

BRF-561-4(5)--38-31

BRIDGES AND RETAINING WALLS

DUBUQUE COUNTY

CONVENTIONAL SIGNS

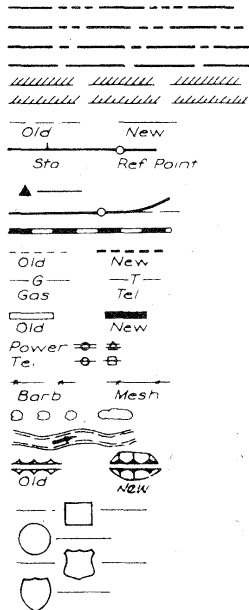
State Line
Co. Line
Twp. Line
Sec. Line
Corp. Line
Urban Bdry.
R.O.W. Lines
Survey Line

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

DUBUQUE COUNTY

BRIDGES AND RETAINING WALLS

ON U.S. 561 IN DUBUQUE-- LAKE PEOSTA CHANNEL BRIDGE AND RETAINING WALLS
AND IOWA APPROACH BRIDGE TO MISSISSIPPI RIVER BRIDGE

THE STANDARD SPECIFICATIONS, SERIES OF 1977
OF THE IOWA DEPARTMENT OF TRANSPORTATION,
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 60
Concrete in accordance with Section 1.5, $f'_c = 3,500$ psi.

Structural Steel in accordance with Section 1.7, ASTM A-588. Fatigue
stress cycles based on Case II.

WELDING:

All welding shall conform to the Supplemental Specifications for
Structural Steel, April 1, 1980, Specification 860.
A complete penetration groove weld shall be used whenever the term
"Groove Weld" is used on the plans.

CONSTRUCTION PLANS SHOWING PROJECT AS BUILT

Plan Preparation Supervised By: *William J. Crawford*
Resident Construction Engineer
Date MARCH 16, 1982 Iowa Reg. No. 4190

REVIEWED AND FORWARDED TO AMES

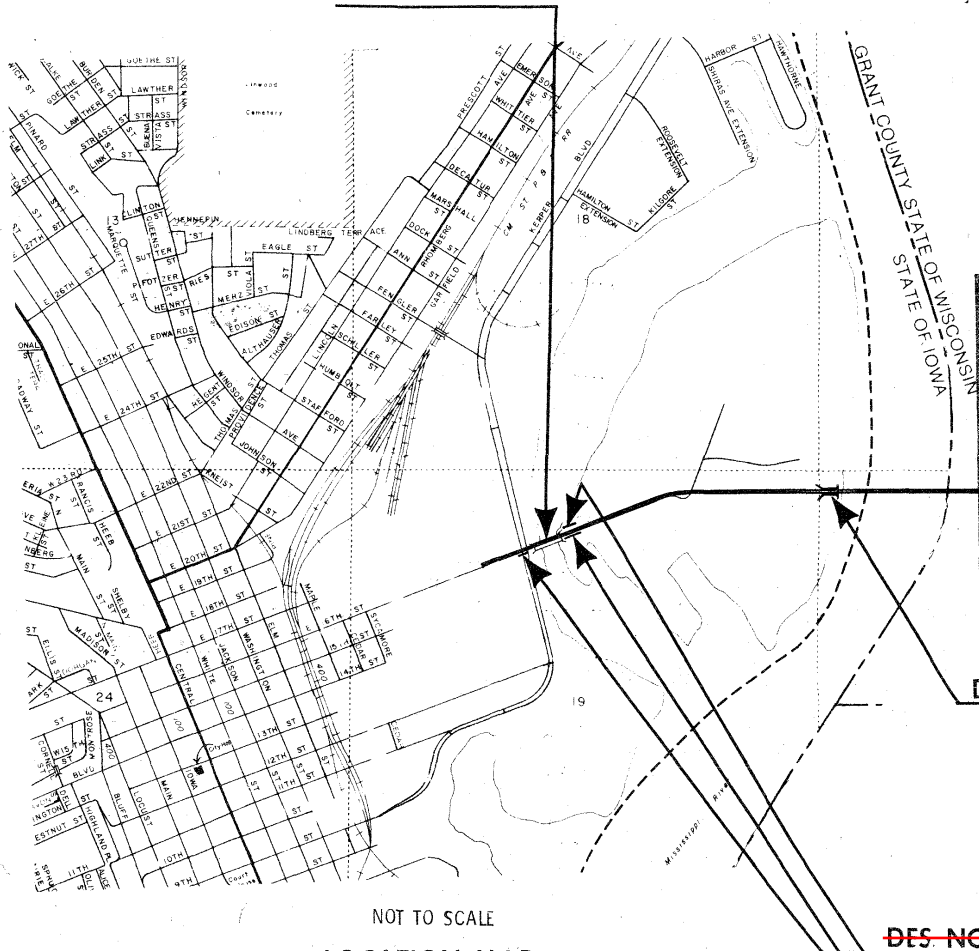
District Construction Engineer
One 50% Reduced and Two Full-Size Prints To Be Made and Returned To

District Engineer

AFTER MICROFILMING RETURN ORIGINAL
TO DISTRICT NO.

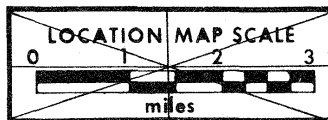
THIS AS BUILT PLAN INCLUDES

YEAR WORK CONTRACTOR PROJ. INSPECTOR
1981 BRIDGE & LUNDA CONST. JJ. THURN



NOT TO SCALE

LOCATION MAP



PART OF THE CITY OF DUBUQUE
T-89N R-3E
DUBUQUE TWP.

RECEIVED
MAY 19 1982
RESIDENT MAINT. OFF.
DUBUQUE, IOWA

PROJECT NUMBER
BRF-561-4(5)--38-31
R.O.W. PROJECT NUMBER
PRELIMINARY ENGINEER NUMBER
BRF-561-4(1)--38-31

INDEX OF SHEETS	
NO.	DESCRIPTION
1	TITLE SHEET
1A	REVISION SHEET
2	FINAL QUANTITIES SHEET
3-24	BRIDGE DESIGN NO. 1479
10A	PILING & BEARING VALUES
25-32	RETAINING WALL DESIGN NO. 1779
33-41	BRIDGE DESIGN NO. 1579

DEPARTMENT OF TRANSPORTATION, HIGHWAY DIVISION STANDARDS REQUIRED (Available at Bridge Design Services)		
STANDARD	ISSUED	REVISED

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.
IOWA REGISTRATION NUMBER DATE

DEPARTMENT OF TRANSPORTATION
IOWA
Highway Division
AUTHORIZED FOR LETTING
5-2-80
DEPUTY CHIEF ENGINEER DATE

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
7-28-80		Designs 1477 & 1579	3-30-81		Design 1479
	1A of 41	This sheet added (Revision Sheet).		14 of 41	The notes concerning tack weld nuts of hanger U-bolts after final setting are deleted. The deletions are marked by 1.
	40 of 41	Reinforcing 6x6 & 5x5 are changed in dimensions. Total r bar quantity for abut. is changed. All revisions are identified by 1.			REASON: Change in plan detail. Tack welding on nut is detrimental to the galvanizing coating and may also inflict damage to the diaphragms; therefore, it is deleted. No change in quantities.
	35 of 41	Concrete quantities & backwall dimensions changed. All items revised are identified by 1.			
	33 of 41	Reinforcing steel grade 60 & concrete quantities corrected. The revised quantities are identified by 1.			
	22 of 41	This sheet (Design Sheet 20 of 21) is voided. Details shown on this sheet are to be superseded by that shown on sheet 22A of 41 (Design sheet 20A of 21).			
	22A of 41	This sheet (Design Sheet 20A of 21) added (Bar List). Details shown on this sheet supersede that shown on sheet 22 of 41 (Design sheet 20 of 21).			
	19 of 41	This sheet (Design Sheet 17 of 21) is voided. The details on this sheet are to be superseded by that shown on sheet 19A of 41 (Design sheet 17A of 21).			
	19A of 41	This sheet (Design sheet 17A of 21) is added (Deck Drains). Details on this sheet are to supersede that shown on sheet 19 of 41 (Design sheet 17 of 21).			
	10 of 41	This sheet (Design Sheet 8A of 21) is voided. Details on this sheet are to be superseded by that shown on sheet 10A of 41 (Design Sheet 8A of 21).			
	10A of 41	This sheet (Design Sheet 8A of 21) is added. Details on this sheet are to supersede that shown on sheet 10 of 41 (Design sheet 8 of 21). The main change is in vertical column bar pattern.			
	6 & 11 of 41	Concrete quantities & backwall dimensions are changed. All items revised are identified by 1.			
	7 of 41	Dimensions in Section C-C changed as identified by 1.			
	4 of 41	Concrete & r bar quantities changed. All items revised are identified by 1.			
	2 of 41	Designs 1477 & 1579--Concrete & Reinforcing quantities changed. All items revised are identified by 1.			
	1 of 41	Sheets 1A, 19A, 19A & 22A added to and sheets 10, 19 & 22 deleted from "Index of Sheets". REASON: Bar patterns for Piers 3 & 4 of Design 1477 changed to facilitate Construction. Grates of floor drain on Design 1477 protrude into travelling lane of roadway; therefore, they are relocated. Plan error in reinforcing bar table on Design 1579. Abutment backwall reinforcing cover changed from 2" to 3" per FHWA request.			
12-9-80		Designs 1477 & 1579			
	35 of 41	Bridge Seat elevations corrected as marked by 2.			
	17 of 41	Welding symbols added to expansion device in section A-A as marked by 1.			
		REASON: Error in plan details. Bridge seat elevations were erroneously computed for Design 1579 and welding symbols erroneously omitted on Design 1477. No change in quantities.			
2-25-81		Design 1579			
	35 of 41	All changes marked by 3 are related to telephone conduits.			
	38 of 41	All changes as marked by 1 are related to telephone conduits. REASON: Contractor requested a change in the spacing of the telephone conduits for ease of installation. No change in quantities.			
3-3-81		Design 1479			
	17 of 41	All changes as marked by 2 are related to expansion joint in Section A-A. REASON: Expansion device modified as per FHWA's request. No change in quantities.			

IN LETTING OF June 17, 1980

DESIGN NO. 1479 DUBUQUE COUNTY		OVER LAKE PEOSTA CHANNEL		STA. 1549+22.60
SECTION 19		T-89N	R-3E	DUBUQUE TWP.
DESIGN FOR				
340' X 52' CONTINUOUS I-BEAM BRIDGE				
FINAL QUANTITIES				
NO.	ITEM		UNIT	TOTAL
1	Reinforcing Steel-Epoxy Coated		Lb.	85852
2	Reinforcing Steel-Grade 60		Lb.	262878
3	HP10x42	Furnish	Lin. Ft.	32195
4	Steel Piles	Drive	Lin. Ft.	3218.1
5	HP12x74	Furnish	Lin. Ft.	6875.5
6	Steel Piles	Drive	Lin. Ft.	6840
7	Pile Load Test		No.	3
8	Cofferdam		No.	4
9	Concrete-Class X		Cu. Yds.	692.8
10	Class 23 Excavation		Cu. Yds.	1384.1
11	Remove Existing Structure		L. S.	\$165,000.00
12	Subdrain, Perforated 4 in. diameter		Lin. Ft.	164
13	Additional Pile Load Test		No.	0
14	Structural Concrete		Cu. Yds.	1798.2
15	Granular Backfill		Cu. Yds.	441
16	Structural Steel		Lb.	395,800
17	Deck Drains		L.S.	\$150,000
18	Chain Link Fence (4')		Stas.	383.1
19	Joints, Steel Extrusion with neoprene		Lin. Ft.	104
20	Telephone Conduit		L.S.	\$180,000.00
21	Conduit, rigid steel, 2"Ø		Lin. Ft.	375
22	Maintenance of Traffic Traffic Control		L.S.	\$2000.00
23	Trainee Reimbursement		HRS.	13260

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	
13	See Art. 16 of Special Provision SP-299	
19	Pay Limit gutterline to gutterline (Final) Actual Length required to be placed shall be edge of slab to edge of slab with required curb section.	

DESIGN 1479 EXTRA WORK ORDERS			
NO	DESCRIPTION	UNIT	TOTAL
8001-HEAT&PROTECT CONCRETE		CUYD	67.33
8002-FILTER FABRIC		SQYD	2099.0
8003-REVTMENT, CLASS D		TON	1315.8
8004-SLUMP REQUIREMENT		NO PRICE ADJUST.	
8005-PILING, SPLICE HP10		ONLY	2
8006-PILING, SPLICE HP12		ONLY	16

Revised 7-28-80:
Designs 1479 & 1579--Concrete & reinforcing quantities changed. All items revised are identified by Δ.

IN LETTING OF June 17, 1980

DESIGN NO. 1779		AT LAKE PEOSTA CHANNEL	
DUBUQUE COUNTY			
SECTION 19		T-89N R-3E	DUBUQUE TWP.
RETAINING WALLS			
FINAL QUANTITIES			
NO.	ITEM	UNIT	TOTAL
24	Structural Concrete	Cu. Yds.	364.7
25	Reinforcing Steel Grade 60	Lbs.	35,590
26	Reinforcing Steel-Epoxy Coated	Lbs.	6,115
27	Class 23 Excavation	Cu. Yd.	532.9
28	Class 20 Excavation	Cu. Yd.	598.2
29	Chain Link Fence (4')	Stas.	0.74
30	Subdrain, Perforated 4 inch diameter	Lin. Ft.	171
31	Compacted Foundation Material	Cu. Yd.	281.0
32	HP10x42 Furnish	Furnished Lin. Ft.	3871.3
33	Steel Piles Drive	Driven Lin. Ft.	3869.1

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	
DESIGN 1779			
EXTRA WORK ORDERS			
NO.	DESCRIPTION	UNIT	TOTAL
8001	HEAT & PROTECT CONCRETE	CU YD.	183.5

IN LETTING OF

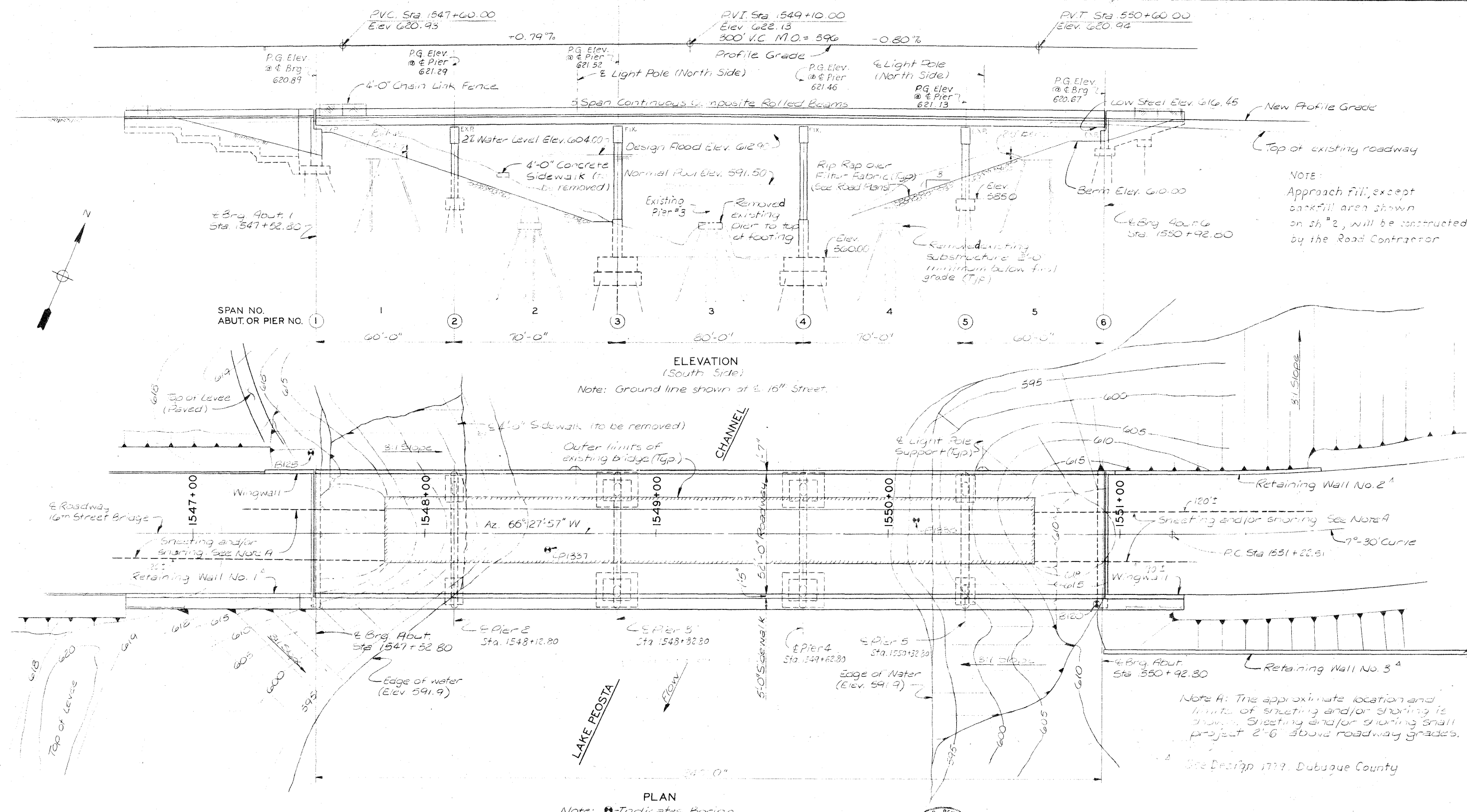
June 17, 1980

DESIGN NO. 1579		IOWA APPROACH TO CITY		STA. 85 + 05.50
DUBUQUE COUNTY		CITY ISLAND BRIDGE		
SECTION 19		T-89N R-3E		DUBUQUE TWP.
DESIGN FOR				
116'-6 X VARI. SINGLE APPROACH SPAN				
FINAL QUANTITIES				
NO.	ITEM		UNIT	TOTAL
34	Structural Concrete		Cu. Yds.	1790
35	Reinforcing Steel Grade 60		Lb.	14264
36	Reinforcing Steel- Epoxy Coated		Lb.	1,100
37	Class 20 Excavation		Cu. Yds.	256.4
38	Pile Load Test		No.	1
39	HP 10 x 42	Furnish	Lin. Ft.	3388
40	Steel Piles	Drive	Lin. Ft.	3388
41	Granular Backfill		Cu. Yds.	270
42	Subdrain		Lin. Ft.	150
43	Additional Pile Load Test		No.	0
44	Structural Steel		Lb.	309,940
45	Telephone Conduit		L.S.	0000

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	
43	See Art. 13 of SP-300.	

DESIGN 1579 EXTRA WORK ORDERS			
NO	DESCRIPTION	UNIT	TOTAL
8001-SLUMP REQUIREMENT		NO PRICE ADJUST.	
8002-TELEPHONE CONDUIT		L.S.	9430.00
8003-PILING, SPLICE		ONLY	8

FINAL QUANTITIES
SHEET



BENCH MARK
 BM. 3A—IDOT BM IN RETAINING WALL NO. 3
 BM. 3B—IDOT BM IN N.E. BARRIOR RAIL
 BM. 3C—CUT X IN NW BARRIOR RAIL

STA. 1551+25 RT 50.5' ELEV.—618.73
 STA. 1550+95 LT. 30' ELEV.—622.77
 STA. 1547+60 LT. 30' ELEV.—623.08

PLAN
 Note: • Indicates Boring



IOWA APPROACH MISSISSIPPI RIVER BRIDGE LAKE PEOSTA CHANNEL - 16TH STREET BRIDGE

GENERAL PLAN AND ELEVATION

DUBUQUE COUNTY, IOWA - GRANT COUNTY, WISCONSIN

IOWA DEPARTMENT OF TRANSPORTATION

SVERDRUP & PARCEL AND ASSOCIATES, Inc.
 CONSULTING ENGINEERS
 ST. LOUIS, MO.

NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS.

DESIGN NO. 1479 FILE NO. 25896 DES. SH. NO. 1 OF 21
 PROJECT SRP-561-4(2)-38-31 PROJECT SH. NO. 3 OF 41

5818
 805019
 DRAWN BY: S. Stegman
 CHECKED BY: R. D. Thibault
 JAN. 1980
 4/80

CONSTRUCTION SPECIFICATIONS:

IOWA DEPARTMENT OF TRANSPORTATION, SERIES OF 1977,
STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION,
CURRENT SUPPLEMENTAL SPECIFICATION AND SPECIAL PROVISIONS.

DESIGN SPECIFICATION:

THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION
OFFICIALS "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES"
TWELFTH EDITION, 1977, AND THE 1978 AND 1979 SPECIFICATIONS.

DESIGN LOADS:

DEAD LOAD: WEIGHT OF STRUCTURE INCLUDING AN ALLOWANCE
OF 20 POUNDS PER SQUARE FOOT OF ROADWAY FOR FUTURE WEARING
SURFACE

LIVE LOAD: INTERSTATE HIGHWAY BRIDGE LOADING, HS20-44
AND ALTERNATE MILITARY LOADING

REPETITIVE LOAD: AASHTO CASE II FOR REDUNDANT AND
NONREDUNDANT STRUCTURES

WIND LOAD: AS SPECIFIED IN AASHTO SPECIFICATIONS AND
IS CONSIDERED AN UNBROKEN MOVING LOAD. IDENTICAL LOADED
LENGTH OF WIND-ON-LIVE LOAD AND WIND-ON-STRUCTURE IS USED.

THERMAL FORCE: AS SPECIFIED IN AASHTO SPECIFICATIONS
CONSISTENT WITH A COLD CLIMATE.

SEISMIC FORCE: AS SPECIFIED IN AASHTO SPECIFICATIONS,
EQUIVALENT STATIC FORCE METHOD, ZONE I, WITH A COMBINED
RESPONSE COEFFICIENT OF C=0.06.

STREAM CURRENT: 4 FT/SEC AS PER AASHTO 1.2.17 APPLIED
NORMAL TO THE CENTERLINE OF BRIDGE AT ELEVATION 598.00.

FLOW ICE: 18-INCH THICKNESS AS PER AASHTO 1.2.17 APPLIED
NORMAL TO THE CENTERLINE OF BRIDGE AT ELEVATION 598.00

CONCRETE:

CONCRETE FOR THE ABUTMENTS AND ALL PIERS SHALL BE
CLASS C.

CONCRETE FOR THE BRIDGE FLOOR, AND PARAPET BARRIERS
SHALL BE CLASS D.

ALL EXPOSED CORNERS OF 90° OR SHARPER ARE TO BE FORMED
WITH A 3/4" DRESSED AND BEVELED FILLET.

REINFORCEMENT:

REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60, ASTM A616,
GRADE 60 OR ASTM A617, GRADE 60.

ALL TRANSVERSE AND LONGITUDINAL REINFORCEMENT IN THE TOP LAYER OF THE
BRIDGE FLOOR, SIDEWALK AND IN THE PARAPET BARRIERS IS TO BE EPOXY COATED.

ALL DIMENSIONS TO REINFORCING STEEL ON DETAIL DRAWINGS ARE TO
CENTERLINE OF BAR EXCEPT WHERE CLEAR DISTANCE IS NOTED FROM THE FACE OF
CONCRETE. ALL REINFORCING STEEL IS LAPPED IN ACCORDANCE WITH AASHTO
SPECIFICATION 1.5.22 UNLESS OTHERWISE SHOWN OR NOTED.

GENERAL NOTES

DESIGN UNIT STRESSES FOR REINFORCED CONCRETE:

CLASS C AND CLASS D CONCRETE
REINFORCING STEEL

$$F_c = 1,400 \text{ PSI } N=10$$
$$F_s = 24,000 \text{ PSI}$$

STRUCTURAL LOW-ALLOY STEEL:

STRUCTURAL LOW-ALLOY STEEL SHALL CONFORM TO ASTM A588.

HIGH STRENGTH BOLTS:

HIGH STRENGTH BOLTS SHALL BE FRICTION TYPE AND SHALL CONFORM TO
ASTM A325, TYPE 3 UNLESS OTHERWISE SHOWN OR NOTED.

BASIC DESIGN UNIT STRESSES FOR STEEL:

ALLOWABLE TENSION

STRUCTURAL LOW-ALLOY STEEL $F_s = 27,000 \text{ PSI}$

PILING:

HP10x42-50 TONS MAXIMUM LOAD - ABUTMENTS
HP 12 x 74 - 100 TONS MAXIMUM LOAD PIERS

SPAN LENGTH:

THE SPAN LENGTH SHOWN IS AT A NOMINAL TEMPERATURE OF
50° F.

CONNECTIONS:

ALL SHOP AND FIELD CONNECTIONS, OTHER THAN WELDED OR AS NOTED,
SHALL BE MADE WITH 7/8" HIGH STRENGTH BOLTS.

WELDING:

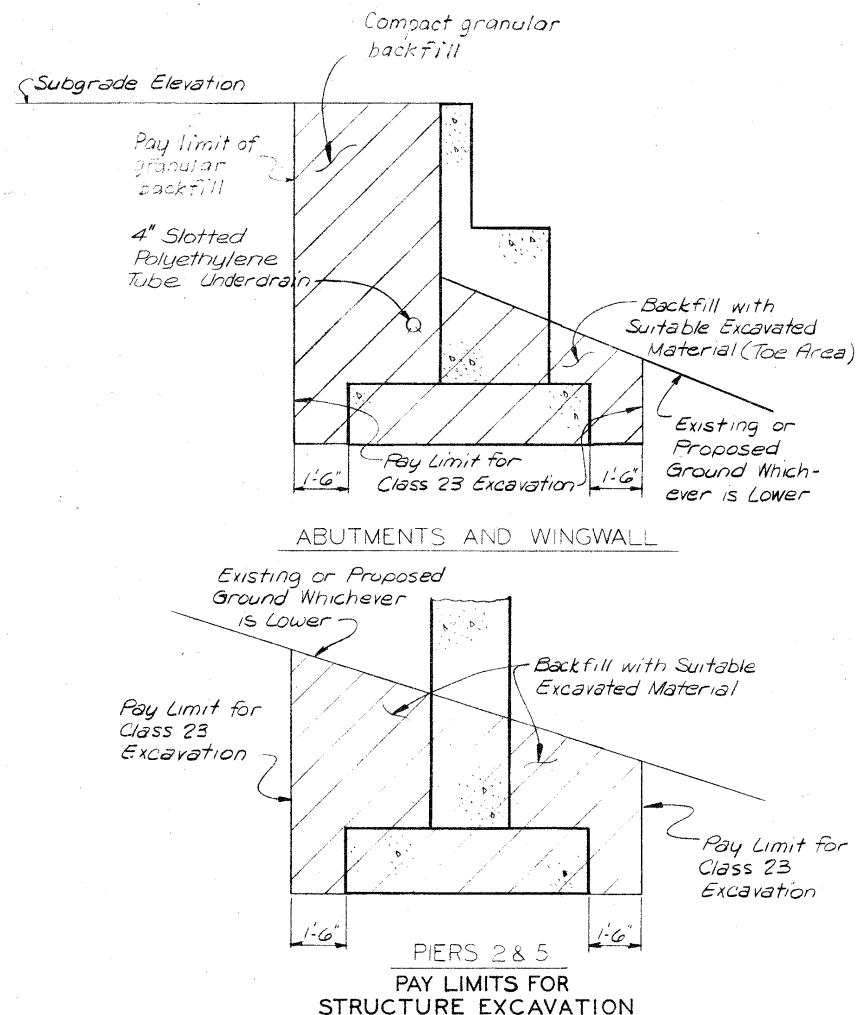
ALL WELDING SHALL CONFORM TO THE SUPPLEMENTAL SPECIFICATIONS FOR
STRUCTURAL STEEL, APRIL 1, 1980, SPECIFICATION 860.
A COMPLETE PENETRATION GROOVE WELD SHALL BE USED WHENEVER THE TERM
"GROOVE WELD" IS USED ON THE PLANS.

PAINTING OF WORK:

SEE SPECIAL PROVISIONS

CONSTRUCTION JOINTS:

ALL CONSTRUCTION JOINTS UNLESS OTHERWISE SHOWN SHALL
BE KEYED ONE THIRD OF THE DEPTH WITH A 2" PROJECTION.



PAY LIMITS FOR
STRUCTURE EXCAVATION

DESIGN
SHEET

NO	TITLE
1.	GENERAL PLAN AND ELEVATION
2.	GENERAL NOTES, QUANTITIES, PILE DATA AND INDEX
3.	BORING LOGS, AND MISCELLANEOUS DETAILS
4.	ABUTMENT 1
5.	ABUTMENT 1 DETAILS
6.	ABUTMENT 1 DETAILS, AND MISCELLANEOUS
7.	PIERS 2 AND 5
8.	PIERS 3 AND 4
9.	ABUTMENT 6
10.	ABUTMENT 6 DETAILS
11.	FRAMING PLAN, BEAM ELEVATION, AND PIN ELEVATIONS
12.	DIAPHRAGMS, AND BEAM DETAILS
13.	DEAD LOAD DEFLECTION DIAGRAM, HAUNCH HEIGHTS, AND TOP OF SLAB ELEVATIONS
14.	BEARINGS
15.	BRIDGE FLOOR AND EXPANSION DEVICE
16.	PARAPET BARRIER AND FENCE DETAILS
17.	DRAINAGE
18.	CONSTRUCTION SEQUENCE
19.	BAR LIST
20.	BAR LIST
21.	BAR LIST
21A.	JACKING BEAM FOR PILE LOAD TEST.

PILE DATA

	ABUT. 1	PIERS 2 & 5	PIERS 3 & 4	ABUT. 6
Pile Type and Size	HP10 x 42	HP12 x 74	HP12 x 74	HP10 x 42
Number	30	36	52	25
Estimated Pile Tip Elev.	500	509	484	550
Average Estimated Length				
Design Bearing Tons/pile	46.7	71.9	99.0	49.5

ESTIMATED QUANTITIES

SUBSTRUCTURE										SUPERSTRUCTURE		
ITEM	UNIT	ABUT. 1	PIER 2	PIER 3	PIER 4	PIER 5	ABUT. 6	TOTAL		ITEM	UNIT	QUANTITY
Reinforcement - Epoxy Coated	Lb.	1220					2280	3500		Structural Steel	Lb.	413,000
Reinforcement - Grade 60	Lb.	17,410	20,120	57,976	57,976	20,120	19,580	193,176		Structural Concrete	C.Y.	659.1
Steel Piles	HP10 x 42	Furnish	Lin. Ft.	1654			1472	3126		Reinforcing Steel - Grade 60	Lb.	68,270
	Drive	Lin. Ft.	1594				1422	3016		Reinforcing Steel (Epoxy coated)	Lb.	81,940
Pile Load Test	HP12 x 74	Furnish	Lin. Ft.		1346	1924	1346	6540		Deck Drains	LS	L.S.
	Drive	Lin. Ft.		1310	1872	1872	1310	6364		Chain Link Fence (4')	Stas	383
Cofferdam	No.			2	2			4		Joints, Steel Extrusion with neoprene	LF	104*
Concrete - Class X	C.Y.			290.4	290.4			580.8		Telephone Conduit	LS	L.S.
Class 23 Excavation	C.Y.	401.6	298.7			298.7	273.1	1272.1		Light, rigid steel, 2" φ	Lin. Ft.	375
Remove Existing Structure	LS							L.S.		Maintenance of Traffic	L.S.	L.S.
Subdrain, Perforated 4 in. dia.	Lin. Ft.	75.0					84.0	159.0		* Pay Limit gutterline to gutterline (Final) Actual Length required to be placed shall be edge of slab to edge of slab with required curb section.		
Additional Pile Load Test	No.							2				
Structural Concrete	C.Y.	192.7	156.2	223.1	223.1	156.2	154.3	1124.1				
Granular Backfill	C.Y.	239					202	441				

Revised (7-28-80) Concrete & r-bar
quantities changed. All items
revised are identified by Δ

Δ See Art. 16 of Special Provision SP229

CONCRETE BREAKDOWN (C.Y.)	ABUT. 1	PIER 2	PIER 3	PIER 4	PIER 5	ABUT. 6	SUPER
CLASS C	152.5	156.2	223.1			157.6	
CLASS D	40.2					26.7	659.1

NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS.

IOWA APPROACH
MISSISSIPPI RIVER BRIDGE
LAKE PEOSTA CHANNEL-16TH STREET BRIDGE
GENERAL NOTES, QUANTITIES, PILE DATA, AND INDEX
DUBUQUE COUNTY, IOWA - GRANT COUNTY, WISCONSIN
IOWA DEPARTMENT OF TRANSPORTATION

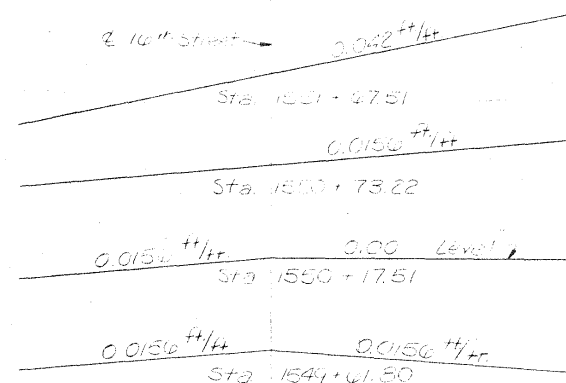
DESIGN NO. 1479 FILE NO. 25898 DES. SH. NO. 2 OF 21

PROJECT: RRF-561-4(53)-38-91 PROJECT SH. NO. 11 OF 41

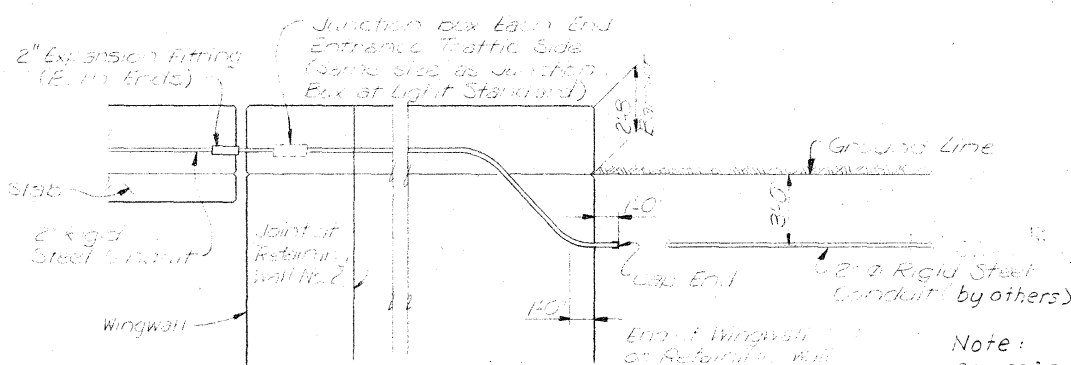
ELEV.	Station: 1550+90	Offset: 30' Rt.	ELEV.	Station: 1548+53	Offset: 7' Rt.	ELEV.	Station: 1550+12	Offset: 6' Lt.	ELEV.	Station: 1547+50	Offset: 35' Lt.
610	610.59		610	610.79		610	619.79		610	617.5	
	609.99									615.5	
	12	Stiff sandy clay fill			Bridge floor to water					2	Gravel & Boulder Fill
600		4 Fine sand & rip rap fill	600			600			600	600.5	19 Medium sand with occ. small clay seam fill
	593.6	6		594.3	Water		594.3	Water		12	Rip Rap Fill
590		9 Fine sand with occ. clay layers	590		Water	590	589.8	Water	590	594.5	3
		17		588.3	Rip Rap		588.3			5	
580		12	580			580			580	582.0	25 Stiff silt washed in
	576.6	22								34	
570		13 Slightly packed medium sand with occ. gravel layers & boulders	570		Fine sand with occ. silty clay layers	570			570		15 Medium sand with occ. small silt seam, with occ. fine sand seam
560		18	560	559.8		560	557.8		560		22
550	550.0	27 Plan Pile Tip Elev.	550			550			550	550.0	37 Plan Pile Tip Elev.
540		56	540			540			540		64
530		66	530			530			530		23
				484.0	Plan Pile Tip Elev. Pier 3					24	
520		48	520			520			520		42
510		57	510			510	509.0	Plan Pile Tip Elev. Pier 5	510		
500	499.6	100	500			500			500	508.5	
490			490			490			490		
				486.8							
							481.80				

Boring Note:
Boring data is furnished for information only and may or may not represent the actual conditions which may be found when the work is executed.

▼ Denotes Water Elevation

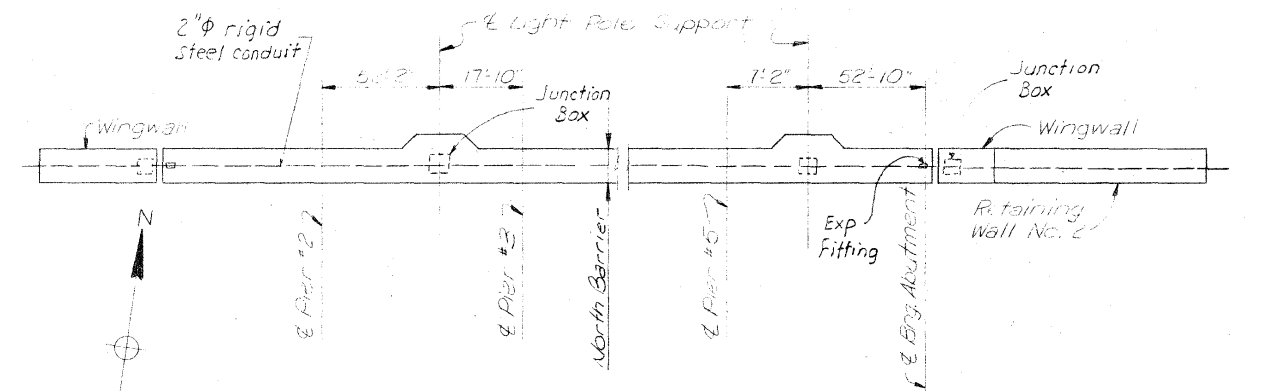


TYPICAL ROADWAY CROSS SECTIONS
Looking ahead on stationing.

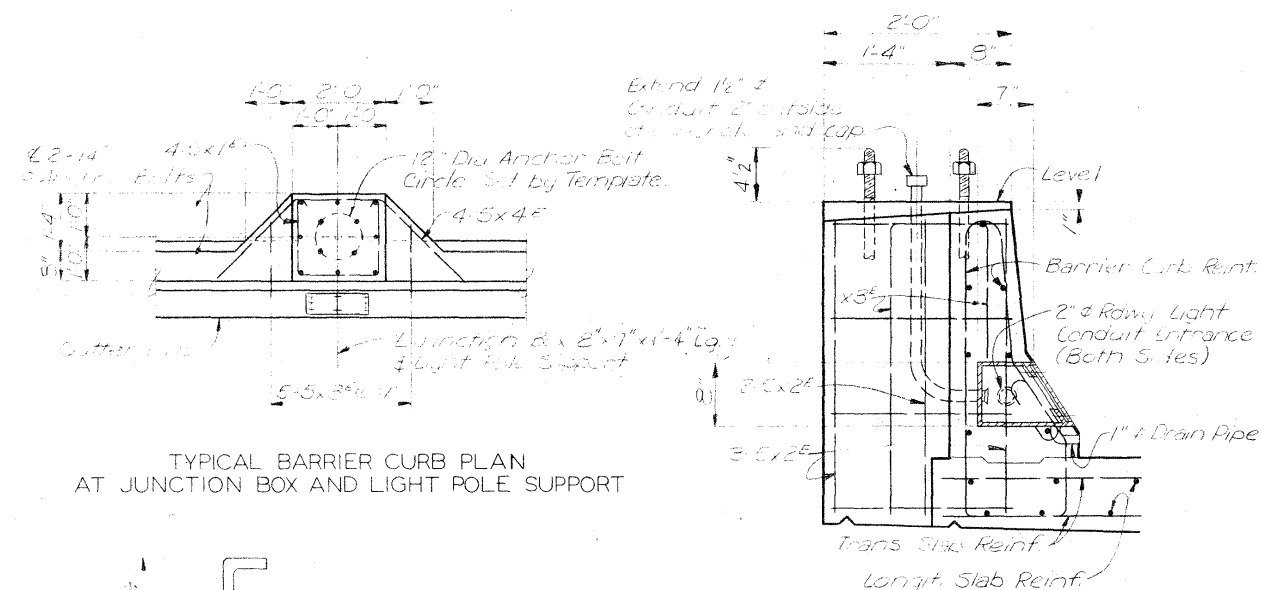


CONDUIT PLACEMENT IN WINGWALL

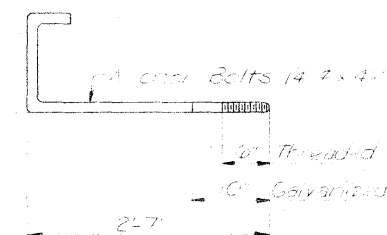
Note: The cost of expansion fittings, junction boxes & end caps shall be included in the price bid for 2" rigid conduits.



LIGHTING SUPPORT LOCATION PLAN



TYPICAL BARRIER CURB PLAN AT JUNCTION BOX AND LIGHT POLE SUPPORT



ANCHOR BOLTS
(If Required)

TYPICAL BARRIER CURB SECTION AT JUNCTION BOX AND LIGHT POLE SUPPORT

Note: All conduits shall be high galvanized steel.

**IOWA APPROACH
MISSISSIPPI RIVER BRIDGE
LAKE PEOSTA CHANNEL - 16TH STREET BRIDGE**

BORING LOGS AND MISCELLANEOUS DETAILS

DUBUQUE COUNTY, IOWA - GRANT COUNTY, WISCONSIN

IOWA DEPARTMENT OF TRANSPORTATION

NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS.

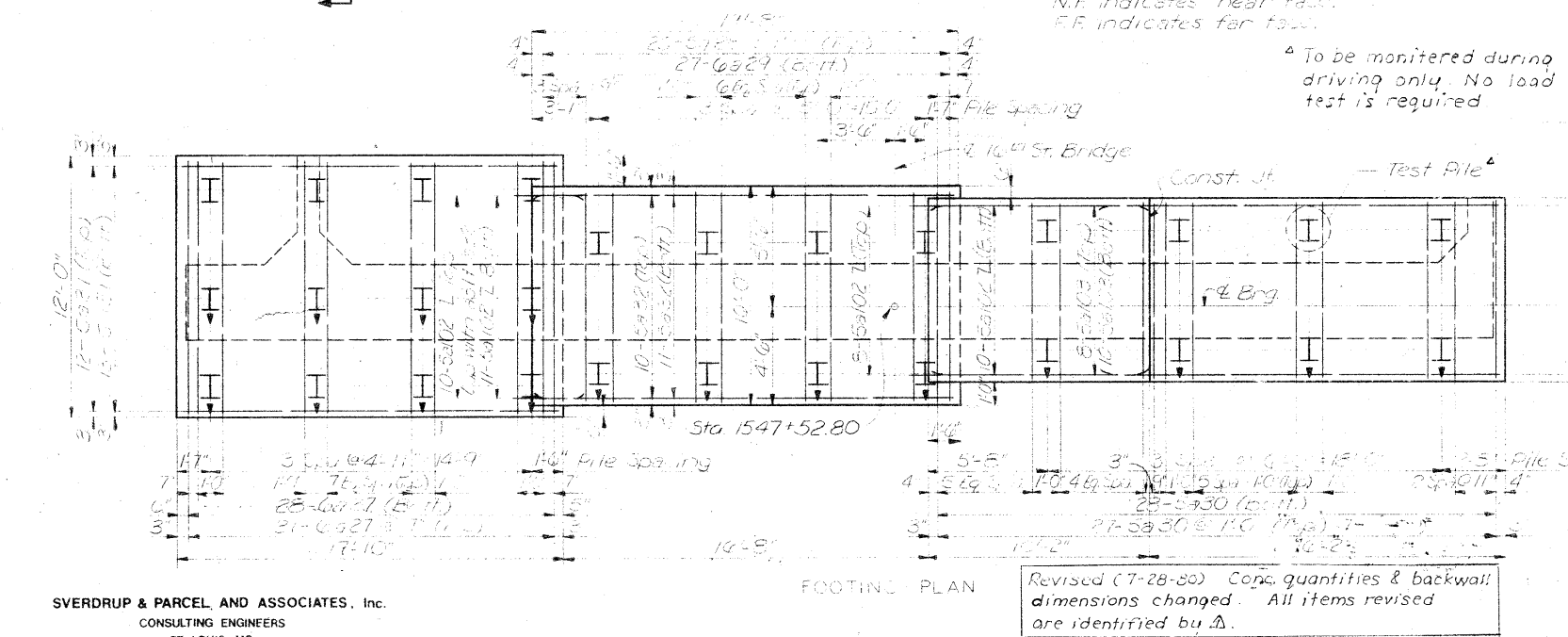
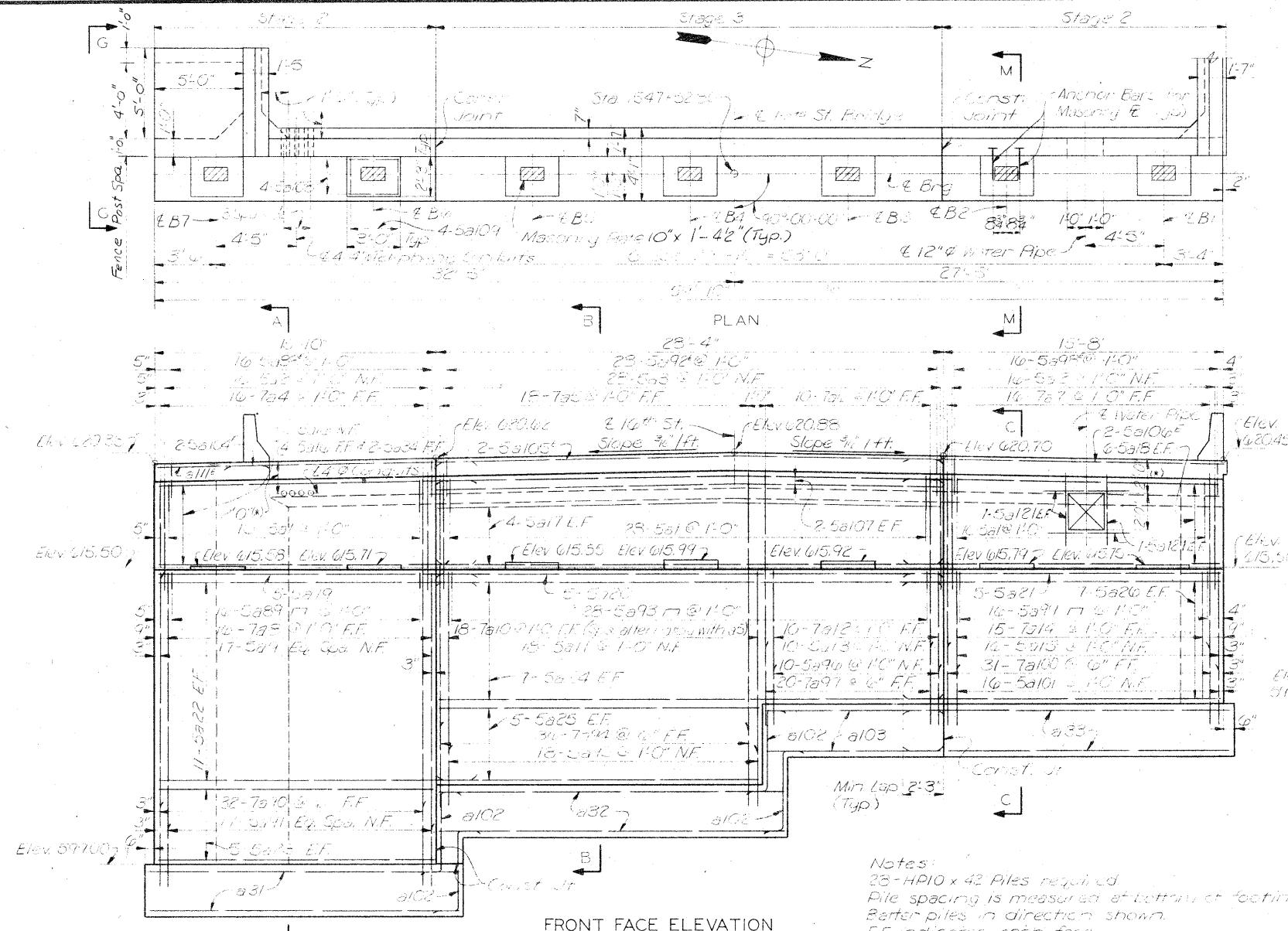
DESIGN NO. 1479 FILE NO. 25896 DES. SH. NO. 3 OF 21

5818
DRAWN BY: J. P. ...
CHECKED BY: J. D. ...
DATE: 4/10

SVERDRUP & PARCEL AND ASSOCIATES, Inc.
CONSULTING ENGINEERS
ST. LOUIS, MO.

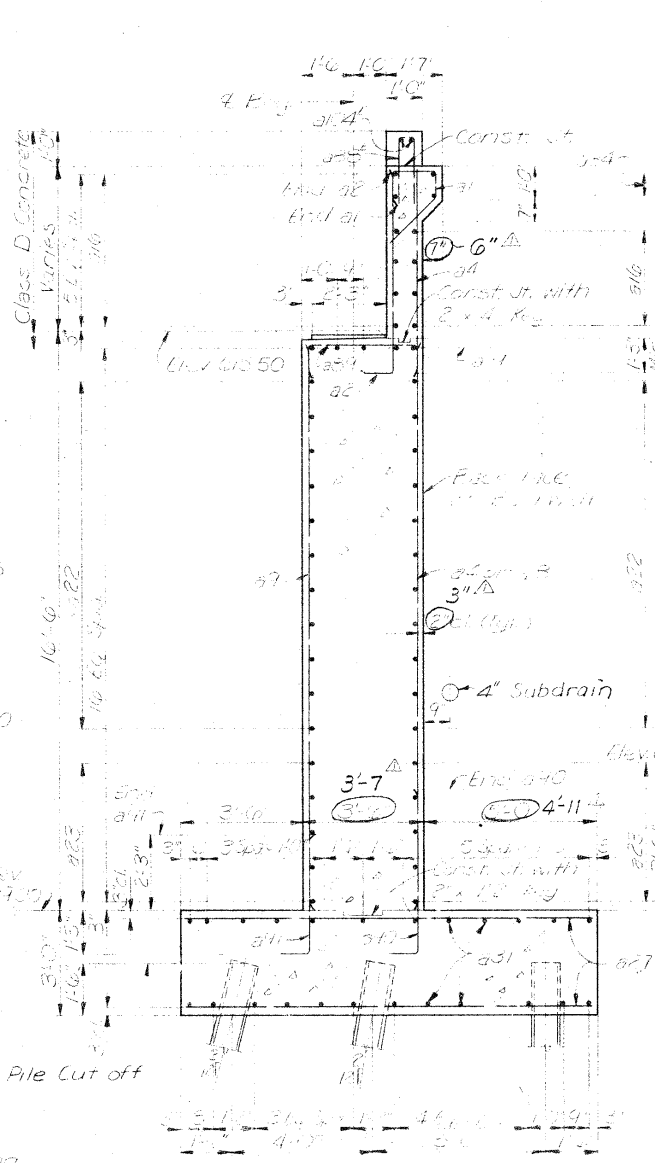
DRAWN BY: C. WILSON, P.E. 0180
 CHECKED BY: C. WILSON, APR. 1980
 5818
 BOS122

SVERDRUP & PARCEL AND ASSOCIATES, Inc.
 CONSULTING ENGINEERS
 ST. LOUIS, MO.

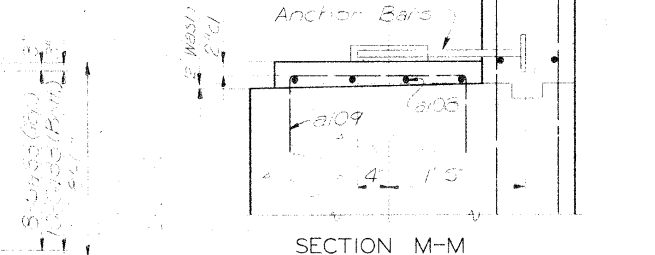


Notes:
 28-HPI0 x 42 Piles required.
 Pile spacing is measured at bottom of footing.
 Barter piles in direction shown.
 EF indicates each face.
 NF indicates near face.
 FR indicates far face.

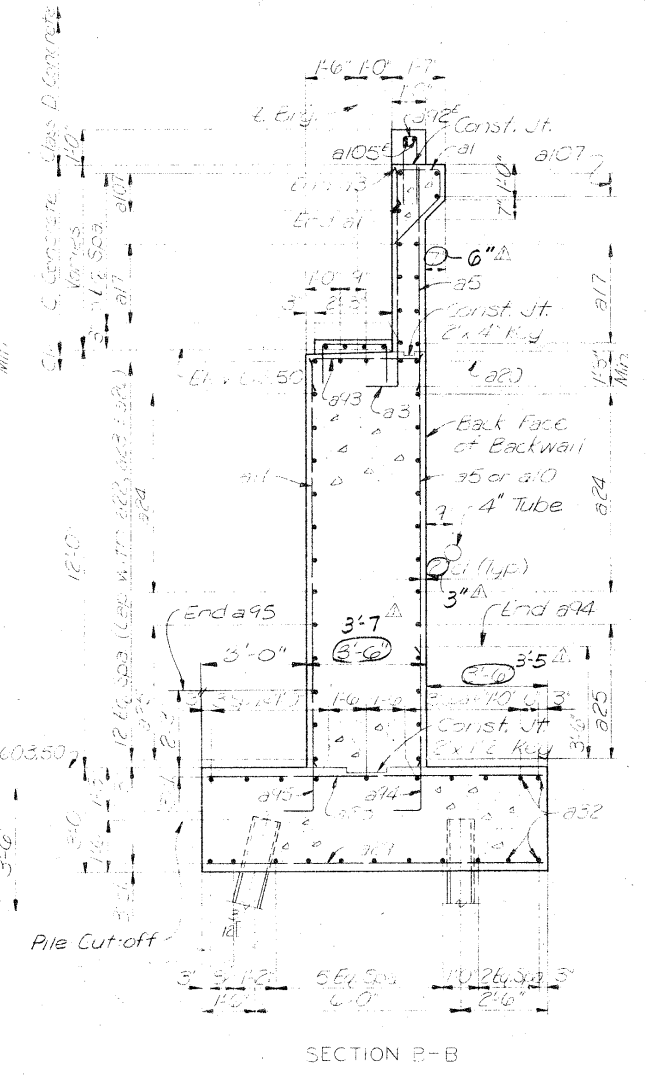
To be monitored during driving only. No load test is required.



Note: Bearing plate shall be set prior to placement of backwall concrete.



See Bearing Details for additional information.
 Omit pedestal reinforcement for Beams B1 & B7.



NOTES

All exposed corners of 90° or sharper are to be filleted with a 3/4" dressed and beveled strip.
 Reinforcement in backwall to clear opening for 12" water pipe.
 Minimum clear distance from face of concrete to near reinforcing bar is to be 2" unless otherwise noted or shown.
 Work this sheet with Des. Sh. No. 5 & 6.
 Verify this dimension in the field.
 For Expansion Device Details see Des. Sh. No. 15.

PILE SCHEDULE			
		Drive	Furnish
Abut	A	4-Vert.	48.0
		4-3 in 12	49.0
		4-2 in 12	48.0
		4-1 in 12	48.0
B		4-Vert.	52.0
		4-3 in 12	54.0
		4-2 in 12	54.0
		4-1 in 12	54.0
C		4-Vert.	57.0
		4-3 in 12	58.0
		4-2 in 12	58.0
		4-1 in 12	58.0
Wingwall		1-Vert.	64.0
		1-3 in 12	66.0

For Steel Piles the "Furnish" length shown provides an allowance of 2 ft. per pile for overdriving.

ESTIMATED CONCRETE QUANTITIES		
	Class C	Class D
Sidewalk & Barrier	20.1	22.3
Backwall & Wingwall	87.1	9.7
Bridge Seat & Stem	75.3	9.7
Footing	184.7	9.7
Total	267.2	41.4

IOWA APPROACH MISSISSIPPI RIVER BRIDGE LAKE PEOSTA CHANNEL - 16TH STREET BRIDGE

ABUTMENT I

DUBUQUE COUNTY, IOWA - GRANT COUNTY, WISCONSIN

IOWA DEPARTMENT OF TRANSPORTATION

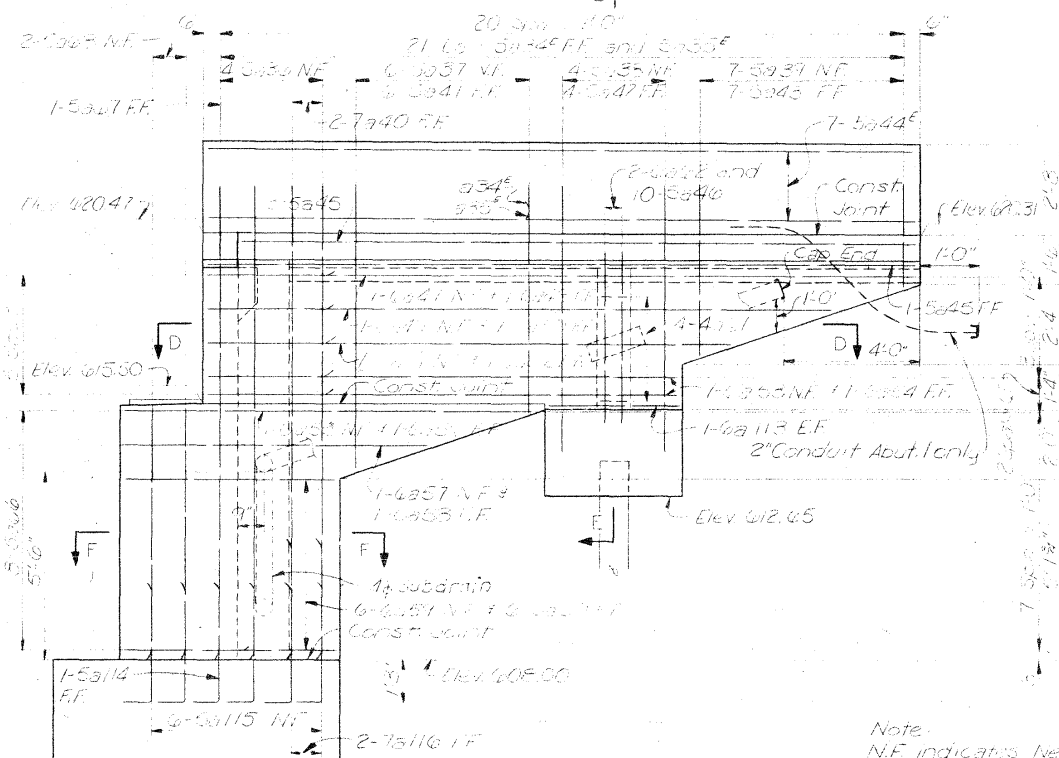
DESIGN NO. 1479 FILE NO. 25896 DES. SH. NO. 4 OF 21

PROJECT BRP-561-4 (5)-36-32 PROJECT SH. NO. 6 OF 41

NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS.

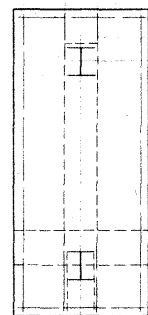
Revised (7-28-80) Conc. quantities & backwall dimensions changed. All items revised are identified by Δ.

WINGWALL PLAN



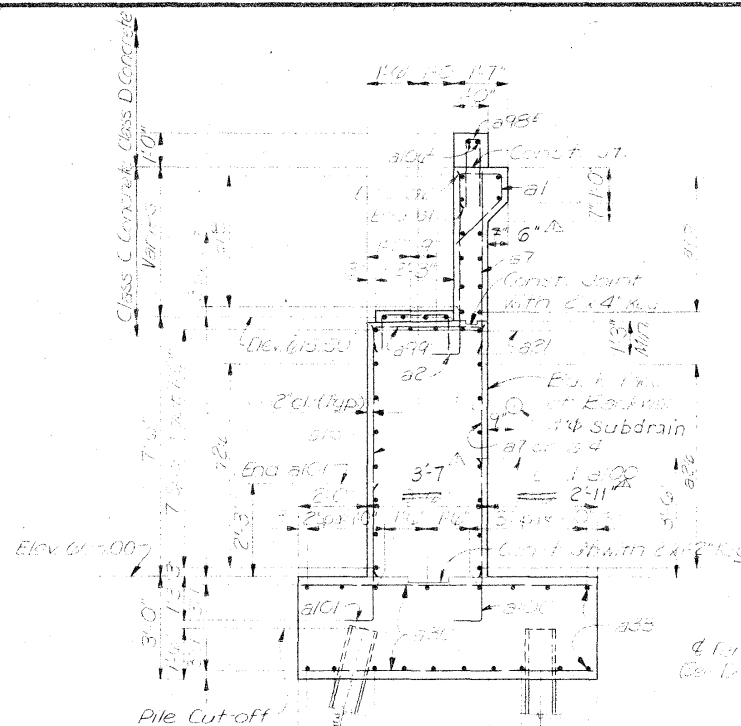
WINGWALL ELEVATION

Notes:
2-HPIG + 42 Piles required
For additional Abutment notes
see Des. En. No. 496.

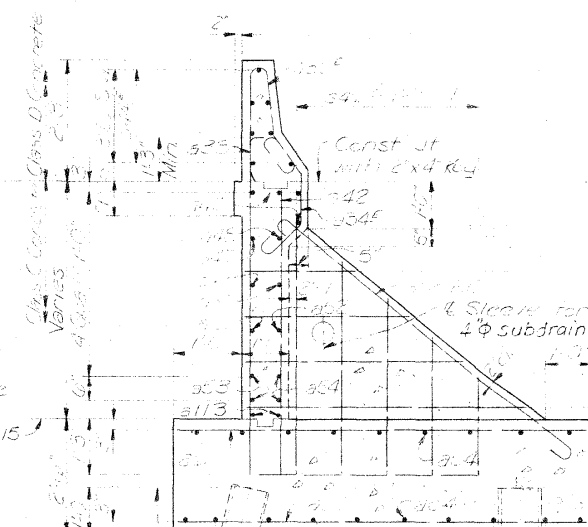


WINGWALL FOOTING PLAN

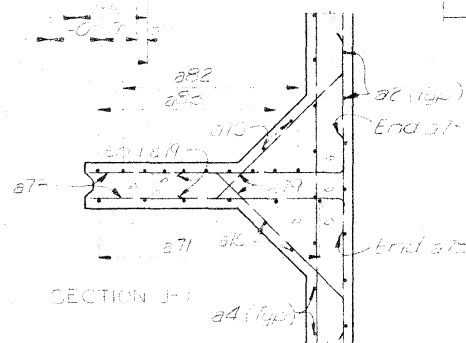
SVERDRUP & PARCEL AND ASSOCIATES, Inc.
CONSULTING ENGINEERS
ST. LOUIS, MO.



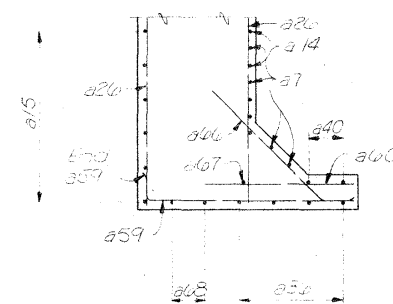
SECTION C-C



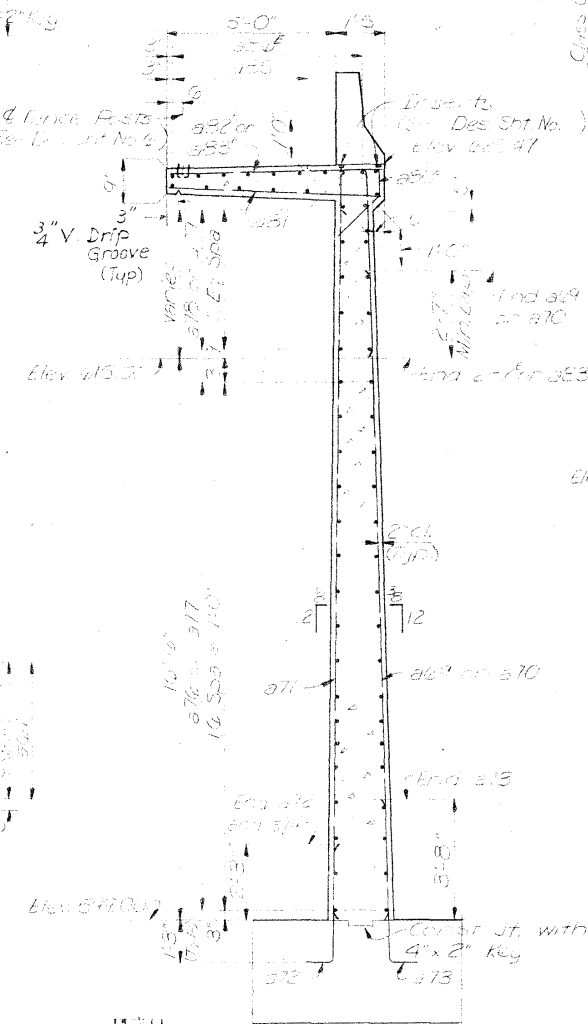
SECTION E-E



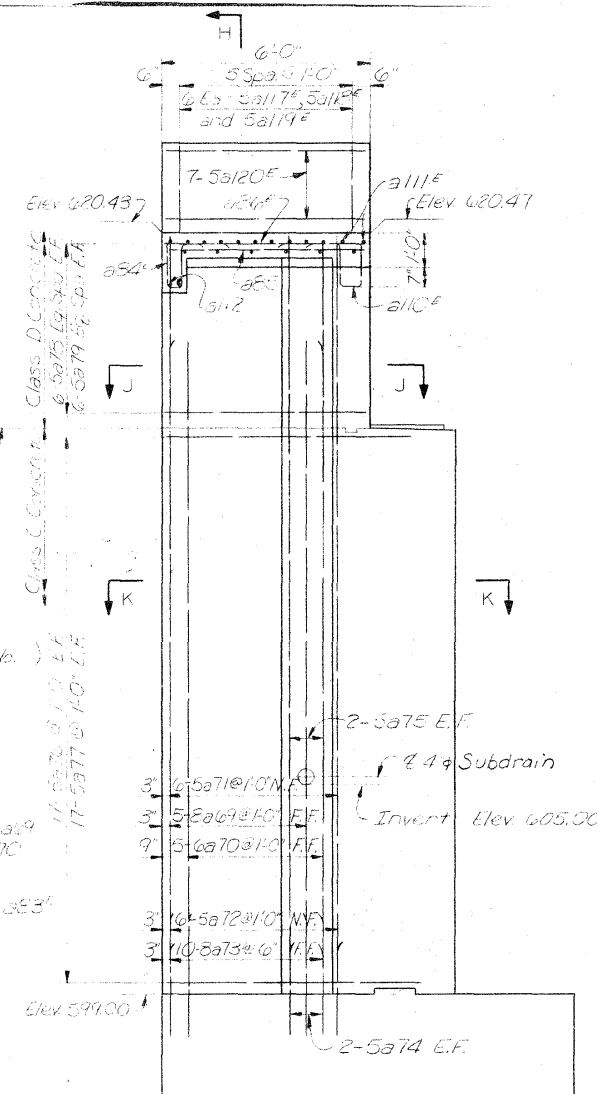
SECTION J-3



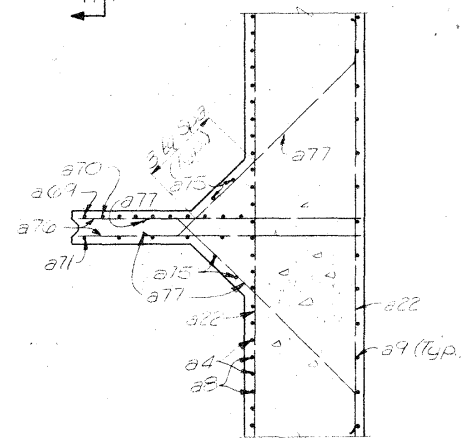
SECTION F-F Const. of
Elev. 615.50



SECTION H-H



VIEW G-G



SECTION K-F

**IOWA APPROACH
MISSISSIPPI RIVER BRIDGE
LAKE PEOSTA CHANNEL - 16TH STREET BRIDGE
ABUTMENT I DETAILS**

DUBUQUE COUNTY, IOWA - GRANT COUNTY, WISCONSIN

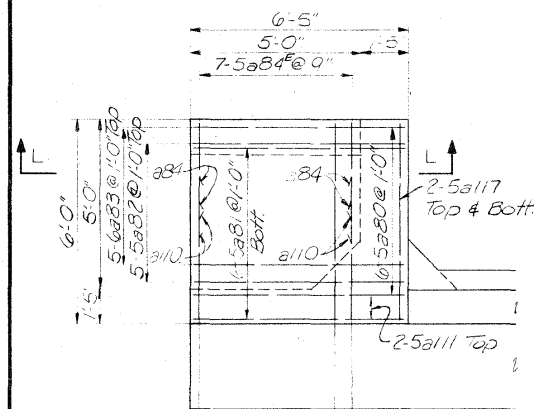
IOWA DEPARTMENT OF TRANSPORTATION

Revised (7-28-80)
Dimensions in Section
C-C changed as identi-
fied by Δ .

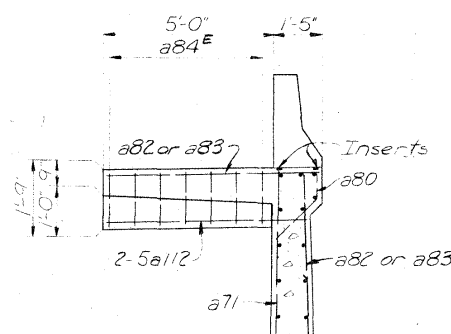
NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS.

DESIGN NO. 1479 FILE NO. 25896 DES. SH. NO. 5 OF 21

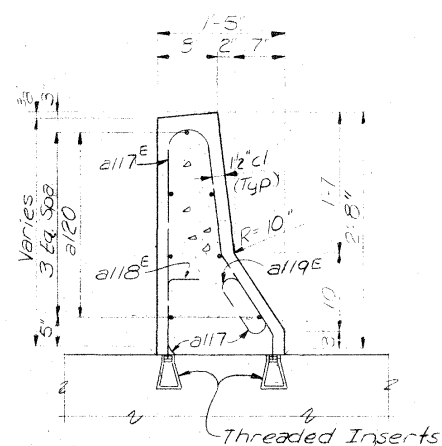
PROJECT BRP-561-4(5)--38-31 PROJECT SH. NO. 7 OF 41



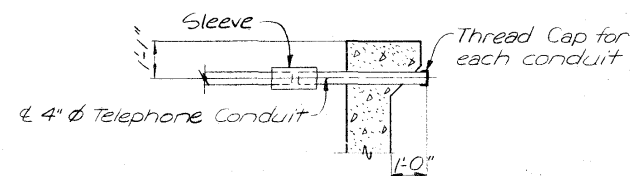
TOP PLAN OF SIDEWALK



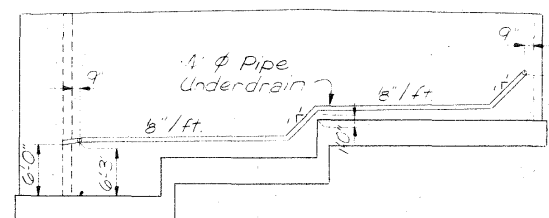
SECTION L-L



SECTION THRU BARRIER
For Insert notes see Des. Sht. No. 16.

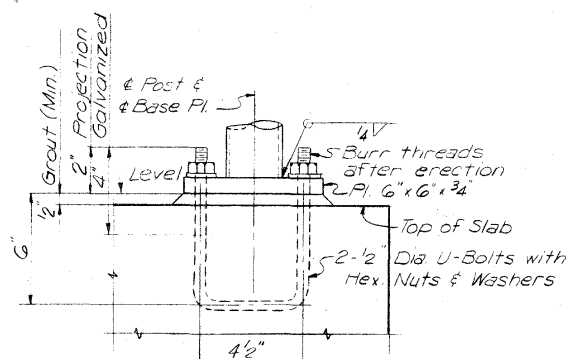


TERMINATION OF
TELEPHONE CONDUIT

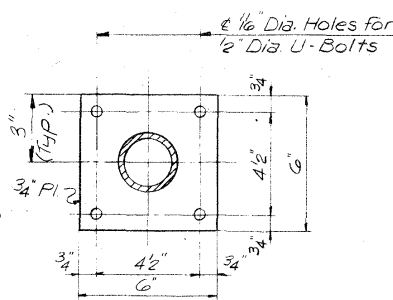


DRAIN LOCATION AT ABUTMENT-1

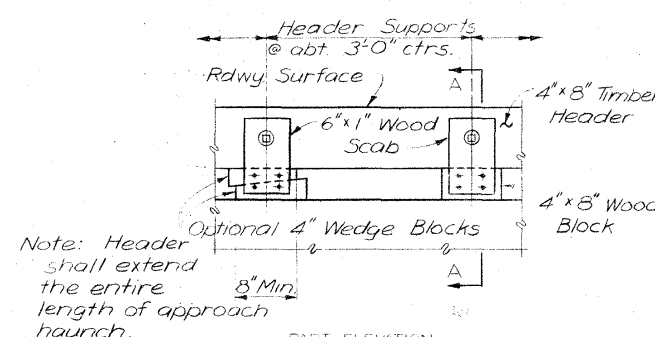
Note: Work this sheet with Des. Sht. No. 4#5.



DETAIL A

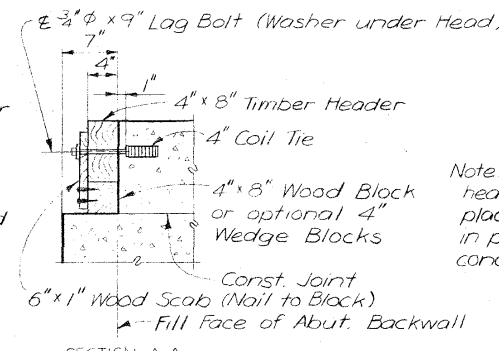


PLAN OF BASE PLATE



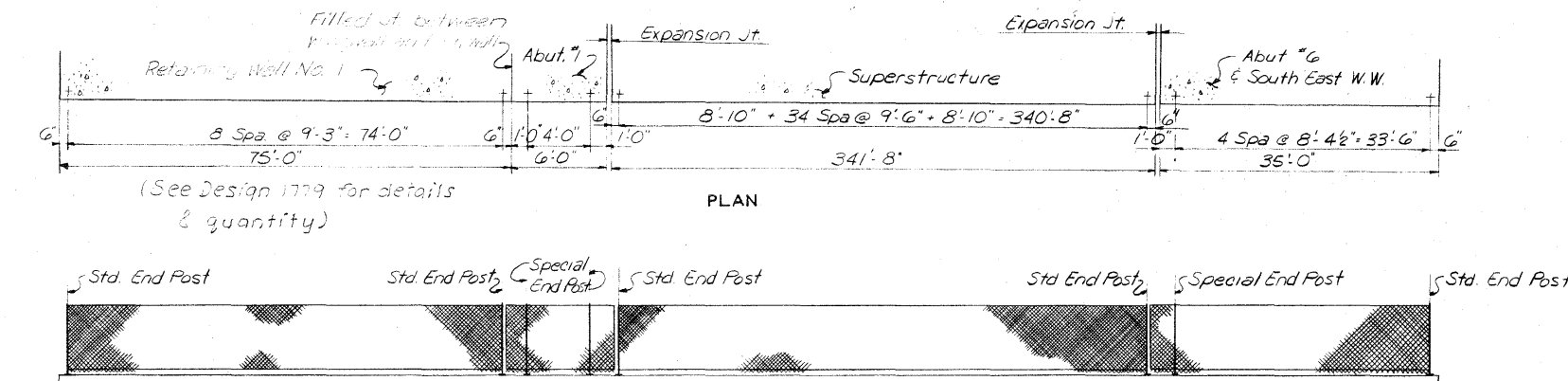
Note: Header shall extend the entire length of approach haunch.

PART ELEVATION

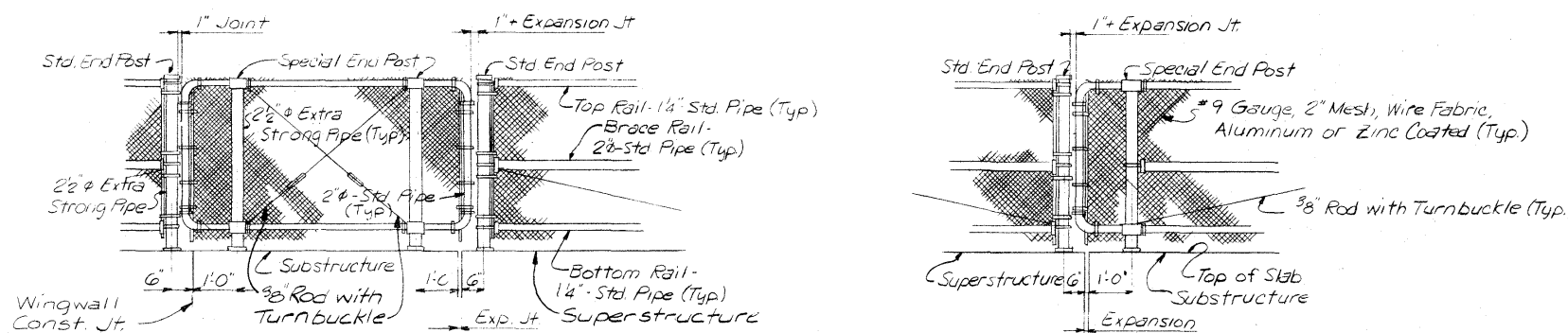


DETAILS OF TIMBER HEADER
(Typical at Abutments 1 & 6)

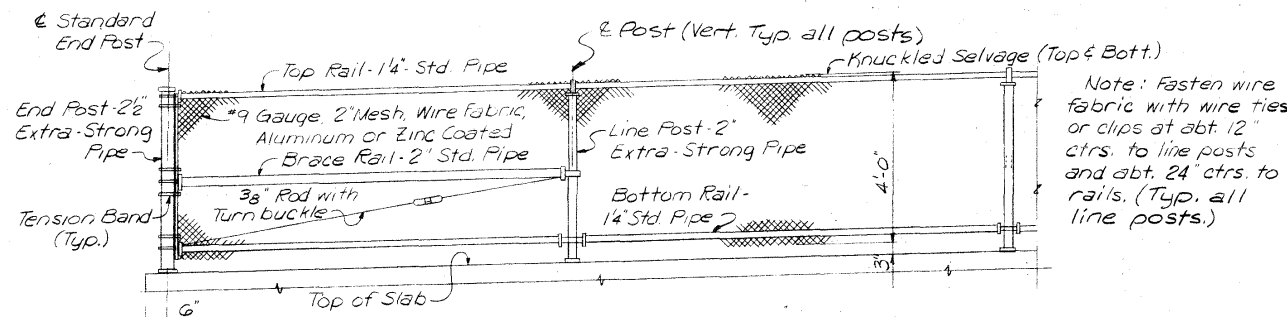
NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS.



PLAN & ELEVATION OF FENCE ALONG SOUTH SIDE



FENCE DETAILS
(South Side)



PART ELEVATION OF FENCE
(Standard End Sections)

NOTES

The chain link fence is to be bid on a station basis measured from & to & of end posts. The price bid for "Chain Link Fence, as per plan" shall be full compensation for furnishing all material, including concrete anchors, and all of the equipment and labor required to erect the fence in accordance with these plans and specifications.

The posts, braces, rails, and special fittings shall be in accordance with Article 4154.10 and 4154.11 of the Standard Construction Specifications unless otherwise noted.

All posts shall be vertical.

IOWA APPROACH MISSISSIPPI RIVER BRIDGE LAKE PEOSTA CHANNEL-16TH STREET BRIDGE

ABUTMENT I DETAILS AND MISCELLANEOUS

DUBUQUE COUNTY, IOWA - GRANT COUNTY, WISCONSIN

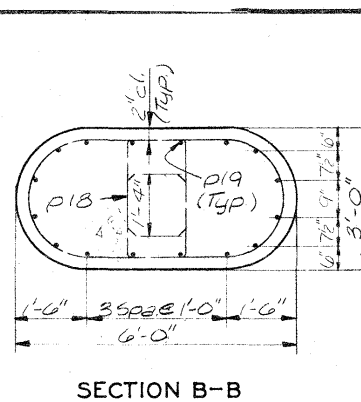
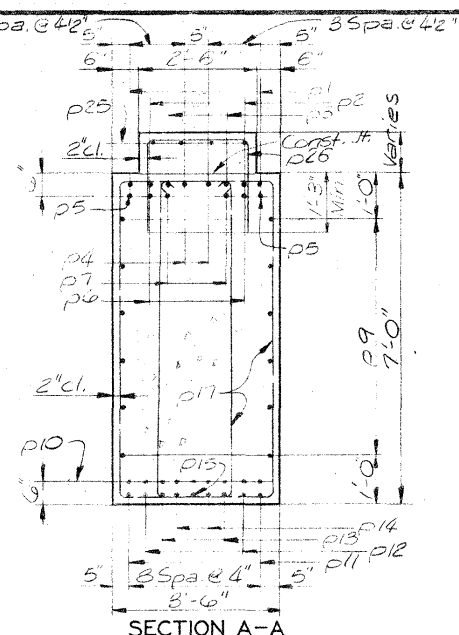
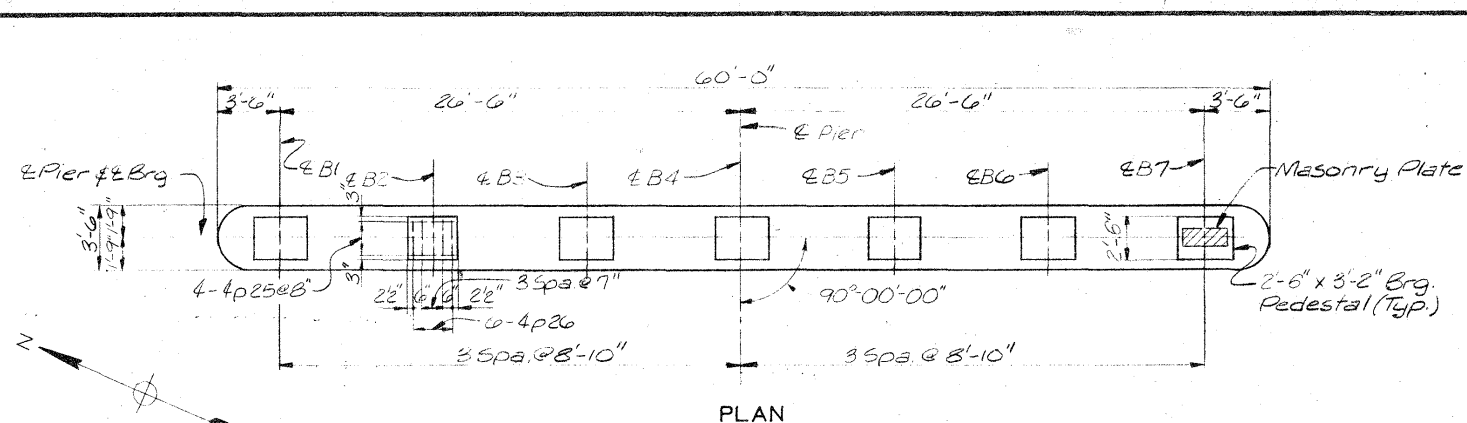
IOWA DEPARTMENT OF TRANSPORTATION

SVERDRUP & PARCEL AND ASSOCIATES, Inc.
CONSULTING ENGINEERS
ST. LOUIS, MO.

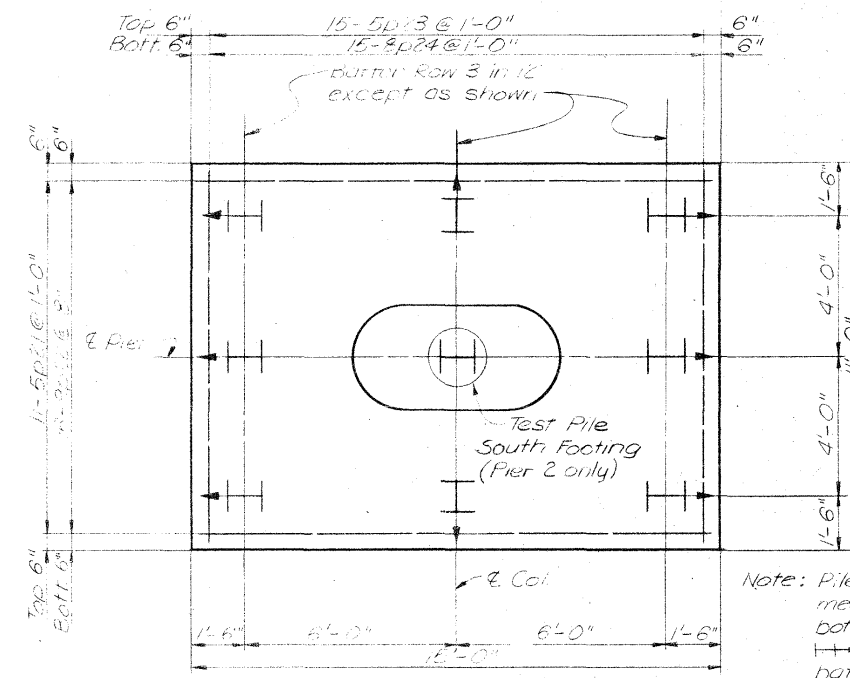
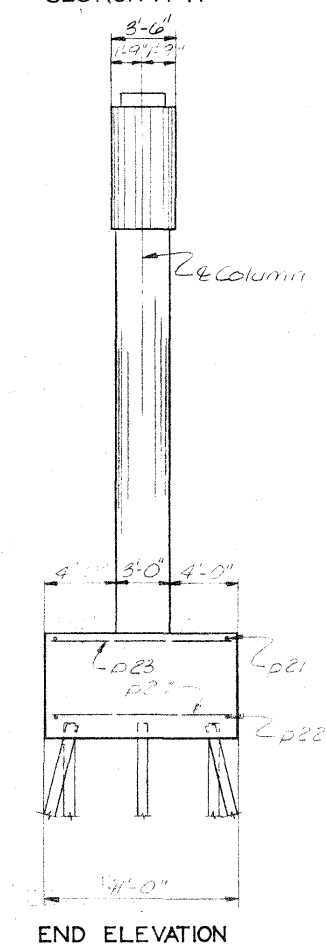
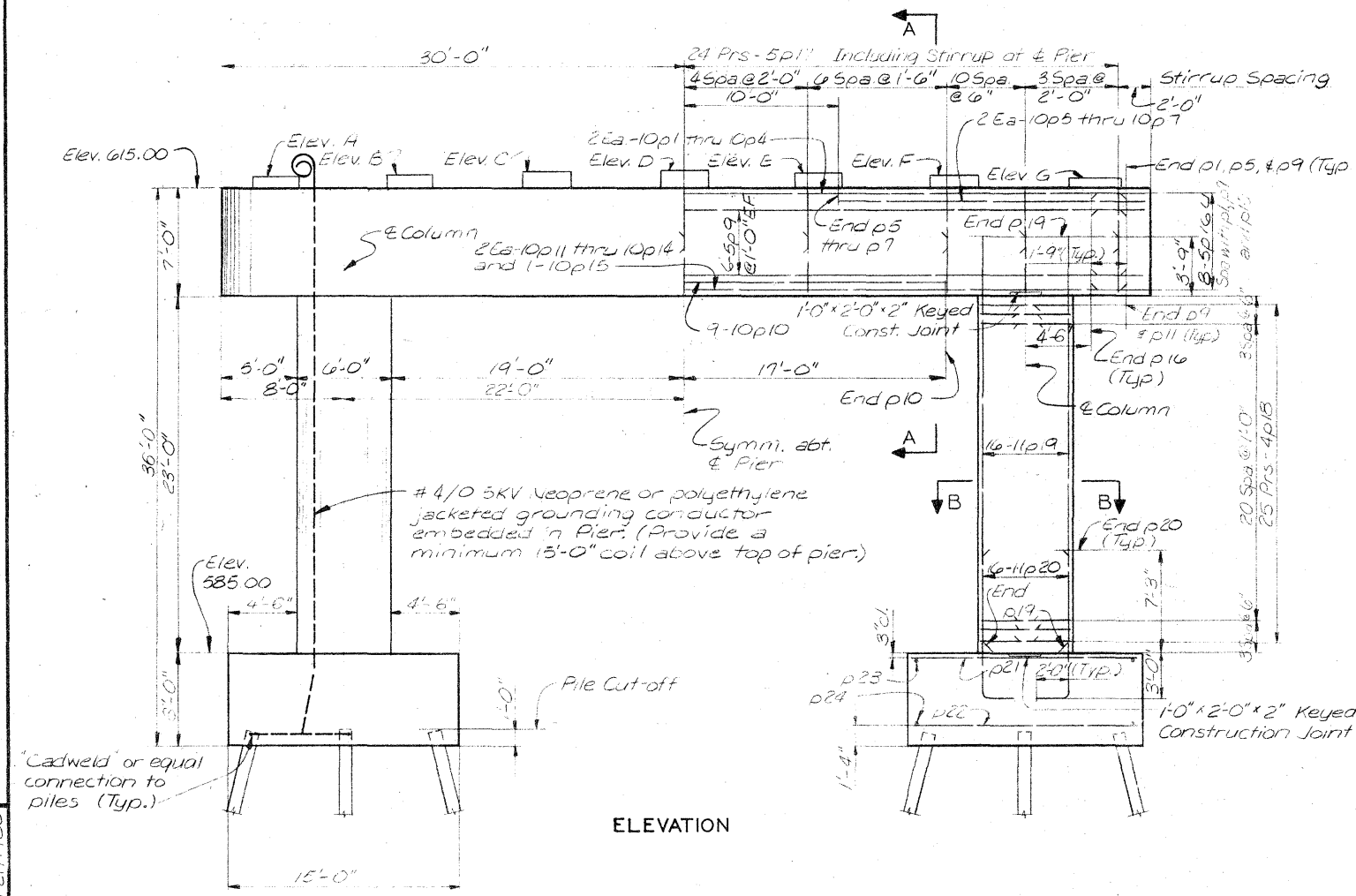
DESIGN NO. 1479 FILE NO. 25896 DES. SH. NO. 6 OF 21

PROJECT BRD-561-4(3)-38-38 PROJECT SH. NO. 8 OF 41

5818 DRAWN BY: C. MITCHELL / S.I.G. March 80
CHECKED BY: C. LIZANA APR. 1980
BOS237



See Note 'P' on Sh. #8



Note: Pile spacing measured at bottom of footing. Indicates battered pile in direction shown. 9-HP12 x 74 Piles required per footing.

PEDESTAL ELEVATIONS		
Pier No.	2	5
Elev. A	615.674	615.497
Elev. B	615.812	615.646
Elev. C	615.950	615.794
Elev. D	616.012	615.910
Elev. E	615.874	615.948
Elev. F	615.736	615.986
Elev. G	615.598	616.023

ESTIMATED CONC. QUANTITIES		
Item	Pier 2	Pier 5
Cap	55.5 cu yds.	55.5 cu yds.
Column	27.4 cu yds.	27.4 cu yds.
Footing	73.3 cu yds.	73.3 cu yds.
Total	156.2 cu yds.	156.2 cu yds.

PILE SCHEDULE / FTG		
	Drive	Furnish
1- Vertical	71.0	73.0
8- 3 in 12	73.0	75.0
One Pile Load Test at Pier 5		

For Steel Piles the "Furnish" length shown provides an allowance of 2 ft. per piles for overdriving

IOWA APPROACH
MISSISSIPPI RIVER BRIDGE
LAKE PEOSTA CHANNEL - 16TH STREET BRIDGE
PIERS 2 AND 5
DUBUQUE COUNTY, IOWA - GRANT COUNTY, WISCONSIN
IOWA DEPARTMENT OF TRANSPORTATION

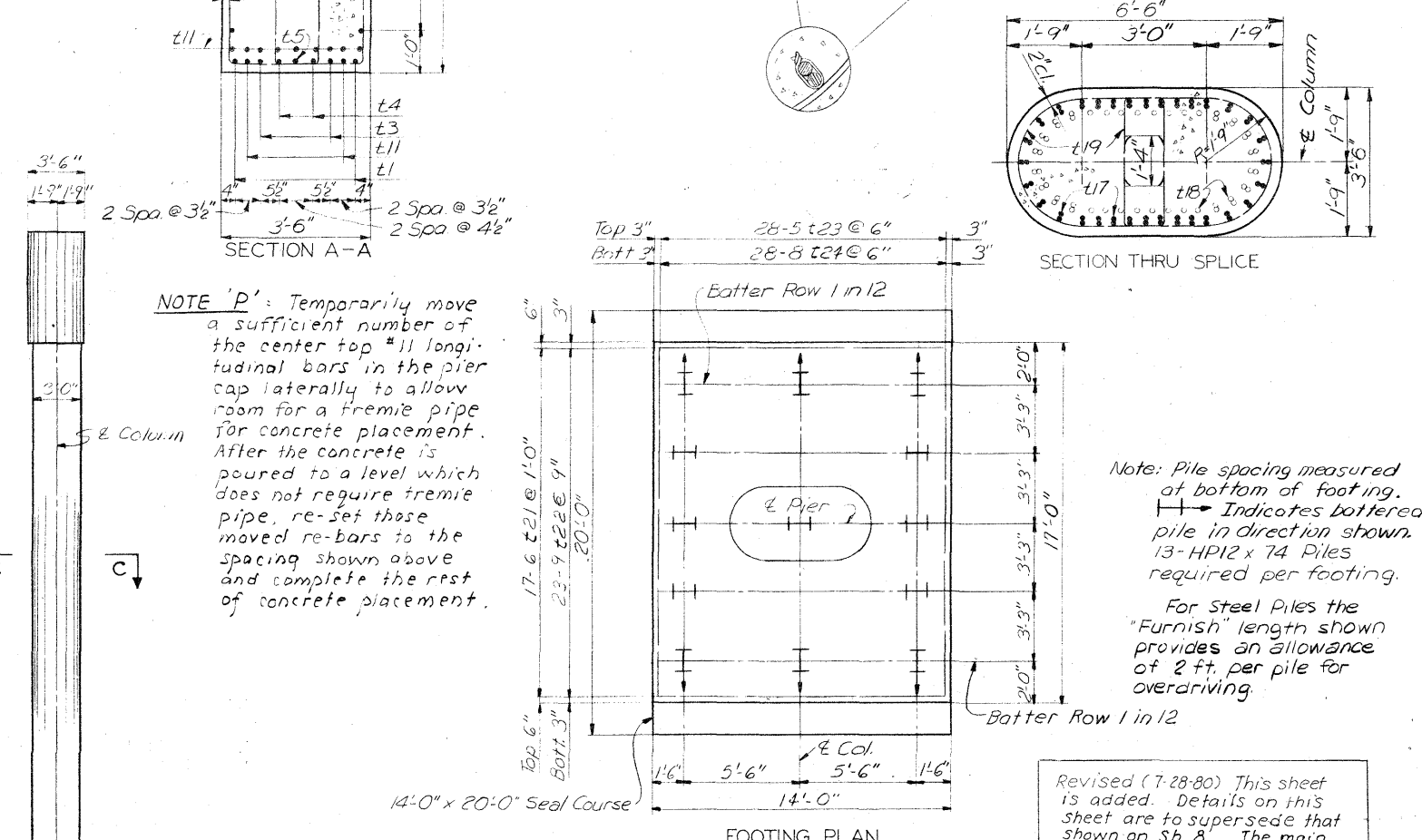
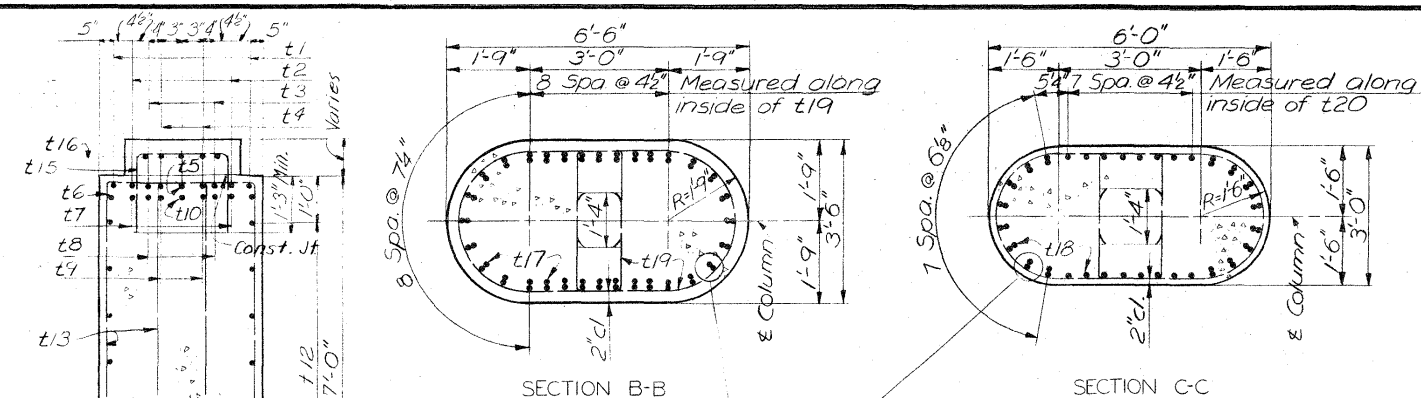
NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS.

DESIGN NO. 1479 FILE NO. 25896 DES. SH. NO. 7 OF 21

PROJECT BRP-561-4(5)-38-31 PROJECT SH. NO. 9 OF 41

SVERDRUP & PARCEL AND ASSOCIATES, Inc.
CONSULTING ENGINEERS
ST. LOUIS, MO.

5818
30567
DRAWN BY: S. Stegman
CHECKED BY: E. E. Armon
Jan. 1980
March 1980



NOTE 'P': Temporarily move a sufficient number of the center top #11 longitudinal bars in the pier cap laterally to allow room for a tremie pipe for concrete placement. After the concrete is poured to a level which does not require tremie pipe, re-set those moved re-bars to the spacing shown above and complete the rest of concrete placement.

PEDESTAL ELEVATIONS		
Pier No.	3	4
Elev. A	615.882	615.825
Elev. B	616.020	615.963
Elev. C	616.158	616.102
Elev. D	616.221	616.170
Elev. E	616.083	616.060
Elev. F	615.945	615.951
Elev. G	615.807	615.847

	CONCRETE QUANTITIES	
	Pier 3	Pier 4
Cap	55.4 cu. yds.	55.4 cu. yds.
Column	61.9 cu. yds.	61.9 cu. yds.
Footing	105.8 cu. yds.	105.8 cu. yds.
Total	223.1 cu. yds.	223.1 cu. yds.
Seal Course	290.4 cu. yds.	290.4 cu. yds.

IOWA APPROACH
 MISSISSIPPI RIVER BRIDGE
 LAKE PEOSTA CHANNEL-16TH STREET BRIDGE
 PIERS 3 AND 4

DUBUQUE COUNTY, IOWA - GRANT COUNTY, WISCONSIN

IOWA DEPARTMENT OF TRANSPORTATION

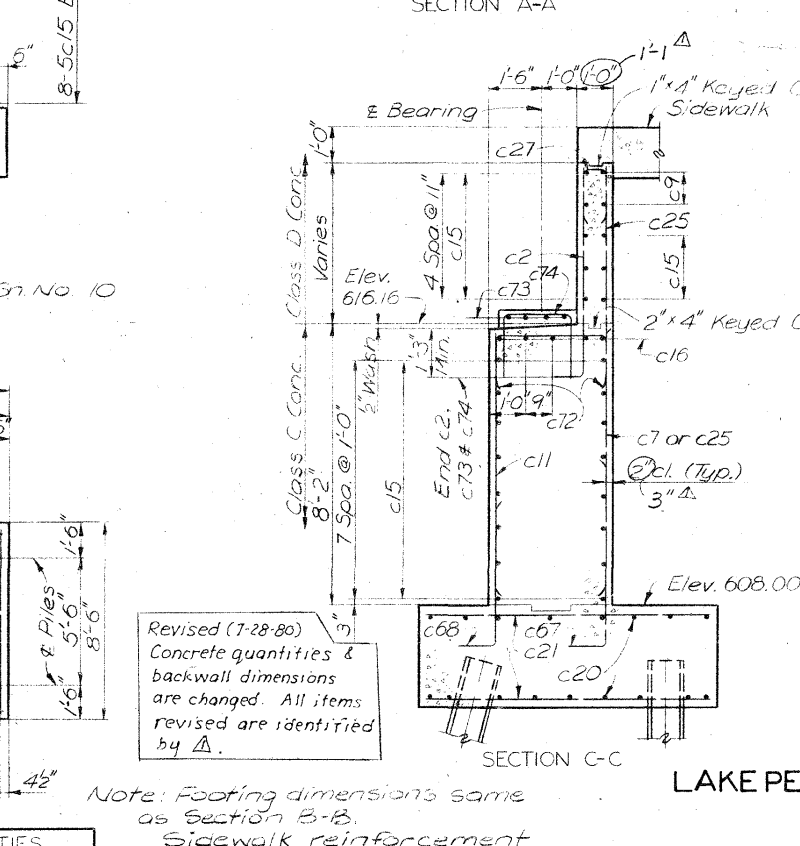
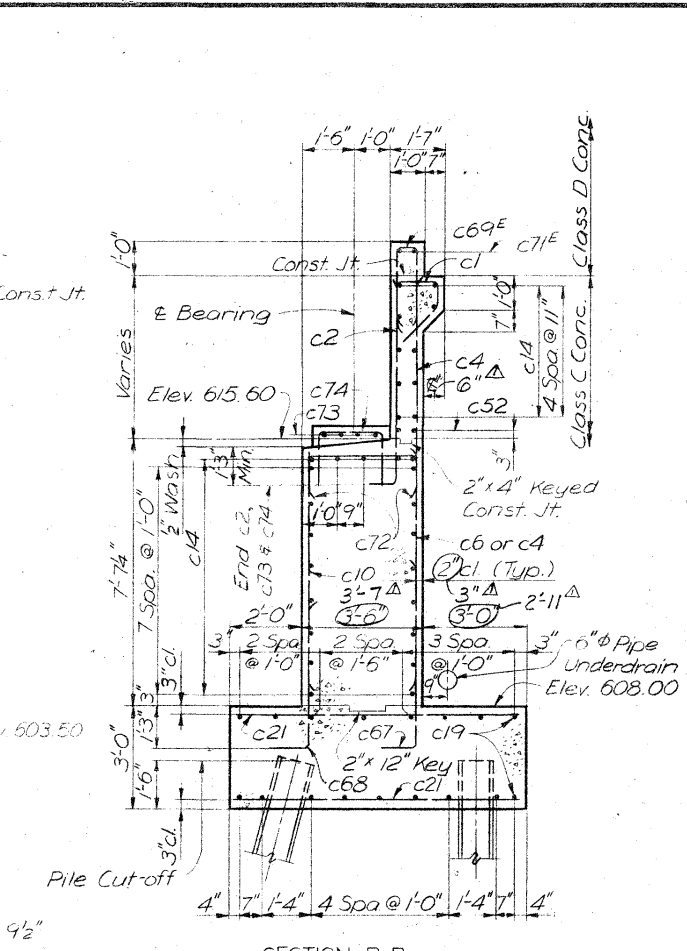
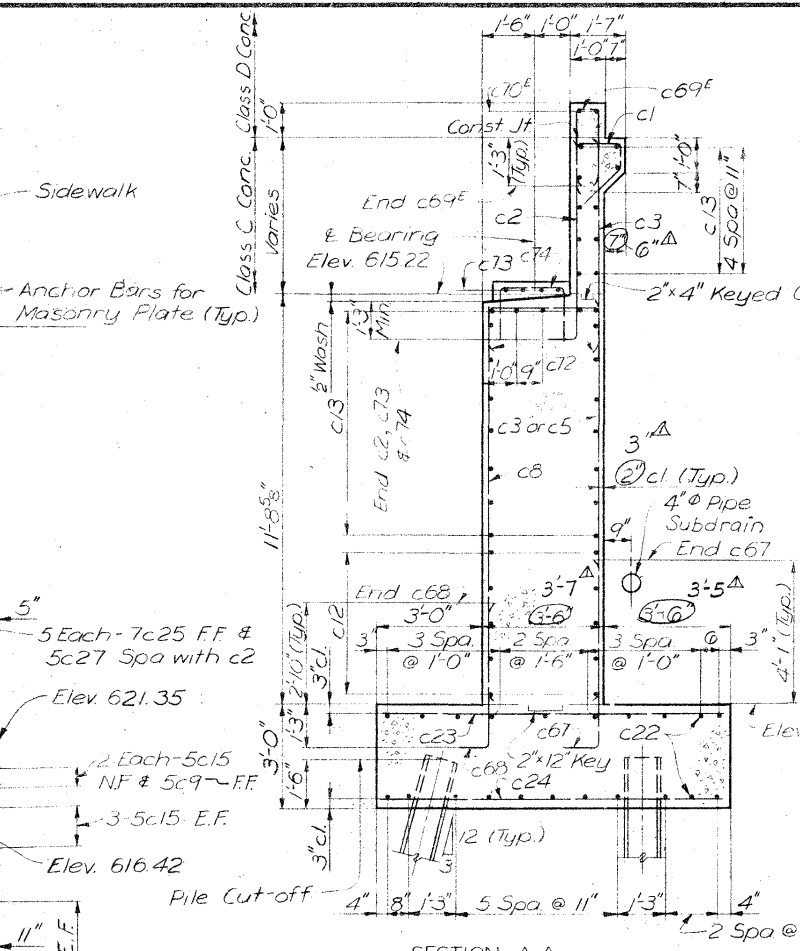
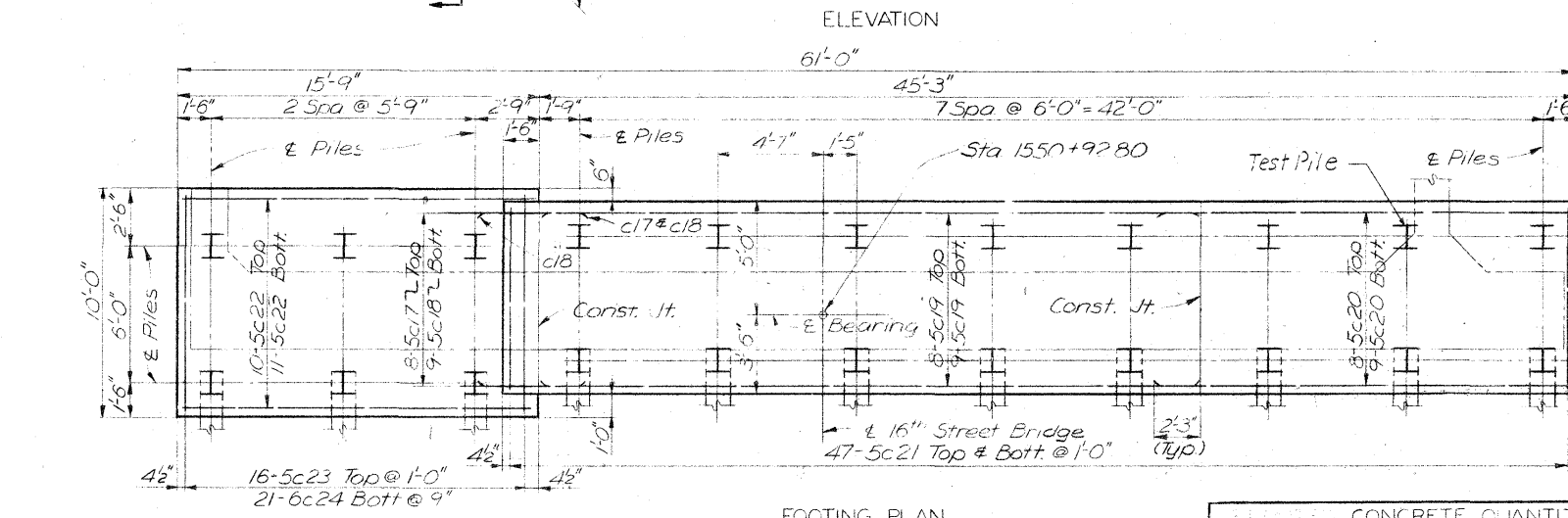
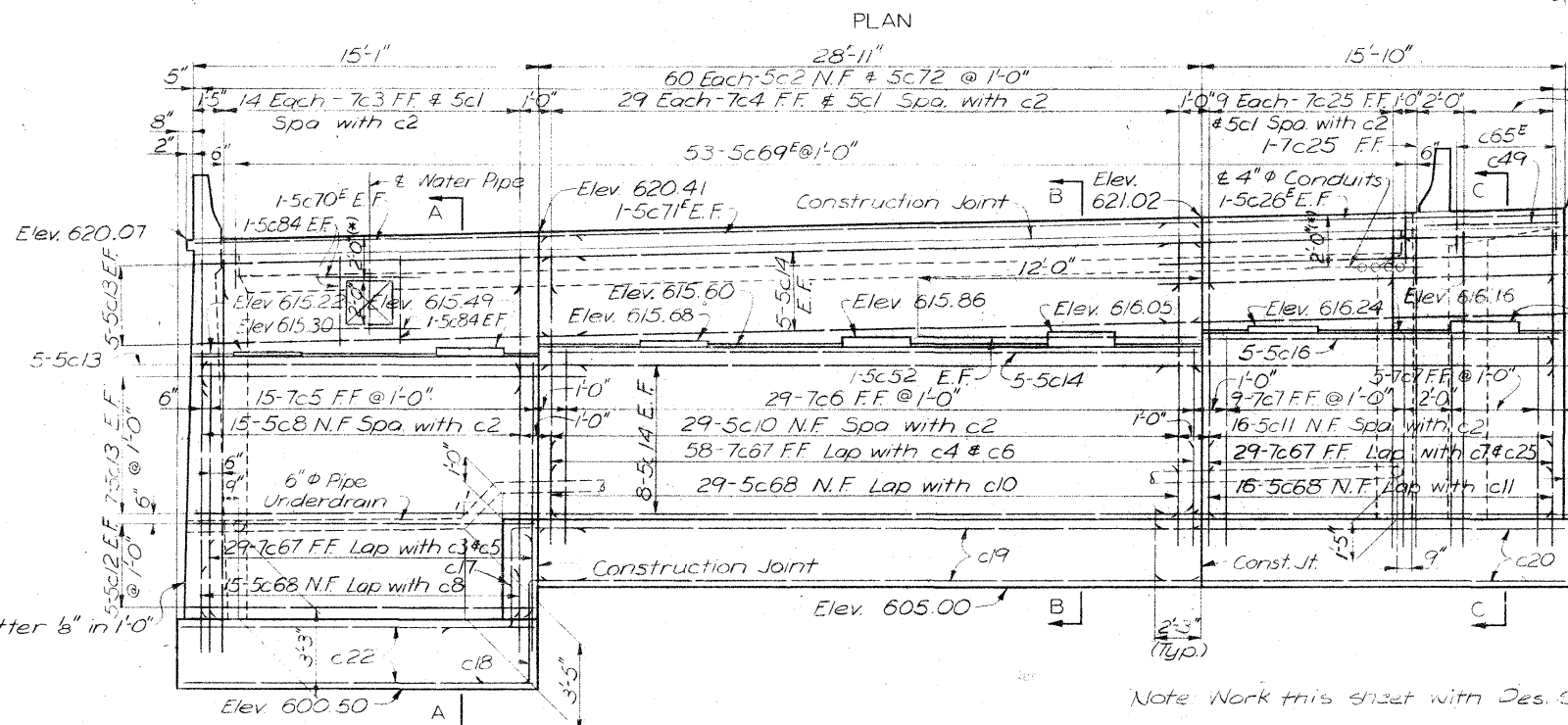
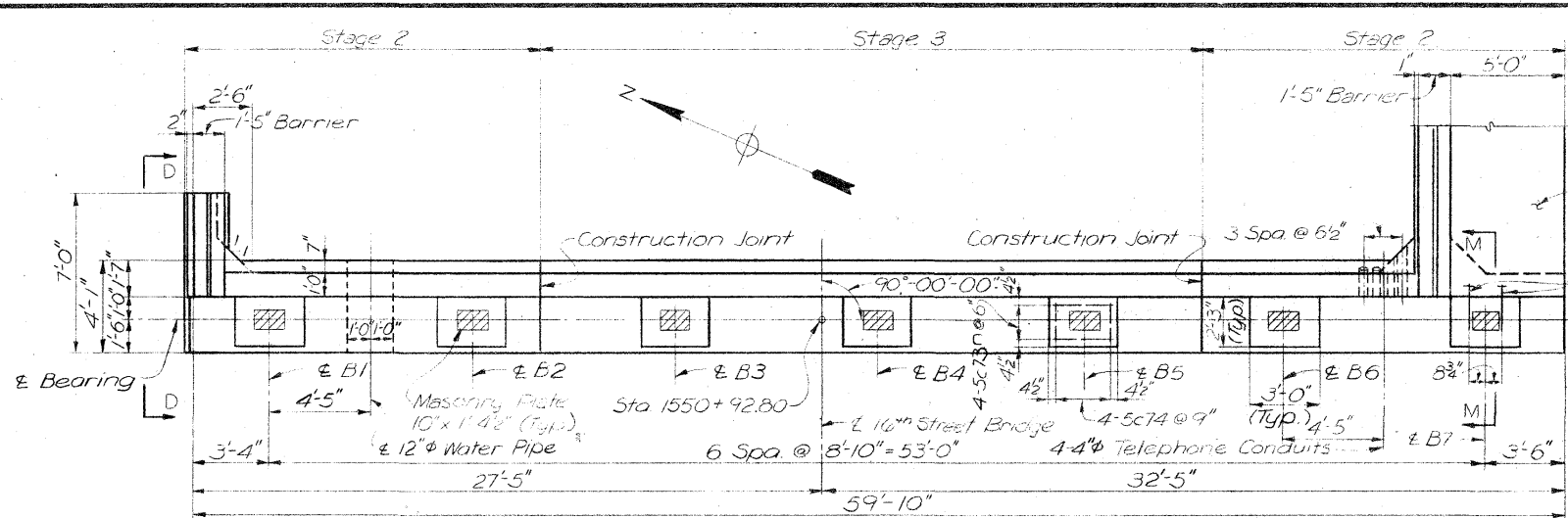
PILE SCHEDULE / FTG.		
	Drive	Furnish
7'-Vert.	72	74
6'-1 in 12	72	74
No Test Piles		

See Note

NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS.

DESIGN NO. 1479 FILE NO. 25896 DES. SH. NO. 8A OF 21

PROJECT RRF-561-4(5)-38-31 PROJECT SH. NO. 104 OF 41



NOTES

For Steel Piles the "Furnish" length shown provides an allowance of 2 ft. per pile for overdriving. For Section M-M see Des. Sh. No. 10.

For termination of telephone conduits detail Des. Sh. No. 6.

Omit pedestal reinforcement for Beams B1, B3 and B6.

Cut reinforcement in backwall to clear opening for 12" water pipe.

(*) Verify this dimension in the field.

For additional abutment notes see Des. Sh. No. 4.

For Expansion Device Details see Des. Sh. No. 15.

PILE SCHEDULE			
		Drive	Furnish
Abutment	A	3-Vert 52.0	54.0
		3-3 in 12 54.0	56.0
B	8-Vert 57.0		59.0
	8-3 in 12 58.0		60.0
Wingwall	1-Vert. 61.0		63.0
	1-3 in 12 62.0		64.0
	1-2 in 12 61.0		63.0

**IOWA APPROACH
MISSISSIPPI RIVER BRIDGE
LAKE PEOSTA CHANNEL-16TH STREET BRIDGE**

ABUTMENT 6

DUBUQUE COUNTY, IOWA - GRANT COUNTY, WISCONSIN

IOWA DEPARTMENT OF TRANSPORTATION

CONCRETE QUANTITIES		
	Class C	Class D
Sidewalk & Barriers	21.0	26.8
Backwall & Wingwall	21.0	26.8
Bridge Seat & Stern	67.3	
Footing	71.0	
Total	159.3	26.8

NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS.

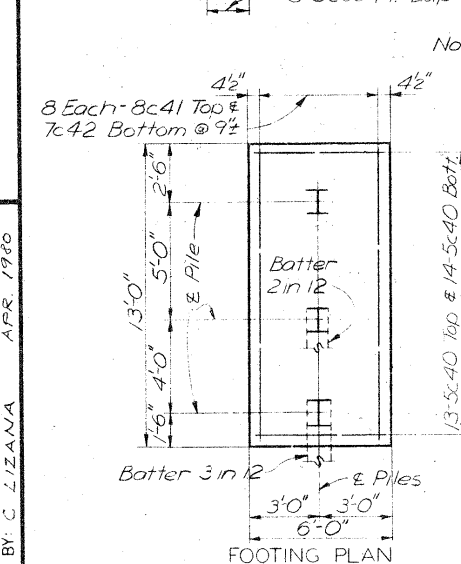
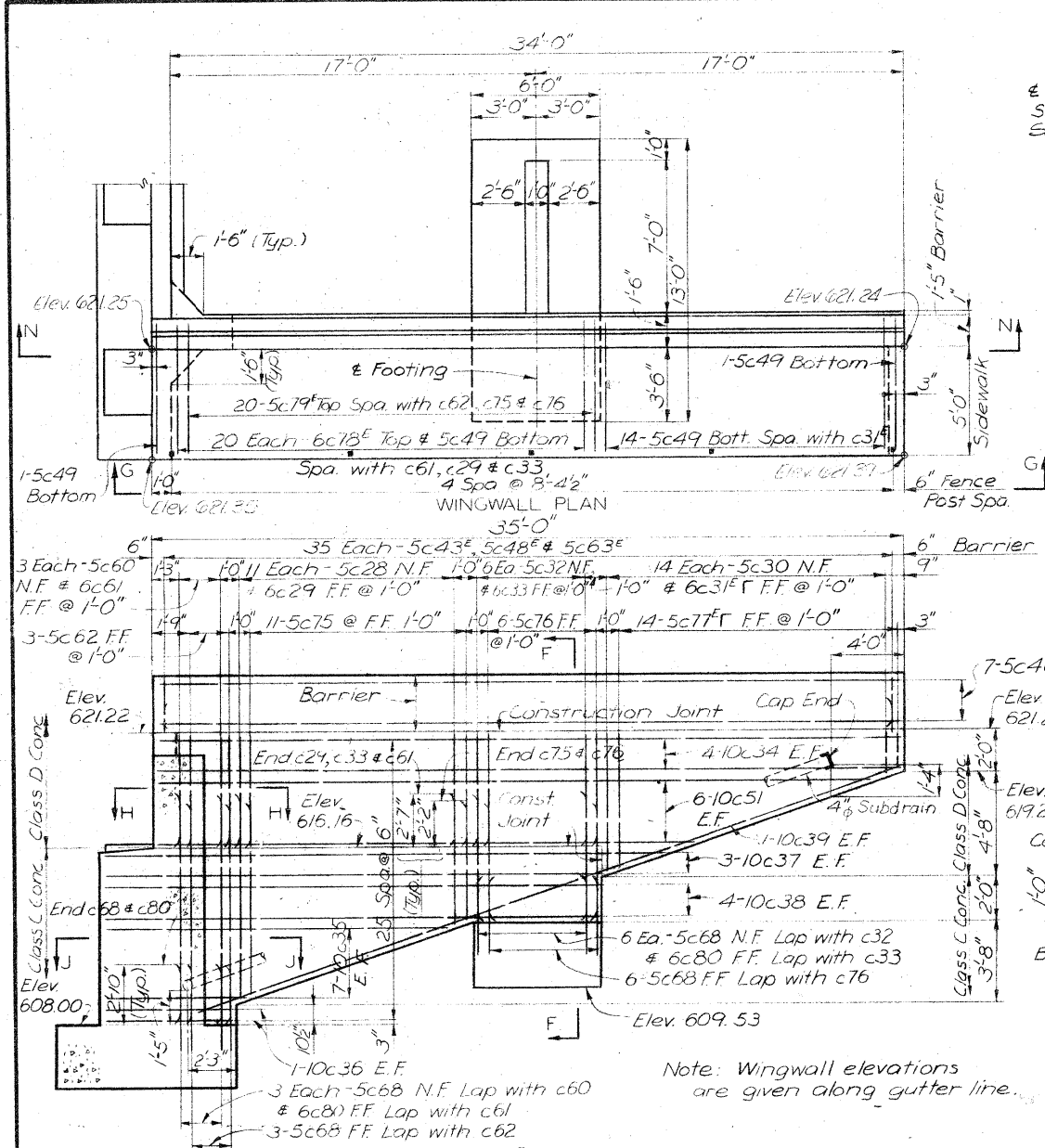
Note: Footing dimensions same as Section B-B.
Sidewalk reinforcement not shown.

Note: E.F. indicates Each Face.
N.F. indicates Near Face.
FF indicates For Face.

Note: Space bottom reinforcement to clear piles.
22-HP10x42 piles required.
Batter front row piles 3 in 12 in direction shown.
Pile spacing is measured at bottom of footing.

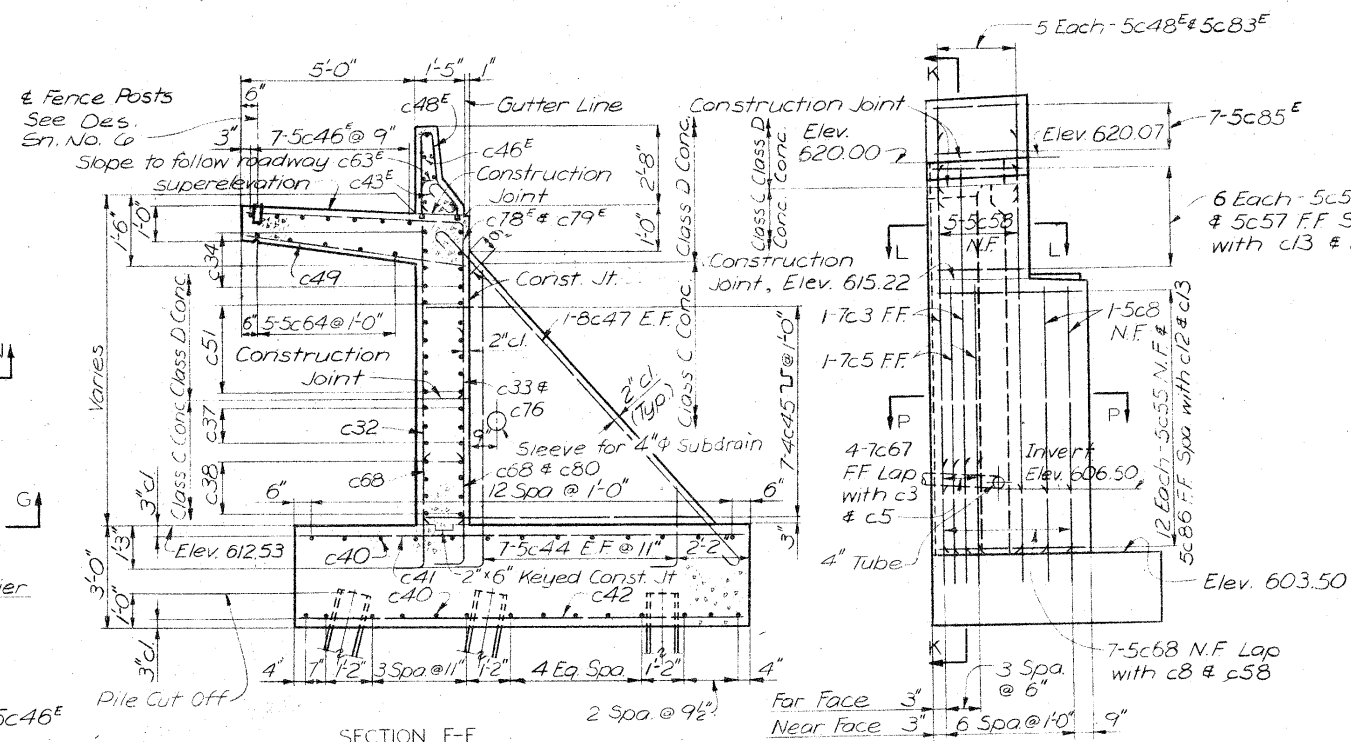
DRAWN BY: M. Schaefer April 1980
CHECKED BY: C. LIZANA APR 1980
5818 805/32

SVERDRUP & PARCEL AND ASSOCIATES, Inc.
CONSULTING ENGINEERS
ST. LOUIS, MO.

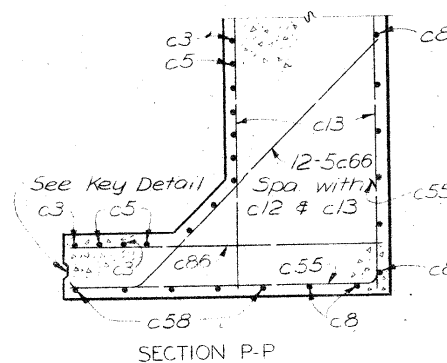
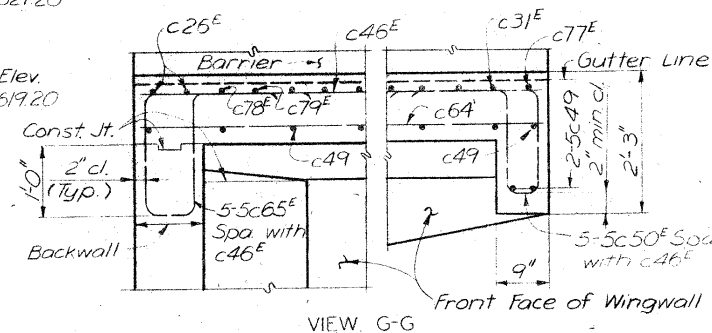


Note: Space bottom reinforcement to clear piles.
Pile spacing is measured at bottom of footing.
3-HP10 x 42 piles required.

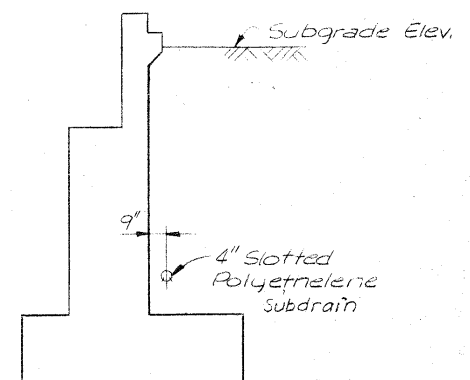
SVERDRUP & PARCEL AND ASSOCIATES, Inc
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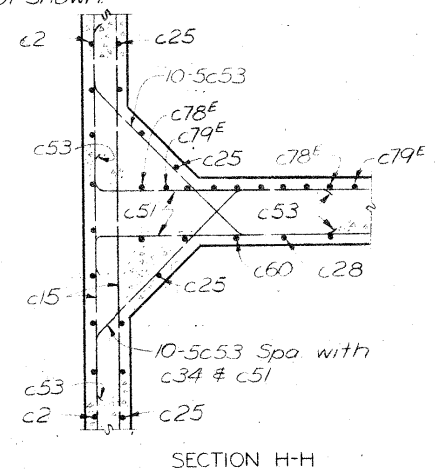
SECTION F-F
Note: For barrier details see Des. Sh. No. 6



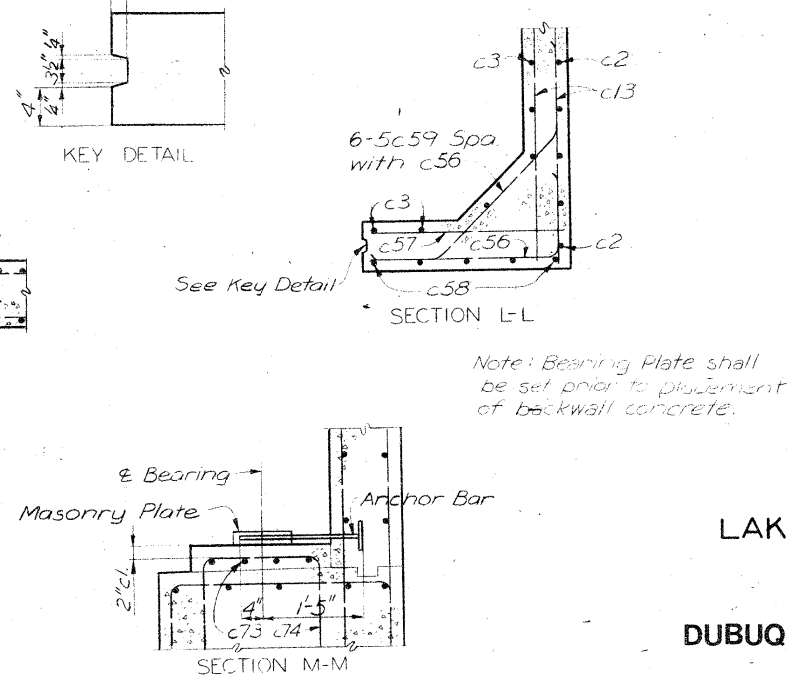
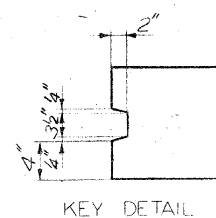
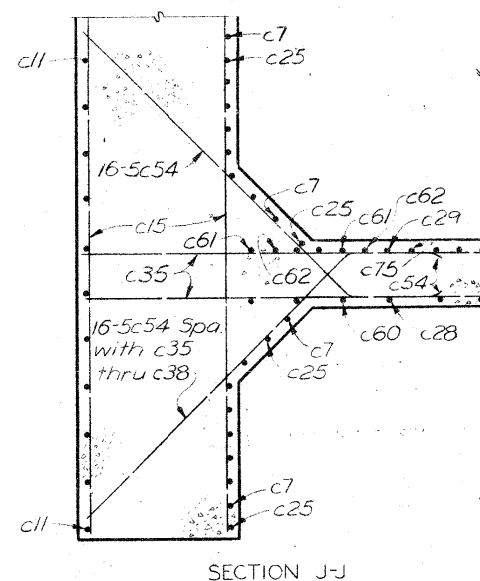
Note: Work this sheet with Des. Sh. No. 9.



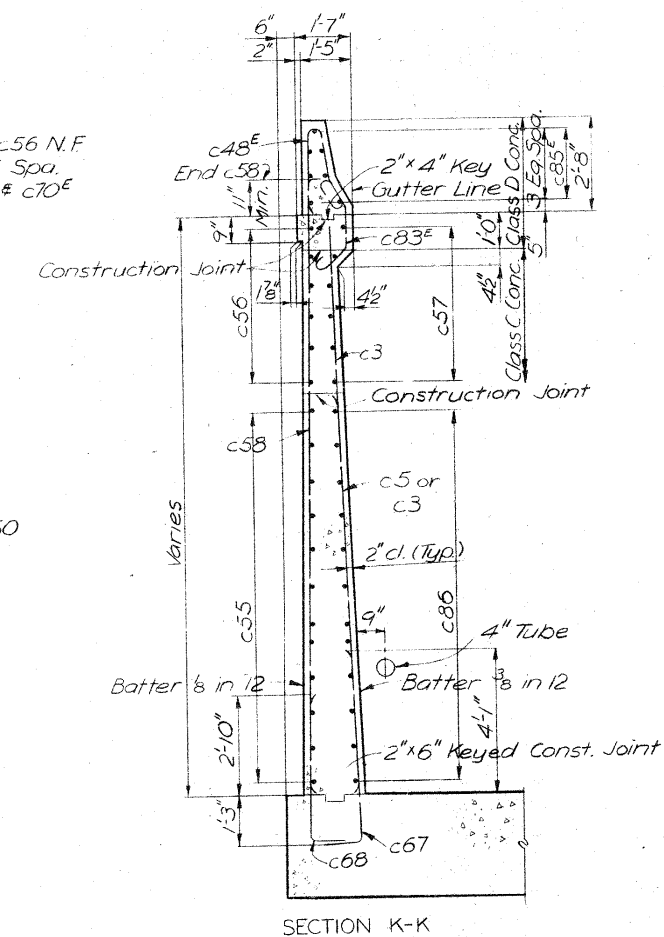
DRAINAGE DETAIL
Typical for Abutment and Wingwall



Note: N.F indicates Near Face.
F.F indicates Far Face.
E.F indicates Each Face.



Note: See Bearing details for additional information.



IOWA APPROACH
MISSISSIPPI RIVER BRIDGE
LAKE PEOSTA CHANNEL-16TH STREET BRIDGE
ABUTMENT 6 DETAILS

DUBUQUE COUNTY, IOWA - GRANT COUNTY, WISCONSIN

IOWA DEPARTMENT OF TRANSPORTATION

NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS.

DESIGN NO. 1479 FILE NO. 25896 DES. SH. NO. 10 OF 21

PROJECT: BRF-561-4(5)-38-31 PROJECT SH. NO. 12 OF 41

FOUNDATION NUMBER
(WEST)
ABUTMENT NO 1

PILING
LOG
DESIGN 1479

KIND OF PILING
STEEL PILING
HP 10x42

PILE NO.	LENGTH IN STRUCTURE	BEARING (in Tons)	PILE NO.	LENGTH IN STRUCTURE	BEARING (in Tons)	PILE NO.	LENGTH IN STRUCTURE	BEARING (in Tons)
B1	60	15.1	11	60	18.0	B21	59.0	19.0
2	60	14.4	B12	60	18.8	22	60	11.4
3	100	17.9	13	60	15.7	B23	60	15.1
B4	60	20.1	B14	60	18.6	B24	60	15.1
5	60	18.4	15	60	17.8	25	60	13.4
B6	59.5	20.7	B16	60	15.0	B26	60	12.8
7	60	17.2	17	60	18.0	B27	60	12.9
B8	59.6	19.6	B18	60	17.8	28	60	13.7
9	60	18.0	19	60	15.8	B29	60	13.9
B10	60	18.6	B20	60	12.8	B30	60	12.9

FOUNDATION NUMBER ABUTMENT NO.6

PILING LOG

DESIGN 1479

KIND OF PILING STEEL HP 10x42

RDWY

Diagram showing pile layout with dimensions: 1, 2, 3, 26, 50, 40, 12.

Diagram showing pile layout with dimensions: 24, 22, 20, 18, 16, 14, 12, 10, 8, 6, 4, 25, 23, 21, 19, 17, 15, 13, 11, 9, 7, 5.

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	63.0	20.5	10	60.0	21.0	20	60.0	20.1
B2	63.0	23.9	B11	60.0	20.0	B21	60.0	27.3
B3	64.0	26.1	12	60.0	19.5	22	60.0	23.9
4	77.8	28.5	B13	60.0	20.0	B23	60.0	28.7
B5	60.0	26.5	14	60.0	21.7	24	60.0	19.5
6	60.0	18.7	B15	60.0	19.5	B25	60.0	19.5
B7	60.0	20.5	16	60.0	19.1			
8	78.1	19.0	B17	60.0	18.6			
B9	60.0	26.1	18	60.0	22.1			
			B19	60.0	23.4			

FOUNDATION NUMBER

PILING LOG

KIND OF PILING

PIERS 2 & 5

DESIGN 1479

HP 12 x 74

PIER 2

PIER 5

PILE NO.	LENGTH IN STRUCTURE	BEARING (in Tons)	PILE NO.	LENGTH IN STRUCTURE	BEARING (in Tons)	PILE NO.	LENGTH IN STRUCTURE	BEARING (in Tons)
B1	75.9	58.4				B1	75.5	75.6
B2	74.2	40.5				B2	75.2	80.0
B3	74.8	39.8				B3	75.7	61.4
B4	74.5	60.8				B4	75.3	56.7
5	73.0	46.4				5	74.1	59.0
B6	74.1	53.5				B6	75.7	61.9
B7	74.9	55.7				B7	75.4	52.3
B8	74.5	66.8				B8	75.4	61.9
B9	75.2	55.7				B9	75.8	75.6
B10	74.4	39.3				B10	74.4	61.9
B11	75.0	45.4				B11	74.7	68.0
B12	74.4	51.1				B12	74.1	68.0
B13	74.3	43.8				B13	74.6	63.8
14	74.4	37.1				14	73.5	47.5
B15	74.6	43.8				B15	74.9	61.9
B16	74.6	47.7				B16	74.2	69.3
B17	74.8	60.8				B17	75.1	52.3
B18	74.2	41.8				B18	74.1	52.0

FOUNDATION
NO1 NUMBER
RETAINING WALL

PILING
LOG
DESIGN 1779

KIND OF PILING
STEEL
HP 10x42

|30'-|60'-|60'-|60'-|46'-|59'-|59'-|59'-|50'-|36'-|60'-|52'-|52'-|52'-|16'

The diagram shows a plan view of a retaining wall with 28 piles. The piles are numbered 1 through 28. The wall is divided into sections by vertical lines. The dimensions of the sections are given in feet: 30', 60', 60', 60', 46', 59', 59', 59', 50', 36', 60', 52', 52', 52', and 16'. The piles are distributed as follows: Piles 1-10 are in the first section (30'). Piles 11-18 are in the second section (60'). Piles 19-21 are in the third section (60'). Piles 22-25 are in the fourth section (60'). Piles 26-28 are in the fifth section (46').

PILE NO	LENGTH IN STRUCTURE	BEARING IN TONS	PILE NO	LENGTH IN STRUCTURE	BEARING IN TONS	PILE NO	LENGTH IN STRUCTURE	BEARING IN TONS
B1	68.0	21.9	10	62.0	25.5	B19	59.0	19.3
2	66.0	21.2	B11	64.0	25.5	20	57.0	19.9
B3	68.0	25.0	12	62.0	25.5	B21	54.0	22.8
4	66.0	21.9	B13	64.0	29.2	22	53.0	19.9
B5	68.0	28.0	14	62.0	21.2	B23	54.0	17.7
6	66.0	25.0	B15	59.0	26.5	24	53.0	18.7
B7	68.0	21.2	16	57.0	17.7	B25	54.0	17.7
8	66.0	28.0	B17	59.0	21.9	26	53.0	15.9
B9	64.0	23.4	18	57.0	20.5	B27	54.0	17.5
						28	53.0	13.9

SHEETS 25 TO 32 ARE MISSING. ALL SHEETS ARE FOR DESIGN #1779
PILING LAYOUT & BEARING VALUES ARE INCLUDED HERE

FOUNDATION NUMBER

PIERS 3 & 4

PILING LOG

DESIGN 1479

KIND OF PILING STEEL HP 12x74

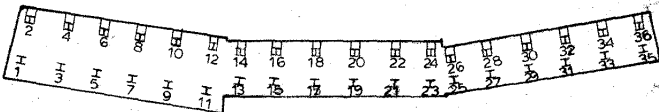
PIER 3

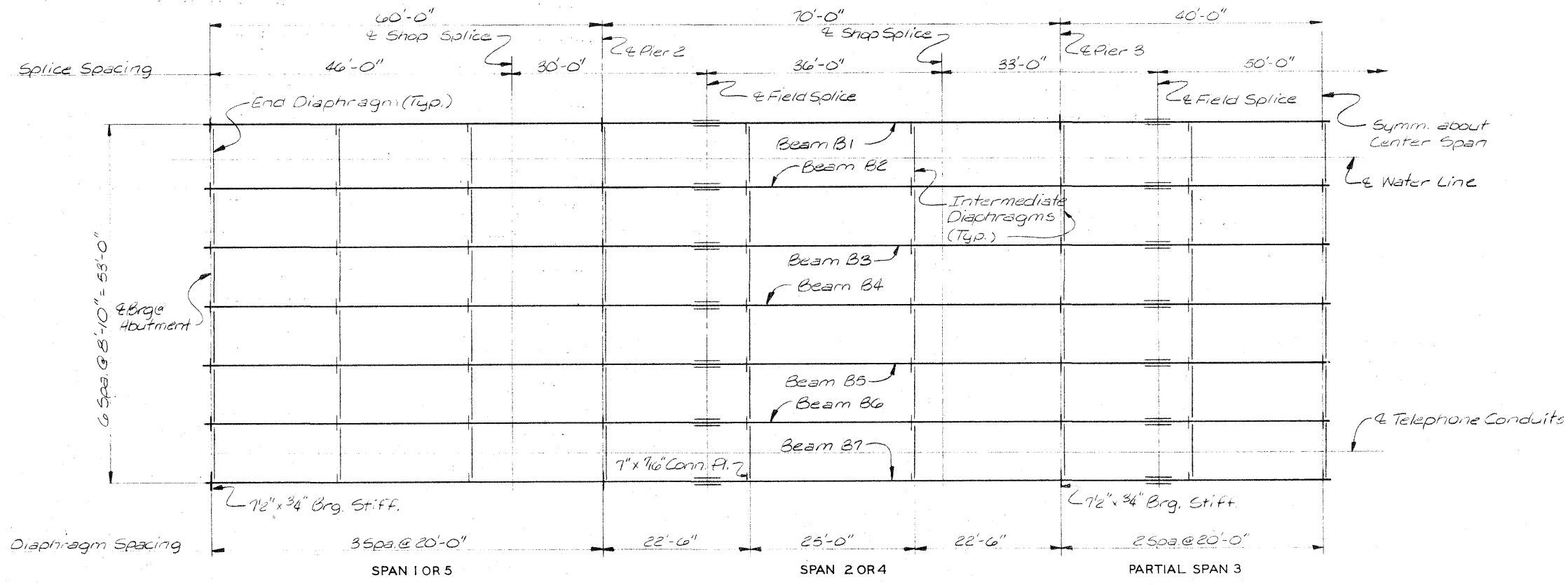
PIER 4

PILE NO.	LENGTH IN STRUCTURE	BEARING (in Tons)	PILE NO.	LENGTH IN STRUCTURE	BEARING (in Tons)	PILE NO.	LENGTH IN STRUCTURE	BEARING (in Tons)
B1	101.8	45.5				B1	73.4	65.6
B2	103.0	47.4				B2	73.8	48.2
B3	92.4	47.4				B3	73.7	46.1
4	103.4	47.4				4	74.3	47.9
5	73.8	65.1				5	74.8	47.9
6	93.6	44.9				6	74.3	45.0
7	103.5	37.2				7	76.2	47.6
8	74.2	44.2				8	74.6	48.2
9	97.7	37.9				9	74.2	46.1
10	102.2	47.4				10	73.6	48.2
B11	96.4	56.8				B11	73.6	49.6
B12	100.5	47.4				B12	73.6	47.6
B13	103.8	49.3				B13	75.6	51.9
B14	83.6	52.1				B14	74.4	51.9
B15	73.5	41.5				B15	74.3	63.4
B16	73.4	47.6				B16	74.0	51.9
17	93.9	47.8			*	17	72.3	122.5
18	73.5	47.6			*	18	73.1	87.5
19	94.1	46.0			*	19	72.2	102.1
20	98.4	47.8			*	20	73.1	102.1
21	97.7	47.8			*	21	73.2	113.1
22	73.8	44.5			*	22	72.7	62.5
23	73.2	47.6			*	23	73.2	94.2
B24	73.7	47.6				B24	74.4	81.6
B25	73.5	47.6				B25	74.3	71.4
B26	73.5	51.9				B26	74.5	69.2

* REPRESENTS HP 14x89 STEEL TRANSFERRED FROM CITY

* REPRESENTS HP 14x89 STEEL TRANSFERRED FROM CITY
ISLAND BRIDGE BRG-201-4-(2)-38-31

FOUNDATION NO2 NUMBER RETAINING WALL			PILING LOG DESIGN 1779		KIND OF PILING STEEL HP 10x42			
								
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	56.0	26.5	13	60.0	22.0	25	63.0	23.9
B2	57.0	26.1	B14	62.0	34.7	B26	65.0	26.9
3	57.1	19.5	15	60.0	19.9	27	63.0	25.5
B4	57.0	22.0	B16	62.0	29.4	B28	65.0	23.6
5	56.0	26.5	17	60.0	23.9	29	63.0	23.4
B6	57.0	30.2	B18	62.0	27.3	B30	65.0	21.2
7	56.0	21.2	19	60.0	23.9	31	63.0	23.4
B8	57.0	28.7	B20	62.0	23.4	B32	65.0	22.8
9	56.0	19.9	21	60.0	23.9	33	63.0	19.5
B10	57.0	29.0	B22	62.0	21.9	B34	65.0	25.5
11	56.0	21.2	23	60.0	24.5	35	63.0	25.5
B12	57.0	30.2	B24	62.0	26.9	B36	65.0	24.5

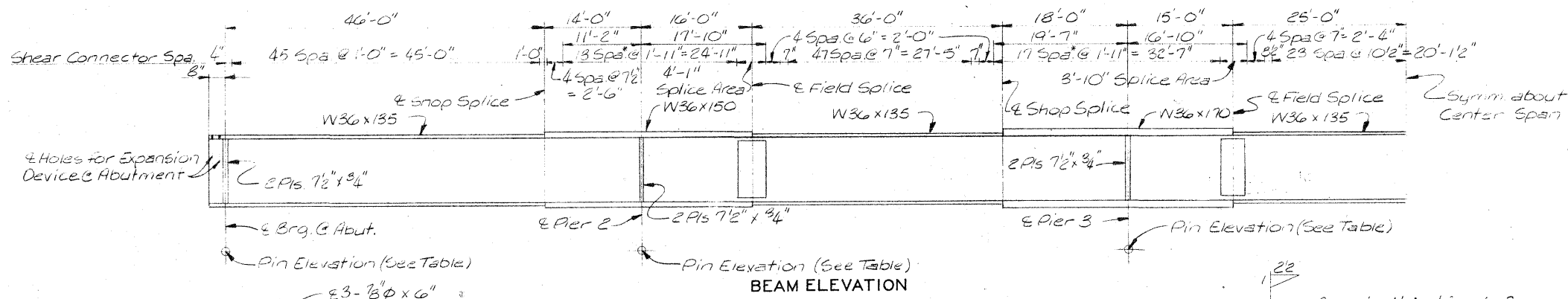


Note: Provide expansion joint at Abutments 1 and 6 to allow 2" total movement for telephone conduits.

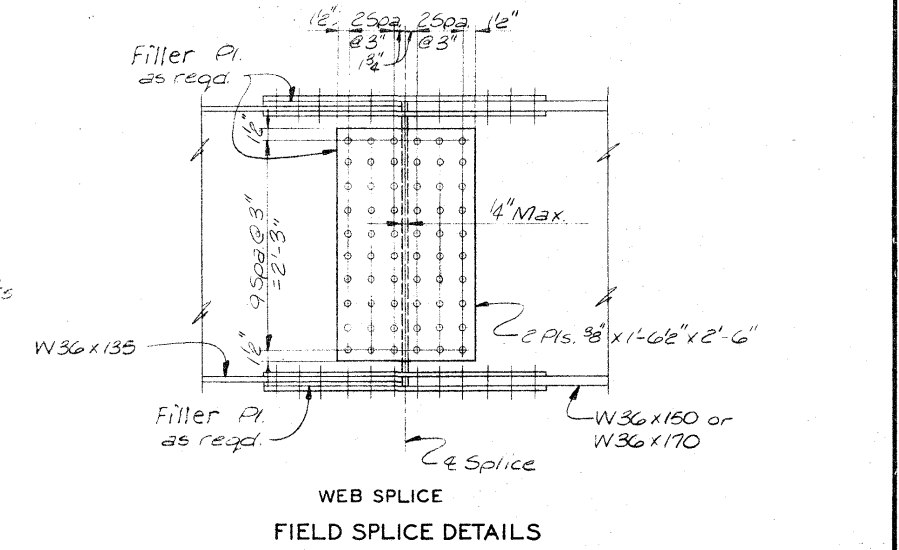
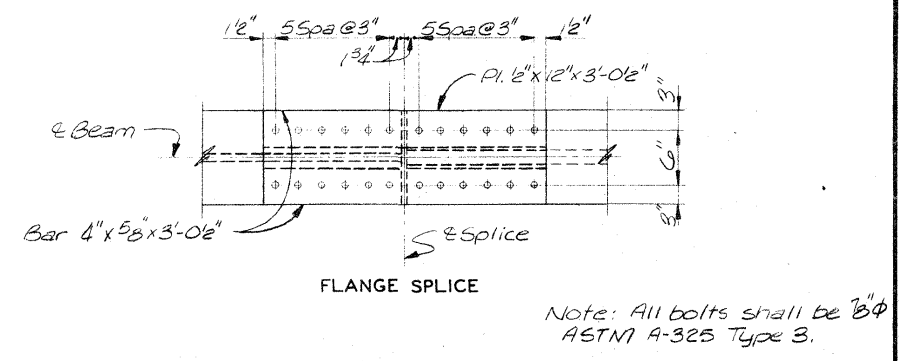
Note: *Indicates 2-#3 @ 16" Studs per row.

FRAMING PLAN

Note: Work this sheet with Des. Sn. No. 12.



BEAM ELEVATION



PIN ELEVATIONS						
Beam No.	Abut. 1	Pier 2	Pier 3	Pier 4	Pier 5	Abut. 6
B1	616.574	616.896	617.095	617.038	616.718	616.229
B2	616.712	617.034	617.233	617.176	616.866	616.415
B3	616.850	617.172	617.371	617.314	617.015	616.602
B4	616.915	617.234	617.433	617.385	617.133	616.788
B5	616.775	617.096	617.295	617.276	617.170	616.975
B6	616.637	616.958	617.157	617.168	617.208	617.161
B7	616.499	616.820	617.019	617.059	617.246	617.348

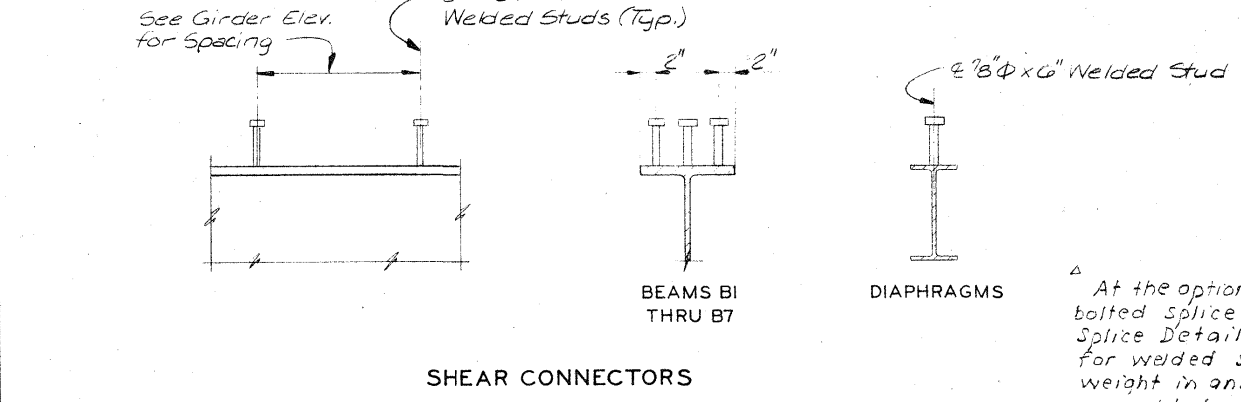
STRUCTURAL STEEL NOTES

All Structural Steel to be ASTM A-588.

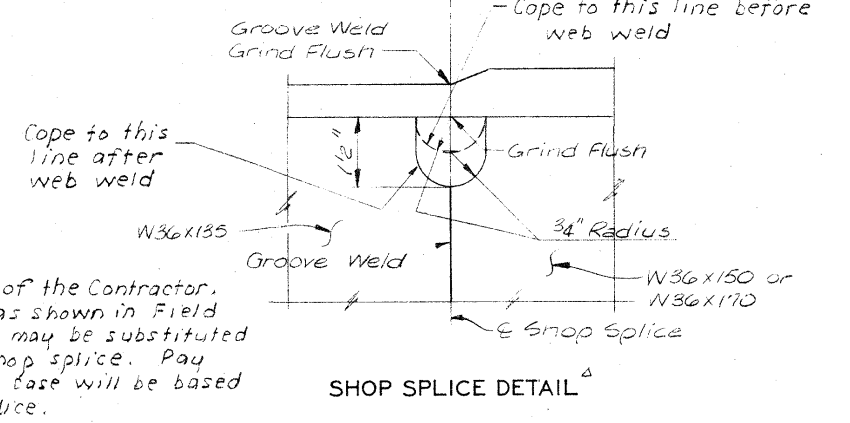
Shear connector studs are to be welded in the field at the locations shown on the design plans and approved shop drawings.

Fill thicknesses shown at the field splices are based on nominal beam 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. Single fills are required at all fill locations.

IOWA APPROACH
MISSISSIPPI RIVER BRIDGE
LAKE PEOSTA CHANNEL-16TH STREET BRIDGE
FRAMING PLAN, BEAM ELEVATION, AND PIN ELEVATIONS
DUBUQUE COUNTY, IOWA - GRANT COUNTY, WISCONSIN
IOWA DEPARTMENT OF TRANSPORTATION



SHEAR CONNECTORS



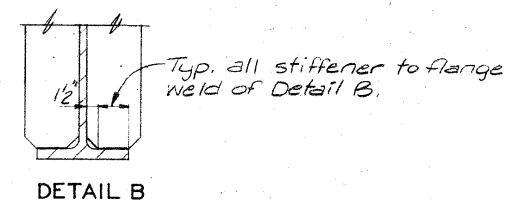
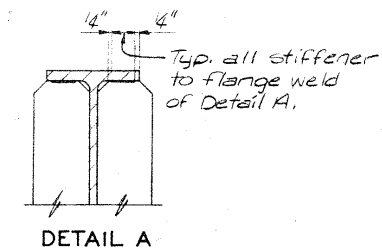
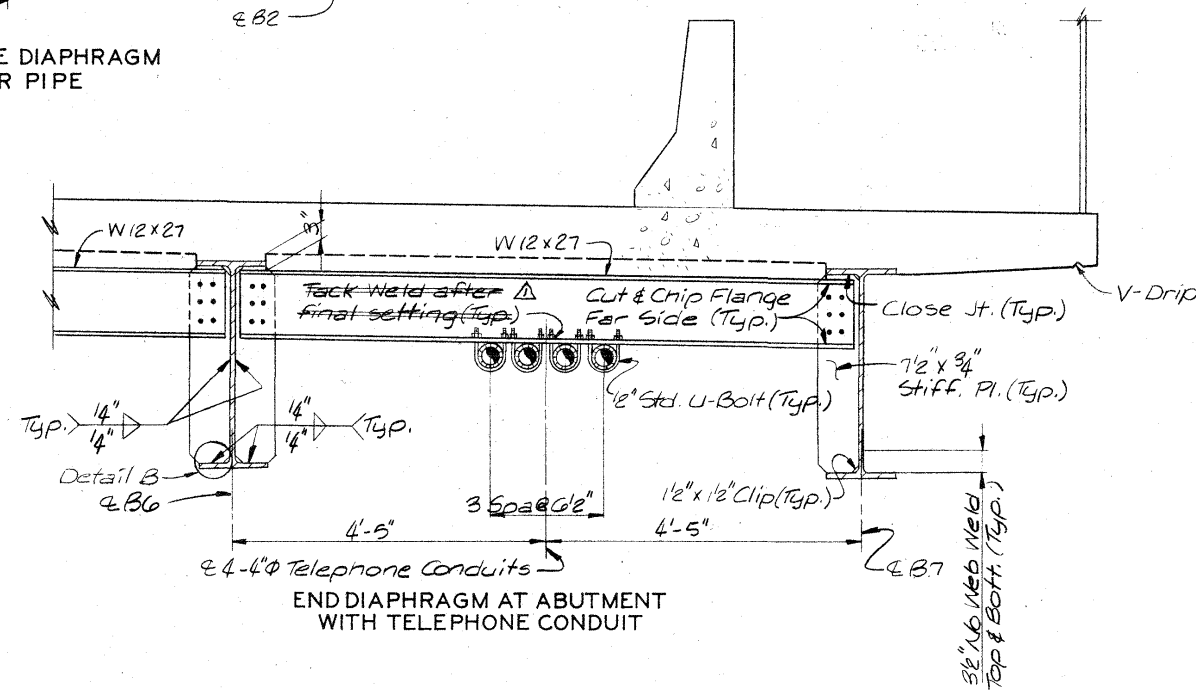
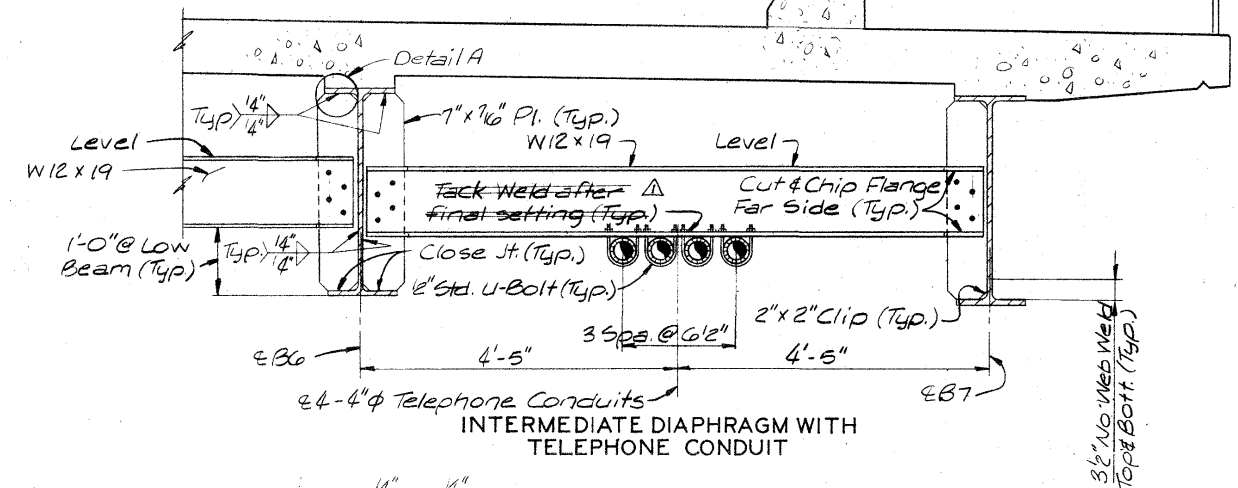
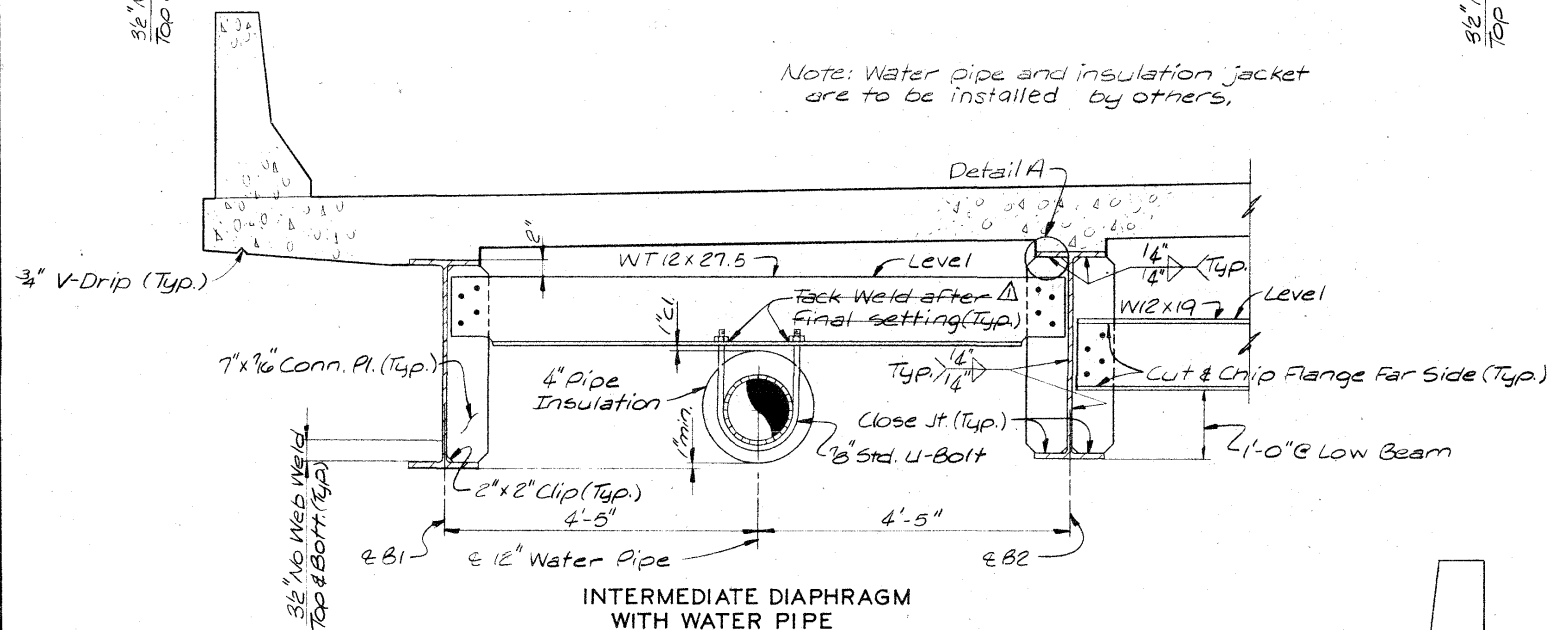
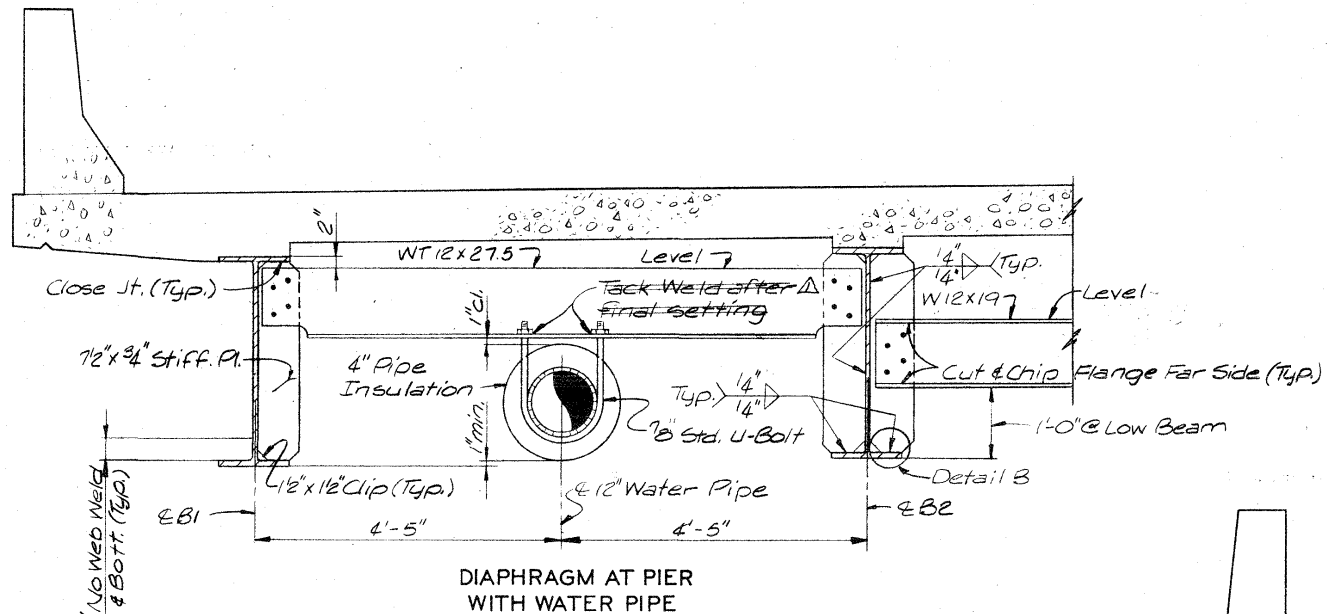
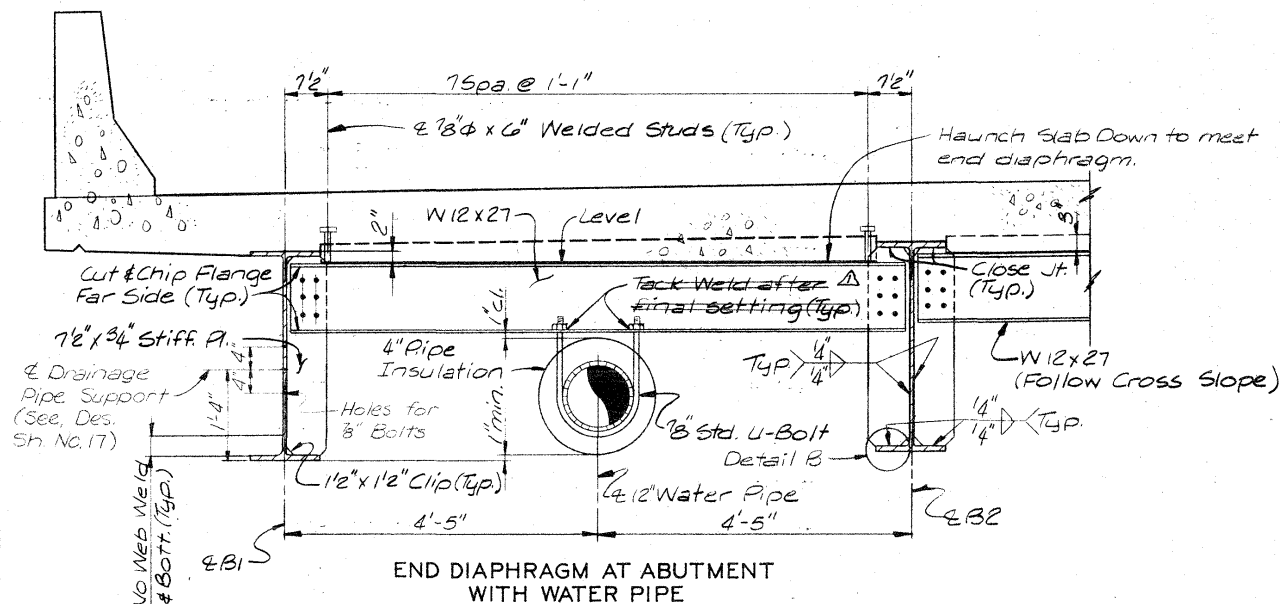
SHOP SPLICE DETAIL

At the option of the Contractor, bolted splice as shown in Field Splice Details may be substituted for welded shop splice. Pay weight in any case will be based on welded splice.

NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS.

5818
 DRAWN BY: S. Stegman
 CHECKED BY: R.D. Van Lee
 3/60

SVERDRUP & PARCEL AND ASSOCIATES, Inc.
CONSULTING ENGINEERS
ST. LOUIS, MO.



NOTES

- All Structural Steel ASTM A-588.
- All stiffeners, diaphragms, connection plates, and field splices are normal to grade.
- All bolts shall be 3/8" ASTM A-325 Type 3.
- Minimum edge distance for all bolted connections on this sheet shall be 2".
- Shear connector studs are to be welded in the field at the locations shown on the design plans and approved shop drawings.

IOWA APPROACH MISSISSIPPI RIVER BRIDGE LAKE PEOSTA CHANNEL-16TH STREET BRIDGE DIAPHRAGMS AND BEAM DETAILS

DUBUQUE COUNTY, IOWA - GRANT COUNTY, WISCONSIN
IOWA DEPARTMENT OF TRANSPORTATION

Revised (3-30-81) The notes concerning tack weld nuts of hanger U-bolts after final setting are deleted. The deletions are marked by Δ .

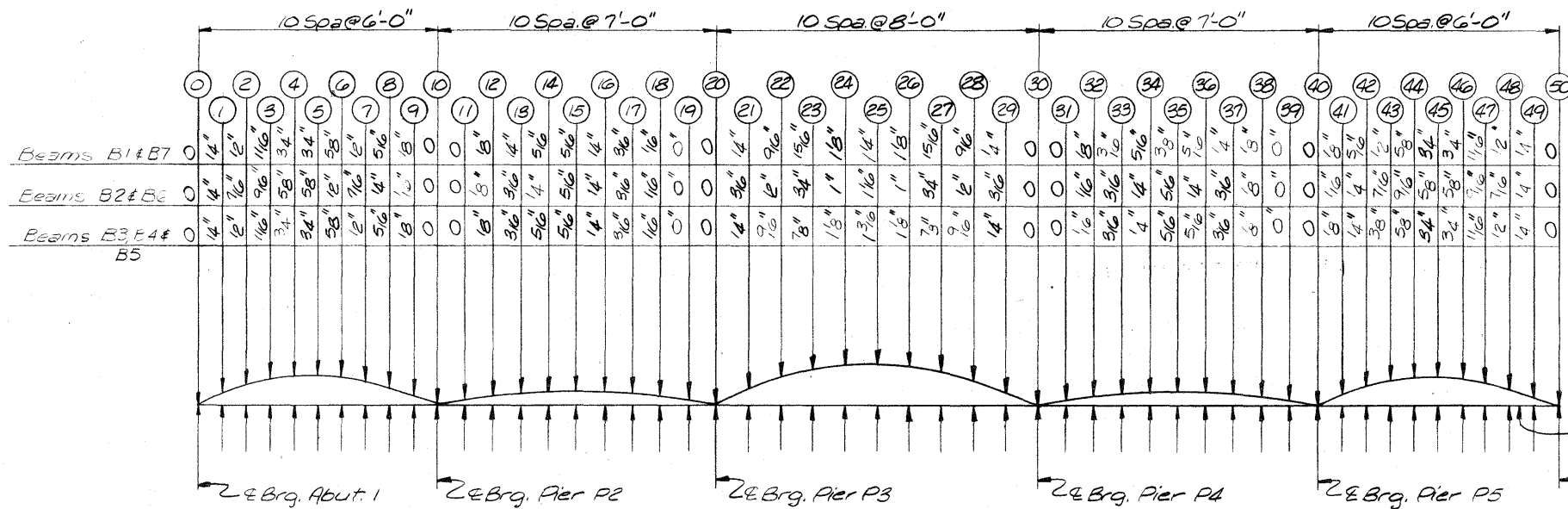
NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS.

DESIGN NO. 1479 FILE NO. 25896 DES. SH. NO. 12 OF 21

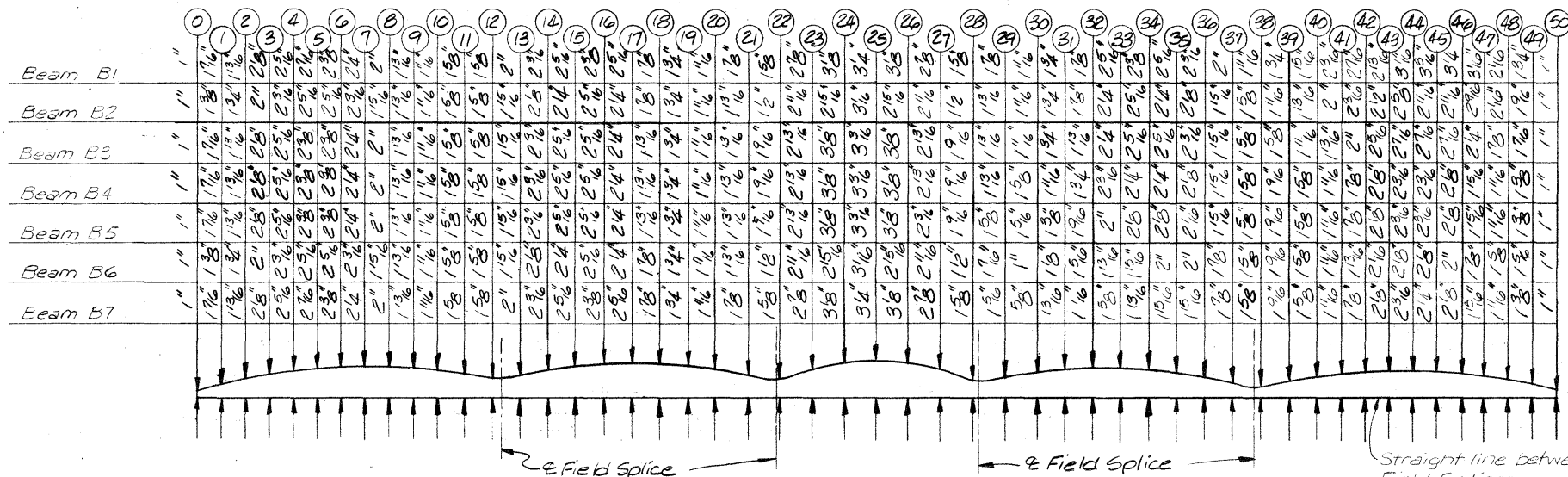
PROJECT 28E-561-4(5)-38-31 PROJECT SH. NO. 14 OF 41

SVERDRUP & PARCEL AND ASSOCIATES, Inc.
CONSULTING ENGINEERS
ST. LOUIS, MO.

DRAWN BY: S. Stegman Jan. 1980
CHECKED BY: C. D. McCall 3/80
5818 80539



DEAD LOAD DEFLECTION DIAGRAM



HAUNCH HEIGHT DIAGRAM

Beam No.	Item	Max. Positive Moment			Max. Neg. Moment		Reactions		
		Span 1	Span 2	Span 3	Pier 2	Pier 3	Abut. 1	Pier 4	Pier 5
B1 & B7	NCOL	286.5	158.4	305.7	451.6	562.2	24.9	76.6	83.7
	SOL	49.3	40.7	62.8	49.5	65.2	4.0	11.0	12.2
	FWS	45.9	37.8	58.4	45.9	60.6	19.5	60.6	78.4
	LL+I	626.6	637.2	719	345.5	428.2	53.3	66.3	70.6
B2 & B6	NCOL	312.8	172.8	333.7	492.8	613.4	27.2	83.6	91.3
	SOL	49.3	40.7	62.8	49.5	65.2	4	11	12.2
	FWS	45.9	37.8	58.4	45.9	60.6	19.5	60.6	78.4
	LL+I	700.7	719.2	811.5	340	483.3	72.8	88.4	94
B3 thru B5	NCOL	312.8	172.8	333.7	492.8	613.4	27.2	83.6	91.3
	SOL	33.9	28	43.2	34	44.8	2.8	7.6	8.4
	FWS	45.9	37.8	58.4	45.9	60.6	19.5	60.6	78.4
	LL+I	700.7	719.2	811.5	340	483.3	72.8	88.4	94

TOP SLAB ELEVATIONS																														
Beam	0	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	29
B1	620.505	620.553	620.600	620.645	620.689	620.730	620.769	620.807	620.842	620.876	620.908	620.942	620.975	621.004	621.031	621.055	621.077	621.096	621.112	621.126	621.137	621.147	621.153	621.156	621.155	621.151	621.144	621.133	621.119	621.102
B2	620.643	620.691	620.738	620.783	620.827	620.868	620.907	620.945	620.980	621.014	621.046	621.080	621.113	621.142	621.169	621.193	621.215	621.234	621.250	621.264	621.275	621.285	621.291	621.294	621.293	621.289	621.282	621.271	621.257	621.240
B3	620.781	620.829	620.876	620.921	620.965	621.006	621.045	621.083	621.118	621.152	621.184	621.219	621.251	621.280	621.307	621.331	621.353	621.372	621.388	621.402	621.413	621.423	621.429	621.432	621.431	621.427	621.420	621.409	621.395	621.378
B4	620.844	620.892	620.939	620.984	621.027	621.068	621.108	621.145	621.181	621.215	621.246	621.281	621.313	621.342	621.369	621.394	621.415	621.434	621.451	621.464	621.476	621.485	621.492	621.494	621.494	621.493	621.478	621.458	621.440	621.423
B5	620.706	620.754	620.801	620.846	620.889	620.930	620.970	621.007	621.043	621.077	621.108	621.143	621.175	621.204	621.231	621.256	621.277	621.296	621.313	621.326	621.338	621.347	621.354	621.356	621.356	621.352	621.345	621.334	621.320	621.302
B6	620.568	620.616	620.663	620.708	620.751	620.792	620.832	620.869	620.905	620.939	620.970	621.005	621.037	621.066	621.093	621.118	621.139	621.158	621.175	621.188	621.200	621.209	621.216	621.218	621.218	621.214	621.207	621.196	621.182	621.164
B7	620.430	620.478	620.525	620.570	620.613	620.654	620.694	620.731	620.767	620.801	620.832	620.867	620.899	620.928	620.955	620.980	621.001	621.020	621.037	621.050	621.062	621.071	621.078	621.080	621.080	621.076	621.068	621.058	621.044	621.026
Beam	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50									
B1	621.081	621.059	621.036	621.009	620.980	620.949	620.915	620.878	620.839	620.797	620.752	620.712	620.670	620.626	620.580	620.532	620.484	620.425	620.337	620.249	620.160									
B2	621.219	621.197	621.174	621.147	621.118	621.087	621.053	621.016	620.977	620.935	620.890	620.850	620.808	620.764	620.718	620.670	620.622	620.567	620.494	620.420	620.347									
B3	621.357	621.335	621.312	621.285	621.256	621.225	621.191	621.154	621.115	621.073	621.028	620.988	620.946	620.902	620.856	620.808	620.760	620.709	620.651	620.592	620.533									
B4	621.420	621.403	621.385	621.363	621.339	621.312	621.283	621.251	621.216	621.179	621.139	621.103	621.065	621.025	620.983	620.939	620.895	620.851	620.807	620.763	620.720									
B5	621.284	621.285	621.284	621.279	621.273	621.263	621.251	621.236	621.219	621.199	621.177	621.156	621.132	621.107	621.080	621.051	621.022	620.993	620.964	620.935	620.906									
B6	621.149	621.167	621.183	621.196	621.206	621.214	621.220	621.222	621.222	621.220	621.215	621.208	621.200	621.190	621.177	621.164	621.149	621.135	621.121	621.107	621.092									
B7	621.013	621.049	621.082	621.112	621.140	621.166	621.183	621.208	621.226	621.240	621.253	621.261	621.268	621.272	621.275	621.276	621.276	621.277	621.278	621.278	621.279									
IOWA APPROACH MISSISSIPPI RIVER BRIDGE LAKE PEOSTA CHANNEL - 16TH STREET BRIDGE																														

IOWA APPROACH
MISSISSIPPI RIVER BRIDGE
LAKE PEOSTA CHANNEL - 16TH STREET BRIDGE
DEAD LOAD DEFLECTION DIAGRAM,
HAUNCH HEIGHTS, AND
TOP OF SLAB ELEVATIONS
DUBUQUE COUNTY, IOWA - GRANT COUNTY, WISCONSIN
IOWA DEPARTMENT OF TRANSPORTATION

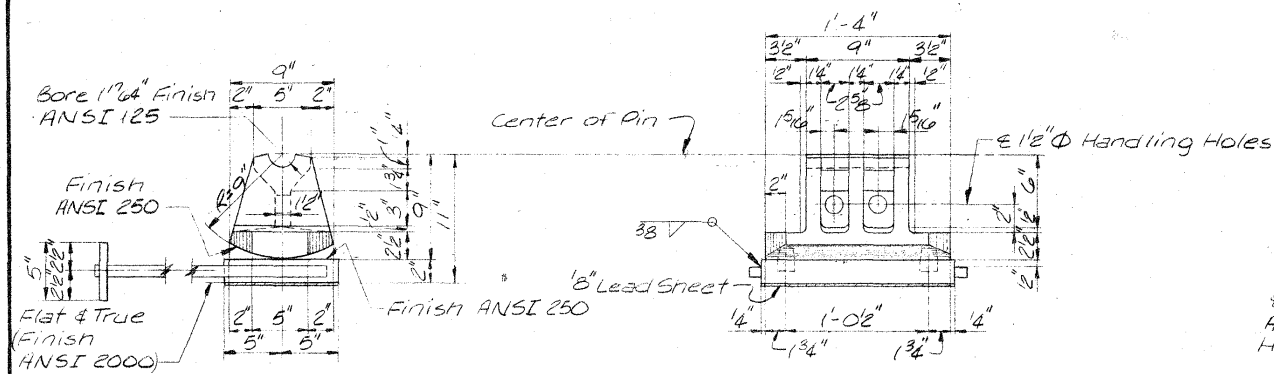
NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS.

DESIGN NO. 1479 FILE NO. 25896 DES. SH. NO. 13 OF 21

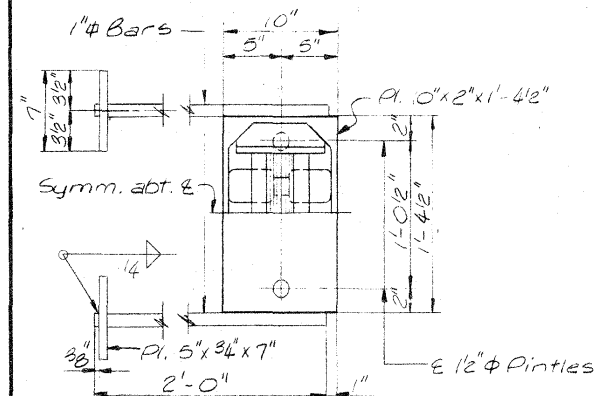
PROJECT BR-561-4 (5)--38-31 PROJECT SH. NO. 15 OF 41

SVERDRUP & PARCEL AND ASSOCIATES, Inc.
CONSULTING ENGINEERS
ST. LOUIS, MO.

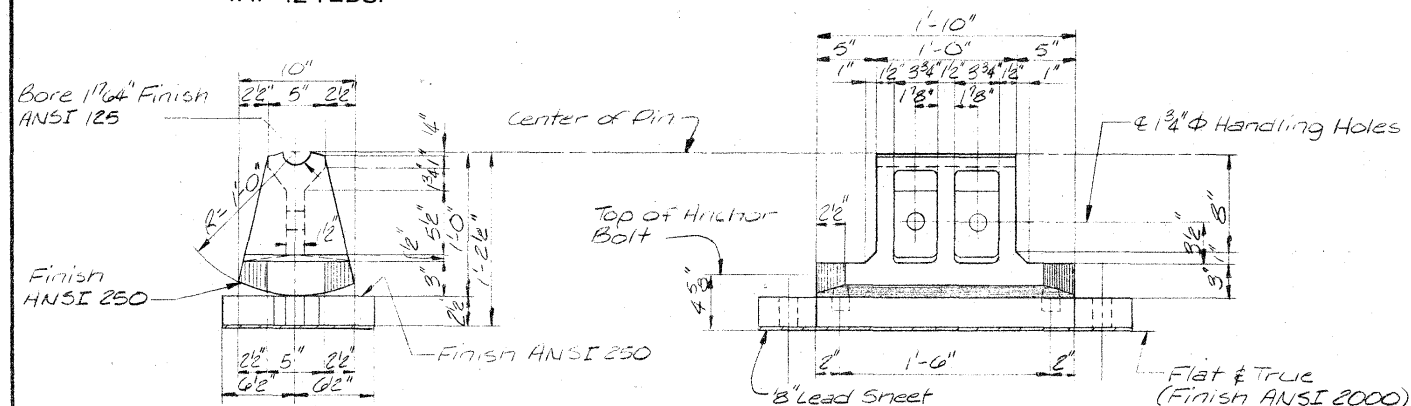
DRAWN BY: S. Stegman Jan. 1980
CHECKED BY: M. Bello March 1980
5818
80542



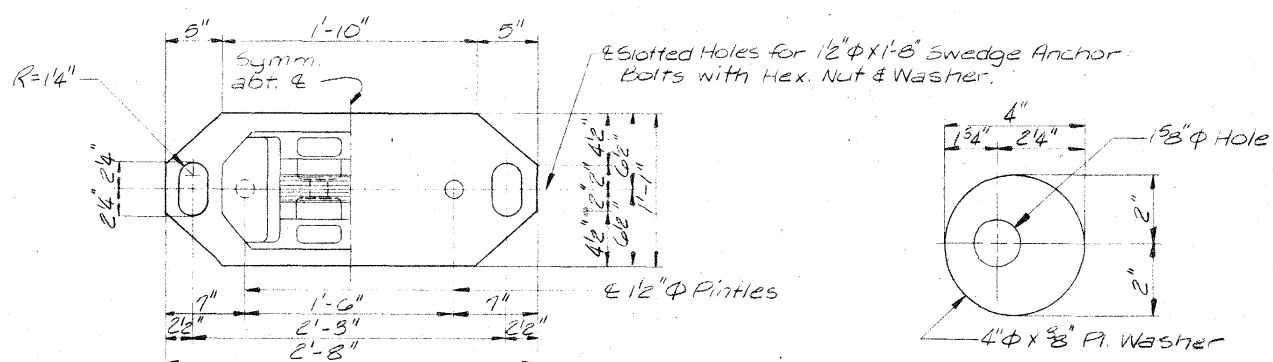
ROCKER R1A-ABUT. 1 & 6
WT. - 143 LBS.



MASONRY PLATE MP1A-ABUT. 1 & 6
WT. - 124 LBS.

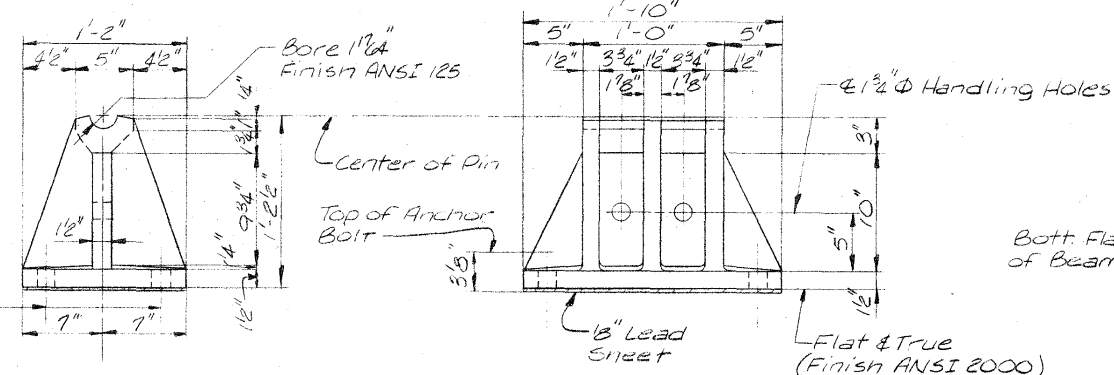


ROCKER R3A-PIERS 2 & 5
WT. - 259 LBS.

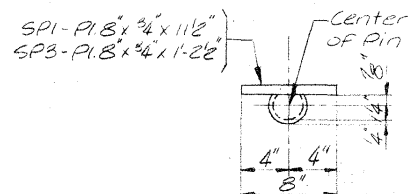


MASONRY PLATE MP3P-PIERS 2 & 5
WT. - 249 LBS.

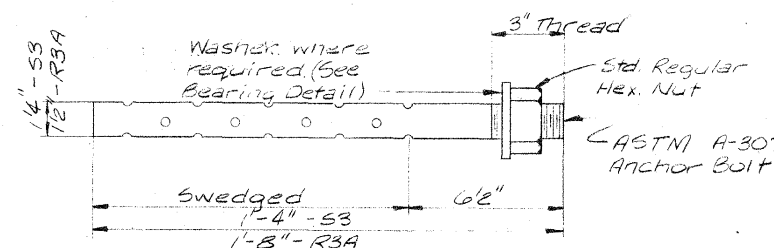
1/4 inch x 1-4 inch Swedge Anchor Bolt with Hex. Nut



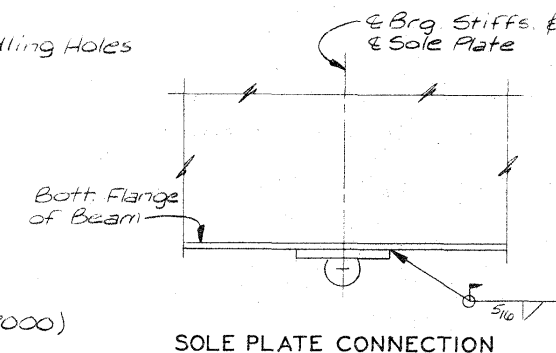
FIXED SHOE S3-PIERS 3 & 4
WT. - 349 LBS.



SOLE PLATE SPI AND SP3
WT. SPI-34 LBS.
SP3-43 LBS.



ANCHOR BOLT DETAIL
Note: Wt. for 1/4 inch Anchor Bolt with nut = 6.1 lbs.
Wt. for 1/2 inch Anchor Bolt with nut & washer = 12.2 lbs.



SOLE PLATE CONNECTION

BEARING NOTES

The casting of R1A, R3A, and S3 shall comply with Article 4153.04 of the IDOT Standard Specifications. Castings may be Grey Iron or Nodular Iron.

Masonry plates MP1A and MP3P 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 inch lead sheet in accordance with Article 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 an application of water-proof National Lubricating Grease Institute No. 3 multipurpose grease. Just before the erection of the structural steel in the field, shop coated surfaces are to be wiped clean and a field coat of N. L. G. I. No. 3 grease is to be applied.

Masonry plate MP1A shall be galvanized after the 1/4 inch bars have been welded to the masonry plate.

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.

Temperature at time of setting	ROCKER PLATE SETTING			
	Abut. 1	Pier 2	Pier 5	Abut. 6
10°F	-1/2"	-5/16"	-5/16"	-1/2"
50°F	0	0	0	0
90°F	+1/2"	+5/16"	+5/16"	+1/2"

Note: For temperatures above 50°F set Masonry Plate toward Fixed Shoe of the Unit (+). For temperatures below 50°F set Masonry Plate away from Fixed Shoe of the Unit (-). Settings for other temperatures are proportional to those shown for a 40°F temperature change. Rockers are to be set vertical at 50°F.

IOWA APPROACH MISSISSIPPI RIVER BRIDGE LAKE PEOSTA CHANNEL-16TH STREET BRIDGE BEARINGS

DUBUQUE COUNTY, IOWA - GRANT COUNTY, WISCONSIN
IOWA DEPARTMENT OF TRANSPORTATION

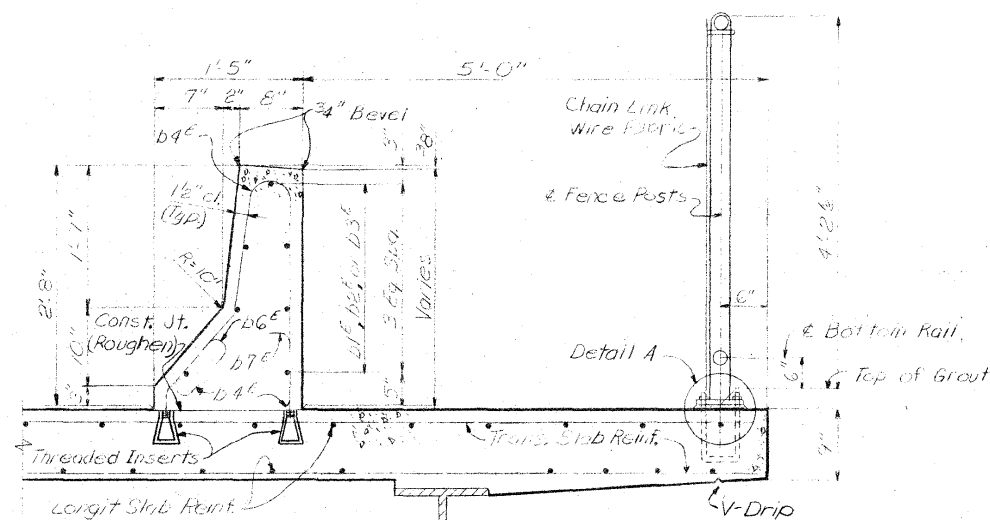
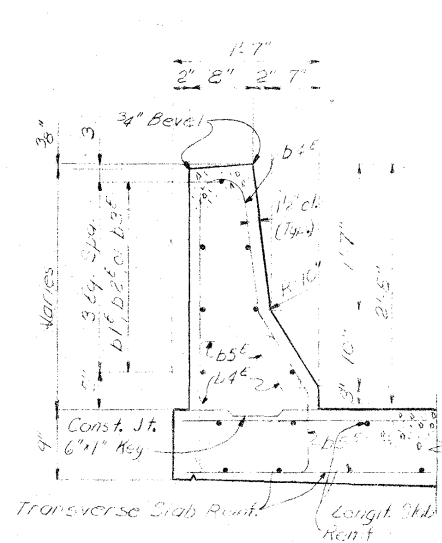
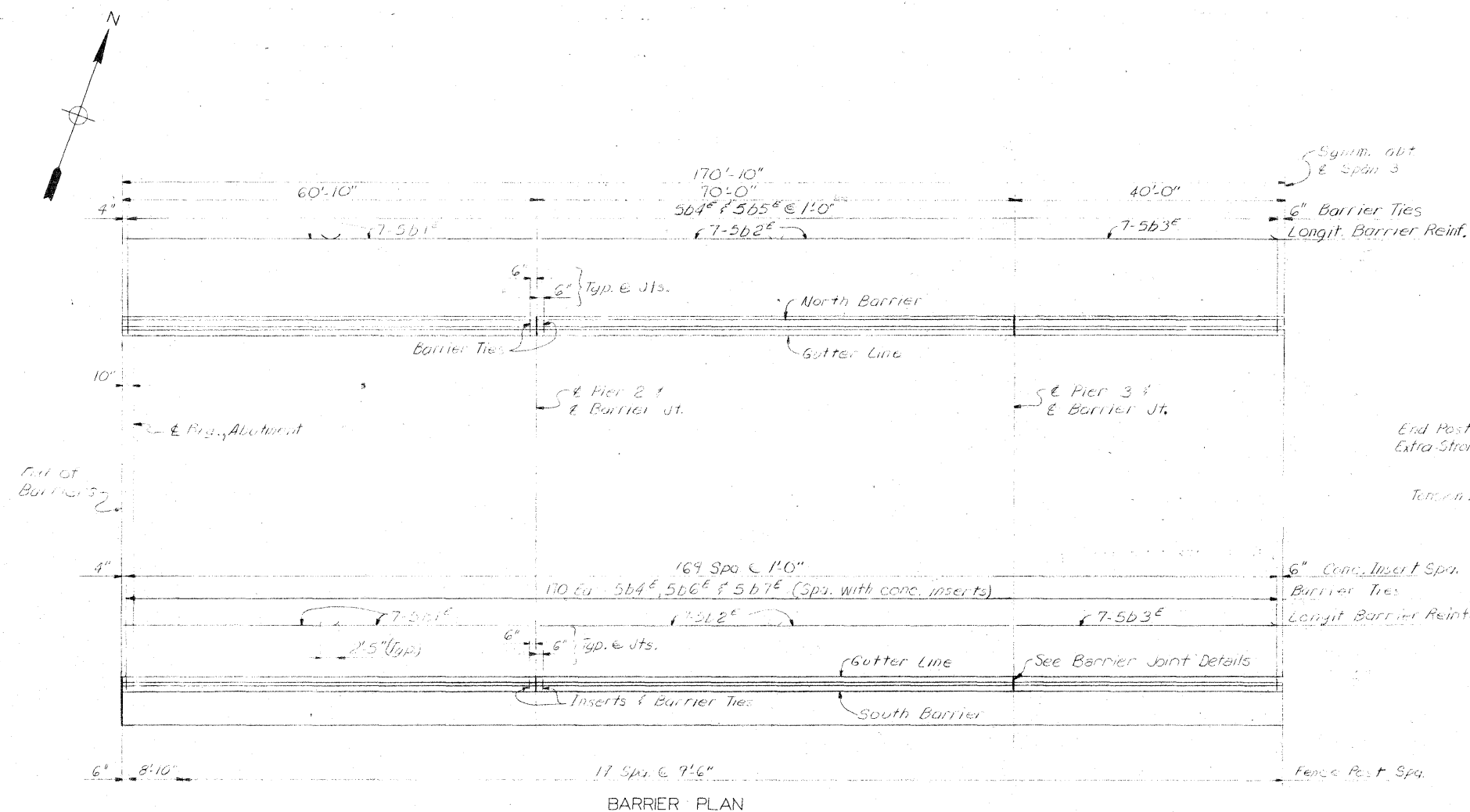
NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS.

DESIGN NO. 1479 FILE NO. 25896 DES. SH. NO. 14 OF 21

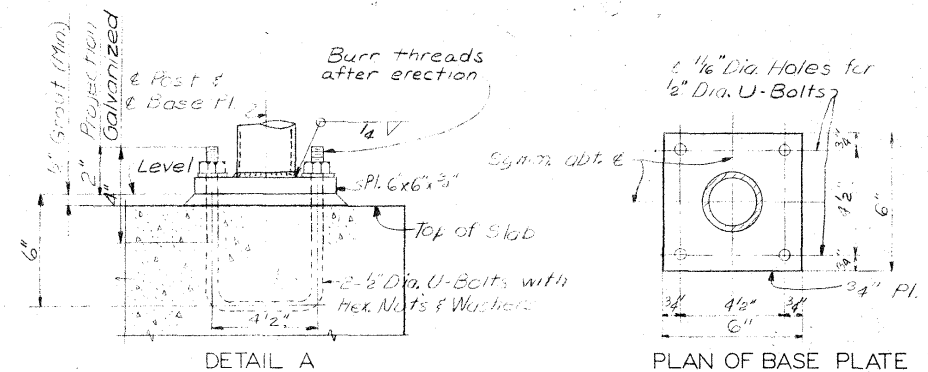
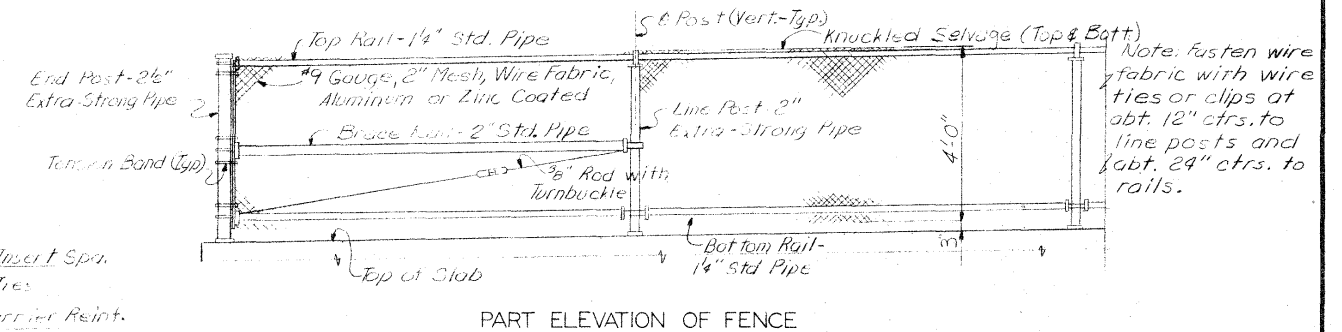
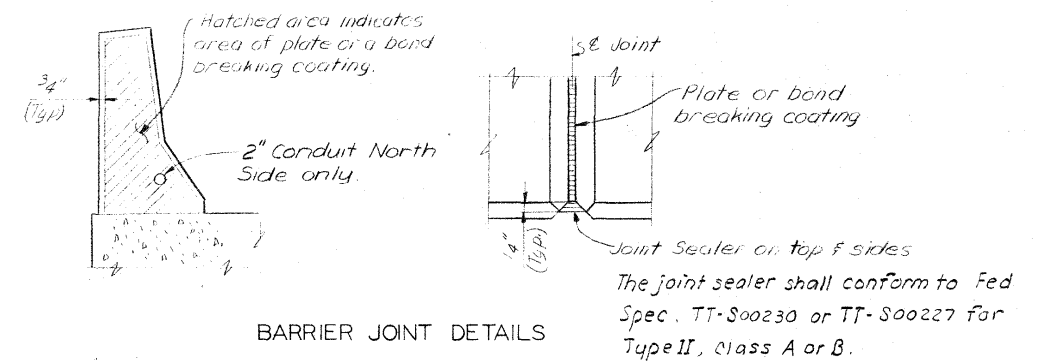
PROJECT BRP-561-4(5)-38-31 PROJECT SH. NO. 16 OF 41

DRAWN BY: S. Stegman JAN. 1980
CHECKED BY: J. A. Liebovich April 1980
5818
80571

SVERDRUP & PARCEL AND ASSOCIATES, Inc.
CONSULTING ENGINEERS
ST. LOUIS, MO



Notes: Concrete inserts shall be threaded (UNC) for a 9/16" lead and shall have a rated tension load capacity of 4,000 lbs. Provide with temporary plugs. Length of threaded ends on rebar bars b6' and b1' to suit inserts.



NOTES

Bars marked with the suffix "E" shall be epoxy coated in accordance with the Special Provisions. All longitudinal and transverse dimensions shown are measured horizontally. For expansion device details, see Des. Sh. No. 15. The chain link fence is to be bid on a station basis measured from E to E of end posts. The price bid for "Chain Link Fence, as per plan" shall be full compensation for furnishing all material, including concrete anchors, and all of the equipment and labor required to erect the fence in accordance with these plans and specifications. The posts, braces, rails and special fittings shall be in accordance with Articles 4154.10 and 4154.11 of the Standard Construction Specifications unless otherwise noted.

IOWA APPROACH
MISSISSIPPI RIVER BRIDGE
LAKE PEOSTA CHANNEL-16TH STREET BRIDGE

PARAPET BARRIER AND FENCE DETAILS

DUBUQUE COUNTY, IOWA - GRANT COUNTY, WISCONSIN

IOWA DEPARTMENT OF TRANSPORTATION

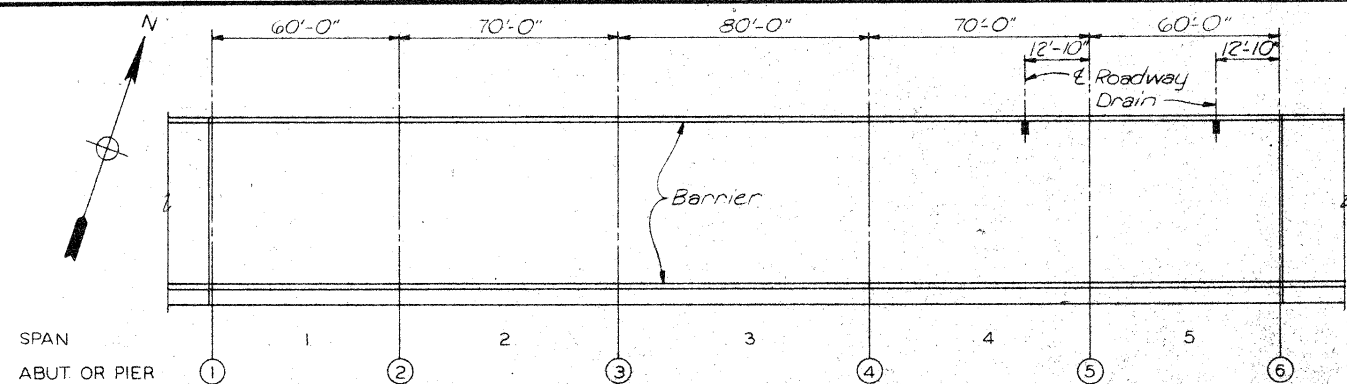
NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS.

DESIGN NO. 1479 FILE NO. 25896 DES. SH. NO. 16 OF 21

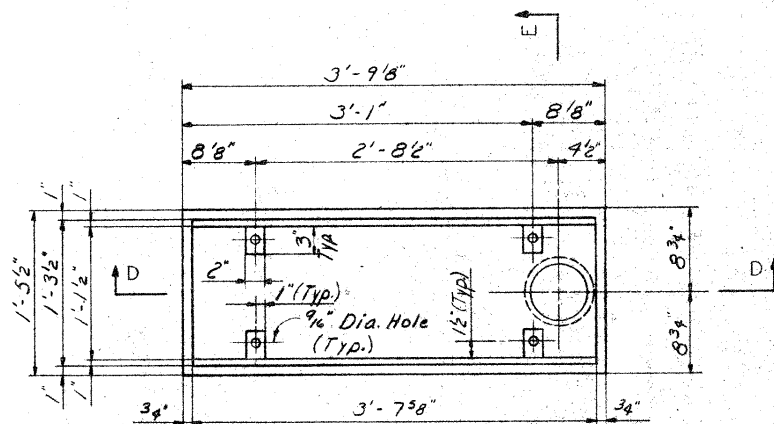
PROJECT BRF-561-4(5)-38-31 PROJECT SH. NO. 18 OF 41

SYVERDRUP & PARCEL AND ASSOCIATES, Inc.
CONSULTING ENGINEERS
ST. LOUIS, MO.

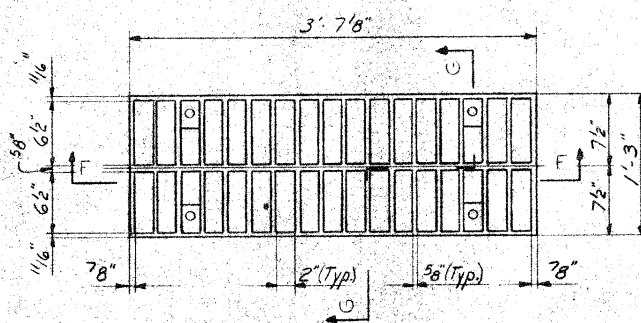
5818	DRAWN BY: R. Piezcher	Feb. 1980
60591	CHECKED BY: J. A. Liebsch	April 1980



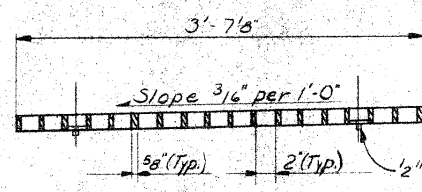
ROADWAY DRAIN LOCATION PLAN



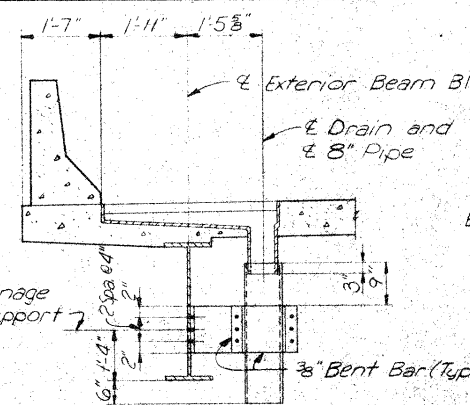
PLAN



PLAN

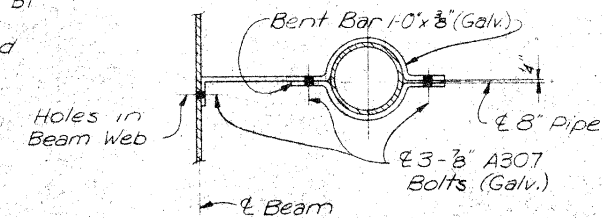


SECTION F-F



SECTION THRU DRAIN

Note: Omit shear connector studs under drain.



PIPE CONNECTION TO STEEL

DRAINAGE NOTES

All pipe shall be 8" ϕ A.S.T.M. A120 steel pipe (Galvanized).
All pipe fittings are to be Cast Iron conforming to A.S.T.M. A48, Class 25.

All pipe support material is to be A.S.T.M. A36.

All bolts and fasteners shall be galvanized as per A.S.T.M. 123 and A.S.T.M. A153.

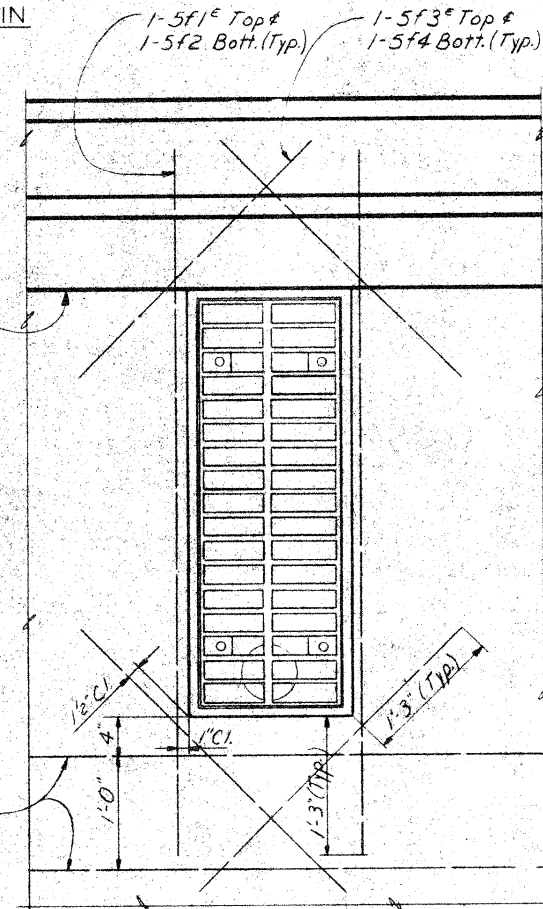
All grates and roadway drain castings shall be Ductile Iron conforming to A.S.T.M. A536, Grade 60-40-18. Grates shall be hot-dip galvanized. Inside surface of drains shall be asphaltic coated as per manufacturers recommendations.

Cost of furnishing, fabricating, erecting and galvanizing drainage system complete as detailed shall be all inclusive in Lumpsum price bid for Drainage System (on structure).

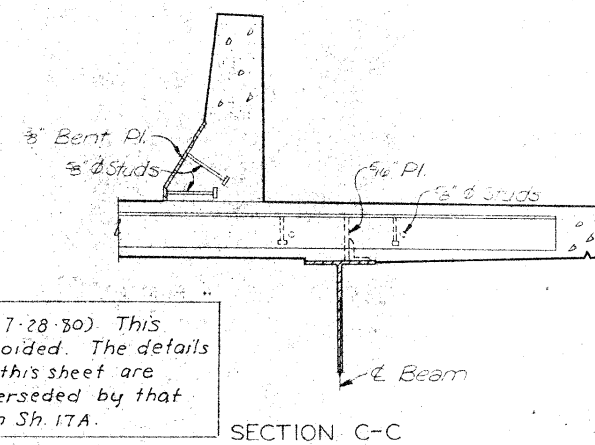
Piping shall be fabricated from field checked dimensions after installation of drains.

VOID:

1-5f5 Top &
1-5f6 Bott.

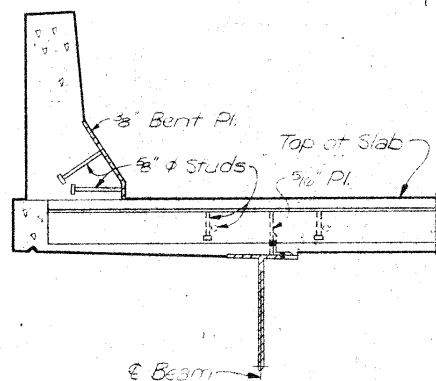


PLAN OF TYPICAL ROADWAY DRAIN
(Slab reinforcing not shown)

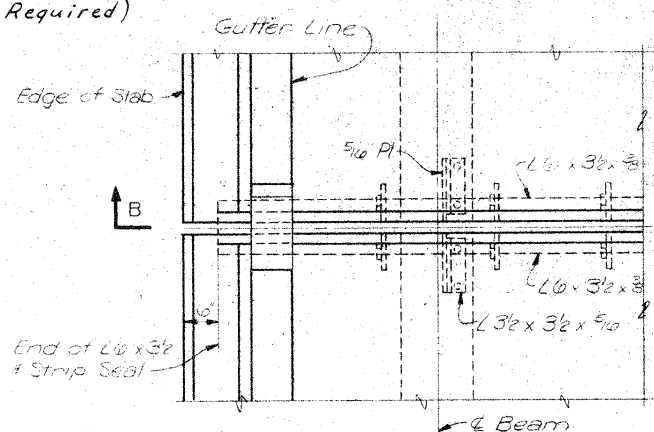


SECTION C-C

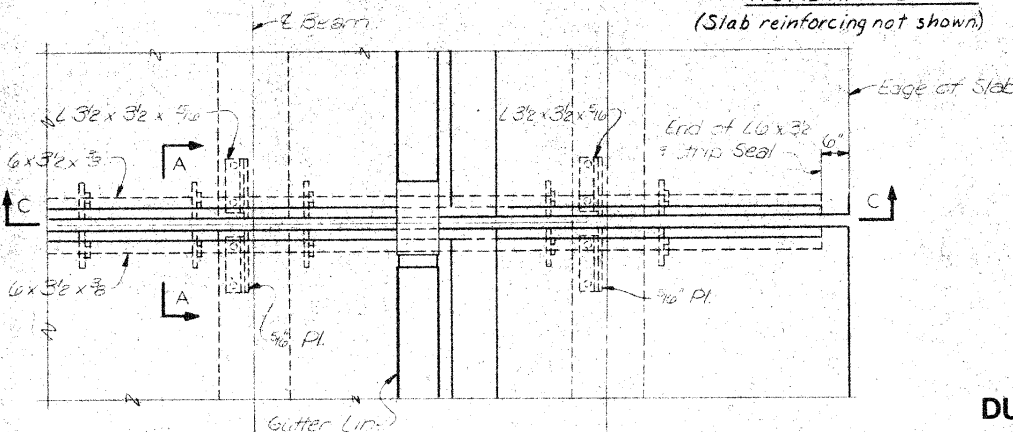
Revised (7-28-80). This sheet is voided. The details shown on this sheet are to be superseded by that shown on Sh. 17A.



SECTION B-B



PART PLAN OF STRIP SEAL
No Sidewalk



PART PLAN OF STRIP SEAL
SIDEWALK SIDE

Note: See Des. Sh. No. 15 for Section A-A.
NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS.

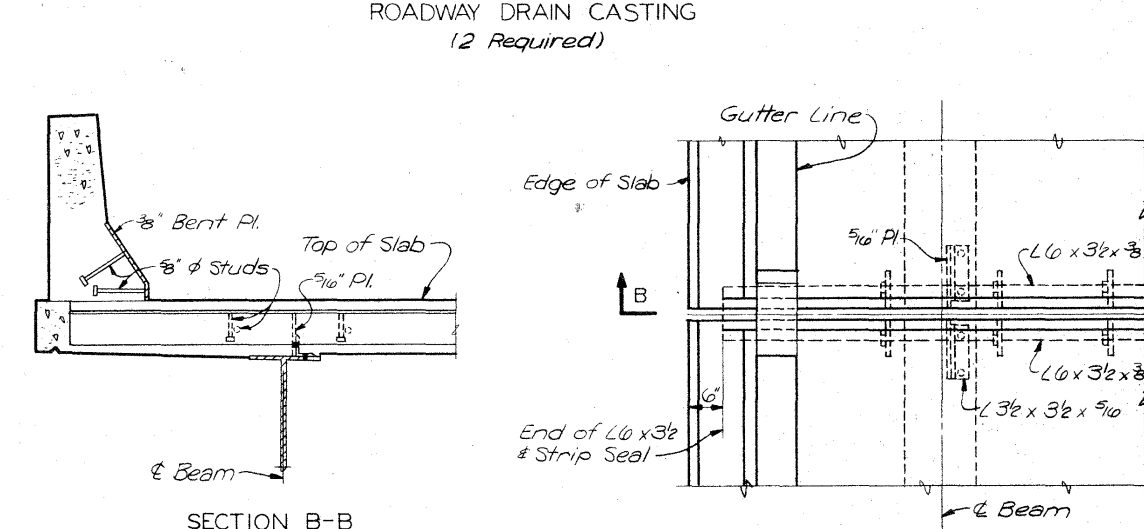
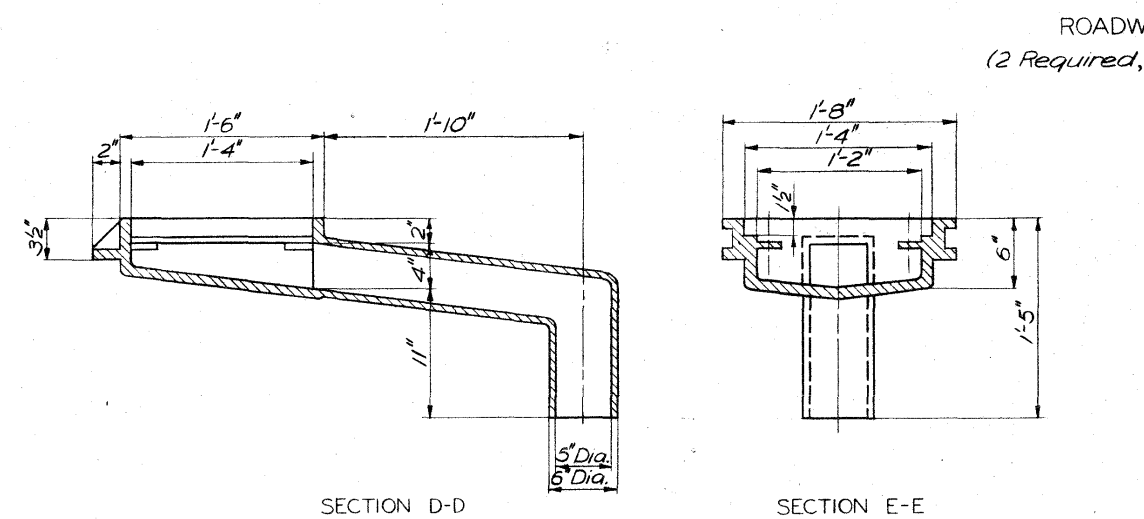
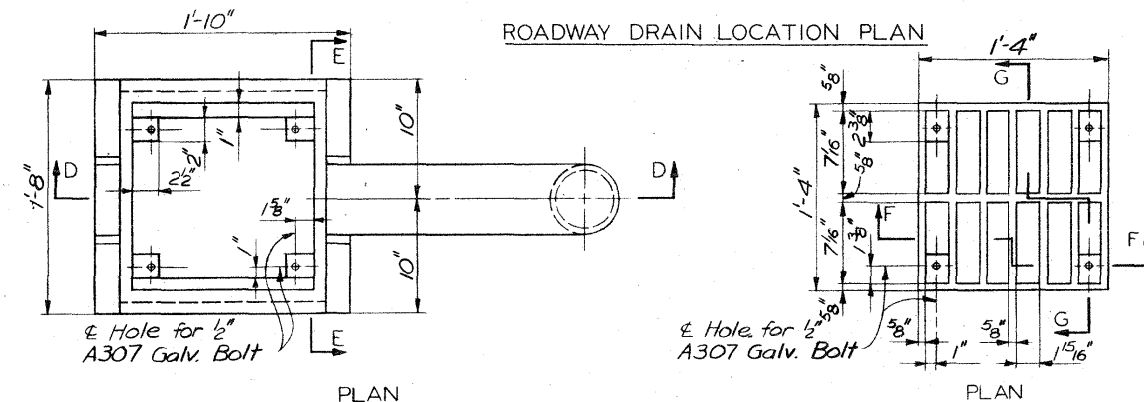
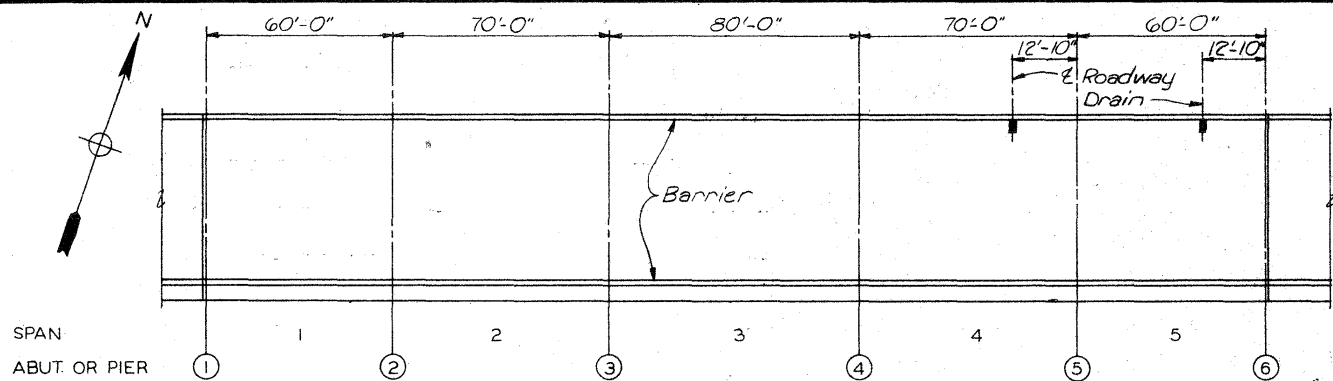
IOWA APPROACH
MISSISSIPPI RIVER BRIDGE
LAKE PEOSTA CHANNEL - 16TH STREET BRIDGE
DECK DRAINS
DUBUQUE COUNTY, IOWA - GRANT COUNTY, WISCONSIN
IOWA DEPARTMENT OF TRANSPORTATION

DRAWN BY: J. Mitchell March 80
CHECKED BY: J. L. Kuehn 4/80
5818
203203

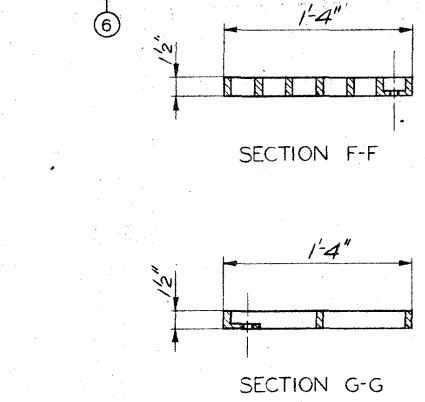
SVERDRUP & PARCEL AND ASSOCIATES, Inc.
CONSULTING ENGINEERS
ST. LOUIS, MO.

DESIGN NO. 1479 FILE NO. 25846 DES. SH. NO. 17 OF 21

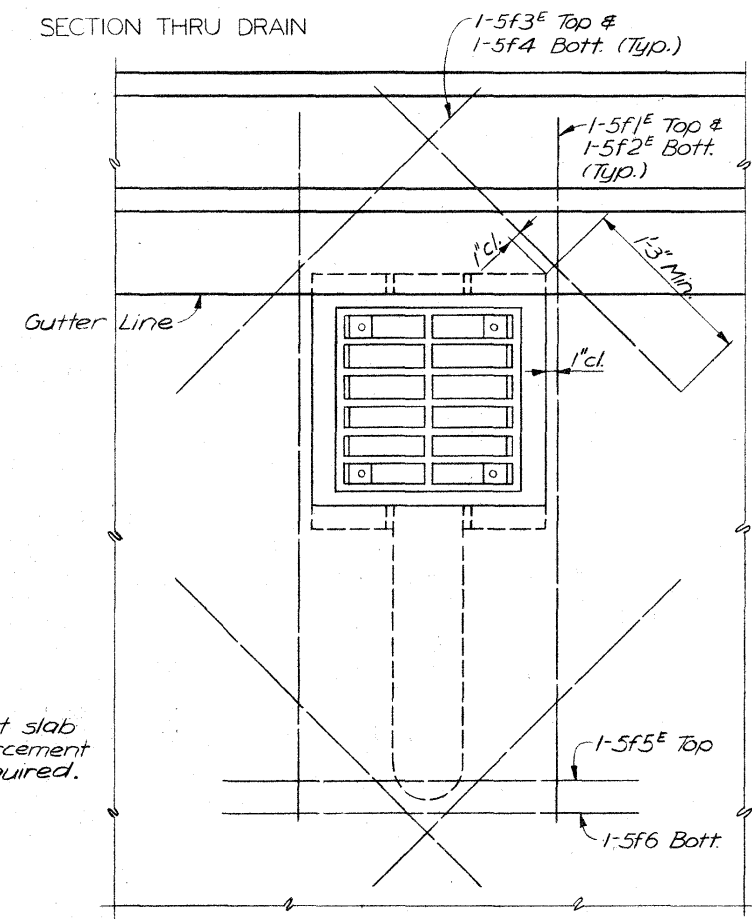
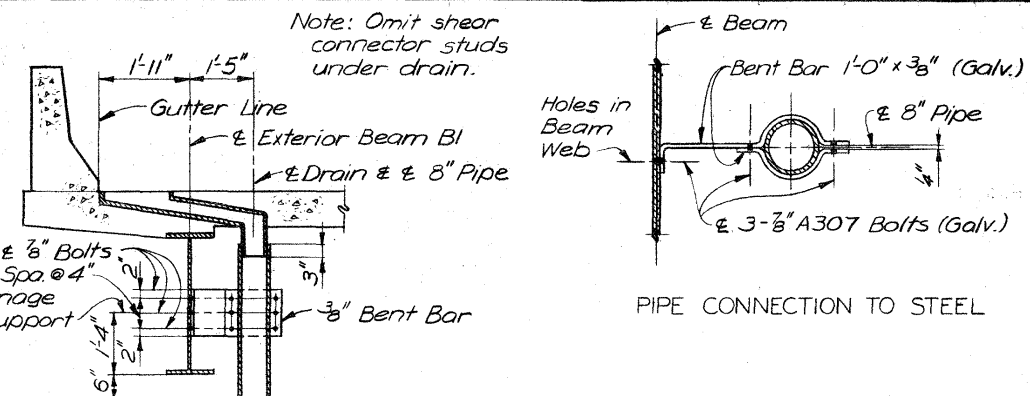
PROJECT BRP-561-4 (5) - 38-31 PROJECT SH. NO. 19 OF 41



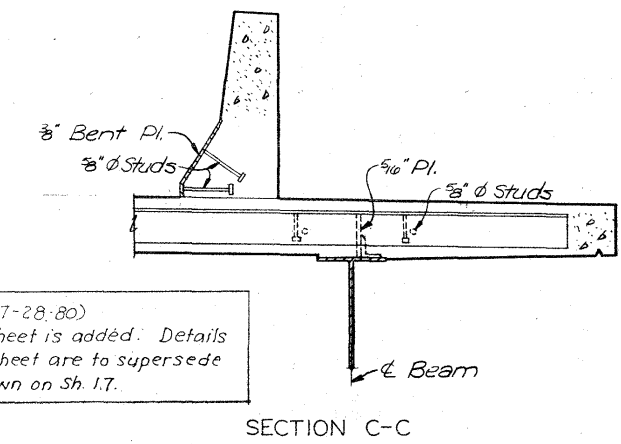
SECTION B-B
SVERDRUP & PARCEL AND ASSOCIATES, Inc.
CONSULTING ENGINEERS
ST. LOUIS, MO.



SECTION F-F
SECTION G-G

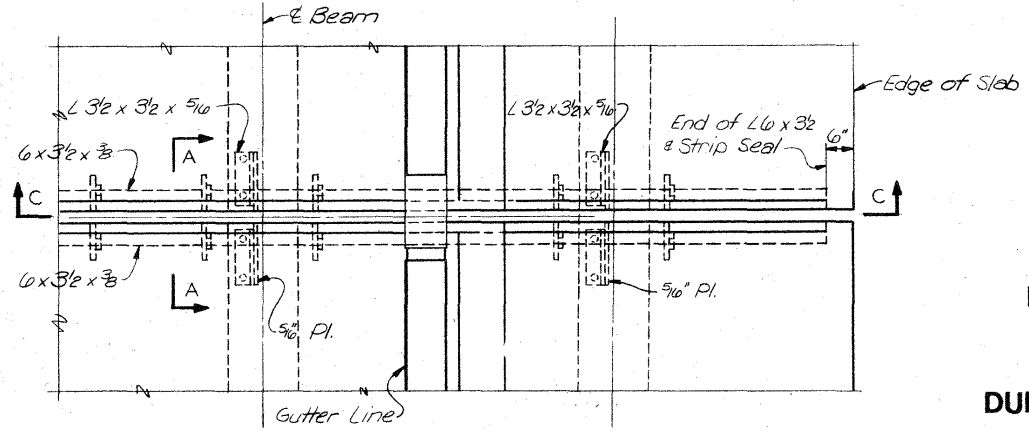


PLAN OF TYPICAL ROADWAY DRAIN
(Slab reinforcement not shown.)



SECTION C-C

IOWA APPROACH
MISSISSIPPI RIVER BRIDGE
LAKE PEOSTA CHANNEL - 16TH STREET BRIDGE
DECK DRAINS
DUBUQUE COUNTY, IOWA - GRANT COUNTY, WISCONSIN
IOWA DEPARTMENT OF TRANSPORTATION



PART PLAN OF STRIP SEAL
SIDEWALK SIDE
Note: See Des. Sh. No. 15 for Section A-A.
NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS.

Revised (7-28-80)
This sheet is added: Details on this sheet are to supersede that shown on Sh. 17.

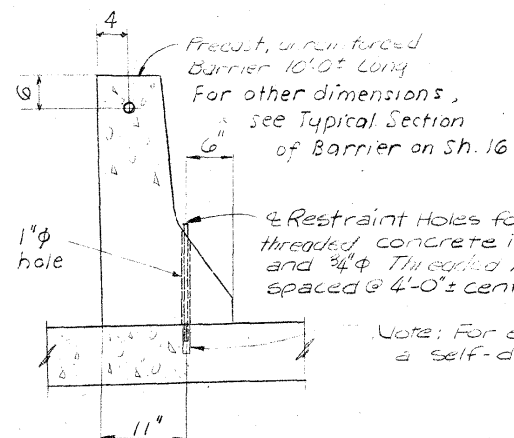
DRAWN BY: L. Mitchell March '80
CHECKED BY: R. D. L. 4/80
5818
805203

TRANSVERSE SECTION
(Looking up Station)

CONSTRUCTION SEQUENCE

- STAGE 1:**
- a) Remove sidewalk and structural steel support brackets.
 - b) Remove 4 abutment wing walls as necessary.
 - c) Place sheeting and/or shoring parallel to existing roadway from existing abutments to a point east of Abut #6 and west of Abut #1.
- STAGE 2:**
- a) Construct north and south portions of new bridge while maintaining traffic on existing bridge.
 - b) Route traffic to new construction after placing barriers as shown.
- STAGE 3:**
- a) Dismantle remaining structure and complete construction of new bridge.

Note: Base of barrier on sidewalk side only shall be blocked-out to clear fence post anchor bolts. See Des. Sh. No. 6.

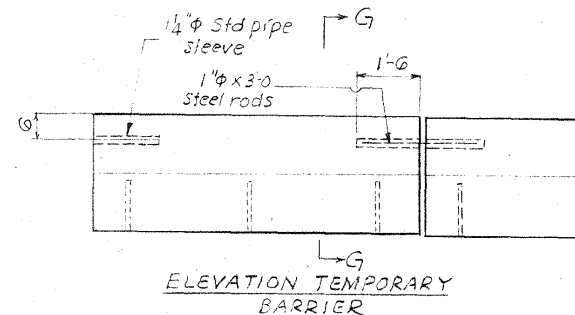


TEMPORARY BARRIER
CONNECTION
SECTION G-G

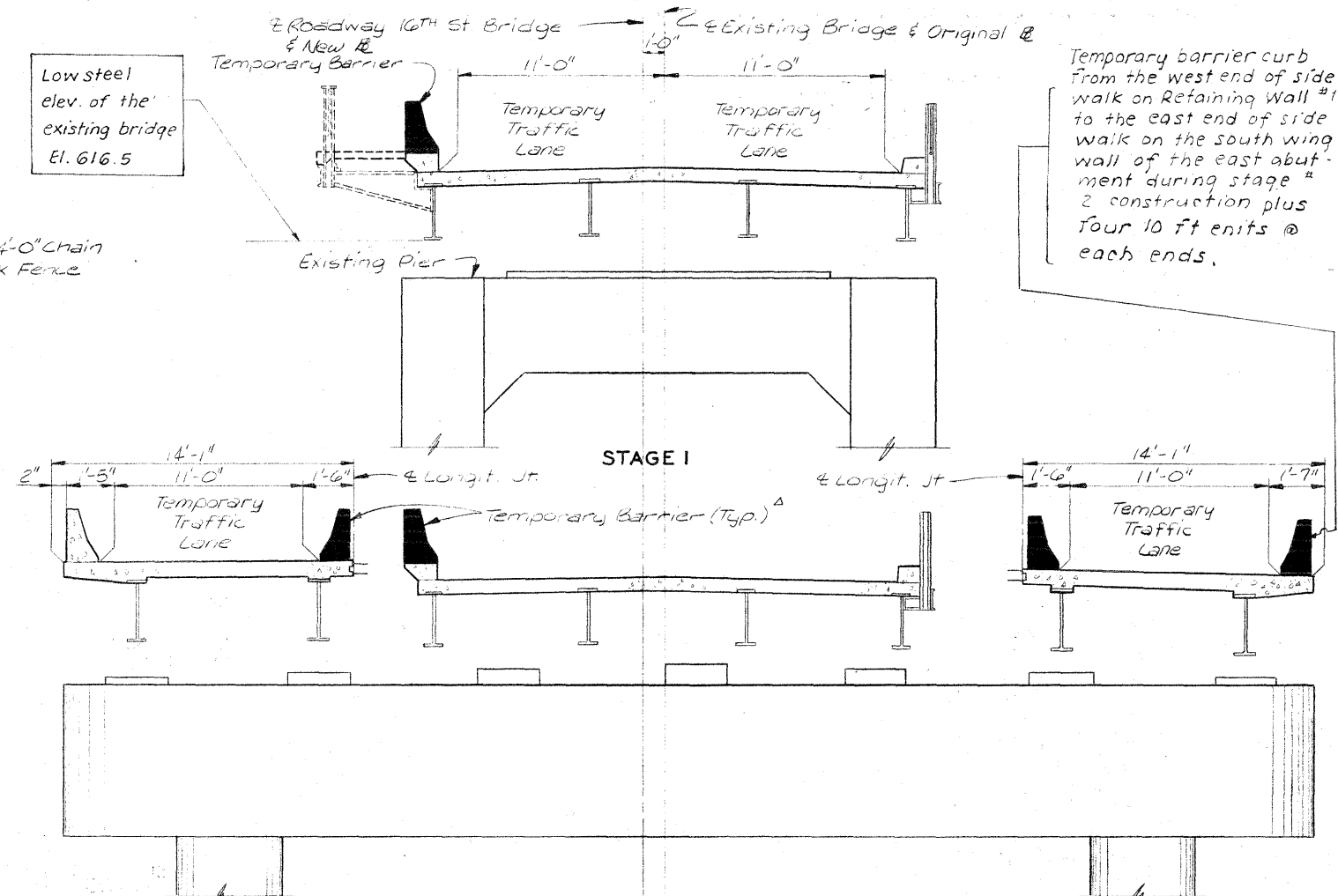
SVERDRUP & PARCEL AND ASSOCIATES, Inc.
CONSULTING ENGINEERS
ST. LOUIS, MO.

Note: For existing sidewalk
a self-drilling concrete anchors^Δ

^a By manufacturers and brands approved by the office of Materials, Iowa DOT



Low steel
elev. of the
existing bridge
El. 616.5



Temporary barrier curb
from the west end of side
walk on Retaining Wall #1
to the east end of side
walk on the south wing
wall of the east abut-
ment during stage #
2 construction plus
four 10 ft ends @
each ends.

Δ Entire bridge
length plus
four 10 ft units
② each end.

STAGE 3

TRANSVERSE SECTION (LOOKING
UP STATION)

Temporary Barrier Note:

The cost of furnishing, installing and removing the temporary barriers shall be included in the price bid for 'Maintenance of Traffic'.

Barrier is to become the property of the Contractor at the completion of work and removed from the site by him.

IOWA APPROACH
MISSISSIPPI RIVER BRIDGE
LAKE PEOSTA CHANNEL-16TH STREET BRIDGE
CONSTRUCTION SEQUENCE

DUBUQUE COUNTY, IOWA - GRANT COUNTY, WISCONSIN

IOWA DEPARTMENT OF TRANSPORTATION

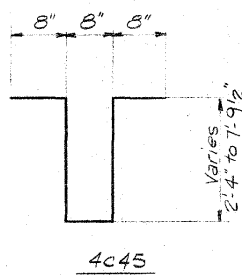
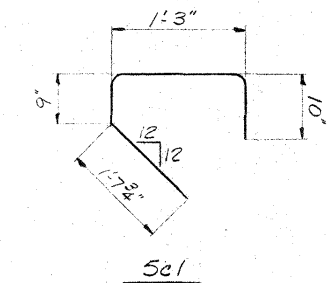
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DESIGN NO. 1479 FILE NO. 25896 DES. SH. NO. 18 OF 21

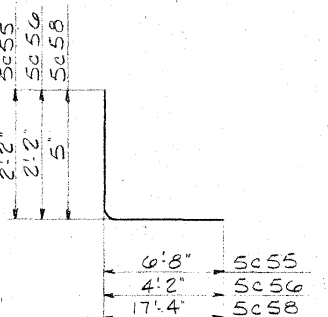
PROJECT BRF-561-4(5)--38-31 PROJECT SH. NO. 20 OF 41

BARRIER AND SLAB						PIERS 3 & 4					
BAR	LOCATION	SHAPE	LENGTH	NO.	WEIGHT	BAR	LOCATION	SHAPE	LENGTH	NO.	WEIGHT
5b1 ^e	Barrier	—	31'7"	56	1845	11+1	Cap	—	56'6"	8	2401
5b2 ^e	Do	—	36'2"	56	2112	11+2	do	—	58'6"	8	2486
5b3 ^e	Do	—	41'2"	28	1202	11+3	do	—	59'2"	8	2515
5b4 ^e	Do	⌒	5'5"	684	3864	11+4	do	—	59'5"	8	2525
5b5 ^e	Do	⌒	5'1"	342	1813	11+5	do	—	59'7"	4	1266
5b6 ^e	Do	⌒	1'9"	342	624	11+6	do	—	16'3"	8	691
5b7 ^e	Do	—	1'5"	342	505	11+7	do	—	17'3"	8	733
						11+8	do	—	17'7"	8	747
						11+9	do	—	17'9"	8	754
5s1 ^e	Slab	—	57'9"	444	26744	11+10	do	—	17'10"	4	379
5s2 ^e	do	—	57'9"	408	24575	11+11	do	—	40'0"	18	3825
6s3 ^e	do	—	15'6"	910	21186	5+12	do	—	56'6"	24	1414
6s4 ^e	do	—	31'10"	455	21755	6+13	do	□	19'7"	196	5765
6s5 ^e	do	—	16'0"	910	21869	5+14	do	⌒	8'4"	32	278
6s6 ^e	do	—	31'10"	455	21755	4+15	Pedestal	□	6'7"	70	308
						4+16	do	□	6'5"	70	300
						11+17	Column	⌒	25'8"	256	34910
5f1 ^e	Slab Drain	—	6'3"	4	26	11+18	do	⌒	39'9"	184	38859
5f2 ^e	do	—	6'3"	4	26	4+19	do	□	13'3"	130	1204
5f3 ^e	do	—	3'1"	3	26	4+20	do	□	12'0"	264	2116
5f4 ^e	do	—	3'1"	3	26	6+21	Footing	—	13'6"	68	1379
5f5 ^e	do	—	4'0"	4	17	9+22	do	—	13'6"	92	4223
5f6 ^e	do	—	1'0"	4	17	5+23	do	—	16'6"	112	1927
						8+24	do	—	16'6"	112	4934
5x1 ^e	Light Supp	□	6'2"	5	5						
5x2 ^e	do	—	2'11"	16	49						
5x3 ^e	do	—	5'4"	10	56						
5x4 ^e	do	—	6'10"	5	57						
						Total (Lbs.) 15939					

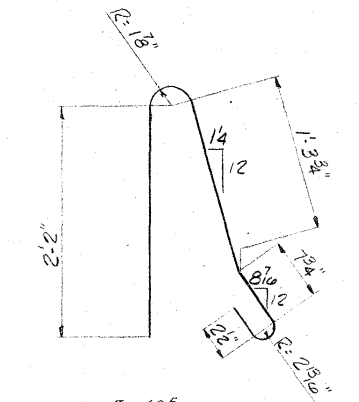
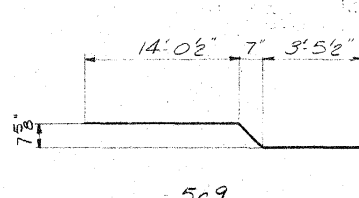
ABUTMENT 6						ABUTMENT 6 (CONTINUED)					
BAR	LOCATION	SHAPE	LENGTH	NO.	WEIGHT	BAR	LOCATION	SHAPE	LENGTH	NO.	WEIGHT
Sc1	Backwall	U	4'-2"	52	226	7c67	Footing	L	6'-4"	120	1553
Sc2	do	L	6'-2"	60	386	Sc68	do	L	4'-9"	85	421
7c3	Brdg Seat	—	13'-5"	16	504	Sc69E	Backwall	U	4'-7"	53	253
7c4	do	—	11'-3"	29	667	Sc70E	do	—	17'-3"	2	36
7c5	do	—	11'-6"	17	400	Sc71E	do	—	28'-7"	2	60
7c6	do	—	7'-5"	29	440	Sc72	Brdg Seat	U	7'-3"	60	454
7c7	do	—	8'-0"	14	229	Sc73	Pedestal	U	5'-7"	16	93
Sc8	do	—	11'-5"	17	202	Sc74	do	U	4'-10"	16	81
Sc9	Backwall	—	18'-0"	2	38	Sc75	Wingwall	—	Varies	11	85
Sc10	Brdg Seat	—	7'-4"	29	222	1 Series of 11 Bars (5'-9" to 9'-1")					
Sc11	do	—	7'-11"	16	132	Sc76	do	—	5'-10"	6	37
Sc12	do	—	14'-10"	10	155	Sc77E	do	—	Varies	14	145
Sc13	Brdg Seat	—	17'-4"	29	524	1 Series of 14 Bars (7'-9" to 12'-1")					
Sc14	do	—	28'-7"	31	924	Sc78E	do	—	10'-11"	20	328
Sc15	do	—	17'-11"	24	448	Sc79E	do	—	10'-11"	20	228
Sc16	Brdg Seat	—	15'-6"	5	81	Sc80	Footing	L	4'-11"	9	66
Sc17	Footing	L	10'-0"	8	83	Sc81	Not Used				
Sc18	do	—	9'-0"	9	84	Sc82	Not Used				
Sc19	do	—	28'-7"	17	507	Sc83E	Barrier	U	4'-4"	5	23
Sc20	do	—	18'-4"	17	325	Sc84	Backwall	—	4'-6"	8	38
Sc21	do	—	8'-0"	94	784	Sc85E	Barrier	—	4'-2"	7	30
Sc22	do	—	15'-3"	21	334	Sc86	Brdg Seat	—	6'-8"	12	83
Sc23	do	—	9'-6"	16	159						
Sc24	do	—	9'-6"	21	300						
7c25	Brdg Seat	—	11'-10"	15	363						
Sc26E	Backwall	—	17'-11"	2	37						
Sc27	do	U	2'-11"	5	15						
Sc28	Wingwall	—	Varies	11	113	Total (LLS.) 21861					
1 Series of 11 Bars (8'-7" to 11'-11")											
Sc29	do	—	Varies	11	132						
1 Series of 11 Bars (6'-4" to 9'-8")											
Sc30	do	—	Varies	14	60						
1 Series of 14 Bars (1'-11" to 6'-3")											
Sc31E	do	—	Varies	14	212						
1 Series of 14 Bars (7'-11" to 12'-3")											
Sc32	do	—	8'-6"	6	53						
Sc33	do	—	6'-3"	6	56						
10c34	do	—	36'-2"	3	1245						
10c35	do	—	Varies	14	689						
2 Series of 7 Bars (6'-11" to 15'-11")											
10c36	do	—	6'-2"	4	106						
10c37	do	—	Varies	6	643						
2 Series of 3 Bars (23'-5" to 26'-5")											
10c38	do	—	23'-2"	8	797						
10c39	do	—	34'-8"	2	298						
Sc40	Footing	—	5'-6"	27	155						
Sc41	do	—	12'-6"	8	267						
7c42	do	—	12'-6"	8	204						
Sc43E	Barrier	U	1'-4"	35	64						
Sc44	Counter-Ft	U	Varies	14	88						
2 Series of 7 Bars (3'-0" to 9'-11")											
Sc45	do	U	Varies	7	55						
1 Series of 7 Bars (6'-3" to 17'-2")											
Sc46E	Bar, Sawk	—	34'-1"	14	506						
Sc47	Counter-Ft	U	14'-3"	2	76						
Sc48E	Barrier	U	5'-5"	40	226						
Sc49	Side Walk	—	6'-2"	33	244						
Sc50E	Beam	U	7'-7"	5	40						
10c51	Wingwall	—	Varies	12	1584						
2 Series of 6 Bars (26'-11" to 34'-5")											
Sc52	Backwall	—	12'-0"	2	25						
Sc53	Wingwall	—	8'-10"	20	184						
Sc54	do	—	10'-3"	32	342						
Sc55	Brdg Seat	L	8'-8"	12	108						
Sc56	Backwall	L	6'-2"	6	39						
Sc57	do	—	4'-2"	6	26						
Sc58	Brdg Seat	L	17'-7"	5	92						
Sc59	Back wall	U	7'-4"	6	46						
Sc60	Wingwall	—	13'-0"	3	41						
Sc61	do	—	10'-9"	3	48						
Sc62	do	—	10'-4"	3	32						
Sc63	Barrier	—	1'-4"	35	49						
Sc64	Side walk	—	34'-8"	5	181						
Sc65E	Backwall	U	8'-0"	5	42						
Sc66	Brdg Seat	—	8'-6"	12	106						



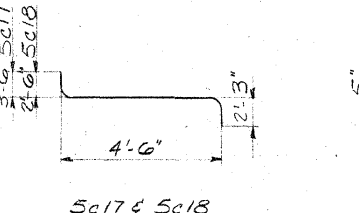
Bars	A	B
Sc2, 10c34	10"	5'-6"
7c67, Sc68, & Sc80	1'-10"	34'-8"
7c67	1'-2"	5'-4"
Sc68	10"	4'-1"
Sc80	1'-0"	4'-1"



Sc55, Sc56, & Sc58



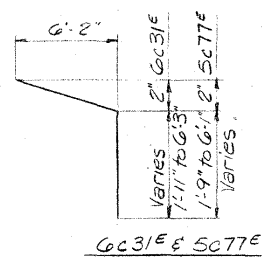
Sc48E



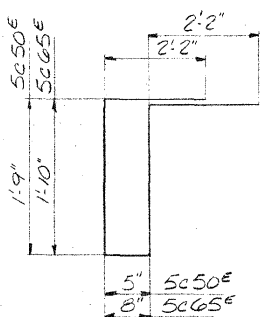
Sc17 & Sc18

Sc63E

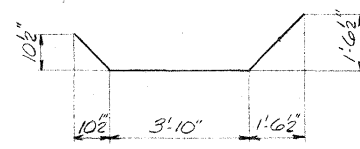
Bars	A	B	C	D
Sc54	2'-2"	8'-14"	1'-6"	1'-6"
Sc66	1'-2"	7'-4"	9"	9"
Sc78E	6'-2"	4'-10"	6'-2"	1'-8"
Sc79E	6'-2"	4'-10"	6'-2"	1'-8"



Sc31E & Sc77E

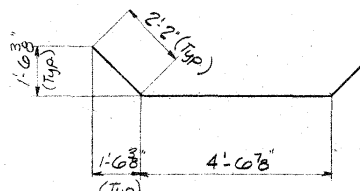


Sc50E & Sc65E

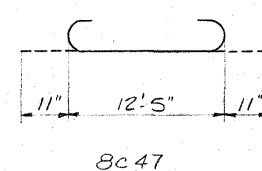


Sc59

Bars	A	B
Sc27, Sc69E	1'-3"	8"
Sc72, Sc73, & Sc74	2'-1"	8"
Sc72	2'-2"	3'-2"
Sc73	1'-7"	2'-8"
Sc74	1'-7"	1'-11"



Sc53



Sc47

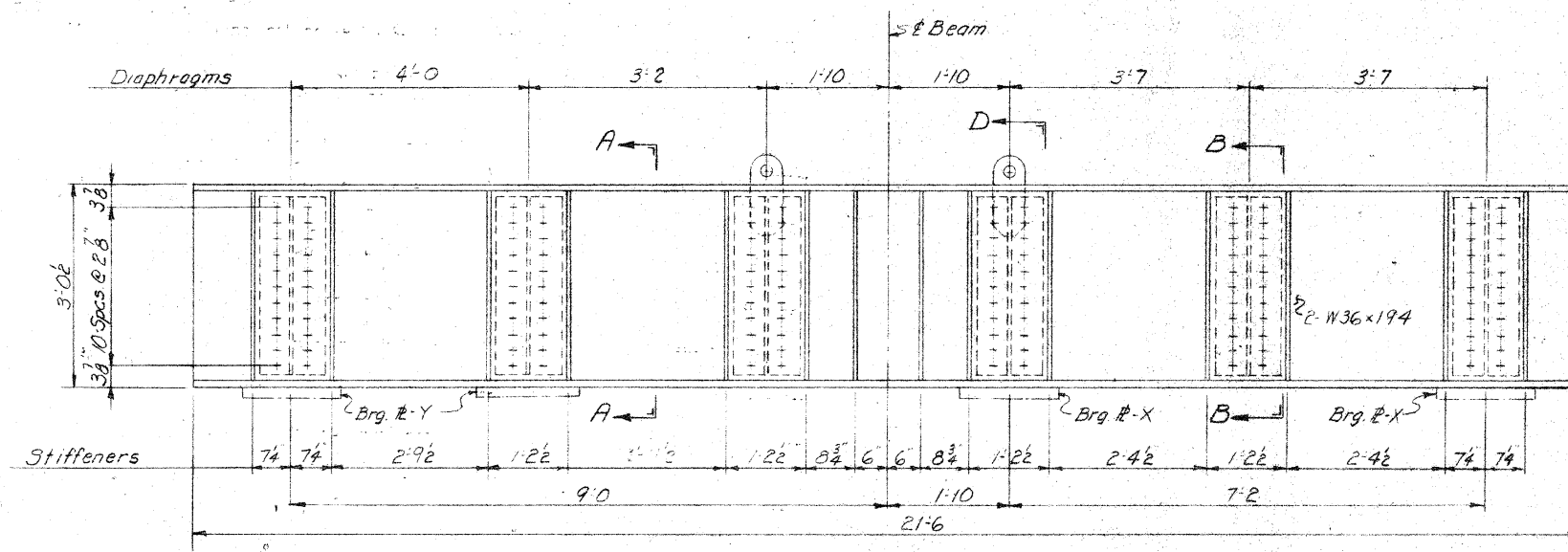
NOTES

All dimensions are out to out.
 All bends shown are bent around a standard mandrel of D=6db for #3 thru #8; D=8db for #9, #10, and #11, except as otherwise shown.
 Dimensioning, bending and hooks for bent bars shall conform to recommendations indicated in A.C.I. "Manual of Standard Practice for Detailing Reinforced Concrete Structures" except as noted.
 Bar lengths include deductions for bends.

IOWA APPROACH MISSISSIPPI RIVER BRIDGE LAKE PEOSTA CHANNEL-16TH STREET BRIDGE BAR LIST

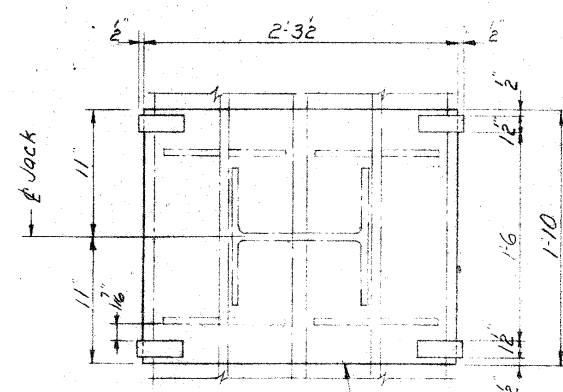
DUBUQUE COUNTY, IOWA - GRANT COUNTY, WISCONSIN
 IOWA DEPARTMENT OF TRANSPORTATION

NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS.

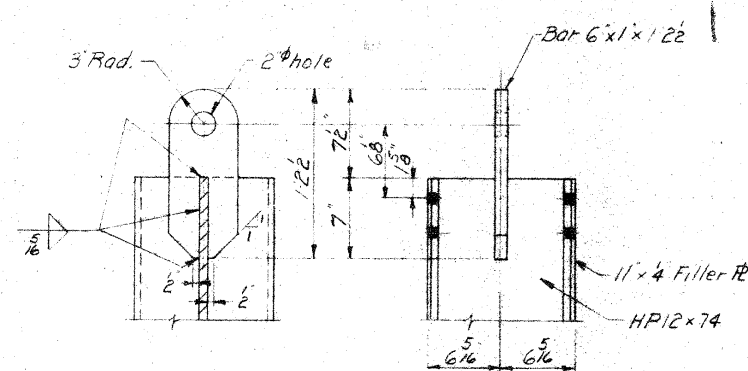


DETAIL OF JACKING BEAM

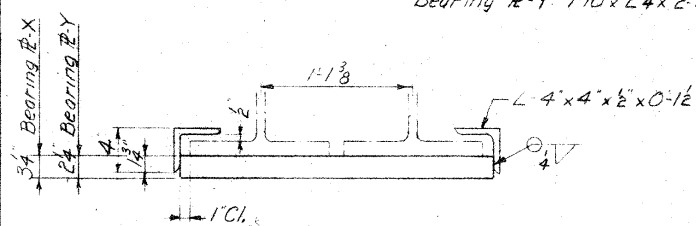
WT. = 11,563 lbs.



Bearing #X 1'-10" x 3'-4" x 2'-3 1/2"
Bearing #Y 1'-10" x 2'-4" x 2'-3 1/2"



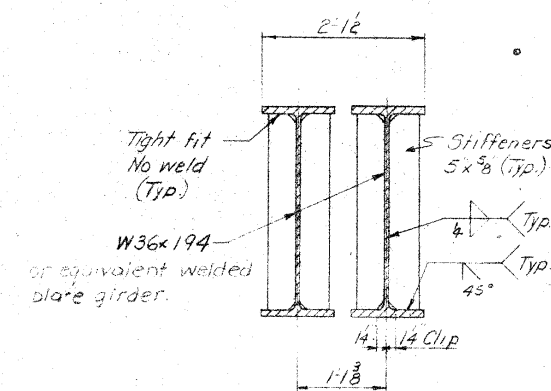
PART SECTION D



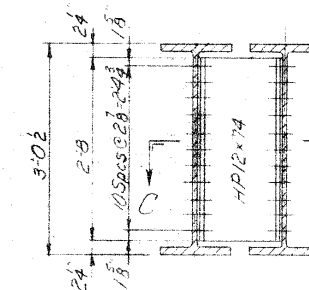
BEARING PLATE DETAIL

Bearing #X 2 Req'd. Wt. 564 lbs. Each
Bearing #Y 2 Req'd. Wt. 392 lbs. Each
Shop weld angles to bearing plate while
bearing plate is held in position against
the bottom flange of the jacking beam.

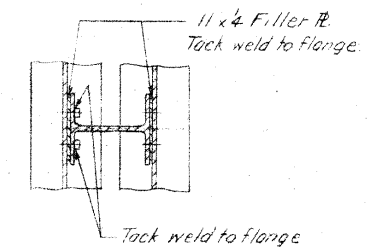
Jacking Beam Wt. = 13,475 lbs.



SECTION A-A



SECTION B-B



SECTION C-C

NOTE: This jacking beam is not a bid item.
It is designed for 300 ton jacking capacity.
See Special Provisions. SP 299

MISSISSIPPI RIVER
JACKING BEAM FOR PILE LOAD TEST
DUBUQUE COUNTY, IOWA
IOWA DEPARTMENT OF TRANSPORTATION

ELEV	BORING NO. B-1	
610	611.6	4" Gravel Road Sand, medium dense, brown, fine to medium
600	599.6 598.6 596.6	19 22 4 Sand-gray, fine to medium Silt-black, organic Sand-very loose, grey, fine to medium Layers of black organic silt Loose, trace of wood and silt
590	578.6	18 25 4 Sand-Medium dense, gray fine to coarse Trace of gravel and wood
580	563.1	27 31 27 Plan Pile Tip Elev. 560 Sand-Medium dense, brown, fine to coarse, little gravel
570		17
560		16
550		24
540		74
530		24
520		43
510		30
500		38
490		63
480		53
470		
460		
450		

CONSTRUCTION SPECIFICATIONS:
IOWA DEPARTMENT OF TRANSPORTATION, SERIES OF 1977,
STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION,
CURRENT SUPPLEMENTAL SPECIFICATION AND SPECIAL PROVISIONS.

DESIGN SPECIFICATION:
THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION
OFFICIALS "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES"
TWELFTH EDITION, 1977, AND THE 1978 AND 1979 INTERIM SPECIFICATIONS.

DESIGN LOADS:
DEAD LOAD: WEIGHT OF STRUCTURE INCLUDING AN ALLOWANCE
OF 20 POUNDS PER SQUARE FOOT OF ROADWAY FOR FUTURE WEARING
SURFACE
LIVE LOAD: INTERSTATE HIGHWAY BRIDGE LOADING, HS20-44
AND ALTERNATE MILITARY LOADING
REPETITIVE LOAD: AASHTO CASE II FOR REDUNDANT AND
NONREDUNDANT STRUCTURES
WIND LOAD: AS SPECIFIED IN AASHTO SPECIFICATIONS AND
IS CONSIDERED AN UNBROKEN MOVING LOAD. IDENTICAL LOADED
LENGTH OF WIND-ON-LIVE LOAD AND WIND-ON-STRUCTURE IS USED.
THERMAL FORCE: AS SPECIFIED IN AASHTO SPECIFICATIONS
CONSISTENT WITH A COLD CLIMATE.
SEISMIC FORCE: AS SPECIFIED IN AASHTO SPECIFICATIONS,
EQUIVALENT STATIC FORCE METHOD, ZONE 1, WITH A COMBINED
RESPONSE COEFFICIENT OF 0.06.
ACTIVE PRESSURE OF RETAINED SOIL IS TAKEN AS 40
POUNDS PER SQUARE FT. PER FT. OF HEIGHT.

CONCRETE:
CONCRETE FOR THE ABUTMENTS SHALL BE CLASS C.
CONCRETE FOR PARAPET BARRIERS SHALL BE CLASS D.
ALL EXPOSED CORNERS OF 90° OR SHARPER ARE TO BE FORMED
WITH A 3/4" DRESSED AND BEVELED FILLET.

REINFORCEMENT:
REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60, ASTM A616,
GRADE 60 OR ASTM A617, GRADE 60.
ALL DIMENSIONS TO REINFORCING STEEL ON DETAIL DRAWINGS ARE TO
CENTERLINE OF BAR EXCEPT WHERE CLEAR DISTANCE IS NOTED FROM THE FACE
OF CONCRETE. ALL REINFORCING STEEL IS LAPPED IN ACCORDANCE WITH AASHTO
SPECIFICATION 1.5.22 UNLESS OTHERWISE SHOWN OR NOTED.
ALL REINFORCEMENT IN THE PARAPET BARRIERS IS TO BE EPOXY
COATED.

GENERAL NOTES

DESIGN UNIT STRESSES FOR REINFORCED CONCRETE:
CLASS C AND CLASS D $f'_c = 1,400$ PSI $n=10$
REINFORCING STEEL $f_s = 24,000$ PSI

STRUCTURAL LOW-ALLOY STEEL:
STRUCTURAL LOW-ALLOY STEEL SHALL CONFORM TO ASTM A588.

HIGH STRENGTH BOLTS:
HIGH STRENGTH BOLTS SHALL BE FRICTION TYPE AND SHALL CONFORM TO
ASTM A325, TYPE 3 UNLESS OTHERWISE SHOWN OR NOTED.

BASIC DESIGN UNIT STRESSES FOR STEEL:
ALLOWABLE TENSION
STRUCTURAL LOW-ALLOY STEEL $F_s = 27,000$ PSI

WELDING:
ALL WELDING SHALL CONFORM TO THE SUPPLEMENTAL SPECIFICATIONS
FOR STRUCTURAL STEEL DATED APRIL 1, 1980, SPECIFICATION 360.
A COMPLETE PENETRATION GROOVE WELD SHALL BE USED WHENEVER THE TERM
"GROOVE WELD" IS USED ON THE PLANS.

CONNECTIONS:
ALL SHOP AND FIELD CONNECTIONS, OTHER THAN WELDED OR AS NOTED,
SHALL BE MADE WITH 7/8" HIGH STRENGTH BOLTS, TYPE 3.

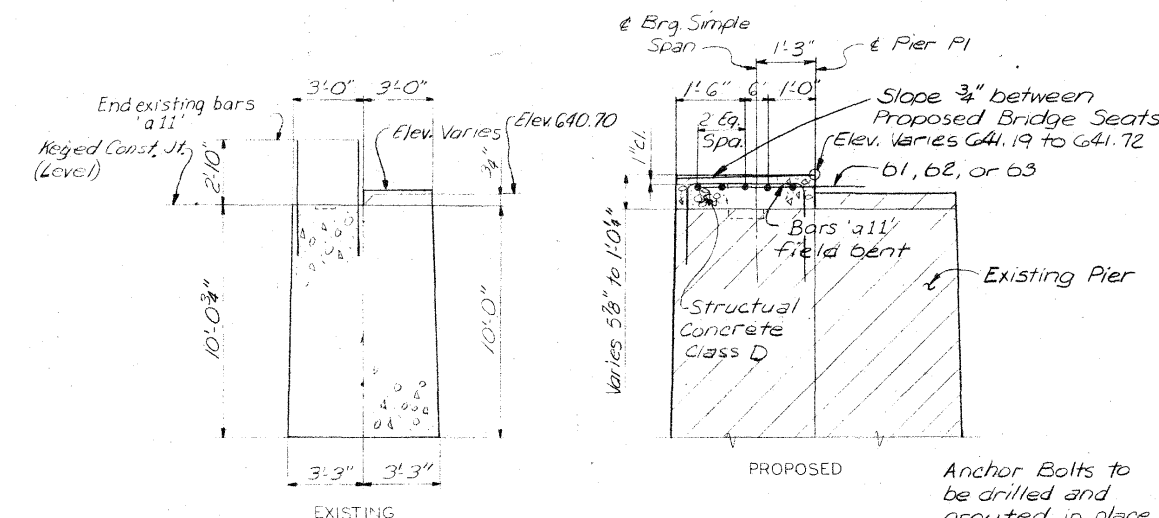
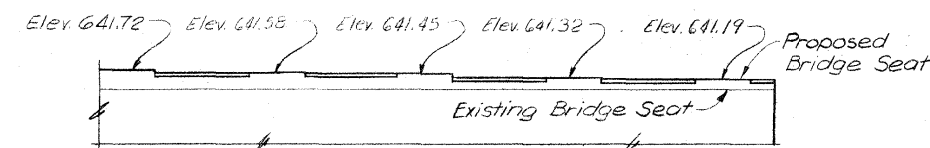
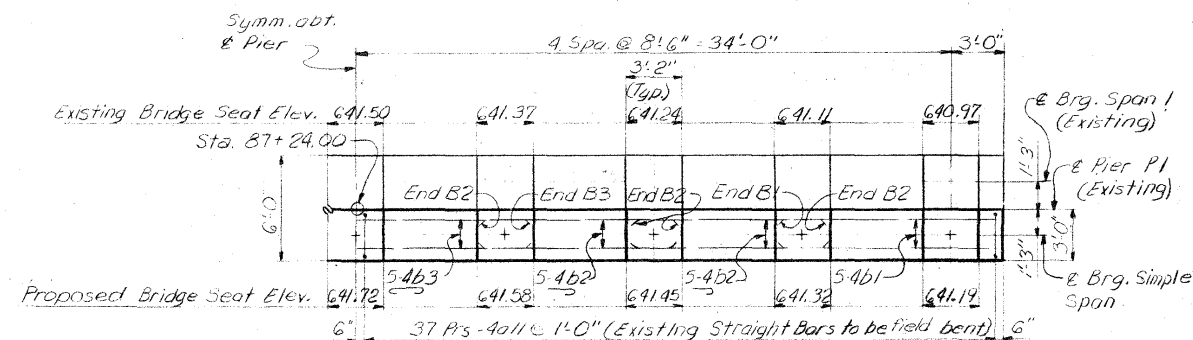
CAMBER:
THE GIRDER SPAN IS CAMBERED FOR FULL DEAD LOAD EXCLUDING FUTURE
WEARING SURFACE.

SPAN LENGTH:
THE SPAN LENGTH SHOWN IS AT A NOMINAL TEMPERATURE OF 50° F.

PILING:
HP10x42-50 TONS MAXIMUM LOAD

PAINTING OF METAL WORK:
SEE SPECIAL PROVISIONS

CONSTRUCTION JOINTS:
ALL CONSTRUCTION JOINTS UNLESS OTHERWISE SHOWN SHALL
BE KEVED ONE THIRD OF THE DEPTH WITH A 2" PROJECTION.



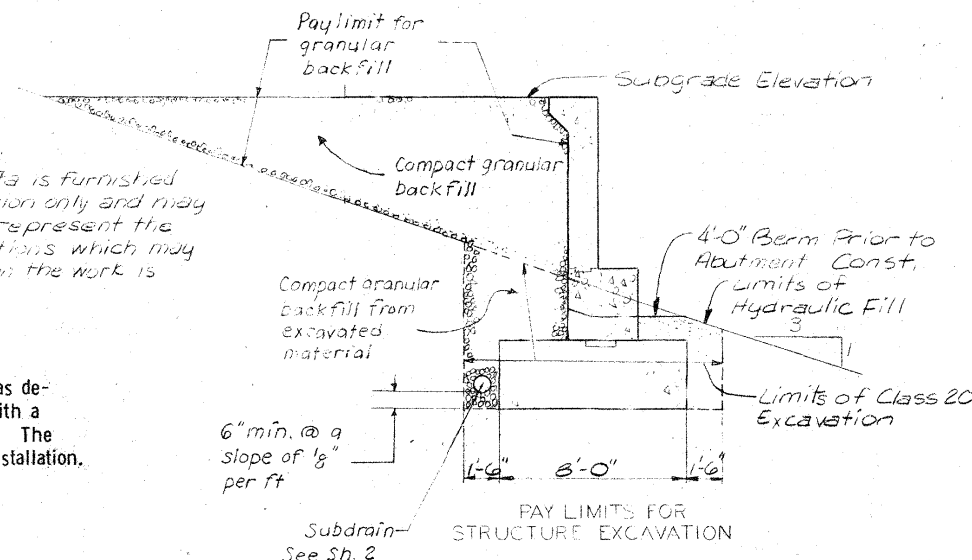
CROSS SECTIONS
PIER PI
Note: See Special Provisions
for joint preparation.

IOWA APPROACH
MISSISSIPPI RIVER BRIDGE
STRUCTURE AT STATION 86+05.50
BORING LOG, GENERAL NOTES, PIER PI

DUBUQUE COUNTY, IOWA - GRANT COUNTY, WISCONSIN
IOWA DEPARTMENT OF TRANSPORTATION

DESIGN NO. 3579 FILE NO. 25896 DES. SH. NO. 2 OF 8
PROJECT BRT-561-4(5)-38-31 PROJECT SH. NO. 34 OF 41

Boring Note:
Boring data is furnished
for information only and may
or may not represent the
actual conditions which may
be found when the work is
executed.

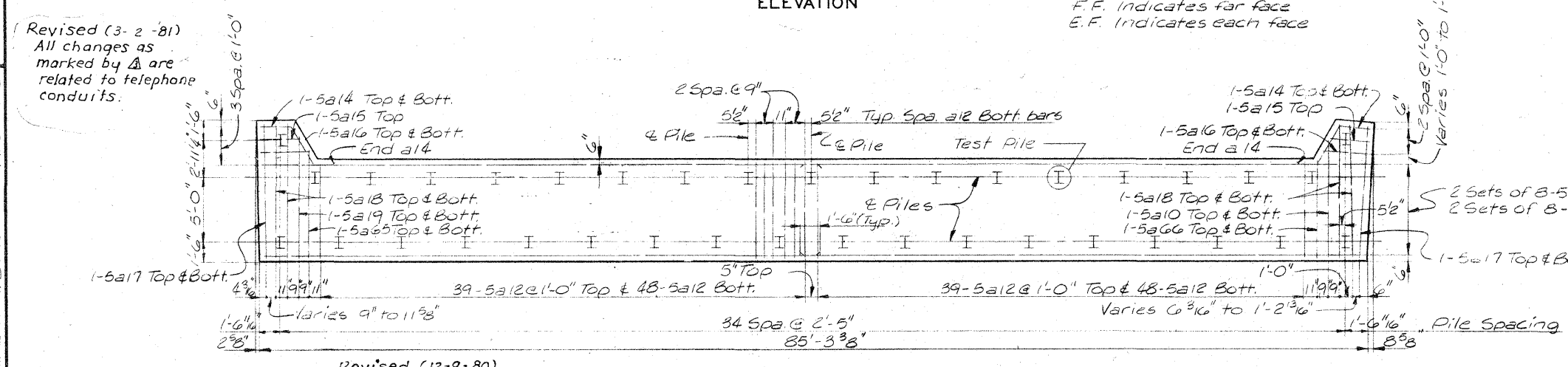
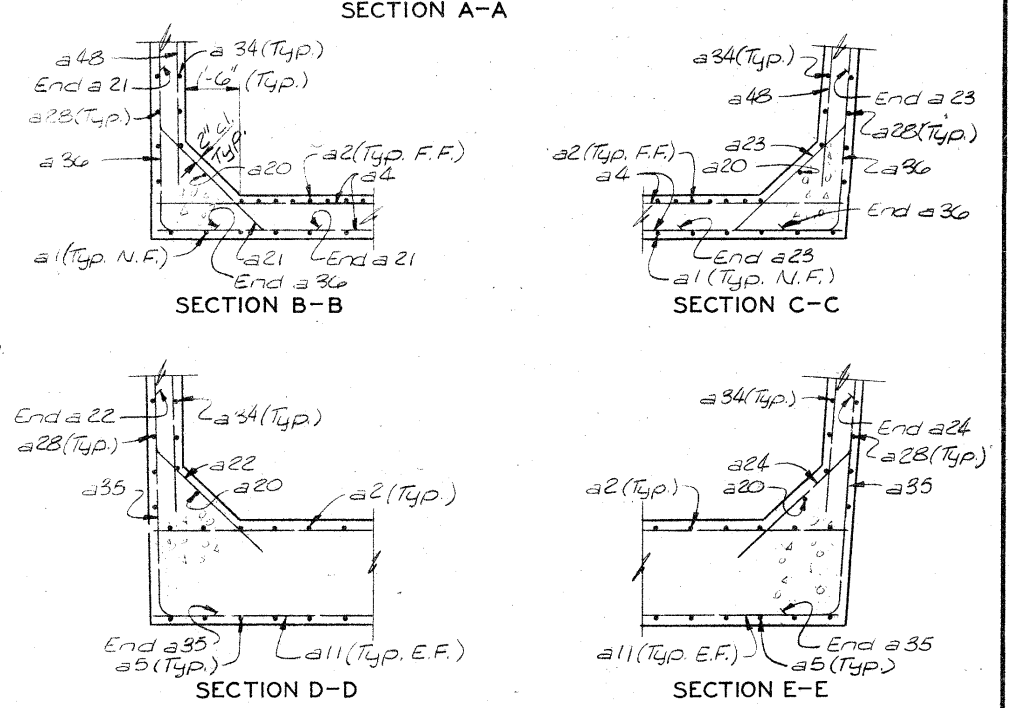
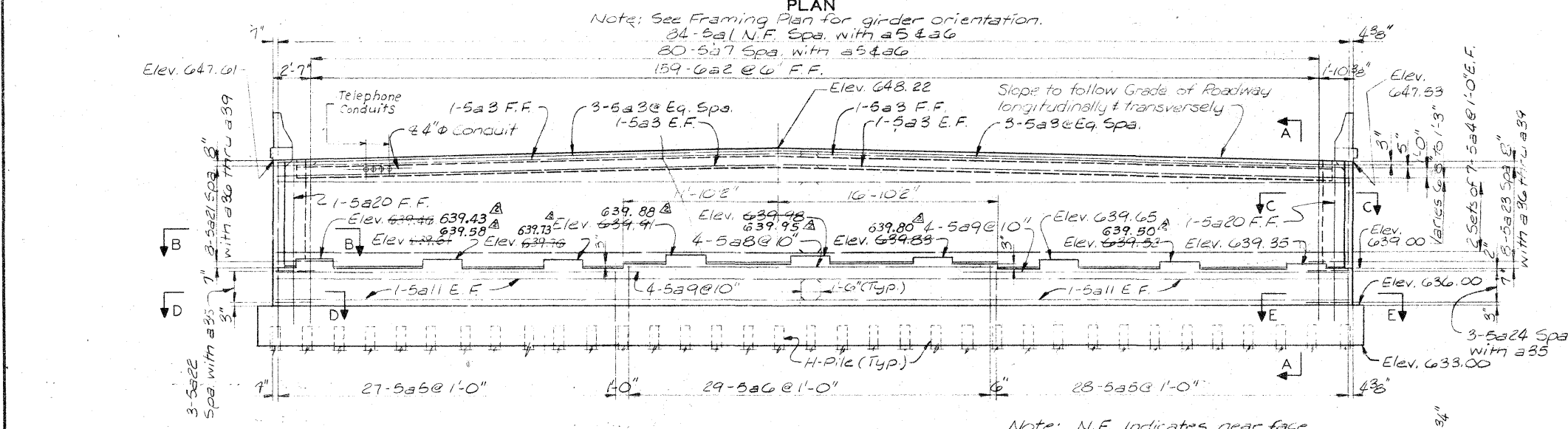
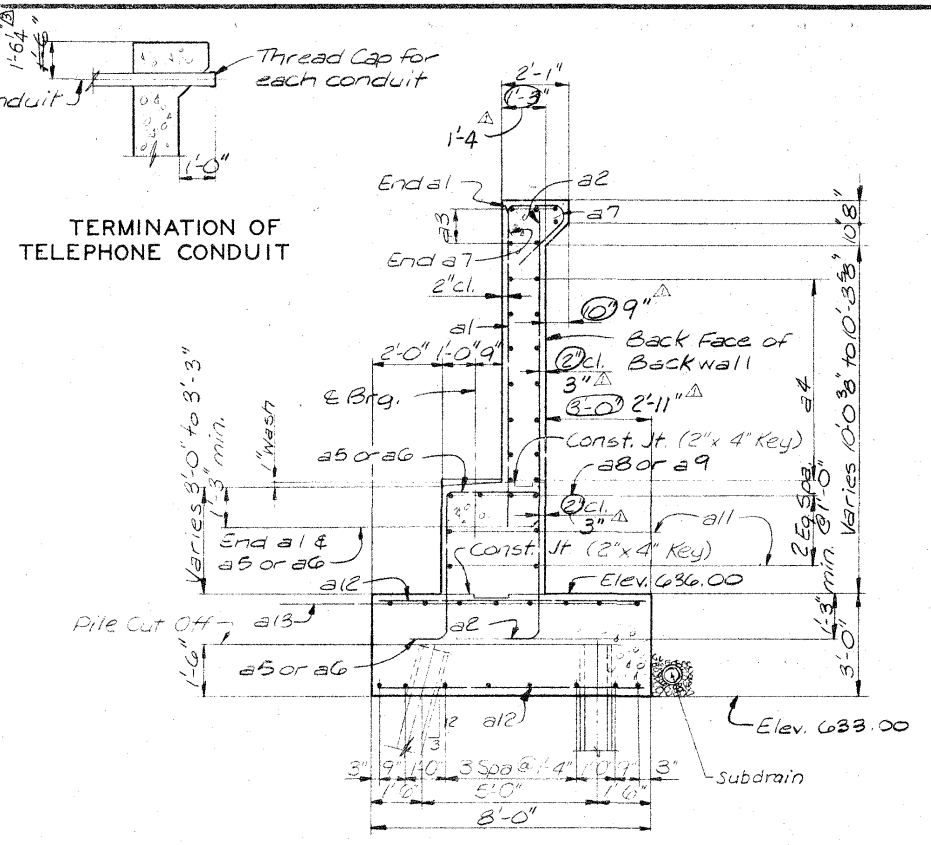
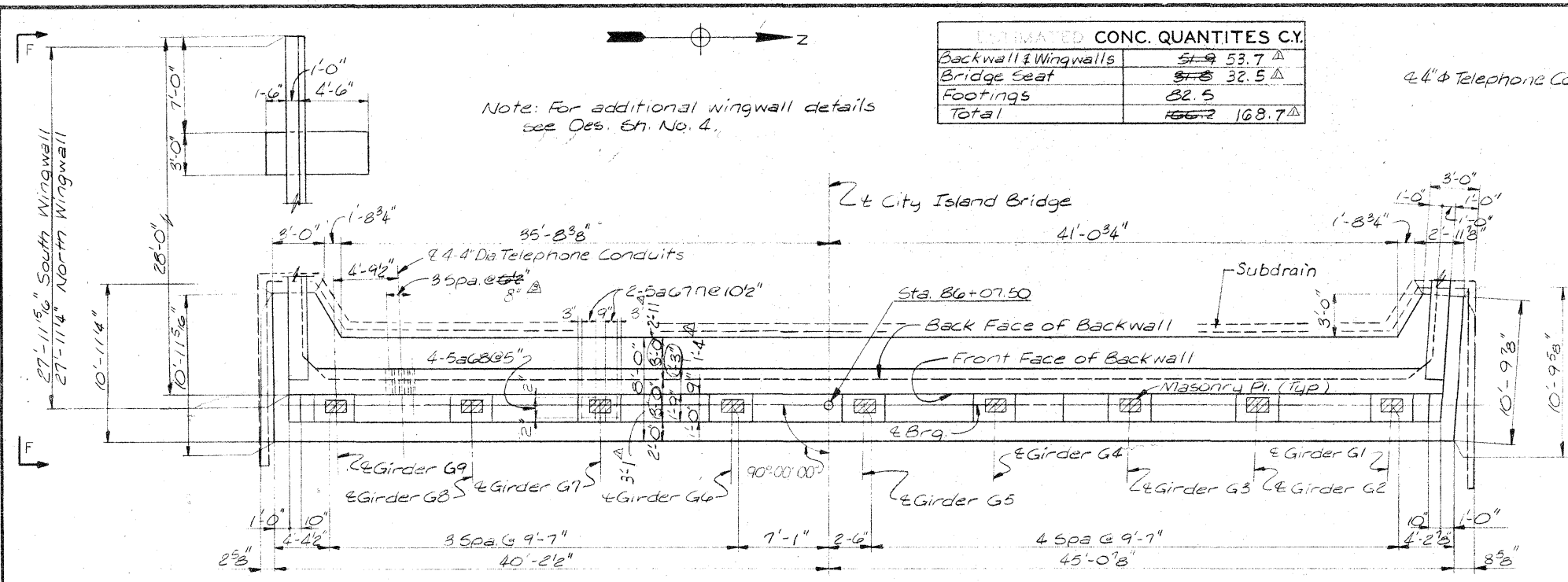


The bridge contractor is to install subdrains behind the abutment as de-
tailed. The subdrain may be either drain tile or perforated plastic pipe with a
minimum nominal diameter of 4" and a maximum nominal diameter of 6". The
price bid for "Subdrain" is to include the excavation necessary for the installation.

NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS.

SVERDRUP & PARCEL AND ASSOCIATES, Inc.
CONSULTING ENGINEERS
ST. LOUIS, MO.

5818
805131
DRAWN BY: R. Prescher
CHECKED BY: F. Blanchard
Feb 1980
April 1980



IOWA APPROACH
MISSISSIPPI RIVER BRIDGE
STRUCTURE AT STATION 86+05.50
ABUTMENT

DUBUQUE COUNTY, IOWA - GRANT COUNTY, WISCONSIN

IOWA DEPARTMENT OF TRANSPORTATION

SVERDRUP & PARCEL AND ASSOCIATES, Inc.
CONSULTING ENGINEERS
ST. LOUIS, MO.

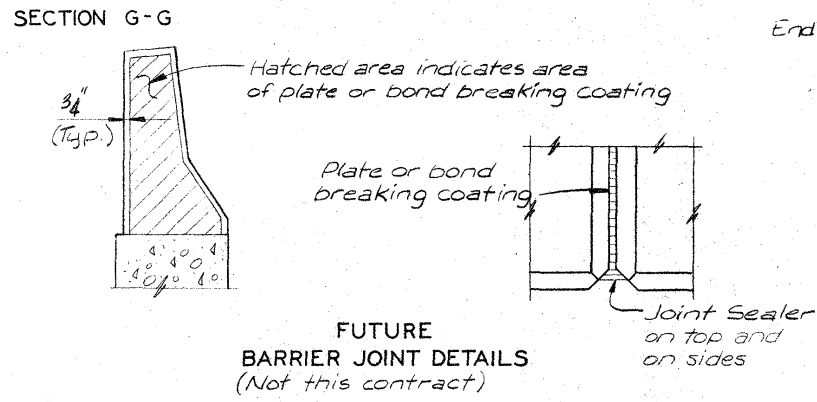
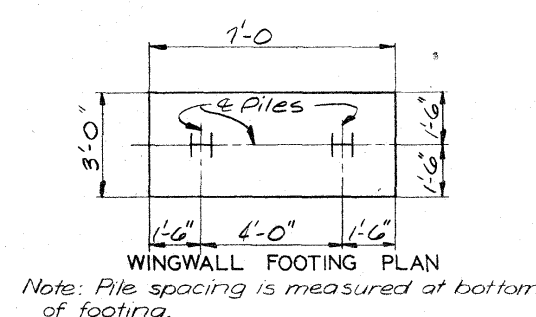
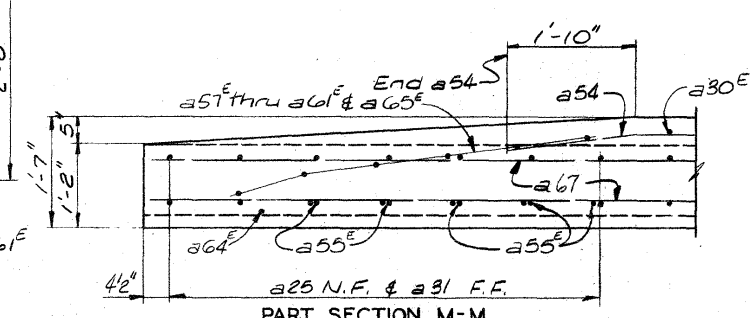
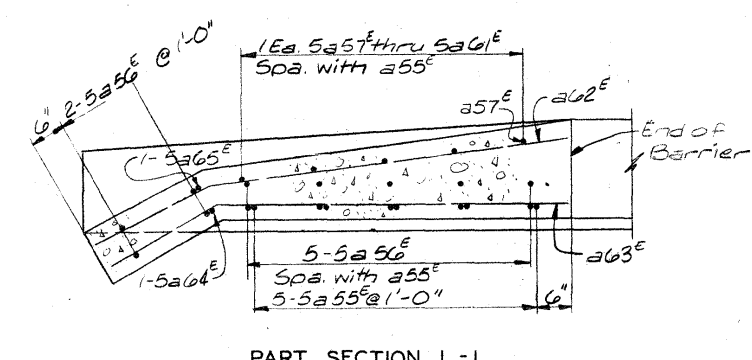
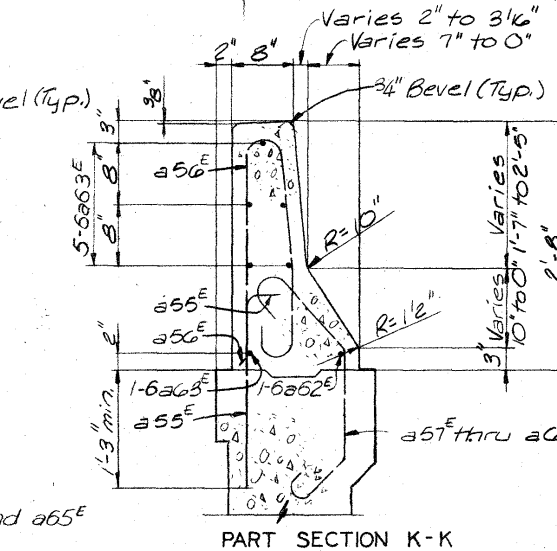
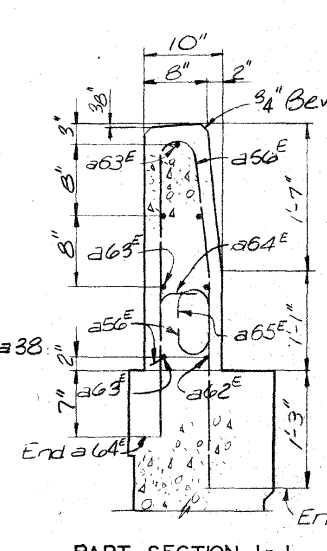
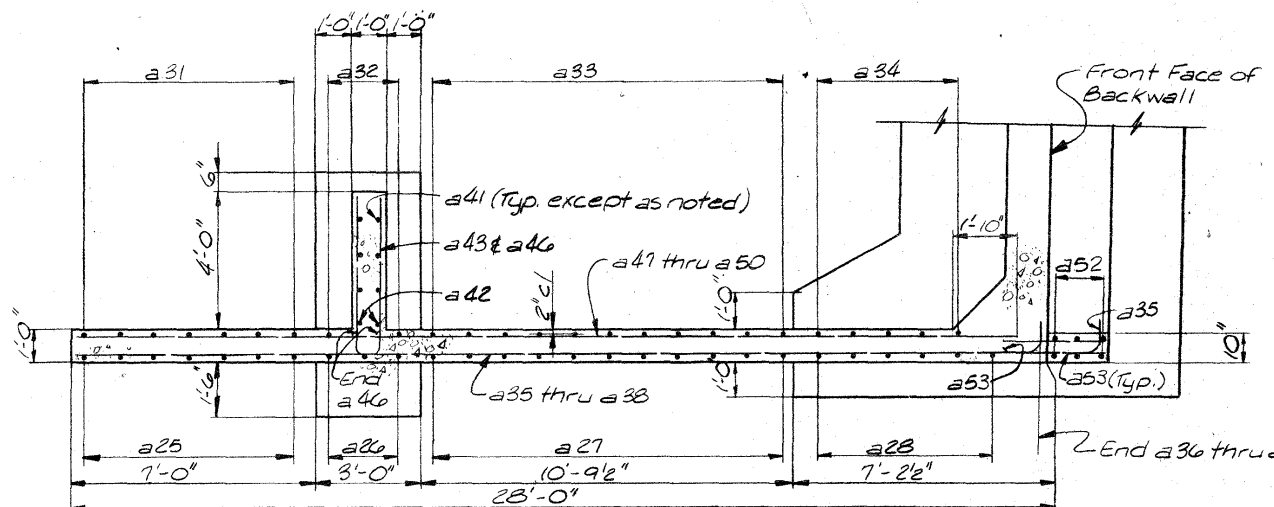
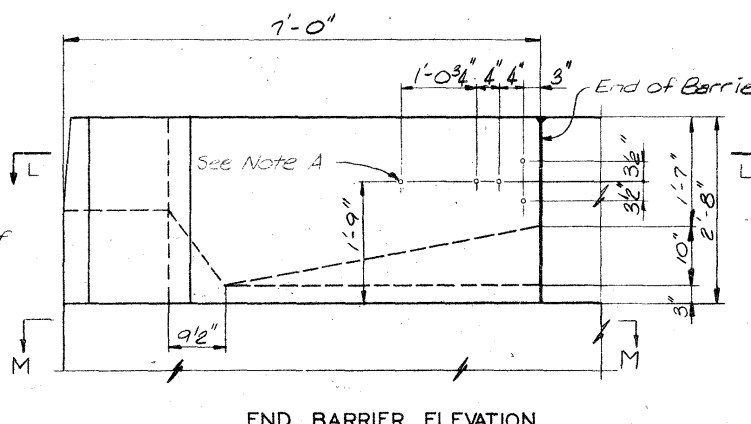
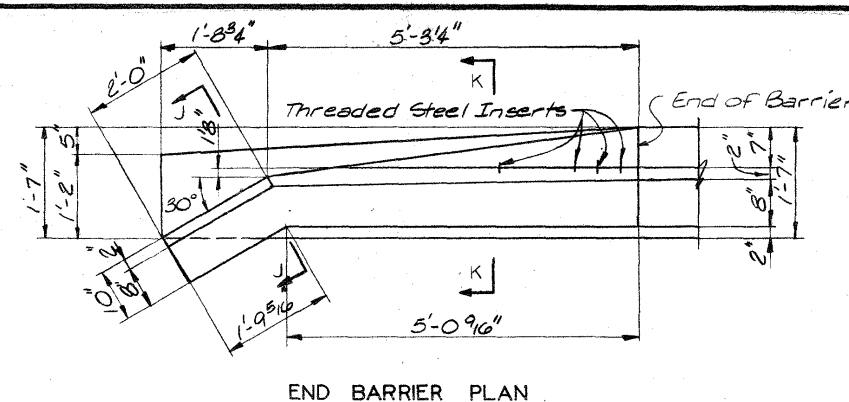
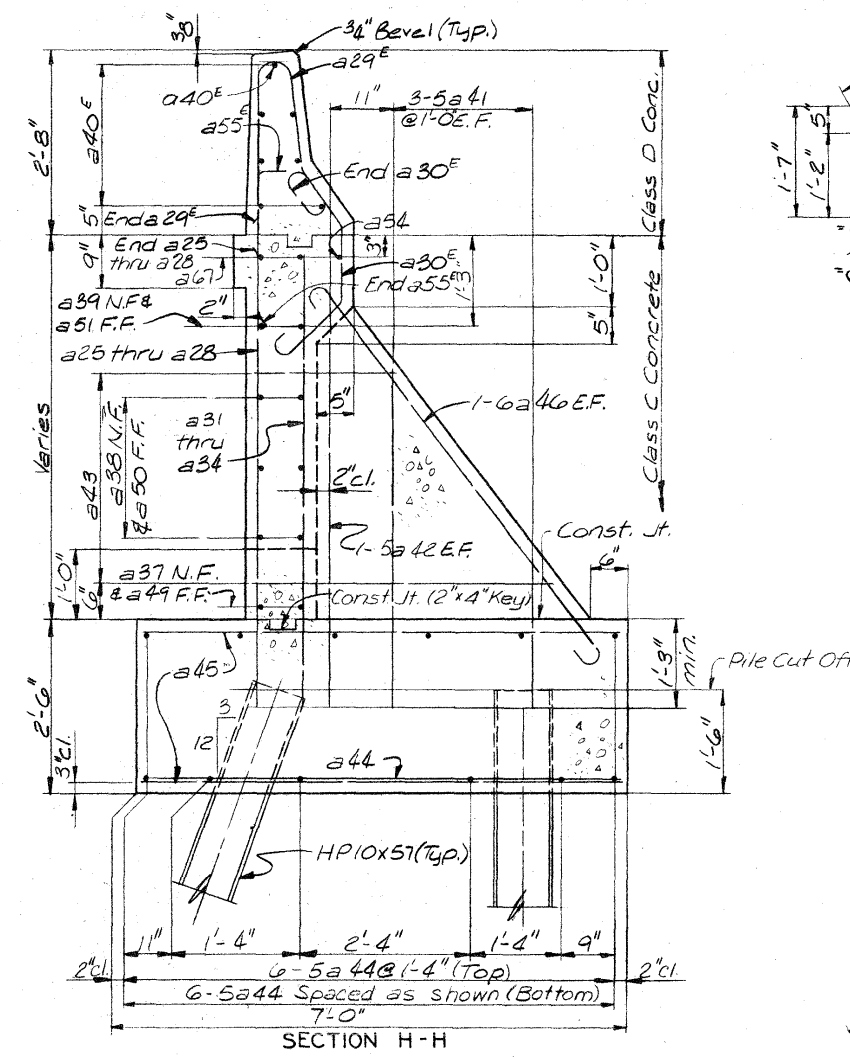
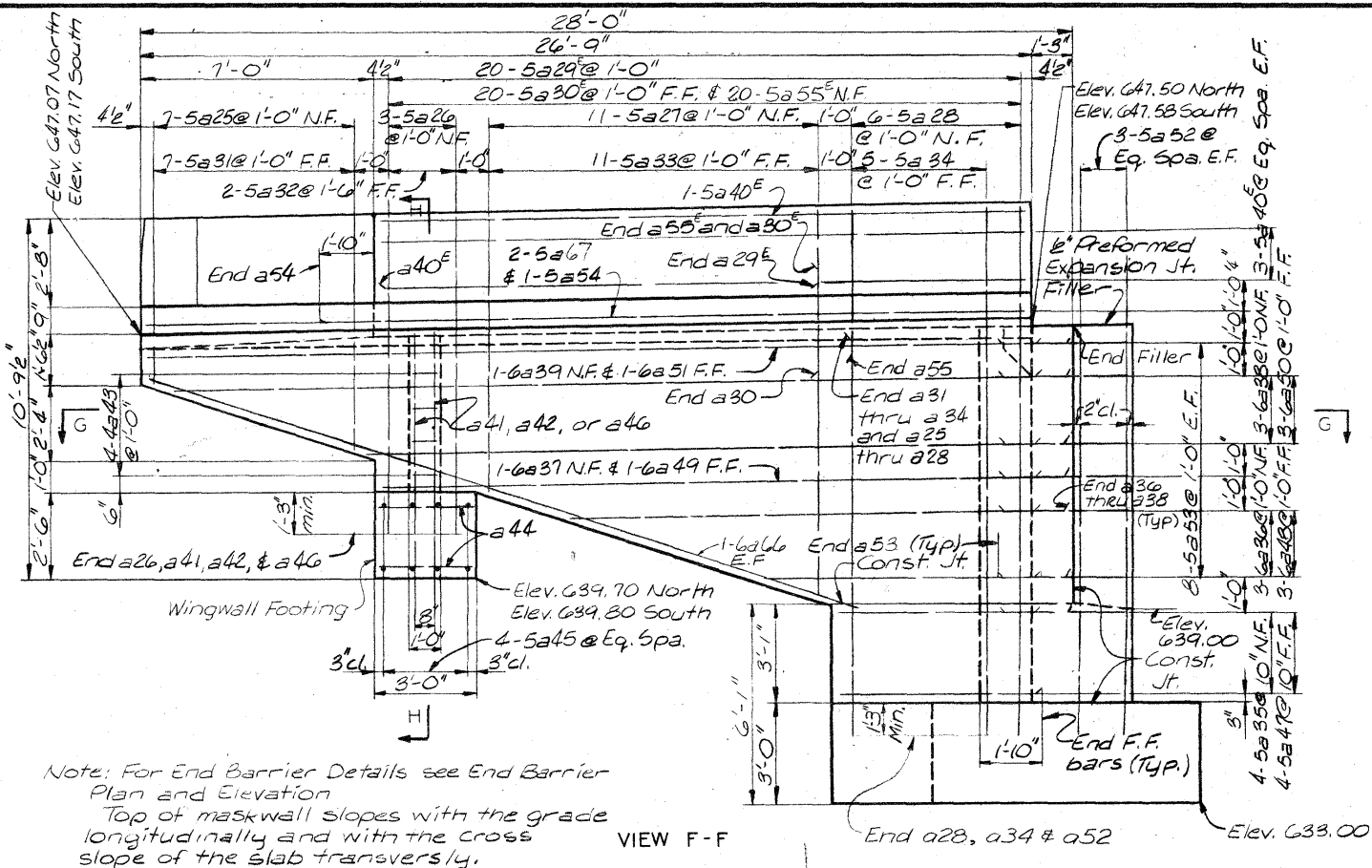
Revised (12-9-80)
Bridge seat elevations corrected as marked by Δ

Note: Pile spacing is measured at bottom of footing.

Revised (7-28-80): Concrete quantities & backwall dimensions changed. All items revised are identified by Δ.

NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS.

5818
DRAWN BY: S. Stegman Dec. 1979
CHECKED BY: M. Bell March 1980

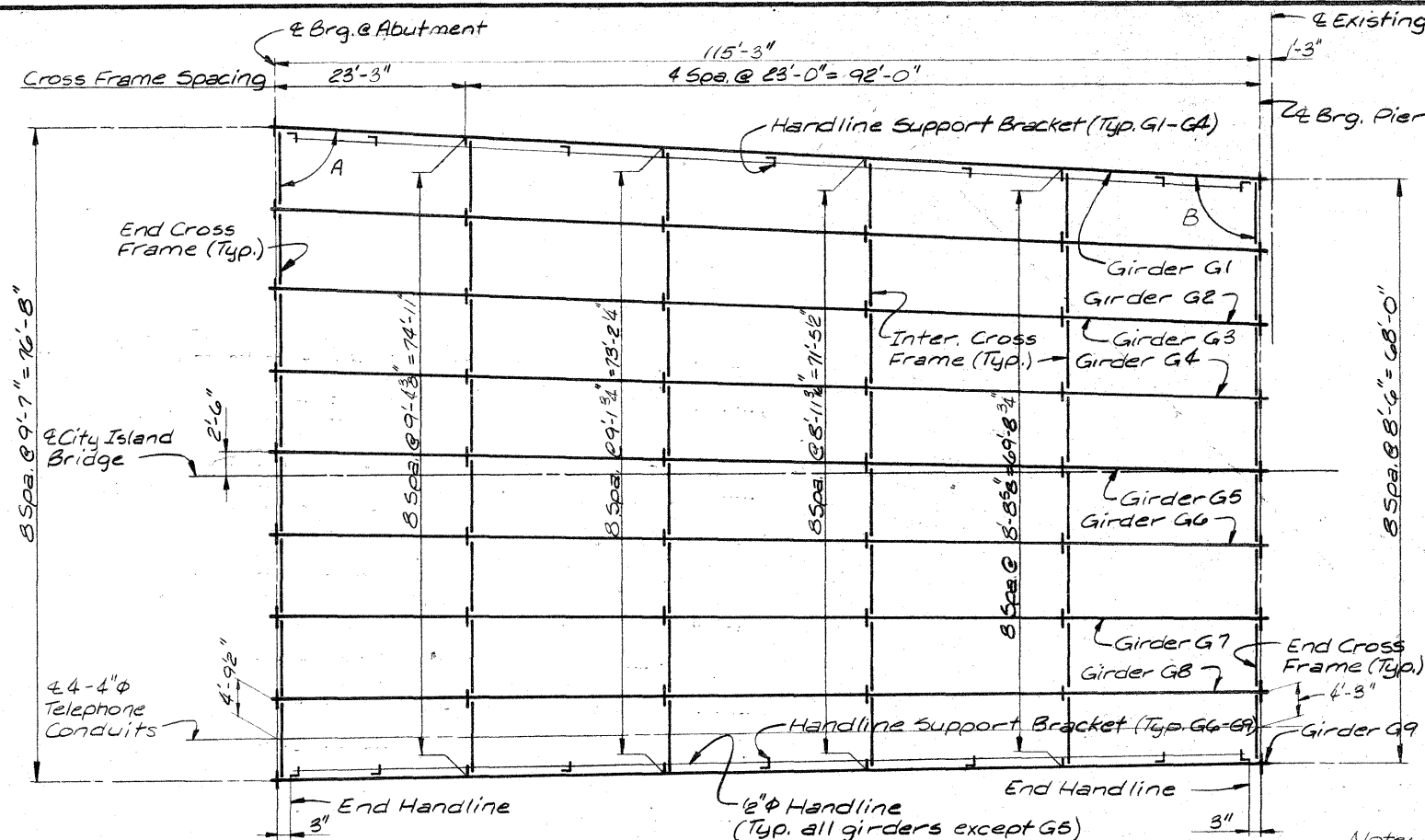


Note A: Provide five threaded steel inserts with solid bottom to fit 5/8" x 2" galvanized cap screws with galvanized round washers. Cost of inserts to be included in price bid for "Structural Concrete". Screws and washers are not a part of this contract.

Note: Work this sheet with Des. Sh. No. 3.

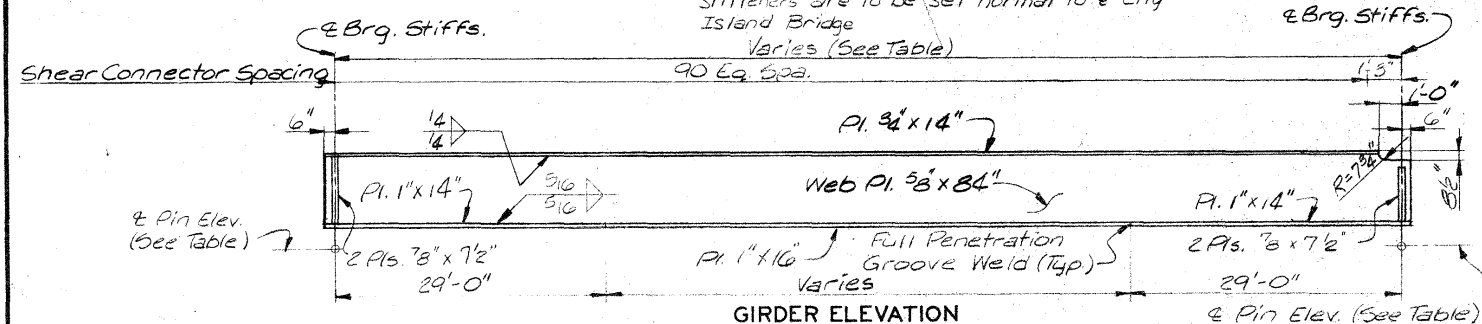
NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS.

IOWA APPROACH
MISSISSIPPI RIVER BRIDGE
STRUCTURE AT STATION 86+05.50
ABUTMENT WINGWALLS
DUBUQUE COUNTY, IOWA - GRANT COUNTY, WISCONSIN
IOWA DEPARTMENT OF TRANSPORTATION



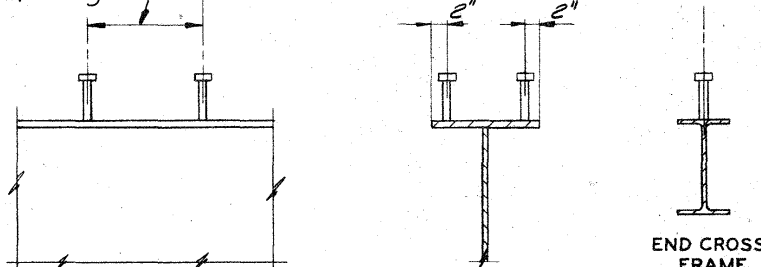
FRAMING PLAN

Note: All intermediate stiffeners and bearing stiffeners are to be set normal to City Island Bridge.



GIRDER ELEVATION

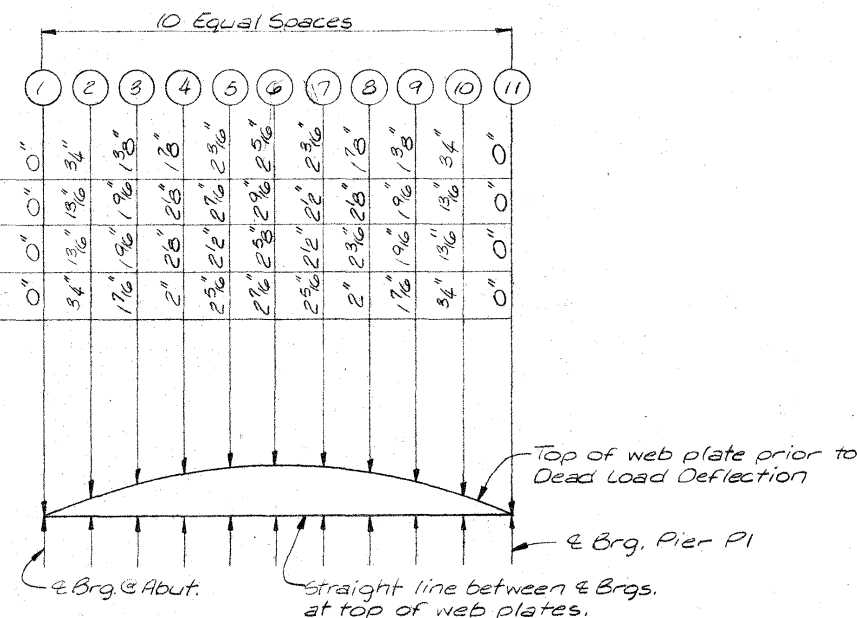
See Girder Elev. for Spacing



SHEAR CONNECTORS

Note: The Camber for dead load deflection due to the weight of steel only, equals 2.11% of the camber ordinate shown.

	1	2	3	4	5	6	7	8	9	10	11
Girder G1	0"	3 1/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	0"
Girders G2 thru G7	0"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	0"
Girder G8	0"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	0"
Girder G9	0"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	1 3/8"	0"



CAMBER DIAGRAM

Note: Provide expansion joint at Pier P1 to allow 4" total movement for telephone conduits.

GIRDER VARIABLES			
Girder	Angle A	Angle B	Length
1	86°-36'-22"	93°-23'-38"	115'-5 3/8"
2	87°-08'-35"	92°-51'-25"	115'-4 3/8"
3	87°-40'-50"	92°-19'-10"	115'-4 1/8"
4	88°-13'-00"	91°-46'-54"	115'-3 5/8"
5	88°-45'-24"	91°-14'-36"	115'-3 3/8"
6	89°-17'-42"	90°-42'-18"	115'-3 1/8"
7	89°-50'-01"	90°-09'-59"	115'-3"
8	90°-22'-20"	89°-37'-40"	115'-3"
9	90°-54'-38"	89°-05'-22"	115'-3 1/8"

MOMENTS AND REACTIONS IN FOOT-KIPS AND KIPS								
Item	Maximum Pos. Moment				Max. Reactions			
	G1	G2-G7	G8	G9	G1	G2-G7	G8	G9
NCDL	2013	2272	2308	2095	70.9	79.5	80.8	73.4
SDL	215	215	245	245	7.4	7.4	8.5	8.5
FWS	285	285	285	285	9.8	9.8	9.8	9.8
LL+I	1554	1790	1790	1554	60.0	69.6	69.6	60.0
Total	4067	4562	4628	4179	148.1	166.3	168.7	151.7

ELEVATIONS-PIN		
Girder	Abut.	Pier P1
G1	640.381	642.216
G2	640.530	642.349
G3	640.680	642.482
G4	640.829	642.614
G5	640.979	642.747
G6	640.907	642.614
G7	640.758	642.482
G8	640.608	642.349
G9	640.459	642.216

ELEVATIONS-TOP OF SLAB											
Gdr. Pt.	1	2	3	4	5	6	7	8	9	10	11
G1	648.600	648.783	648.967	649.150	649.334	649.517	649.701	649.884	650.068	650.251	650.435
G2	648.749	648.931	649.113	649.295	649.477	649.659	649.840	650.022	650.204	650.386	650.568
G3	648.899	649.079	649.259	649.439	649.620	649.800	649.980	650.160	650.340	650.521	650.701
G4	649.049	649.227	649.406	649.584	649.763	649.941	650.120	650.298	650.477	650.655	650.833
G5	649.198	649.375	649.552	649.729	649.906	650.082	650.259	650.436	650.613	650.790	650.966
G6	649.127	649.298	649.468	649.639	649.810	649.980	650.151	650.322	650.492	650.663	650.833
G7	648.977	649.150	649.322	649.494	649.667	649.839	650.011	650.184	650.356	650.528	650.701
G8	648.827	649.001	649.176	649.350	649.524	649.698	649.872	650.046	650.220	650.394	650.568
G9	648.678	648.853	649.029	649.205	649.381	649.556	649.732	649.908	650.084	650.259	650.435

NOTES

For General Notes, see Des. Sh. No. 1.
For Steel Girder Structural Steel Notes, see Des. Sh. No. 6.
Longitudinal dimensions are measured horizontally.
For Girder Details, see Des. Sh. No. 6.
Install handline support bracket where shown equidistant between cross frame connection plates on all girders except G5.

Shear connector studs shown are not part of this contract.

The Contractor, at his option, may incorporate a field bolted splice for the girder span. Splices, if used, shall be designed by the Contractor, and shall be submitted to the Engineer for review. No payment will be made for the extra material required for these splices.
See Special Provisions for painting.

IOWA APPROACH MISSISSIPPI RIVER BRIDGE

STRUCTURE AT STATION 86 + 05.50
FRAMING PLAN & GIRDER ELEVATION

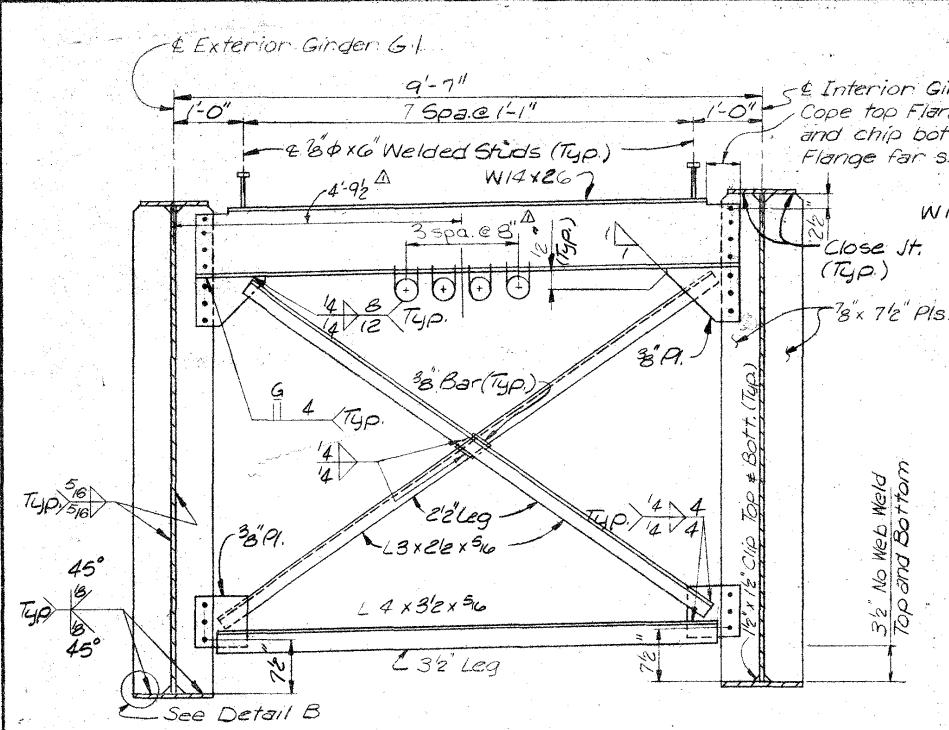
DUBUQUE COUNTY, IOWA - GRANT COUNTY, WISCONSIN

IOWA DEPARTMENT OF TRANSPORTATION

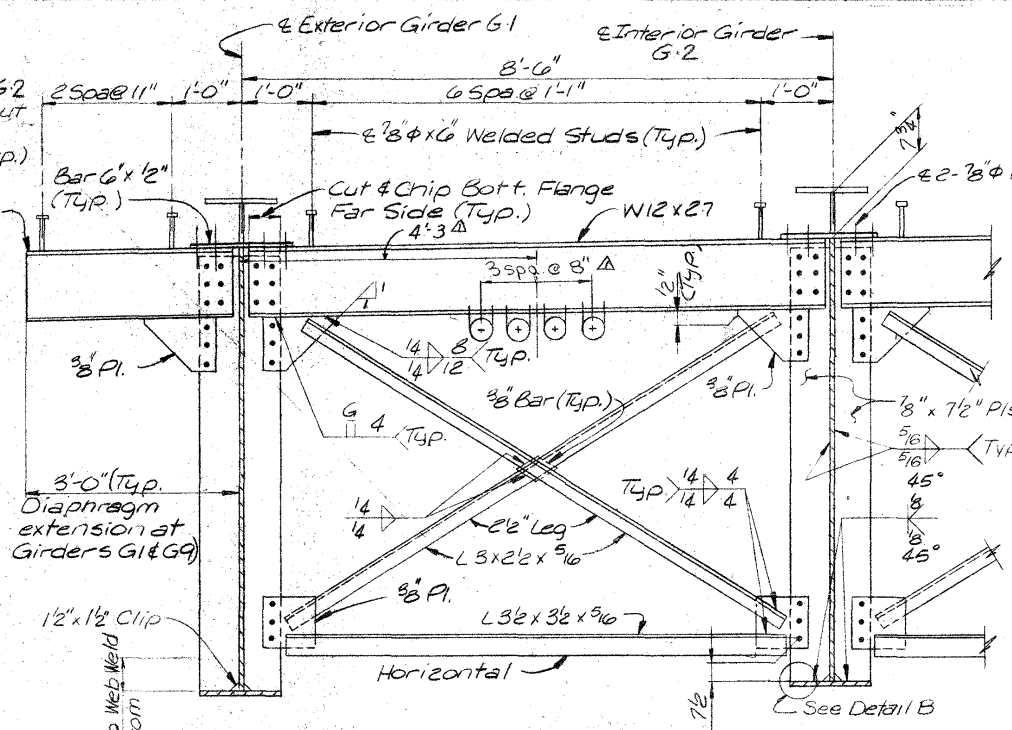
NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS.

DESIGN NO. 1579 FILE NO. 25896 DES. SH. NO. 5 OF 8

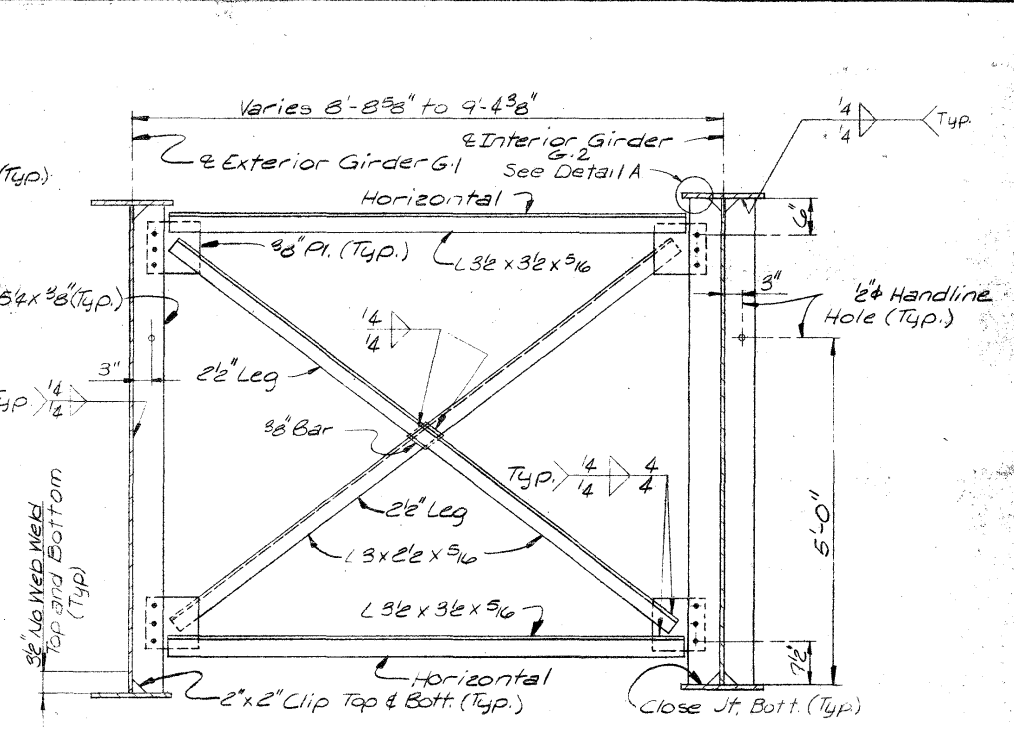
PROJECT BRP-561-4(3)-38-31 PROJECT SH. NO. 37 OF 41



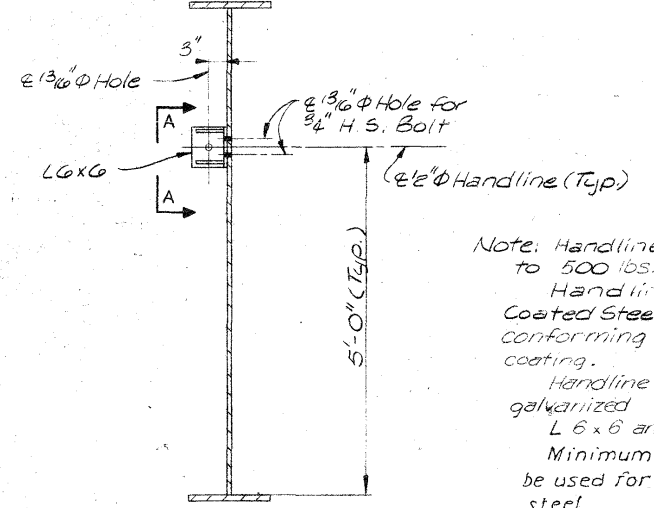
END CROSS FRAME AT ABUTMENT
WITH CONDUIT SUPPORT



END CROSS FRAME AT PIER WITH CONDUIT SUPPORT

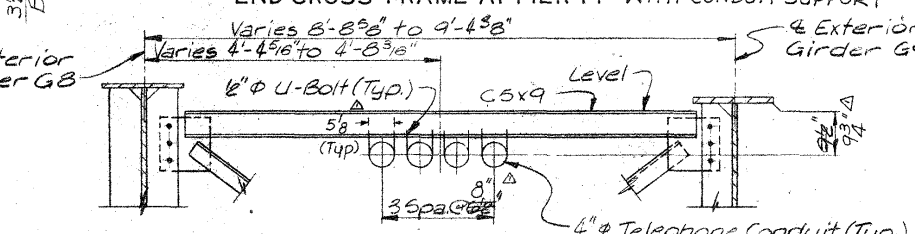


INTERMEDIATE CROSS FRAME
WITHOUT CONDUIT SUPPORT

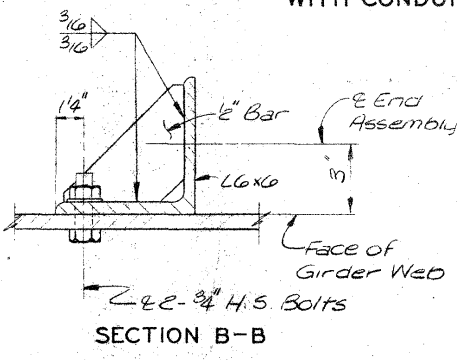


END HANDLINE BRACKET

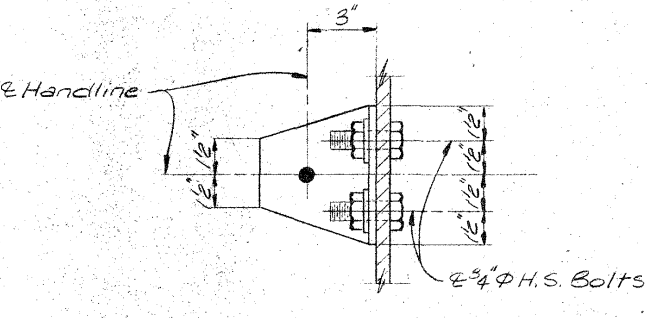
Note: Handline shall be drawn taut to 500 lbs.
Handline shall be 6x7 Zinc Coated Steel Structural Wire Rope conforming to ASTM A603 with class A coating.
Handline hardware shall be galvanized
L 6x6 and 1/2 inch Bars to be A588 steel.
Minimum radius of 3/4 inch shall be used for all reentrant corners in steel.



INTERMEDIATE CROSS FRAME
WITH CONDUIT SUPPORT



SECTION B-B

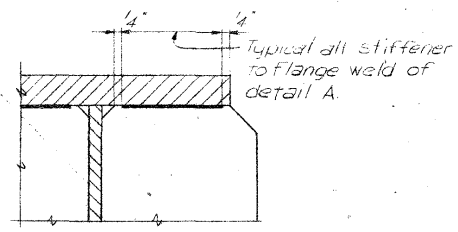


INTERMEDIATE HANDLINE BRACKET

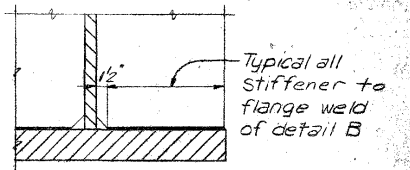
Revised (2-25-81)
All changes as marked by Δ are related to telephone conduits.

STRUCTURAL STEEL NOTES

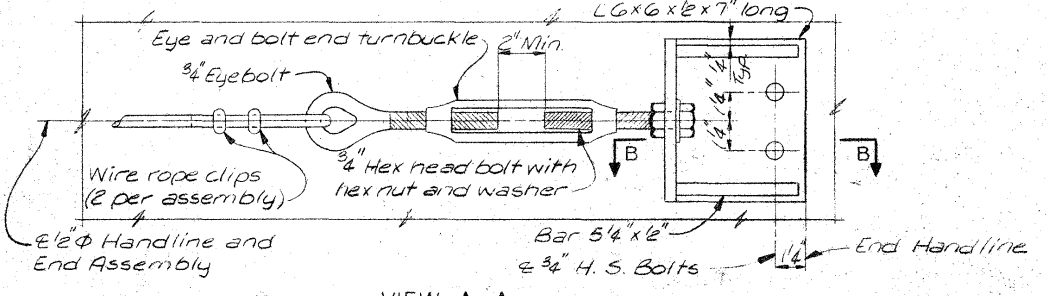
Structural Steel for girders shall be ASTM A588.
All stiffeners and cross frame connections are normal to grade.
Shear connector studs shown are not part of this contract.
Minimum edge distance for all bolted connection on this sheet shall be 2".
Bottom flanges are to be perpendicular to webs at reaction points. Top and bottom flanges are to be perpendicular to webs at splices.



DETAIL A



DETAIL B



VIEW A-A

IOWA APPROACH
MISSISSIPPI RIVER BRIDGE
STRUCTURE AT STATION 86+05.50
CROSS FRAMES AND GIRDER DETAILS

DUBUQUE COUNTY, IOWA - GRANT COUNTY, WISCONSIN

IOWA DEPARTMENT OF TRANSPORTATION

SVERDRUP & PARCEL AND ASSOCIATES, INC.
CONSULTING ENGINEERS
ST. LOUIS, MO.

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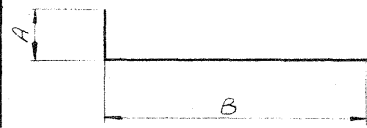
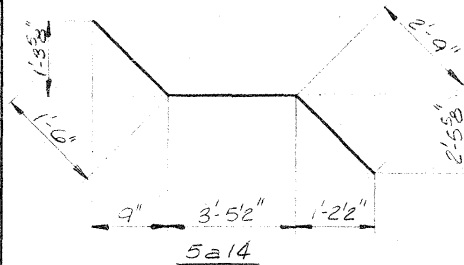
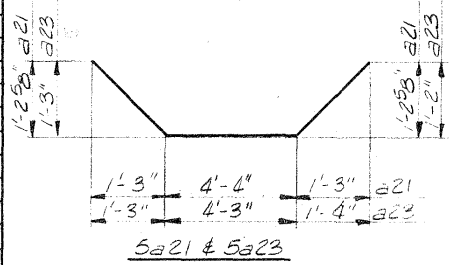
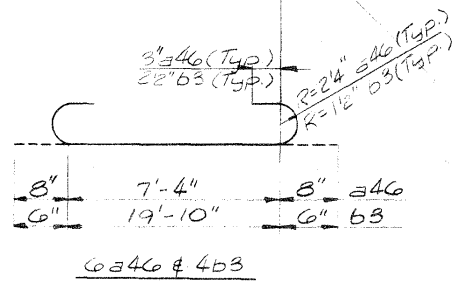
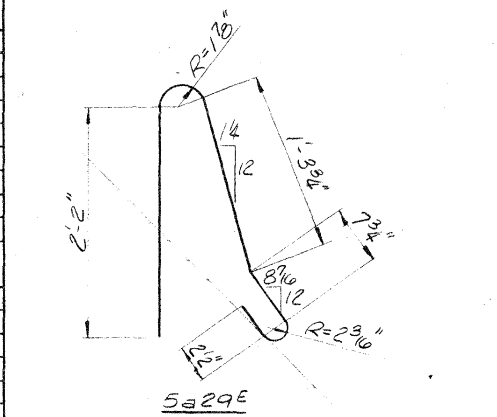
DESIGN NO. 1579 FILE NO. 25996 DES. SH. NO. 6 OF 8

5818
DESIGNED BY S. Stegman
DRAWN BY R. D. Thibault
3/25/80

ABUTMENT						ABUTMENT CONT. Δ					
BAR	LOCATION	SHAPE	LENGTH	NO.	WEIGHT	BAR	LOCATION	SHAPE	LENGTH	NO.	WEIGHT
5a1	Backwall	—	10'-2"	84	891	5a66	Wingwall	—	23'-9"	4	143
5a2	do	—	14'-2"	151	8383	5a67	do	—	23'-5"	4	110
5a3	do	—	42'-5"	12	531						
5a4	do	—	42'-5"	28	1289						
5a5	Seat	—	8'-5"	55	483						
5a6	do	—	8'-8"	29	262						
5a7	Backwall	—	4'-11"	30	410						
5a8	Seat	—	28'-5"	4	119						
5a9	do	—	28'-9"	8	240						
5a10	Footing	—	9'-4"	2	19						
5a11	Seat	—	42'-3"	8	353						
5a12	Footing	—	7'-6"	174	1361	4b1	Pedestal	—	12'-11"	10	86
5a13	do	—	43'-6"	32	1452	4b2	do	—	12'-0"	20	160
5a14	do	—	7'-7"	4	32	4b3	do	—	21'-10"	5	73
5a15	do	—	3'-4"	2	7						
5a16	do	—	3'-11"	4	16						
5a17	do	—	10'-4"	4	43						
5a18	do	—	10'-5"	8	87						
5a19	do	—	10'-2"	2	21						
5a20	Backwall	—	13'-5"	2	23						
5a21	do	—	7'-9"	8	65						
5a22	Seat	—	6'-0"	3	19						
5a23	Backwall	—	7'-8"	5	64						
5a24	Seat	—	6'-0"	3	19						
5a25	Wingwall	—	Varies	14	44						
1 Series of 14 bars (2'-0" to 4'-1")											
5a26	do	—	6'-10"	6	43						
5a27	do	—	Varies	22	163						
1 Series of 22 bars (5'-6" to 8'-9")											
5a28	do	—	13'-8"	12	171						
5a29	Barrier	—	5'-5"	40	226						
5a30	do	—	4'-6"	40	188						
5a31	Wingwall	—	Varies	14	44						
1 Series of 14 bars (2'-0" to 4'-1")											
5a32	do	—	6'-10"	4	29						
5a33	do	—	Varies	22	163						
1 Series of 22 bars (5'-6" to 8'-9")											
5a34	do	—	13'-8"	10	143						
5a35	do	—	9'-9"	8	81						
5a36	do	—	Varies	6	120						
2 Series of 3 bars (9'-11" to 16'-8")											
5a37	do	—	21'-10"	2	66						
5a38	do	—	Varies	6	233						
2 Series of 3 bars (22'-10" to 28'-10")											
5a39	do	—	28'-11"	2	87						
5a40	Barrier	—	19'-5"	14	284						
5a41	Countrfrt	—	Varies	12	45						
4 Series of 3 bars (2'-3" to 4'-11")											
5a42	do	—	6'-11"	4	29						
5a43	do	—	Varies	8	35						
2 Series of 4 bars (4'-3" to 8'-9")											
5a44	Footing	—	2'-6"	24	63						
5a45	do	—	6'-6"	16	108						
5a46	Countrfrt	—	8'-8"	4	52						
5a47	Wingwall	—	6'-2"	8	51						
5a48	do	—	Varies	6	103						
2 Series of 3 bars (8'-0" to 14'-9")											
5a49	do	—	19'-11"	2	60						
5a50	do	—	Varies	6	215						
2 Series of 3 bars (20'-10" to 26'-10")											
5a51	do	—	26'-10"	2	81						
5a52	do	—	12'-8"	12	159						
5a53	do	—	3'-4"	32	111						
5a54	do	—	26'-5"	2	65						
5a55	Barrier	—	2'-5"	50	126						
5a56	do	—	5'-7"	14	82						
5a57	do	—	4'-11"	2	10						
5a58	do	—	4'-9"	2	10						
5a59	do	—	4'-5"	2	9						
5a60	do	—	4'-3"	2	9						
5a61	do	—	4'-1"	2	9						
5a62	do	—	6'-10"	2	21						
5a63	do	—	6'-7"	12	119						
5a64	do	—	1'-9"	2	4						
5a65	do	—	3'-0"	2	6						

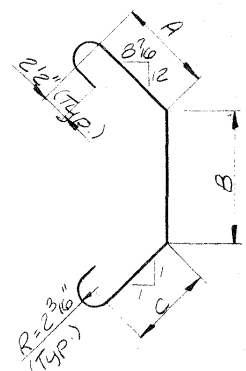
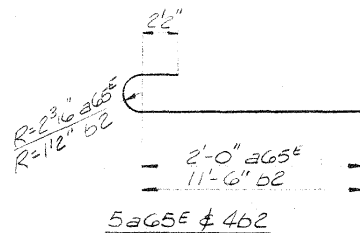
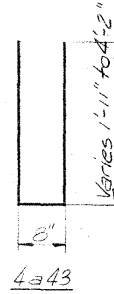
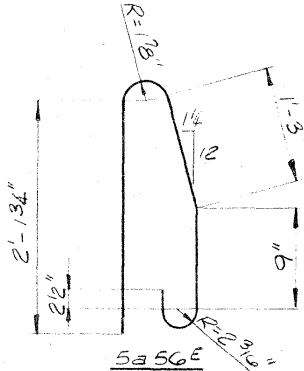
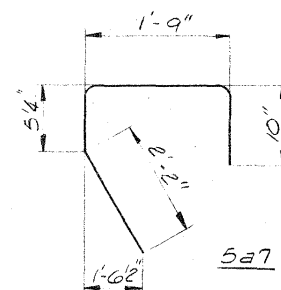
Note: Bars with 'E' designation @ end are to be epoxy coated

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CONSULTING ENGINEERS
ST. LOUIS, MO.

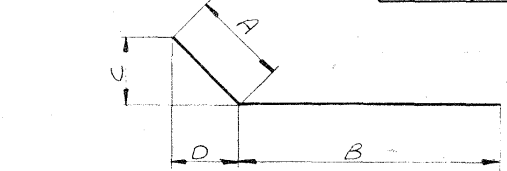


Bar	A	B
5a2	1'-0"	13'-3 5/8"
5a20	1'-0"	12'-7"
5a35	1'-6"	8'-5"
5a37	1'-6"	20'-6"
5a36	1'-6"	8'-7 to 15'-4
5a38	1'-6"	21'-6 to 27'-6
5a39	1'-6"	27'-7"
5a55E	5"	2'-2"
5a64E	5"	1'-6"

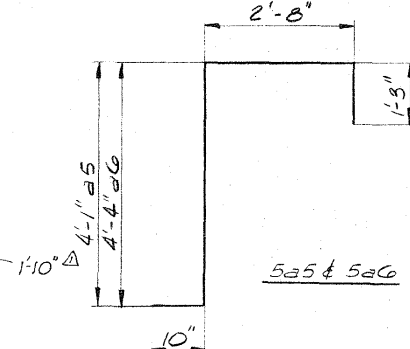
Revised (7-28-80) Reinforcing 5a66 & 5a54 are changed in dimensions. Total r-bar quantity for abut. is changed. All revisions are identified by Δ



Bar	A	B	C
5a30E	8"	1'-1 1/2"	1'-0"
5a57E	1'-2"	1'-2 1/2"	11"
5a58E	1'-0"	1'-3 1/2"	9 1/8"
5a59E	9"	1'-4 7/8"	7 1/4"
5a60E	7"	1'-6 1/8"	5 3/8"
5a61E	5"	1'-7 1/2"	3 1/2"



Bar	A	B	C	D
5a22	1'-9"	4'-3"	1'-2 5/8"	1'-3"
5a24	1'-9"	4'-3"	1'-1 5/8"	1'-4"
5a54	1'-10"	10'-7"	5'-1 1/4"	6'-10"
5a62E	1'-0"	5'-0"	8'-3"	1'-3 1/4"
5a63E	1'-8"	4'-11"	9'-8"	1'-5 3/8"
5a66	10'-4 1/2"	13'-5"	4'-8"	10'-4 1/2"



NOTES

All dimensions are out to out.
All bends shown are bent around a standard mandrel of D-6db for "3 thru "5; D-8db for "9, "10, and "11, except as otherwise shown.
Dimensioning, bending and hooks for bent bars shall conform to recommendations indicated in A.C.I. "Manual of Standard Practice for Detailing Reinforced Concrete Structures" except as noted.
Bar lengths include deductions for bends.

IOWA APPROACH
MISSISSIPPI RIVER BRIDGE
STRUCTURE AT STATION 86+05.50

BAR LIST

DUBUQUE COUNTY, IOWA - GRANT COUNTY, WISCONSIN

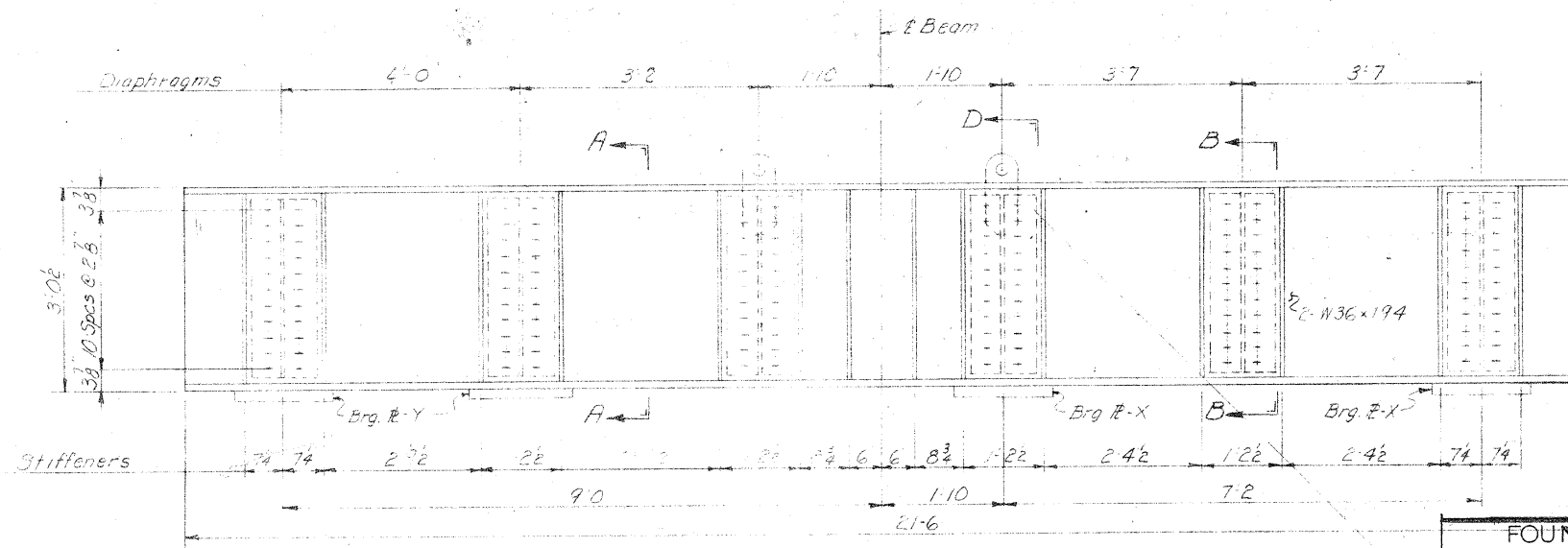
IOWA DEPARTMENT OF TRANSPORTATION

NOTE: DO NOT SCALE THIS DRAWING. FOLLOW DIMENSIONS.

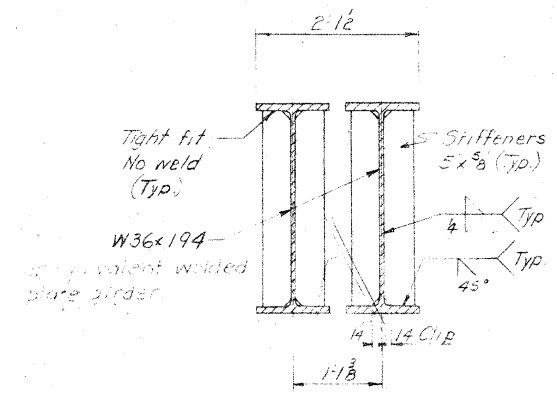
DESIGN NO. 1579 FILE NO. 25896 DES. SH. NO. 8 OF 8

PROJECT BRP-561-4 (5)-38-31 PROJECT SH. NO. 40 OF 41

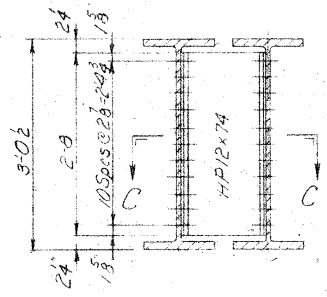
5818
DRAWN BY: S. Stegman
CHECKED BY: BOS271
APR 11 1980



DETAIL OF JACKING BEAM
Wt. = 11,563 lbs.



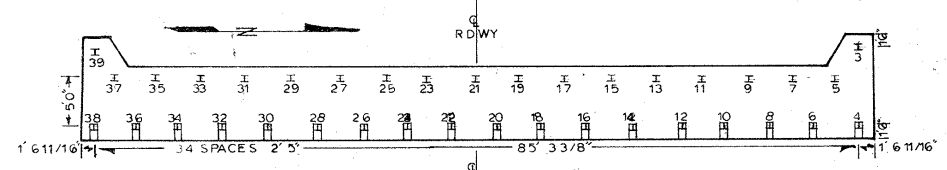
SECTION A-A



SECTION B-B

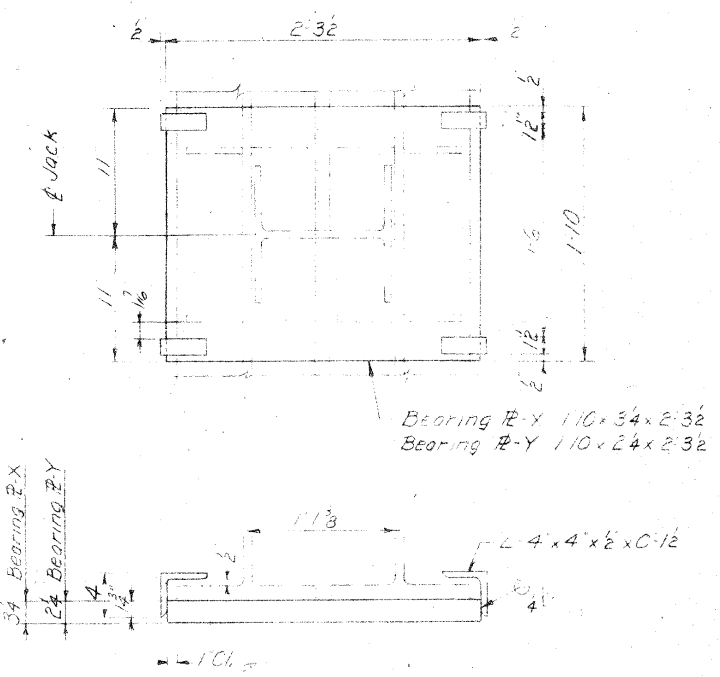
FOUNDATION NO.	PIILING LOG	KIND OF PILING
WEST ABUTMENT		H PILING 10x42

DESIGN 1579



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	94.0	28.6	15	107.0	19.4	29	107.0	21.1
B2	86.0	31.0	B16	79.0	34.4	B30	79.0	49.1
3	77.0	28.6	17	77.0	36.1	31	77.0	22.2
B4	109.0	22.6	B18	79.0	29.9	B32	79.0	37.2
5	77.0	24.5	19	77.0	28.6	33	77.0	40.4
B6	79.0	31.5	B20	79.0	28.6	B34	79.0	28.6
7	77.0	31.0	21	107.0	19.4	35	77.0	31.5
B8	79.0	26.6	B22	109.0	19.4	B36	79.0	37.2
9	77.0	34.1	23	77.0	26.2	37	77.0	25.4
B10	79.0	34.4	B24	109.0	19.4	B38	79.0	42.9
11	77.0	26.4	25	77.0	31.5	39	107.0	19.4
B12	79.0	31.5	B26	109.0	19.1	B40	86.0	26.2
13	77.0	41.6	27	77.0	22.9	41	84.0	28.6
B14	79.0	31.2	B28	79.0	24.5		3465 FT. TOTAL	

NOTE: This jacking beam is not a bid item.
It is designed for 300 ton jacking capacity.
See Special Provisions SP.300



PART SECTION D

BEARING PLATE DETAIL
Bearing R-X 2 Req'd. Wt. 564 lbs. Each
Bearing R-Y 2 Req'd. Wt. 392 lbs. Each
Shop weld angles to bearing plate while
bearing plate is held in position against
the bottom flange of the jacking beam.

Jacking Beam Wt. 13,475 lbs.

MISSISSIPPI RIVER
JACKING BEAM FOR PILE LOAD TEST
DUBUQUE COUNTY, IOWA
IOWA DEPARTMENT OF TRANSPORTATION

BRF-561-4(5)-38-31
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Dyke County