STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

BRO - 50 - 0449

BROWN COUNTY

STRUCTURE IMPROVEMENT-BRIDGE MAJOR REPAIR

BRO-50-0449	OHIO	1
BROWN COUNTY	FHWA REGION 5	9
STATE	FEDERAL PROJECT	

PLAN NO. BR-74-84

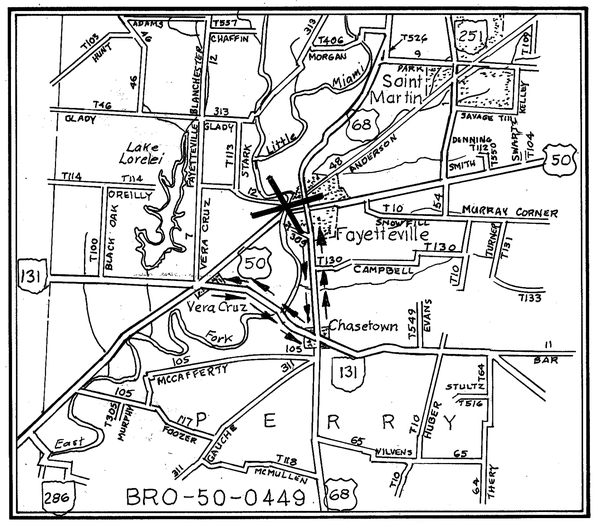
FR-13(37)

CONVENTIONAL SIGNS

County Line
Township Line
Section Line
Corporation Line or
Fence Line (existing) (proposed)
Center Line 352 353
Trees, Stumps, (to be removed)
Utility Poles: Telephone, Power, Light.

Limited Access (only) LA
Right of Way (only) RW
Limited Access & Right of Way LA & RW
Existing Right of Way
Property Line (in existing fence)
Railroad or
Guardrail (existing) (proposed)

INDEX OF SHEETS



DETOUR & LOCATION MAP, 1.73 MI. ADDED

SCALE IN MILES
0 1 2 3 4

Portion to be improved
State & Federal Routes
Other Roads

SCALES

Plan Sheet 8 0 10 20
Profile: Horizontal, Vertical
Cross Section: Horizontal, Vertical Sheet 6 & 8 0 1 2 0 1 2

LINE DATA

Begin Project	Sta.	236 + 16.60
End Project	Sta.	238 + 83.15
Net Length of Project		266.56 Lin. Ft.
	or	.051 Miles
Begin Work	Sta.	235 + 16.60
End Work	Sta.	239 + 83.15
Net Length of Work		466.56
	or	.088 Miles

UNDERGROUND UTILITIES
48 HOURS
BEFORE YOU DIG
Call---800-362-2764 (Toll free)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

SUPPLEMENTAL SPECIFICATIONS	
824	10-8-82

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS				
BP-5 7-16-81				
GR-1 2-5-82				
GR-2B 2-5-82				
GR-3 2-5-82				
AS-1-81 11-27 81				
DBR-2-73 4-10-73				

Plan Prepared By:
DISTRICT NO. 9
OHIO DEPARTMENT OF
TRANSPORTATION
(BR.)

SEAL

Project: BRO-50-0449.
Date of Letting 19, Contract No.
LD0300 Rev. 1-1-81

MICROFILMED
JAN 31 1992

1985 SPECIFICATIONS

The standard specifications of the State of Ohio, Department of Transportation, including changes and supplemental specifications listed in the proposal shall govern this improvement.

I hereby approve these plans and declare that the making of this improvement will require the closing to traffic of the highway, except as noted on Sheet 1&2, and that detours will be provided as indicated on the plans.

Approved Marshall P. Sam, P.E.
Date 12-21-84 District Deputy Director of Transportation

LMG Approved Walter J. Jestings
Date 1-4-85 Engineer, Bureau of Bridges and Structural Design

Approved James R. Longenecker
Date 1-11-85 Chief Engineer, Operations

Approved Warren J. Smith
Date Director, Department of Transportation

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR DATE

FHWA REGION	STATE	PROJECT	
5	OHIO		

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BROWN COUNTY ; BRO-50-0449

GENERAL NOTES

DESIGN SPECIFICATIONS

This structure modification conforms to Standard Specifications for Highway Bridges adopted by the American Association of State Highway Officials, 1983 including Interim Specifications and the Ohio Supplement to these Specifications.

DESIGN DATA

Design Loading H S-20-44 ; Case II and the Alternate Military Loading.
Concrete Class C - 4000 psi compressive strength Unit Stress 1,333 psi.
Concrete Class S - 4500 psi compressive strength - Unit Stress 1,500 psi.
Reinforcing Steel - ASTM A615, A616 or A617, Grade 60 minimum yield strength.
Deck Protective Method - Top mat reinforcing steel epoxy coated. Membrane Waterproofing & Asphalt Concrete overlay.

STRUCTURAL STEEL - ASTM A36 Unit Stress 20,000 psi.

EXISTING STRUCTURE VERIFICATION

Details and Dimensions shown on these plans pertaining to the existing structure have been obtained from plans of the existing structure and/or from field observations and measurements. Consequently, they are indicative of the existing structure and the proposed work but they shall be considered tentative and approximate. The Contractor is referred to CMS Sections 102.05 , 105.02 and 513.02.

Contract bid prices shall be based upon a recognition of the uncertainties described above and upon a prebid examination of the existing structure by the Contractor. However, all project work shall be based upon actual details and dimensions which have been verified by the Contractor in the field.

REMOVAL OF EXISTING CONCRETE (202)

When no longer needed to maintain traffic, the existing concrete deck , including concrete and metal railing, sidewalk & curb and portions of abutments as shown on plans shall be removed. Suitable waste masonry may be placed on the slopes as directed by the Engineer. All other removed material shall become the property of the Contractor and shall be removed from the site by him. All of the above shall be included in Item 202 Portions of Structure Removed.

APPROACH SLAB & BACKWALL REMOVAL

The existing approach slabs shall be removed and replaced as shown on Plan Sheet No. 9 . The removal of the backwalls shall be carefully done to prevent damage to the reinforcing steel. The existing vertical reinforcing steel projecting from the backwall shall be recast in the replaced backwall with additional steel added as shown. Any vertical reinforcing steel in the backwall made unusable by the Contractors removal operations shall be replaced with new steel and drilled and grouted in place at no expense to the state.

FABRICATION A. I. S. C. Certification as specified in 501.04 is not required.

WATERPROOFING BRIDGE DECK - This shall be done in accordance with "Item Special, Membrane Waterproofing , which includes tack coat.

519 PATCHING CONCRETE STRUCTURES - The patching of concrete is possible projected work and if not needed may be non-performed in whole or in part.

ASPHALT WEARING COURSE - The asphalt wearing course on the bridge deck, abutment backwalls and approach slabs shall consist of 1¼" of 403 & 1¼" of 404 for a total cover of 2½" on the waterproofed bridge deck.

EXISTING ANCHORS - After anchors are exposed as noted in detail on Sheet 7 the Engineer shall determine the number of replacement anchors required at the joints. These anchors shall be made of ¾" square stock or 1" dia. reinforcing bars. They will be furnished and bent by the State and installed by the Contractor. All work by the Contractor shall be included in bid item 516.

BRIDGE TERMINAL ASSEMBLY, TYPE B, As Per Plan.

Assembly shall be as per GR-3 except all posts encased in concrete shall be W6 x 25 lbs. galvanized steel posts. Payment for the above shall be included in the item.

REAR ABUTMENT ROCKERS - All are tilted slightly to the rear and shall be straightened and paid for under 513 Raise, Support and Lower Existing Structure at Rear Abutment.

EXPANSION JOINTS :

The expansion joint shall be capable of sealing the deck surface to prevent moisture and other contaminants from descending thru the joint. The neoprene extension shall be installed in one continuous piece after all of the deck is poured and the full width of retainers are in.

REINFORCING STEEL SAMPLES:

Refer to CMS Sections 106.03 , 700, 709.01 thru 709.05 and 709.08. Sufficient additional reinforcing steel shall be provided for sampling. Random samples shall be replaced in the structures by the additional steel, spliced in accordance with 509.08 .

WATERPROOFING BACKWALL:

The horizontal construction joint behind the bridge seat on both replaced abutment backwalls shall be waterproofed in accordance with 512. Waterproofing shall extend upward from the construction joint to the subgrade of the replaced approach slab and a minimum of 6" below the joint.

APPROACH SLABS: shall be 25'-0" long , 31'-6" wide , 15" thick and as shown on Detail 'B' on Sheet 2 of Approach Slab Std. Dwg. AS-1-81 showing approach slab supported on abut. back wall.

DECK SLAB: The deck slab thickness shown over the girders is the nominal dimension. The quantity of deck concrete to be paid for shall be based on this dimension even though deviation from it may be necessary because the top flanges of the girders may not have the exact camber or conformation required to place it parallel to the finished grade.

CONSTRUCTION JOINTS

Joints in backwalls shall be presawed at edges to 1" depth and existing concrete removed sufficient to place the proposed backwall and approach slab seat and the D803 tie bar wired to new and/or existing steel. Joints shall be 3'-0" below deck elevation @ abutmts.

Joints, if necessary in the concrete deck, shall be made normal to centerline of roadway at locations & with stepped configuration shown on Plan Sheet No. 8 .

LOCATIONS OF GUARDRAIL , TYPE 5 (606)

Fifty feet of Type 5 Guard Rail is provided at each corner of the bridge to transition the bridge railing into the existing rail. The locations of these transitions are subject to adjustment to assure that the planned installations will afford maximum protection to traffic.

PAINTING SPECIFICATIONS

Surface Preparation - All existing steel will require cleaning and priming at time of execution of contract.

It shall be 100% blast cleaned to a grade of SA 2½ as per ASTM D2200 or SS PC-SP10 and primed with Inorganic Zinc Silicate .
Primer Paint as per. 708.17
Field Painting - All metal surfaces shall then be painted with Blue-Green Vinyl finish coat as per 708.18 after new deck is in place and false work removed. Bridge rail & posts are excepted.

ESTIMATED QUANTITIES

PLAN NO. BR-74-84

202	Lump Sum	Portions of Structure Removed
202	Lump Sum	Approach Slabs Removed
202	200 LF	Guardrail Removed
403	39 CY	Asphalt Concrete , AC 20
404	39 CY	Asphalt Concrete , AC 20
407	110 Gal.	Tack Coat
503	24 CY	Excavation for Structures
509	25,269 lbs.	Reinforcing Steel , Grade 60
510	109 Ea.	Dowel Holes
511	259 CY	Class S Concrete, Superstructure
511	14 CY	Class C Concrete, Substructure
512	32 SY	Type B Waterproofing
513	2280 Ea	Welded Stud Shear Connectors
513	Lump Sum	Raise, Support & Lower Existing Structure at Rear Abutment.
514	Lump Sum	Field Painting of Existing Steel, Surface Prep. As Per Plan.
514	Lump Sum	Field Painting of Existing Steel, Complete Coat Prime
514	Lump Sum	Field Painting of Existing Steel, Complete Coat Finish.
516	81.66 LF	Neoprene Strip Seals, Including A36 Structural Steel Joints , As Per Plan .
517	550.0 LF	Railing (Deep Beam Rail with Tubular Backup, Type 2 Steel Posts & Bolts).
518	19 CY	Porous Backfill
519*	50 SF	Patching Concrete Structures (See Proposal Note)
606	4 Ea	Bridge Terminal Assembly, Type B, As Per Plan
606	200 LF	Guardrail, Type 5
611	174 SY	Reinforced Concrete Approach Slabs (T=15")
617	10 CY	Compacted Aggregate
617	178 SY	Shoulder Compaction
623	Lump Sum	Construction Layout Stakes
624	Lump Sum	Mobilization
619	Lump Sum	Field Office
614	Lump Sum	Maintaining Traffic
824	30,436 Lbs.	Epoxy Coated Reinforcing Steel
Special	928 SY	Membrane Waterproofing (See Proposal Note)
Special	206 SF	Steel Drip Strip
Special	108 SY	Sealing of Concrete Surfaces (See Proposal Note)

SUGGESTED WORK PROCEDURE

1. Close road to traffic after detour is set up. Remove bridge & approach rail.
2. Remove concrete deck but leave 8WF21 deck form & end finish support.
3. Place suitable waste masonry on slopes & install shear connectors.
4. Remove approach slabs & backwall portions after saw cuts.
5. Construct forms, install anchors, reinforcing & end finish and place concrete deck.
6. Grout vertical bars, install backwall & end finish using deck as template for grade.
7. Waterproof deck & horizontal & vertical backwall construction joints. Place backfill.
8. Place bridge terminal assemblies, bridge railing & approach guard rail & approach slabs.
9. Install vertical extensions of expansion joints and install strip seal.
10. Apply tack coat, pave 403 & 404 on bridge and 403 & 404 feather on approach
11. Install shoulder aggregate and Open to Traffic.
12. Paint Superstructure Steel.

Note: The painting operations shall not delay the opening of bridge to traffic.

* 50% Federal Funding

Existing Bridge		Proposed
Spans	80'-100'-80' c Brg.	Same
Roadway	25'-0" + 3'-0" Sidewalk	31'-4"
Loading	H-15-33	HS-20-44
Skew	40°	Same
Wearing Surface	¾" monolithic conc.	2½" A.C. on W.P.
Approach Slabs	25'-0" long	25'-0" x 31'-4" w.
Alignment	2° curve, right	Same
Superelevatn	0.042 ft	Same
Br. Limits	263.93	266.55

STATE OF OHIO DEPARTMENT OF TRANSPORTATION — 2/9

DISTRICT 9 — BRIDGE OFC.

GENERAL NOTES
ESTIMATED QUANTITIES
BRIDGE NO. BRO-50-0449
OVER E. FORK LITTLE MIAMI R.

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
MSE	MSE	MSE	DAB	GLB	9-5-84	

FHWA REGION	STATE	PROJECT	
5	OHIO		

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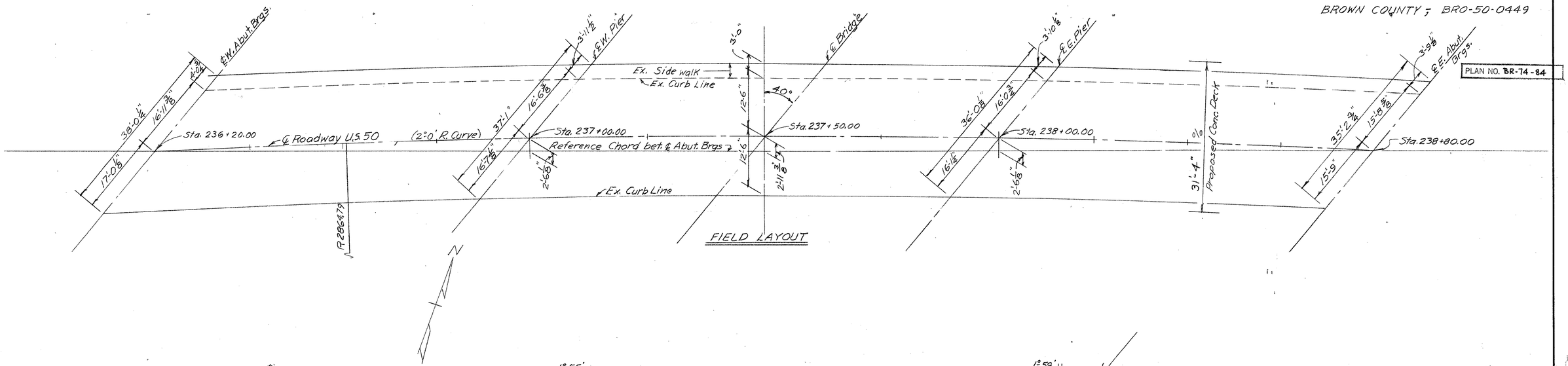
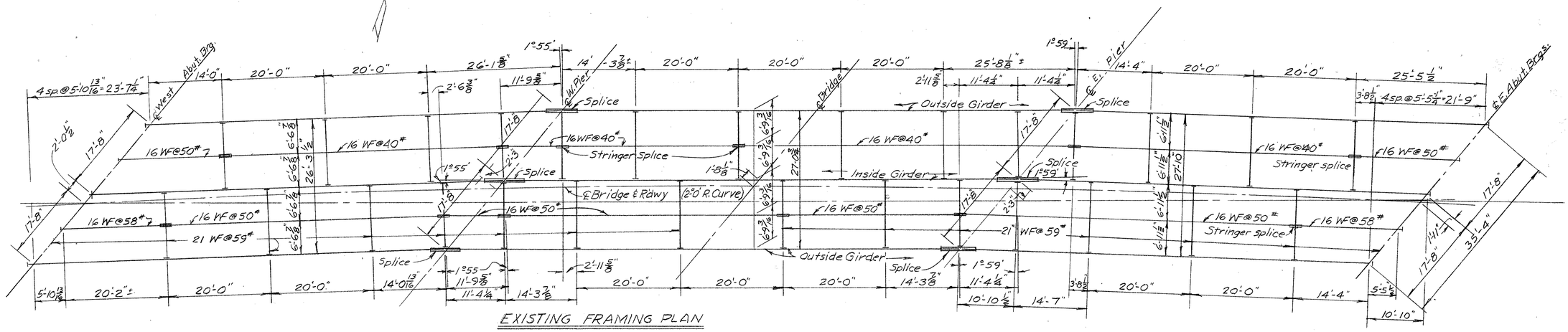
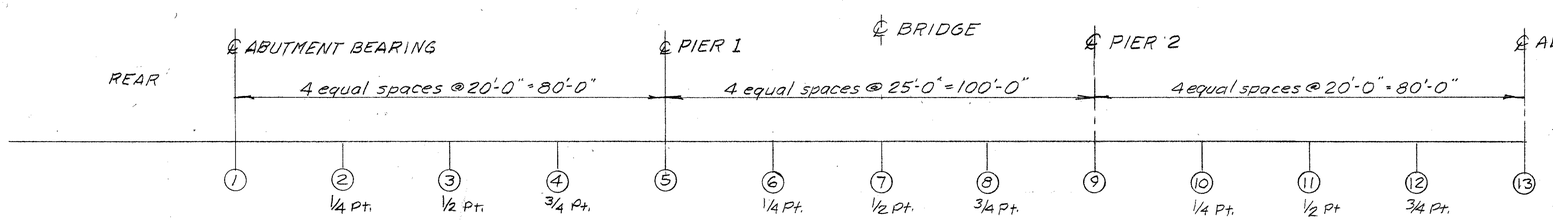
BROWN COUNTY; BRO-50-0449

PLAN NO. BR-74-84





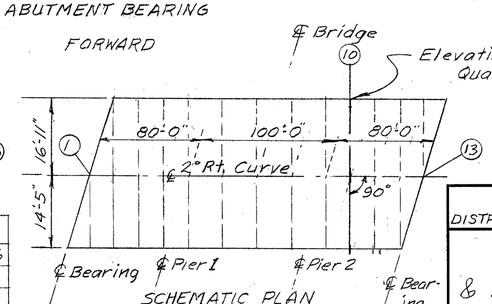


POINT	236+20 ①	+40 ②	+60 ③	+80 ④	237+00 ⑤	+25 ⑥	+50 ⑦	+75 ⑧	238+00 ⑨	+20 ⑩	+40 ⑪	+60 ⑫	+80 ⑬
LEFT EDGE	——	916.27	916.33	916.40	916.46	916.54	916.63	916.71	916.80	916.87	916.97	916.99	917.06
℄ S.R. 50	915.49	915.56	915.62	915.69	915.75	915.83	915.92	916.00	916.09	916.16	916.21	916.28	916.35
RIGHT EDGE	914.88	914.95	915.01	915.08	915.14	915.22	915.31	915.39	915.48	915.55	915.60	915.67	——
*DEAD LOAD DEFLECTIONS		1/8"	3/16"	1/8"	0"	1/8"	1/4"	1/8"	0"	1/8"	3/16"	1/8"	

PROPOSED CONCRETE DECK ELEVATIONS AT THE QUARTER POINTS

Work this chart with Sheet 8.

*Note: For concrete placement elevations, add dead load deflections to the proposed concrete deck elevations.



STATE OF OHIO 3 / 9
DISTRICT 9 DEPARTMENT OF TRANSPORTATION BRIDGE OFC.

FIELD LAYOUT & EXISTING FRAMING PLAN

BRIDGE NO. BRO-50-0449
OVER E. FORK LITTLE MIAMI R.

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
MSC	MSC	MSC	DAB	GLB	9-5-84	

FHWA REGION	STATE	PROJECT	
5	OHIO		

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BROWN COUNTY; BRO-50-0449

PLAN NO. BR-74-84

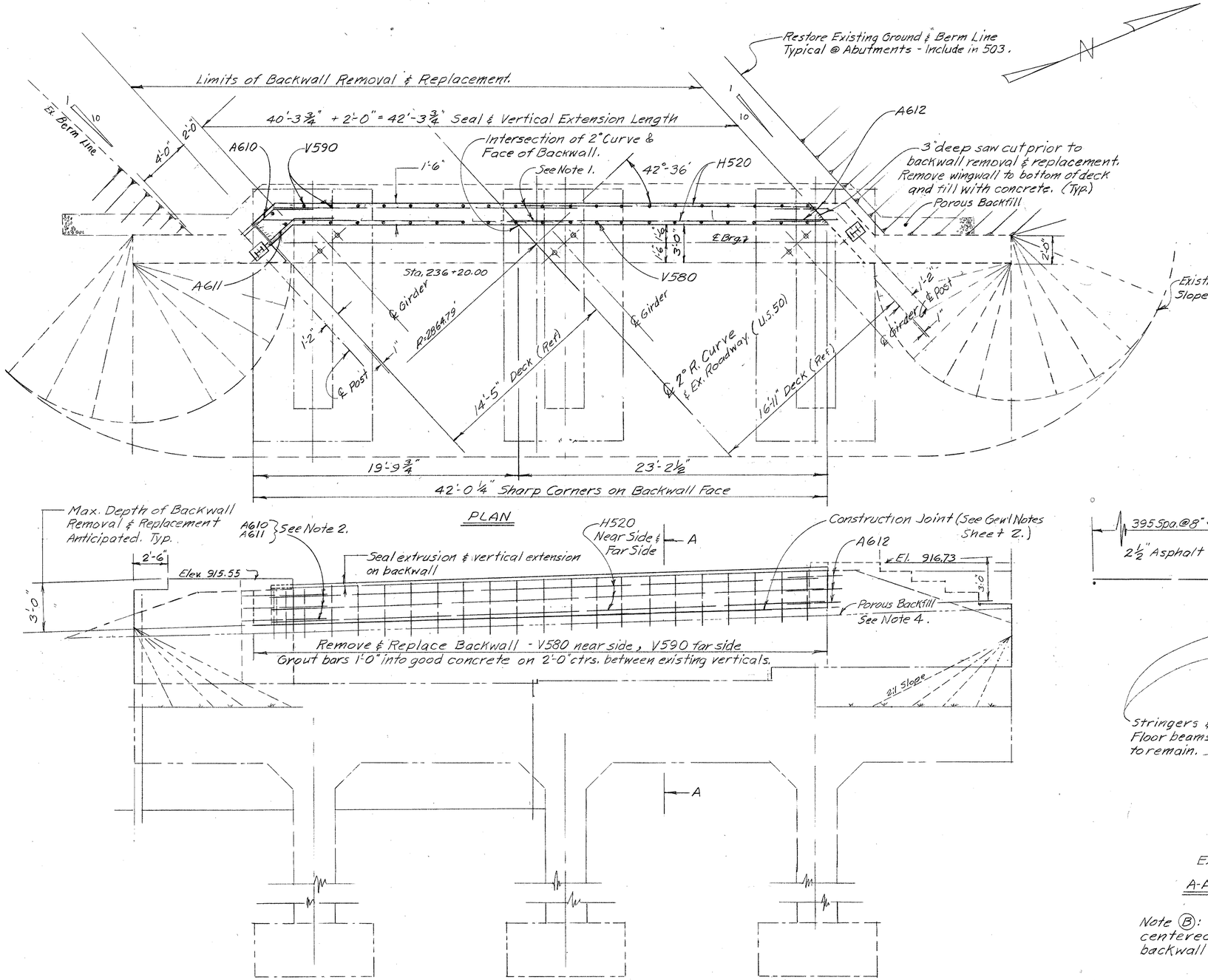
Notes:

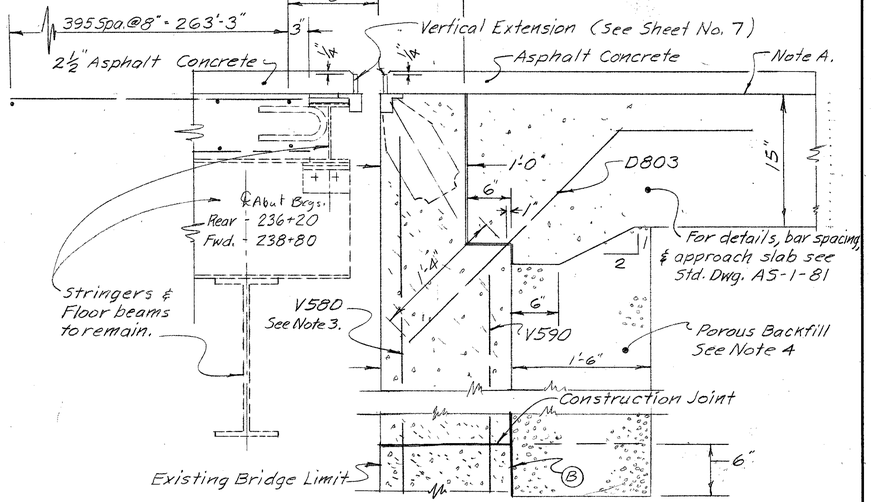
1. At the Contractors option, bars over 30'-0" long may be made up of one 20'-0" length and the additional length required plus the standard lap as follows: #8 bars 1'-4", #5 bars 1'-8", #6 bars 2'-0"

2. A610, A611 & A612 bars shall have a minimum length of 1'-0" grouted into the remaining wing. Include for payment with 509 & 510.

3. Item 510 - dowel holes for each V580, V590, A610, A611 & A612 bars shall be provided in abutments as required.

4. Porous backfill shall be replaced to an elevation parallel to and 6" below the construction joint as shown in Detail A-A and shall extend upward to the subgrade of the approach slab and to the top & sides of the embankment slopes. Include all excavation, material and incidentals in Item 518, Porous Backfill.





A-A TYPICAL DETAIL OF PROPOSED BACKWALL & APPROACH SLAB SEAT

Note Ⓐ: Place top of approach slab at pavement end 2½" below existing asphalt concrete surface.

Note Ⓑ: 36" Type B Waterproofing centered on joint, Seal vertical backwall joints similarly.

STATE OF OHIO 4/9
DISTRICT 9 DEPARTMENT OF TRANSPORTATION BRIDGE OFC.

REAR (WEST) ABUTMENT PLAN AND DETAILS

BRIDGE NO. BRO-50-0449
OVER E. FORK LITTLE MIAMI R.

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
MSE	MSE	MSE	DAB	GLB	9-5-84	

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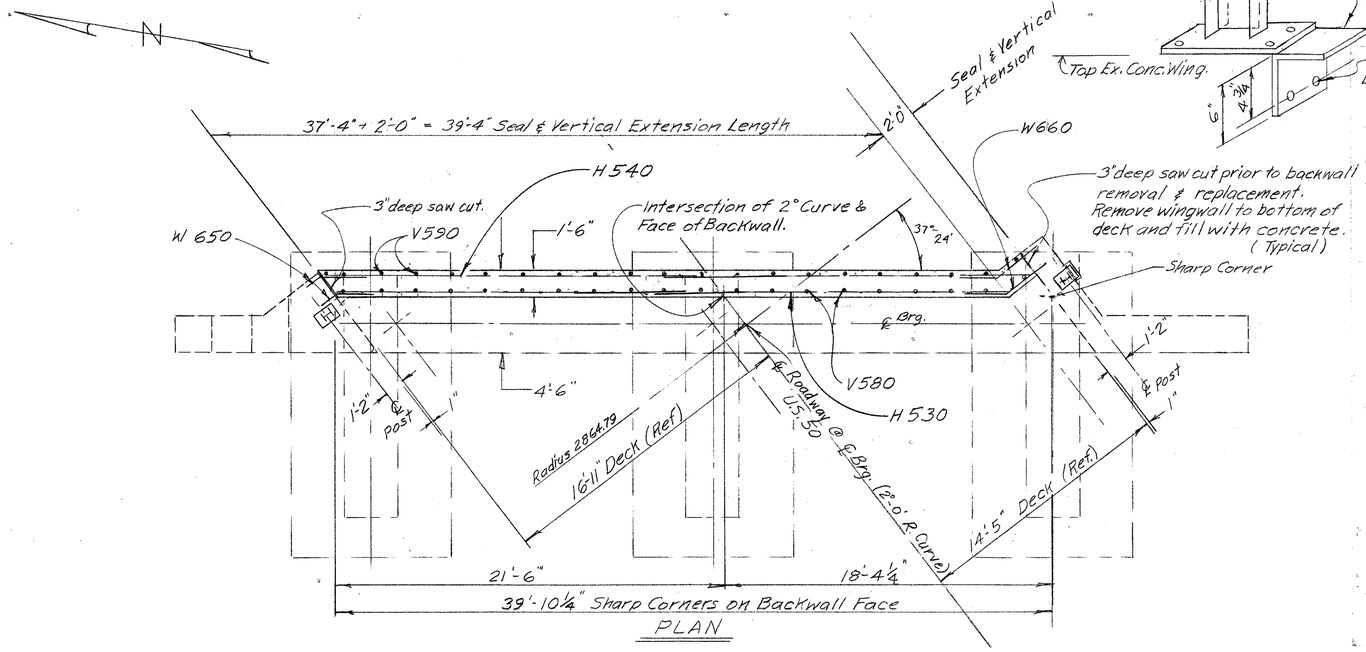
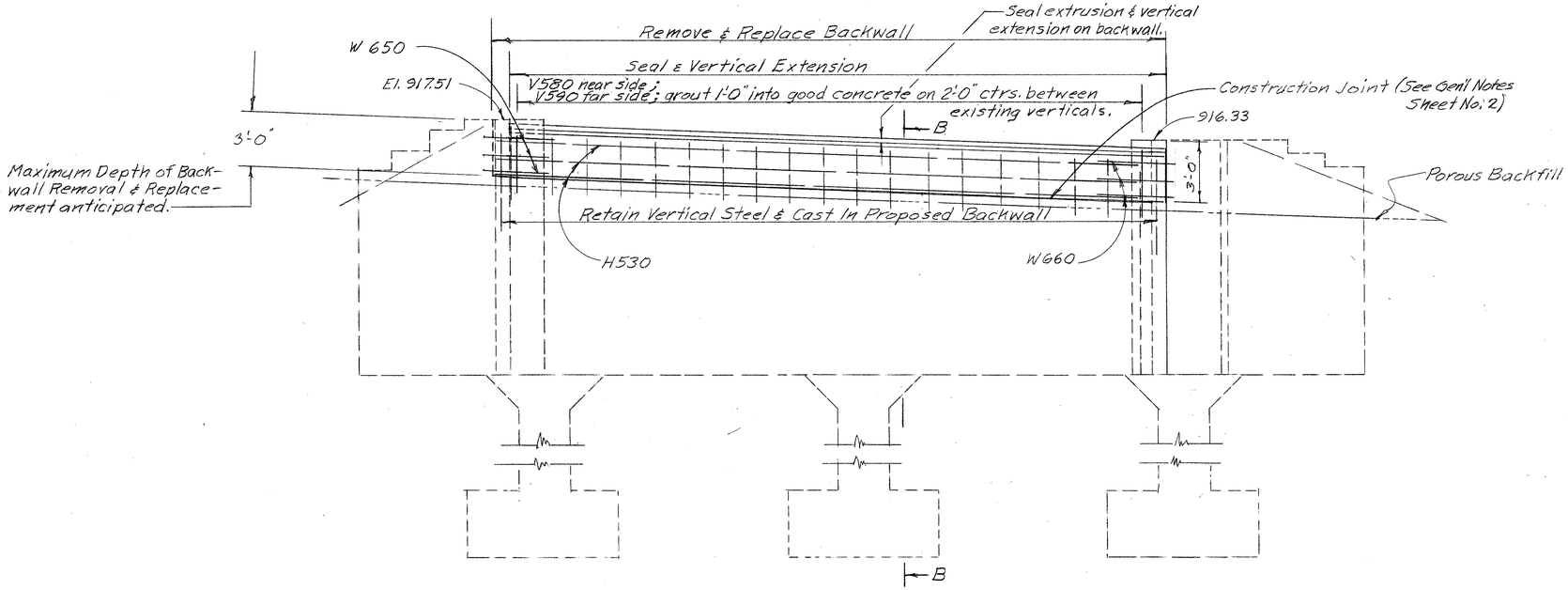
BROWN COUNTY ; BRO-50-0449

See Plan Sheet Number 4 for additional notes.

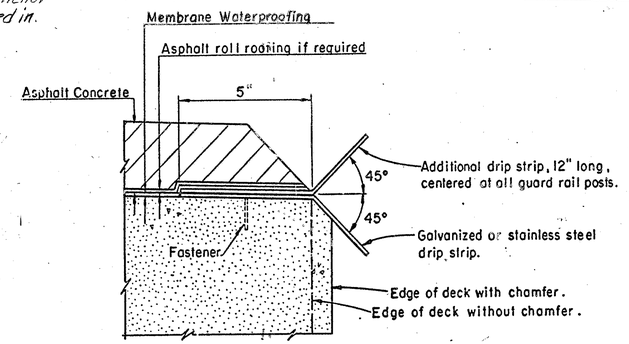
PLAN NO. BR-74-84



PLAN



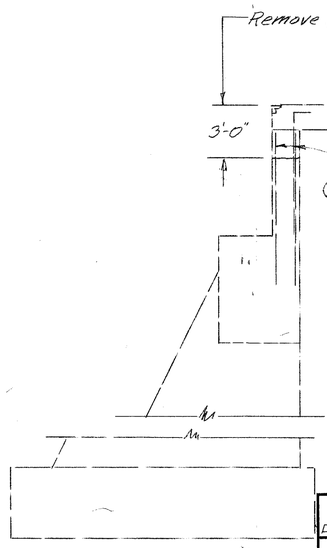
ELEVATION



DRIP STRIP

DRIP STRIP: Prior to applying deck membrane waterproofing, a bent drip strip shall be installed along the edges of the deck as shown. The strips shall be fastened at 1'-6" ℄ maximum with 1 1/4" x 5/32" x 1/4" flat head drive pin and washer. (Length x Shank Dia. x Head Dia.) or #10 galvanized screws and expansion anchors, subject to the approval of the Engineer. The strips shall be placed the full length of the deck, ending at the face of the abutment wingwall or steel end dam angle. Where splices are required a 3" (Min.) lap shall be used with a fastener through the lap. Steel for galvanized strips shall be 8"x0.105" and shall meet the requirements of ASTM A568. Galvanizing shall be in accordance with 711.02. Stainless steel shall be 20 gauge ASTM A167, Type 304, mill finish. Payment shall be at the contract price bid for item Special, Sq. Ft., Steel Drip Strip, which shall include all materials, labor, tools and incidentals necessary to complete the item.

Note: Drip Strip shall be placed on low side of deck only.



BB SECTION - EX. BACKWALL

STATE OF OHIO 5/9
DISTRICT 9 DEPARTMENT OF TRANSPORTATION BRIDGE OFC.

FWD (EAST) ABUTMENT PLAN AND DETAILS
BRIDGE NO. BRO-50-0449
OVER E. FORK LITTLEMIAMI R.

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
MSE	MSE	MSE	DAB	GLB	9-5-84	

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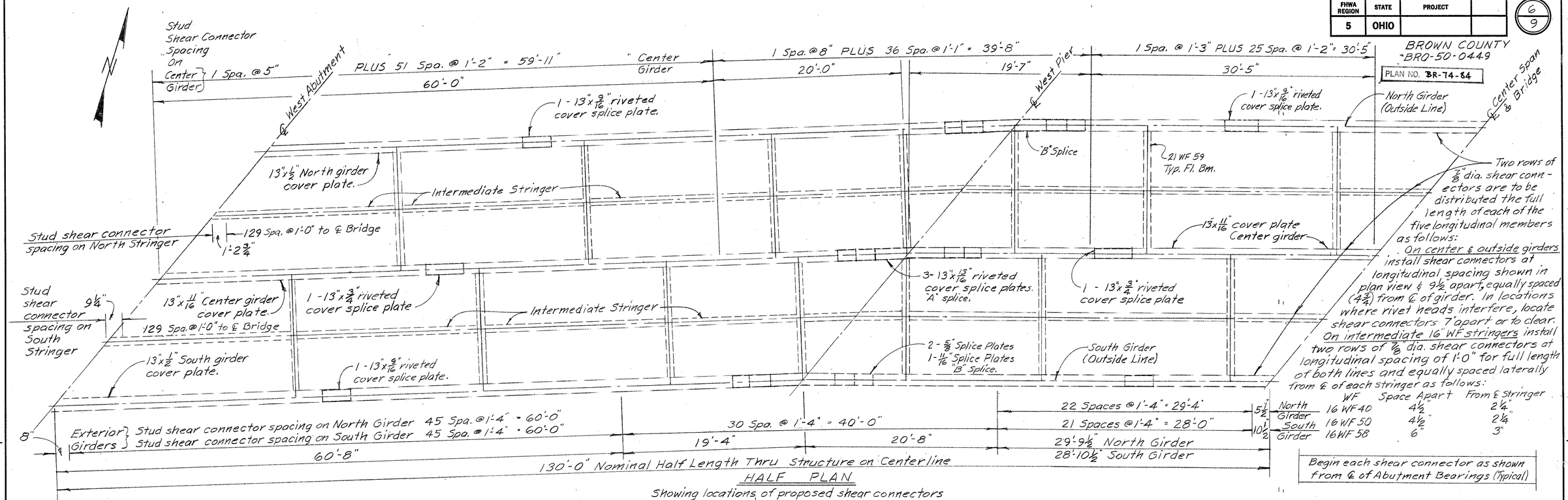
BROWN COUNTY
BRO-50-0449
PLAN NO. BR-74-84

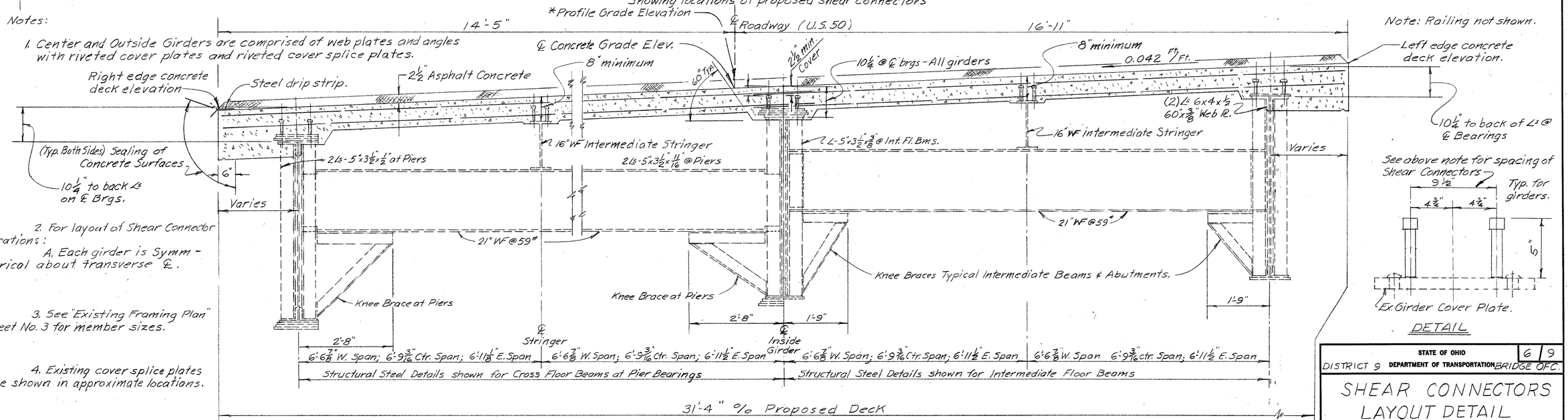


	WF	Space Apart	From ℄ Stringer
North Girder	16 WF 40	4 1/2"	2 1/4"
	16 WF 50	4 1/2"	2 1/4"
South Girder	16 WF 58	6"	3"

Begin each shear connector as shown from ℄ of Abutment Bearings (Typical)

HALF PLAN

Showing locations of proposed shear connectors



TYPICAL SECTION LOOKING BACK

Notes:

1. Center and Outside Girders are comprised of web plates and angles with riveted cover plates and riveted cover splice plates.

2. For layout of Shear Connector Locations:
A. Each girder is Symmetrical about transverse ℄.

3. See "Existing Framing Plan" Sheet No. 3 for member sizes.

4. Existing cover splice plates are shown in approximate locations.

Note: Railing not shown.

DETAIL

STATE OF OHIO
DISTRICT 9 DEPARTMENT OF TRANSPORTATION
6 / 9 BRIDGE OFC.

SHEAR CONNECTORS LAYOUT DETAIL

BRIDGE NO. BRO-50-0449
OVER E. FORK LITTLE MIAMI R.

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
mse	mse	mse	DAB	GLB	9-5-84	

FHWA REGION	STATE	PROJECT	
5	OHIO		

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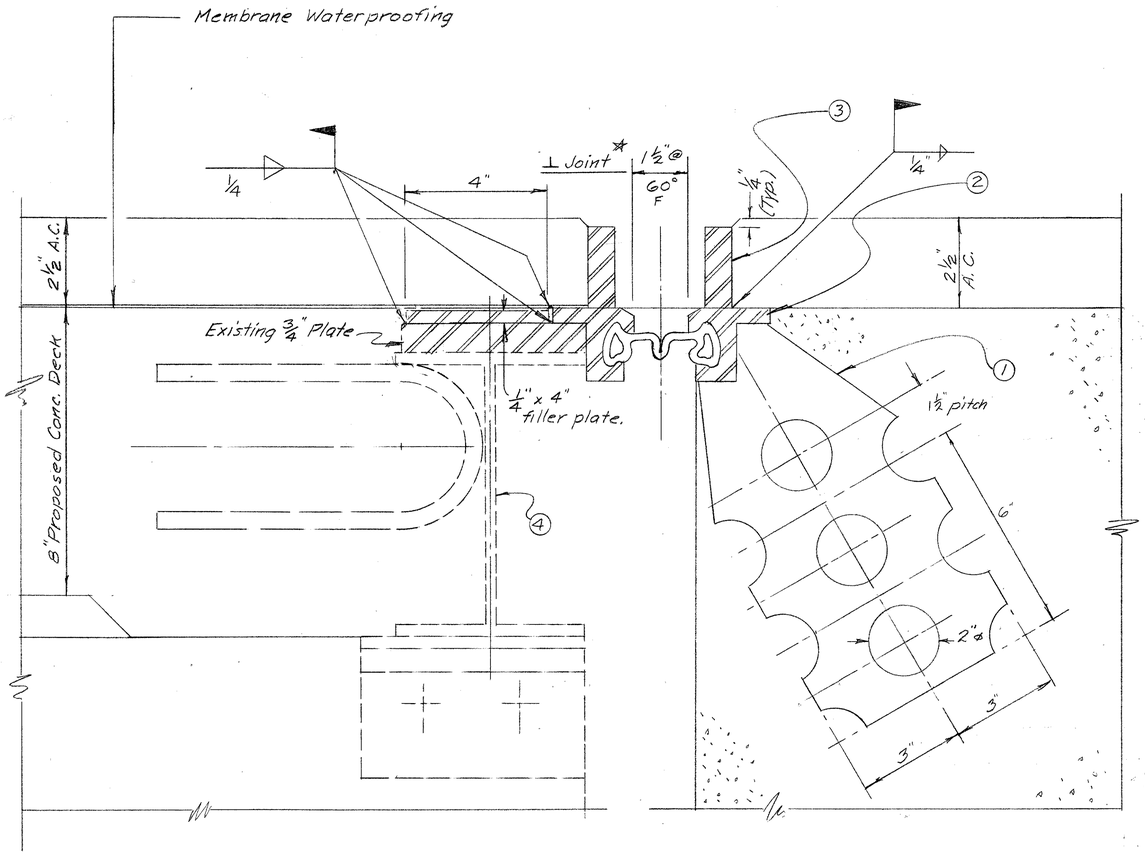
BROWN COUNTY
BRO-50-0449

PLAN NO. BR-74-84

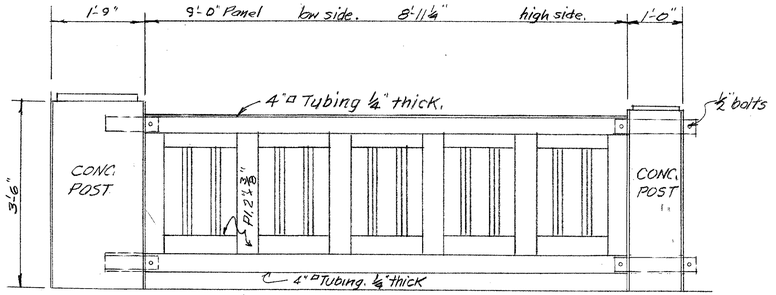
Opening ✱		Temperature Adjustment Table (-30°to +120°)						
Minimum	Maximum	40°F 4.4°C	50°F 10°C	60°F 15.6°C	70°F 21.1°C	80°F 26.7°C	90°F 32.2°C	
7/8"	2 1/2"	1 3/4"	1 5/8"	1 1/2"	1 3/8"	1 1/4"	1 1/8"	



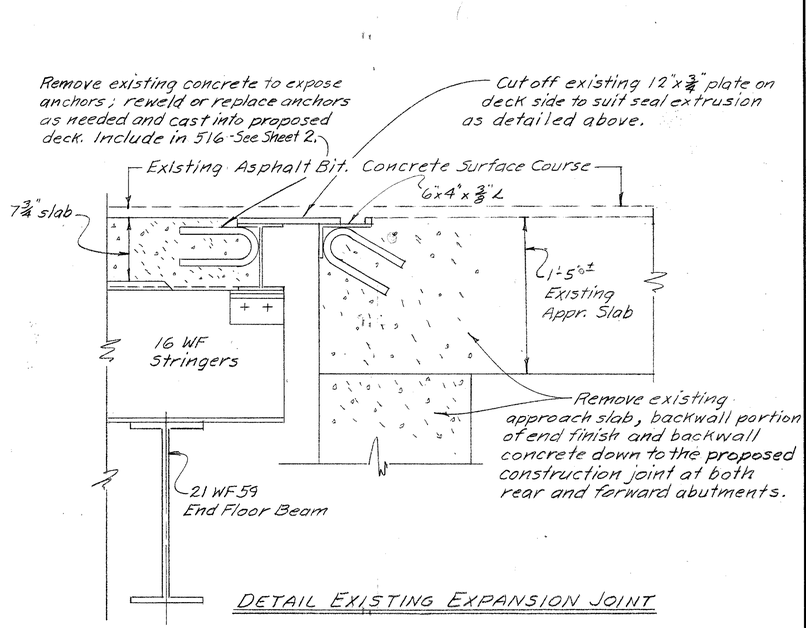
TYPICAL SECTION ADAPTING EXISTING EXPANSION JOINT TO PROPOSED END FINISH

Notes:

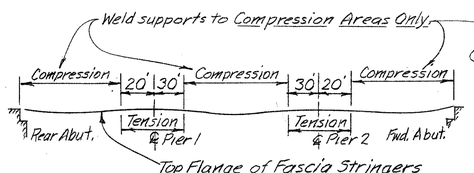
1. Space anchors at 15"± Centers except near joints in the extrusion angles where the plates shall be placed within 6" of each side of the joint. Holes may be burned in the plates which shall be made of 6"x 1/2"x 12" A36 steel.
2. AS 300 Acme Strip Seal in Type B Mounting, Item 516. (or Watson Bowman or D. S. Brown)
3. Vertical Extension of Structural Expansion Joints (516) shall be 3/4" x 2 1/4". See Std. Dwg. BP5 for additional details.
4. Existing 8WF21 concrete deck end form and end finish mount assembly to remain and be adapted to strip seal mounting extrusions.



TYPICAL RAILING PANEL FOR REMOVAL



DETAIL EXISTING EXPANSION JOINT



SCHEMATIC - DECK FINISHING MACHINE ATTACHMENTS

Note!
Fillet welds shall be no closer than 1" from edge of flange, no longer than 2" and larger than minimum required by AASHTO.

Rev. 3-1-85 RLE

STATE OF OHIO 7/9
DISTRICT 9 DEPARTMENT OF TRANSPORTATION BRIDGE OFC.

DETAILS
EXPANSION JOINTS
BRIDGE NO. BRO-50-0449
OVER E. FORK LITTLE MIAMI R.

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
MSE	MSE	MSE	DAB	GLB	9-5-84	

HILLS CO. 1000 #10-7155 11-79

FHWA REGION	STATE	PROJECT	
5	OHIO		

8/9

BROWN COUNTY
BRO-50-0449

PLAN NO. BR-74-84

Top Transverse Bars Epoxy Coated TE 600 , 360 Spaces @ 8 = 240'-0"
Bottom Transverse Bars B570 , 360 Spaces @ 8" = 240'-0"
20 railing spaces @ 6'-3" = 125'-0" Locate from ℄ deck edge.
20 railing spaces @ 6'-3" = 125'-0" Locate from ℄ deck edge.
18'-9" Typ.
℄ Deck Edge
4 Spa. @ 5'-9" = 23'-0"
7'-6"
℄ W. Pier
4 Spa. @ 5'-9" = 23'-0"
Keyed Const. Joint
Keyed Const. Joint (Optional)
℄ E. Pier
12'-6" (Typ.)
6'-3"
24'-2½" Sharp Corner
PE 406 Typ. @ Piers See Schematic.
PE 406
16'-11"
19'-5"
3'-4" % deck and ℄ railing.
℄ Bridge Sta. 237+50.00
Top bars TE 401 , 9 bars per line.
TE 402 , 1 bar @ end (See Below)
Bot. bars S500 , 9 bars / line.
S504 , 1 bar @ end (See Below)
5 Spa. @ 6'-3"
236+00
+20
+40
+50
+60
+80
℄ Roadway 2° Rt. (USR 50) 239+00
21'-0" Ex. Pvt. Width
Type 5 guard rail See General Notes.
For reinforcement in skewed ends see Plan Sheet No. 9 .
Exp. End
28'-10½" Sharp Corner
Sta. 236+16.60
Face of Approach Slab
℄ Sta. 237+00
℄ Bridge ⊥ on skew
℄ Sta. 238+00
Fixed End
Typical-Bridge Terminal Assembly Type B.
Exp. End
℄ Sta. 238+83.15
Face of Approach Slab
℄ Deck Edge
Bridge Limits 266.55
20 railing spaces @ 6'-3" = 125'-0" Locate from ℄ deck edge.
20 railing spaces @ 6'-3" = 125'-0" Locate from ℄ deck edge.
Typical @ Each Corner (1)

REINFORCING PLAN

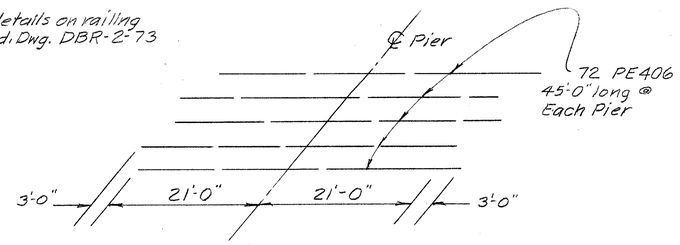
Notes:
(1) An inlet mounted post as per Std. Dwg. G R-1 shall be incorporated at each corner of the bridge where the railing crosses the existing conc. wing. Each post shall be W6 x 25 lbs. galvanized and included for payment in Item 606 Bridge Terminal Assembly, As Per Plan.

34 Spaces @ 10¼" = 29'-0½" Top Bars, TE 401 - Epoxy Coated
34 Spaces @ 10¼" = 29'-0½" Bot. Bars, S500
Fayetteville Tel. Co. Buried Telephone Cable
℄ U.S.R. 50
Place two PE 406 bars between each TE 401 @ piers. (Typical) See Left Schematic
8"
3½"
Drip Strip
W6 x 25
3'-9½" long
Type 2 post
(Typical Each Side)
2½" A.C.
B570 @ 8"
2½" Asphalt Concrete
TE 600 @ 8"
TE 401
Profile Grade Elevation
TE 401 (Typical)
ED 408 (133 Spa. @ 2'-0" = 266'-0") 134 x 2 = 268 bars.
S500 Typical
℄ anchors 2 Type A

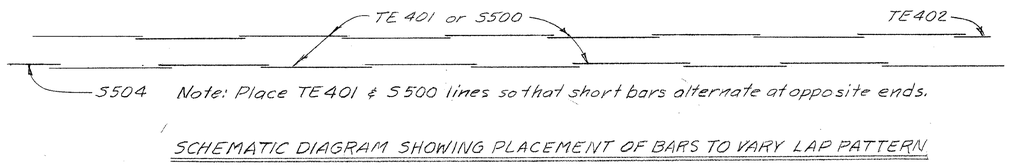
TYPICAL SECTION
(Looking Back)

For additional details on railing and posts see Std. Dwg. DBR-2-73

Legend:
S5 bars are all bottom longitudinal bars
B5 bars are all bottom transverse bars
TE4 bars are all top longitudinal epoxy coated.
TE6 bars are all top transverse epoxy coated.
PE4 bars are all additional top longitudinal bars epoxy coated.
ED 4 bars are edge bars epoxy coated.



SCHMETIC DIAGRAM SHOWING STAGGER OF PE 406 BARS @ PIER



Note: Place TE401 & S500 lines so that short bars alternate at opposite ends.

SCHEMATIC DIAGRAM SHOWING PLACEMENT OF BARS TO VARY LAP PATTERN

STATE OF OHIO 8/9
DISTRICT 9 DEPARTMENT OF TRANSPORTATION BRIDGE OFC.

BRIDGE RAILING & DECK REINFORCEMENT
BRIDGE NO. BRO-50-0449
OVER E. FORK LITTLE MIAMI R.

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
mse	mse	mse	DAB	GLB	9-5-84	*

FHWA REGION	STATE	PROJECT	
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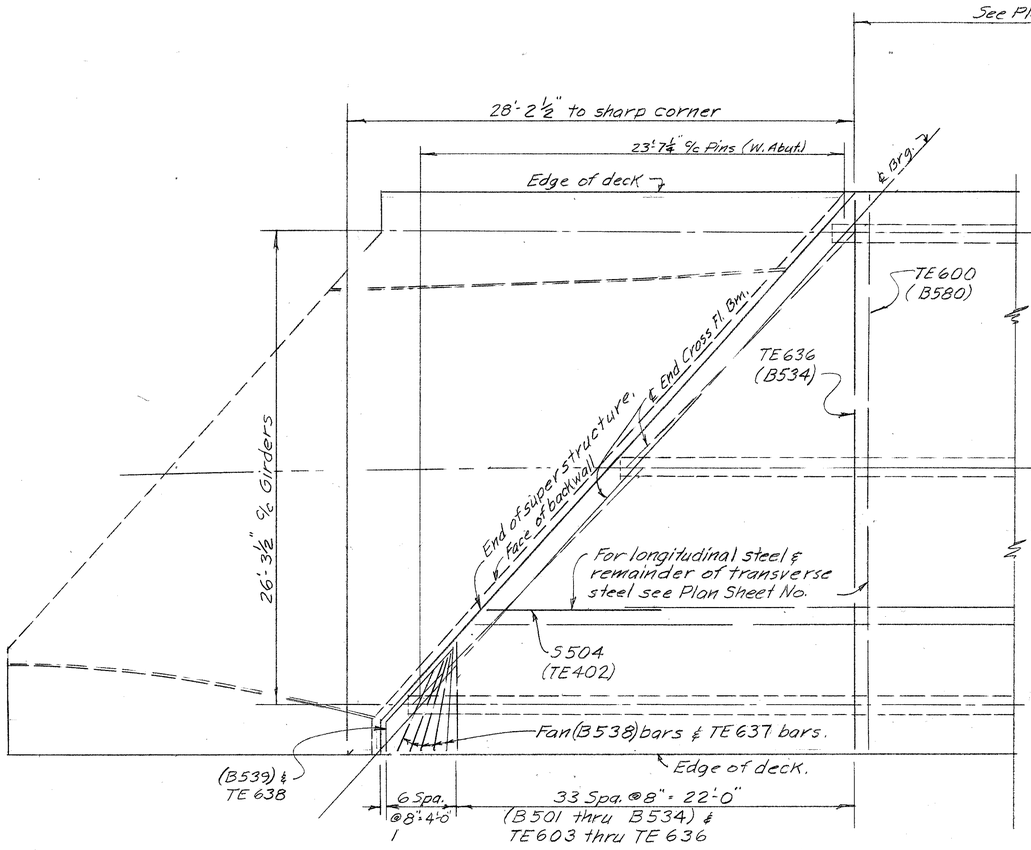
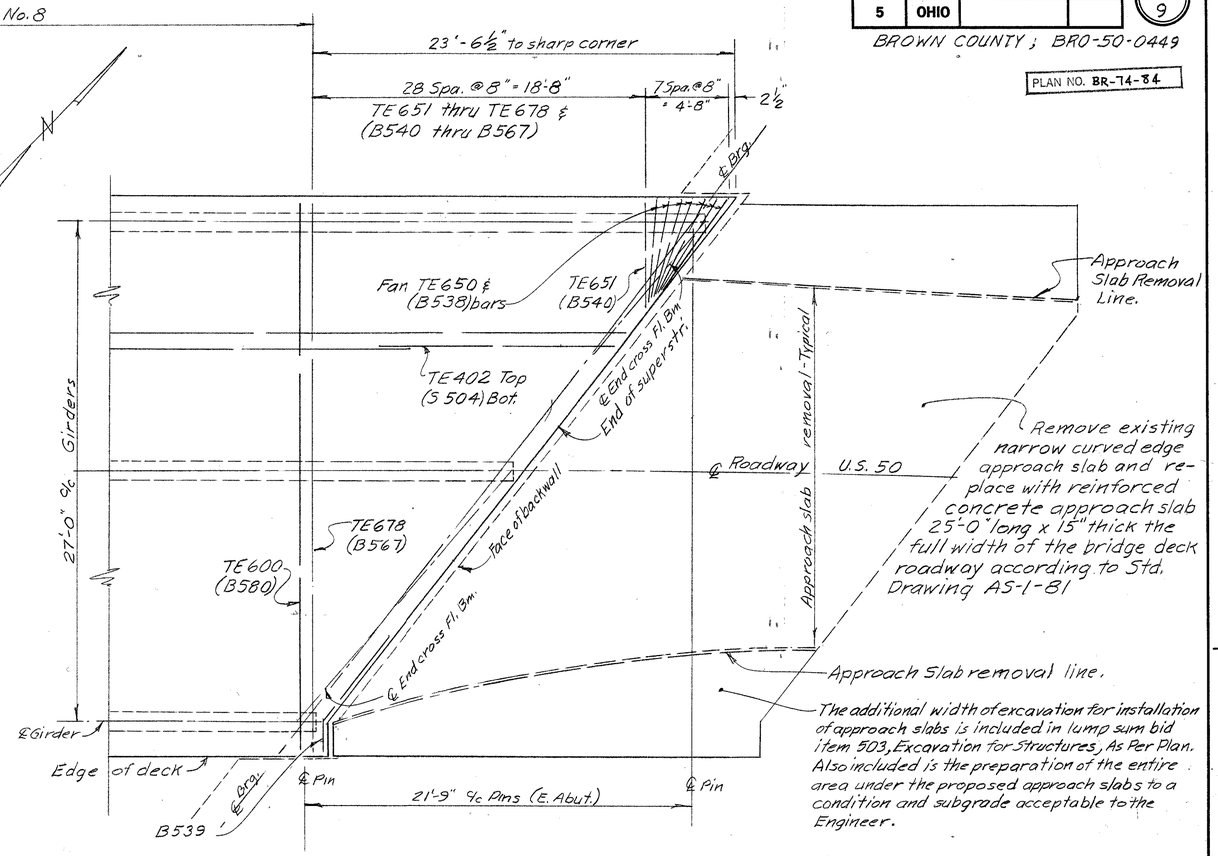
BROWN COUNTY ; BRO-50-0449

PLAN NO. BR-74-84





REINFORCING STEEL LIST

Mark	No.	Length	Weight	Shp.
TE600	361	31'-0"	16,809	S
TE603	1	6'-4"	10	S
TE604	1	7'-1"	11	S
TE605	1	7'-9½"	12	S
TE606	1	8'-6½"	14	S
TE607	1	9'-3½"	14	S
TE608	1	10'-0"	15	S
TE609	1	10'-9"	16	S
TE610	1	11'-6"	17	S
TE611	1	12'-3"	18	S
TE612	1	13'-0"	20	S
TE613	1	13'-8½"	21	S
TE614	1	14'-5½"	22	S
TE615	1	15'-2½"	23	S
TE616	1	15'-11"	24	S
TE617	1	16'-8"	25	S
TE618	1	17'-5"	26	S
TE619	1	18'-2"	27	S
ED408	268	2'-10"	507	B
PE406	144	45'-0"	4329	S

Mark	No.	Length	Weight	Shp.
TE620	1	18'-10½"	28	S
TE621	1	19'-7½"	30	S
TE622	1	20'-4½"	31	S
TE623	1	21'-1½"	32	S
TE624	1	21'-10½"	33	S
TE625	1	22'-7"	34	S
TE626	1	23'-4"	35	S
TE627	1	24'-1"	36	S
TE628	1	24'-10"	37	S
TE629	1	25'-6½"	38	S
TE630	1	26'-3"	39	S
TE631	1	27'-0"	41	S
TE632	1	27'-9½"	42	S
TE633	1	28'-6½"	43	S
TE634	1	29'-3"	44	S
TE635	1	30'-0	45	S
TE636	1	30'-9	46	S
TE637	5	5'-9	43	S
TE638	2	7'-9"	24	B
TE650	7	5'-9"	60	S
TE651	1	6'-11"	10	S
TE652	1	7'-9½"	12	
TE653	1	8'-8"	13	
TE654	1	9'-6½"	14	
TE655	1	10'-5"	16	

Mark	No.	Length	Weight	Shp.
TE656	1	11'-3½"	17	S
TE657	1	12'-2"	18	S
TE658	1	13'-0½"	19	S
TE659	1	13'-11"	21	S
TE660	1	14'-9½"	22	S
TE661	1	15'-8"	23	S
TE662	1	16'-6½"	25	S
TE663	1	17'-5"	26	S
TE664	1	18'-3½"	27	S
TE665	1	19'-2"	29	S
TE666	1	20'-0½"	30	S
TE667	1	20'-11"	31	S
TE668	1	21'-9½"	33	S
TE669	1	22'-8"	34	S
TE670	1	23'-6½"	35	S
TE671	1	24'-5"	37	S
TE672	1	25'-3½"	38	S
TE673	1	26'-2"	39	S
TE674	1	27'-0½"	41	S
TE675	1	27'-11"	42	S
TE676	1	28'-9"	43	S
TE677	1	29'-7½"	45	S
TE678	1	30'-6"	46	S
TE679	1	7'-9"	12	
TE 401	333	30'-0"	6,673	
TE 402	37	9'-6½"	243	

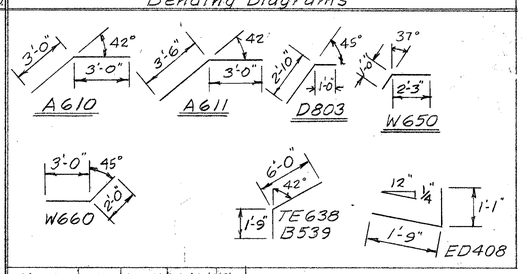
EPOXY COATED

Mark	No.	Length	Weight	Shp.
B501	1	6'-4"	7	
B502	1	7'-1"	7	
B503	1	7'-9½"	8	
B504	1	8'-6½"	9	
B505	1	9'-3½"	10	
B506	1	10'-0"	10	
B507	1	10'-9"	11	
B508	1	11'-6"	12	
B509	1	12'-3"	13	
B510	1	13'-0"	14	
B511	1	13'-8½"	14	
B512	1	14'-5½"	15	
B513	1	15'-2½"	16	
B514	1	15'-11"	17	
B515	1	16'-8"	17	
B516	1	17'-5"	18	
B517	1	18'-2"	19	
B518	1	18'-10½"	20	
B519	1	19'-7½"	20	
B520	1	20'-4½"	21	
B521	1	21'-1½"	22	
B522	1	21'-10½"	23	
B523	1	22'-7"	24	
B524	1	23'-4"	24	
B525	1	24'-1"	25	

Mark	No.	Length	Weight	Shp.
B526	1	24'-10"	26	S
B527	1	25'-6½"	26	S
B528	1	26'-3"	27	S
B529	1	27'-0"	28	S
B530	1	27'-9½"	29	S
B531	1	28'-6½"	30	S
B532	1	29'-3"	31	S
B533	1	30'-0"	31	S
B534	1	30'-9"	32	S
B538	12	5'-9"	30	S
B539	2	7'-9"	16	B
B540	1	6'-11"	7	S
B541	1	7'-9½"	8	S
B542	1	8'-8"	9	S
B543	1	9'-6½"	10	S
B544	1	10'-5"	11	S
B545	1	11'-3½"	12	S
B546	1	12'-2"	13	S
B547	1	13'-0½"	14	S
B548	1	13'-11"	14	S
B549	1	14'-9½"	15	S
B550	1	15'-8"	16	S

Mark	No.	Length	Weight	Shp.
B551	1	16'-6½"	17	S
B552	1	17'-5"	18	S
B553	1	18'-3½"	19	S
B554	1	19'-2"	20	S
B555	1	20'-0½"	21	S
B556	1	20'-11"	22	S
B557	1	21'-9½"	23	S
B558	1	22'-8"	24	S
B559	1	23'-6½"	25	S
B560	1	24'-5"	25	S
B561	1	25'-3½"	26	S
B562	1	26'-2"	27	S
B563	1	27'-0½"	28	S
B564	1	27'-11"	29	S
B565	1	28'-9"	30	S
B566	1	29'-7½"	31	S
B567	1	30'-6"	32	S
B570	361	31'-0"	11,672	
5500	333	30'-0"	10,420	
5504	37	12'-11"	511	

Bending Diagrams



Mark	No.	Length	Weight	Shp.	
V580	41	3'-9"	160		
V590	42	3'-9"	164		
H520	6	40'-4	252		
H530	3	37'-6"	117		
H540	3	38'-6"	120		
A610	3	6'-0"	27	B	
A611	3	6'-6"	29	B	
A612	6	3'-0"	27	B	
D803	44	3'-10"	450	B	
W650	6	3'-3"	27	B	
W660	6	5'-0"	45	B	

STATE OF OHIO DEPARTMENT OF TRANSPORTATION — DISTRICT 9 — BRIDGE OFC.

APPROACH SLAB, STEEL LIST & SKEW END REINFORCEMENT

BRIDGE NO. BRO-50-0449

OVER E. FORK LITTLE MIAMI R.

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
MSE	MSE	MSE	DAB	GLB	9-5-84	

BRO-50-0449 1484