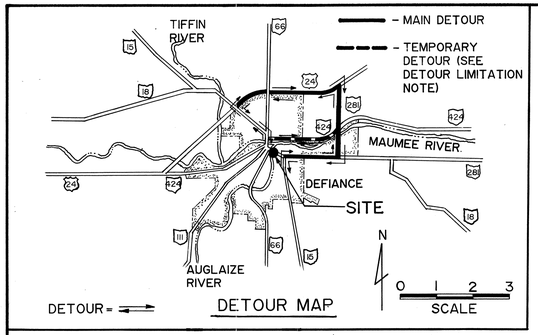


STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DEF-15-15.14
CITY OF DEFIANCE

DEFIANCE COUNTY	OHIO	1 / 33
DEF. - 15 - 15.14	FHWA REGION 5	
BHM - 4K06 (3)	FEDERAL PROJECT	

BHM-4K06(3)

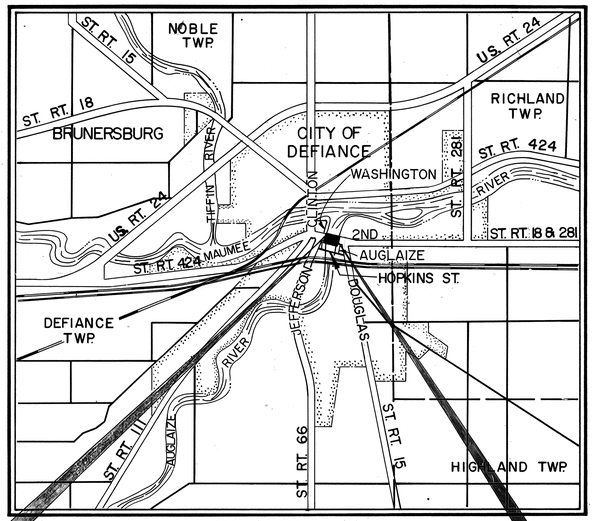
DEFIANCE COUNTY

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



BEGIN PROJECT STA. 4 + 54.45

LOCATION MAP

SCALE IN MILES 0 1 2 3 4

END PROJECT STA. 9 + 26.29

Portion to be improved
State & Federal Routes
Other Roads

LINE DATA

BEGIN WORK	STA.	3 + 95
BEGIN PROJECT	STA.	4 + 54.45
END PROJECT	STA.	9 + 26.29
END WORK	STA.	10 + 45.78

LENGTH OF PROJECT = 471.84 LIN. FT. = 0.089 MILE

LENGTH OF WORK = 650.78 LIN. FT. = 0.123 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

SCALES

Plan 0 10 20 30 40
Profile: Horizontal 0 10 20 30 40, Vertical 0 5 10 20
Cross Section: Horizontal 0 5 10, Vertical 0 5 10

SUPPLEMENTAL SPECIFICATIONS			
		949	9-26-86
836	11-12-85	802	4-13-90
847	10-17-83	806	11-24-86
849	12-24-85	906	11-24-86
		942	11-27-89
947	10-17-83	944	6-24-89

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS									
AS-1-81	11-27-81	EXJ-3-82	8-1-84	HL-10.11	5-1-87	HL-50.21	5-1-87		
BR-2-82	11-1-82	CB-3A	5-1-79	HL-10.12	5-1-87	HL-60.11	5-1-87		
PSBD-1-81	6-20-89	MT-99.10	11-14-86	HL-10.13	5-1-87	HL-60.31	5-1-87		
BP-2	1-11-85	MH-1	12-18-84						
BP-5	10-1-87	MH-3	12-18-84	HL-20.14	5-1-87	HL-20.11	5-1-87		
		MH-2	6-12-75						
BP-7	10-1-87	MC-11	8-1-78	HL-20.15	5-1-87				
BP-12	10-1-87			HL-30.31	5-1-87				
MC-4	7-26-76	BP-11	1-30-84	HL-40.10	5-1-87				

1989 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 and that detours will be provided as indicated on the plans. (On this sheet.)

Approved Grayton L. Davis
Date 7/13/90 Defiance County Engineer

Approved James L. Schmenk
Date 7-20-90 District Deputy Director of Transportation

Approved B.O. Hershberger/WTE
Date 8/24/90 Engineer, Bureau of Bridges and Structural Design

STRUCTURES REVIEWED BY BURGESS & NIPLE, LIMITED

Approved Theodore J. Still
Date 9/11/90 Chief Engineer, Planning and Design

Approved Bernard B. Hurst
Date 9/11/90 Director, Department of Transportation

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR ____ DATE

Plan Prepared By:
Kohli And Kaliher Assoc., Ltd.
311 East Market Street
Lima, Ohio

SEAL

Project: DEF-15-15.14
Date of Letting ____ 19__, Contract No. ____

LD0300 Rev. 1-1-81

MONUMENT BOX
EXISTING CONC. SIDEWALK
4+27.34 49.49 LT.
WASHINGTON AVE.
WORK LIMITS
VARIABLE WIDTH WIDENING (TYP.)
4+52.34 51.0 LT.
BEGIN PROJECT STA. 4+15.64 BHM - 4K06 (3)
DO NOT DISTURB
EXISTING RIGHT-OF-WAY
4+52.34 26.0 LT.
EXISTING 99.0' RIGHT-OF-WAY
7' X 10" B
10" STORM
4" D.P. GAS
8" SANITARY
10" STORM
12" H.P. STORM
OVERHEAD LIGHTING (TYP.)
UGT SHALL BE RELOCATED BY OTHERS ON THE PROPOSED SUPER-STRUCTURE THROUGH CONDUITS PROVIDED IN THE NORTH SIDEWALK
APPROXIMATE PROPOSED LOCATION OF UNDERGROUND TELEPHONE CABLES
APPROXIMATE PROPOSED LOCATION OF ELECTRICAL CONDUIT
1.0' PARAPET
6'-6"
12" COMBINED SEWER
DO NOT DISTURB
WORK LIMITS
END PROJECT STA. 9+26.29 BHM - 4K06 (3)
END APPROACH SLAB STA. 9+26.29
10+00 28.47' LT.
52.0'
4-4" GALVANIZED UGT
PRESSURE RELIEF JOINT, TYPE C, MODIFIED
SECOND STREET
END-APPROACH-SLAℂ STA. 4+82.95
℄ PIER +57.25
℄ PIER +47.10
℄ PIER +37.13
℄ PIER +27.16
26.0'
15' 15' 30' 15' 15'
℄ CONSTRUCTION & SURVEY N 89° 58' E
N 89° 46' 32" E
BEGIN APPROACH SLAB STA. 4+57.95
BEGIN APPROACH SLAB STA. 9+01.29
4" H.P. GAS (TO BE RELOCATED BY OTHERS)
SCUPPER (TYP.)
6" L.P. GAS(NOT IN USE)*
VARIABLE WIDTH WIDENING (TYP.)
10" WATER 16' X 10"B
10" STORM
10" STORM
4+54.45 51.0 RT.
4+54.45 28.0' RT.
12" 45° 60°
2" H.P.
15 CMP
10' X 15"F
WATER SERVICE VALVE
4" D.P.
EXISTING RIGHT-OF-WAY
DO NOT DISTURB
CONC. WALL
WATER VALVE
N 0° 16' 47" W
WORK LIMITS
UGT
EASEMENT
WOOD WALL (TO BE REMOVED)
ABOVE GROUND GAS VALVES
4+29.45 51.0 RT.
8" STEEL POST GAS MARKER
MONUMENT BOX
A PROPOSED 6" H.P. GAS LINE REPLACEMENT FOR THE EXISTING 4" H.P. GAS LINE SHALL BE SUPPORTED BY BRACKETS ON THE PROPOSED SUPERSTRUCTURE'S SOUTH FACIA, BY OTHERS
APPROXIMATE PROPOSED LOCATION OF 6" H.P. GAS
MATCH EXISTING STONE. (TYP.)
10" WATER
WORK LIMITS
STORAGE BLDG.
EXISTING BILLBOARD
EXISTING CONC. FOUNDATION
10+00 30.0' RT.
CONC. APPROACH
DRIVE STA. 9+89.01 (TO BE REMOVED)

18" TREE
℄ RIGHT-OF-WAY N 89°55'04"E
N 89°46'32" E ℄ SECOND ST.
N 89°58' E ℄ CONSTRUCTION & SURVEY
10" TREE
12" TREE ℄ WASHINGTON AVE.
STA. 4+15.64
REFERENCE POINTS

BENCH MARK
"X" IN EAST BOLT OF FIRE HYDRANT
STA. 3+88.55, 34.55'RT
ELEV. 689.19

BENCH MARK
"X" IN EAST SIDE OF RIM OF MANHOLE
STA. 10+41.26, 43.35 LT.
ELEV. 680.28

AUGLAIZE RIVER

N

EXISTING MONUMENT

N 89°55'04"E ℄ RIGHT-OF-WAY
STA 10+00
0.50'
℄ CONSTRUCTION & SURVEY
N 89° 58' E
STA. 10+00
REFERENCE POINTS

PLAN

* TO BE REMOVED BY BRIDGE CONTRACTOR

SEE SHEET 5 FOR QUANTITIES

REVIEWED BY BURGESS & NIPLE, LTD. M.P.B 7-19-90

	4	+15.64	+25	+50	+75	5	+25	+50	+75	6	+25	+50	+75	7	+25	+50	+75	8	+25	+50	+75	9	+25
PROPOSED	686.58	686.44	686.39	686.34	686.45	686.70	687.01	687.27	687.50	687.69	687.85	687.96	688.04	688.08	688.10	688.12	688.14	688.16	688.07	687.77	687.25	686.51	685.67
				P.I. STA. 4+50 EL. 686.05						P.I. STA. 6+00 EL. 688.00										P.I. STA. 8+50 EL. 688.20				PROPOSED

-1.06 % P.I. STA. 4+50 EL. 686.05 +1.30 % — 100' Sag Vertical Curve
+1.30 % P.I. STA. 6+00 EL. 688.00 +0.08 % — 200' Crest Vertical Curve
+0.08 % P.I. STA. 8+50 EL. 688.20 - 3.38 % — 100' Crest Vertical Curve

+82.95 BRIDGE LIMITS = 418'-4" +01.29

EXISTING PROFILE
PROPOSED PROFILE
+0.08%
BUTT JOINT
6" 10" 10" 10" 10"
8" SANITARY
12" STORM
EXP. DESIGN YEAR CLEARANCE 9.7± 15" 10'X15"F
EXP. FIXED Q 100 Q 25
FIXED EL. 683.00 HIGHEST KNOWN ELEVATION 1913
EXP. EXP.
12" COMBINED SEWER

700 690 680 670 660

	4	+15.64	5	6	7	8	9
EXISTING	686.58	686.44	686.34	686.27	686.69	687.49	688.06	688.35	688.45	688.35	687.87	687.26	686.23	EXISTING

PROFILE ON ℄ CONSTRUCTION & SURVEY

HYDRAULIC DATA

Q 25= 51,464 c.f.s. V= 7.2 f.p.s. Elev. = 672.37
Q 100= 62,405 c.f.s. V= 7.7 f.p.s. Elev. = 674.65
Drainage Area = 2342 Sq. Mi.

EXISTING STRUCTURE

Type: Concrete on Cont. Steel Girders
Spans: 72'-90'-90'-90'-72' ℄ Brgs.
Roadway Width: 40'+2-5'-0" Sidewalks
Loading: H-15-33
Skew: 0°00'00" Alignment: Tangent
Wearing Surface: Bituminous
Date Built: 1938
Percent Legal Load: 100%
Drainage Area: 2,342 Sq. Mi.
Waterway Opening: 10,950 Sq. Ft.

PROPOSED STRUCTURE

Type: Prestressed, Composite Precast Conc. Box Beams On Reinforced Conc. Substructures
Spans: 71'-3-5/8", 88'-4-1/4", 88'-6-3/8", 88'-6-3/8", 71'-1-1/2" ℄ Brgs.
Roadway Width: 52'-0" F/F Curb With Two 6'-6" Sidewalks
Loading: HS 20-44, Alternate Military Loading
Skew: 0°00'00" Alignment: Tangent
Wearing Surface: Concrete
Approach Slab: AS-1-81, L= 25', T= 15"
Structure File No. 2000601
ADT: (1987) 32,300 v.p.d. (2007) 45,200 v.p.d.

OFFICE OF DEFIANCE COUNTY ENGINEER & KOHLI AND KALIHER ASSOCIATES, LIMITED — 1/17

SITE PLAN
BRIDGE NO. DEF-15-1515
OVER AUGLAIZE RIVER
DEFIANCE COUNTY
STA. 4+82.95
STA. 9+01.29

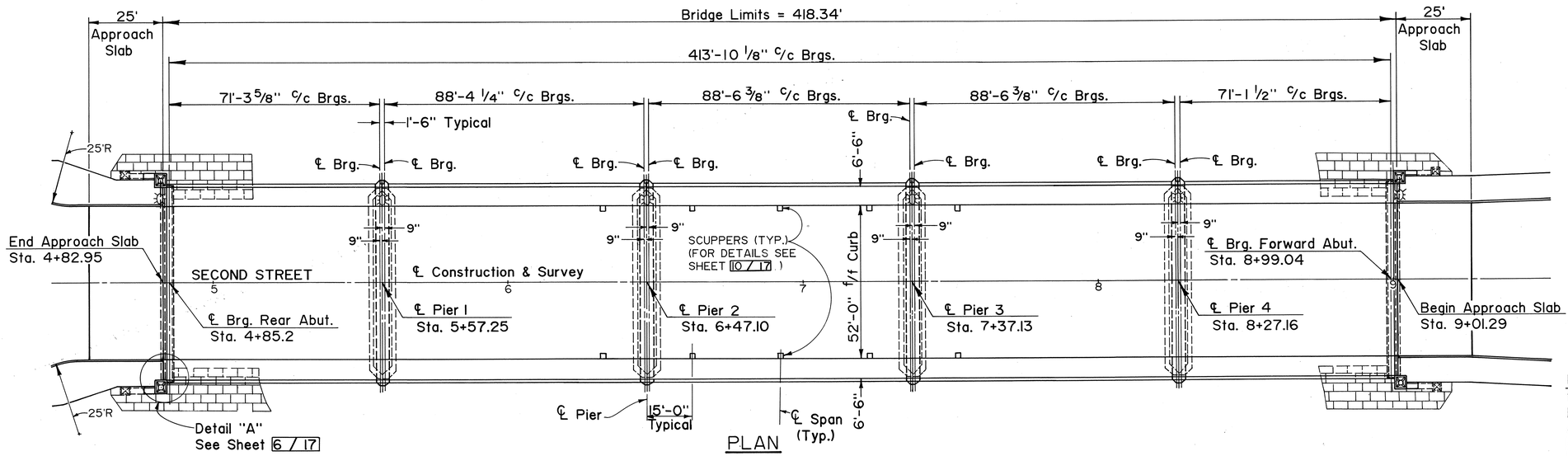
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.G.B.	A.M.P.	S.M.M.	T.H.H.	J.R.M.	3-12-90	C.A.T.

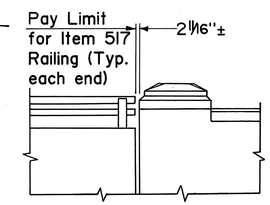
PLAN: SURVEYED, PLOTTED, QUANTITIES CHECKED, R/W PLANT CHECKED, R/W OF WAY CHECKED, NOTE BOOK, NO.
PROFILE: SURVEYED, PLOTTED, GRADES CHECKED, B. M.'s NOTED, STRUCTURE NOTATIONS CHKD, NOTE BOOK, NO.
BY, DATE

HIGHWAY FEDERAL AID SHEET
PLATE 1-SINGLE PLAN AND PROFILE-LINE & DOT
TELEDYNE
PRINTED IN U.S.A.

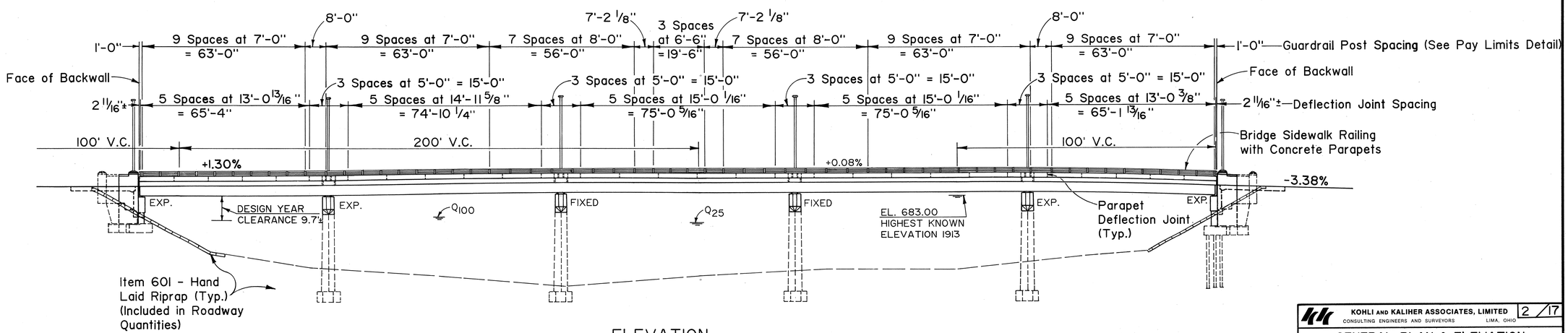
SITE PLAN

DEFIANCE COUNTY DEF-15-15.14	OHIO FHWA REGION 5 FEDERAL PROJECT	15 33





ITEM 517 - RAILING
PAY LIMITS DETAIL



ELEVATION

KOHLI AND KALIHER ASSOCIATES, LIMITED
CONSULTING ENGINEERS AND SURVEYORS LIMA, OHIO

2 / 17

GENERAL PLAN & ELEVATION

BRIDGE NO. DEF-15-1515
OVER AUGLAIZE RIVER
DEFIANCE COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.G.B.	A.M.P.		T.H.H.	J.R.M.	3-12-90	C.A.T.

BRUNING 67357

ESTIMATED QUANTITIES

QUANTITIES CALCULATED BY A.M.P. DATE 2-1-90
QUANTITIES CHECKED BY T.H.H. DATE 3-2-90

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	SUPER.	REAR AND FWD. ABUT.	PIERS	GEN'L.
202	11202	Lump		Portions of Structure Removed, Over 20 Foot Span				Lump
503	11100	Lump		Cofferdams, Cribs and Sheeting				Lump
509	13400	21,698	Lb.	Reinforcing Steel, Grade 60		7,210	14,188	300
509	15800	125,882	Lb.	Epoxy Coated Reinforcing Steel, Grade 60	118,150	7,732		
510	11100	316	Each	Dowel Hole	316			
511	31600	735	Cu. Yd.	Class S Concrete, Superstructure (Composite Slab On Precast Box-beam, Floor Panels, or Stay-In-Place Forms)	735			
511	34002	31	Cu. Yd.	Class S Concrete, Superstructure, High Early Strength	31			
511	43200	269	Cu. Yd.	Class C Concrete, Pier (Repair Or Reconstruct)			269	
511	45700	230	Cu. Yd.	Class C Concrete, Abutment (Repair Or Reconstruct)		230		
512	44400	11	Sq. Yd.	Type B Waterproofing		11		
SPECIAL	512 67500	1,709	Sq. Yd.	Sealing of Concrete Surface (See Proposal Note)	1,709			
SPECIAL	512 67502	52	Sq. Yd.	Sealing of Concrete Surface (Epoxy) (See Proposal Note)		52		
515	53300	9084	Lin. Ft.	Prestressed Concrete Composite Box Beam (36" WIDE) (See Proposal Note)	9084			
516	10500	133	Lin. Ft.	Structural Steel Joints and Elastomeric Compression Seal		133		
516	43200	308	Each	Elastomeric Bearing Pad with Internal Laminates Only (NEOPRENE) (2½" x 7½" x 10") (50 DUROMETER)	308			
516	43201	44	Each	Elastomeric Bearing Pad with Internal Laminates Only (NEOPRENE) (2½" to 2⅝" x 7½" x 10") (50 DUROMETER) as per plan (SEE SHT. 30)	44			
516	43300	44	Each	Elastomeric Bearing Pad with Internal Laminates Only (NEOPRENE) (3⅛" x 9½" x 10") (50 DUROMETER)	44			
516	43301	44	Each	Elastomeric Bearing Pad with Internal Laminates Only (NEOPRENE) (3⅛" to 3⅜" x 9½" x 10") (50 DUROMETER), as per plan (SEE SHT. 30)	44			
517	71500	830.78	Lin. Ft.	Railing (Concrete Parapet with Double Pipe Rail)	830.78			
518	12000	10	Each	Scuppers, Including Supports (For Concrete Box Beam Bridge)	10			
518	21101	86	Cu. Yd.	Porous Backfill, as per plan (SEE SHT. 18)		86		
SPECIAL	53000600	871	Sq. Ft.	Structure Misc.: Stone Facing & Trim Stone (See Proposal Note)		871		

KOHLI AND KALIHER ASSOCIATES, LIMITED
CONSULTING ENGINEERS AND SURVEYORS LIMA, OHIO
3/17

ESTIMATED QUANTITIES

BRIDGE NO. DEF-15-1515
OVER AUGLAIZE RIVER
DEFIANCE COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.G.B.	A.M.P.		T.H.H.	JRM	3-12-90	C.A.T.

BRUNING 67357

DEFIANCE COUNTY
DEF-15-15.14

OHIO
FHWA REGION 5
FEDERAL PROJECT

17/33

GENERAL NOTES

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS: PSBD-1-81 DATED 6-20-89, SHEETS 1, 2, 3 AND 4 OF 4; BR-2-82 DATED 11-1-82; AS-1-81 DATED 11-27-81, SHEETS 1, 2 AND 3 OF 3; EXJ-3-82 DATED 8-1-84; AND TO SUPPLEMENTAL SPECIFICATIONS, 836 DATED 11-12-85, 849 DATED 12-24-85 AND 949 DATED 9-26-86.

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS 1989, AND TO THE OHIO "SUPPLEMENT" TO THESE SPECIFICATIONS.

DESIGN DATA:

DESIGN LOADING: HS 20-44 AND ALTERNATE MILITARY LOADING
CONCRETE CLASS C: COMPRESSIVE STRENGTH 4000 P.S.I. (SUBSTRUCTURE)
CONCRETE CLASS S: COMPRESSIVE STRENGTH 4500 P.S.I. (SUPERSTRUCTURE)
REINFORCING STEEL: ASTM A615, A616, A617 - GRADE 60 MINIMUM YIELD STRENGTH 60,000 P.S.I.
CONCRETE FOR PRESTRESSED CONCRETE BEAMS: UNIT STRESS - 2200 P.S.I. COMPRESSION; 444 P.S.I. TENSION
PRESTRESSING STRAND: ASTM A416 - F'S = 270,000 P.S.I.
INITIAL STRESS = 0.70 F'S
REINFORCING STEEL FOR PRESTRESSED BEAMS SHALL BE ASTM A615, A616, OR A617 - GRADE 40 OR 60.
CONCRETE FOR COMPOSIT DECK: UNIT STRESS 1500 P.S.I COMPRESSION

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 CONSTRUCTION AND MATERIAL SPECIFICATION SECTIONS 102.05 AND 105.02.

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.

DECK PROTECTION METHOD: EPOXY COATED REINFORCING STEEL AND SEALING OF CONCRETE SURFACES.

MONOLITHIC WEARING SURFACE OF THE CONCRETE DECK IS ASSUMED, FOR DESIGN PURPOSES TO BE 1" THICK.

ITEM SPECIAL - SEALING OF CONCRETE SURFACES: A CONCRETE SEALER SHALL BE APPLIED TO THE FOLLOWING SURFACES, SEE SHEETS [5/17], [6/17] & [13/17]. SEE THE PROPOSAL NOTE FOR SURFACE PREPARATION REQUIREMENTS, APPLICATION PROCEDURES & RATES AND MATERIAL REQUIREMENTS.

UTILITY LINES: ALL EXPENSE INVOLVED IN RELOCATING AND INSTALLING THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE OWNERS. THE CONTRACTOR AND OWNERS ARE REQUESTED TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

STRUCTURAL EXPANSION JOINTS INCLUDING ELASTOMERIC COMPRESSION SEALS: REFER TO STANDARD DRAWING EXJ-3-82 FOR NOTES AND DETAILS WITH THE FOLLOWING EXCEPTIONS:

MATERIALS: STEEL PORTIONS OF THE JOINTS THAT ARE FULLY ENCASED IN CONCRETE MAY BE UNPAINTED ASTM A36 OR ASTM A588. ALL OTHER PORTIONS SHALL BE ASTM A588, PAINTED AS SPECIFIED. THE ELASTOMERIC COMPRESSION SEALS SHALL BE AS MANUFACTURED BY THE D.S. BROWN COMPANY OF NORTH BALTIMORE, OHIO; THE WATSON BOWMAN AND ACME CORPORATION OF AMHERST, NEW YORK: STRUCTURAL ACCESSORIES OF LENOIR, NORTH CAROLINA, OR AN APPROVED ALTERNATE.

PAINTING: THE EXPANSION JOINTS SHALL BE PAINTED AS SPECIFIED IN STANDARD DRAWING EXJ-4-87 FOR SYSTEM OZEU.

COMPRESSION SEALS FOR BRIDGE DECK JOINTS SHALL BE FURNISHED IN ONE CONTINUOUS PIECE.

REMOVAL OF EXISTING SUPERSTRUCTURE: PRIOR TO REMOVAL OF THE EXISTING SUPERSTRUCTURE, THE CONTRACTOR SHALL COORDINATE HIS SCHEDULE WITH THE CITY OF DEFIANCE, THE OHIO GAS COMPANY, AND THE UNITED TELEPHONE COMPANY OF OHIO IN ORDER THAT THEIR RESPECTIVE UTILITIES MAY BE CUT OFF OR REMOVED WITHOUT IMPAIRMENT OF SERVICE. THE EXISTING SUPERSTRUCTURE SHALL BE REMOVED TO THE LEVELS AND ELEVATIONS SHOWN IN THESE PLANS. ALL WASTE MATERIALS INCLUDING MASONRY, STRUCTURAL STEEL, REINFORCING STEEL, ABANDONED UTILITY LINES AND MISCELLANEOUS ITEMS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND WILL BE HIS RESPONSIBILITY TO REMOVE AND DISPOSE OF SUCH.

THE CONTRACTOR MUST TAKE PRECAUTIONS TO PREVENT ANY MATERIALS FROM FALLING INTO THE AUGLAIZE RIVER OR ON THE RIVER BANKS. SHOULD ANY MATERIALS FALL INTO THE RIVER, THE CONTRACTOR IS RESPONSIBLE TO PICK UP THESE ITEMS AT ONCE. THIS WORK AS DESCRIBED ABOVE, WILL BE PAID FOR UNDER ITEM 202, PORTIONS OF STRUCTURES REMOVED, LUMP SUM.

REMOVAL OF EXISTING STRUCTURE: WHEN NO LONGER NEEDED TO MAINTAIN TRAFFIC THE EXISTING SUPERSTRUCTURE SHALL BE REMOVED. ABUTMENTS AND PIERS SHALL BE REMOVED TO THE ELEVATIONS SHOWN IN THE PLANS.

PROTECTION OF TRAFFIC: PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE, THE CONTRACTOR SHALL SUBMIT HIS PLANS FOR THE PROTECTION OF TRAFFIC UNDER THE STRUCTURE TO THE DIRECTOR FOR APPROVAL. THESE PLANS SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT MAY BE NECESSARY TO ENSURE SUCH PROTECTION

REPLACEMENT OF EXISTING REINFORCING STEEL: ANY EXISTING REINFORCING BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND WHICH ARE MADE UNUSABLE BY THE CONTRACTOR'S CONCRETE REMOVAL OPERATIONS SHALL BE REPLACED WITH NEW STEEL AT HIS COST. ANY EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION SHALL BE REPLACED WITH NEW STEEL. AN ALLOWANCE OF 300 POUNDS IS INCLUDED IN ITEM 509 FOR THIS PURPOSE.

EXCAVATION: ALL EXCAVATION NECESSARY FOR REMOVAL AND RECONSTRUCTION OF ABUTMENTS SHALL BE CONSIDERED INCIDENTAL TO AND INCLUDED IN ITEM 202 - PORTIONS OF STRUCTURES REMOVED.

CONSTRUCTION JOINT PREPARATION: SAWCUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP AT CONCRETE AND 6 INCHES DEEP AT STONE FACING. REMOVE CONCRETE TO A ROUGH SURFACE. WHERE PRACTICABLE, AT LEAST A 1'-0" OR AS INDICATED ON THE PLAN LENGTH OF PROTRUDING REINFORCING STEEL SHALL BE LEFT IN PLACE. INSTALL DOWEL BARS AS SPECIFIED. PRIOR TO CONCRETE PLACEMENT, ABRASIVELY CLEAN JOINT SURFACE AND EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THEN, THE JOINT SURFACE AND EXPOSED REINFORCEMENT SHALL BE THROUGHLY CLEANED OF ALL DIRT, DUST, OR OTHER FOREIGN MATERIALS BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHOD THAT PRODUCES RESULTS SATISFACTORY TO THE ENGINEER. THE CONCRETE BONDING SURFACE SHALL BE WET WITHOUT FREE WATER AS CONCRETE IS PLACED.

CONCRETE REMOVAL SHALL BE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18-INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18-INCH LIMIT, A HAMMER HEAVIER THAN 35 POUNDS, BUT NOT TO EXCEED 85 POUNDS, MAY BE USED AT THE APPROVAL OF THE ENGINEER. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

EXISTING REINFORCING STEEL PARTIALLY EXPOSED BY CONCRETE REMOVALS SHALL BE LEFT IN PLACE EXCEPT THAT IT SHALL BE BENT AS NECESSARY TO CLEAR PROPOSED CONCRETE SURFACES BY AT LEAST 2 INCHES.

STONE FACING: THE STONE SHALL BE THE KIND, SHAPE, SIZE AND COLORS TO MATCH THE EXISTING STONE AS CLOSE AS PRACTICABLE TO THE SATISFACTION OF THE ENGINEER. THE STONE SHALL BE OF DURABLE QUALITY, FREE FROM SEAMS, CRACKS, OR OTHER IMPERFECTIONS. THE STONE SHALL COME FROM QUARRIES THAT HAVE BEEN OPEN LONG ENOUGH SO THAT THE QUALITY AND DURABILITY OF THE STONE FURNISHED SHALL HAVE BEEN PROVEN BY GENERAL USE.

EXTREME CARE MUST BE EXERCISED IN THE SELECTION, DRESSING AND SETTING OF ALL STONE TO OBTAIN A PLEASING COMBINATION OF SIZES AND COLORS IN CONFORMANCE WITH THE EXISTING STONE. SUCH WORK SHALL BE DONE BY SKILLED WORKMEN EXPERIENCED IN THIS CLASS OF WORK.

ALL JOINTS SHALL BE DRESSED WITH FULL BEDS AND SHALL BE LAID WITH 3/4" MORTAR JOINTS RAKED AND TOOLED TO A DEPTH OF 1/2". TRIM STONE SHALL BE LAID WITH 3/8" FLUSH JOINTS. THE THICKNESS OF FACING STONE MAY VARY FROM 7 1/2" TO 12", MEASURED NORMAL TO THE WALL, WITH AN AVERAGE OF NOT LESS THAN 10". THE FACE HEIGHTS SHALL VARY FROM 4" TO 14" AND THE FACE AREAS FROM 25 SQ. IN. TO 300 SQ. IN.

FACING STONE SHALL BE ANCHORED TO THE CONCRETE BY IMBEDDING ONE #4 GALVANIZED WIRE ANCHOR IN EACH HORIZONTAL JOINT FOR EACH STONE. ALL WIRE ANCHORS SHALL BE HOOKED ON THE ENDS AS INDICATED AND SHALL ENGAGE THE CONCRETE A MINIMUM OF 8".

FACING STONE SHALL BE ALLOWED TO SET AT LEAST 48 HOURS AND BE SECURELY BRACED TO PREVENT INJURY TO MORTAR JOINTS, BEFORE ABUTTING CONCRETE IS PLACED.

ALL FACING, EXCEPT TRIM STONE, MAY BE SALVAGED FROM THE EXISTING STRUCTURE. IF STONE FROM THE EXISTING STRUCTURE IS USED IT SHALL BE THROUGHLY CLEANED AND FREE FROM CRACKS OR OTHER IMPERFECTIONS. ALL SALVAGED STONE SHALL BE INSPECTED AND APPROVED BY THE ENGINEER PRIOR TO INCORPORATION INTO THE STRUCTURE.

PROPOSED WORK:

1. EARLY COORDINATION OF CONSTRUCTION WITH AFFECTED UTILITIES IS ESSENTIAL SO THAT INCONVIENCE TO EITHER WILL BE MINIMIZED. UTILITIES WILL BE TEMPORARILY RELOCATED AS REQUIRED, BY THE RESPECTIVE UTILITIES.
2. DETOUR TRAFFIC AS INDICATED IN THE PLANS PRIOR TO SUPERSTRUCTURE AND PARTIAL SUBSTRUCTURE REMOVAL.
3. ESTABLISH RIVER TRAFFIC CONTROL, SIGNING AND PROTECTION.
4. REMOVE SUPERSTRUCTURE AND SUBSTRUCTURE TO THE LINES AND GRADES AS INDICATED IN THE PLANS AND SPECIFICATIONS.
5. DURING PERIOD OF STRUCTURE DEMOLITION, ROADWAY UNDERGROUND DRAINAGE MAY BE CONSTRUCTED.
6. CONSTRUCT PROPOSED PORTIONS OF SUBSTRUCTURE ON EXISTING SUBSTRUCTURE.
7. UNDERGROUND PORTIONS OF PROPOSED UTILITIES MAY BE CONSTRUCTED DURING NEW SUBSTRUCTURE CONSTRUCTION.
8. AFTER COMPLETION OF THE ABUTMENT CONSTRUCTION, PLACE HAND LAID RIP RAP AT EACH ABUTMENT.
9. ERECT SUPERSTRUCTURE **BEAMS** , SET STRUCTURAL EXPANSION JOINTS, PLACE CONCRETE DECKS, SIDEWALKS AND RAILING.
10. INSTALL PROPOSED UTILITIES ON SUPERSTRUCTURE DURING SUPERSTRUCTURE CONSTRUCTION.
11. COMPLETE APPROACH SLABS, APPROACH SIDEWALKS, ROADWAY, AND TRAFFIC CONTROL PAVEMENT MARKING.

KOHLI AND KALIHER ASSOCIATES, LIMITED
CONSULTING ENGINEERS AND SURVEYORS
LIMA, OHIO

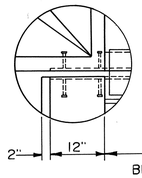
4/17

GENERAL NOTES

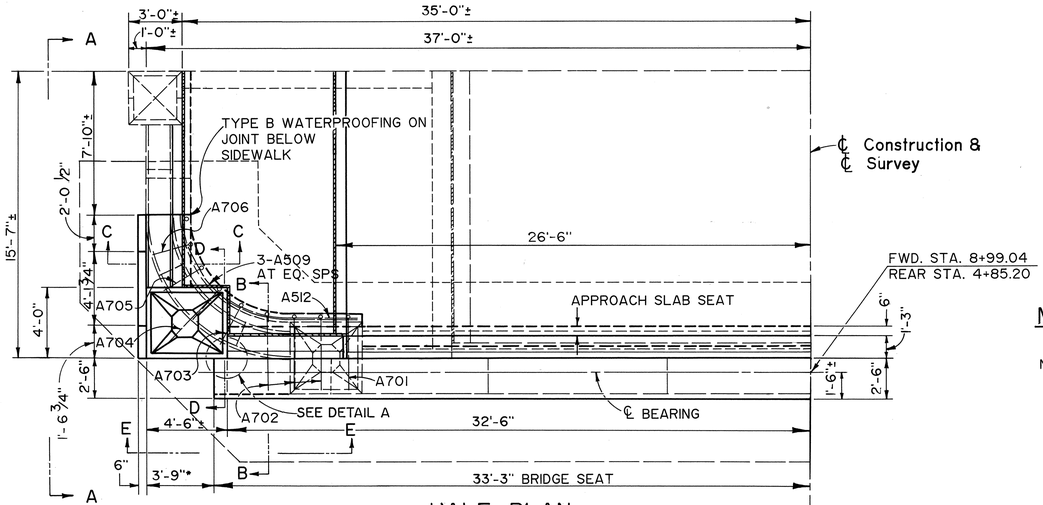
BRIDGE NO. DEF-15-1515
OVER AUGLAIZE RIVER
DEFIANCE COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.G.B.	A.M.P.		T.H.H	J.R.M.	3-12-90	C.A.T.

67457
BRUNING

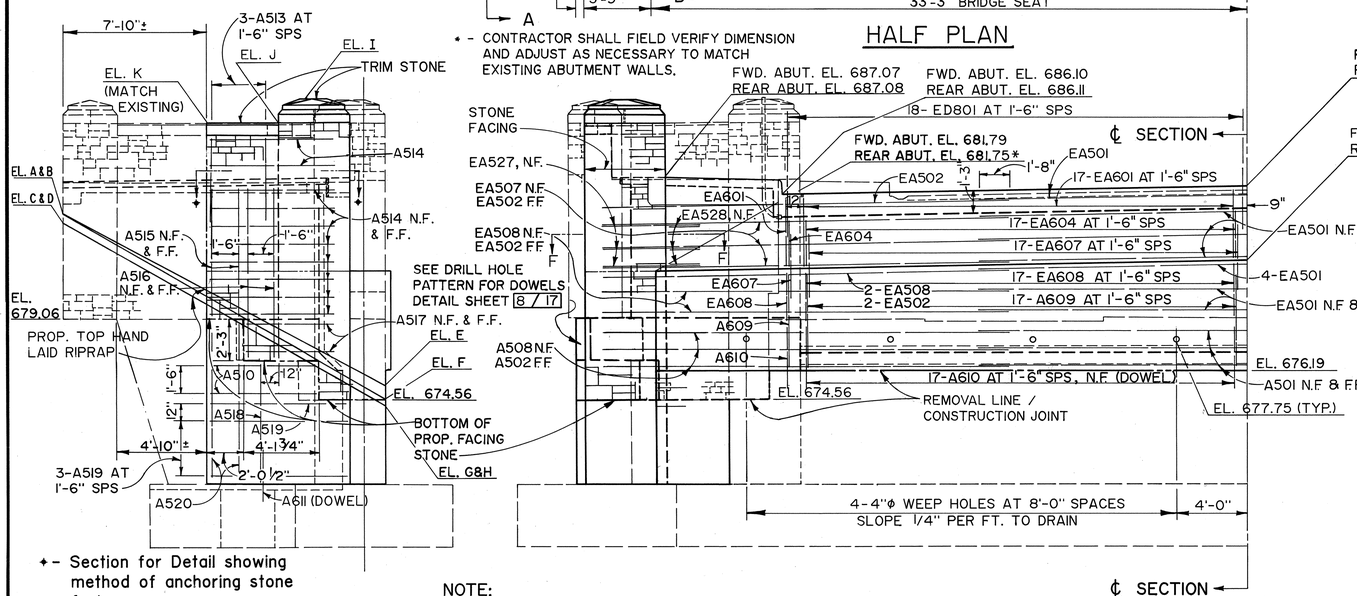


DETAIL A



HALF PLAN

* - CONTRACTOR SHALL FIELD VERIFY DIMENSION AND ADJUST AS NECESSARY TO MATCH EXISTING ABUTMENT WALLS.



HALF ELEVATION

✦ - Section for Detail showing method of anchoring stone facing.

VIEW A-A

NOTE:
Construction Procedure: Lay stone facing in approx. 4'-0" lifts allowing mortar to set at least 48 hours before abutting concrete is placed.

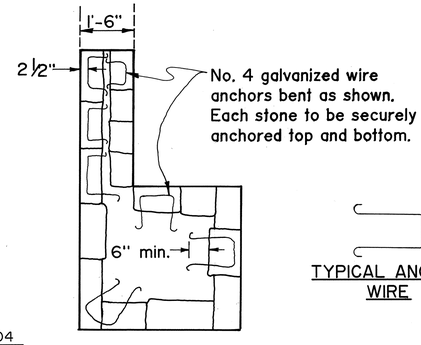
TOP OF RIPRAP ELEVATIONS

LOCATION			
REAR ABUTMENT	NORTH SIDE	A = 685.02	E = 675.23
	SOUTH SIDE	B = 684.95	F = 674.58
FWD. ABUTMENT	NORTH SIDE	C = 684.50	G = 674.21
	SOUTH SIDE	D = 684.52	H = 674.19

TOP OF WINGWALL ELEVATIONS		I	J	K
REAR ABUTMENT	NORTH SIDE	691.50	690.15	690.11
	SOUTH SIDE	691.50	690.15	690.07
FWD. ABUTMENT	NORTH SIDE	691.41	690.06	689.97
	SOUTH SIDE	691.41	690.06	690.00

NOTES:
Reinforcing Bar Splice
Reinforcing bar splice lengths shall conform to the minimum lengths specified by 509.08 of the Construction and Material Specifications unless otherwise noted on the plans.

Reinforcing Steel Abbreviations
N.F. - Near Face
F.F. - Far Face
SPS - Spaces

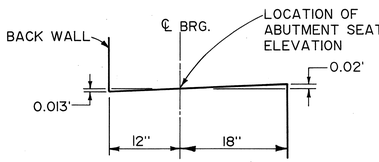


DETAIL SHOWING METHOD OF ANCHORING STONE FACING

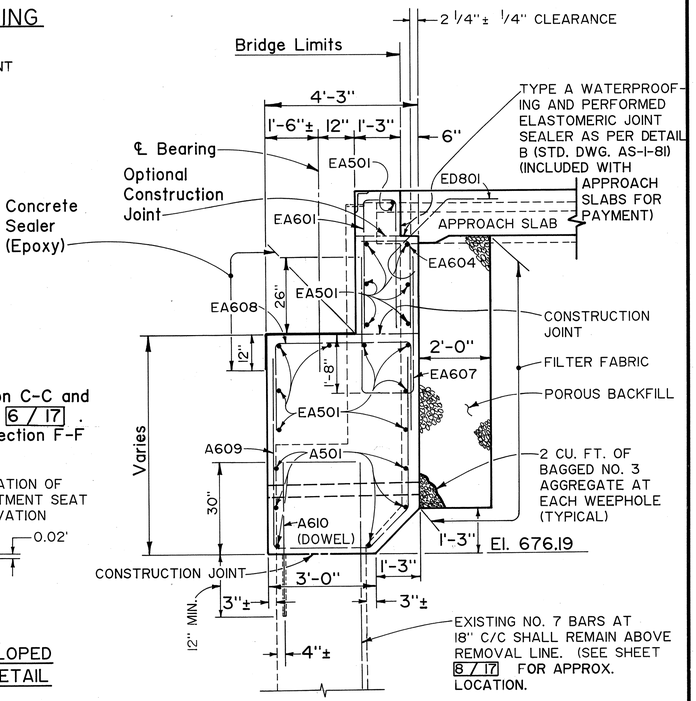
NOTE: CONCRETE REINFORCEMENT NOT SHOWN. SEE VIEW A-A FOR LOCATION OF DETAIL.

TYPICAL ANCHOR WIRE

NOTE: For Section B-B, Section C-C and Section D-D see sheet 6 / 17 . For View E-E and Section F-F see sheet 7 / 17 .



*REAR ABUTMENT SEAT SLOPED SURFACE REQUIREMENT DETAIL



SECTION ON ℄

NOTES: POROUS BACKFILL, 2 FEET THICK, SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALL. TWO CUBIC FEET OF BAGGED NO. 3 AGGREGATE SHALL BE PLACED AT EACH WEEPHOLE. GEOTEXTILE FABRIC SHALL CONFORM WITH 712.09, TYPE A. BAGGED AGGREGATE AND GEOTEXTILE FABRIC ARE INCLUDED WITH POROUS BACKFILL FOR PAYMENT.

BRIDGE SEAT REINFORCING: REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT SHALL BE ACCURATELY PLACED TO AVOID INTERFERENCE WITH THE DRILLING OF THE ANCHOR BAR HOLES.

BACKWALL CONCRETE: IN ADDITION TO THE PROVISIONS OF 511.08, BACKWALL CONCRETE ABOVE THE OPTIONAL CONSTRUCTION JOINT AT THE APPROACH SLAB SEAT SHALL NOT BE PLACED UNTIL AFTER THE DECK CONCRETE IN THE SPAN ADJACENT TO THE ABUTMENT HAS BEEN PLACED.

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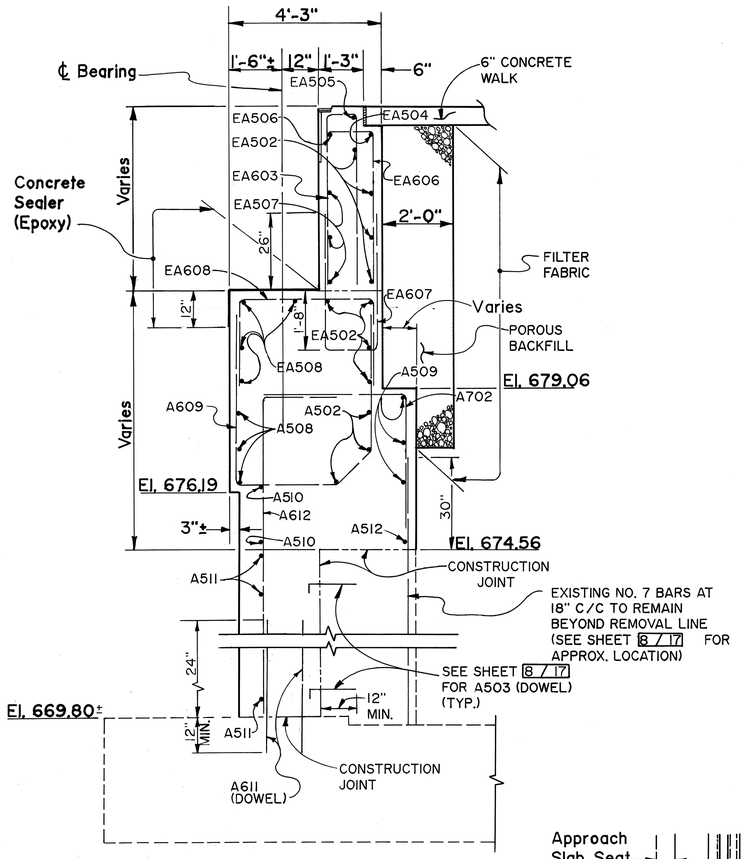
5 / 17

ABUTMENT DETAILS

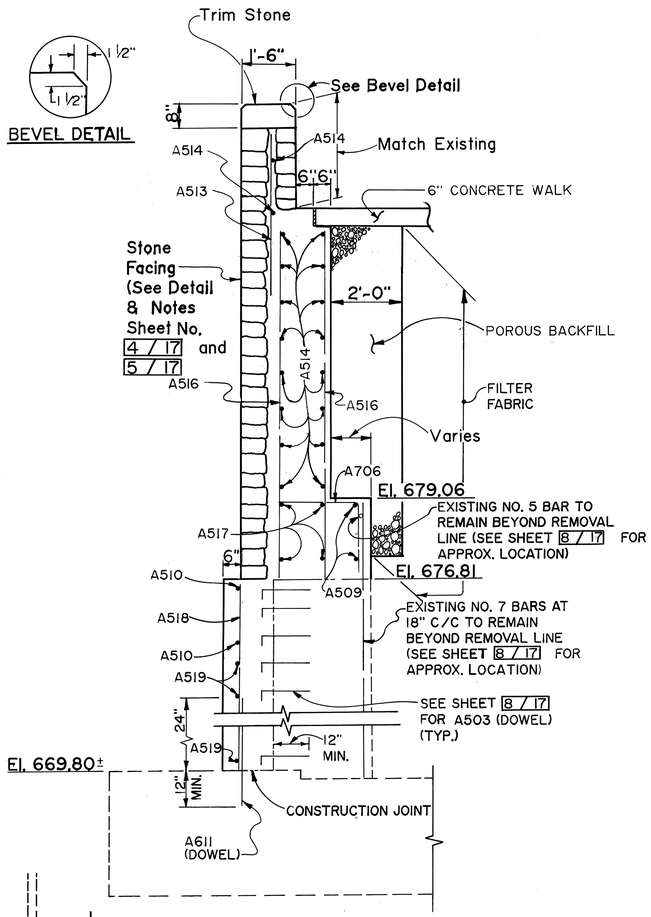
BRIDGE NO. DEF-15-1515
OVER AUGLAIZE RIVER
DEFIANCE COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.G.B.	A.M.P.		T.H.H.	J.R.M.	3-12-90	C.A.T.

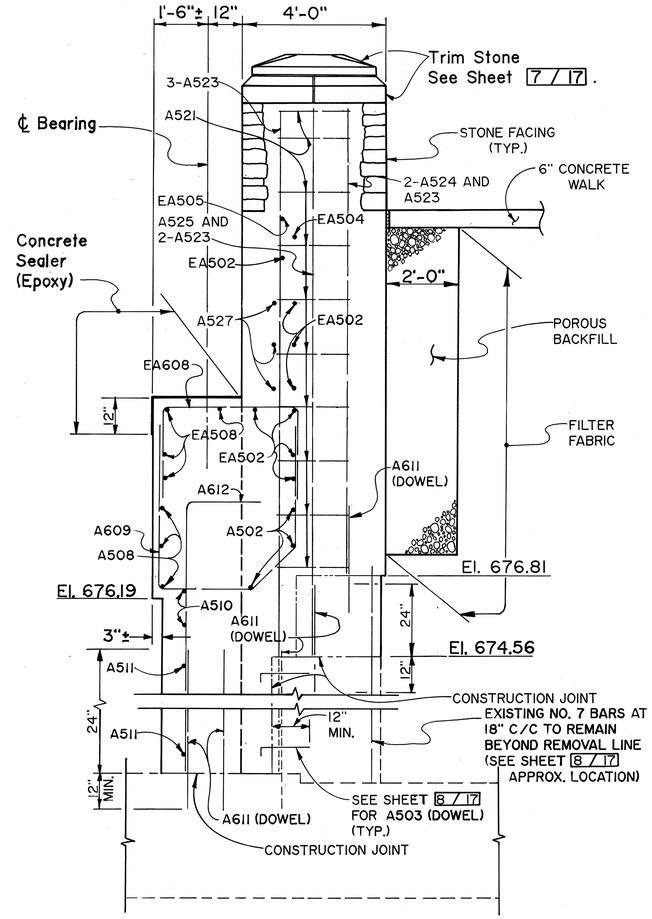
BRUNING 67357



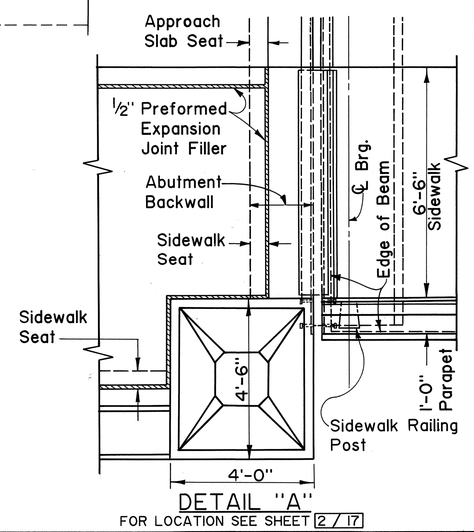
SECTION B - B



SECTION C - C



SECTION D - D



DETAIL "A"
FOR LOCATION SEE SHEET 2 / 17

NOTES:

Reinforcing Bar Splice

Reinforcing bar splice lengths shall conform to the minimum lengths specified by 509.08 of the Construction and Material Specifications unless otherwise noted on the plans.

Reinforcing Steel Abbreviations

N.F. - Near Face
F.F. - Far Face
SPS - Spaces

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ABUTMENT DETAILS

BRIDGE NO. DEF-15-1515
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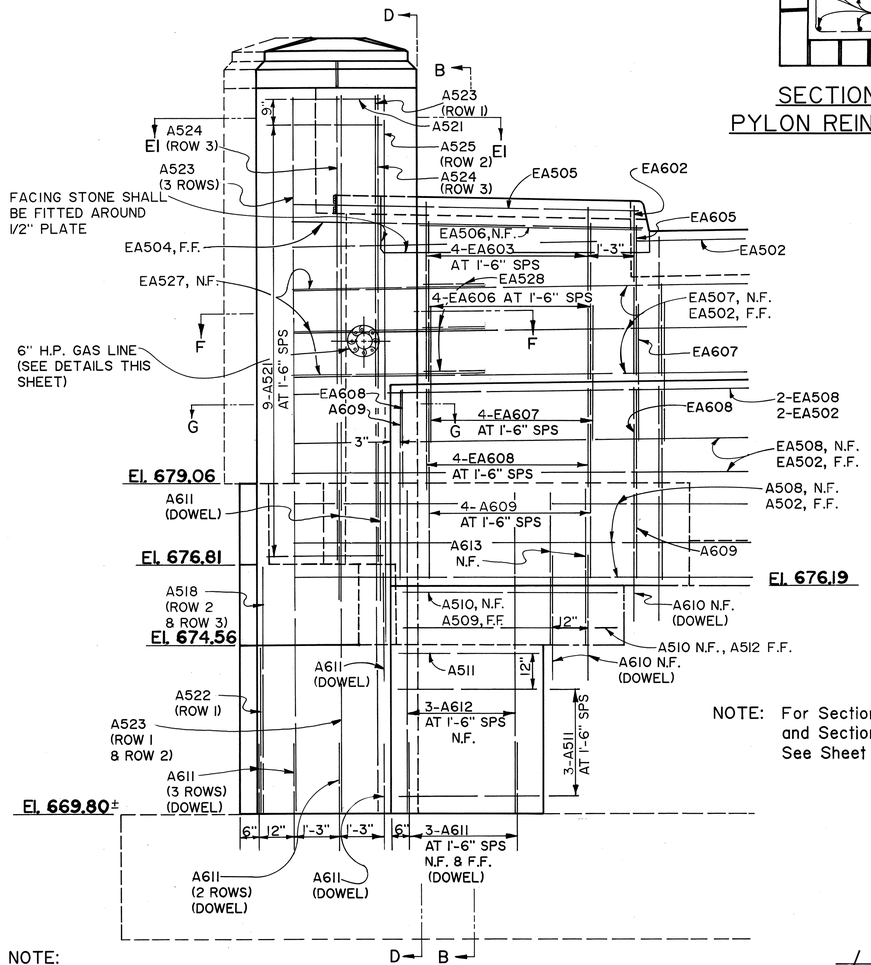
DEFIANCE COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.G.B.	A.M.P.	C.A.T.	T.H.H.	J.R.M.	3-12-90	C.A.T.

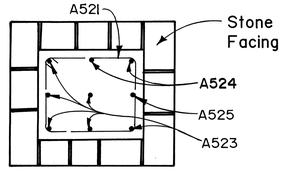
BRUNING 67457



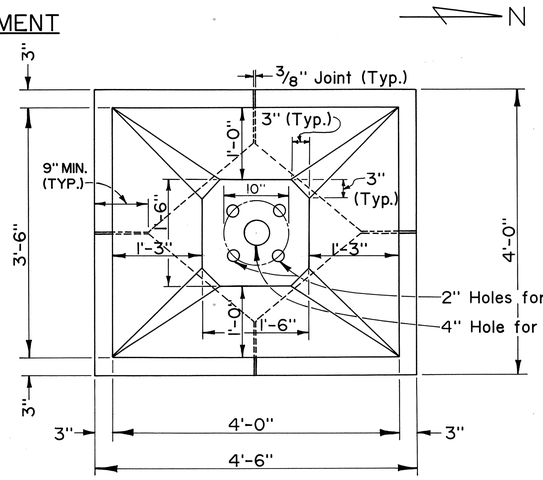
VIEW E - E

NOTE:
For dowel drill hole pattern.
See sheet 8 / 17 .

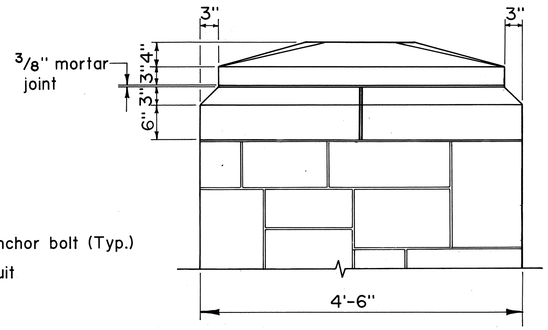
NOTE: For Section B-B and Section D-D See Sheet 6 / 17 .



SECTION EI-EI
PYLON REINFORCEMENT



PLAN
PYLON CAP STONE DETAIL



ELEVATION
PYLON CAP STONE DETAIL

NOTE: For conduit, anchor bolts and necessary necessary lighting details, See Sheet No. 15 / 17 .

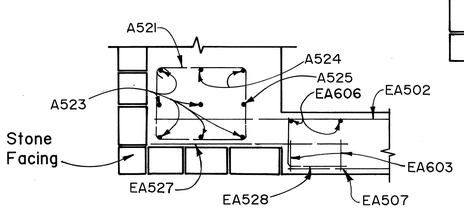
NOTES:

Reinforcing Bar Splice

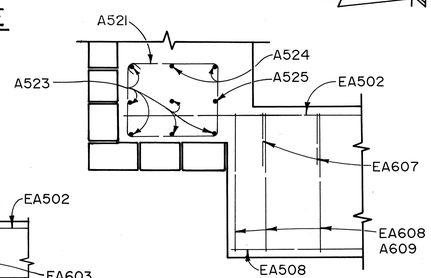
Reinforcing bar splice lengths shall conform to the minimum lengths specified by 509.08 of the Construction and Material Specifications unless otherwise noted on the plans.

Reinforcing Steel Abbreviations

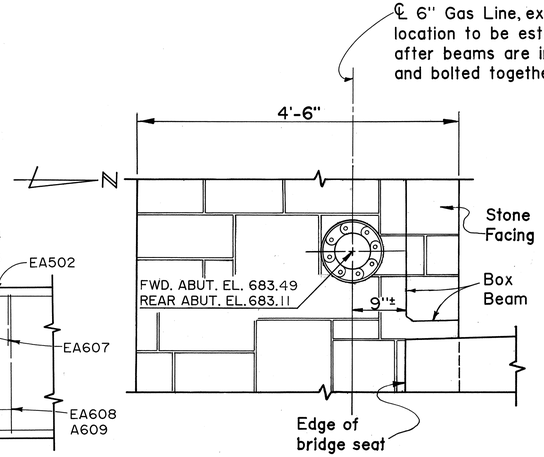
N.F. - Near Face
F.F. - Far Face
SPS - Spaces



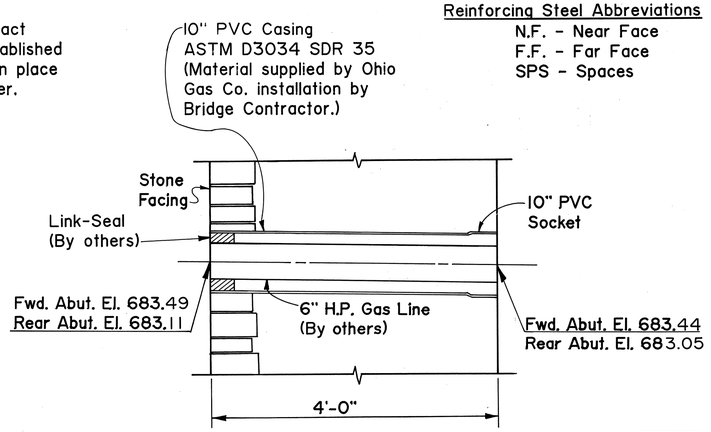
SECTION F-F



SECTION G-G



ELEVATION VIEW OF
6" H.P. GAS LINE THROUGH
ABUTMENT PYLON
(Rear Abutment shown, Fwd. Abutment mirror image)



CENTER LINE SECTION OF 6" H.P. GAS LINE
THROUGH ABUTMENT PYLON

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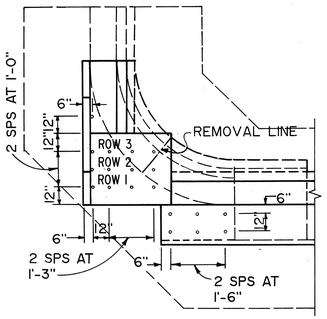
7 / 17

ABUTMENT DETAILS

BRIDGE NO. DEF-15-1515
OVER AUGLAIZE RIVER
DEFIANCE COUNTY

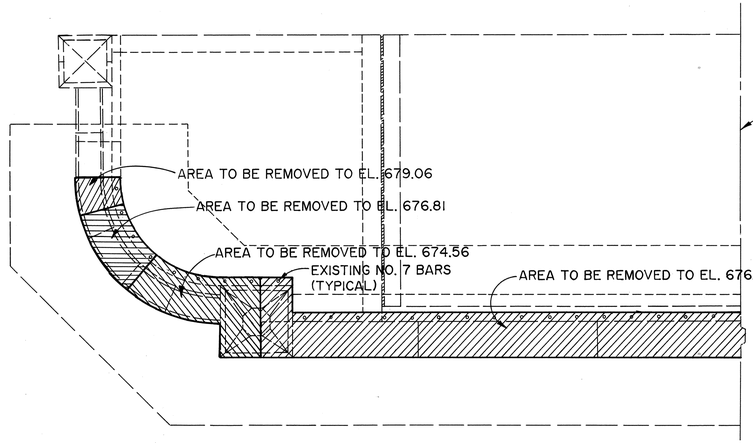
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.G.B.	A.M.P.	C.A.T.	T.H.H	J.R.M.	3-12-90	C.A.T.

BRUNING 67257

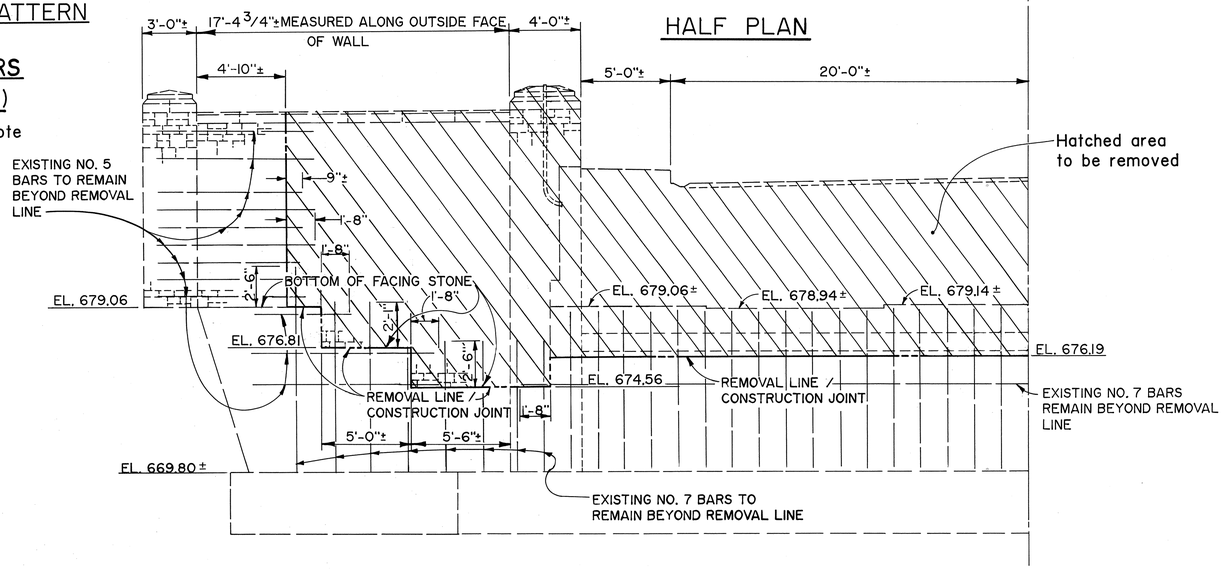


DRILL HOLE PATTERN FOR A611 BARS (DOWEL)

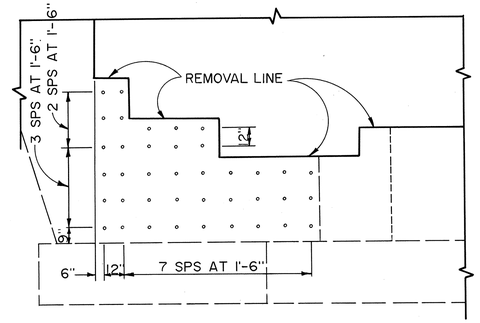
See Dowel Bar Note



HALF PLAN



DEVELOPED HALF ELEVATION



DRILL HOLE PATTERN FOR A503 BARS (DOWEL)

NOTES:

Anchor reinforcing dowel bars as per CMS Item 510 Dowel Holes anchoring system. A minimum 12" deep hole shall be required.

Reinforcing Bar Splice

Reinforcing bar splice lengths shall conform to the minimum lengths specified by 509.08 of the Construction and Material Specifications unless otherwise noted on the plans.

Reinforcing Steel Abbreviations

N.F. - Near Face
F.F. - Far Face
SPS - Spaces

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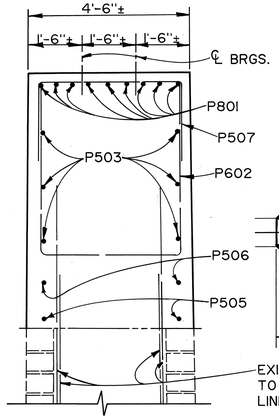
ABUTMENT DETAILS

BRIDGE NO. DEF-15-1515
OVER AUGLAIZE RIVER
DEFIANCE COUNTY

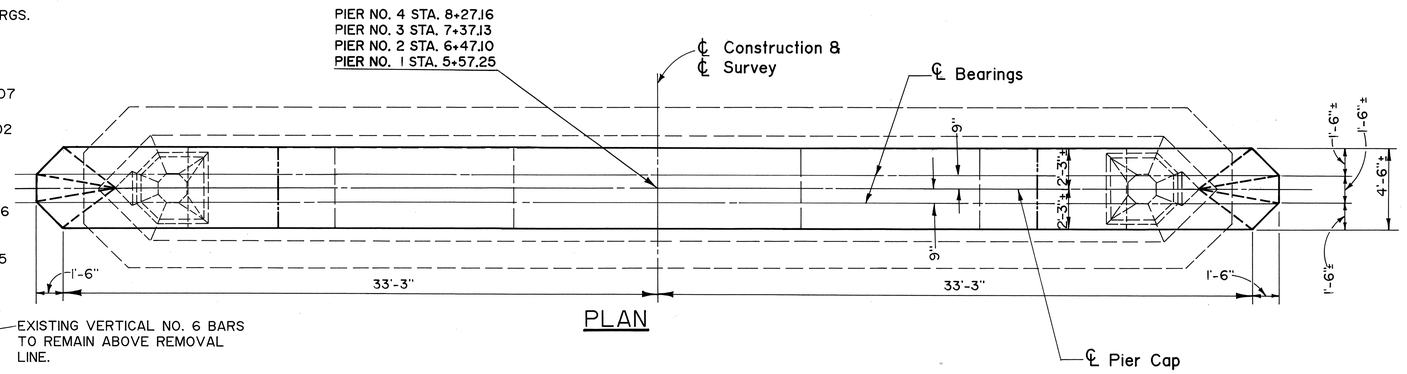
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.G.B.	A.M.P.		T.H.H	J.R.M.	3-12-90	C.A.T.

BRUNING 67357

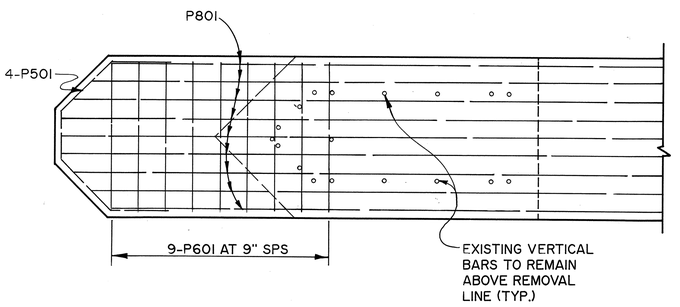
DEFIANCE COUNTY DEF-15-15.14	OHIO FHWA REGION 5 FEDERAL PROJECT	22 33



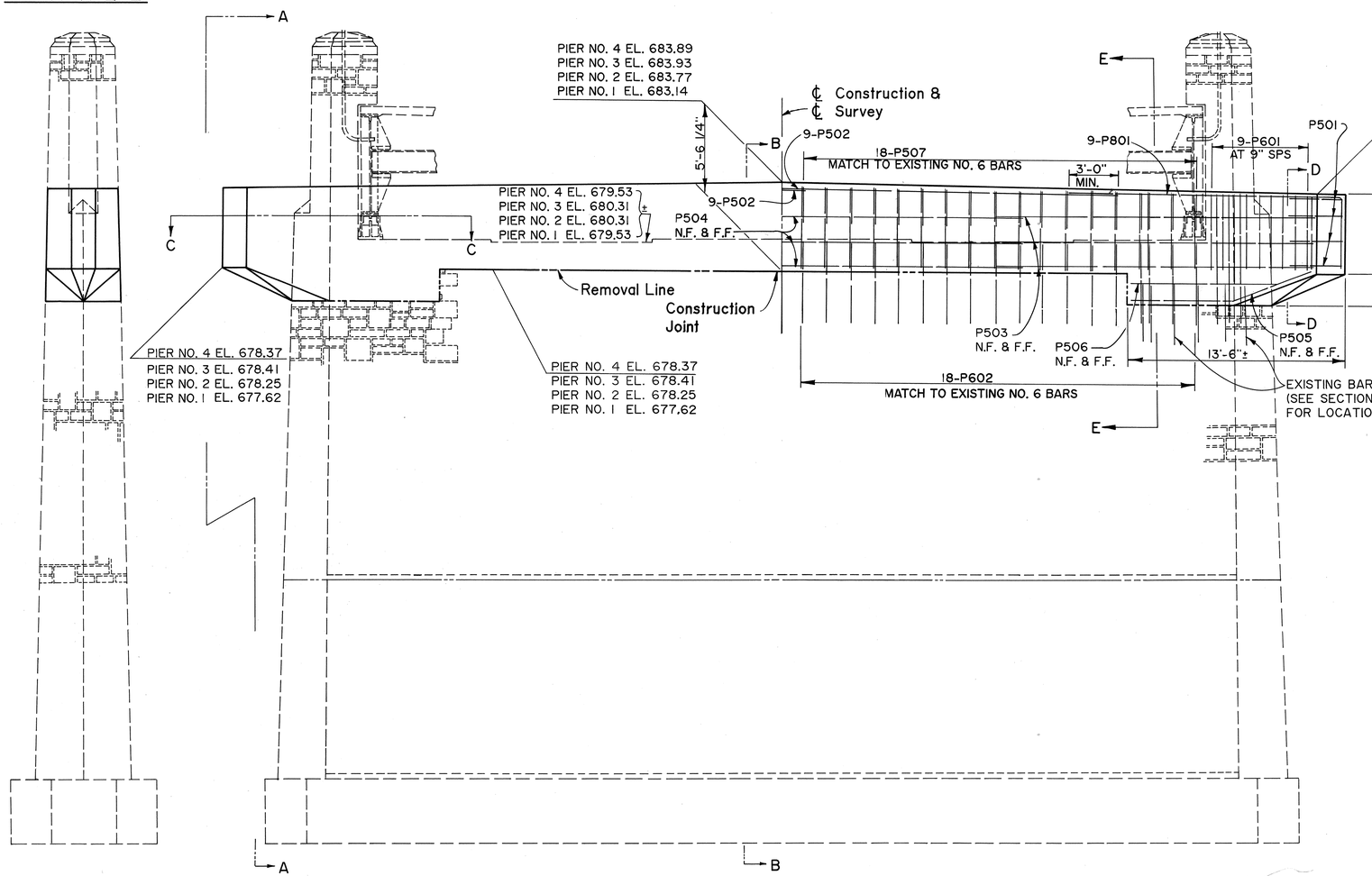
SECTION E-E

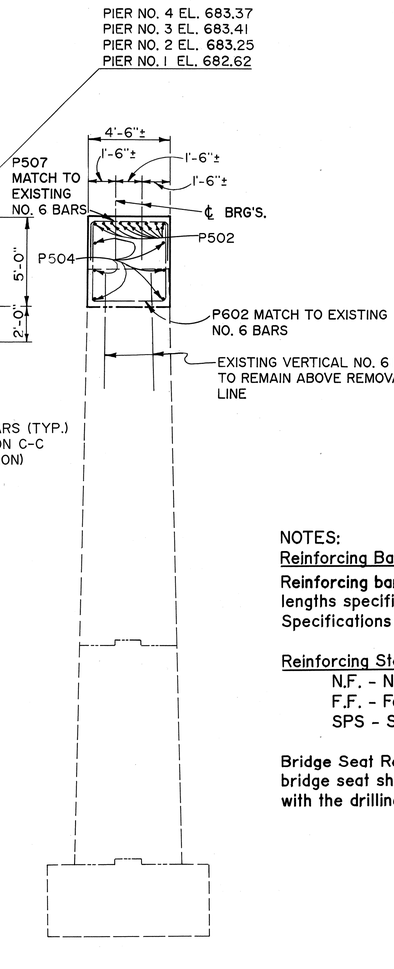


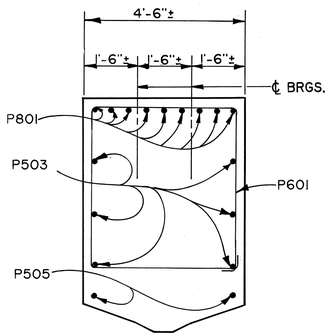
PLAN



SECTION C - C







SECTION D-D

VIEW A-A

ELEVATION

SECTION B-B

NOTES:

Reinforcing Bar Splice

Reinforcing bar splice lengths shall conform to the minimum lengths specified by 509.08 of the Construction and Material Specifications unless otherwise noted on the plans.

Reinforcing Steel Abbreviations

N.F. - Near Face
F.F. - Far Face
SPS - Spaces

Bridge Seat Reinforcing: Reinforcing steel in the vicinity of the bridge seat shall be accurately placed to avoid interference with the drilling of the anchor bar holes.

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CONSULTING ENGINEERS AND SURVEYORS — LIMA, OHIO — 9/17

PIER DETAILS

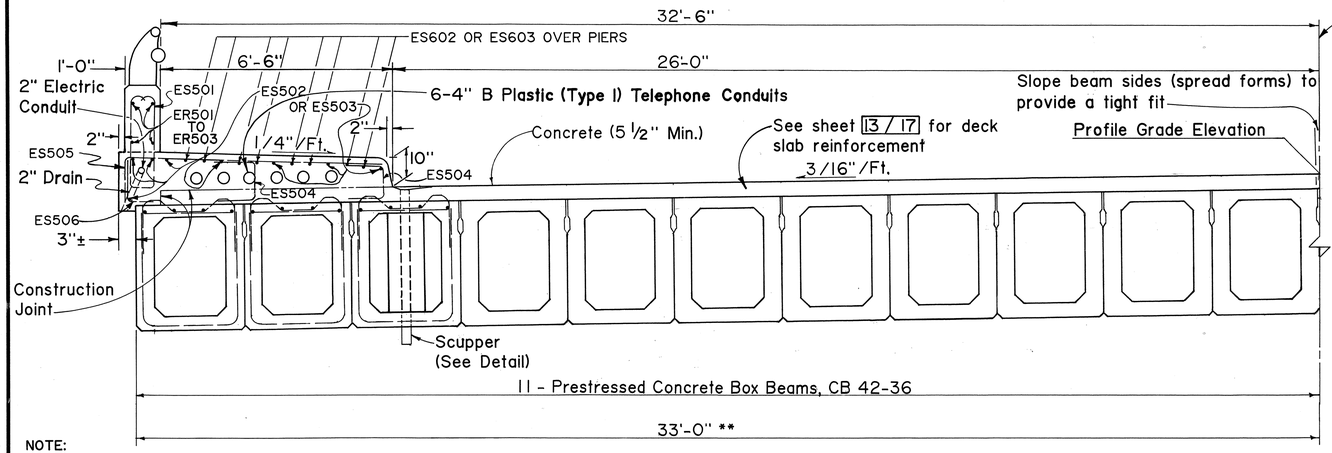
BRIDGE NO. DEF-15-1515
OVER AUGLAIZE RIVER
DEFIANCE COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.G.B.	A.M.P.		T.H.H.	J.R.M.	3-12-90	C.A.T.

BRUNING 67357

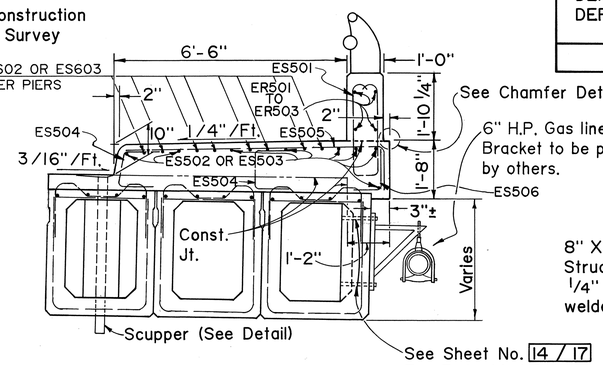
DEFIANCE COUNTY DEF-15-15.14	OHIO
	FHWA REGION 5
	FEDERAL PROJECT

23/33

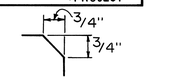


NOTE:
FOR LIMITS OF ITEM SPECIAL - SEALING OF CONCRETE SURFACES, SEE SHEET 13/17.

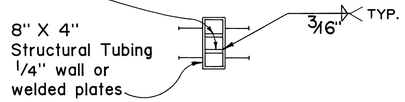
** = plus fit-up



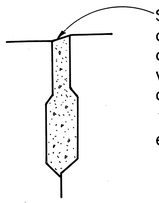
SOUTH SIDEWALK AND RAILING CROSS SECTION



CHAMFER DETAIL TYPICAL



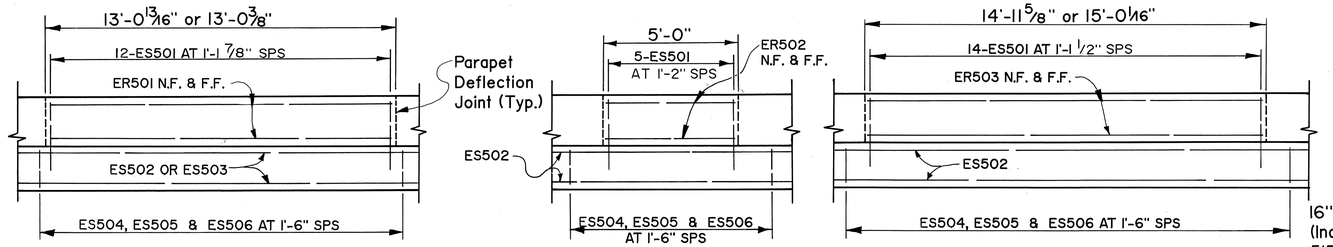
PLAN

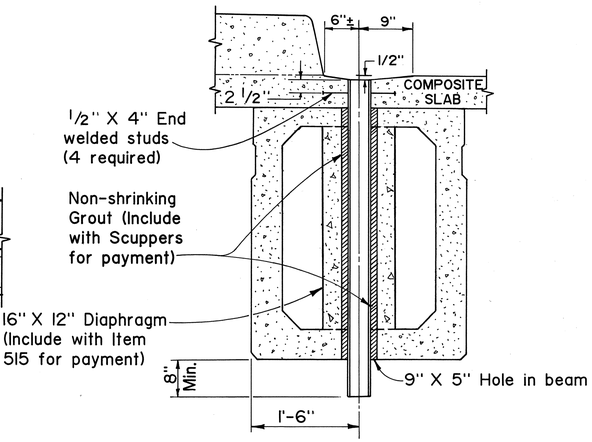


Shear keys shall be mortared on a slope between the top edges of the adjacent beams where vertical offset (within tolerance) occurs.

The keyway on the fascia of the exterior beams shall be omitted.

HALF TRANSVERSE CROSS SECTION

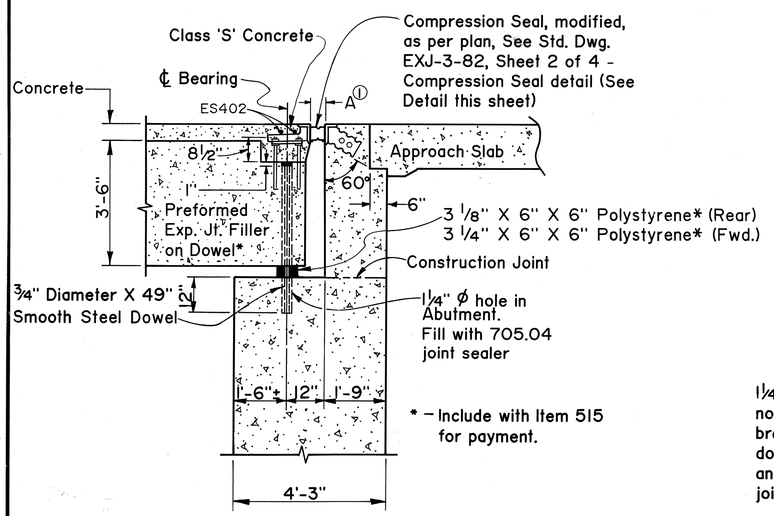




SCUPPER DETAILS

NOTE: Scupper shall be galvanized in accordance with CMS 711.02.

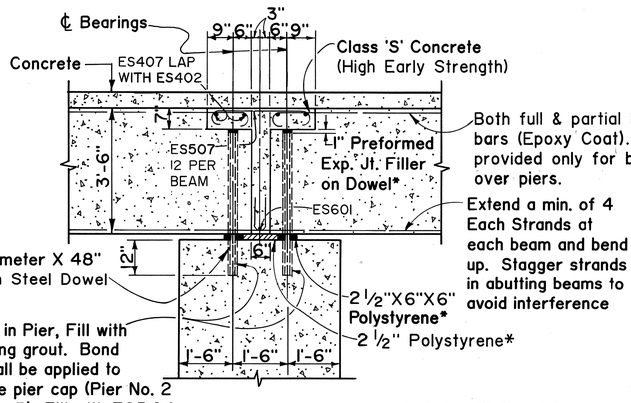
A① = 2 11/16" ± DTA



* - Include with Item 515 for payment.

BEARING AT ABUTMENT

PARAPET AND SIDEWALK REINFORCING STEEL

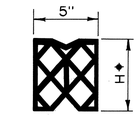


Both full & partial length longitudinal bars (Epoxy Coat). Hooks shall be provided only for beam connections over piers.

Extend a min. of 4 Each Strands at each beam and bend up. Stagger strands in abutting beams to avoid interference

* - Include with Item 515 for payment

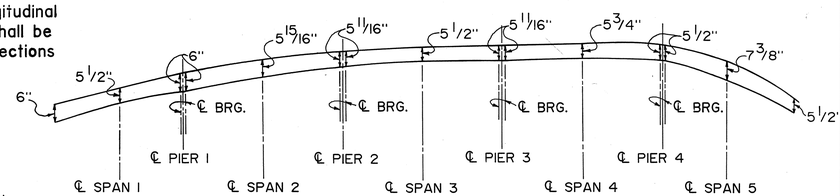
BEARING AT PIER



✦SEE MANUFACTURER'S CATALOG FOR SEAL ACTUALLY CHOSEN FOR USE.

COMPRESSION SEAL DETAIL

D.S. BROWN'S CV5000, WATSON BOWMAN & ACME'S WJ-500, OR AN APPROVED ALTERNATE



	SPAN 1	SPAN 2	SPAN 3	SPAN 4	SPAN 5
RESIDUAL CAMBER	= +1 1/8"	+1 3/8"	+1 3/8"	+1 3/8"	+1 1/8"
D.L. DEFLECTION	= -5/16"	-11/16"	-11/16"	-11/16"	-5/16"
V.C. ADJUSTMENT	= +5/16"	+3/4"	+1/2"	+7/8"	+2 11/16"

+UP
−DOWN

COMPOSIT CONCRETE SLAB THICKNESS DIAGRAM

KOHLI AND KALIHER ASSOCIATES, LIMITED
CONSULTING ENGINEERS AND SURVEYORS — LIMA, OHIO

10/17

SUPERSTRUCTURE DETAILS
BRIDGE NO. DEF-15-1515
OVER AUGLAIZE RIVER
DEFIANCE COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.G.B.	S.M.M.		T.H.H.	J.R.M.	3-12-90	A.M.P.

BRUNING 67957

DEFIANCE COUNTY
DEF-15-15.14

OHIO
FHWA REGION 5
FEDERAL PROJECT

24
33

℄ Bearing Rear Abut. (Exp.) | ℄ Diaphragm | ℄ Bearing (Exp.) | ℄ Pier No. 1 | ℄ Diaphragm | ℄ Diaphragm | ℄ Pier No. 2 | ℄ Bearing (Fixed) | ℄ Diaphragm

N

B-1 * | B-1 * | B-2 * | B-3 | B-2 | B-1 | B-2 | B-3 | B-2 | B-1 | B-2 | B-3 | B-2 | B-1 | B-2 | B-3 | B-2 | B-1 | B-2 | B-3 * | B-2 * | B-1 *

2 1/2" POLYSTYRENE, 12" WIDE AND TOTAL LENGTH OF BEARING (INCLUDE WITH ITEM 515 FOR PAYMENT) (TYP. AT PIERS)

2 1/2" X 7 1/2" X 10" LAMINATED ELASTOMERIC BEARING PADS, 50 DUROMETER (SEE SHEET 13 / 17 FOR DETAILS) (TYP. AT PIER NO. 1, PIER NO. 2, PIER NO. 3 AND PIER NO. 4 (SPAN NO. 4)

3 1/8" X 9 1/2" X 10" LAMINATED ELASTOMERIC BEARING PADS, 50 DUROMETER (SEE SHEET 13 / 17 FOR DETAILS) (TYP. AT REAR ABUTMENT)

POLYSTYRENE 8" 8"

6" (Typ. at piers)

3" ϕ HOLE (MAX.) FOR 1" ϕ STEEL TIE RODS (TYP.)

B-4 * | B-4 * | B-5 * | B-6 | B-5 | B-4 | B-5 | B-6 | B-5 | B-4 | B-5 | B-6 | B-5 | B-4 | B-5 | B-6 * | B-5 * | B-4 *

SCUPPER (TYP.) (SEE SHEET 10 / 17 FOR DETAILS)

B-7 * | B-7 * | B-8 * | B-9 | B-8 | B-7 | B-8 | B-9 | B-8 | B-7 | B-8 | B-9 | B-8 | B-7 | B-8 | B-9 | B-8 | B-7 | B-8 | B-9 * | B-8 * | B-7 *

℄ Span

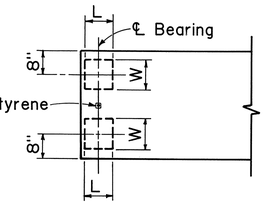
℄ Construction & ℄ Survey

24'-0" | 23'-3 5/8" | 24'-0" | 9" | 9" | 22'-0" | 20'-0" | 24'-4 1/4" | 22'-0" | 9" | 9" | 22'-0" | 20'-0" | 2'-3 3/16"

71'-3 5/8" C/C Bearings
72'-0 5/8" ℄ Bearing to ℄ Pier

88'-4 1/4" C/C Bearings
89'-10 1/4" ℄ Pier to ℄ Pier

44'-3 3/16" ℄ Bearing to ℄ Span
45'-0 3/16" ℄ Pier to ℄ Span



TYPICAL LOCATION OF LAMINATED ELASTOMERIC BEARING PADS

* - Do not use bearing anchor dowels in the outside three beams at all piers.

℄ Diaphragm | ℄ Pier No. 3 | ℄ Bearing (Fixed) | ℄ Diaphragm | ℄ Diaphragm | ℄ Pier No. 4 | ℄ Bearing (Exp.) | ℄ Diaphragm | ℄ Bearing Fwd. Abut. (Exp.)

℄ Span

B-7 * | B-7 * | B-8 * | B-9 | B-8 | B-7 | B-8 | B-9 | B-8 | B-7 | B-8 | B-9 | B-8 | B-7 | B-8 | B-9 * | B-8 * | B-7 *

POLYSTYRENE 8" 8"

2 1/2" TO 2 5/8" X 7 1/2" X 10" TAPERED LAMINATED ELASTOMERIC BEARING PADS, 50 DUROMETER (SEE SHEET 17 / 17 FOR DETAILS) (TYP. AT PIER NO. 4 (SPAN NO. 5)

B-10 * | B-10 * | B-11 * | B-12 | B-11 | B-10 | B-11 | B-12 | B-11 | B-10 | B-11 | B-12 | B-11 | B-10 | B-11 | B-12 * | B-11 * | B-10 *

℄ Construction & ℄ Survey

POLYSTYRENE 8" 8"

3 1/8" TO 3 11/32" X 9 1/2" X 10" TAPERED LAMINATED ELASTOMERIC BEARING PADS, 50 DUROMETER (SEE SHEET 17 / 17 FOR DETAILS) (TYP. AT FWD. ABUTMENT)

22'-3 3/16" | 22'-0" | 9" | 9" | 22'-0" | 20'-0" | 24'-6 3/8" | 22'-0" | 9" | 9" | 24'-0" | 23'-1 1/2" | 24'-0"

44'-3 3/16" ℄ Span to ℄ Bearing
45'-0 3/16" ℄ Span to ℄ Pier

88'-6 3/8" C/C Bearings
90'-0 3/8" ℄ Pier to ℄ Pier

71'-1 1/2" C/C Bearings
71'-10 1/2" ℄ Pier to ℄ Bearing

KOHLI AND KALIHER ASSOCIATES, LIMITED
CONSULTING ENGINEERS AND SURVEYORS LIMA, OHIO

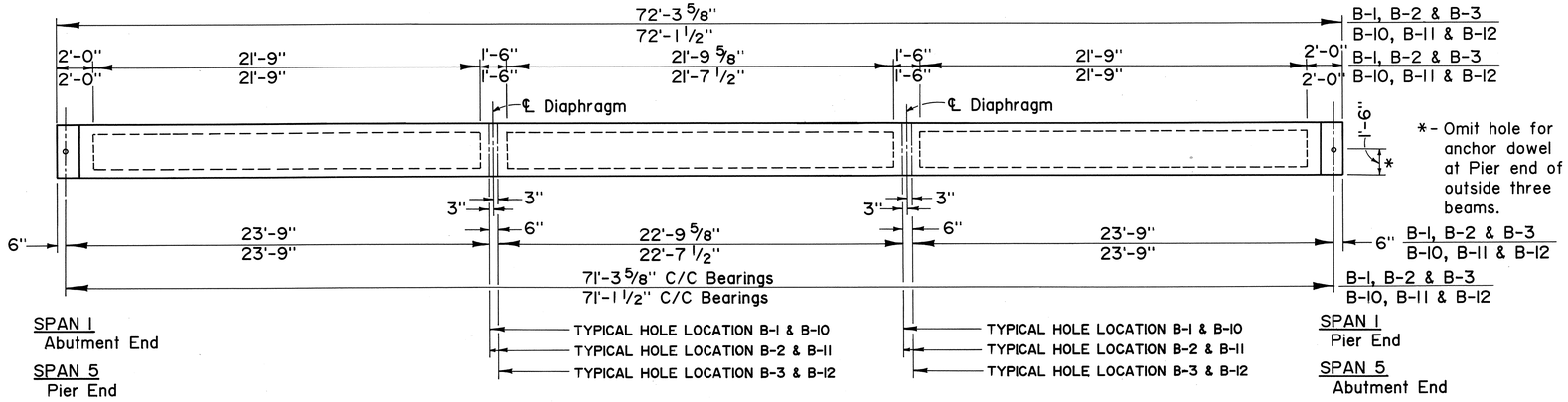
11 / 17

BEAM LAYOUT
BRIDGE NO. DEF-15-1515
OVER AUGLAIZE RIVER
DEFIANCE COUNTY

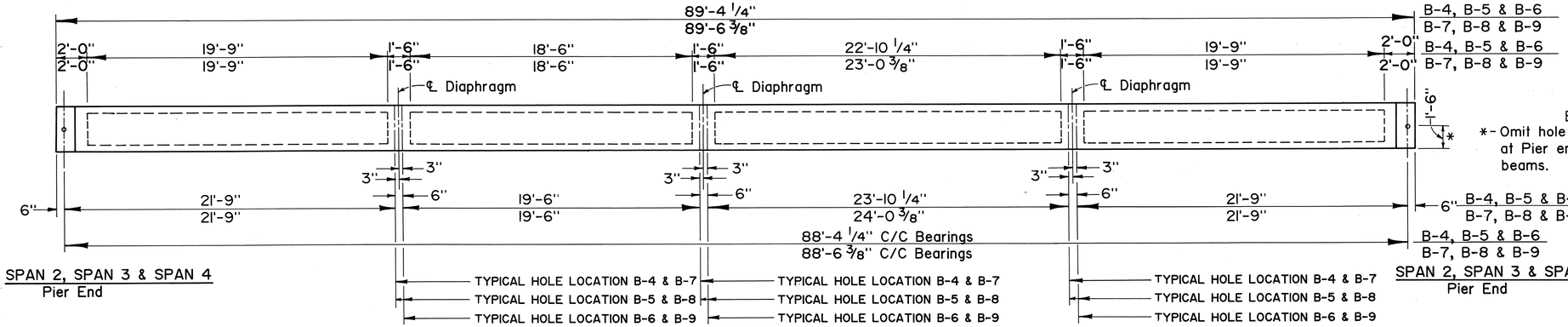
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.G.B.	A.M.P.	C.A.T.	T.H.H.	J.R.M.	3-12-90	A.M.P.

BRUNING 67257

DEFIANCE COUNTY DEF-15-15.14	OHIO FHWA REGION 5 FEDERAL PROJECT	25 33



B-1 THRU B-3 AND B-10 THRU B-12 PLAN



B-4 THRU B-6 AND B-7 THRU B-9 PLAN

NOTES:

Fabricator's shop drawings shall show complete details of beam reinforcement.

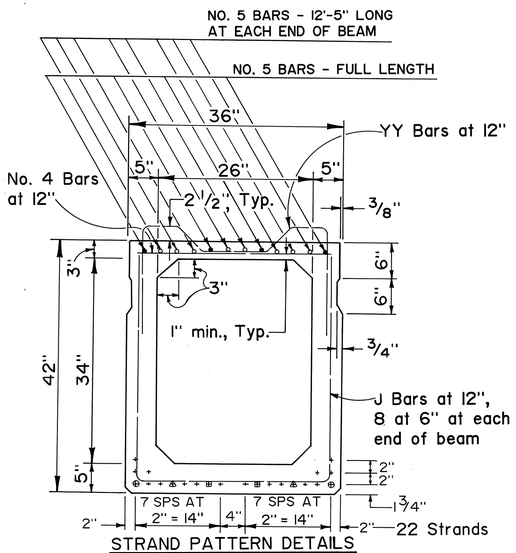
For additional details, see sheets 10 and 11 of 17 and Standard Drawing PSBD-1-81, sheets 1, 2, 3 and 4 of 4.

Minimum concrete strength at 28 days f'c = 5500 p.s.i.
Minimum concrete strength at time of initial prestress f'ci = 4000 p.s.i.

PRESTRESSING STRANDS: 1/2" diameter, 270 , seven-wire uncoated stress-relieved strand, AS = 0.153 square inch, ASTM 416, Grade 270.

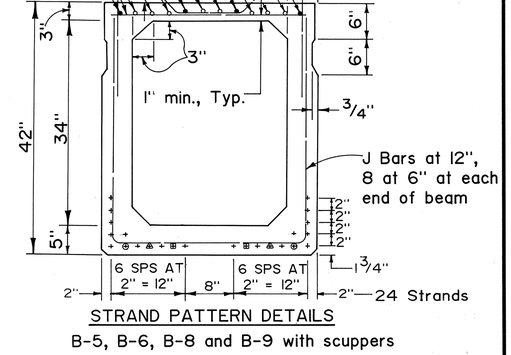
Initial stress 0.7 f's = 189,000 p.s.i.
Stress at release 0.63 f's = 170,100 p.s.i.

+ Indicates Strand Locations
⊕ Indicates Strands to be Debonded for 1'-6"
♣ Indicates Strands to be Debonded for 2'-6"
⊞ Indicates Strands to be Debonded for 3'-6"

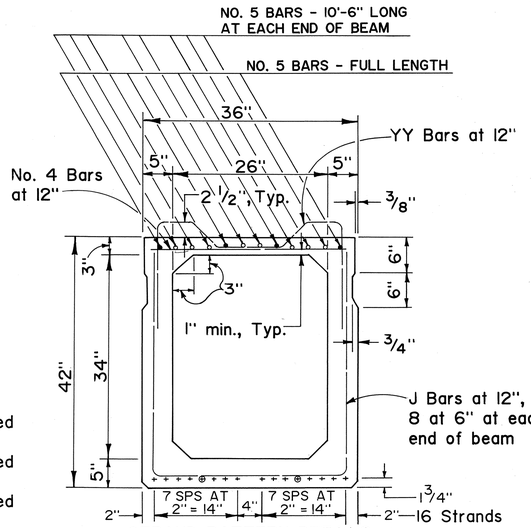


STRAND PATTERN DETAILS
B-4 thru B-6 and B-7 thru B-9 except beams with scuppers

*- Omit hole for anchor dowel at Pier end of outside three beams.



STRAND PATTERN DETAILS
B-5, B-6, B-8 and B-9 with scuppers



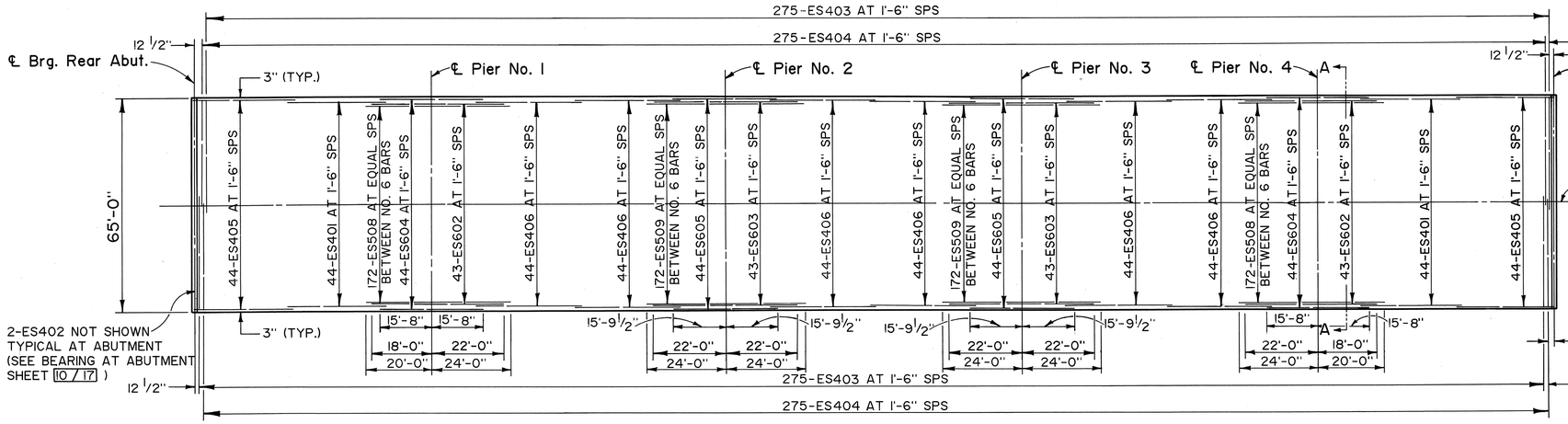
STRAND PATTERN DETAILS
B-1 thru B-3 and B-10 thru B-12

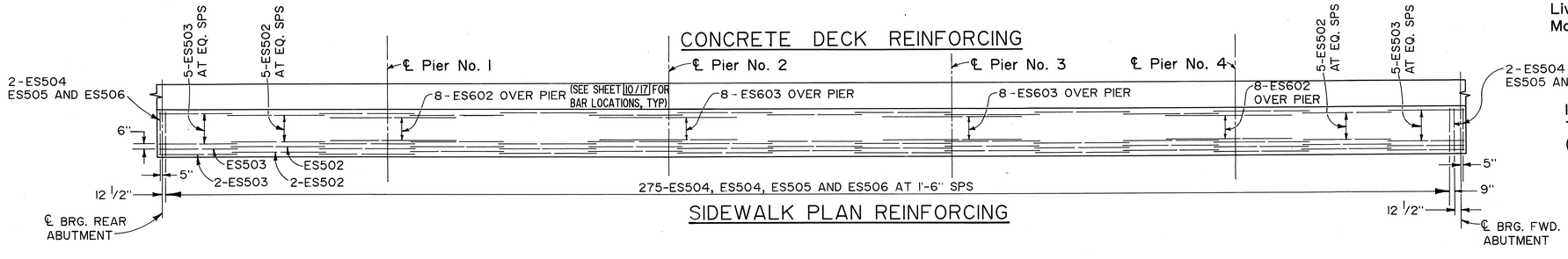
KOHLI AND KALIHER ASSOCIATES, LIMITED CONSULTING ENGINEERS AND SURVEYORS LIMA, OHIO	12/17

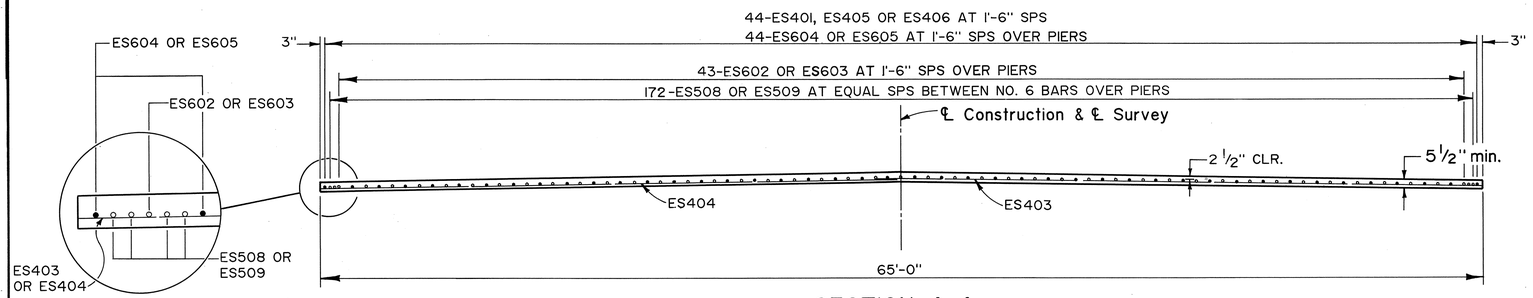
PRESTRESSED BEAM DETAILS
CB42-36
BRIDGE NO. DEF-15-1515
OVER AUGLAIZE RIVER
DEFIANCE COUNTY

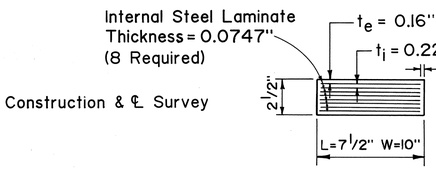
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.G.B.	A.M.P.		T.H.H	J.R.M.	3-12-90	C.A.T.

BRUNING 67357









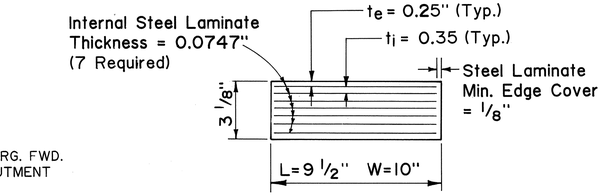
LAMINATED ELASTOMERIC BEARING
50 DUROMETER

PIER NO.1 (SPAN 1)

Dead Load Reaction = 23.1K
Live Load Reaction = 31.5K
Maximum Design Load = 54.6K

PIER NO. 1 (SPAN 2),
PIER NO. 2, PIER NO. 3
PIER NO. 4 (SPAN 4)

Dead Load Reaction = 28.7K
Live Load Reaction = 32.2K
Maximum Design Load = 60.9K



LAMINATED ELASTOMERIC BEARING
50 DUROMETER

REAR ABUTMENT

Dead Load Reaction = 23.1K
Live Load Reaction = 31.5K
Maximum Design Load = 54.6K

TOLERANCES:
Individual elastomeric layer thickness: ±20% of design value (not to exceed ±1/8")

Plan Dimension	-0, +1/4"
Design Thickness	-0, +1/8"
Edge Cover of Embedded Laminates	-0, +1/8"

BASIS OF PAYMENT: The unit bid price shall include all materials, labor and incidentals necessary to furnish and install laminated elastomeric bearings either fixed or expansion. Payment will be made at the contract price for Item 516, each, Laminated Elastomeric Bearings (2 1/2" X 7 1/2" X 10" or 3 1/8" X 9 1/2" X 10").

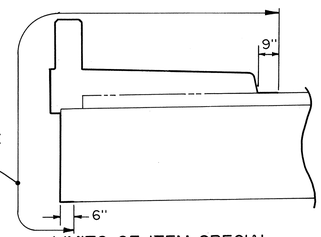
NOTE: Bearing details for the forward abutment and Pier 4 (Span 5) are shown on sheet 17/17.

NOTES:

Reinforcing Bar Splice
Reinforcing bar splice lengths shall conform to the minimum lengths specified by 509.08 of the Construction and Material Specifications unless otherwise noted on the plans.

Reinforcing Steel Abbreviations
N.F. - Near Face
F.F. - Far Face
SPS - Spaces

LAMINATED ELASTOMERIC BEARINGS
The laminated elastomeric bearing manufacturer shall supply a plain elastomeric pad for testing purposes. The pad shall be furnished from the same batch of neoprene that is used in the fabrication of the laminated elastomeric bearings and the fabricator shall certify the identity of the elastometer. The pad shall have a 1/2" thickness, and shall have minimum length and width dimensions of 6". Payment for the test pad will be included in the price bid for the bearings.



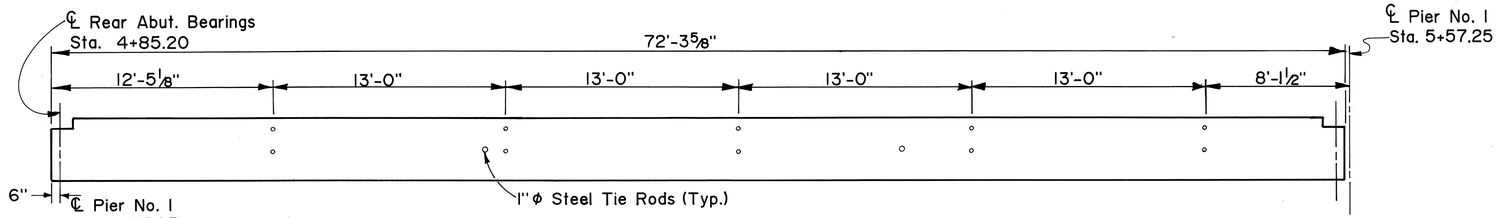
LIMITS OF ITEM SPECIAL - SEALING OF CONCRETE SURFACES

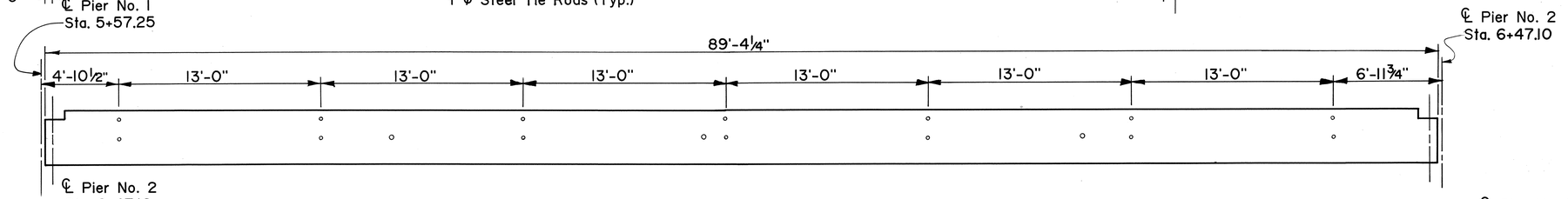
KOHLI AND KALIHER ASSOCIATES, LIMITED
CONSULTING ENGINEERS AND SURVEYORS
LIMA, OHIO
13/17

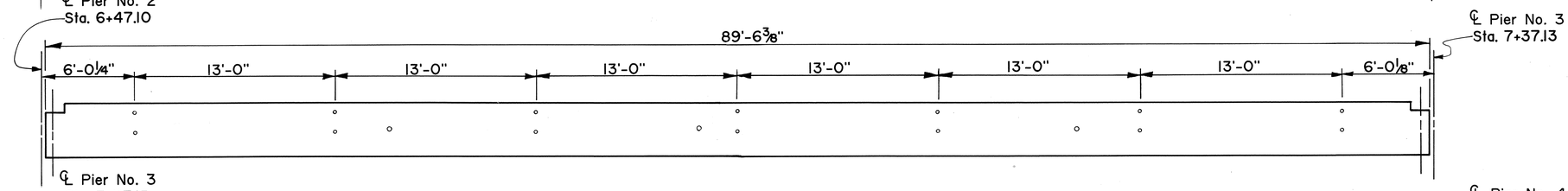
SUPERSTRUCTURE DECK REINFORCING
STEEL & BEARING PAD DETAILS
BRIDGE NO. DEF-15-1515
OVER AUGLAIZE RIVER
DEFIANCE COUNTY

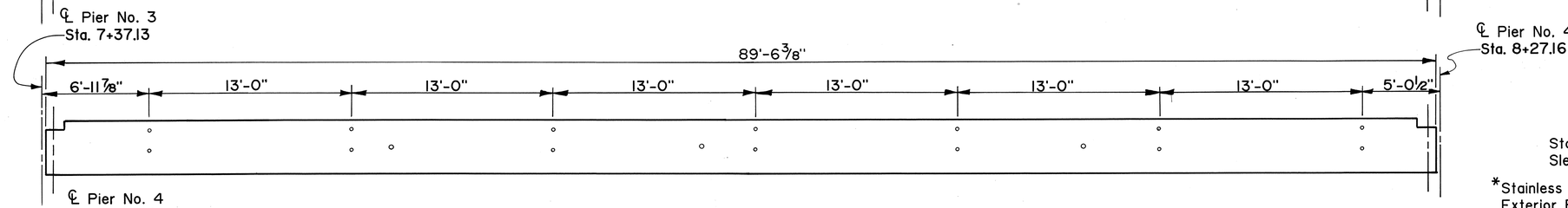
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.G.B.	A.M.P.		T.H.H.	J.R.M.	3-12-90	A.M.P.

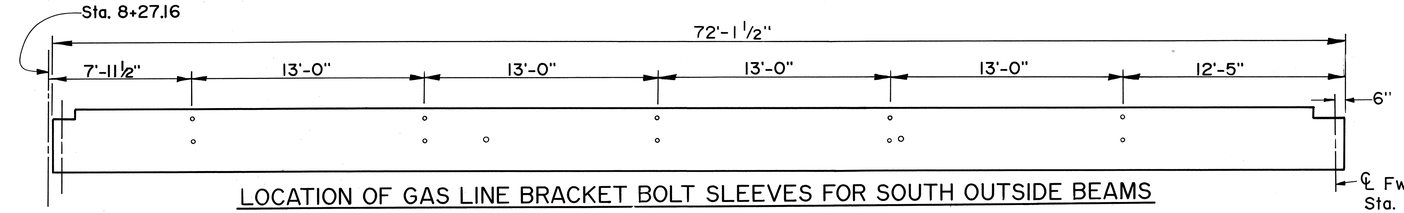
BRUNING 07457











LOCATION OF GAS LINE BRACKET BOLT SLEEVES FOR SOUTH OUTSIDE BEAMS

NOTES:

For reinforcing steel see Standard Bridge Drawing PSBD-1-81, Box Beam CB42-36.

No grout notch shall be provided on the exterior of any outside beam.

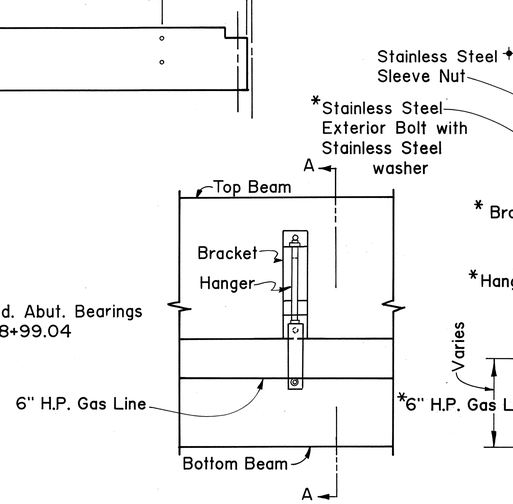
Stainless steel sleeve nut has right hand machine thread and is made from hex or square stock, 1.70 min. distance across flats.

Embedded bolt size is 5" x 3/4"ϕ. Bolts are to be stainless steel, with unfinished-Am. Std. machine thread. Embedded bolt extends 2 1/2" into sleeve.

Exterior hex head bolt size is 2 3/4" x 3/4"ϕ. Bolts are to be stainless steel, with unfinished-Am. Std. machine thread. Bolt extends 2 1/4" into sleeve.

For the quantity of embedded sleeves, bolts and exterior bolts, see Sheet No. 29.

*Ohio Gas Company is responsible for supplying and installing the brackets, hangers and pipe in coordination and cooperation with the Contractor. Ohio Gas Company is responsible for supplying the stainless steel embedded bolts, sleeve nuts and exterior bolts for installation by the Contractor.

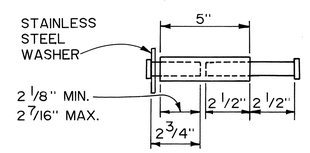


ELEVATION VIEW OF BEAM SHOWING GAS LINE MOUNTING DETAIL

SECTION A-A

Outside Beam showing Gas Line Mounting Details on South Side

✦Furnished by the Ohio Gas Company for installation by the beam manufacturer.



BOLT AND SLEEVE DETAIL

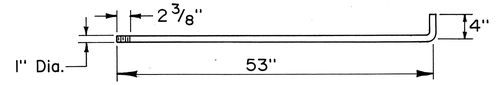
KOHLI AND KALIHER ASSOCIATES, LIMITED
CONSULTING ENGINEERS AND SURVEYORS — LIMA, OHIO

14 / 17

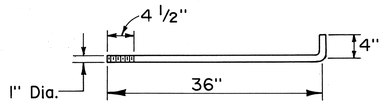
GAS LINE INSTALLATION DETAIL
FOR SUPERSTRUCTURE
BRIDGE NO. DEF-15-1515
OVER AUGLAIZE RIVER
DEFIANCE COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.G.B.	A.M.P	C.A.T.	T.H.H.	J.R.M.	3-12-90	C.A.T.

BRUNING 67357



ANCHOR BOLT FOR ABUTMENT PYLON



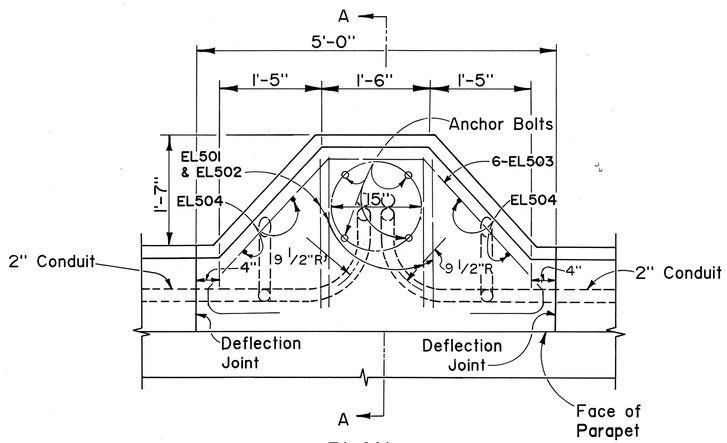
ANCHOR BOLT FOR SUPERSTRUCTURE

NOTE: All reinforcing steel for the light pole bases shall be paid for under Item 509, Epoxy Coated Reinforcing Steel.

Reinforcing steel in the walk, parapet, and light pole base shall be epoxy coated.

NOTE: For parapet details, see sheet 10/17.

Anchor bolts included with lighting quantities, roadway plans, for payment.

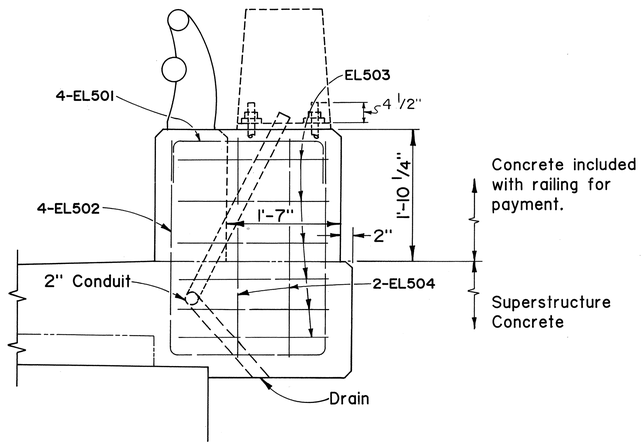


PLAN

Parapet Reinforcement not shown.

NOTE: The Contractor will supply all conduit wire, connectors, etc. necessary to complete the lighting portion of this project.

All conduits installed shall be steel as per 713.04.



SECTION A-A

KOHLI AND KALIHER ASSOCIATES, LIMITED
CONSULTING ENGINEERS AND SURVEYORS LIMA, OHIO
15/17

LIGHTING POLE BASE DETAIL
FOR SUPERSTRUCTURE
BRIDGE NO. DEF-15-1515
OVER AUGLAIZE RIVER
DEFIANCE COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.G.B.	A.M.P.		T.H.H.	J.R.M.	3-12-90	A.M.P.

BRUNING 67257

REINFORCING STEEL LIST

FORWARD AND REAR ABUTMENT							
MARK	NO.	LENGTH	WEIGHT	SHP.	A	B	C
A501	12	30'–0"	375	S			
A502	12	22'–9"	285	S			
A503*	156	1'–6"	244	B3	0'–3"	1'–4"	
A508	12	19'–9"	247	S			
A509	12	11'–3"	141	B6	3'–9"	7'–6"	
A510	16	6'–0"	100	S			
A511	16	3'–11"	65	S			
A512	4	7'–6"	31	B6	3'–9"	3'–9"	
A513	12	4'–6"	56	S			
A514	72	7'–0"	526	S			
A515	16	7'–2"	120	S			
A516	16	9'–6"	159	S			
A517	16	5'–0"	83	S			
A518	12	6'–10"	86	S			
A519	16	7'–7"	127	S			
A520	8	9'–1"	76	S			
A521	40	9'–7"	400	B1	2'–0"	2'–6"	
A522	4	4'–7"	19	S			
A523	24	20'–1"	503	S			
A524	8	13'–1"	109	S			
A525	4	15'–4"	64	S			
A609	96	13'–3"	1911	B4	5'–3"	1'–6"	4'–2"
A610*	84	3'–6"	442	S			
A611*	76	3'–0"	342	S			
A612	12	10'–11"	197	B3	2'–0"	9'–1"	
A613	8	6'–2"	74	B3	2'–0"	4'–4"	
A701	4	6'–6"	53	B3	4'–0"	2'–8"	
A702	12	8'–2"	200	B3	4'–0"	4'–4"	
A703	4	6'–8"	55	B3	2'–6"	4'–4"	
A704	4	6'–2"	50	B3	4'–3"	2'–1"	
A705	4	4'–5"	36	B3	2'–6"	2'–1"	
A706	4	4'–2"	34	B3	2'–3"	2'–1"	
TOTAL			7210				
		*=DOWEL	BAR				

FORWARD AND REAR ABUTMENT							
MARK	NO.	LENGTH	WEIGHT	SHP.	A	B	C
EPOXY COATED							
EA501	30	30'–0"	939	S			
EA502	32	22'–9"	759	S			
EA504	4	9'–3"	39	S			
EA505	4	9'–9"	41	S			
EA506	4	6'–3"	26	S			
EA507	12	19'–1"	239	S			
EA508	16	19'–9"	330	S			
EA527	12	5'-4"	67	S			
EA528	12	3'-0"	38	B3	1'-5"	1'-8"	
EA601	72	8'–2"	883	B2	0'–10"	3'–10"	
EA602	4	9'–10"	59	B2	0'–10"	4'–8"	
EA603	16	10'–4"	248	B2	0'–10"	4'–11"	
EA604	72	3'–10"	415	B3	1'–5"	2'–7"	
EA605	4	5'–5"	33	B3	1'–5"	4'–2"	
EA606	16	5'–8"	136	B3	1'–5"	4'–5"	
EA607	92	8'–9"	1209	B2	1'–5"	3'–10"	
EA608	96	9'–1"	1310	B2	3'–11"	2'–9"	
ED801	72	5'-0"	961	B5	2'-8"	1'-0"	
TOTAL			7732				

PIERS							
MARK	NO.	LENGTH	WEIGHT	SHP.	A	B	C
P501	32	8'–6"	284	B7	1'–4"	1'–11"	1'–8"
P502	72	22'–1"	1658	S			
P503	48	19'–9"	989	S			
P504	24	30'–0"	751	S			
P505	16	11'–9"	196	B9	6'–6"	5'–3"	
P506	16	9'–0"	150	S			
P507	144	8'–1"	1214	B2	4'–0"	2'–2"	
P601	72	18'–6"	2001	B8	4'–0"	4'–8"	
P602	144	13'–0"	2812	B2	4'–0"	4'–8"	
P801	72	21'–6"	4133	B3	4'–8"	17'–0"	
TOTAL			14,188				

NOTES:
1. ALL DIMENSIONS ARE OUT TO OUT.
2. AN "E" PREFIX IN THE "MARK" COLUMN INDICATES EPOXY COATED BARS.
3. "S" IN THE "SHP" COLUMN INDICATES STRAIGHT BARS.
4. REFER TO C.M.S. SECTION 509.05 FOR STANDARD BEND DIMENSIONS.

KOHLI AND KALIHER ASSOCIATES, LIMITED
CONSULTING ENGINEERS AND SURVEYORS
LIMA, OHIO
16 / 17

REINFORCING STEEL LIST
BRIDGE NO. DEF-15-1515
OVER AUGLAIZE RIVER
DEFIANCE COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.G.B.	R.L.M		T.H.H.	J.R.M.	3-12-90	A.M.P.

REINFORCING STEEL LIST

DEFIANCE COUNTY DEF-15-15.14	OHIO FHWA REGION 5 FEDERAL PROJECT	30 33

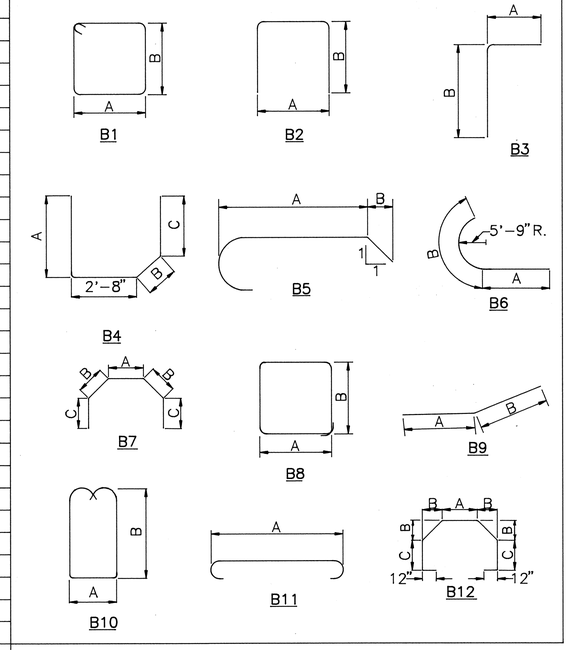
SUPERSTRUCTURE

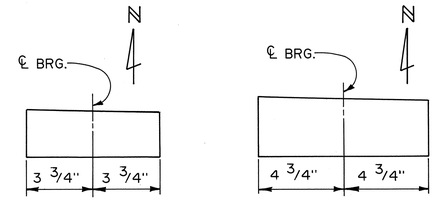
MARK	NO.	LENGTH	WEIGHT	SHP.	A	B	C
EPOXY COATED							
ES402	24	34'–0"	545	S			
ES407	16	32'–4"	346	S			
ES507	1056	4'–0"	4406	B11	2'–10"		
ES601	8	33'–10"	407	S			
TOTAL			5704				
CONCRETE SLAB							
EPOXY COATED							
ES401	88	30'–0"	1764	S			
ES403	550	35'–0"	12859	S			
ES404	550	33'–4"	12247	S			
ES405	88	30'–3"	1778	S			
ES406	264	32'–0"	5643	S			
ES508	344	44'–0"	15787	S			
ES509	344	48'–0"	17222	S			
ES602	86	40'–0"	5167	S			
ES603	86	44'–0"	5684	S			
ES604	88	31'–4"	4142	S			
ES605	88	31'–7"	4175	S			
TOTAL			86,468				

SIDEWALKS (ON BRIDGE)

MARK	NO.	LENGTH	WEIGHT	SHP.	A	B	C
EPOXY COATED							
ES501	780	6'–3"	5085	B10	0'–8"	2'–6"	
ES502	208	30'–0"	6508	S			
ES503	32	24'–6"	818	S			
ES504	1112	2'–9"	3189	B2	1'–0"	1'–0"	
ES505	556	8'–4"	4833	B3	7'–3"	1'–2"	
ES506	556	1'–10"	1063	B3	0'–9"	1'–2"	
ES602	32	40'–0"	1923	S			
ES603	32	44'–0"	2115	S			
TOTAL			25,534				
PARAPETS (STD. DRWG. BR–2–82)							
EPOXY COATED							
ER501	80	12'–8"	INCLUDED WITH RAILING FOR PAYMENT	S			
ER502	96	4'–8"		S			
ER503	120	14'–8"		S			
PILASTERS							
EPOXY COATED							
EL501	16	3'–0"	50	B2	2'–1"	0'–7"	
EL502	16	7'–8"	128	B2	2'–1"	2'–11"	
EL503	24	8'–8"	217	B12	1'–4"	1'–8"	0'–5"
EL504	16	2'–11"	49	S			
TOTAL			444				

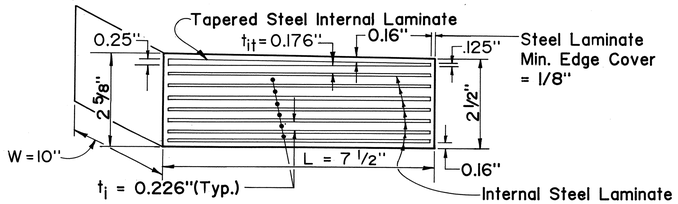
BENDING DIAGRAMS





TAPERED BEARING ORIENTATION DETAIL

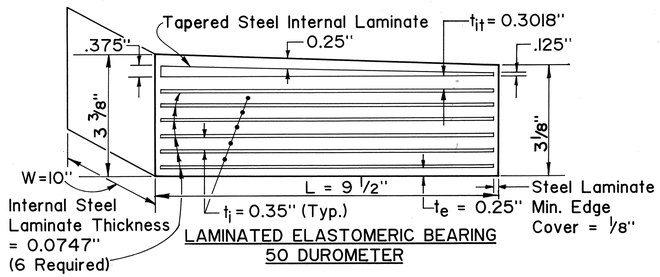
NOTES:
1. ALL DIMENSIONS ARE OUT TO OUT.
2. AN "E" PREFIX IN THE "MARK" COLUMN INDICATES EPOXY COATED BARS.
3. "S" IN THE "SHP" COLUMN INDICATES STRAIGHT BARS.
4. REFER TO C.M.S. SECTION 509.05 FOR STANDARD BEND DIMENSIONS.



LAMINATED ELASTOMERIC BEARING
50 DUROMETER

PIER NO. 4 (SPAN 5)

Dead Load Reaction = 23.1^K
Live Load Reaction = 31.5^K
Maximum Design Load = 54.6^K



LAMINATED ELASTOMERIC BEARING
50 DUROMETER

FWD. ABUTMENT
Dead Load Reaction = 23.1^K
Live Load Reaction = 31.5^K
Maximum Design Load = 54.6^K

TOLERANCES:
Individual elastomeric layer thickness: ±20% of design value (not to exceed ±1/8")

Plan Dimension	-0, +1/4"
Design Thickness	-0, +1/8"
Edge Cover of Embedded Laminates	-0, +1/8"

BASIS OF PAYMENT: The unit bid price shall include all materials, labor and incidentals necessary to furnish and install laminated elastomeric bearings either fixed or expansion. Payment will be made at the contract price for Item 516, each, Laminated Elastomeric Bearings (2½" to 2⅝" X 7½" X 10" or 3⅛" to 3⅜" X 9½" X 10").

LAMINATED ELASTOMERIC BEARINGS
The laminated elastomeric bearing manufacturer shall supply a plain elastomeric pad for testing purposes. The pad shall be furnished from the same batch of neoprene that is used in the fabrication of the laminated elastomeric bearings and the fabricator shall certify the identity of the elastometer. The pad shall have a 1/2" thickness, and shall have minimum length and width dimensions of 6". Payment for the test pad will be included in the price bid for the bearings.

KOHLI AND KALIHER ASSOCIATES, LIMITED CONSULTING ENGINEERS AND SURVEYORS — LIMA, OHIO	17/17

REINFORCING STEEL LIST
& BENDING DIAGRAM
BRIDGE NO. DEF-15-1515
OVER AUGLAIZE RIVER
DEFIANCE COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.G.B.	R.L.M		T.H.H.	J.R.M.	3-12-90	C.A.T.

BRUNING 67257