

76857

TER MADISON

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	60-(10,11)RS	MADISON	158	1

158 total sheets

3-9-07 Letting, Item 005

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PROPOSED
HIGHWAY PLANS**

FAI ROUTE 70
SECTION 60-(10, 11)RS
PROJECT: ACIM-070-1(181)018
MADISON COUNTY

C-98-025-05

D-98-007-05



LOCATION OF SECTION INDICATED THUS: -

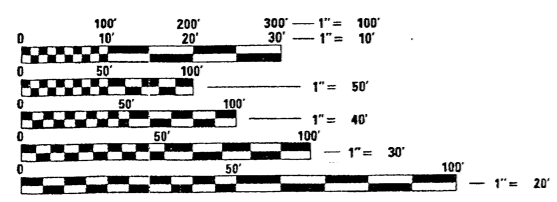
FOR INDEX OF SHEETS, SEE SHEET NO. 2

99%
5-24-2008

060-0173

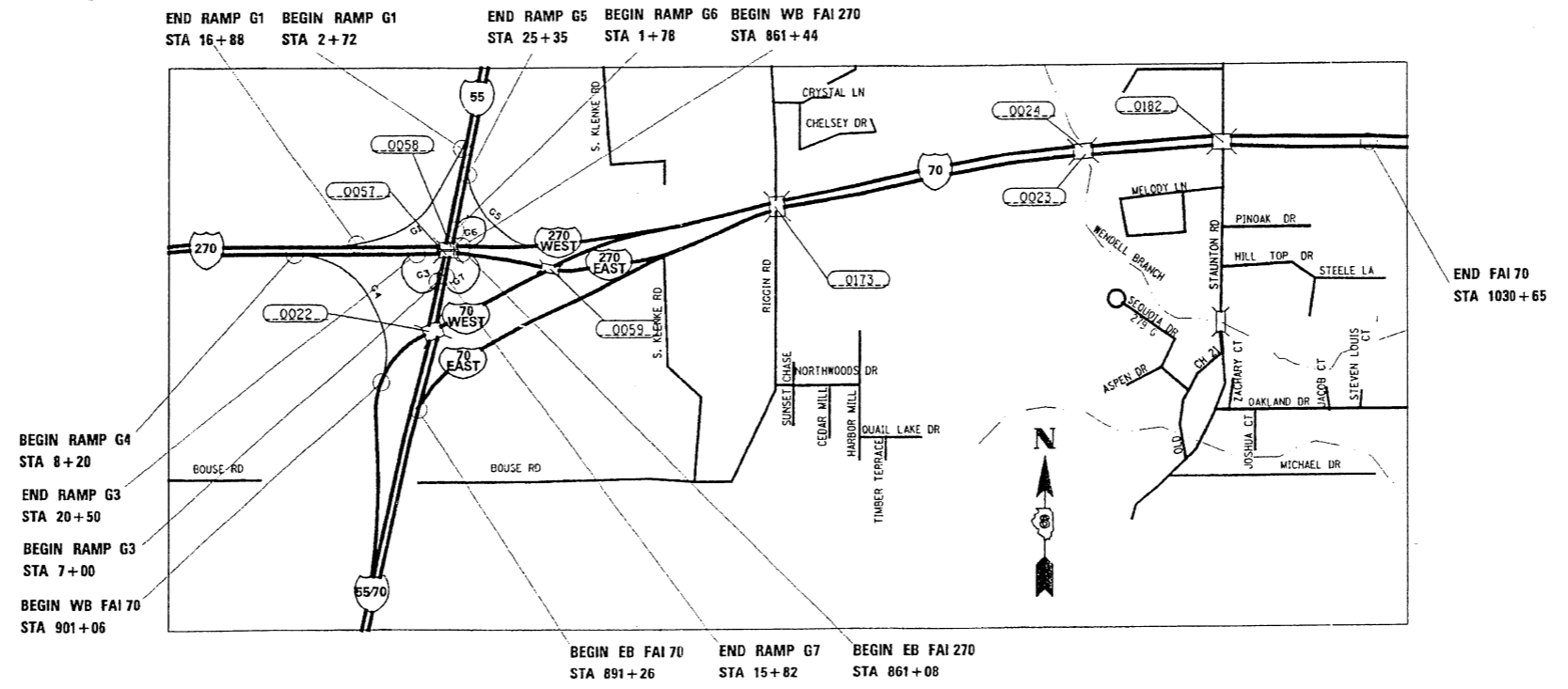
PROJECT ENGINEER: PATTILEBEAU (618)340-3179
SQUAD LEADER: CHERYL KEPLAR (618)346-3186

MICROFILMED _____
REEL NUMBER _____
AWARDED _____
RESIDENT ENGINEER _____
AS BUILT CHANGES WERE MADE
ON THE FOLLOWING SHEETS



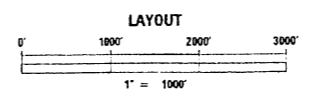
FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123



2007 ADT - 31700
2027 ADT - 38700
MU% - 77.3, SU% - 4.9

GROSS LENGTH - 12959'
NET LENGTH - 12955'



CONTRACT NO. 76857 **060-0173** FUNCTIONAL CLASSIFICATION - INTERSTATE

COUNTY MADISON SECTION 60-(10,11)RS FAI ROUTE 70

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED Dec 15, 20 06
May C. Kamis
DEPUTY DIRECTOR OF HIGHWAYS
REGION FIVE ENGINEER

February 2, 20 07
Eric E. Hanes
ENGINEER OF DESIGN AND ENVIRONMENT

February 2, 20 07
Milton R. Sues, P.E.
DIRECTOR, DIVISION OF HIGHWAYS

**PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS**

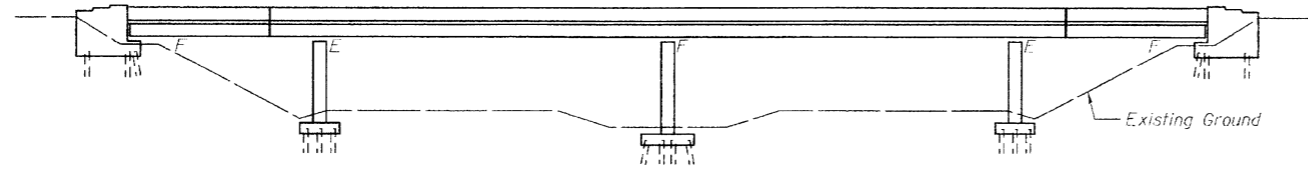
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS

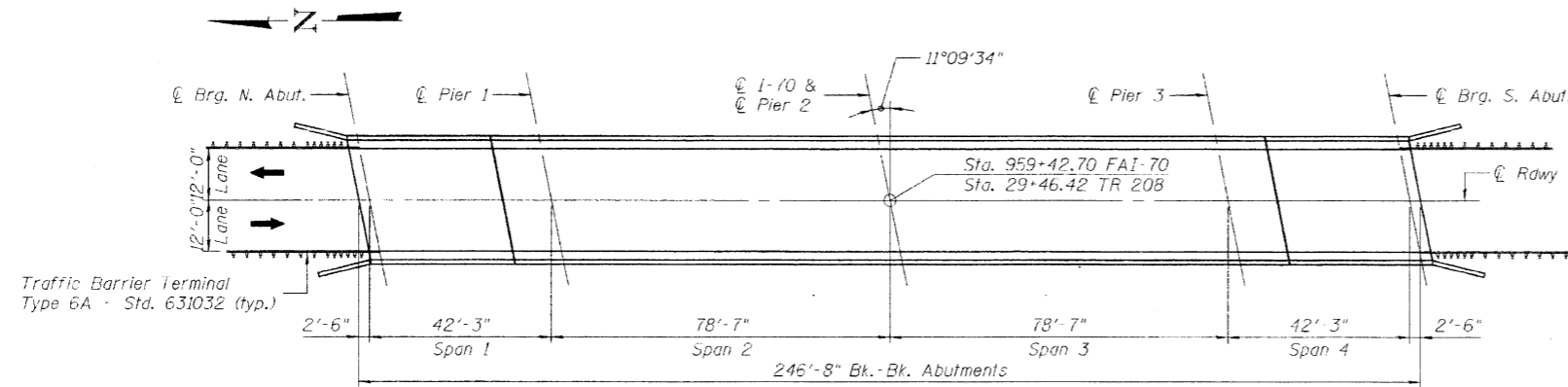
Sheet No.	Description
1	Gen. Plan, Gen. Notes & Total Bill of Mat'l
2	Deck Plan
3	Superstructure
4	Steel Bridge Rail

SHEET 1
OF 4

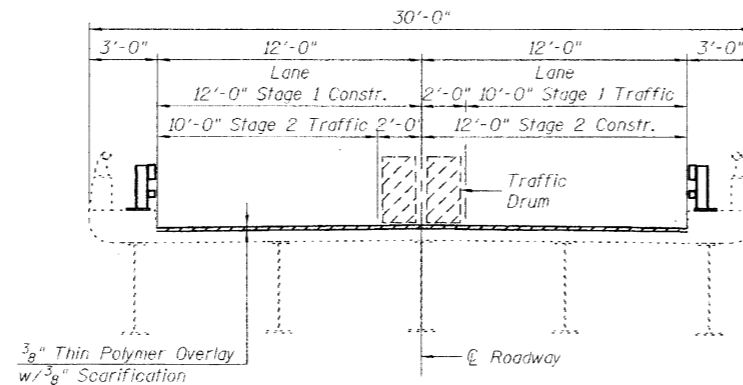
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	60-10HB-2	MADISON	156	118
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	CONTRACT NO. 76857	



ELEVATION



PLAN



CROSS SECTION
(Looking South)

GENERAL NOTES

Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price for the work.

All structural steel shall be AASHTO M 270 Grade 36, unless noted otherwise.

All new structural steel (for Floor Drain Extension) shall be shop painted with an inorganic zinc rich primer per AASHTO M300, Type 1. Field painting of structural steel shall be done under a separate painting contract.

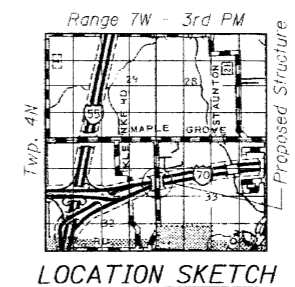
The existing structural steel coating contains lead. The Contractor should take appropriate precautions to deal with the presence of lead on this project.

Field welding of construction accessories will not be permitted to beams or girders.

A Protective Coat shall be applied to the tops and inside faces of the parapets, sidewalks, and wings. The coat shall not be applied to the Polymer Overlay.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Protective Coat	Sq Yd	290	--	290
Floor Drain Extension	Each	8	--	8
Steel Railing, Type 2399	Foot	491	--	491
Concrete Bridge Deck Scarification (3/8 Inch)	Sq Yd	654	--	654
Plug Existing Deck Drains	Each	20	--	20
Bridge Deck Thin Polymer Overlay 3/8"	Sq Yd	654	--	654
Silicone Joint Sealer, 1.5"	Foot	62	--	62
Deck Slab Repair (Full Depth, Type II)	Sq Yd	3	--	3
Deck Slab Repair (Partial)	Sq Yd	13	--	13



GENERAL PLAN
RIGGIN ROAD (TR 208) OVER
INTERSTATE 70
FAI ROUTE 70 SECTION 60-10HB-2
MADISON COUNTY
STATION 959+42.70
STRUCTURE NO. 060-0173

JD Johnson, Depp & Quisenberry
CONSULTING ENGINEERS
Springfield, Illinois

DESIGNED: CDB	DRAWN: SJS
CHECKED: DCD	CHECKED: CDB/DCD

DAVID C. DEPP
081-005117
REGISTERED PROFESSIONAL ENGINEER

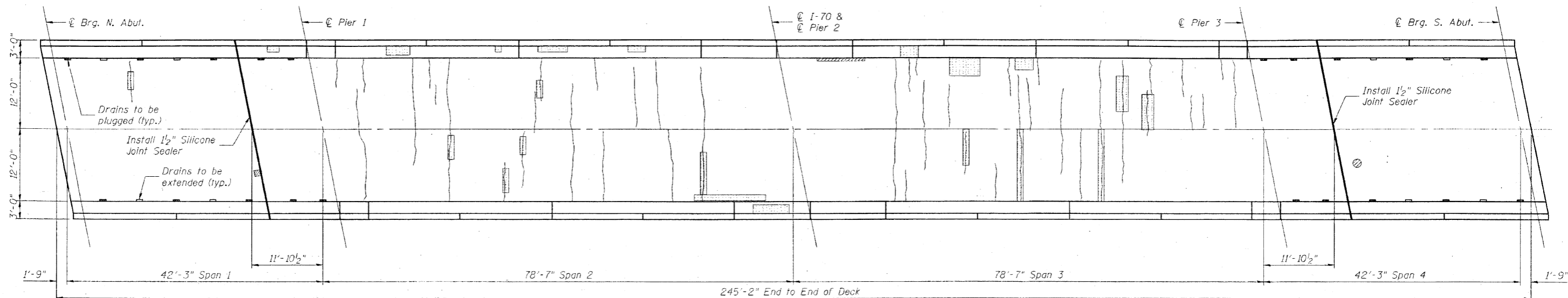
Signed: *David Depp*
Date: 1-15-2007
Lic. Expires: 11-30-2008

DATE: 01/12/2007 USER: DCD FILE: J:\DD\01042 IL-08V\5 1-70 Bridge Repair\5-51060-0173 R10p1nRdV01p1n.dgn

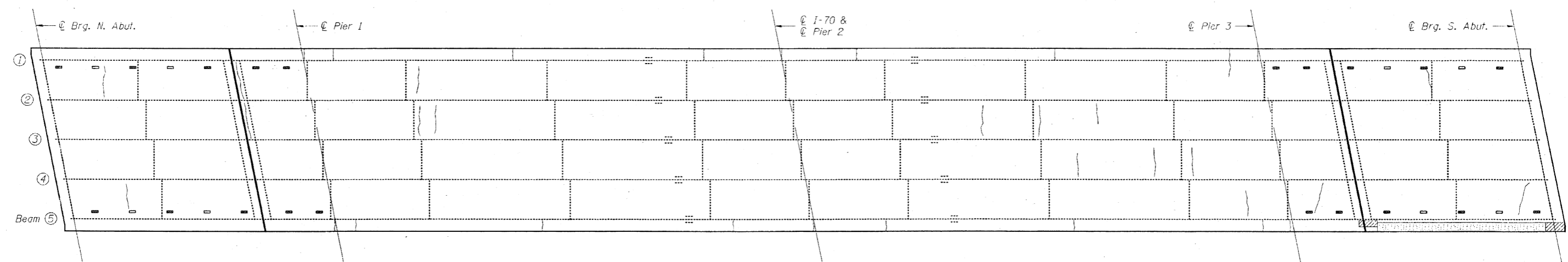
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET 2
OF 4

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	60-10HB-2	MADISON	156	119
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	CONTRACT NO. 76857	



DECK PLAN-TOP



DECK PLAN-BOTTOM

LEGEND

- Hollow or Unsound Concrete (225 S.F.)
- Spalled Concrete (16 S.F.)
- Hairline Crack

NOTES:

Deck Condition Survey performed 8/14/2006.
The Engineer shall record actual locations of deck repair on the As-Built plans.

DATE: \$DATE\$ - \$TIME\$ USER: \$USER\$ FILE: \$FILES\$

Johnson, Depp & Quisenberry CONSULTING ENGINEERS Springfield, Illinois	
DESIGNED: CDB	DRAWN: P. Ray
CHECKED: DCD	CHECKED: CDB/DCD

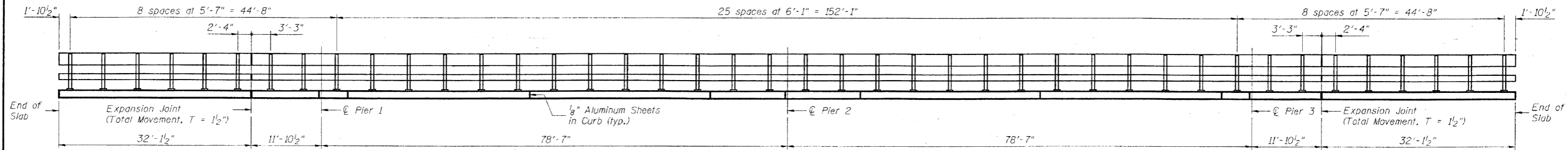
DECK PLAN
RIGGIN ROAD (TR 208) OVER
INTERSTATE 70
FAI ROUTE 70 SECTION 60-10HB-2
MADISON COUNTY
STATION 959+42.70
STRUCTURE NO. 060-0173

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

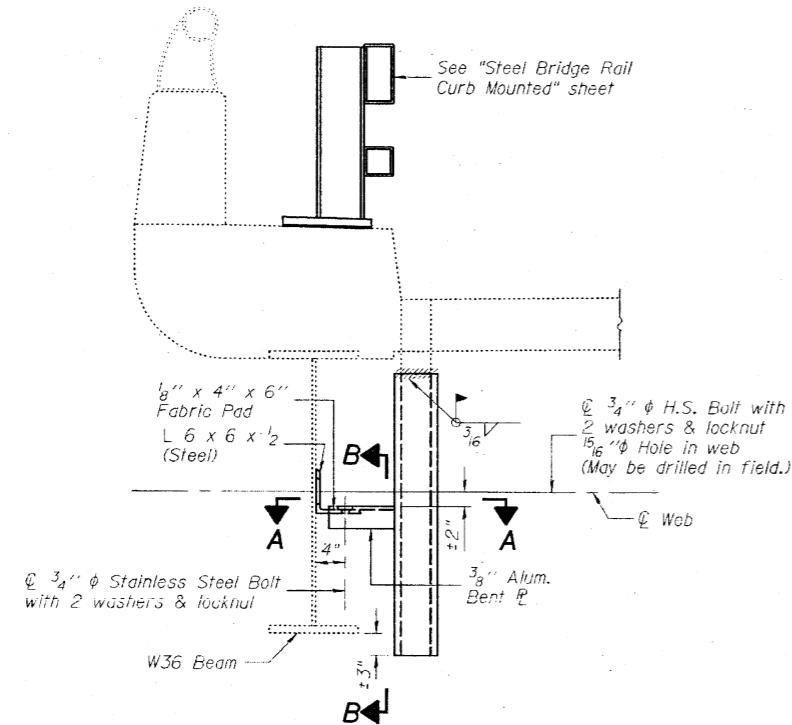
SHEET 3
OF 4

F.A.I. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

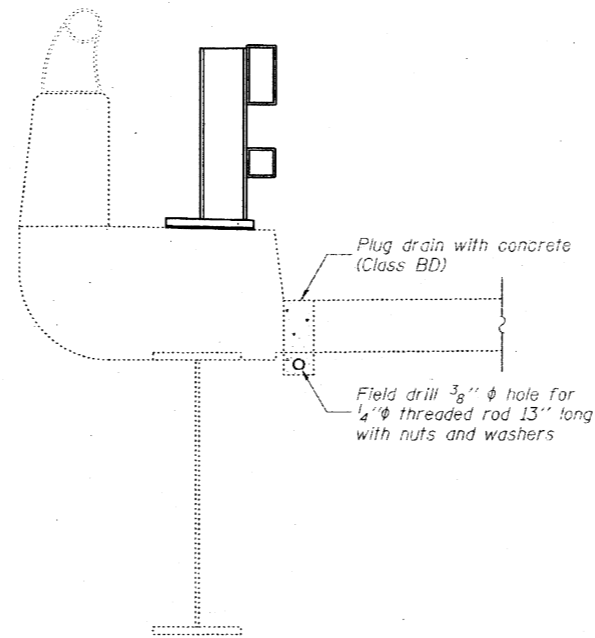
CONTRACT NO. 76857



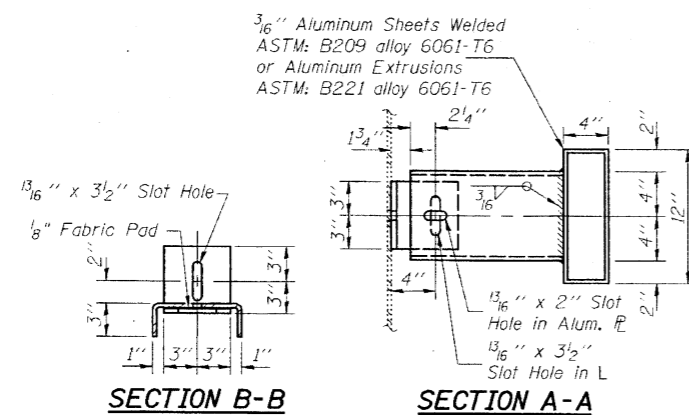
RAIL POST SPACING



SECTION AT DRAIN EXTENSION

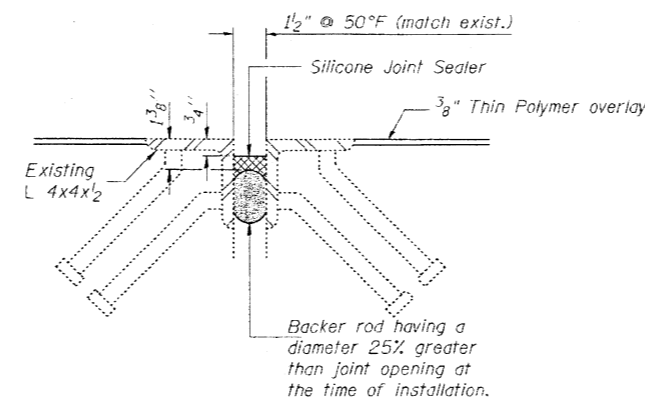


SECTION AT DRAIN PLUG

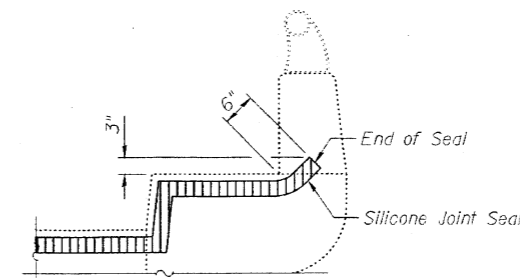


SECTION B-B

SECTION A-A



SILICONE JOINT SEALER DETAIL



TYPICAL END OF SEAL TREATMENT AT EXPANSION JOINT

BILL OF MATERIAL

Floor Drain Extension	Each	8
Plug Existing Deck Drains	Each	20
Silicone Joint Sealer, 1.5"	Foot	62

SUPERSTRUCTURE
RIGGIN ROAD (TR 208) OVER
INTERSTATE 70
FAI ROUTE 70 SECTION 60-10HB-2
MADISON COUNTY
STATION 959+42.70
STRUCTURE NO. 060-0173

JD Johnson, Depp & Quisenberry
CONSULTING ENGINEERS
Springfield, Illinois

DESIGNED: CDB	DRAWN: P. Ray
CHECKED: DCD	CHECKED: CDB/DCD

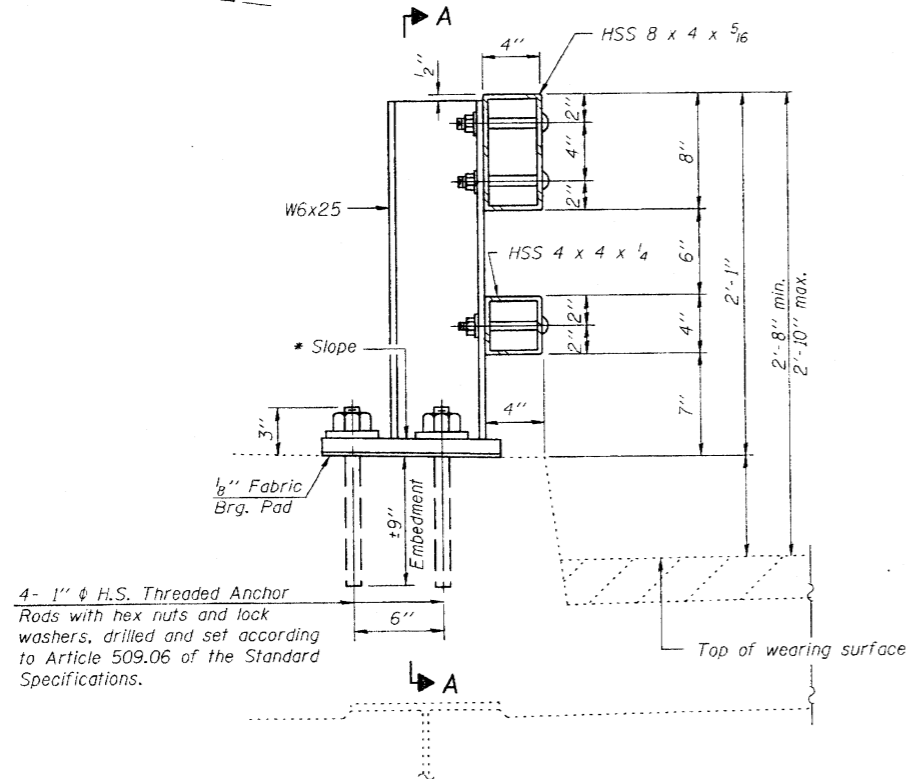
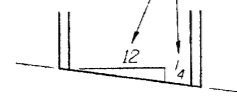
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

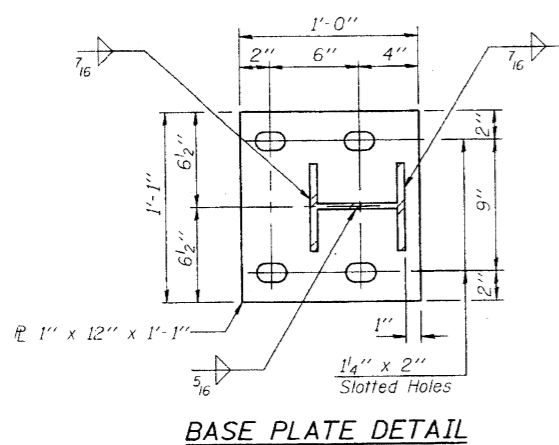
SHEET 4
OF 4

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	60-10HB-2	MADISON	156	121
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
CONTRACT NO. 76857				

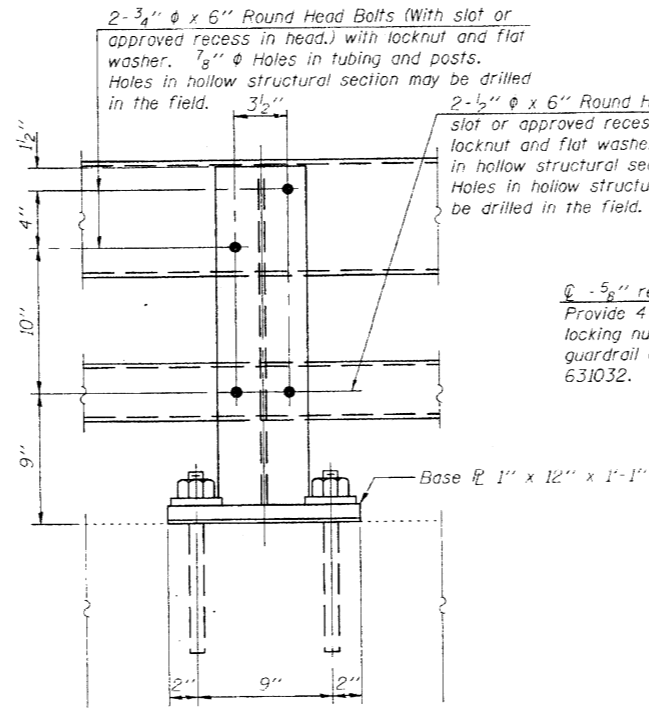
• Cut bottom end of post to curb slope.



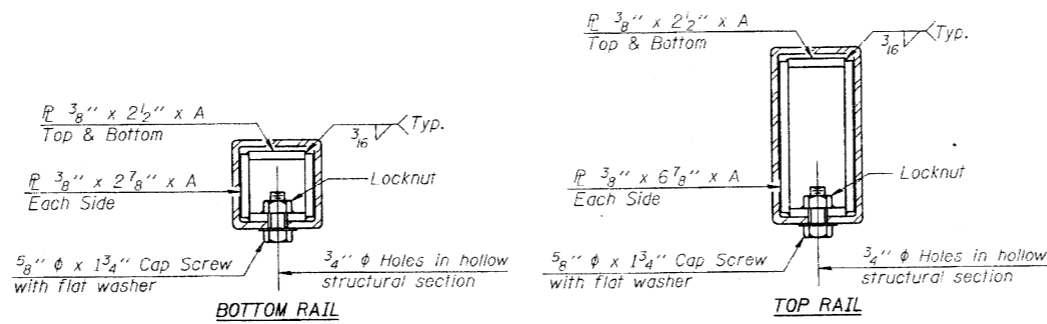
SECTION AT RAIL POST



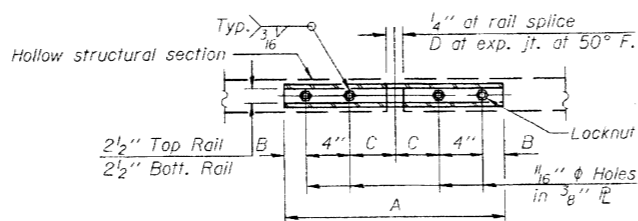
BASE PLATE DETAIL



SECTION A-A

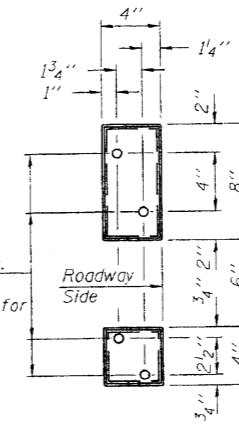


SECTIONS AT RAIL SPLICE

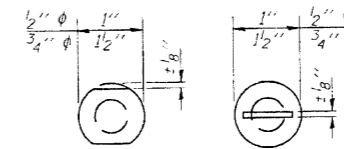


PLAN-BOTT. SPLICE TYPICAL

• 5/8" reduced base welded studs. Provide 4-5/8" washers and self-locking nuts or nuts and jam nuts for guardrail connection shown on Std. 631032.

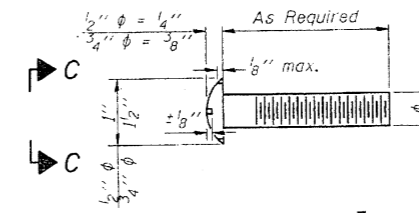


VIEW B-B

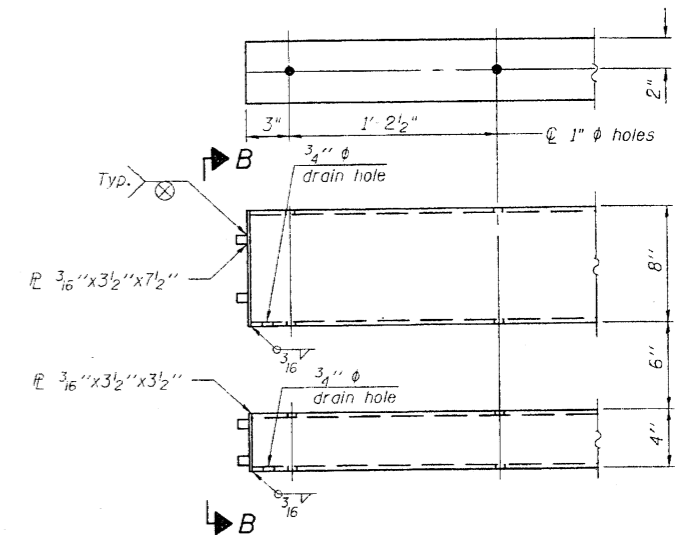


Without Slot or Recess With Slot

VIEW C-C



DETAIL OF 1/2" ϕ & 3/4" ϕ ROUND HEAD BOLTS



END OF RAIL DETAILS

Notes:
All field drilled holes shall be coated with an approved zinc rich paint before erection.
Posts shall not be located closer than 1'-3" to an existing bridge expansion joint or end of bridge.
Steel Bridge Rail expansion joint shall be provided between any two (2) posts which span a bridge expansion joint. Bolts located at expansion joint shall be provided with locknuts and shall be tightened only to a point that will allow railing movement.
Provide one 1/8" and two 1/16" steel shims for 25% of the posts. Shims shall be similar to base plates in size and holes.
All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.

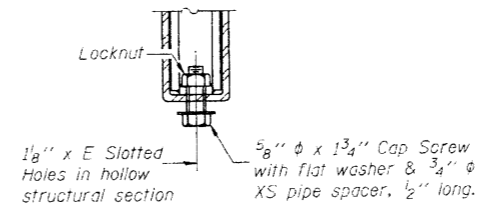
BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type 2399	Foot	491

SPLICE DIMENSIONS

T	D	A	B	C	E
≤ 4"	2 1/2"	1'-8"	2"	4"	2 1/2"
> 4" ≤ 6 1/2"	3 3/4"	2'-0"	2 1/2"	5 1/2"	3 1/2"
> 6 1/2" ≤ 9"	5"	2'-4"	3 1/2"	6 1/2"	9"
> 9" ≤ 13"	7"	2'-10"	4 1/2"	8 1/2"	11"
Rail Splice	1/4"	1'-8"	2"	4"	—

T = Total movement at expansion joint as shown on the design plans.



RAIL SPLICE CONNECTION AT EXPANSION JT.

JD Johnson, Depp & Quisenberry
CONSULTING ENGINEERS
Springfield, Illinois

DESIGNED: CDB	DRAWN: SJS
CHECKED: DCD	CHECKED: CDB/DCD

R-31

11-1-06

(6'-3" Maximum Post Spacing)

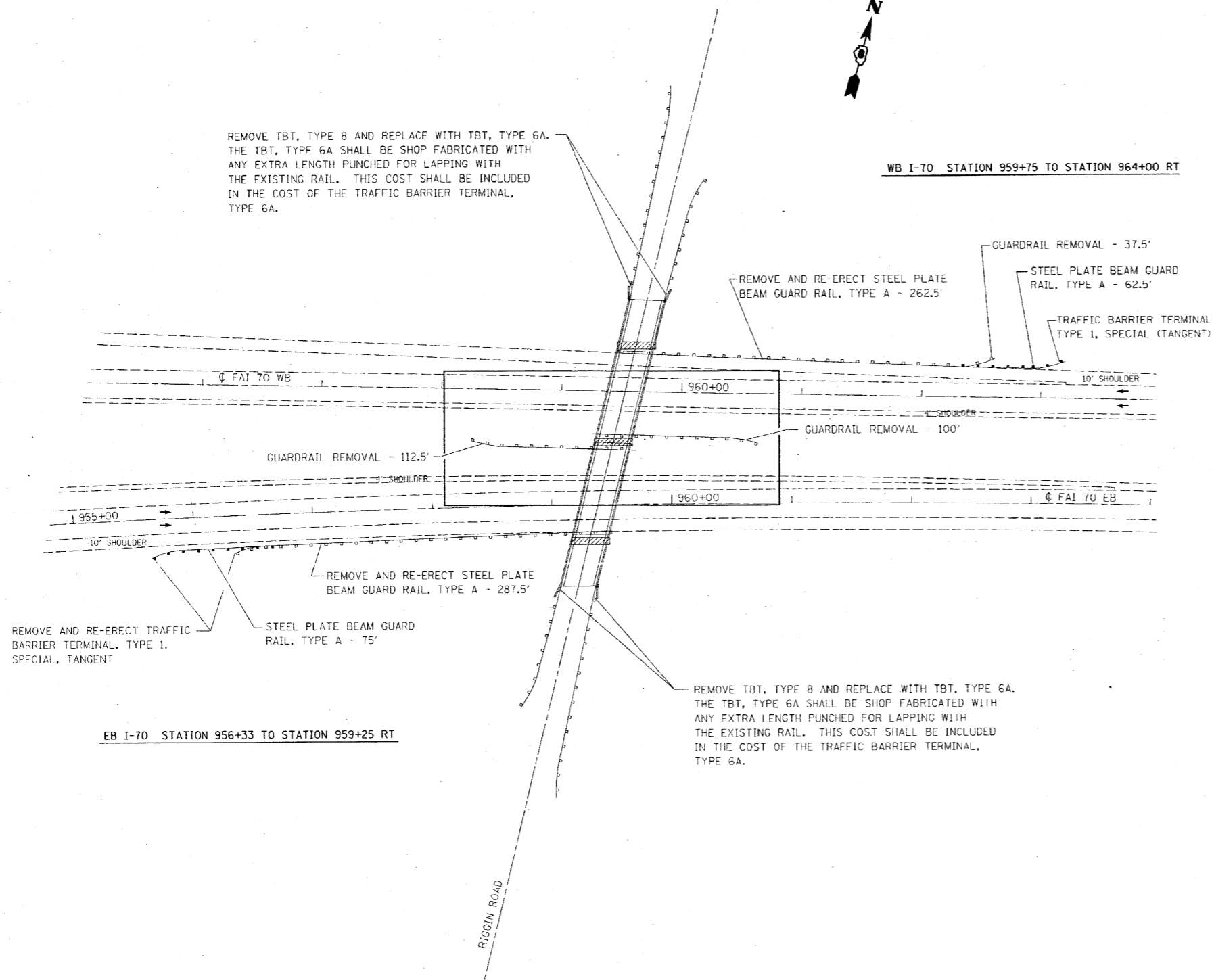
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	60-110,11RS	MADISON	154	154
STA. _____		TO STA. _____		
FED. ROAD DIST. NO. _____		ILLINOIS FED. AID PROJECT		

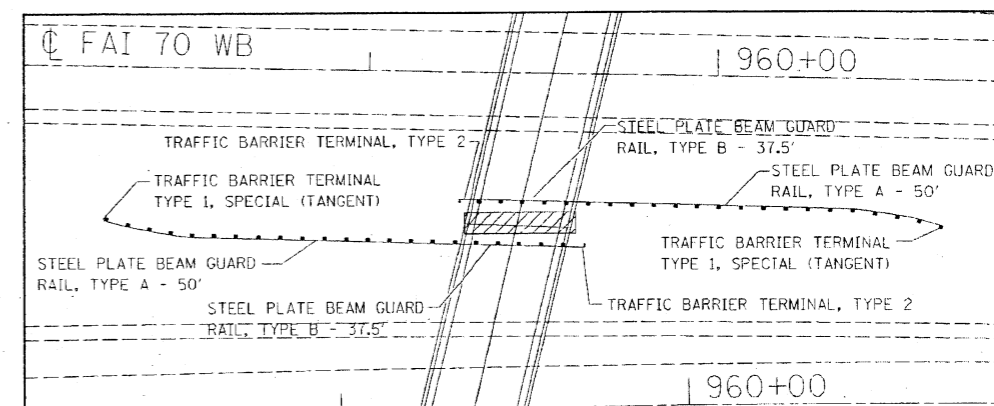


REMOVE TBT, TYPE 8 AND REPLACE WITH TBT, TYPE 6A. THE TBT, TYPE 6A SHALL BE SHOP FABRICATED WITH ANY EXTRA LENGTH PUNCHED FOR LAPPING WITH THE EXISTING RAIL. THIS COST SHALL BE INCLUDED IN THE COST OF THE TRAFFIC BARRIER TERMINAL, TYPE 6A.

WB I-70 STATION 959+75 TO STATION 964+00 RT



EB I-70 STATION 956+33 TO STATION 959+25 RT



INSET

EB I-70 STATION 958+50 TO STATION 959+25 LT
WB I-70 STATION 959+75 TO STATION 961+00 LT

- HAZARD
- EXISTING GUARDRAIL
- PROPOSED GUARDRAIL

PLOT DATE = 04/15/88
FILE NAME = 0154.DWG
PLOT SCALE = 1/8"=1'-0"
REFERENCE = 16857

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
GUARDRAIL DETAILS
 AT SN 060-0173
 I-70 AT RIGGIN ROAD
 FAI 70
 SECTION 60-(10,11)RS
 MADISON COUNTY

SCALE: VERT. _____
 HORIZ. _____

DATE _____ DRAWN BY _____
 CHECKED BY _____

36

99.9%
10-13-96

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED FEDERAL AID HIGHWAY

VARIOUS ROUTES

SECTIONS 60-10HB-2-I, 82-3HB-1-I, 82-6B-1-I, 119-1BR-I

MADISON & ST. CLAIR COUNTIES

PIN AND LINK REPAIR ON BRIDGES

C-98-005-96

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
VARIOUS	*	MADISON, ST CLAIR	22	1

ILLINOIS PROJECT
* 60-10HB-2-I, 82-3HB-1-I, 82-6B-1-I, 119-1BR-I

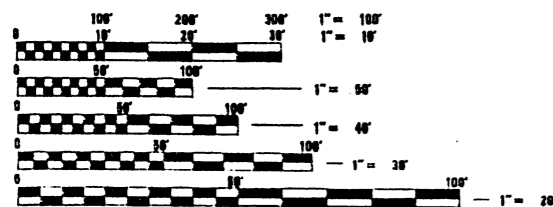
INDEX OF SHEETS

- COVER SHEET
- SUMMARY OF QUANTITIES
- PIN REPLACEMENT - LOCATION 1
- FOR INFORMATION ONLY - LOCATION 1
5. PIN REPLACEMENT - LOCATION 2
6. FOR INFORMATION ONLY - LOCATION 2
- 7-9. PIN REPLACEMENT - LOCATION 3
10. FOR INFORMATION ONLY - LOCATION 3
- 11-15. PIN REPLACEMENT - LOCATION 4
16. FOR INFORMATION ONLY - LOCATION 4
- 17-22. PIN REPLACEMENT - LOCATION 4

STANDARDS

- 2298-12
- 2303-10
- 2315-11
- 2316-16
- 2419-2

PROJECT ENGINEER : WILLIAM A. ULIVI PHONE : (618) 346-3100
SQUAD LEADER : DAVID M. MARTH PHONE : (618) 346-3191



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

MICROFILMED _____
 REEL NUMBER _____
 AWARDED _____
 RESIDENT ENGINEER _____
 AS BUILT CHANGES WERE MADE ON THE FOLLOWING SHEETS

D-98-004-96



LOCATION OF SECTION INDICATED THUS: -

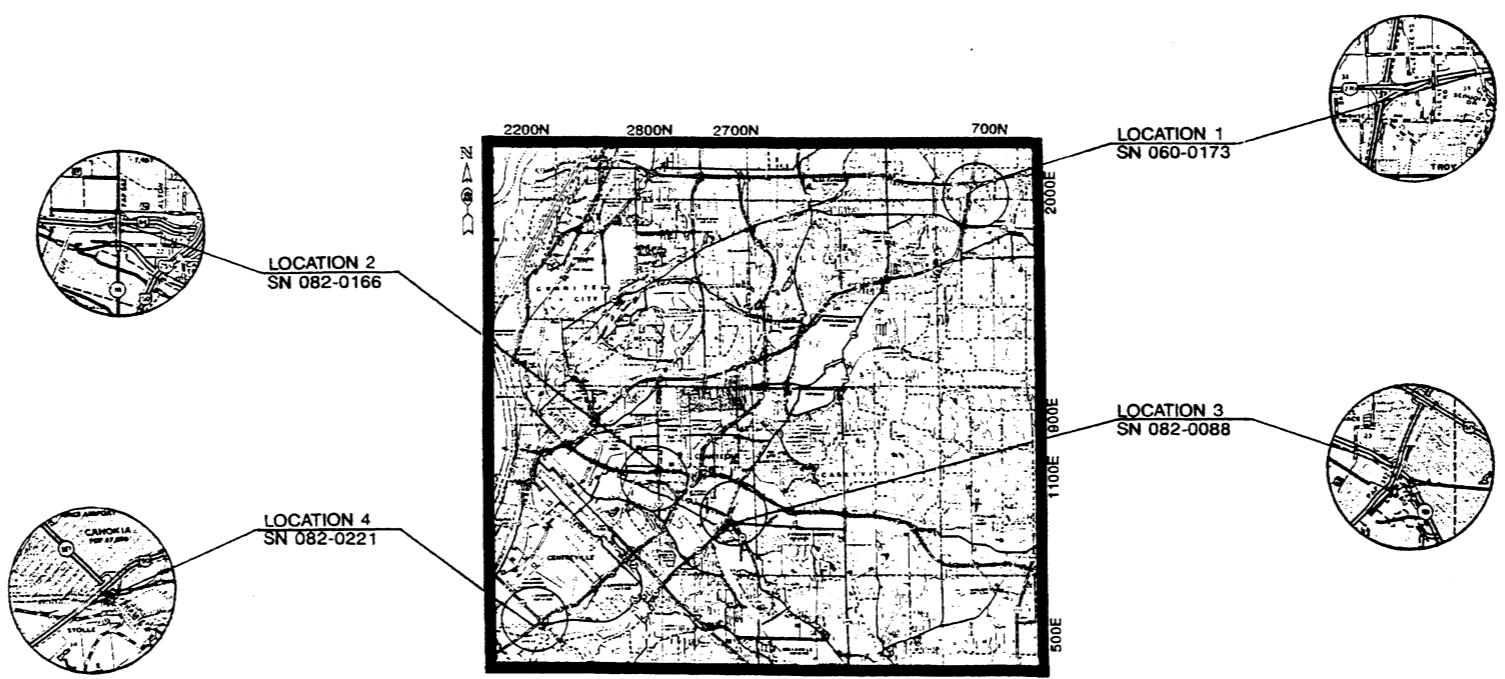
JOINT UTILITY LOCATING INFORMATION FOR EXCAVATIONS PHONE: 800-892-0123

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED Dec 21 1995
David Klein

PREPARED January 12, 1996
David Klein

APPROVED January 26, 1996
James R. [Signature]
DIRECTOR OF HIGHWAYS



LOCATION MAP

GROSS LENGTH = 3358 FEET = .64 MILES
NET LENGTH = 3358 FEET = .64 MILES

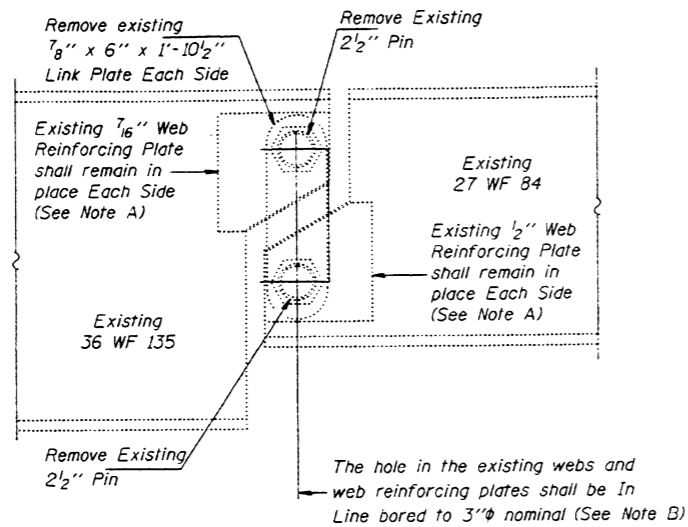
060-0173 CONTRACT NO. 96923

8-222

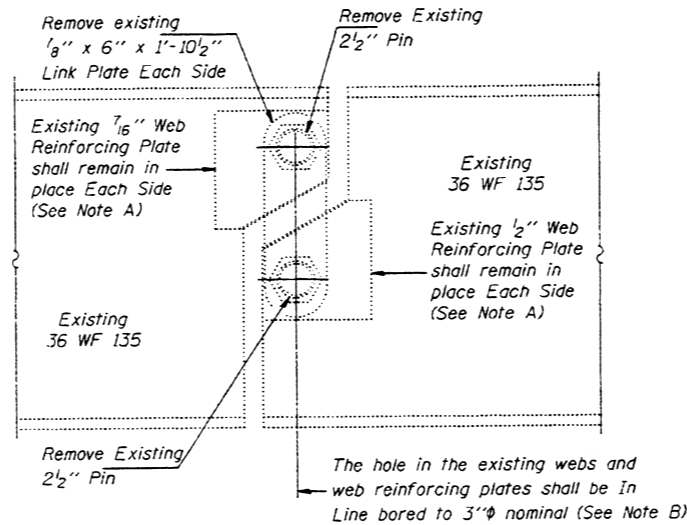
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	COUNTY	DATE	SHEET
		MADISON	22	3
FED. ROAD DIST. NO.		SHEET NO.		TOTAL SHEETS
				3

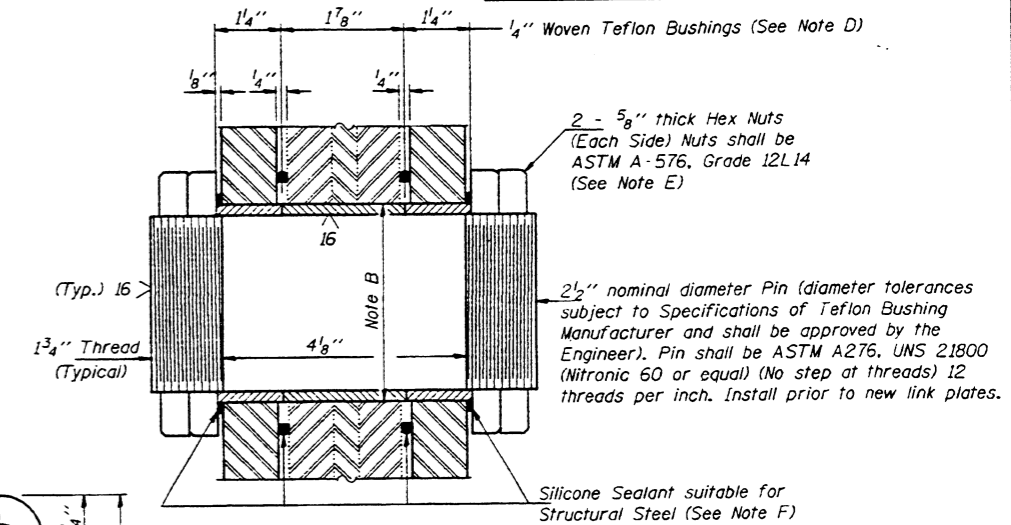
SHEET NO. 1
3 SHEETS



**ELEVATION AT EXISTING PIN ASSEMBLY
FOR INTERIOR BEAMS**



**ELEVATION AT EXISTING PIN ASSEMBLY
FOR EXTERIOR BEAMS**



**SECTION THRU PIN
(20 Required)**

NOTES

All new structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.

The Contractor shall provide support and/or shoring systems for the beam in the area of existing pin and link plate replacement. The support and/or shoring systems shall be approved by the Engineer. Such approval will not relieve the Contractor of responsibility for the safety of the structure. See Special Provisions for "Temporary Support System."

The inorganic zinc rich primer/ acrylic/ acrylic paint system shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the acrylic finish coat shall be Interstate Green, Munsell No. 7.5G 4/B. See Special Provisions "Cleaning and Painting Metal Structures."

Existing structural steel shall be cleaned and painted as required by the Special Provision "Cleaning and Painting Adjacent Areas of Existing Steel Structures", Cost incidental to "Pin and Link Plate Replacement."

All existing steel surfaces behind link plates shall be cleaned and primed before installation of new link plates. Cost incidental to "Pin and Link Plate Replacement."

Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

The Pins and Link Plates shall conform to the minimum Charpy V-Notch Toughness of 25 ft.-lbs. at 40° F.

The pins, link plates, bushings, nuts and silicone sealant are the items included in "Pin and Link Plate Replacement".

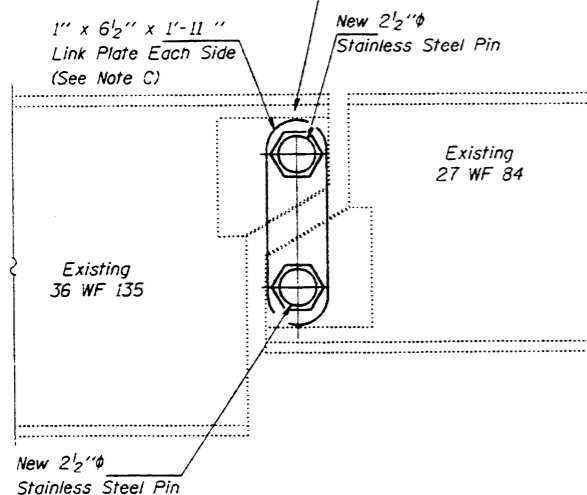
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Temporary Support System	Each	10
Pin and Link Plate Replacement	Each	10

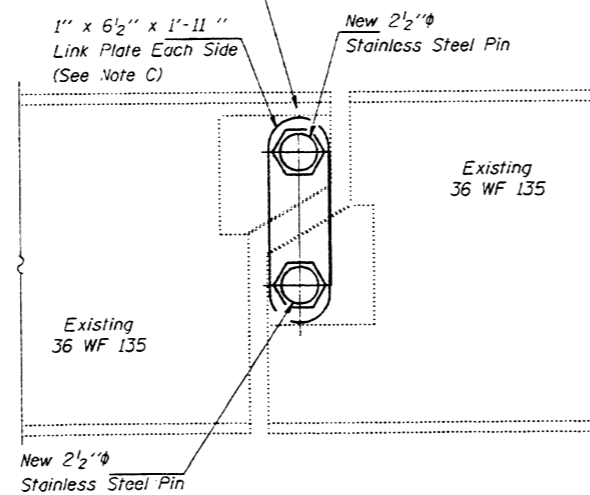
LOCATION 1

PIN & LINK PLATE REPLACEMENT
F.A.I. ROUTE 70 SEC. 60-10HB-2
MADISON COUNTY
STA. 959+42.70
STR. No. 060-0173

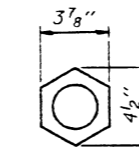
If the existing deck will interfere with the new link plates, concrete shall be removed to provide clearance for the new pins and link plates.
Cost is incidental to "Pin & Link Plate Replacement."



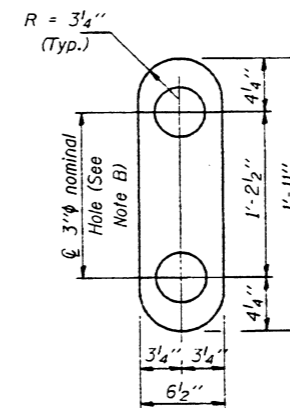
**ELEVATION OF NEW PIN ASSEMBLY
FOR INTERIOR BEAMS**



**ELEVATION OF NEW PIN ASSEMBLY
FOR EXTERIOR BEAMS**



**NUT DETAIL
(80 Required)**



**LINK PLATE DETAIL
(20 Required)**

Note A:

Existing welds shall be inspected for cracks using liquid dye penetrant or magnetic particle testing. Any cracks that are found shall be identified and reported to the Bureau of Bridges and Structures for further disposition. Clean and paint before installing new link plates.

Note B:

Bore diameter for bushing in link plate, existing webs and web reinforcement plates shall correspond to bushing manufacturer's allowable tolerances for proper functioning. Hole diameter may be adjusted to allow use of stock bushings.

Note C:

Inside face of new link plates shall receive first field coat in shop. The primer shall pass the M.E.K. Rub Test before the first field coat is applied.

Note D:

Actual bushing thickness per manufacturer's specifications, 1/4" is approximate. Bushings shall be a self lubricating filament wound epoxy matrix backed Duralon Bearing, metal backed Fiber Glide Bearing or equivalent. No primer or grease shall be allowed on bushings. Bushings shall be suitable for dynamic loads of 20,000 psi.

Note E:

Tighten inside nuts to bring all bushings into firm contact, then back off 1/4 turn and tighten outer nuts.

Note F:

Apply 3/8" bead to face of the web reinforcing plates approximately 1/2" from bushing immediately before installing new link plates. Place sealant around nuts after installation. Sealant shall be suitable for prolonged exterior exposure without losing flexibility or adhesion to painted steel surfaces. Proposed products shall be subject to Department's acceptance based on documented testing or other evidence.

MAXIMUM REACTIONS AT PIN

RP	(K)	27.1
R _h	(K)	29.7
Imp.	(K)	8.9
R (Total)	(K)	65.7

DESIGNED	Shane Summer
CHECKED	Shane Summer
DRAWN	Shane Summer
CHECKED	NJC, FDC

January 18, 1996
EXAMINED
PASSED
ENGINEER OF STRUCTURAL SERVICES
ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS DEPARTMENT OF PUBLIC WORKS AND BUILDINGS DIVISION OF HIGHWAYS PLANS FOR PROPOSED FEDERAL AID HIGHWAY

FEDERAL AID ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 70	60-10HB-2	MADISON	37	1
FED. NO. 10 DIST. NO. 1	ILLINOIS	PROJECT	I-70-2(71)19	

P-98-083-00

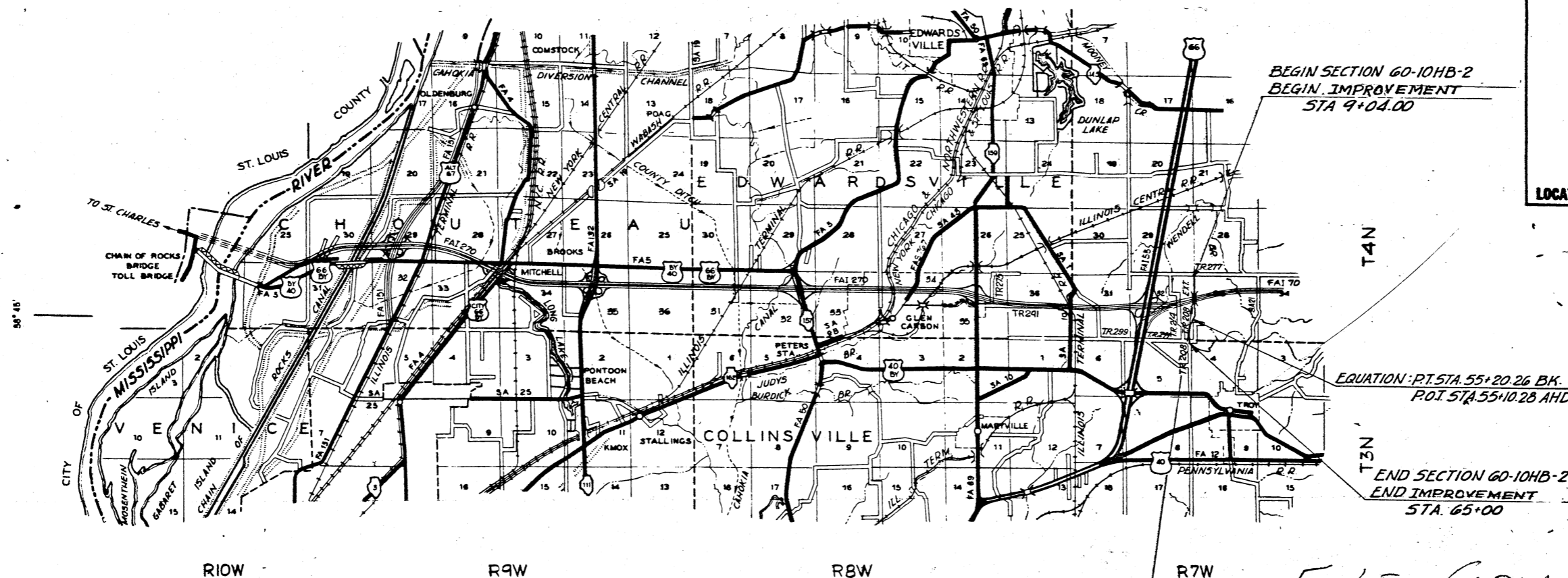
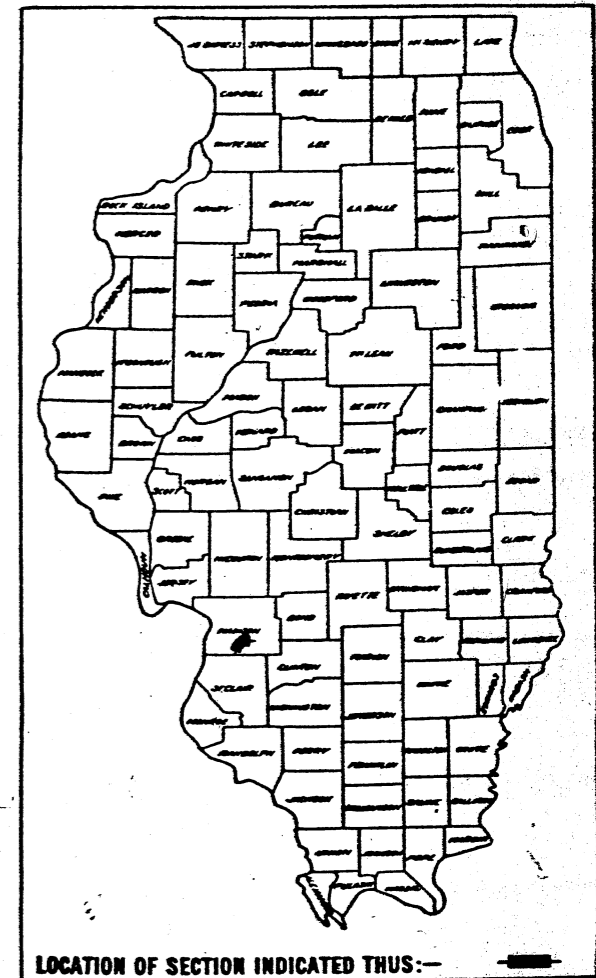
SCALES

PLAN	1 INCH	80 FT.
PROFILE, HOR.	1 INCH	50 FT.
PROFILE, VERT.	1 INCH	5 FT.
CROSS-SECTIONS	1 INCH	10 FT.

FAI ROUTE 70 SECTION 60-10HB-2 PROJECT I-70-2(71)19 MADISON COUNTY

C-98-009-64

FILE COPY
9-2-64



APPROVED
FOR STRUCTURAL ADEQUACY ONLY
W.B. Dunham 7/14/64
Engineer of Bridge & Traffic Structures

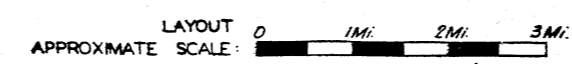
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
DIVISION OF HIGHWAYS

APPROVED
James H. Conant
July 14, 1964
William J. Conant
July 14, 1964
James H. Conant
July 14, 1964
James H. Conant
July 14, 1964

82 ✓

FILE COPY

SECTION 60-10HB-2 Includes, in addition to the Roadway Extension, The Complete Construction of one (1) 4-Span WF Beam Bridge at Sta. 29+02.42 (C.T.R. 208) and Sta. 30+00 (C.T.R. 208) Carrying T.R. 208 Over FAI-70 at Sta. 959+52.78 (N.B. FAI-70) and Sta. 959+32.62 (E.B. FAI-70) Having 4 Continuous Spans of 42'-3", 78'-7", 78'-7" and 42'-3"



NET LENGTH TO BE IMPROVED: 5605.98 FEET (1.062 Miles)
NET LENGTH OF BRIDGE : 246.67 FEET (0.047 Miles)
NET LENGTH OF PROJECT : 0.00 FEET (0.000 Miles)

CONTRACT NO. 23766
ROAD CLASSIFICATION: 60 ADT-P-50
FAI 70 = 1320-T-70

John H. Conant
January 30, 1964

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

APPROVED
DIVISION ENGINEER DATE

REEL 8-58
19 18 8 5 4 0
EB 959+32.62
WB 959+52.78

P.A.L. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TO	60-10HB-2	MADISON	37	11
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJ. NO.	

SHEET NO. 11
SHEETS

GENERAL NOTES

SPECIFICATIONS: Illinois Division of Highways "Standard Specifications for Road and Bridge Construction," adopted January 2, 1958, Supplemental Specifications effective March 2, 1964 and Special Provisions.

DESIGN: In accordance with Division I of the A.A.S.H.O. "Standard Specifications for Highway Bridges," 1961 Edition except as modified by the provisions, exceptions and interpretations of the notes on these drawings.

DESIGN LOADING: Live Load: H15-S12-44 (without provision for "Overload")
Dead Load: Provision is made for a future wearing surface weighing 18 pounds per square foot.

Impact: No impact is included for substructure units.

DESIGN UNIT STRESSES:

Concrete in flexure:	
Superstructure	1400 psi.
Substructure	1400 psi.
Vc. in Footings	75 psi.
Reinforcing Steel	20000 psi.
Structural Steel:	20000 psi.

CONCRETE: Class "X" Concrete shall be used throughout. Coarse aggregate to be used in handrail parapets and end posts must be absolutely free of chert, flint, limonite, lignite and soft sandstone. The concrete floor slab shall be finished in accordance with Article 51.19 of the Standard Specifications.

REINFORCEMENT: All dimensions to reinforcing steel on the drawings are to the center line of the bar except where the clear distance from the face of the concrete is noted.

Reinforcing shall be lapped a minimum of 20 diameters at splices unless shown or noted otherwise on the drawings.

BEVELED EDGES: All exposed edges of concrete shall be beveled 3/4" unless otherwise shown or noted.

ANCHOR BOLTS: The Contractor shall drill the holes in the substructure and set the anchor bolts for beam bearings. Reinforcing steel must be secured accurately in position to avoid interference with drilling for anchor bolts.

BEARING AREAS: Bearing areas to receive superstructure shall be finished smooth and level at the proper elevation.

PAINT: All structural steel shall be given one shop coat of red lead paint and two field coats of aluminum paint in accordance with Article 56.1 through 56.5 of the Standard Specifications. All paint shall be furnished and applied by the Contractor.

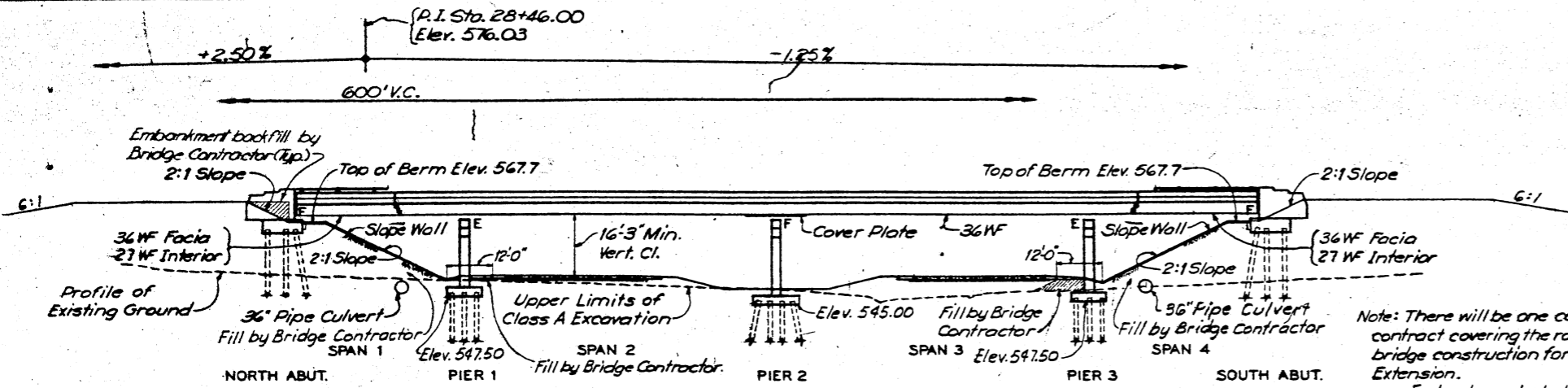
PILE DESIGN LOADS: Refer to details of substructure for required capacity of p for each foundation element.

PILE DRIVING: All piling shall be driven to a bearing value not less than the above maximum design load.

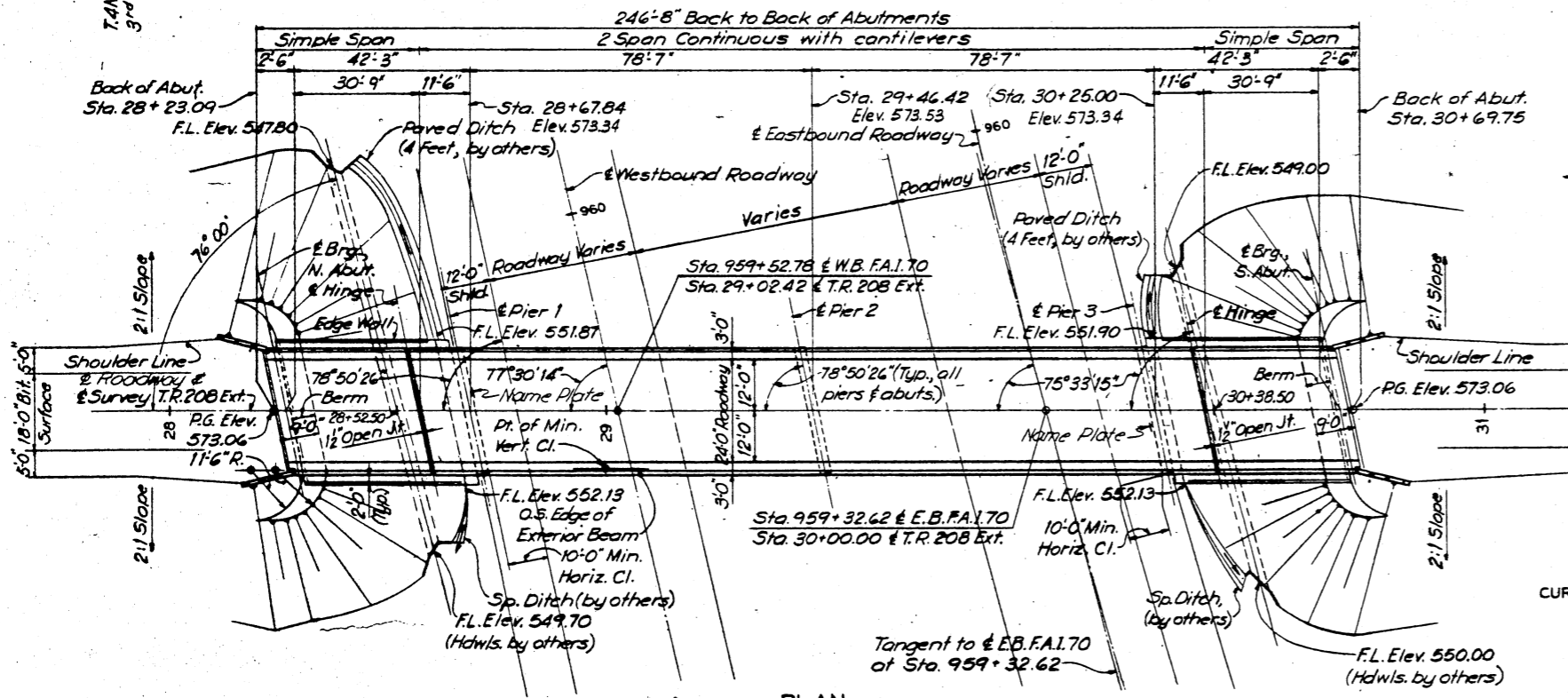
CONCRETE PILES: Where "Concrete Piles" are called for on the plans, the piles shall be either Precast Concrete Piles or Metal Shell Cast-in-Place Concrete Piles as shown on the bridge plans. See Special Provisions.

Concrete piles at abutments shall be driven in holes precored through the embankment in accordance with Article 60.9(c) of the Standard Specifications.

TEST PILES: Test Piles shall be driven to serve as permanent piles in the location indicated on the footing plans, or as directed by the Engineer.



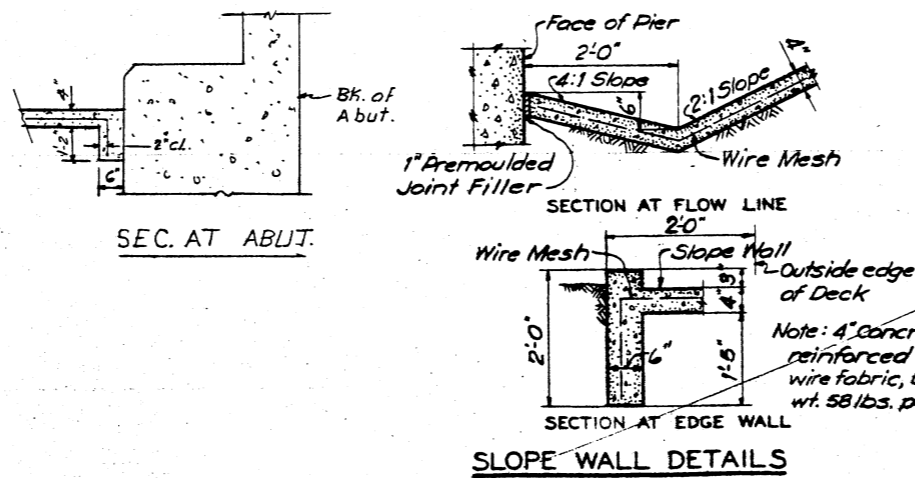
ELEVATION
Normal to North edge of Westbound F.A.I.:70



PLAN

CURVE DATA ALONG E.B. F.A.I.:70
D = 0°28'00"
R = 12,277.67'
S.E. = 0
P.I. = 957+32.11
Δ = 7°07'00" Rt.

Item	Units	N. Abut.	Pier 1	Pier 2	Pier 3	S. Abut.	Superstr.	Total
Class "A" Excavation for Structures	Cu. Yd.		52	71	29			152
Test Piles (Concrete)	Each	1					1	2
Furnishing Concrete Piles	Lin. Ft.	400				400		800
Driving Concrete Piles	Lin. Ft.	400				400		800
Test Piles (Creosoted Timber)	Each			1				1
Furnishing Creosoted Piles, 20'-38'	Lin. Ft.		450	690	450			1590
Driving Timber Piles	Lin. Ft.		450	690	450			1590
Class "X" Concrete	Cu. Yd.	35.0	44.0	53.9	44.0	35.0	2307	4620
Reinforcement Bars	Lb.	2474	3917	5602	3917	2474	49,376	66,760
Furnishing & Erecting Structural Steel	Lb.						13,470	13,470
Aluminum Handrail	Lin. Ft.						487	487
Slope Wall, 4 inch	Sq. Yd.	193				193		386
Name Plates	Each		1		1			2
Protective Coat	Sq. Yd.	10				10	920	930



SLOPE WALL DETAILS

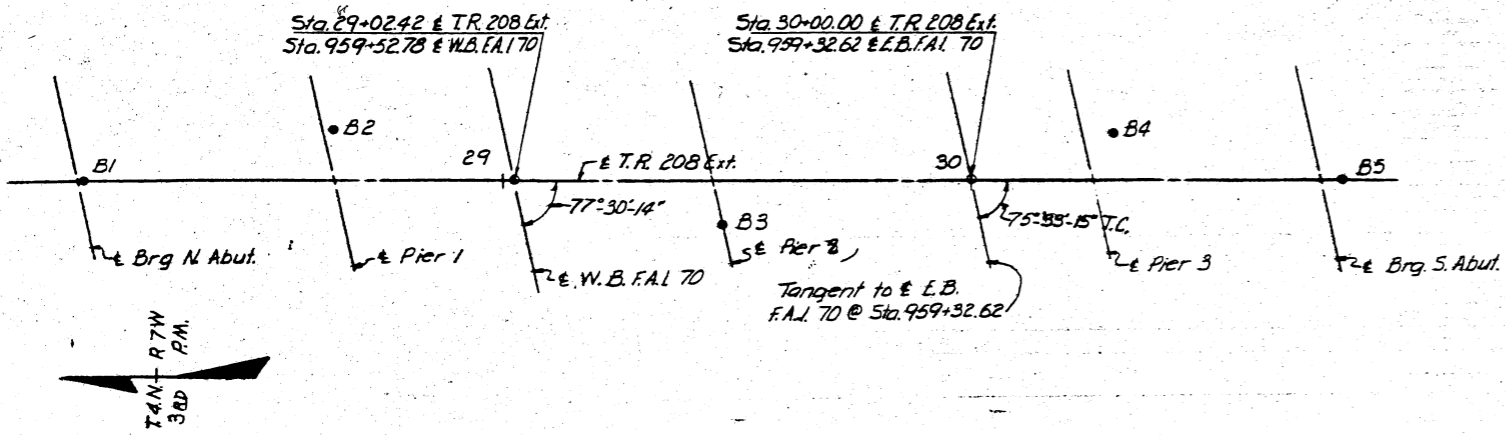
GENERAL PLAN AND ELEVATION

BRIDGE OVER - F.A.I.:70 CARRYING T.R. 208 EXT.
STATION - 959+52.78 (W.B.) & 859+32.62 (E.B.)
F.A.I. ROUTE - 70
SECTION - 60-10HB-2
MADISON COUNTY, ILLINOIS

DRAWN: R.J. Kooser, Oct. 1963
CHECKED: R.U. Butterfield, Jan. 1964

T-6-64 J.M.J. Rev. Quant. for slope wall from 324 to 386 sq. yds. Rein bars from 66420 to 66760 lbs.

635687



PLAN OF BORINGS

LOG OF BORINGS																					
HOLE B1 Station 28+27 on E.				HOLE B2 Station 28+69-10' Left				HOLE B3 Station 29+50-10' Right				HOLE B4 Station 30+31-10' Left				HOLE B5 Station 30+73 on E.					
ELEV.	N	QU	LOG	N	QU	LOG	N	QU	LOG	N	QU	LOG	N	QU	LOG	N	QU	LOG	ELEV.		
560			Ground Surface Elev. 553.6			Ground Surface Elev. 551.8			Ground Surface Elev. 550.3			Ground Surface Elev. 550.6			Ground Surface Elev. 551.8				560		
550			Light pinkish gray mottled with brown aeolian clayey silt. Pinkish brown mottled with brown aeolian clayey silt.			Gray mottled with brown aeolian clayey silt. (Pinkish brown mottled with brown clayey silt. moist.)			Light gray mottled with brown aeolian silty clay, moist.			Pinkish gray mottled with brown aeolian clayey silt, moist.			Light gray mottled with brown aeolian silty clay, moist.				550		
540			Gray mottled with brown aeolian clayey silt.			Brown gray mottled with brownish glacial till silty clay, very moist to wet.			Gray mottled with brown glacial till clay, moist.			Brownish gray mottled with gray glacial till with small grit clay, moist to wet.			Gray mottled with brown glacial till silty clay, moist.				540		
530			Gray glacial till silty clay, wet to moist.			Gray mottled with gray glacial till with gray glacial till silty clay, wet.			Gray mottled with brown glacial till clay, moist.			Gray glacial till with small grit sandy clay, wet.			Gray mottled with brown glacial till with brown glacial till silty clay, moist.				530		
520			Brown glacial till sandy clay, wet.			Brown glacial till with small grit sandy clay, wet.			Gray glacial till with small grit sandy clay, moist.			Gray glacial till with small grit clay, moist to wet.			Brown mottled with gray glacial till with small grit clay, moist.				520		
510			Moist to wet, light grayish brown glacial till with small grit sandy clay.			Gray glacial till with small to medium grit clay, moist.			Gray glacial till with small grit silty clay, moist.			Gray glacial till with small grit clay, very moist.			Gray glacial till with small to medium grit sandy silty clay, very moist to moist.				510		
500			Gray glacial till clayey silt, moist.			Gray glacial till with small grit sandy silty clay, very moist.			Gray glacial fill with small grit silty clay, moist.			Gray glacial fill with small grit clay, very moist.			Greenish gray mottled with brown glacial till clayey silt, moist to wet.				500		
490			Gray mottled with grayish brown glacial fill with small grit clay, moist.			Gray glacial till clayey silt, moist.			Greenish gray mottled with brown glacial fill with small grit clay, very moist.			Gray soft platy weathered shale, moist to dry.			Gray glacial fill with small grit and bits of organic material.				490		
			Gray mottled with brown glacial fill clay, moist.			Gray glacial till clayey silt, moist.			Blue-gray glacial till clay, very moist.			Gray soft platy weathered shale, damp.			Gray glacial fill with small grit and bits of organic material.						
			Greenish gray mottled with brown glacial fill clay, moist.			Gray glacial till clayey silt, moist.			Greenish gray mottled with brown glacial fill with small grit clay, moist.			Gray soft platy weathered shale, dry.			Greenish gray mottled with gray glacial fill with small grit clay, moist.						
			Brown gray soft platy weathered shale, damp.			Gray soft platy weathered shale, damp.			Gray soft platy weathered shale, dry.						Gray soft weathered shale.						
			Gray soft platy weathered shale, dry.																		
DATE OF BORING	April 9, 1963				April 8, 1963				April 5, 1963				April 4, 1963				April 3, 1963				DATE OF BORING

NOTES

The subsurface data shown hereon were obtained by borings at the locations indicated. These data are furnished for information only and do not guarantee the actual conditions which may be found when the work is executed.

- *"N" indicates blows per foot of penetration of 2" O.D. sampling spoon; Hammer weight = 40 lbs. Drop = 30 in.
- *"Qu" indicates unconfined compressive strength in tons per square foot.
- *"E" indicates Estimated value where sample was lost.
- *"W.L." indicates elevation of ground water at completion.

LOG OF BORINGS

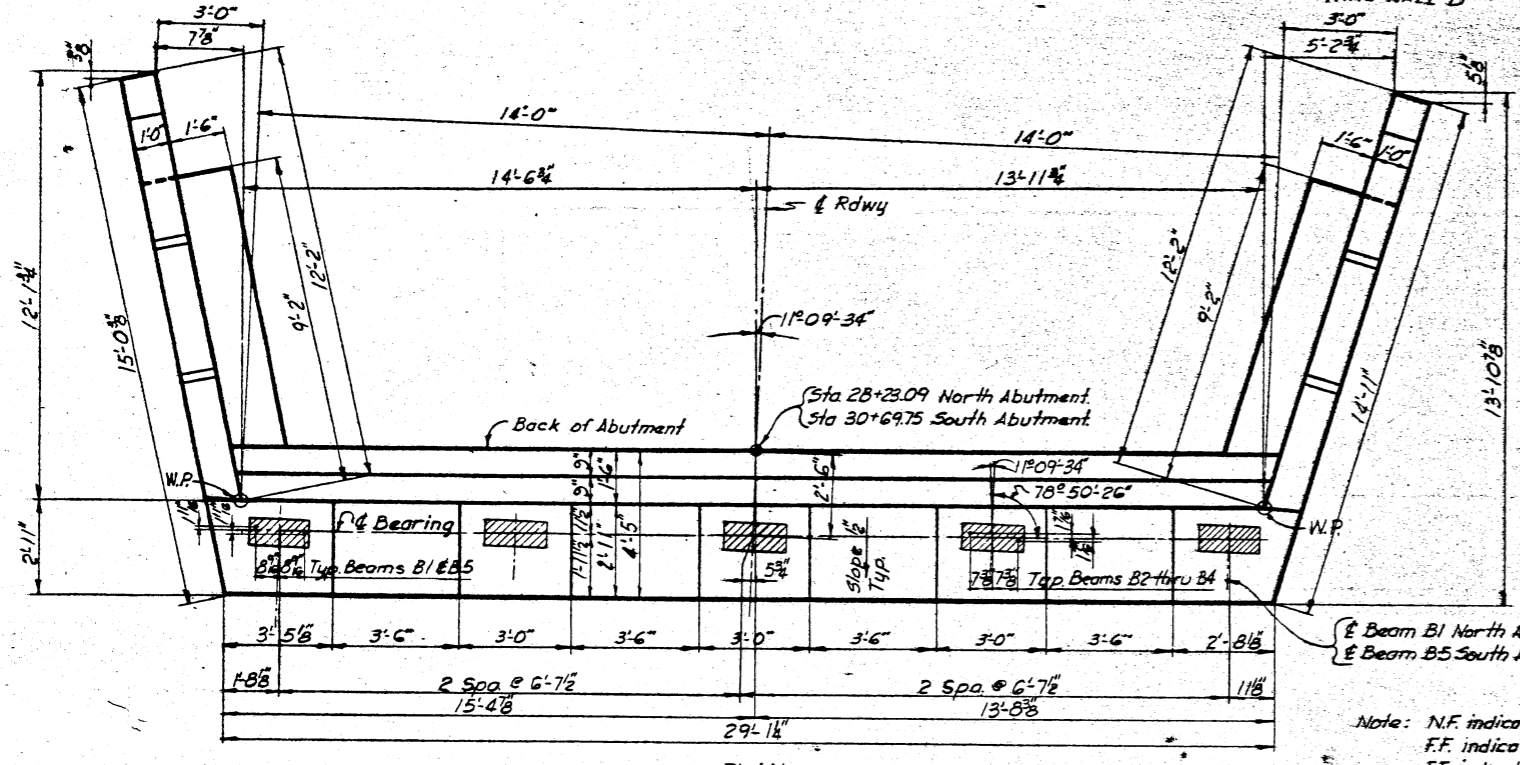
BRIDGE OVER - EAL 70 CARRYING T.R. 208 EXT		
STATION - 959+52.78 (W.B.) & 999+32.62 (E.B.)		
F.A.L. ROUTE - 70		
SECTION - 60-10 H.B. - 2		
MADISON COUNTY, ILLINOIS		
SCALE NONE		
DRAWN	E. Brown, July, 1963	
TRACED	R.V. Butterfield, Jan., 1964	
CHECKED	R.V. Butterfield, Jan., 1964	
	OVERMAN & PARREL, INC. ENGINEERS-ARCHITECTS ST. LOUIS, MO.	

Note: Do not scale this drawing. Follow dimensions.

595231 R.H. 309 KA 359
1845
635964

WING WALL A

WING WALL B



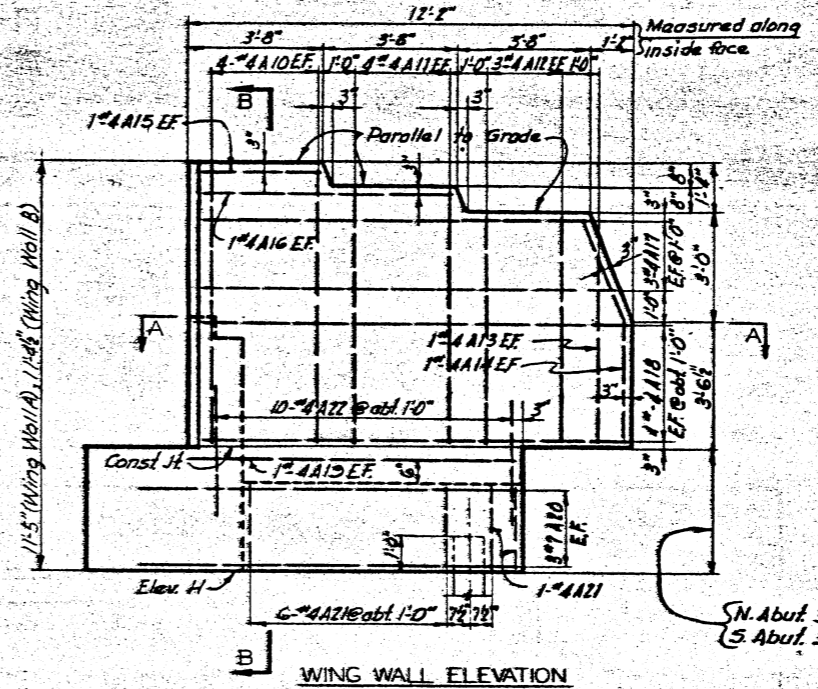
PLAN

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

F.A.I. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	60-10H-2	MADISON	37	11

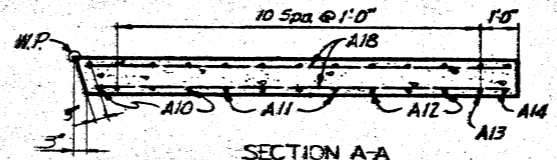
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJ. NO.

ELEVATIONS		
Elev. N. Abut.	5. Abut.	
A	568.34	568.34
B	569.17	569.17
C	568.30	568.30
D	571.54	571.54
E	572.13	572.13
F	576.21	576.21
G	576.17	576.17
H	564.80	564.80

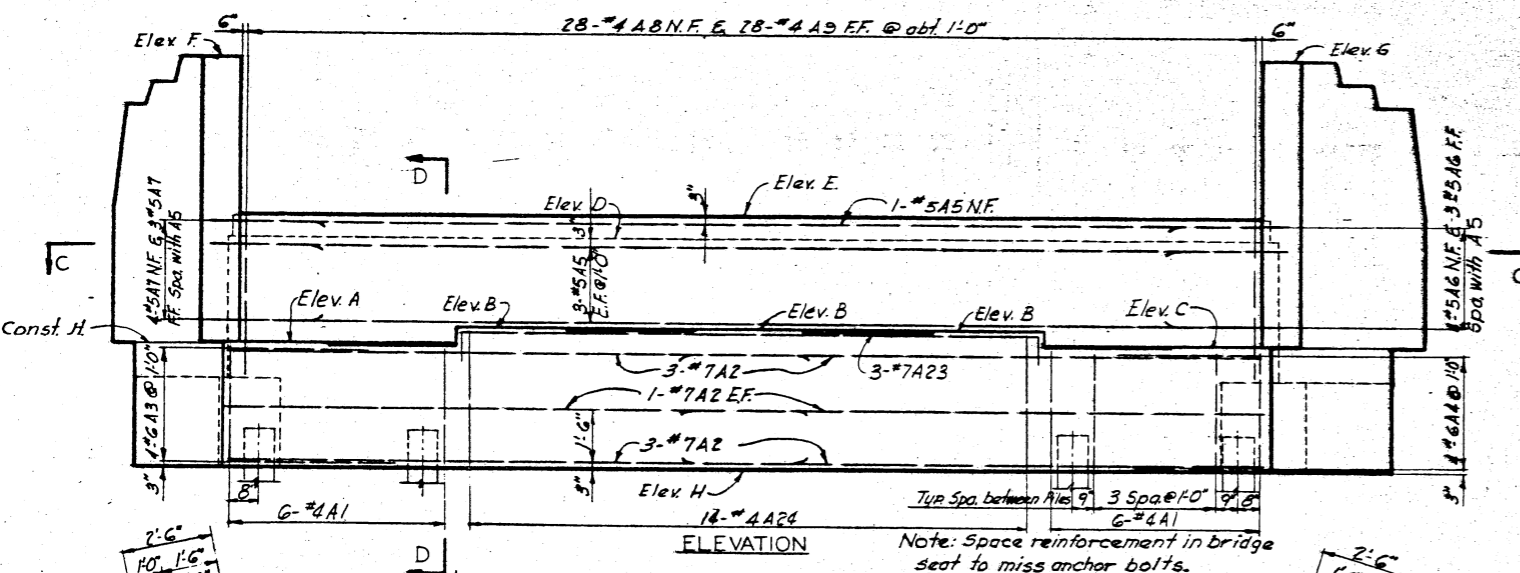


WING WALL ELEVATION

{N. Abut. 3'-6 1/2" (Wing Wall A), 3'-6" (Wing Wall B)
 {S. Abut. 3'-6 1/2" (Wing Wall A), 3'-6" (Wing Wall B)

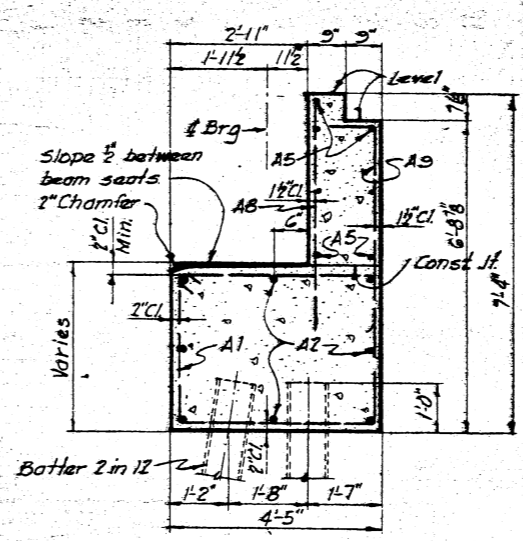


SECTION A-A

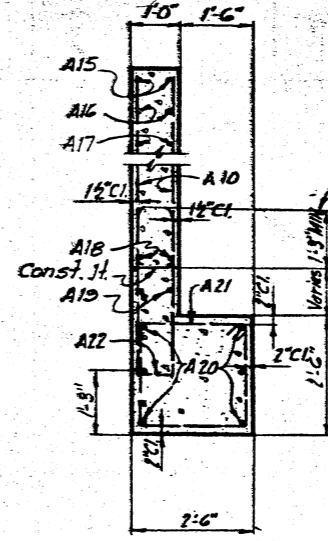


ELEVATION

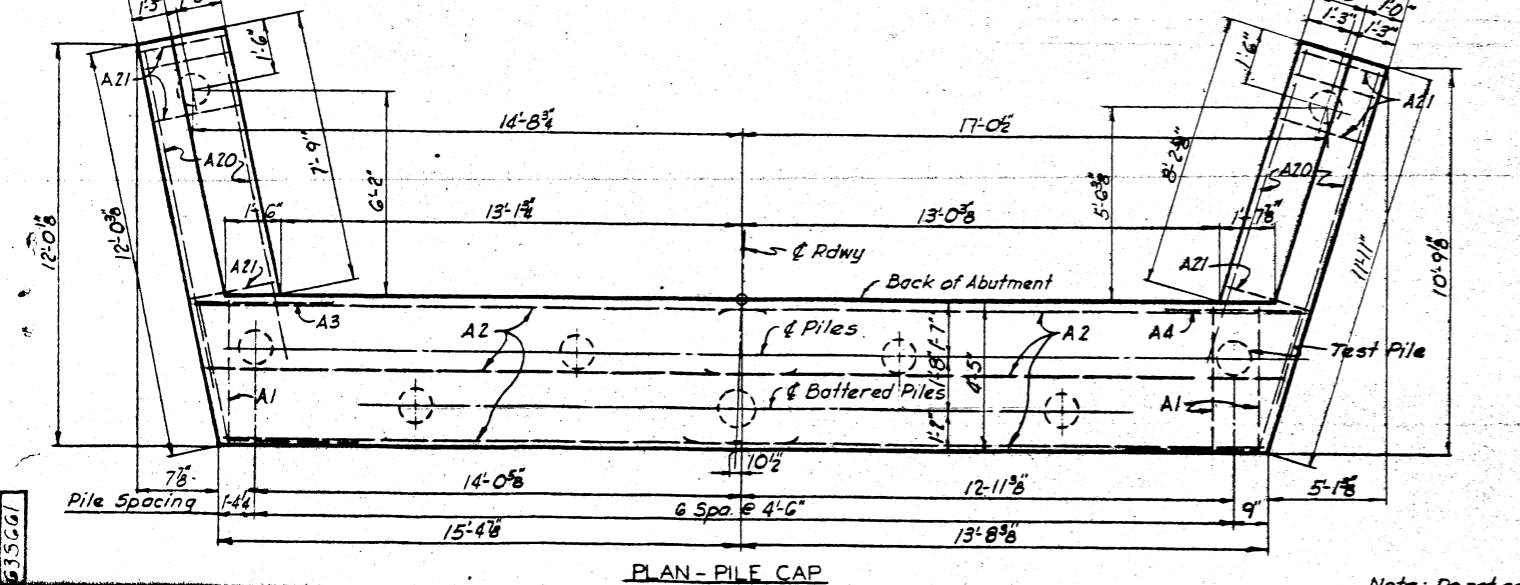
Note: Space reinforcement in bridge seat to miss anchor bolts.



SECTION D-D

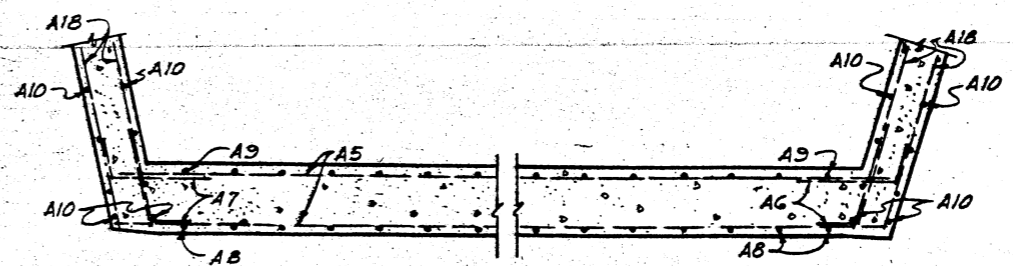


SECTION B-B



PLAN - PILE CAP

Note: Do not scale this drawing. Follow dimensions.



SECTION C-C

NOTE: 9 Concrete Piles, including one test pile, for each abutment
 (35 tons per pile capacity)
 Estimated Length:
 North Abutment - 50'
 South Abutment - 50'

NORTH AND SOUTH ABUTMENTS

BRIDGE OVER - F.A.I. - 70 CARRYING TR. 208 EXT.

STATION - 959+52.78 (W.B.) & 959-32.62 (E.B.)

F.A.I. ROUTE - 70

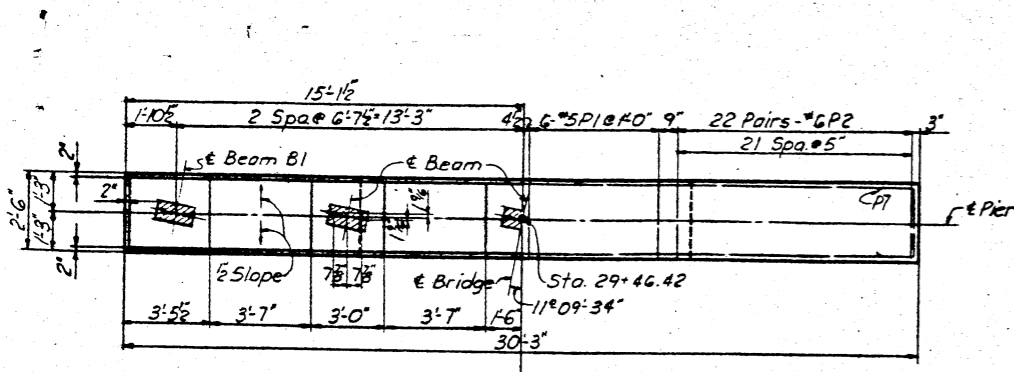
SECTION - 60-10H-2

MADISON COUNTY, ILLINOIS

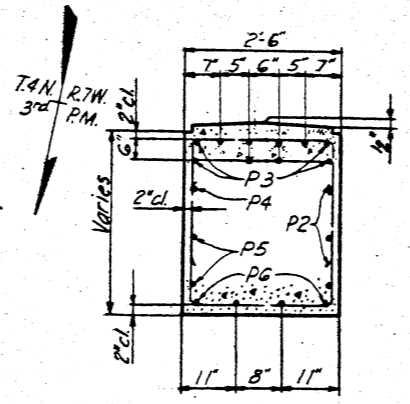
DRAWN - R.J. Kaeser, Oct. 1963

TRACED -

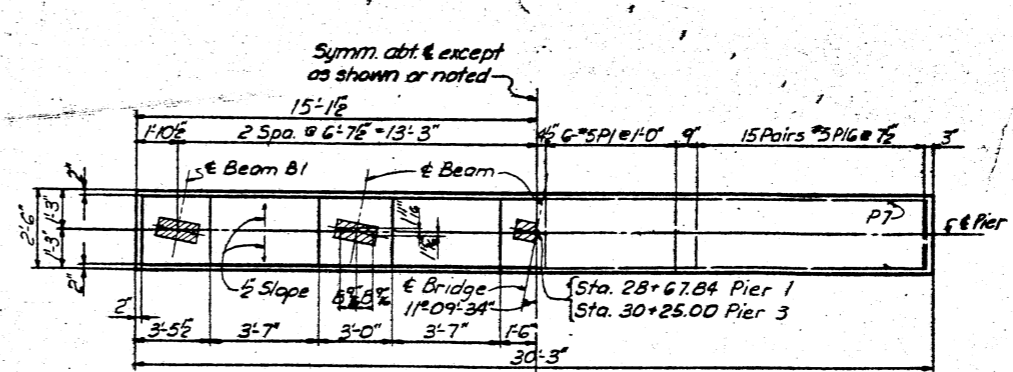
CHECKED - R.V. Butterfield, Jan. 1964



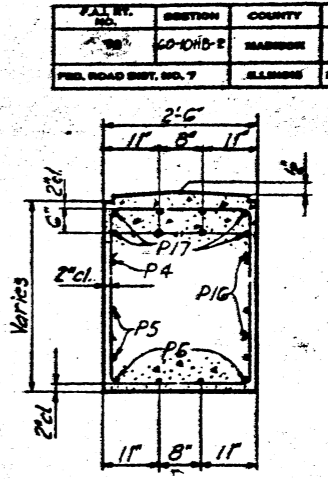
TOP PLAN



SECTION A-A

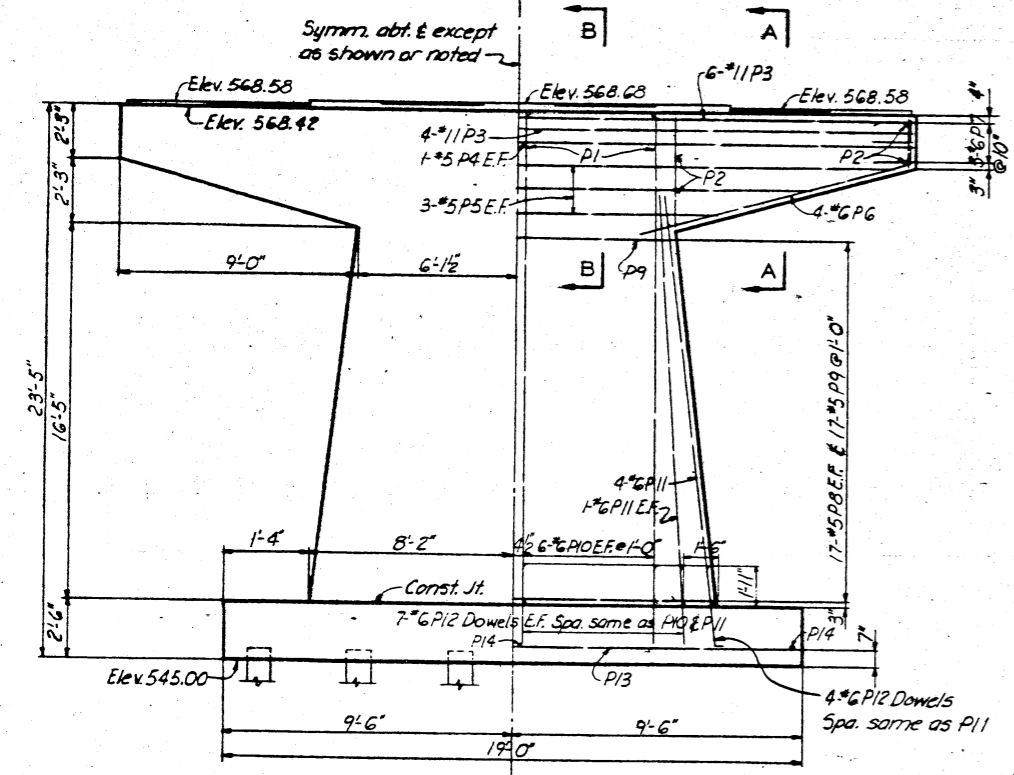


TOP PLAN

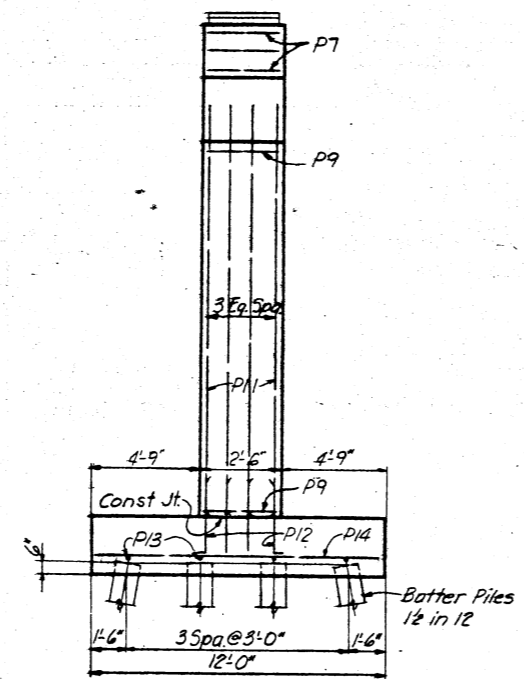


SECTION C-C

Note: Reinforcing may be shifted slightly in field to clear anchor bolts.

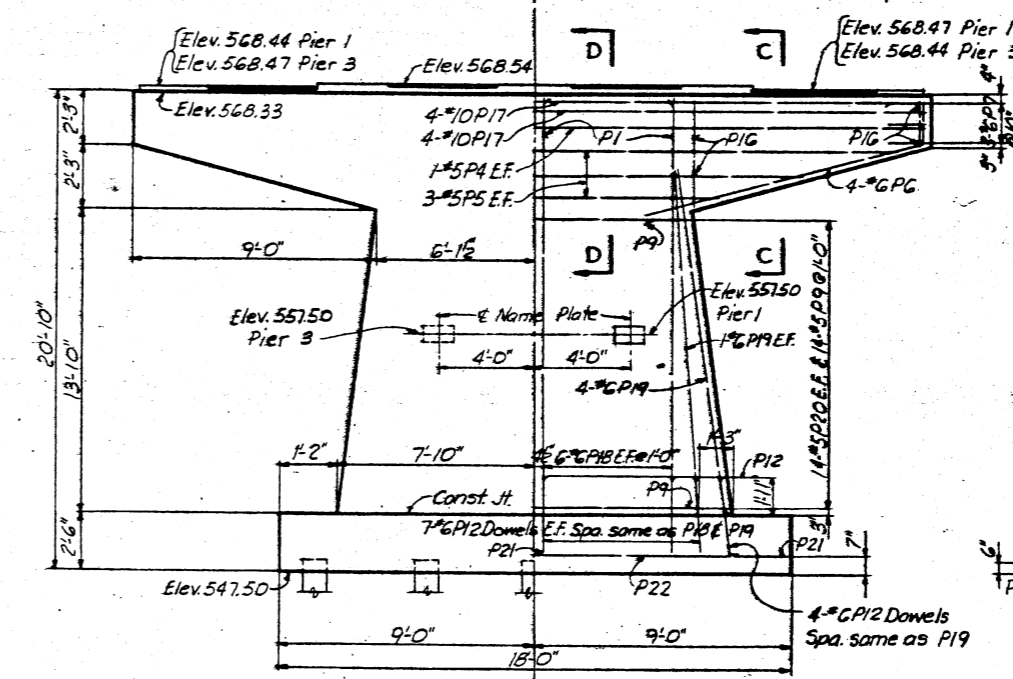


ELEVATION

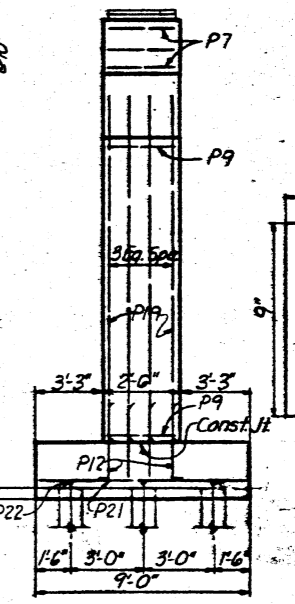


END ELEVATION

Note: E.F. indicates each face.



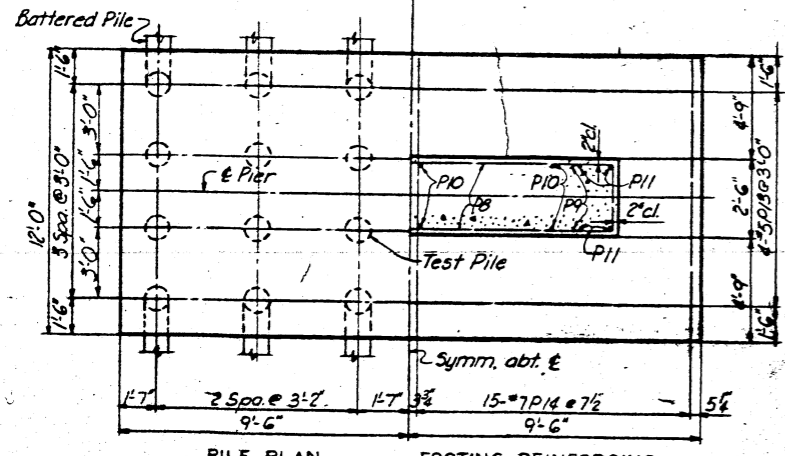
ELEVATION



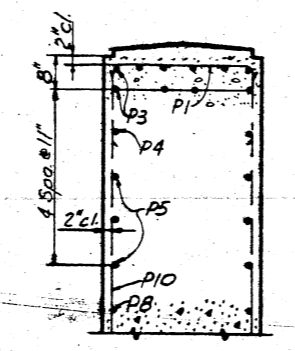
END ELEVATION

STATION	959+52.78 W.B.
STATION	959+32.62 E.B.
BUILT 19	BY
STATE OF ILLINOIS	
F.A.L. RT. TO	SEC. 60-10HS-2
EA. PROJ.	E-70-201
LOADING	HIS-512

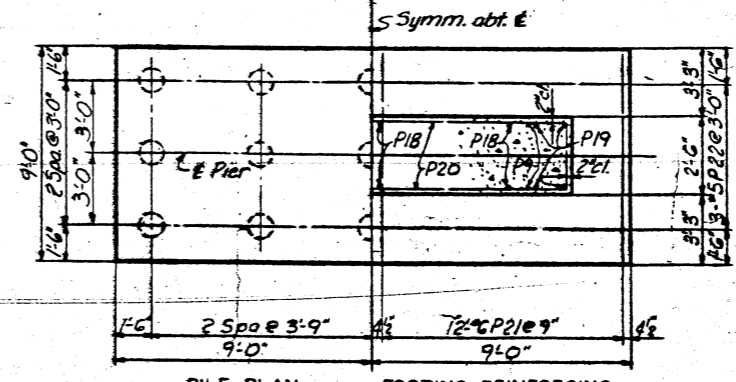
LETTERING FOR NAME PLATE
 Note: The name plates shall be embedded in the Piers design on the General Plan, Sheet 1 and located as shown on this sheet.
 Embedment anchors shall be provided in accordance with the Specifications. See Station 2113, Sheet 31.



PILE PLAN FOOTING REINFORCING



SECTION B-B



PILE PLAN FOOTING REINFORCING

Note: 24 Creosoted timber piles (24 tons per pile capacity) required in footing. Estimated length = 30'. One Test Pile (Timber) in Pier 2.

PIER 2

Note: 15 Creosoted timber piles (20 tons per pile capacity) required per footing. Estimated length = 30'.

PIERS 1 & 3

Note: Do not scale this drawing. Follow dimensions.

PIERS 1, 2 & 3

BRIDGE OVER - F.A.L. TO CARRYING TR. 208 EXT.

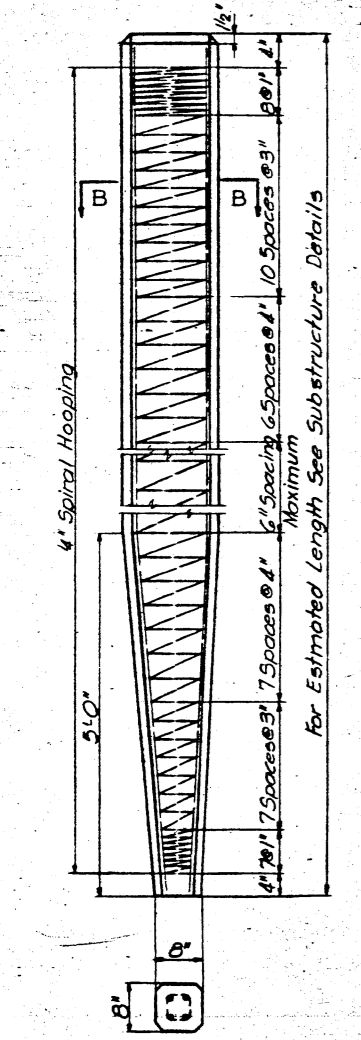
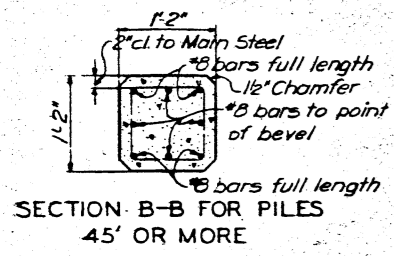
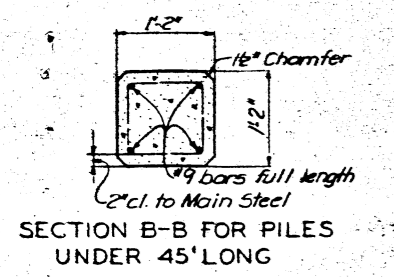
STATION - 959+52.78 (W.B.) & 959+32.62 (E.B.)
 F.A.L. ROUTE - 70
 SECTION - 60-10HS-2
 MADISON COUNTY, ILLINOIS

DRAWN: R.J. Koester, Oct. 1963
 CHECKED: R.V. Butterfield, Jan. 1964

635656

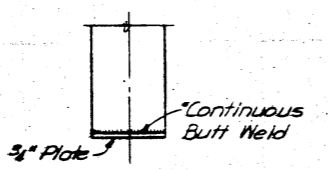
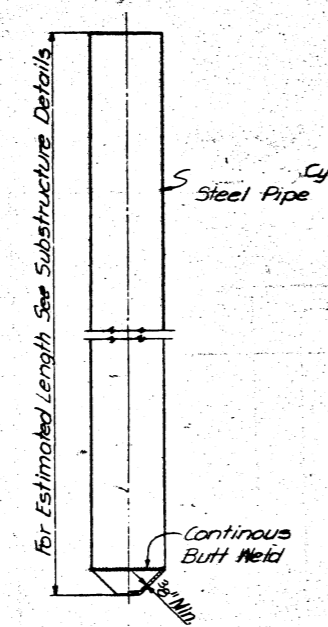
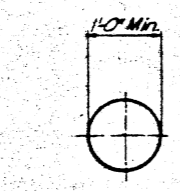
F.A.I. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	60-DHB-2	MADISON	37	15
FED. ROAD DIST. NO. 7	SLABING	FED. AID PROJ. NO.		

SHEET NO.
SHEETS

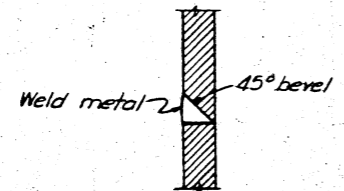


PRECAST CONCRETE PILE ALTERNATE

Handling:
For Pile lengths up to 45', use two slings placed at a distance of 0.21 L² from each end.
For Piles longer than 45', use three slings placed at a distance of 0.12 L² from each end and at mid-point of pile.
²L = Overall length of pile to be handled.



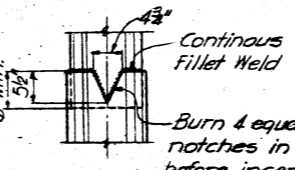
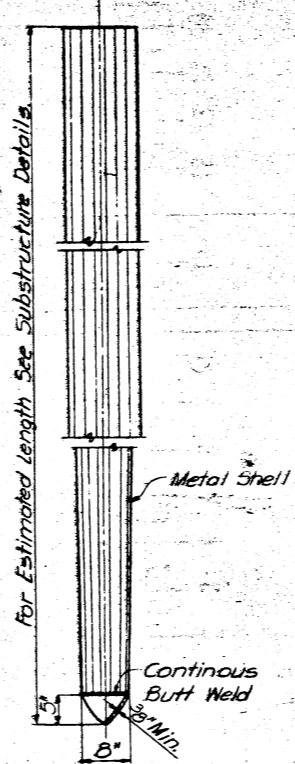
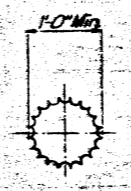
OPTIONAL FLAT END



SECTION THRU SPLICE

CYLINDRICAL STEEL SHELL CAST IN PLACE CONCRETE PILE

Note: Driving and bearing ends of pipe shall be cut square.



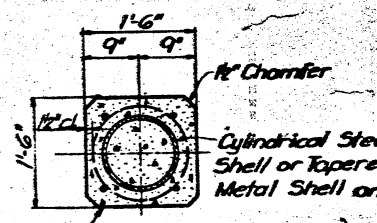
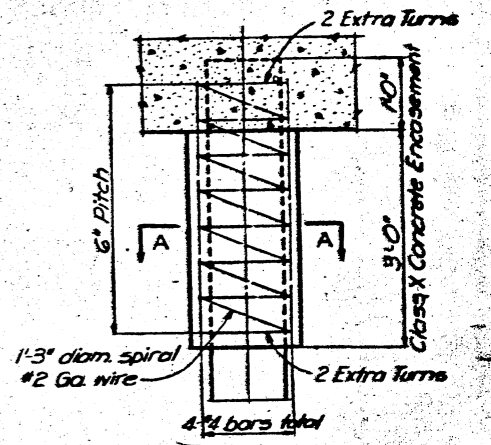
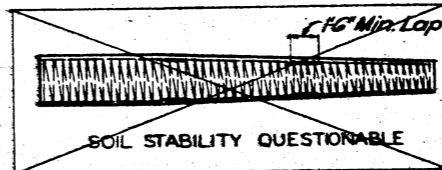
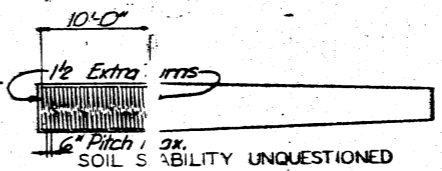
SPLICE DETAIL

- ALLOWABLE TAPERS
- 1-Taper 1/2-6" for 10'-0" + 12" Dia. Cylindrical Section.
 - 2-Taper 1/4-0" for 17'-0" + 12" Dia. Cylindrical Section.
 - 3-Taper 1/7-0" for 30'-0" + 12" Dia. Cylindrical Section.

TAPERED METAL SHELL CAST IN PLACE CONCRETE PILE

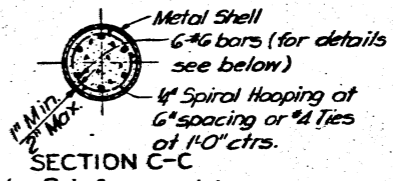
MANDREL DRIVEN STEP-TAPER CAST IN PLACE CONCRETE PILE

Note: At least 1/4 of the length of pile shall have a butt diameter equal to or greater than 1'-0". Gages are furnished to suit soil conditions (1/4 Gage Min).



The cost of Class X Concr. Encasement and Reinforce is incidental to the cost of furnishing piles. The thick of the shell shall be .172 inch with a tolerance of 5%.

DETAIL OF ENCASEMENT OF METAL SHELL PILES AT ABUTMENTS

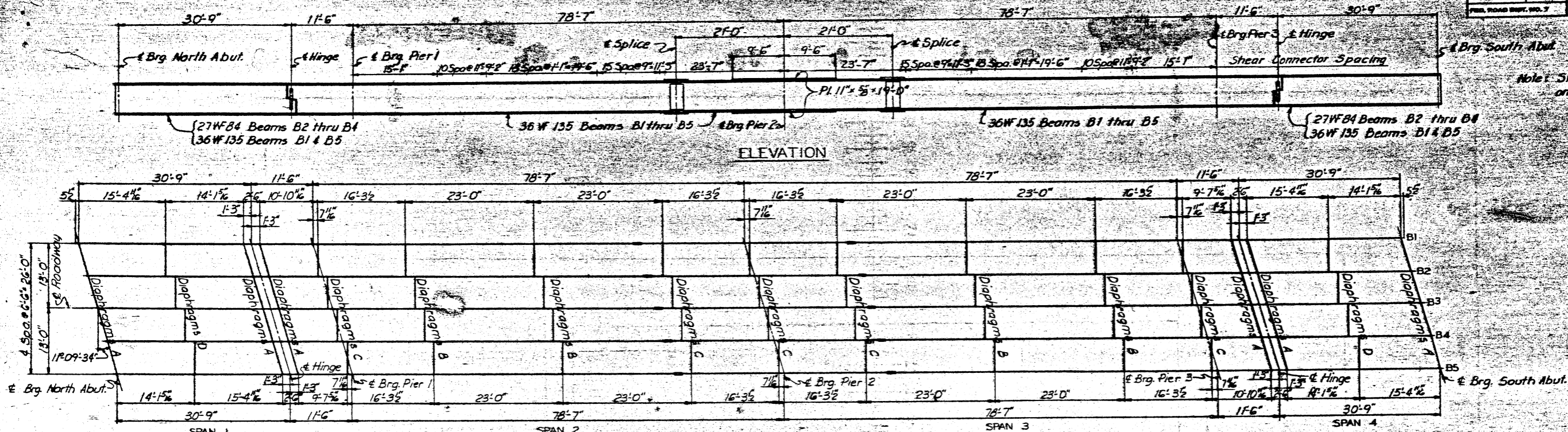


Note: Reinforcement is incidental to the cost of furnishing piles.

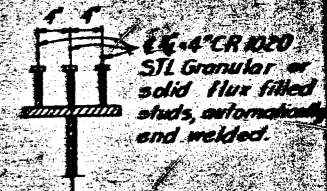
Note: Do not scale this drawing. Follow dimensions.

FILES	
BRIDGE OVER - FAI-70 CARRYING T.R. 208 EXT	
STATION - 959+52.78 (NB.) & 959+32.62 (SB.)	
F.A.I. ROUTE - 70	
SECTION - 60-DHB-2	
MADISON COUNTY, ILLINOIS	
DRAWN	Don Shank, Jan. 1964
CHECKED	R.V. Butler Field, Jan. 1964

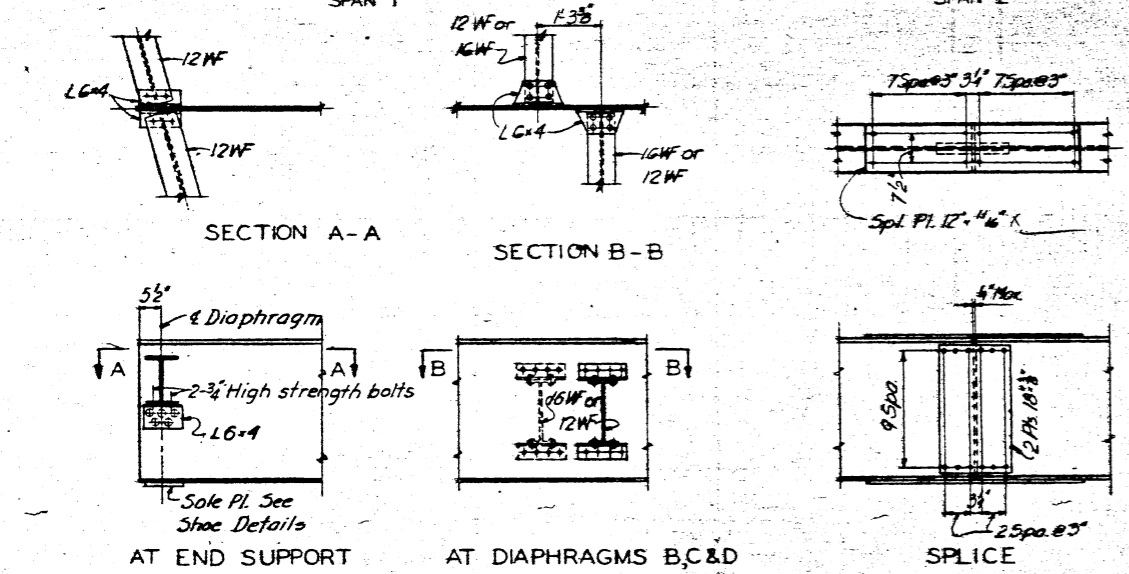
PLAN NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	60-10HB-2	MADISON	37	16
FILL ROAD DIST. NO. 7		CLASS:	FILL AND FILLING	



Note: Shear Connectors to be attached on Splice Plates.

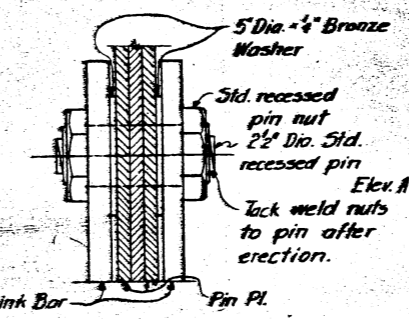
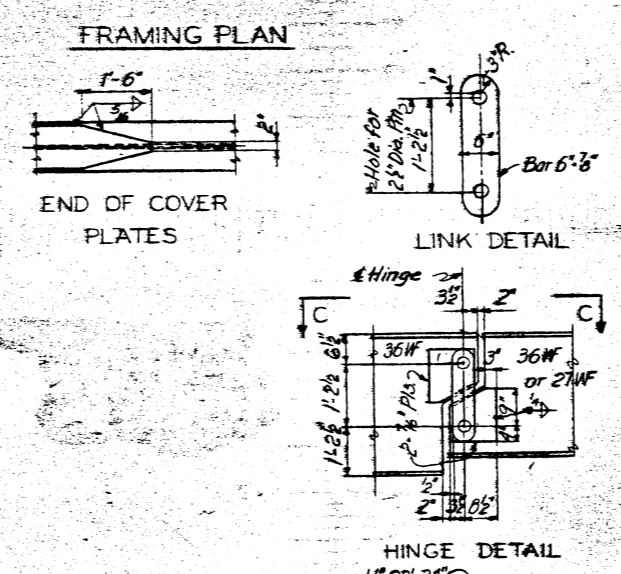


SHEAR CONNECTORS
(Estimated Weight 996#)

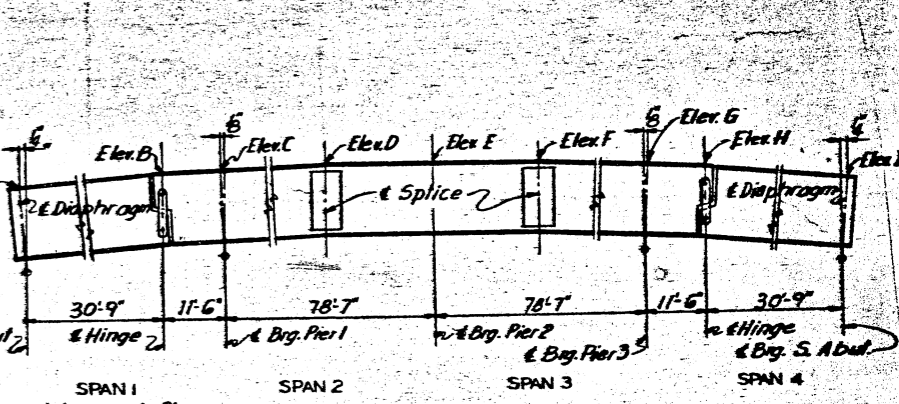


TYPICAL BEAM DETAILS

Note: All rivets in flange splice shall be 5/8\"/>



PIN & LINK ASSEMBLY
Note: Pin to be cold finished Carbon Steel Shafting A151 C1045



BEAM LAYOUT

BEAM	POINT								
	A	B	C	D	E	F	G	H	I
B1	572.41	572.57	572.61	572.80	572.80	572.60	572.60	572.44	572.44
B2	572.51	572.67	572.71	572.90	572.90	572.70	572.70	572.53	572.53
B3	572.56	572.72	572.76	572.94	572.94	572.74	572.74	572.56	572.56
B4	572.53	572.69	572.73	572.90	572.90	572.70	572.70	572.54	572.54
B5	572.44	572.60	572.64	572.80	572.80	572.60	572.60	572.57	572.57

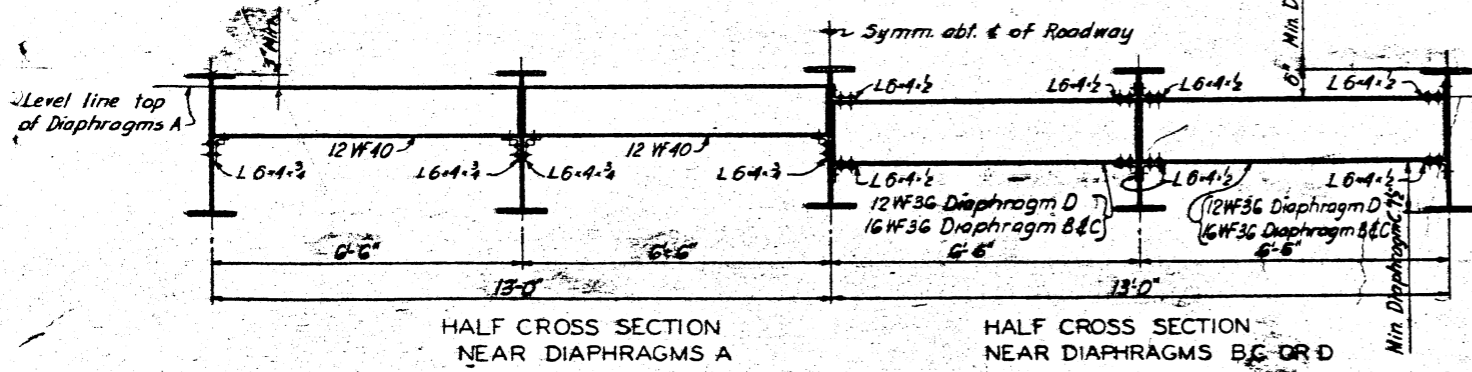
Note: Elevations given at top of W beams are theoretical and do not include any correction for dead load deflections.

	MOMENTS						REACTIONS			COMPOSITE SECTION PROPERTIES
	Span 1	Pier 1	4 Sp. 2	Pier 2	N. Abut.	Pier 1	Pier 2	S	T	
DL	+95	-159	+225	-489	123	40.9	63.0	515	439	
S.D.L.	—	-41	+57	-111	—	10.8	15.2	365	459	
L.L.	+130	-254	+406	-326	221	31.2	39.4	—	—	
I	+39	-76	+102	-94	6.6	7.8	9.8	7c	17,280	
								Stc	1,300	
								36c	600	

Note: Moments in Ft.-Kips Reactions in Kips

NOTES

- All rivets shall be 3/4\"/>
- All material shall conform to A.S.T.M. designation A36 except as shown otherwise.
- Longitudinal dimensions given are horizontal.
- Beams are not to be cambered.
- High strength steel bolts may be substituted for field rivets in accordance with Art. 549.10 of Standard Specifications.
- Anchor bolts shall be set before setting shoproom over supports.



HALF CROSS SECTION NEAR DIAPHRAGMS A

HALF CROSS SECTION NEAR DIAPHRAGMS B, C OR D

Note: Do not scale this drawing. Follow dimensions.

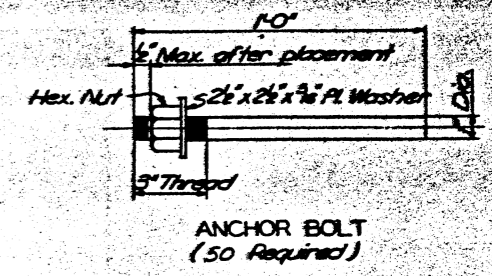
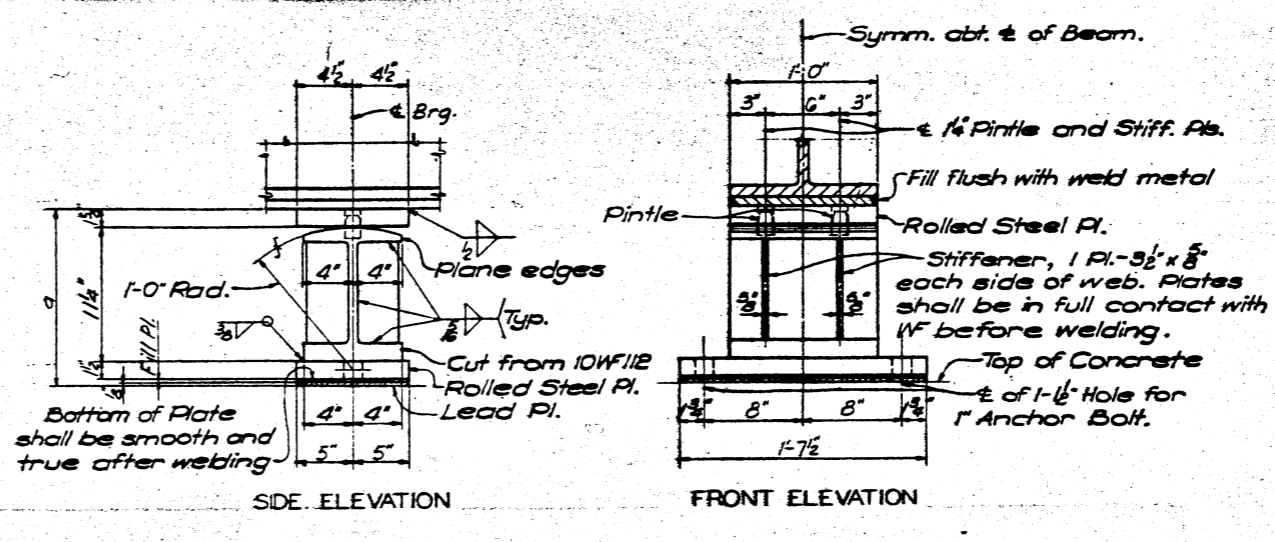
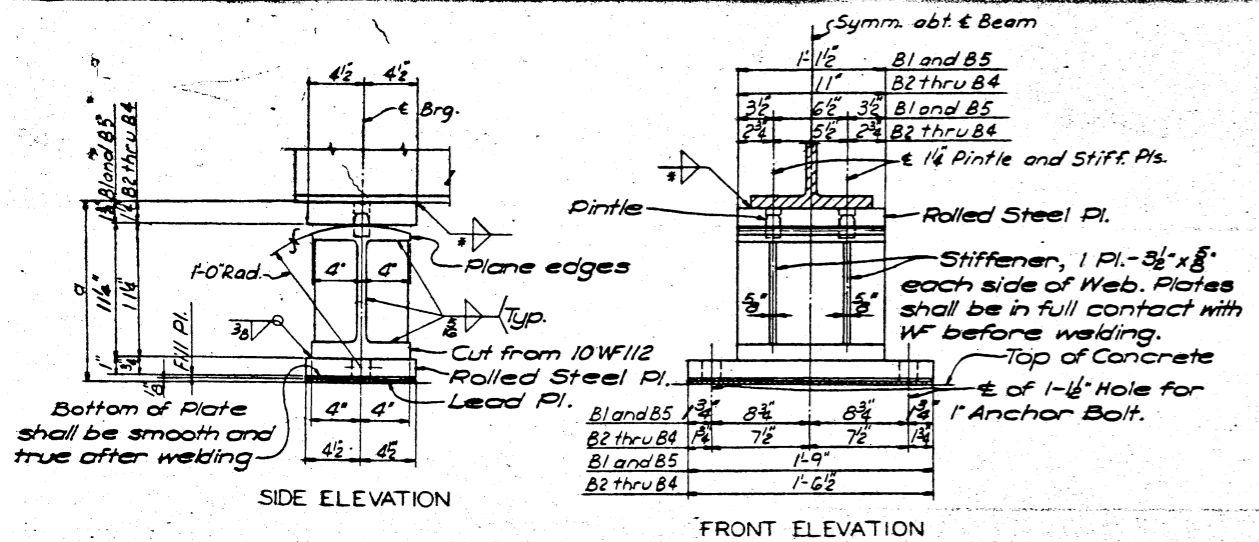
BEAM SPANS 1, 2, 3 & 4

BRIDGE OVER - FAI-70 CARRYING TR. 208 EXT
 STATION - 959+52.78 (WB) & 959+32.62 (EB)
 F.A.I. ROUTE - 70
 SECTION - 60-10HB-2
 MADISON COUNTY, ILLINOIS

SCALE - NONE

DRAWN - R.L. Koeser, Oct. 1963
 TRACED -
 CHECKED - R.V. Butterfield, Dec. 1963

PLAN NO.	SECTION	COUNTY	DATE	SHEET NO.
70	60-KHB-2	MADISON	10-1963	11
ILL. ROAD DEPT. WD. 7		ILLINOIS	ILL. AND IRR. CO.	

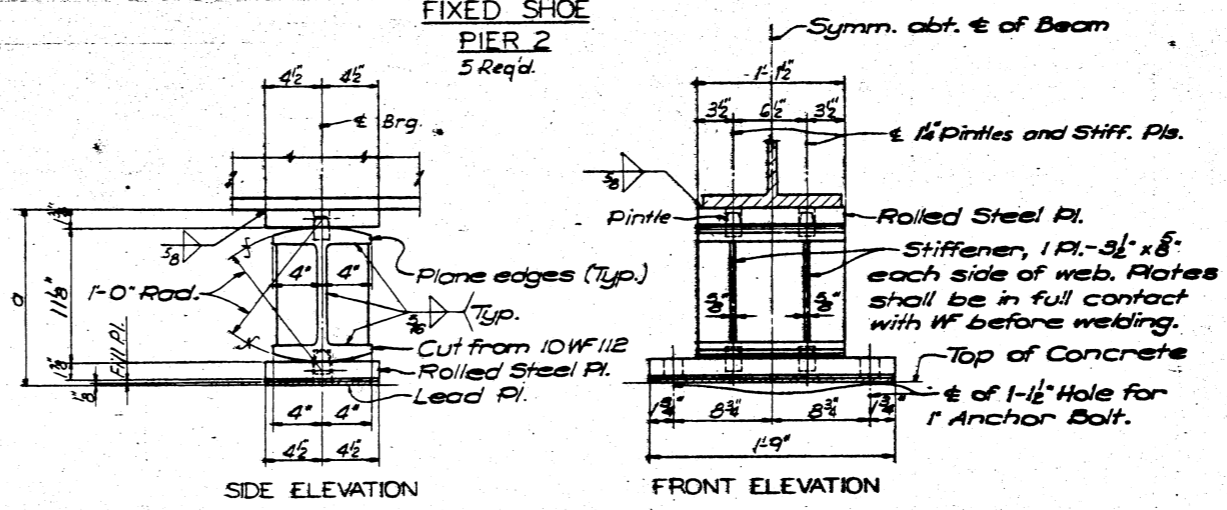


FIXED SHOE ABUTMENTS
 4 Req'd. - Beams B1 and B5
 6 Req'd. - Beams B2 thru B4

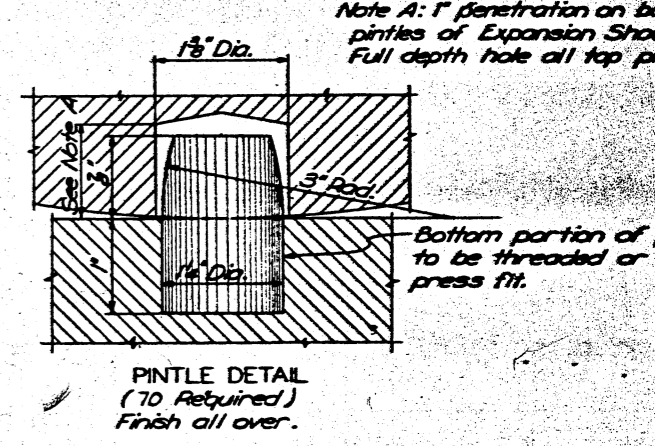
FIXED SHOE PIER 2
 5 Req'd.

Table of Fill Plates & Dimensions

Location	Beam	Fill Plate	a
North Abut.	B1	---	1'-1 3/4"
do	B2	---	1'-1 3/4"
do	B3	9" x 3 1/2" x 1'-0 1/2"	1'-2"
do	B4	9" x 3 1/2" x 1'-0 1/2"	1'-1 3/4"
do	B5	---	1'-1 3/4"
Pier 1	B1	---	1'-2 1/2"
do	B2	---	1'-2 1/2"
do	B3	9" x 3 1/2" x 1'-9"	1'-3 3/4"
do	B4	9" x 3 1/2" x 1'-9"	1'-2 3/4"
do	B5	---	1'-2 1/2"
Pier 2	B1	---	1'-2 1/2"
do	B2	---	1'-2 1/2"
do	B3	10" x 3 1/2" x 1'-7 1/2"	1'-3"
do	B4	---	1'-2 1/2"
do	B5	---	1'-2 1/2"
Pier 3	B1	---	1'-2 1/2"
do	B2	9" x 3 1/2" x 1'-9"	1'-2 3/4"
do	B3	9" x 3 1/2" x 1'-9"	1'-3"
do	B4	---	1'-2 1/2"
do	B5	---	1'-2 1/2"
South Abut.	B1	---	1'-1 3/4"
do	B2	9" x 3 1/2" x 1'-6 1/2"	1'-1 1/2"
do	B3	9" x 3 1/2" x 1'-6 1/2"	1'-2"
do	B4	---	1'-1 1/2"
do	B5	---	1'-1 1/2"



EXPANSION SHOE PIERS 1 & 3
 10 Req'd.



NOTES
 Finish all surfaces marked f.
 All rockers, bearing plates, lead plates, pintles and anchor bolts shall be fabricated and set in accordance with Article 51.1 of the Standard Specifications and are included in the quantity of Structural S. Estimated weight = 7,360 lbs.
 All steel shall conform to A.S.T.M. designation

SHOES

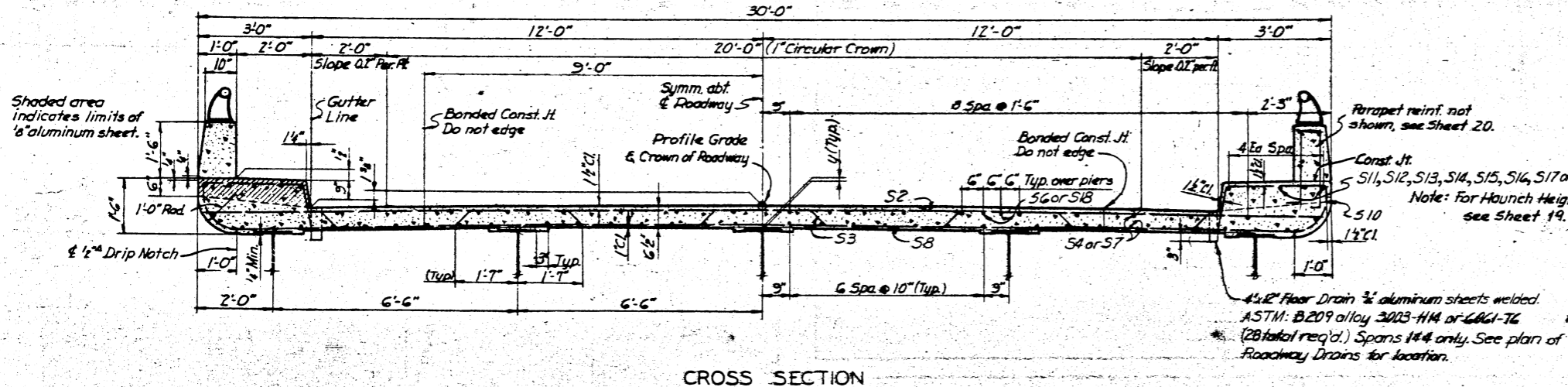
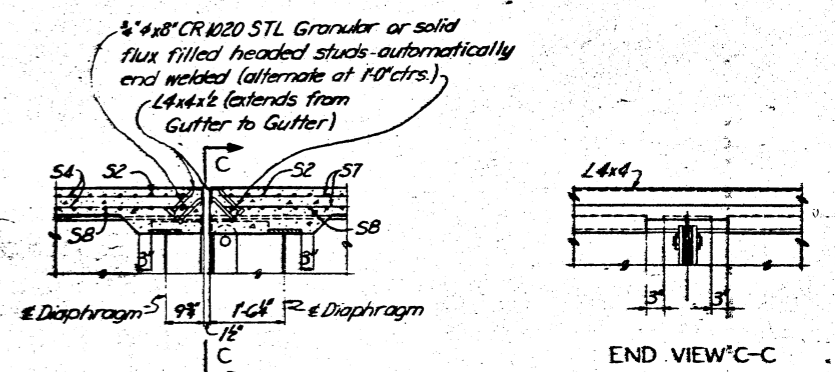
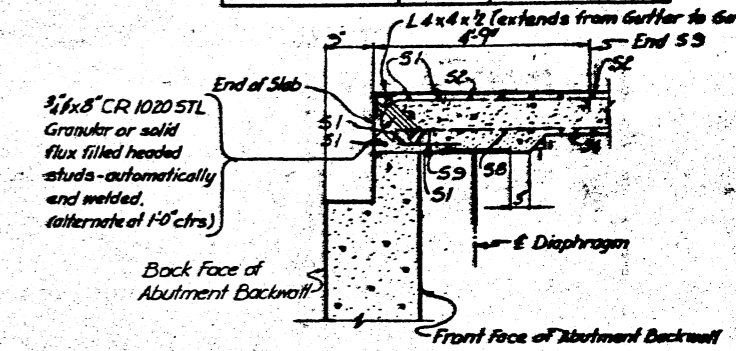
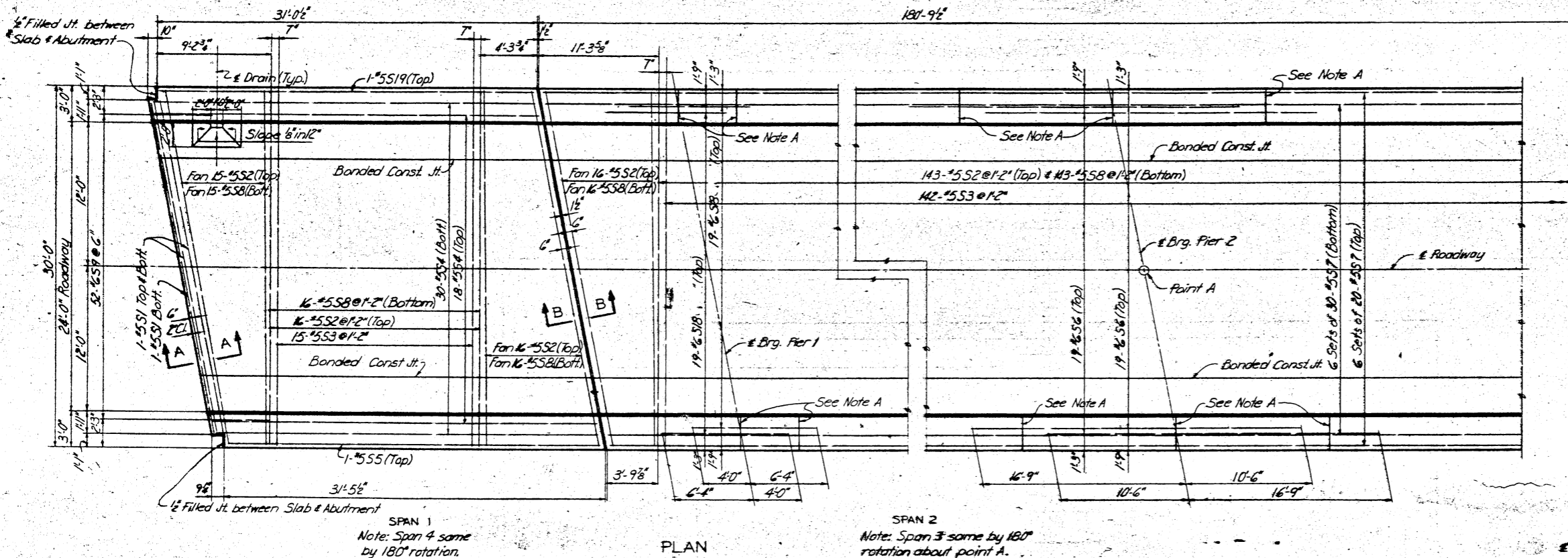
BRIDGE OVER - FAL-70 CARRYING I.R. 208 EXT

STATION - 959+52.78 (W.B.) & 959+32.62 (E.B.)
 F.A.L. ROUTE - 70
 SECTION - 60-KHB-2
 MADISON COUNTY, ILLINOIS

DRAWN: R.J. Koester, Oct 1963
 TRACED: R.J. Butterfield, Dec 1963

Note: Do not scale this drawing. Follow dimensions.

P.L. RT. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	60-10H-2	MADISON	37	18
FED. ROAD DIST. NO. 7			ILLINOIS	FED. AID PROJ. NO.



Note A: 1/2" Aluminum Sheet (ASTM B209 alloy 3003-H14 or 6061-T6) in curb. See Cross Section for limits.

NOTES

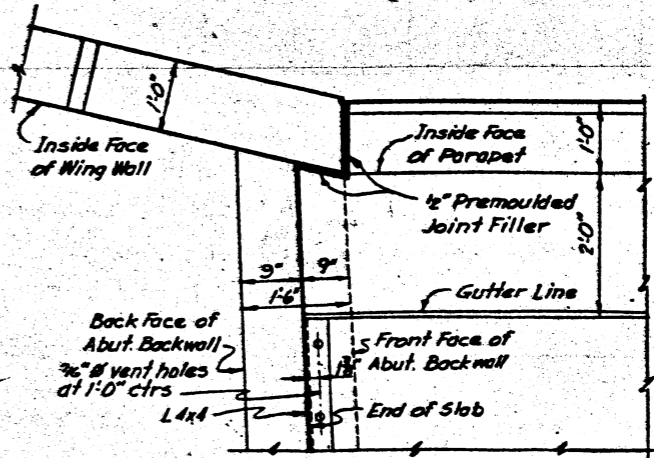
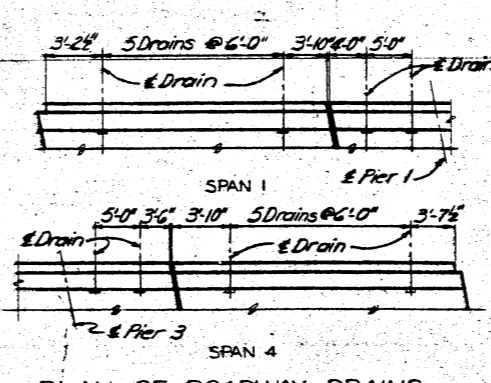
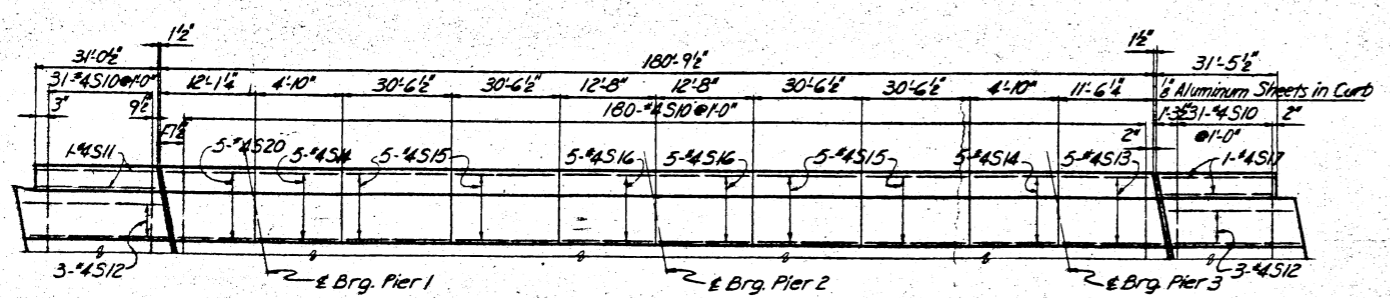
All longitudinal dimensions shown are measured horizontally along top of slab.

For location of handrail post anchors, see Sheet 20.

Reinforcing may be bent or shifted slightly in field to clear drains or construction joints.

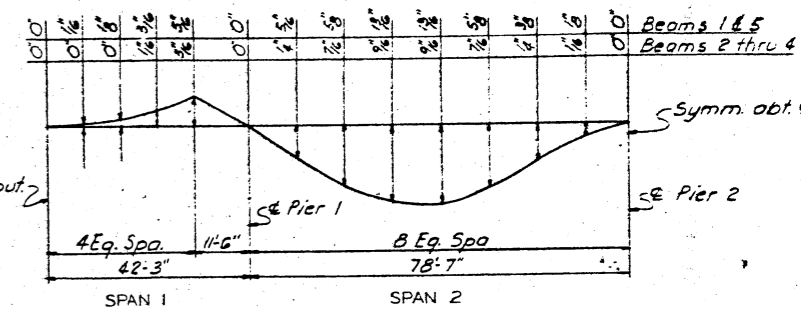
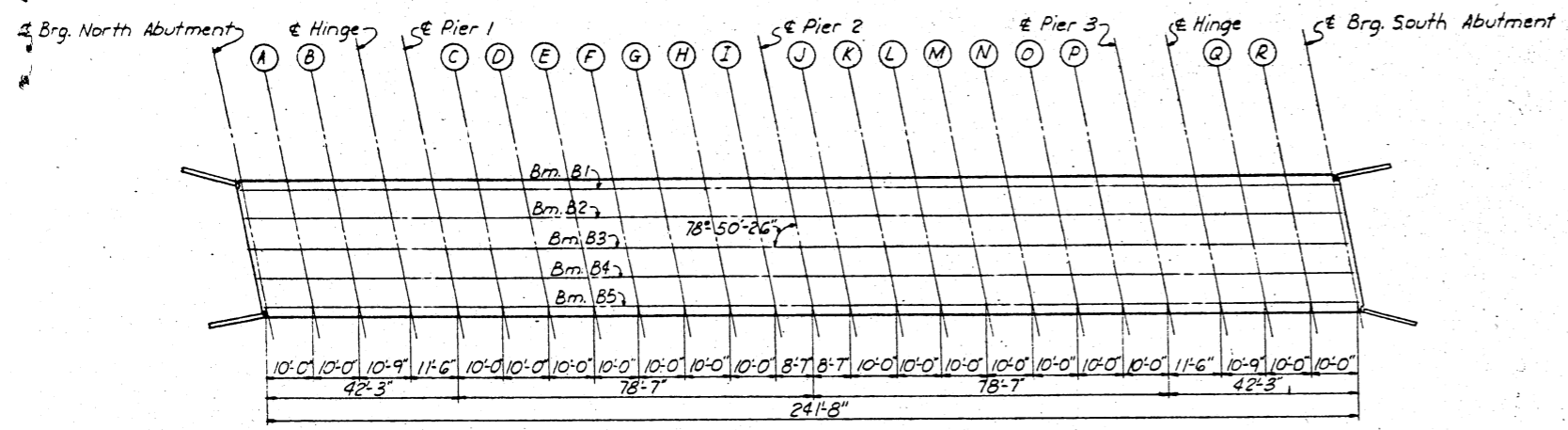
Aluminum sheets and drains will be included in the unit price bid per cu. yd. of concrete.

Edge angles and anchorages are included in the quantity of Structural Steel. Estimated Weight-2066.



SLAB DETAILS	
BRIDGE OVER - FAL-70 CARRYING TR. 208 EXT.	
STATION - 359+52.78 (WB) & 359+32.62 (EB)	
F.A.L. ROUTE - 70	
SECTION - 60-10H-2	
MADISON COUNTY, ILLINOIS	
DRAWN	P. Clark, Oct. 1963
TRACED	R. Butterfield, Jan. 1964
CHECKED	

Note: Do not scale this drawing. Follow dimensions.



DEAD LOAD DEFLECTION DIAGRAM
Note: Deflections include weight of concrete only. The above deflections are not for use in the field if the Engineer is working from the "Theoretical Grade Elevations Adjusted for Dead Load Deflections."

SPAN 1

Beam	Station	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
B1	28+23.026	572.927	572.927
B2	28+24.308	573.033	573.033
B3	28+25.590	573.077	573.077
B4	28+26.872	573.052	573.052
B5	28+28.155	572.965	572.965
B1	28+33.026	573.001	572.997
B2	28+34.308	573.106	573.109
B3	28+35.590	573.149	573.152
B4	28+36.872	573.124	573.127
B5	28+38.155	573.036	573.032
B1	28+43.026	573.068	573.056
B2	28+44.308	573.173	573.170
B3	28+45.590	573.215	573.212
B4	28+46.872	573.189	573.186
B5	28+48.155	573.100	573.088
B1	28+53.026	573.134	573.108
B2	28+54.308	573.237	573.219
B3	28+55.590	573.279	573.261
B4	28+56.872	573.252	573.233
B5	28+58.155	573.162	573.136
B1	28+65.276	573.196	573.196
B2	28+66.558	573.299	573.299
B3	28+67.840	573.339	573.339
B4	28+69.122	573.311	573.311
B5	28+70.405	573.221	573.221

SPAN 2

Beam	Station	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
B1	28+75.276	573.243	573.269
B2	28+76.558	573.345	573.363
B3	28+77.840	573.385	573.403
B4	28+79.122	573.356	573.374
B5	28+80.405	573.265	573.297
B1	28+85.276	573.284	573.336
B2	28+86.558	573.385	573.421
B3	28+87.840	573.424	573.460
B4	28+89.122	573.395	573.430
B5	28+90.405	573.303	573.355
B1	28+95.276	573.319	573.387
B2	28+96.558	573.419	573.466
B3	28+97.840	573.458	573.504
B4	28+99.122	573.427	573.474
B5	29+00.405	573.334	573.402
B1	29+05.276	573.348	573.415
B2	29+06.558	573.447	573.494
B3	29+07.840	573.485	573.531
B4	29+09.122	573.453	573.500
B5	29+10.405	573.360	573.428
B1	29+15.276	573.370	573.421
B2	29+16.558	573.469	573.503
B3	29+17.840	573.505	573.539
B4	29+19.122	573.473	573.507
B5	29+20.405	573.379	573.430
B1	29+25.276	573.386	573.415
B2	29+26.558	573.484	573.502
B3	29+27.840	573.520	573.538
B4	29+29.122	573.487	573.505
B5	29+30.405	573.392	573.420
B1	29+35.276	573.396	573.404
B2	29+36.558	573.493	573.498
B3	29+37.840	573.528	573.533
B4	29+39.122	573.494	573.499
B5	29+40.405	573.398	573.406
B1	29+43.856	573.399	573.399
B2	29+45.138	573.496	573.496
B3	29+46.420	573.530	573.530
B4	29+47.702	573.496	573.496
B5	29+48.985	573.399	573.399

SPAN 3

Beam	Station	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
B1	29+52.436	573.398	573.406
B2	29+53.718	573.494	573.499
B3	29+55.000	573.528	573.533
B4	29+56.282	573.493	573.493
B5	29+57.565	573.396	573.404
B1	29+62.436	573.392	573.420
B2	29+63.718	573.487	573.505
B3	29+65.000	573.520	573.538
B4	29+66.282	573.484	573.502
B5	29+67.565	573.386	573.415
B1	29+72.436	573.379	573.430
B2	29+73.718	573.473	573.507
B3	29+75.000	573.505	573.539
B4	29+76.282	573.469	573.503
B5	29+77.565	573.370	573.421
B1	29+82.436	573.360	573.428
B2	29+83.718	573.453	573.500
B3	29+85.000	573.485	573.531
B4	29+86.282	573.447	573.494
B5	29+87.565	573.348	573.415
B1	29+92.436	573.334	573.402
B2	29+93.718	573.427	573.474
B3	29+95.000	573.458	573.504
B4	29+96.282	573.419	573.466
B5	29+97.565	573.319	573.387
B1	30+02.436	573.303	573.355
B2	30+03.718	573.395	573.430
B3	30+05.000	573.424	573.460
B4	30+06.282	573.385	573.421
B5	30+07.565	573.284	573.336
B1	30+12.436	573.265	573.291
B2	30+13.718	573.356	573.374
B3	30+15.000	573.385	573.403
B4	30+16.282	573.345	573.363
B5	30+17.565	573.243	573.269
B1	30+22.436	573.221	573.221
B2	30+23.718	573.311	573.311
B3	30+25.000	573.339	573.339
B4	30+26.282	573.299	573.299
B5	30+27.565	573.196	573.196

SPAN 4

Beam	Station	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
B1	30+33.936	573.162	573.136
B2	30+35.218	573.252	573.233
B3	30+36.500	573.279	573.261
B4	30+37.782	573.237	573.219
B5	30+39.065	572.134	573.108
B1	30+44.686	573.100	573.088
B2	30+45.968	573.189	573.186
B3	30+47.250	573.215	573.212
B4	30+48.532	573.173	573.170
B5	30+49.815	573.068	573.056
B1	30+54.686	573.036	573.032
B2	30+55.968	573.124	573.127
B3	30+57.250	573.149	573.152
B4	30+58.532	573.106	573.109
B5	30+59.815	573.001	572.997
B1	30+64.686	572.965	572.965
B2	30+65.968	573.052	573.052
B3	30+67.250	573.077	573.077
B4	30+68.532	573.033	573.033
B5	30+69.815	572.927	572.927

METHOD OF DETERMINING HAUNCH HEIGHT 'Y'
After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at the stations shown. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflections," minus slab thickness, equals the haunch heights above top of beams.

SLAB LAYOUT

BRIDGE OVER - FAI-70 CARRYING T.R. 208 EXT.

STATION - 959+52.78 (WB) & 959+32.62 (EB)

F.A.I. ROUTE - 70

SECTION - 60-104B-2

MADISON COUNTY, ILLINOIS

DRAWN - R.V. Kaeser, Oct. 1963

TRACED - R.V. Butterfield, Jan. 1964

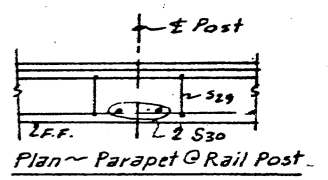
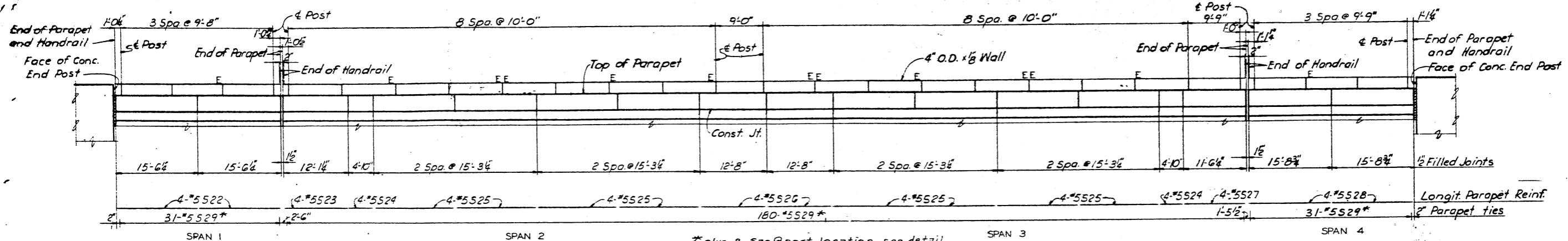
CHECKED - R.V. Butterfield, Jan. 1964

DESIGNED BY PARCE ENGINEERS-ARCHIT. ST. LOUIS, MO.

7845
635683

F.A.I. RT. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	60-10HB-2	MADISON	37	20
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJ. NO.	

SHEET NO. SHEETS

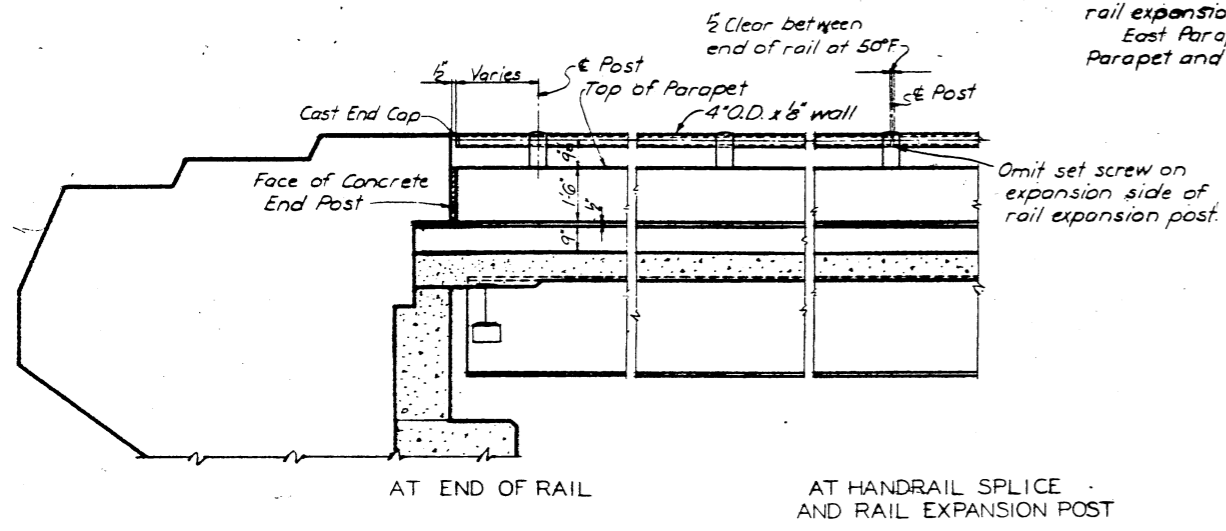


Note: Space bars S29 with bars S10 as shown on sheet 18. Bars may be shifted slightly in field to clear 1/2 filled joints.

*plus 2 S30 @ post location see detail. (plan ~ parap. @ rail post.)

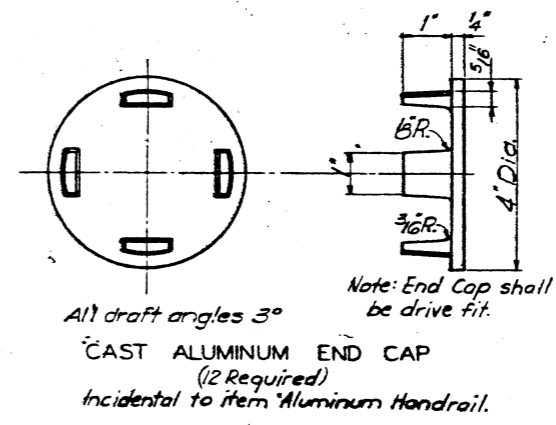
ELEVATION OF HANDRAIL AND PARAPET

Note: All longitudinal dimensions are horizontal and are measured along ϵ of Post Base at top of Parapet.
Location of "E" indicates expansion side of rail expansion post.
East Parapet and Handrail shown, West Parapet and Handrail same by 180° rotation.



AT END OF RAIL AT HANDRAIL SPLICE AND RAIL EXPANSION POST
TYPICAL HANDRAIL DETAILS

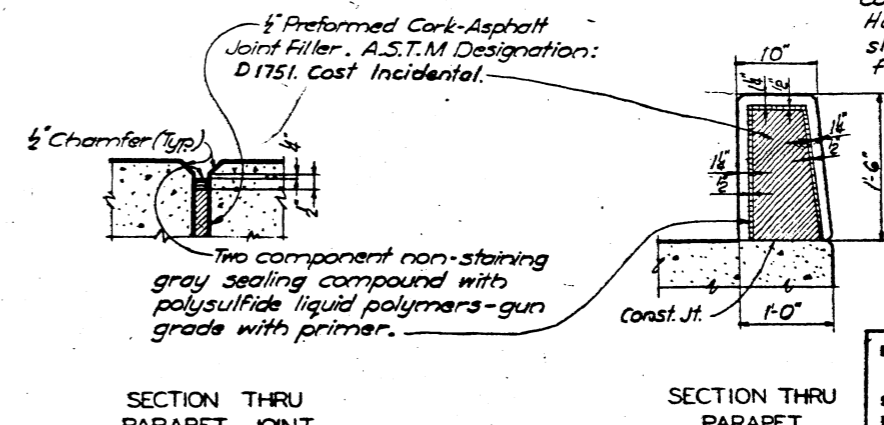
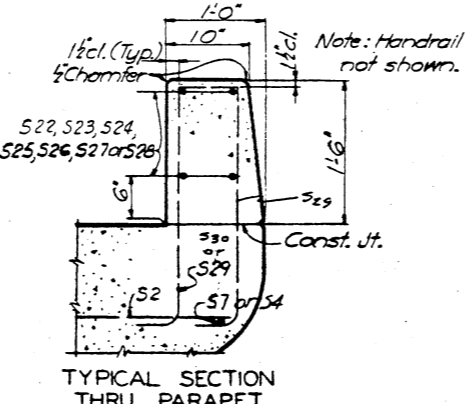
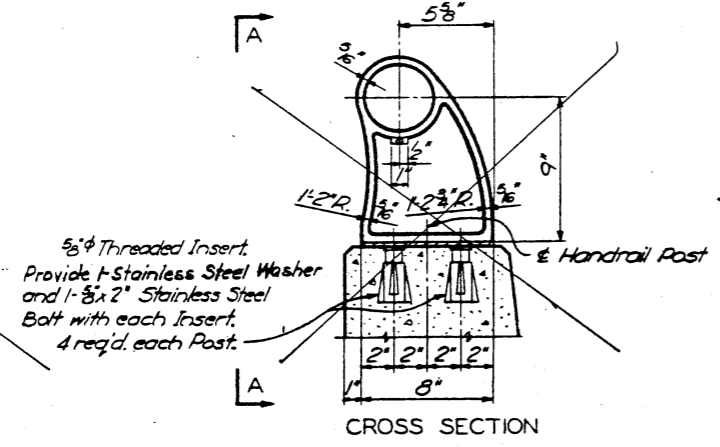
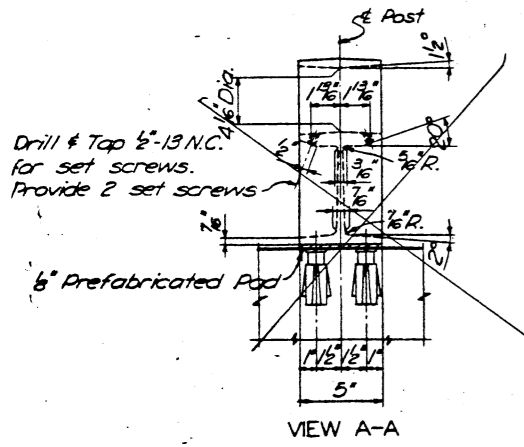
Use this sheet for post & parapet joint spacings. For rail post details see sheet 20a.



CAST ALUMINUM END CAP (2 Required) Incidental to item Aluminum Handrail.

NOTES

All posts shall be placed normal to parapet.
All posts shall conform to A.S.T.M. Specification B108 alloy 5G-70B-T6.
All Rail Tubing shall conform to A.S.T.M. Specification B235 alloy G6-11A-T6.
Aluminum handrail shall be measured in lineal feet. The length paid for shall be the overall longitudinal length along the top of the rail through all posts and gaps.
Rail Tubing may extend 1 or 2 panel lengths.
For material composition of Prefabricated Pad see Art. 54.9(f) (Bearings and Anchorage), of the Standard Specifications.
Set screws shall be of Aluminum conforming to A.S.T.M. Specification B211 alloy C6-42A-74.
Aluminum handrail will be paid for at the contract unit price per lineal foot for Aluminum Handrail, measured as specified, which price shall be payment in full for all materials, fabrication, transportation and erection.



SECTION THRU PARAPET JOINT
PARAPET JOINT DETAILS

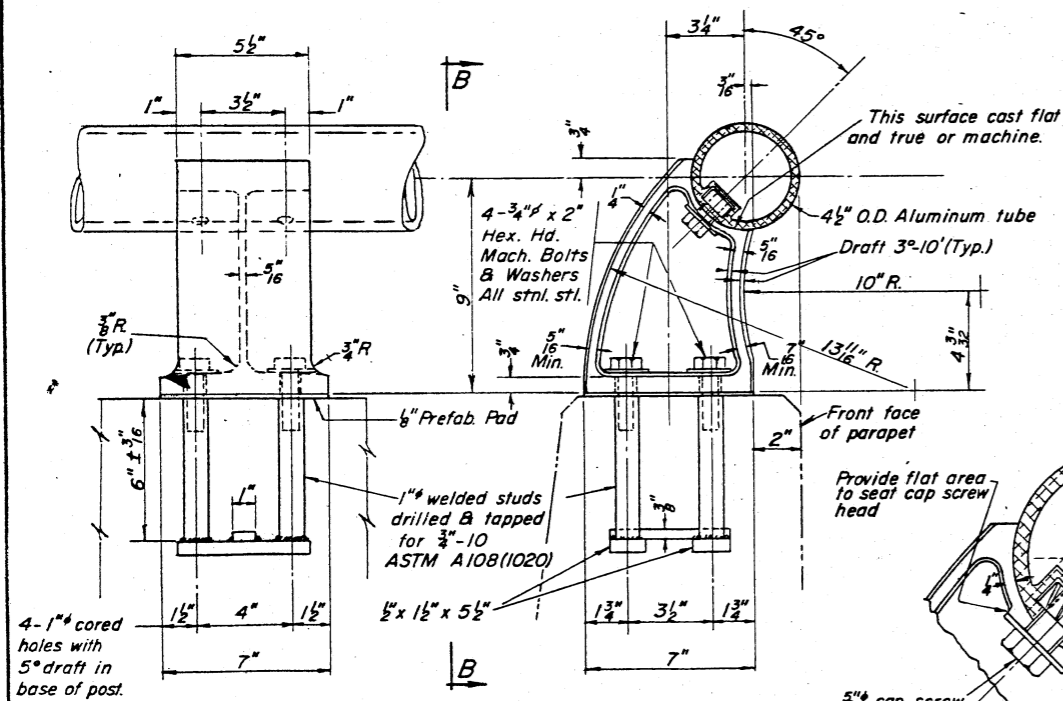
PARAPET AND HANDRAIL DETAILS

BRIDGE OVER - FAI-70 CARRYING TR. 206 EXT.
STATION - 959+52.78 (W.B.) & 959+32.62 (E.B.)
F.A.I. ROUTE - 70
SECTION - 60-10HB-2
MADISON COUNTY, ILLINOIS

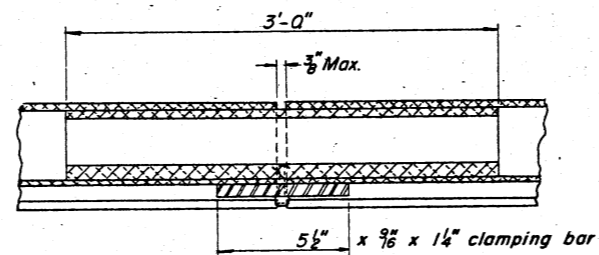
SCALE: NONE
DRAWN: R.J. Koester, Oct. 1968
TRACED:
CHECKED: R.V. Butterfield, Dec. 1963
OVERSHUP & PARCEL, INC. ENGINEERS-ARCHITECTS ST. LOUIS, MO.

Note: Do not scale this drawing. Follow dimensions.

For post & jt. spacings see sheet no. 20



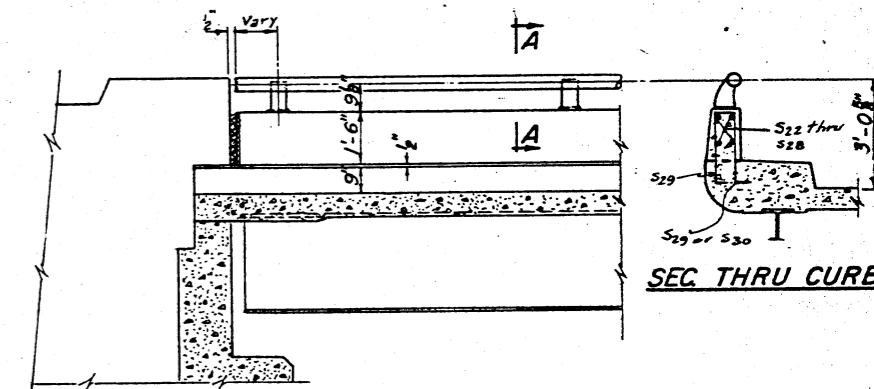
VIEW B-B
SECTION A-A
RAIL POST DETAILS



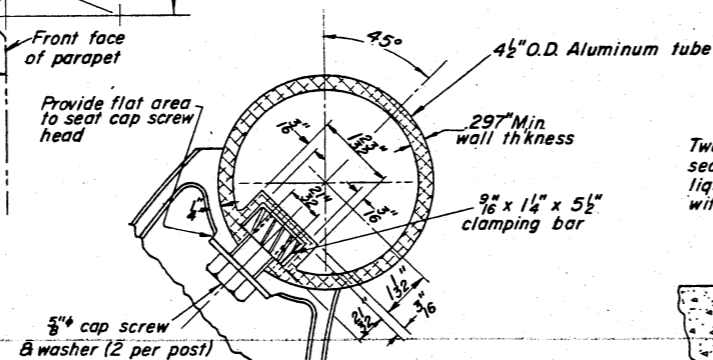
SECTION C-C



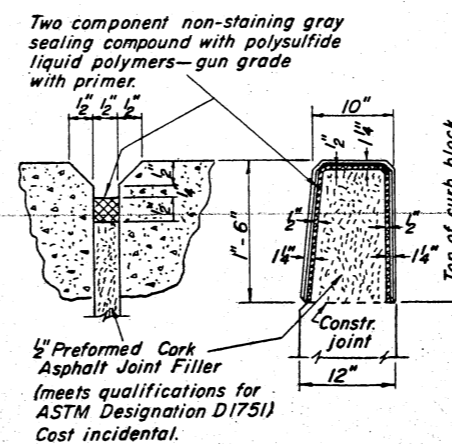
CAST END CAP
DRIVE FIT TYPE
2 Required



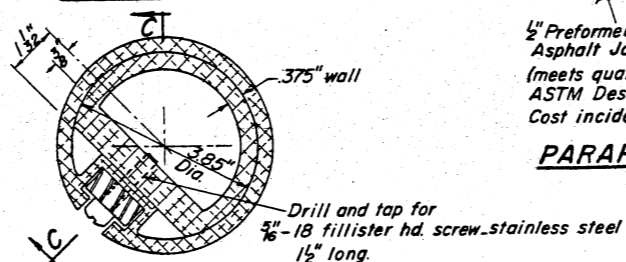
ELEVATION-END POST



DETAIL of RAIL ATTACHMENT
to POST



PARAPET JOINT DETAIL



RAILING SPLICE DETAIL

NOTES:

- All Posts shall be normal to parapet.
- All Aluminum Alloy Extruded Rail shall conform to ASTM specification B-235 alloy 6061-T6, or 6062-T6, and shall extend a minimum of 2 panel lengths (attached to a minimum of 3 posts) except at ends or at open joints where a minimum of 1 panel length is required. All joints in railing must be spliced per detail.
- See Special Provisions for following Material Specifications:
Cast Aluminum Alloy Bridge Post Alloy 344-T4
Stainless Steel Machine Bolts, Washers, and Bars.
- For material composition of Prefabricated Pad, see Article 54.9(f), (Bearing and Anchorage), of the Standard Specifications.

METHOD of MEASUREMENT: Aluminum handrail shall be measured in lineal feet. The length paid for shall be the over all length along the top longitudinal railing member thru all posts and gaps.

BASIS of PAYMENT: Aluminum handrail shall be paid for at the contract unit price per lineal foot for ALUMINUM HANDRAIL, measured as specified, which price shall be payment in full for all materials, fabrication, transportation, and erection.

Cost of rail splice, end caps, and hardware to be incidental to item ALUMINUM HANDRAIL.

BILL of MATERIAL

Item	Unit	Quantity
ALUMINUM HANDRAIL	Lin. Ft.	487

ALUMINUM HANDRAIL

F.A.I.R.T. SEC. 60-10HB-2
MADISON COUNTY
STA. 959+52.78 W.B. + 32.62 E.B.

DESIGNED	7-7 1964
CHECKED	
DRAWN	Wm. M. Best
CHECKED	

EXAMINED	W.P. [Signature]
PASSED	[Signature]
APPROVED	[Signature]

