

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
HOL-39-(17.21)
BRIDGE NO. HOL-39-1721
VILLAGE OF MILLERSBURG
HARDY TOWNSHIP
HOLMES COUNTY

BRIDGE DECK REPLACEMENT

BR-28-88

OHIO

FHWA
REGION 5

FEDERAL
PROJECT

1
5

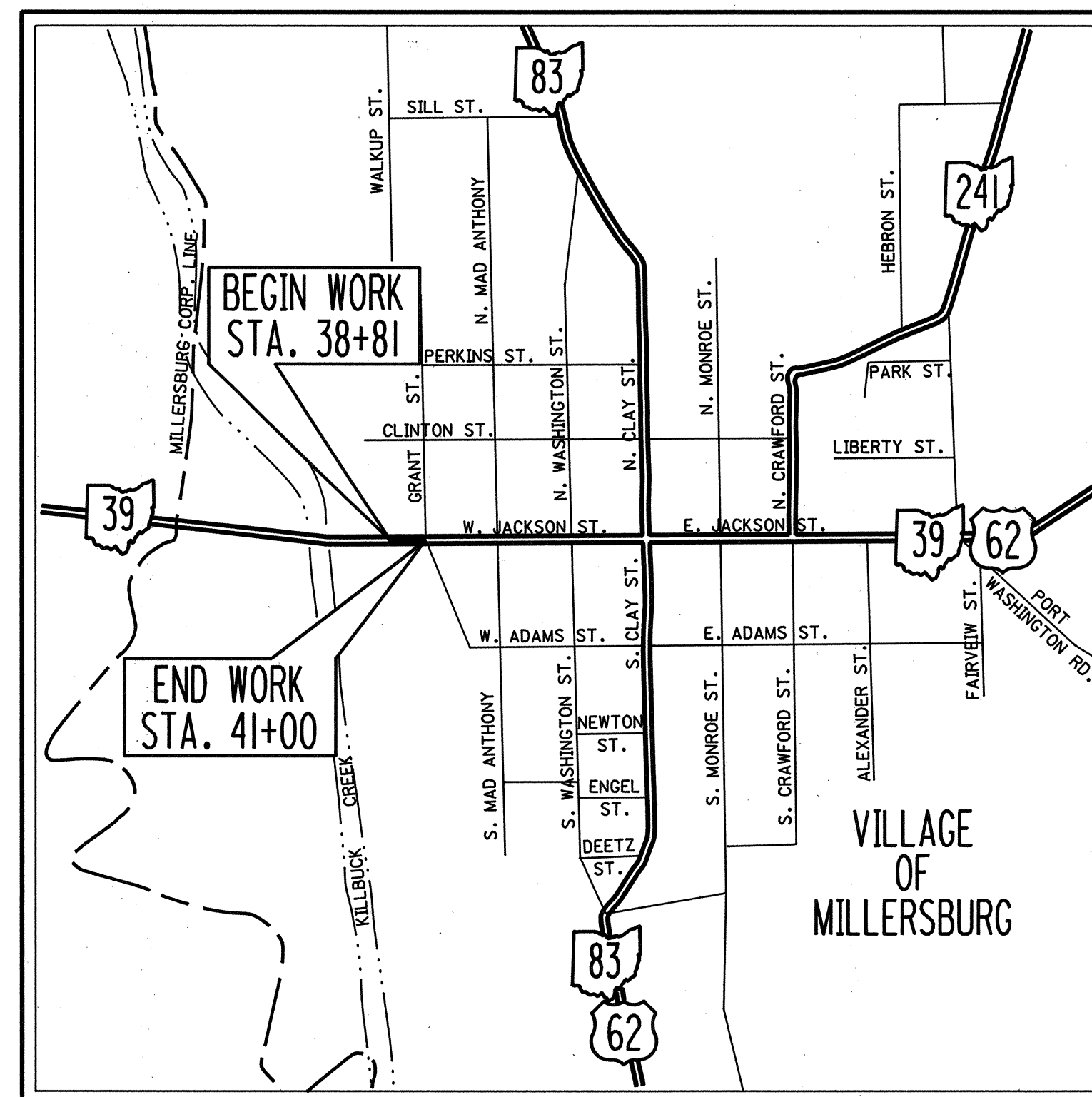
MICROFILMED
MAR 7 1992

CONVENTIONAL SIGNS

COUNTY LINE ————
TOWNSHIP LINE ————
SECTION LINE ————
CORPORATION LINE ———— OR ————
FENCE (EXISTING) —X— (PROPOSED) —X—
CENTERLINE ————
TREES STUMPS (TO BE REMOVED) —X—
UTILITY POLES: TELEPHONE — POWER — LIGHT —
LIMITED ACCESS (ONLY) ———— L/A ————
RIGHT OF WAY (ONLY) ———— R/W ————
LIMITED ACCESS & RIGHT OF WAY ———— L/A & R/W ————
EXISTING RIGHT OF WAY ————
PROPERTY LINE ———— (IN EXISTING FENCE) —X—
RAILROAD ———— OR ————
GUARDRAIL (EXISTING) ———— (PROPOSED) ————

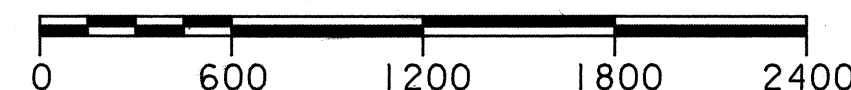
INDEX OF SHEETS

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LOCATION MAP

SCALE IN FEET



LINE DATA

BEGIN WORK = STATION 38+81
END WORK = STATION 41+00
TOTAL NET LENGTH OF WORK = 219.00 LIN. FT. OR 0.04 MILE

UNDERGROUND UTILITIES
2 WORKING DAYS
BEFORE YOU DIG
CALL 800-362-2764 (TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

PORTION TO BE IMPROVED ————
STATE & FEDERAL ROUTES ————
OTHER ROADS ————

SCALES

PLAN ————
PROFILE: ———— HORIZONTAL ———— VERTICAL ————
CROSS SECTION: HORIZONTAL ———— VERTICAL ————

SUPPLEMENTAL SPECIFICATIONS	
852	6-10-87
853	6-26-78
952	6-10-87
956	6-26-78
824	10-8-82
802	5-4-88

APPROVED William P. McKeown
DATE 07-14-88 DISTRICT DEPUTY DIRECTOR OF TRANSPORTATION

APPROVED B. D. Hankins
DATE 7-26-88 ENGINEER, BUREAU OF BRIDGES AND
STRUCTURAL DESIGN

APPROVED James R. Longenecker
DATE 7-28-88 DEPUTY DIRECTOR, OPERATIONS

APPROVED Bernard B. Hunt
DATE 7-29-88 DIRECTOR, DEPARTMENT OF TRANSPORTATION

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED

DIVISION ADMINISTRATOR

DATE

PROJECT: HOL-39-(17.21)
DATE OF LETTING: 1988, CONTRACT NO. _____

SEAL

PLAN PREPARED BY:
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT II

BRIDGE NOTES

FHWA REGION	STATE	PROJECT	
5	OHIO		

2
5

HOL-39-(17.21)
BR-28-88

WORK REQUIRED

- 1) CLOSE BRIDGE TO TRAFFIC.
- 2) REMOVE EXISTING REINFORCED CONCRETE DECK AND STEEL FORMS.
- 3) ADD DIAPHRAGMS AND SHEAR CONNECTORS.
- 4) PLACE NEW REINFORCED CONCRETE DECK, OTHER CONCRETE ITEMS AND PAINT STEEL.
- 5) PERFORM GUARDRAIL AND ROADWAY ITEMS.
- 6) CLEANUP AND OPEN TO TRAFFIC.

DESIGN DATA

DESIGN LOADING- HS20-44 CASE II
CONCRETE CLASS C - UNIT STRESS 1333 P.S.I. (SUBSTRUCTURE)
CONCRETE CLASS S - UNIT STRESS 1500 P.S.I. (SUPERSTRUCTURE)
REINFORCING STEEL - ASTM A615, A616, A617 - UNIT STRESS 24000 P.S.I.
DECK PROTECTION METHOD: EPOXY COATED REINFORCING STEEL BOTH MATS
MONOLITHIC WEARING SURFACE IS ASSUMED FOR DESIGN PURPOSES TO BE 1" THICK
STRUCTURAL STEEL ASTM A36 UNIT STRESS 20000 PSI

PORTIONS OF STRUCTURE REMOVED

THIS ITEM SHALL INCLUDE THE REMOVAL OF THE EXISTING REINFORCED CONCRETE DECK AND BRIDGE RAILING AS WELL AS THE RAILING ON THE APPROACHES.

ITEM 517-RAILING (DEEP BEAM WITH TUBULAR BACKUP, HANDRAIL, POSTS & ANCHOR BOLTS, AS PER PLAN.)

THIS ITEM SHALL INCLUDE DEEP BEAM RAILING WITH TUBULAR BACKUP AND HANDRAIL USING MOUNTED POSTS AS DETAILED ON THE PLAN. ALL MATERIALS, EQUIPMENT, LABOR AND INCIDENTALS NEEDED TO INSTALL THE COMPLETE RAILING FOR THE LENGTH SHOWN SHALL BE INCLUDED IN THE UNIT PRICE BID PER LINEAL FOOT OF ITEM 517-RAILING (DEEP BEAM WITH TUBULAR BACKUP, HANDRAIL, POSTS AND ANCHOR BOLTS, AS PER PLAN.)

LOCATION OF GUARDRAIL

THE LOCATION OF GUARDRAIL RUNS AS SHOWN IN THESE PLANS ARE SUBJECT TO ADJUSTMENT BY THE ENGINEER TO AFFORD MAXIMUM PROTECTION FOR TRAFFIC.

MAINTENANCE OF TRAFFIC

WHEN NO LONGER NEEDED THE EXISTING BRIDGE DECK SHALL BE REMOVED AS PER ITEM 202. THE ROAD CAN BE CLOSED TO TRAFFIC FOR A PERIOD NOT TO EXCEED 40 CALENDER DAYS. BEAM TEST OF CONCRETE SHALL BE USED IF NECESSARY TO MEET THE ALLOWABLE CLOSURE.

201 CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES NOR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF WORK, A LUMP SUM QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, FOR REMOVAL OF BRUSH FROM BENEATH AND 10 FEET EITHER SIDE OF THE STRUCTURE. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM SHALL BE FOLLOWED AND ALL COSTS SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 201- CLEARING AND GRUBBING.

RIGHT-OF-WAY

ALL WORK SHALL BE PERFORMED WITHIN THE EXISTING RIGHT-OF-WAY.

FIELD OFFICE

THE CONTRACTOR SHALL PROVIDE A SUITABLE FIELD OFFICE HAVING A MINIMUM OF 150 SQ.FT. OF FLOOR SPACE. PAYMENT SHALL BE AT THE LUMP SUM PRICE BID FOR ITEM 619, FIELD OFFICE.

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS 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 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.

ITEM SPECIAL - SEALING CONCRETE SURFACES

A CONCRETE SEALER, EITHER EPOXY OR A NON-EPOXY SEALER, SHALL BE APPLIED TO THE FOLLOWING CONCRETE SURFACES:
THE ENTIRE SURFACE OF THE SIDEWALK AND THE EDGE OF THE DECK FOR THE FULL LENGTH OF THE DECK
SEE PROPOSAL FOR THE SURFACE PREPARATION REQUIREMENTS, APPLICATION RATES, MATERIAL REQUIREMENTS AND APPLICATION PROCEDURES.

UNDERGROUND UTILITIES

THE LOCATIONS OF UNDERGROUND UTILITIES ON THE PLAN ARE AS OBTAINED FROM OWNERS OF THE UTILITIES AS REQUIRED BY SECTION 153.64 O.R.C.

UTILITY NOTIFICATION

IN ADDITION TO THE REQUIREMENTS OF SPECIFICATION 105.06, THE CONTRACTOR SHALL, AT LEAST TWO WORKING DAYS BEFORE BREAKING GROUND, ALL PUBLIC SERVICE CORPORATIONS HAVING WIRES, POLES, CONDUIT OR OTHER STRUCTURES, WHICH MAY BE AFFECTED BY THE OPERATION. HE SHALL CONDUCT HIS OPERATIONS IN SUCH A MANNER TO AVOID DAMAGES TO ANY AND ALL UTILITIES. ANY AND ALL WORK REQUIRED FOR PUBLIC OR PRIVATE UTILITIES WILL BE DONE BY AND AT THE EXPENSE OF THEIR RESPECTIVE OWNERS, UNLESS OTHERWISE NOTED ON THESE PLANS.
FOLLOWING ARE OWNERS KNOWN TO BE WITHIN THE AREA OF THE PROJECT:

OHIO POWER CO.
301 CLEVELAND AVE. S.W.
CANTON, OHIO 44701
PHONE: (216)438-7040

UNITED TELEPHONE CO. OF OHIO
220 SOUTH PARK AVE.
WARREN, OHIO 44482
PHONE: (216)841-1311

COLUMBIA GAS OF OHIO
216 HIGHLAND AVE.
CAMBRIDGE, OHIO
PHONE: (614)432-8226

MILLERSBURG WATER DEPARTMENT
STATE ROUTE 39
MILLERSBURG, OHIO 44654
PHONE: (216)674-1076

MILLERSBURG COMMUNITY
TELEVISION SYSTEM INC.
301 WOOSTER RD.
MILLERSBURG, OHIO 44654
PHONE: (216)674-5866

ITEM SPECIAL- LOW STRENGTH MORTAR BACKFILL MATERIAL

THIS MATERIAL IS INTENDED TO BE USED TO FILL VOIDS BENEATH THE EXISTING SIDEWALK AND BEHIND THE BRIDGE BACKWALL. THE QUANTITY SHOWN IS AN ESTIMATE TO BE USED AS DIRECTED BY THE ENGINEER. THE ACTUAL QUANTITY USED SHALL BE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

DATUM

ALL ELEVATIONS ARE BASED ON USC&GS DATUM.

ITEM 519 - PATCHING CONCRETE STRUCTURES

THE QUANTITY SHOWN FOR THIS ITEM IS AN ESTIMATE TO BE USED AS DIRECTED BY THE ENGINEER ON AREAS OF THE ABUTMENT SEAT CAPS. THE ACTUAL QUANTITY USED SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

ITEM ⁴⁰²~~403~~ - ASPHALT CONCRETE, AC-20, AS PER PLAN

A QUANTITY OF ⁴⁰²~~403~~ ASPHALT CONCRETE HAS BEEN SET UP ON THIS PLAN TO BE USED AS A LEVELING COURSE. THE ~~403~~ SHALL BE PLACED TO WITHIN 1 1/2 " OF FINAL GRADE ON BOTH APPROACHES AS SHOWN ON THE SITE PLAN.

PAINTING OF NEW STRUCTURAL STEEL

THE PAINTING OF NEW STRUCTURAL STEEL SHALL BE SYSTEM OZEU AND SHALL BE INCLUDED WITH FIELD PAINTING OF EXISTING STEEL FOR PAYMENT.

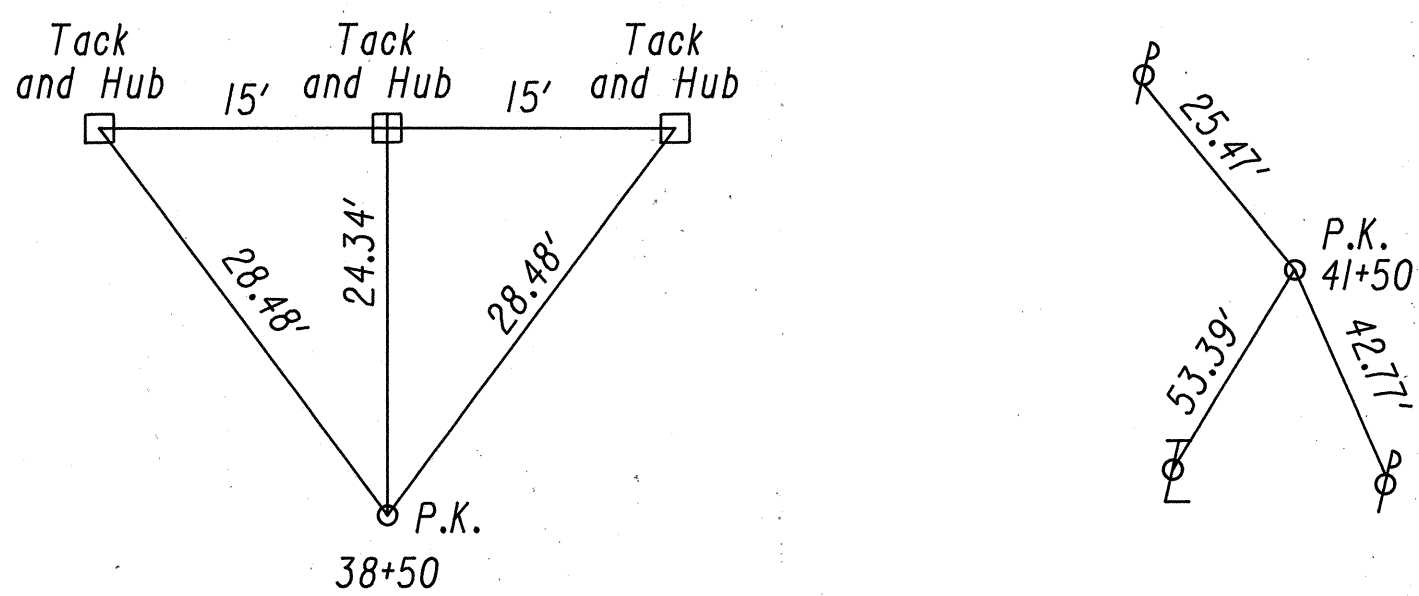
BRIDGE SUMMARY				
ITEM	TOTAL	UNIT	ITEM EXT.	DESCRIPTION
202	LUMP	LUMP		PORTIONS OF STRUCTURE REMOVED
202	347	LIN.FT.		GUARDRAIL REMOVED
403 ⁴⁰²	1.4 ^{1.4} 33	CU.YD.		ASPHALT CONCRETE, AC-20, AS PER PLAN
404	21	CU.YD.		ASPHALT CONCRETE, AC-20
407	51	GAL.		TACK COAT
511	41	CU.YD.		CLASS S CONCRETE, SUPERSTRUCTURE
513	672	EACH		WELDED STUD SHEAR CONNECTORS
513	734	LB.		NEW STRUCTURAL STEEL <i>(AISC Certification not Req'd)</i>
516	199	SQ.FT.		1" PREFORMED EXPANSION JOINT FILLER
517	87.5	LIN.FT.		RAILING (DEEP BEAM W/TUBULAR BACKUP, TYPE I POSTS, BOLTS AND HANDRAIL)
517	68.75	LIN.FT.		RAILING (DEEP BEAM W/TUBULAR BACKUP, HANDRAIL, POSTS AND ANCHOR BOLTS),AS PER PLAN
519	25	SQ.FT.		PATCHING CONCRETE STRUCTURES,AS PER PLAN
606	4	EACH		BRIDGE TERMINAL ASSEMBLY, TYPE B
606	181.25	LIN.FT.		GUARDRAIL, TYPE 5
606	1	EACH		ANCHOR ASSEMBLY, TYPE A
606	2	EACH		ANCHOR ASSEMBLY, TYPE T
802	6	EACH		BARRIER REFLECTORS, TYPE A
824	8893	LB.		EPOXY COATED REINFORCING STEEL, GRADE 60
SPECIAL	3	CU.YD.		LOW STRENGTH BACKFILL MATERIAL *
SPECIAL	64	SQ.YD.		SEALING OF CONCRETE SURFACES *
SPECIAL	LUMP	LUMP		FIELD PAINTING OF EXISTING STEEL, SURFACE PREPARARTION
				SYSTEM OZEU
SPECIAL	LUMP	LUMP		FIELD PAINTING OF EXISTING STEEL, PRIME COAT, SYSTEM OZEU
SPECIAL	LUMP	LUMP		FIELD PAINTING OF EXISTING STEEL, INTERMEDIATE COAT
				SYSTEM OZEU
SPECIAL	LUMP	LUMP		FIELD PAINTING OF EXISTING STEEL, FINISH COAT, SYSTEM OZEU
614	LUMP	LUMP		MAINTAINING TRAFFIC
619	LUMP	LUMP		FIELD OFFICE
623	LUMP	LUMP		CONSTRUCTION LAYOUT STAKES
624	LUMP	LUMP		MOBILIZATION

* SEE PROPOSAL NOTE

NOTE: ALL WORK REQUIRED TO OPEN THE BRIDGE TO TRAFFIC SHALL BE COMPLETED BY 11-30-88.

STATE OF OHIO DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS BUREAU OF MAINTENANCE					
BRIDGE NOTES AND SUMMARY					
BRIDGE NO. HOL-39-1721 OVER ABANDONED RAILROAD					
DESIGNED	DRAWN	CADD	CHECKED	REVIEWED	DATE
JLO	WRG	WRG	WRG		

REFERENCE POINTS



BENCH MARKS

B.M. Elev. 850.60 Mine Spike in ϕ
Sta. 41+23.45 ft. left

B.M. Elev. 842.95 Mine Spike in ϕ
Sta. 39+62.5 22.5 ft. right

FHWA REGION	STATE	PROJECT
5	OHIO	

3
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HOL-39-(17.21)

BR-28-88

BEGIN WORK
STA. 38+81

END WORK
STA. 41+00

GUARDRAIL

GUARDRAIL									
LOCATION				ITEM 202	ITEM 606			ITEM 517	
R E F	STATION		S I D E O F C	GUARDRAIL REMOVED	GUARDRAIL TYPE, 5	ANCHOR ASSEMBLY TYPE A	ANCHOR ASSEMBLY TYPE T	RAILING DEEP BEAM W/TUBULAR BACKUP TYPE I POST	RAILING DEEP BEAM W/TUBULAR BACKUP POST AS PER PLAN
				LIN.FT.	LIN.FT.	EACH	EACH	LIN.FT.	LIN.FT.
	FROM	TO							
R1	38+74	40+34	LT	163					
R2	39+01	40+82	RT	184					
GR1	38+81	39+47	LT		43.75	1			
GR2	39+91	39+86	RT		106.25		1		
GR3	40+54	40+85	RT		31.25		1		
BR1	39+47	40+33	LT					43.75	43.75
BR2	39+86	40+54	RT					43.75	25.00
	+	+							
	+	+							
TOTALS (CARRIED TO GENERAL SUMMARY)				347	181.25	1	2	87.5	68.75

NOTE:

Post A shall be mounted to the existing wall by using Type A anchors as per Std. Dwg. DBR-2-73. Type A anchors shall be grouted into the wall with either an epoxy as per SS853 and SS956 or with Polyester/Vinylester mortar as per SS852 and SS952.

Post B shall be mounted on top of the existing sidewalk by inlet mounted post as per Std. Dwg. GR-1 with the exception that the 7/8" bolts shall be grouted 8" into the existing sidewalk with an epoxy as per SS853 and SS956 or with Polyester/Vinylester mortar as per SS852 and SS952 in lieu of the 3"x3"x 1/2" steel plate washers.

EXISTING STRUCTURE

TYPE : Steel beam, simple
SPAN LENGTH : 27'-0" Clear span
ROADWAY WIDTH : 24'-0" f/f curbs
LOADING : H-15
ALIGNMENT : Tan
WEARING SURFACE Bituminous

PROPOSED STRUCTURE

TYPE : Steel beam, simple with new conc. deck
SPAN LENGTH : 27'-0" Clear span
ROADWAY WIDTH : 24'-0" f/f curbs
LOADING : HS-20
ALIGNMENT : Tan
WEARING SURFACE Concrete

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
BUREAU OF MAINTENANCE

SITE PLAN

BRIDGE NO. HOL-39-1721
OVER ABANDONED RAILROAD

HOLMES COUNTY

PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYED DISTRICT II	CADD WRG	DESIGNED JLO	CADD WRG	CHECKED WRG	REVIEWED

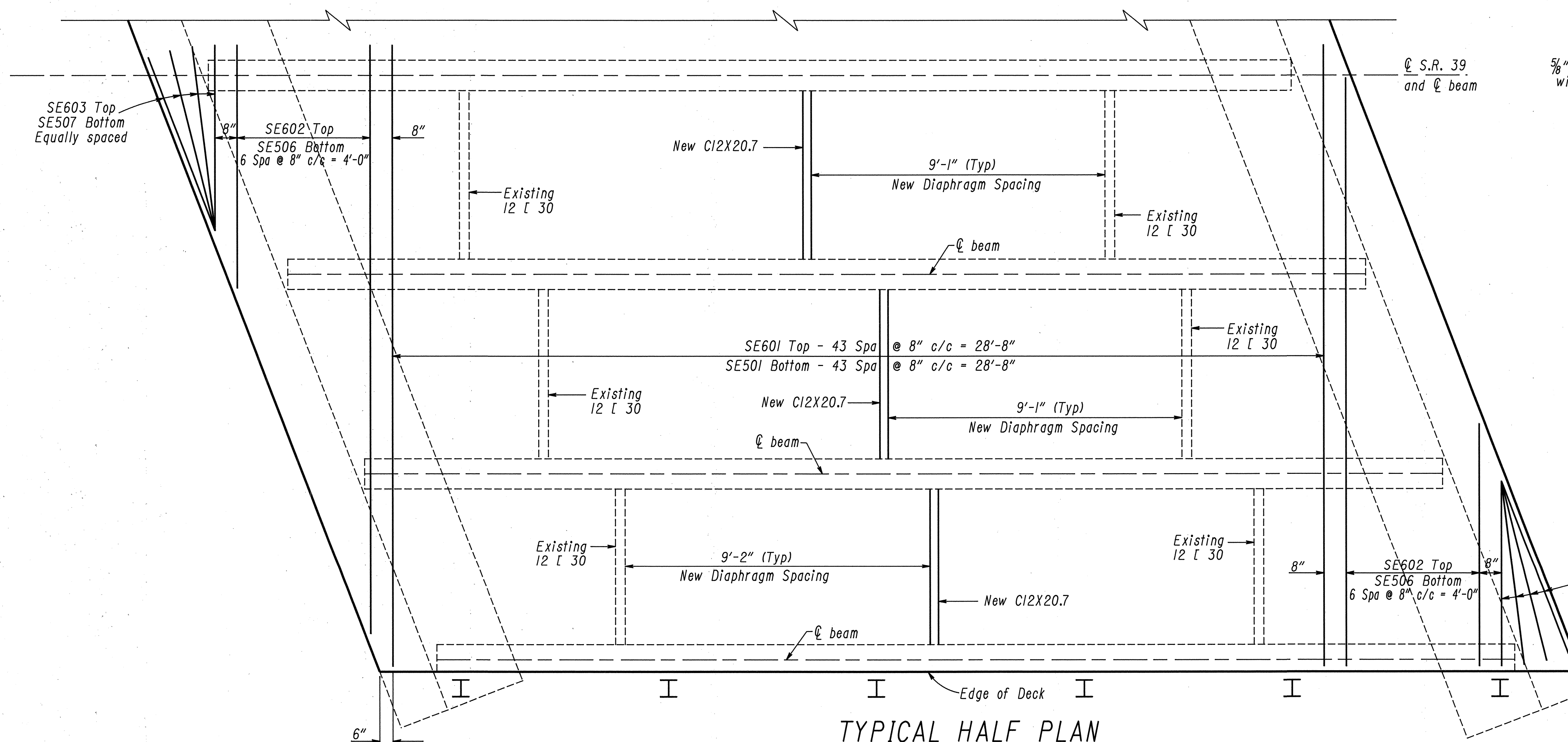
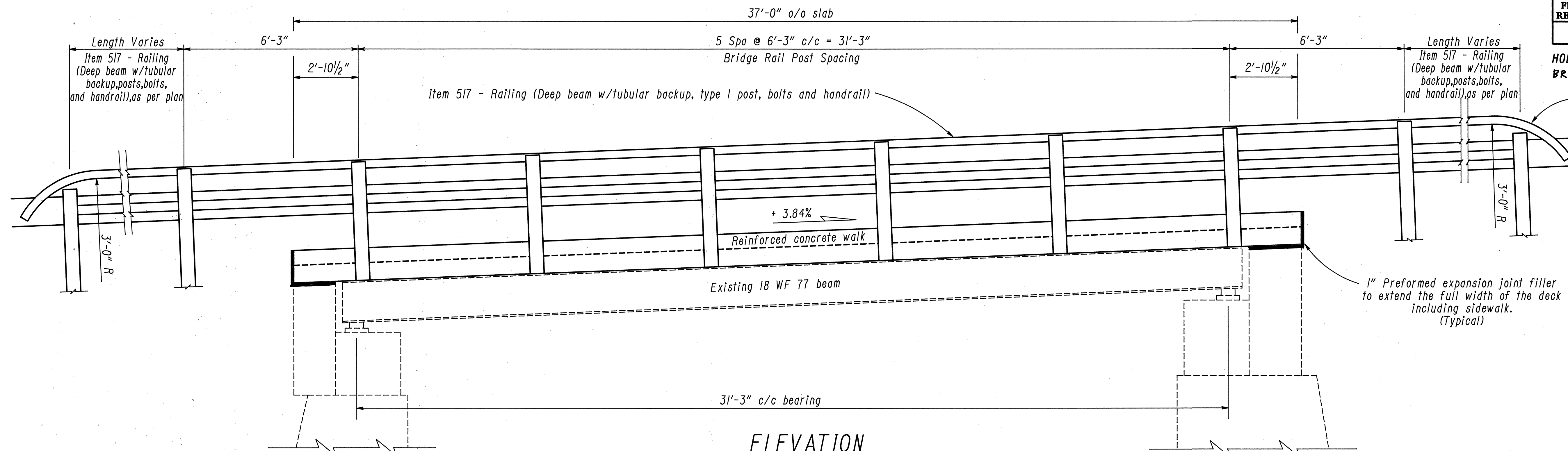
Revision JAW 8-29-88

FHWA REGION	STATE	PROJECT
5	OHIO	

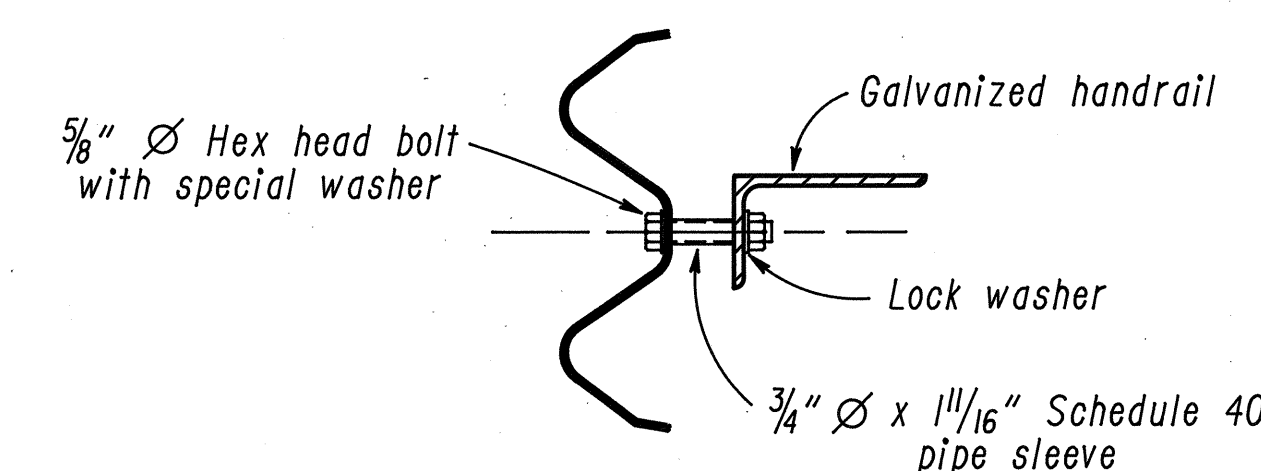
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HOL-39-17.21
BR-28-88

NOTE: The handrail shall end at the same location that the tubular backup ends.

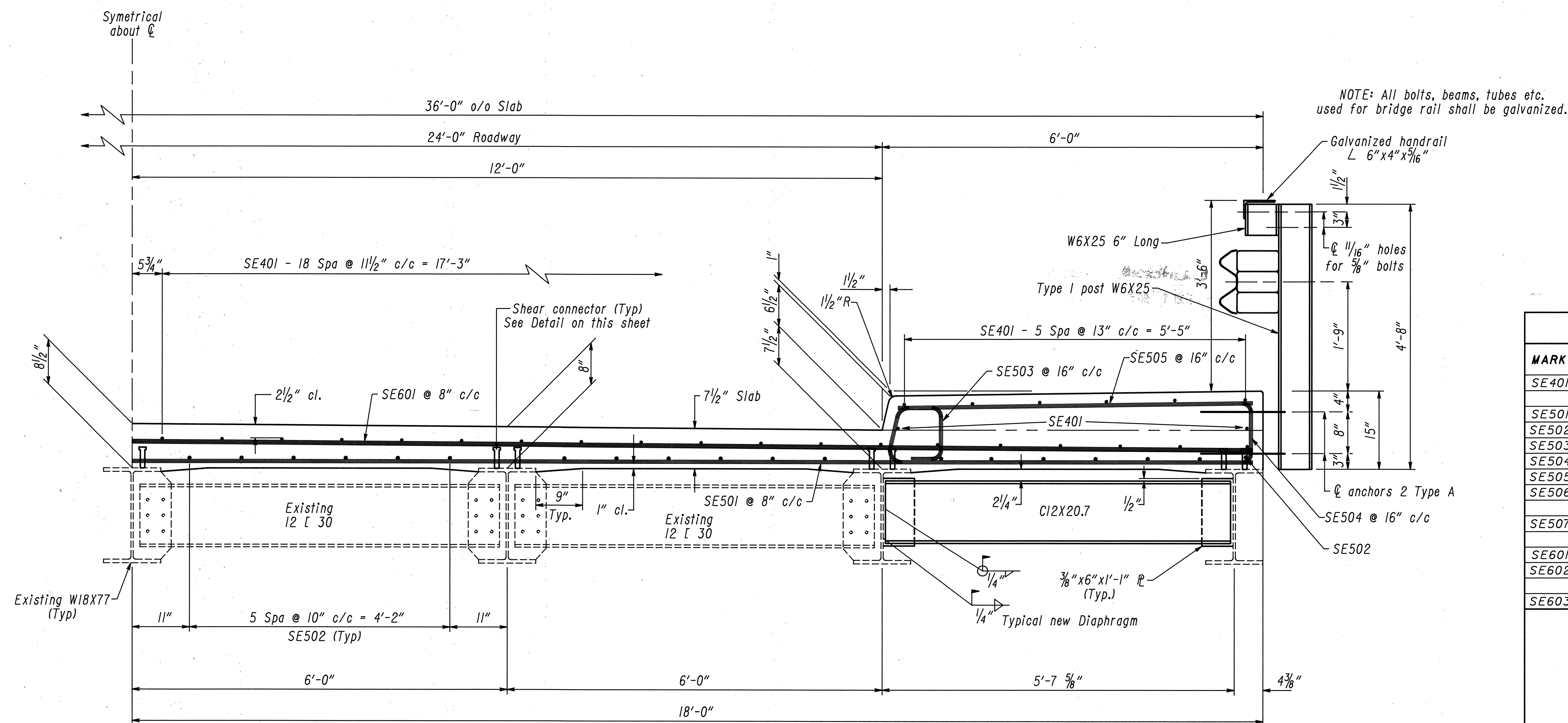


TYPICAL HALF PLAN
SHOWING REINFORCING STEEL
AND NEW DIAPHRAGM SPACING



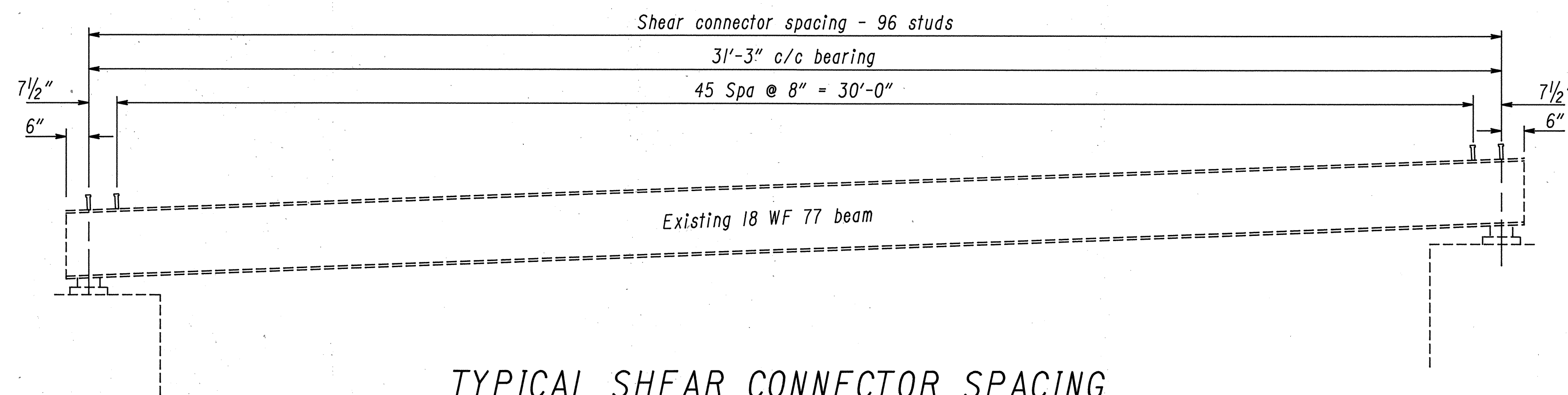
HANDRAIL TO GUARDRAIL
CONNECTION DETAIL

STATE OF OHIO DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS BUREAU OF MAINTENANCE					
SUPERSTRUCTURE DETAILS					
BRIDGE NO. HOL-39-1721 OVER ABANDONED RAILROAD					
DESIGNED	DRAWN	CADD	CHECKED	REVIEWED	DATE
JLO	WRG	WRG	WRG		

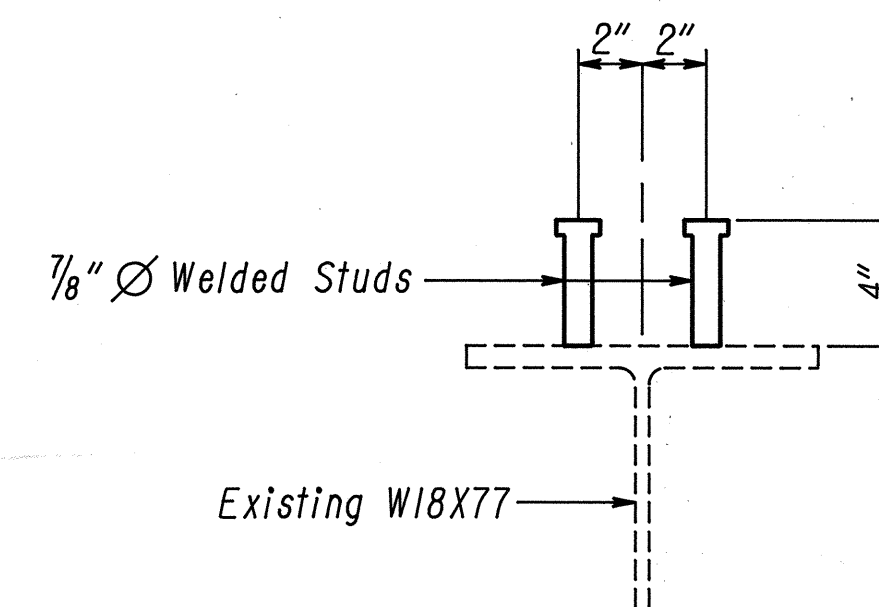


NOTE: For details not shown see
Std.Dwg. DBR-2-73.

TYPICAL HALF SECTION

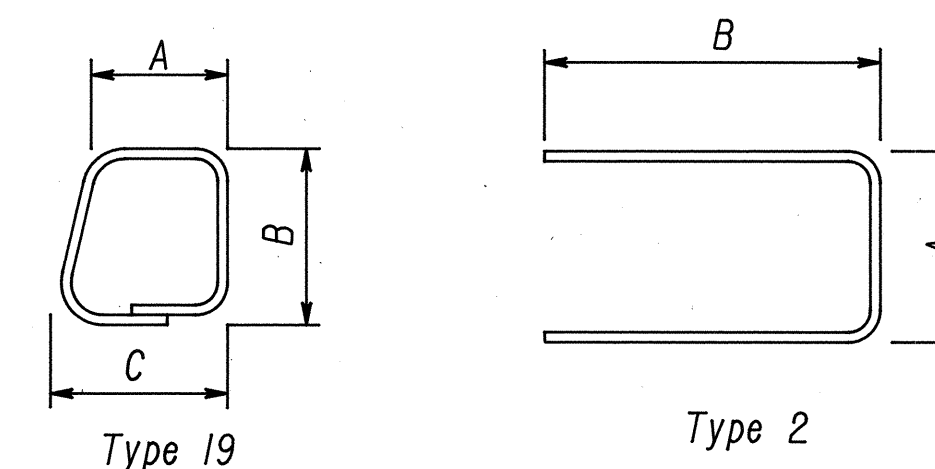


TYPICAL SHEAR CONNECTOR SPACING



TYPICAL SHEAR
CONNECTOR DETAIL

REINFORCING STEEL LIST										
MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS			
	LEFT	RIGHT	TOTAL				A	B	C	D
SE401	27	27	54	36'-8"	1323	ST.				
SE501	44	44	88	18'-9"	1721	ST.				
SE502	19	19	38	36'-8"	1453	ST.				
SE503	28	28	56	3'-9"	219	19	9"	11"	10½"	
SE504	28	28	56	4'-3"	248	2	1'-0"	1'-9"		
SE505	28	28	56	5'-8"	331	ST.				
SE506	2 Series of 7 bars = 14	2 Series of 7 bars = 14	4 Series of 7 bars = 28	Varies 17'-9" to 7'-4"	366	ST.				
SE507	8	8	16	5'-7"	93	ST.				
SE601	44	44	88	18'-9"	2478	ST.				
SE602	2 Series of 7 bars = 14	2 Series of 7 bars = 14	4 Series of 7 bars = 28	Varies 17'-9" to 7'-4"	527	ST.				
SE603	8	8	16	5'-7"	134	ST.				



E - Denotes Epoxy coated reinforcing steel

REINFORCING STEEL SAMPLES

REFER TO CMS 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 STRUCTURE BY THE ADDITIONAL STEEL, SPLICED IN ACCORDANCE WITH 509.08.

STATE OF OHIO DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS BUREAU OF MAINTENANCE					
SUPERSTRUCTURE DETAILS					
BRIDGE NO. H01-39-1721 OVER ABANDONED RAILROAD					
DESIGNED	DRAWN	CADD	CHECKED	REVIEWED	DATE REVISED
JLO	WRG	WRG	WRG		