Sealer			Sq. Ft. 1,004
14	Concrete Slope Protection			Sq. Yds. 1,699
8001	Field Splices			Ea. 64
8002	Creosoted Piling (40 ft)			Lin. Ft. 8,517.3
8003	Piling Ordered But Not Driven (25')			Lin. Ft. 5,375
8004	Test Pile Loading			# 1,500.00
8005	Retarder			Cu. Yds. 559.1

ESTIMATE REFERENCE INFORMATION		100-4
Data listed below is for informational purposes only and shall not constitute a basis for any extra work orders.		
ITEM NO.	DESCRIPTION	
1.	Includes 951.4 Cu. Yds. of Structural Concrete Class "C" for Substructure and 559.1 Cu. Yds. of Structural Concrete, Class "D" for Superstructure.	
2.	Includes 606 Lbs. for Lead Plate and 1,408 Lbs. for Drains.	

IN LETTING OF April 1, 1980	DESIGN NO. 980		OVER CM ST. P & P R. R.		STATION: 462 + 88.56	
	SCOTT COUNTY		R. R. CROSSING NO. 13272		E. S. B. LANE	
	SECTION 36		T-79N R-3E		SHERIDAN TWP.	
	DESIGN FOR 57°03'00" SKEW 336'-0" X VARI. CONTINUOUS WELDED PLATE GIRDER BRIDGE					
FINAL ESTIMATE OF QUANTITIES						
	NO.	ITEM			UNIT	TOTAL
	16	Structural Concrete			Cu. Yds.	1481.1 ✓
	17	Structural Steel			Lbs.	719,075 ✓
	18	Reinforcing Steel			Lbs.	218,793
	19	Reinforcing Steel - Epoxy Coated			Lbs.	120,859
	20	Creosoted Piling (25 ft)			Lin. Ft.	5250.75
	21	HP 10X42 Steel :		Furnish	Lin. Ft.	5192
	22	Bearing Piling		Drive	Lin. Ft.	5192
	23	Prebored Holes			Lin. Ft.	1800 ✓
	24	Subdrain			Lin. Ft.	306 ✓
	25	Bridge Seat Sealer			Sq. Ft.	990 ✓
	26	Granular Backfill			Cu. Yds.	520 ✓
	27	Class 20 Excavation			Cu. Yds.	836 ✓
	28	Concrete Barrier Rail			Lin. Ft.	794.5 ✓
	29	Concrete Slope Protection			Sq. Yds.	1721 ✓
	8001	Field Splices			Ea.	40 ✓
	8002	Creosoted Piling (40 ft)			Lin. Ft.	8314.3 ✓
	8003	Piling Ordered But Not Driven (25 ft)			Lin. Ft.	5175 ✓
	8004	Test Piling			#	4,514.58 ✓
	8005	Retarder			Cu. Yds.	382.5 ✓
	8007	Tie Lines				
	8008	Special Shaping within RR ROW				

ESTIMATE REFERENCE INFORMATION		100-4
Data listed below is for informational purposes only and shall not constitute a basis for any extra work orders.		
ITEM NO.	DESCRIPTION	
16	Includes 924.3 Cu. Yds. of Structural Concrete Class "C" For Substructure and 556.8 Cu. Yds. of Structural Concrete, Class "D" for Superstructure.	
17	Includes 614 Lbs. for Lead Plates & 1692 Lbs. for Drains.	
8007 & 8008	See Sheet No 4 of 125.	

Revised 03-06-81: Designs 880 & 980 — Reinforcing weights changed and/or corrected.

FILE NO. 25588

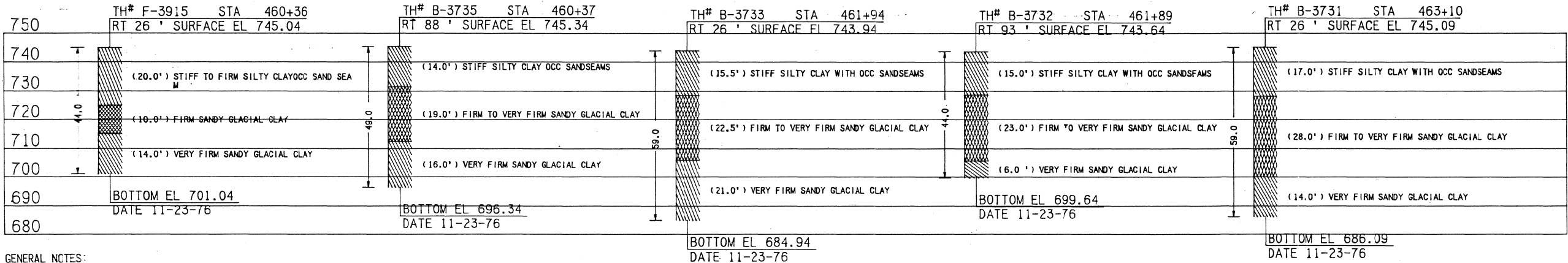
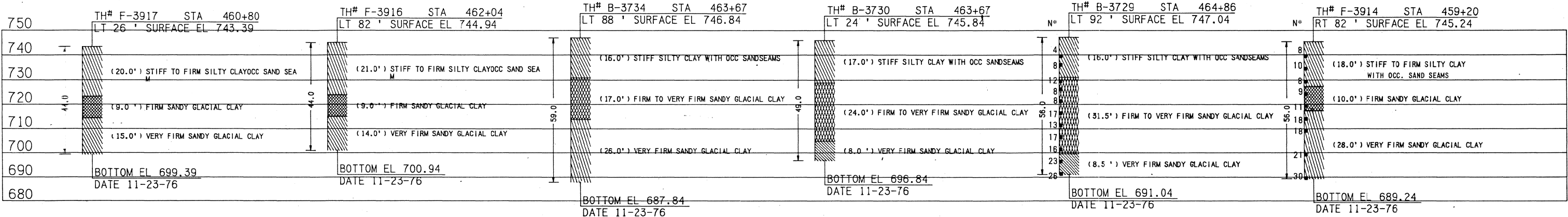
SCOTT COUNTY

PROJECT NUMBER

FFD-561-1(2)--2N-82

STATE	FED. ROAD DIST. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	5		2	125

QUANTITY
ESTIMATE SHEET



GENERAL NOTES:
THIS BRIDGE IS DESIGNED FOR HS20-44 LOADING, PLUS 20 LBS. PER SQUARE FOOT OF ROADWAY FOR FUTURE WEARING SURFACE. THE BRIDGE CONTRACTOR ~~IS TO~~ INSTALL SUBDRAIN BEHIND EACH ABUTMENT AS DETAILED. THE SUBDRAIN ~~MAY BE EITHER DRAIN TILE OR PERFORATED PLASTIC PIPE WITH A MINIMUM NOMINAL DIAMETER OF 4" AND A MAXIMUM NOMINAL DIAMETER OF 6".~~ THE PRICE BID FOR "SUBDRAIN" ~~IS TO~~ INCLUDED THE EXCAVATION NECESSARY FOR THE INSTALLATION.
THE APPROACH FILLS AS SHOWN ARE NOT A PART OF THIS CONTRACT, BUT ARE TO BE IN PLACE BEFORE ABUTMENT PILES ARE DRIVEN. THE BRIDGE CONTRACTOR ~~IS TO~~ LEVEL OFF AND SHAPE THE BERMS TO THE ELEVATIONS AND DIMENSIONS SHOWN.
~~BRESSING OF SLOPES OUTSIDE THE BRIDGE AREA NOT DISTURBED BY THE BRIDGE CONTRACTOR SHALL BE PAID FOR AS EXTRA WORK.~~
ABUTMENT PILES ARE ~~TO BE~~ DRIVEN IN OVERSIZE HOLES DRILLED THROUGH THE FILL TO EL. 739.0 AT THE SOUTH ABUTMENT AND TO EL. 737.3 AT THE NORTH ABUTMENT. THE MINIMUM DIAMETER OF THE DRILLED HOLES IS ~~TO BE~~ 18 INCHES. THESE DRILLED HOLES ARE ~~TO BE~~ MAINTAINED OPEN DURING DRIVING OF THE PILES TO THE EXTENT THAT CASING OR DRILLING MUD ~~MAY BE~~ REQUIRED FOR COLLAPSING SOILS. IMMEDIATELY AFTER DRIVING A PILE, THE VOID AROUND THE PILE ~~IS TO BE~~ FILLED WITH LOOSE DRY SAND. ANY DRILLING MUD USED ~~SHALL BE~~ REMOVED FROM THE HOLE PRIOR TO PLACING THE SAND.
PIER EXCAVATION ~~IS~~ BASED ON THE ASSUMPTION THAT THE APPROACH FILLS ~~WILL HAVE BEEN~~ COMPLETED PRIOR TO STARTING CONSTRUCTION OF THE PIERS.
BRIDGE SEAT SEALER ~~IS TO BE~~ APPLIED TO ALL EXPOSED BRIDGE SEAT SURFACES AT THE ABUTMENTS. THE BRIDGE SEAT SURFACE ~~IS TO~~ INCLUDE ALL SURFACES OF THE BRIDGE SEAT STEPS, THE WASH BETWEEN STEPS AND THE EDGE FILLETS. THE SEALER ~~IS TO~~ EXTEND SIX INCHES UP THE FRONT FACE OF THE BACKWALL. THE SEALER ~~IS~~ ALSO APPLIED TO THE TOP OF THE BACKWALL. THE BRIDGE SEAT PROTECTIVE COATING ~~SHALL BE~~ AN APPROVED SEALER PER MATERIALS I.M. 491.12 AND APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

THE UTILITY COMPANIES WHOSE FACILITIES ARE ON THE PLANS OR KNOWN TO BE WITHIN THE CONSTRUCTION LIMITS ~~SHALL BE~~ NOTIFIED BY THE CONTRACTOR OF THE CONSTRUCTION STARTING DATE. GUARD RAIL ~~TO BE~~ PLACED BY OTHERS.

SOUNDING DATA
N* = NUMBER OF BLOWS PER FOOT OF PENETRATION

SPECIFICATIONS:
DESIGN: A.A.S.H.T.O. SERIES OF 1977
CONSTRUCTION: IOWA DEPARTMENT OF TRANSPORTATION 1977 SERIES WITH CURRENT SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

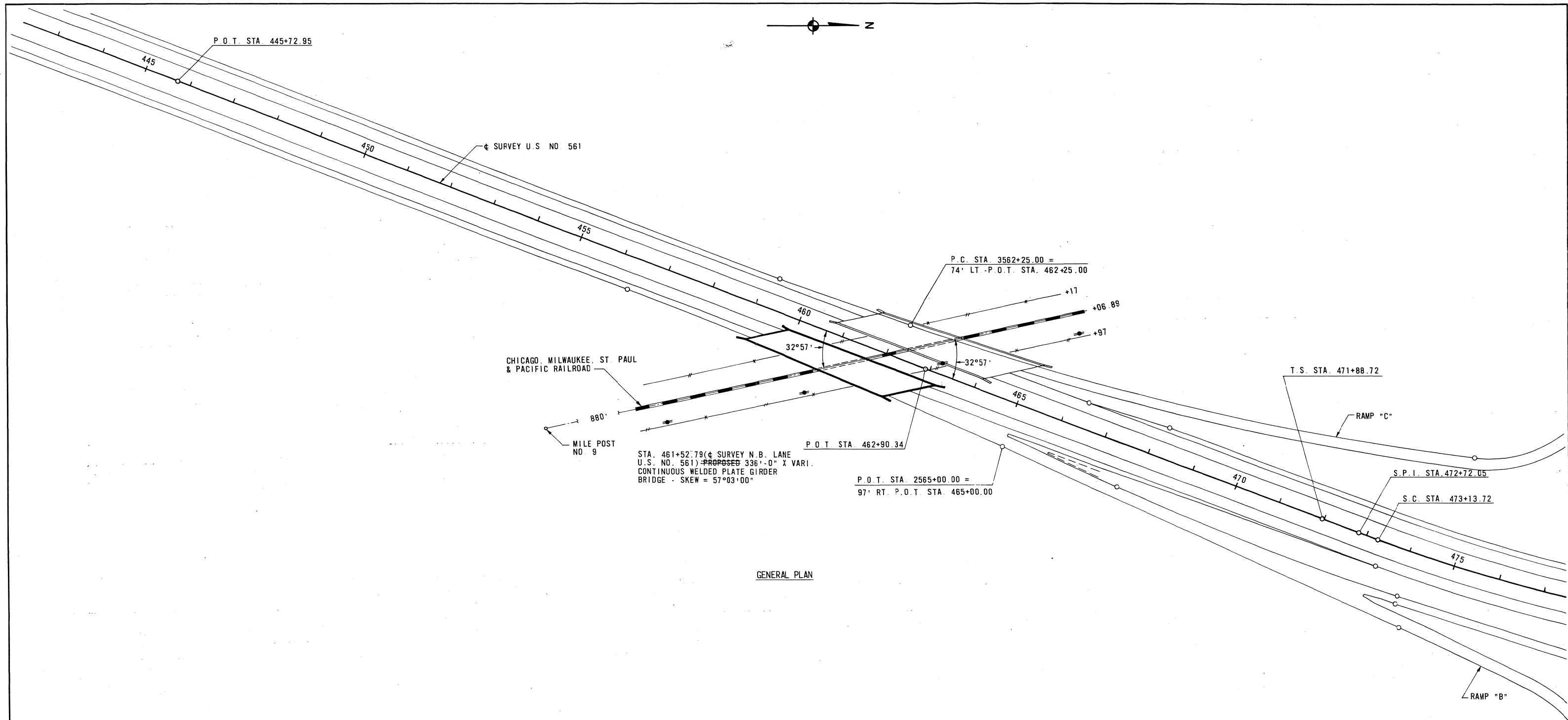
DESIGN STRESSES:
DESIGN STRESSES FOR THE FOLLOWING MATERIALS ARE IN ACCORDANCE WITH A.A.S.H.T.O. STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SERIES OF 1977
CONCRETE IN ACCORDANCE WITH SECTION 1.5, f'c= 3,500 P.S.I.
REINFORCING STEEL IN ACCORDANCE WITH SECTION 1.5, Grade 40 and Grade 60
STRUCTURAL STEEL IN ACCORDANCE WITH SECTION 1.7, ASTM A-36, fatigue stress cycles based on Case II.

TOTAL ESTIMATED BRIDGE QUANTITIES 109,041 86,778						
ITEM NO.	ITEM	UNITS	2 ABUTS.	2 PIERS	1 SUPERSTR.	TOTAL
1	STRUCTURAL CONCRETE	CU. YDS.	290	661.4	559.1	1510.5
2	STRUCTURAL STEEL	LBS.			701,398	701,398
3	REINFORCING STEEL	LBS.	19,994	49,955	49,955	119,904
4	REINFORCING STEEL-EPOXY COATED	LBS.	13,828	33,874	33,874	81,576
5	CREOSOTED PILING	LIN. FT.		8,973	5,375	14,348
6	HP 10 X 42 STEEL BEARING PILING	FURNISH DRIVE	4,818	5,212		10,030
7	PREBORED HOLES	LIN. FT.	1,700			1,700
8	GRANULAR BACKFILL	CU. YDS.	564.2			564.2
9	CLASS 20 EXCAVATION	CU. YDS.	347	674		1021
10	CONCRETE BARRIER RAIL	LIN. FT.			747.5	747.5
11	SUBDRAIN	LIN. FT.	311.5			311.5
12	BRIDGE SEAT SEALER	SQ. FT.	1,004			1,004
13	CONCRETE SLOPE PROTECTION	SQ. YDS.	1,699			1,699

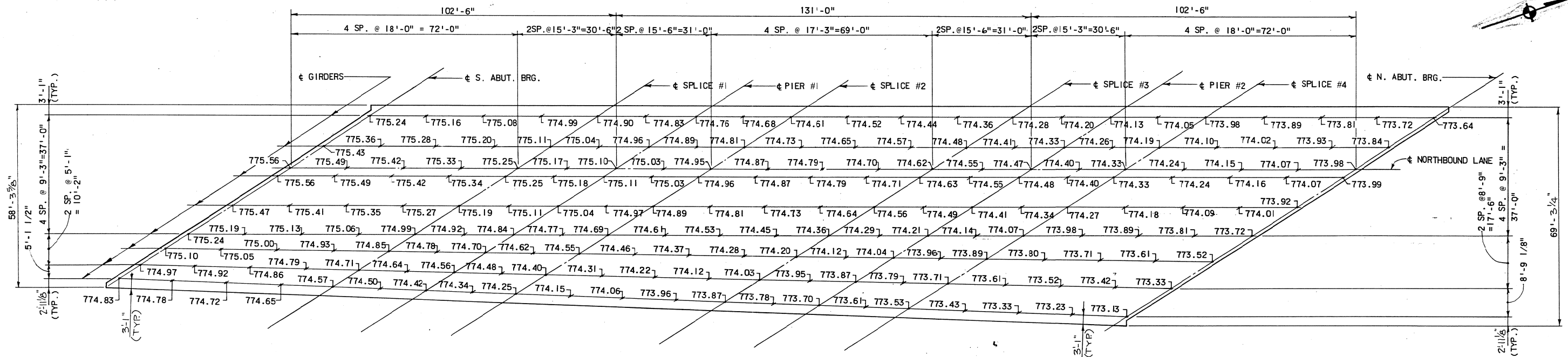
ESTIMATE REFERENCE INFORMATION:
ITEM NO. 1: INCLUDES 951.4 CU. YDS. OF STRUCTURAL CONCRETE CLASS "C" FOR SUBSTRUCTURE AND 559.1 CU. YDS. OF STRUCTURAL CONCRETE, CLASS "D" FOR SUPERSTRUCTURE.
2: INCLUDES 606 LBS. FOR LEAD PLATE AND 1408 LBS. FOR DRAINS.

DESIGN FOR 57°03'00" SKEW
336'-0" X VARI. CONTINUOUS
WELDED PLATE GIRDER BRIDGE
102'-6" END SPANS 131'-0" INTERIOR SPAN
SOUNDING DATA & QUANTITIES
STATION: 461+52.79 (± N.B. LANE, U.S. NO. 561) NOV., 1978
SCOTT COUNTY
IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION
DESIGN SHEET NO. 2 OF 29 FILE NO. 25588 DESIGN NO. 880

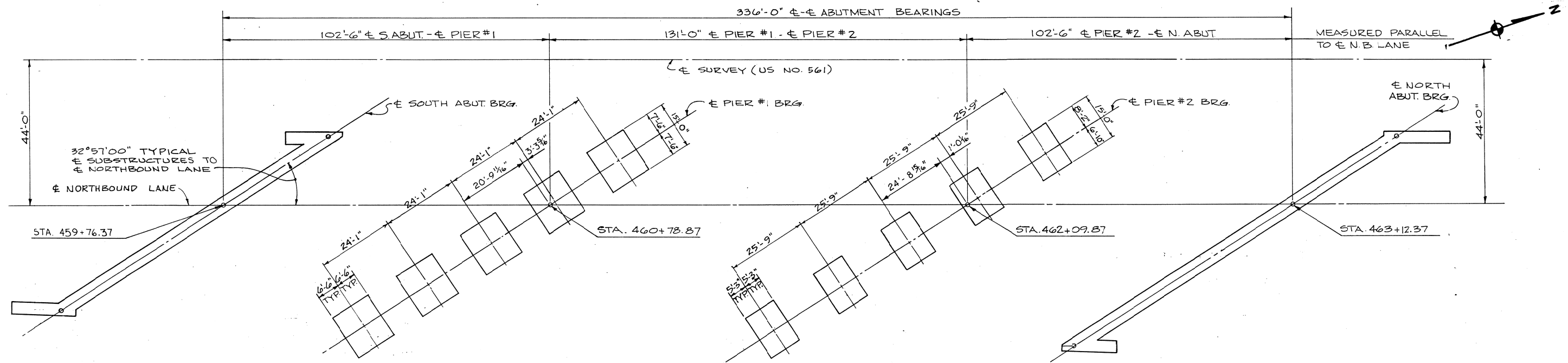
Revised 03-06-81: Reinforcing Steel and Epoxy Coated Rebar quantities changed and corrected.



DESIGN FOR 57°03'00" SKEW
336'-0" X VARI. CONTINUOUS
WELDED PLATE GIRDER BRIDGE
102'-6" END SPANS 131'-0" INTERIOR SPAN
GENERAL PLAN
STATION: 461+52.79 (± N.B. LANE, U.S. NO. 561) NOV., 1978
SCOTT COUNTY
IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION
DESIGN SHEET NO. 3 OF 29 FILE NO. 25588 DESIGN NO. 880

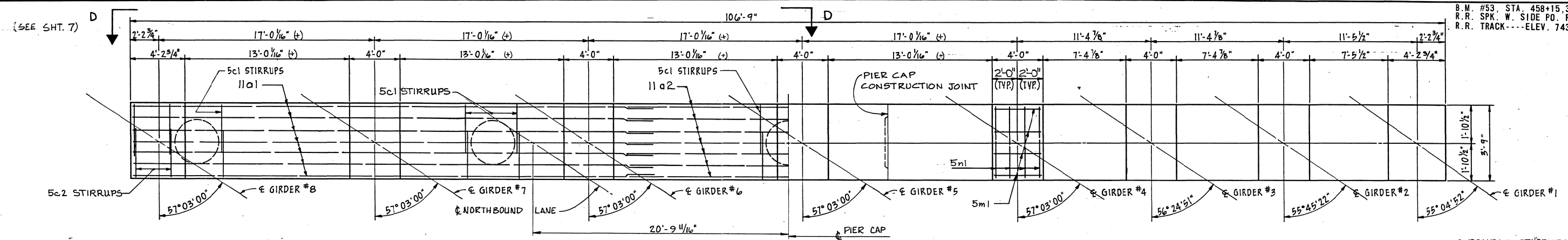


TOP OF SLAB ELEVATIONS

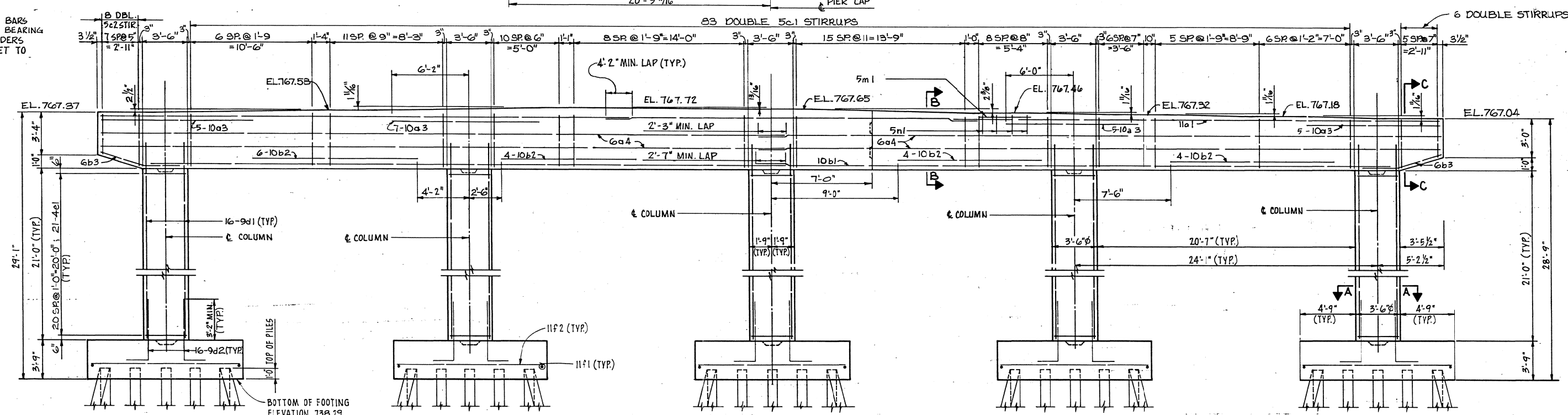


STAKING DIAGRAM

DESIGN FOR 57°03'00" SKEW
336'-0" X VARI. CONTINUOUS
WELDED PLATE GIRDER BRIDGE
102'-6" END SPANS 131'-0" INTERIOR SPAN
STAKING DIAGRAM & SLAB ELEVATIONS
STATION: 461+52.79 (@ N.B. LANE, U.S. NO. 561) NOV. 1978
SCOTT COUNTY
IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION
DESIGN SHEET NO. 4 OF 29 FILE NO. 25588 DESIGN NO. 880



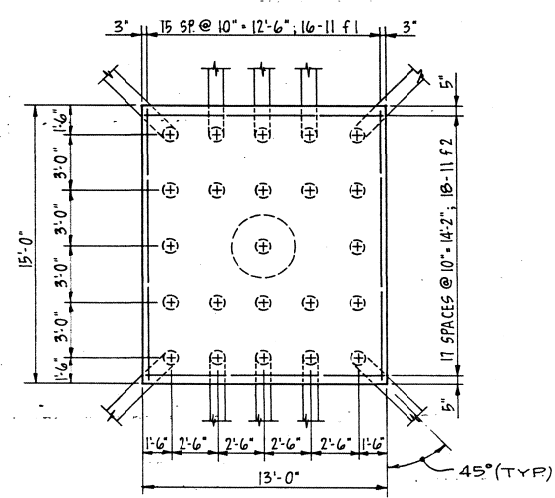
NOTE:
PLACE 5m1 AND 5m1 BARS
UNDER EACH GIRDER. BEARING
ASSEMBLIES FOR GIRDERS
#1-#3 ARE TO BE SET TO
THE SAME ANGLE AS
GIRDERS #4-#8



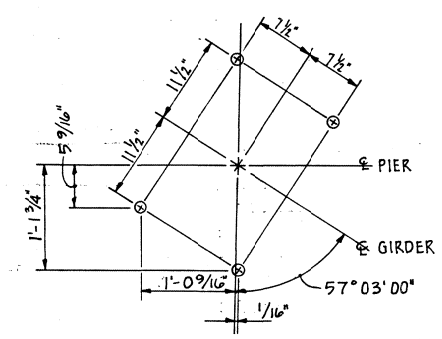
PIER ELEVATION
(LOOKING NORTH)

NOTE:
SEE SHEET #7 FOR CRASH WALL
REINFORCING AND DETAILS.
SEE SHEET #7 FOR PIER CAP
CONSTRUCTION JOINT
DETAILS.

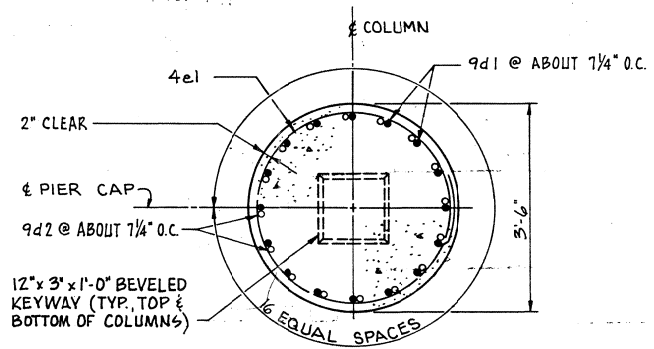
NOTE: ALL DIMENSIONS ARE AT BOTTOM OF FOOTING. BATTER
PILES 1:4 IN DIRECTION INDICATED EXCEPT AS NOTED OR SHOWN.
23 CREOSOTED PILING REQUIRED FOR EACH FOOTING.



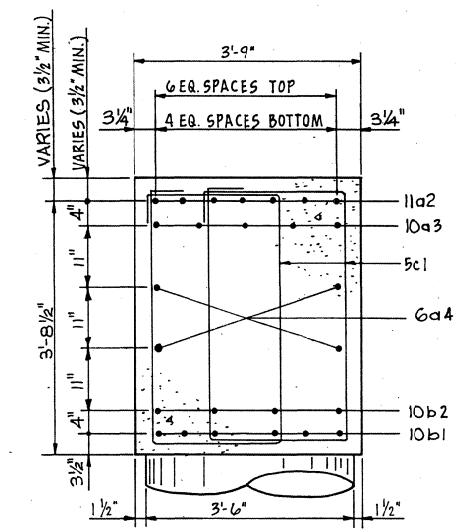
FOOTING PLAN



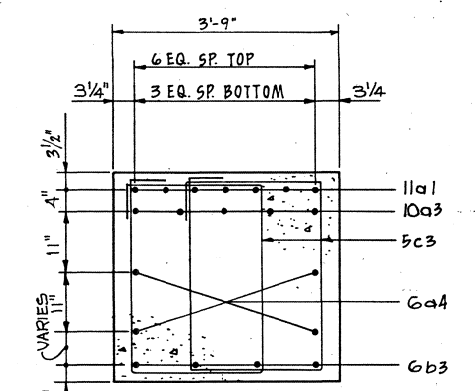
ANCHOR BOLT LOCATION
(FIXED)
1 1/2\"/>



SECTION A-A

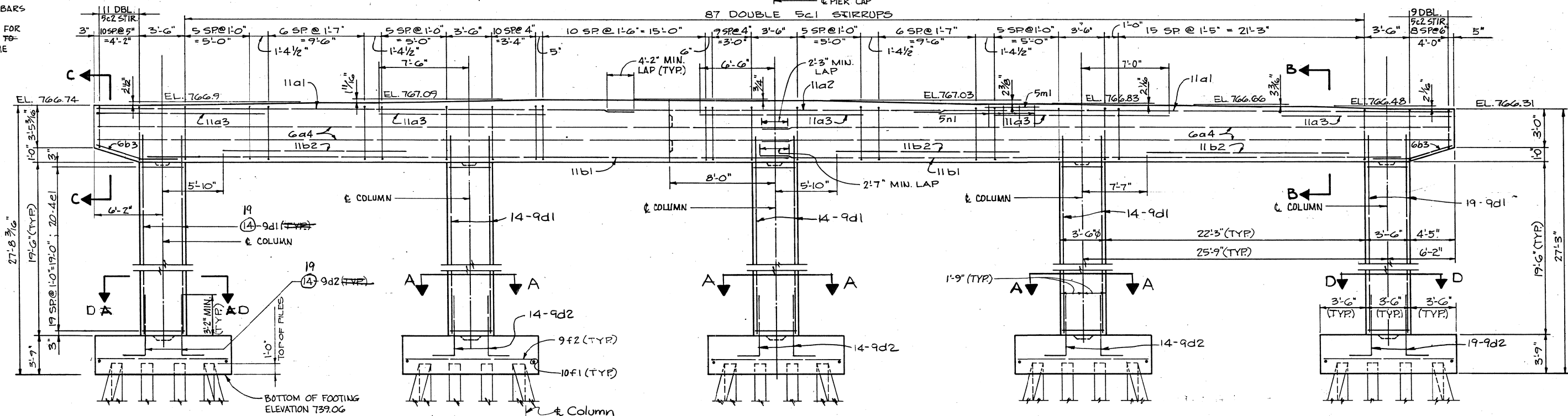
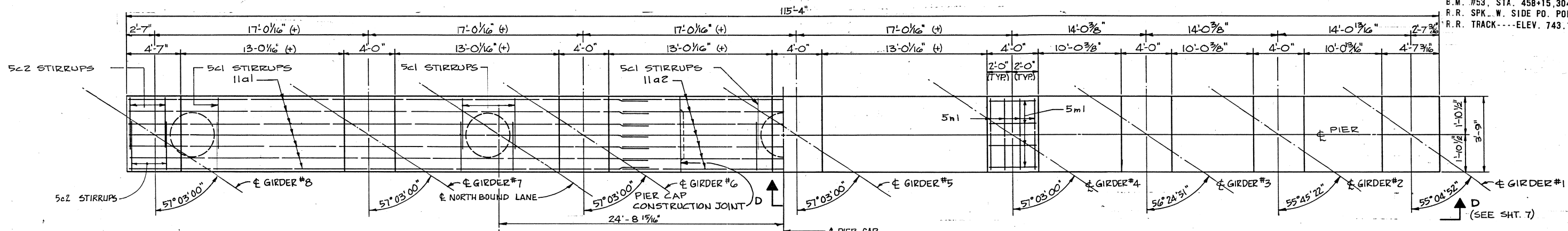
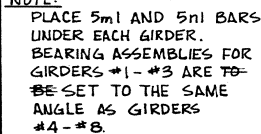


SECTION B-B



SECTION C-C

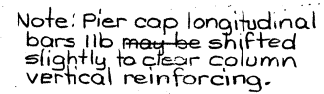
DESIGN FOR 57°03'00\"/>



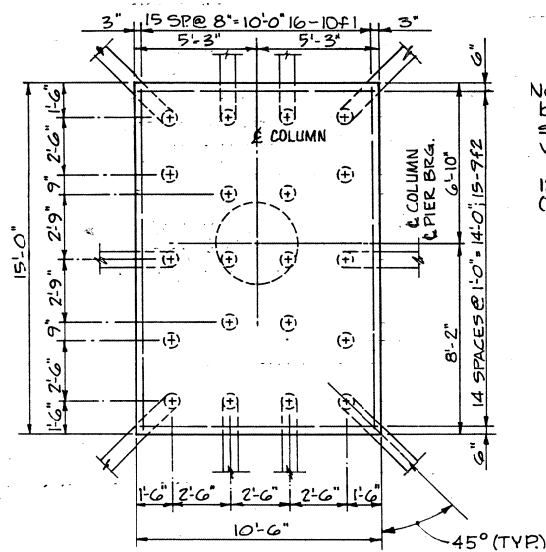
PIER ELEVATION

(LOOKING NORTH)

NOTE:
SEE SHEET #7 FOR CRASH WALL
REINFORCING AND DETAILS.
SEE SHEET #7 FOR PIER CAP
CONSTRUCTION JOINT
DETAILS.

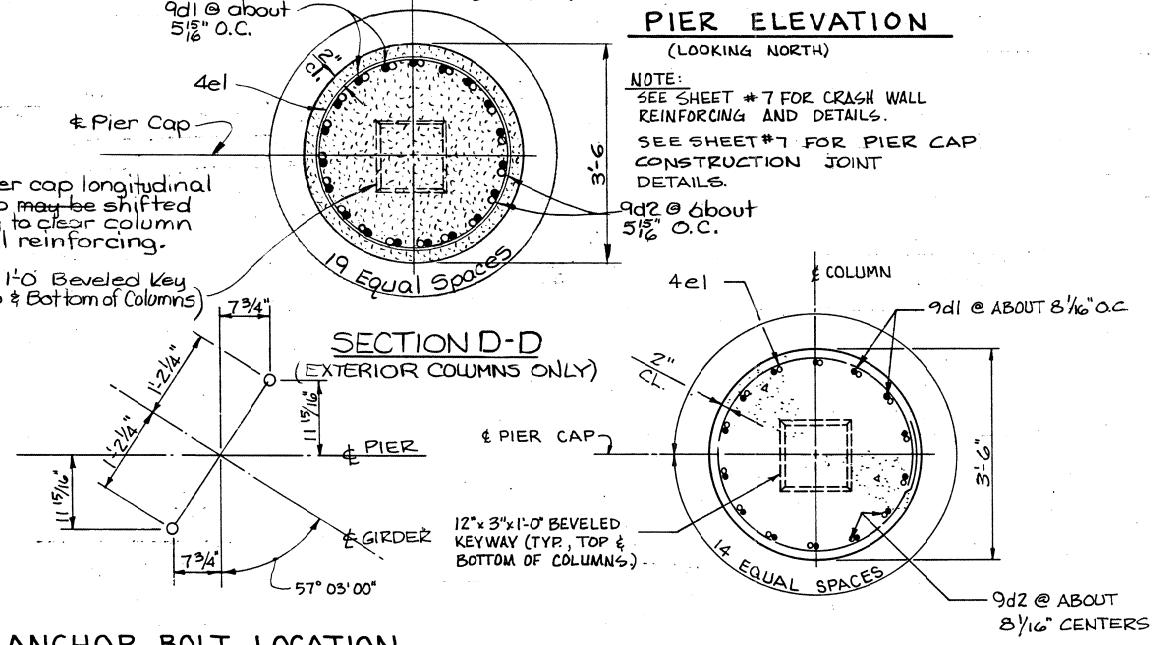


12" x 3" x 1'-0" Beveled Key
(Typ. Top & Bottom of Columns)



FOOTING PLAN

NOTE: ALL DIMENSIONS ARE AT BOTTOM OF FOOTING. BATTER PILES
1:4 IN DIRECTION INDICATED. 20 CREOSOTED PILING ~~REQUIRED~~
FOR EACH FOOTING.

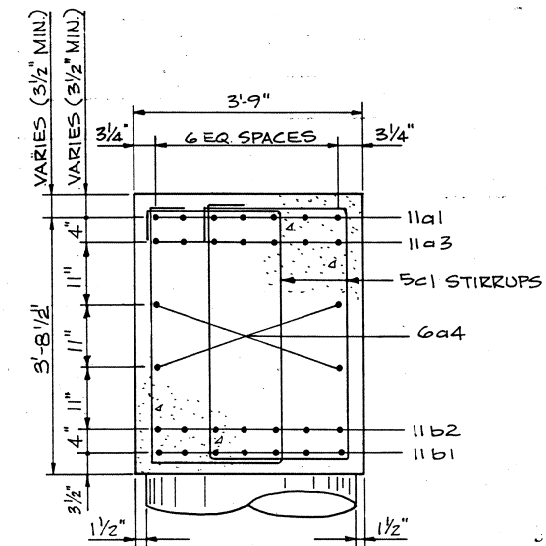


ANCHOR BOLT LOCATION

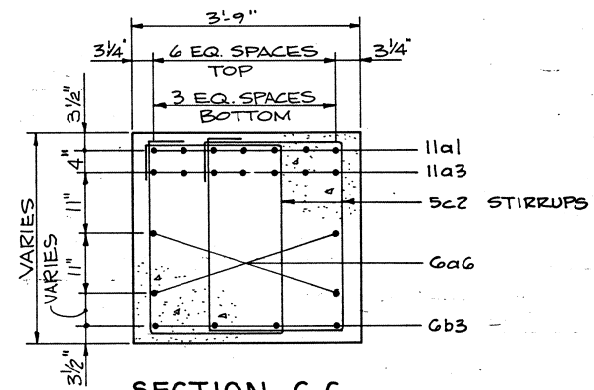
(EXPANSION)
1 1/2" Ø x 2'-0" SWEDGE ANCHOR BOLTS
PROJECTION = 5 1/2"

SECTION A-A

(INTERIOR COLUMNS ONLY)

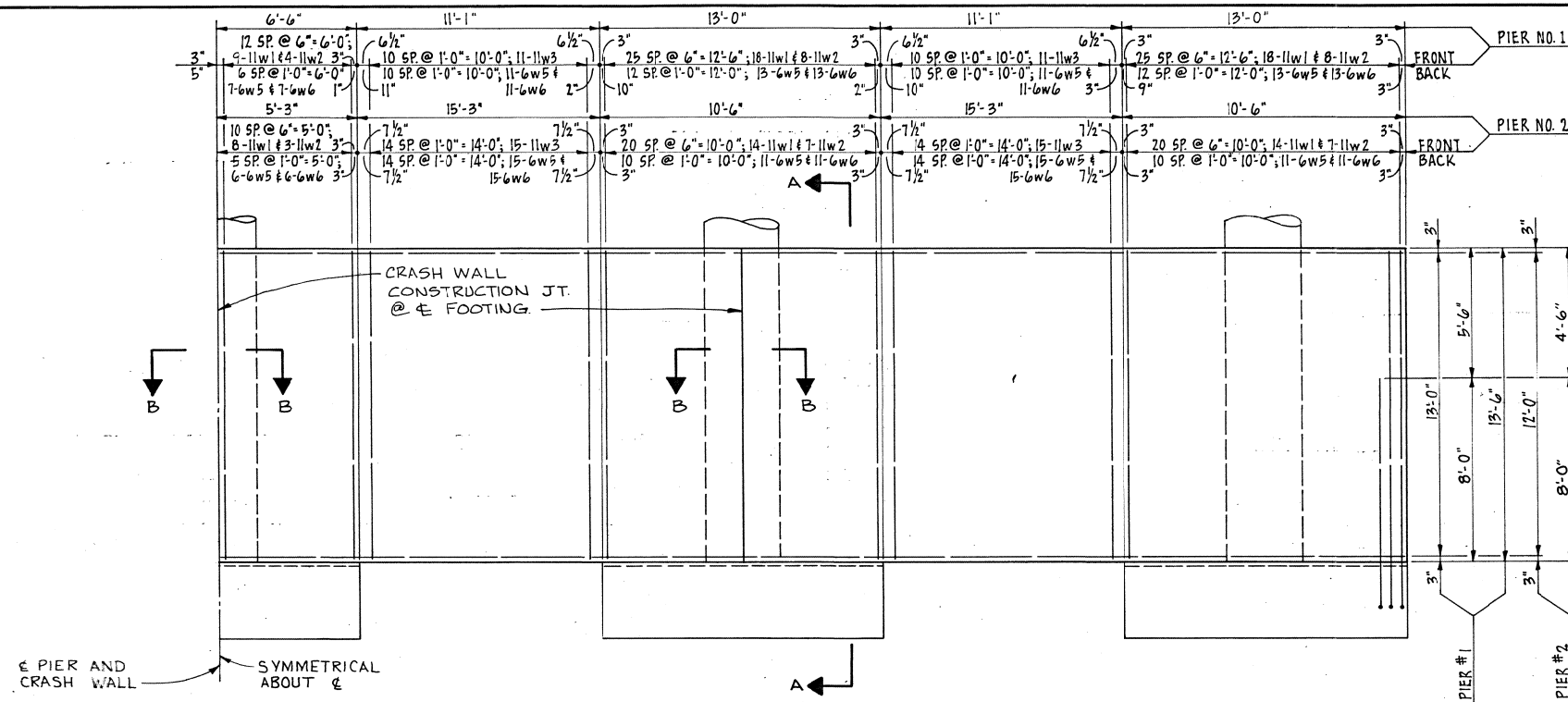


SECTION B-B



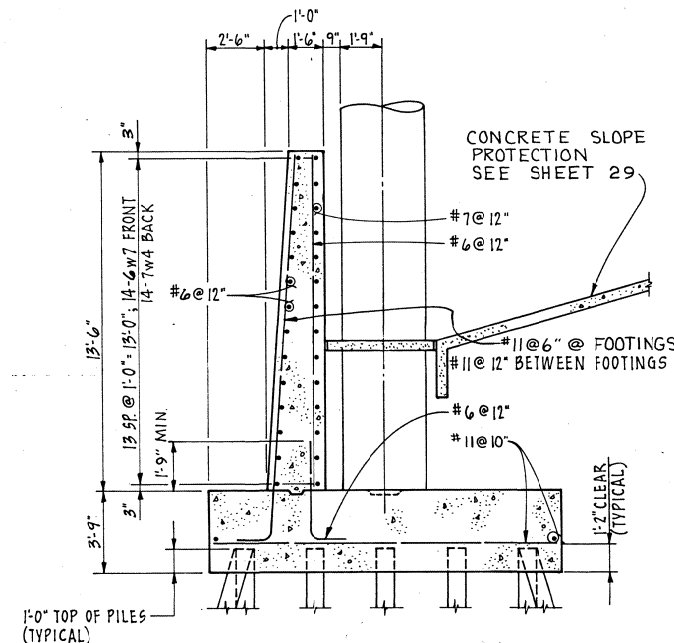
SECTION C-C

DESIGN FOR 57'03'00" SKEW
336'-0" X VARI. CONTINUOUS
WELDED PLATE GIRDER BRIDGE
102'-6" END SPANS 131'-0" INTERIOR SPAN
PIER NO. 2
STATION: 461+52.79 (E N.B. LANE, U.S. NO. 561) NOV. 1978
SCOTT COUNTY
IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION
DESIGN SHEET NO. 6 OF 29 FILE NO. 25588 DESIGN NO. 880

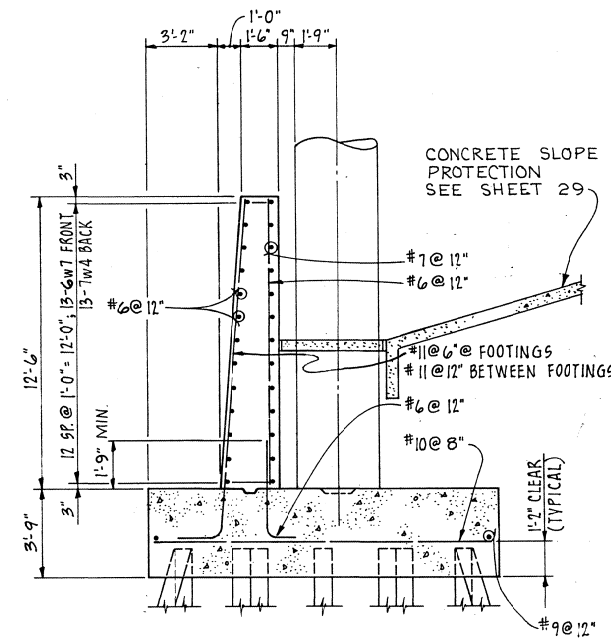


CRASH WALL ELEVATION
(FRONT VIEW)
SECTION D-D

NOTE: CUT OFF EVERY THIRD #11 BAR ABOVE THE FOOTINGS. RUN EVERY #11 BAR FULL LENGTH BETWEEN THE FOOTINGS. (BOTH PIERS)



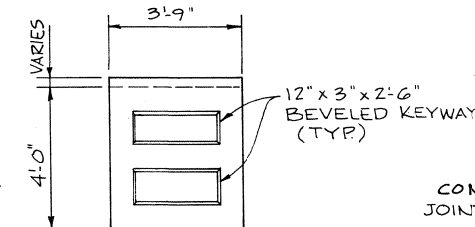
SECTION A-A
PIER NO. 1



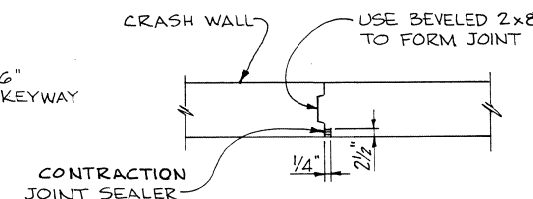
SECTION A-A
PIER NO. 2

NOTE:

CONTRACTOR HAS THE OPTION TO SPLICE BARS OVER 40'-0" LONG. SPLICE LOCATIONS ARE TO BE APPROVED BY THE ENGINEER. PAYMENT FOR REINFORCING BARS SHALL BE BASED ON NO SPLICES AND NO ALLOWANCE SHALL BE MADE FOR THE ADDITIONAL LENGTH OF BAR REQUIRED FOR THE USE OF SPLICES.



PIER CAP CONSTRUCTION
JOINT DETAIL
(REBARS NOT SHOWN FOR CLARITY)



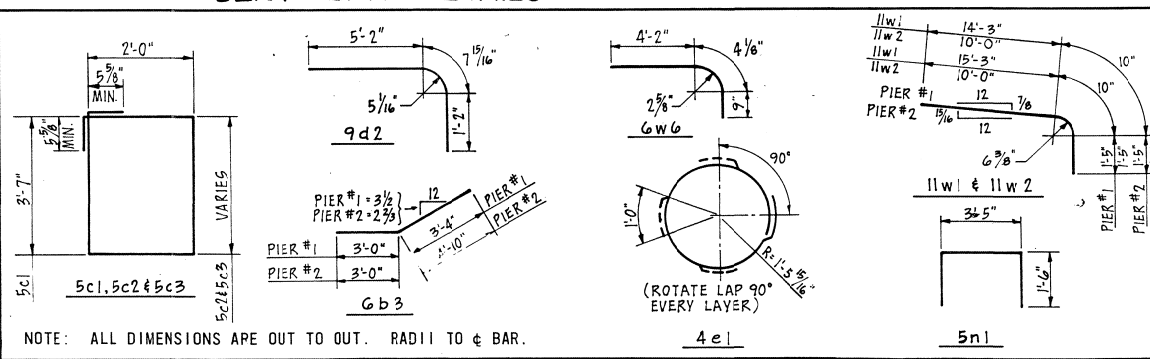
SECTION B-B
CRASH WALL CONSTRUCTION
JOINT DETAIL
(REBARS NOT SHOWN FOR CLARITY)

REINFORCING BAR LIST - PIER NO. 1				
BAR	LOCATION	SHAPE	NO.	LENGTH
11a1	CAP, LONGITUDINAL, TOP	—	14	41'-8"
11a2	CAP, LONGITUDINAL, TOP	—	7	32'-0"
10a3	CAP, LONGITUDINAL, TOP	—	22	11'-10"
6a4	CAP, LONGITUDINAL, SIDES	—	8	54'-4"
10b1	CAP, LONGITUDINAL, BOTTOM	—	12	50'-9"
10b2	CAP, LONGITUDINAL, BOTTOM	—	18	13'-4"
6b3	CAP, LONGIT., CANTILEVER	—	8	6'-4"
5c1	CAP HOOPS	□	166	11'-7"
5c2	CAP HOOPS, LEFT CANTILEVER	□	16	VARIES
5c3	CAP HOOPS, RT. CANTILEVER	□	12	VARIES
9d1	COLUMN, VERTICAL	—	80	24'-0"
9d2	COLUMN TO FOOTING DOWELS	—	80	7'-0"
4e1	COLUMN HOOPS	○	105	10'-5"
11f1	FOOTING, LONGITUDINAL	—	80	14'-6"
11f2	FOOTING, TRANSVERSE	—	90	12'-8"
5m1	PIER STEPS, LONGITUDINAL	—	32	3'-8"
5n1	PIER STEPS, TRANSVERSE	—	32	6'-4"
11w1	CRASH WALL, VERT., FRONT	—	90	17'-6"
11w2	CRASH WALL, VERT., FRONT	—	40	12'-3"
11w3	CRASH WALL, VERT., FRONT	—	44	13'-2"
7w4	CRASH WALL, HORIZ., BACK	—	28	55'-9"
6w5	CRASH WALL, VERT., BACK	—	109	13'-2"
6w6	CRASH WALL, DOWEL, BACK	—	109	5'-4"
6w7	CRASH WALL, HORIZ., FRONT	—	28	55'-7"
65 TOTAL (LBS.)				56,445

REINFORCING BAR LIST - PIER NO. 2				
BAR	LOCATION	SHAPE	NO.	LENGTH
11a1	CAP, LONGITUDINAL, TOP	—	14	45'-0"
11a2	CAP, LONGITUDINAL, TOP	—	7	33'-7"
11a3	CAP, LONGITUDINAL, TOP	—	35	14'-0"
6a4	CAP, LONGITUDINAL, SIDES	—	8	58'-8"
11b1	CAP, LONGITUDINAL, BOTTOM	—	14	54'-2"
11b2	CAP, LONGITUDINAL, BOTTOM	—	21	14'-0"
6b3	CAP, LONGIT., CANTILEVER	—	8	7'-10"
5c1	CAP HOOPS	□	174	11'-7"
5c2	CAP HOOPS, CANTILEVERS	□	40	VARIES
9d1	COLUMN, VERTICAL	—	80	22'-5"
9d2	COLUMN TO FOOTING DOWELS	—	80	7'-0"
4e1	COLUMN HOOPS	○	100	10'-5"
10f1	FOOTING, LONGITUDINAL	—	80	14'-6"
9f2	FOOTING, TRANSVERSE	—	75	10'-2"
5m1	PIER STEPS, LONGITUDINAL	—	32	3'-8"
5n1	PIER STEPS, TRANSVERSE	—	32	6'-4"
11w1	CRASH WALL, VERT., FRONT	—	70	16'-6"
11w2	CRASH WALL, VERT., FRONT	—	35	12'-3"
11w3	CRASH WALL, VERT., FRONT	—	60	12'-2"
7w4	CRASH WALL, HORIZ., BACK	—	26	58'-0"
6w5	CRASH WALL, VERT., BACK	—	115	12'-2"
6w6	CRASH WALL, DOWEL, BACK	—	115	5'-4"
6w7	CRASH WALL, HORIZ., FRONT	—	26	57'-10"
55 TOTAL (LBS.)				56,093

CONCRETE PLACEMENT QUANTITIES			
LOCATION	PIER NO. 1	PIER NO. 2	TOTAL
PIER CAP	65.1	71.2	136.3
COLUMN NO. 1	7.5	6.94	14.44
COLUMN NO. 2	7.5	6.94	14.44
COLUMN NO. 3	7.5	6.94	14.44
COLUMN NO. 4	7.5	6.94	14.44
COLUMN NO. 5	7.5	6.94	14.44
PIER FOOTINGS	132.0	106.4	238.4
CRASH WALL	109.4	105.1	214.5
TOTAL (C.Y.)	344.0	317.4	661.4
FINAL TOTAL ESTIMATED QUANTITIES 52,948			
ITEM	UNIT	PIER NO. 1	PIER NO. 2
STRUCTURAL CONCRETE CLASS "C"	C.Y.	344.0	317.4
REINFORCING STEEL	LBS.	56,445	56,093
CREOSOTED PILING	L.F.	2,875	2,500
CLASS 20 EXCAVATION	C.Y.	401	273

BENT BAR DETAILS



NOTE: ALL DIMENSIONS ARE OUT TO OUT. RADII TO BAR.

PIER NOTES:

MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN.
ALL EXPOSED CORNERS 90° OR SHARPER ARE TO BE FILLETED WITH A 3/4" RADIUS AND BEVELED STRIP.
REINFORCING STEEL IS TO BE SECURELY WIRED IN PLACE BEFORE CONCRETE IS POURED.
PILES ARE TO BE DRIVEN TO FULL PENETRATION IF PRACTICABLE, BUT NOT LESS THAN 20 TONS BEARING VALUE PER PILE.
ANCHOR BOLTS ARE TO BE PRESET IN PIER CAP IN ACCORDANCE WITH STANDARD SPECIFICATIONS. WEIGHT OF ANCHOR BOLTS IS INCLUDED IN STRUCTURAL STEEL QUANTITIES. REINFORCING BARS ARE TO BE SHIFED SLIGHTLY TO CLEAR ANCHOR BOLTS.

Revised 03-06-81: Re-bar number and weight changed for Pier No. 1 and Pier No. 2.

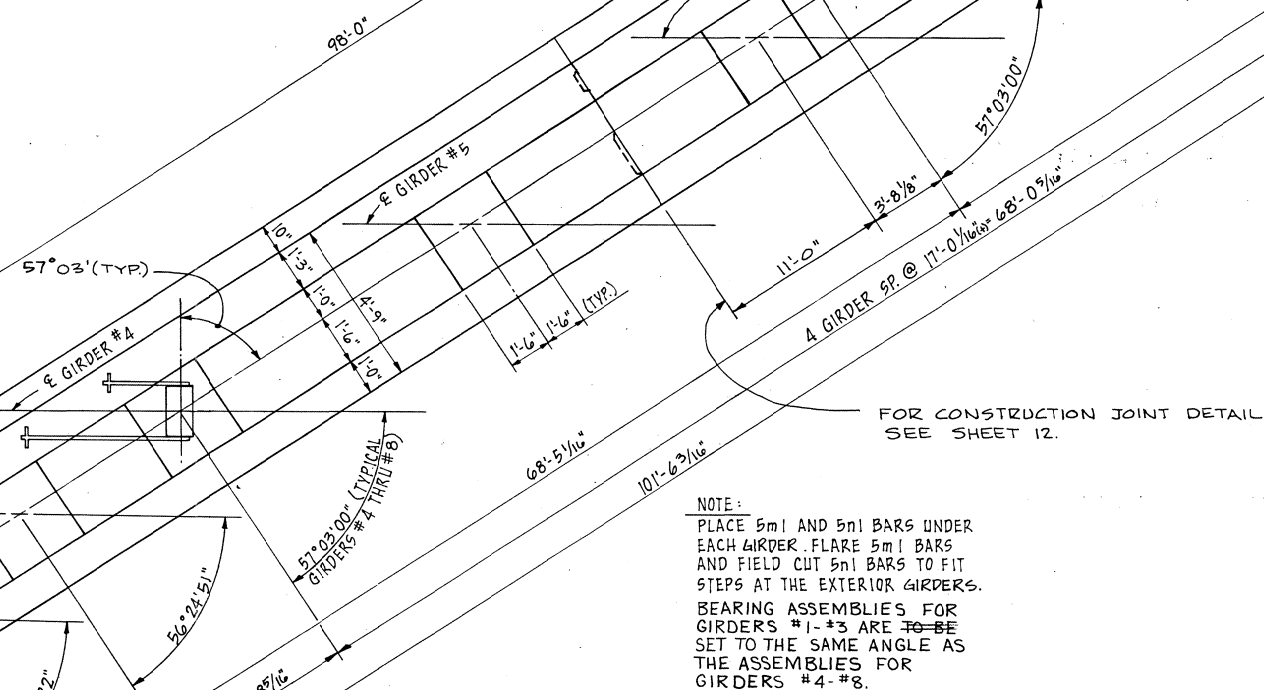
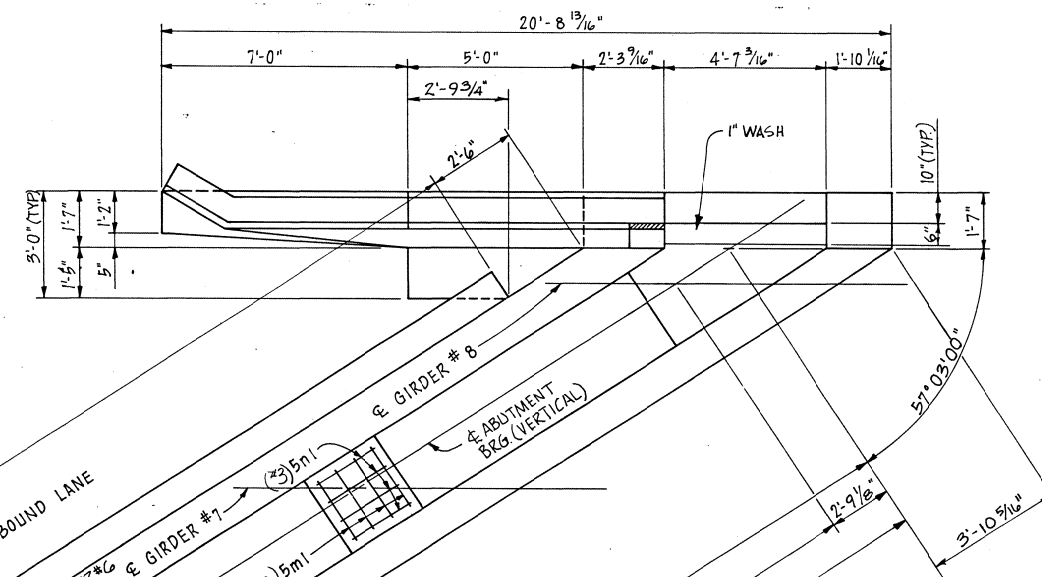
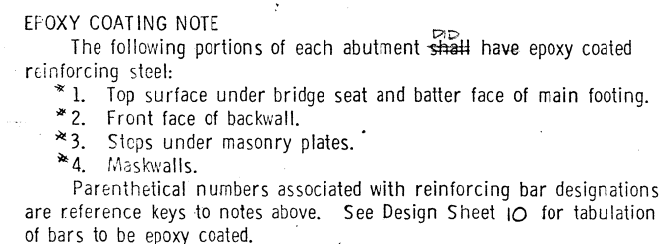
DESIGN FOR 57°03'00" SKEW
336'-0" X VARI. CONTINUOUS
WELDED PLATE GIRDER BRIDGE
102'-6" END SPANS 131'-0" INTERIOR SPAN

PIER DETAILS
STATION: 461+52.79 (N.B. LANE, U.S. NO. 561) NOV. 1978
SCOTT COUNTY
IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION
DESIGN SHEET NO. 7 OF 29 FILE NO. 25588 DESIGN NO. 880

SCOTT COUNTY

PROJECT NUMBER

STATE	FED. ROAD DIST. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	5		10	125



PLAN VIEW

EPOXY COATING NOTE

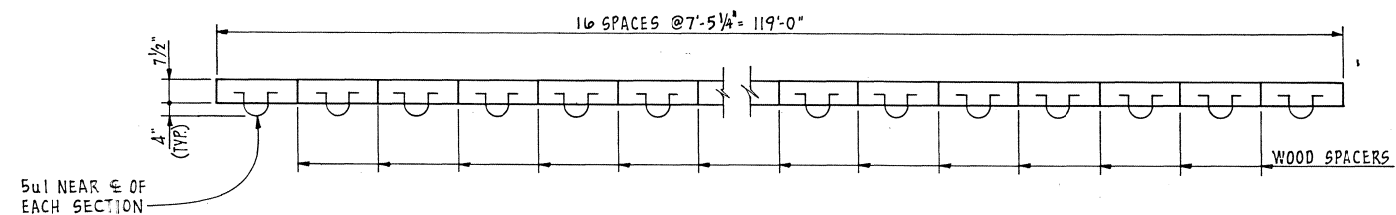
The following portions of each abutment shall have epoxy coated reinforcing steel:

- * 1. Top surface under bridge seat and batter face of main footing.
- * 2. Front face of backwall.
- * 3. Steps under masonry plates.
- * 4. Maskwalls.

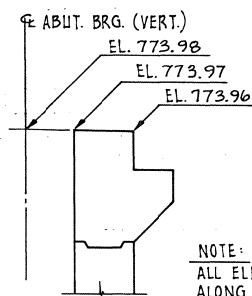
Parenthetical numbers associated with reinforcing bar designations are reference keys to notes above. See Design Sheet 10 for tabulation of bars to be epoxy coated.

DESIGN FOR 57'03".00" SKEW
336'-0" X VARI. CONTINUOUS
WELDED PLATE GIRDER BRIDGE
102'-6" END SPANS 131'-0" INTERIOR SPAN
SOUTH ABUTMENT
STATION: 461+52.79(± N.B. LANE, U.S. NO. 561) NOV. 1978
SCOTT COUNTY
IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION
DESIGN SHEET NO. 8 OF 29 FILE NO. 25588 DESIGN NO. 880

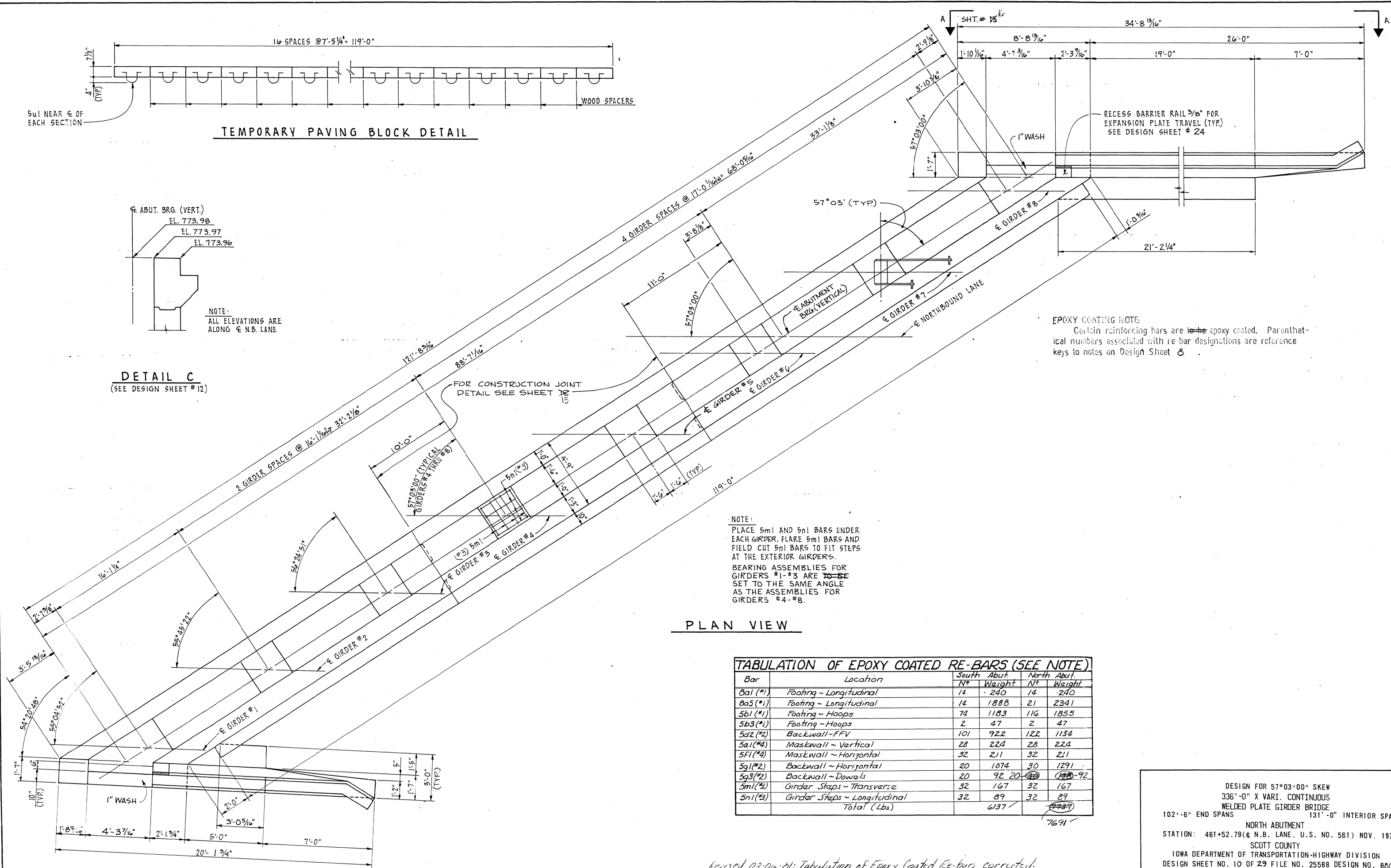
PROJECT NUMBER	STATE	FED. ROAD DIST. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	IOWA	5		12	125



TEMPORARY PAVING BLOCK DETAIL



DETAIL C
(SEE DESIGN SHEET #12)



EPOXY COATING NOTE:
Certain reinforcing bars are to be epoxy coated. Parenthetical numbers associated with re-bar designations are reference keys to notes on Design Sheet 8.

NOTE:
PLACE 5ml AND 5n1 BARS UNDER EACH GIRDER. FLARE 5ml BARS AND FIELD CUT 5n1 BARS TO FIT STEPS AT THE EXTERIOR GIRDERS.
BEARING ASSEMBLIES FOR GIRDERS #1-#3 ARE TO BE SET TO THE SAME ANGLE AS THE ASSEMBLIES FOR GIRDERS #4-#8.

PLAN VIEW

TABULATION OF EPOXY COATED RE-BARS (SEE NOTE)					
Bar	Location	South Abut.	North Abut.		
N ^o		Weight	N ^o	Weight	
8a1 (#1)	Footing ~ Longitudinal	14	240	14	240
8a5 (#1)	Footing ~ Longitudinal	14	1888	21	2341
5b1 (#1)	Footing ~ Hoops	74	1183	116	1855
5b3 (#1)	Footing ~ Hoops	2	47	2	47
5d2 (#2)	Backwall ~ FFV	101	922	122	1134
5e1 (#2)	Backwall ~ Vertical	28	224	28	224
5f1 (#2)	Backwall ~ Horizontal	32	211	32	211
5g1 (#2)	Backwall ~ Horizontal	20	1074	30	1291
5g3 (#2)	Backwall ~ Dowels	20	92	20	188
5ml (#2)	Girder Steps ~ Transverse	32	167	32	167
5n1 (#2)	Girder Steps ~ Longitudinal	32	89	32	89
	Total (Lbs)		6137		7691

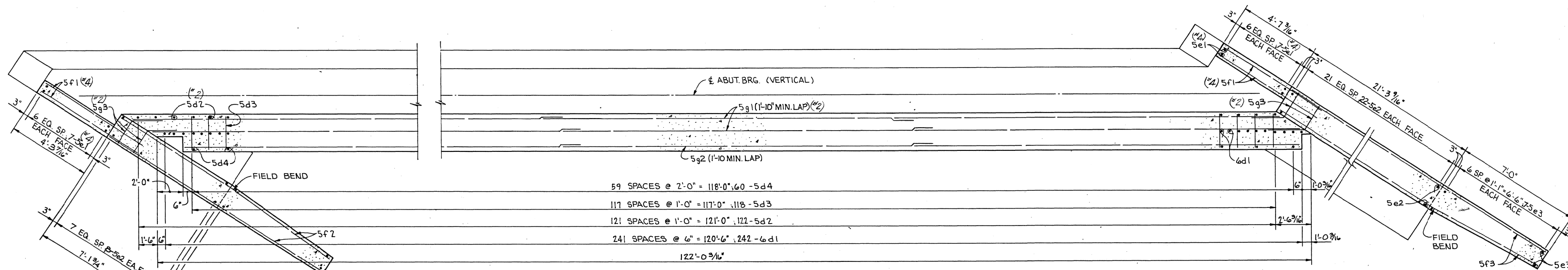
DESIGN FOR 57°03'00" SKEW
336'-0" X VARI. CONTINUOUS
WELDED PLATE GIRDER BRIDGE
102'-6" END SPANS 131'-0" INTERIOR SPAN
NORTH ABUTMENT
STATION: 461+52.79 (± N.B. LANE, U.S. NO. 561) NOV. 1978
SCOTT COUNTY
IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION
DESIGN SHEET NO. 10 OF 29 FILE NO. 25588 DESIGN NO. 880

Revised 03-06-81: Tabulation of Epoxy Coated Re-bars corrected.

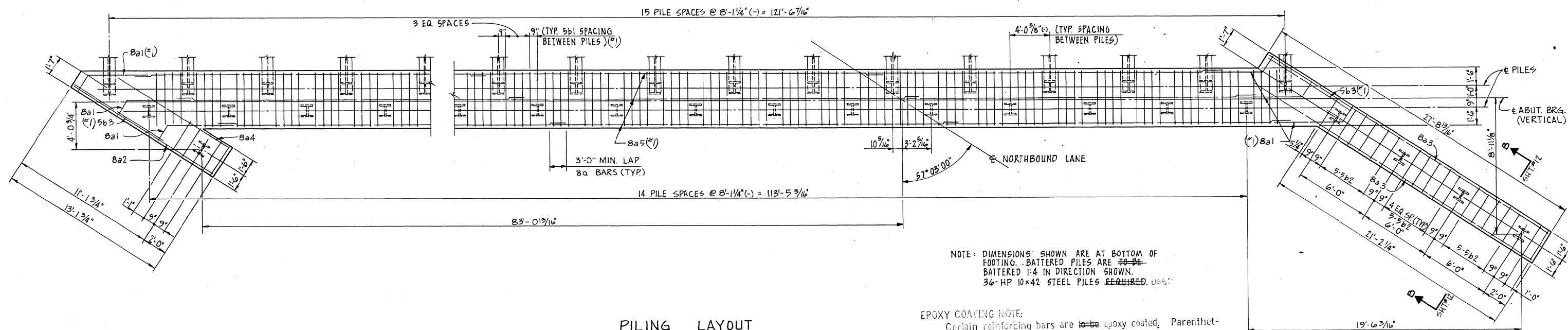
SCOTT COUNTY

PROJECT NUMBER

STATE	FED. ROAD DIST. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	5		13	125



SECTION THRU BACKWALL AND WINGS



PILING LAYOUT

NOTE: DIMENSIONS SHOWN ARE AT BOTTOM OF FOOTING. BATTERED PILES ARE TO BE BATTERED 1:4 IN DIRECTION SHOWN. 36" HP 10x42 STEEL PILES REQUIRED, USED

EPOXY COATING NOTE:

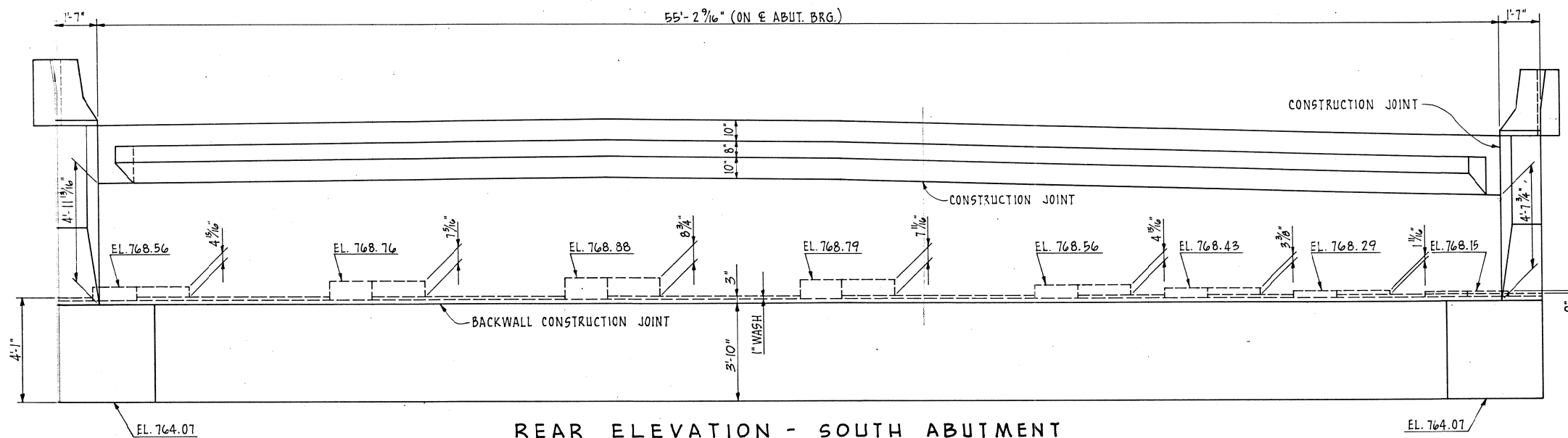
Certain reinforcing bars are to be epoxy coated. Parenthetical numbers associated with re-bar designations are reference keys to notes on Design Sheet 8.

DESIGN FOR 57°03'00" SKEW
336'-0" X VARI. CONTINUOUS
WELDED PLATE GIRDER BRIDGE
102'-6" END SPANS 131'-0" INTERIOR SPAN
NORTH ABUTMENT
STATION: 461+52.79 (N.B. LANE, U.S. NO. 561) NOV. 1978
SCOTT COUNTY
IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION
DESIGN SHEET NO. 11 OF 29 FILE NO. 25588 DESIGN NO. 880

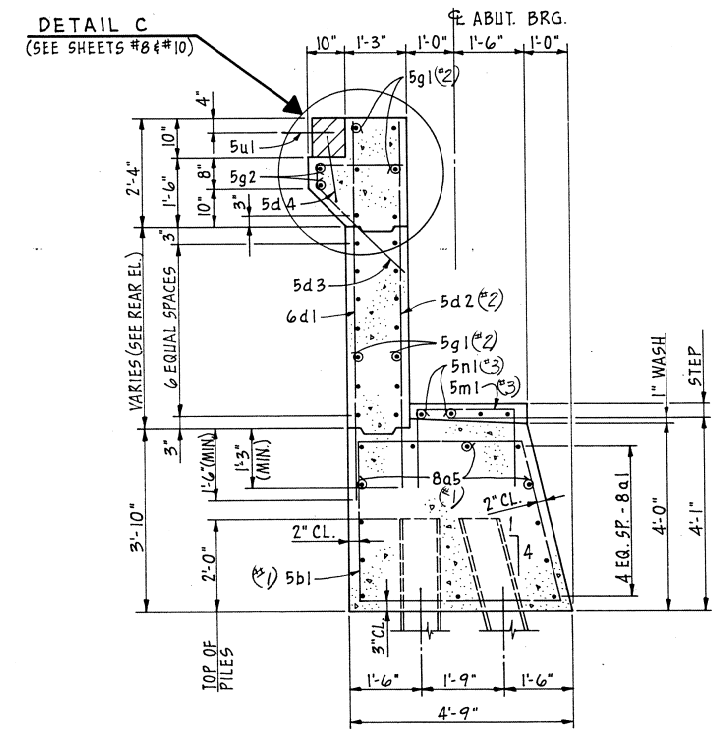
SCOTT COUNTY

PROJECT NUMBER

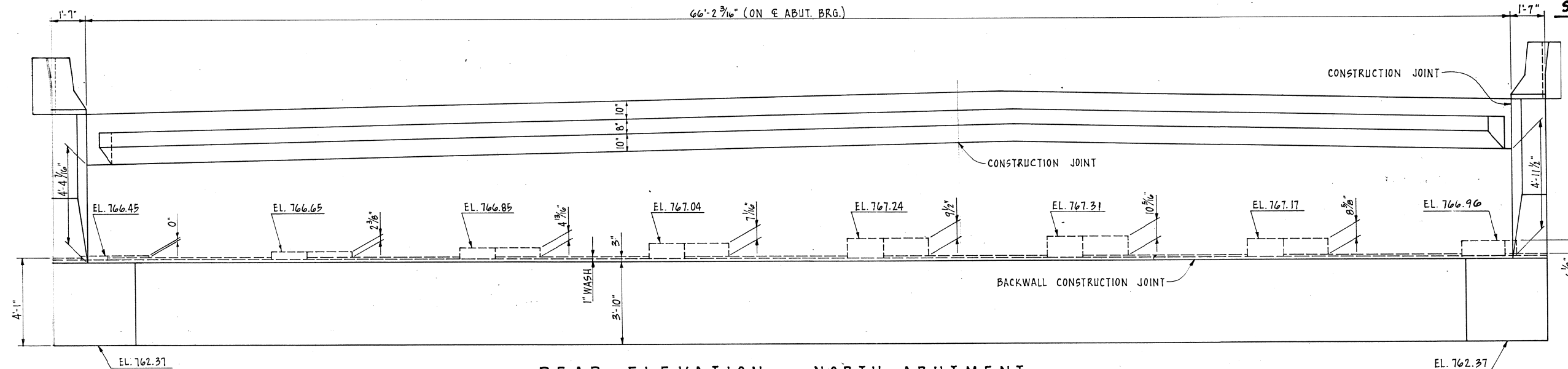
STATE	FED. ROAD DIST. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	5		14	125



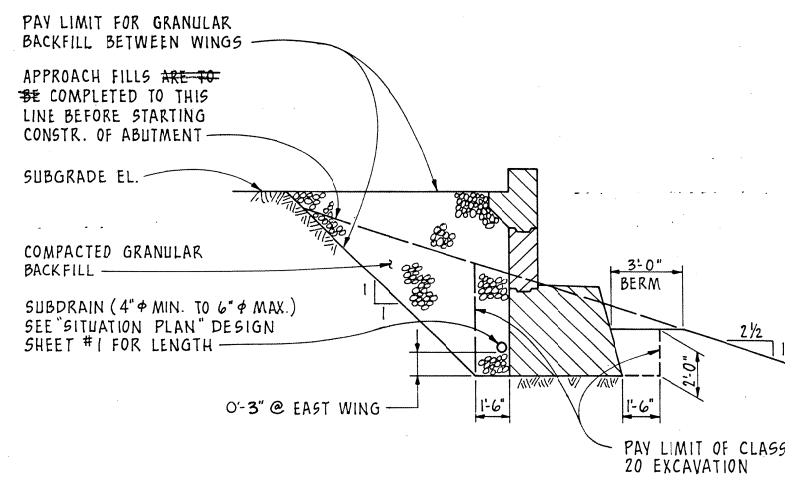
REAR ELEVATION - SOUTH ABUTMENT



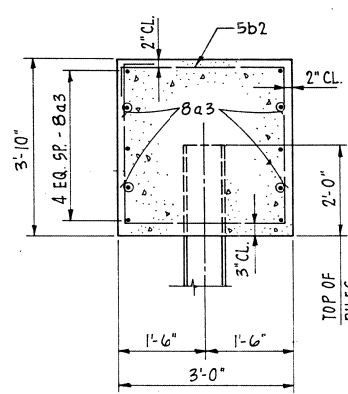
SECTION THRU ABUTMENT



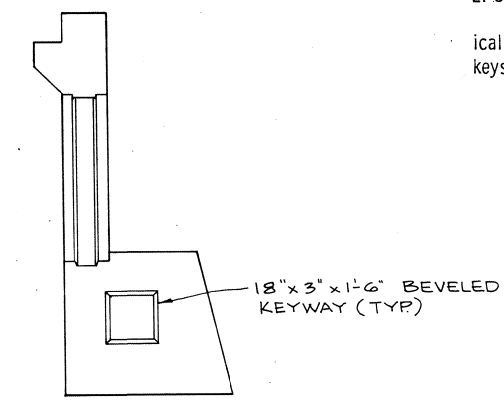
REAR ELEVATION - NORTH ABUTMENT



BACKFILL DETAIL



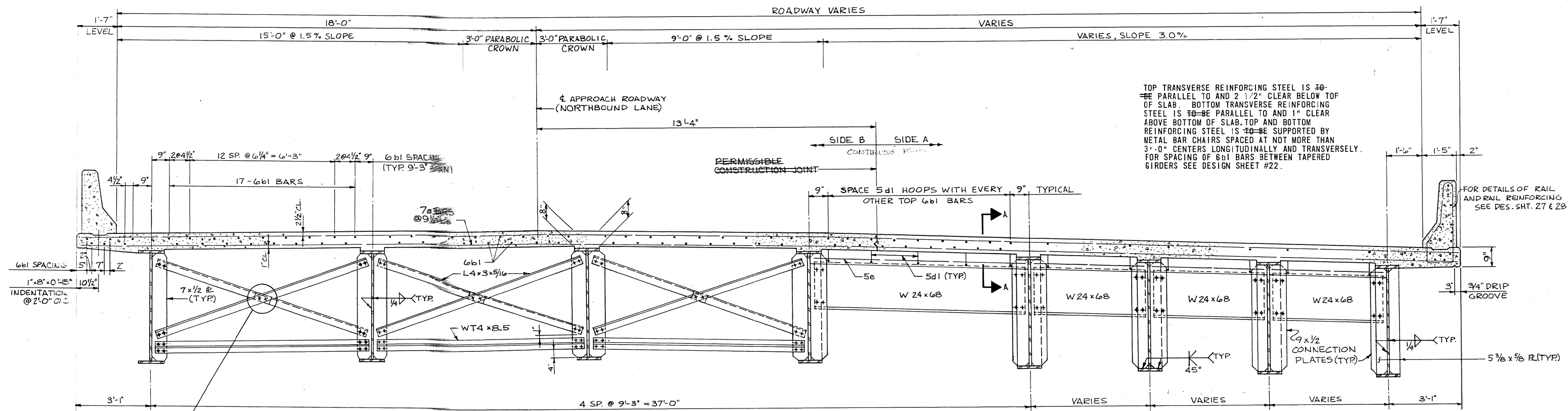
SECTION B-B
(SEE DESIGN SHEET #9 AND #11)



ABUTMENT CONSTRUCTION JOINT DETAIL
(REBARS NOT SHOWN FOR CLARITY)
(SEE SHEETS 8 & 10 FOR LOCATION)

EPOXY COATING NOTE:
Certain reinforcing bars are to be epoxy coated. Parenthetical numbers associated with re-bar designations are reference keys to notes on Design Sheet 8.

DESIGN FOR 57°03'00" SKEW
336'-0" X VARI. CONTINUOUS
WELDED PLATE GIRDER BRIDGE
102 -8 END SPANS 131 -0 INTERIOR SPAN
ABUTMENT DETAILS
STATION: 461+52.79(± N:B: LANE; U:S: NO: 561) NOV. 1978
SCOTT COUNTY
IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION
DESIGN SHEET NO. 12 OF 29 FILE NO. 2558 DESIGN NO. 880



TOP TRANSVERSE REINFORCING STEEL IS TO BE PARALLEL TO AND 2 1/2" CLEAR BELOW TOP OF SLAB. BOTTOM TRANSVERSE REINFORCING STEEL IS TO BE PARALLEL TO AND 1" CLEAR ABOVE BOTTOM OF SLAB. TOP AND BOTTOM REINFORCING STEEL IS TO BE SUPPORTED BY METAL BAR CHAIRS SPACED AT NOT MORE THAN 3'-0" CENTERS LONGITUDINALLY AND TRANSVERSELY. FOR SPACING OF 6b1 BARS BETWEEN TAPERED GIRDERS SEE DESIGN SHEET #22.

FOR DETAILS OF RAIL AND RAIL REINFORCING SEE DES. SHT. 27 & 28

PART INTERMEDIATE SECTION

PART SECTION NEAR ABUTMENT

SUPERSTRUCTURE NOTES:

THIS BRIDGE IS DESIGNED FOR HS20-44 LOADING, PLUS 20 LB. PER SQUARE FOOT OF ROADWAY FOR FUTURE WEARING SURFACE.

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

THE FLOOR SLAB AS SHOWN INCLUDES 1/2" OF WEARING SURFACE.

ALL FIELD CONNECTIONS ARE TO BE BOLTED USING "HIGH TENSILE STRENGTH BOLTS" UNLESS OTHERWISE NOTED. ALL OPEN HOLES ARE TO BE 15/16" Ø AND ALL BOLTS ARE TO BE 7/8" Ø.

BOTTOM FLANGES ARE TO BE PERPENDICULAR TO WEBS AT THE REACTION POINTS.

ALL PAINT IS TO BE OMITTED ON TOPS OF TOP FLANGES AND ON OTHER STEEL SURFACES IN CONTACT WITH CONCRETE. PARTS INACCESSIBLE AFTER ERECTION ARE TO BE GIVEN THE FULL PAINT SYSTEM IN THE SHOP.

FORMS FOR THE SLAB AND BARRIER RAIL ARE TO BE SUPPORTED BY THE GIRDERS.

FILL THICKNESS SHOWN ON PLANS ARE BASED ON NOMINAL BEAM OR GIRDER DIMENSIONS. THESE THICKNESSES ARE TO BE VERIFIED OR ADJUSTED DURING FABRICATION TO SECURE A CLOSE FIT. EACH FILL PLATE SHALL FIT TO THE NEAREST 1/16" IN THICKNESS AND SINGLE PLATES ARE REQUIRED AT ANY FILL LOCATION. BEAMS OR GIRDERS ARE TO BE TRULY SQUARE AT SPLICE POINTS WITH FLANGES PERPENDICULAR TO WEBS.

THE DESIGN DRAWINGS INDICATE AWS PREQUALIFIED WELDED JOINTS, AND UNLESS OTHERWISE NOTED THE DESIGN JOINT DETAILS ARE FOR MANUAL SHIELDED METAL-ARC WELDING. ALTERNATE JOINT DETAILS MAY BE SUBMITTED FOR APPROVAL.

MAGNETIC PARTICLE INSPECTION OF WELDS, IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, SHALL BE REQUIRED FOR THE WEB TO FLANGE WELDS AND THE BEARING STIFFENER WELDS OF THE GIRDERS.

STUD SHEAR CONNECTORS ARE TO BE WELDED IN THE SHOP OR IN THE FIELD AT THE LOCATIONS SHOWN ON THE DESIGN PLANS OR THE APPROVED SHOP DRAWINGS.

FAYING SURFACES AT DIAPHRAGM CONNECTIONS ARE TO BE GIVEN THE SHOP COAT OF PAINT.

THE SLAB TRANSVERSE AND LONGITUDINAL REINFORCING, 7a AND 6b BARS, ARE TO BE GRADE 60 REINFORCING. ALL OTHER REINFORCING MAY BE GRADE 40.

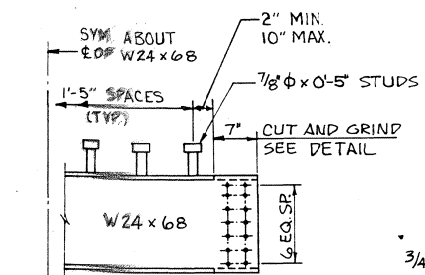
THE TOP LAYER OF SLAB TRANSVERSE AND LONGITUDINAL REINFORCING, 7a AND 6b BARS ARE TO BE EPOXY-COATED. THE EPOXY COATING SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS OF THE IOWA D.O.T.-SERIES OF 1977.

TRANSVERSE SLAB REINFORCING MAY BE SPLICED WITH ONE LAP LOCATED AS FOLLOWS:

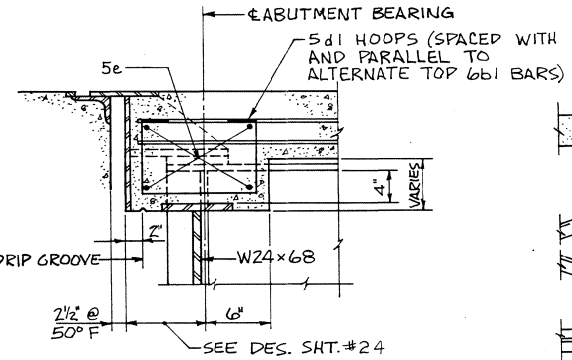
TOP BARS - LAP MIDWAY BETWEEN GIRDERS.

BOTTOM BARS - LAP OVER GIRDERS.

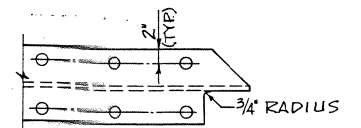
PAYMENT FOR REINFORCING BARS SHALL BE BASED ON NO SPLICES, AND NO ALLOWANCE SHALL BE MADE FOR THE ADDITIONAL LENGTH OF BAR REQUIRED FOR THE USE OF SPLICES.



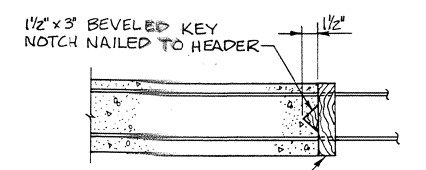
ABUTMENT DIAPHRAGM CONNECTION



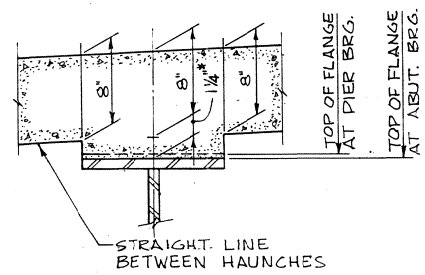
SECTION A-A
TRANSVERSE REINFORCING NOT SHOWN



TYPICAL CUT AND GRIND DETAIL

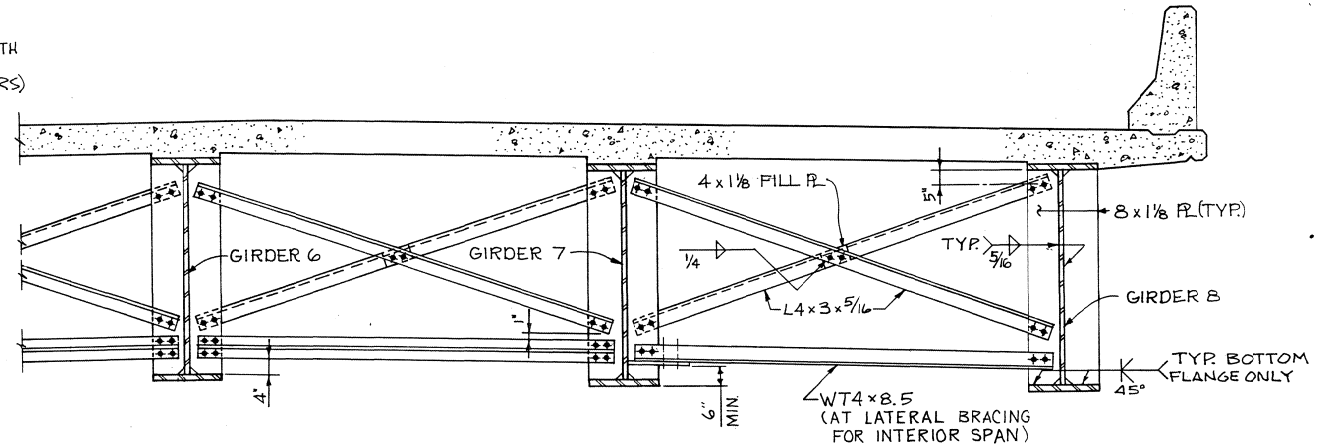


LONGITUDINAL AND TRANSVERSE CONSTRUCTION JOINT DETAIL



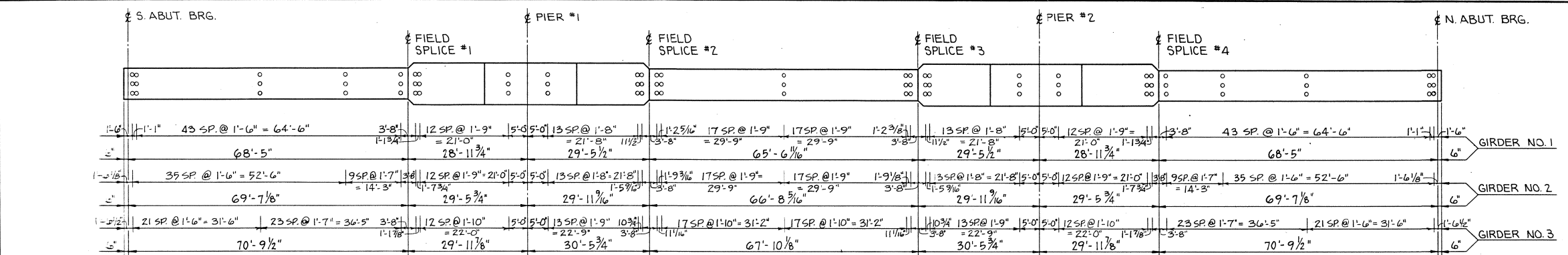
TYPICAL SLAB AND HAUNCH DETAIL

* THE HAUNCH DIMENSION SHOWN IS THE NOMINAL HAUNCH DIMENSION NEAR THE ABUTMENT BEARINGS. FOR THE SLAB THICKNESS OVER THE BEAM AT ANY LOCATION THE NOMINAL HAUNCH DIMENSION IS TO BE DECREASED BY THE ADDITIONAL FLANGE THICKNESS AT THAT POINT AND INCREASED BY THE AMOUNT INDICATED ON THE "HAUNCH THICKENING DIAGRAM" SHOWN ON SHEET 18, AND MAY BE INCREASED OR DECREASED TO COMPENSATE FOR CONSTRUCTION INACCURACIES. THE MAXIMUM HAUNCH ALLOWED IS 2 INCHES AND THE MINIMUM HAUNCH ALLOWED IS 0 INCHES.

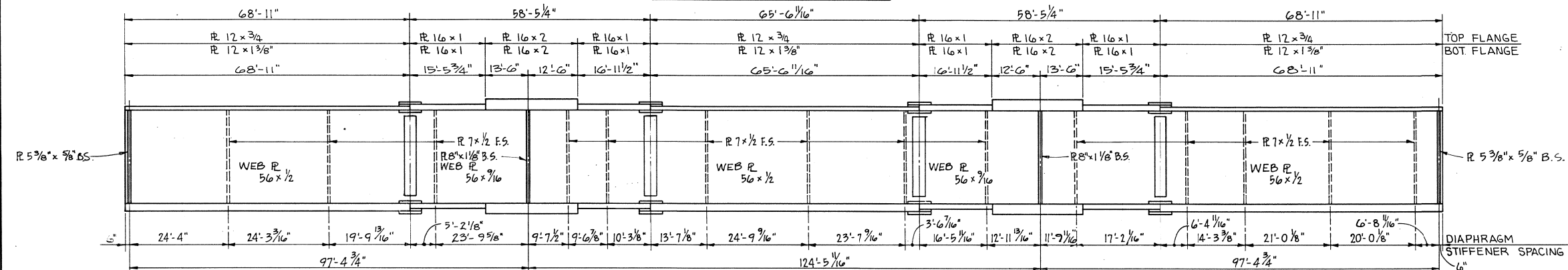


PART SECTION NEAR PIER LOOKING SOUTH

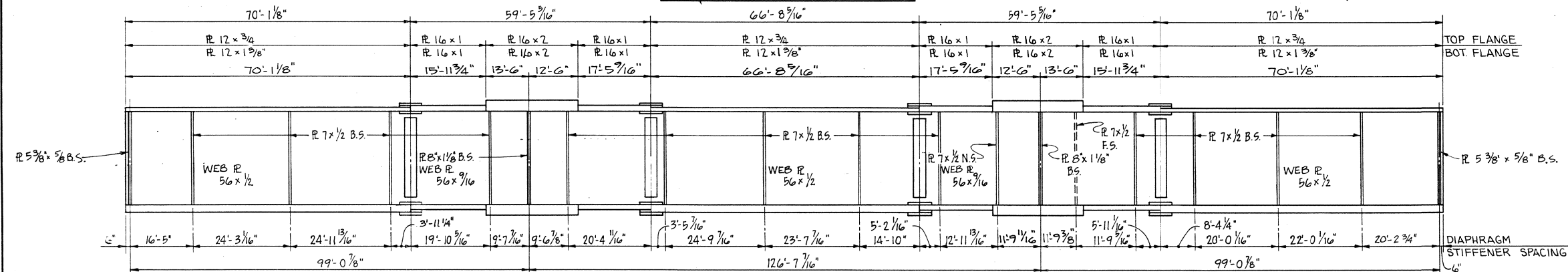
DESIGN FOR 57°03'00" SKEW
336'-0" X VARI. CONTINUOUS
WELDED PLATE GIRDER BRIDGE
102'-6" END SPANS 131'-0" INTERIOR SPAN
SUPERSTRUCTURE DETAILS
STATION: 461+52.79 (± N.B. LANE, U.S. NO. 561) NOV. 1978
SCOTT COUNTY
IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION
DESIGN SHEET NO. 14 OF 29 FILE NO. 25588 DESIGN NO. 880



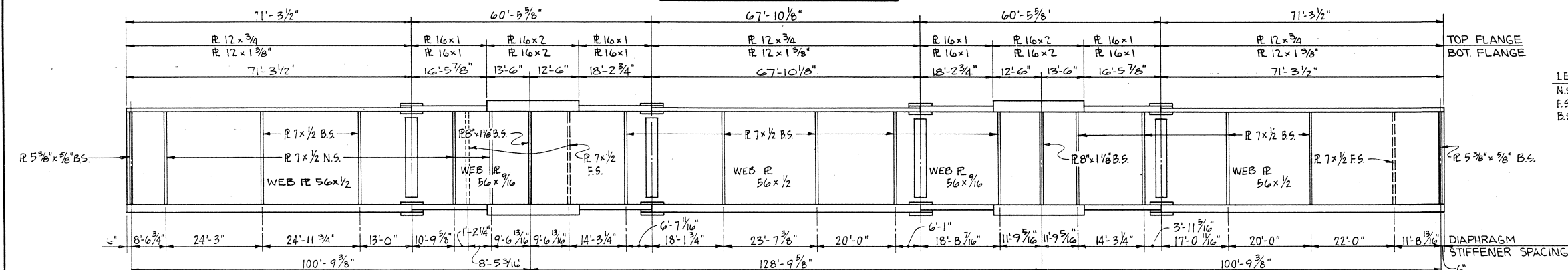
SHEAR STUD SPACING



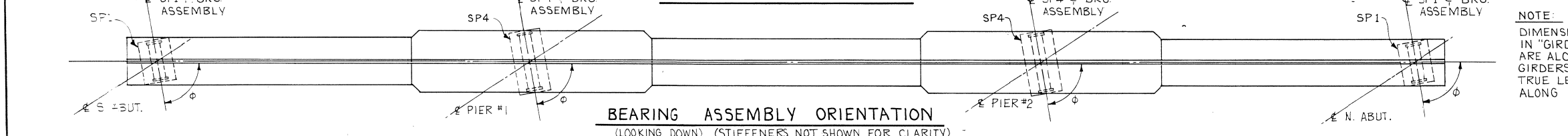
GIRDER NO. 1 DETAILS



GIRDER NO. 2 DETAILS

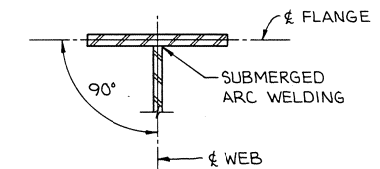


GIRDER NO. 3 DETAILS

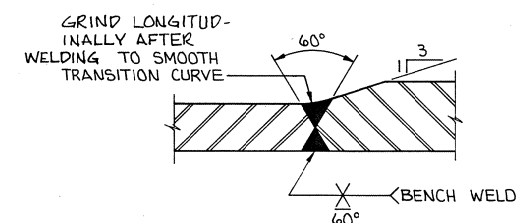


BEARING ASSEMBLY ORIENTATION
(LOOKING DOWN) (STIFFENERS NOT SHOWN FOR CLARITY)

FLANGE TO WEB WELD SIZE	
WELD SIZE	FLANGE THICKNESS
1/4	3/4"
5/16	1" & 1 1/8"
3/8	2"

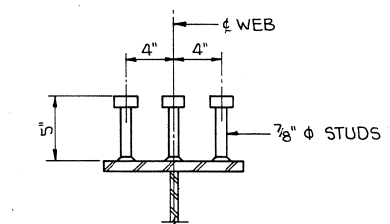


FLANGE TO WEB DETAILS



FLANGE WELDED SPLICE PLATE

NOTE: ALL FLANGE BUTT-WELDED JOINTS ARE WELDED TO BE RADIOGRAPHED FULL WIDTH.



3 STUDS PER ROW

SHEAR STUD DETAIL

LEGEND
N.S. - NEAR SIDE
F.S. - FAR SIDE
B.S. - BOTH SIDES

LOCATION	Φ
GIRDER #1	88° 01' 52"
GIRDER #2	88° 42' 22"
GIRDER #3	89° 21' 51"
GIRDERS #4, #5	90° 00' 00"

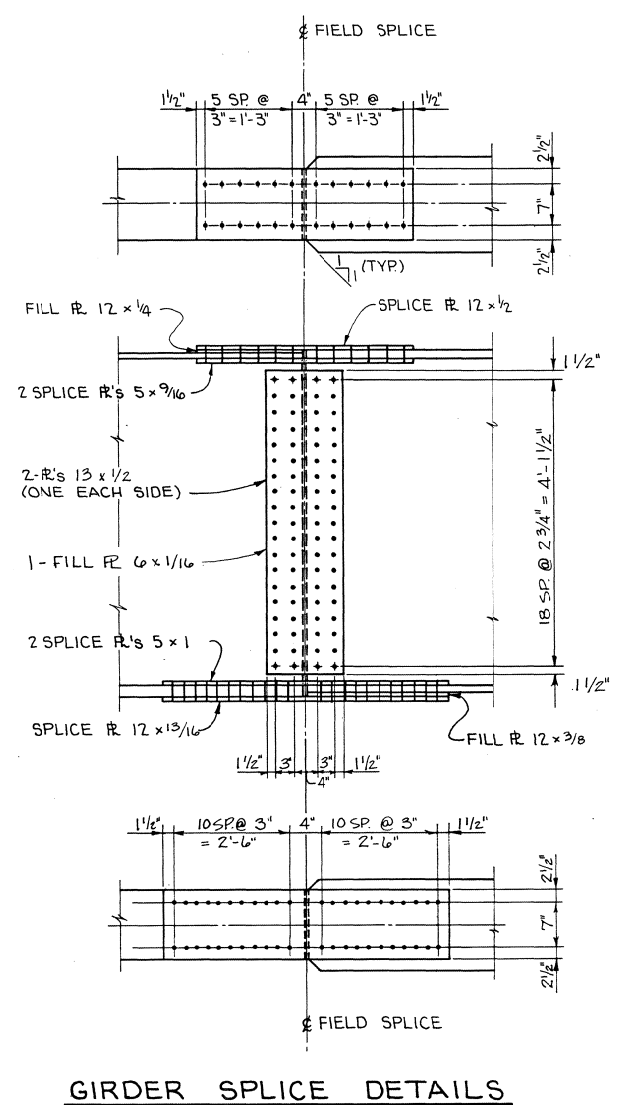
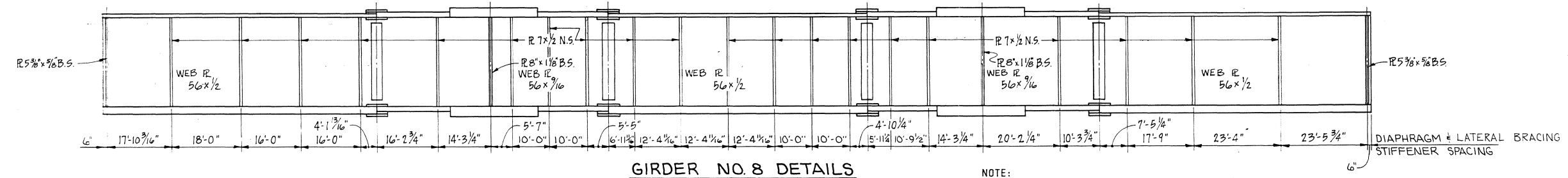
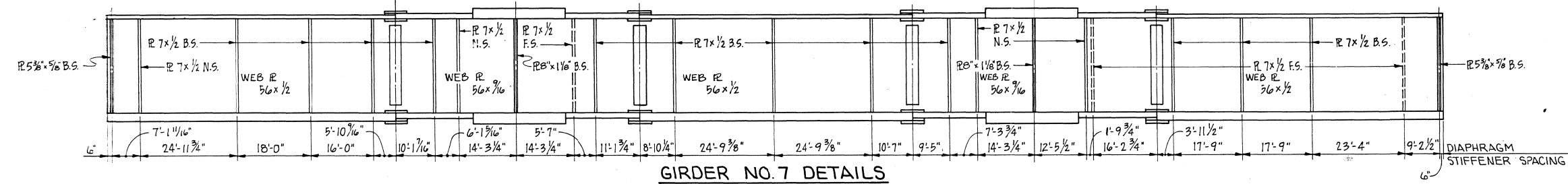
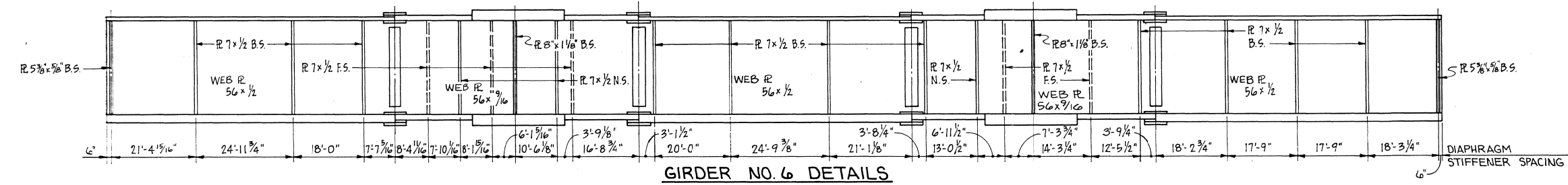
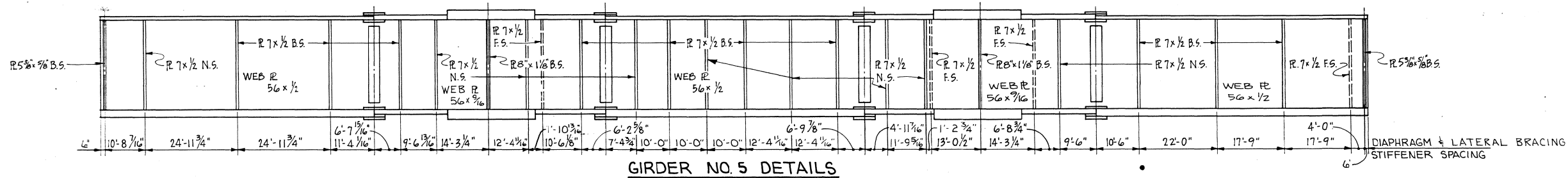
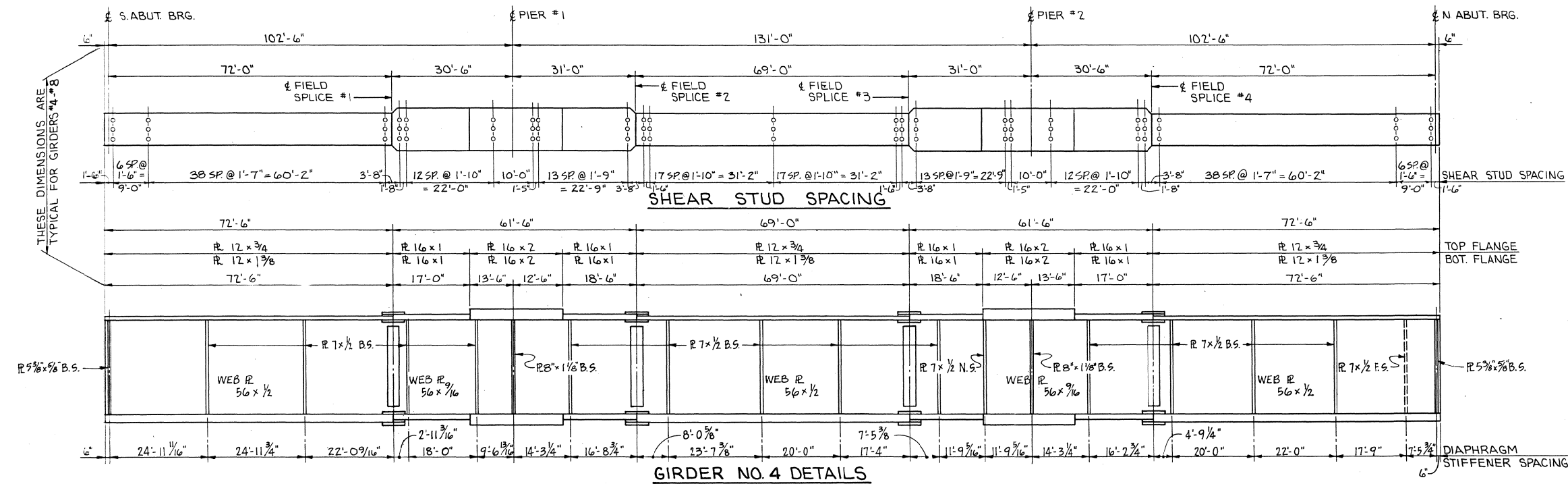
BEARING ASSEMBLY ORIENTATION ANGLES

NOTE:
DIMENSIONS SHOWN IN "GIRDER DETAILS" ARE ALONG & OF GIRDERS AND ARE TRUE LENGTHS ALONG GIRDERS

DESIGN FOR 57°03'00" SKEW
336'-0" X VARI. CONTINUOUS
WELDED PLATE GIRDER BRIDGE
102'-6" END SPANS 131'-0" INTERIOR SPAN
SUPERSTRUCTURE DETAILS
STATION: 461+52.79 (N.B. LANE, U.S. NO. 561) NOV. 1978
SCOTT COUNTY
IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION
DESIGN SHEET NO. 10 OF 29 FILE NO. 25588 DESIGN NO. 880

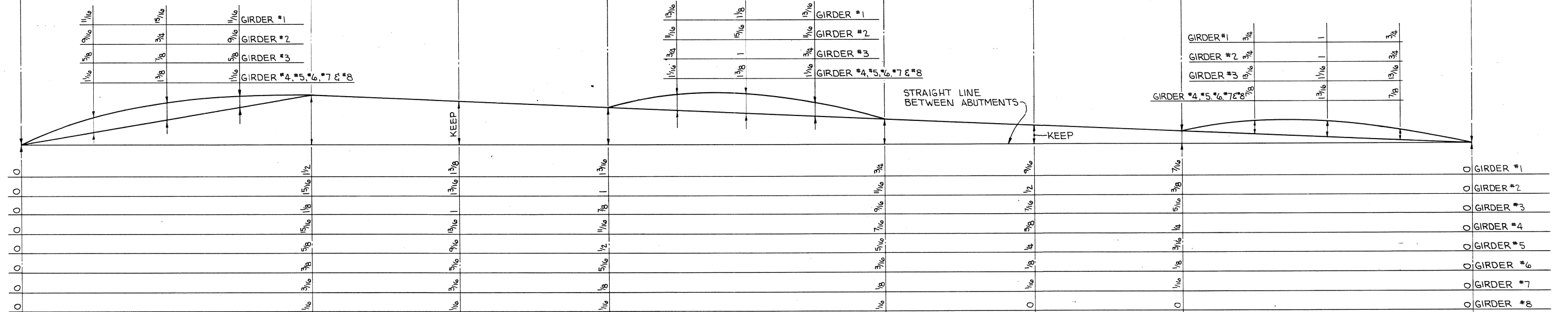
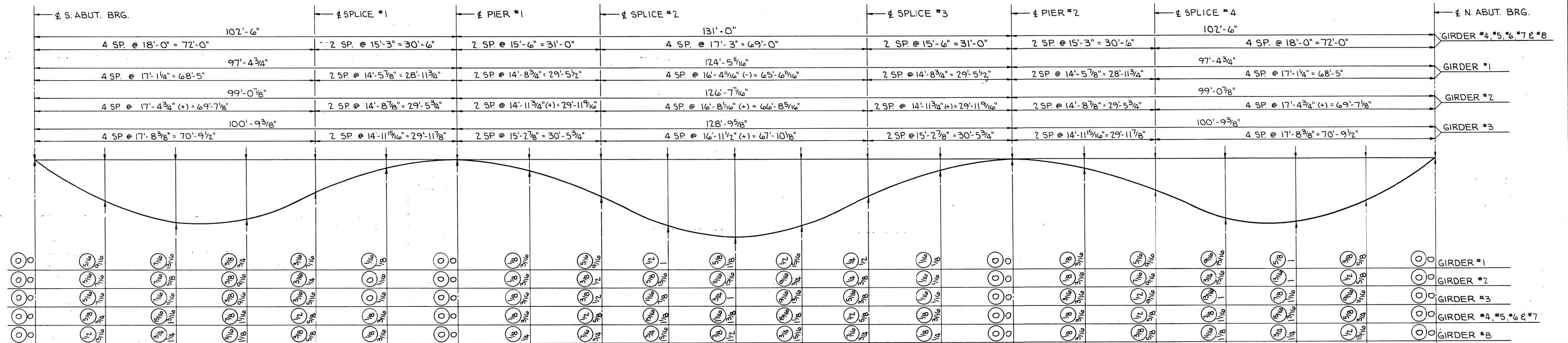
SCOTT COUNTY

STATE	FED. ROAD DIST. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	5		19	25



NOTE:
DIMENSIONS SHOWN IN "GIRDER DETAILS" ARE ALONG & OF GIRDERS
AND ARE TRUE LENGTHS ALONG GIRDERS.

DESIGN FOR 57°03'00" SKEW
336'-0" X VARI. CONTINUOUS
WELDED PLATE GIRDER BRIDGE
102'-6" END SPANS 131'-0" INTERIOR SPAN
SUPERSTRUCTURE DETAILS
STATION: 461+52.79 (€ N.B. LANE, U.S. NO. 561) NOV. 1978
SCOTT COUNTY
IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION
DESIGN SHEET NO. 17 OF 29 FILE NO. 25588 DESIGN NO. 880



HAUNCH THICKENING DIAGRAM

FOR ESTIMATING PURPOSES ONLY. MINUS VALUE INDICATES HAUNCH THINNING

DESIGN FOR 57°03'00" SKEW
 336'-0" X VARI. CONTINUOUS
 WELDED PLATE GIRDER BRIDGE
 102'-6" END SPANS 131'-0" INTERIOR SPAN
 SUPERSTRUCTURE DETAILS
 STATION: 461+52.79 (± N.B. LANE, U.S. NO. 561) NOV. 1978
 SCOTT COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION
 DESIGN SHEET NO. 18 OF 29 FILE NO. 25588 DESIGN NO. 680

SCOTT

COUNTY

PROJECT NUMBER

STATE

FED. ROAD DIST. NO.

FISCAL YEAR

SHEET NO.

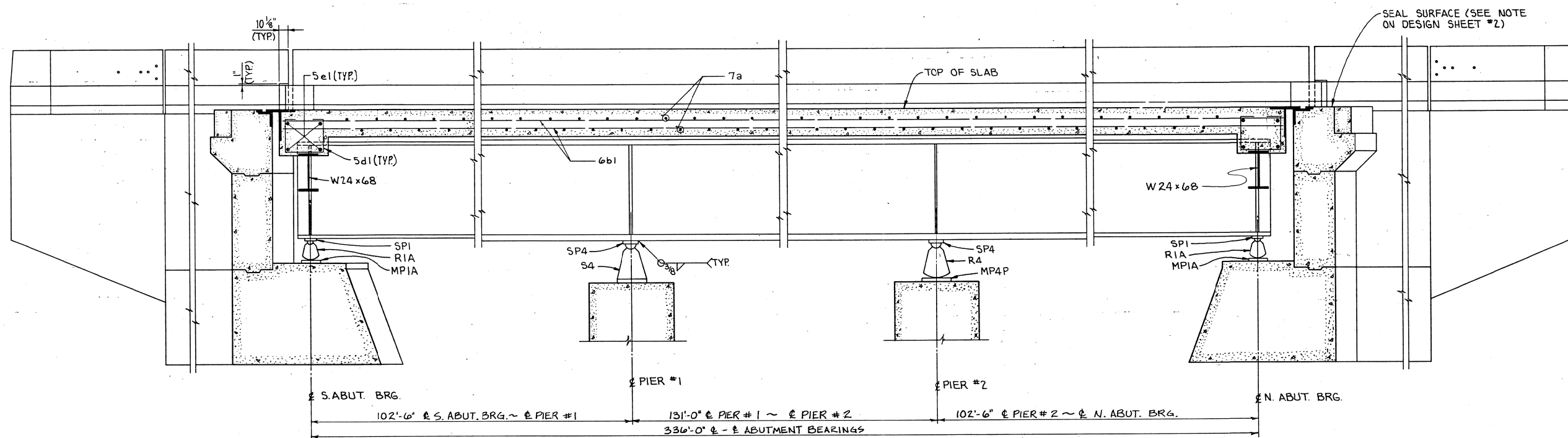
TOTAL SHEETS

IOWA

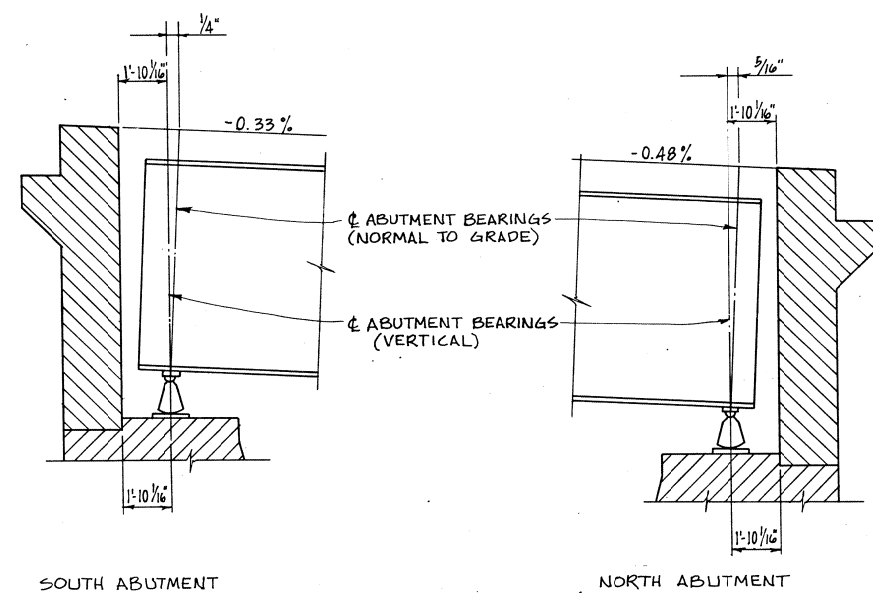
5

21

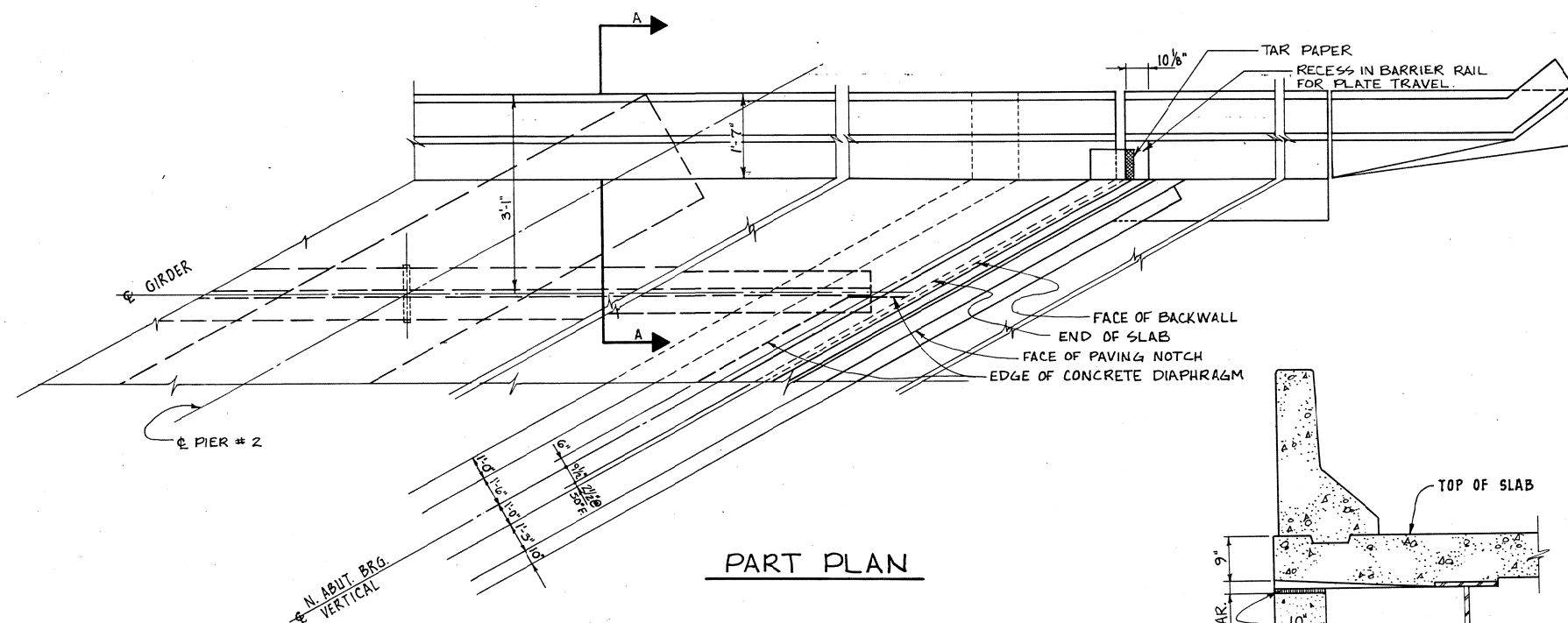
125



PART LONGITUDINAL SECTION NEAR EXTERIOR GIRDER

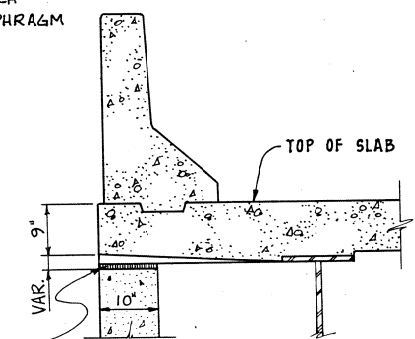


PART LONGITUDINAL SECTION
SHOWING GRADE VARIATIONS ALONG & NORTHBOUND LANE AT ABUTMENTS



PART PLAN

1/2" PREFORMED
EXPANSION
JOINT FILLER

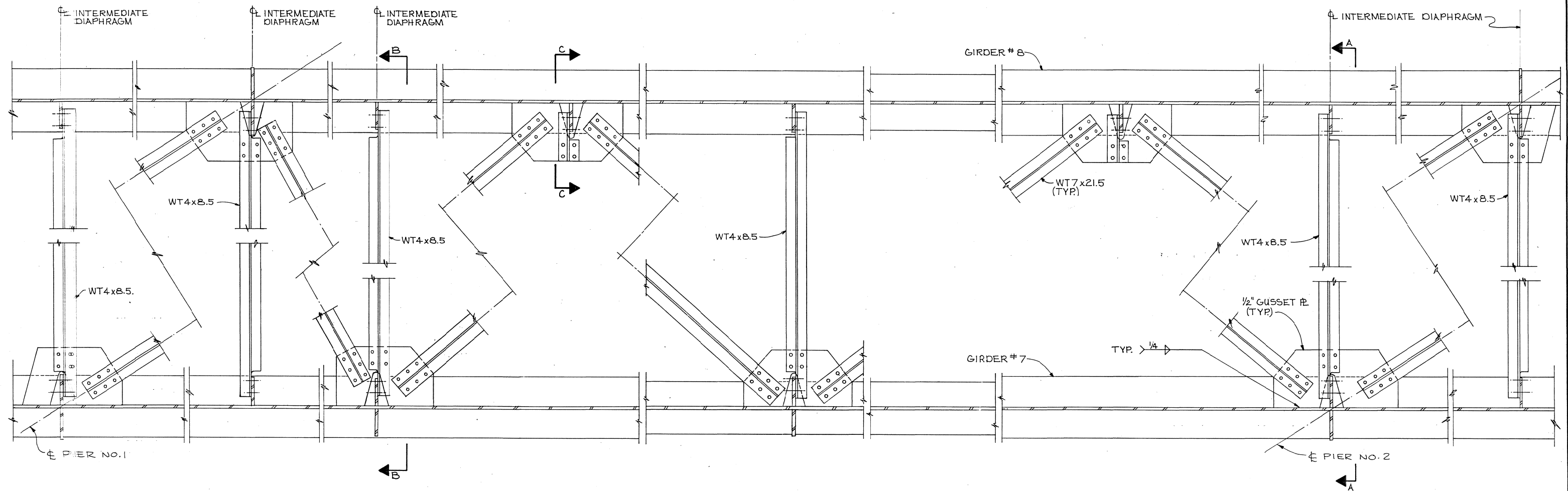


SECTION A-A

ROCKER AND EXPANSION PLATE SETTINGS						
TEMP. @ TIME OF SETTING (°F)	SOUTH ABUTMENT	PIER #1	PIER #2	NORTH ABUTMENT		
10°	2 13/16" - 5/16"	—	- 7/16"	- 3/4"	3 1/4"	(NORMAL)
50°	2 1/2"	0	0	0	2 1/2"	
90°	2 3/16" + 5/16"	—	+ 7/16"	+ 3/4"	1 3/4"	

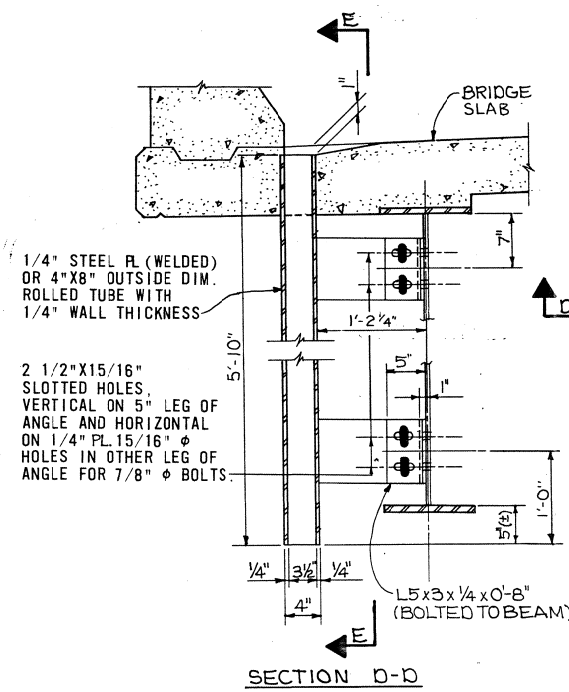
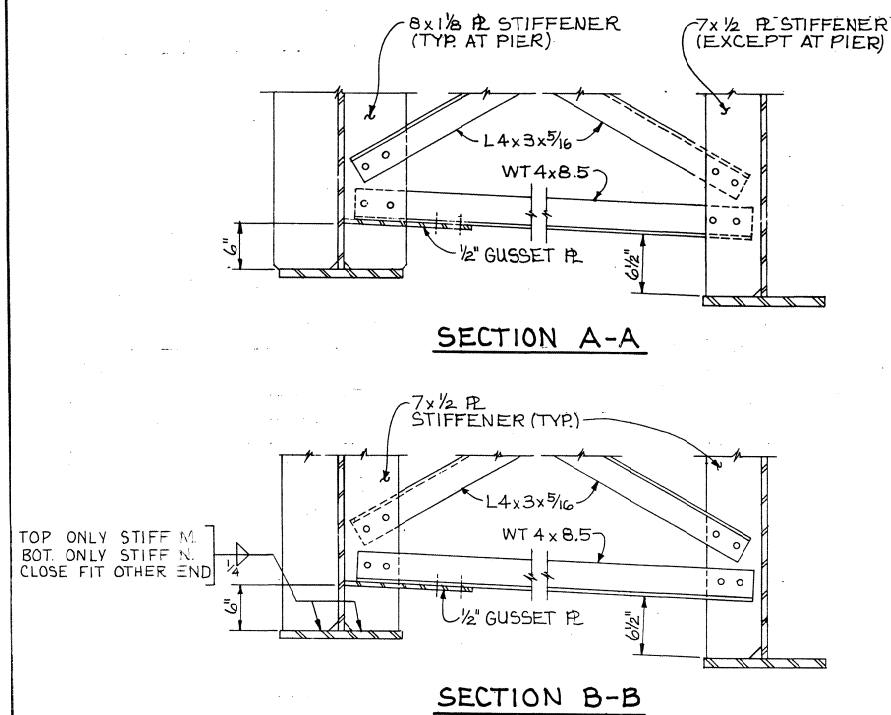
NOTE: TILT ROCKERS IN DIRECTION SHOWN FOR TEMP. ABOVE 50°F. AND IN THE OPPOSITE DIRECTION FOR TEMP. BELOW 50°. SETTINGS FOR OTHER TEMP. ARE PROPORTIONAL.

DESIGN FOR 57°03'00" SKEW
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102'-6" END SPANS 131'-0" INTERIOR SPAN
SUPERSTRUCTURE DETAILS
STATION: 461+52.79 (& N.B. LANE, U.S. NO. 561) NOV. 1978
SCOTT COUNTY
IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION
DESIGN SHEET NO. 19 OF 29 FILE NO. 25588 DESIGN NO. 880



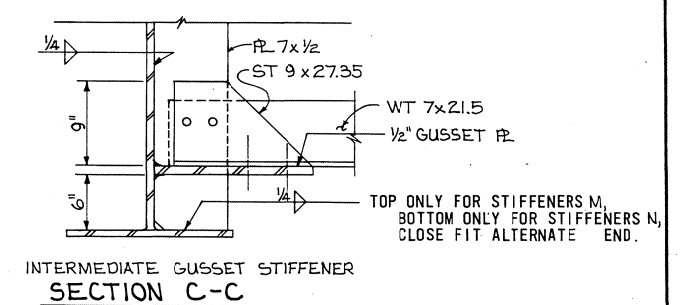
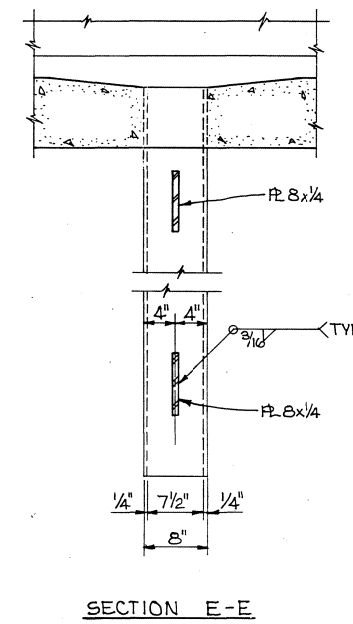
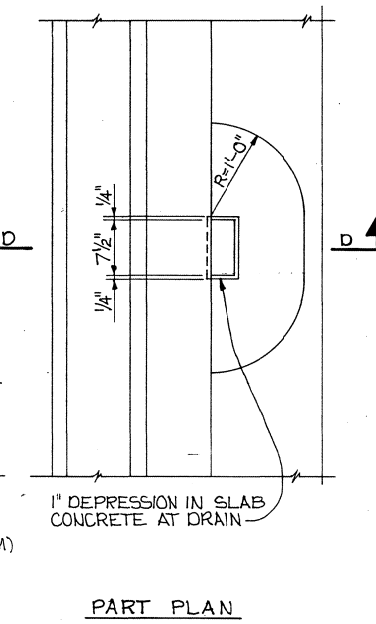
LATERAL BRACING DETAILS

(SEE DES. SHT. NO 15 FOR STRUCTURAL STEEL LAYOUT
TYPICAL FOR LATERAL BRACING BETWEEN GIRDERS 4 & 5)



DRAIN DETAILS

NOTE: DRAINS ARE TO BE PAINTED TO DRAINS REQUIRED,
SEE DES. SHT. #1 FOR LOCATION, WEIGHT 141 LBS.
PER DRAIN. COST OF DRAINS TO BE INCLUDED IN
PRICE BID FOR STRUCTURAL STEEL.



DESIGN FOR 57°03'00" SKEW
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WELDED PLATE GIRDER BRIDGE
102'-6" END SPANS 131'-0" INTERIOR SPAN
SUPERSTRUCTURE DETAILS
STATION: 461+52.79 (E.N.B. LANE, U.S. NO. 561) NOV. 1978
SCOTT COUNTY
IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION
DESIGN SHEET NO. 20 OF 29 FILE NO. 25588 DESIGN NO. 880

SCOTT COUNTY

STATE	FED. ROAD DIST. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	5		23	125

EPOXY-COATING NOTES:

ALL TOP OF SLAB REINFORCING STEEL, BOTH LONGITUDINAL AND TRANSVERSE BARS, SHALL BE EPOXY-COATED IN ACCORDANCE WITH STANDARD SPECIFICATIONS OF THE IOWA D.O.T. SERIES OF 1977 FROM THE REINFORCING BAR LIST SHOWN ON THIS SHEET, THE FOLLOWING BARS SHALL BE EPOXY-COATED:

ALL OF THE 7a1 BARS = 6,625
ALL OF THE 7a2 BARS = 17,331
ALL OF THE 7a3 BARS = 24,395
ALL OF THE 7a4 BARS = 1,259
ALL OF THE 7a5 BARS = 7,016
630 OF THE 6u1 BARS = 33,435
ALL OF THE 5d1 BARS = 256
16 OF THE 5e1 BARS = 278
6 OF THE 5e2 BARS = 56
6 OF THE 5e3 BARS = 99
EAST BARRIER RAIL = 6,577
WEST BARRIER RAIL = 6,906
TOTAL = 104,233 LBS.

ESTIMATED QUANTITIES - SUPERSTRUCTURE

ITEM	UNIT	QUANTITY
STRUCTURAL CONCRETE, CLASS "D"	CU. YD.	559.1
REINFORCING STEEL	LBS.	104,233
Δ REINFORCING STEEL - EPOXY COATED	LB*	104,233
* STRUCTURAL STEEL - A36	LBS.	701,398

Δ INCLUDES QUANTITIES FOR THE BARRIER RAIL INCLUDING THE END SECTIONS (SEE DESIGN SHEET NO. 27 & 28)
* INCLUDES 1408 LBS. OF DRAINS

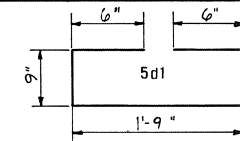
CONCRETE PLACEMENT QUANTITIES

LOCATION	SIDE A	SIDE B
SECTION 1	50.7	61.7
SECTION 2	64.3	63.7
SECTION 3	56.8	58.5
SECTION 4	44.9	51.7
SECTION 5	55.2	51.6
TOTAL (CU. YD.)	271.9	287.2

REINFORCING STEEL - SUPERSTRUCTURE

BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
7a1	SLAB, TRANSVERSE, TOP	—	107	VARIES	6,625
7a2	SLAB, TRANSVERSE, TOP	—	315	26'-11"	17,331
7a3	SLAB, TRANSVERSE, TOP	—	299	VARIES	24,395
7a4	SLAB, TRANSVERSE, TOP	—	16	VARIES	1,259
7a5	SLAB, TRANSVERSE, TOP	—	113	VARIES	7,016
7a6	SLAB, TRANSVERSE, BOTTOM	—	108	VARIES	6,687
7a7	SLAB, TRANSVERSE, BOTTOM	—	315	31'-6"	20,282
7a8	SLAB, TRANSVERSE, BOTTOM	—	299	VARIES	21,594
7a9	SLAB, TRANSVERSE, BOTTOM	—	16	VARIES	1,105
7a10	SLAB, TRANSVERSE, BOTTOM	—	113	VARIES	6,958
6u1	SLAB, LONGITUDINAL	—	1190	35'-4"	63,154
5d1	SLAB HOOPS @ ABUTMENT DIAPHRAGM	□	64	3'-10"	256
5e1	SLAB TRANSVERSE @ ABUT. DIAPHRAGM	—	32	16'-8"	556
5e2	SLAB TRANSVERSE @ ABUT. DIAPHRAGM	—	12	9'-0"	113
5e3	SLAB TRANSVERSE @ ABUT. DIAPHRAGM	—	12	15'-9"	197
	EAST BARRIER RAIL (SEE DES. SHT. 27)				6,577
	WEST BARRIER RAIL (SEE DES. SHT. 28)				6,906
SEE EPOXY COATING NOTES ON THIS SHEET				TOTAL (LBS.)	191,011

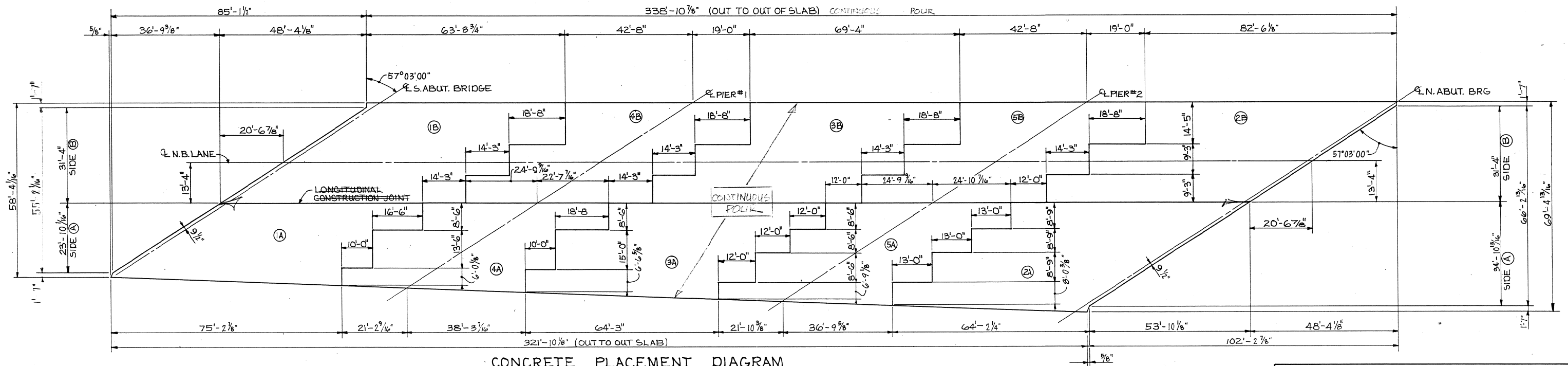
BENT BAR DETAILS



NOTE:
ALL DIMENSIONS ARE
OUT TO OUT.

ABUTMENT DIAPHRAGM HOOP
PLACEMENT DIAGRAM

NOTE:
PLACE 5d1 HOOPS @ EVERY OTHER TOP 6u1
BAR AS SHOWN ON DESIGN SHEET #14



CONCRETE PLACEMENT DIAGRAM

NOTE:

ROADWAY SLAB SHALL BE PLACED IN SECTIONS AND IN SEQUENCE INDICATED BY ENCLOSED NUMBERS ON PLACEMENT DIAGRAM AND PREFERABLY AT INTERVALS NOT EXCEEDING 24 HOURS. ALL SLAB REINFORCING STEEL IS TO BE IN PLACE BEFORE ANY SECTION IS POURED. ALTERNATE PROCEDURES FOR PLACING 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 RESULT.

Revised 03-06-81: Epoxy coated rebar list and Estimated
Quantity list corrected.

DESIGN FOR 57°03'00" SKEW
336'-0" X VARI. CONTINUOUS
WELDED PLATE GIRDER BRIDGE
102'-6" END SPANS 131'-0" INTERIOR SPAN
SUPERSTRUCTURE DETAILS
STATION: 461 + 52.79 (± N.B. LANE, U.S. NO. 561) NOV. 1978
SCOTT COUNTY
IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION
DESIGN SHEET NO. 21 OF 29 FILE NO. 25588 DESIGN NO. 880

SCOTT COUNTY

PROJECT NUMBER

STATE

FED. ROAD

FISCAL

SHEET

TOTAL

IOWA

5

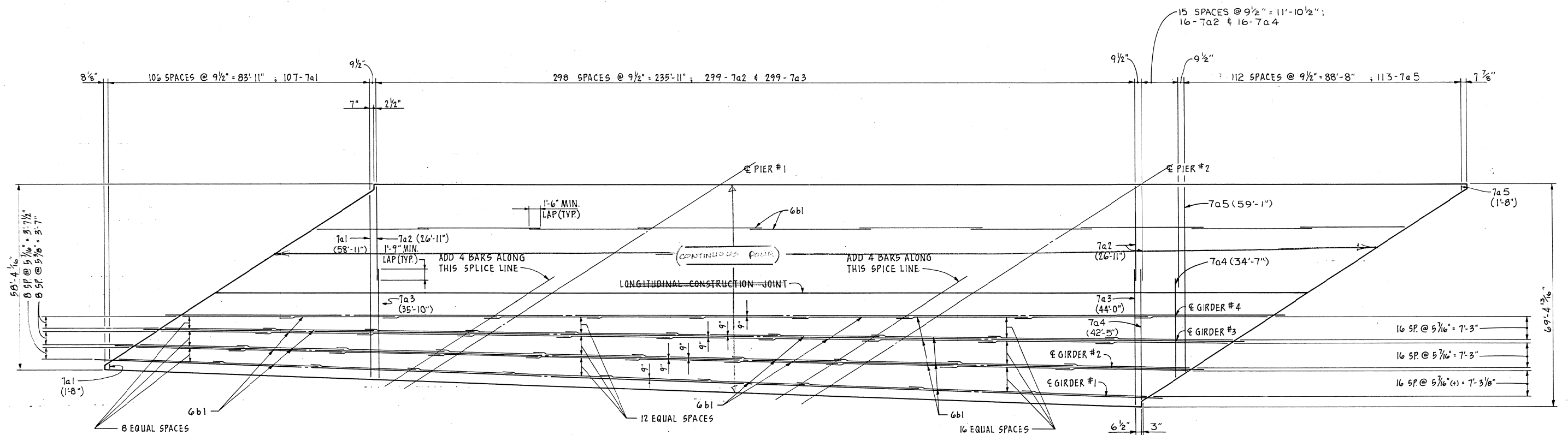
YEAR

NO.

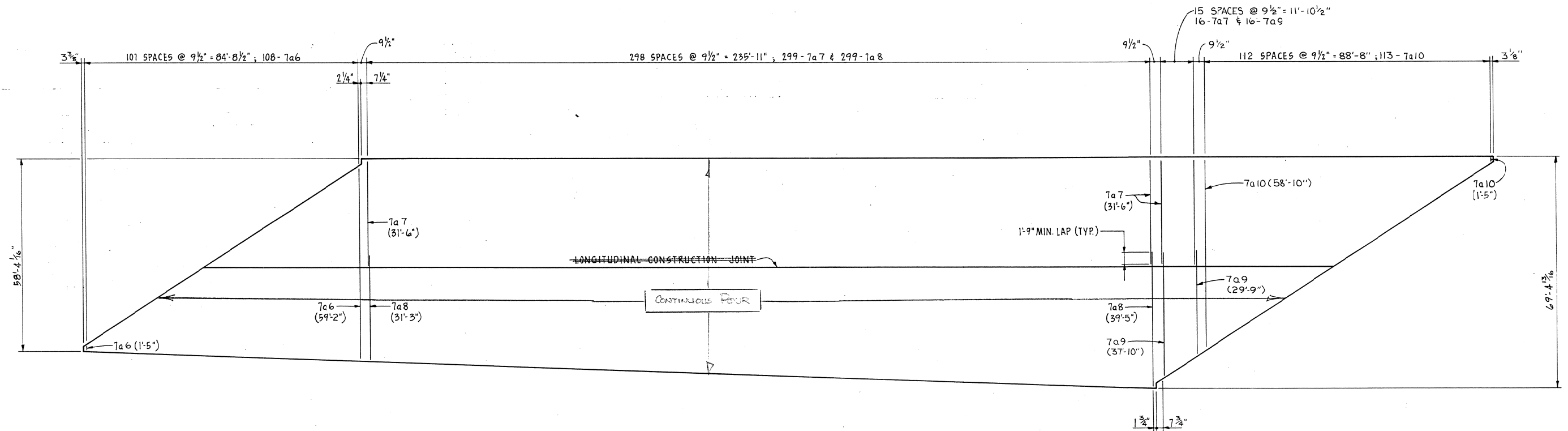
SHEETS

24

125



LONGITUDINAL AND TOP OF SLAB TRANSVERSE REINFORCING LAYOUT



BOTTOM OF SLAB TRANSVERSE REINFORCING LAYOUT

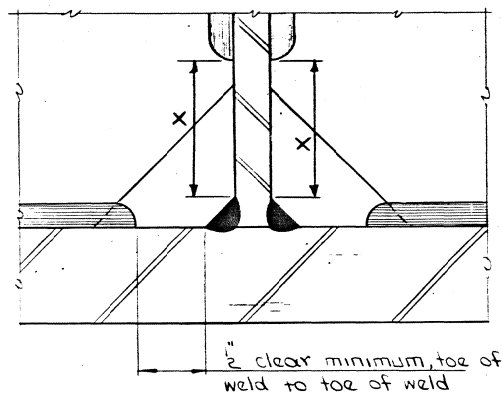
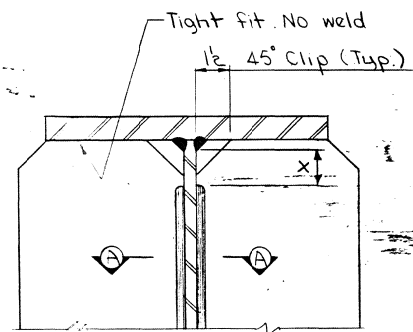
NOTE:

CONTRACTOR HAS THE OPTION TO SPLICE BARS OVER 40'-0" LONG SPLICE LOCATIONS ~~ARE TO BE~~ APPROVED BY THE ENGINEER. PAYMENT FOR REINFORCING BARS ~~SHALL BE~~ MADE BASED ON NO SPLICES AND NO ALLOWANCE ~~SHALL BE~~ MADE FOR THE ADDITIONAL LENGTH OF BAR REQUIRED FOR THE USE OF SPLICES.

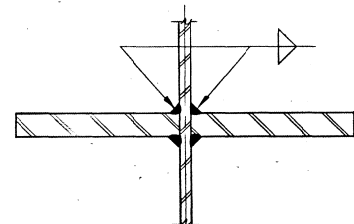
DESIGN FOR 57°03'00" SKEW
336'-0" X VARI. CONTINUOUS
WELDED PLATE GIRDER BRIDGE
102'-6" END SPANS 131'-0" INTERIOR SPAN
SUPERSTRUCTURE DETAILS
STATION: 461+52.73 (± N.B. LANE, U.S. NO. 561) NOV. 1978
SCOTT COUNTY
IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION
DESIGN SHEET NO. 22 OF 29 FILE NO. 25588 DESIGN NO. 880

SCOTT COUNTY

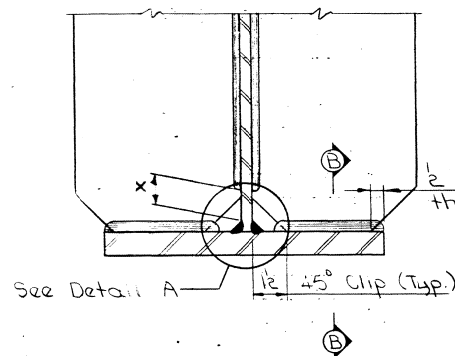
PROJECT NUMBER	STATE	FED. ROAD DIST. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	IOWA	5		25	125



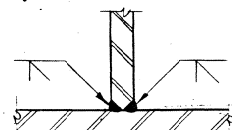
DETAIL A



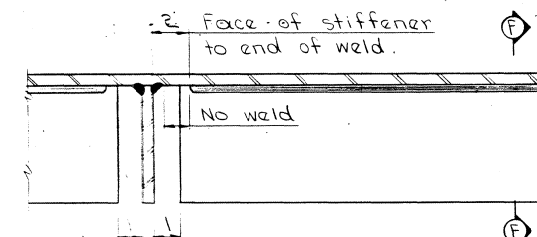
SECTION A-A



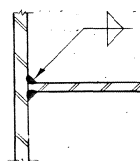
BEARING STIFFENER



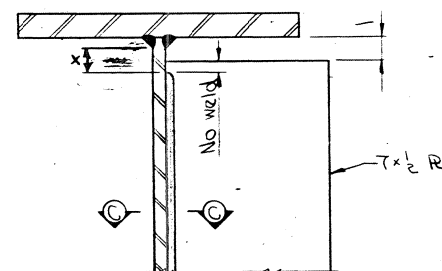
SECTION B-B



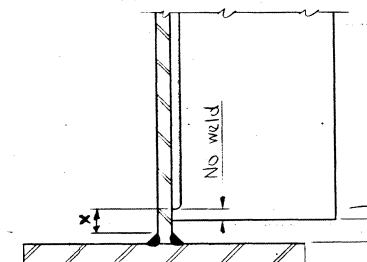
LONGITUDINAL STIFFENER



SECTION F-F

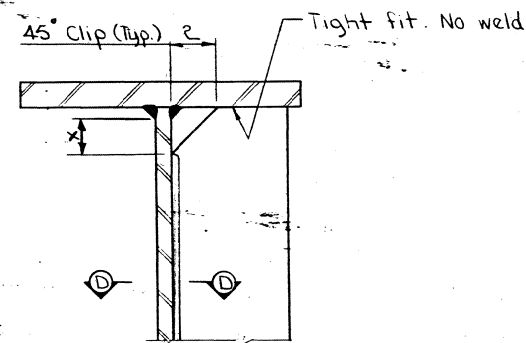


SECTION G-C

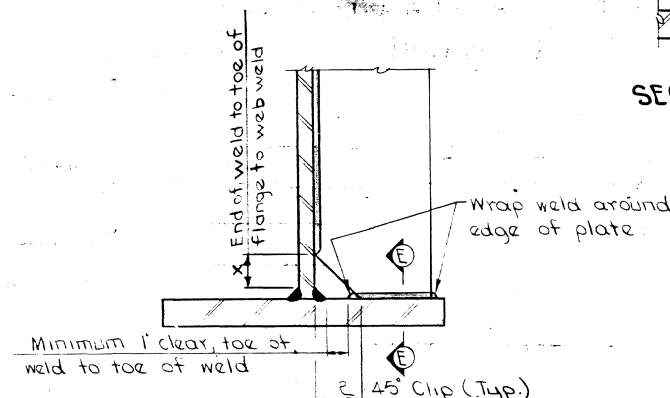


DIAPHRAGM STIFFENER

Note: Used where no intermediate stiffeners are required. If intermediate stiffeners are required the diaphragm stiffener is to be welded the same as the intermediate stiffeners.
Note: Diaphragm stiffeners are full depth for this design.

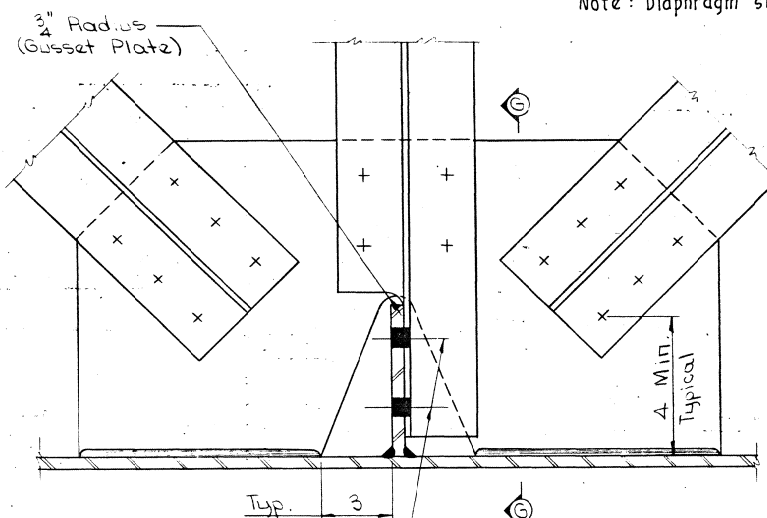


SECTION D-D



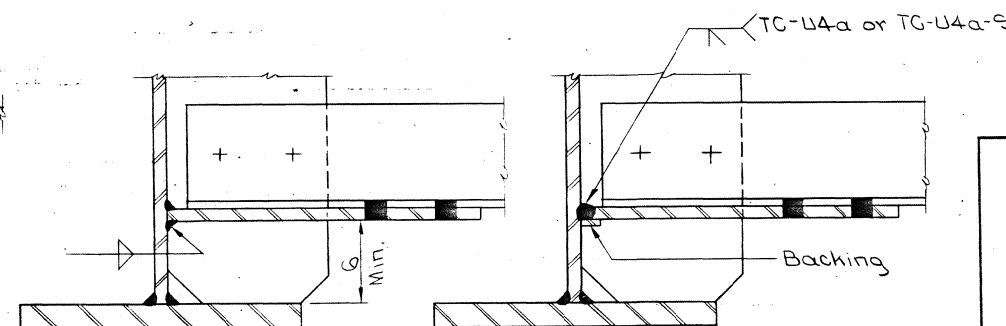
INTERMEDIATE STIFFENER

NOTE:
This sheet is primarily for the use of fabricator's workmen and Iowa Department of Transportation inspectors in interpreting plan details. It covers the locations of weld termini that are not specified by typical weld symbols.
The acceptability and use of the weld treatment shown on this sheet for any specific project is the responsibility of the designing engineer.



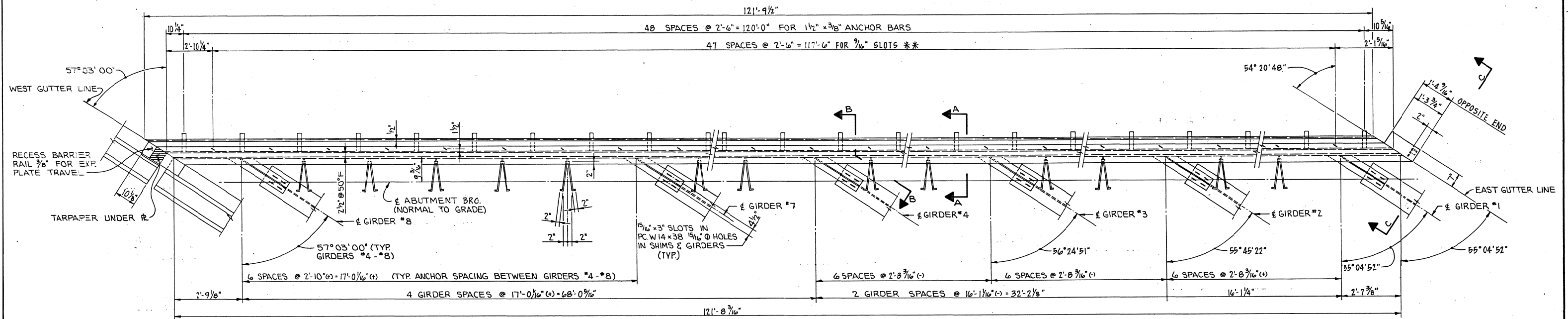
GUSSET PLATE TO WEB DETAIL

+ ~ Web Thickness	X = 5t
3/8	1 7/8
7/16	2 3/16
1/2	2 1/2
5/16	2 13/16
5/8	3 1/8
1 1/16	3 7/16
3/4	3 3/4



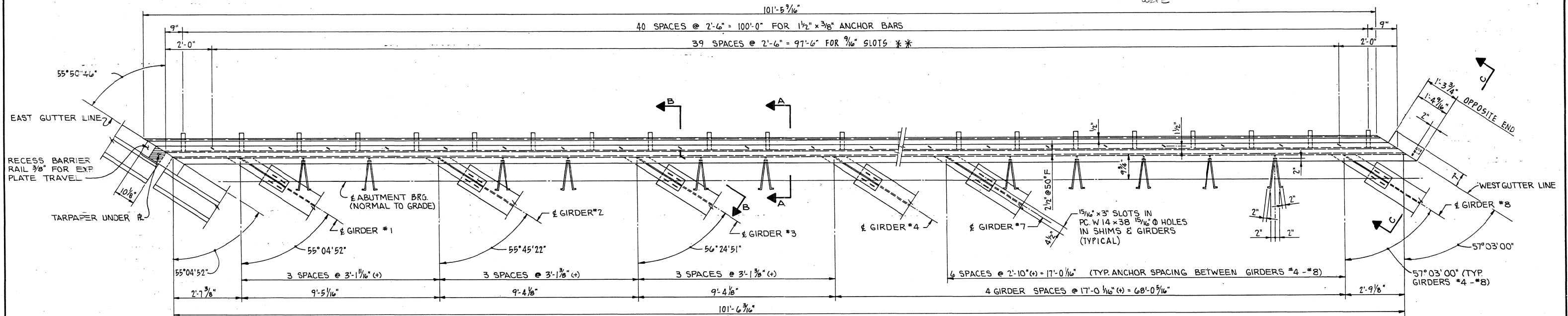
ALTERNATE SECTIONS G-G

DESIGN FOR 57°03'00" SKEW
336'-0" X VARI. CONTINUOUS
WELDED PLATE GIRDER BRIDGE
102'-6" END SPANS 131'-0" INTERIOR SPAN
WELDING DETAILS
STATION: 461+52.79 (E N.B. LANE, U.S. NO. 561) NOV. 1978
SCOTT COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
Design Sheet No.: 23 Of 29 File No.: 25588 Design No.: 880



NORTH ABUTMENT EXPANSION PLATE DETAILS

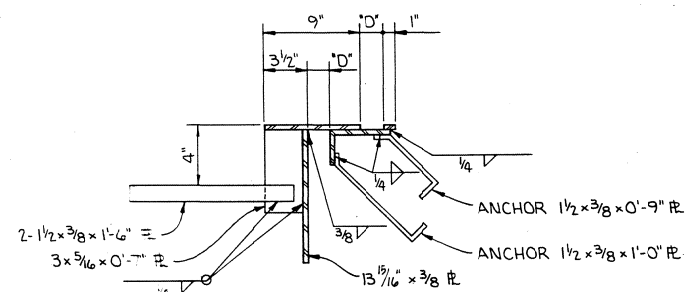
** 9/16" X 2" SLOTS IN 9X5/8" R AND 9/16" HOLES IN L6X4X3/8 FOR 1/2" X 1 3/4" BOLTS (PROVIDE WASHER FOR EACH BOLT). WELD NUTS TO UNDERSIDE OF ANGLE AND REMOVE BOLTS WHEN CONCRETE HAS TAKEN ITS INITIAL SET. SLOTS ARE TO BE PLACED PARALLEL TO ROADWAY.



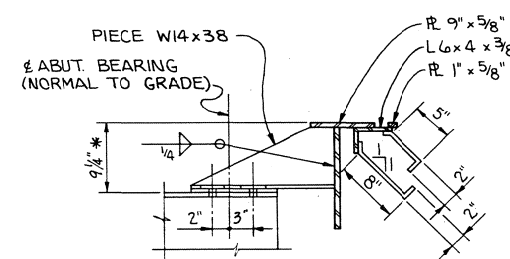
SOUTH ABUTMENT EXPANSION PLATE DETAILS

NOTES:

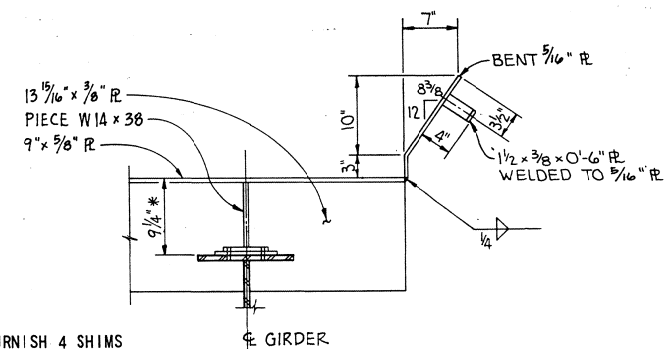
DIMENSION "D" IS 2 1/2" FOR A TEMPERATURE OF 50°F. SEE ROCKER AND EXPANSION PLATE SETTING TABLE ON DESIGN SHEET 19 OF 29 FOR SETTINGS OF 10°F AND 90°F.
TWO PERMISSIBLE FIELD SPICES MAY BE MADE IN ANY EXPANSION PLATE PROVIDING THE PIECES ARE JOINED WITH A PREQUALIFIED SINGLE GROOVE WELD AND ALL SURFACES NOT IN CONTACT WITH CONCRETE ARE GROUND FLUSH.



SECTION A-A



SECTION B-B



SECTION C-C

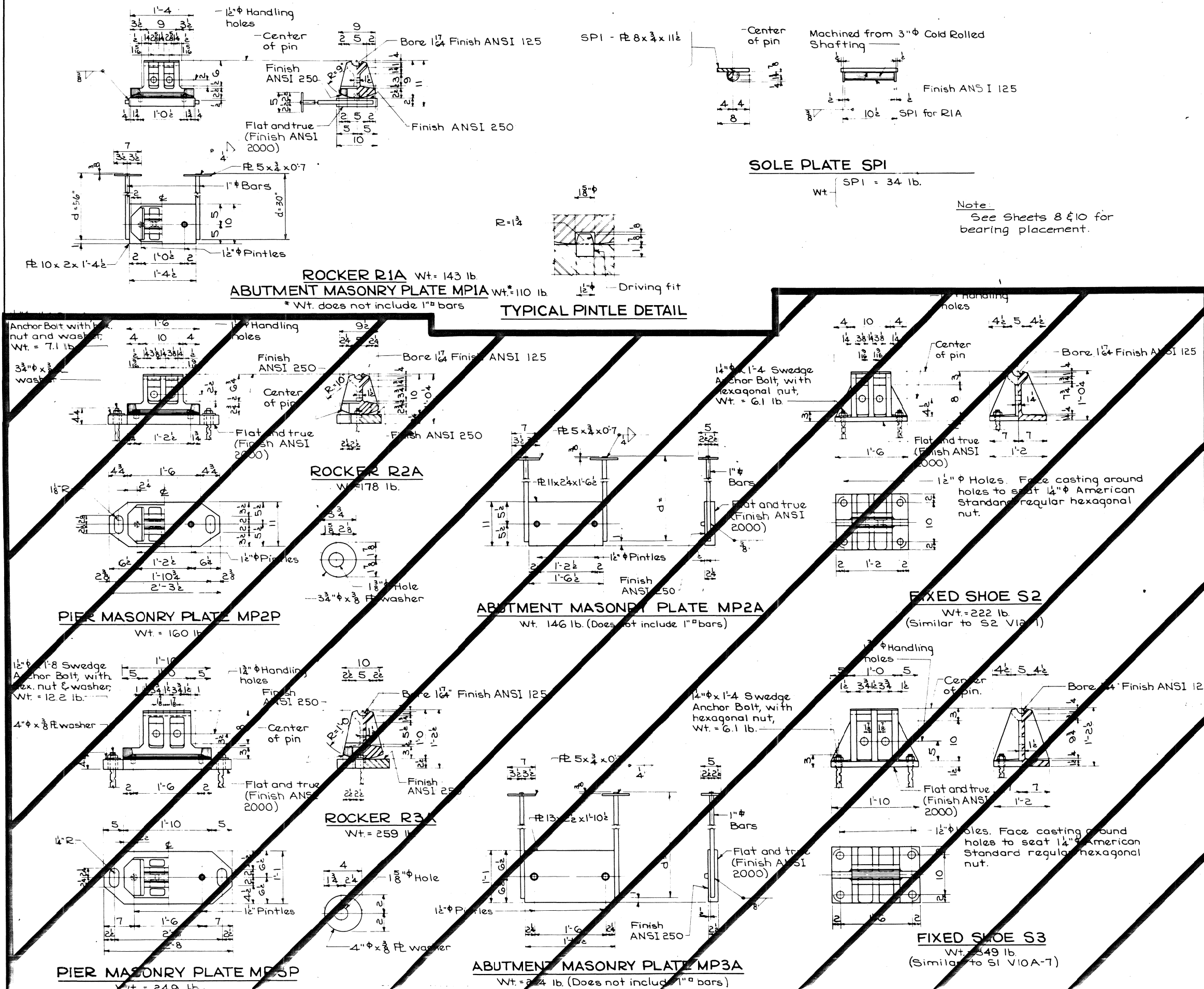
* INCLUDES 2-8X1/8 SHIMS (FURNISH 4 SHIMS FOR EACH PC. W14X38 SUPPORT)

DESIGN FOR 57°03'00" SKEW
336'-0" X VARI. CONTINUOUS
WELDED PLATE GIRDER BRIDGE
102'-6" END SPANS 131'-0" INTERIOR SPAN
EXPANSION PLATE DETAILS
STATION: 461+52.79 (N.B. LANE, U.S. NO. 561) NOV. 1978
SCOTT COUNTY
IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION
DESIGN SHEET NO. 24 OF 29 FILE NO. 25588 DESIGN NO. 880

SCOTT COUNTY

STATE	FED. ROAD DIST. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	5		27	135

Revision (6-1-65) Specifications for Rocker and Shoe material clarified.
Revision (7-8-71) Note concerning galvanizing of abutment masonry plates added.
Revision (3-28-72) ASA changed to ANSI.
Revision (11-22-72) Note concerning finishing changed.
Revision (8-29-77) Agency updated. Notes concerning material to fill slots, and seating of bearings changed.



BEARING NOTES:

The casting of R1A, shall comply with Article 4153.04 of the IDOT Standard Specifications. Castings may be Gray Iron or Nodular Iron. The masonry plate marked MP1A, shall comply with the requirements of ASTM A-36 steel.

The pins shall comply with Article 4153.02 of the IDOT Standard Specifications and with the requirements of ASTM A-108 steel.

Anchor bolts shall be set in accordance with Article 2408.47 of the IDOT Standard Specifications.

All bearings are to be set on a 1/8" lead sheet in accordance with 2408.38 of the Specifications.

The weight of bearings shown does not include the weight of paint.

As soon as the surfacing process is done, the surfaces finished with an ANSI 125 finish shall be shop coated with application of waterproof National Lubricating Grease Institute N23 multipurpose grease. Just before the erection of the structural steel in the field, the shop coated surfaces shall be wiped clean and a field coat of N.L.G.I. N23 grease is to be applied.

Masonry plate MP1A shall be galvanized after the 1" bars have been welded to the masonry plates.

After masonry plates, rockers and shoes are in correct location, fill slotted holes around anchor bolts with a sulphur-based compound or epoxy resin adhesive in accordance with Article 2408.47 of the Standard Specifications.

DISTANCE FROM TOP OF SOLE PLATE TO BRIDGE SEAT	
Rockers & Fixed Shoes	
R1A	1'-0 3/4"
R2A	1'-2"
R3A	1'-2 1/4"

* Including 1/8" lead sheet.

MAXIMUM REACTION (In Kips)			
R1A	R2A	R3A	
132	111	266	

DESIGN FOR 57°03'00" SKEW
336'-0" X VARI. CONTINUOUS
WELDED PLATE GIRDER BRIDGE
402'-6" END SPANS 131'-0" INTERIOR SPAN

BEARING DETAILS
STATION: 461+52.79 (N.B. LANE, U.S. NO. 561) NOV. 1978
SCOTT COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
Design Sheet No 25 Of 29 File No 25588 Design No 880

DESIGNED BY: _____ TRACED BY: _____
DETAILED BY: _____ CHECKED BY: _____

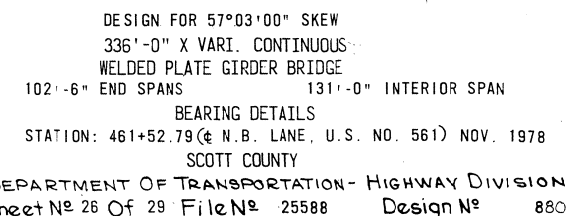
BEARING STANDARD

STANDARD SHEET 1008

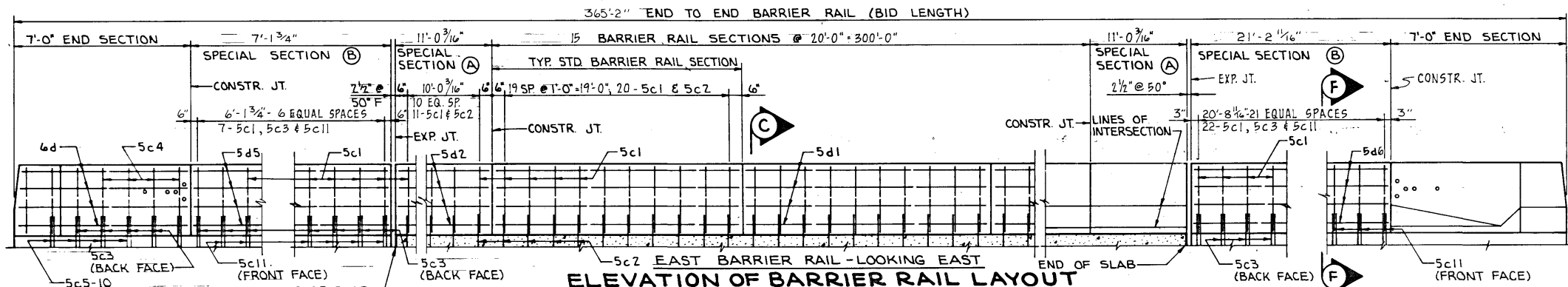
SCOTT COUNTY

PROJECT NUMBER

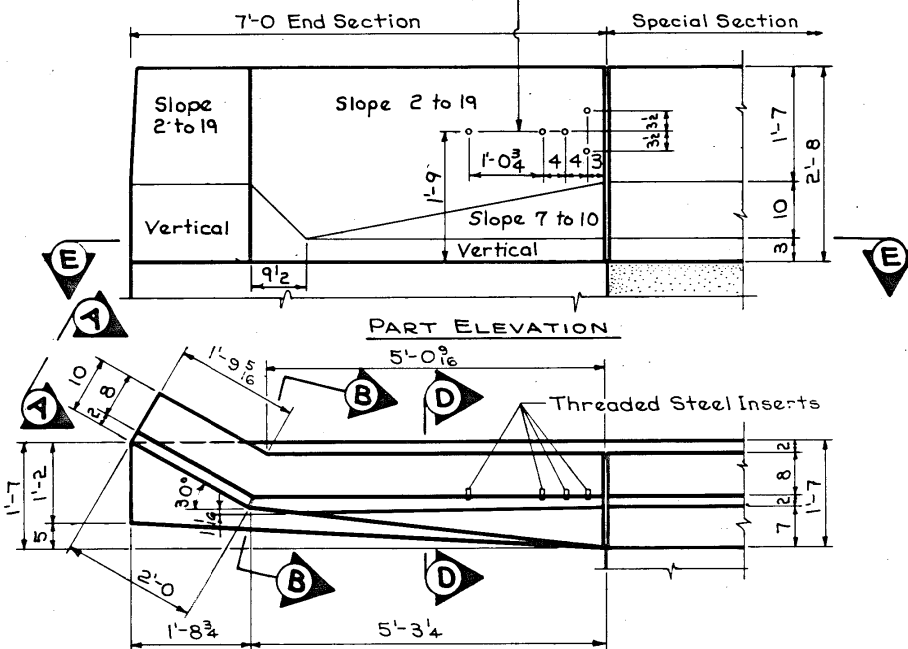
STATE	FED ROAD DIST. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	5		28	125



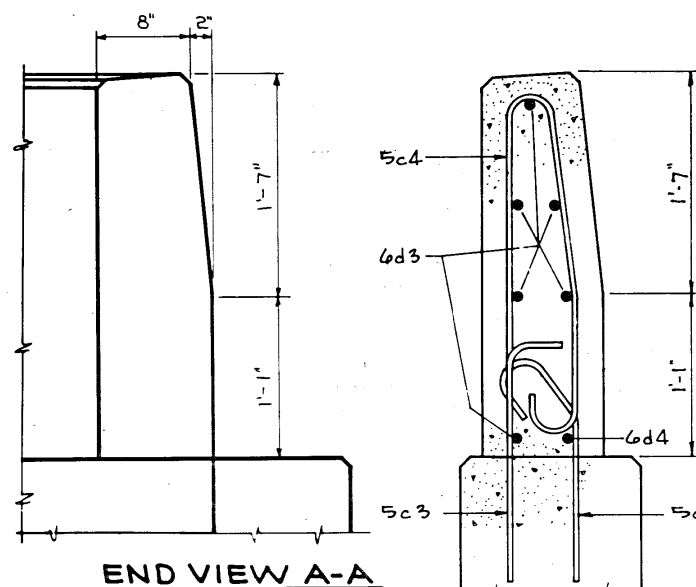
Revised 5-31-77: Reinforcing bars to be epoxy coated after bending size of
Revised 12-27-76: Joint bond breakers changed. Joint sealer specification added.
Revised 9-1-76: Shape of end section changed. Note added. End section reinforcing bars changed.
Issued 8-1-76



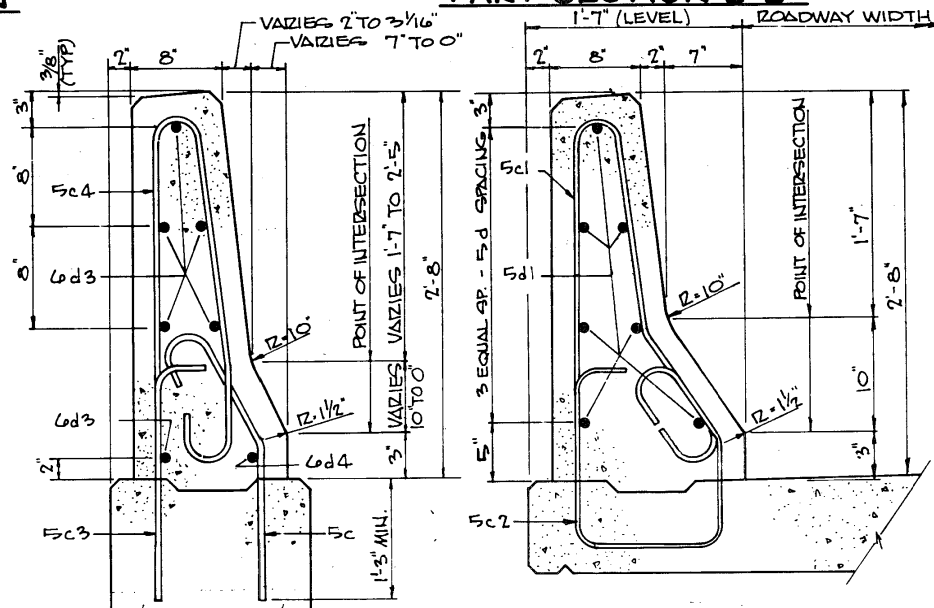
Provide five threaded steel inserts with solid bottom to fit 8 x 2 galvanized cap screws with galvanized round washers. Cost of inserts to be included in price bid for "Structural Concrete". Screws and washers are not a part of this contract.



DETAILS OF END SECTION

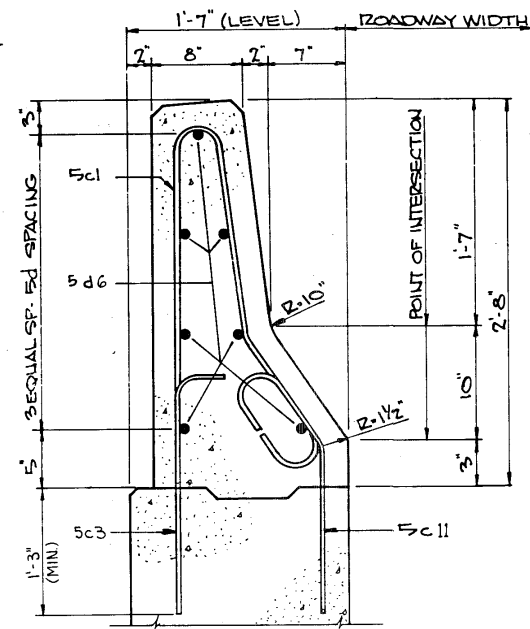


SECTION B-B

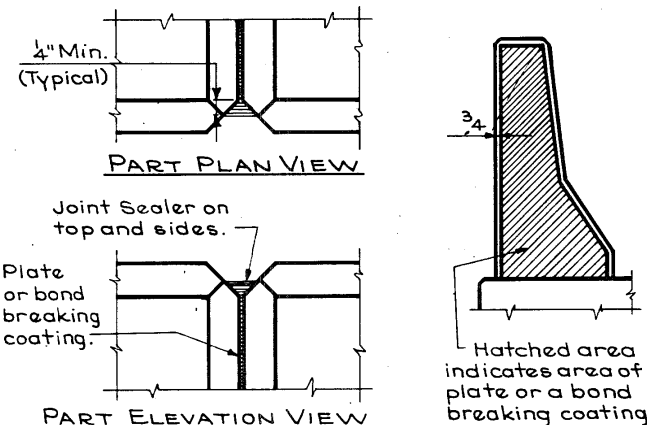


SECTION D-D

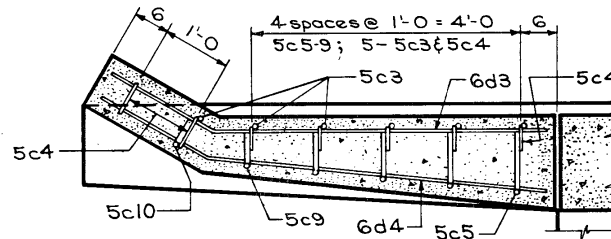
SECTION C-C



SECTION F-F



BARRIER RAIL JOINT DETAILS



PART SECTION E-E

BARRIER RAIL NOTES:

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

All exposed corners 90° or sharper are to be filleted with a 3/4" dressed and beveled strip.

Top of the barrier rail is to be parallel to the theoretical grade.

The barrier rail may be placed in sections or continuously. When it is placed continuously a 1/4" sheet of either aluminum, galvanized steel, high density styrene, or plexiglass shall be placed at the joints to separate the sections. When the barrier rail is placed in sections the end of the section to be poured against is to be coated with paraffin or other bond breaker approved by the Engineer and the plate separators may be omitted. The joint sealer shall conform to Fed Spec. TT-S00230 or TT-S00227 for Type II, Class A or B.

Cost of the joint sealer and bond breaker shall be considered incidental to other construction.

The concrete barrier rail is to be bid on a lineal foot basis measured from end to end of rail. 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 Rail 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. All barrier rail reinforcing steel is to be included with the superstructure reinforcing steel.

All barrier rail concrete is to be Class D.

All barrier rail reinforcing steel is to be epoxy-coated.

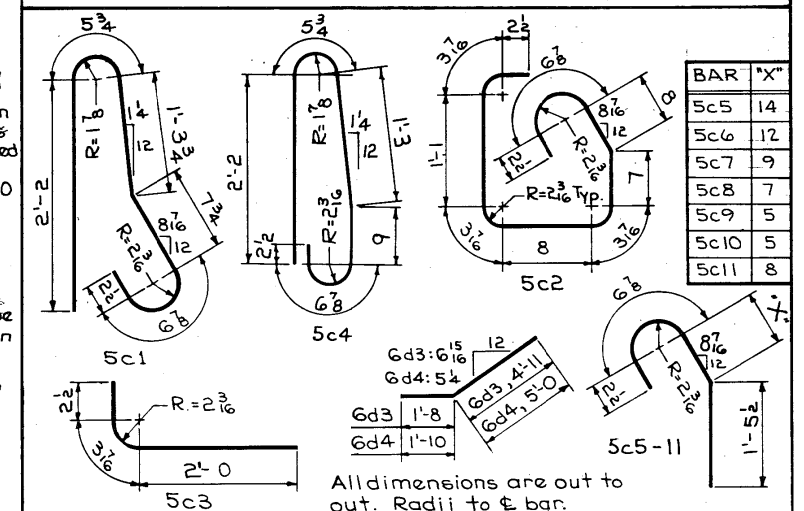
NOTE:

Cross Sectional Area of the Special Section and Standard Section of the Barrier Rail = 2.47 square feet.

REINFORCING STEEL - ONE SECTION

Section	Bar	Location	Shape	Nº	Length	Weight	
STANDARD SECTION	5c1	VERTICAL	D	20	5'-5"	113	
	5c2	VERTICAL		20	4'-10"	101	
	5d1	LONGITUDINAL	E	7	19'-8"	144	
	TOTAL FOR ONE SECTION			TOTAL (LB.)		358	
	7'-0" END SECTION	5c3	VERTICAL	D	6	2'-6"	16
5c4		VERTICAL	7		5'-5"	40	
5c5-10		VERTICAL	E	6	VARIES	18	
6d3		LONGITUDINAL		6	6'-7"	59	
6d4		LONGITUDINAL	E	1	6'-10"	10	
TOTAL FOR ONE SECTION		TOTAL (LB.)		143			
SPECIAL SECTIONS (ALL REINFORCING REQUIRED)		5c1	VERTICAL	D	51	5'-5"	288
		5c2	VERTICAL		22	4'-10"	111
	5c3	VERTICAL	E	29	2'-6"	76	
	5c11	VERTICAL		29	2'-11"	88	
	5d2	LONGIT-SPECIAL SECTIONS (A)	E	14	10'-8"	156	
	5d5	LONGIT-SPECIAL SECTION (B)		7	6'-8"	49	
	5d6	LONGIT-SPECIAL SECTION (B)	E	7	20'-11"	153	
	TOTAL LBS. FOR ALL SPECIAL SECTIONS			TOTAL (LB.)		921	

BENT BAR DETAILS



EPOXY REINFORCING SUMMARY

Section	Number of Sections	Reinforcing Per Section	Total
Standard	15	358	5,370
End	2	143	286
Special	4	—	921

(Include with Superstructure Reinforcing) Total (lb.) 6,577

CONCRETE PLACEMENT SUMMARY

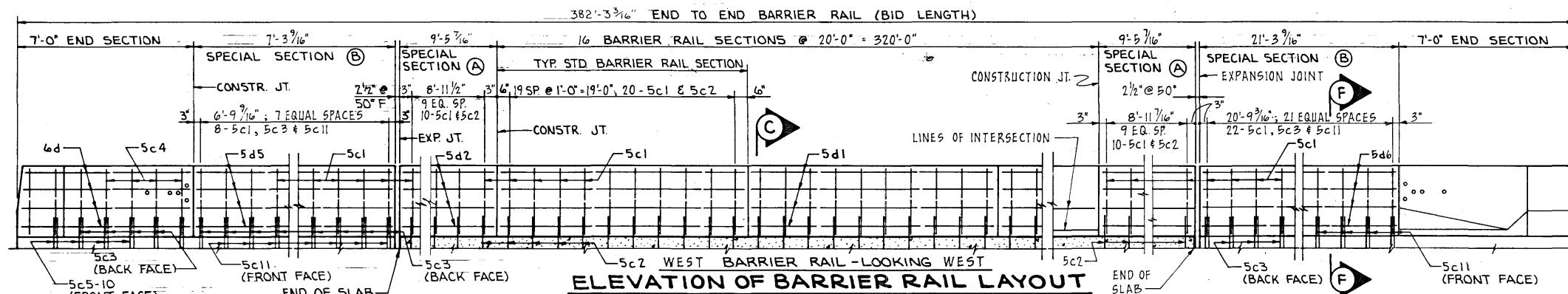
Section	Number of Sections	Concrete Per Section	Total
Standard	15	1.83	27.4
End	2	.58	1.2
Special (A)	2	1.00	2.0
Special (B)	2	—	2.6
Total (c.y.)			33.2

CONCRETE BARRIER RAIL QUANTITIES

Item	Unit	Quantity
EAST CONCRETE BARRIER RAIL	L.F.	365.2

DESIGN FOR 57°03'00" SKEW
336'-0" X VARI. CONTINUOUS
WELDED PLATE GIRDER BRIDGE
102'-6" END SPANS 131'-0" INTERIOR SPAN
EAST CURB - BARRIER RAIL DETAILS
STATION: 461+52.79 (N.B. LANE, U.S. NO. 56) NOV. 1978
SCOTT COUNTY
IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION
DESIGN SHEET NO. 27 OF 29 FILE NO. 25588 DESIGN NO. 880

Revised 5-31-77: Reinforcing bars to be epoxy coated after bending size of d bars changed.
Revised 12-27-76: Joint bond breakers changed. Joint sealer specification added.
Revised 9-1-75: Shape of end section changed. Bid item changed.
Issued 8-1-76



Provide five threaded steel inserts with solid bottom to fit 3/8 x 2 galvanized cap screws with galvanized round washers. Cost of inserts to be included in price bid for "Structural Concrete". Screws and washers are not a part of this contract.

BARRIER RAIL NOTES:

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

All exposed corners 90° or sharper are to be filleted with a 3/4" dressed and beveled strip. Top of the barrier rail is to be parallel to the theoretical grade.

The barrier rail may be placed in sections or continuously. When it is placed continuously a 1/4" sheet of either aluminum, galvanized steel, high density styrene, or plexiglass shall be placed at the joints to separate the sections. When the barrier rail is placed in sections the end of the section to be poured against is to be coated with paraffin or other bond breaker approved by the Engineer and the plate separators may be omitted. The joint sealer shall conform to Fed. Spec. TT-S00230 or TT-S00227 for Type II, Class A or B.

Cost of the joint sealer and bond breaker shall be considered incidental to other construction.

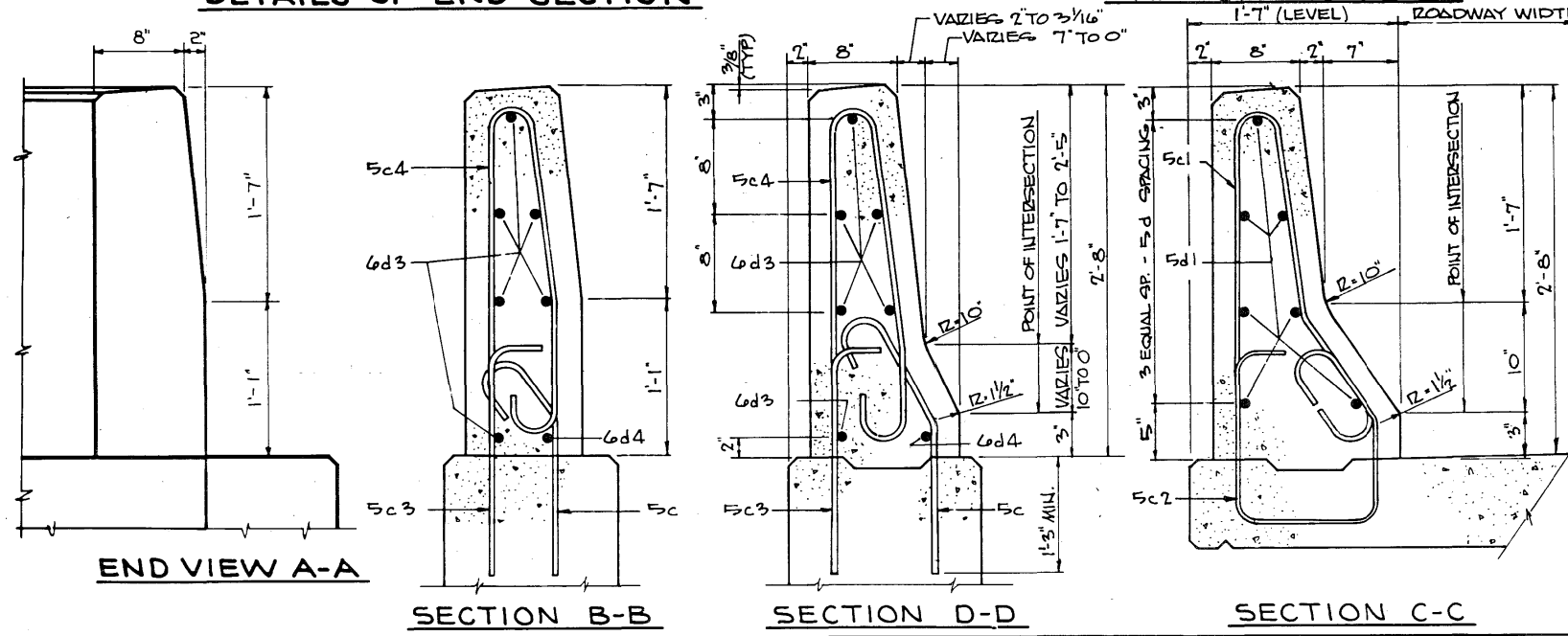
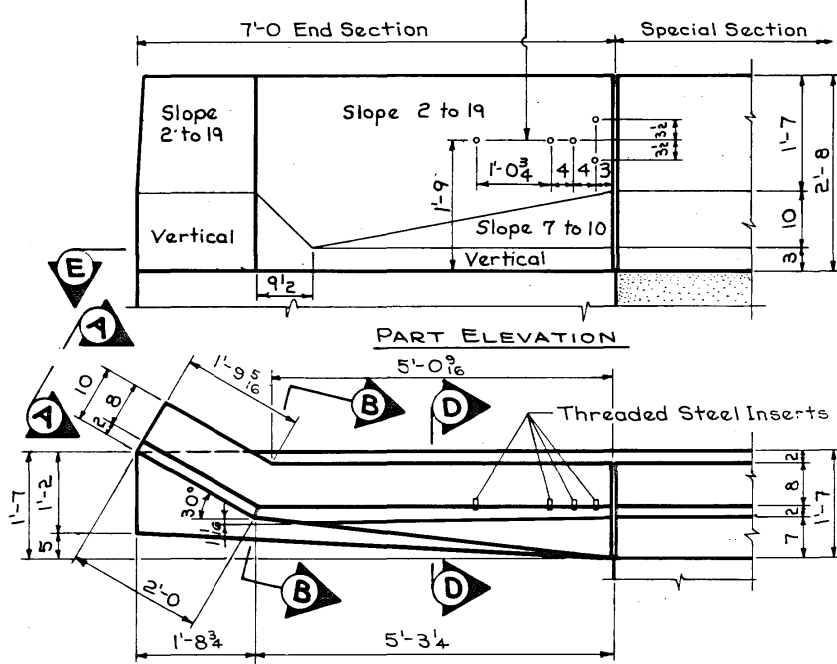
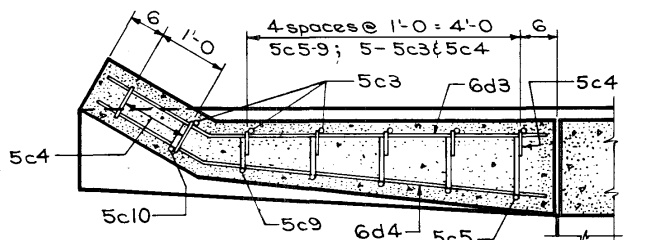
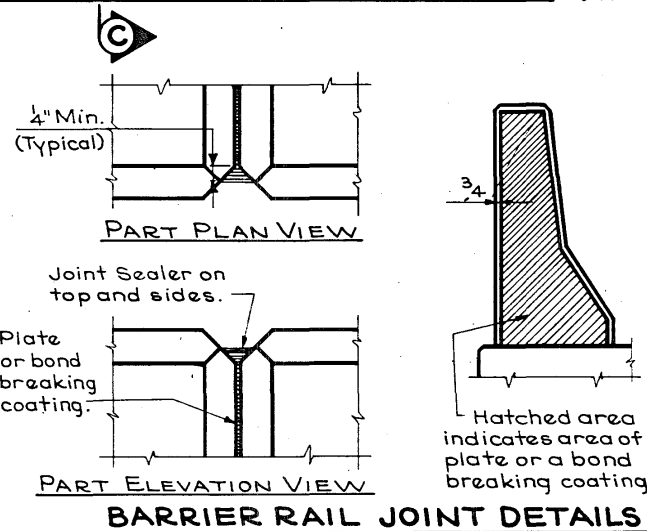
The concrete barrier rail is to be bid on a lineal foot basis measured from end to end of rail. The number of lineal feet of barrier rail installed will be paid for at the contract price per lineal foot based on plan quantities. Price bid for Concrete Barrier Rail shall be full compensation for furnishing 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. All barrier rail reinforcing steel is to be included with the superstructure reinforcing steel.

All barrier rail concrete is to be Class D.

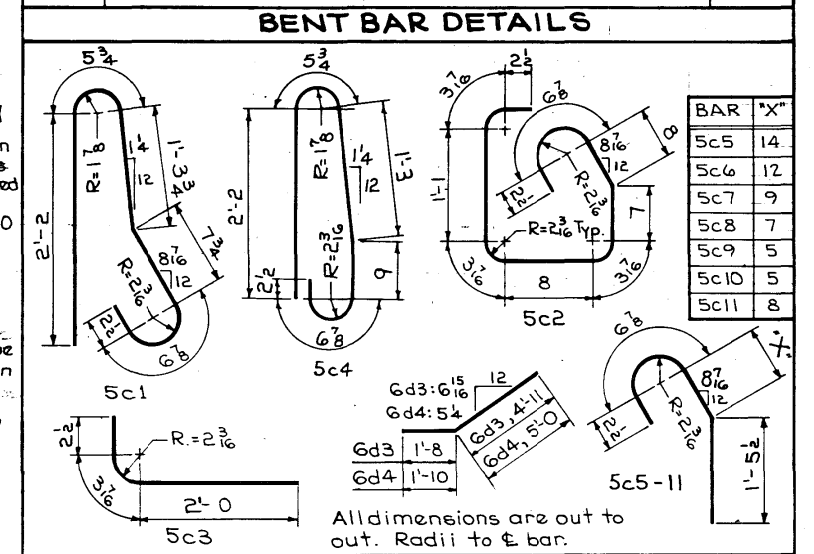
All barrier rail reinforcing steel is to be epoxy coated.

NOTE:

Cross Sectional Area of the Special Section and Standard Section of the Barrier Rail = 2.47 square feet.



REINFORCING STEEL - ONE SECTION						
Section	Bar	Location	Shape	No	Length	Weight
STANDARD SECTION	5c1	VERTICAL	B	20	5'-5"	113
	5c2	VERTICAL		20	4'-10"	101
	5d1	LONGITUDINAL	—	7	19'-8"	144
	TOTAL FOR ONE SECTION			TOTAL (LB.)		358
7'-0" END SECTION	5c3	VERTICAL	f	6	2'-6"	16
	5c4	VERTICAL		7	5'-5"	40
	5c5-10	VERTICAL	g	6	VARIES	18
	6d3	LONGITUDINAL		6	6'-7"	59
	6d4	LONGITUDINAL	—	1	6'-10"	10
	TOTAL FOR ONE SECTION			TOTAL (LB.)		143
SPECIAL SECTIONS (ALL REINFORCING REQUIRED)	5c1	VERTICAL	B	50	5'-5"	283
	5c2	VERTICAL		20	4'-10"	101
	5c3	VERTICAL	D	30	2'-6"	78
	5c11	VERTICAL		30	2'-11"	92
	5d2	LONGIT-SPECIAL SECTIONS (A)	—	14	9'-2"	134
	5d5	LONGIT-SPECIAL SECTION (B)		7	7'-0"	51
	5d6	LONGIT-SPECIAL SECTION (B)	—	7	21'-0"	153
TOTAL LBS. FOR ALL SPECIAL SECTIONS				TOTAL (LB.)		892

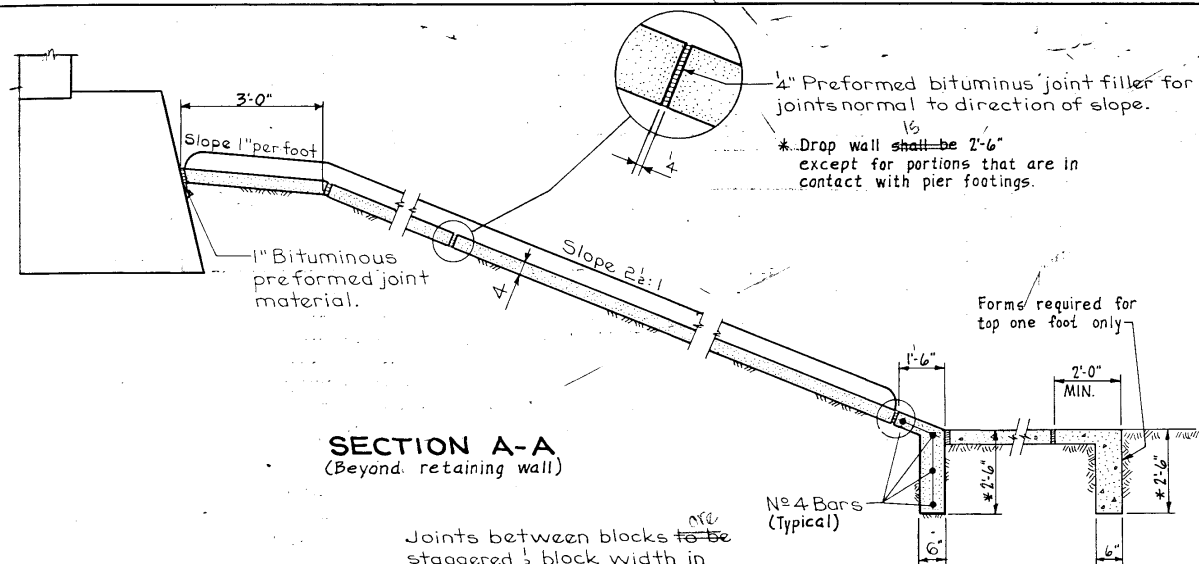


EPOXY REINFORCING SUMMARY			
Section	Number of Sections	Reinforcing Per Section	Total
Standard	16	358	5,728
End	2	143	286
Special	4	-	892
(Include with Superstructure Reinforcing)			Total (lb.) 6,906

CONCRETE PLACEMENT SUMMARY			
Section	Number of Sections	Concrete Per Section	Total
Standard	16	1.83	29.3
End	2	0.58	1.2
Special (A)	2	-	1.7
Special (B)	2	-	2.6
			Total (c.y.) 34.8

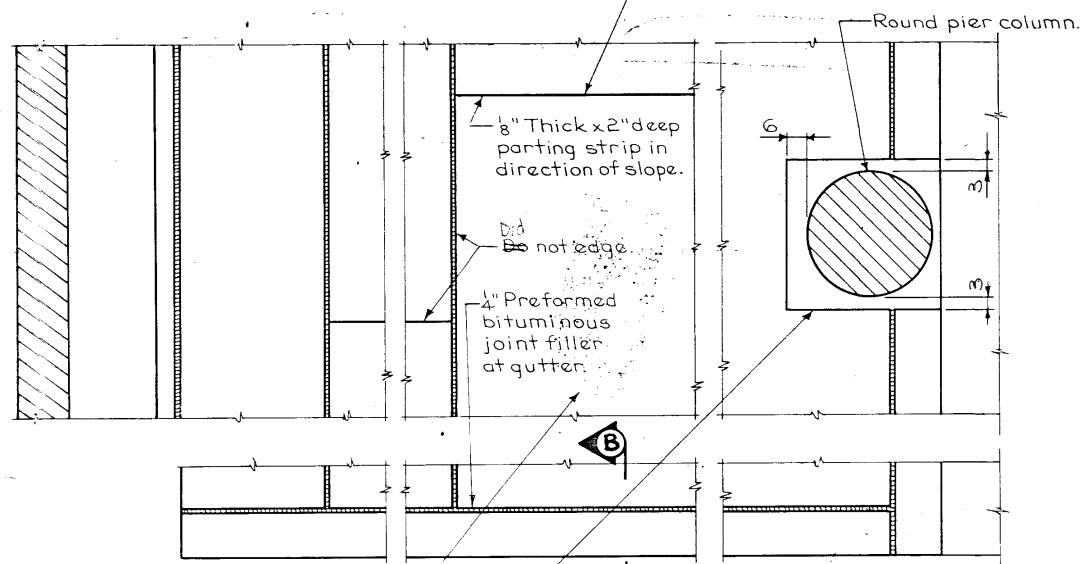
CONCRETE BARRIER RAIL QUANTITIES		
Item	Unit	Quantity
WEST CONCRETE BARRIER RAIL	L.F.	382.3

DESIGN FOR 57°03'00" SKEW
335'-0" X VARI. CONTINUOUS
WELDED PLATE GIRDER BRIDGE
102'-6" END SPANS 131'-0" INTERIOR SPAN
WEST CURB - BARRIER RAIL DETAILS
STATION: 461+52.79 (± N.B. LANE, U.S. NO. 561) NOV. 1978
SCOTT COUNTY
IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION
DESIGN SHEET NO. 28 OF 29 FILE NO. 25588 DESIGN NO. 880

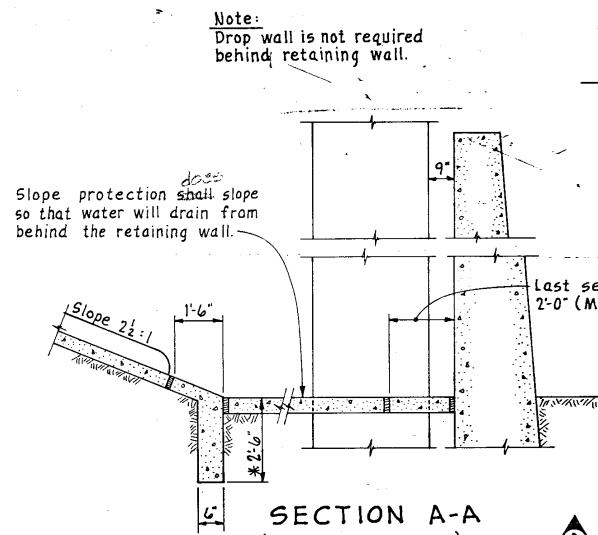


SECTION A-A
(Beyond retaining wall)

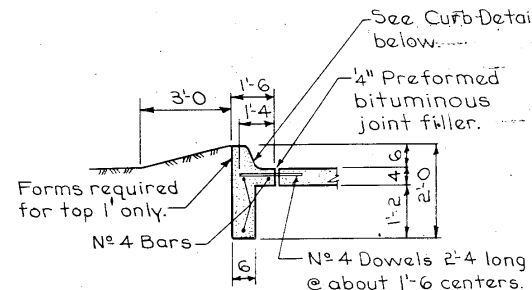
Joints between blocks to be staggered 1/2 block width in alternate courses.



PART SLOPE PROTECTION PLAN FOR COLUMNS IN SLOPE
(0° SKEW)



SECTION A-A
(Thru retaining wall)



SECTION B-B

CURB DETAIL

GENERAL NOTES:

This sheet shows details for placing port land cement concrete slope protection under overhead structures.

The standard specifications of the Iowa Department of Transportation shall apply with modifications or additions listed below:

Concrete - Class C Structural.

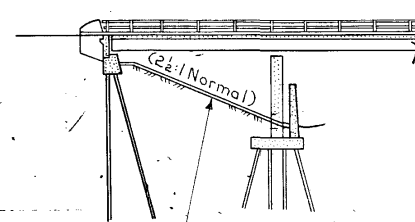
Finish - Class 1, Floated Surface Finish.

Cure - Cure as per current Specifications.

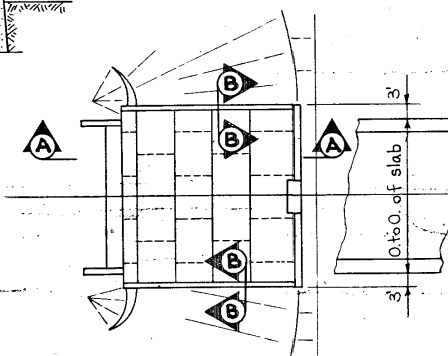
Subgrade Preparation - The subgrade is to be shaped and compacted so that finished slope protection will be similar to examples shown on this sheet. The subgrade shall be firm when concrete is placed. Sprinkling required shall be done early enough so that concrete is not placed on a muddy subgrade. No subgrade paper will be required.

The cast in place concrete is to be poured in approximately 10' wide courses, but all courses should have approximately equal widths. Adjacent courses shall not be poured within 15 hours of one another. The joints in the direction of the slope are to be staggered about 1/2 block width.

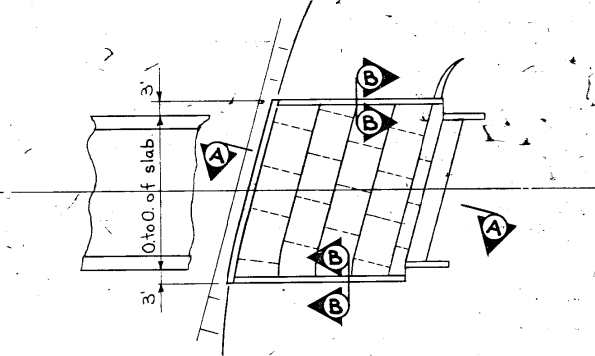
Basis of payment: Payment will be made on a square yard basis for slope protection constructed. The unit price bid per square yard is to include costs of all materials and labor required to construct this protection as shown or intended by these plans. The subgrade preparation including any necessary



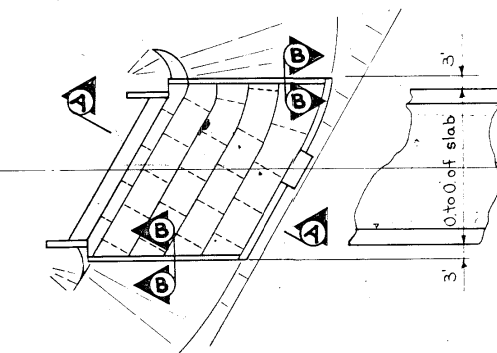
LONGITUDINAL SECTION ALONG & ROADWAY



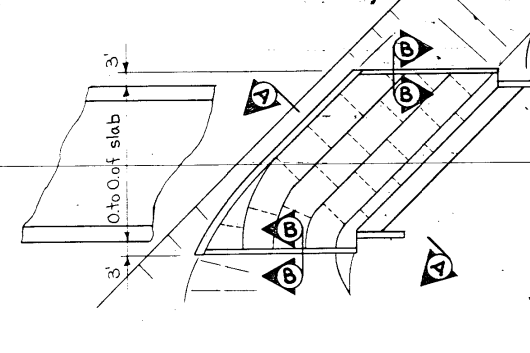
SLOPE PROTECTION LAYOUT 0° SKEW



SLOPE PROTECTION LAYOUT 15° SKEW



SLOPE PROTECTION LAYOUT 30° SKEW



SLOPE PROTECTION LAYOUT 45° SKEW

excavation or filling required to shape the slope to the lines shown on the plans and disposal of excess earth excavated as directed by the Engineer, and considered incidental to placing the concrete slope protection.

Pay quantities are to be based on field measured out to out dimensions.

Where erosion control work is completed the Contractor shall be responsible for any plant materials destroyed adjacent to slope protection area. The Contractor shall replant, reseed and remove areas in accordance with Section 2601 of the Standard Specifications, Series of 1977, at his expense.

CONCRETE SLOPE PROTECTION			
BRIDGE	S. ABUT.	N. ABUT.	TOTAL
NORTH BOUND	883.795	888.835	1,772.630
			1,772.630
Total (SQ. YDS.)			1,772.630

DESIGN FOR 57°03'00" SKEW
336'-0" X VARI. CONTINUOUS
WELDED PLATE GIRDER BRIDGE

102'-6" END SPANS 131'-0" INTERIOR SPAN
CONCRETE SLOPE PROTECTION

STATION: 461+52.79 (± N.B. LANE, U.S. NO. 561) NOV. 1978
SCOTT COUNTY

IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION
DESIGN SHEET NO. 29 OF 29 FILE NO. 25588 DESIGN NO. 860

FOUNDATION NUMBER			PILING LOG		KIND OF PILING			
South Abutment					HP10x42 Steel Bearing			
PILE NO.	LENGTH IN STRUCTURE	BEARING (in Tons)	PILE NO.	LENGTH IN STRUCTURE	BEARING (in Tons)	PILE NO.	LENGTH IN STRUCTURE	BEARING (in Tons)
1	79.0	44.9	17	75.8	59.6			
2	77.3	44.2	18	75.4	60.4			
3	77.0	50.8	19	74.8	68.0			
4	76.5	54.4	20	73.1	68.0			
5	75.9	64.1	21	74.1	67.8			
6	75.2	64.1	22	76.1	59.8			
7	70.4	67.7	23	74.4	64.0			
8	75.0	54.4	24	77.0	56.4			
9	75.3	55.5	25	74.4	59.5			
10	74.5	59.5	26	76.6	56.4			
11	78.1	64.2	27	75.3	60.4			
12	78.8	52.5	28	74.8	63.5			
13	76.3	54.4	29	78.5	73.5			
14	74.5	64.1	30	72.4	63.5			
15	76.4	73.1	31	63.2	59.1			
16	78.4	54.2	32	51.8	49.8			

FOUNDATION NUMBER			PILING LOG		KIND OF PILING				
North Abutment					HP10x42 Steel Bearing				
<p>Diagram of North Abutment showing pile layout from I1 to I31. Piles I1-I14 are on the left, I15-I28 are in the middle, and I29-I31 are on the right. A north arrow points towards the top right.</p>									
PILE NO.	LENGTH IN STRUCTURE	BEARING (in Tons)	PILE NO.	LENGTH IN STRUCTURE	BEARING (in Tons)	PILE NO.	LENGTH IN STRUCTURE	BEARING (in Tons)	
1	74.3	Ref.	19	73.7	Ref.				
2	73.7	↑	20	73.1	Ref.				
3	74.1		21	73.1	Ref.				
4	73.4		22	74.8	65.9				
5	72.5	23	74.5	65.9					
6	71.7	↓	24	75.3	65.9				
7	71.0		25	75.2	Ref.				
8	70.9		26	73.1	Ref.				
9	69.8	↓	27	73.2	Ref.				
10	69.4		28	71.0	Ref.				
11	69.4		29	73.6	65.9				
12	70.4	Ref.	30	76.2	Ref.				
13	72.3	65.9	31	69.3	Ref.				
14	72.3	Ref.	32	63.7	27.8				
15	72.4	↑	33	72.5	Ref.				
16	72.6		34	63.3	25.9				
17	72.3		35	63.3	25.9				
18	72.9	Ref.	36	63.4	23.0				

FOUNDATION NUMBER			PILING LOG		KIND OF PILING			
Pier #1					Crossed			
PILE NO.	LENGTH IN STRUCTURE	BEARING (in Tons)	PILE NO.	LENGTH IN STRUCTURE	BEARING (in Tons)	PILE NO.	LENGTH IN STRUCTURE	BEARING (in Tons)
1	38.5	24.9	40	38.4	29.3	76	38.8	Ref
2	38.5	26.1	41	38.9	27.6	77	36.7	Ref
3	38.6	28.1	42	38.1	25.2	80	38.9	Ref
4	38.7	24.9	43	38.5	24.1	81	38.9	Ref
5	37.7	23.8	44	38.2	25.8	82	34.9	Ref
6	39.1	29.5	45	38.3	25.3	83	38.8	Ref
7	38.7	31.6	46	38.5	22.7	84	38.6	Ref
8	39.2	21.1	47	38.6	26.3	85	38.8	Ref
9	38.9	29.5	48	38.9	25.7	86	38.9	Ref
10	39.2	23.6	49	39.1	28.8	87	37.2	Ref
11	39.1	28.1	50	38.6	30.1	88	34.0	Ref
12	38.8	27.4	51	39.4	26.3	89	37.8	Ref
13	37.8	29.5	52	38.6	29.5	90	38.8	Ref
14	38.4	Ref	53	38.8	35.5	91	38.9	Ref
15	38.1	26.9	54	38.8	25.7	92	38.9	Ref
16	38.3	23.8	55	38.3	Ref	93	38.5	Ref
17	38.0	24.9	56	38.5	26.3	94	38.9	Ref
18	37.9	29.5	57	38.5	24.6	95	27.4	Ref
19	38.6	39.8	58	38.7	28.8	96	38.9	28.6
20	37.9	28.1	59	39.1	26.9	97	38.2	35.7
21	38.8	25.7	60	38.3	30.1	98	37.7	Ref
22	39.1	26.9	61	38.5	25.7	99	39.5	Ref
23	38.6	26.3	62	38.4	26.9	100	39.5	Ref
24	39.1	25.7	63	38.6	30.1	101	38.8	Ref
25	38.8	28.1	64	38.8	30.1	102	33.1	Ref
26	38.7	28.1	65	37.8	26.9	103	39.3	Ref
27	38.5	26.9	66	38.5	24.1	104	39.1	26.7
28	38.8	25.7	67	37.2	30.1	105	38.5	39.1
29	38.5	22.6	68	38.4	31.6	106	39.3	Ref
30	38.6	20.4	69	38.3	28.8	107	39.1	22.6
31	38.2	Ref	70	39.4	Ref	108	39.1	22.6
32	38.2	28.6	71	39.4	Ref	109	39.2	39.8
33	38.7	22.4	72	39.2	Ref	110	39.5	Ref
34	38.7	24.6	73	39.0	Ref	111	39.0	Ref
35	38.7	26.3	74	39.0	Ref	112	38.9	Ref
36	38.8	26.3	75	39.0	Ref	113	38.7	Ref
37	37.7	37.7	76	38.7	Ref	114	38.8	Ref
38	38.7	27.0	77	39.0	Ref	115	38.9	Ref
39	39.0	30.7						

FOUNDATION NUMBER			PILING LOG		KIND OF PILING			
Pier #2					Crossed			
PILE NO.	LENGTH IN STRUCTURE	BEARING (in Tons)	PILE NO.	LENGTH IN STRUCTURE	BEARING (in Tons)	PILE NO.	LENGTH IN STRUCTURE	BEARING (in Tons)
1	37.8	Ref	35	38.5	Ref	68	39.7	38.4
2	37.9		36	38.6	Ref	69	39.0	39.8
3	37.9		37	38.9	Ref	70	38.9	Ref
4	37.9		38	38.7	Ref	71	39.0	
5	37.7		39	38.5	39.1	72	38.0	
6	37.7		40	38.4	Ref	73	38.7	
7	38.0		41	38.2	38.8	74	38.5	
8	38.0		42	38.0	36.4	75	38.9	
9	37.7		43	38.0	39.9	76	38.9	
10	38.1		44	38.2	Ref	77	38.8	
11	38.0	Ref	45	38.6		78	38.6	
12	37.8	38.8	46	38.6		79	38.9	
13	38.1	Ref	47	38.5		80	38.5	Ref
14	38.0		48	38.6		81	38.4	31.4
15	38.1		49	38.7		82	38.7	34.6
16	38.7		50	38.6		83	38.7	36.6
17	38.0		51	38.5	Ref	84	38.8	26.6
18	37.7		52	38.5	36.4	85	38.5	26.8
19	38.0	Ref	53	38.3	38.4	86	38.7	26.6
20	38.0	39.1	54	38.5		87	38.7	31.3
21	38.0	Ref	55	37.3		88	37.2	32.2
22	38.2		56	38.6		89	38.6	34.2
23	38.1		57	39.1		90	39.1	32.5
24	38.5		58	39.2		91	38.5	32.7
25	38.6		59	39.1		92	38.6	28.2
26	38.7		60	38.4	Ref	93	38.5	28.1
27	38.3		61	39.3	32.0	94	38.7	37.6
28	38.5		62	39.4	36.4	95	38.7	36.6
29	38.6		63	39.1	39.1	96	38.5	28.9
30	38.6		64	39.4	32.0	97	38.4	27.5
31	38.6		65	39.5	Ref	98	38.2	25.9
32	38.3		66	39.7	Ref	99	38.3	29.6
33	38.6		67	39.6	38.4	100	38.4	21.4
34	38.6	Ref						