DESIGN	DESIGNATION	WAY-3-9.15	WAY-95-0.79
CURRENT (1985) ADT	=	3350	360
DESIGN YEAR (2005) ADT	=	4020	550
DHV	=	400	55
D	=	50%	50%
T	=	8%	6%
V	=	50 MPH	50 MPH

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
WAY-3-9.15 (PART 1)
WAY-95-0.79 (PART 2)
PLAIN & WOOSTER TOWNSHIPS
WAYNE COUNTY

BRF - 20(63)
BRS - 475(3)

WAY - 3 - 9.15 WAY - 95 - 0.79	OHIO FHWA REGION 5	1 32
BRF-20(63) BRS-475(3)	FEDERAL PROJECT	

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

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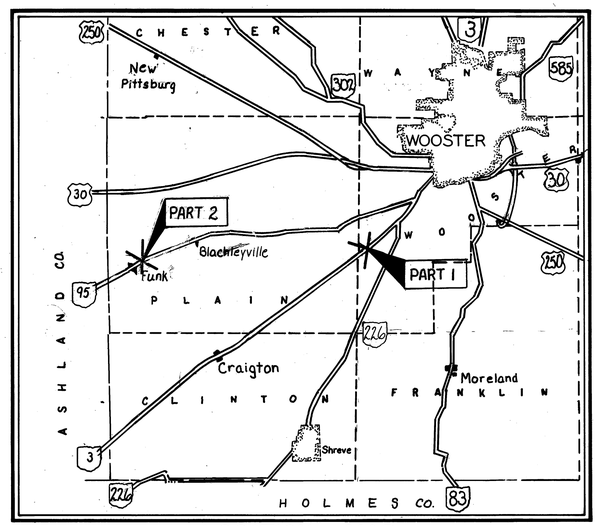
CHANNEL DETAILS	12 & 13
TRAFFIC MAINTENANCE DETAILS	14 & 15
PART 2 (WAY - 95 - 0.79)	
PLAN AND PROFILE	16
CROSS SECTIONS	17 & 18
CHANNEL DETAILS	19 & 20
STRUCTURE DETAILS	21 - 31, 22A
RIGHT OF WAY	32

LINE DATA

	PROJECT	WORK
PART 1 (WAY - 3 - 9.15)		
BEGIN	STA. 482+65.65	STA. 480+57
END	STA. 483+58.35	STA. 485+65
LENGTH	92.70 LIN. FT.	508.00 LIN. FT.
PART 2 (WAY - 95 - 0.79)		
BEGIN	STA. 239+25	STA. 239+25
END	STA. 242+35	STA. 243+25
LENGTH	310.00 LIN. FT.	400.00 LIN. FT.
TOTAL PROJECT		
LENGTH	402.70 LIN. FT.	908.00 LIN. FT.
OR	0.076 MILES	0.172 MILES



LOCATION MAP

SCALE IN MILES 0 1 2 3 4 5 6 7 8

Portion to be improved
State & Federal Routes
Other Roads

SCALES

Plan 0 20 40
Profile: Horizontal 0 20 40, Vertical 0 5 10
Cross Section: Horizontal 0 5 10, Vertical 0 5 10

OTHER SHEETS AS SHOWN

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS						
BP-5	7-16-81	MC-9A	5-1-81			
		MC-10	5-1-76			
		MC-11	8-1-78			
GR-1	2-5-82					
GR-2B	2-5-82	LA-1	6-1-79			
GR-3	2-5-82					
GR-4	2-5-82	AS-1-81	11-27-81			
GR-4A	1-30-84					
		DBR-2-73	4-10-73			
HW-4A	4-1-80					
		CS-2-73	4-10-73			
MC-4	7-26-76					

SUPPLEMENTAL SPECIFICATIONS	
824	10-8-82
836	3-12-75
847	10-17-83
861	9-9-83
947	10-17-83
961	9-9-83

UNDERGROUND UTILITIES
TWO WORK DAYS
BEFORE YOU DIG
Call···800-362-2764 (Toll free)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS MUST BE CALLED DIRECTLY

Plan Prepared By:
DISTRICT 3 DESIGN (ROADWAY PLANS)
AND
SHAFFER, JOHNSTON, LICHTENWALTER & ASSOCIATES, INC. (STRUCTURE PLANS)

SEAL

Project: WAY - 3 - 9.15 WAY - 95 - 0.79
Date of Letting ____ 19__, **Contract No.** ____

LD 0300 Rev. 1-1-81

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 *not require the closing to traffic of the highway on part 1 and that provisions for the maintenance and safety of traffic will be as set forth on the plans and estimates and will require the closing to traffic of the highway on part 2 and that detours will be provided as indicated on sheet 6.*

Approved *Gary M. Camp*
Date *12/20/84* District Deputy Director of Transportation

Approved *Walter J. Jastinger JOR*
Date *1-18-85* Engineer, Bureau of Bridges and Structural Design

Approved *(Wayne H. Kauble*
Date *6-3-85* Chief Engineer, *Planning & Design*

Approved *Warren J. Smith*
Date *6-3-85* Director, Department of Transportation

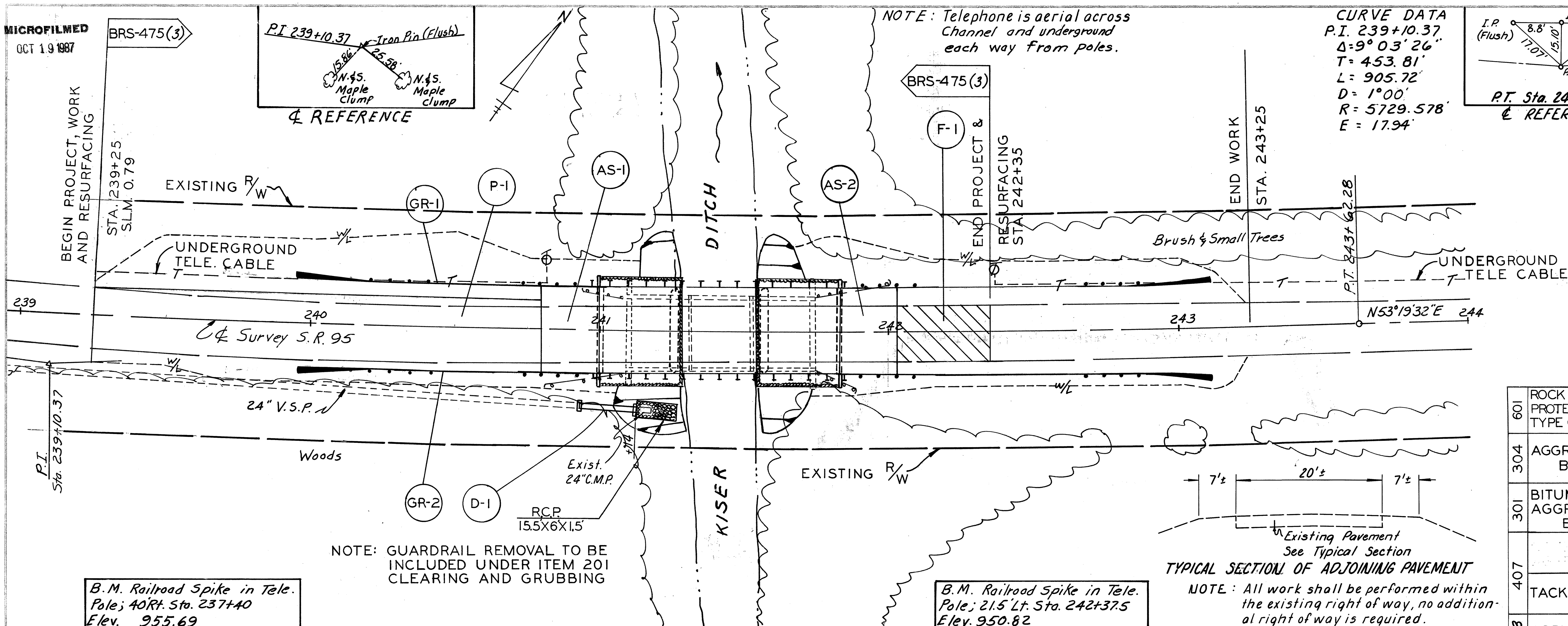
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

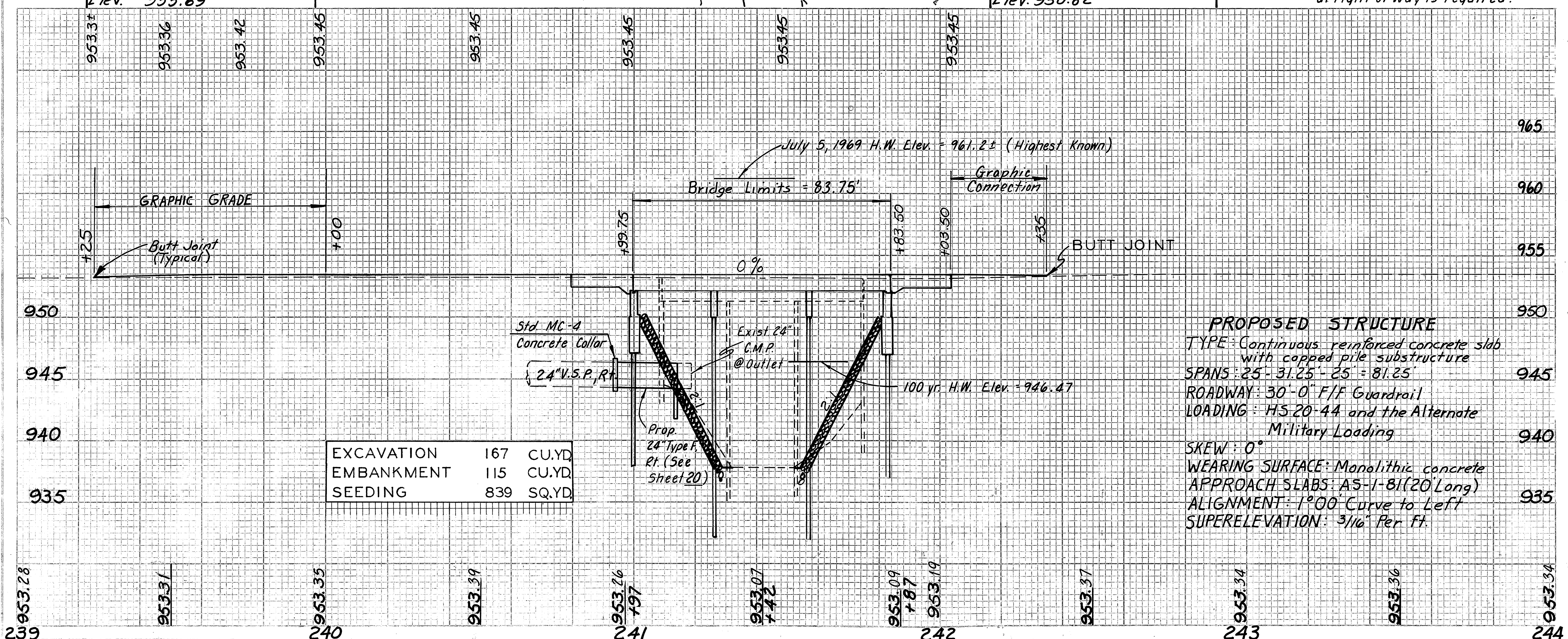
APPROVED:

DIVISION ADMINISTRATOR ____ DATE ____

WAY-3-9.15
WAY-95-0.79
PART 2

Calc. by EJS 3/84
Chkd. by JRG 9/84





EXISTING BRIDGE DATA
WAY-95-0082

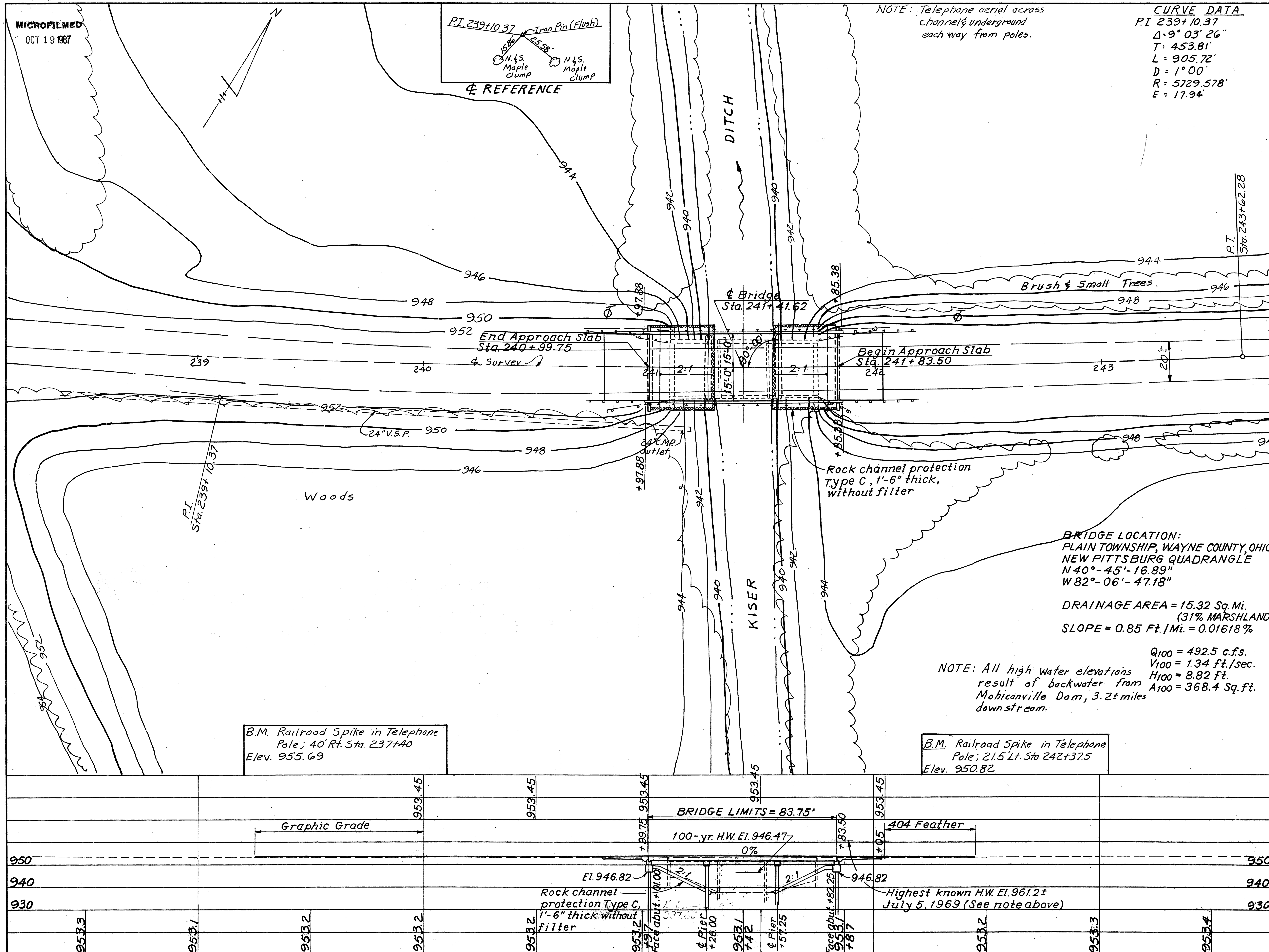
TYPE: Steel Beam
SPAN: 2@ 20'-6" 1@ 21'-0" (Clear)
ROADWAY: 24'-0" Face to Face of Wheelguards
SKEW: 0°
LOADING: S-12-46
SUB-STRUCTURE: Timber Creosote Piles
WEARING SURFACE: 3"± Asphalt on Timber
ALIGNMENT: 1°30' Curve to Left
CONDITION: Poor
DATE BUILT: 1937

Item	Description	Unit	GR-1	GR-2	AS-1	AS-2	F-1	P-1	D-1	TOTALS
601	ROCK CHANNEL PROTECTION TYPE C W/O FILT.	CU.YD.							5	5
304	AGGREGATE BASE 8"	CU.YD.					6.5	21.0		27.5
301	BITUMINOUS AGGREGATE BASE 6"	CU.YD.						8.0		8.0
407	TACK COAT	GAL.					7.0	38.0		45.0
403	ASPHALT CONCRETE VAR.	CU.YD.					1.5	18.5		20.0
603	CONDUIT TYPE F, 24"	LIN FT							20	20
611	REINFORCED CONCRETE APPR. SLAB T=13"	SQ.YD.			66.7	66.7				133.4
602	CONCRETE MASONRY	CU.YD.							0.5	0.5
202	WEARING COURSE REMOVED	SQ.YD.					56	56		112
404	Asphalt Concrete AC-20 1¼"	Cu.Yd.					2.4	13.2		15.6
606	BRIDGE TERM. ASSEMBLY TYPE B	Each	2	2						4
606	ANCHOR ASSEMBLY TYPE A	Each	2	2						4
606	GUARDRAIL TYPE 5	Lin.Ft.	175.00	175.00						350.00
	SIDE		LT.	RT.					RT.	
	STATION LIMITS		239+97.9± TO 243+10.4±	239+97.9± TO 243+10.4±	240+79.75 TO 240+99.75	241+83.50 TO 242+03.50	242+03.50 TO 242+35	239+25 TO 240+79.75	240+99 TO 241+28	TOTALS
	REF. NO		GR-1	GR-2	AS-1	AS-2	F-1	P-1	D-1	

PLAN & PROFILE - PART 2

FHWA REGION	STATE	PROJECT	
5	OHIO		

WAY - 3 - 9.15
WAY - 95 - 0.79 PART 2
Located at east edge of Funk, 0.8± Mile east of Ashland County Line.



DESIGN TRAFFIC
1983 ADT = 360
2003 ADT = 550
Trucks = 6%
Traffic will be detoured

EARTHWORK limits shown are schematic. Actual slopes shall conform to plan cross sections.

EXISTING BRIDGE DATA

WAY-95-0082

TYPE: Steel Beam
SPAN: 2@ 20'-6" 1@21'-0" Clear
ROADWAY: 24'-0" Face to Face of Wheelguards
SKEW: 0°
LOADING: S-12-46
SUB-STRUCTURE: Timber Creosote Piles
WEARING SURFACE: 3"± Asphalt on Timber
ALIGNMENT: 1°30' Curve to Left
CONDITION: Poor
DATE BUILT: 1937

PROPOSED STRUCTURE

TYPE: Continuous reinforced concrete slab with capped pile substructure
SPANS: 25'-31.25'-25' = 81.25'
ROADWAY: 30'-0" F/F Guard rail
LOADING: HS20-44 and the Alternate Military Loading.
SKEW: 0°
WEARING SURFACE: Monolithic concrete
APPROACH SLABS: AS-1-81 (20' Long)
ALIGNMENT: 1°-00' Curve to left
SUPERELEVATION: 3/16" Per ft.
AVERAGE DAILY TRAFFIC: See above

1/5

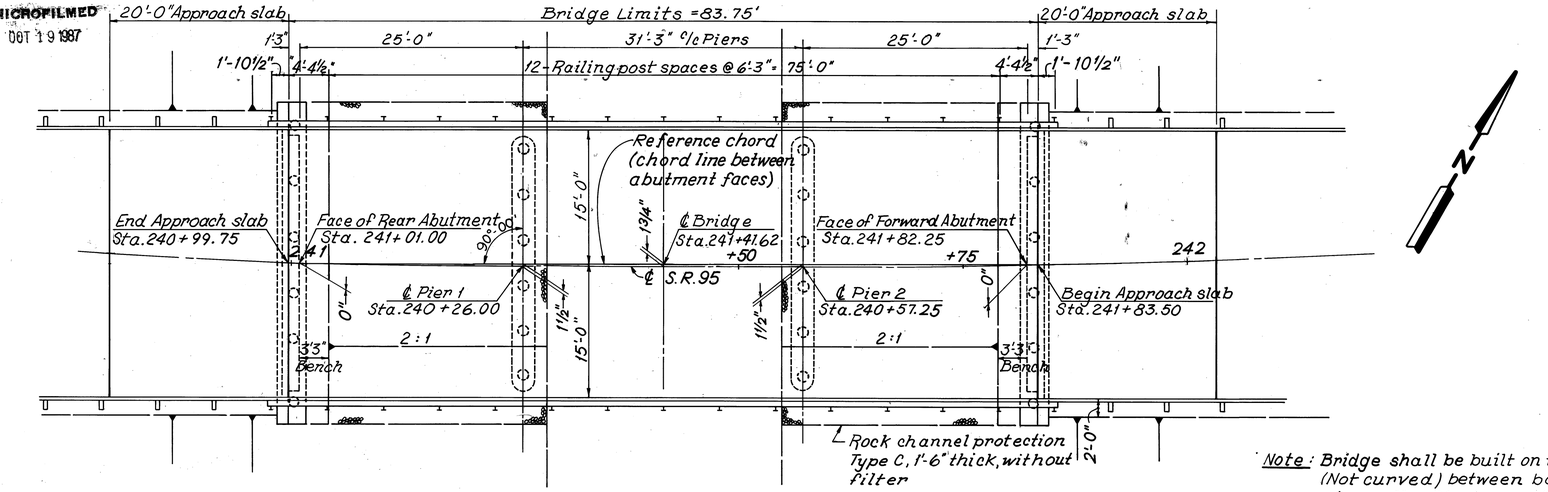
SHAFFER, JOHNSTON, LICHTENWALTER & ASSOCIATES, INC.
CONSULTING ENGINEERS - SURVEYORS
MANSFIELD OHIO WOOSTER

SITE PLAN

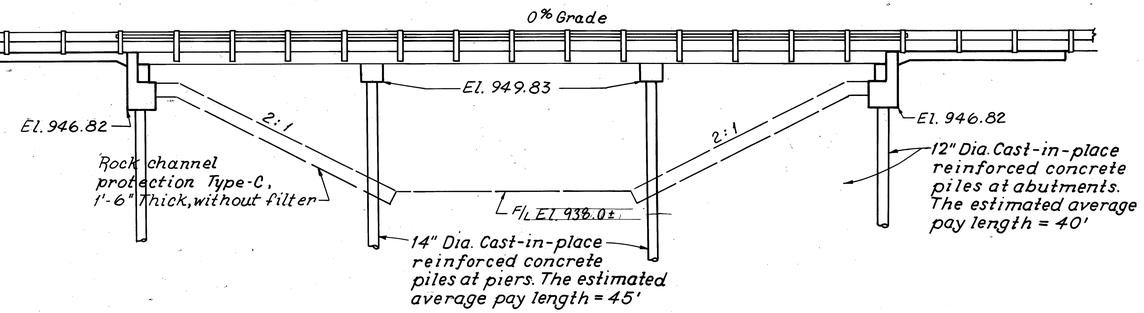
BRIDGE NO. WAY - 95 - 0082
OVER KISER DITCH
WAYNE COUNTY S.R. 95

SCALE 1" = 20'
STA. 240 + 99.75
STA. 241 + 83.50

PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED
DISTRICT 3	AERIAL SURVEY	RAK 9-24-83	RDR 9-26-83	JH 9-27-83	B 9-27-83



GENERAL PLAN



GENERAL ELEVATION

Note: Bridge shall be built on tangent (Not curved) between backs of wingwalls. Maximum offset of curve at ℄ bridge = 1¾"

ESTIMATED QUANTITIES BRS - 475 (3)

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUTS.	PIERS	GEN'L.
202	Lump	Lump	Structures Removed				
503	Lump	Lump	Unclassified Excavation		Lump		
505	Lump	Lump	Pile Driving Equipment Mobilization				
507	480	Lin.Ft.	12" Dia. Cast-in-place reinforced concrete piles, as per plan		480		
507	540	Lin.Ft.	14" Dia. Cast-in-place reinforced concrete piles, as per plan			540	
509	22,128	Lbs.	Reinforcing Steel	16,533	4184	1411	
511	130	Cu.Yds.	Class S Concrete, Superstructure, As Per Plan	130			
511	11	Cu.Yds.	Class C Concrete, Pier Caps, As Per Plan			11	
511	37	Cu.Yds.	Class C Concrete, Abutments, As Per Plan		37		
517	175.00	Lin.Ft.	Railing (Deep beam rail with steel tubular backup and	175.00			
			Type 2 steel Posts and bolts)				
518	14	Cu.Yds.	Porous Backfill		14		
824	9942	Lbs.	Epoxy coated reinforcing steel	8926		1016	
Special	35	Sq.Yd.	Sealing of Concrete Surfaces (See Proposal Note)	35			

For additional General Notes, See Sheet 22A.

For Pile Plan: See sheet 3/5

QUANTITIES CALC. RAK 11-16-83
QUANTITIES CK'D. JH 1-5-84

FHWA REGION	STATE	PROJECT	
5	OHIO		

WAY - 3 - 9.15
WAY - 95 - 0.79

PART 2

28/32

GENERAL NOTES

REFERENCE: shall be made to Standard Drawings
AS-1-81 (dated 11-27-81)
DBR-2-73 (dated 4-10-73)
CS-2-73 (dated 4-10-73)
and to Supplemental Specifications
824 (dated 10-8-82)
836 (dated 3-12-75)

DESIGN SPECIFICATIONS: This structure conforms to "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway and Transportation Officials, 1977 including the 1978, 1979, 1980, 1981 and 1982 Interim Specifications and the Ohio "Supplement" to these specifications

DESIGN DATA:
Design Loading - HS-20-44 and the alternate Military loading
Concrete Class S - Unit stress 1500 P.S.I. (Superstructure).
The slab design is based on class C concrete. (See Standard Drawing CS-2-73 for design data
Concrete Class C - Unit stress 1333 P.S.I. (Substructure)
Reinforcing Steel ASTM A615, A616, A617 - Grade 40 - unit stress 20,000 p.s.i
Deck Protection Method - epoxy coated reinforcing steel (top mat only)

MONOLITHIC WEARING SURFACE is assumed, for design purposes, to be 1" thick.

REMOVAL OF EXISTING STRUCTURE: When no longer needed to maintain traffic the existing structure shall be removed. Suitable waste masonry may be placed as bank protection as directed by the Engineer.

UTILITY LINES: All expense involved in relocating the affected utility lines shall be borne by the owners. The Contactor and Owners are requested to cooperate by arranging their work in such a mannen that inconvenience to either will be held to a minimum.

EMBANKMENT CONSTRUCTION: The embankments shall be constructed to the level of the subgrade to the Work Limits back of the abutments. Excavation may then be made for the abutments and for the benches and piles driven.

PILE DESIGN LOADS: The design load for the abutment piles is 23 tons per pile and the design load for the pier piles is 34 tons per pile.

PILE HAMMER: The pile hammer used to install the cast-in-place reinforced concrete piles shall have a States Energy Rating of not less than 14,000 foot-pounds. This requirement does not relieve the Contractor from 108.05 which states that the Contractor is to provide sufficient equipment for prosecuting the required work. Refer to ODOT's "Manual for Structures" to obtain the States Energy Rating.

12 INCH PRECAST PRESTRESSED CONCRETE PILES may be substituted for the 12 inch cast-in-place reinforced concrete piles shown on these plans. Drawings showing details of and specifications for prestressed concrete piles are available from the Director (Bureau of Bridges). If the prestressed pile alternate is chosen, the method of measurement and basis of payment shall be the same as for cast-in-place reinforced concrete piles per 507.

2/5

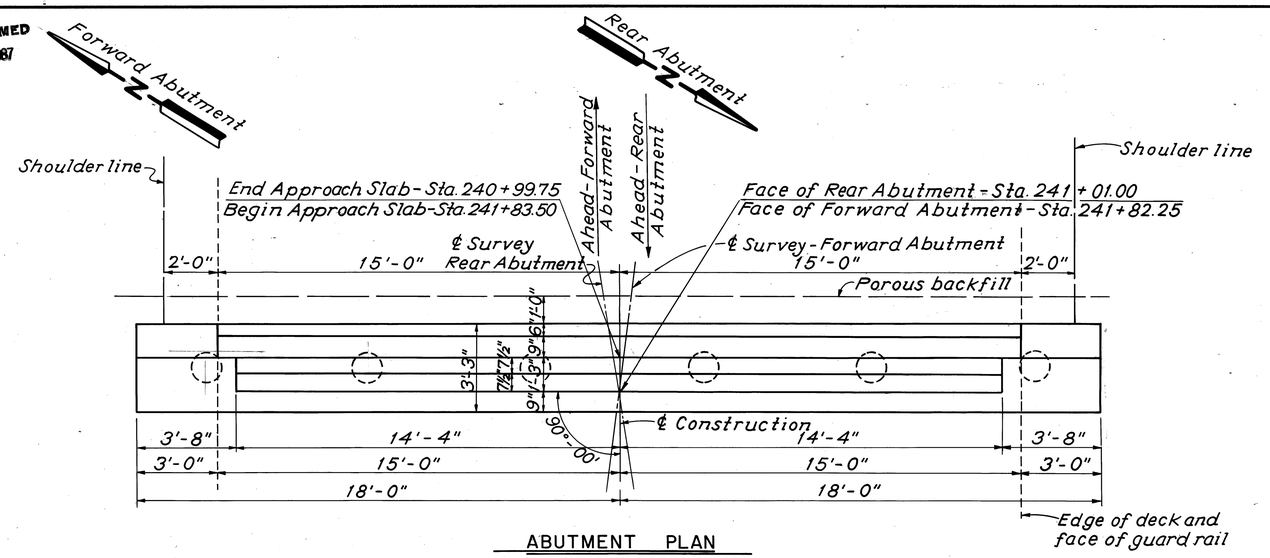
SHAFFER, JOHNSTON, LICHTENWALTER & ASSOCIATES, INC.
CONSULTING ENGINEERS - SURVEYORS
MANSFIELD OHIO WOOSTER

GENERAL PLAN, ELEVATION, NOTES AND ESTIMATED QUANTITIES

BRIDGE NO. WAY - 95 - 0082
OVER BRANCH OF KISER DITCH
WAYNE COUNTY S. R. 95
STA. 240+99.75 TO STA. 241+83.50

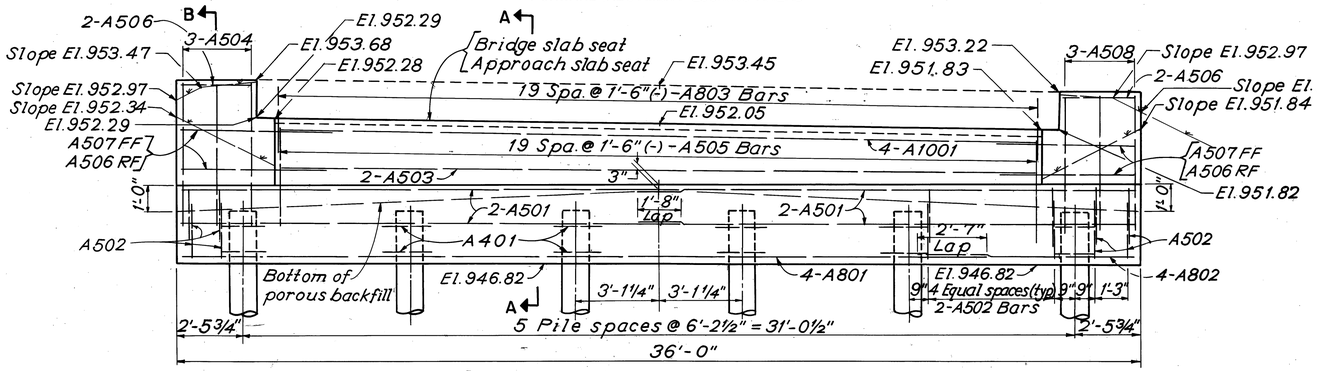
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	RDR	AF	RAK	JH	1-5-84	

JOB NO EM-943 SHEET OF



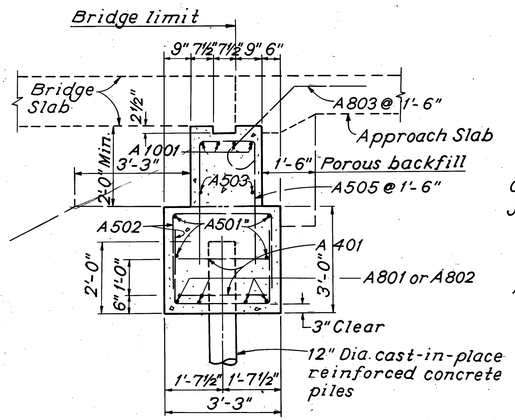
ABUTMENT PLAN

REAR ABUTMENT LOOKING BACK
FORWARD ABUTMENT LOOKING AHEAD

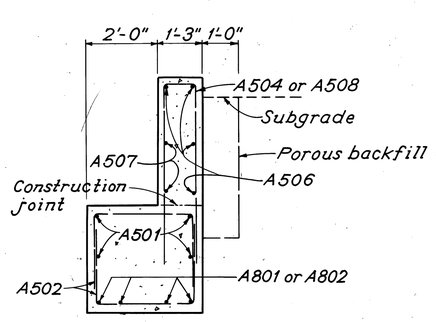


ABUTMENT ELEVATION

REAR ABUTMENT LOOKING BACK - SHOWN
FORWARD ABUTMENT LOOKING AHEAD - OPPOSITE HAND



SECTION A-A



SECTION B-B

QUANTITIES CALC. RAK 11-11-83
QUANTITIES CK'D. JH 1-4-84

FHWA REGION	STATE	PROJECT	
5	OHIO		

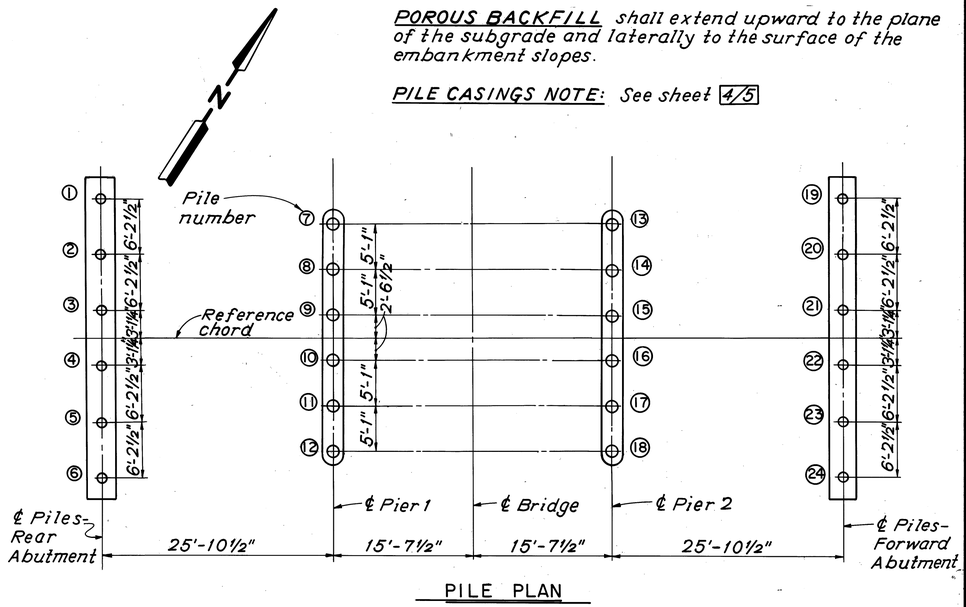
29/32

WAY - 3 - 9.15
WAY - 95 - 0.79 PART 2

NOTES:

POROUS BACKFILL shall extend upward to the plane of the subgrade and laterally to the surface of the embankment slopes.

PILE CASINGS NOTE: See sheet 4/5

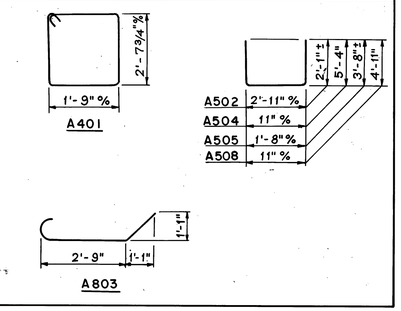


PILE PLAN

REINFORCING STEEL — ABUTMENTS

MARK	NO.	LENGTH	WEIGHT	SHAPE	REAR ABUT.	FWD. ABUT.
A401	24	9'-2"	147	BT.	12	12
A501	8	18'-7"	155	S	4	4
A502	116	6'-10"	827	BT.	58	58
A503	4	28'-2"	118	S	2	2
A504	6	11'-4"	71	BT.	3	3
A505	40	8'-9"	365	BT.	20	20
A506	16	2'-8"	45	S	8	8
A507	8	5'-4"	44	S	4	4
A508	6	10'-6"	66	BT.	3	3
A801	8	30'-0"	641	S	4	4
A802	8	8'-2"	174	S	4	4
A803	40	5'-3"	561	BT.	20	20
A1001	8	28'-2"	970	S	4	4
TOTAL WEIGHT			4184			

BENDING DIAGRAMS



NOTE:
Refer to C.M.S. Sections 106.03, 700, 709.01 through 709.05 and 709.08. Sufficient additional reinforcing steel shall be provided for sampling. Random samples shall be replaced in the structures by additional steel, spliced in accordance with 509.08

NOTATION:
FF - Front Face
RF - Rear Face

3/5

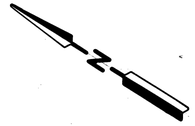
SHAFFER, JOHNSTON, LICHTENWALTER & ASSOCIATES, INC.
CONSULTING ENGINEERS - SURVEYORS
MANSFIELD OHIO WOOSTER

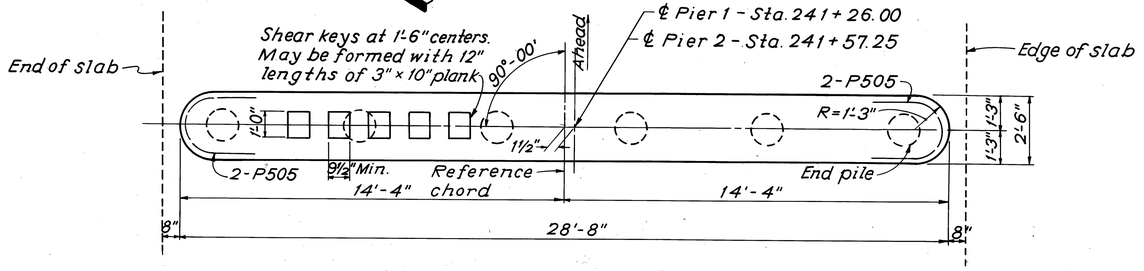
ABUTMENTS

BRIDGE NO. WAY - 95 - 0082
OVER BRANCH OF KISER DITCH
WAYNE COUNTY S.R. 95
STA. 240+99.75 TO STA. 241+83.50

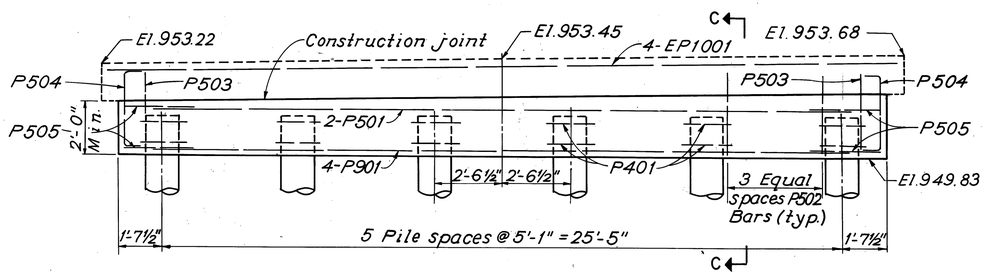
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	RDR	--	RAK	JH	1-4-84	

JOB NO EM-943 SHEET OF

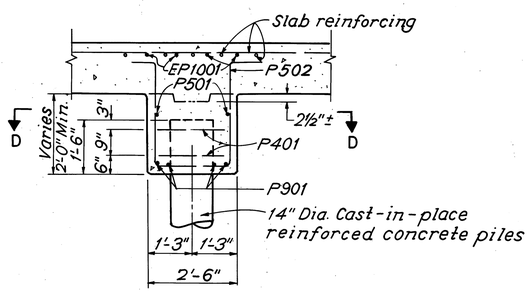




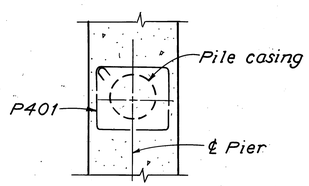
PIER PLAN



PIER ELEVATION



SECTION C-C



SECTION D-D

QUANTITIES CALC. RAK 11-11-83
QUANTITIES CK'D. JH 1-5-84

FHWA REGION	STATE	PROJECT	
5	OHIO		

WAY - 3 - 9.15
WAY - 95 - 0.79 PART 2

30/32

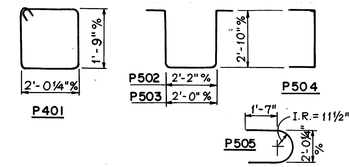
NOTES:

FALSEWORK SUPPORT: Attachment of falsework support members to pier piles will be permitted, if the attachment is made to that portion of pile encased in the pier cap.

PILE CASINGS: The casings of cast-in-place reinforced concrete piles shall be of the type that is left in place and is designed to resist both direct compression and bending. The portion above the proposed surface of the ground shall be of uniform diameter (not tapered) and shall have a thickness of metal not less than 0.179 inches.

REINFORCING STEEL - PIERS

MARK	NO.	LENGTH	WEIGHT	SHAPE	PIER 1	PIER 2	BENDING DIAGRAMS
P401	24	8'-0"	128	BT.	12	12	
P501	4	26'-2"	109	S	2	2	
P502	40	8'-7"	358	BT.	20	20	
P503	4	8'-5"	35	BT.	2	2	
P504	4	3'-10"	16	BT.	2	2	
P505	8	6'-4"	53	BT.	4	4	
P901	8	26'-2"	712	S	4	4	
TOTAL WEIGHT			1411				



EPOXY COATED REINFORCING STEEL - PIERS

MARK	NO.	LENGTH	WEIGHT	SHAPE	PIER 1	PIER 2	BENDING DIAGRAMS
EP1001	8	29'-6"	1016	S	4	4	
TOTAL WEIGHT			1016				

4/5

SHAFFER, JOHNSTON, LICHTENWALTER & ASSOCIATES, INC.
CONSULTING ENGINEERS - SURVEYORS
MANSFIELD OHIO WOOSTER

PIERS

BRIDGE NO. WAY - 95 - 0082
OVER BRANCH OF KISER DITCH
WAYNE COUNTY - S.R. 95
STA. 240+99.75 TO STA. 241 + 83.50

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	RDR		RAK	JH	1-5-84	

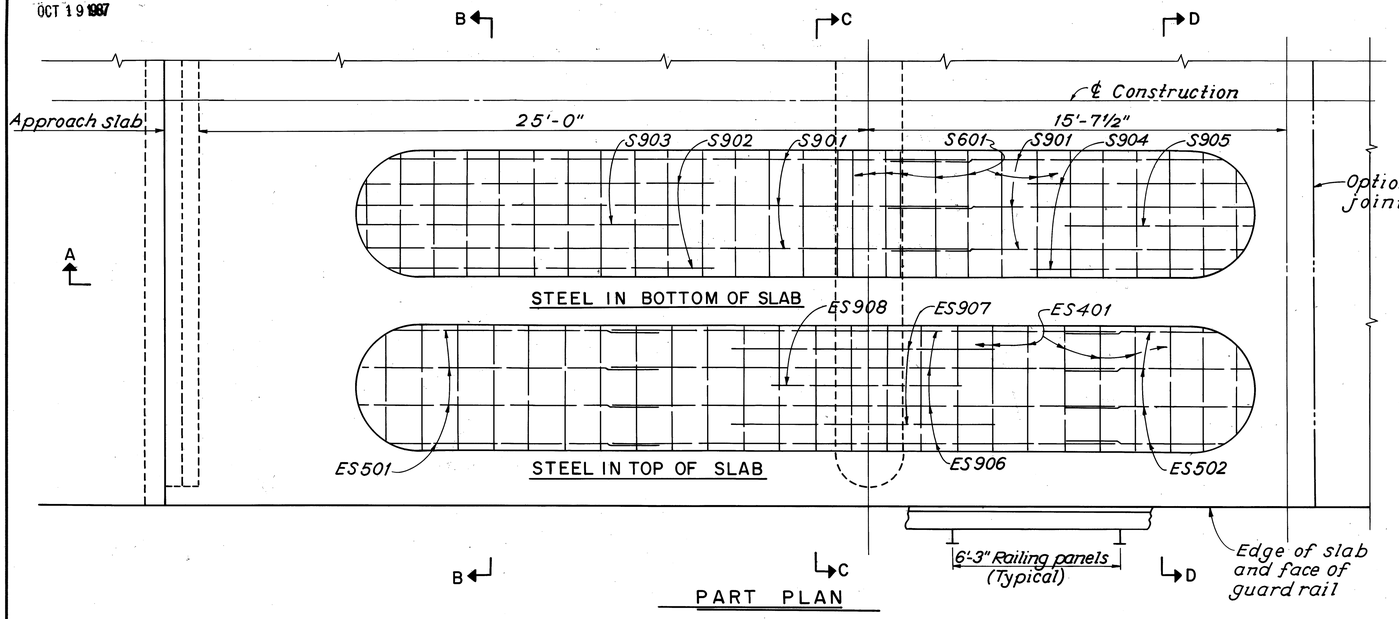
JOB NO EM-943 SHEET OF

FHWA REGION	STATE	PROJECT	
5	OHIO		

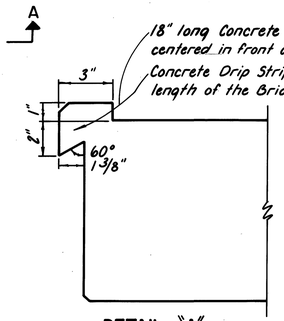
31/32

QUANTITIES CALC. RAK 11-10-83
QUANTITIES CK'D. JH 1-6-84

WAY - 3 - 9.15
WAY - 95 - 0.79 PART 2



PART PLAN



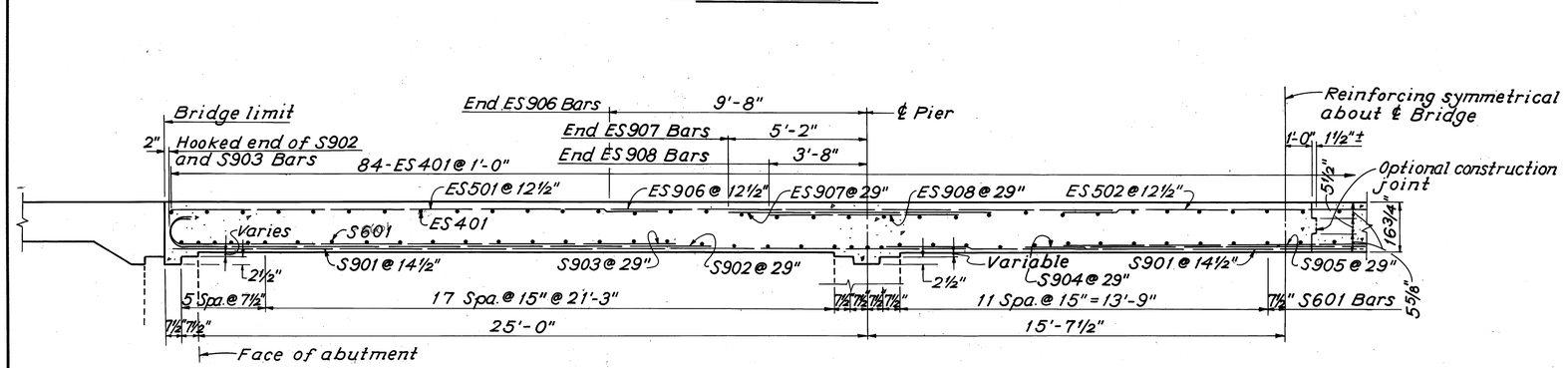
DETAIL "A"

NOTES:

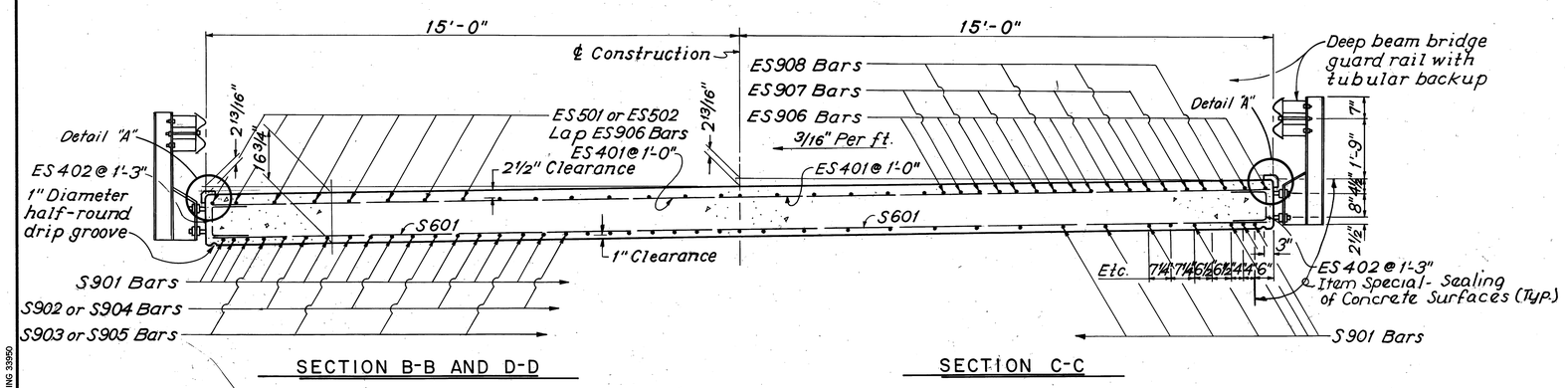
DEEP BEAM BRIDGE GUARD RAIL WITH TUBULAR BACKUP: See Std. Dwg. DBR-2-73. Use Type 2 posts.

CAMBER of 3/8" in each end span and 1/2" in the middle span shall be provided (in addition to that required for conformance with the horizontal curve of the highway) to allow for dead load deflection. This is the amount of camber required before falsework is released. To obtain this, proper allowance shall be made for the deflection of falsework members.

CONSTRUCTION JOINTS: One construction joint in bridge slab may be placed on transverse centerline of middle span or 1'-0" ± off transverse centerline if necessary to miss railing posts and transverse reinforcing bars. One longitudinal joint will be permitted, on centerline of construction.



SECTION A-A

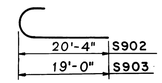


SECTION B-B AND D-D

SECTION C-C

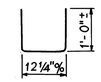
REINFORCING STEEL - SUPERSTRUCTURE

MARK	NO.	LENGTH	WEIGHT	SHAPE	BENDING DIAGRAMS
S601	76	29'-6"	3367	S	
S901	84	29'-9"	8497	S	
S902	22	21'-7"	1614	BT.	
S903	24	20'-3"	1652	BT.	
S904	11	19'-5"	726	S	
S905	12	16'-7"	677	S	
TOTAL WEIGHT			16,533		



EPOXY COATED REINFORCING STEEL - SUPERSTUCTURE

MARK	NO.	LENGTH	WEIGHT	SHAPE	BENDING DIAGRAMS
ES401	84	29'-6"	1655	S	
ES402	136	2'-10"	257	BT.	
ES501	60	18'-3"	1142	S	
ES502	30	16'-7"	519	S	
ES906	60	18'-10"	3842	S	
ES907	26	9'-11"	877	S	
ES908	26	7'-2"	634	S	
TOTAL WEIGHT			8926		



NOTE:

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

5/5

SHAFFER, JOHNSTON, LICHTENWALTER & ASSOCIATES, INC.
CONSULTING ENGINEERS - SURVEYORS
MANSFIELD OHIO WOOSTER

SUPERSTRUCTURE

BRIDGE NO. WAY - 95 - 0082
OVER BRANCH OF KISER DITCH
WAYNE COUNTY S.R. 95
STA. 240+99.75 TO STA. 241 + 83.50

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAK	RDR		RAK	JH	1-6-84	

JOB NO EM-943 SHEET OF