11-15-91

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PREPARED BY

HAZELET + ERDAL, INC.

In association with

BURGESS & NIPLE, LIMITED

and

BALKE ENGINEERS

DESIGN CRITERIA	
CLASS OF HIGHWAY	URBAN ARTERIAL
TYPE OF TERRAIN	ROLLING
DESIGN SPEED	30 MPH
REQUIRED NPSD (Min)	325 FT. (40 MPH)
REQUIRED PSD	1100 FEET
LEVEL OF SERVICE	B–C
ADT PRESENT (1982)	14,200
ADT FUTURE (2010)	9,882
DHV	889
D %	60–40
T %	7% (ADT) 3% (DHV)

THE CONTROL OF ACCESS ON THIS PROJECT SHALL BE BY PERMIT

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

PLANS OF PROPOSED PROJECT

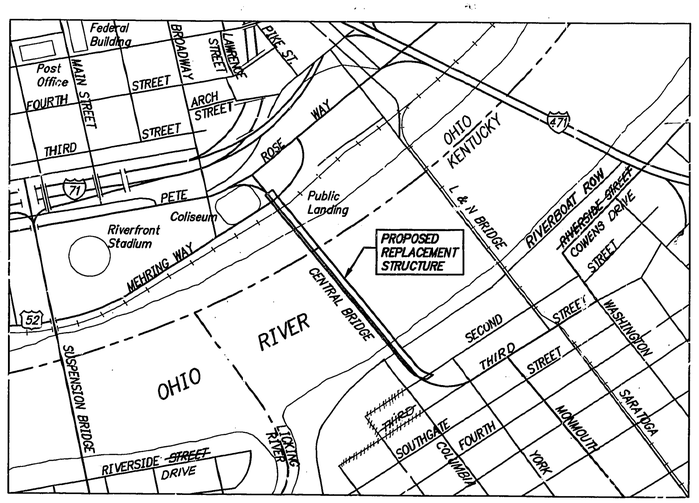
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

PROJECT BRF 00272 048

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY
TO
REPLACE THE EXISTING CENTRAL BRIDGE

STRUCTURE PLANS

STEEL ALTERNATE



LOCATION MAP

RECOMMENDED FOR APPROVAL
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

BY Clyde L. Coe
DATE 9-4-91

STATE OF KENTUCKY · CLYDE L. COE · 2615 · REGISTERED PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL
BURGESS & NIPLE, LIMITED

BY Ronald K. Mattox
DATE 3-SEP-91

STATE OF KENTUCKY · R. K. MATTOX · 14,523 · REGISTERED PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL
BALKE ENGINEERS

BY Richard P. Sturdevant
DATE 9-21-91

STATE OF KENTUCKY · MICHAEL P. STURDEVANT · PE-15703 · REGISTERED PROFESSIONAL ENGINEER

APPROVED, KENTUCKY DEPARTMENT OF HIGHWAYS

BY _____ DATE 10/4/91
DIRECTOR, DIVISION OF BRIDGES

BY _____ DATE 10/7/91
STATE HIGHWAY ENGINEER

APPROVED, OHIO DEPARTMENT OF TRANSPORTATION

BY _____ DATE 10-7-91
DISTRICT DEPUTY DIRECTOR

BY _____ DATE 10/7/91
ENGINEER, BUREAU OF BRIDGES

BY _____ DATE 10/7/91
CHIEF ENGINEER FOR PLANNING AND DESIGN

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED

DIVISION ENGINEER DATE

SHEET 1 OF 175

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

STATION 113+40 P.E. PROJECT NO. FSP 016 0027 029–027 373 D

BRF 00272 048

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

UPDATE DATE _____

LETTING DATE _____

	PREPARED AND SUBMITTED BY:	
DATE 12/18/91	HAZELET + ERDAL, INC.	H+E 12-92
DATE 9/29/92	CONSULTING ENGINEERS	H+E 2-1-93
H+E DATE 10/30/92		H+E 3-11-93
		H+E 4-19-93

REVISION corrected class "s" concrete total — DRAWN BY _____ DATE _____

REVISION ⚠ Revised Class "S" Conc. & Epoxy Steel Reinf. Quantities — DESIGNED BY JEH & DRH — CHECKED BY _____ DATE _____

REVISION ⚠ Revised Steel Reinf. Quantity ❶ Pier F — DETAILED BY _____ CHECKED BY _____ DATE _____

H+E ⚠ Revised Piling Type — TRACED BY _____ CHECKED BY _____ DATE _____

H+E ⚠ Revised Steel Reinf. Quantity ❷ Piers B & C

H+E ⚠ Revised Steel Reinf. Quantity ❸ Abut. 1 & Pier H

H+E ⚠ Revised Class "S" Conc. & Epoxy Steel Reinf. Quantities

H+E ⚠ Final "As-Built" Quantities

ITEM	UNIT	TOTAL	SUBSTRUCTURE										SUPERSTRUCTURE			PED. STAIRS	
			ABUTMENT 1	PIER A	PIER B	PIER C	PIER D	PIER E	PIER F	PIER G	PIER H	ABUTMENT 2	OHIO APPROACH	MAIN SPANS	KENTUCKY APPROACH	OHIO STAIRS	KENTUCKY STAIRS Ⓐ
MOBILIZATION	Lump Sum	1															
DEMOBILIZATION	Lump Sum	1															
CONCRETE, CLASS A 5869 Ⓒ	Cu. Yds.	~~5975.0~~	150.3	500.8	1925.3	1838.7		136.7	132.3	158.4	167.4	168.1				38.4	
CONCRETE, CLASS A FOR FOUNDATION SEAL	Cu. Yds.	~~146.9~~	~~150.9~~	~~301.8~~	~~1923.2~~	~~1836.1~~	675.5 1	~~135.1~~	~~126.1~~	~~158.1~~	~~162.3~~	~~120.7~~	8.3 ⑨		④ 11.8	~~39.2~~	~~126.0~~ 118
CONCRETE, CLASS S	Cu. Yds.	~~4092.8~~ 3987			~~2928.8~~	~~1863.0~~									Ⓐ ~~1183.1~~		
CONCRETE, CLASS AA	Cu. Yds.	~~4097.5~~	~~5457.4~~	5458.4 Ⓕ	2341	1646							169.1	4105.4	~~1182.8~~		
CONCRETE, CLASS D MODIFIED	Cu. Yds.	~~18.6~~ 19	~~7.7~~ 7.5									~~10.3~~ 11.5			Ⓕ 1184.1		
STEEL REINFORCEMENT Ⓓ ~~1,075,221~~ Ⓔ ~~1,076,265~~	Lbs.	~~52.4~~ 49	Ⓔ ~~16234~~	6	~~36.2~~ 22.2	26.2	46530	27790	~~23755~~ Ⓑ	20615	~~20887~~ Ⓔ	10243					
STEEL REINFORCEMENT, EPOXY COATED Ⓕ 1,534,042 Ⓑ ~~1,001,370~~	Lbs.	~~1,058,150~~	~~15099~~	3759	~~431,341~~	~~419,452~~	~~429055~~	~~27215~~	~~18565~~	~~20432~~	~~20134~~	~~10081~~	3750 ⑨		④ 890	Ⓐ ~~338088~~ 7037	
STRUCTURAL STEEL	Lump Sum	~~1,333,818~~	16698	~~388~~	~~136,765~~ Ⓓ	~~124,883~~ Ⓓ	9532		22963	~~9163~~	30612		47312	1,118,974	~~308036~~	~~2488~~	~~23883~~
SHEAR CONNECTORS	Lump Sum	1		9883	436,851	427,330				9067			②	①	③	Ⓕ 308290	23326
PRECAST P.C. I-BEAM TYPE III	Lin. Ft.	1553												⑤ 1			
PRECAST P.C. I-BEAM TYPE IV	Lin. Ft.	2867											474		1079		
STRUCTURE EXCAVATION, COMMON Ⓒ 2781	Cu. Yds.	~~2343~~	~~728~~ 741	~~596~~ 573			~~688~~ 571	~~102~~ 98	~~107~~ 111	~~325~~ 321	~~213~~ 237				2867		
STRUCTURE EXCAVATION, SOLID ROCK Ⓒ 1533	Cu. Yds.	1334			~~800~~ 604	~~931~~ 929	2671								270		~~178~~ 128
STEEL PILES, HP 14 x 73 Ⓒ 4107	Lin. Ft.	3716		~~1426~~ 1436			~~2240~~										
TEST PILES, HP 14 x 73	Lin. Ft.	~~87~~ 70	1415	~~41~~ 0			~~56~~ 70										
STEEL PILES, HP 12 x 53	Lin. Ft.	~~1864~~ 15773	~~1184~~					2542	2302	2236	2144	2866			40		2228
TEST PILES, HP 12 x 53	Lin. Ft.	61	61														
PRE-DRILLING FOR STEEL PILES	Lin. Ft.	200					200										
PILE POINTS, 14"	Each	76		36			40										
PILE POINTS, 12"	Each	~~24~~ 202	24					30	28	30	30	28					32
~~12" PRESTRESSED CONCRETE PILES~~ OUT	Lin. Ft.	~~2852~~										~~1380~~					~~1472~~
Ⓒ ~~TEST PILES, 12" PRESTRESSED CONCRETE~~ OUT	Lin. Ft.	~~92~~										~~46~~					~~46~~
~~14" PRESTRESSED CONCRETE PILES~~ OUT	Lin. Ft.	~~3428~~						~~1380~~	~~1288~~	~~1380~~	~~1380~~						
TEST PILES, 14" PRESTRESSED CONCRETE	Lin. Ft.	~~184~~ 150						~~46~~ 0	~~46~~ 75	~~46~~ 75	~~46~~ 0						
LOADING TEST	Each	1															
COFFERDAMS - PIER B	Lump Sum	1			1												
COFFERDAMS - PIER C	Lump Sum	1				1											
FOUNDATION SEAL TEST CORES	Lin. Ft.	~~288~~ 290			~~150~~ 145	~~138~~ 145											
EXPANSION DAM, 2½ INCH NEOPRENE	Lin. Ft.	97													97		
EXPANSION DAM, 2½ INCH NEOPRENE	Lin. Ft.	120												120			
EXPANSION DAM, 1¾ INCH NEOPRENE	Lin. Ft.	~~385~~ 260												360		~~25~~ 0	
PEDESTRIAN HANDRAIL, 4'-0"	Lin. Ft.	6787	31								49			5920	787		
PEDESTRIAN HANDRAIL, 3'-6"	Lin. Ft.	~~360~~ 428															~~360~~ 428
PEDESTRIAN HANDRAIL, PRECAST CONCRETE	Lin. Ft.	~~104~~ 112														104	
PEDESTRIAN SECURITY FENCE, TYPE 1 CURVED	Lin. Ft.	1476												1476			
PEDESTRIAN SECURITY FENCE, TYPE 2 CURVED	Lin. Ft.	105											105				
4" REINFORCED CONCRETE SLOPEWALL	Sq. Yds.	~~556~~ 652	Ⓒ ~~556~~ 652														
CRUSHED AGGREGATE SLOPE PROTECTION	Tons	336										336					
8" ø DRAIN PIPE	Lin. Ft.	~~382~~ 412											~~132~~ 105	~~245~~ 307			
12" ø DRAIN PIPE	Lin. Ft.	~~245~~ 123												~~245~~ 123			
PAINTING CLEARANCE GAUGES ⑥	Lump Sum	1															
LIGHTING, BRIDGE DECK ⑦																	
DEMOLITION, EXISTING SUPERSTRUCTURE AND SUBSTRUCTURE	Lump Sum	1															
CPM SCHEDULE	Lump Sum	~~1~~ 2	1 Ⓒ														
WATER MAIN RELOCATION ⑧																	
PILE DYNAMIC ANALYSIS	Each	12															

Ⓐ NON-PARTICIPATION ITEMS (INDICATES NON-PARTICIPATION OF FEDERAL FUNDS)

THE BID ITEM "STRUCTURAL STEEL" INCLUDES THE FOLLOWING ESTIMATED STEEL WEIGHTS:

① APPROXIMATE WEIGHT OF STRUCTURAL STEEL IN MAIN SPANS:

GRADE 36 AND MISCELLANEOUS	3,445,500	LBS.
GRADE 50	5,471,000	
GRADE 50W	59,500	
GRADE 70W	2,555,500	
DRAINS AND GRATES	5,000	
STAINLESS STEEL	6,100	
GRATING	11,500	
PRESTRESS STRAND & WIRE ROPE	7,500	
CAST BRONZE	400	
SUBTOTAL	11,562,000	LBS.

② APPROXIMATE WEIGHT OF STRUCTURAL STEEL IN OHIO APPROACH 1,200

③ APPROXIMATE WEIGHT OF STRUCTURAL STEEL IN KENTUCKY APPROACH 1,100

TOTAL APPROXIMATE WEIGHT OF STRUCTURAL STEEL 11,564,300 LBS.

④ FLOODWALL MODIFICATION

⑤ APPROXIMATE WEIGHT OF SHEAR CONNECTORS

ROADWAY STRINGERS	7/8"ø	38,091	~~33,211~~	LBS.
SIDEWALK STRINGERS	3/4"ø	2,831	~~5,110~~	Ⓒ
TOTAL		40,972	~~34,321~~	LBS.

⑥ THE LUMP SUM BID INCLUDES PAINTING ONE CLEARANCE GAUGE ON EACH, PIER B AND PIER C.

⑦ FOR LIGHTING BID ITEMS, SEE SHEETS 169 THRU 172.

⑧ FOR WATER MAIN RELOCATION BID ITEMS, SEE SHEET 174.

⑨ RESTORATION PIERS 3 & 4 Ⓒ

SHEET 2

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

QUANTITIES

HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D
BRF 00272 048

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

UPDATE DATE _____
LETTING DATE _____

PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

NO.	DATE	REVISED

DESIGN BY: JEH & DBH
DETAILED BY: JDS
CHECKED BY: JDS
CHECKED BY:
DATE: 10/25/1991 DBH G:\ENGR\DGN\SSR\94\QTY2

BILL OF INCIDENTAL MATERIAL

ITEM	NO.	SIZE & LOCATION	
NON-SHIMMED ELASTOMERIC BRG. PAD	9	1¼"x18"x19", OHIO APP.	(A)
~~NON-SHIMMED ELASTOMERIC BRG. PAD~~	~~10~~	~~Type 3I, KENTUCKY APP.~~	(A)
NON-SHIMMED ELASTOMERIC BRG. PAD	~~21~~ 20	1¼"x2'-2"x2'-6", KENTUCKY APP.	(A)
ELASTOMERIC BRG. PAD, TYPE 3I	30	KENTUCKY APP.	(A)
ELASTOMERIC BRG. PAD, TYPE 4I	~~21~~ 30	KENTUCKY APP.	(A)
ELASTOMERIC BRG. PAD, TYPE 3	9	OHIO APP. PIER A	(A)
ELASTOMERIC BRG. PAD, TYPE I	112	MAIN SPAN DECK	(B)
ELASTOMERIC BRG. PAD, TYPE III	32	MAIN SPAN DECK	(B)
ELASTOMERIC BRG. PAD, TYPE IV	32	MAIN SPAN DECK	(B)
ELASTOMERIC BRG. PAD, TYPE VI	112	MAIN SPAN DECK	(B)
ELASTOMERIC BRG. PAD, TYPE VII	32	MAIN SPAN DECK	(B)
STYROFOAM	2	3"x1'-6"x2'-6", OHIO APP.	(C)
STYROFOAM	4	3"x2'-0"x4'-6", KENTUCKY APP.	(C)
STYROFOAM	2	3"x2'-6"x1'-6", KENTUCKY APP.	(C)
PREFORMED CORK EXP. JT. MATERIAL	14	½"x1'-6"x4'-4", OHIO APP.	(C)
PREFORMED CORK EXP. JT. MATERIAL	2	½"x1'-6"x2'-10", OHIO APP.	(C)
PREFORMED CORK EXP. JT. MATERIAL	4	½"x2'-0"x1'-6", OHIO APP.	(C)
PREFORMED CORK EXP. JT. MATERIAL	10	½"x2'-0"x9'-0", KENTUCKY APP.	(C)
PREFORMED CORK EXP. JT. MATERIAL	8	½"x3'-0"x9'-9", KENTUCKY APP.	(C)
PREFORMED CORK EXP. JT. MATERIAL	9	½"x3'-0"x8'-8", KENTUCKY APP.	(C)
THREADED ANCHOR BAR	108	OHIO APP.	(A)
THREADED ANCHOR BAR	460	KENTUCKY APP.	(A)
WATERPROOFING - SQ. FT.	174	OHIO APP.	(C)
WATERPROOFING - SQ. FT. 536	~~157~~	KENTUCKY APP.	(C)
FALL PROTECTION DEVICES (LADDERS)	2	MAIN SPANS, INSPECT. ACCESS	(B)
GRAB-IT STRAND ANCHORS	168	MAIN SPANS, INSPECT. ACCESS	(B)
GRAB-IT SPLICE ASSEMBLY	90	MAIN SPANS, INSPECT. ACCESS	(B)
SIDEWALK HATCH COVER	2	MAIN SPANS, INSPECT. ACCESS	(C)
HISTORICAL PLAQUE REMOUNTING	2	TRUSSES	(B)
HISTORICAL MARKER REMOUNTING	4	TRUSSES	(B)
ORNAMENTAL IRON REMOUNTING	8	TRUSSES	(B)
TEMP. DIFFERENTIAL MONITORING	-	PIERS A THRU D	(D)
SHEETPILING	-	PIERS A & D	(E)
ELASTOMERIC BRG PAD	4	¾" x 18" x 12" OHIO STAIRS	
NON-SHIMMED ELASTOMERIC BRG PAD	1	2¼" x 2'-2" x 9" PIER E	

(A) INCIDENTAL TO PCI BEAMS
(B) INCIDENTAL TO STRUCTURAL STEEL
(C) INCIDENTAL TO CLASS "S" CONCRETE
(D) INCIDENTAL TO MASS CONCRETE
(E) INCIDENTAL TO STRUCTURE EXCAVATION, COMMON

REFERENCES

REFERENCES LISTED BELOW ARE CURRENT EDITION AND ARE TO USED WITH THESE PLANS.

KENTUCKY DEPT. OF HWYS. STANDARD DRAWINGS

NUMBER	TITLE
BBP-001-07	ELASTORMERIC BEARING PADS FOR PRESTRESSED BEAMS
BBP-002	UNSHIMMED ELASTOMERIC BEARING PAD
BGX-004-06	CONCRETE SLOPEWALLS FOR GRADE SEPERATION BRIDGES
BGX-005-06	CONCRETE SLOPEWALLS FOR GRADE SEPERATION BRIDGES
BGX-006-05	STENCIL CONSTRUCTION DATE FOR BRIDGES
BJE-001-06	ARMORED EDGE FOR CONCRETE
~~BPC-010-04~~	~~PRECAST PRESTRESSED 12" CONCRETE PILES~~
BPC-011-04	PRECAST PRESTRESSED 14" CONCRETE PILES
BPS-003-04	12" STRUCTURAL STEEL BEARING PILE AT 53 LBS.
BPS-009-03	14" STRUCTURAL STEEL BEARING PILE AT 73 LBS.
~~RGX-015~~	~~SETTLEMENT PLATFORM~~

SPECIAL PROVISIONS

4K(91)	WELDING STEEL BRIDGES
30J(91)	BUY AMERICA AND FOREIGN CONTRACTORS
46J(91)	PRICE ADJUSMENT FOR PETROLEUM PRODUCTS
69D(91)	SELECT GRANULAR EMBANKMENT AND EARTH CORE AT END BENT STRUCTURES
53A(91)	PRICE ADJUSTMENT FOR PORTLAND CEMENT
88(91)	CONSTRUCTION ACTIVITIES AFFECTING STREAMS
62J(91)	CONCRETE RETAINING WALLS
82(91)	GENERAL PROGRESS SCHEDULE

SPECIAL NOTES

FOR BRIDGE CONSTRUCTION

~~FOR RESIN BONDED REINFORCING BARS~~

~~FOR PRECAST PRESTRESSED BRIDGE DECK PANELS~~

FOR PAINTING THE NEW CENTRAL BRIDGE (REVISED)

FOR MASS CONCRETE

FOR SHRINKAGE COMPENSATING BRIDGE DECK CONCRETE, CLASS "S"

FOR CONTRACTOR RESTRICTIONS IN THE FINAL ENVIRONMENTAL IMPACT STATEMENT (F.E.I.S.)

FOR CONCRETE BONDING AGENTS-DELAYED CURE TYPE

FOR 401 CERTIFICATION

FOR PILE POINTS

FOR PILE PROTECTION

FOR LOAD TEST (STEEL ALTERNATE ONLY)

FOR PILE DYNAMIC ANALYSIS (REVISED)
FOR ARCHAEOLOGICAL EVALUATION

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

QUANTITIES AND REFERENCES

HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

STATION 113+40 P.E. PROJECT NO FSP 019 0027 022-023 073 D
BRF 00272 048
CONSTRUCTION PROJECT NO. | MAINTENANCE PROJECT NO. | DRAWING NO. 22740

UPDATE DATE
LETTING DATE

PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

REVISION	CHECKED BY	DATE
Added Mat'l. Spec. M270-91I to Structural Steel		2/18/92

UPDATE DATE _____
LETTING DATE _____

PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

DESIGNED BY DRH DATE
DETAILED BY DRH DATE
TRACED BY DRH DATE
CHECKED BY JJG DATE
CHECKED BY DATE
CHECKED BY DATE

⚠ NOT NEEDED DUE TO SWITCH OF PILE TYPES
REVISED REVISED REVISED

10/23/1991 DRH D:\SWGFILES\115\04\NEWNOTE2

GENERAL NOTES

SPIRAL COLUMN TIES

SPLICES FOR SPIRALS, WHERE DESIRED BY THE CONTRACTOR, SHALL BE MADE WITH A MINIMUM OF ONE AND ONE-HALF TURNS OF SPIRAL. NO ADDITIONAL PAYMENT WILL BE MADE FOR THESE SPLICES, AND THE COST WILL BE CONSIDERED INCIDENTAL TO THE COST OF THE DEVELOPED LENGTH OF SPIRAL SHOWN ON THE PLANS. SPIRAL REINFORCEMENT SHALL BE DEFORMED BARS MEETING THE REQUIREMENTS OF SUB-SECTION 811.02.01 OF THE SPECIFICATIONS.

CLEANING AND PAINTING

CLEANING AND PAINTING OF STEEL SURFACES SHALL BE IN ACCORDANCE WITH THE "SPECIAL NOTE FOR PAINTING THE NEW CENTRAL BRIDGE". THE CONTRACTORS ARE REMINDED THAT THE PAINT SYSTEM REQUIRES THREE COATS. SHOP CLEANING IN ACCORDANCE WITH SSPC-SP10 IS REQUIRED. ALL INTERIOR SURFACES OF SEALED TRUSS MEMBERS (TYPE A) SHALL RECEIVE PRIMER AND SHOP INTERMEDIATE COATINGS IMMEDIATELY PRIOR TO PLACING AND WELDING THE FINAL COVER PLATE. THE URETHANE FINISH COAT IS NOT REQUIRED FOR THE INTERIOR OF SEALED TRUSS MEMBERS. AFTER ERECTION, A HIGH PRESSURE WATER WASH OF EPOXY COATED SURFACES IS REQUIRED. THE CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE RESULTING FROM OVERSPRAY DRIFT.

SLOPE PROTECTION

SLOPE PROTECTION SHALL BE CONCRETE SLOPEWALL AND CRUSHED AGGREGATE IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.

PAYMENT FOR SHEAR CONNECTORS

THE "LUMP SUM BID" FOR SHEAR CONNECTORS SHALL BE FULL PAYMENT FOR ALL SHEAR CONNECTORS, WELDING AND WELDING MATERIAL, AND MATERIALS NECESSARY TO FIELD WELD OR SHOP WELD THE SHEAR CONNECTORS IN PLACE ACCORDING TO THE PLANS AND SPECIFICATIONS. (ORIGINAL TOTAL REVISED)

OPTIONAL TYPES OF SHEAR CONNECTORS

THE CONTRACTORS SHALL USE ONE OF THE FOLLOWING OPTIONS THROUGHOUT THIS STRUCTURE:

OPTION 1 – 7/8"ø STUDS FOR ROADWAY AND 3/4"ø STUDS FOR SIDEWALK

THE MINIMUM LENGTH OF STUDS IS 4" FOR ROADWAY STRINGERS AND 3" SIDEWALK STRINGERS. PROVIDE THE NECESSARY LENGTH TO PENETRATE AT LEAST 2" ABOVE BOTTOM OF SLAB. IF THE CONTRACTOR WISHES TO USE OTHER THAN THE STUD SHEAR CONNECTORS SHOWN ON THE PLANS, THE PROPOSED ARRANGEMENT SHALL BE SUBMITTED FOR APPROVAL WITH THE SHOP PLANS.

HIGH STRENGTH BOLT CONNECTIONS

UNLESS OTHERWISE PROVIDED ON THE PLANS, ALL CONNECTIONS SHALL BE MADE WITH HIGH STRENGTH MECHANICALLY GALVANIZED BOLTS OF DIAMETER NOTED ON DRAWINGS. MECHANICAL GALVANIZING OF BOLTS, WASHERS AND NUTS SHALL BE IN ACCORDANCE WITH AASHTO M298, CURRENT, FOR CLASS 50. OPEN HOLES SHALL BE 1/16" LARGER THAN NOMINAL DIAMETER OF BOLTS. ALL JOINTS ARE DESIGNED AS SLIP CRITICAL EXCEPT CONNECTIONS FOR INSPECTION WALKS, LADDERS AND MAINTENANCE ACCESS INCIDENTALS. TIGHTENING SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

ANCHOR BOLT HOLES

HOLES OF DEPTH AND DIMENSIONS SHOWN SHALL BE DRILLED FOR ANCHOR BOLTS OR DOWELS, AFTER BASE PLATES ARE PROPERLY SET, BY THE SUPERSTRUCTURE CONTRACTOR WHO SHALL BE RESPONSIBLE FOR KEEPING HOLES DRY IN FREEZING WEATHER. AFTER BASE PLATES ARE PROPERLY SET, ANCHOR BOLT HOLES DRILLED, AND ANCHOR BOLTS HEATED TO A BLUE HEAT ARE PLACED IN DRILLED HOLES, MOLTEN LEAD SHALL BE POURED IN HOLES AND PACKED UNTIL HOLES ARE COMPLETELY FILLED FLUSH TO TOP OF BASE PLATES. THE COST OF DRILLING ANCHOR BOLT HOLES, HEATING ANCHOR BOLTS, FURNISHING LEAD, AND FILLING HOLES WITH MOLTEN LEAD SHALL BE INCIDENTAL TO AND INCLUDED IN THE LUMP SUM BID FOR STRUCTURAL STEEL.

ELASTOMERIC BEARING PADS

THE MATERIAL SPECIFICATIONS FOR ELASTOMERIC BEARING PADS SHALL CONFORM TO THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES EXCEPT THAT THE REQUIREMENT OF THE LOW TEMPERATURE TEST IS WAIVED AND A DUROMETER HARDNESS OF 50 OR 60 IS REQUIRED. THE COST OF THIS ITEM IS TO BE INCLUDED IN THE PRICE PER LINEAR FOOT FOR PRECAST BEAMS AND THE CONTRACT LUMP SUM BID FOR STRUCTURAL STEEL FOR THE DECK AND THE SIDEWALK STRINGERS.

EMBANKMENT

⚠ ~~THE EMBANKMENT SHALL BE CONSTRUCTED FOR A MINIMUM OF 100 FEET BACK OF ABUTMENT 2 AND PERMITTED TO SETTLE PRIOR TO DRIVING PILES AT ABUTMENT 2. A SETTLEMENT PLATFORM SHALL BE INSTALLED PER STANDARD DRAWING RGK-015 TO MONITOR THE SETTLEMENT. UNLESS~~ OPTIONAL ALTERNATE PILE DRIVING PROCEDURES ARE USED, ~~PILES FOR ABUTMENT 2 SHALL NOT BE DRIVEN UNTIL 90% OF ANTICIPATED SETTLEMENT (6") HAS OCCURRED, WHICH IS ESTIMATED TO REQUIRE 18 MONTHS. SEE GENERAL NOTE "DRIVING PILES FOR ABUTMENT 2".~~

STYROFOAM FORM FOR DIAPHRAGM KEYS

A STYROFOAM PAD SHALL BE PLACED OVER THE SHEAR KEYS ON EXPANSION PIERS WHEN FORMING THE DIAPHRAGMS. AFTER THE CONCRETE IN THE DIAPHRAGMS HAS SET THE STYROFOAM SHALL BE REMOVED.

REINFORCEMENT

DIMENSIONS SHOWN FROM THE FACE OF CONCRETE TO BARS ARE CLEAR DISTANCES UNLESS OTHERWISE SHOWN. SPACING OF BARS IS FROM CENTER TO CENTER OF BARS.

EPOXY COATED REINFORCING STEEL

ALL REINFORCING BARS DESIGNATED BY SUFFIX (E) IN THE PLANS SHALL BE EPOXY COATED IN ACCORDANCE WITH SECTION 811.10 OF THE STANDARD SPECIFICATIONS.

BEVELED EDGES

ALL EXPOSED EDGES SHALL BE BEVELED 7/8" UNLESS OTHERWISE SHOWN.

BILL OF INCIDENTAL MATERIAL

THE QUANTITIES SHOWN IN THE BILL OF INCIDENTAL MATERIALS ARE APPROXIMATE ONLY AND THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING ENOUGH MATERIAL TO COMPLETE THE WORK IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. THE COSTS OF ITEMS SHOWN IN THE BILL ARE TO BE INCLUDED IN THE UNIT PRICE BID FOR THE APPROPRIATE RELATED BID ITEM INDICATED.

CONSTRUCTION NOTE

SEE THE ROADWAY PLANS FOR NOTES RELATIVE TO FLAGGING AND OTHER PROTECTION TO THE NORFOLK SOUTHERN RAILROAD COMPANY DURING CONSTRUCTION OF THIS PROJECT.

STUD WELDING

STUDS SHALL BE WELDED IN ACCORDANCE WITH THE ANSI/AASHTO/AWS D1.5-88 BRIDGE WELDING CODE.

DIMENSIONS

DIMENSIONS ARE FOR A NORMAL TEMPERATURE OF 60 DEGREES FAHRENHEIT. LAYOUT DIMENSIONS ARE HORIZONTAL MEASUREMENTS.

PROHIBITED FIELD WELDING

EXCEPT AS SHOWN ON THE PLANS, NO WELDING OF ANY NATURE SHALL BE PERFORMED ON THE LOAD CARRYING MEMBERS OF THE BRIDGE WITHOUT THE WRITTEN CONSENT OF THE DIRECTOR, DIVISION OF BRIDGES, OR HIS AUTHORIZED REPRESENTATIVE, AND THEN ONLY IN THE MANNER AND AT THE LOCATIONS DESIGNATED IN THE AUTHORIZATION.

WELDING PROCEDURE

QUALIFICATION TESTS OF ALL WELDING PROCEDURES, SHALL BE COMPLETED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER PRIOR TO THE FINAL APPROVAL OF THE SHOP DRAWINGS AND WELDING PROCEDURE AND THE START OF THE FABRICATION.

PREFORMED COMPRESSIVE JOINT SEAL

THE COST OF ALL PREFORMED COMPRESSIVE JOINT SEALS (SIZES NOTED ON DRAWINGS) SHALL BE INCLUDED IN THE UNIT PRICE BID FOR "EXPANSION DAM (SIZE) NEOPRENE".

PAYMENT FOR STRUCTURAL STEEL

THE LUMP SUM BID FOR STRUCTURAL STEEL SHALL BE FULL PAYMENT FOR ALL STRUCTURAL STEEL, BOLTS, WASHERS, CAST IRON, CAST BRONZE, LEAD PLATES, MOLTEN LEAD, MISCELLANEOUS METALS, WELDING AND WELDING MATERIALS, FLOOR DRAINS, PAINT AND ALL LABOR AND MATERIALS NECESSARY TO ERECT THE STEEL IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. THE APPROXIMATE WEIGHT OF STRUCTURAL STEEL SHOWN IN THE ESTIMATE OF QUANTITIES DOES NOT INCLUDE OVERRUN OR WELD MATERIAL.

CONSTRUCTION CLEARANCE AT RAILROAD

ALL FALSEWORK, BRACING OR FORMS SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 18 FEET ABOVE THE TOP OF THE HIGHEST RAIL, AND A MINIMUM HORIZONTAL CLEARANCE OF 10 FEET MEASURED PERPENDICULAR TO THE CENTERLINE OF THE NEAREST TRACK.

CONSTRUCTION IDENTIFICATION

THE NAMES OF THE PRIME CONTRACTOR ~~AND THE SUB-CONTRACTOR~~ SHALL BE IMPRINTED IN THE CONCRETE WITH ONE INCH LETTERS AT A LOCATION DESIGNATED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH ALL PLANS, EQUIPMENT AND LABOR NECESSARY TO DO THE WORK FOR WHICH NO DIRECT PAYMENT WILL BE MADE.

POURING SEQUENCE

MAIN SPANS & APPROACH SPANS 5-7: THE POURING SEQUENCE OF THE SLAB MAY BE CHANGED WITH THE WRITTEN APPROVAL OF THE ENGINEER.

APPROACH SPAN 1 & APPROACH SPANS 8-9: THE SLAB SHALL BE POURED CONTINUOUSLY FROM OUT TO OUT BEFORE THE CONCRETE IS ALLOWED TO SET.

TEMPORARY SUPPORTS

TEMPORARY SUPPORTS OR SHORING WILL NOT BE PERMITTED UNDER THE I-BEAMS OF THE APPROACH SPANS OR THE STRINGERS OF THE MAIN SPANS WHEN POURING THE CONCRETE FLOOR SLAB OR WHEN TAKING "TOP OF BEAM" ELEVATIONS.

CAMBER

TRUSSES SHALL BE CAMBERED FOR FULL DEAD LOAD AND FUTURE WEARING SURFACE. FLOORBEAMS SHALL BE CAMBERED FOR FULL DEAD LOAD WITHOUT FUTURE WEARING SURFACE.

FALSEWORK PLANS

THE CONTRACTOR SHALL SUBMIT TO THE DIVISION OF CONSTRUCTION, FOR SUBMISSION TO THE U.S. COAST GUARD FOR APPROVAL, ANY TEMPORARY NAVIGATION LIGHTING REQUIREMENTS, SEVEN (7) SETS OF PRELIMINARY FALSEWORK PLANS SHOWING THE PLAN, ELEVATION, AND LOCATION OF ANY AND ALL COFFERDAMS, TEMPORARY FALSEWORK AND OTHER OBSTRUCTIONS TO BE USED IN CONNECTION WITH THE CONSTRUCTION OF THESE BRIDGES. ONE COPY SHOWING REQUESTED ALTERATIONS, IF ANY, WILL BE RETURNED TO THE CONTRACTOR BY THE DIVISION OF CONSTRUCTION.
THE CONTRACTOR SHALL SUBMIT TO THE DIVISION OF CONSTRUCTION FIVE (5) SETS OF FINAL FALSEWORK PLANS FOR FINAL DISTRIBUTION.

ADDITIONAL FIELD SPLICES IN TRUSS MEMBERS

IF ADDITIONAL FIELD SPLICES ARE PERMITTED THEY SHALL BE AT THE CONTRACTOR'S EXPENSE AND SHALL BE INCLUDED IN THE "LUMP SUM BID" FOR STRUCTURAL STEEL.

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 C
BRF 00272 048

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

GENERAL NOTES

HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BAKE ENGINEERS

UPDATE DATE _____
LETTING DATE _____

PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

DATE _____
DATE _____
DATE _____

DESIGNED BY _____ CHECKED BY _____ DATE _____
DRAWN BY DRH CHECKED BY TJG DATE 8/91 APPR.
CHECKED BY _____ CHECKED BY _____ DATE _____
ISSUED BY _____ CHECKED BY _____ DATE _____

10/23/1991 DRH C:\2\FILES\1154\GNOTES

GENERAL NOTES

GENERAL NOTES FOR PRECAST CONCRETE BEAMS

(SEE PCI-BEAM DETAIL SHEETS.)

SHEETPILING

SHEETPILING WILL BE NECESSARY FOR CONSTRUCTION OF PIERS A AND D TO PROTECT ADJACENT STRUCTURES FROM DAMAGE DURING CONSTRUCTION. THE COST OF THE SHEETPILING SHALL BE INCIDENTIAL TO THE COST OF STRUCTURE EXCAVATION, COMMON.

PAYMENT FOR PRECAST CONCRETE BEAMS

THE BASIS OF PAYMENT FOR THE PRESTRESSED CONCRETE BEAMS SHALL BE AT THE CONTRACT UNIT PRICE PER LINEAR FOOT OF BEAM, IN ACCORDANCE WITH THE SPECIFICATIONS.

FOUNDATION PRESSURE

MAIN SPAN: FOOTINGS OF PIERS B AND C ARE DESIGNED FOR A MAXIMUM PRESSURE OF 30000 POUNDS PER SQ. FT. (BARGE IMPACT). PILES OF PIERS A AND D ARE DESIGNED FOR A MAXIMUM AXIAL LOAD OF 123 TONS PER PILE (BARGE IMPACT) AND A MAXIMUM HORIZONTAL SHEAR OF 1 TON PER PILE (WIND).

KENTUCKY APPROACH: PILES ARE DESIGNED FOR A MAXIMUM AXIAL LOAD AS FOLLOWS:
ABUTMENT 2 - 40 TONS
PIER E - 71 TONS PIER F - 71 TONS
PIER G - 70 TONS PIER H - 70 TONS

OHIO APPROACH - PILES ARE DESIGNED FOR A MAXIMUM AXIAL LOAD AS FOLLOWS:
ABUTMENT 1 - 73 TONS

ABUTMENTS ARE DESIGNED FOR A MAXIMUM HORIZONTAL SHEAR OF 2 TONS PER PILE AND APPROACH PIERS ARE DESIGNED FOR A MAXIMUM HORIZONTAL SHEAR OF 1 TON PER PILE.

PILING

STEEL PILES SHALL BE DRIVEN TO REFUSAL OR TO SOLID ROCK.
~~12" CONCRETE PILES SHALL BE DRIVEN TO SUSTAIN A MINIMUM OF 50 TONS PER PILE.~~
14" CONCRETE PILES SHALL BE DRIVEN TO SUSTAIN A MINIMUM OF 90 TONS PER PILE.
CONTRARY TO SECTION 604.08 (D) OF THE STANDARD SPECIFICATIONS THE REQUIRED BEARING VALUE FOR CONCRETE PILES SHALL BE DETERMINED BY A PILE DRIVING ANALYZER. SEE SPECIAL NOTE FOR PILE DYNAMIC ANALYSIS.
FOR PILE DRIVING ALTERNATES AT ABUTMENT 2, SEE GENERAL NOTE "DRIVING PILES FOR ABUTMENT 2". CHANGED
TEST PILES SHALL BE DRIVEN WHERE DESIGNATED ON THE PLANS TO DETERMINE THE LENGTH OF PILE REQUIRED. ALL TEST PILES SHALL BE ACCURATELY LOCATED SO THAT THEY MAY BE USED IN THE FINISHED STRUCTURE. THE LOADING TEST SHALL BE COMPLETED BEFORE DRIVING OTHER CONCRETE TEST PILES.
CONTRARY TO THE STANDARD DRAWINGS FOR STEEL PILES, MILL TEST REPORTS ARE NOT REQUIRED TO BE NOTORIZED.
CONTRARY TO SECTION 604.05 OF THE STANDARD SPECIFICATIONS, PRE-DRILLED 20" DIAMETER HOLES SHALL BE UTILIZED AT PIER D TO A DEPTH 5 FEET BELOW THE PROPOSED FOOTING. HOLES SHALL NOT EXTEND BELOW THE WATER TABLE. WHEN BACKFILLING THE HOLES, THE TOP 3 FEET SHALL BE FILLED WITH IMPERVIOUS CLAY OR A SAND AND BENTONITE MIX TO SEAL THE HOLE. THE COST OF PRE-DRILLING, INCLUDING EQUIPMENT, BACKFILLING OF HOLES AND ALL LABOR AND MATERIALS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR "PRE-DRILLING FOR STEEL PILES".

COFFERDAMS FOR PIERS ON ROCK

COFFERDAMS ARE REQUIRED FOR PIERS B AND C AND ALL PROVISIONS OF THE 1991 STANDARD SPECIFICATIONS, INCLUDING BUT NOT LIMITED TO SECTIONS 206.06 AND 105.02, SHALL APPLY.
PIERS ON ROCK: THE SHEETING SHALL BE DRIVEN TO REFUSAL INTO HARD FOUNDATION MATERIAL.
COFFERDAMS LOCATED IN NAVIGABLE STREAMS WILL REQUIRE APPROVAL BY THE U.S. COAST GUARD. COFFERDAM PLANS MUST BE SUBMITTED IN A TIMELY MANNER TO ALLOW REVIEW BY THAT AGENCY.
ALL COFFERDAM MATERIALS SHALL BE REMOVED FROM THE STREAM EXCEPT THAT PORTION OF SHEETING BELOW THE TOP OF FOUNDATION SEAL. WHEN SHEETING IS CUT OFF AT TOP OF SEAL THE CONTRACTOR MUST "SWEEP" THE CHANNEL IN THE PRESENCE OF A STATE INSPECTOR AND A U.S. COAST GUARD INSPECTOR TO VERIFY REMOVAL OF ALL COFFERDAM MATERIALS.
WHEN COFFERDAMS ARE NOT DEWATERED PRIOR TO PLACING A FOUNDATION SEAL, THE CONTRACTOR MUST HAVE A COMMERCIAL DIVER INSPECT THE ENTIRE AREA TO ENSURE THAT EXCAVATION HAS BEEN COMPLETED TO THE DESIRED ELEVATION AND THAT ALL LOOSE MATERIAL HAS BEEN REMOVED FROM WITHIN CONSTRUCTION LIMITS, INCLUDING AREAS ADJACENT TO SHEET PILING. THE CONTRACTOR SHALL PROVIDE A CERTIFICATION, SIGNED BY THE DIVER AND THE CONTRACTOR, THAT THE AREA HAS BEEN INSPECTED AND ALL REQUIREMENTS ARE MET.

COFFERDAMS FOR PIERS ON ROCK (CONT.)

CONTRARY TO SECTION 206.10.02, COFFERDAMS FOR PIERS B AND C WILL BE PAID FOR AT THE LUMP SUM BID FOR "COFFERDAMS". PAYMENT SHALL INCLUDE AND BE FULL COMPENSATION FOR FURNISHING, HAULING AND PLACING ALL NECESSARY MATERIALS, CONSTRUCTION AND MAINTENANCE, DIVER AND INSPECTION, DEWATERING, REMOVAL OF BRACING AND REMOVAL OR CUTTING OFF OF SHEETING AND FOR ALL LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THIS PART OF THE WORK. PARTIAL PAYMENTS MAY BE MADE AS WORK PROGRESSES BASED UPON A PAY SCHEDULE SUBMITTED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. PAY LIMITS FOR STRUCTURE EXCAVATION SHALL BE AS INDICATED ON THE PLANS AND SECTION 206 OF THE STANDARD SPECIFICATIONS.
COFFERDAMS, SHEETING OR SHORING THAT MAY BE NECESSARY FOR CONSTRUCTION OF ANY PHASE OF WORK BUT WHICH NO PAY ITEM IS INCLUDED IN THE CONTRACT FOR THAT PHASE, SHALL BE INCIDENTAL TO STRUCTURE EXCAVATION, COMMON.

FOUNDATION SEAL

THE PAY QUANTITY OF "CLASS "A MODIFIED" CONCRETE" FOR FOUNDATION SEALS OF PIERS B AND C SHALL BE THAT VOLUME AS OUTLINED BY PLAN DIMENSIONS OF THE SEAL OR AS ORDERED IN WRITING BY THE ENGINEER.

NAVIGATION CLEARANCES

ALL WORK SHALL BE CONDUCTED WITHOUT UNREASONABLE INTERFERENCE TO THE FREE NAVIGATION OF THE WATERWAY AND WITHOUT IMPAIRMENT TO THE PRESENT NAVIGATIONAL DEPTHS.
THE CHANNEL OR CHANNELS CROSSED BY THE STRUCTURE SHALL PROMPTLY BE CLEARED OF ALL FALSEWORK, PILING OR OTHER OBSTRUCTIONS PLACED THEREIN OR CAUSED BY THE CONSTRUCTION OF THE BRIDGE. THIS CLEARING OF THE CHANNEL SHALL BE DONE TO THE SATISFACTION OF THE U.S. COAST GUARD COMMANDANT AND THE DEPARTMENT OF HIGHWAYS AT SUCH TIME, WHEN IN THE ENGINEER'S JUDGMENT, THE WORK HAS REACHED A POINT WHERE SUCH ACTION CAN BE TAKEN, BUT IN ANY CASE NOT LATER THAN 90 DAYS AFTER THE BRIDGE HAS BEEN OPENED TO TRAFFIC. THE EXISTING BRIDGE SHALL BE REMOVED AND THE CHANNEL CLEARED TO THE SATISFACTION OF THE U.S. COAST GUARD COMMANDANT AND THE DEPARTMENT OF HIGHWAYS BEFORE THE NEW BRIDGE IS OPENED TO TRAFFIC.

FOUNDATION SEAL TREMIES

THE CONTRACTOR WILL BE REQUIRED TO USE A MINIMUM OF TWO (2) TREMIES IN PLACING THE FOUNDATION SEAL CONCRETE. THE TREMIES SHALL BE LOCATED SO THAT THEIR CONCURRENT USE SHALL KEEP THE TOP SURFACE OF THE SEAL CONCRETE LEVEL IN ITS UPWARD MIGRATION WITH CONCRETE PLACEMENT. EACH TREMIE SHALL BE CONSTRUCTED AND LOCATED SO THAT CONCRETE INSERTED IN THE TREMIE WILL BE TRANSMITTED AND DEPOSITED BENEATH THE SURFACE OF THE IN-PLACE CONCRETE IN THE SEAL WITHOUT EXPOSURE TO THE WATER OF THE FLOODED COFFERDAM. EACH TREMIE SHALL BE CONSTRUCTED AND LOCATED SO THAT IT CAN BE USED CONCURRENTLY WITH THE OTHER TREMIES. EACH TREMIE SHALL BE CONSTRUCTED AND LOCATED SO THAT ITS OUTLET WILL REMAIN SUBMERGED IN THE IN-PLACE SEAL CONCRETE AS IT IS RAISED TO FOLLOW THE UPWARD MIGRATION OF THE SURFACE OF THE SEAL CONCRETE DURING PLACEMENT. THE COST OF PROVIDING TREMIES SHALL BE INCIDENTAL TO CLASS "A" MODIFIED CONCRETE IN THE FOUNDATION SEALS.

FOUNDATION SEAL TEST CORES

AFTER THE FOUNDATION SEAL CONCRETE OF PIERS B AND C IS IN PLACE AND BEFORE ANY ADDITIONAL CONCRETE IS PLACED, THE CONTRACTOR SHALL DRILL A MINIMUM OF THREE CORES FROM EACH FOUNDATION SEAL AT LOCATIONS DESIGNATED BY THE ENGINEER. THE CORES PRODUCED MUST HAVE A MINIMUM DIAMETER OF 1 1/2 INCHES AND SHALL EXTEND A MINIMUM OF 3 FEET BELOW BOTTOM OF THE FOUNDATION SEAL. THE CORES TAKEN SHALL BE RECOVERED, IDENTIFIED AND LOGGED ON A PLAN, AND THE CORE LOGS MADE AVAILABLE FOR INSPECTION AS DIRECTED BY THE ENGINEER. THE CORES AND CORE LOGS WILL BE USED BY THE ENGINEER IN DECIDING ACCEPTANCE OR REJECTION OF THE FOUNDATION SEAL. PAYMENT FOR DRILLING AND PRESERVING THESE CORES WILL BE AT THE CONTRACT UNIT PRICE PER LINEAR FOOT FOR "FOUNDATION SEAL TEST CORES".
THE TEST HOLES SHALL BE FILLED WITH AN EPOXY GROUT AS SPECIFIED IN THE SPECIFICATIONS. THE COST OF THE EPOXY GROUT, LABOR AND EQUIPMENT REQUIRED TO FILL THE HOLES WILL BE INCIDENTAL TO THE CONTRACT UNIT PRICE PER LINEAR FOOT FOR "FOUNDATION SEAL TEST CORES". THE TYPE OF EPOXY GROUT USED SHALL BE COMPATIBLE WITH USE UNDER WATER.

SUBSURFACE DISCLAIMER

ANY SUBSURFACE DATA SHOWN ON PLANS OR IN BID DOCUMENTS HAS BEEN OBTAINED TO AID IN THE DESIGN OF A FUNCTIONING FACILITY. BIDDERS ARE WARNED THAT THIS INFORMATION SHOULD NOT BE USED IN PREDICTING CONSTRUCTION CONDITIONS. THESE DATA ARE FURNISHED AS INFORMATION ONLY, AND NEITHER THE DEPARTMENT NOR ITS DESIGNERS GIVE ANY GUARANTEE AS TO THE ACCURACY OF THE DATA FURNISHED OR AS TO THE CONDITIONS WHICH WILL ACTUALLY BE FOUND TO EXIST WHEN THE WORK IS BEING EXECUTED. BIDDERS ARE WARNED THAT FACTUAL DATA MAY NOT BE SEPARATE FROM INTERPRETIVE DATA IN THE SUBSURFACE DATA SHOWN.

ELEVATIONS BY CONTRACTOR

THE CONTRACTOR SHALL FURNISH TO THE ENGINEER, ELEVATION DATA NECESSARY TO COMPUTE CONSTRUCTION ELEVATIONS FOR SLAB FINISHING IN THE TRUSS SPANS (SPANS 2, 3, AND 4). THE TOPS OF ALL STRINGERS SHALL BE MARKED AT EACH ONE FIFTH (1/5) POINT BETWEEN FLOORBEAMS, ESTABLISHING A RETANGULAR GRID. ELEVATIONS SHALL THAN BE TAKEN ON THE TOPS OF STRINGERS AT EACH POINT AND NEATLY RECORDED IN A SURVEYORS FIELD BOOK. THIS BOOK OR GOOD COPIES OF ITS PAGES SHALL BE DELIVERED TO THE ENGINEER WHEN REQUESTING CONSTRUCTION ELEVATIONS. THE ENGINEER WILL THEN COMPUTE CONSTRUCTION ELEVATIONS AND FURNISH COMPLETE ELEVATION TABLES TO THE CONTRACTOR WITHIN FOUR WEEKS. EACH DATA SUBMISSION SHALL INCLUDE ELEVATIONS FROM A SUFFICIENT LENGTH ALONG THE SPANS FOR THE ENGINEER TO PROPERLY DETERMINE GRADE TANGENT LINES FOR THE AREA OF CONSTRUCTION ELEVATIONS BEING REQUESTED. AFTER ALL ELEVATIONS HAVE BEEN TAKEN, THE FIELD BOOK CONTAINING THE STRINGER ELEVATION DATA SHALL BE DELIVERED TO THE ENGINEER FOR INCLUSION IN THE PROJECT'S PERMANENT RECORDS. THE ELEVATIONS SHALL BE BASED ON N.G.S. DATUM (1929 GENERAL ADJUSTMENT). THE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR "CONCRETE, CLASS 'S'".

ON-SITE INSPECTION

EACH CONTRACTOR SUBMITTING A BID FOR THIS WORK SHALL MAKE A THOROUGH INSPECTION OF THE EXISTING BRIDGE AND THE WORK SITE PRIOR TO SUBMITTING A BID AND SHALL BE THOROUGHLY FAMILIAR WITH EXISTING CONDITIONS SO THAT WORK CAN BE EXPEDITIOUSLY PERFORMED AFTER A CONTRACT IS AWARDED. A SUITABLE METHOD OF PERFORMING THE WORK DESCRIBED HEREIN SHOULD BE INVESTIGATED. SUBMISSION OF A BID WILL BE CONSIDERED EVIDENCE OF THIS INSPECTION HAVING BEEN MADE. ANY CLAIMS RESULTING FROM SITE CONDITIONS WILL NOT BE HONORED BY THE DEPARTMENT OF HIGHWAYS.

TEMPORARY BRIDGE FLOORING

THE CONTRACTOR SHALL PROVIDE TEMPORARY BRIDGE FLOORING DURING CONSTRUCTION OF PORTIONS OF SPANS WHICH CROSS STREETS AND RAILROADS THAT ARE OPEN TO TRAFFIC FOR THE PURPOSE OF PROVIDING FALL PROTECTION TO WORKERS IN SITUATIONS WHERE DANGER FROM THE FALL ARE COMPOUNDED FROM TRAFFIC. TEMPORARY FLOORING SHALL BE INSTALLED AS SOON AS PRACTICABLE AFTER BEAMS ARE SET. THE TEMPORARY FLOORING SHALL EXTEND ACROSS THE TRAVEL WAY, AND USABLE SHOULDERS OF STREETS. FOR RAILROADS, THE TEMPORARY FLOORING SHALL EXTEND 8 FEET BEYOND THE OUTER RAILS OF THE TRACKS.

GENERAL NOTES FOR DEMOLITION OF EXISTING STRUCTURES

SEE DEMOLITION DETAIL SHEETS.

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 0

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

GENERAL NOTES

HAZELET + ERDAL, INC.
In association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

UPDATE DATE
LETTING DATE

PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

DESIGNED BY		CHECKED BY	DATE
DETAILED BY	DRH	CHECKED BY	DATE 10/29/1991
TRACED BY		CHECKED BY	DATE

NO.	REVISION	DATE
1	Revised Piling Type	12-92

GENERAL NOTES

ELASTOMERIC DECK JOINT TROUGHS MATERIAL SPECS. CHANGED △

ELASTOMERIC TROUGHS SHALL BE SHOP FABRICATED WITH SPECIFIED SPLICES (VULCANIZED BONDED WITH HEAT AND PRESSURE) FROM NYLON REINFORCED NEOPRENE SHEET (NRNS). THE SHEET MATERIAL SHALL BE 3/32-INCH-THICK, GENERAL PURPOSE, HEAVY DUTY NEOPRENE SHEET WITH NYLON FABRIC REINFORCEMENT. THE NRNS SHALL BE "FAIRPRENE NUMBER NN-0003" AS MANUFACTURED BY E.I. DUPONT DE NEMOURS AND COMPANY INC., "WINGPRENE" AS MANUFACTURED BY THE GOODYEAR TIRE AND RUBBER COMPANY, OR AN APPROVED EQUAL. THE SHEETING SHALL CONFORM TO FOLLOWING:

DESCRIPTION OF TEST	ASTM METHOD	REQUIREMENT
THICKNESS INCHES	D 751	0.094 ± 0.01 INCH
BREAKING STRENGTH, GRAB WXF. LBS. MIN.	D 751	700 x 700
ADHESIVE, 1 INCH STRIP, 2 INCH MIN., LBS., MIN.	D 751	9
BURST STRENGTH (MULLEN) PSI, MIN.	D 751	1,400
HEAT AGING 70 HOURS AT 212 DEGREES FAHRENHEIT, 180 DEGREE BEND	D 2136	NO CRACKING
LOW TEMPERATURE BRITTLENESS 1 HOUR AT -40 DEGREES FAHRENHEIT AROUND 1/4 INCH MANDREL	D2136	NO CRACKING

CONNECTIONS FOR ELASTOMERIC TROUGHS INCLUDING ALL CLAMP BARS, SUPPORTS, BOLTS, NUTS, AND WASHERS SHALL BE STAINLESS STEEL TO CONFORM TO ASTM A320. ALL HOLES MADE IN ELASTOMERIC TROUGHS SHALL BE MADE IN THE FIELD AND SHALL BE DRILLED. SHOP DRAWINGS FOR THE ELASTOMERIC TROUGHS SHALL BE PREPARED BY THE ELASTOMERIC FABRICATOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL. FABRICATION SHALL NOT BEGIN BEFORE THE SHOP DRAWINGS ARE APPROVED. SHOP FABRICATION SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE ENGINEER.
SAMPLING AND TESTING: EACH LOT OF NRNS SHEETING SHALL BE TESTED BY AN INDEPENDENT LABORATORY TO ENSURE COMPLIANCE WITH THESE PROVISIONS. TWO CERTIFIED COPIES OF THE QUALIFICATION TEST DATA INDICATING THAT THE TESTED MATERIALS COMPLY WITH THESE PROVISIONS SHALL BE SUBMITTED TO THE KENTUCKY TRANSPORTATION CABINET (KTC). SAMPLING, WHEN REQUESTED, SHALL BE IN ACCORDANCE WITH SECTION 106.02 OF THE STANDARD SPECIFICATIONS, EXCEPT THAT WHERE NRNS SHEETING IS TO BE FABRICATED ACCORDING TO PLAN REQUIREMENTS, SAMPLES SHALL BE MADE AVAILABLE PRIOR TO FABRICATION. THE SAMPLE FROM EACH LOT AND FOR EACH PROJECT SHALL BE ONE PIECE, 3 FEET LONG.
MATERIAL ACCEPTANCE WILL BE BASED UPON KTC EVALUATION OF CERTIFIED TEST DATA, LABORATORY TEST OF SAMPLED MATERIAL, OR THE EVALUATION OF BOTH CERTIFIED TEST DATA AND TESTED SAMPLES.

SET RETARDING ADMIXTURE FOR CONCRETE - MAIN SPANS

AN APPROVED ADMIXTURE SHALL BE ADDED TO THE CONCRETE FOR THE BRIDGE DECK SLABS TO DELAY THE INITIAL SET OF CONCRETE SO AS TO PERMIT THE PLACEMENT AND FINISHING OF CONCRETE IN ALL PANELS OF A CONTINUOUS UNIT IN A SINGLE CONTINUOUS OPERATION. THE SET RETARDING ADMIXTURE SHALL CONFORM TO SECTION 802 OF THE STANDARD SPECIFICATIONS. THE AMOUNT OF DELAY SHALL BE DEPENDENT ON THE QUANTITY OF ADMIXTURE, AND THE QUANTITY USED SHALL BE CAREFULLY DETERMINED ON THE BASIS OF TEMPERATURE, RELATIVE HUMIDITY, WIND CONDITIONS AND REQUIRED PLACING TIME. THE RETARDING ACTION SHALL DELAY THE INITIAL SET IN EACH PANEL UNTIL AFTER THE NEXT ADJACENT PANEL IN THE SAME CONTINUOUS UNIT HAS BEEN PLACED. THE CONTRACTOR SHALL SECURE THE ENGINEER'S APPROVAL OF THE QUANTITIES OF ADMIXTURE TO BE USED FOR EACH PLACEMENT.

FOOTING EXCAVATION

SPECIAL CARE SHALL BE TAKEN NOT TO DISTURB THE BOTTOM OF THE EXCAVATION, AND THE FINAL REMOVAL OF THE FOUNDATION MATERIAL TO THE GRADE SHALL NOT BE MADE UNTIL JUST BEFORE THE MASONRY IS TO BE PLACED. THE EXCAVATION SHALL BE MAINTAINED FREE OF STANDING WATER, INSOFAR AS IS PRACTICAL.

GROUT

GROUT FOR DOWEL BARS IN THE FOUNDATION SEAL CONCRETE SHALL BE OF THE NON-SHRINKING TYPE. THE GROUT SHALL BE MADE FROM CEMENT, SAND AND WATER WITH ADMIXTURES AS NECESSARY OR DESIRABLE TO OBTAIN NON-SHRINK PROPERTIES. THE CEMENT, SAND AND WATER SHALL MEET THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND, IN ADDITION, THE SAND SHALL ALL PASS A NO. 30 SIEVE, 50 PERCENT SHALL PASS A NO. 50 SIEVE, AND 20 PERCENT SHALL PASS A NO. 100 SIEVE. THE PROPORTIONS OF CEMENT TO SAND MAY VARY FROM A NEAT GROUT TO A 1:1 MIX.

GROUT (CONT.)

A MINIMUM AMOUNT OF WATER SHALL BE USED TO OBTAIN A FLOWABLE GROUT. THE GROUT SHALL HAVE A CONSISTENCY OF THICK CREAM TO HEAVY PAINT. SAMPLE MIXES SHALL BE MADE TO DETERMINE SATISFACTORY CONSISTENCY FOR USE AND THESE MIXES SHALL BE MADE INTO TEST SPECIMENS TO DETERMINE THE STRENGTH AND SHRINKAGE CHARACTERISTICS WHICH MUST BE APPROVED BY THE ENGINEER PRIOR TO THE USE OF THE GROUT IN THE CONSTRUCTION. THE COST OF GROUTING IS TO BE INCLUDED IN THE UNIT PRICE BID FOR CLASS "A" CONCRETE FOR FOUNDATION SEAL.

CLEARANCE GAUGES

A CLEARANCE GAUGE CONSISTING OF PAINTED MARKS AND NUMERALS AS SHOWN ON THE PLANS SHALL BE PAINTED ON THE UPSTREAM END OF PIER B AND THE DOWNSTREAM END OF PIER C ONLY. IN ADDITION, RETRO-REFLECTIVE MATERIAL (1'-0" x 1'-0") SHALL BE APPLIED TO BOTH THE UPSTREAM AND DOWNSTREAM FACES OF PIERS B AND C AS SHOWN ON THE PLANS. THE MARKS AND NUMERALS ARE TO BE ACCURATELY LOCATED AS SHOWN ON THE PLANS. THE AREA TO BE PAINTED SHALL BE THOROUGHLY CLEANED BEFORE PAINTING. THE PAINTED AREAS SHALL RECEIVE TWO (2) COATS OF WHITE PAINT, AS HEREINAFTER PROVIDED, AFTER WHICH GAUGE NUMBERS AND MARKINGS SHALL BE PAINTED THEREON IN TWO (2) COATS OF BLACK. EACH COAT SHALL BE APPLIED WITH A MINIMUM OF TWENTY-FOUR (24) HOURS DRYING TIME PER COAT.
ALL MATERIALS USED SHALL BE EITHER A VINYL RESIN TYPE OR CHLORINATED NATURAL RUBBER-BASE TYPE PAINT AND SHALL BE GUARANTEED BY THE MANUFACTURER TO BE SUITABLE FOR USE ON MASONRY UNDER SEVERE EXPOSURE OR SUBMERGED IN WATER CONDITIONS. ALL MATERIALS THE CONTRACTOR PROPOSES TO USE SHALL MEET THE APPROVAL OF THE ENGINEER. THE FIRST COATS OF WHITE AND GAUGE MARKINGS (BLACK) SHALL HAVE A FLAT FINISH, AND THE SECOND COATS SHALL HAVE A GLOSSY FINISH.
UNLESS OTHERWISE PERMITTED BY THE ENGINEER, CONCRETE FORMS SHALL HAVE BEEN REMOVED AT LEAST SIXTY (60) DAYS PRIOR TO THE APPLICATION OF ANY PAINT OR UNDERCOAT TO THE CONCRETE SURFACE TO BE PAINTED. SURFACES TO BE PAINTED SHALL BE PREPARED BY REMOVING ALL DIRT, OIL, OR OTHER FOREIGN SUBSTANCES. PRIOR TO APPLICATION OF THE FIRST COAT, SUCH SURFACES SHALL BE ETCHED WITH APPROXIMATELY TEN PERCENT SOLUTION OF MURIATIC ACID IN WATER, FLUSHED DOWN WITH CLEAR WATER AND ALLOWED TO DRY. THE SURFACES TO BE PAINTED SHALL BE THOROUGHLY DRY BEFORE APPLICATION. THE PAINT APPLICATION SHALL BE GENEROUS, BUT SHOULD NOT EXCEED TWO MILS PER COAT. THE FIRST COAT SHALL BE WORKED WELL INTO THE PORES OF THE CONCRETE. PAINT SHALL NOT BE APPLIED WHEN THE TEMPERATURE IS BELOW 45 DEGREES FAHRENHEIT AND PREFERABLY SHALL BE APPLIED WHEN THE WEATHER HAS REACHED THE MAXIMUM TEMPERATURE OF THE DAY. PAINTING SHALL NOT START UNLESS IT CAN BE REASONABLY EXPECTED THAT THE CLEARANCE GAUGE CAN BE COMPLETED WITH ALL PAINT COATS PLUS AT LEAST SEVEN (7) DAYS TIME BEFORE ANY PORTION OF THE GAUGE MAY BECOME SUBMERGED. THE WORK DESCRIBED HEREIN SHALL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE BID FOR "PAINTING CLEARANCE GAUGES", WHICH PAYMENT AND PRICE SHALL BE FULL COMPENSATION FOR ALL WORK, LABOR, MATERIALS, EQUIPMENT AND ALL INCIDENTALS NECESSARY TO COMPLETE THE WORK.

SUPPLIERS OF RETRO-REFLECTIVE MATERIAL:

3M COMPANY
TRAFFIC CONTROL PRODUCTS DIV.
3M CENTER
ST. PAUL, MN 55101

FASSON, DIV. OF AVERY PRODUCTS CORP.
250 CHESTER STREET
PAINESVILLE, OH 44077

AMERICAN DECAL AND MFG. COMPANY
4100 W. FULLERTON AVENUE
CHICAGO, IL 60639

MORGAN ADHESIVES COMPANY
4560 DARROW ROAD
STOW, OH 44224

TEMPORARY PIER LIGHTS

DURING CONSTRUCTION EACH END OF PIERS B AND C SHALL BE MARKED BY A FIXED 360 DEGREE RED LIGHT. LIGHT SHALL BE NAVIGATIONAL TYPE WITH 155 MM MARINE BEACONS, ALUMINUM LANTERNS COMPLETE WITH 360 DEGREE RED ACRYLIC FRESNEL WIDE VERTICAL DIVERGENCE LENS, LAMPCHANGER, FOUR PREFOCUSED 0.46 AMP LAMPS, SUN SWITCH AND 6 VOLT, 2500 AMPERE-HOUR "CARBONAIRE" BATTERY, OR EQUAL. A WEATHER-TIGHT WOOD BATTERY BOX TO PROTECT THE BATTERY IS TO BE FURNISHED AND SECURELY PLACED CONVENIENT TO EACH LIGHT AT EACH LOCATION. LIGHTS SHALL BE RAISED WITH EACH SUCCESSIVE LIFT OF CONCRETE UNTIL THEY ARE IN PLACE AT FINAL ELEVATION AT THE TOP OF EACH PIER.
THE ABOVE LIGHTS SHALL BE DISPLAYED FROM BOTH DOWNSTREAM AND UPSTREAM ENDS OF THE COFFERDAMS AT PIERS B AND C WHILE THE COFFERDAMS ARE IN EXISTENCE.
TEMPORARY LIGHTS SHALL BE VISIBLE AGAINST THE BACKGROUND LIGHTING FOR A DISTANCE OF AT LEAST 2,000 YARDS, 90 PERCENT OF THE NIGHTS OF THE YEAR.
UPON COMPLETION OF THE PIERS, THE TEMPORARY LIGHTS SHALL REMAIN IN PLACE UNTIL THE PERMANENT LIGHTS ARE INSTALLED AND OPERATING.
TEMPORARY PIER LIGHTS WILL NOT BE PAID FOR SEPARATELY, BUT WILL BE INCLUDED IN THE CONTRACT PRICES FOR THE VARIOUS PAY ITEMS.

△ SEE DIV. OF BRIDGE MEMO 92-02 (AFTER CONTRACT)

BRIDGE DECK FORMING → STAY IN PLACE METAL FORMS

FOR DECK SLABS ON PCI-BEAM SPANS (SPAN 1 AND 5 THRU 9) THE CONTRACTOR HAS THE OPTION OF USING CONVENTIONAL FORMING OR ~~PRECAST DECK PANELS IN ACCORDANCE WITH SHEET 143, PRECAST DECK PANEL DETAILS, AND THE SPECIAL NOTES FOR PRECAST PRESTRESSED BRIDGE DECK PANELS.~~ CONVENTIONAL FORMING SHALL BE USED FOR DECK SLABS OF THE TRUSS SPANS (SPANS 2, 3 AND 4).

HISTORICAL MARKERS, PLAQUES AND ORNAMENTAL IRON PIECES

REMOVAL, REPAIR, STORAGE, REFINISHING AND REINSTALLING FOUR (4) HISTORICAL MARKERS, EIGHT (8) ORNAMENTAL IRON PIECES AND TWO (2) HISTORICAL PLAQUES FROM THE EXISTING BRIDGE ARE REQUIRED IN ACCORDANCE WITH DETAILS AND NOTES ON SHEETS 69, 70 AND 155 OF THESE PLANS.

PILE POINTS △A PIERS E THRU H & ABUTMENT 2 AND KY. STAIRS

PIER A AND PIER D REQUIRE 14 INCH PILE POINTS AND ABUTMENT 1 REQUIRES 12 INCH PILE POINTS. THE POINTS SHALL BE THE TYPE FOR KEYING INTO A SLOPING ROCK SURFACE. THE "SPECIAL NOTE FOR PILE POINTS" SHALL APPLY TO THIS WORK.

LOADING TEST FOR FRICTION PILE

FOR STATIC LOAD TEST REQUIREMENTS FOR A 14" PRESTRESSED CONCRETE PILE SEE THE SPECIAL NOTE FOR LOAD TEST (STEEL ALTERNATE ONLY).

DRIVING PILES FOR ABUTMENT 2

~~PILES FOR ABUTMENT 2 SHALL NOT BE DRIVEN UNTIL 80% OF THE ANTICIPATED EMBANKMENT SETTLEMENT (5") AS MEASURED AT THE SETTLEMENT PLATFORM HAS OCCURRED.~~ HOWEVER, THE CONTRACTOR MAY AT HIS OPTION AND AT HIS OWN EXPENSE, ELECT TO DRIVE THE PILES FOR ABUTMENT 2 BEFORE THE REQUIRED SETTLEMENT HAS OCCURRED, PROVIDED HE COMPLY WITH ONE OF THE FOLLOWING ALTERNATES.

△ THIS OPTION WAS USED → ALTERNATE PILES, OPTION 1: (BEARING PILE) DETERMINE THE MAGNITUDE OF DOWNDRAG ON THE PILES RESULTING FROM EMBANKMENT SETTLEMENT AFTER PILE DRIVING. REDESIGN THE PILES USING A LARGER SIZED ~~CONCRETE FRICTION PILE~~ WHICH WILL BE ADEQUATE FOR THE TOTAL DESIGN LOADS, INCLUDING DOWNDRAG. THIS REDESIGN OF THE PILES SHALL BE BY A LICENSED PROFESSIONAL ENGINEER.

~~ALTERNATE PILES, OPTION 2: PROTECT PILES FROM DOWNDRAG LOADS BY USING THE METHOD OUTLINED IN THE SPECIAL NOTE FOR PILE PROTECTION, ALTERNATE A-CYLINDRICAL STEEL SLEEVE. ALTERNATES B OR C OF THIS SPECIAL NOTE WILL NOT BE ALLOWED.~~

△A STEEL PILES, HP12 x 53

PAYMENT FOR EITHER OPTION OF ALTERNATE PILES WILL BE AT THE UNIT PRICE BID FOR ~~"12 PRESTRESSED CONCRETE PILES" USING THE QUANTITY SHOWN IN THE QUANTITY TABLE ON SHEET 2.~~ THIS TOTAL PAYMENT SHALL INCLUDE ALL LABOR AND MATERIALS TO PREFORM THE WORK DESCRIBED. IF THE PILES ARE DRIVEN AFTER THE REQUIRED EMBANKMENT SETTLEMENT, PAYMENT WILL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

SHEET 7

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO
NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 BRF 00272 048 022-023 073 D
CONSTRUCTION PROJECT NO. | MAINTENANCE PROJECT NO. | DRAWING NO. 22740

GENERAL NOTES

HAZELET + ERDAL, INC.
In association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

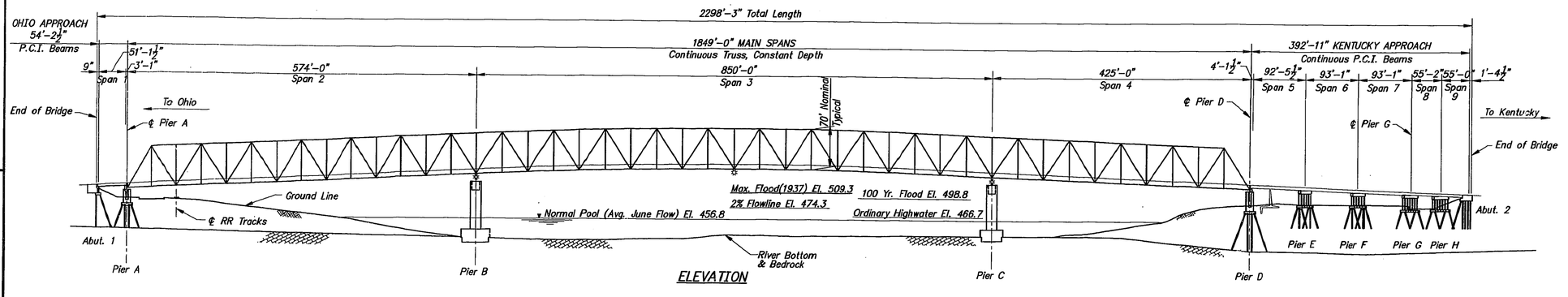
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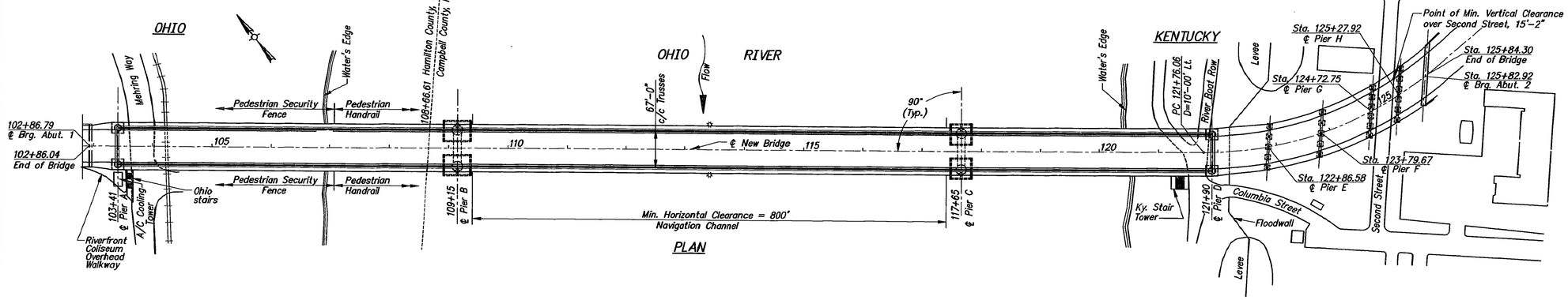
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PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

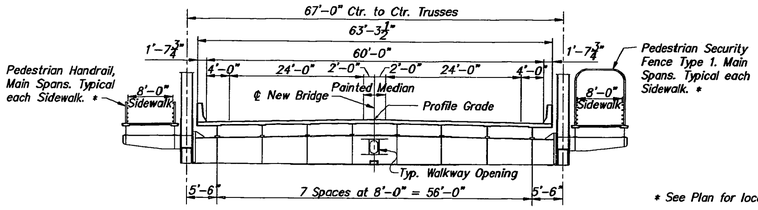
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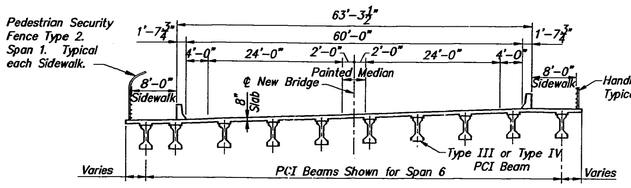


PLAN



TYPICAL TRUSS SECTION

* See Plan for location.



TYPICAL APPROACH SECTION

NOTES:
Elevations on these plans are based on N.G.S. Datum (1929 General Adjustment).

SHEET 8

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 (48)

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO. | MAINTENANCE PROJECT NO. | DRAWING NO. 22740

HAZELET + ERDAL, INC.
In association with
BURGESS & NIPLE, LIMITED
and
BAUKE ENGINEERS

STRUCTURE PLAN AND ELEVATION

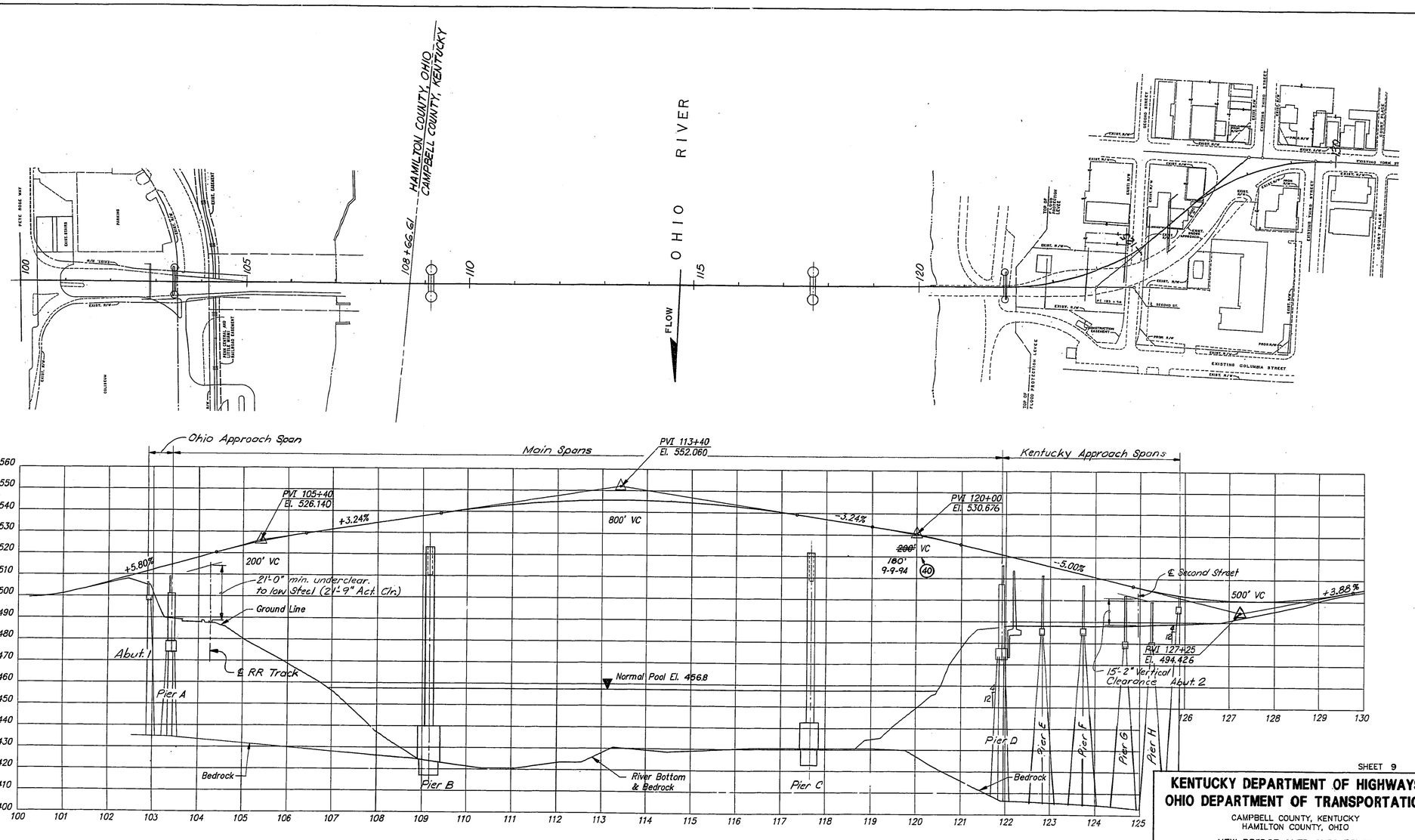
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PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

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DETAILED BY AR DATE 7/26
CHECKED BY ____ DATE ____
TRACED BY ____ DATE ____
REVISED ____ DATE ____
REVISED ____ DATE ____
REVISED ____ DATE ____

08/31/1990 AR D:\DWGFILES\1132\PROF


PIKE ROAD WAY
EXIST. R/W
EXIST. GRADE
PARKING
COURTHOUSE
EXIST. R/W
EXIST. GRADE
EXISTING RETAINING WALL
EXISTING BRIDGE
EXISTING ABUTMENT
EXIST. R/W
100
105
108+66.61
HAMILTON COUNTY, OHIO
CAMPBELL COUNTY, KENTUCKY
110
OHIO RIVER
FLOW
115
120
TOP OF FLOOD PROTECTION LEVEE
EXIST. R/W
EXIST. GRADE
EXISTING YORK ST
EXISTING THIRD STREET
EXISTING COURT PLACE
EXIST. R/W
EXIST. R/W
EXIST. R/W

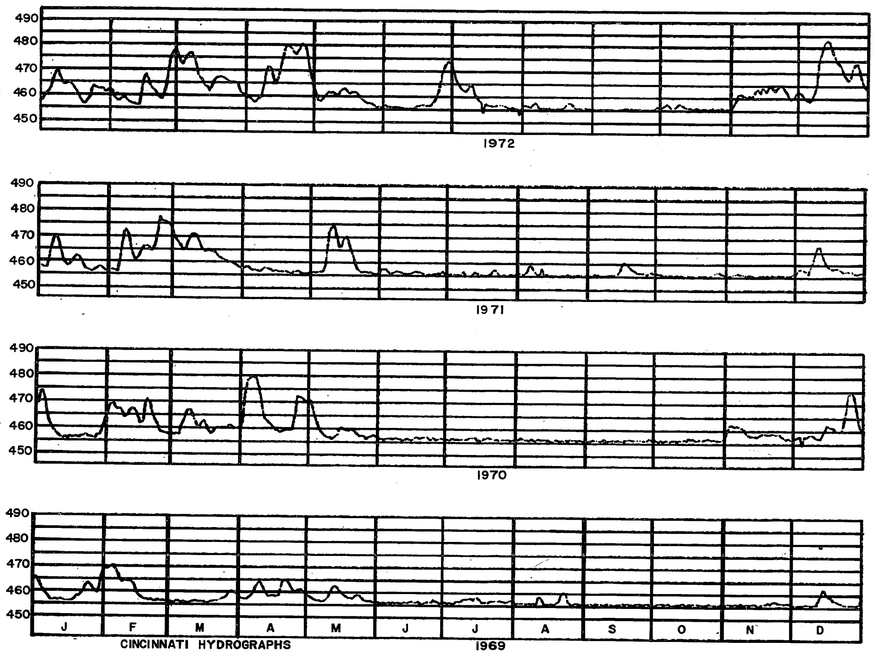
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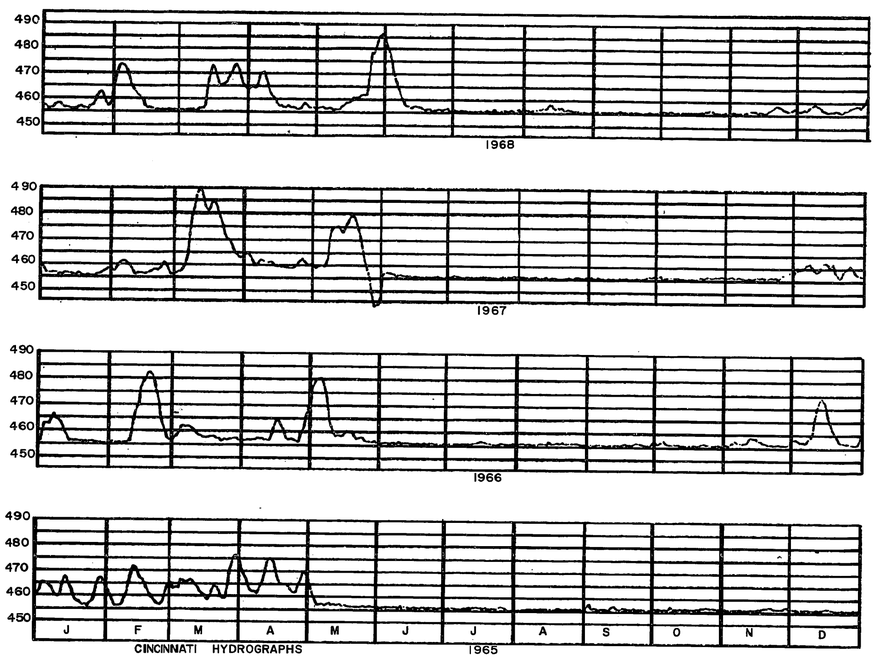
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PLANS PREPARED & SUBMITTED BY
Burgess & Niple, Limited
Engineers and Architects

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DATE 11-29-90





Note:
The data on this sheet has been reproduced from gage readings furnished by the U.S. Army Corps of Engineers. The readings are from the gaging station at the Covington and Cincinnati Highway Bridges, KY-17 approx. river mile 470.5.

Elevations shown are based on Ohio River Datum. Subtract 0.73 ft. to convert to U.S. Geodetic Survey Datum.

The normal flat pool elevation at this site is 455.02. (Markland Dam).

SHEET 10

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

STATION

BRF 00272 048

P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

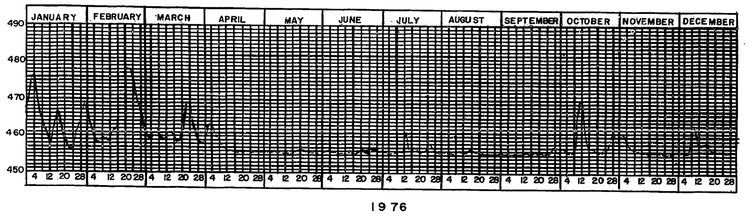
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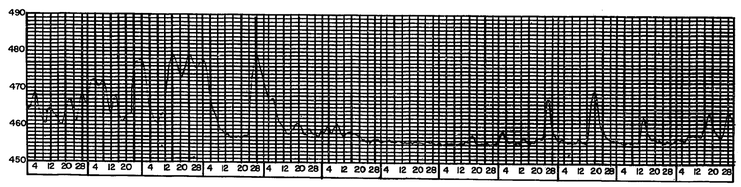
PLANS PREPARED & SUBMITTED BY
Burgess & Niple, Limited
Engineers and Architects

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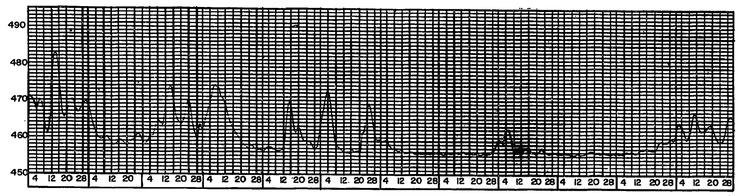
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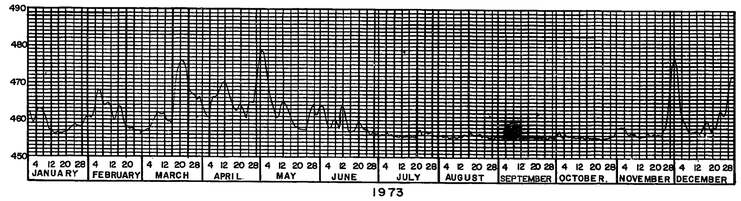
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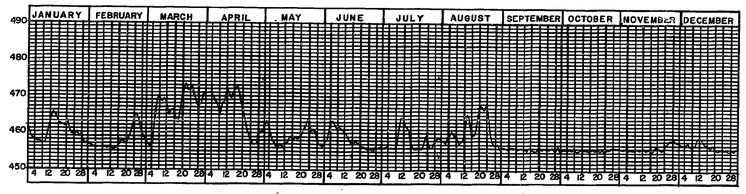
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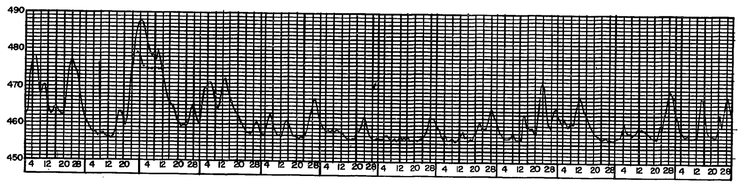
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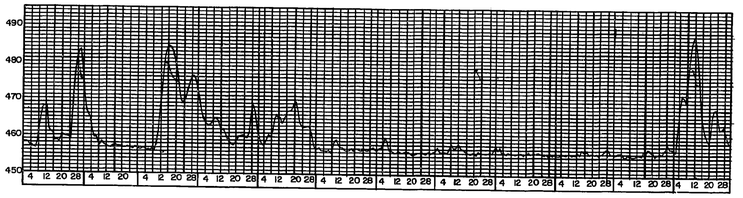
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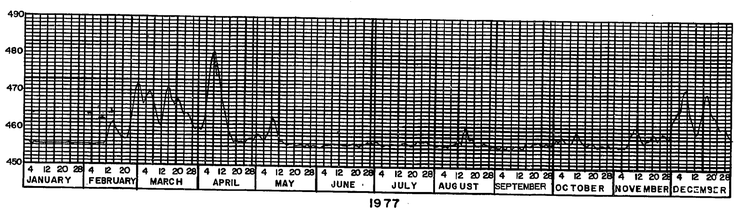
1980



1979



1978



1977

Note:
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Elevations shown are based on Ohio River Datum. Subtract 0.73 ft. to convert to U.S. Geodetic Survey Datum.

The normal flat pool elevation at this site is 455.02. (Markland Dam).

SHEET 11

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

HAZELET + ERDAL, INC.
In association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

BRF 00272 048
STATION P.E. PROJECT NO. FSP 019 0027 022-023 073 D

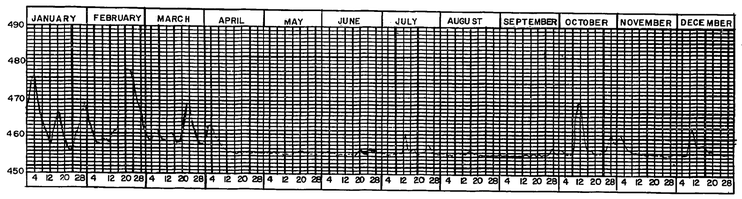
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		22740

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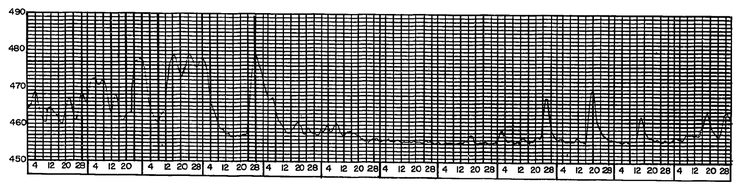
LETTING DATE

PLANS PREPARED & SUBMITTED BY
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Engineers and Architects

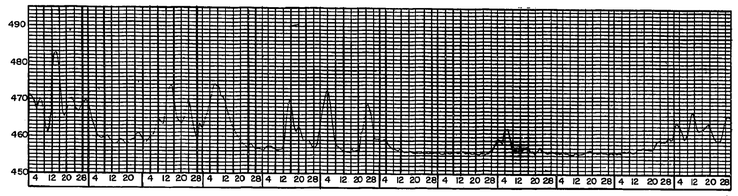
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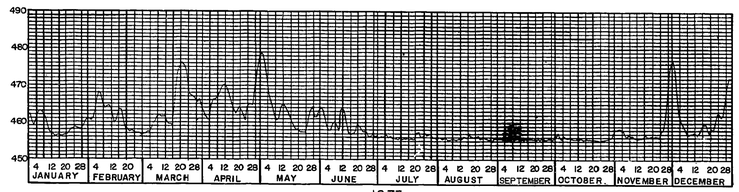
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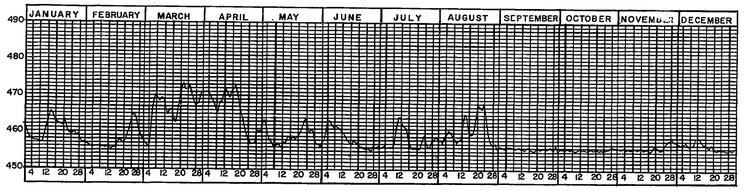
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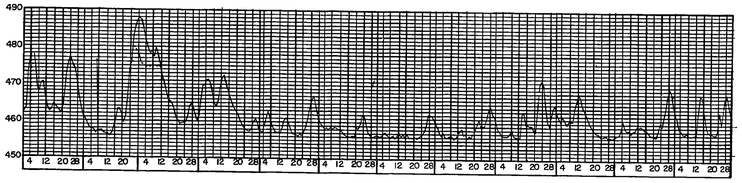
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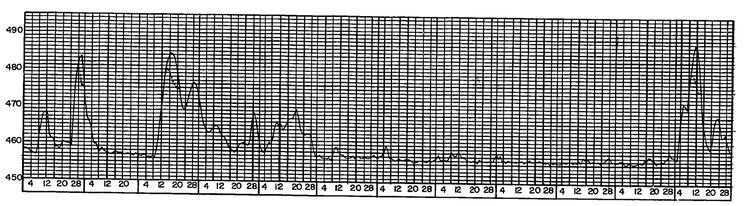
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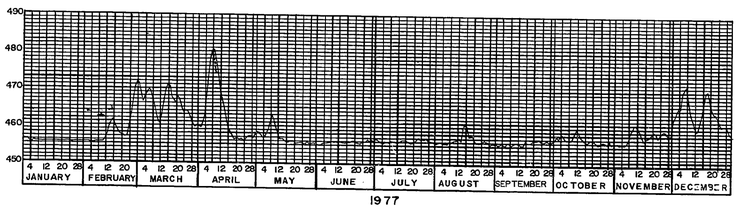
1980



1979



1978



1977

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The normal flat pool elevation at this site is 455.02. (Markland Dam).

SHEET 11

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

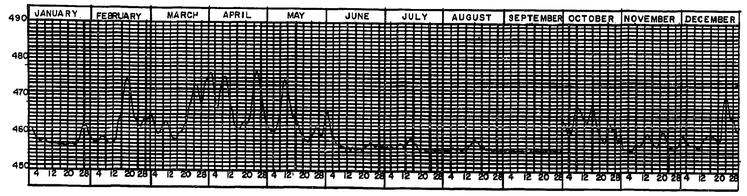
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

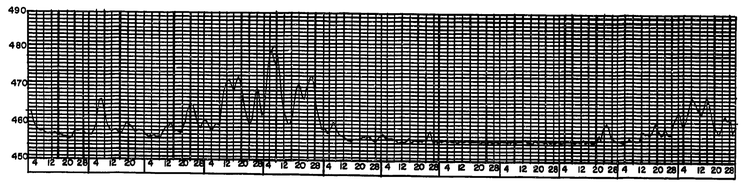
HAZELET • ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

STATION P.E. PROJECT NO. FSP 019 0027 022-023 073 D BRF 00272 048

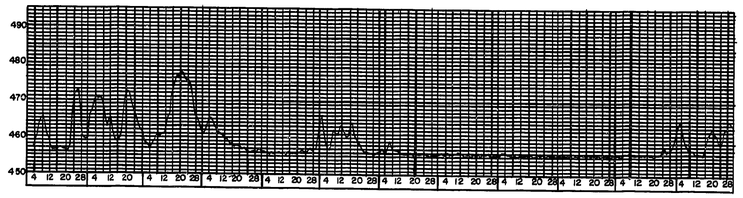
CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740



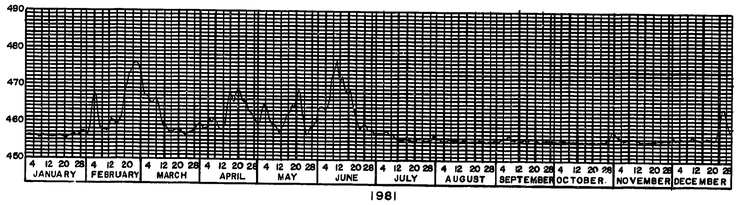
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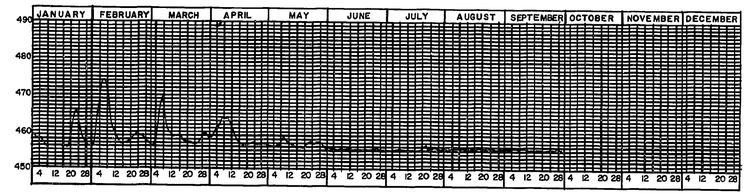
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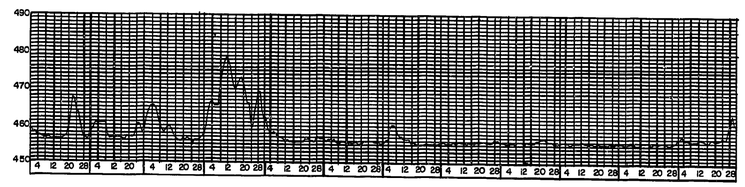
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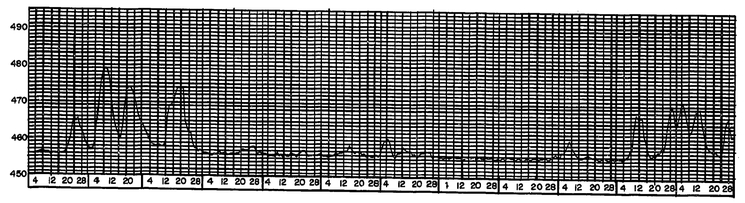
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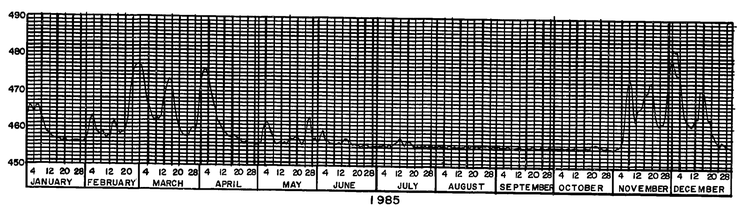
1988



1987



1986



1985

Note:
The data on this sheet has been reproduced from gage readings furnished by the U.S. Army Corps of Engineers. The readings are from the gaging station at the Covington and Cincinnati Highway Bridges, KY-17, approx. river mile 470.5.

Elevations shown are based on Ohio River Datum. Subtract 0.73 ft. to convert to U.S. Geodetic Survey Datum.

The normal flat pool elevation at this site is 455.02. (Markland Dam).

UPDATE DATE

LETTING DATE

PLANS PREPARED & SUBMITTED BY
Burgess & Niple, Limited
Engineers and Architects

	DATE	REVISED
DESIGNED BY		
DETAILED BY		
TRACED BY		
CHECKED BY	DATE	REVISED
CHECKED BY	DATE 11-29-94	REVISED
CHECKED BY		REVISED

SHEET 12

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

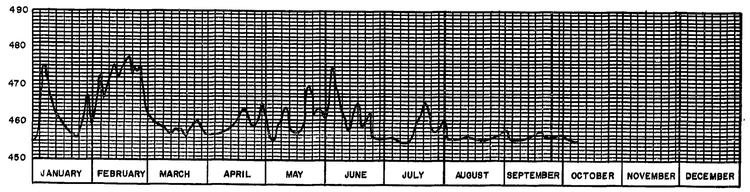
NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

HAZELET • ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

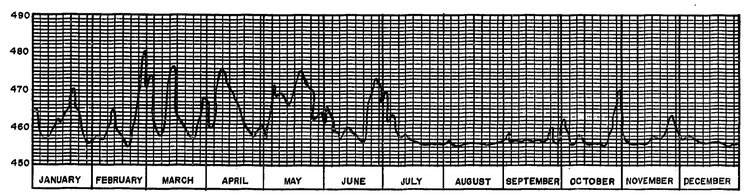
BRF 00272 048

STATION | P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740



1990



1989

Note:
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Elevations shown are based on Ohio River Datum. Subtract 0.73 ft. to convert to U.S. Geodetic Survey Datum.

The normal flat pool elevation at this site is 455.02 (Markland Dam).

UPDATE DATE
LETTING DATE

PLANS PREPARED & SUBMITTED BY
Burgess & Niple, Limited
Engineers and Architects

DESIGNED BY — CHECKED BY — DATE — XXX — REVISED
DETAILED BY — CHECKED BY — DATE — XXX — REVISED
TRACED BY — CHECKED BY — DATE — XXX — REVISED

11-09-90 PRJ2000\PRJNES11

SHEET 13

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

HAZELET • ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
DALKE ENGINEERS

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

Description of Soil Compactness or Consistency

SOIL TYPE	COMPACTNESS OR CONSISTENCY	RANGE OF PENETRATION RESISTANCE	RANGE OF UNCONFINED COMPRESSIVE STRENGTH
Coarse grained soils (More than half of material is larger than No. 200 sieve size.)	Very loose Loose Medium compact Compact Very compact	Less than 4 blows per ft. 4 to 10 10 to 30 30 to 50 Greater than 50	Not applicable
Fine grained soils (More than half of material is smaller than No.200 seive size.)	Very soft Soft Medium stiff Stiff Very stiff Hard	Not applicable	Less than 0.25 tsf 0.25 to 0.5 0.5 to 1.0 1.0 to 2.0 2.0 to 4.0 Greater than 4.0

Unified Soil Classifications

MAJOR DIVISIONS		SYMBOL	NAME
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	GW	Well-graded gravels or gravel-sand mixtures, little or no fines.
		GP	Poorly graded gravels or gravel-sand mixtures, little or no fines.
		GM	Silty gravels, gravel-sand-silt mixtures.
		GC	Clayey gravels, gravel-sand-clay mixtures.
	SAND AND SANDY SOILS	SW	Well graded sands or gravelly sands, little or no fines.
		SP	Poorly graded sands or gravelly sands, little or no fines.
		SM	Silty sands, sand-silt mixtures.
		SC	Clayey sands, sand-clay mixtures.
FINE GRAINED SOILS	SILTS AND CLAYS LL IS LESS THAN 50	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays silty clays, lean clays.
	SILTS AND CLAYS LL IS GREATER THAN 50	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts.
		CH	Inorganic clays of high plasticity, fat clays.
UNCLASSIFIED MATERIAL		NONE	Non-classified material (i.e. overburden, pavement, slag, etc.) Include visual description.

AI	Activity Index
LI	Liquidity Index
N	Penetration Resistance
S+C(%)	Material finer than No.200 seive
○	Rockline Soundings
◒	Disturbed Sample Boring
◎	Undisturbed Sample Boring
◉	Undisturbed Sample Boring & Rock Core
●	Rock Core
⊹	Slope Inclinometer Installation
	typical applications: ⊹ ◒ ◎ ◉ ●
▬▶	Approximate Footing Elevation
▽	Water Elevation
■	Thin-walled Tube Sample
<	Standard Penetration Test Sample
Qu	Unconfined Compressive Strength
w(%)	Moisture Content
RQD(%)	Rock Quality Designation
SDI(%)	Slake Durability Index
Rec.(%)	Core Recovery
ϕ	Angle of Internal Friction
$\overline{\phi}$	Effective Angle of Internal Friction
c	Cohesion
$\overline{c}$	Effective Cohesion
γ	Total Unit Weight
RDZ	Rock Disintegration Zone
OB	Overburden Bench
IB	Intermediate Bench
R	Refusal
NR	Refusal Not Encountered

LIMESTONE

SANDSTONE

COAL

NONDURABLE SHALE (SDI ≤ 89)

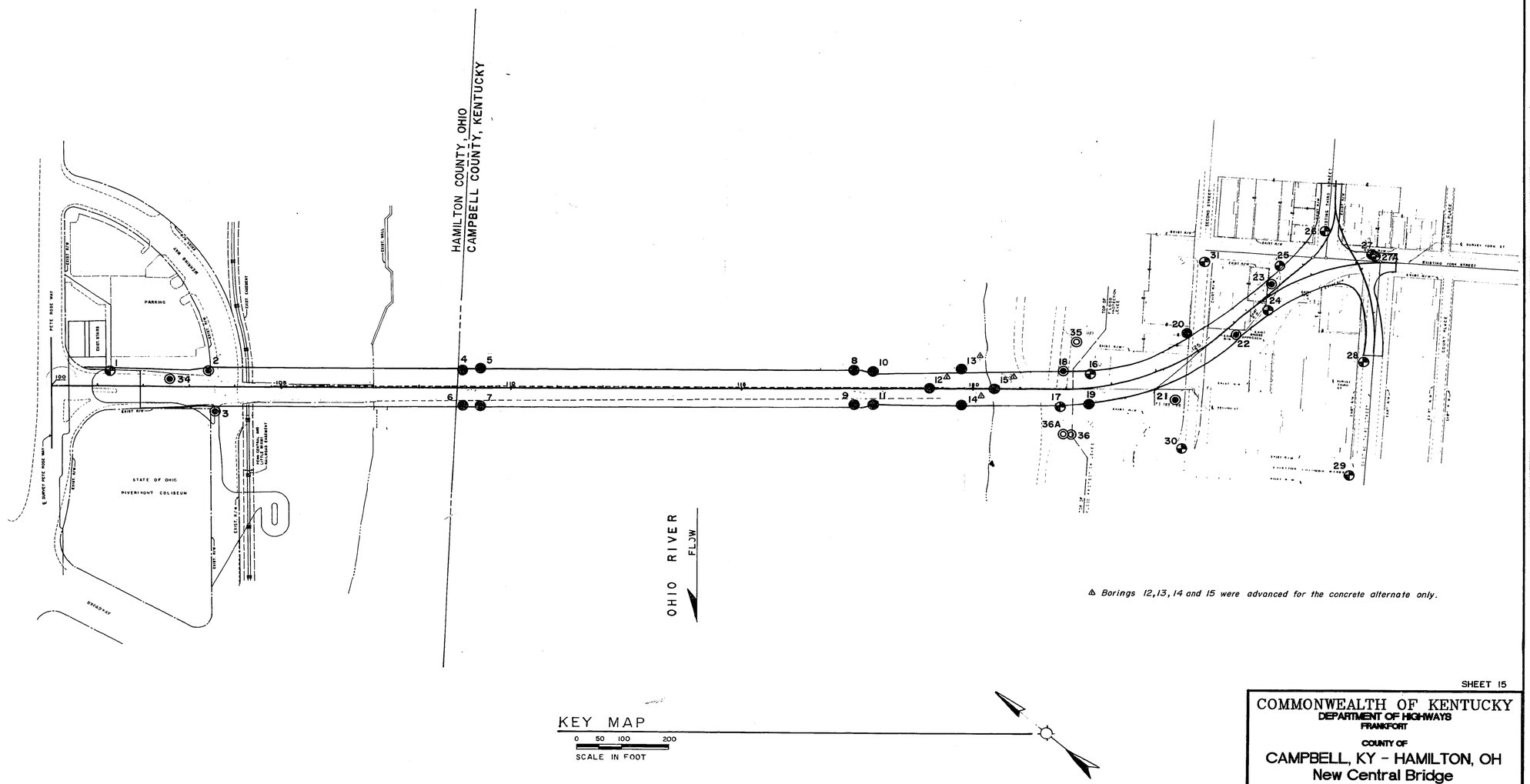
DURABLE SHALE (SDI ≥ 90)

TALUS OR MINE WASTE OR FILL MATERIAL

Relation of RQD and in situ Rock Quality

RQD(%)	Rock Quality
90-100	Excellent
75-90	Good
50-75	Fair
25-50	Poor
0-25	Very Poor

COUNTY OF	FISCAL YEAR	SHEET NO	TOTAL SHEETS
CAMPBELL			


HAMILTON COUNTY, OHIO
CAMPBELL COUNTY, KENTUCKY
PETE ROSE WAY
EXIST R/W
NEW BINGHAM
PARKING
EXIST STAIRS
EXIST WALL
EXIST EASEMENT
EXIST MOLL
STATE OF OHIO
RIVERFRONT COLISEUM
EXIST R/W
EXIST RAMP
EXIST R/W
EXIST R/W
EXIST R/W

UPDATE DATE _____

LETTING DATE _____

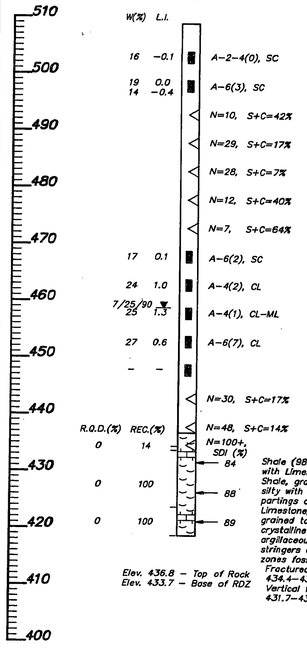
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DESIGNED BY	CHECKED BY	DATE
DETAILED BY J.R.H.	CHECKED BY S.A.H.	DATE 10/90
TRACED BY	CHECKED BY	DATE

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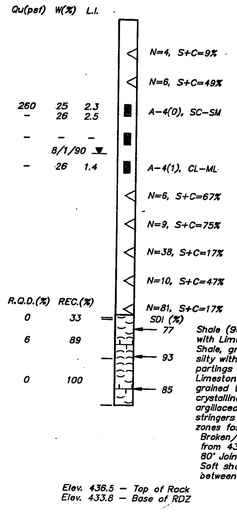
Hole 34
Surf. Elev. 508.8



Shale (98%) interbedded with Limestone (2%). Shale, gray, calcareous, silty with limestone partings and layers. Limestone, gray, micro−grained to coarsely crystalline grained, argillaceous zones, shale stringers and partings, zones fossiliferous. Fractured zone from 434.4−433.7 Vertical fracture at 431.7−431.2

Elev. 436.8 − Top of Rock
Elev. 433.7 − Base of RDZ

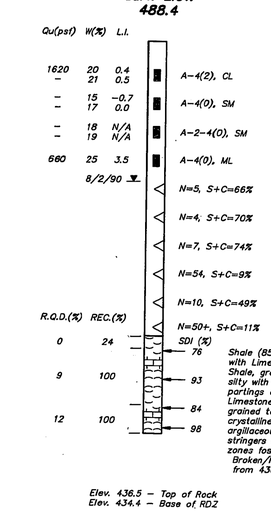
Hole 2
Surf. Elev. 488.5



Shale (90%) interbedded with Limestone (10%). Shale, gray, calcareous, silty with limestone partings and layers. Limestone, gray, micro−grained to coarsely crystalline grained, argillaceous zones, shale stringers and partings, zones fossiliferous. Broken/Fractured zone from 436.0−435.7 80° Joint at 435.1−434.6 Soft shale layers between 436.0−432.0

Elev. 436.5 − Top of Rock
Elev. 433.8 − Base of RDZ

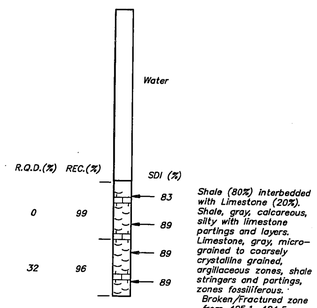
Hole 3
Surf. Elev. 488.4



Shale (85%) interbedded with Limestone (15%). Shale, gray, calcareous, silty with limestone partings and layers. Limestone, gray, micro−grained to coarsely crystalline grained, argillaceous zones, shale stringers and partings, zones fossiliferous. Broken/Fractured zone from 436.4−434.4

Elev. 436.5 − Top of Rock
Elev. 434.4 − Base of RDZ

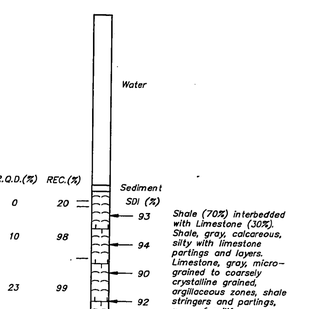
Hole 4
Water Surf. Elev. 455.5



Shale (80%) interbedded with Limestone (20%). Shale, gray, calcareous, silty with limestone partings and layers. Limestone, gray, micro−grained to coarsely crystalline grained, argillaceous zones, shale stringers and partings, zones fossiliferous. Broken/Fractured zone from 425.1−424.5 Vertical Fracture/Joint at 408.2−408.5, 407.7−407.4

Elev. 425.4 − Top of Rock
Elev. 424.5 − Base of RDZ

Hole 5
Water Surf. Elev. 455.5



Shale (70%) interbedded with Limestone (30%). Shale, gray, calcareous, silty with limestone partings and layers. Limestone, gray, micro−grained to coarsely crystalline grained, argillaceous zones, shale stringers and partings, zones fossiliferous. Broken/Weathered zone at 422.6−421.8 Weathered bedding Planes at 415.6 and 415.3 Fractured zone from 406.1−405.8

Elev. 424.5 − Top of Rock
Elev. 421.5 − Base of RDZ

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT

COUNTY OF
CAMPBELL, KY − HAMILTON, OH
New Central Bridge

ROAD FSP 019 0027 022−023 073 D

STATION P. E. PROJECT NO.

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

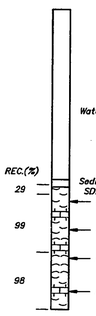
UPDATE DATE _____

LETTING DATE _____

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470
460
450
440
430
420
410
400

Hole 6
Water Surf. Elev. 455.4

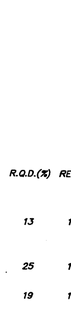


R.Q.D.(%)	REC.(%)	SDI (%)
0	29	81
13	99	89
		94
35	98	82

Shale (65%) interbedded with Limestone (35%). Shale, gray, calcareous, silty with limestone partings and layers. Limestone, gray, micro-grained to coarsely crystalline grained, argillaceous zones, shale stringers and partings, zones fossiliferous.
Fractured/Weathered zone from 424.6–422.4

Elev. 424.2 – Top of Rock
Elev. 424.2 – Base of RDZ

Hole 7
Water Surf. Elev. 455.6



R.Q.D.(%)	REC.(%)	SDI (%)
13	100	94
		96
25	100	96
19	100	86

Shale (65%) interbedded with Limestone (35%). Shale, gray, calcareous, silty with limestone partings and layers. Limestone, gray, micro-grained to coarsely crystalline grained, argillaceous zones, shale stringers and partings, zones fossiliferous.
Broken/Fractured zones from 423.5–423.2, 422.4–421.8, 416.4–415.7, 409.0–408.2
Vertical Fractures/Joint at 413.2–412.6, 411.6–411.3
Soft shale layers at 416.8–416.7, 410.0–409.8

Elev. 423.5 – Top of Rock
Elev. 422.6 – Base of RDZ

Hole 8
Water Surf. Elev. 455.2

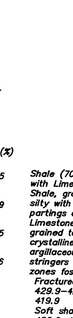


R.Q.D.(%)	REC.(%)	SDI (%)
12	100	85
		89
17	99	65
		86

Shale (70%) interbedded with Limestone (30%). Shale, gray, calcareous, silty with limestone partings and layers. Limestone, gray, micro-grained to coarsely crystalline grained, argillaceous zones, shale stringers and partings, zones fossiliferous.
Fractured zone from 429.9–429.4, 420.3–419.9
Soft shale layers from 429.9–426.7

Elev. 429.9 – Top of Rock
Elev. 429.2 – Base of RDZ

Hole 9
Water Surf. Elev. 455.3

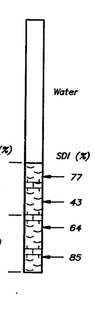


R.Q.D.(%)	REC.(%)	SDI (%)
24	89	77
		43
24	100	64
		85

Shale (60%) interbedded with Limestone (40%). Shale, gray, calcareous, silty with limestone partings and layers. Limestone, gray, micro-grained to coarsely crystalline grained, argillaceous zones, shale stringers and partings, zones fossiliferous.
Weathered Shale (Clay Shale) layers at 424.5–424.2, 423.9–423.8, 423.5–423.4, 423.2–421.5

Elev. 430.[illegible] – Top of Rock
Elev. 430.[illegible] – Base of RDZ

Hole 10
Water Surf. Elev. 455.5

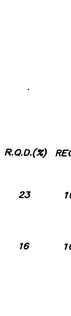


R.Q.D.(%)	REC.(%)	SDI (%)
23	100	80
		58
16	100	56
		78

Shale (70%) interbedded with Limestone (30%). Shale, gray, calcareous, silty with limestone partings and layers. Limestone, gray, micro-grained to coarsely crystalline grained, argillaceous zones, shale stringers and partings, zones fossiliferous.
Broken/Fractured zones from 428.8–428.5, 427.8–427.3, 422.4–421.1
Soft Shale layers from 420.1–419.5

Elev. 430.6 – Top of Rock
Elev. 429.5 – Base of RDZ

Hole 11
Water Surf. Elev. 455.5



R.Q.D.(%)	REC.(%)	SDI (%)
26	93	93
		70
15	100	67
		86

Shale (65%) interbedded with Limestone (35%). Shale, gray, calcareous, silty with limestone partings and layers. Limestone, gray, micro-grained to coarsely crystalline grained, argillaceous zones, shale stringers and partings, zones fossiliferous.
80° Break/Fracture at 417.1–416.6
Soft shale layers at 430.0–429.5, 428.7–428.4, 421.4–421.2

Elev. 430.0 – Top of Rock
Elev. 429.5 – Base of RDZ

	REVISED	DATE
	REVISED	DATE
	REVISED	DATE

DESIGNED BY: J.R.W. CHECKED BY: S.A.H. DATE: 10/20/
DETAILED BY: CHECKED BY: DATE:
TRACED BY: CHECKED BY: DATE:

C89007

SHEET 17

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT

COUNTY OF
CAMPBELL, KY – HAMILTON, OH
New Central Bridge

ROAD FSP 019 0027 022–023 073 D

STATION | P. E. PROJECT NO.

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

UPDATE DATE _____
LETTING DATE _____

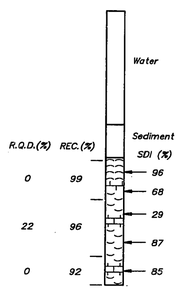
DATE
DATE
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REVISED
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DESIGNED BY _____ CHECKED BY _____ DATE _____
DETAILED BY J.R.W. CHECKED BY S.A.H. DATE 10/30
TRACED BY _____ CHECKED BY _____ DATE _____

C29007

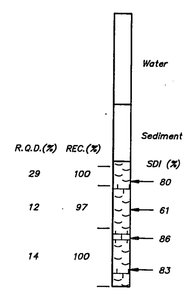
Hole 12
Water Surf. Elev.
455.5



Shale (65%) interbedded with Limestone (35%). Shale, gray, calcareous, silty with limestone partings and layers. Limestone, gray, micro-grained to coarsely crystalline grained, argillaceous zones, shale stringers and partings, zones fossiliferous.
Weathered/Fractured zone at 428.5–425.3
Soft weathered/fractured shale layers from 425.3–422.3
Soft shale layer at 419.5–419.2
70° Fracture at 410.2–409.9

Elev. 429.7 – Top of Rock
Elev. 428.5 – Base of RDZ

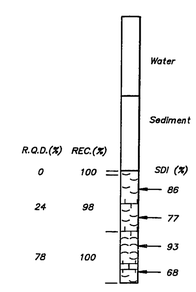
Hole 13
Water Surf. Elev.
455.6



Shale (70%) interbedded with Limestone (30%). Shale, gray, calcareous, silty with limestone partings and layers. Limestone, gray, micro-grained to coarsely crystalline grained, argillaceous zones, shale stringers and partings, zones fossiliferous.
Vertical Joint/Fracture at 425.8–425.3
Near vertical fracture at 410.9–410.4
Soft shale layers at 423.1–423.0, 417.8–417.5

Elev. 429.6 – Top of Rock
Elev. 428.6 – Base of RDZ

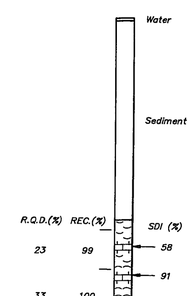
Hole 14
Water Surf. Elev.
455.6



Shale (60%) interbedded with Limestone (40%). Shale, gray, calcareous, silty with limestone partings and layers. Limestone, gray, micro-grained to coarsely crystalline grained, argillaceous zones, shale stringers and partings, zones fossiliferous.
Slightly weathered from 428.5–427.8
45° Fracture from 415.0–414.8

Elev. 428.5 – Top of Rock
Elev. 428.5 – Base of RDZ

Hole 15
Water Surf. Elev.
455.9



Shale (45%) interbedded with Limestone (55%). Shale, gray, calcareous, silty with limestone partings and layers. Limestone, gray, micro-grained to coarsely crystalline grained, argillaceous zones, shale stringers and partings, zones fossiliferous.
Vertical Fracture at 415.6–414.9
Slightly weathered soft shale at 417.5–416.7
Soft shale layer at 408.4–408.3

Elev. 420.4 – Top of Rock
Elev. 415.9 – Base of RDZ

Hole 18
Surf. Elev.
486.9

Qu(psf)	W(%)	L.I.	
–	21	0.2	
–	21	0.2	A–6(17), CL
3940	18	–0.1	A–7–6(20), CL
–	14	N/A	A–4(0), SM
–	14	–0.4	A–4(1), CL
–	15	–0.1	A–4(2), CL
1280	20	0.4	A–6(5), CL
–	20	N/A	
–	24	N/A	A–4(0), SM
7/31/90 ▼ –	25	N/A	
–	26	1.7	
1700	27	1.8	A–4(1), CL–ML
–	26	1.7	
			N=8, S+C=90%
–	57	2.6	A–6(4),ML
			N=12, S+C=76%
–	–	–	
–	21	0.4	A–6(7), CL
400	28	1.4	A–4(5), CL
–	27	1.1	A–6(7), CL
–	23	0.8	
–	23	0.6	A–6(9), CL
			N=50+, S+C=40%
			N=50+, S+C=36%

R.Q.D.(%) REC.(%) SDI (%)
37 100 81
77
29 99 87

Shale (60%) interbedded with Limestone (40%). Shale, gray, calcareous, silty with limestone partings and layers. Limestone, gray, micro-grained to coarsely crystalline grained, argillaceous zones, shale stringers and partings, zones fossiliferous.
Broken/Fractured zone at 406.1–405.7
Fractured/Soft Shale zones at 403.0–402.7, 401.0–400.9, 400.3–400.2, 396.4–396.1

Obsevation Well Installed

Elev. 406.5 – Top of Rock
Elev. 405.4 – Base of RDZ

SHEET 18

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT

COUNTY OF
CAMPBELL, KY - HAMILTON, OH
New Central Bridge

ROAD FSP 019 0027 022–023 073 D

STATION P. E. PROJECT NO.

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

UPDATE DATE _____

LETTING DATE _____

DATE
DATE
DATE

510
500
490
480
470
460
450
440
430
420
410
400
390

Hole 19
Surf. Elev.
488.4

7/23/90 ▼

R.Q.D.(%) REC.(%) SDI (%)

0 91 — 70
0 95
75
44 100 — 94

Obsevation Well Installed

Shale (60%) interbedded with Limestone (40%). Shale, gray, calcareous, silty with limestone partings and layers. Limestone, gray, micro-grained to coarsely crystalline grained, argillaceous zones, shale stringers and partings, zones fossiliferous. Fractured/Slightly weathered at 406.0-404.9 Soft shale layers at 401.5-400.9, 394.5-394.2

Elev. 406.0 – Top of Rock
Elev. 404.9 – Base of RDZ

Hole 20
Surf. Elev.
488.5

7/24/90 ▼

R.Q.D.(%) REC.(%) SDI (%)

100 100 — 90
93
18 100 — 82

Obsevation Well Installed

Shale (55%) interbedded with Limestone (45%). Shale, gray, calcareous, silty with limestone partings and layers. Limestone, gray, micro-grained to coarsely crystalline grained, argillaceous zones, shale stringers and partings, zones fossiliferous. Broken zone at 398.4-397.8 Fractured/Soft Shale zones at 397.4-397.1, 393.6-393.5, 390.3-390.2

Elev. 403.3 – Top of Rock
Elev. 403.3 – Base of RDZ

Hole 21
Surf. Elev.
488.2

Qu(psf)	W(%)	L.I.	
–	21	0.2	A-6(12), CL
–	20	0.1	
–	20	0.1	
–	22	0.4	A-6(6), CL
–	22	0.4	
–	22	0.4	
1260	22	0.4	A-6(7), CL
7/19/90 ▼ –	27	1.3	A-4(2), CL
–	27	1.3	
–	31	1.4	A-6(5), CL
–	29	1.2	
–	29	1.0	A-6(7), CL
–	28	0.9	
–	29	1.0	
			N=6, S+C=53%
			N=51, S+C=52%
			N=35, S+C=17%
			N=18, S+C=71%
–	24	0.5	A-6(11), CL
			N=17, S+C=90%
			N=55, S+C=82%
–	21	0.2	
–	23	0.3	A-6(13), CL
–	22	0.3	
–	28	0.7	A-6(12), CL
			N=55, S+C=70%

R.Q.D.(%) REC.(%) SDI (%)

13 95 — 90
82
31 98 — 83

Shale (65%) interbedded with Limestone (35%). Shale, gray, calcareous, silty with limestone partings and layers. Limestone, gray, micro-grained to coarsely crystalline grained, argillaceous zones, shale stringers and partings, zones fossiliferous. Fractured/Soft Shale layers from 401.7-401.5, 401.3-401.1, 400.6-400.0, 398.4-398.3

Elev. 404.7 – Top of Rock
Elev. 404.2 – Base of RDZ

Hole 22
Surf. Elev.
488.5

Qu(psf)	W(%)	L.I.	
–	23	0.0	A-7-6(19), CL
–	25	0.0	
1060	25	0.5	A-6(10), CL
–	25	0.5	
–	21	0.2	
–	23	0.5	A-4(2), CL
–	24	0.6	
–	21	0.3	
880	23	0.5	A-6(6), CL
–	23	0.5	
–	23	0.5	
–	24	0.9	A-4(3), CL
–	24	0.9	
			N=7, S+C=82%
–	31	1.3	A-6(7), CL
–	30	0.9	A-6(10), CL
–	28	N/A	A-2-4(0), SM
–	22	N/A	
			N=65, S+C=12%
			N=20, S+C=13%
7/24/90 ▼			N=95, S+C=15%
			N=20, S+C=11%
			N=25, S+C=73%
			N=24, S+C=69%
280	28	1.4	A-6(4), CL
3200	27	1.3	
–	–	–	
			N=40, S+C=47%
			N=50+, S+C=63%

R.Q.D.(%) REC.(%) SDI (%)

24 100 — 85
92
36 98 — 86

Shale (50%) interbedded with Limestone (50%). Shale, gray, calcareous, silty with limestone partings and layers. Limestone, gray, micro-grained to coarsely crystalline grained, argillaceous zones, shale stringers and partings, zones fossiliferous. Clay Shale/Soft Shale layers from 401.5-400.8, 396.0-395.7

Elev. 401.8 – Top of Rock
Elev. 400.5 – Base of RDZ

Hole 23
Surf. Elev.
496.6

Qu(psf)	W(%)	L.I.	
–	21	-0.1	A-6(11), CL
–	14	-0.5	
440	18	N/A	A-4(0), SM
–	23	0.5	A-6(7), CL
–	24	0.6	
–	21	0.3	
–	20	0.5	A-4(2), CL
–	22	0.8	
–	20	0.5	
620	21	0.5	A-6(3), CL
–	21	N/A	A-4(0), SM
7/23/90 ▼ –	21	N/A	
–	20	N/A	A-2-4(0), SM
			N=16, S+C=44%
			N=14, S+C=79%
			N=12,
			N=19, S+C=40%
			N=63, S+C=40%
			N=51, S+C=16%
			N=36, S+C=26%
			N=30, S+C=48%
			N=46, S+C=72%
			N=13, S+C=96%
			N=27, S+C=97%
–	–	–	
			N=50+, S+C=12%

R.Q.D.(%) REC.(%) SDI (%)

13 100 — 78
26 96 — 84
13 100 — 85

Shale (65%) interbedded with Limestone (35%). Shale, gray, calcareous, silty with limestone partings and layers. Limestone, gray, micro-grained to coarsely crystalline grained, argillaceous zones, shale stringers and partings, zones fossiliferous. Fractured zones with softer shale from 398.9-397.4, 396.4-395.8, 393.6-393.5, 392.1-391.8

Elev. 399.6 – Top of Rock
Elev. 395.8 – Base of RDZ

DESIGNED BY		CHECKED BY	DATE
DRAWN BY	J.R.W.	CHECKED BY	S.A.H.
TRACED BY		CHECKED BY	DATE 10/90
		CHECKED BY	DATE
			DATE
			REVISED
			REVISED
			REVISED

C39007

SHEET 19

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT

COUNTY OF
CAMPBELL, KY - HAMILTON, OH
New Central Bridge

ROAD FSP 019 0027 022-023 073 D

STATION | P. E. PROJECT NO.

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

GRS5/94

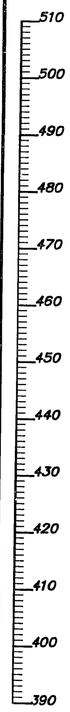
UPDATE DATE

LETTING DATE

DATE

DATE

DATE



Hole 35
Surf. Elev. 488.2

Qu(psf)	W(%)	L.I.	
700	18	0.3	A-4(0), SC-SM
–	17	0.2	
–	20	0.4	A-6(4), CL
–	20	0.4	
–	20	0.2	A-6(9), CL
–	21	0.2	
–	20	0.2	
–	14	–0.1	A-4(3), CL
–	22	0.7	
–	24	0.3	A-6(5), CL
–	27	0.9	
1140	26	0.8	
7/19/90 –	29	1.0	A-6(12), CL
–	31	1.2	
–	28	0.9	
–	32	1.3	A-4(9), CL
–	29	1.2	
–	28	1.4	A-4(2), CL
–	26	1.1	
–	–	–	N=16,
			N=26, S+C=85%
			N=16, S+C=77%
			N=14, S+C=68%
			N=18, S+C=65%
			N=17, S+C=83%
			N=50+, S+C=34%
			N=50+, S+C=18%

Elev. 404.1 – Top of Rock
Elev. 403.8 – Refusal

Hole 36
Surf. Elev. 487.8

W(%)	L.I.	
24	0.4	A-6(16), CL
21	0.3	A-6(10), CL

Refusal
Elev. 474.8

Hole 36A
Surf. Elev. 487.0

Qu(psf)	W(%)	L.I.	
2520	17	–0.1	A-6(9), CL
			N=7, S+C=68%
–	20	0.3	
–	20	0.3	A-6(6), CL
–	21	0.4	
7/20/90 –	28	1.6	
–	23	1.0	A-4(2), CL
980	21	0.8	
–	29	1.2	A-4(3), CL
–	–	–	
			N=18, S+C=92%
–	22	0.6	
–	20	0.4	A-6(10), CL
–	20	0.4	
–	21	0.4	
–	20	0.3	A-6(9), CL
–	19	0.3	
–	29	1.1	
–	20	0.3	A-6(9), CL
–	–	–	
			N=27, S+C=82%
			N=18, S+C=82%
			N=100+

Elev. 407.0 – Top of Rock
Elev. 406.7 – Refusal



DESIGNED BY		DATE	
DETAILED BY	J.R.W.	DATE	10/90
TRACED BY		DATE	
CHECKED BY		DATE	

REVISED
REVISED
REVISED
REVISED

C89007

SHEET 20

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT

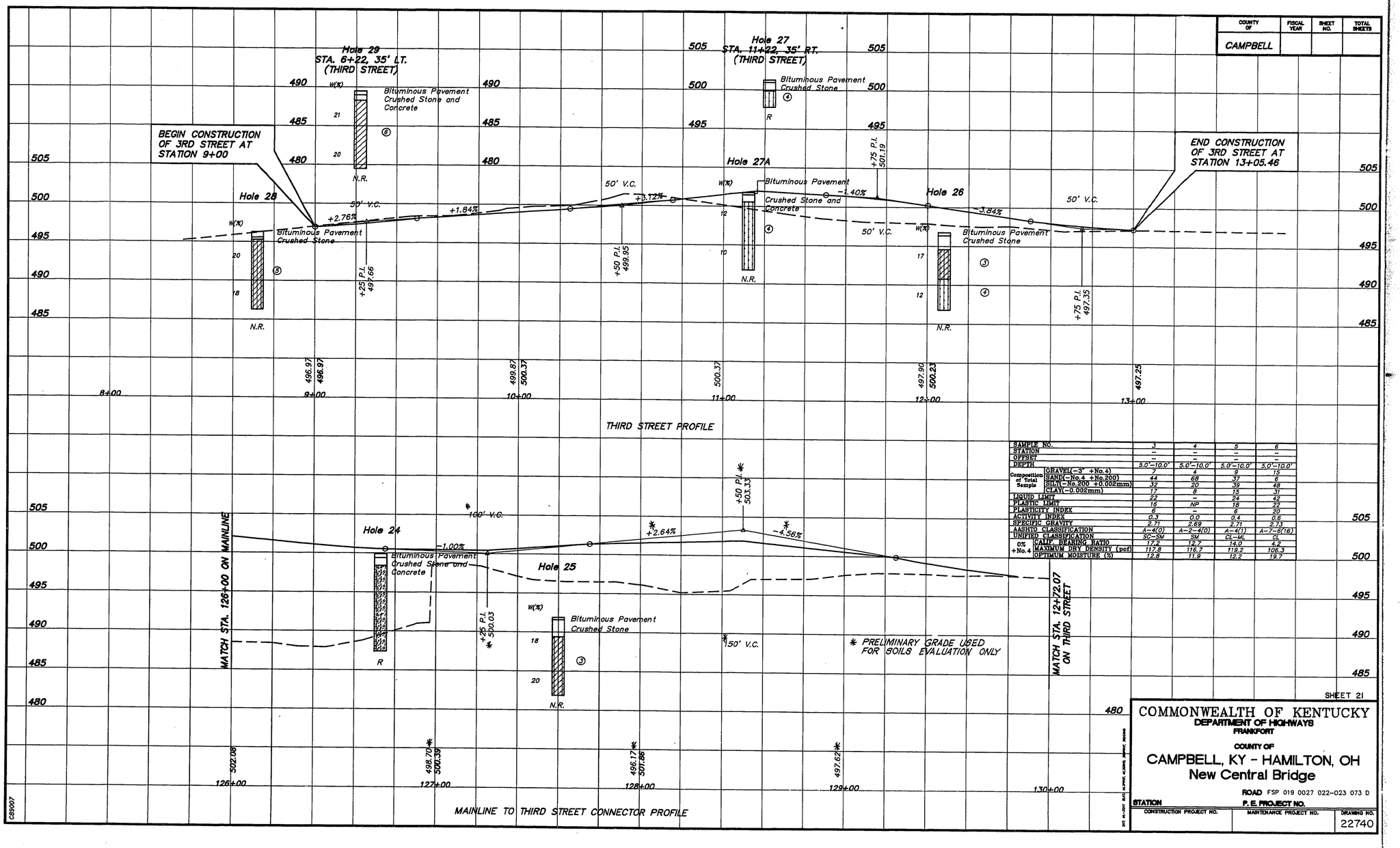
COUNTY OF
CAMPBELL, KY – HAMILTON, OH
New Central Bridge

ROAD FSP 019 0027 022–023 073 D

STATION | P. E. PROJECT NO.

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

COUNTY OF	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
CAMPBELL			



SAMPLE NO.		3	4	5	6
STATION		–	–	–	–
OFFSET		–	–	–	–
DEPTH		5.0'–10.0'	5.0'–10.0'	5.0'–10.0'	5.0'–10.0'
Composition of Total Sample	GRAVEL(–3" +No.4)	7	4	9	15
	SAND(–No.4 +No.200)	44	68	37	6
	SILT(–No.200 +0.002mm)	32	20	39	48
	CLAY(–0.002mm)	17	8	15	31
LIQUID LIMIT		22	–	24	42
PLASTIC LIMIT		16	NP	18	22
PLASTICITY INDEX		6	–	6	20
ACTIVITY INDEX		0.3	0.0	0.4	0.6
SPECIFIC GRAVITY		2.71	2.69	2.71	2.73
AASHTO CLASSIFICATION		A–4(0)	A–2–4(0)	A–4(1)	A–7–6(16)
UNIFIED CLASSIFICATION		SC–SM	SM	CL–ML	CL
0% +No.4	CALF. BEARING RATIO	17.2	12.7	14.0	4.2
	MAXIMUM DRY DENSITY (pcf)	117.8	116.7	119.2	106.3
	OPTIMUM MOISTURE (%)	12.8	11.9	12.2	19.7

SHEET 21

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT

COUNTY OF
CAMPBELL, KY – HAMILTON, OH
New Central Bridge

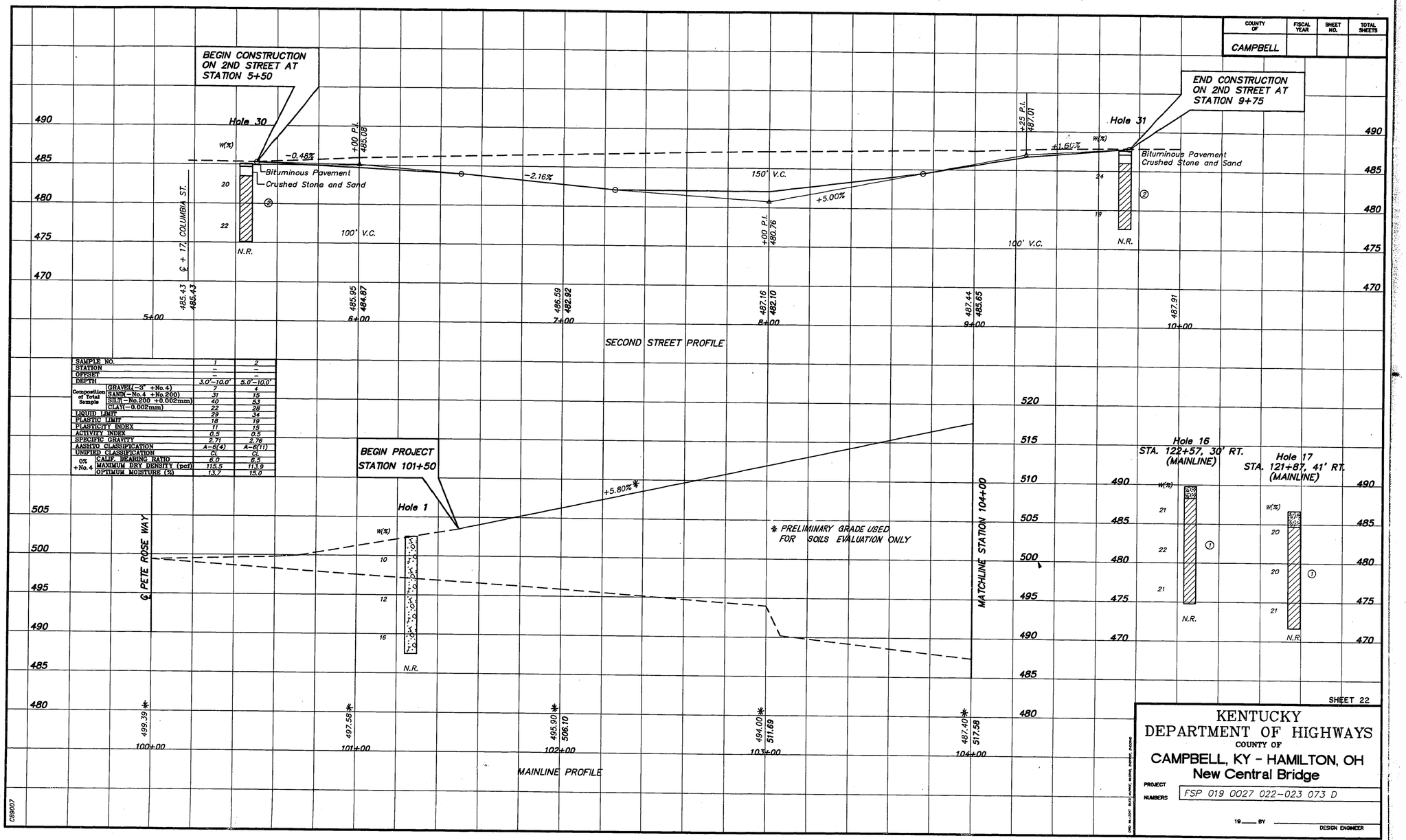
ROAD FSP 019 0027 022–023 073 D

STATION | P. E. PROJECT NO.

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

FORM NO. 8
C85007

COUNTY OF	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
CAMPBELL			



SAMPLE NO.		1	2
STATION		–	–
OFFSET		–	–
DEPTH		3.0'–10.0'	5.0'–10.0'
Composition of Total Sample	GRAVEL(–3" +No.4)	7	4
	SAND(–No.4 +No.200)	31	15
	SILT(–No.200 +0.002mm)	40	53
	CLAY(–0.002mm)	22	28
LIQUID LIMIT		29	34
PLASTIC LIMIT		18	19
PLASTICITY INDEX		11	15
ACTIVITY INDEX		0.5	0.5
SPECIFIC GRAVITY		2.71	2.76
AASHTO CLASSIFICATION		A–6(4)	A–6(11)
UNIFIED CLASSIFICATION		CL	CL
0% +No.4	CALIF. BEARING RATIO	6.0	6.5
	MAXIMUM DRY DENSITY (pcf)	115.5	113.9
	OPTIMUM MOISTURE (%)	13.7	15.0

SHEET 22

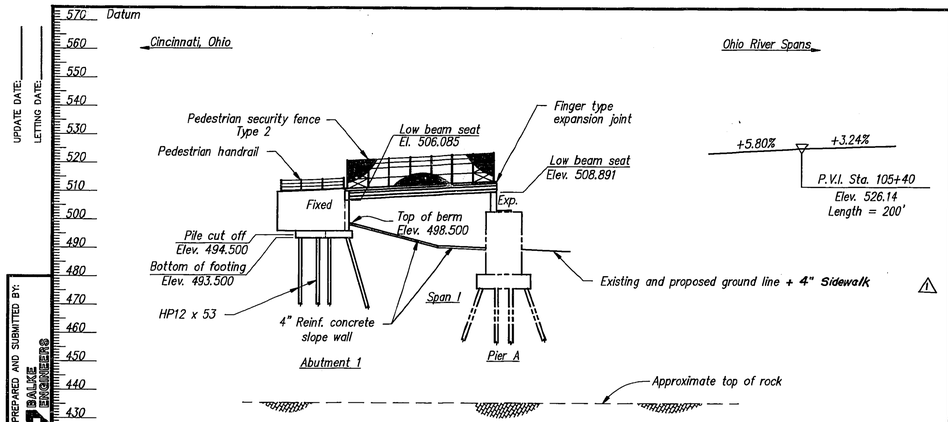
KENTUCKY
DEPARTMENT OF HIGHWAYS
COUNTY OF
CAMPBELL, KY – HAMILTON, OH
New Central Bridge

PROJECT NUMBERS: FSP 019 0027 022–023 073 D

19___ BY _____ DESIGN ENGINEER

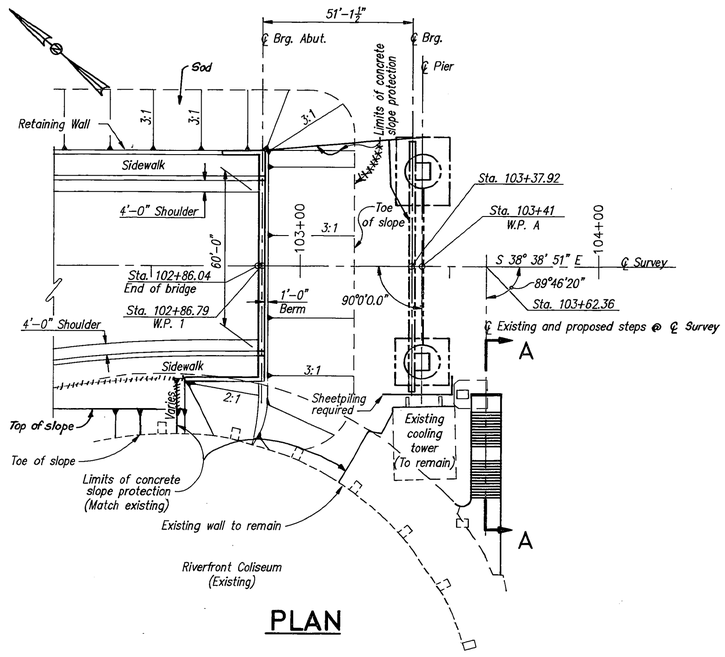
FORM NO. 8
C89007

Dwg. No. 22740

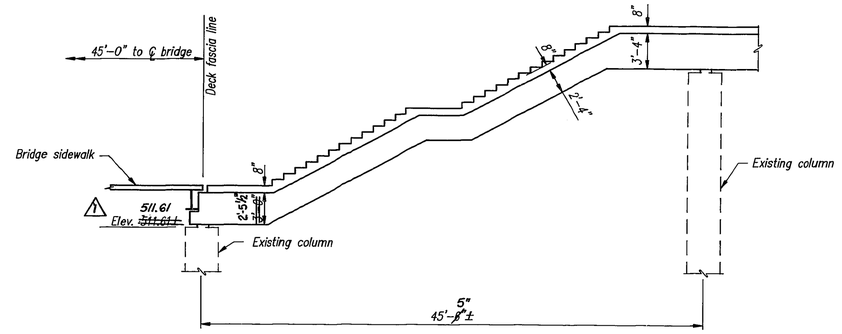


ELEVATION

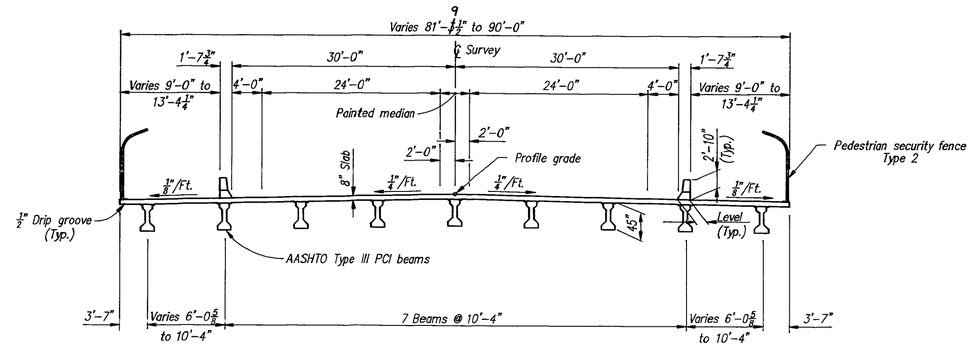
51'-1½" PCI Beams ~ HS25 Loading ~
Roadway width 60'-0" ~ 0° Skew ~ 4'-0" Shoulder widths
2:1 Fill slope



PLAN



SECTION A–A



TYPICAL BRIDGE SECTION

LAYOUT

HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

OHIO APPROACH SHEET 23

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

UPDATE DATE:
LETTING DATE:

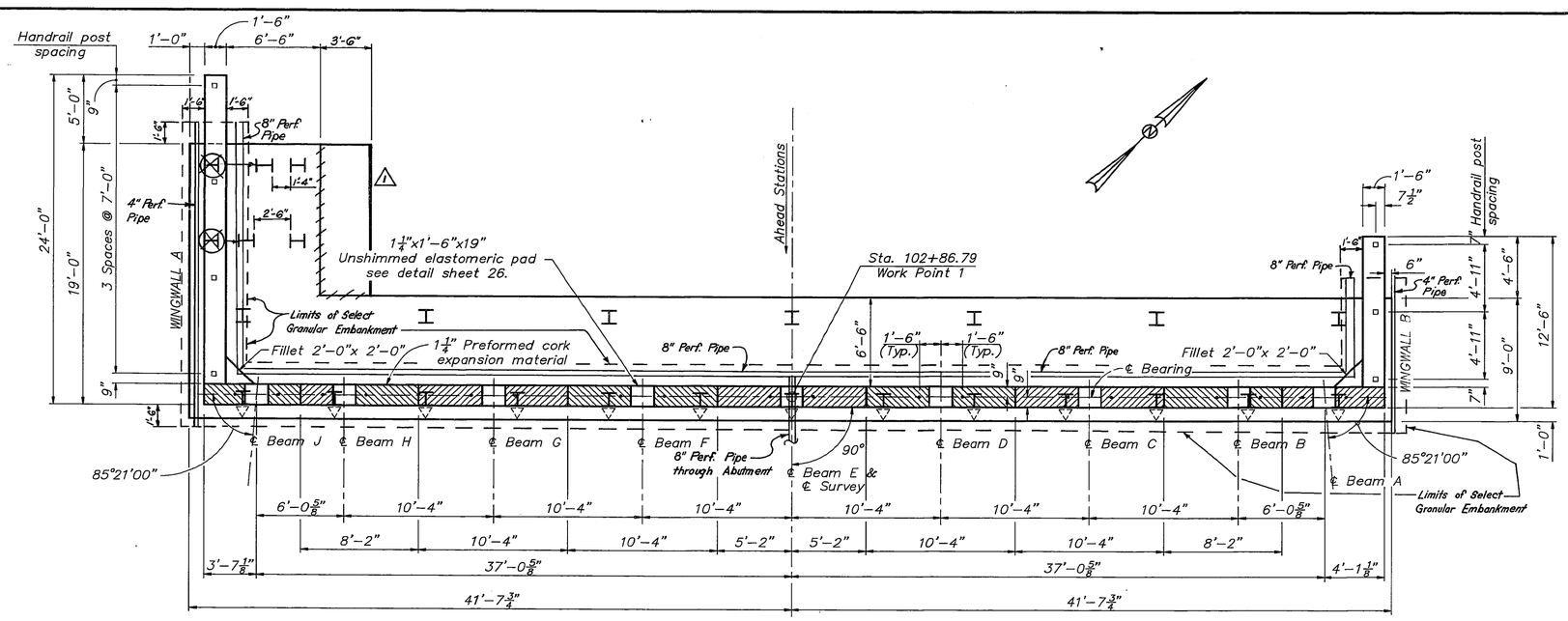
PLANS PREPARED AND SUBMITTED BY: BALKE ENGINEERS

DATE 11-92
DATE
DATE

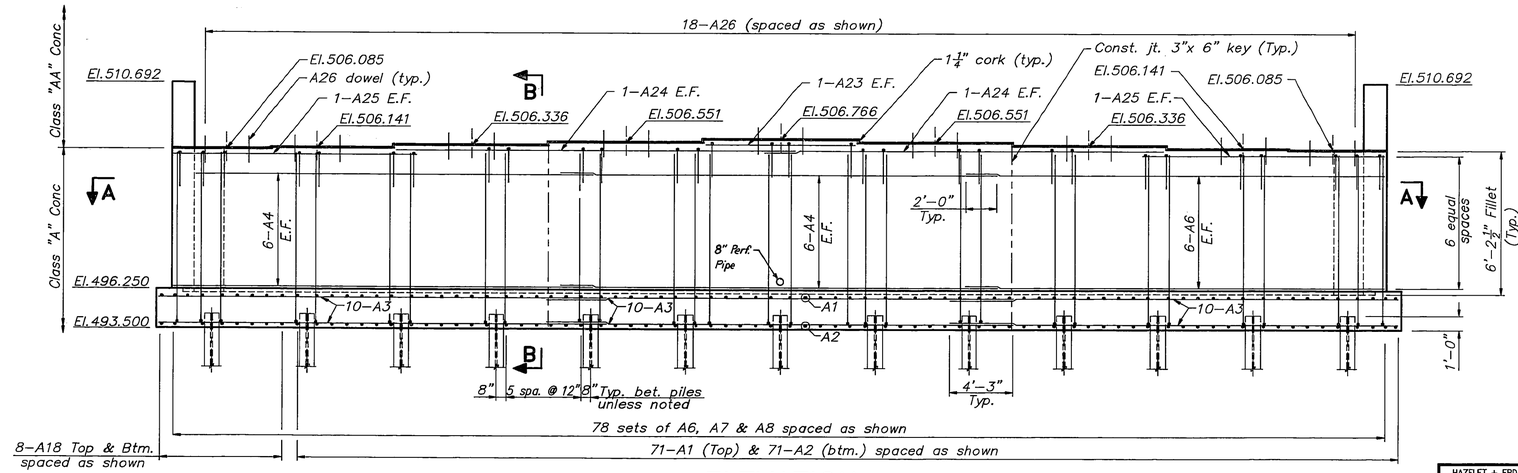
⚠ As Built By HJE/DNM

REVISED BY		DATE 4/93	
REVISED BY		DATE 8/93	
REVISED BY		DATE	
DESIGNED BY	MRS	CHECKED BY	DW
DETAILED BY		CHECKED BY	MRS
TRACED BY	SBO	CHECKED BY	

DISK 1 9003SP3.DWG



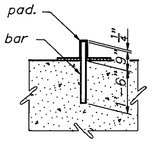
PLAN



ELEVATION

ABUTMENT 1

Std. wt. 2½" commercial pipe sleeve closed at one end and 7" long. Secure pipe sleeve to prevent floating while placing concrete. Sleeve to sit on bearing pad.



DOWEL DETAIL

LEGEND:
E.F. = Each Face
N.F. = Near Face
F.F. = Far Face
Denotes HP12x53, vertical
Denotes HP12x53, battered
4:12 in direction of arrow

NOTES:
1. For Sections A–A see 25.
2. For Sections B–B see 26.
3. For handrail details see 137.
4. For Select Granular Embankment, See Special Provisions 69-D(91)

OHIO APPROACH SHEET 24

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022–023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

HAZELET + ERDAL, INC. In association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

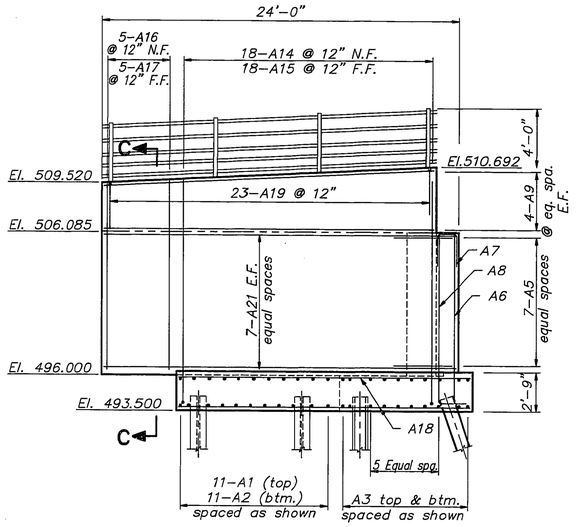
UPDATE DATE:
LETTING DATE:

PLANS PREPARED AND SUBMITTED BY: BALKE ENGINEERS

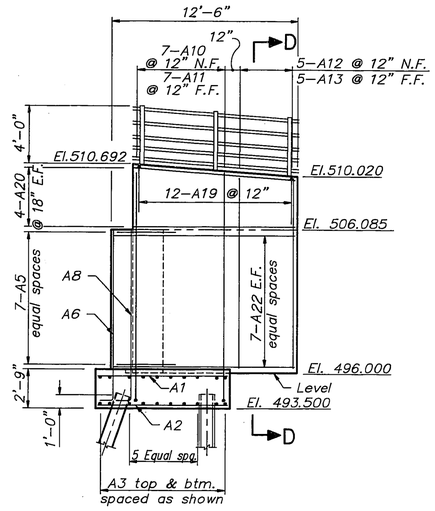
DATE 11-95
DATE
DATE

REVISED BY	DATE	CHECKED BY	DATE	DESIGNED BY	MRS
⚠ Revised As Built H.E.		DWL	6/97	CHECKED BY	MRS
REVISED BY		MRS	8/97	DETAILED BY	JDG/ALH
REVISED BY				TRACED BY	

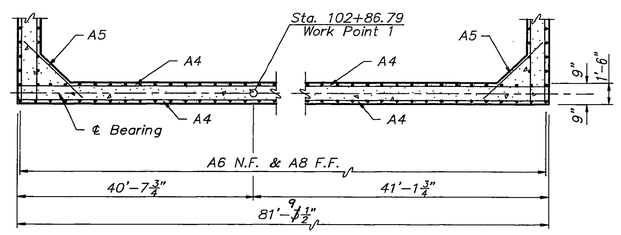
DISK 1 9003RA1.DWG



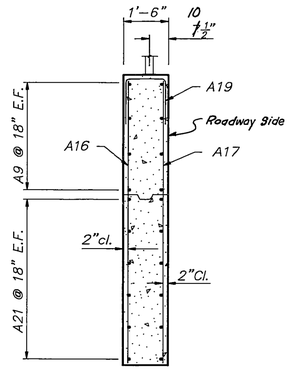
WINGWALL A



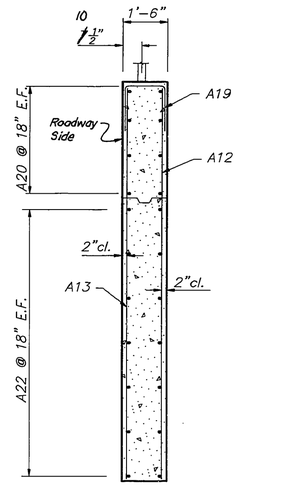
WINGWALL B



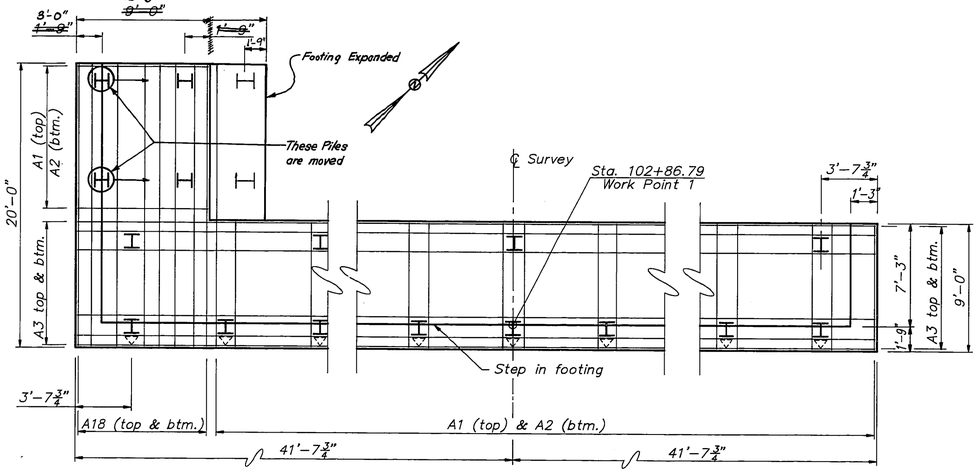
SECTION A–A



SECTION C–C



SECTION D–D



FOOTING PLAN

LEGEND:
E.F. = Each Face
N.F. = Near Face
F.F. = Far Face
I Denotes HP12x53, vertical
I Denotes HP12x53, battered
4:12 in direction of arrow

ABUTMENT 1

OHIO APPROACH — SHEET 25

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022–023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

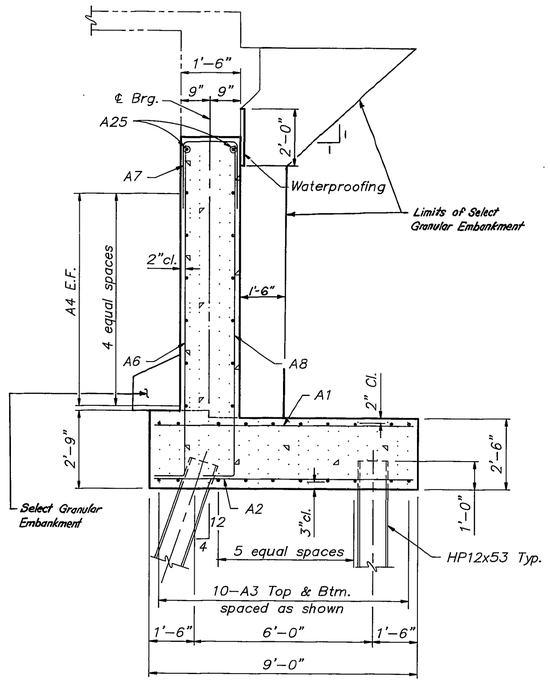
HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

UPDATE DATE:
LETTING DATE:

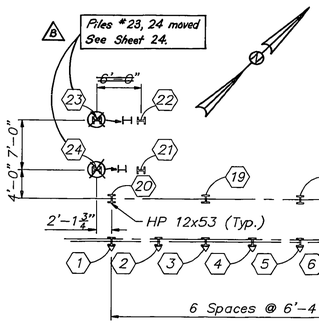
PLANS PREPARED AND SUBMITTED BY:
BALKE ENGINEERS

DESIGNED BY	MRS	CHECKED BY	DWL
DETAILED BY	JDG\AAJH	CHECKED BY	MRS
TRACED BY		CHECKED BY	
DATE		REVISED BY	
DATE		REVISED BY	
DATE	8/01	REVISED BY	
DATE	8/01		
DATE			

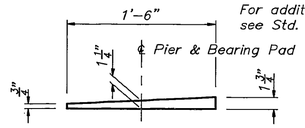
DISK 2 9003RA2.DWG



SECTION B-B



PILE LAYOUT



SECTION THRU BEARING PAD

PILE RECORD

PILE NO.	PILE CUT-OFF ELEVATION	TIP OF PILE ELEVATION AS DRIVEN	LENGTH OF PILE IN PLACE (LINEAR FEET)	CALCULATED BEARING (TONS)	
1	494.500	437.32	60.25	203	
2	494.500	437.45	60.12	175	
3	494.500	437.59	59.97	198	
4	494.500	437.47	60.09	191	
5	494.500	437.65	59.91	167	
6	494.500	437.65	59.90	198	
7	494.500	437.77	59.78	185	
8	494.500	436.89	60.71	219	
9	494.500	438.93	58.56	205	
10	494.500	438.40	59.12	198	
11	494.500	437.98	59.56	191	
12	494.500	437.72	59.83	175	
13	494.500	438.11	59.42	206	
14	494.500	437.55	59.95	180	
15	494.500	437.70	56.80	185	
16	494.500	436.08	58.42	125	Test Pile
17	494.500	436.47	58.08	183	
18	494.500	431.13	63.37	212	
19	494.500	437.05	57.45	192	
20	494.500	437.33	57.17	219	
21	494.500	437.64	56.88	176	
22	494.500	437.34	57.16	189	
23	494.500	436.06	58.44	165	
24	494.500	437.70	56.80	169	

NOTE:
After all piles have been driven, the Project Engineer shall record for each pile, the Tip of Pile Elevation as driven, the Length of Pile in Place and the Calculated Bearing Capacity, and shall return one blue print copy of this data to the Director, Division of Bridges so the data may be recorded on the original plans. Lengths of piles in place shown hereon are the actual lengths of piles in the finished structure below cut-off elevation. This Pile Record does not replace other Records of Piles required to be kept and submitted by the Project Engineer.

BILL OF REINFORCEMENT

	MARK	TYPE	NO.	SIZE	LENGTH FT.	LENGTH IN.	LOCATION	A FT.	A IN.	B FT.	B IN.
	A1	Str.	82	5	8	8	Footing				
	A2	Str.	82	8	8	8	Footing				
	A3	Str.	60	8	30	6	Footing				
	A4	Str.	36	5	28	6	Cap				
A	A5**	Str.	14	5	6 7	8 3	Fillet				
	A6	(2)	78	5	12	11	Cap	0	10	12	1
	A7	(1)	78	5	6	0	Cap	2	5	1	2
	A8	(2)	78	7	13	0	Cap	1	0	12	1
	A9	Str.	8	5	22	2	Wingwall				
	A10	(2)	7	5	17	1	Wingwall	0	10	16	3
	A11	(2)	7	7	17	2	Wingwall	1	0	16	3
	A12	Str.	5	5	13	8	Wingwall				
	A13	Str.	5	6	13	8	Wingwall				
A	A14	(2)	18	5	16	7 7	Wingwall	0	10	15	9
A	A15	(2)	18	7	16	7 8	Wingwall	1	0	15	9
	A16	Str.	5	5	13	2	Wingwall				
	A17	Str.	5	6	13	2	Wingwall				
A	A18	Str.	15 16	8	19	8	Wingwall footing				
	A19	(1)	35	5	7	5	Wingwall	3	2	1	2
	A20	Str.	8	5	10	8	Wingwall				
	A21	Str.	14	5	23	8	Wingwall				
	A22	Str.	14	5	12	2	Wingwall				
	A23	Str.	2	5	10	0	Cap				
	A24	Str.	4	5	27	4	Cap				
	A25	Str.	4	5	16	4	Cap				
	A26	Str.	18	*	2	2	Cap				

ESTIMATE OF QUANTITIES

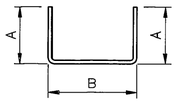
150.3 A

ITEM	QUANTITY	UNIT
CONCRETE CLASS "A"	146.9	CU. YDS.
CONCRETE CLASS "AA"	7.7 52	CU. YDS.
STEEL REINFORCEMENT	~~15,820~~ A ~~16,337~~ ** 16,698	LBS.

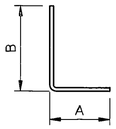
* 2" smooth round dowel bars, maybe commercial grade steel.

A ** 14-#5 bars x 3'-0" for Mark A5 (fabricated before this revision) are not used but are included in revised quantity.

NOTES:
1) Waterproofing shall be per Section 729 of the standard spec. and consist of primer coat, 3 layers of bituminous material and 2 layers of waterproofing fabric. Cost of waterproofing shall be incidental to the cost of class A concrete.
2) See Special Provision 69-D(91) for Select Granular Embankment.



TYPE ①



TYPE ②

H —Denotes vertical HP12 x 53

H —Denotes HP12 x 53 battered @ 4:12 in direction of arrow

◯ —Denotes test pile — 61' length

UPDATE DATE:
LETTING DATE:

PLANS PREPARED AND SUBMITTED BY: BALKE ENGINEERS

DESIGNED BY	MRS	CHECKED BY	DW
DETAILED BY	JDG/ALH	CHECKED BY	MRS
TRACED BY		CHECKED BY	

DATE	3/91	REVISED BY	
DATE	11/96	REVISED BY	
DATE		REVISED BY	

A Revised Geom. & Quantity 44+E
As Built 44+E

DISK2 9003RA3.DWG

OHIO APPROACH SHEET 26

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

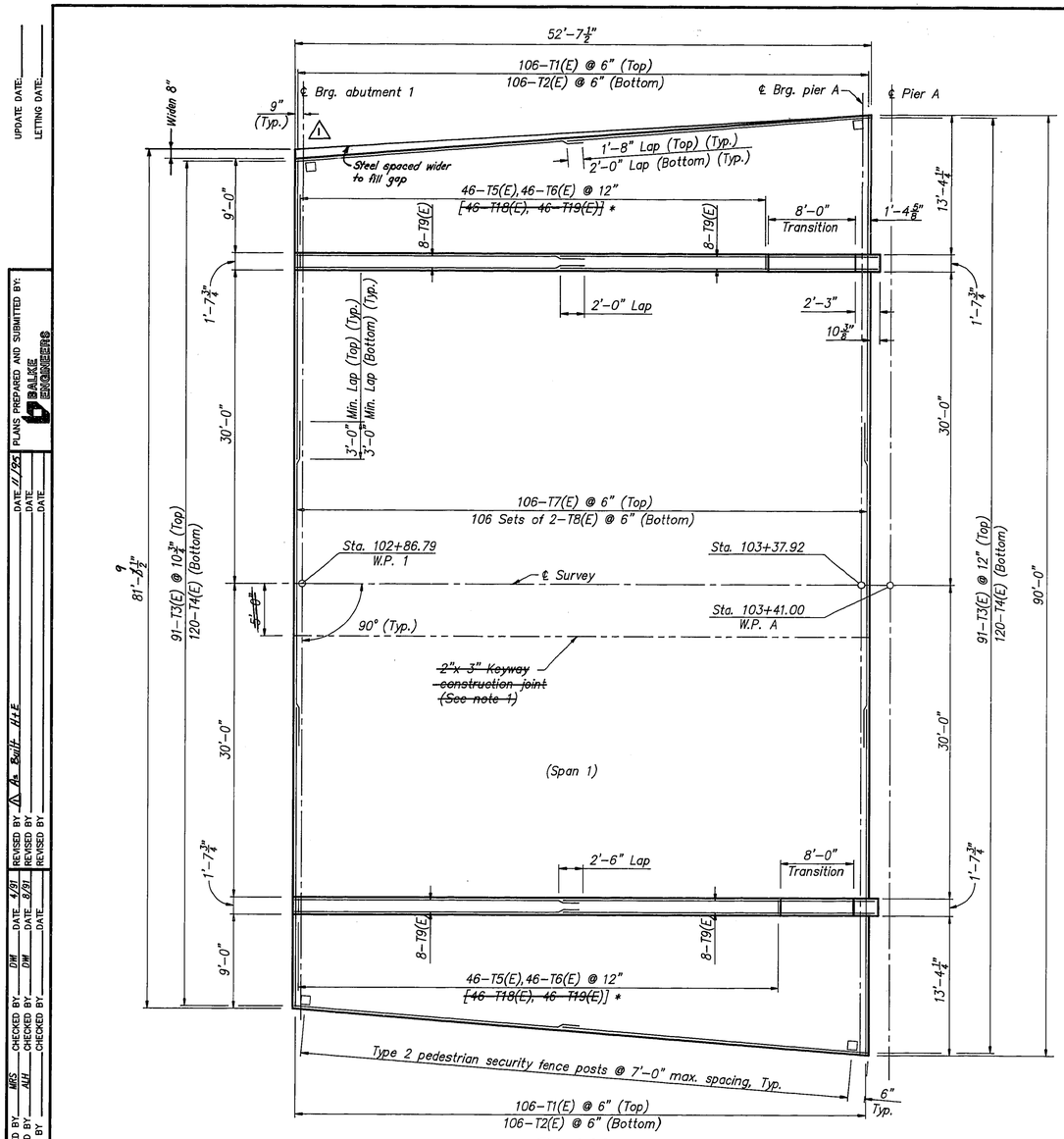
NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

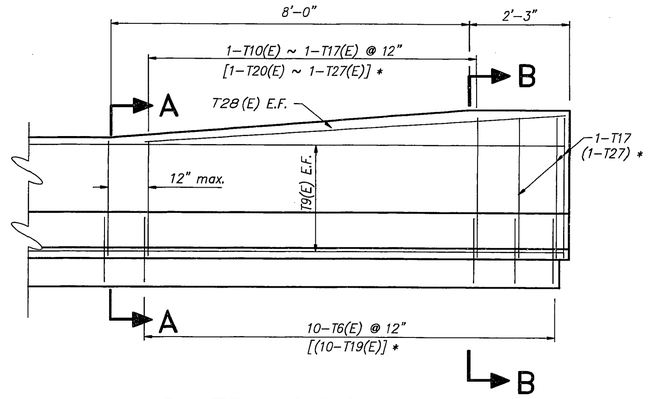
CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

ABUTMENT 1

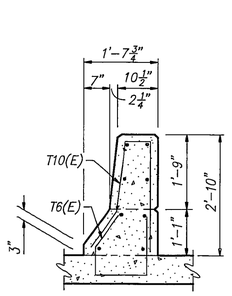


PLAN

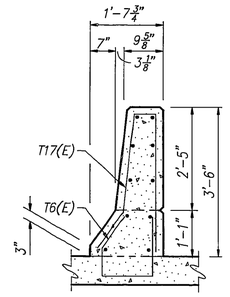


8' TRANSITION

(Typical 2 places)



SECTION A-A



SECTION B-B

Notes

1. ~~The contractor may relocate the longitudinal construction joint upon written approval from the Engineer. Bonding agent shall be applied to joint per the Special note.~~
2. The diaphragm below the longitudinal construction joint shall be placed in two pours. Each section of the diaphragm shall be placed with the slab above.
3. For additional details on the fence, see sheets 137 through 142.
4. For scupper locations, see sheet 97.

~~* These bars to be used if contractor elects to use drilled anchor option.~~

SUPERSTRUCTURE

UPDATE DATE:
LETTING DATE:

PLANS PREPARED AND SUBMITTED BY: BALKE ENGINEERS

DESIGNED BY	MRS	DATE 1/94	DW
DETAILED BY	AJH	DATE	DW
TRACED BY		DATE	
CHECKED BY		DATE	
CHECKED BY		DATE	
CHECKED BY		DATE	

REVISED BY: Add Bolt Hole
REVISED BY:
REVISED BY:

DW DATE 4/97
DW DATE 8/97
DATE

6/03/2014 DGN: 0

OHIO APPROACH SHEET 27

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

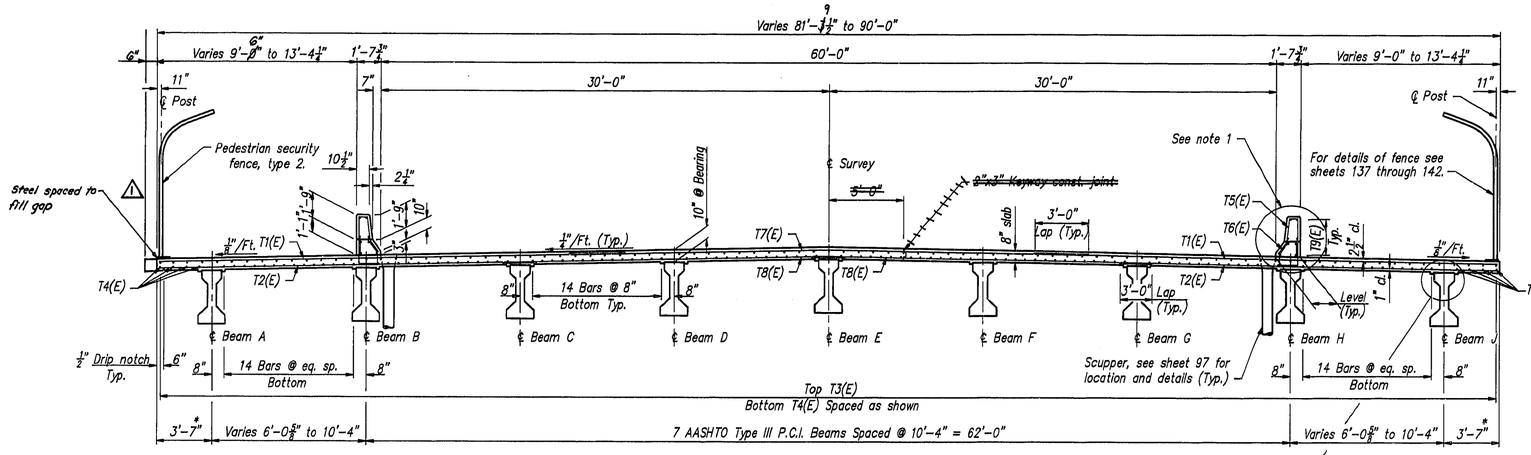
NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

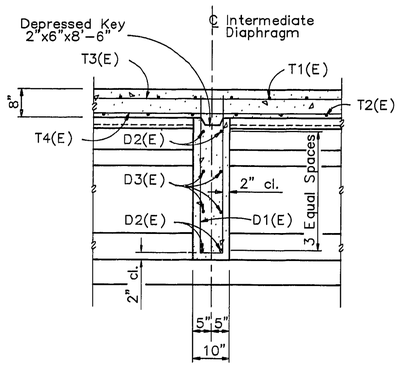
CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS



TYPICAL SECTION

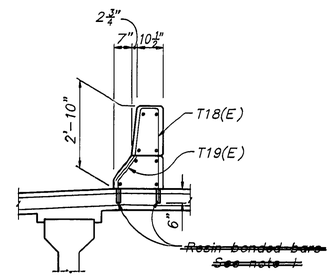
* Measured normal to beam



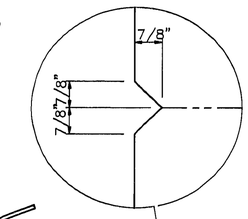
SECTION A-A

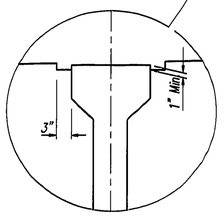
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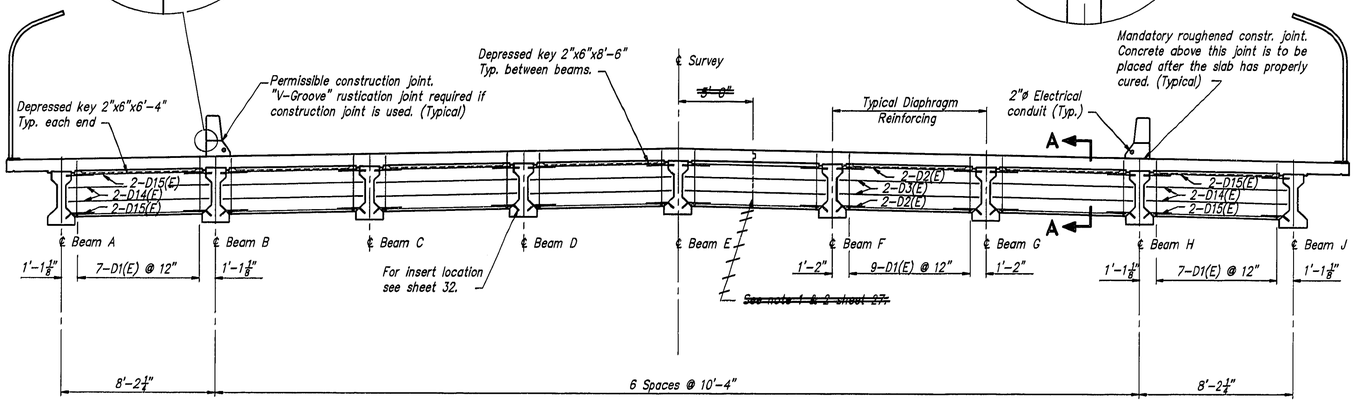
Note 1 – The contractor has the option of placing and screeding the deck and sidewalk in one operation. The vertical bars in the barrier [T5(E) & T6(E)] shall be replaced with epoxy coated, resin bonded bars as indicated in detail A. When the concrete has attained a compressive strength of 3000 psi or more, six inch deep holes shall be drilled and the bars shall be grouted in place with a resin system. See Special Note for Resin Bonded Reinforcing Bars for additional details.



DETAIL A







INTERMEDIATE DIAPHRAGM

SUPERSTRUCTURE

UPDATE DATE:
LETTING DATE:

PLANS PREPARED AND SUBMITTED BY: BALKE ENGINEERS

DATE 11/25
DATE
DATE

DESIGNED BY	MRS	CHECKED BY	DW	DATE 4/01	REVISED BY	Δ As Built ft.E
DETAILED BY	AJH	CHECKED BY	MRS	DATE 8/01	REVISED BY	
TRACED BY		CHECKED BY		DATE	REVISED BY	

DISK 2 9003DS2.DWG

HAZELET + ERDAL, INC. In association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

OHIO APPROACH SHEET 28

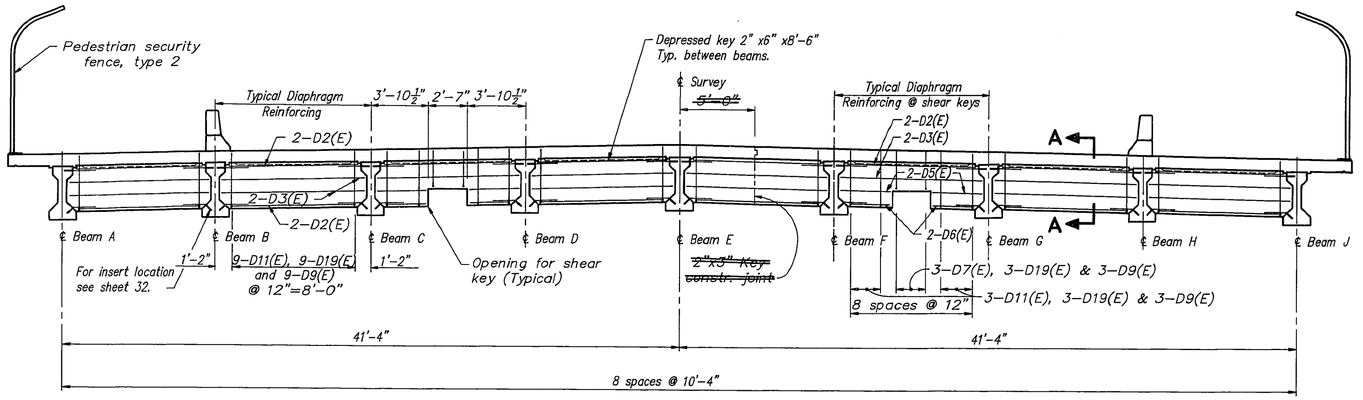
KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

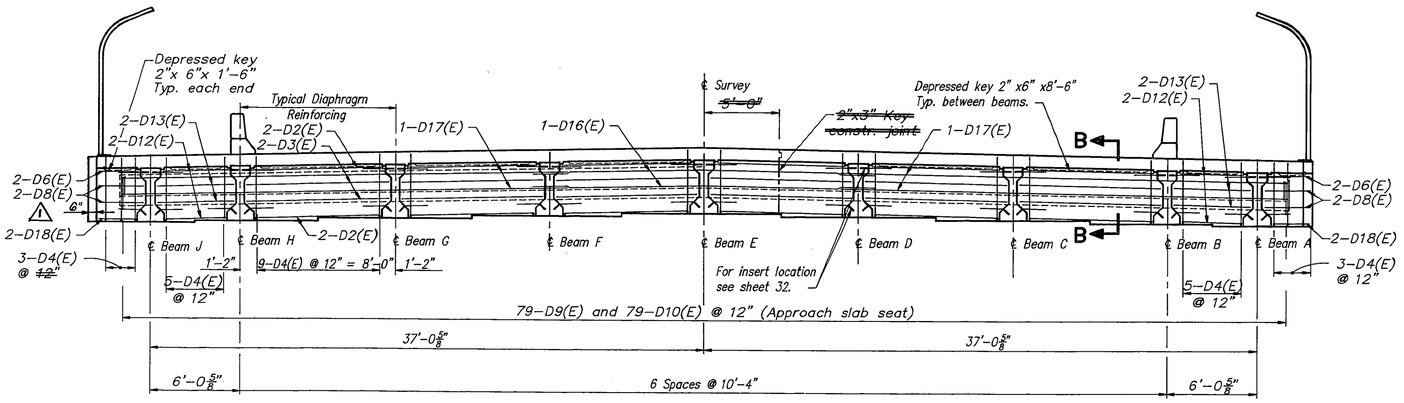
BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740



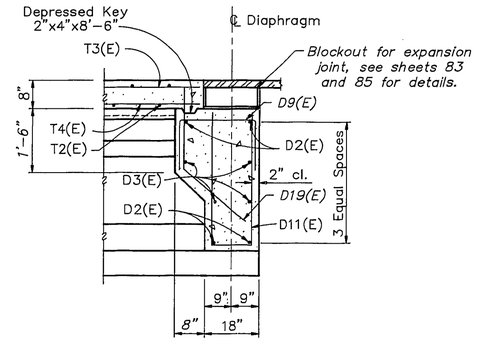
END DIAPHRAGM

(Pier A)

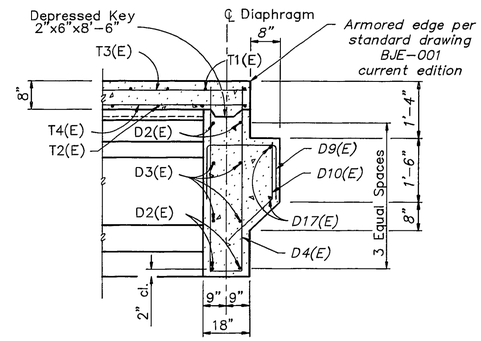


END DIAPHRAGM

(Abutment 1)



SECTION A-A



SECTION B-B

SUPERSTRUCTURE

UPDATE DATE:
LETTING DATE:

PLANS PREPARED AND SUBMITTED BY: BALKE ENGINEERS
DATE 11/92
DATE
DATE

DESIGNED BY	MRS	CHECKED BY	DWK
DETAILED BY	ALH	CHECKED BY	MRS
TRACED BY		CHECKED BY	

REVISED BY ⚠ As Built #1E DATE 6/97
REVISED BY DATE 8/97
REVISED BY DATE

DISK 7 90030S12

OHIO APPROACH SHEET 29

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

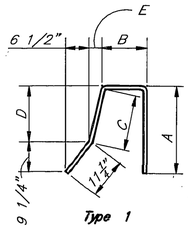
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

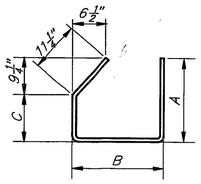
BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

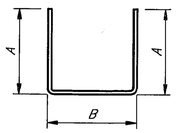
CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740



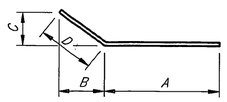
Type 1



Type 2



Type 3



Type 4

ESTIMATE OF QUANTITIES

98.76

ITEM	QUANTITY	UNIT
CONCRETE CLASS "AA" S	~~169.1~~	CU. YDS.
EPOXY COATED STEEL REINFORCEMENT	47,312	LBS.

BILL OF REINFORCEMENT

MARK	TYPE	NO.	SIZE	LENGTH FT.	LENGTH IN.	LOCATION	A FT.	A IN.	B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E	E IN.
T1(E)	Str.	212	6	30	0	Top of deck slab										
T2(E)	Str.	212	6	25	8	Bottom of deck slab										
T3(E)	Str.	182	4	27	0	Top of deck slab										
T4(E)	Str.	240	5	27	2	Bottom of deck slab										
T5(E)	1	92	5	5	9	Parapet	2	7½	0	6¾	1	7¾	1	7½	0	2
T6(E)	2	110	5	4	5	Parapet	1	6	1	3¾	0	8				
T7(E)	Str.	106	6	35	8	Top of deck slab										
T8(E)	Str.	212	6	23	8	Bottom of deck slab										
T9(E)	Str.	32	5	27	2	Parapet										
T10(E)	1	2	5	5	11	Parapet transition	2	8½	0	6¼	1	8⅝	1	8½	0	2
T11(E)	1	2	5	6	1	Parapet transition	2	9½	0	6⅝	1	9⅝	1	9½	0	2⅛
T12(E)	1	2	5	6	3	Parapet transition	2	10¼	0	6½	1	10⅝	1	10½	0	2¼
T13(E)	1	2	5	6	5	Parapet transition	2	11¼	0	6⅝	1	11⅝	1	11½	0	2⅜
T14(E)	1	2	5	6	7	Parapet transition	3	0¼	0	6¼	2	0⅝	2	0½	0	2½
T15(E)	1	2	5	6	9	Parapet transition	3	1¼	0	6½	2	1⅝	2	1½	0	2⅝
T16(E)	1	2	5	6	11	Parapet transition	3	2	0	6	2	2⅝	2	2½	0	2¾
T17(E)	1	4	5	7	1	Parapet transition	3	3	0	5⅞	2	3⅝	2	3½	0	2⅞
T18(E)	1	92	5	6	4	Alternate parapet detail	5	2	0	6¼	1	7¾	1	7½	0	12
T19(E)	4	110	5	1	8	Alternate parapet detail	0	8	0	10	0	7	1	0		
T20(E)	1	2	5	6	6	Alternate parapet detail	3	3	0	6¼	1	8⅝	1	8½	0	2
T21(E)	1	2	5	6	8	Alternate parapet detail	3	4	0	6⅝	1	9⅝	1	9½	0	2⅛
T22(E)	1	2	5	6	10	Alternate parapet detail	3	5	0	6½	1	10⅝	1	10½	0	2¼
T23(E)	1	2	5	7	0	Alternate parapet detail	3	6	0	6⅝	1	11⅝	1	11½	0	2⅜
T24(E)	1	2	5	7	2	Alternate parapet detail	3	7	0	6¼	2	0⅝	2	0½	0	2½
T25(E)	1	2	5	7	4	Alternate parapet detail	3	8	0	6⅝	2	1⅝	2	1½	0	2⅝
T26(E)	1	2	5	7	6	Alternate parapet detail	3	9	0	6	2	2⅝	2	2½	0	2¾
T27(E)	1	4	5	7	8	Alternate parapet detail	3	10	0	5⅞	2	3⅝	2	3½	0	2⅞
T28(E)	Str.	4	5	9	3	Parapet transition										
D1(E)	3	68	5	7	5	Intermediate diaphragm	3	6	0	6						
D2(E)	Str.	76	5	8	2	Intermediate & end diaphragm										
D3(E)	Str.	76	5	9	3	Intermediate & end diaphragm										
D4(E)	3	70	5	9	3	End diaphragm	4	1	1	2						
D5(E)	Str.	8	5	3	3	End diaphragm										
D6(E)	Str.	12	5	2	8	End diaphragm										
D7(E)	3	6	5	6	1	End diaphragm	2	6	1	2						
D8(E)	Str.	8	5	2	11	End diaphragm										
D9(E)	3	151	5	4	1	End diaphragm	1	2	1	10						
D10(E)	4	79	5	2	10	End diaphragm	1	2	1	2	1	2	1	8		
D11(E)	3	66	5	7	1	End diaphragm	3	0	1	2						
D12(E)	Str.	8	5	3	10	End diaphragm										
D13(E)	Str.	8	5	5	1	End diaphragm										
D14(E)	Str.	8	5	7	3	Intermediate diaphragm										
D15(E)	Str.	8	5	6	0	Intermediate diaphragm										
D16(E)	Str.	2	5	22	6	End diaphragm										
D17(E)	Str.	4	5	30	0	End diaphragm										
D18(E)	Str.	4	5	2	4	End diaphragm										
D19(E)	4	72	5	2	10	End diaphragm	1	8	1	2	1	2	1	8		

NOTES:

1. Epoxy coated reinforcing steel: All reinforcing bars designated by suffix (E) shall be epoxy coated, in accordance with the specifications.
2. Weight shown for reinforcing does not include weight of bars for alternate parapet detail. Weight of alternate bars is 915 lbs.

SUPERSTRUCTURE

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

OHIO APPROACH SHEET 30

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

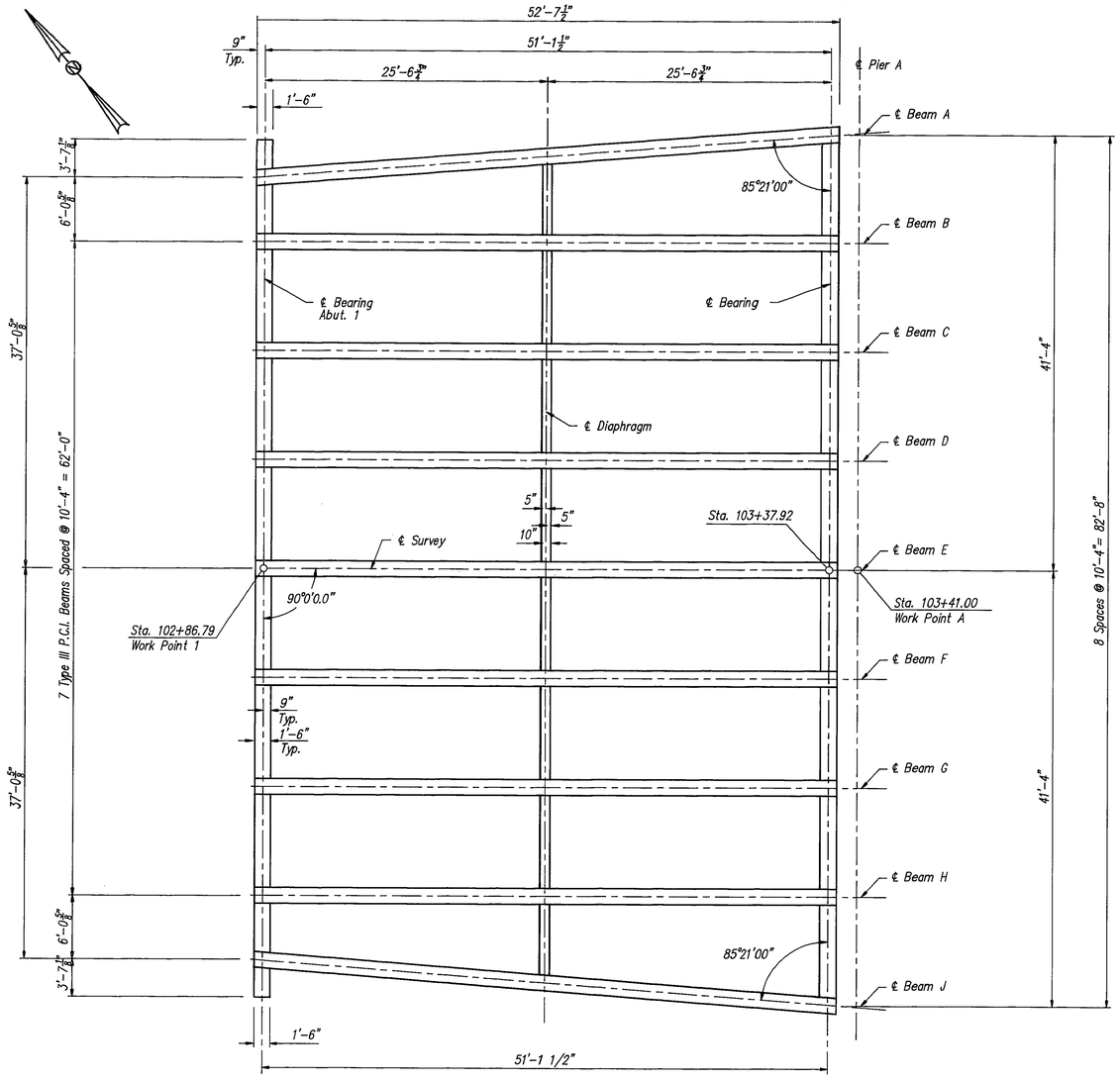
UPDATE DATE:
LETTING DATE:

PLANS PREPARED AND SUBMITTED BY: BALKE ENGINEERS

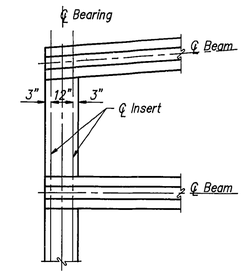
DESIGNED BY MRS	CHECKED BY DWI	DATE 6/91	REVISED BY As Built 1/92
DETAILED BY MRS	CHECKED BY DWI	DATE 8/91	REVISED BY
TRACED BY	CHECKED BY	DATE	REVISED BY

DATE 11/92
DATE
DATE

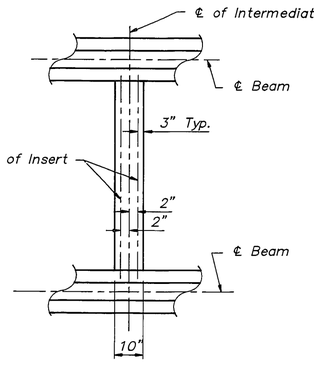
90030515 DISK 8



FRAMING PLAN
(Span 1)



INSERT LOCATION END DIAPHRAGMS



INSERT LOCATION INTERMEDIATE DIAPHRAGMS

PLANS PREPARED AND SUBMITTED BY: BALKE ENGINEERS

DESIGNED BY	MRS	CHECKED BY	DATE
DETAILED BY	AJH	CHECKED BY	DATE
TRACED BY		CHECKED BY	DATE

REVISED BY		DATE 4/91	
REVISED BY	DW	DATE 8/91	
REVISED BY	MRS	DATE	

UPDATE DATE:
LETTING DATE:

DISK 2 9003S1.DWG

FRAMING PLAN

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

OHIO APPROACH SHEET 31

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

UPDATE DATE

LETTING DATE

Date: 05-JUL-1990

DATE / REVISED

DATE / REVISED

DESIGNED BY: MRS — CHECKED BY: CWL — DATE: 4-91

DETAILED BY: ALH — CHECKED BY: MRS — DATE: 5-91

PREPARED BY: GRAPHICS SECTION — CHECKED BY: — DATE:

GENERAL NOTES

MATERIALS DESIGN SPECIFICATIONS: For prestressed girder
F'C = 5000 psi F'S = 270000 psi

PRESTRESSING REINFORCEMENT: Strands shall be stabilized strand (1/2" nominal diameter, 270 grade, low-relaxation uncoated seven-wire strand in accordance with AASHTO M203). If an alternate strand arrangement or strand type is preferred by the contractor, the designer that developed the original plans shall provide the design and also revise the original plans to reflect the changes. These design and plan modifications shall be done at the contractor's expense.

TENSIONING METHOD: Beams shall be pretensioned.

ELASTOMERIC BEARING PADS: The material specifications for elastomeric bearing pads shall conform to the AASHTO standard specifications for highway bridges, except that the requirement of the low temperature test is waived and a durometer hardness of 50 or 60 is required. The cost of this item is to be included in the price per linear foot for precast beams.

CONSTRUCTION METHOD: No bond stress shall be transferred to the concrete, nor shall end anchors be released until the concrete has attained a compressive strength as shown by standard cylinders made and cured identically with the girders, of at least a minimum strength of 4000 psi, cylinder strength shall be 5000 psi at or prior to 28 days. An initial force shall be applied to each low relaxation strand such as to develop a stress of 202500 psi. Beams with honeycomb of such extent as to affect the strength or resistance to deterioration will not be accepted. An allowance of .0005L shall be made for shortening of beams due to shrinkage and elastic change. Shop plans shall show a detensioning plan by numbering, in sequence, the strand pattern.

DEFORMED WIRE FABRIC: Fabric may be used in the precast beams in lieu of reinforcing bars, provided an equivalent area of steel is furnished. Wire fabric shall conform to the requirements of AASHTO specification M221 (A497) and is to be made of deformed wire conforming to AASHTO specification M225 (A496).

CONCRETE

PRESTRESSED GIRDER CONCRETE SHALL BE IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.

ON THIS SPAN, THE CONTRACTOR SHALL USE A CALCIUM NITRITE CORROSION INHIBITING ADMIXTURE IN THE CONCRETE.

THIS ADMIXTURE SHALL BE ADDED TO THE CONCRETE AT THE RATE OF 4.0 GALLONS PER CUBIC YARD OF CONCRETE.

THE CALCIUM NITRITE SHALL BE ADDED AS AN AQUEOUS SOLUTION, SUCH AS W. R. GRACE'S DCI CORROSION INHIBITOR (30% SOLIDS) OR APPROVED EQUAL. THE WATER IN SUCH SOLUTION SHALL BE COUNTED AS MIXING WATER FOR THE PURPOSE OF DETERMINING THE WATER TO CEMENT RATIO OF THE CONCRETE.

THE CALCIUM NITRITE, WHICH ACTS AS AN ACCELERATOR, MAY BE USED IN CONJUNCTION WITH OTHER COMPATIBLE ADMIXTURES TO CONTROL SETTING TIME AND WORKABILITY OF CONCRETE. IT MUST BE ADDED TO THE MIX IMMEDIATELY AFTER THE AIR-ENTRAINING AND RETARDING ADMIXTURES HAVE BEEN INTRODUCED TO THE BATCH.

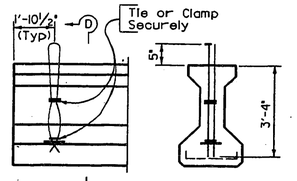
COST OF CALCIUM NITRITE SHALL BE INCIDENTAL TO PRICE BID FOR PRECAST PRESTRESSED CONCRETE I-BEAMS, TYPE III.

AS BUILT PRESTRESS DATA

STRAND TYPE	
PRESTRESSED FORCE/STRAND	
CONC. RELEASE STRENGTH	
CONC. 28 DAY STRENGTH	
STRAND PATTERN	
NO. OF DRAPED STRANDS	
NO. OF DEBONDED STRANDS	

REMARKS:

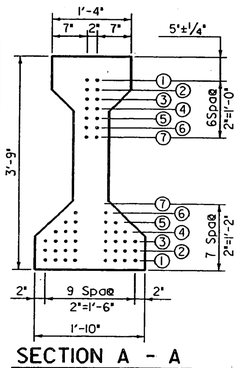
BY: DATE:



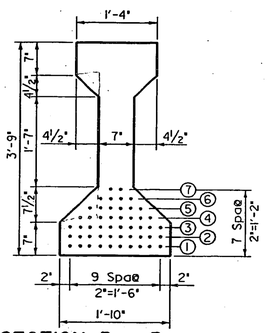
LIFTING DEVICE SECTION D-D

DETAIL "L"

NOTE:
Lifting Shall Be By Equal Loads To Each Pair Of Loops.



SECTION A - A



SECTION B - B

• These Dimensions Given On ℄ Of Beams.

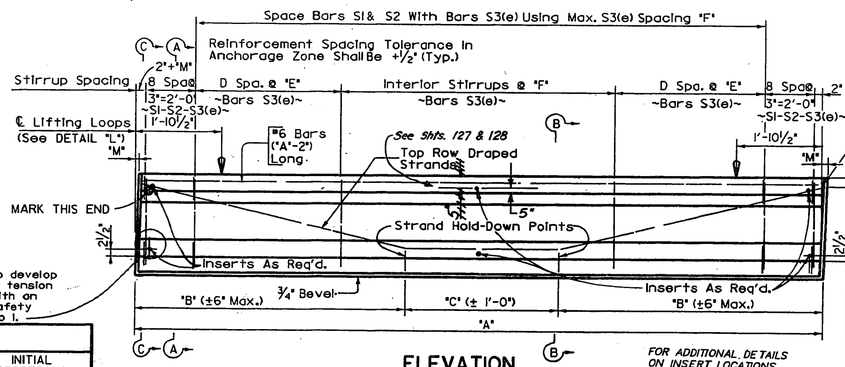
BEAM DIMENSIONS *

MARK	NO. REQ'D	DIMENSIONS A	B	C	D	E	F	M	APPROX. WT. EACH
A & J	2	52-3/16"	21'-4 3/16"	10'-0	32	4"	12"	2 5/8"	27550 LB.
B ~ H	7	52'-7 1/16"	21'-3 3/4"	10'-0	32	4"	12"	2 5/8"	27525 LB.

NUMBER OF 1/2" Ø - 7 WIRE STRANDS IN INDICATED ROWS

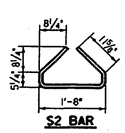
MARK	MIDSPAN (SECTION B - B) BOTTOM ①	②	③	④	⑤	⑥	⑦	END (SECTION A-A) BOTTOM ①	②	③	④	⑤	⑥	⑦	TOP ①	②	③	④	⑤	⑥	⑦	TOTAL NO.	INITIAL PRESTRESS FORCE / STRAND (LBS)
SPAN 1	6	6	4	2	2			6	6	4	2				2							20	30,980

Inserts are to develop a safe load in tension of 2500 lbs. with an approximate safety factor of 3 to 1.

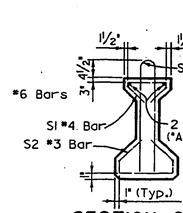


ELEVATION

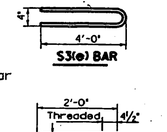
FOR ADDITIONAL DETAILS ON INSERT LOCATIONS, SEE SHEET 31

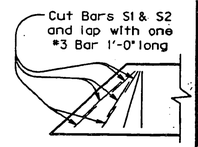


S2 BAR

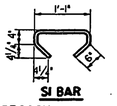


SECTION C-C
Typical Section Showing Steel Reinforcement





1/8" Bevel On Exterior face Of Exterior Beams



S1 BAR

PART PLAN
(Showing Skewed End, 15° Skew or Greater)

OHIO APPROACH

SHEET 32

PRESTRESSED CONCRETE I-BEAM, TYPE III DETAILS

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

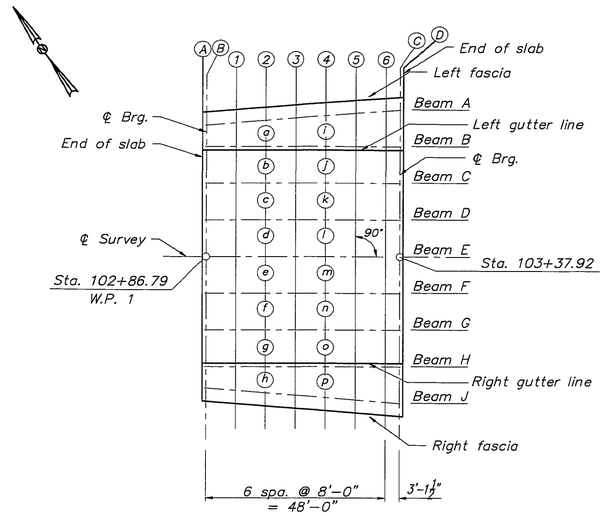
KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

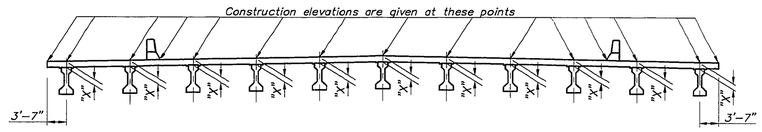
NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D BRF 00272 048

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740



LAYOUT



TYPICAL SECTION

CONSTRUCTION ELEVATIONS

LOCATION	LEFT FASCIA	LEFT GUTTER	BEAM A CONST. ELEV.	BEAM A TOP OF BEAM	BEAM A DIM "X"	BEAM B CONST. ELEV.	BEAM B TOP OF BEAM	BEAM B DIM "X"	BEAM C CONST. ELEV.	BEAM C TOP OF BEAM	BEAM C DIM "X"	BEAM D CONST. ELEV.	BEAM D TOP OF BEAM	BEAM D DIM "X"	BEAM E CONST. ELEV.	BEAM E TOP OF BEAM	BEAM E DIM "X"	BEAM F CONST. ELEV.	BEAM F TOP OF BEAM	BEAM F DIM "X"	BEAM G CONST. ELEV.	BEAM G TOP OF BEAM	BEAM G DIM "X"	BEAM H CONST. ELEV.	BEAM H TOP OF BEAM	BEAM H DIM "X"	BEAM J CONST. ELEV.	BEAM J TOP OF BEAM	BEAM J DIM "X"	RIGHT GUTTER	RIGHT FASCIA	LOCATION
Line A	510.682	510.785	510.729			510.785			510.980			511.195			511.410			511.195			510.980			510.785			510.729			510.785	510.692	Line A
Line B	510.735	510.829	510.773	509.973	0.800	510.829	510.051	0.778	511.023	510.223	0.800	511.239	510.470	0.769	511.454	510.707	0.747	511.239	510.474	0.765	511.023	510.243	0.780	510.829	510.032	0.777	510.773	509.982	0.791	510.829	510.735	Line B
Line C	513.656	513.794	513.738	512.934	0.804	513.794	513.010	0.784	513.989	513.241	0.748	514.204	513.437	0.767	514.419	513.669	0.750	514.204	513.427	0.777	513.989	512.213	0.776	513.794	513.055	0.739	513.738	512.923	0.815	513.794	513.656	Line C
Line D	513.699	513.838	513.782			513.838			514.032			514.248			514.463			514.248			514.032			513.838			513.782			513.838	513.699	Line D
Grid Line 1	511.222	511.323	511.298	510.511	0.787	511.323	510.598	0.725	511.517	510.797	0.720	511.733	510.992	0.741	511.948	511.143	0.805	511.733	510.982	0.751	511.517	510.789	0.728	511.323	510.611	0.712	511.298	510.503	0.795	511.323	511.222	Grid Line 1
Grid Line 2	511.697	511.805	511.766	510.986	0.780	511.805	511.091	0.708	511.999	511.309	0.690	512.215	511.504	0.711	512.430	511.718	0.712	512.215	511.501	0.714	511.999	511.287	0.712	511.805	511.081	0.724	511.768	510.997	0.769	511.805	511.697	Grid Line 2
Grid Line 3	512.162	512.277	512.224	511.470	0.754	512.277	511.559	0.718	512.471	511.776	0.695	512.687	511.955	0.732	512.902	512.167	0.735	512.687	511.960	0.727	512.471	511.747	0.730	512.277	511.556	0.721	512.224	511.476	0.748	512.277	512.162	Grid Line 3
Grid Line 4	512.616	512.738	512.671	511.919	0.752	512.738	512.026	0.712	512.932	512.232	0.700	513.148			513.363			513.148			512.932	512.169	0.763	512.738			512.671	511.896	0.775	512.738	512.616	Grid Line 4
Grid Line 5	513.058	513.187	513.106	512.361	0.745	513.187	512.455	0.732	513.381	512.711	0.670	513.597	512.873	0.724	513.812	513.077	0.735	513.597	512.876	0.721	513.381	512.596	0.785	513.187	512.465	0.722	513.106	512.353	0.773	513.187	513.058	Grid Line 5
Grid Line 6	513.490	513.626	513.531	512.803	0.728	513.626	512.876	0.750	513.820	513.094	0.726	514.036	513.295	0.741	514.251	513.514	0.737	514.036	513.316	0.720	513.820	513.053	0.767	513.626	512.858	0.768	513.531	512.738	0.743	513.626	513.490	Grid Line 6

TABLE OF ELEVATIONS FOR CONTROL OF SLAB THICKNESS

CHECK POINT	TOP OF SLAB ELEVATION	BOTTOM OF SLAB ELEVATION	COMPUTED SLAB THICKNESS
a	511.786		
b	511.902		
c	512.107		
d	512.323		
e	512.323		
f	512.107		
g	511.902		
h	511.786		
i	512.705		
j	512.835		
k	513.040		
l	513.256		
m	513.256		
n	513.040		
o	512.835		
p	512.705		

⚠

NOTES:

1. Take elevations on top of beam at points indicated after diaphragms are in place, after all false work has been removed and after forms for concrete slabs have been put in place. Read elevations to three decimals using a target and enter readings in table under top of beam elevations.
2. Compute dimension "X" as follows: Construction elevation minus top of beam elevation equals dimension "X". Construction elevation includes camber due to weight of concrete slab, barrier, and future surfacing.
3. For setting templates, measure dimension "X" above top of beam for top of template. Do not set template by elevations.
4. Construct barrier to gutter line grade. Do not add camber to barrier.
5. ~~Slab Thickness Control: After the slab forms are erected and before the slab~~ reinforcement is placed, the Resident Engineer shall take field elevations at the slab thickness check points and enter them in the table in the space provided. The slab thickness shall then be computed. If the computed slab thickness varies more than ½ inch from the plan thickness, allowing 1/360 of the slab span for deflection of the formwork, the form shall be adjusted until the computed slab thickness is within the tolerance allowed.

NOT DONE DUE TO SIP METAL FORM

UPDATE DATE:
LETTING DATE:

PLANS PREPARED AND SUBMITTED BY: BALKE ENGINEERS
DATE 11/95 DATE DATE

DESIGNED BY MRS CHECKED BY DWT DATE 4/96
DETAILED BY ALH CHECKED BY MRS DATE 8/96
TRACED BY CHECKED BY DATE

REVISED BY ⚠ AS BUILT H+E
REVISED BY
REVISED BY

DISK 4 9003SC4.DWG

CONSTRUCTION ELEVATIONS

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

OHIO APPROACH SHEET 33

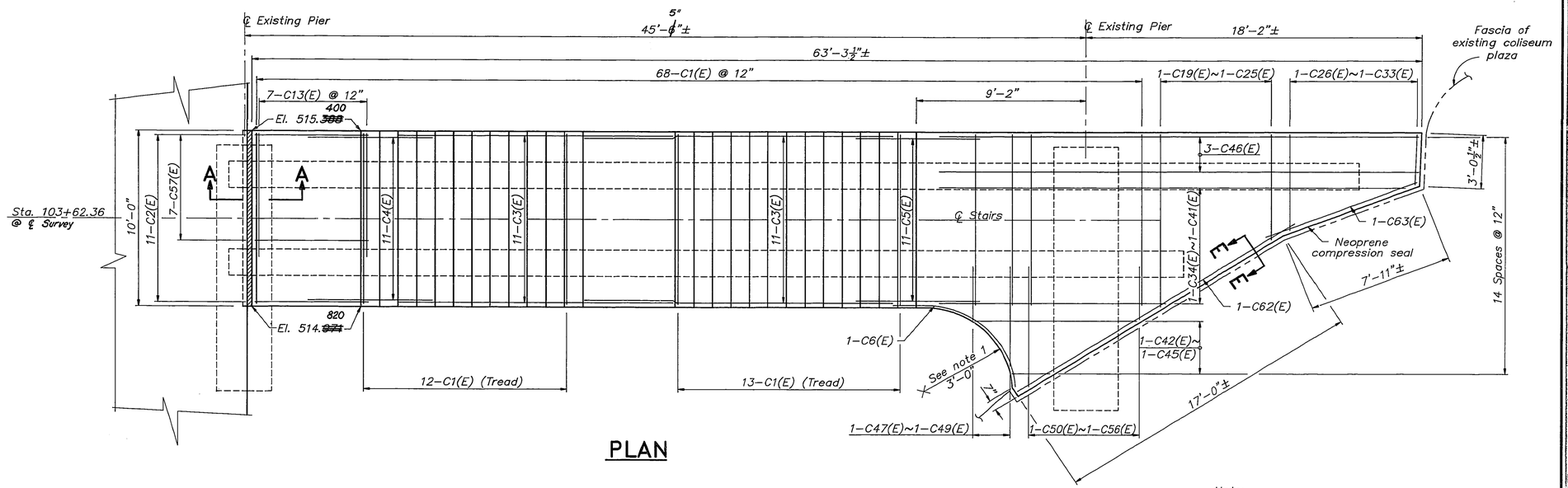
KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
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STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D BRF 00272 045

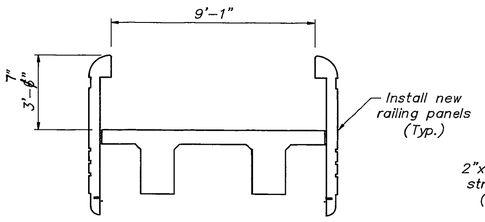
CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740



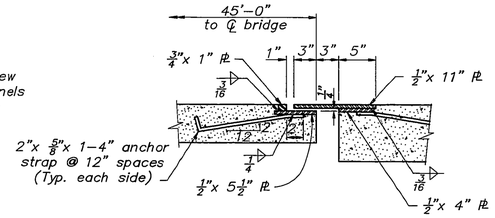
PLAN

Note:

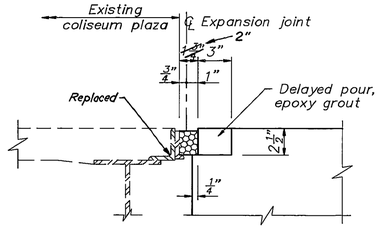
1. *Radius to match existing. Contractor to field measure before demolition.*
2. *Compression seal shall be WABO WJ300, D.S. Brown ~~CV3000~~ or approved equal.* CV2250



RAILING DETAIL



SECTION A–A



SECTION E–E

OHIO STAIRS

OHIO APPROACH SHEET 34

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

UPDATE DATE:
LETTING DATE:

PLANS PREPARED AND SUBMITTED BY:
BALKE ENGINEERS

DESIGNED BY	MRS	CHECKED BY	DWI
DETAILED BY	JOG	CHECKED BY	MRS
TRACED BY		CHECKED BY	

REVISED BY DATE 4/91
REVISED BY DATE 6/91
REVISED BY DATE

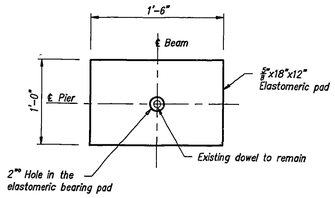
DISK 3 STAIR2.DWG

UPDATE DATE:
LETTING DATE:

PLANS PREPARED AND SUBMITTED BY:
BALKE ENGINEERS
DATE
DATE
DATE

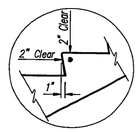
DESIGNED BY MRS
DETAILED BY MRS
CHECKED BY DM
CHECKED BY MRS
CHECKED BY
TRACED BY

REVISED BY DATE 4/91
REVISED BY DATE 8/91
REVISED BY DATE



Note:
Elastomeric pads shall have a hardness of 50 or 60 durameters.
Bearing pads shall be incidental to cost of class A concrete.

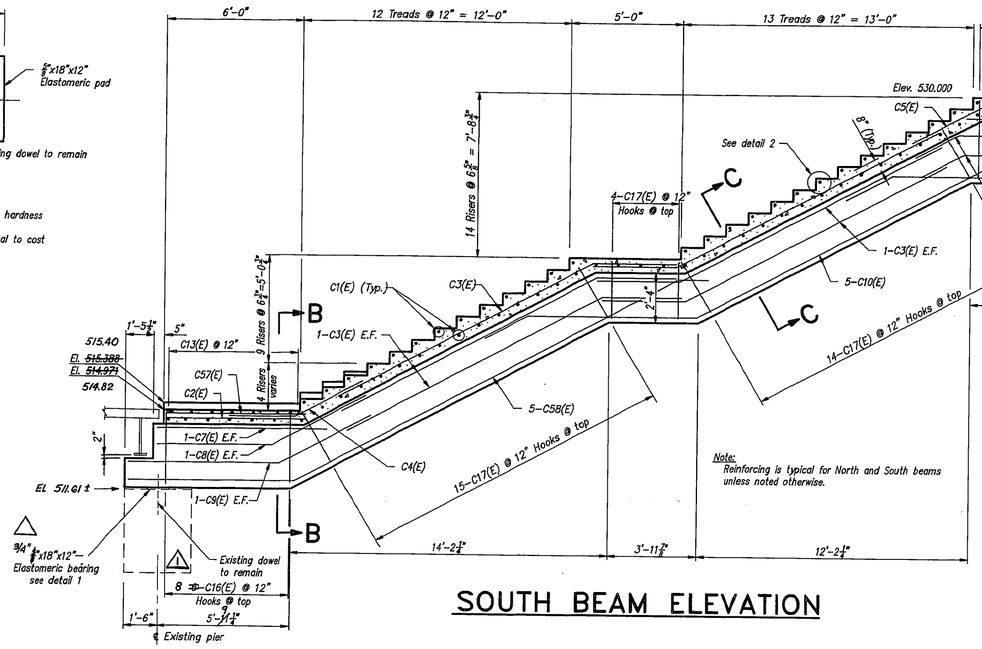
DETAIL 1



DETAIL 2

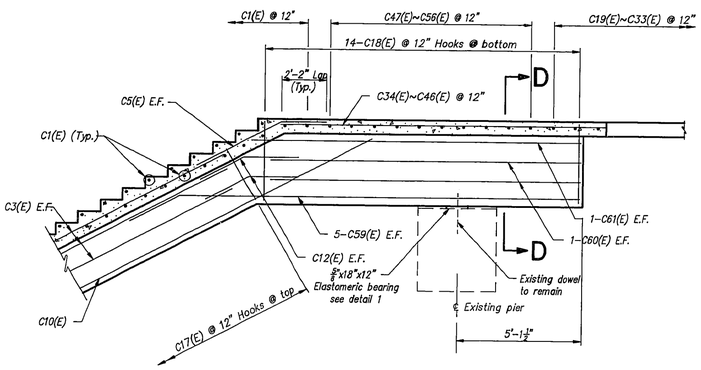


DETAIL 3

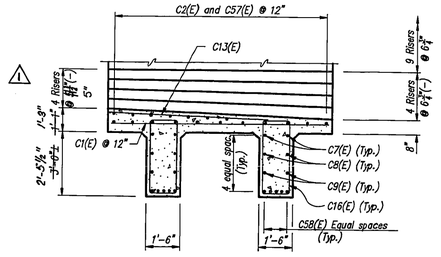


Note:
Reinforcing is typical for North and South beams unless noted otherwise.

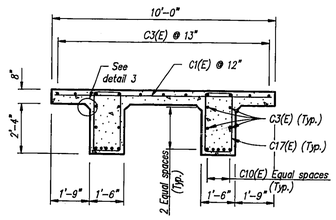
SOUTH BEAM ELEVATION



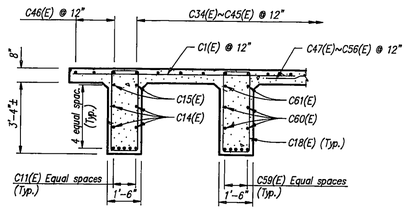
PARTIAL NORTH BEAM ELEVATION



SECTION B–B



SECTION C–C



SECTION D–D

OHIO STAIRS

NOTE:
Round exposed edges of stair treads $\frac{1}{4}$" R.

OHIO APPROACH SHEET 35

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

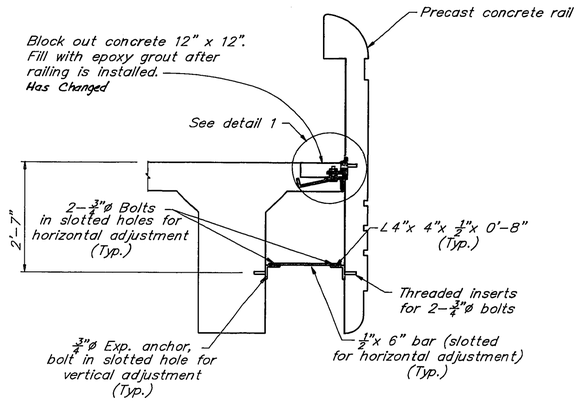
NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

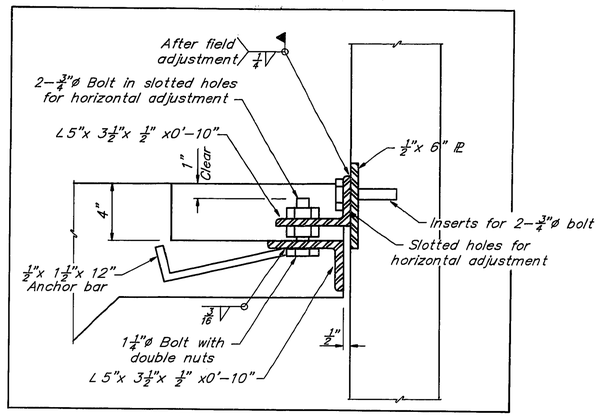
BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022–023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

DISK 3 STAIR1.DWG

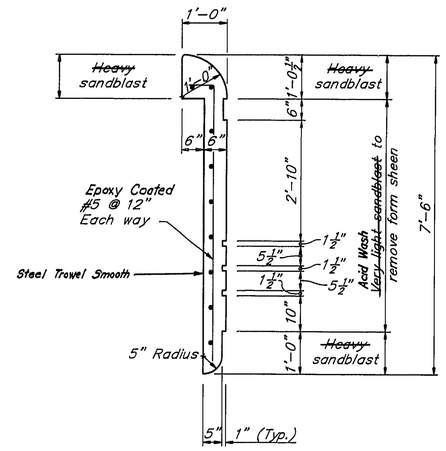


TYPICAL SECTION



DETAIL 1

See City of Cincinnati changes on Shop Drawings of

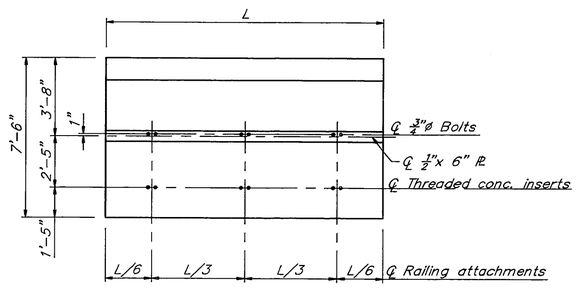


PRECAST CONCRETE RAIL SECTION

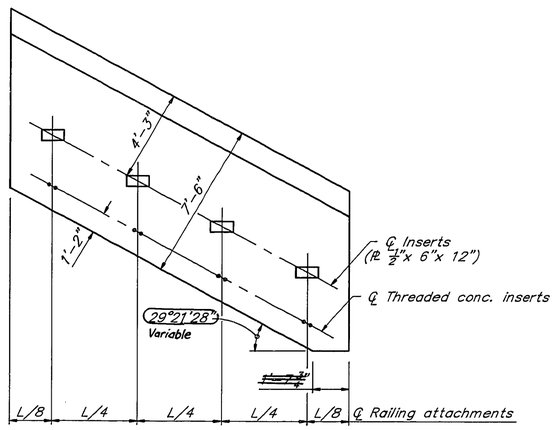
Notes:
Reinforcing in precast panels shall be epoxy coated and included with cost of precast panel.

Contractor shall contact the City of Cincinnati, Division of Structures, for information regarding aggregate and cement color. Sample panel, 2'-0" x 2'-0", shall be provided to the City of Cincinnati for approval.

Two coats of 100% Silane to be applied to panels.



RAIL PANEL



RAIL PANEL

OHIO STAIRS

DESIGNED BY MPS CHECKED BY DJW DATE 7/91
DETAILED BY AJH CHECKED BY DJW DATE 8/91
TRACED BY ____ CHECKED BY ____ DATE ____
REVISED BY ⚠ As Built H.E.
REVISED BY ____
REVISED BY ____
UPDATE DATE:
LETTING DATE:
PLANS PREPARED AND SUBMITTED BY: BALKE ENGINEERS
DATE 11/95
DATE
DATE

OHIO APPROACH SHEET 36

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

OHIORAIL DISK 8

UPDATE DATE:
LETTING DATE:

PLANS PREPARED AND SUBMITTED BY:
BALKE ENGINEERS
DATE 11/95
DATE
DATE

DESIGNED BY MRS CHECKED BY DW DATE 6/91 REVISED BY
DETAILED BY JDC CHECKED BY MRS DATE 8/91 REVISED BY
TRACED BY CHECKED BY DATE REVISED BY

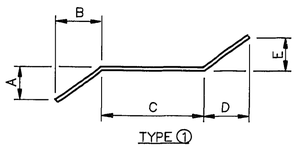
BILL OF REINFORCEMENT

MARK	TYPE	NO.	SIZE	LENGTH FT.	LENGTH IN.	LOCATION	A FT.	A IN.	B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.
C1(E)	Str.	93	5	9	8	Slab										
C2(E)	Str.	11	5	6	0	Slab										
C3(E)	②	38	5	17	0	Slab and Beam	13	0	3	6	2	0	4	0		
C4(E)	②	11	5	7	3	Slab	3	1	3	8	2	0	4	0		
C5(E)	②	11	5	7	4	Slab	2	2	4	6	2	6	5	0		
C6(E)	④	1	5	9	0	Slab	2	0	5	0						
C7(E)	Str.	4	5	7	7	Beam										
C8(E)	②	4	5	10	11	Beam	5	2	5	0	2	10	5	9		
C9(E)	②	4	5	12	0	Beam	6	4	5	0	2	10	5	9		
C10(E)	①	10	10	29	4	Beam	1	0	1	9	7	6	17	4	9	7
C11(E)	②	5	10	29	3	Beam	27	3	1	9	1	0				
C12(E)	②	8	5	6	3	Beam	3	1	2	9	1	6				
C13(E)	Str.	7	5	7	0	Slab										
C14(E)	Str.	4	5	23	3	Beam										
C15(E)	Str.	2	5	24	2	Beam										
C16(E)	③	~~120~~ 128	5	9	~~2 8~~ 2 8	Beam	~~27~~ 28	~~9 4~~ 9 4	1	2						
C17(E)	③	66	5	8	5	Beam	2	8	1	2						
C18(E)	③	39	5	10	5	Beam	3	8	1	2						
C19(E)	Str.	1	5	9	9	Slab										
C20(E)	Str.	1	5	9	2	Slab										
C21(E)	Str.	1	5	8	6	Slab										
C22(E)	Str.	1	5	7	10	Slab										
C23(E)	Str.	1	5	7	3	Slab										
C24(E)	Str.	1	5	6	7	Slab										
C25(E)	Str.	1	5	5	11	Slab										
C26(E)	Str.	1	5	5	5	Slab										
C27(E)	Str.	1	5	5	0	Slab										
C28(E)	Str.	1	5	4	8	Slab										
C29(E)	Str.	1	5	4	3	Slab										
C30(E)	Str.	1	5	3	10	Slab										
C31(E)	Str.	1	5	3	6	Slab										
C32(E)	Str.	1	5	3	0	Slab										
C33(E)	Str.	1	5	2	8	Slab										
C34(E)	Str.	1	5	13	0	Slab										
C35(E)	Str.	1	5	13	9	Slab										
C36(E)	Str.	1	5	15	4	Slab										
C37(E)	Str.	1	5	17	0	Slab										
C38(E)	Str.	1	5	18	6	Slab										
C39(E)	Str.	1	5	20	6	Slab										
C40(E)	Str.	1	5	23	3	Slab										
C41(E)	Str.	1	5	25	9	Slab										
C42(E)	Str.	1	5	2	0	Slab										
C43(E)	Str.	1	5	4	0	Slab										
C44(E)	Str.	1	5	6	2	Slab										
C45(E)	Str.	1	5	8	9	Slab										
C46(E)	Str.	3	5	26	6	Slab										
C47(E)	Str.	1	5	3	0	Slab										
C48(E)	Str.	1	5	4	4	Slab										
C49(E)	Str.	1	5	5	8	Slab										
C50(E)	Str.	1	5	6	10	Slab										
C51(E)	Str.	1	5	6	2	Slab										
C52(E)	Str.	1	5	5	6	Slab										
C53(E)	Str.	1	5	4	11	Slab										
C54(E)	Str.	1	5	4	3	Slab										
C55(E)	Str.	1	5	3	8	Slab										
C56(E)	Str.	1	5	3	0	Slab										
C57(E)	Str.	7	5	5	10	Slab										
C58(E)	①	10	10	28	7	Beam	1	0	1	9	19	9	5	11	3	4
C59(E)	②	5	10	19	10	Beam	17	10	1	9	1	0				
C60(E)	Str.	4	5	13	10	Beam										
C61(E)	Str.	2	5	14	8	Beam										
C62(E)	Str.	1	5	19	0	Slab										
C63(E)	Str.	1	5	9	0	Slab										

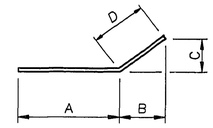
ESTIMATE OF QUANTITIES

ITEM	QUANTITY	UNIT
CONCRETE CLASS "A"	30.4 ~~39.2~~	CU. YDS.
STEEL REINFORCEMENT 7,037	~~7,466~~	LBS.

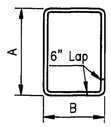
(E) Denotes epoxy coated reinforcing steel.



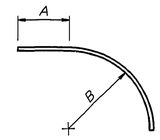
TYPE ①



TYPE ②



TYPE ③



TYPE ④

OHIO STAIRS

HAZELET + ERDAL, INC.
In association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

OHIO APPROACH SHEET 37

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

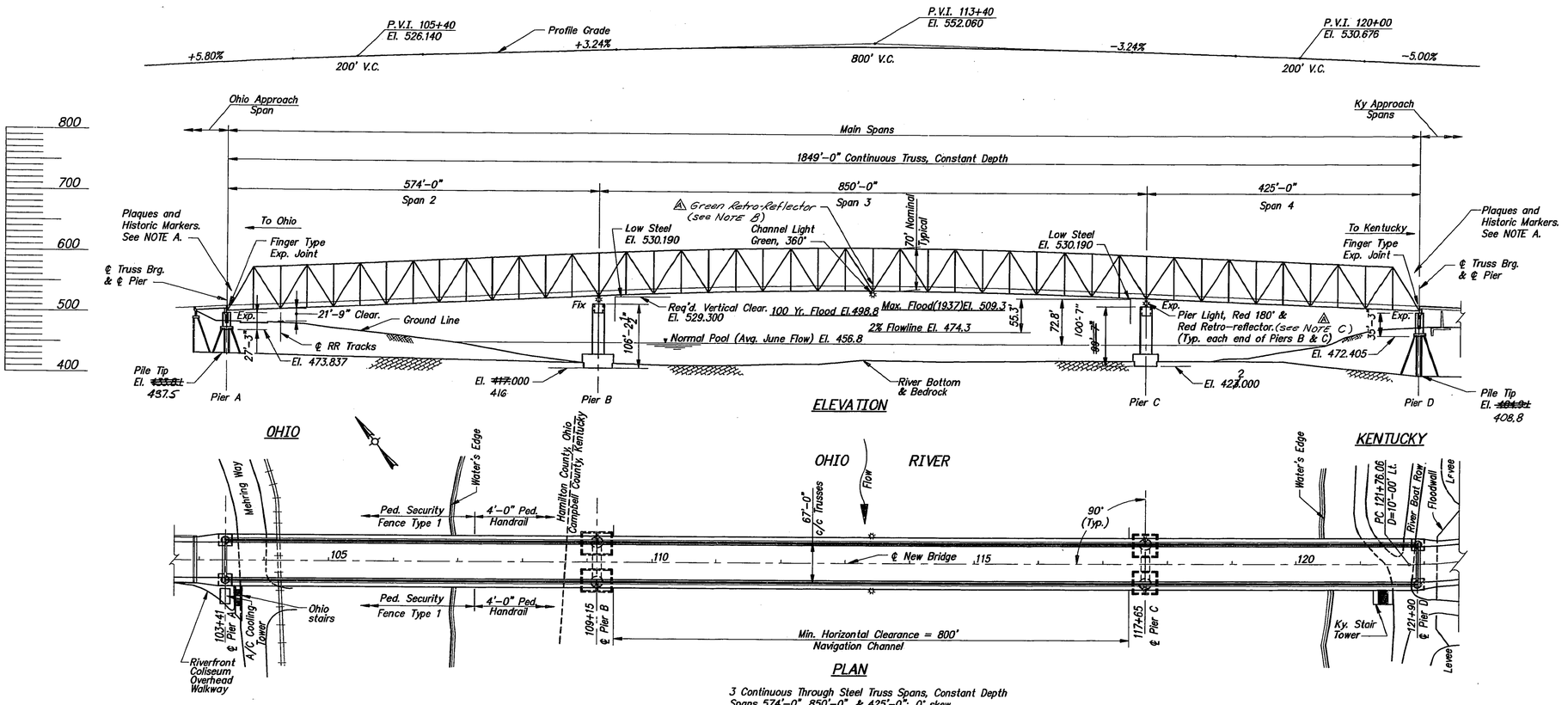
CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

DISK 3 STAIRBAR.DWG

UPDATE DATE
LETTING DATE

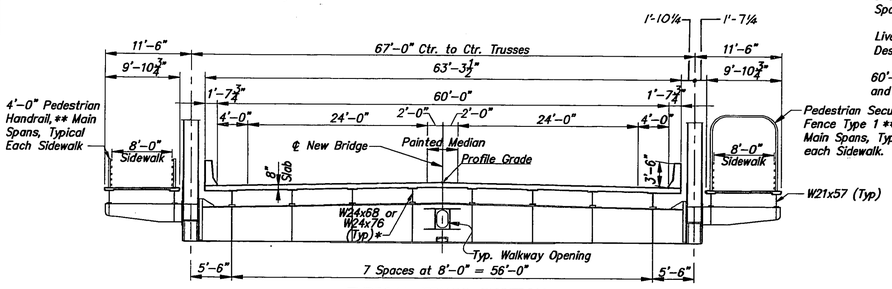
PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

REVISED	DESIGNED BY	DETAILED BY	CHECKED BY	TRACED BY
Added Girder Retro-Reflectors and Notes A & C H+E DATE 12/19/91	PVP DATE 2-91	DRH DATE	DATE	DATE



ELEVATION

PLAN



TYPICAL TRUSS SECTION

* See Deck Framing Plan for location.

** See Plan view for location.

3 Continuous Through Steel Truss Spans, Constant Depth
Spans 574'-0", 850'-0", & 425'-0"; 0° skew.

Live Load : HS25 and alternate military loading.
Design Wind Velocity : 84 MPH

60'-0" roadway with concrete barriers at the deck edges and two, 8'-0" sidewalks on the outside of the trusses.

NOTES:
Vertical truss members are to be truly vertical.
Elevations on these plans are based on N.G.S. Datum (1929 General Adjustment).

NOTE A: Historic Markers from existing bridge mounted on portal members, see Sheet 70. Historic plaque and commemorative plaque mounted on truss, see Sheet 155.

△ NOTE B: ~~For Green Retro-Reflector details see Sheet 166 and General Notes (Clearance Gauges).~~

△ NOTE C: For Red Retro-Reflector details see Sheet 96 and General Notes (Clearance Gauges).

LAYOUT – MAIN SPANS

HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

MAIN SPANS SHEET 38

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022–023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

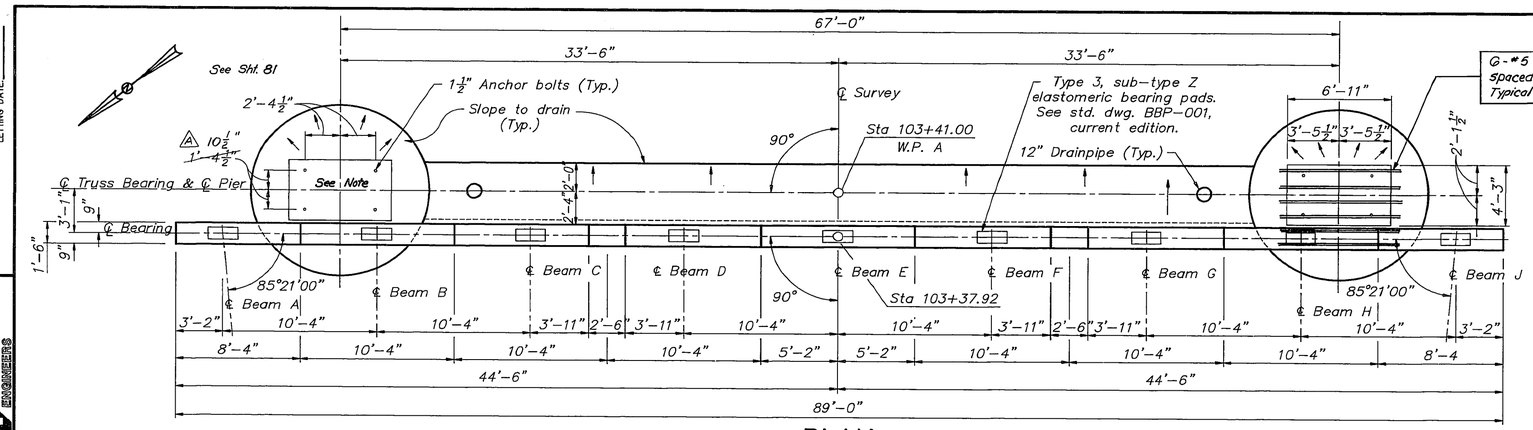
08/21/1995 DRH D:\DWGFILES\VISER\MVREVLAYD

UPDATE DATE:
LETTING DATE:

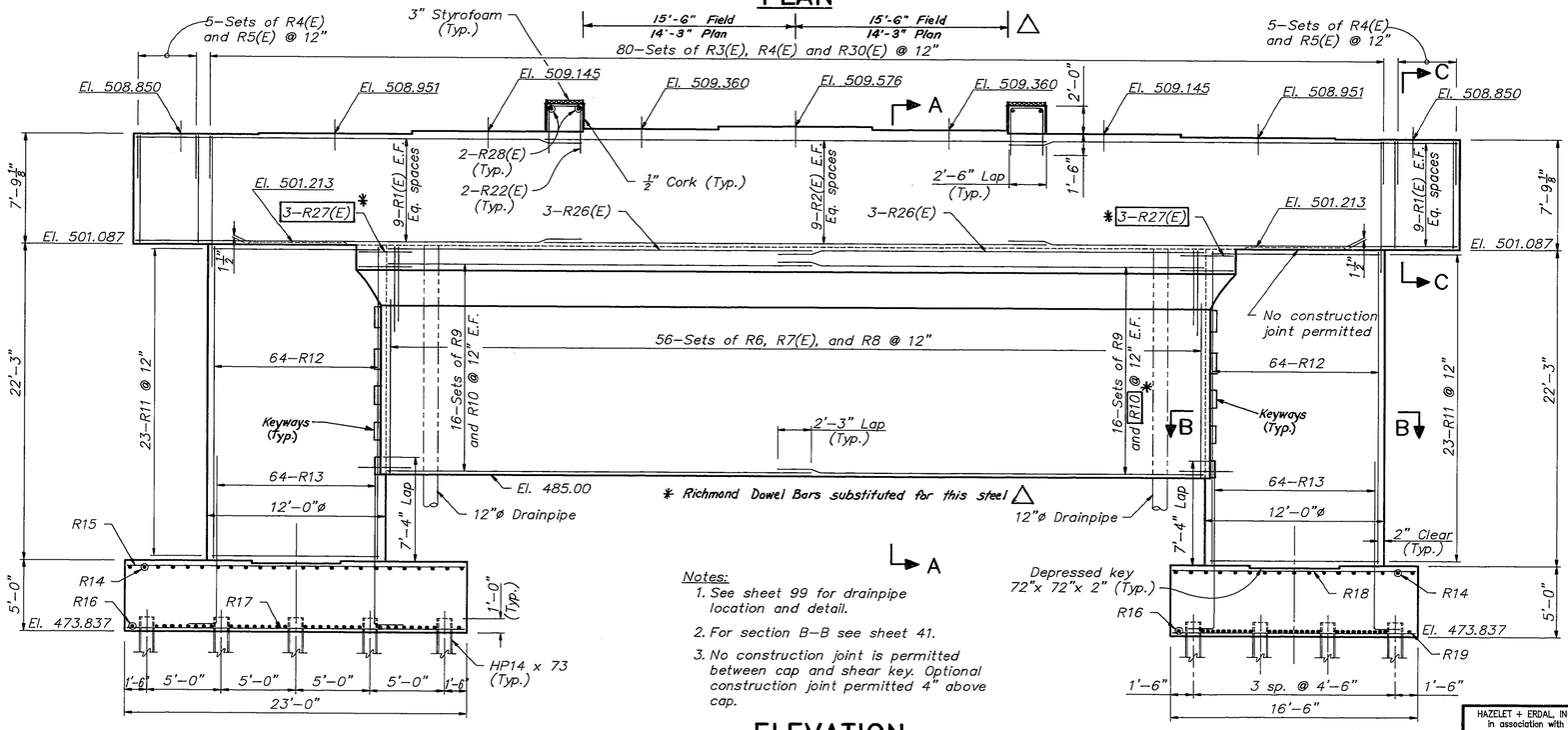
PLANS PREPARED AND SUBMITTED BY: BALKE ENGINEERS

DESIGNED BY	MRS	CHECKED BY	DW	DATE 5/91	REVISED BY
DETAILED BY	JDG/ALH	CHECKED BY	MRS	DATE 8/91	REVISED BY
TRACED BY		CHECKED BY		DATE	REVISED BY

H.E. DATE 3/1/94 — Revised Anchor Bolt Spacing
DATE 11/92 — As Built H.E.



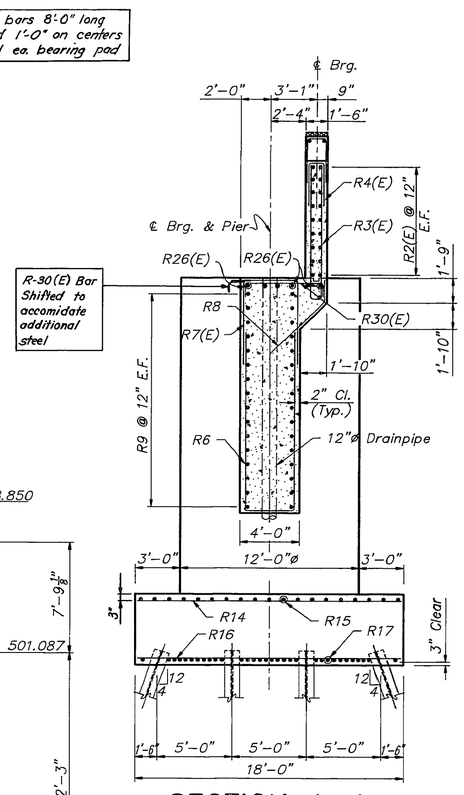
PLAN



* Richmond Dowel Bars substituted for this steel △

Notes:
1. See sheet 99 for drainpipe location and detail.
2. For section B-B see sheet 41.
3. No construction joint is permitted between cap and shear key. Optional construction joint permitted 4" above cap.

ELEVATION



SECTION A-A

PIER A

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

MAIN SPANS SHEET 39

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

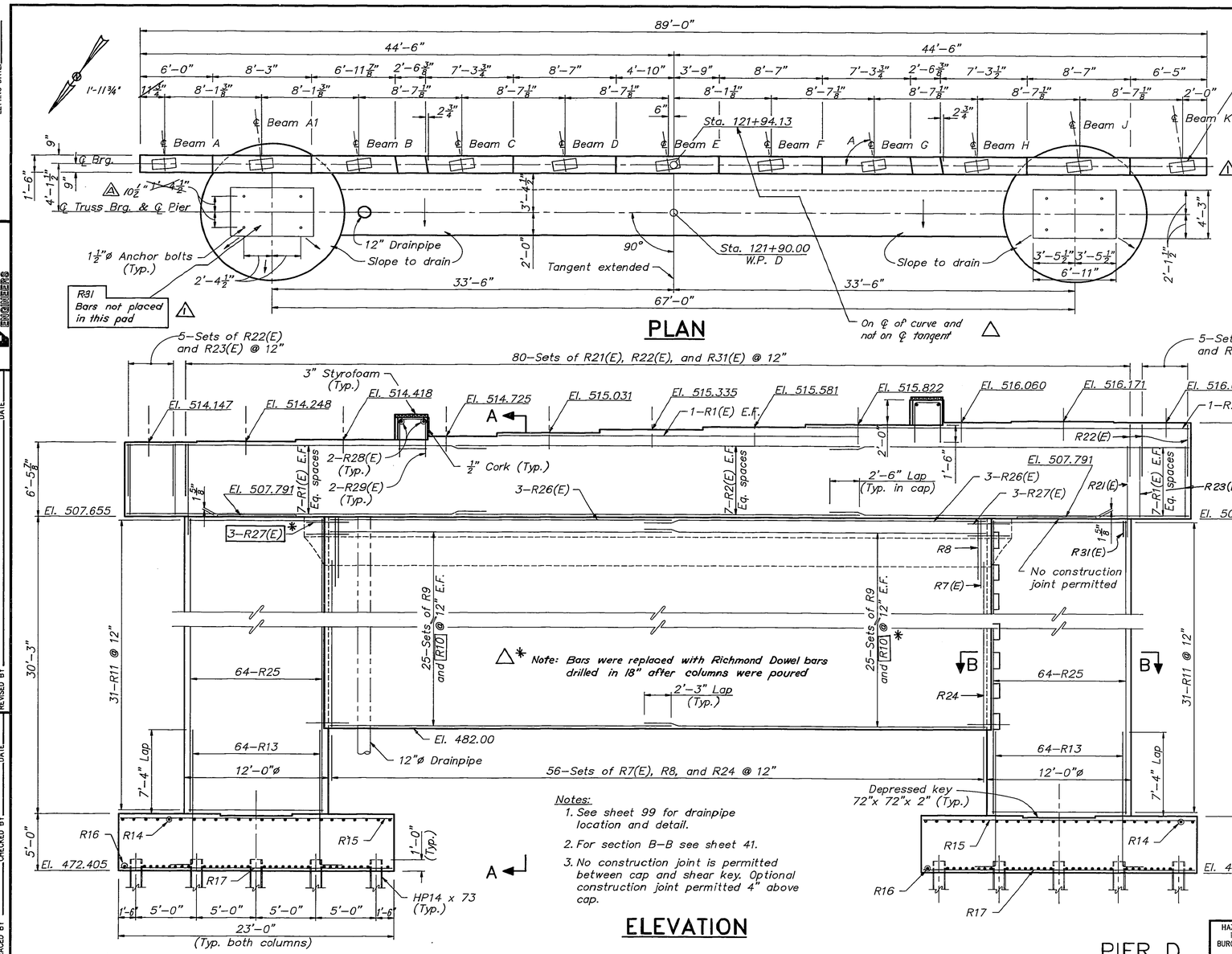
DISK 5 9003PR6.DWG

UPDATE DATE:
LETTING DATE:

PLANS PREPARED AND SUBMITTED BY: BALKE ENGINEERS

H+E	DATE 3/1992	REVISED BY	
H+E	DATE 11/93	REVISED BY	
	DATE	REVISED BY	
DWH	DATE 5/91	REVISED BY	Revised Anchor Bolt Spacing
MRS	DATE 8/91	REVISED BY	As Built
	DATE	REVISED BY	
MRS	CHECKED BY		
JDG/ALH	CHECKED BY		
	CHECKED BY		

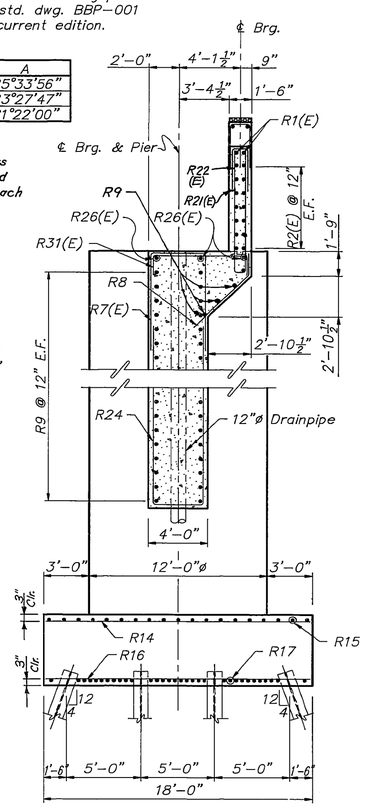
DESIGNED BY
DETAILED BY
TRACED BY



PLAN

ELEVATION

Notes:
1. See sheet 99 for drainpipe location and detail.
2. For section B-B see sheet 41.
3. No construction joint is permitted between cap and shear key. Optional construction joint permitted 4" above cap.



SECTION A-A

PIER D

MAIN SPANS SHEET 40

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

DISK 5 9003PR5.DWG

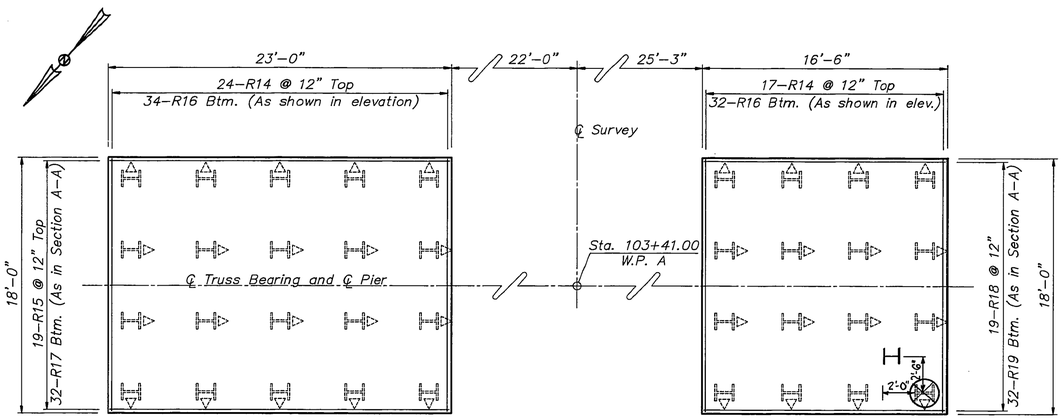
UPDATE DATE:
LETTING DATE:

PLANS PREPARED AND SUBMITTED BY: BALKE ENGINEERS

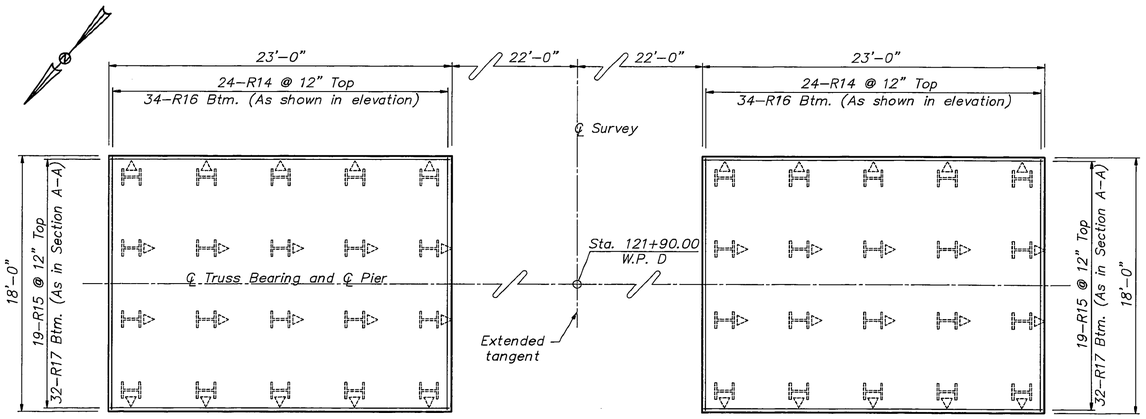
H.E. DATE 11/92 DATE DATE

DESIGNED BY	MRS	CHECKED BY	DM	DATE 5/91	REVISED BY	⚠ As Built
DETAILED BY	JDS	CHECKED BY	MRS	DATE 8/91	REVISED BY	
TRACED BY		CHECKED BY		DATE	REVISED BY	

Bars with suffix (E) shall be epoxy coated.



FOOTING PLAN PIER A



FOOTING PLAN PIER D

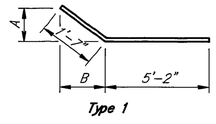
BILL OF REINFORCEMENT

MARK	TYPE	NUMBER Pier A	NUMBER Pier D	SIZE	LENGTH FT.	LENGTH IN.	LOCATION	A FT.	A IN.	B FT.	B IN.
R1(E)	Str.	36	30	6	30	0	Cap				
R2(E)	Str.	18	14	6	33	8	Cap				
R3(E)	③	80	0	6	19	5	Cap	9	2	1	2
R4(E)	③	90	0	6	7	1	Cap	3	0	1	2
R5(E)	③	10	0	6	15	1	Cap	7	0	1	2
R6	③	56	0	6	29	7	Web Wall	13	0	3	8
R7(E)	③	56	56	6	14	7	Web Wall	5	6	3	8
R8	①	56	56	6	6	9	Web Wall	1	1½	1	1½
R9	Str.	64	100	6	28	6	Web Wall				
R10	Str.	64	100	6	4	8	Web Wall				
R11	④	46	62	5	38	8	Column	11	8	2	0
R12	Str.	128	0	10	22	1	Column				
R13	②	128	128	10	13	10	Column	12	1	1	10
R14	Str.	41	48	5	17	8	Footing				
R15	Str.	19	38	5	22	8	Footing				
R16	Str.	66	68	9	17	8	Footing				
R17	Str.	32	64	9	22	8	Footing				
R18	Str.	19	0	5	16	2	Footing				
R19	Str.	32	0	9	16	2	Footing				
R20(E)	Str.	0	2	6	32	0	Cap				
R21(E)	③	0	80	6	16	11	Cap	7	11	1	2
R22(E)	③	0	90	6	10	1	Cap	4	6	1	2
R23(E)	③	0	10	6	13	5	Cap	6	2	1	2
R24	③	0	56	6	48	3	Web Wall	22	4	3	8
R25	Str.	0	128	10	30	1	Column				
R26(E)	Str.	6	6	6	28	6	Web Wall				
R27(E)	Str.	6	6	6	4	8	Web Wall				
R28(E)	③	4	4	5	8	1	Shearkey	3	6	1	2
R29(E)	③	4	4	5	9	1	Shearkey	3	6	2	2
R30(E)	③	80	0	7	8	4	Cap	1	6	5	6
R31(E)	③	0	~~80~~ 68	7	9	4	Cap	1	6	6	6

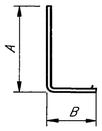
ESTIMATE OF QUANTITIES

46,580

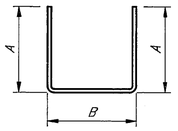
ITEM	⚠	QUANTITY Pier A	QUANTITY Pier D	UNIT
CONCRETE CLASS "A"	500.8	~~501.5~~	675.1 ~~675.9~~	CU. YDS.
STEEL REINFORCEMENT		37,598 ℄	~~47,095~~	LBS.
EPOXY COATED STEEL REINFORCEMENT		~~9,864~~ 9,883	~~9,532~~ 9,532	LBS.



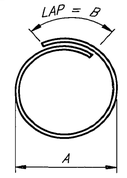
Type 1



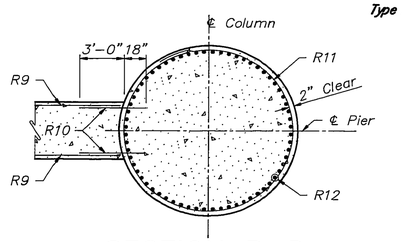
Type 2



Type 3



Type 4



SECTION B-B

PIER A & D

HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

MAIN SPANS SHEET 41

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D
BRF 00272 048

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

DISK 7 9003PR6A.DWG

UPDATE DATE
LETTING DATE

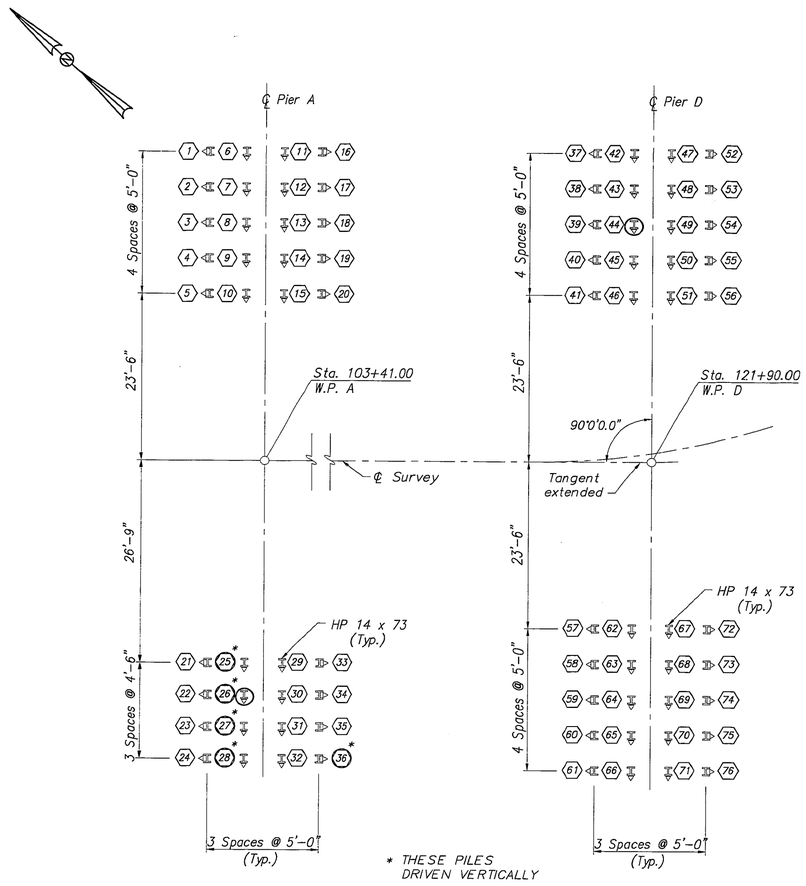
PLANS PREPARED AND SUBMITTED BY: BALKE ENGINEERS

DATE 11/95
DATE
DATE

⚠ AS BUILT H+E

REVISED BY	DATE
	8/97
	8/97

DESIGNED BY	MRS
DETAILED BY	ALH
TRACED BY	
CHECKED BY	DW
CHECKED BY	DW
CHECKED BY	



PLAN ⚠

▼ Denotes HP14x73 battered 4:12 in direction of arrow.

○ Denotes test pile:
Pier A – 44' length 45'
Pier D – 56' length 68'-6"

PILE RECORD

PILE NO.	PILE CUT–OFF ELEVATION	TIP OF PILE ELEVATION AS DRIVEN	LENGTH OF PILE IN PLACE (LINEAR FEET)	CALCULATED BEARING (TONS)	
1	474.837	437.89	39.18	144	
2	474.837	436.48	40.68	170	
3	474.837	437.81	39.27	182	
4	474.837	437.94	39.13	182	
5	474.837	438.16	38.90	185	
6	474.837	437.53	39.57	181	
7	474.837	437.30	39.81	159	
8	474.837	435.40	41.82	182	
9	474.837	437.27	39.84	169	
10	474.837	437.83	39.25	173	
11	474.837	437.87	39.20	179	
12	474.837	436.95	40.18	176	
13	474.837	437.06	40.06	172	
14	474.837	437.99	39.08	156	
15	474.837	438.29	38.76	192	
16	474.837	437.37	39.74	191	
17	474.837	437.34	39.77	179	
18	474.837	437.16	39.96	185	
19	474.837	437.01	40.12	165	
20	474.837	436.39	40.35	178	
21	474.837	436.68	40.47	163	
22	474.837	437.00	40.13	152	
23	474.837	437.20	39.91	151	
24	474.837	436.58	40.57	156	
25	474.837	433.78	41.06	137	
26	474.837	434.50	40.34	162	
27	474.837	435.80	39.04	172	
28	474.837	435.79	39.05	175	
29	474.837	437.22	39.89	175	
30	474.837	436.96	40.17	160	
31	474.837	437.60	39.49	152	
32	474.837	436.72	40.42	154	
33	474.837	437.31	39.80	169	
34	474.837	436.84	40.30	187	
35	474.837	437.41	39.69	168	
36	474.837	434.39	40.45	156	
37	473.405	408.01	69.35	194	
38	473.405	408.69	68.62	195	
39	473.405	409.47	67.80	195	
40	473.405	408.81	68.50	195	
41	473.405	409.76	67.50	193	
42	473.405	409.73	67.52	191	
43	473.405	408.81	68.50	197	
44	473.405	409.13	68.16	185	TEST PILE
45	473.405	408.75	68.56	198	
46	473.405	408.29	69.05	201	
47	473.405	409.14	68.15	182	
48	473.405	409.09	68.20	194	
49	473.405	408.27	69.07	211	
50	473.405	408.64	68.68	197	
51	473.405	408.51	68.82	197	
52	473.405	407.56	69.83	173	
53	473.405	408.25	69.09	192	
54	473.405	407.53	69.80	199	
55	473.405	407.25	70.15	210	
56	473.405	406.71	70.73	179	
57	473.405	410.55	66.65	167	
58	473.405	408.77	69.07	161	
59	473.405	407.11	70.03	193	
60	473.405	408.13	69.22	189	
61	473.405	409.94	67.30	197	
62	473.405	409.89	67.65	188	
63	473.405	409.77	67.48	209	
64	473.405	409.45	67.82	184	
65	473.405	409.41	67.33	190	
66	473.405	409.81	68.50	182	
67	473.405	410.08	67.15	191	
68	473.405	409.79	67.46	210	
69	473.405	409.46	67.81	211	

PILE RECORD

PILE NO.	PILE CUT–OFF ELEVATION	TIP OF PILE ELEVATION AS DRIVEN	LENGTH OF PILE IN PLACE (LINEAR FEET)	CALCULATED BEARING (TONS)
70	473.405	408.88	68.43	195
71	473.405	409.92	67.20	210
72	473.405	408.81	68.50	196
73	473.405	408.81	68.50	181
74	473.405	408.81	68.50	172
75	473.405	407.55	69.84	192
76	473.405	408.49	68.84	184

NOTE:
After all piles have been driven, the Project Engineer shall record for each pile, the Tip of Pile Elevation as driven, the Length of Pile in Place and the Calculated Bearing Capacity, and shall return one blue print copy of this data to the Director, Division of Bridges, so the data may be recorded on the original plans. Lengths of piles in place shown hereon are the actual lengths of piles in the finished structure below cut–off elevation. This Pile Record does not replace other Records of Piles required to be kept and submitted by the Project Engineer.

DISK 6 9003F4.DWG

PILE LAYOUT & RECORD

MAIN SPANS SHEET 42

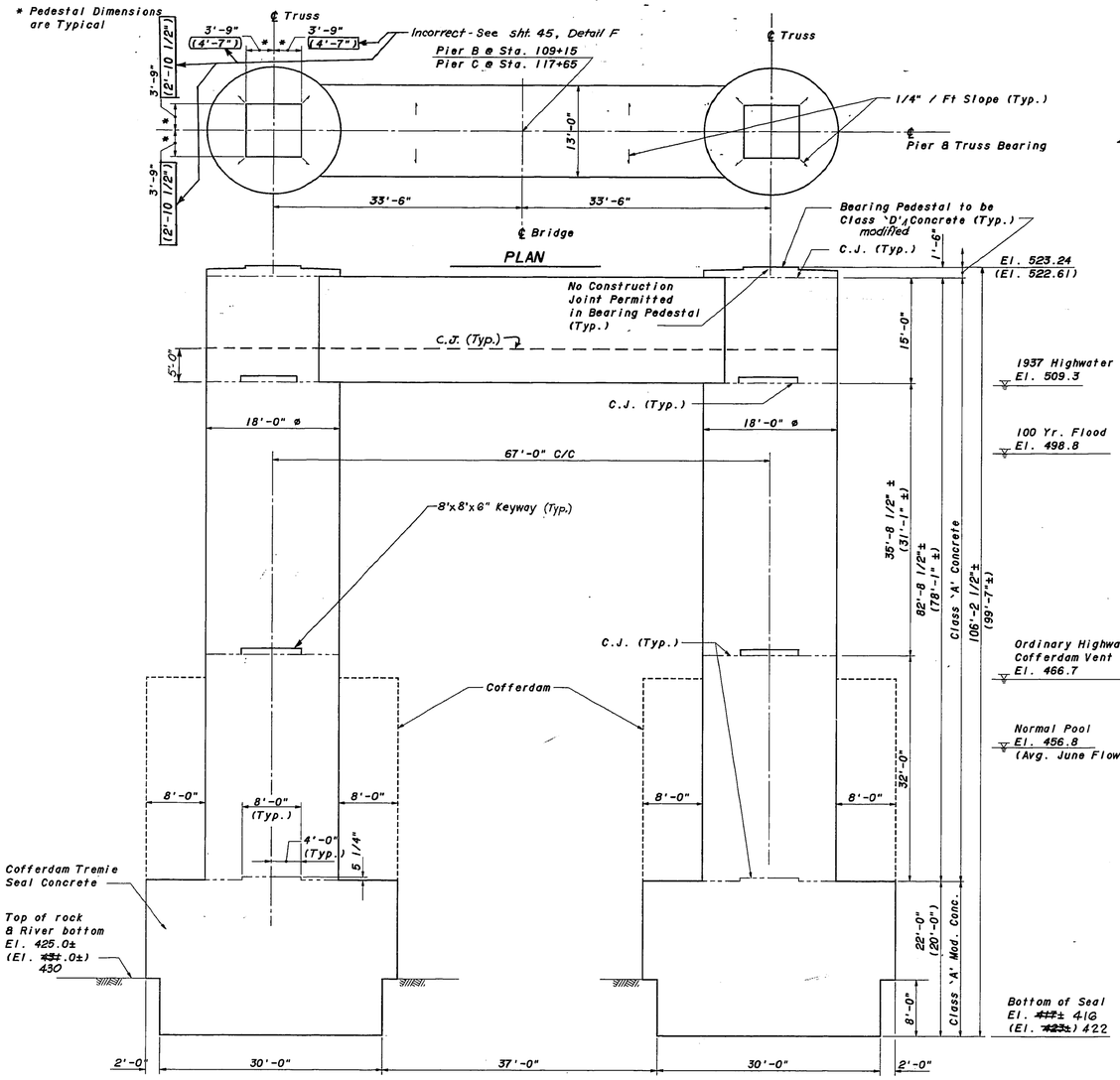
KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022–023 073 D

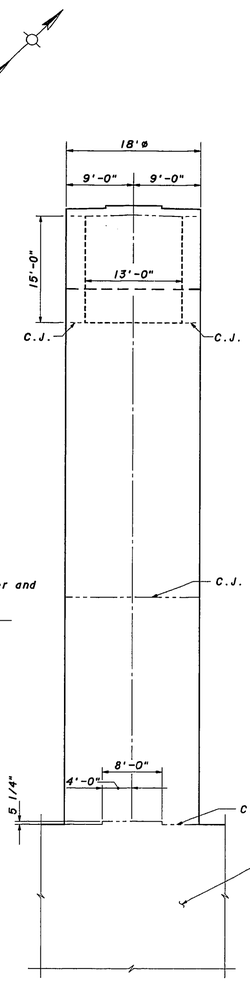
HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

CONSTRUCTION PROJECT NO.
MAINTENANCE PROJECT NO.
DRAWING NO. 22740

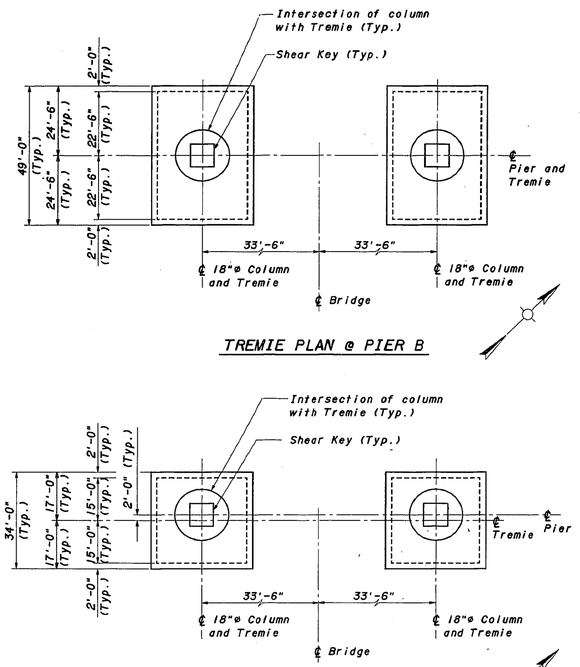


ELEVATION

Elevations & Dimensions for Pier C are in ( ) if different from Pier B.



END VIEW



TREMIE PLAN @ PIER B

TREMIE PLAN @ PIER C

Work this Sheet with Sheets 44, 45 & 46

PIERS B & C

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

MAIN SPANS SHEET 43

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

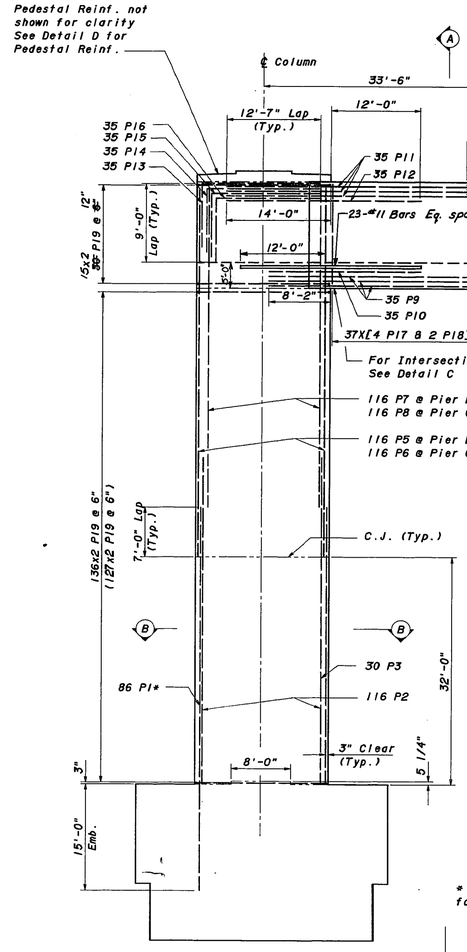
PLANS PREPARED & SUBMITTED BY
Burgess & Niple, Limited
Engineers and Architects

UPDATE DATE
LETTING DATE

	DATE		DATE		DATE
DESIGNED BY	CMK	CHECKED BY		DRK	8/91
DETAILED BY	KEK	CHECKED BY		CMK	7/9/91
TRACED BY		CHECKED BY			

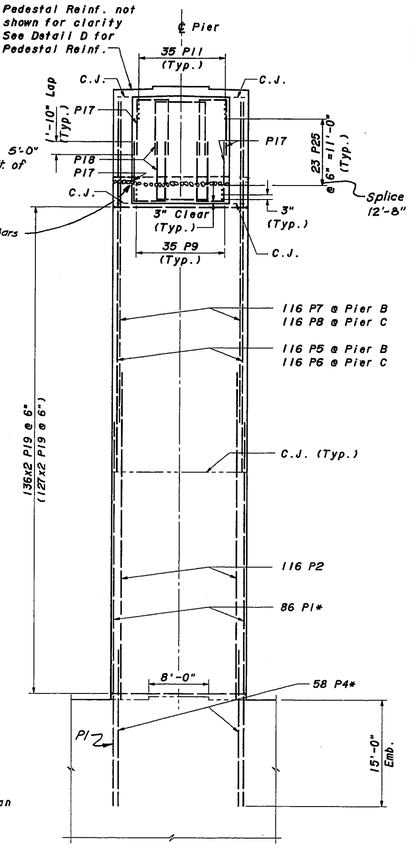
REVISED
REVISED
REVISED

08-30-91 FILE MAIN/PER PR(0850)PIERDET1;7PIERDET1.A,DATE1;FILE AUX/MIN PR(0850/FRAMES11),XMULTI/RECALL PR(0850/MULTI)XMR.PIERDET1



HALF ELEVATION

Quantities for Pier C are in ( ) if Different from Pier B



* See Typical Tremie Embedment Plan for locations of Embedded Bars.

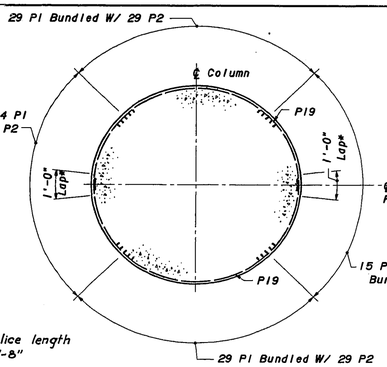
A

P1 & P4 Bars are to be cast in Tremie or grouted into pre-drilled holes of 1 1/2" diameter. Holes shall be drilled with rotary equipment only. The holes shall be kept dry in freezing weather. The cost of drilling holes, furnishing grout, and filling holes shall be incidental to "Concrete, Class A Modified for Foundation Seal."

3"ϕ for bundles
1¾" or 2"ϕ for singles

SECTION A - A

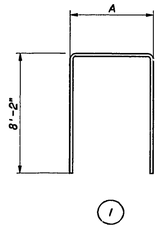
Quantities for Pier C are in ( ) if Different from Pier B

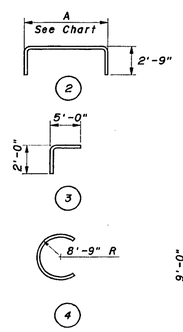


SECTION B - B

* Stagger P19 Splices 90°

BILL OF REINFORCEMENT							
Mark	Type	Size	No. of Bars		Length		Location
			Pier B	Pier C	Ft.	In.	
P1	Str.	11	172	172	54	0	Column
P2	Str.	11	232	232	46	0	
P3	Str.	11	60	60	39	0	
P4	Str.	11	116	116	22	0	
P5	Str.	11	232	—	50	5	
P6	Str.	11	—	232	45	10	
P7	Str.	11	232	—	43	5	
P8	Str.	11	—	232	38	10	
P9	Str.	11	210	210	37	2	Beam
P10	Str.	11	70	70	20	2	
P11	Str.	11	210	210	44	10	
P12	Str.	11	70	70	26	0	
P13	(5)	11	70	70	25	3	
P14	(5)	11	70	70	25	0	
P15	(5)	11	70	70	24	9	
P16	(5)	11	70	70	24	6	
P17	(1)	5	296	296	21	2	
P18	(1)	5	148	148	23	8	
P19	(4)	4	604	568	28	6	Column
P20	(2)	6	60 ~~30~~	—	12	4	Pedestal
P21	(2)	6	—	28 ~~13~~	15	4	
P22	(2)	6	—	42 ~~21~~	11	4	
P23	Str.	5	104	104	12	0	
P24	(3)	5	110	110	6	11	
P25	Str.	11	92	92	39	0	Beam





Mark	A	
	Ft.	In.
P13	16	4
P14	16	1
P15	15	10
P16	15	7
P17	5	0
P18	7	6
P19	N/A	
P20	7	0
P21	10	0
P22	6	0

Work this Sheet with Sheets 43, 45, 46, 81 & 82

MAIN SPANS SHEET 44

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

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CONSTRUCTION PROJECT NO | MAINTENANCE PROJECT NO | DRAWING NO 22740

PIERS B & C

HAZELET + ERDAL, INC.
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and
BALKE ENGINEERS

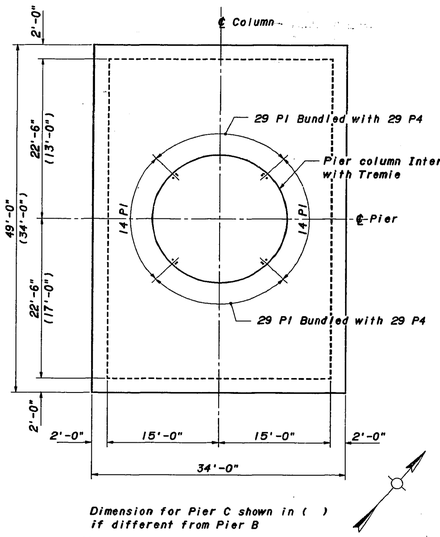
PLANS PREPARED & SUBMITTED BY
Burgess & Niple, Limited
Engineers and Architects

UPDATE DATE .....
LETTING DATE .....

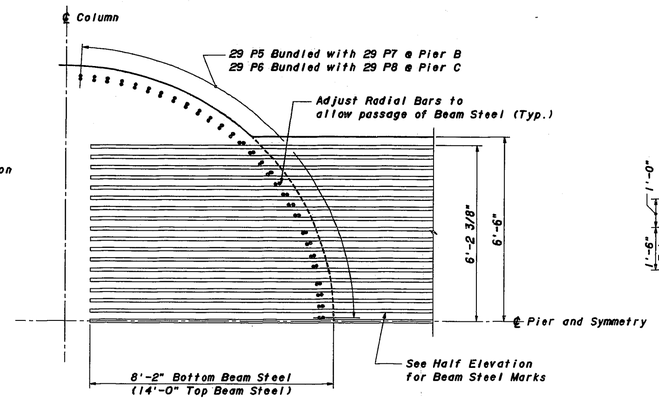
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DETAILED BY KEK CHECKED BY DMK DATE 7/9/91 REVISED —
TRACED BY — CHECKED BY — DATE — REVISED —

H+E DATE 11-93 DATE — DATE —

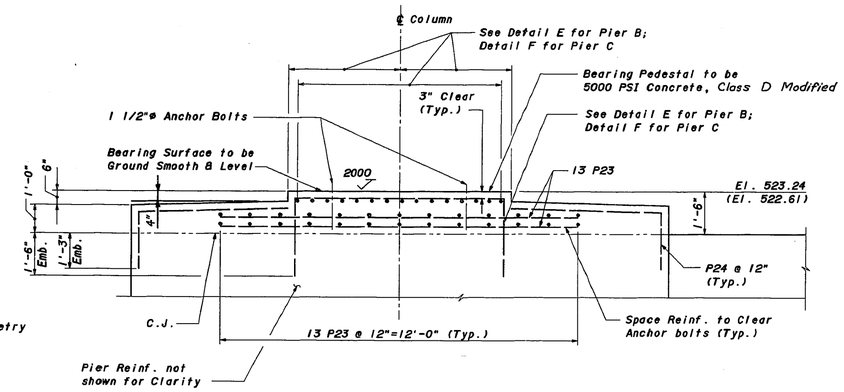
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TYPICAL TREMIE EMBEDMENT PLAN

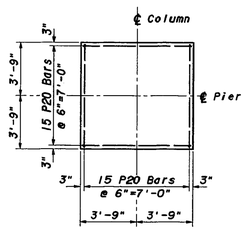


DETAIL C

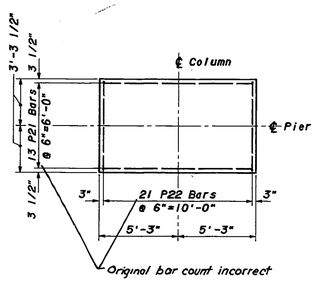


DETAIL D

Dimensions and Elevations for Pier C in ( ) if different from Pier B



DETAIL E



DETAIL F

Work this Sheet with Sheets 43, 44, 46, 81 & 82

PIERS B & C

MAIN SPANS SHEET 45

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073D

CONSTRUCTION PROJECT NO. | MAINTENANCE PROJECT NO. | DRAWING NO. 22740

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

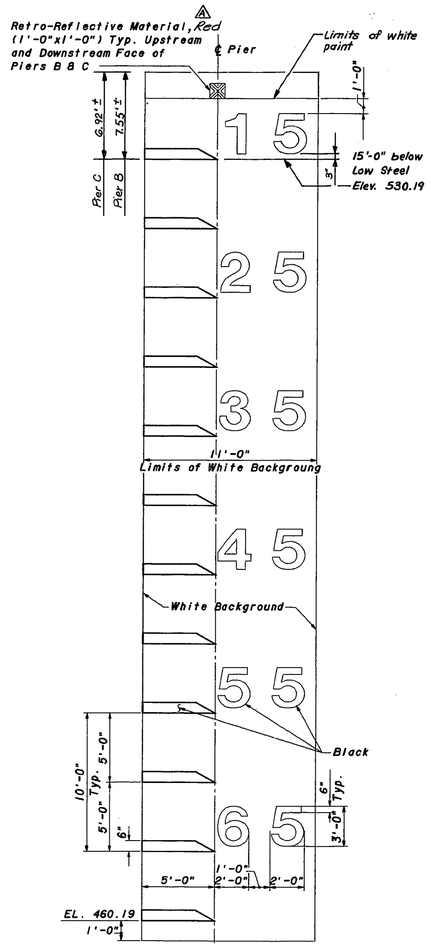
PLANS PREPARED & SUBMITTED BY Burgess & Niple, Limited Engineers and Architects

UPDATE DATE

LETTING DATE

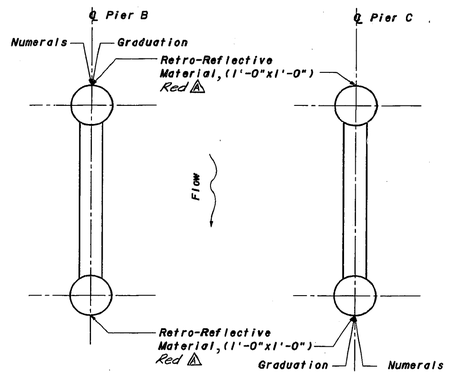
DESIGNED BY	CHK	DATE	8/21/91	REVISED –
DETAILED BY	KER	CHK DATE	7/9/91	REVISED –
TRACED BY	–	CHECKED BY DATE	XXX	REVISED –

09-03-91 FILE MAIN/PER PR10858>P1ERBR2>IP1ERBR2.IP1ERBR2.IP1ERBR2).FILE AUX/MIN PR10858>FRAMES11>FRAMES11).XMULTI/RECALL PR10858>MULTI2>MR.P1ERBR2

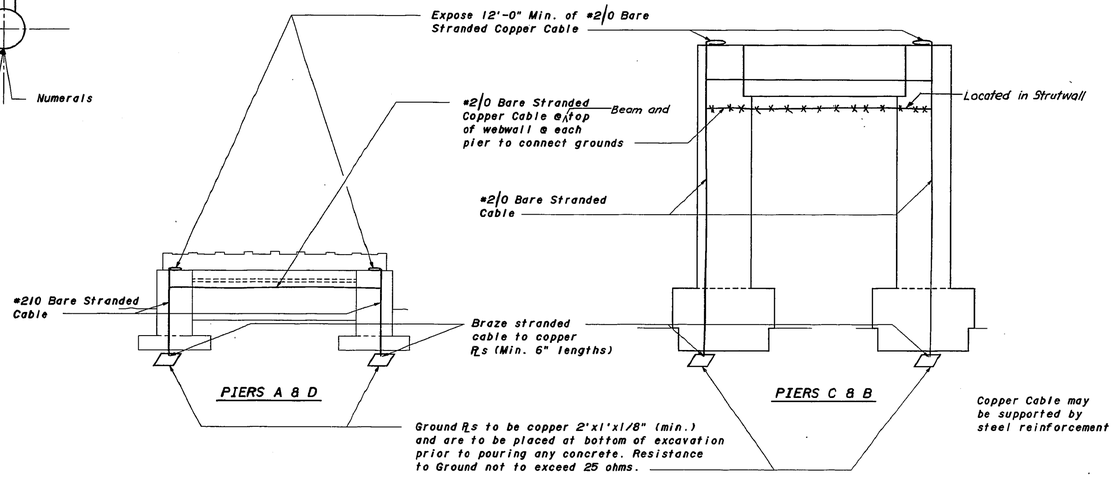


VERTICAL CLEARANCE GAUGE DETAILS

Note:
Numeral details shall conform to Series E numerals as shown in reference quide for "Standard Alphabets for Highway Signs", Department of Transportation, Federal Highway Administration.
The gauges shall be marked by Black Numerals and Footmarks on a White Background. See General Notes for paint specifications and Red Retro-Reflective material. ⚠



GAUGE LOCATION



PIER ELEVATION SHOWING METHOD OF GROUNDING STEEL

Note:
Run a continuous circuit from Ground and exposed copper cable on all piers. No direct payment shall be made for Grounding. (incidental to the construction of the Contract as a whole)

Work this Sheet with Sheets ~~35~~ 38, 43, 44 & 45

MAIN SPANS SHEET 46

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

MISC. DETAILS - PIERS

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

DESIGNED BY ESS CHECKED BY DRK DATE 8/91
DETAILED BY KEK CHECKED BY ESS DATE 7/91
TRACED BY - CHECKED BY - DATE -

REVISED ⚠ Revised Notes (added Red and Ret. Ref.) As Built
REVISED
REVISED

PLANS PREPARED & SUBMITTED BY Burgess & Niple, Limited Engineers and Architects
DATE 12/1/92
DATE 11-93
DATE

UPDATE DATE
LETTING DATE

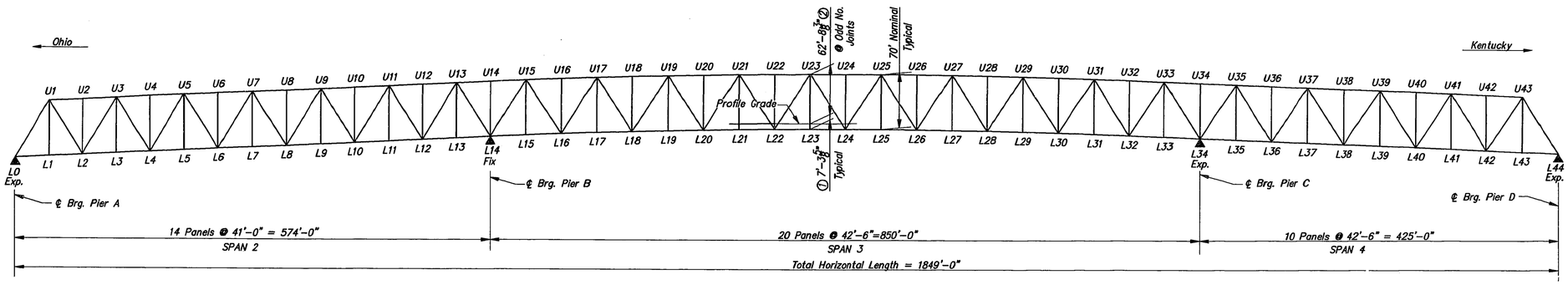
09-03-91 FILE MAIN/PER PR108583#SDETP1)(HSDETP1,TWDETP1,W.DATE)-FILE AUX#IN PR108583#FRAME1(1)-(XULT1/RECALL PR108583#ULT)(MFL

UPDATE DATE _____
LETTING DATE _____

PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

DESIGNED BY PVP	CHECKED BY TJS	DATE 2-91
DETAILED BY JEH	CHECKED BY TJS	DATE 9-91
TRACED BY	CHECKED BY	DATE
REVISED	REVISED	REVISED

09/21/1991 DGN: D:\EVGF\ILCES\1152\04\TRUSSGEOM



ELEVATION

① Vertical dimension from Profile Grade to workpoint at all lower chord joints. See Lower Chord Member Detail.

② Vertical dimension from Profile Grade to upper chord Workpoint at odd numbered joints. The centerline of upper chord is to be straight between odd numbered joints.

GEOMETRICAL DATA

PANEL POINT	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
PROFILE GRADE ELEV.	514.5980	516.9760	519.3540	521.6951	523.8396	525.7689	527.4830	528.9820	530.3196	531.6480	532.9764	534.3048	535.6332	536.9616	538.2900	539.6546	540.8982	541.9955	542.9465	543.7512	544.4096	544.9216	545.2874
℄ LOWER CHORD ELEV.	507.2959	509.6739	512.0519	514.3931	516.5375	518.4668	520.1809	521.6799	523.0175	524.3459	525.6743	527.0027	528.3311	529.6595	530.9879	532.3525	533.5961	534.6934	535.6444	536.4491	537.1075	537.6195	537.9853
TRUSS DEPTH	–	70.0000	69.9816	70.0000	69.8924	70.0000	69.8924	70.0000	69.9954	70.0000	70.0000	70.0000	70.0000	70.0000	69.9939	70.0000	69.9269	70.0000	69.9268	70.0000	69.9268	70.0000	69.9268

PANEL POINT	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	
PROFILE GRADE ELEV.	545.5068	545.5800	545.5068	545.2874	544.9216	544.4096	543.7512	542.9465	541.9955	540.8982	539.6546	538.2900	536.9130	535.5360	534.1590	532.7281	531.1407	529.3944	527.4891	525.4260	523.3010	521.1760	
℄ LOWER CHORD ELEV.	538.2048	538.2779	538.2048	537.9853	537.6195	537.1075	536.4491	535.6444	534.6934	533.5961	532.3525	530.9879	529.6109	528.2339	526.8569	525.4260	523.8386	522.0923	520.1871	518.1239	515.9989	513.8739	
TRUSS DEPTH	70.0000	69.9268	70.0000	69.9268	70.0000	69.9268	70.0000	69.9268	70.0000	69.9269	70.0000	69.9938	70.0000	70.0000	70.0000	69.9218	70.0000	69.9205	70.0000	69.9691	70.0000	–	

SPAN 2 (FT.)

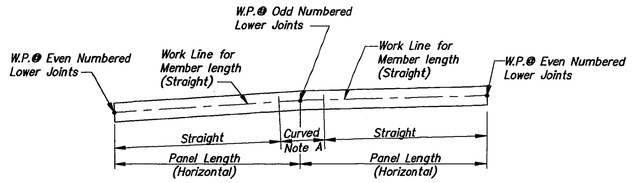
UPPER CHORD		LOWER CHORD		DIAGONALS	
MEMBER	LENGTH	MEMBER	LENGTH	MEMBER	LENGTH
		L0–L1	41.0689	L0–U1	83.1840
U1–U2	41.0678	L1–L2	41.0689	U1–L2	79.0806
U2–U3	41.0678	L2–L3	41.0668	L2–U3	83.1519
U3–U4	41.0506	L3–L4	41.0560	U3–L4	79.2804
U4–U5	41.0506	L4–L5	41.0454	L4–U5	82.7939
U5–U6	41.0315	L5–L6	41.0358	U5–L6	79.6490
U6–U7	41.0315	L6–L7	41.0274	L6–U7	82.4203
U7–U8	41.0217	L7–L8	41.0218	U7–L8	79.9720
U8–U9	41.0217	L8–L9	41.0215	L8–U9	82.2724
U9–U10	41.0215	L9–L10	41.0215	U9–L10	79.9799
U10–U11	41.0215	L10–L11	41.0215	L10–U11	82.2724
U11–U12	41.0215	L11–L12	41.0215	U11–L12	79.9799
U12–U13	41.0215	L12–L13	41.0215	L12–U13	82.2724
U13–U14	41.0213	L13–L14	41.0215	U13–L14	79.9799

SPAN 3 (FT.)

UPPER CHORD		LOWER CHORD		DIAGONALS	
MEMBER	LENGTH	MEMBER	LENGTH	MEMBER	LENGTH
U14–U15	42.5221	L14–L15	42.5219	L14–U15	83.0612
U15–U16	42.5161	L15–L16	42.5182	U15–L16	80.8313
U16–U17	42.5161	L16–L17	42.5142	L16–U17	82.8316
U17–U18	42.5091	L17–L18	42.5106	U17–L18	81.0803
U18–U19	42.5091	L18–L19	42.5076	L18–U19	82.5806
U19–U20	42.5040	L19–L20	42.5051	U19–L20	81.3296
U20–U21	42.5040	L20–L21	42.5031	L20–U21	82.3298
U21–U22	42.5010	L21–L22	42.5016	U21–L22	81.5793
U22–U23	42.5010	L22–L23	42.5006	L22–U23	82.0794
U23–U24	42.5000	L23–L24	42.5001	U23–L24	81.8292
U24–U25	42.5000	L24–L25	42.5001	L24–U25	81.8292
U25–U26	42.5010	L25–L26	42.5006	U25–L26	82.0794
U26–U27	42.5010	L26–L27	42.5016	L26–U27	81.5793
U27–U28	42.5040	L27–L28	42.5031	U27–L28	82.3298
U28–U29	42.5040	L28–L29	42.5051	L28–U29	81.3296
U29–U30	42.5091	L29–L30	42.5076	U29–L30	82.5806
U30–U31	42.5091	L30–L31	42.5106	L30–U31	81.0803
U31–U32	42.5161	L31–L32	42.5142	U31–L32	82.8316
U32–U33	42.5161	L32–L33	42.5182	L32–U33	80.8313
U33–U34	42.5221	L33–L34	42.5219	U33–L34	83.0612

SPAN 4 (FT.)

UPPER CHORD		LOWER CHORD		DIAGONALS	
MEMBER	LENGTH	MEMBER	LENGTH	MEMBER	LENGTH
U34–U35	42.5221	L34–L35	42.5223	L34–U35	80.7178
U35–U36	42.5223	L35–L36	42.5223	U35–L36	83.0718
U36–U37	42.5223	L36–L37	42.5223	L36–U37	80.7178
U37–U38	42.5268	L37–L38	42.5241	U37–L38	83.1181
U38–U39	42.5268	L38–L39	42.5296	L38–U39	80.5390
U39–U40	42.5392	L39–L40	42.5359	U39–L40	83.3894
U40–U41	42.5392	L40–L41	42.5427	L40–U41	80.2692
U41–U42	42.5516	L41–L42	42.5500	U41–L42	83.6621
U42–U43	42.5516	L42–L43	42.5531	L42–U43	80.0829
		L43–L44	42.5531	U43–L44	83.7154



LOWER CHORD MEMBER DETAIL

NOTE A: Cut vertical plates to a 6'–0" maximum length curve.

NOTES:

Member lengths shown are lengths under full dead load, including future wearing surface, from working point to working point, given in feet.

Truss depth is measured vertically from center to center of chords.

Trusses are to be cambered for full dead load including future wearing surface.

All vertical truss members are to be truly vertical.

TRUSS GEOMETRY

MAIN SPANS SHEET 47

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022–023 073 D

CONSTRUCTION PROJECT NO. | MAINTENANCE PROJECT NO. | DRAWING NO. 22740

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

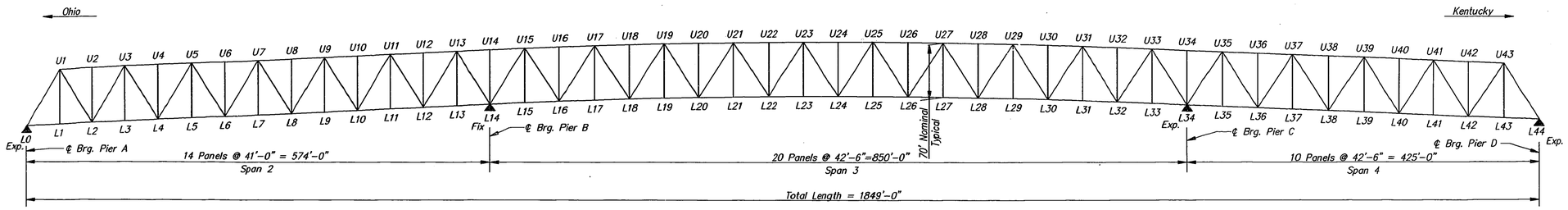
UPDATE DATE

LETTING DATE

PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

DESIGNED BY DWD DATE 7-98
DETAILED BY JEH DATE 9-98
TRACED BY BLS DATE 12/98
CHECKED BY PVP DATE
CHECKED BY DATE
REVISED
REVISED
REVISED

08/21/1998 DGN: D:\PROJECTS\0027\022\...



ELEVATION

PANEL POINT DEAD LOADS – KIPS PER TRUSS

	PANEL POINT	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
UPPER CHORD	TRUSS MEMBERS		34.15	21.74	35.72	24.24	33.21	24.24	37.93	21.29	45.19	19.33	61.44	25.90	71.68	41.99	79.86	22.78	61.45	18.30	56.59	28.77	49.55	31.00	43.23	33.59
	BRACING		30.85	6.65	6.98	6.65	6.98	6.65	6.98	6.65	6.98	6.65	6.98	6.65	10.97	6.69	11.07	6.73	7.06	6.73	7.23	7.06	7.39	7.06	7.39	7.06
	TOTAL "U" JOINTS		65.00	28.39	42.70	30.89	40.19	30.89	44.91	27.94	52.17	25.98	68.42	32.55	82.65	48.68	90.93	29.51	68.51	25.03	63.82	35.83	56.94	38.06	50.62	40.65
LOWER CHORD	TRUSS MEMBERS	21.75	18.97	33.53	23.93	29.16	26.43	33.28	23.93	38.32	22.77	53.33	29.92	69.17	39.57	92.77	39.36	69.33	26.30	59.51	23.14	48.11	28.32	41.00	33.51	37.85
	BRACING	16.70	5.87	5.87	13.19	5.87	13.19	5.87	13.19	5.87	13.19	5.87	13.77	7.02	7.02	13.93	7.10	7.10	14.42	6.51	13.26	5.94	13.26	5.94	13.26	5.94
	FLOOR STEEL	39.45	46.90	42.65	42.25	46.25	38.87	46.45	41.45	46.85	38.87	46.25	42.65	42.25	46.25	43.37	48.55	43.25	42.85	48.55	40.47	48.55	43.90	44.60	48.55	43.07
	SUB TOTAL (STEEL)	77.90	71.74	82.05	79.37	81.28	78.49	85.60	78.57	91.04	74.83	105.45	86.34	118.44	92.84	150.07	95.01	119.68	83.57	114.57	76.87	102.60	85.48	91.54	95.32	86.86
	CONCRETE	70.76	204.14	175.66	175.66	204.14	145.53	206.18	167.52	206.18	145.53	204.14	175.66	175.66	204.14	148.46	211.61	182.08	182.08	211.61	151.06	211.61	182.08	182.08	211.61	151.06
	FUTURE WEARING SURFACE	9.65	27.84	23.95	23.95	27.84	19.84	28.11	22.84	28.11	19.84	27.84	23.95	23.95	27.84	20.24	28.86	24.83	24.83	28.86	20.60	28.86	24.83	24.83	28.86	20.60
	SUB TOTAL (CONC.& F.W.S.)	80.41	231.98	199.61	199.61	231.98	165.37	234.29	190.36	234.29	165.37	231.98	199.61	199.61	231.98	168.70	240.47	206.91	206.91	240.47	171.66	240.47	206.91	206.91	240.47	171.66
	TOTAL "L" JOINTS	158.31	303.72	281.66	278.98	313.26	243.86	319.89	268.93	325.33	240.20	337.43	285.95	318.05	324.82	318.77	335.48	326.59	290.48	355.04	248.53	343.07	292.39	298.45	335.79	258.52

	PANEL POINT	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
UPPER CHORD	TRUSS MEMBERS	42.99	32.29	47.37	31.36	54.94	20.71	58.71	22.34	73.21	37.18	69.94	30.83	53.57	18.50	38.00	19.60	31.26	19.60	29.52	
	BRACING	7.39	7.06	7.39	7.06	7.23	6.73	7.06	6.73	11.07	6.73	11.07	6.73	7.06	6.73	7.06	6.73	7.06	6.73	30.99	
	TOTAL "U" JOINTS	50.38	39.35	54.76	38.42	62.17	27.44	65.77	29.07	84.28	43.91	81.01	37.56	60.63	25.23	45.06	26.33	38.32	26.33	60.51	
LOWER CHORD	TRUSS MEMBERS	33.51	39.14	29.62	45.91	25.73	54.99	22.13	60.29	32.88	80.26	35.47	62.83	28.06	43.89	23.24	34.25	21.48	27.35	19.28	18.68
	BRACING	13.26	5.94	13.26	5.94	13.26	5.94	13.83	7.10	7.10	14.00	7.10	6.31	12.84	5.52	12.84	5.52	12.84	5.52	5.52	16.57
	FLOOR STEEL	48.55	43.25	42.85	48.55	40.47	48.55	43.25	42.85	48.55	44.17	48.55	43.25	42.85	48.55	40.47	48.55	43.25	42.85	49.20	40.25
	SUB TOTAL (STEEL)	95.32	88.33	85.73	100.40	79.46	109.48	79.21	110.24	88.53	138.43	91.12	112.39	83.75	97.96	76.55	88.32	77.57	75.72	74.00	75.50
	CONCRETE	211.61	182.08	182.08	211.61	151.06	211.61	182.08	182.08	211.61	151.06	211.61	182.08	182.08	211.61	151.06	211.61	182.08	182.08	211.61	73.37
	FUTURE WEARING SURFACE	28.86	24.83	24.83	28.86	20.60	28.86	24.83	24.83	28.86	20.60	28.86	24.83	24.83	28.86	20.60	28.86	24.83	24.83	28.86	10.00
	SUB TOTAL (CONC.& F.W.S.)	240.47	206.91	206.91	240.47	171.66	240.47	206.91	206.91	240.47	171.66	240.47	206.91	206.91	240.47	171.66	240.47	206.91	206.91	240.47	83.37
	TOTAL "L" JOINTS	335.79	295.24	292.64	340.87	251.12	349.95	286.12	317.15	329.00	310.09	331.59	319.30	290.66	338.43	248.21	328.79	284.48	282.63	314.47	158.87

NOTES:

All deflections are downward except those preceded by (–) ,which indicates upward deflection.

Dead Loads shown reflect final details and were used for deflection computations. Deflections are computed in feet for Modulus of Elasticity (E) = 29,000,000 psi.

For longitudinal movement of truss under dead load at Piers A, C and D see Sheet No. 81.

DEAD LOAD DEFLECTION (FEET)

LOADING \ JOINT	L0	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13	L14	L15	L16	L17	L18	L19	L20	L21	L22	L23	L24	L25	L26
STEEL	0.000	0.069	0.125	0.172	0.197	0.212	0.199	0.181	0.143	0.104	0.061	0.031	0.007	–0.006	0.000	0.089	0.199	0.324	0.451	0.575	0.683	0.780	0.851	0.904	0.919	0.916	0.872
CONCRETE	0.000	0.117	0.205	0.286	0.327	0.355	0.338	0.314	0.254	0.194	0.124	0.075	0.029	0.006	0.000	0.114	0.249	0.415	0.576	0.744	0.885	1.019	1.111	1.189	1.205	1.208	1.145
F.W.S.	0.000	0.016	0.028	0.040	0.045	0.048	0.047	0.043	0.034	0.027	0.018	0.011	0.004	0.001	0.000	0.016	0.033	0.057	0.078	0.102	0.121	0.139	0.151	0.162	0.165	0.165	0.155
TOTAL	0.000	0.202	0.358	0.498	0.569	0.615	0.584	0.538	0.431	0.325	0.203	0.117	0.040	0.001	0.000	0.219	0.481	0.796	1.105	1.421	1.689	1.938	2.113	2.255	2.289	2.289	2.172

LOADING \ JOINT	L27	L28	L29	L30	L31	L32	L33	L34	L35	L36	L37	L38	L39	L40	L41	L42	L43	L44
STEEL	0.807	0.715	0.612	0.490	0.361	0.227	0.103	0.000	–0.022	–0.036	–0.034	–0.026	–0.005	0.008	0.025	0.023	0.020	0.000
CONCRETE	1.063	0.937	0.802	0.637	0.472	0.293	0.137	0.000	–0.017	–0.033	–0.017	–0.001	0.035	0.053	0.077	0.061	0.050	0.000
F.W.S.	0.145	0.128	0.110	0.087	0.064	0.040	0.019	0.000	–0.003	–0.004	–0.002	0.000	0.006	0.008	0.010	0.009	0.007	0.000
TOTAL	2.015	1.780	1.524	1.214	0.897	0.560	0.259	0.000	–0.042	–0.073	–0.053	–0.027	0.036	0.069	0.112	0.093	0.077	0.000

PANEL POINT DEAD LOADS AND DEFLECTIONS

HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

MAIN SPANS SHEET 48

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

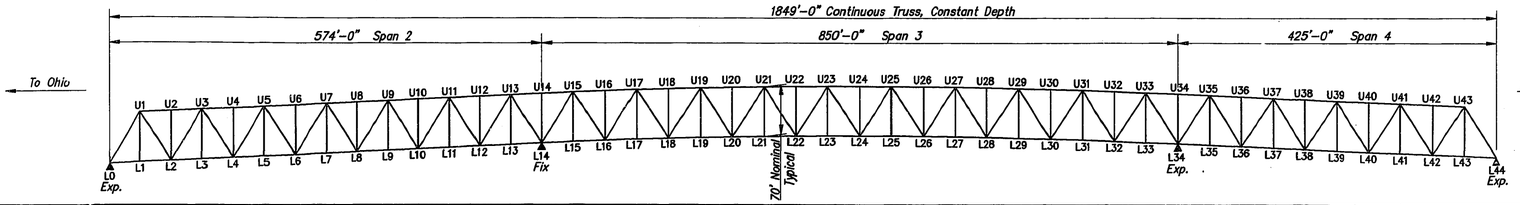
CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

UPDATE DATE _____
LETTING DATE _____

PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

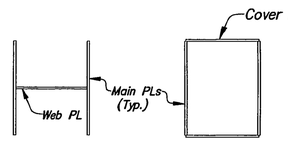
DESIGNED BY: DHP DATE 7-91
DETAILED BY: DHP DATE 7-91
CHECKED BY: DHP DATE 8-91
CHECKED BY: DHP DATE 8-91
REVISED
REVISED
REVISED

08/21/1991 DRN D:\SVGFILES\1155\DM\STSH51



LOCATION	MEMBER	AXIAL LOAD (Kips) DEAD LOAD STEEL	DEAD LOAD CONC. +F.W.S.	DEAD LOAD TOTAL	LIVE LOAD + IMP. (HS 25) COMP.	LIVE LOAD + IMP. (HS 25) TENS.	SIDEWALK LIVE LOAD COMP.	SIDEWALK LIVE LOAD TENS.	WIND LOAD	WIND ON LL	LONG. FORCE	AASHTO LOAD GROUP NO.	DESIGN AXIAL LOAD (Kips) SERVICE LOAD MAX.	SERVICE LOAD MIN.	LOAD FACTOR MAX.	LOAD FACTOR MIN.	INTERACTION RATIO	FATIGUE RANGE (Kips)	FATIGUE UNIT STRESS (KSI)	DESCRIPTION OF SECTION GRADE OF STEEL	SECTION TYPE	MAIN PLATES (In.)	WEB PLATES (In.)	COVER PLATES (In.)	AREA (Sq. In.) GROSS	AREA (Sq. In.) NET	FRACTURE CRITICAL STATUS	MEMBER
LOWER CHORDS	L0 – L2	270	491	761	−72	256	−12	41	± 142	± 21	0	III	1058	677	1663	0	.91	380	7.28	36	A	2–32 x $\frac{5}{8}$		2–23$\frac{1}{4}$ x $\frac{5}{8}$	57.44	52.19	FCM	L0 – L2
	L2 – L4	584	1083	1667	−215	624	−35	99	± 273	± 40	± 13	III	2390	1417	3736	0	.96	973	12.19	50	A	2–32 x $1\frac{5}{16}$		2–23 x $\frac{15}{16}$	89.25	79.80	FCM	L2 – L4
	L4 – L6	627	1190	1817	−358	813	−58	130	± 337	± 49	± 13	I	2760	1401	4405	0	.96	1359	14.50	50	A	2–32 x $1\frac{5}{16}$		2–23 x $\frac{15}{16}$	105.25	93.70	FCM	L4 – L6
	L6 – L8	405	833	1238	−500	833	−81	133	± 343	± 50	± 21	I	2204	657	3702	0	.95	1547	19.39	50	A	2–32 x $1\frac{1}{8}$		2–23 x $\frac{15}{16}$	89.25	79.80	FCM	L6 – L8
	L8 – L10	−92	$-\frac{23}{20}$*	$-\frac{115}{112}$*	−644	676	−104	108	± 302	± 44	± 21	I	669	−863	1553 *	−1770	.76	1532	20.56	36	A	2–32 x $\frac{7}{8}$		2–23 x $\frac{15}{16}$	81.88	74.53	FCM	L8 – L10
	L10 – L12	−886	−1347	−2233	−788	357	−127	56	± 317	± 46	± 30	III	−1820	−3148	0	−4903	.98	–	–	50	A	2–32 x $1\frac{1}{2}$		2–23 x $\frac{15}{16}$	127.63	–	–	L10 – L12
	L12 – L14	−2039	−3160	−5199	−1189	102	−192	20	± 492	± 71	± 33	III	−5077	−6580	0	−10,063	.99	–	–	70W	A	2–32 x $2\frac{1}{8}$		2–23 x $\frac{15}{16}$	189.38	–	–	L12 – L14
	L14 – L16	−1894	−2978	−4872	−1113	81	−181	16	± 475	± 68	± 71	III	−4775	−6166	0	−9498	.99	–	–	70W	A	2–32 x $2\frac{1}{4}$		2–23 x $\frac{15}{16}$	181.38	–	–	L14 – L16
	L16 – L18	−471	−831	−1302	−513	239	−85	40	± 149	± 22	± 68	III	−1023	−1900	0	−2996	.77	–	–	50	A	2–32 x $1\frac{1}{8}$		2–23 x $\frac{15}{16}$	100.75	–	–	L16 – L18
	L18 – L20	578	788	1366	−378	655	−61	102	± 350	± 50	± 59	III	2123	927	3476	0	.98	1196	16.42	50	A	2–32 x 1		2–23 x $\frac{15}{16}$	81.25	72.85	FCM	L18 – L20
	L20 – L22	1297	1906	3203	−341	1002	−55	158	± 476	± 69	± 59	III	4363	2807	6851	0	.99	1556	15.46	70W	A	2–32 x $1\frac{1}{2}$		2–23 x $\frac{15}{16}$	113.25	100.65	FCM	L20 – L22
	L22 – L24	1675	2502	4177	−303	1170	−49	184	± 527	± 77	± 48	III	5531	3825	8583	0	.97	1706	13.28	70W	A	2–32 x 2		2–23 x $\frac{15}{16}$	145.25	128.45	FCM	L22 – L24
	L24 – L26	1716	2576	4292	−266	1160	−43	183	± 526	± 77	± 48	III	5635	3983	8734	0	.99	1652	12.86	70W	A	2–32 x 2		2–23 x $\frac{15}{16}$	145.25	128.45	FCM	L24 – L26
	L26 – L28	1426	2133	3559	−228	970	−38	152	± 469	± 68	± 45	III	4681	3293	7290	0	.98	1388	12.89	70W	A	2–32 x $1\frac{15}{16}$		2–23 x $\frac{15}{16}$	121.25	107.60	FCM	L26 – L28
	L28 – L30	794	1167	1961	−190	601	−32	93	± 338	± 49	± 36	III	2655	1739	4210	0	.99	916	10.56	50	A	2–32 x $1\frac{1}{4}$		2–23 x $\frac{15}{16}$	97.25	86.75	FCM	L28 – L30
	L30 – L32	−161	−302	−463	−321	224	−54	38	± 133	± 19	± 36	I	−201	−838	0	−1414	.67	–	–	36	A	2–32 x $\frac{13}{16}$		2–23 x $\frac{1}{2}$	75.00	–	–	L30 – L32
	L32 – L34	−1473	−2296	−3769	−942	135	−153	25	± 410	± 60	± 25	III	−3609	−4864	0	−7478	1.0	–	–	70W	A	2–32 x $1\frac{15}{16}$		2–23 x $\frac{15}{16}$	141.38	–	–	L32 – L34
	L34 – L36	−1670	−2555	−4225	−1072	194	−174	34	± 436	± 63	± 25	III	−3997	−5471	0	−8385	1.0	–	–	70W	A	2–32 x $1\frac{7}{8}$		2–23 x $\frac{15}{16}$	157.38	–	–	L34 – L36
	L36 – L38	−752	−1081	−1833	−776	445	−125	72	± 310	± 45	± 22	I	−1316	−2734	0	−4335	1.0	–	–	50	A	2–32 x $1\frac{1}{4}$		2–23 x $\frac{11}{16}$	111.63	–	–	L36 – L38
	L38 – L40	−180	$-\frac{132}{117}$*	$-\frac{312}{297}$*	−554	560	−90	90	± 227	± 33	± 13	I	338	−956	1022 *	−1801	.78	1294	17.36	36	A	2–32 x $\frac{7}{8}$		2–23 x $\frac{15}{16}$	81.88	74.53	FCM	L38 – L40
	L40 – L42	97	$\frac{317}{279}$*	$\frac{414}{376}$*	−333	488	−54	78	± 183	± 26	± 13	I	980	27	1765	−350*	.78	953	14.73	36	A	2–32 x $\frac{7}{8}$		2–23 x $\frac{1}{2}$	71.00	64.70	FCM	L40 – L42
	L42 – L44	106	244	350	−111	217	−18	35	± 105	± 15	0	I	602	221	1001	0	.56	381	7.28	36	A	2–32 x $\frac{5}{8}$		2–23$\frac{1}{4}$ x $\frac{5}{8}$	57.44	52.19	FCM	L42 – L44
UPPER CHORDS	U1 – U3	−459	−846	−1305	−462	143	−74	23	± 74	---	---	I	−1139	−1841	0	−2858	.77	–	–	50	A	2–32 x 1		2–23 x $\frac{15}{16}$	95.63	–	–	U1 – U3
	U3 – U5	−639	−1206	−1845	−744	286	−119	46	± 116	---	---	I	−1513	−2708	0	−4268	.98	–	–	50	A	2–32 x $1\frac{1}{4}$		2–23 x $\frac{11}{16}$	111.63	–	–	U3 – U5
	U5 – U7	−548	−1080	−1628	−849	430	−136	69	± 126	---	---	I	−1129	−2613	0	−4251	.97	–	–	50	A	2–32 x $1\frac{1}{4}$		2–23 x $\frac{11}{16}$	111.63	–	–	U5 – U7
	U7 – U9	−189	$-\frac{473}{416}$*	$-\frac{662}{605}$*	−779	573	−125	93	± 117	---	---	I	4	−1566	657 *	−2819	.78	1570	18.61	50	A	2–32 x 1		2–23 x $\frac{5}{8}$	92.75	84.35	–	U7 – U9
	U9 – U11	451	617	1068	−540	716	−86	116	± 81	---	---	I	1900	442	3191	0	.93	1458	20.62	50	H	2–32 x $1\frac{1}{2}$	1–21$\frac{3}{4}$ x $\frac{5}{8}$		80.16	70.71	FCM	U9 – U11
	U11 – U13	1415	2191	3606	−192	929	−34	150	± 150	---	---	I	4685	3380	7026	0	.95	1305	12.13	70W	H	2–32 x $1\frac{5}{8}$	1–20$\frac{1}{2}$ x $\frac{1}{2}$		122.25	107.55	FCM	U11 – U13
	U13 – U15	2763	4241	7004	−71	1539	−12	249	± 187	---	---	I	8792	5921	13188	0	1.0	1871	9.65	70W	H	2–32 x $3\frac{1}{4}$	1–17$\frac{7}{8}$ x $\frac{7}{8}$		221.13	193.83	FCM	U13 – U15
	U15 – U17	1133	1840	2973	−133	763	−24	125	± 112	---	---	I	3861	2816	5792	0	.97	1045	12.00	70W	H	2–32 x $1\frac{5}{8}$	1–21$\frac{1}{4}$ x $\frac{1}{2}$		98.63	87.08	FCM	U15 – U17
	U17 – U19	−93	$-\frac{50}{44}$*	$-\frac{143}{137}$*	−435	404	−69	67	± 99	---	---	I	328	−647	842 *	−1278	.64	975	15.07	36	A	2–32 x $\frac{3}{4}$		2–23 x $\frac{1}{2}$	71.00	64.70	FCM	U17 – U19
	U19 – U21	−977	−1420	−2397	−854	360	−134	58	± 169	---	---	I	−1979	−3385	0	−5257	1.0	–	–	50	A	2–32 x $1\frac{5}{8}$		2–23 x $\frac{11}{16}$	135.63	–	–	U19 – U21
	U21 – U23	−1526	−2270	−3796	−1110	322	−175	52	± 202	---	---	I	−3422	−5081	0	−7719	.97	–	–	70W	A	2–32 x $1\frac{3}{4}$		2–23 x $\frac{13}{16}$	149.38	–	–	U21 – U23
	U23 – U25	−1733	−2595	−4328	−1185	285	−187	46	± 207	---	---	I	−3997	−5700	0	−8599	.98	–	–	70W	A	2–32 x 2		2–23 x $\frac{15}{16}$	165.38	–	–	U23 – U25
	U25 – U27	−1611	−2422	−4033	−1088	247	−171	41	± 202	---	---	I	−3745	−5292	0	−7971	.95	–	–	70W	A	2–32 x $1\frac{7}{8}$		2–23 x $\frac{13}{16}$	157.38	–	–	U25 – U27
	U27 – U29	−1150	−1722	−2872	−810	209	−127	35	± 169	---	---	I	−2628	−3809	0	−5764	.98	–	–	50	A	2–32 x $1\frac{7}{8}$		2–23 x $\frac{11}{16}$	151.63	–	–	U27 – U29
	U29 – U31	−355	−504	−859	−358	200	−61	34	± 100	---	---	I	−625	−1306	0	−2085	.86	–	–	36	A	2–32 x $1\frac{15}{16}$		2–23 x $\frac{9}{16}$	85.88	–	–	U29 – U31
	U31 – U33	771	1235	2006	−155	584	−28	96	± 91	---	---	I	2686	1823	4081	0	1.0	863	10.22	50	H	2–32 x $1\frac{5}{8}$	1–21$\frac{1}{4}$ x $\frac{5}{8}$		95.97	84.42	FCM	U31 – U33
	U33 – U35	2279	3487	5766	−155	1369	−25	220	± 163	---	---	I	7355	5586	11033	0	.98	1769	10.76	70W	H	2–32 x $2\frac{1}{4}$	1–18$\frac{1}{2}$ x $\frac{5}{8}$		187.56	164.46	FCM	U33 – U35
	U35 – U37	1165	1753	2918	−317	887	−51	143	± 113	---	---	I	3948	2550	6025	0	.95	1398	10.71	50	H	2–32 x $2\frac{5}{8}$	1–19$\frac{3}{4}$ x $\frac{5}{8}$		148.34	130.49	FCM	U35 – U37
	U37 – U39	428	533	961	−530	666	−86	108	± 69	---	---	I	1735	345	2926	−85	.95	1390	21.77	50	H	2–32 x 1	1–22 x $\frac{5}{8}$		72.25	63.85	FCM	U37 – U39
	U39 – U41	6	$-\frac{167}{147}$*	$-\frac{161}{141}$*	−552	444	−89	72	± 65	---	---	I	355	−802	935 *	−1598	.72	1157	16.15	36	A	2–32 x $\frac{7}{8}$		2–23 x $\frac{1}{2}$	79.00	71.65	FCM	U39 – U41
	U41 – U43	−132	−345	−477	−378	222	−60	36	± 50	---	---	I	−219	−915	0	−1569	.71	–	–	36	A	2–32 x $\frac{5}{8}$		2–23 x $\frac{1}{2}$	79.00	–	–	U41 – U43

* F.W.S. not included



NOTES:
+ indicates tension
− indicates compression

Truss member design is by Load Factor Method in accordance with the AASHTO Guide Specifications for Strength Design of Truss Bridges (Load Factor Method).

The design of members includes secondary stress allowances in accordance with Section 1.4 of the AASHTO Guide Specifications for Strength Design of Truss Bridges.

Stresses shown in column headed "Design Axial Load, Load Factor" are based on:
D/T > 0.77 ; 1.5(DL+LL+IMP)
D/T ≤ 0.77 ; 1.3[DL+(5/3)(LL+IMP)]

D = Dead Load
T = Total Load

Section Net Area, is calculated in accordance with Section 1.7 of the AASHTO Guide Specifications for Strength Design of Truss Bridges. Net area governs the design of tension members.

FCM = Fracture Critical Member
F.W.S. = Future Wearing Surface

Thickened cover plates of upper and lower chords, where shown on the Joint Details, shall be the same material and have the same minimum yield strength as that of the member.

Interaction Ratio is the governing factored load combination interaction ratio calculated in accordance with Section 1.8 of the AASHTO Guide Specifications for Strength Design of Truss Bridges.

Grade of Steel: Steel for main truss members shall be AASHTO M270 Grade 36, 50, or 70W, as indicated in the Table.

For Truss Notes and Welding Notes, See Sheet 54.

MAIN SPANS SHEET 49

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO
NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022–023 073 D
CONSTRUCTION PROJECT NO. | MAINTENANCE PROJECT NO. | DRAWING NO. 22740

HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

STRESS SHEET – TRUSS

UPDATE DATE

LETTING DATE

PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

	DATE	REVISED

DESIGNED BY PNP/DMB DATE 6-91
DETAILED BY DRH & AR CHECKED BY PNP/TJG DATE 6-11-91
TRACED BY CHECKED BY DATE

08/26/1991 DRH D:\DVGFILES\USERS\MISTER\ST

LOCATION	MEMBER	AXIAL LOAD (Kips) DEAD LOAD STEEL	DEAD LOAD CONC. +F.W.S.	DEAD LOAD TOTAL	LIVE LOAD + IMP. (HS 25) COMP.	LIVE LOAD + IMP. (HS 25) TENS.	SIDEWALK LIVE LOAD COMP.	SIDEWALK LIVE LOAD TENS.	WIND LOAD	AASHTO LOAD GROUP NO.	DESIGN AXIAL LOAD (Kips) SERVICE LOAD MAX.	SERVICE LOAD MIN.	LOAD FACTOR MAX.	LOAD FACTOR MIN.	INTERACTION RATIO	FATIGUE RANGE (Kips)	FATIGUE UNIT STRESS (KSI)	DESCRIPTION OF SECTION GRADE OF STEEL	SECTION TYPE	MAIN PLATES (In.)	WEB PLATES (In.)	COVER PLATES (In.)	AREA (Sq. In.) GROSS	AREA (Sq. In.) NET	FRACTURE CRITICAL STATUS	MEMBER
DIAGONALS	L0 – U1	−532	−968	−1500	−526	145	−80	23	±82	I	−1332	−2106	0	−3263	.98	–	–	50	A	2–32 x 1¼		2–23 x 11/16	111.63	–	–	L0 – U1
	U1 – L2	373	702	1075	−155	441	−26	67		I	1583	894	2498	0	.96	689	12.30	50	H	2–28 x 15/16	1–22⅛ x ⅜		60.80	56.02	FCM	U1 – L2
	L2 – U3	−246	−467	−713	−368	171	−56	29		I	−513	−1137	0	−1846	.98	–	–	36	A	2–28 x 1		2–23 x 9/16	81.88	–	–	L2 – U3
	U3 – L4	108	244	352	−195	307	−32	46		I	705	125	1222	−34	.97	580	14.60	36	H	2–24 x ¾	1–22½ x ⅜		44.44	39.71	FCM	U3 – L4
	L4 – U5	23	32/29*	55/52*	−236	233	−35	38		I	326	−216	659	−520*	.59	542	12.27	36	A	2–20 x 9/16		2–23⅜ x ½	45.88	44.19	FCM	L4 – U5
	U5 – L6	−156	−216/−190*	−372/−346*	−266	200	−43	30		I	−142	−681	49*	−1153	.92	–	–	36	A	2–24 x 5/16		2–23½ x 9/16	56.16	–	–	U5 – L6
	L6 – U7	283	489	772	−148	321	−23	51		I	1144	601	1810	0	.99	543	9.69	36	H	2–28 x 15/16	1–22⅛ x ⅜		60.80	56.02	FCM	L6 – U7
	U7 – L8	−424	−709	−1133	−376	121	−60	19		I	−993	−1569	0	−2418	1.0	–	–	50	A	2–28 x 15/16		2–23 x 5/8	81.25	–	–	U7 – L8
	L8 – U9	557	979	1536	−78	437	−21	69		I	2042	1437	3093	0	.93	605	8.56	50	H	2–32 x 1½	1–21¾ x ⅜		80.16	70.71	FCM	L8 – U9
	U9 – L10	−708	−1172	−1880	−490	63	−78	10		I	−1807	−2448	0	−3675	.96	–	–	50	A	2–32 x 1½		2–23 X 5/8	124.75	–	–	U9 – L10
	L10 – U11	860	1442	2302	−40	569	−7	90		I	2961	2255	4442	0	.95	706	7.01	50	H	2–32 x 1⅞	1–20¾ x ½		114.38	100.73	FCM	L10 – U11
	U11 – L12	−1043	−1667	−2710	−636	30	−101	5		I	−2675	−3447	0	−5171	.98	–	–	50	A	2–32 x 2⅝		2–23 x 5/8	180.75	–	–	U11 – L12
	L12 – U13	1233	1913	3146	−10	708	−2	111		I	3965	3134	5948	0	.95	831	8.84	70W	H	2–32 x 1½	1–21 x ½		106.50	93.90	FCM	L12 – U13
	U13 – L14	−1430	−2137	−3567	−782	10	−125	2	±118	I	−3555	−4474	0	−6711	1.0	–	–	70W	A	2–32 x 2⅝		2–23 x 11/16	183.63	–	–	U13 – L14
	L14 – U15	−1673	−2432	−4105	−888	33	−140	5	±175	I	−4067	−5133	0	−7700	.98	–	–	70W	A	2–32 x 3		2–23 x 11/16	223.63	–	–	L14 – U15
	U15 – L16	1464	2190	3654	−33	809	−5	126		I	4589	3616	6884	0	.96	973	9.05	70W	H	2–32 x 1¾	1–20½ x ½		122.25	107.55	FCM	U15 – L16
	L16 – U17	−1274	−1939	−3213	−736	45	−115	8		I	−3160	−4064	0	−6096	.96	–	–	70W	A	2–32 x 2¼		2–23 x 11/16	175.63	–	–	L16 – U17
	U17 – L18	1084	1697	2781	−53	662	−9	110		I	3553	2719	5330	0	1.0	834	7.29	50	H	2–32 x 1⅞	1–20¼ x ½		130.13	114.38	FCM	U17 – L18
	L18 – U19	−932	−1418	−2350	−579	71	−90	12		I	−2267	−3019	0	−4529	.99	–	–	50	A	2–32 x 2		2–23 x 5/8	156.75	–	–	L18 – U19
	U19 – L20	768	1216	1984	−82	521	−13	81		I	2586	1889	3884	0	.95	697	8.00	50	H	2–32 x 1⅝	1–21¼ x ½		98.63	87.08	FCM	U19 – L20
	L20 – U21	−614	−934	−1548	−454	119	−71	19		I	−1410	−2073	0	−3150	.95	–	–	50	A	2–32 x 1¼		2–23 x 5/8	108.75	–	–	L20 – U21
	U21 – L22	441	700	1141	−139	393	−22	61		I	1595	980	2467	0	.95	615	10.98	50	H	2–28 x 15/16	1–22⅛ x ⅜		60.80	56.02	FCM	U21 – L22
	L22 – U23	−285	−445	−730	−339	184	−53	29		I	−517	−1122	0	−1798	.97	–	–	50	A	2–24 x 11/16		2–23 x 5/8	67.75	–	–	L22 – U23
	U23 – L24	112	179/158*	291/270*	−212	274	−33	43		I	608	46	1065	−180*	.74	562	12.72	36	A	2–20 x 9/16		2–23⅜ x ½	45.88	44.19	FCM	U23 – L24
	L24 – U25	33	36/32*	69/65*	−235	253	−37	39		I	361	−203	722	−505*	.58	564	12.76	36	A	2–20 x 9/16		2–23⅜ x ½	45.88	44.19	FCM	L24 – U25
	U25 – L26	−201	−297	−498	−318	208	−49	33		I	−257	−865	0	−1443	.82	–	–	50	A	2–24 x 11/16		2–23¼ x ⅝	62.06	–	–	U25 – L26
	L26 – U27	357	555	912	−164	372	−26	57		I	1341	722	2115	0	.98	619	13.28	50	H	2–28 x ¾	1–22½ x ⅜		50.44	46.61	FCM	L26 – U27
	U27 – L28	−530	−788	−1318	−436	146	−67	23		I	−1149	−1821	0	−2803	.99	–	–	50	A	2–32 x 1		2–23 x 5/8	92.75	–	–	U27 – L28
	L28 – U29	683	1070	1753	−110	504	−18	78		I	2335	1625	3540	0	.97	710	9.15	50	H	2–32 x 1¼	1–21½ x ⅜		88.06	77.56	FCM	L28 – U29
	U29 – L30	−844	−1272	−2116	−563	100	−87	17		I	−1999	−2766	0	−4159	.99	–	–	50	A	2–32 x 1½		2–23 x 5/8	140.75	–	–	U29 – L30
	L30 – U31	994	1552	2546	−84	648	−15	100		I	3294	2447	4941	0	.99	847	7.88	50	H	2–32 x 1¾	1–20½ x ½		122.25	107.55	FCM	L30 – U31
	U31 – L32	−1173	−1795	−2968	−723	79	−113	14		I	−2875	−3804	0	−5706	.98	–	–	70W	A	2–32 x 2		2–23 x 11/16	159.63	–	–	U31 – L32
	L32 – U33	1350	2043	3393	−69	795	−11	124		I	4312	3313	6468	0	.97	999	9.92	70W	H	2–32 x 1⅞	1–20¾ x ½		114.38	100.73	FCM	L32 – U33
	U33 – L34	−1552	−2292	−3844	−877	69	−137	11	±170	I	−3765	−4858	0	−7287	.99	–	–	70W	A	2–32 x 2¾		2–23 x 11/16	207.63	–	–	U33 – L34
	L34 – U35	−1173	−1794	−2967	−695	30	−111	5	±78	I	−2932	−3773	0	−5660	.95	–	–	70W	A	2–32 x 2		2–23 x 11/16	159.63	–	–	L34 – U35
	U35 – L36	971	1544	2515	−40	618	−7	98		I	3231	2468	4847	0	.97	763	7.09	50	H	2–32 x 1¾	1–20½ x ½		122.25	107.55	FCM	U35 – L36
	L36 – U37	−795	−1291	−2086	−536	60	−86	8		I	−2018	−2708	0	−4062	.96	–	–	50	A	2–32 x 1¾		2–23 x 5/8	140.75	–	–	L36 – U37
	U37 – L38	623	1056	1679	−80	468	−13	75		I	2222	1586	3359	0	.92	636	8.20	50	H	2–32 x 1½	1–21½ x ⅜		88.06	77.56	FCM	U37 – L38
	L38 – U39	−476	−770	−1246	−391	118	−50	18		I	−1110	−1687	0	−2575	.91	–	–	50	A	2–32 x 1		2–23 x 5/8	92.75	–	–	L38 – U39
	U39 – L40	334	576	910	−149	345	−23	56		I	1311	738	2052	0	.98	573	8.97	36	H	2–32 x 1	1–22 x ⅜		72.25	63.85	FCM	U39 – L40
	L40 – U41	−199	−287	−486	−293	215	−48	33		I	−238	−827	0	−1371	.88	–	–	36	A	2–28 x ¾		2–23 x 9/16	67.88	–	–	L40 – U41
	U41 – L42	68	55/48*	123/116*	−271	253	−41	43		I	419	−189	801	−525*	.53	608	12.98	36	A	2–24 x 9/16		2–23⅜ x ½	50.38	46.83	FCM	U41 – L42
	L42 – U43	51	194/171*	245/222*	−232	348	−38	53		I	646	−25	1187	−296*	.65	671	12.19	36	A	2–28 x ⅝		2–23¼ x ½	58.25	55.06	FCM	L42 – U43
	U43 – L44	−202	−469	−671	−437	219	−67	35	±63	I	−417	−1175	0	−1964	.76	–	–	50	A	2–32 x 1		2–23 x 7/16	89.88	–	–	U43 – L44
VERTICALS	COMP. (EVEN PANEL POINTS)	−63	−23	−86	−5	0	−1	0		I	−86	−92	0	−138	.98	–	–	36	H	2–14 x ½	1–23 x ½		25.50	–	–	COMP.
	TENSION (ODD PANEL POINTS)	70	232	302	0	203	0	14		I	519	302	863	0	.49	217	6.14	50	H	2–20 x 11/16	1–22⅝ x 7/16		37.40	35.34	–	TENSION

* F.W.S. not included

TRUSS REACTIONS FOR BEARINGS (KIPS/TRUSS)

Loading Condition	Pier A	Pier B	Pier C	Pier D
DL–Steel	539k	2898k	2549k	248k
DL–Conc.+FWS	919k	4155k	3713k	488k
SWLL	74k	225k	210k	62k
LL+I **	489k	1415k	1323k	412k
DL+LL+I	2021k	8693k	7795k	1210k

** Based on 1.931 Lanes

MAIN SPANS SHEET 50

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

STRESS SHEET – TRUSS

HAZELET + ERDAL, INC.
In association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

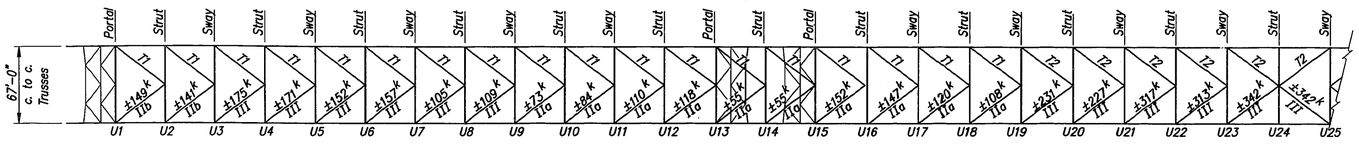
BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022–023 073 D
CONSTRUCTION PROJECT No. | MAINTENANCE PROJECT NO. | DRAWING NO. 22740

UPDATE DATE _____
LETTING DATE _____

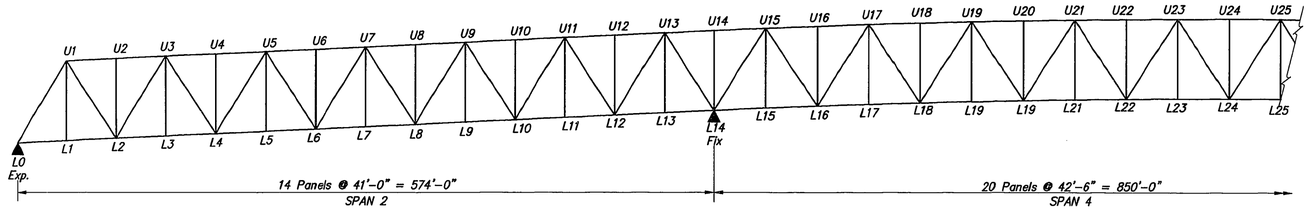
PREPARED AND SUBMITTED BY:
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CONSULTING ENGINEERS

DATE	REVISED

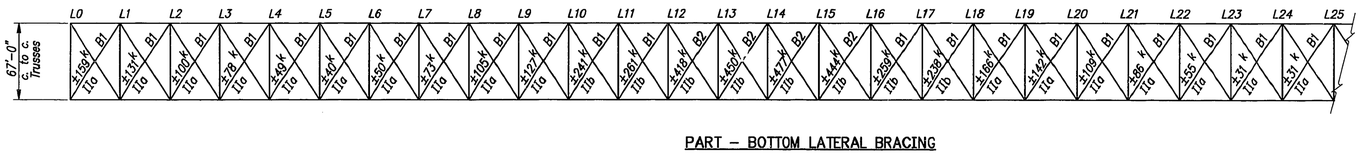
DESIGNED BY HHE/Balke Eng. CHECKED BY PHP DATE 2-91
DETAILED BY DRH CHECKED BY DATE
TRACED BY CHECKED BY DATE



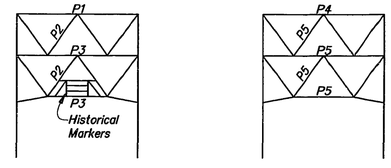
PART – TOP LATERAL BRACING



PART – ELEVATION

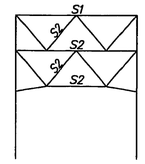


PART – BOTTOM LATERAL BRACING

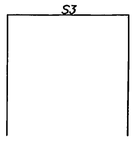


PORTAL @
L0–U1, U43–L44

PORTAL @
U13–L14, L14–U15
U33–L34, L34–U35



SWAY FRAME @
Odd Numbered Joints U.N.



STRUT @
Even Numbered Joints

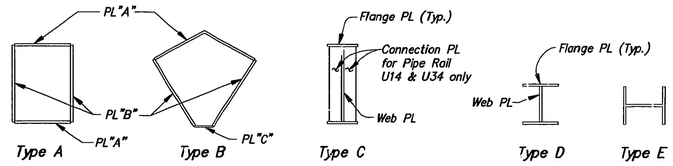
SECTIONS – TOP & BOTTOM LATERALS, PORTALS, SWAYS and STRUTS

Member			Flange PLs	Web PLs	Out to Out Flange PLs	Material	Type
LATERALS	TOP	T1	2–14 x 1/2	15 1/2 x 3/8	16 1/2	GR 36	D
		T2	2–16 x 5/8	15 1/4 x 3/8	16 1/2	GR 36	D
	BOTTOM	B1	2–12 x 1/2	16 x 7/16	17	GR 36	D
		B2	2–14 x 5/8	15 3/4 x 7/16	17	GR 36	D
SWAYS & STRUTS		S1	2–10 x 3/8	16 1/2 x 3/8 *	17 1/4	GR 36	D
		S2	Rolled Section HP 10x42			GR 36	E
		S3	2–12 x 3/8	32 x 1/2	32 3/4	GR 36	C
PORTALS		P4	1–12 x 3/8 Top 1–16 x 9/16 Bott **	15 9/16 x 3/8 *	16 1/2	GR 36	D
		P5	Rolled Section HP 12x53			GR 50	E

Member		PL "A"	PL "B"	PL "C"	Out to Out PLs "A"	Out to Out PLs "B"	Material	Type
PORTALS	P1	1–43 x 3/8 (Bent)	2–32 3/4 x 5/8	1–7 1/2 x 1/2 *			GR 36	B
	P2	2–12 7/8 x 1/2	2–32 3/4 x 9/16		33 3/8	16	GR 36	A
	P3	2–22 5/8 x 1/2	2–32 3/4 x 9/16		33 3/8	24	GR 36	A

* *Plate width is minimum and may be altered to accommodate bracing connections.*

** *The bottom plate width shall be adjusted as required to accommodate the haunch fitup.*



NOTES:
Stresses shown are Load Factored. + Indicates Tension; – Indicates Compression.

Design Loading Conditions:
IIa: 1.6 (53#/sq. ft. Wind + Dead Load of Bracing)
IIb: 1.46 (53#/sq. ft. Wind + Dead Load of Bracing + Transverse Shear of 2 1/2% of the total axial dead load compressive stress in that panel).
III: 1.46 (30% of 75#/sq. ft. Wind + Wind on live Load + Dead Load of Bracing + Transverse Shear of 2 1/2% of the total axial DL + LL + I compressive stress in that panel)

STRESS SHEET
BRACING SYSTEM

HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

MAIN SPANS SHEET 51

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022–023 073 D
CONSTRUCTION PROJECT NO. | MAINTENANCE PROJECT NO. | DRAWING NO. 22740

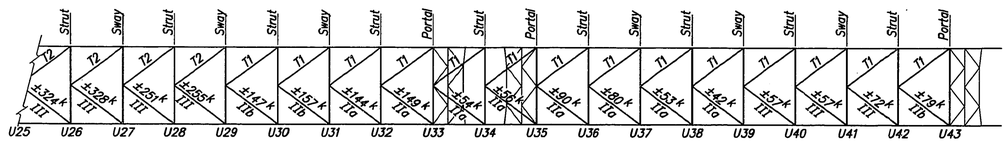
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UPDATE DATE _____
LETTING DATE _____

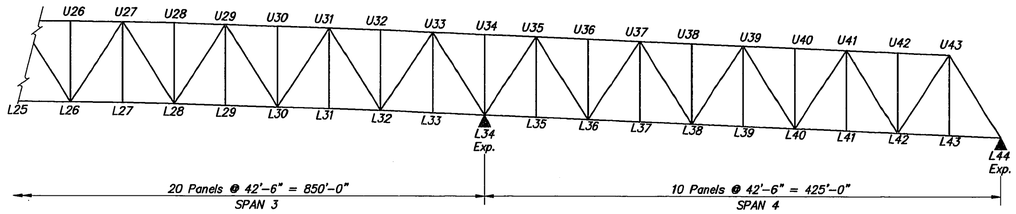
PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

DESIGNED BY HHE/Bake Eng. DATE 9-97
DETAILED BY DRH DATE
CHECKED BY DATE
REVISED
REVISED
REVISED

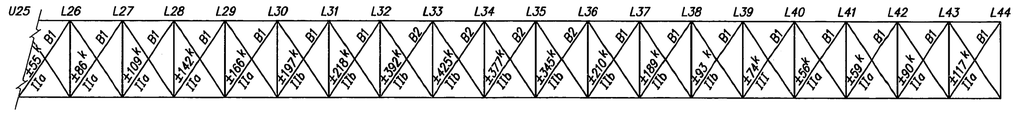
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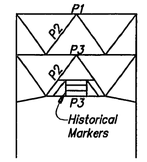
PART – TOP LATERAL BRACING



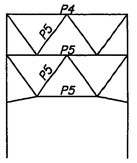
PART – ELEVATION



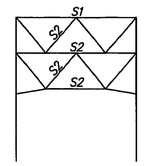
PART – BOTTOM LATERAL BRACING



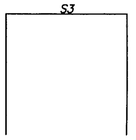
PORTAL @
L0–U1, U43–L44



PORTAL @
U13–L14, L14–U15
U33–L34, L34–U35



SWAY FRAME @
Odd Numbered Joints U.N.



STRUT @
Even Numbered Joints

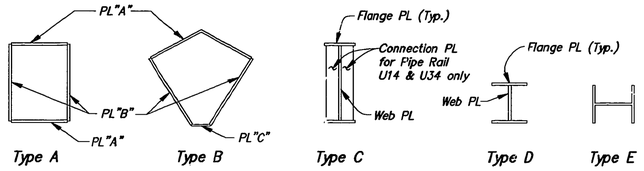
SECTIONS – TOP & BOTTOM LATERALS, PORTALS, SWAYS and STRUTS

Member			Flange PLs	Web PLs	Out to Out Flange PLs	Material	Type
LATERALS	TOP	T1	2–14 x 1/2	15 1/2 x 3/8	16 1/2	GR 36	D
		T2	2–16 x 5/8	15 1/4 x 3/8	16 1/2	GR 36	D
	BOTTOM	B1	2–12 x 1/2	16 x 7/16	17	GR 36	D
		B2	2–14 x 5/8	15 3/4 x 7/16	17	GR 36	D
SWAYS & STRUTS		S1	2–10 x 3/8	16 1/2 x 3/8 *	17 1/4	GR 36	D
		S2	Rolled Section HP 10x42			GR 36	E
		S3	2–12 x 3/8	32 x 1/2	32 3/4	GR 36	C
PORTALS		P4	1–12 x 3/8 Top 1–16 x 9/16 Bott**	15 9/16 x 3/8 *	16 1/2	GR 36	D
		P5	Rolled Section HP 12x53			GR 50	E

Member		PL "A"	PL "B"	PL "C"	Out to Out PLs "A"	Out to Out PLs "B"	Material	Type
PORTALS	P1	1–43 x 3/4 (Bent)	2–32 3/4 x 5/8	1–7 1/2 * x 1/2			GR 36	B
	P2	2–12 7/8 x 1/2	2–32 3/4 x 9/16		33 3/8	16	GR 36	A
	P3	2–22 7/8 x 1/2	2–32 3/4 x 9/16		33 3/8	24	GR 36	A

* Plate width is minimum and may be altered to accommodate bracing connections.

** The bottom plate width shall be adjusted as required to accommodate the haunch fitup.



NOTES:
Stresses shown are Load Factored. + Indicates Tension; – Indicates Compression.

Design Loading Conditions:
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III: 1.46 (30% of 75#/sq. ft. Wind + Wind on live Load + Dead Load of Bracing + Transverse Shear of 2 1/2% of the total axial DL + LL + I compressive stress in that panel)

STRESS SHEET
BRACING SYSTEM

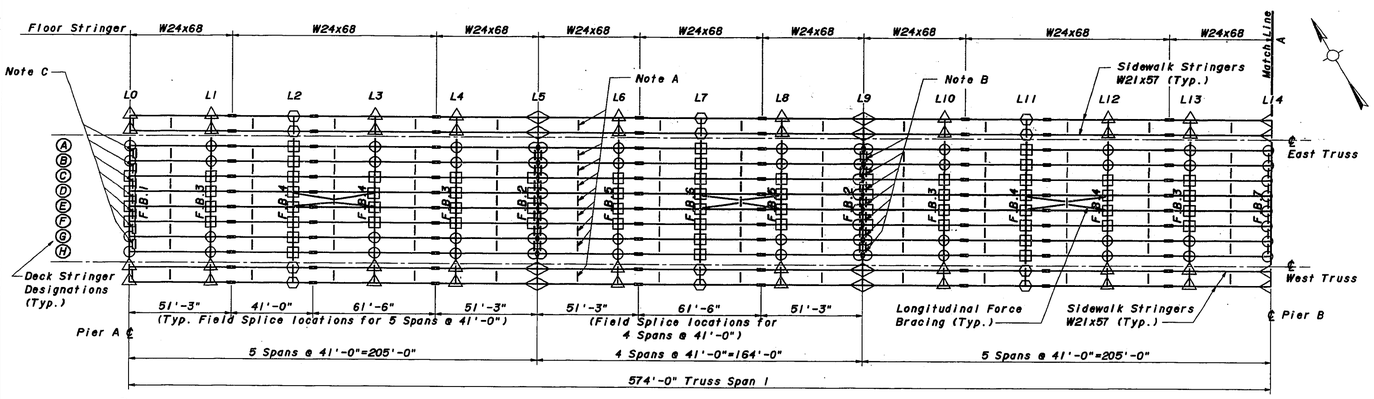
HAZELET + ERDAL, INC.
In association with
BURGESS & NIPLE, LIMITED
and
BAKE ENGINEERS

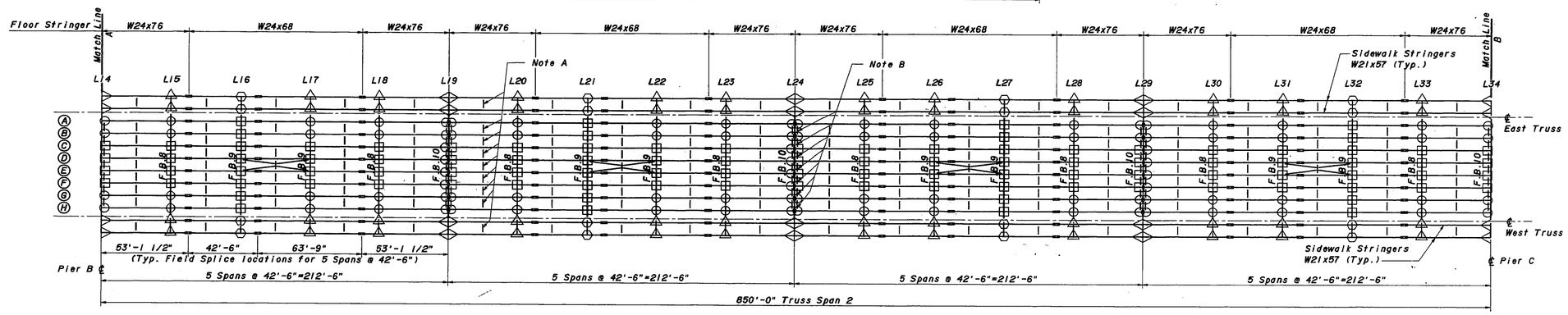
MAIN SPANS SHEET 52

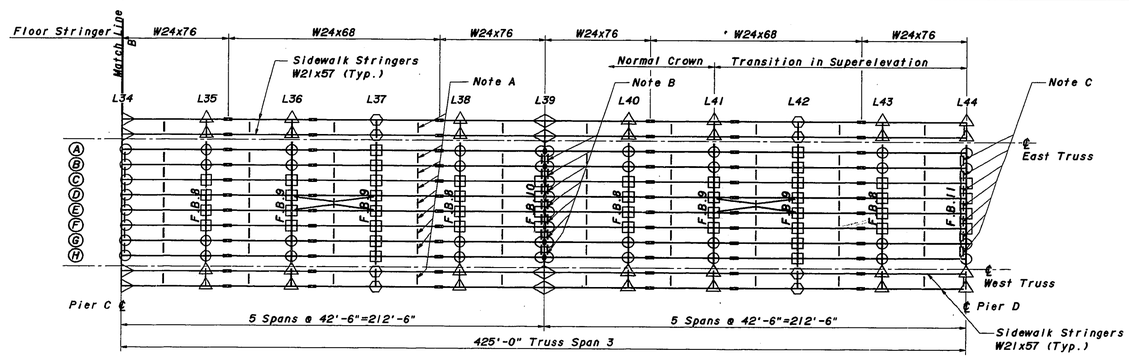
KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO
NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 119 0027 022–023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740







Notes:

Deck Floorbeams and Deck Stringers (Gr 50)

A C12x20.7 Diaphragms at Mid-panel (Typ.)

B C12x20.7 Diaphragms @ Deck Stringer Expansion Joints (Typ. each side of joint)

C 1-MC18X42.7 and 1-W12X50 Diaphragm @ Deck Finger Joints (Typ.)

L## Indicates Truss Panel Points

F.B.# Indicates Floorbeam Designation

BEARING TYPES:

TYPE I	○	Expansion
TYPE II	□	Fixed
TYPE III	□○	Fixed/Expansion
TYPE IV	○○	Expansion/Expansion
TYPE V	⬡	Fixed (Sidewalk)
TYPE VI	△	Expansion (Sidewalk)
TYPE VII	◇	Expansion/Expansion (Sidewalk)

See "STRINGER DETAILS" Sheets 74 & 75 and "SIDEWALK DETAILS" Sheet 92 for Specific Bearing Details

DECK FRAMING PLAN

MAIN SPANS SHEET 53

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

PLANS PREPARED & SUBMITTED BY
Burgess & Niple, Limited
Engineers and Architects

UPDATE DATE
LETTING DATE

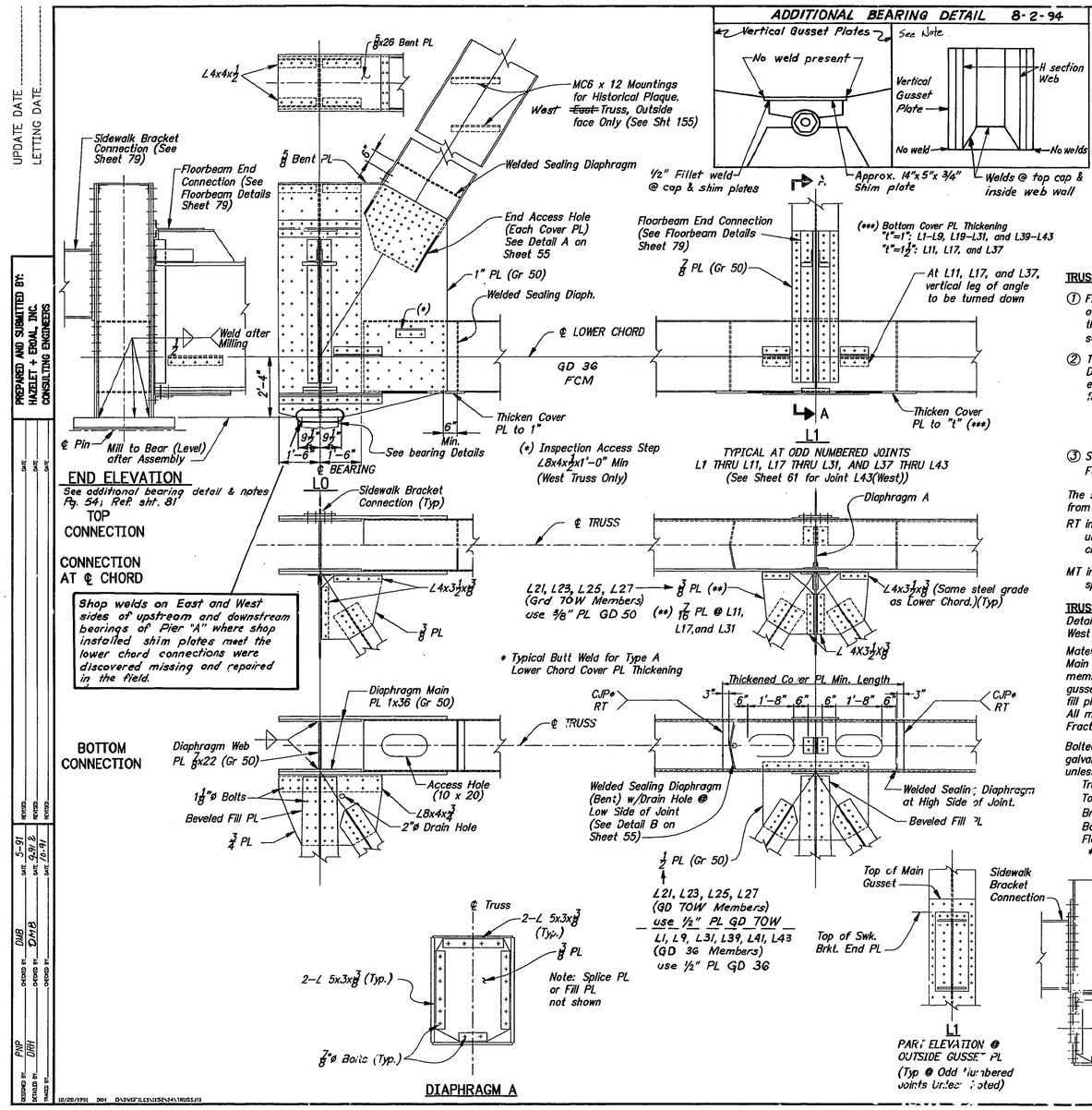
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DETAILED BY KEK	CHECKED BY ESS	DATE 12-5-90	REVISED
TRACED BY	CHECKED BY	DATE	REVISED

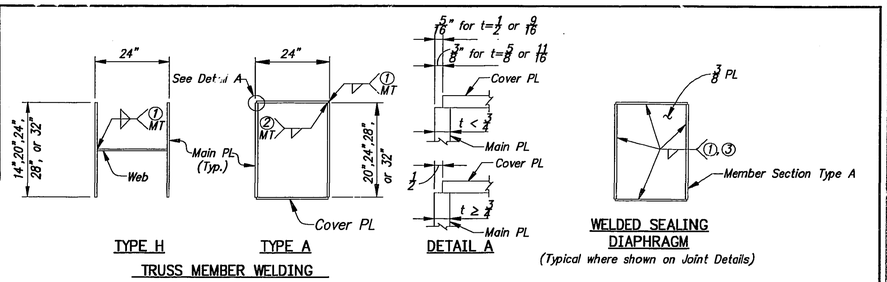
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UPDATE DATE
LETTING DATE

PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

	DATE	DESIGNED BY	CHECKED BY
REVISED		PHP	DMB
REVISED	5-91	DRH	DMB
REVISED	10-91		





TRUSS WELDING NOTES:

(1) Fillet weld size shall be minimum specified in Section 2.7.1.1 of ANSI/AASHTO/AWS D1.5-88 or as shown on the plans except that no weld less than ¼" shall be used (exclusive of sealing diaphragm welds).

(2) The inside fillet weld shall be the same (unless noted on Joint Detail) as the outside fillet weld and shall extend from the member end to within three inches of the sealing diaphragm weld at the following locations:
Bottom Chord members at Joints L0, L14, L34, and L44.
All Diagonal members
Top Chord members at Joints U1,U9,U17,U31,U39, and U43.

(3) Sealing diaphragm weld shall be 3/16" minimum with size determined by Fabricator per Section 2.7.1.1 of D1.5-88 to obtain weld free of cracks.

The sealing diaphragm weld shall be continuous to exclude moisture from the member interior.

RT indicates subject to radiographic testing or both radiographic and ultrasonic testing. See welding specifications and fracture critical guide.

MT indicates subject to magnetic particle inspection. See welding specifications.

TRUSS NOTES:

Details are shown for the East Truss and are similar for the West Truss except as noted or shown.

Material: All Structural Steel shall be AASHTO M270 (See General Notes). Main truss members (as noted on "Stress Sheet Truss"), bracing members (as noted on "Stress Sheet Bracing System"), main truss gussets, splice plates, connection angles and plates, bracing gussets, fill plates and other material shall be Grade 36 unless noted otherwise. All main truss gusset and splice plate material shall conform to Fracture Critical Member requirements.

Bolted connections shall be slip-critical connections made with mechanically galvanized high strength bolts M164 (A325) of the size indicated below, unless noted otherwise on the details:
Truss Member Sections Type A or H (all plates) – 1"ø Bolts U.N.
Top Chord Lateral Bracing, Portals, Sway Frames and Struts – ⅞"ø Bolts
Bracing Connection Bolts Penetrating Truss Gussets – 1"ø Bolts
Bottom Chord Lateral Bracing and Floorbeam, Bottom Flange – ⅞"ø Bolts U.N.*
Floorbeam: Top Flange and Web – 1"ø Bolts U.N.*
*Floorbeams @ L0, L14, L34 & L44: Top and Bottom Flange Connections – 1⅛"ø Bolts

TRUSS NOTES (CONT.)

Subject to approval by the Engineer, the Contractor may use ⅞"ø, 1"ø, 1⅛"ø or 1¼"ø M164 (A325) mechanically galvanized bolts provided the pitch, gage, edge distance, net section and joint capacity comply with the specifications.

The Contractor shall determine which bolts shall be shop or field bolts to satisfy the method of erection and shall indicate same on shop details.

The preferred minimum pitch and preferred minimum gage as required by the Specifications shall be maintained where possible.

Welded sealing diaphragms as noted are required to completely seal all box (Type A) members.

Optional shop butt welded splices will be permitted in those parts of truss sections over 40 ft. long but only one splice will be permitted in each part between panel points, except where thickened plates are spliced in at joints. Such optional spices shall be placed 2'-0" minimum clear of the joints and shall be 2'-0" minimum from the splices in each of the other component parts.

The ends of all plates of chord members shall be cut neatly for close fitted joints with a maximum clearance of ¼ inch between ends of members unless noted to be milled on the details.

GROOVE WELD NOTE

"CJP" in the tail of the welding symbol arrow indicates optional joint preparation with complete joint penetration required. The Fabricator shall indicate in the welding procedures and the shop drawings the exact detail of the full penetration welds which must be approved by the Engineer.

TRUSS JOINTS
L0, & ODD NOS.
L1 – L11, L17 – L31,
L37 – L43

MAIN SPANS SHEET 54

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO
NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

10/28/1991 DRH D:\DWG\FILES\115EN54\TRUSS.I11

UPDATE DATE

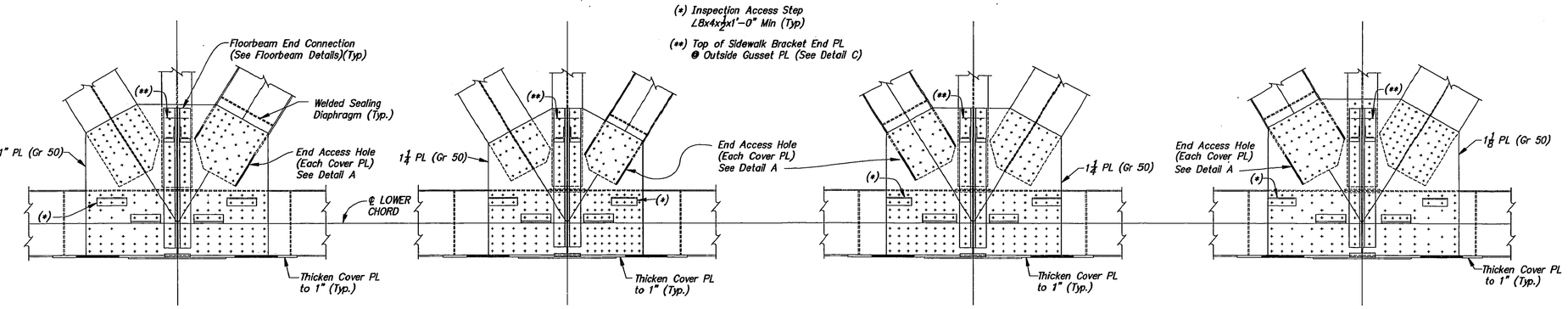
LETTING DATE

PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

	DATE	DATE	DATE
REVISED BY			
DETAILED BY	DMB		
CHECKED BY	DMB		
TRACED BY	PHP	BLS/HWH	
CHECKED BY			
REVISED			
REVISED			
DATE	5-91	Sep 91	

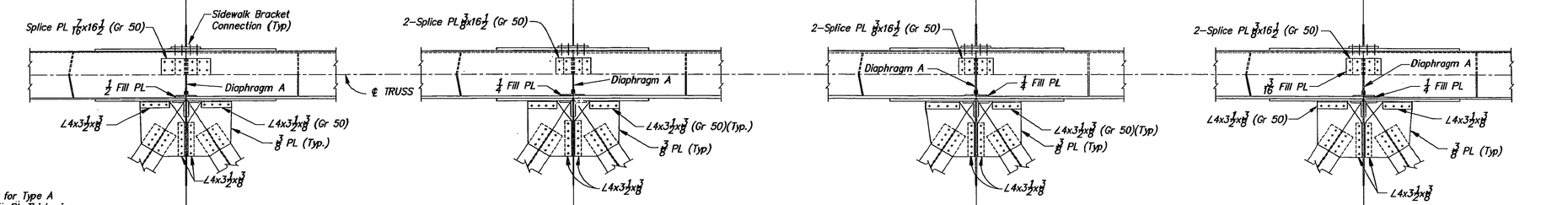
(*) Inspection Access Step
$L8x4x\frac{1}{2}x1'-0"$ Min (Typ)

(**) Top of Sidewalk Bracket End PL @ Outside Gusset PL (See Detail C)

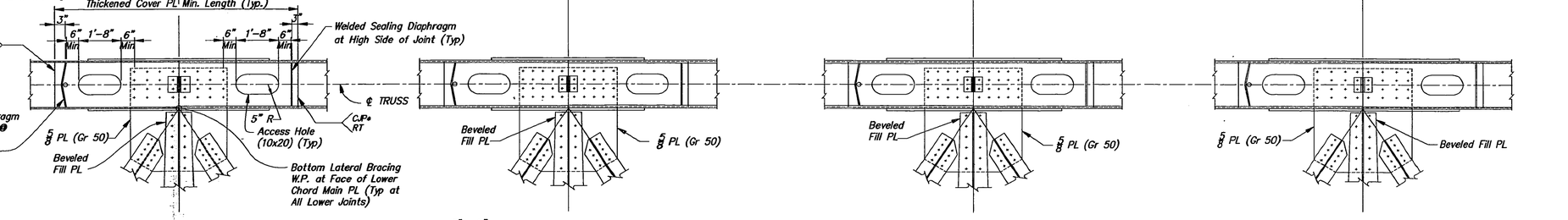


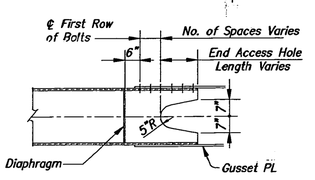
TOP CONNECTION

CONNECTION AT ℄ CHORD



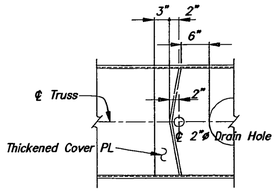
* Typical Butt Weld for Type A Lower Chord Cover PL Thickening



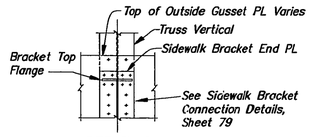


DETAIL A

End Access Hole for Type A Diagonals @ Lower Joints Unless Noted.



DETAIL B



DETAIL C

Sidewalk Bracket Connection @ Outside Gusset PL

Note: See "Floorbeam Details" for Beveled Fill PL.
See Sheet 54 for Diaphragm A and Welded Sealing Diaphragms.

MAIN SPANS SHEET 55

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073-D

CONSTRUCTION PROJECT NO. | MAINTENANCE PROJECT NO. | DRAWING NO. 22740

TRUSS JOINTS
L2, L4, L6, L8

HAZELET + ERDAL, INC.
In association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

UPDATE DATE

LETTING DATE

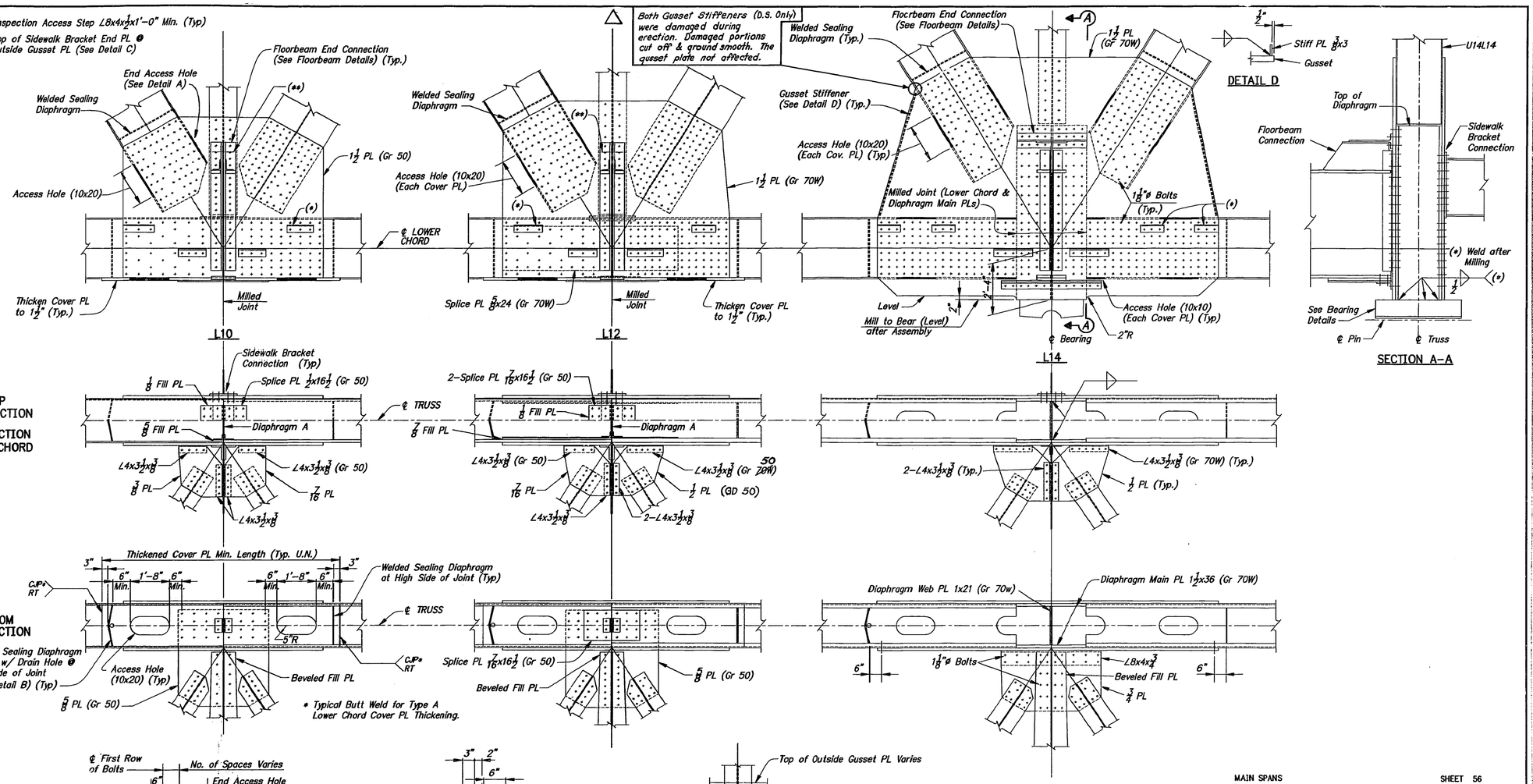
PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

	DATE	REVISIONS
DESIGNED BY PNP	DATE 5-91	
DETAILED BY DRH/AR	DATE Sep 91	
CHECKED BY DMB		
CHECKED BY DMB		
TRACED BY		

(*) Inspection Access Step L8x4x½x1'-0" Min. (Typ)

(**) Top of Sidewalk Bracket End PL @ Outside Gusset PL (See Detail C)

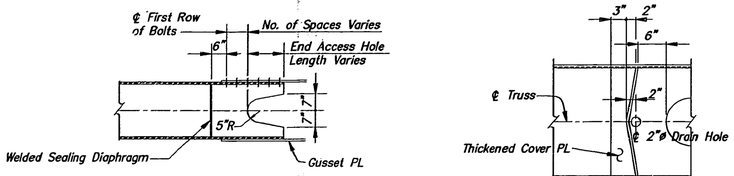
Both Gusset Stiffeners (D.S. Only) were damaged during erection. Damaged portions cut off & ground smooth. The gusset plate not affected.



TOP CONNECTION

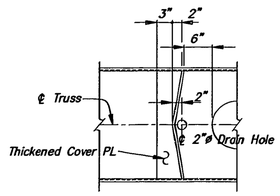
CONNECTION AT ℄ CHORD

BOTTOM CONNECTION

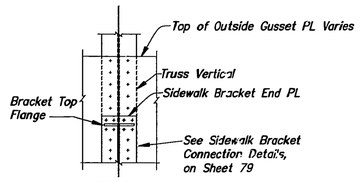


DETAIL A

End Access Hole for Type A Diagonals @ Lower Joints Unless Noted.



DETAIL B



DETAIL C

Sidewalk Bracket Connection @ Outside Gusset PL

Note: See "Floorbeam Details" for Beveled Fill PL.

See Sheet 54 for Diaphragm A and Welded Sealing Diaphragm

Joints L13 and L15 similar to Joints L33 and L35

TRUSS JOINTS
L10, L12, L14

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

MAIN SPANS SHEET 56

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D BRF 00272 048

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

UPDATE DATE
LETTING DATE

PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

	DATE	REVISED
DESIGNED BY: PMP	DATE 5-91	
DETAILED BY: DMB	DATE SEP-91	
CHECKED BY: DMB	DATE	
DRAWN BY: DRH/AR	DATE	
CHECKED BY:	DATE	

Floorbeam End Connection (See Floorbeam Details) (Typ.)

(*) Inspection Access Step L8x4x½x1'-0" Min. (Typ)
(**) Top of Sidewalk Bracket End PL @ Outside Gusset PL (See Detail C)

Welded Sealing Diaphragm (Typ.)

End Access Hole (See Detail A)

1½ PL (Gr 70W)
Access Hole (10x20) (Each Cover PL)
℄ LOWER CHORD
Splice PL ⅞x24 (Gr 50)
Milled Joint
Thicken Cover PL to 1½" (Typ.)

1¼ PL (Gr 50)
⅝ PL (Gr 50)
Access Hole (10x20) (Each Cover PL) See Note A
Thicken Cover PL to 1½" (Typ.)

1⅜ PL (Gr 70W)
Access Hole (10x20)
Thicken Cover PL to 1" (Typ)

1¼ PL (Gr 70W)
End Access Hole (Each Cover PL) (See Detail A)
Splice PL ¾x24 (Gr 70W)
Thicken Cover PL to 1" (Typ)

Note A: Sealing and stitch bolts not shown shall be provided per the design specifications.

L16 L18 L20 L22

TOP CONNECTION

CONNECTION AT ℄ CHORD

Sidewalk Bracket Connection (Typ)
2–Splice PL ⅜x16½ (Gr 50)
℄ TRUSS
Diaphragm A
3/16 Fill PL
1/8 Fill PL
L4x3½x⅜ (Gr 50) 50 (Gr 70W)
½ PL (Gr 50)
7/16 PL
2–L4x3½x⅜
L4x3½x⅜

2–Splice PL ⅜x16½ (Gr 50)
Diaphragm A
⅛ Fill PL
L4x3½x⅜ (Gr 50)
7/16 PL
L4x3½x⅜

2–Splice PL ⅜x16½ (Gr 50)
½ Fill PL
Diaphragm A
L4x3½x⅜ (Gr 50)
⅜ PL
L4x3½x⅜
L4x3½x⅜ (Gr 70W) 50
⅜ PL (Gr 50)

2–Splice PL ⅜x16½ (Gr 70W)
½ Fill PL
Diaphragm A
L4x3½x⅜ (Gr 70W) 50
⅜ PL (Gr 50) (Typ.)
L4x3½x⅜

*Typical Butt Weld for Type A Lower Chord Cover PL Thickening.

Thickened Cover PL Min. Length (Typ. U.N.)

3" 6" Min. 1'-8" 6" Min. 5"R 6" Min. 3"

BOTTOM CONNECTION

CJP* RT
Welded Sealing Diaphragm (Bent) w/ Drain Hole @ Low Side of Joint (See Detail B) (Typ)
Access Hole (10x20)(Typ.)
Beveled Fill PL
Splice PL ⅜x16½ (Gr 50)
⅝ PL (Gr 50)
℄ TRUSS
CJP* RT
Welded Sealing Diaphragm @ High Side of Joint (Typ.)

Beveled Fill PL
⅝ PL (Gr 50)

⅝ PL (Gr 50)
Beveled Fill PL

Thickened Cover PL Min. Length (See Joint L2 for Details)
⅝ PL (Gr 70W)
Beveled Fill PL

℄ First Row of Bolts
No. of Spaces Varies
6"
End Access Hole Length Varies
5"R
Welded Sealing Diaphragm
Gusset PL

DETAIL A
End Access Hole for Type A Diagonals @ Lower Joints Unless Noted.

3" 2" 6" 2"
℄ Truss
Thickened Cover PL
℄ 2"ø Drain Hole

DETAIL B

Top of Outside Gusset PL Varies
Truss Vertical
Sidewalk Bracket End PL
Bracket Top Flange
See Sidewalk Bracket Connection Details on Sheet 79

DETAIL C
Sidewalk Bracket Connection @ Outside Gusset PL

Note: See "Floorbeam Details" for Beveled Fill PL.
See Sheet 54 for Diaphragm A and Welded Sealing Diaphragm.

TRUSS JOINTS
L16, L18, L20, L22

HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

MAIN SPANS SHEET 57

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

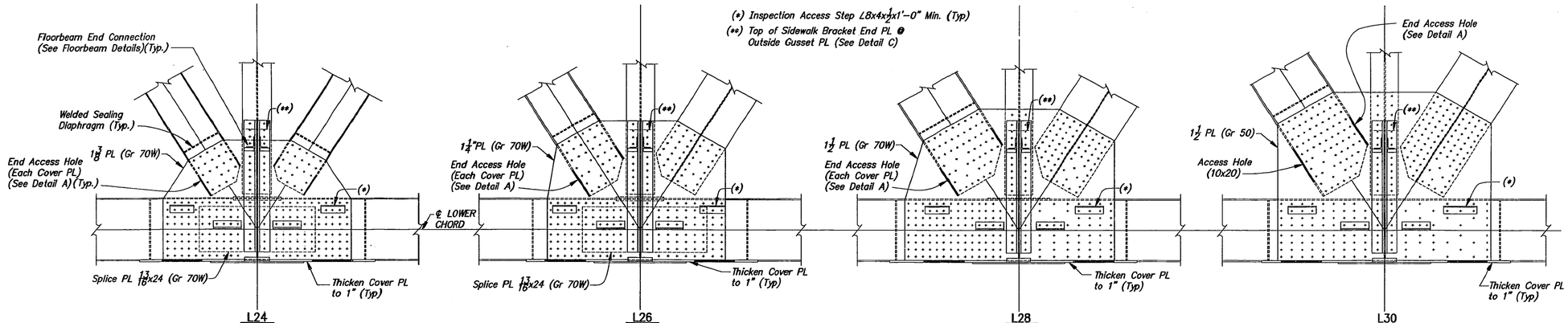
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D
RF 00272 048
CONSTRUCTION PROJECT NO. | MAINTENANCE PROJECT NO. | DRAWING NO. 22740

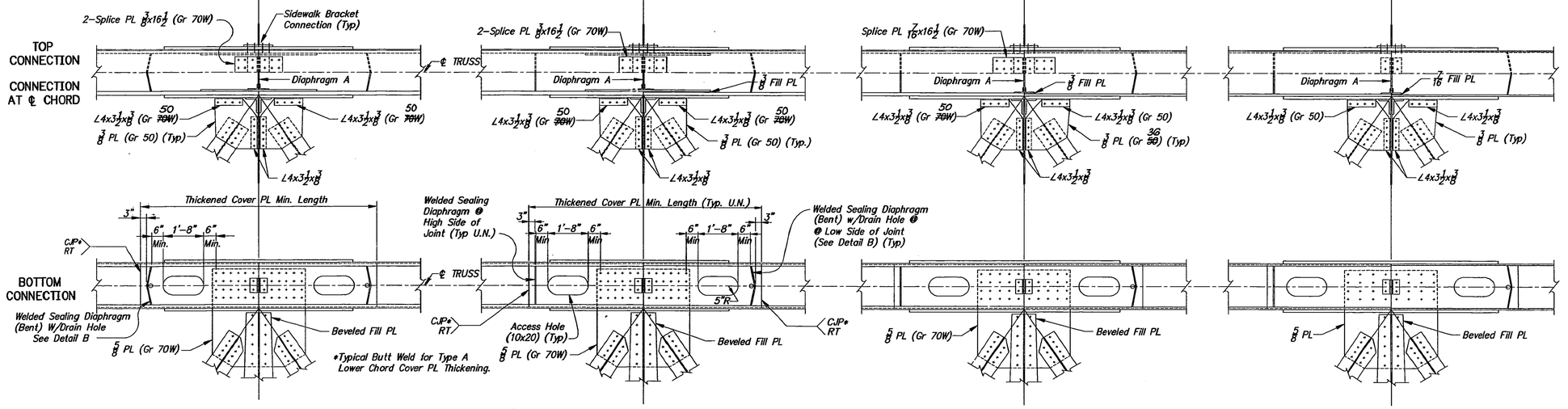
UPDATE DATE
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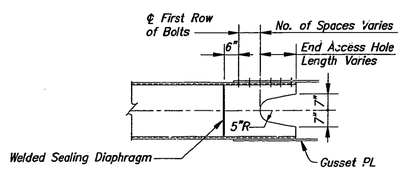
PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

	DATE	DATE	DATE
REVISED BY			
CHECKED BY	DMB	DMB	
DETAILED BY	PNP	DRH	
ISSUED BY	DMB	5-91	Sep 91

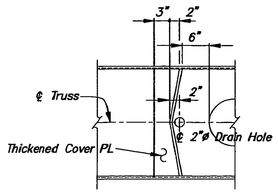
(*) Inspection Access Step L8x4x$\frac{1}{2}$x1'-0" Min. (Typ)
(**) Top of Sidewalk Bracket End PL @ Outside Gusset PL (See Detail C)



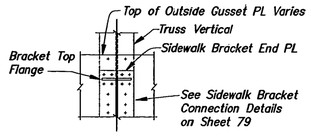




DETAIL A
End Access Hole for Type A Diagonals @ Lower Joints Unless Noted.



DETAIL B



DETAIL C
Sidewalk Bracket Connection @ Outside Gusset PL

Note: See "Floorbeam Details" for Beveled Fill PL.
See Sheet 54 for Diaphragm A and Welded Sealing Diaphragm.

TRUSS JOINTS
L24, L26, L28, L30

HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

MAIN SPANS SHEET 58

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D
BRF 00272 048

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

UPDATE DATE

LETTING DATE

PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

DESIGNED BY	PMP	DATE	5-91
DETAILED BY	DRH	DATE	SEP 91
CHECKED BY	DMB	DATE	
CHECKED BY	DMB	DATE	
REVISED			
REVISED			

(+) Inspection Access Step L8x4x½x1'-0" Min. (Typ)

(++) Top of Sidewalk Bracket End PL @ Outside Gusset PL (See Detail C)

Floorbeam End Connection (See Floorbeam Details)

Welded Sealing Diaphragm (Typ.)

1½ PL (Gr 70W)

Access Hole (10 x 20) (Each Cover PL)

℄ LOWER CHORD

Milled Joint

Thicken Cover PL to 1½" (Typ)

L32

Access Hole (10 x 20) (Each Cov. PL)

1⅞ PL (Gr 70W)

1⅛"ø Bolts (Typ)

Milled Joint (Lower Chord & Diaphragm Main PLs)

Level

2"

2"

2" R

Access Hole (10x10) (Each Cover PL) (Typ)

Mill to Bear (Level) after Assembly

L34

Gusset Stiffener (See Detail D) (Typ)

Access Hole (10x20) (Each Cov. PL)

½

Stiff. PL ⅜x3

Gusset PL

DETAIL D

Member U34-L34

Top of Diaphragm

Floorbeam Connection

Floorbeam Connection Ls

Sidewalk Bracket Connection

Weld after Milling

½

See Bearing Details

℄ Pin

SECTION A-A

End Access Hole (See Detail A)

Access Hole (10 x 20)

1⅛ PL (Gr 70W)

Splice PL 7/16x24 (Gr 70W)

Milled Joint

Thicken Cover PL to 1½" (Typ)

L36

TOP CONNECTION

CONNECTION AT ℄ CHORD

Splice PL ⅝x16½

7/16 Fill PL

Sidewalk Bracket Connection (Typ)

℄ TRUSS

1⅜ Fill PL

L4x3½x⅜

2-L4x3½x⅜ (Gr 50W)

7/16 PL

½ PL (Gr 50)

2-L4x3½x⅜

L4X3½X⅜ (Gr 50W)(Typ)

½ PL (Gr 50) (Typ)

℄ BEARING

2-L4x3½x⅜ (Typ)

2-Splice PL ⅜x16½ (Gr 70W)

⅛ Fill PL

Diaphragm A

⅝ Fill PL

L4x3½x⅜ (Gr 50W)

Gr 50 ½ PL

L4x3½x⅜ (Gr 50)

⅝ PL

2-L4x3½x⅜

L4x3½x⅜

BOTTOM CONNECTION

Welded Sealing Diaphragm @ High Side of Joint (Typical)

Thickened Cover PL Min. Length (Typ. U.N.)

6" Min 1'-8" 6" Min

6" Min 1'-8" 6" Min

3"

3"

CJP* RT

Access Hole (10x20) (Typ)

⅝ PL (Gr 50W)

Beveled Fill PL

Welded Sealing Diaphragm (Bent) w/Drain Hole @ Low Side Of Joint (See Detail B) (Typ)

CJP* RT

℄ TRUSS

Diaphragm Web PL 1x21 (Gr 70w)

Diaphragm Main PL 1½x36 (Gr 70W)

1⅛"ø Bolts

L8x4x¾

Beveled Fill PL

¾ PL

*Typical Butt Weld for Type A Lower Chord Cover PL Thickening

⅝ PL (Gr 70W)

Beveled Fill PL

℄ First Row of Bolts

No. of Spaces Varies

3"

End Access Hole Length Varies

5"R

Welded Sealing Diaphragm

Gusset PL

DETAIL A

End Access Hole for Type A Diagonals @ Lower Joints Unless Noted.

2"

3"

6"

2"

℄ Truss

℄ 2"ø Drain Hole

Thickened Cover PL

DETAIL B

Top of Outside Gusset PL Varies

Truss Vertical

Sidewalk Bracket End PL

Bracket Top Flange

See Sidewalk Bracket Connection Details on Sheet 79

DETAIL C

Sidewalk Bracket Connection @ Outside Gusset PL

Note: See "Floorbeam Details" for Beveled Fill PL.
See Sheet 54 for Diaphragm A and Welded Sealing Diaphragm.

TRUSS JOINTS
L32, L34, L36

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

MAIN SPANS SHEET 59

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

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STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 0

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

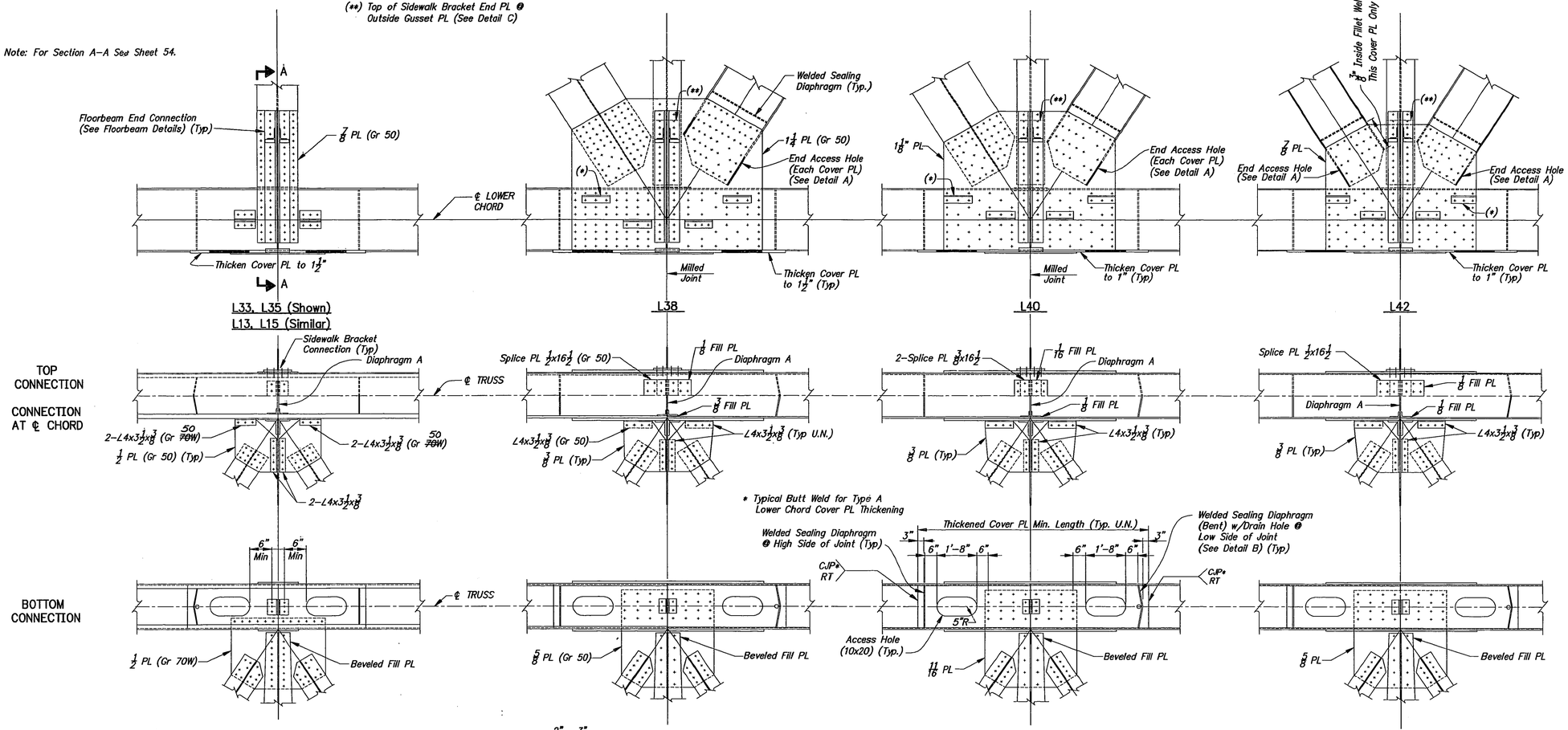
UPDATE DATE
LETTING DATE

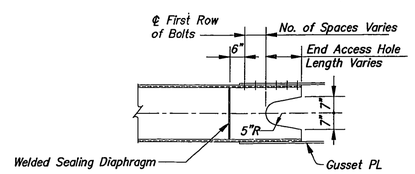
PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

	DESIGNED BY	DETAILED BY	TRACED BY	CHECKED BY	CHECKED BY	CHECKED BY
DATE	PVP	DMB	DRH	DMB	DMB	
REVISED		5-91		5-91	9-91	

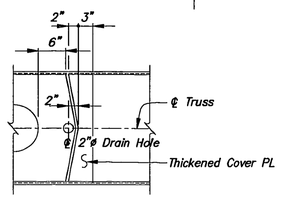
(*) Inspection Access Step L8x4x$\frac{1}{2}$x1'-0" Min. (Typ)
(**) Top of Sidewalk Bracket End PL @ Outside Gusset PL (See Detail C)

Note: For Section A-A See Sheet 54.

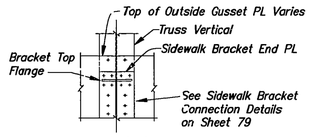




DETAIL A
End Access Hole for Type A Diagonals @ Lower Joints Unless Noted.



DETAIL B



DETAIL C
Sidewalk Bracket Connection @ Outside Gusset PL

Note: See "Floorbeam Details" for Beveled Fill PL.
See Sheet 54 for Diaphragm A and Welded Sealing Diaphragm.

TRUSS JOINTS
L38, L40, L42,
L13, L15, L33, L35

HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

MAIN SPANS SHEET 60

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

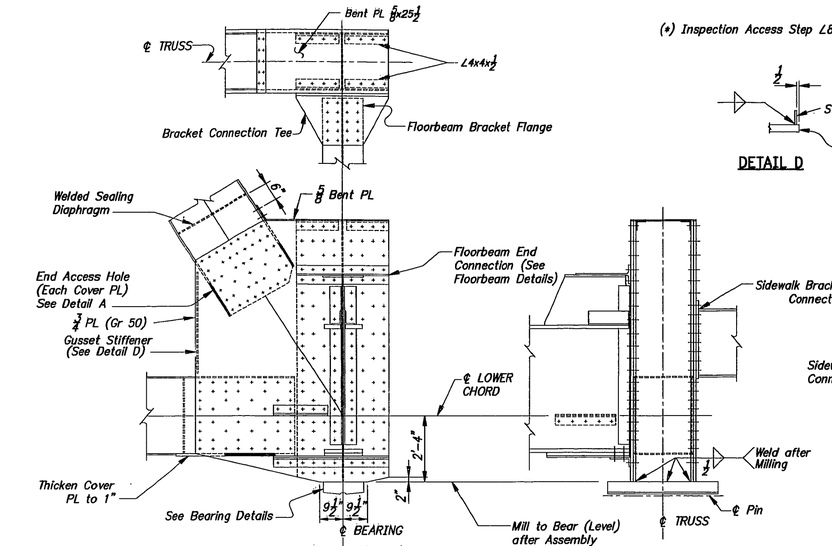
NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D
CONSTRUCTION PROJECT NO. | MAINTENANCE PROJECT NO. | DRAWING NO. 22740

UPDATE DATE
LETTING DATE

PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

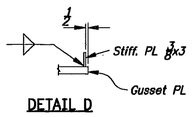
DESIGNED BY PHP DATE 5-91
DETAILED BY DRH/RWH DATE Sep-91
CHECKED BY DMB DATE 2-92
CHECKED BY DATE
CHECKED BY DATE
TRACED BY DATE
REVISED
REVISED



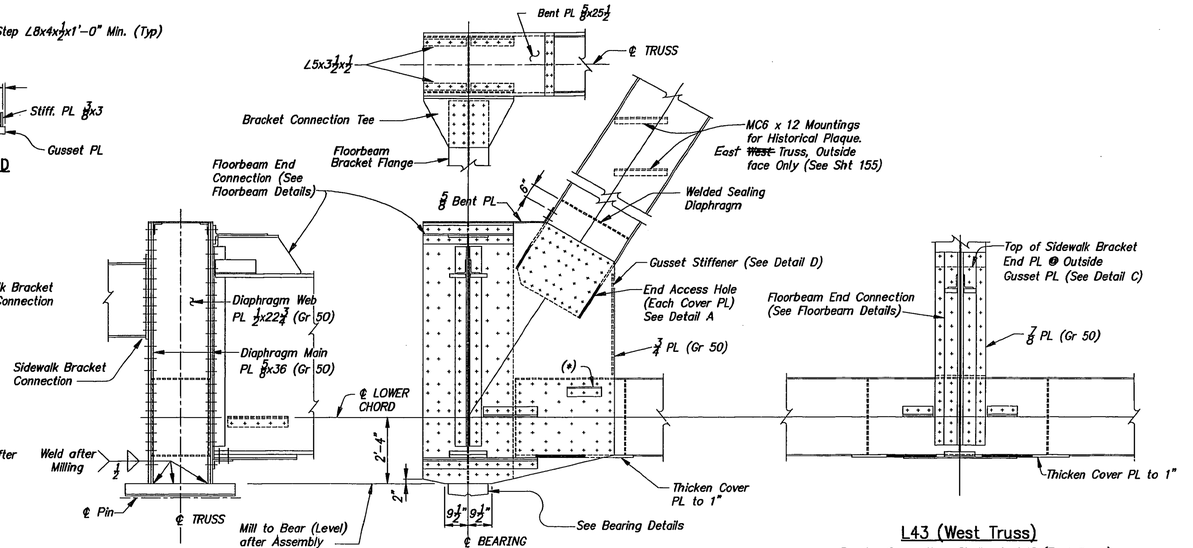
L44 (East Truss)

END ELEVATION

(*) Inspection Access Step L8x4x1/2x1'-0" Min. (Typ)



DETAIL D



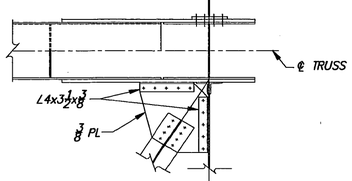
END ELEVATION

L44 (West Truss)
Bracing Connections Similar to L44 (East Truss)

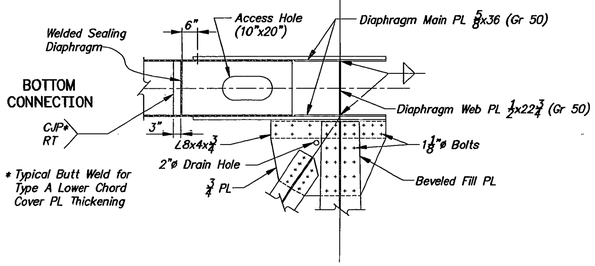
L43 (West Truss)
Bracing Connections Similar to L43 (East Truss)
(See Sheet 54)

TOP CONNECTION

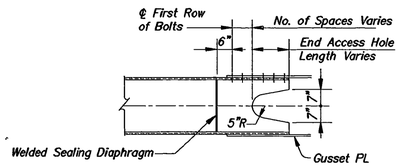
CONNECTION AT ℄ CHORD



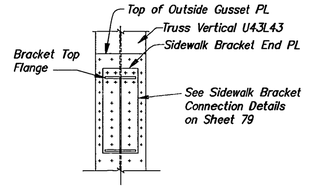
BOTTOM CONNECTION



* Typical Butt Weld for Type A Lower Chord Cover PL Thickening



DETAIL A
End Access Hole for Type A Diagonals
@ Lower Joints Unless Noted.



DETAIL C
Sidewalk Bracket Connection
@ Outside Gusset PL

Note: See "Floorbeam Details" for Beveled Fill PL.
See Sheet 54 for Welded Sealing Diaphragm.

MAIN SPANS SHEET 61

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-025 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

TRUSS JOINTS
L44, L43(West)

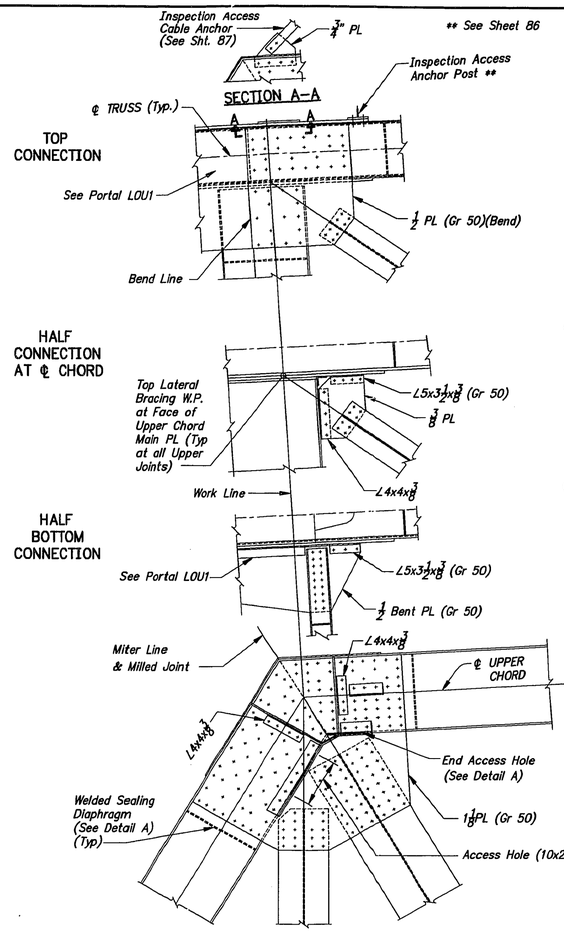
HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

UPDATE DATE
LETTING DATE

PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

	DATE	REVISED
DESIGNED BY: DWB	DATE: 5-91	REVISED
DETAILED BY: DRH	DATE: Sep 91	REVISED
CHECKED BY: DWB	DATE:	REVISED
TRACED BY:	DATE:	REVISED

09/27/1991 DGN: D:\DVGFILES\1135\041\TRUSJT10



U1

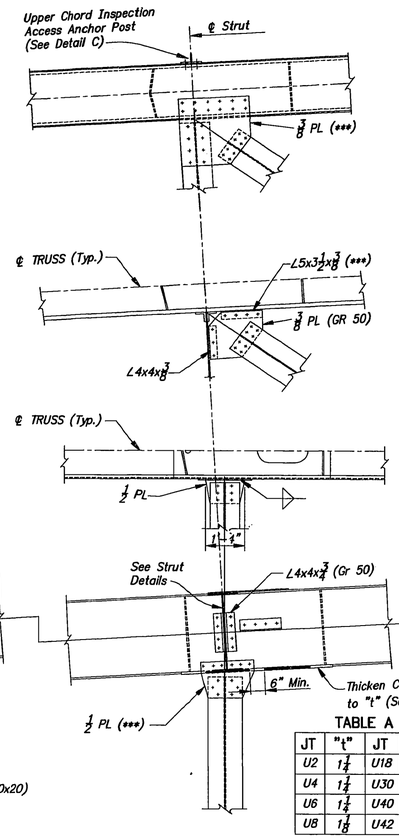
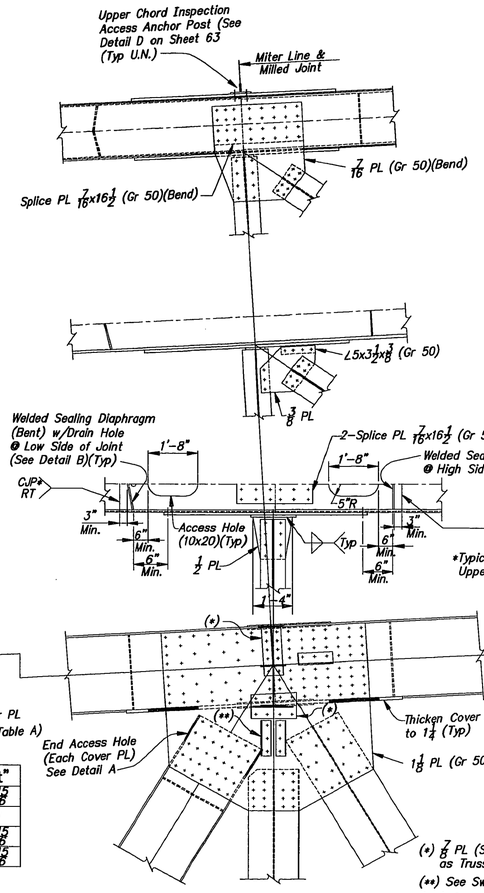


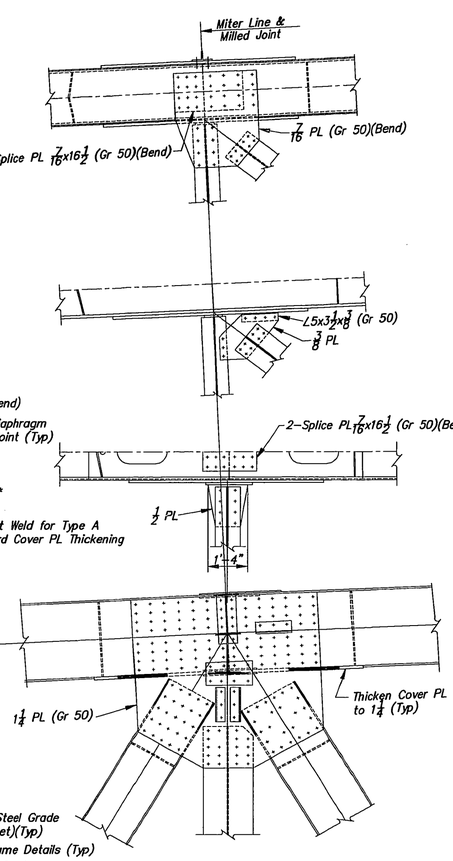
TABLE A

JT	"t"	JT	"t"
U2	1 1/4	U18	15/16
U4	1 1/4	U30	1
U6	1 1/4	U40	15/16
U8	1 1/8	U42	15/16

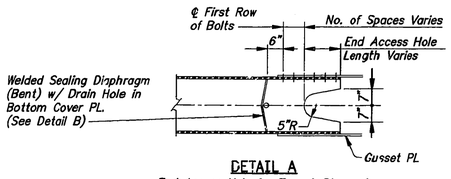
U2 THRU U8 & U18 (Shown)
U30, U40, & U42 (Opposite Hand)



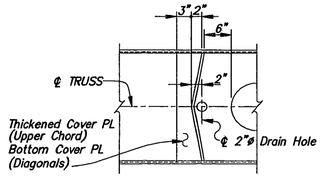
U3



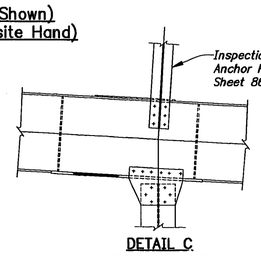
U5



DETAIL A
End Access Hole for Type A Diagonals @ Upper Joints Unless Noted.



DETAIL B



DETAIL C
Outside Face of Upper Chord Typical at Even Numbered Joints U.N.

NOTE - See Sheet 54 for Welded Sealing Diaphragm.
See Sheet 67 for Even Nos. U10 thru U16 and U32 thru U38.
See Sheet 64 for Even Nos. U20, U22, U26, and U28.
See Sheet 65 for U24.

TRUSS JOINTS
U1, U3, U5
& EVEN NOS. U2 – U8, U18, U30, U40, U42

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

MAIN SPANS SHEET 62

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

UPDATE DATE

LETTING DATE

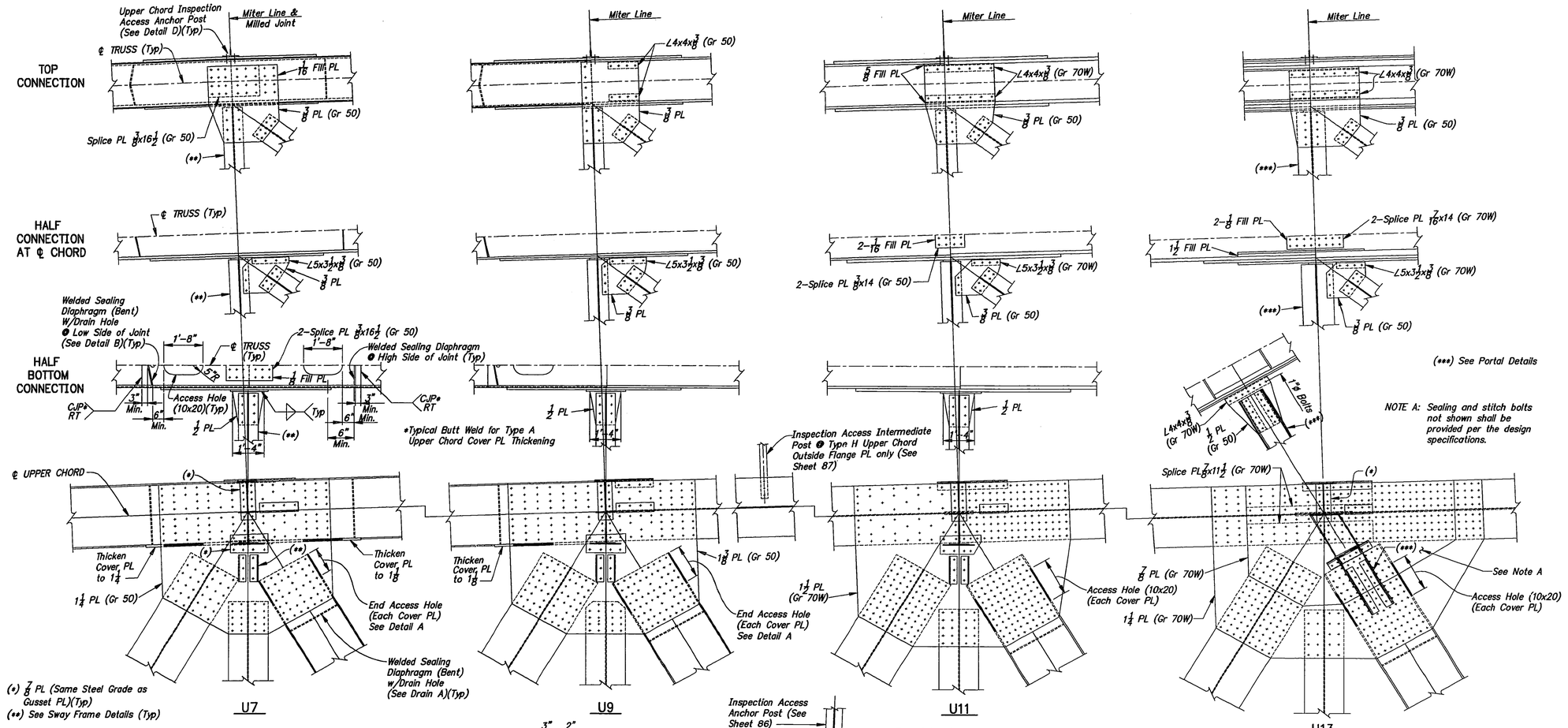
PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

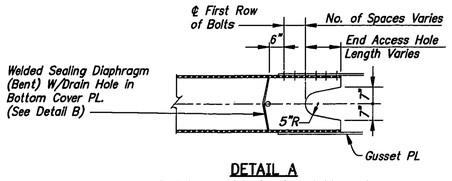
DESIGNED BY DMB DATE 5-91
DETAILED BY DRH DATE Sep 91
CHECKED BY PMP DATE
CHECKED BY DMB DATE
CHECKED BY DATE
REVISED DATE
REVISED DATE
REVISED DATE

TOP CONNECTION

HALF CONNECTION AT ℄ CHORD

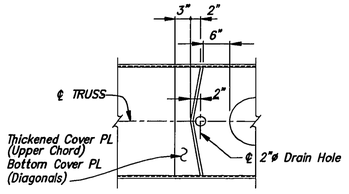
HALF BOTTOM CONNECTION



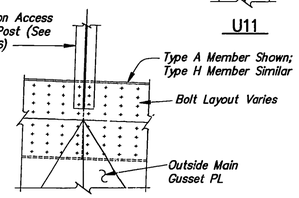


DETAIL A

End Access Hole for Type A Diagonals @ Upper Joints Unless Noted.



DETAIL B



DETAIL D

Outside Face of Upper Chord Typical at Odd Numbered Joints U.N.

NOTE – See Sheet 54 for Welded Sealing Diaphragm

TRUSS JOINTS
U7, U9, U11, U13

HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

MAIN SPANS SHEET 63

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON. COUNTY, OHIO

NEW BRIDGE OVER OHIO PIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

UPDATE DATE
LETTING DATE

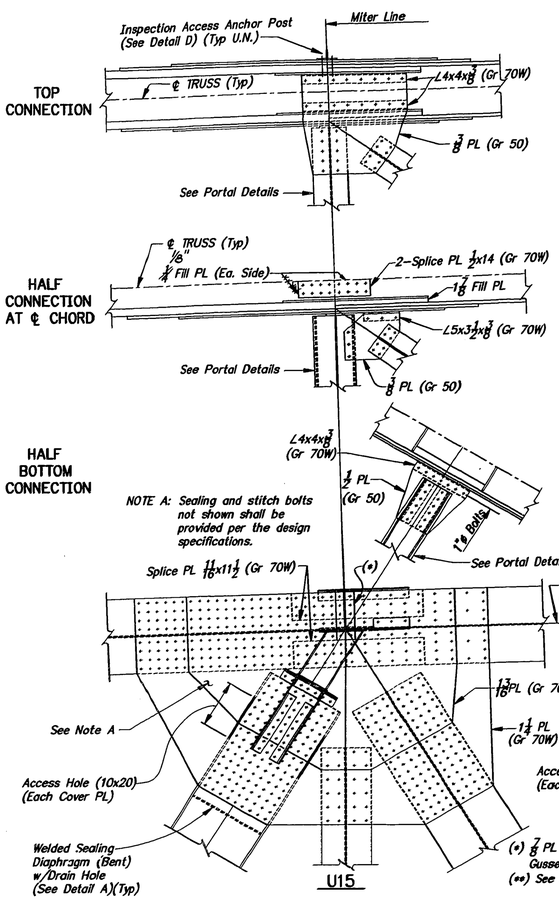
PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

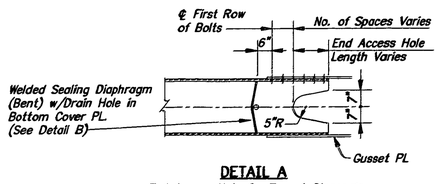
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DETAILED BY: DNB		CHECKED BY: DNB	
TRACED BY: DNB		CHECKED BY: DNB	
REVISED		REVISED	
REVISED		REVISED	

TOP CONNECTION

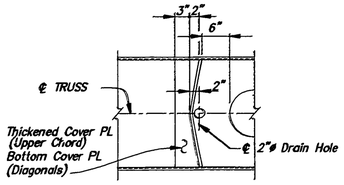
HALF CONNECTION AT ℄ CHORD

HALF BOTTOM CONNECTION

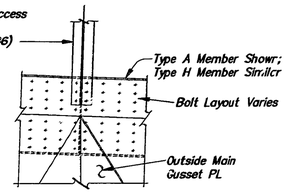




DETAIL A
End Access Hole for Type A Diagonals @ Upper Joints Unless Noted.



DETAIL B



DETAIL D
Outside Face of Upper Chord Typical at Odd Numbered Joints U.N.

NOTE – See Sheet 54 for Welded Sealing Diaphragm

TRUSS JOINTS
U15, U17, U19
U20, U22, U26, U28

HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

MAIN SPANS SHEET 64

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

UPDATE DATE
LETTING DATE

PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

	DATE	DATE	DATE
DESIGNED BY	DMB		
DETAILED BY	DRH		
TRACED BY			
CHECKED BY	PMP		
CHECKED BY	DMB		
CHECKED BY			
DATE	5-91		
REVISED			
REVISED			
REVISED			

TOP CONNECTION

HALF CONNECTION AT ℄ CHORD

HALF BOTTOM CONNECTION

Inspection Access Anchor Post (See Detail D) (Typ U.N.)

Miter Line & Milled Joint

⅜ Fill PL

℄ TRUSS (Typ)

Splice PL ½x16½ (Gr 50)

½ PL (Gr 50)

(**)

L5x3½x⅜ (Gr 70W) 50

⅜ PL (Gr 50)

Welded Sealing Diaphragm (Bent) w/Drain Hole @ Low Side of Joint (See Detail B)(Typ)

2-Splice PL ½x16½ (Gr 50)

Welded Sealing Diaphragm @ High Side of Joint (Typ)

℄ TRUSS (TYP)

6" Min.

1'-8"

5"R

3" Min.

CJP* RT

⅜ Fill PL

¼"Typ

Access Hole (10x20)(Typ)

6" Min.

½ PL

1'-4"

*Typical Butt Weld for Type A Upper Chord Cover PL Thickening

Splice PL ⅝x24 (Gr 70W)

⅛ Fill ℄

(*)

℄ UPPER CHORD

Thicken Cover PL to 1¼

End Access Hole (Each Cover PL) See Detail A (Typ)

Thicken Cover PL to 1½

1¼ PL (Gr 70W)

Welded Sealing Diaphragm (Bent) w/Drain Hole (See Detail A)(Typ)

U21

Splice PL ½x17½ (Gr 70W)(Bend)

½ PL (Gr 70W)(Bend)

△ Bolt spacing is 5¼" & should be 4⅝". Member returned to fabricator for correction

L5x3½x⅜ (Gr 70W)

⅜ PL (Gr 50)

2 Splice PL ½x17½ (Gr 70W) (Bend)

½ PL

Splice PL 11/16x24 (Gr 70W)

¼ Fill PL

Thicken Cover PL to 1½

1¼ PL (Gr 70W)

U23

Inspection Access Anchor Post. (See Detail C)

℄ Strut

⅜ PL (Gr 70W)

L4x4x¾ (Gr 50)

½ PL

1'-4"

See Strut Details

½ PL (Gr 70W)

Thicken Cover PL to 1½*

U24

Splice PL ½x17½ (Gr 70W)(Bend)

½ PL (Gr 70W)(Bend)

L5x3½x⅜ (Gr 70W)

⅜ PL (Gr 50)

2 Splice PL ½x17½ (Gr 70W) (Bend)

½ PL

Splice PL 11/16x24 (Gr 70W)

⅜ Fill PL

Thicken Cover PL to 1½

1¼ PL (Gr 70W)

U25

(*) ⅞ PL (Same Steel Grade as Gusset PL)(Typ)

(**) See Sway Frame Details (Typ)

℄ First Row of Bolts

No. of Spaces Varies

6"

End Access Hole Length Varies

Welded Sealing Diaphragm (Bent) w/Drain Hole in Bottom Cover PL. (See Detail B)

1"

1"

5"R

Gusset PL

DETAIL A

End Access Hole for Type A Diagonals @ Upper Joints Unless Noted.

3"

2"

6"

2"

℄ TRUSS

Thickened Cover PL (Upper Chord) Bottom Cover PL (Diagonals)

℄ 2"ø Drain Hole

DETAIL B

Inspection Access Anchor Post (See Sheet 86)

DETAIL C

Outside Face of Upper Chord

Outside Main Gusset PL

DETAIL D

Outside Face of Upper Chord Typical at Odd Numbered Joints U.N.

NOTE – See Sheet 54 for Welded Sealing Diaphragm

TRUSS JOINTS
U21, U23, U25
U24

HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

MAIN SPANS SHEET 65

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 0272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-U23 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING I.D.
		22740

UPDATE DATE
LETTING DATE

PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

	DATE	DESIGNED BY	CHECKED BY
	5-91	PNP	PNP
	SEP 91	DMG	DMG
		DMB/BLS	DMB
		DRAWN BY	CHECKED BY

TOP CONNECTION

HALF CONNECTION AT ℄ CHORD

HALF BOTTOM CONNECTION

Inspection Access Anchor Post (See Detail D) (Typ)

Miter Line & Milled Joint

℄ TRUSS (Typ)

⅞ Fill PL

7/16 PL (Gr 50)

Splice PL 7/16x16½ (Gr 50)

(**)

L5x3½x⅞ (Gr 70W)

⅞ PL (Gr 50)

2 Splice PL 7/16x16½ (Gr 50)

¼" ⅞ Fill PL

½ PL

Typ.

1'-4"

℄ UPPER CHORD (Typ)

(*)

Splice PL 11/16x24 (Gr 70W)

Thicken Cover PL to 1½

Thicken Cover PL to 1¼

1¼ PL (Gr 70W)

End Access Hole (Each Cover PL) (See Detail A)

Welded Sealing Diaphragm (See Detail A)(Typ)

(*) ⅞ PL (Same Steel Grade as Gusset PL)(Typ)

(**) See Sway Frame Details (Typ)

U27

Miter Line & Milled Joint

⅞ Fill PL

½ PL (Gr 50)

L5x3½x⅞ (Gr 50)

⅞ PL

Welded Sealing Diaphragm @ High Side of Joint (Typ)

Splice PL ½x16½ (Gr 50)

¼ Fill PL

6" Min.

1'-8"

5"R

3" Min.

Access Hole (10x20)(Typ)

6" Min.

CJP* RT

½ PL

1'-4"

Thicken Cover PL to 1¼

See Note A

11/16PL (Gr 50)

Thicken Cover PL to 1

1⅛PL (Gr 50)

End Access Hole (Each Cover PL) (See Detail A)

U29

Miter Line

⅞ PL

L5x3½x⅞ (Gr 70W)

⅞ PL

Welded Sealing Diaphragm (Bent) w/Drain Hole @ Low Side of Joint (See Detail B)(Typ)

1'-8"

3" Min.

6" Min.

CJP* RT

*Typical Butt Weld for Type A Upper Chord Cover PL Thickening

½ PL

1'-4"

Thicken Cover PL to 1

1⅛ PL (Gr 70W)

1¼ PL (Gr 50)

Access Hole (10 x 20) (Each Cover PL)

U31

Miter Line

L4x4x⅞ (Gr 70W)

(***)

⅞ PL (Gr 50)

⅛ Fill PL (Ea. Side)

1⅛ Fill PL

2-Splice PL ⅜x14 (Gr 70W)

L5x3½x⅞ (Gr 70W)

(***)

⅞ PL (Gr 50)

L4x4x⅞ (Gr 70W)

½ PL (Gr 50)

1"ø Bolts

(***)

NOTE A: Sealing and stitch bolts not shown shall be provided per the design specifications.

(***) See Portal Details

Splice PL ½x11½ (Gr 70W)

13/16 PL (Gr 70W)

1¼ PL (Gr70W)

See Note A

Access Hole (10 x 20) (Ea. Cover PL)

Weldea Sealing Diaphragm (Bent) w/Drain Hole (See Detail A)(Typ)

U33

℄ First Row of Bolts

No. of Spaces Varies

6"

End Access Hole Length Varies

Welded Sealing Diaphragm (Bent) w/Drain Hole in Bottom Cover PL. (See Detail B)

℄ TRUSS

5"R

Gusset PL

DETAIL A

End Access Hole for Type A Diagonals @ Upper Joints Unless Noted.

2"

3"

6"

2"

℄ TRUSS

℄ 2"ø Drain Hole

Thickened Cover PL (Upper Chord) Bottom Cover PL (Diagonals)

DETAIL B

Inspection Access Anchor Post (See Sheet 86)

Outside Main Gusset PL

DETAIL D

Outside Face of Upper Chord Typical at Odd Numbered Joints U.N.

NOTE – See Sheet 54 for Welded Sealing Diaphragm

TRUSS JOINTS
U27, U29, U31, U33

HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

MAIN SPANS SHEET 66

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 0027(348)

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-323.07? D

CONSTRUCTION PROJECT NO. | MAINTENANCE PROJECT NO. | DRAWING NO. 22740

UPDATE DATE

LETTING DATE

PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

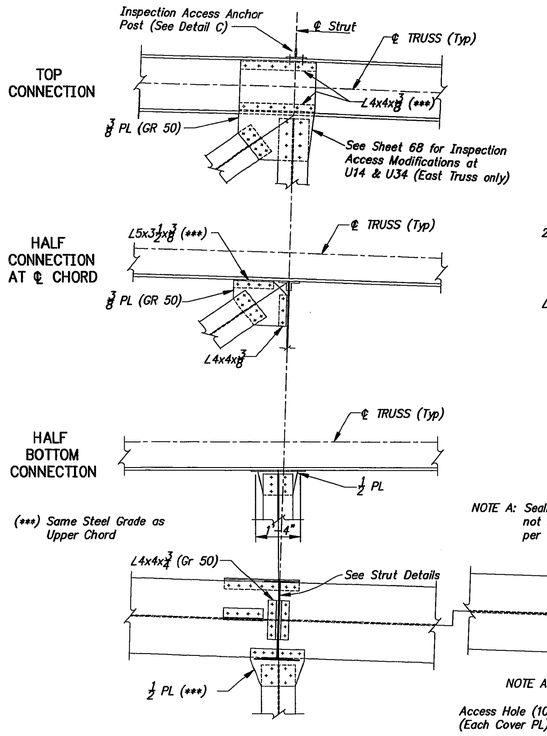
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DESIGNED BY: DMB
DETAILED BY: PMP
CHECKED BY: DMB
CHECKED BY: DMB
DATE: 5-91
REVISION

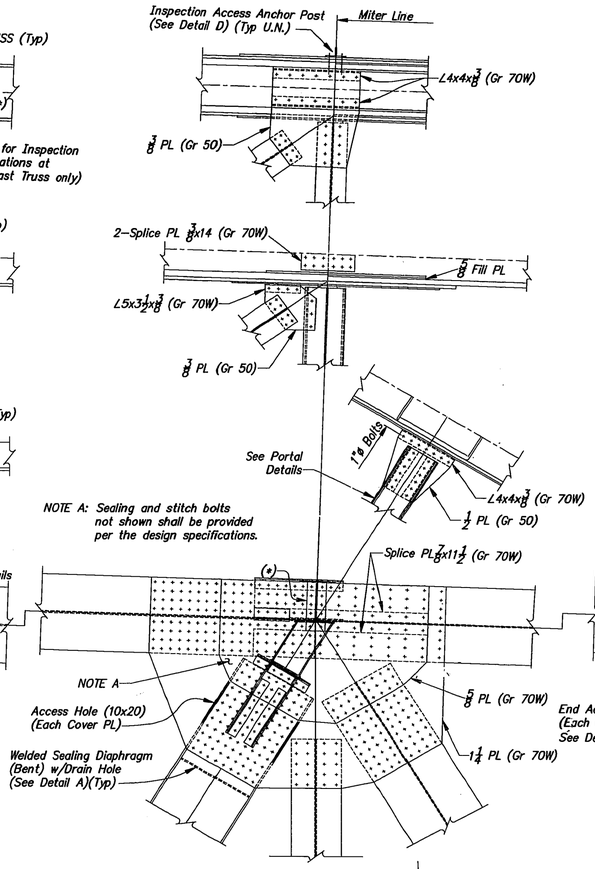
TOP CONNECTION

HALF CONNECTION AT ℄ CHORD

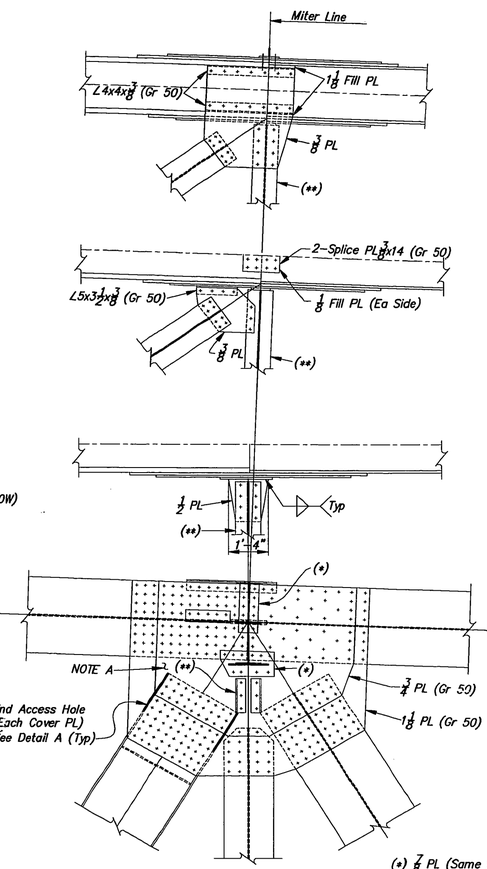
HALF BOTTOM CONNECTION



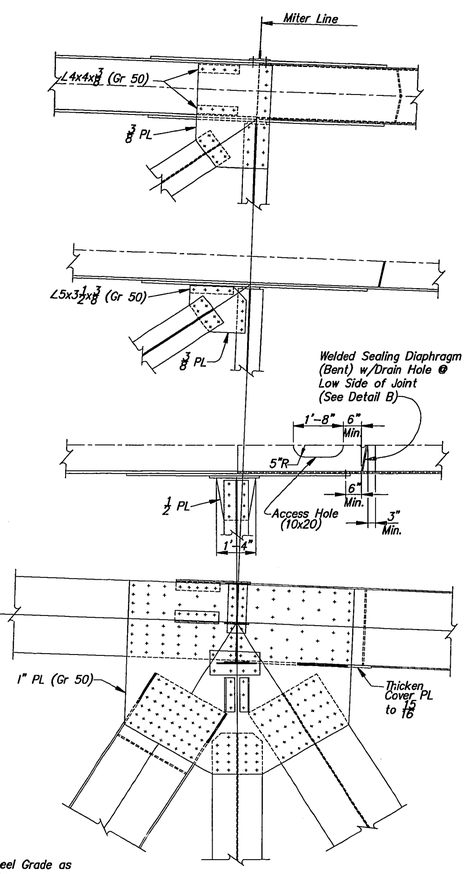
U32,U34,U36,U38 (Shown)
U10,U12,U14,U16 (Opposite Hand)



U35

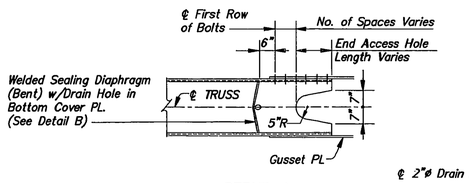


U37

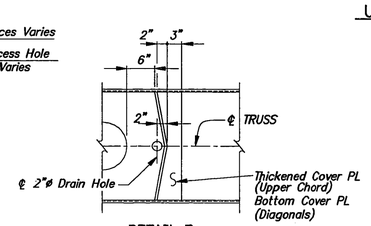


U39

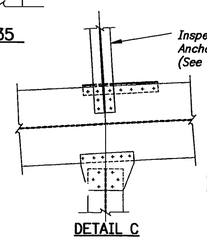
(*) ⅞ PL (Same Steel Grade as Gusset PL)(Typ)
(**) See Sway Frame Details (Typ)



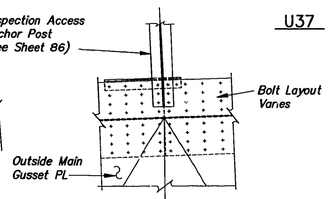
DETAIL A
End Access Hole for Type A Diagonals @ Upper Joints Unless Noted.



DETAIL B



DETAIL C
Outside Face of Upper Chord Typical at Even Numbered Joints U.N.



DETAIL D
Outside Face of Upper Chord Typical at Odd Numbered Joints U.N.

NOTE – See Sheet 54 for Welded Sealing Diaphragm

TRUSS JOINTS
U35, U37, U39,
& EVEN NOS.
U10 – U16, U32 – U38

HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

MAIN SPANS SHEET 67

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

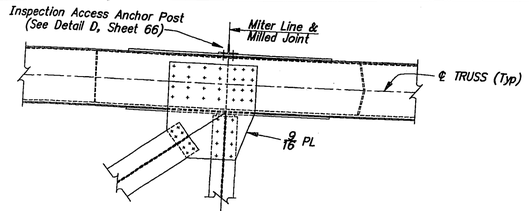
CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

UPDATE DATE
LETTING DATE

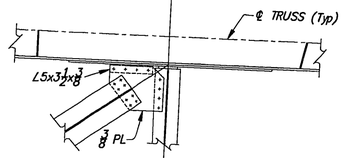
PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

	DATE	DATE
REVISED		
REVISED		
DESIGNED BY: PHP/DWB	5-91	
DETAILED BY: DWB/RLS	5-91	
CHECKED BY: DAH	6-92	
CHECKED BY: D+B	9/	
TRACED BY:		

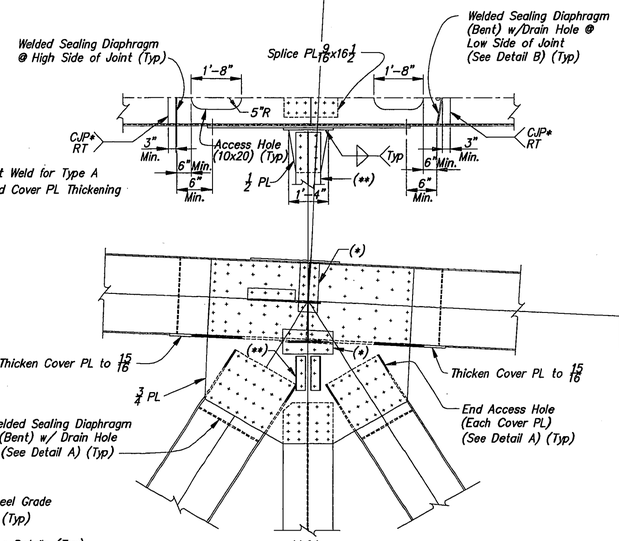
TOP CONNECTION



HALF CONNECTION AT ℄ CHORD



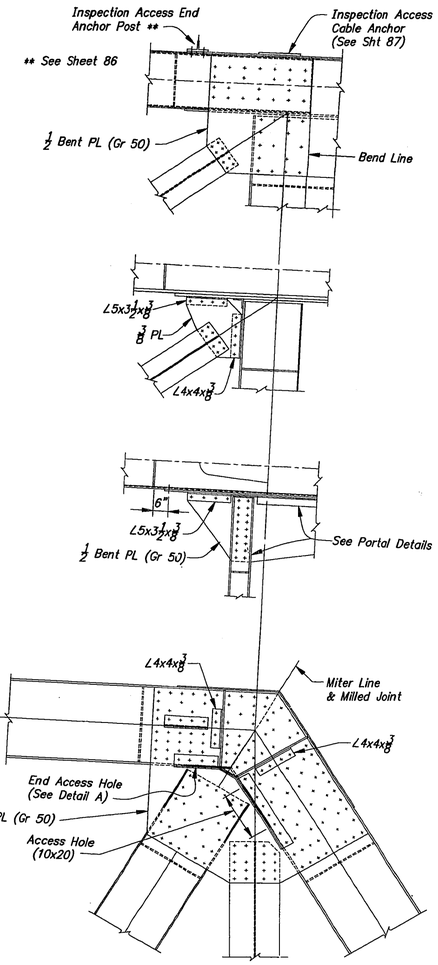
HALF BOTTOM CONNECTION



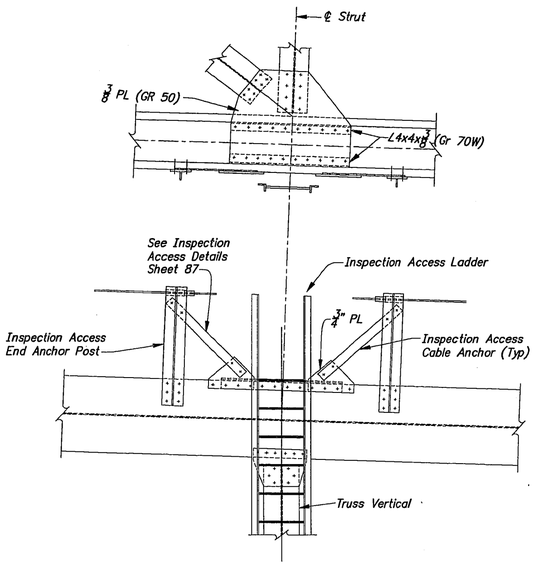
(*) 7/8 PL (Same Steel Grade as Gusset PL) (Typ)

(**) See Sway Frame Details (Typ)

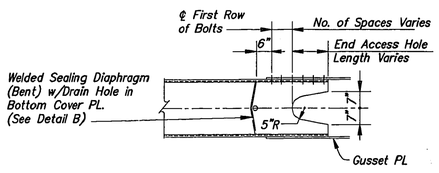
U41



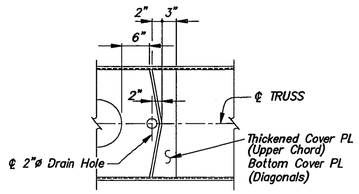
U43



INSPECTION ACCESS MODIFICATIONS
U14(EAST) (Shown)
U34(EAST) (Opposite Hand)
(LOOKING AT OUTSIDE GUSSET PL)
(See Sheet 67 for Details not shown)



DETAIL A
End Access Hole for Type A Diagonals @ Upper Joints Unless Noted.



DETAIL B

NOTE: See Sheet 54 for Welded Sealing Diaphragm

TRUSS JOINTS
U41, U43

MAIN SPANS SHEET 68

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

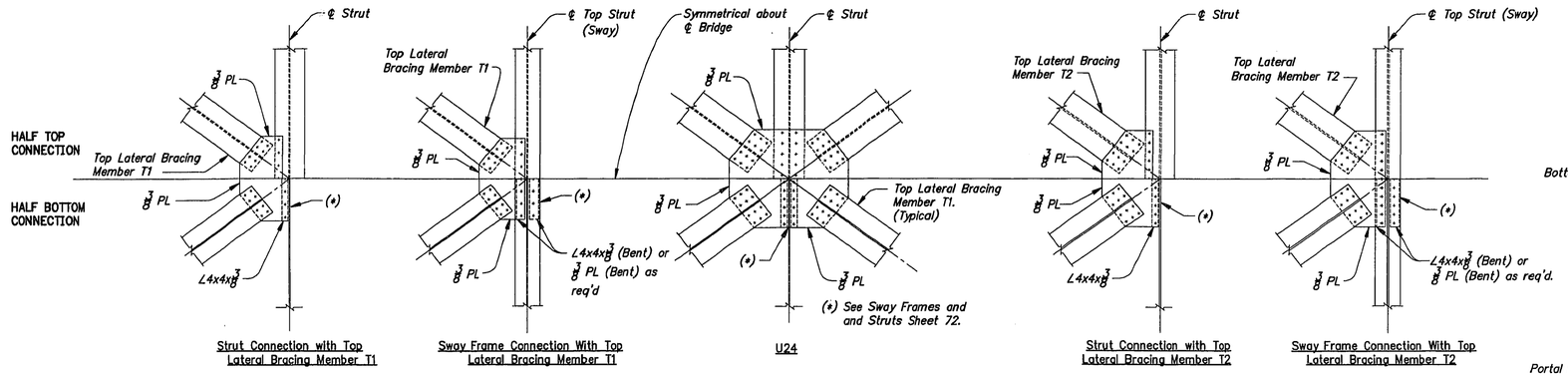
NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

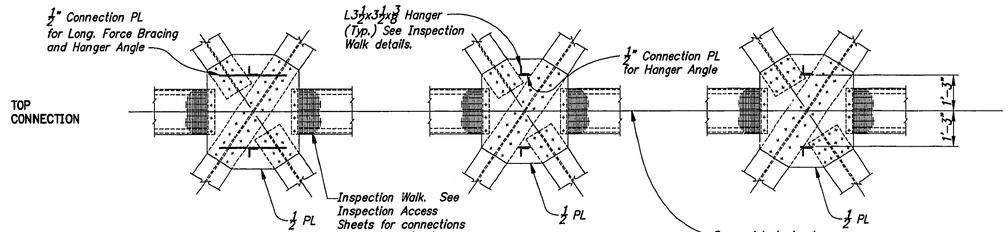
BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

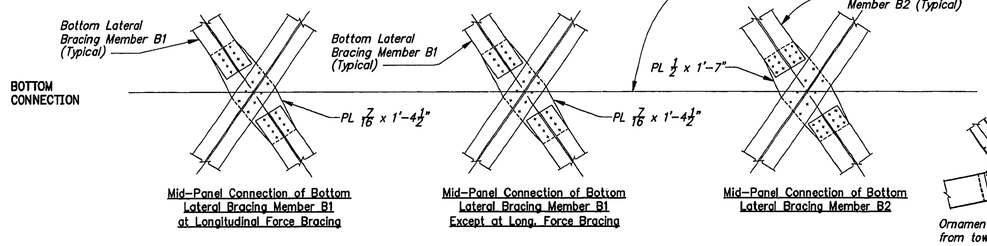
CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

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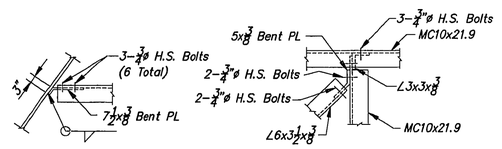


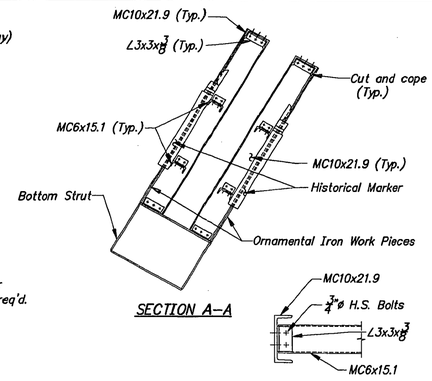
TOP LATERAL BRACING

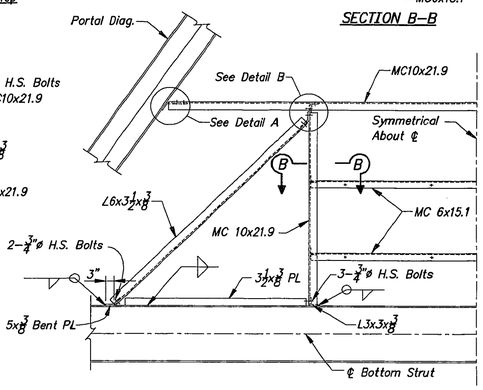




BOTTOM LATERAL BRACING

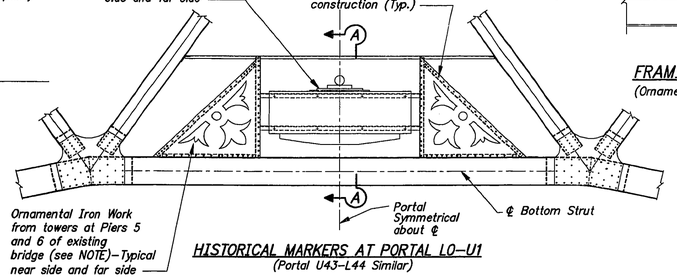






FRAMING DIAGRAM FOR HISTORICAL MARKERS

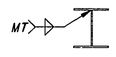
(Ornamental Iron Work Pieces and Historical Markers not shown)
View Normal to L0 – U1.



HISTORICAL MARKERS AT PORTAL L0-U1

(Portal U43-L44 Similar)

NOTE: Four (4) historical marker castings and eight (8) ornamental iron work pieces are to be carefully removed from the existing bridge and the Contractor shall be responsible for their safe storage until they are in place on the new portals. The historicl castings are mounted on the existing bridge towers at Piers 5 and 6 and are approx. 9'-6" x 4'-10" containing the inscription "BUILT BY THE KING IRON BRIDGE MANUFACTURING CO., CLEVELAND, OHIO 1890". All cracks in the castings are to be repaired by brazing and grinding to restore the original appearance (one casting is known to have a 3'± long crack). The ornamental iron pieces are at the same locations on the existing bridge and resemble the details above. Corrosion loss and other damage on the ornamental iron pieces shall be repaired as directed by the Engineer. Historical marker castings and ornamental iron pieces shall be cleaned and painted in accordance with the Special and General Notes. This work shall be incidental and the cost included in the bid for "Structural Steel".



TYPICAL SECTION
TOP & BOTTOM LATERALS
(See Truss Welding Notes on Sheet 54)

TRUSS BRACING NOTES:

Bolted Connections shall be made with mechanically galvanized high strength bolts AASHTO M164 (A325) of the size indicated:
Top and Bottom Lateral Bracing – 7/8"ø Bolts
Inspection Walk – 3/4"ø Bolts
All steel shall be Grade 36 unless noted otherwise.
For Inspection Walk details see sheets 89-90.
For Longitudinal Force Brccing details see sheet 80.

UPDATE DATE
LETTING DATE

PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

DESIGNED BY: Balke Eng. DATE
DETAILED BY: DRH & NR DATE
CHECKED BY: PHP DATE
CHECKED BY: DATE
CHECKED BY: DATE
REVISED
REVISED
REVISED

08/27/1991 DRH D:\DGN\FILES\U1SEN\MLATERAL

MAIN SPANS SHEET 69

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

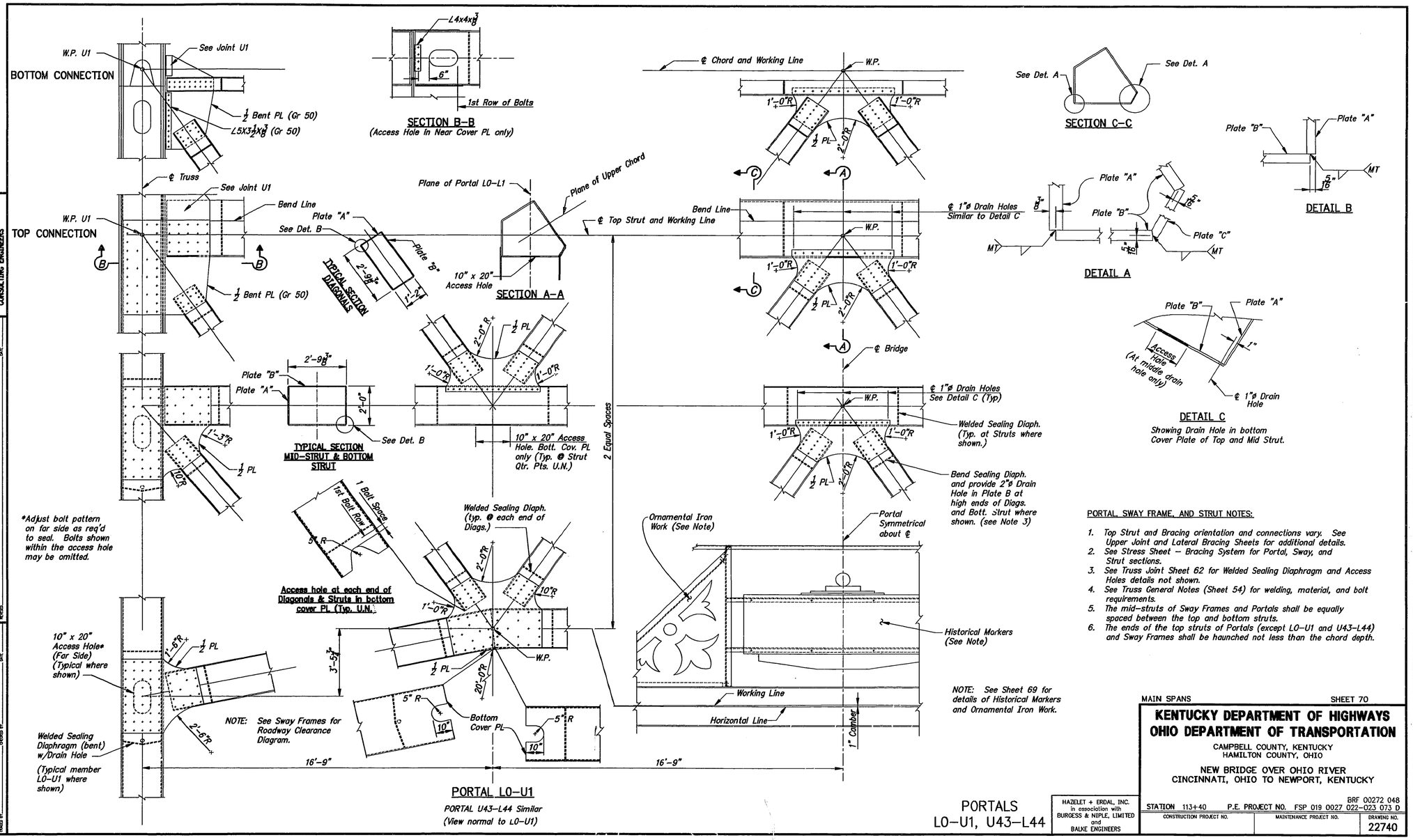
HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

LATERAL BRACING-JOINTS

UPDATE DATE
LETTING DATE

PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

DESIGNED BY BLS DATE 9-91
DETAILED BY DRH/BLS DATE
CHECKED BY PMP DATE
CHECKED BY ZJP DATE
ENGR OF REC'D DATE
REVISED
REVISED
REVISED



NOTE: See Sheet 69 for details of Historical Markers and Ornamental Iron Work.

PORTAL, SWAY FRAME, AND STRUT NOTES:

1. Top Strut and Bracing orientation and connections vary. See Upper Joint and Lateral Bracing Sheets for additional details.
2. See Stress Sheet – Bracing System for Portal, Sway, and Strut sections.
3. See Truss Joint Sheet 62 for Welded Sealing Diaphragm and Access Holes details not shown.
4. See Truss General Notes (Sheet 54) for welding, material, and bolt requirements.
5. The mid-struts of Sway Frames and Portals shall be equally spaced between the top and bottom struts.
6. The ends of the top struts of Portals (except L0–U1 and U43–L44) and Sway Frames shall be haunched not less than the chord depth.

MAIN SPANS SHEET 70

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

PORTALS
L0–U1, U43–L44

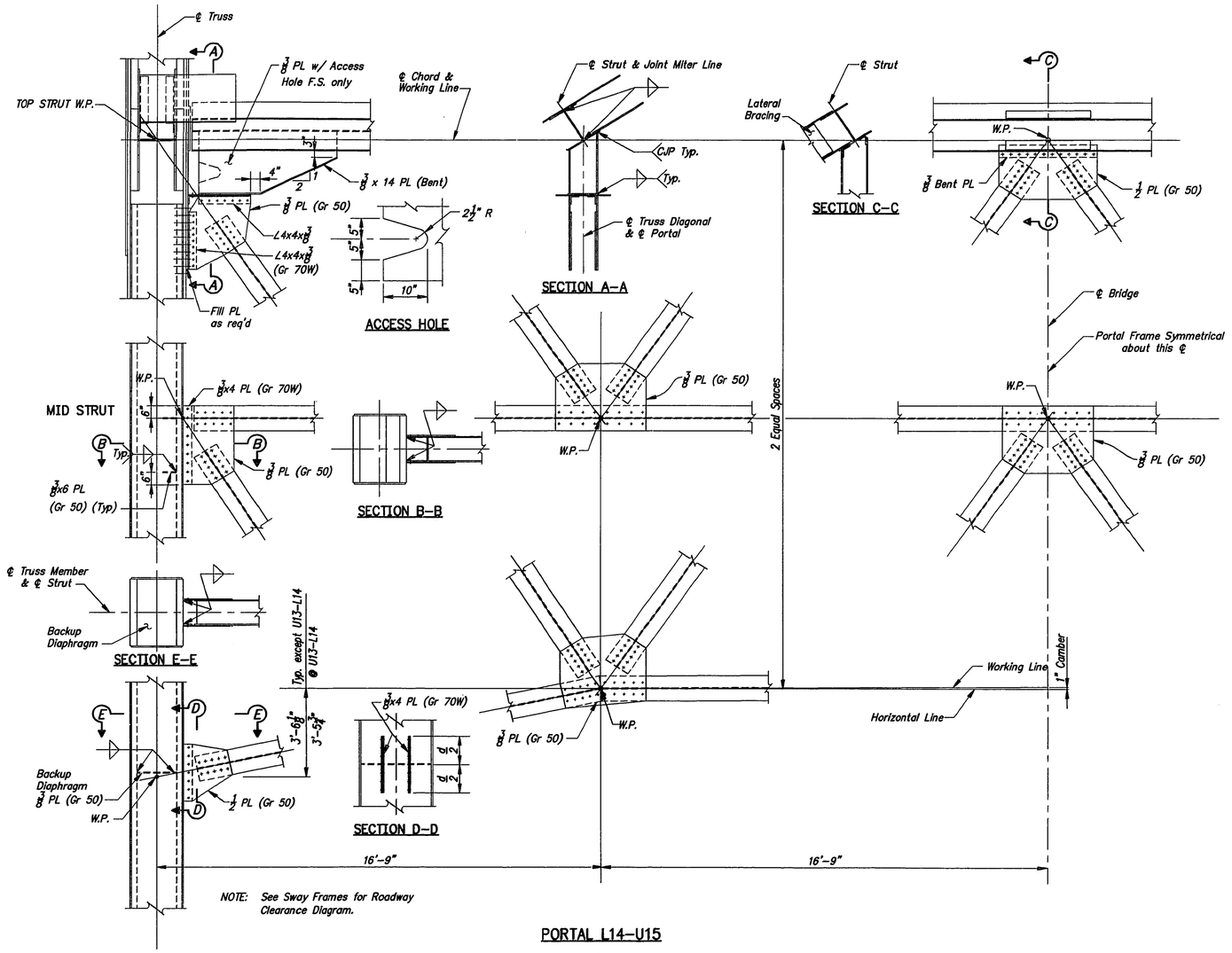
HAZELET + ERDAL, INC.
In association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D
CONSTRUCTION PROJECT NO. | MAINTENANCE PROJECT NO. | DRAWING NO. 22740

UPDATE DATE
LETTING DATE

PREPARED AND SUBMITTED BY:
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CONSULTING ENGINEERS

DESIGNED BY	BLS	DATE	9-91
DETAILED BY	BLS & AR	DATE	
TRACED BY		DATE	
CHECKED BY	PNP	DATE	
CHECKED BY	DMP	DATE	
REVISED			
REVISED			
REVISED			



NOTE: See Sway Frames for Roadway Clearance Diagram.

PORTAL L14–U15

Portals U13–L14, U33–L34, L34–U35 Similar
(View Normal to Portals)

See Sheet 70 for Notes.

PORTALS
U13–L14, L14–U15
U33–L34, L34–U35

HAZELET + ERDAL, INC.
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and
BALKE ENGINEERS

MAIN SPANS SHEET 71

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 6.272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

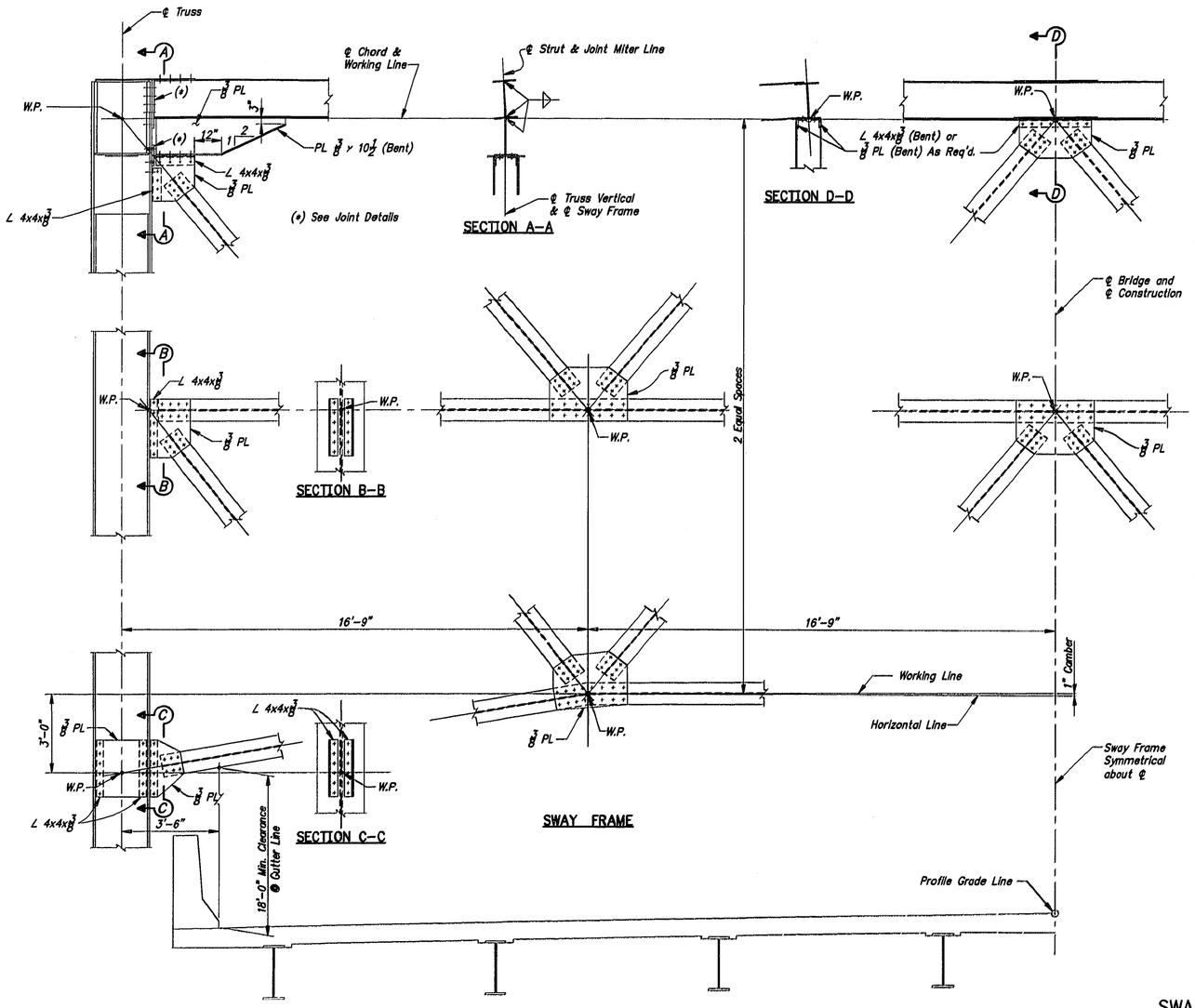
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		22740

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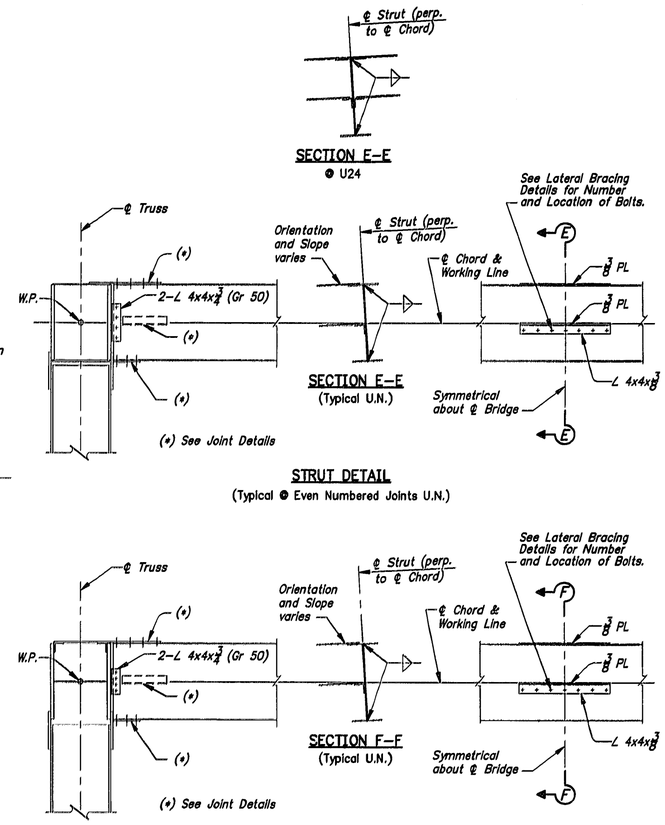
LETTING DATE

PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

	DATE	REVISED
DESIGNED BY: JEH	4-91	
DETAILED BY: PNP	9-91	
CHECKED BY: DMB		
TRACED BY: DRH		



ROADWAY CLEARANCE DIAGRAM
(Typical all Portals and Sway Frames)



NOTE: Upper Chord Safety Cable posts not shown. Transverse Inspection Walk pipe railing on Struts at U14 and U34 not shown. See Upper Chord Joints and Inspection Access sheets for details.

See Sheet 70 for Notes.

SWAY FRAMES AND STRUTS

HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

MAIN SPANS SHEET 72

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

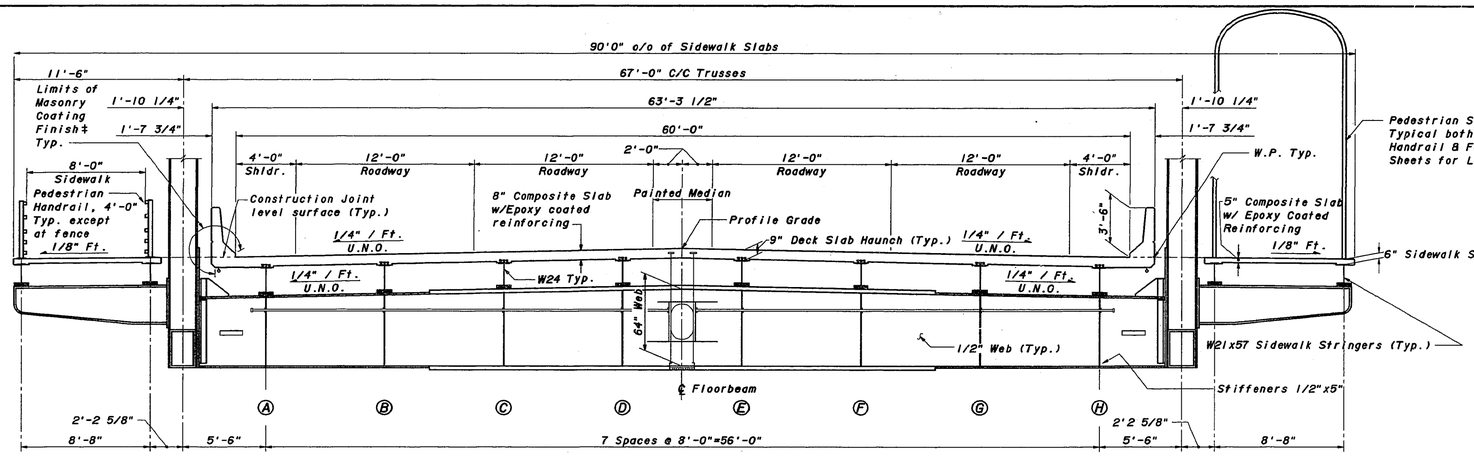
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

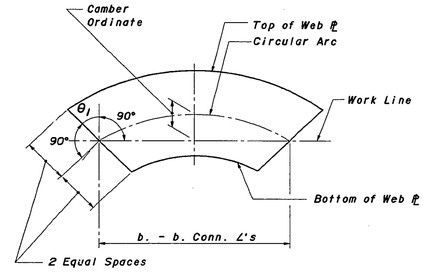


‡ *Contrary to Standard Specifications, the Underside of the Roadway and Sidewalk Slabs are not Required to Receive Masonry Coating Finish.*

TYPICAL TRANSVERSE SECTION

(1) *Main Section: (Rectangular) Center Flange Plates See Sheets 77 & 78*

(2) *Transition Section: (Tapered) End Flange Plates See Note "*" on Sheets 77 & 78*



FLOORBEAM WEB CAMBER AND END CUT DIAGRAM

θ1 ANGLE OF ENDCUT ON FLOORBEAM

TABLE OF FLOORBEAM MOMENTS, REACTIONS, AND CAMBER

FLOOR BEAM TYPE	MAXIMUM MOMENTS DL	LL	IMP.	TOTAL SERV. LOAD	TOTAL FACT. LOAD	END REACTIONS DL	LL	IMP.	TOTAL SERV. LOAD	TOTAL FACT. LOAD	MAIN SECTION (1) WEB ‡	FLANGES	TRANSITION SECTION (2) TOP FLANGE	BOTTOM FLANGE	CAMBER @ SUPPORTS (INCHES)	CAMBER ALONG SPAN (INCHES)	DL ROT θ1 ** (RADIANS)	DL+1/2 LL+I θ1 (RADIANS)
1	1519	2437	633	4589	8640	87	126	33	246	459	1/2x64	1 3/4x22	1 1/2X12	1 1/2X15	0.110	N/A	0.00119	N/A
2	2814	2612	679	6105	10803	161	135	35	332	580	do	1 3/4x22	1 1/2X12	1 1/2X12	N/A	0.684	N/A	0.00458
3	3934	3045	792	7771	13443	225	158	41	424	724	do	2 1/4x22	1 3/4X12	1 3/4X12	N/A	0.700	N/A	0.00474
4	3423	3000	780	7203	12657	196	146	38	380	655	do	2x22	1 1/2X12	1 1/2X12	N/A	0.751	N/A	0.00505
5	3976	3048	793	7817	13508	228	158	41	427	728	do	2 1/4x22	1 3/4X12	1 3/4X12	N/A	0.784	N/A	0.00455
6	3276	3007	782	7066	12486	188	156	40	384	670	do	2x22	1 1/2X12	1 1/2X12	N/A	0.719	N/A	0.00492
7	2870	2638	686	6194	10948	165	137	36	337	587	do	1 3/4x22	1 1/2X12	1 1/2X12*	0.199	N/A	0.00092	N/A
8	4074	3071	798	7944	13697	233	159	41	434	738	do	2 1/4x22	1 3/4X12	1 3/4X12	N/A	0.827	N/A	0.00531
9	3536	3034	789	7358	12894	203	157	41	400	693	do	2x22	1 1/2X12	1 1/2X12	N/A	0.776	N/A	0.00516
10	2919	2623	682	6224	10971	167	136	35	338	589	do	1 3/4x22	1 1/2X12	1 1/2X12*	0.204	0.710	0.00101	0.00481
11	1568	2463	640	4671	8775	90	127	33	251	466	1/2x64	1 3/4x22	1 1/2X12	1 1/2X15	0.121	N/A	0.00135	N/A

* 15" Flange Width @ L14 & L34
** DL θ1 is used for Floorbeams over Supports

TABLE OF STRINGER MOMENTS AND REACTIONS

		MAX. POS. MOM. @ 0.4 PT. END SPAN	MAX. POS. MOM. @ ℄ INT. SPAN	MAX. NEG. MOM. @ 1ST INT. SUPPORT	MAX. NEG. MOM. @ 2ND INT. SUPPORT	MAX. REACT. @ END SUPPORT AT PIER A	MAX. REACT. @ END SUPPORT AT PIER D	MAX. REACT. @ 1ST INT. SUPPORT	MAX. REACT. @ 2ND INT. SUPPORT	MAX. REACT. @ F.B. 2	MAX. REACT. @ F.B. 7	MAX. REACT. @ F.B. 10
41'-0" PANELS 4 SPAN	D.L. + F.W.S.	149	70	204	136	18.5		53.6	43.6	37.0		
	L.L. + IMPACT	433	344	305	285	62.0		78.9	77.4	65.2		
	TOTAL (SERV. LOAD)	582	414	509	421	80.5	N/A	132.5	120.9	102.2	N/A	N/A
	TOTAL (FACT. LOAD)	1134	838	927	796	158.6		240.9	224.6	189.7		
	STRINGER SIZE	W24x68	W24x68	W24x68	W24x68							
	MOM. CAPACITY *	1491	1491	1167	1167	(F.B.1)		(F.B.5)	(F.B.6)			
41'-0" PANELS 5 SPAN	D.L. + F.W.S.	150	65	201	150			53.0	45.7		37.8	
	L.L. + IMPACT	433	343	305	284			78.9	77.3		66.8	
	TOTAL (SERV. LOAD)	583	408	506	434	N/A	N/A	132.0	123.0	N/A	104.6	N/A
	TOTAL (FACT. LOAD)	1135	829	923	812			240.2	227.2		194.2	
	STRINGER SIZE	W24x68	W24x68	W24x68	W24x68							
	MOM. CAPACITY *	1491	1491	1167	1167			(F.B.3)	(F.B.4)			
42'-6" PANELS 5 SPAN	D.L. + F.W.S.	162	70	216	161		19.2	55.0	47.3			38.5
	L.L. + IMPACT	457	362	316	295		62.7	79.3	77.8			69.8
	TOTAL (SERV. LOAD)	619	432	532	456	N/A	81.9	134.3	125.0	N/A	N/A	108.3
	TOTAL (FACT. LOAD)	1203	877	967	850		161.2	243.7	230.4			201.3
	STRINGER SIZE	W24x76	W24x68	W24x76	W24x68							
	MOM. CAPACITY *	1863	1491	1283	1167		(F.B.11)	(F.B.8)	(F.B.9)			

* Factored Moment Capacity

Notes:

All Moments are in Ft-Kips
All Reactions are in Kips.
All Web and Flange Sizes are in Inches
** Web Depths are at the Centerline of the Bridge.*

U.N.O.: Unless noted otherwise
b.-b.: Back to Back

Place Stringer's Mill Camber Up.

FLOOR SYSTEM DETAILS

MAIN SPANS SHEET 73

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO
NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

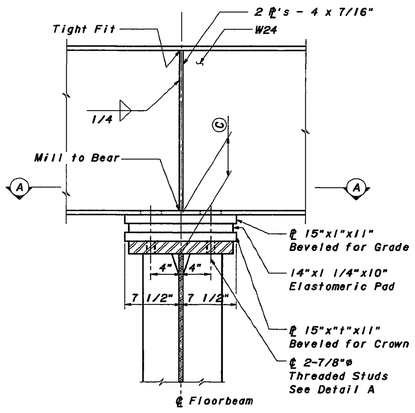
PLANS PREPARED & SUBMITTED BY: Burgess & Niple, Limited Engineers and Architects

UPDATE DATE ..... LETTING DATE .....

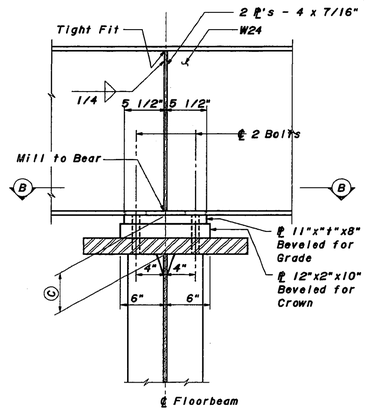
DESIGNED BY	CSK	CHECKED BY	ESS
DETAILED BY	KEK	CHECKED BY	ESS
TRACED BY	DR	CHECKED BY	

DATE 8/91 — REVISED -
DATE - — REVISED -
DATE 12-5-90 — REVISED ⚠ REVISED BEARINGS AND INSP. WALK WIDTH & PIPE HT.
DATE 2-20-91
DATE - — REVISED -

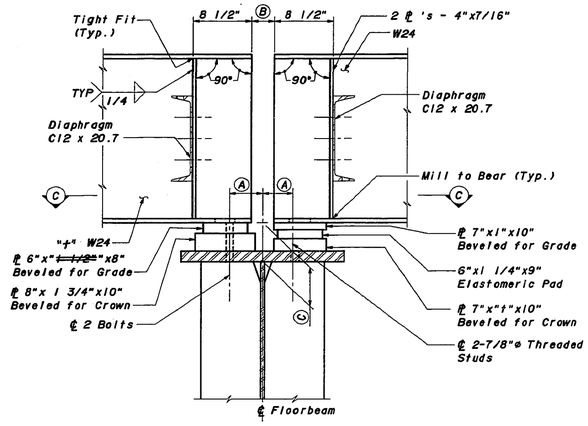
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INTERMEDIATE SUPPORT - EXPANSION BEARING
TYPE I

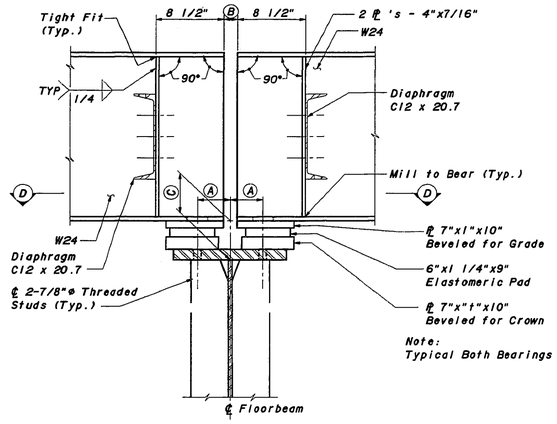


INTERIOR SUPPORT - FIXED BEARING
TYPE II



FIXED BEARING — EXPANSION BEARING

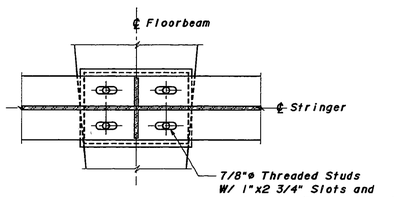
AT STRINGER EXPANSION JOINT
TYPE III



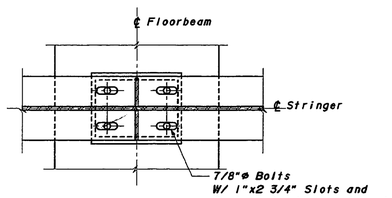
EXPANSION BEARING — EXPANSION BEARING

AT STRINGER EXPANSION JOINT
TYPE IV

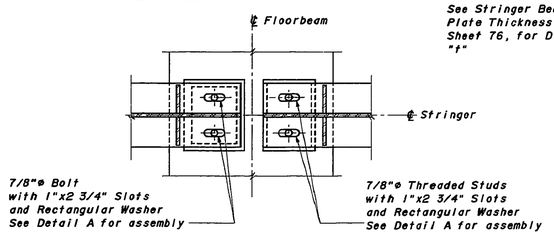
STRINGER BEARING AND DIAPHRAGM CONNECTION DETAILS



SECTION A - A

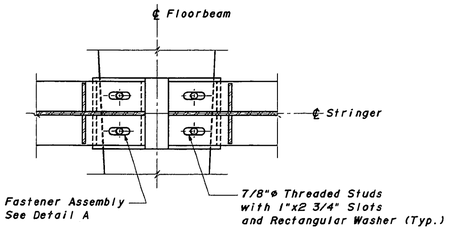


SECTION B - B

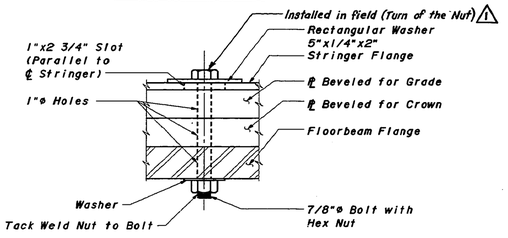


SECTION C - C

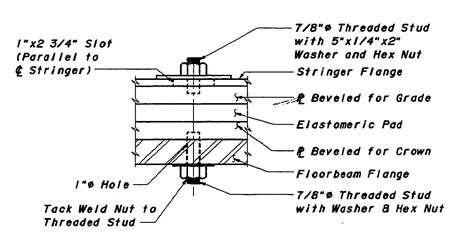
Note:
See Stringer Bearing
Plate Thickness Table,
Sheet 76, for Dimension
"f"



SECTION D - D



FIXED BEARING*
BOLT ASSEMBLY



EXPANSION BEARING*
THREADED STUD ASSEMBLY

DETAIL A

* Hand tighten hex nuts until concrete deck is in place to allow for stringer movement. After deck is in place, bolts should be fully torqued and hex nut tack welded to bolt. Bolt scored not welded 1

CODED NOTES

(A) 4 3/8" Typical except at L14 and L34 use 4 5/8"
(B) 1 3/4" Typical except at L14 and L34 use 2 1/4"
(C) 5" at Floorbeam Types 1, ~~2~~, ~~3~~, 4 and 11
5 1/4" at Floorbeam Types 4, 6, and 9 & 7 (Panel 13 & 14 Stringers)
5 1/2" at Floorbeam Types 3, 5 and 8
5⅛"ø FB 2, 7, 10 (Panel 14 & 15 stringers)

See "DECK FRAMING PLAN" Sheet 53 for bearing locations.
Work this Sheet with "STRINGER DETAILS", Sheet 75 & 76

MAIN SPANS — SHEET 74

STRINGER DETAILS

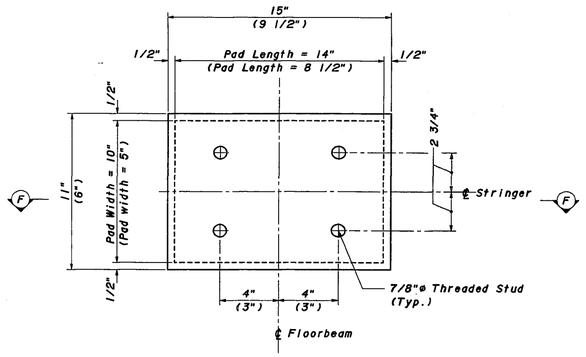
HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO
NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

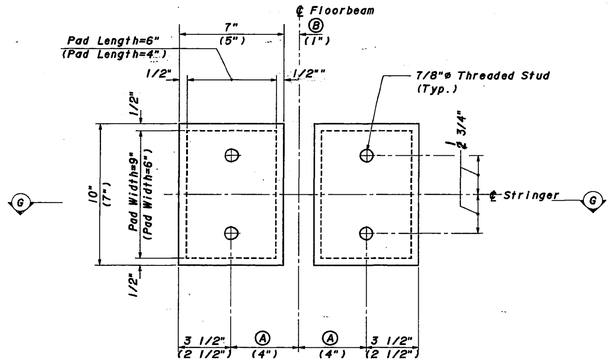
BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073D
CONSTRUCTION PROJECT NO. | MAINTENANCE PROJECT NO. | DRAWING NO. 22740

PLANS PREPARED & SUBMITTED BY: Burgess & Niple, Limited, Engineers and Architects
DESIGNED BY JRS CHECKED BY DRC DATE 8/31/01
DETAILED BY KEK CHECKED BY JRS DATE 7/9/01
TRACED BY - CHECKED BY - DATE XXX
1 As Built MEY1989 - MEY1989 - MEY1989 -
UPDATE DATE
LETTING DATE
H+E DATE 11-96 DATE - DATE -

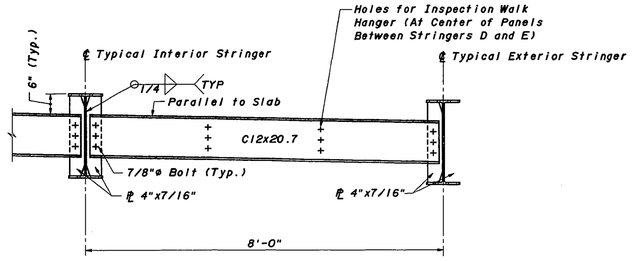
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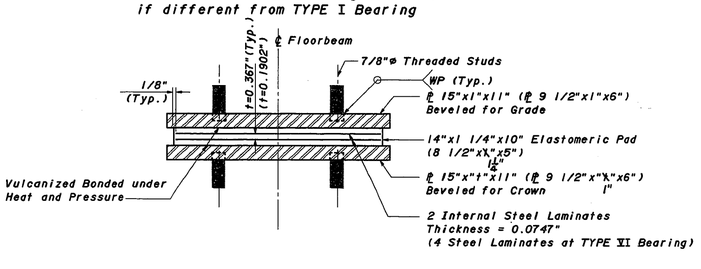
PLAN OF LOAD PLATES
TYPE I AND TYPE VI BEARINGS
Dimensions for TYPE VI Bearing are in ( )
if different from TYPE I Bearing



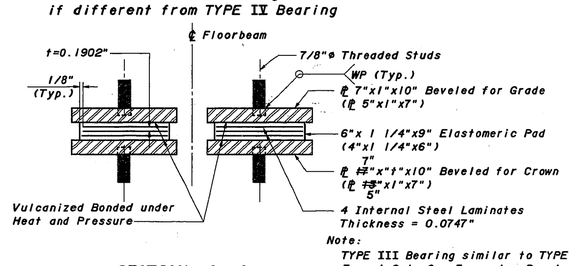
PLAN OF LOAD PLATES
TYPE IV AND TYPE VIII BEARINGS
Dimensions for TYPE VIII Bearing are in ( )
if different from TYPE IV Bearing



DIAPHRAGM DETAILS
Typ. @ Mid Panel & @ Deck Expansion Joints

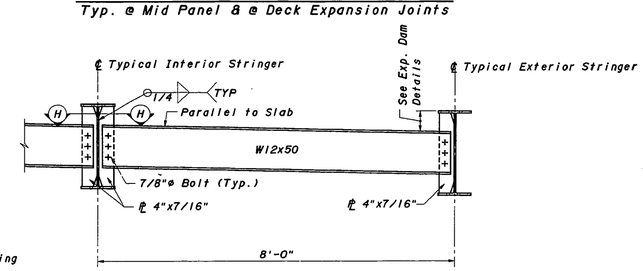


SECTION F - F
Dimensions for TYPE VI Bearing are in ( )
if different from TYPE I Bearing



Note:
TYPE III Bearing similar to TYPE IX Bearing
Except Only One Expansion Bearing

SECTION G -G
Dimensions for TYPE VIII Bearing are in ( )
if different from TYPE IX Bearing



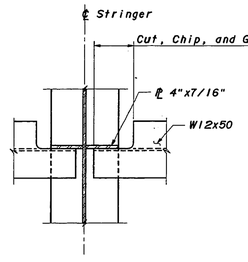
EXPANSION DAM DIAPHRAGM DETAILS
MC18x42 Similar (See Sheet 85 Section B - B)

ELASTOMERIC BEARING DETAILS

CODED NOTES

(A) 4 3/8" Typical Except at L14 and L34 use 4 5/8"

(B) 7/8" Typical Except at L14 and L34 use 1 1/8"



SECTION H - H

See Sheet 53 for Bearing Locations.
See Sheets 91 & 92 for Sidewalk Stringer Details.
Work this Sheet with Sheets 74 & 76.

STRINGER DETAILS

MAIN SPANS SHEET 75

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO
NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073D

CONSTRUCTION PROJECT NO. | MAINTENANCE PROJECT NO. | DRAWING NO. 22740

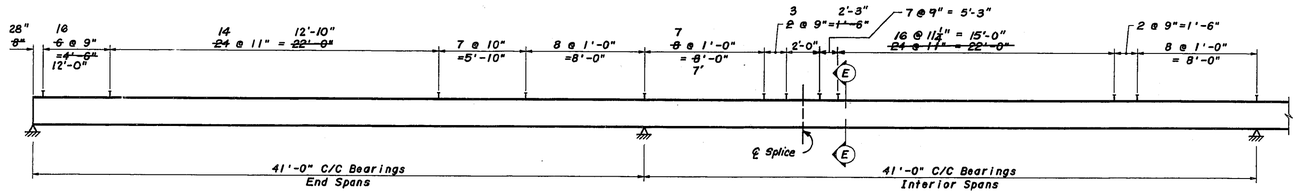
HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

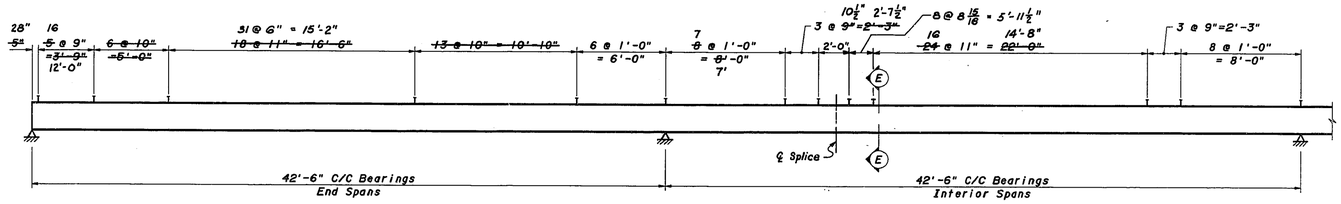
PLANS PREPARED & SUBMITTED BY
Burgess & Niple, Limited
Engineers and Architects

UPDATE DATE
LETTING DATE

	DATE	REVISED
DESIGNED BY JKS	CHECKED BY DRK	DATE 8/31/91
DETAILED BY KEK	CHECKED BY JKS	DATE 7/9/91
TRACED BY -	CHECKED BY -	DATE

09-05-91 FILE MAIN(PER PRI0858)STGDET3)STGDET3,STGDET3,STGDET3,OSTGDET3).FILE AUX(MIN PRI0858)FRAMES11).XMAL11/RECALL PRI0858)MULT3)MR.STGDET3

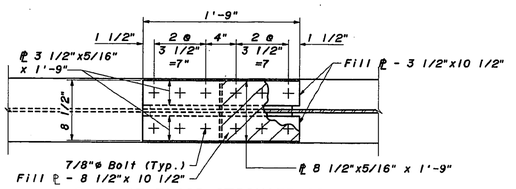




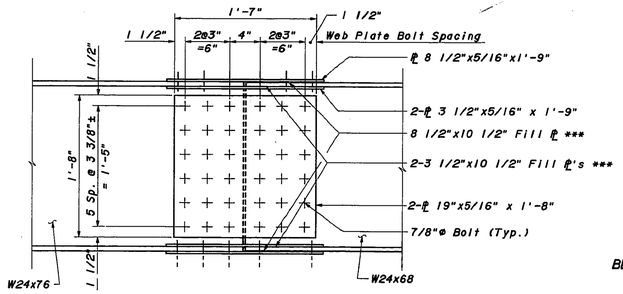
FLOOR STRINGER STUD SPACING

Ⓧ Measured @ ℄ Floorbeam between stringer bearings

Ⓐ 1⅜" Ⓧ For both expansion bearings
Ⓑ 1½" Ⓧ For exp. bearing & 1⅜" Ⓧ For fixed bearings
Ⓒ 1½" Ⓧ For Panel 13 & 14 exp. bearing & 1⅜" Ⓧ For Panel 14 & 15 exp. bearing
Ⓓ 1¼" Ⓧ For Panel 13 & 14 exp. bearing & 1⅝" Ⓧ For Panel 14 & 15 fixed bearing



PLAN OF FLOOR STRINGER SPLICE



ELEVATION OF FLOOR STRINGER SPLICE

*** - Provide Fills to Compensate for Misalignment of Abutting Flanges due to Beam Dimensional Differences and Rolling Mill Tolerances of more than 1/16 inch.

STRINGER BEARING PLATE THICKNESS "t" (in.)

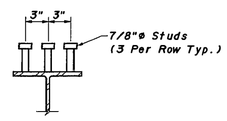
Stringer	Floorbeam Type F.B.1	F.B.2	F.B.3	F.B.4 *	F.B.4 **	F.B.5	F.B.6	F.B.7	F.B.8	F.B.9 *	F.B.9 **	F.B.10	F.B.11
Ⓐ	I 1¼	IV (A) 1¼	I 1½	II 3/4	I 1½	I 1½	II 3/4	IV (C) 1¼	I 1½	II 3/4	I 1⅝	IV (A) 1¼	I 1¼
Ⓑ	I 1¼	IV (A) 1¼	I 1½	II 3/4	I 1½	I 1½	II 3/4	IV (C) 1¼	I 1½	II 3/4	I 1⅝	IV (A) 1¼	I 1¼
Ⓒ	II 1¼	III (B) ±	II 1¼	II 1¼	II 1¼	II 1¼	II 1¼	III (D) ±	II 1¼	II 1¼	II 1¼	III (B) ±	II 1¼
Ⓓ	II 1¼	III (B) ±	II 1¼	II 1¼	II 1¼	II 1¼	II 1¼	III (D) ±	II 1¼	II 1¼	II 1¼	III (B) ±	II 1¼
Ⓔ	II 1¼	III (B) ±	II 1¼	II 1¼	II 1¼	II 1¼	II 1¼	III (D) ±	II 1¼	II 1¼	II 1¼	III (B) ±	II 1¼
Ⓕ	II 1¼	III (B) ±	II 1¼	II 1¼	II 1¼	II 1¼	II 1¼	III (D) ±	II 1¼	II 1¼	II 1¼	III (B) ±	II 1¼
Ⓖ	I 1¼	IV (A) 1¼	I 1½	II 3/4	I 1½	I 1½	II 3/4	IV (C) 1¼	I 1½	II 3/4	I 1⅝	IV (A) 1¼	I 1¼
Ⓗ	I 1¼	IV (A) 1¼	I 1½	II 3/4	I 1½	I 1½	II 3/4	IV (C) 1¼	I 1½	II 3/4	I 1⅝	IV (A) 1¼	I 1¼

* - Applies at Panel Points L2, L11, L16, L21, L27, L32, L37, And L42
**- Applies at Panel Points L3, L12, L17, L22, L26, L31, L36, And L41

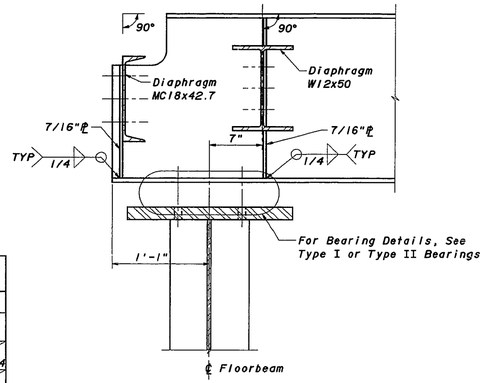
Key: Bearing Type / "t"

BEARING TYPES (See "DECK FRAMING PLAN" for bearing locations)

I - Intermediate Support (Expansion)
II - Intermediate Support(Fixed)
III - Stringer Expansion Joint (Fixed-Expansion)
IV - Stringer Expansion Joint (Expansion-Expansion)
V - Sidewalk Stringer Intermediate Support (Fixed)
VI - Sidewalk Stringer Intermediate Support (Expansion)
VII- Sidewalk Stringer Expansion Joint (Expansion - Expansion)



SECTION E - E



AT PIERS A & D

STRINGER BEARING AND DIAPHRAGM CONNECTION DETAILS

See Sheets 53, 77 & 78 for floorbeam types.
Work this Sheet with "STRINGER DETAILS" Sheets 74 & 75

MAIN SPANS SHEET 76

STRINGER DETAILS

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO
NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

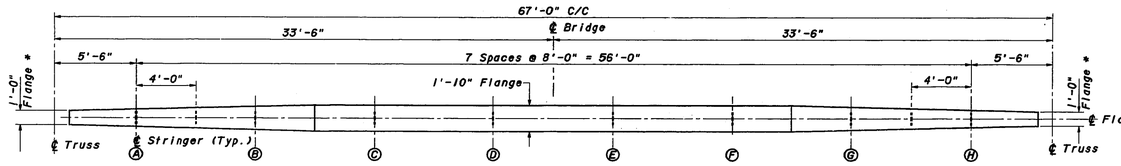
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LETTING DATE -

PLANS PREPARED & SUBMITTED BY
Burgess & Niple, Limited
Engineers and Architects

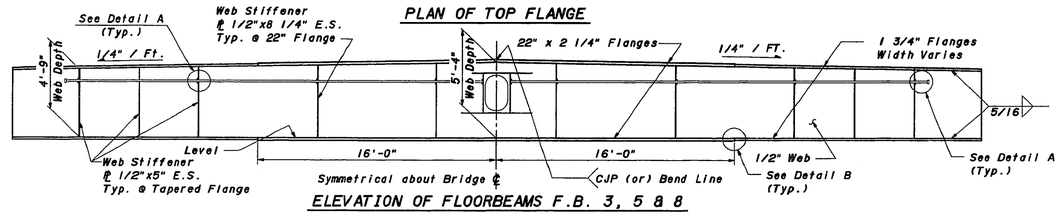
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As Built DATE -
REVISED - DATE 8/91
REVISED - DATE 7/9/91
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DESIGNED BY JKS CHECKED BY ESS
DETAILED BY MSM CHECKED BY JKS
TRACED BY - CHECKED BY -

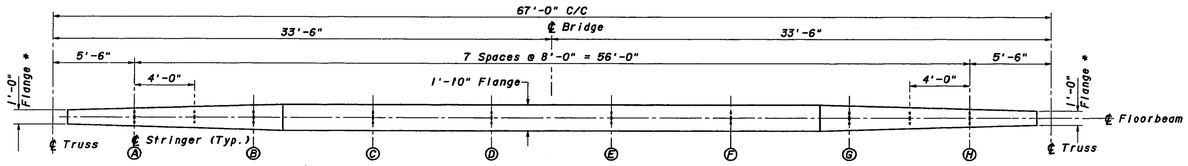
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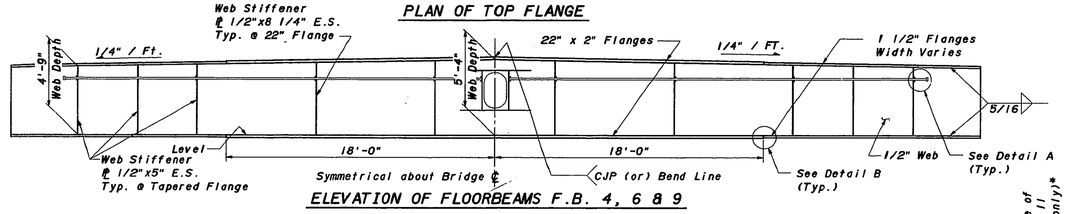
PLAN OF TOP FLANGE



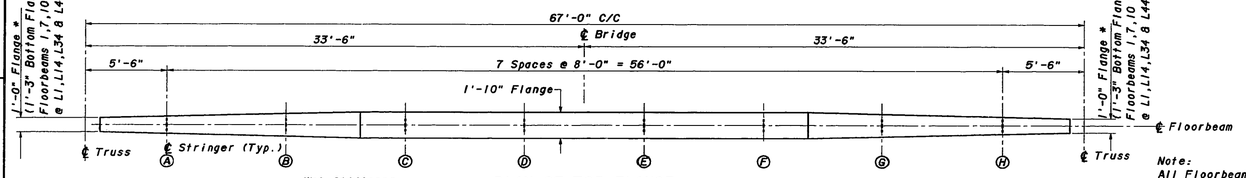
ELEVATION OF FLOORBEAMS F.B. 3, 5 & 8



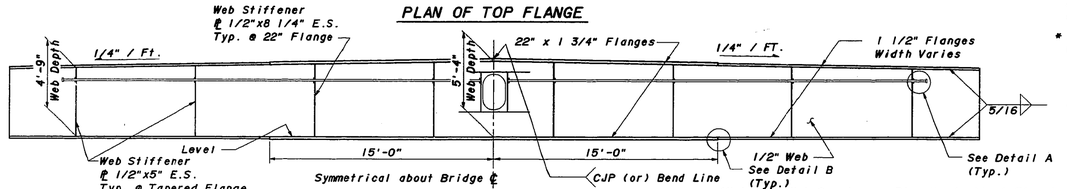
PLAN OF TOP FLANGE



ELEVATION OF FLOORBEAMS F.B. 4, 6 & 9

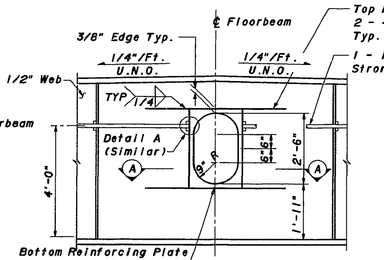


PLAN OF TOP FLANGE

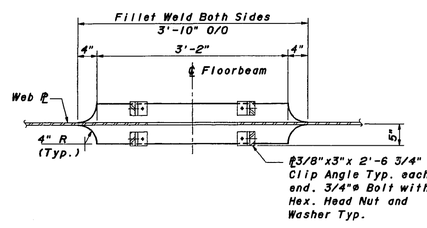


ELEVATION OF FLOORBEAMS F.B. 1,2,7 & 10

(Note: No Web Opening or Pipe Handrail at Flgorbeam 1)



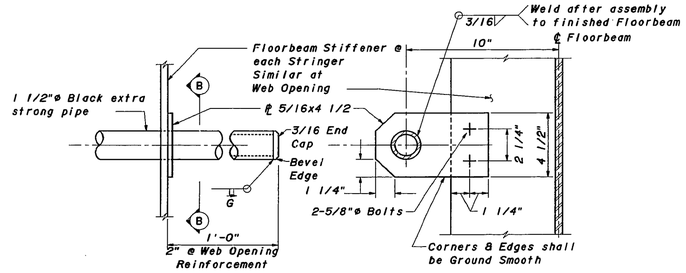
TYPICAL WALKWAY OPENING
REINFORCING TYPICAL EACH SIDE OF FLOORBEAM



SECTION A - A
(TYP. BOTTOM REINFORCING PLATE ONLY)

Section A - A Fabrication Procedure

1. Cut the end of the stiffener to the proper radius leaving enough material to permit a satisfactory fillet weld where the out edge becomes tangent to the web.
2. Place submerged arc fillet welds on both sides of the stiffener for its entire length. Provide enough weld beyond the end of the plate for grinding operation in step 3 (i.e. 3'-10" O/O)
3. Grind the weld and stiffener material to a smooth contour where the radiused stiffener end becomes tangent to the web.



DETAIL A
PIPE HANDRAIL

SECTION B - B
TYPICAL EACH SIDE OF FLOORBEAM

Note:
All Floorbeam Flanges and Webs (Gr50)

* Flange width based on Work Point located 1'-0" off Centerline of Trusses. Actual Flange widths at end of Floorbeam will vary. See Floorbeam Connection Details for Special End Conditions.

Abbreviations:

U.N.O.	Unless Noted Otherwise
O/O	Out to Out
E.S.	Each Side
CJP	Complete Joint Penetration

Work this sheet with Sheets 53, 73, 78 & 79

FLOORBEAM DETAILS

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

MAIN SPANS SHEET 77

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION
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		22740

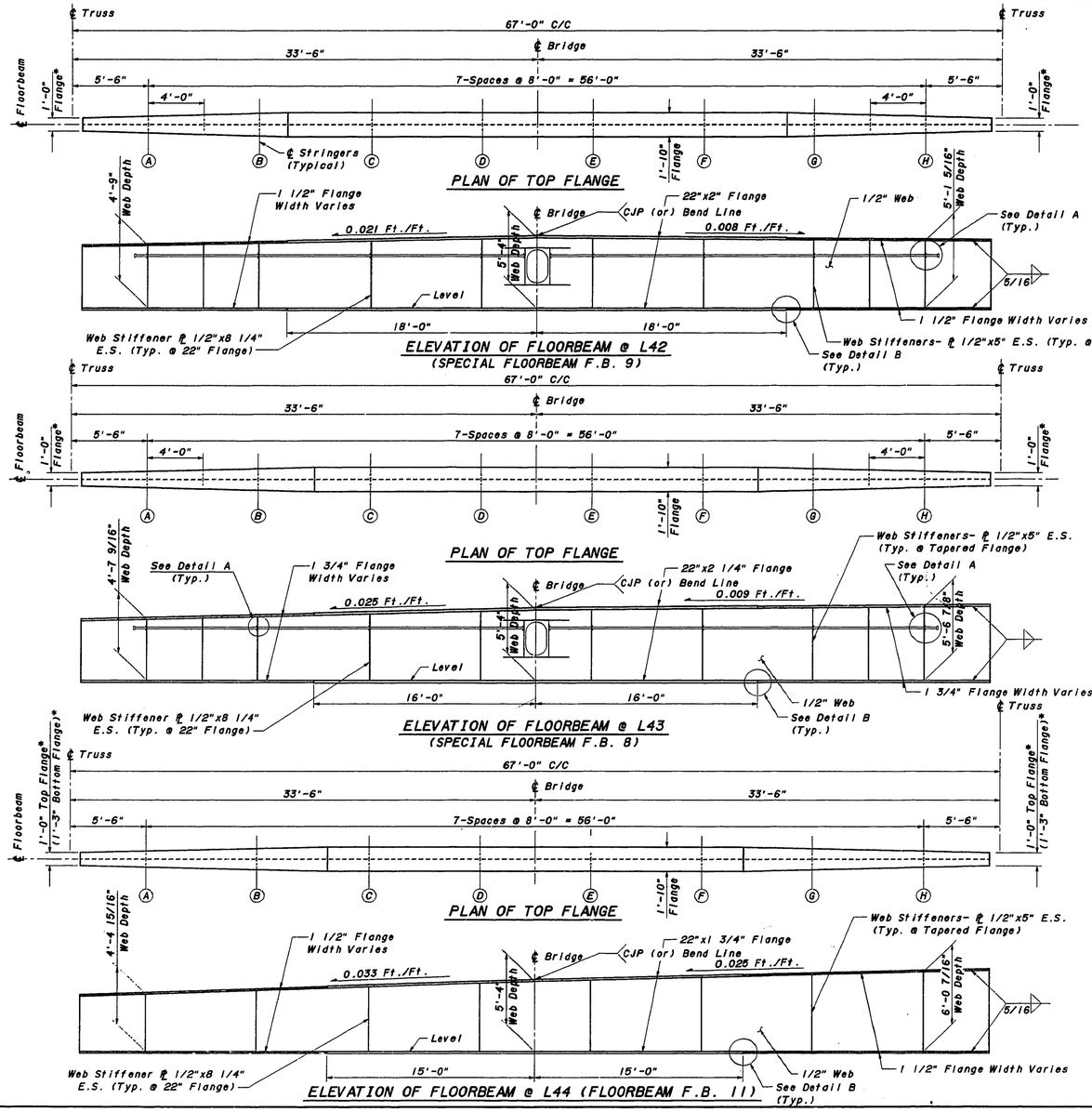
PLANS PREPARED & SUBMITTED BY Burgess & Niple, Limited Engineers and Architects

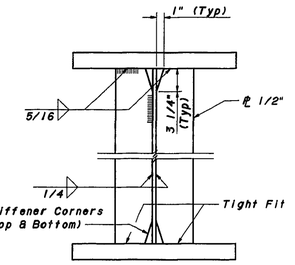
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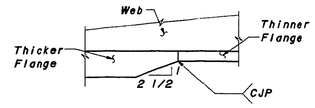
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WEB STIFFENER DETAIL
Terminate Welds 1/4"± 1/8" From Edges of Stiffener Plate



DETAIL B
TYPICAL FLANGE TRANSITION BUTT WELD

NOMINAL THICKNESS OF FILL PLATE BETWEEN FLOORBEAM BOTTOM FLANGE AND BOTTOM LATERAL PLATE

Panel Points	"x" Fill Plate Thickness @ ℄ Flbm.(Inches) 1/2	5/8	1	1 1/8	1 1/4	1 3/8	1 5/8	Panel Points	"x" Fill Plate Thickness @ ℄ Flbm.(Inches) 1/2	5/8	1	1 1/8	1 1/4	1 3/8	1 5/8
L0						X	○	L23	X	○					
L1		X					○	L24	○			X			
L2				X			○	L25	X	○					
L3				X			○	L26		○		X			
L4		X				○		L27			○	X			
L5					X	○		L28	X		○				
L6		X			○			L29			○	X			
L7				X	○			L30	X			○			
L8		X		○				L31				○	X		
L9				○		X		L32				○			X
L10				(X)				L33			X		○		
L11				○			X	L34					○		X
L12				○			X	L35			X		○		
L13				(X)				L36					○		X
L14				○			X	L37					○		X
L15			X	○				L38			X			○	
L16				○			X	L39				X		○	
L17				○			X	L40	X					○	
L18			(X)					L41				X		○	
L19			○	X				L42				X		○	
L20	X		○					L43	X						○
L21		○		X				L44					X		○
L22		○		X											

Panel Points	0	1/16	1/8	3/16	1/4	5/16	3/8	7/16	1/2	9/16	5/8	11/16
	"○" Bevel of Fill Plates for Grade Inch/Ft.											

Panel Points	0	1/16	1/8	3/16	1/4	5/16	3/8	7/16	1/2	9/16	5/8	11/16
	"○" Bevel of Fill Plates for Grade Inch/Ft.											

See Typical Floorbeam Connection Detail For Location of Fill Plate

Note: All Floorbeam Flanges and Webs (Gr 50)

Abbreviations:

E.S.-Each Side
CJP-Complete Joint Penetration

Work this sheet with Sheets 53, 73, 77 & 78

*Flange width based on work point located 1'-0" off centerline of trusses. Actual flange widths at end of floorbeam will vary. See Floorbeam Connection Details for special end conditions.

PLANS PREPARED & SUBMITTED BY
Burgess & Niple, Limited
Engineers and Architects

UPDATE DATE
LETTING DATE

	DESIGNED BY	CHECKED BY	DATE	REVISED
	DETAILED BY	CHECKED BY	DATE 5/11/91	REVISED
	ISSUED BY	CHECKED BY	DATE XXX	REVISED

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FLOORBEAM DETAILS

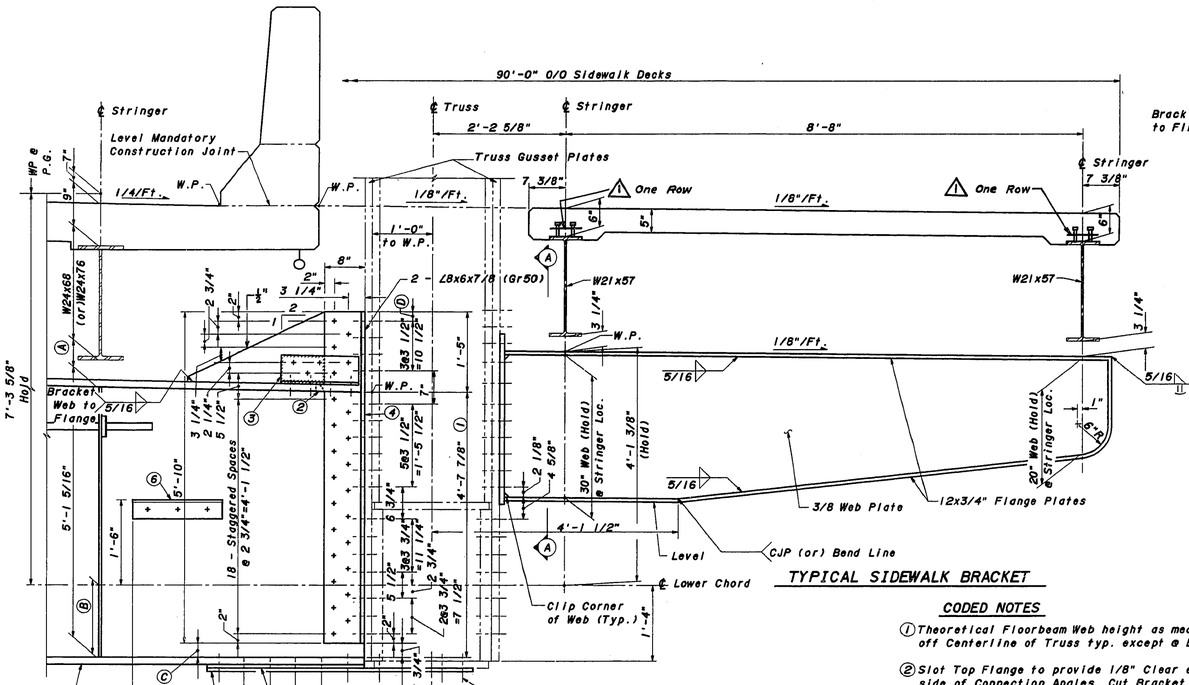
HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

MAIN SPANS SHEET 78

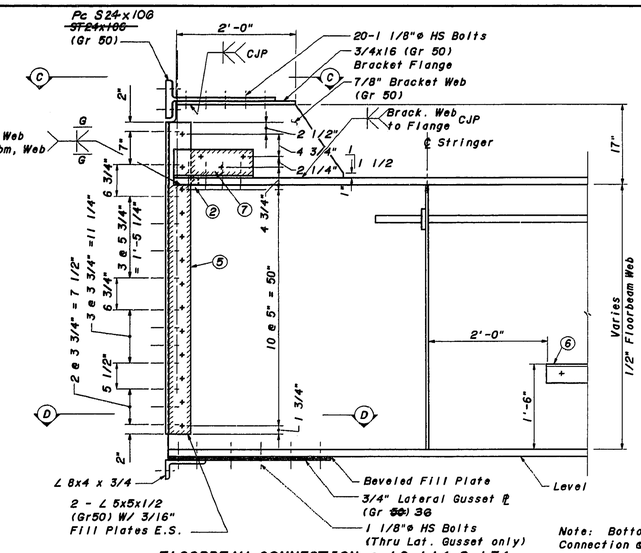
KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO
NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

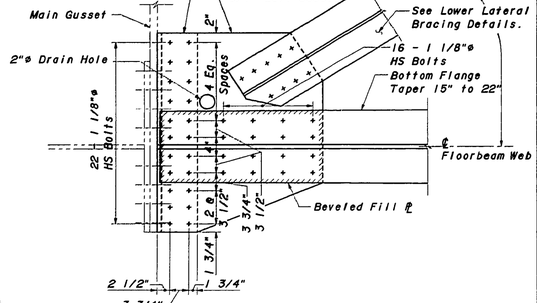


FLOORBEAM CONNECTION
(Typ. except at L0,L14,L34 & L44)
(L42 & L43 Similar except for Superelevation)

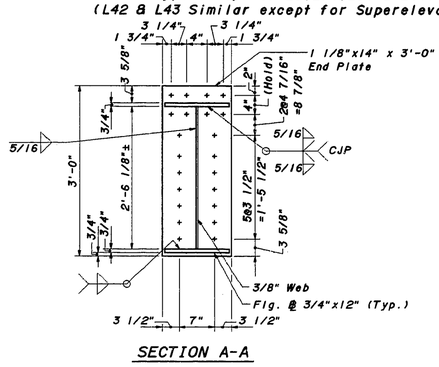


FLOORBEAM CONNECTION @ L0,L14 & L34
(L44 Similar, See Sheet 61 for Details of Truss Joint L44)

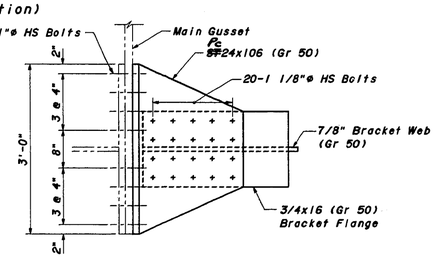
Note: Bottom Flange Connection @ L14 & L34 is symmetrical about the Floorbeam for this half of the connection (Not Shown)



SECTION D - D
(Bottom Flange Connection @ L0 & L44 shown L14 & L34 as noted)



SECTION A-A



SECTION C - C
(Upper Tee Connection at L0,L14,L34 & L44 only)

Ⓐ For FB 7 5 1/2"@ Panel 13 & 14 stringers
5 1/8"@ Panel 14 & 15 Stringers

	Ⓐ	Ⓑ	Ⓒ*	Ⓓ*
F.B.1	5"	1'-2 1/8"	1 7/8"	3"
F.B.2	5 1/8"	1'-2 1/4"	2"	2 7/8"
F.B.3	5 1/2"	1'-2 5/8"	2 3/8"	2 1/2"
F.B.4	5 1/4"	1'-2 3/8"	2 1/8"	2 3/4"
F.B.5	5 1/2"	1'-2 5/8"	2 3/8"	2 7/8"
F.B.6	5 1/4"	1'-2 3/8"	2 1/8"	2 3/4"
F.B.7	5 1/8"	1'-2 3/8"	2 1/8"	2 3/4"
F.B.8	5 1/2"	1'-2 3/4"	2 1/2"	2 3/8"
F.B.9	5 1/4"	1'-2 3/8"	2 1/8"	2 3/4"
F.B.10	5 1/8"	1'-2 3/8"	2 1/8"	2 3/4"

(X) Measured @ ℄ Floorbeam btwn. stringer bearings.

* Reference Only, Contractors Choice

TYPICAL SIDEWALK BRACKET

CODED NOTES

1. Theoretical Floorbeam Web height as measured 1'-0" off Centerline of Truss typ. except @ L42,L43,L44
2. Slot Top Flange to provide 1/8" Clear each side of Connection Angles. Cut Bracket Web to meet Floorbeam Web. The Bracket Web adjacent to the Floorbeam Flange is to be cut on a radius equal to the Flange thickness.
3. 2 - L6x4x1/2 x 1'-4" (Gr50) W/ 7/8" Fill Plates each side
4. 24 - Bolts, Conn. L's to Floorbeam Web
5. 13 - Bolts, Conn. L's to Floorbeam Web
6. Inspection Access Foot Hold L9x4x1/2 (LLH) x 1'-6" Typ. E.S. & E.E. of Floorbeams except at L0 & L44
7. 2 - L 6x4x1/2x1'-4" (Gr50) W/ 1/2" Fill Plates E.S.
8. See Fill Plate Nominal Thickness Table on Sheet 78. Make fit-up tolerance adjustments as needed.

Note: 1"ø Bolts U.N.O. Bolt Spacing Shown Reference Only, Contractors Choice U.N.O.

Abbreviations:

W.P.	Work Point
HS	High Strength M164 (A325)
U.N.O.	Unless Noted Otherwise
Gr	Grade
E.S.	Each Side
E.E.	Each End
CJP	Complete Joint Penetration

PLANS PREPARED & SUBMITTED BY: Burgess & Niple, Limited, Engineers and Architects

DESIGNED BY ESS DATE 11-95
DETAILED BY JNSN CHECKED BY ESS DATE 7/9/97
TRACED BY CHECKED BY DATE
H+E DATE 11-95
DATE
DATE
UPDATE DATE
LETTING DATE
As Built
45V1850
45V1850
45V1850

03-21-97 FILE MAIN:PER PR108585FLRBM3:FLRBM3.DFLRBM3>FILE AUX#IN PR108585FRAME81)>FRAME81)>XMULTI/RECALL PR108585XMULTI:MPL-FLRBM3

FLOORBEAM DETAILS

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

MAIN SPANS SHEET 79

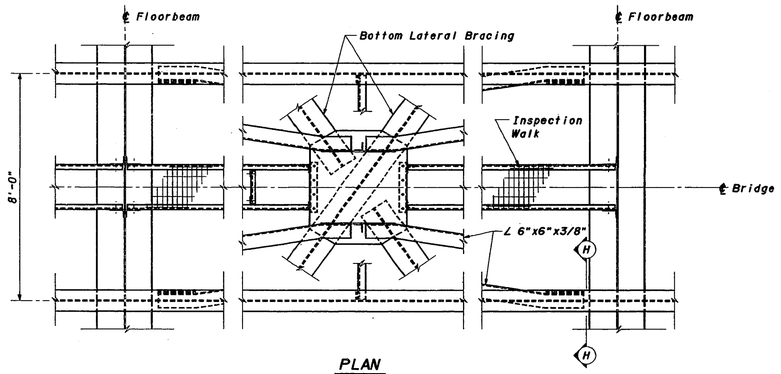
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CAMPBELL COUNTY, KENTUCKY
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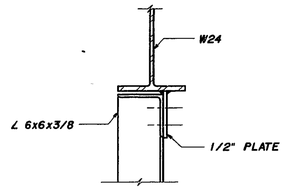
NEW BRIDGE OVER OHIO RIVER
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STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073D

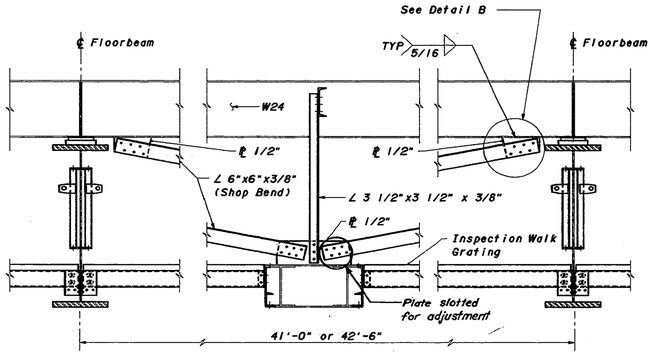
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		22740



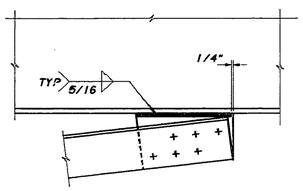
PLAN



SECTION H - H



ELEVATION
LONGITUDINAL FORCE BRACING



DETAIL B

Work this Sheet with Deck Framing Plan Sheet 53

LONGITUDINAL FORCE BRACING

DESIGNED BY DRK	CHECKED BY -	DATE 7/29/91	REVISED -
DETAILED BY TWD	CHECKED BY DRK	DATE 6/30/91	REVISED -
TRACED BY -	CHECKED BY -	DATE XXX	REVISED -

PLANS PREPARED & SUBMITTED BY
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Engineers and Architects

UPDATE DATE -
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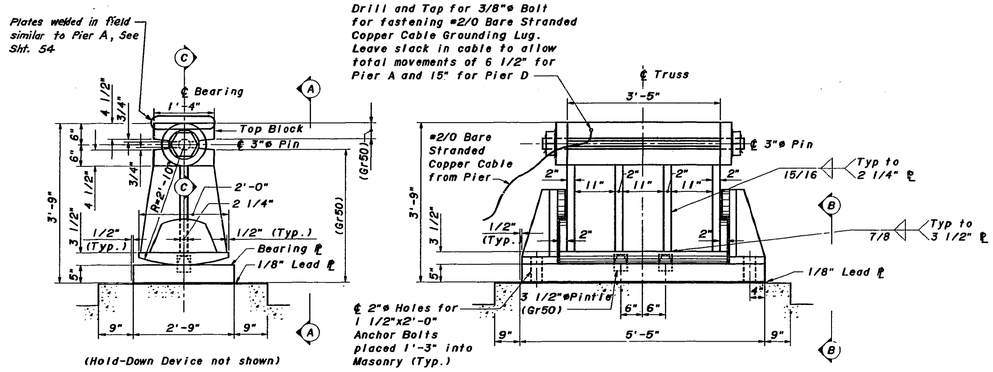
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BALKE ENGINEERS

MAIN SPANS SHEET 80

KENTUCKY DEPARTMENT OF HIGHWAYS
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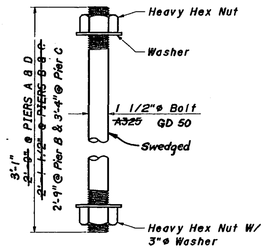
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CONSTRUCTION PROJECT NO. | MAINTENANCE PROJECT NO. | DRAWING NO 22740

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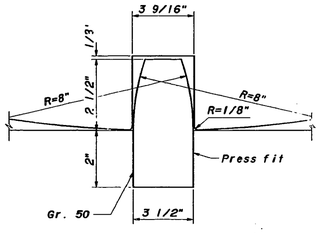


VIEW A - A

Use 2'-8" Embedment for Swedged Anchor Bolts

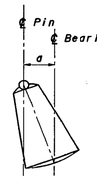


ANCHOR BOLT DETAIL



PINTLE DETAIL

Minus sign indicates ℄ Pin is to right of ℄ Bearing



* Does not include FWS

℄ Pier A

Dimension	a (in)				
Temp °F	20	40	60	80	100
No Load	-2 3/8	-1 7/16	-9/16	+5/16	+1 1/4
Steel DL	-2 1/4	-1 5/16	-7/16	+7/16	+1 3/8
Steel DL + Conc DL*	-1 13/16	-7/8	0	+7/8	+1 13/16

℄ Pier C

Dimension	a (in)				
Temp °F	20	40	60	80	100
No Load	+5 3/8	+4 5/16	+3	+1 11/16	+3/8
Steel DL	+4 1/4	+2 15/16	+1 5/8	+5/16	-1
Steel DL + Conc DL*	+2 5/8	+1 5/16	0	-1 5/16	-2 5/8

℄ Pier D

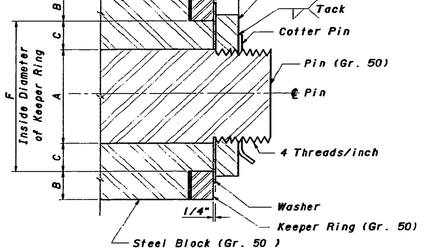
Dimension	a (in)				
Temp °F	20	40	60	80	100
No Load	=5 11/16	+3 11/16	+1 11/16	-5/16	-2 5/16
Steel DL	+4 15/16	+2 15/16	+15/16	-1 1/16	-3 1/16
Steel DL + Conc DL*	+4	+2	0	-2	-4

EXPANSION BEARING @ PIER A & D

Max. Load = 2021 KIPS
Dead Load = 1458 KIPS
Live Load & Impact = 489 KIPS
Pedestrian Load = 74 KIPS

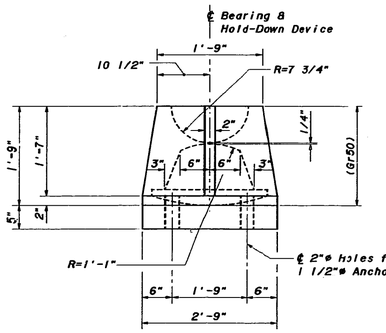
Thermal Movements *		
Pier A	Exp.	2 11/16"
	Contr.	3 5/8"
Pier C	Exp.	4"
	Contr.	5 5/16"
Pier D	Exp.	6"
	Contr.	8"

* Based on Construction temperature of 60°F



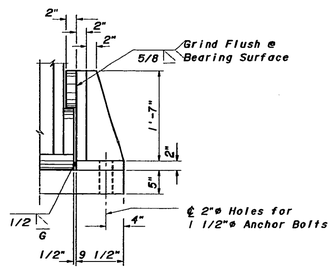
Location	A	B	C	D	E	F
Piers A & D	3"	2"	2 1/2"	3"	1 1/4"	8 1/32"
Piers B & C	10"	3"	3"	2 1/2"	2 1/4"	16 1/32"

SECTION C - C



Note:
Fabricate Hold-Down Device with 1/2" continuous Fillet Welds unless noted otherwise.

EXPANSION BEARING HOLD-DOWN DEVICE AT PIERS A & D



BEARING NOTES

SURFACE FINISH OF STEEL:	SPECIFICATION
Steel slabs	A.N.S.I. 2000
Heavy plates in contact in shoes to be welded	A.N.S.I. 1000
Milled ends of compression members, stiffeners and fillers	A.N.S.I. 500
Bridge rockers	A.N.S.I. 250
Pin and pin holes	A.N.S.I. 125

WELDING: All plates shall be joined with continuous fillet welds of the size governed by plate thicknesses, except as noted.

All welds are subject to Magnetic Particle Inspection.

ANCHOR BOLTS:
The Contractor shall establish the exact location of the Pier centerline and adjust the bearing base plate and anchor bolt locations from that shown on this sheet if necessary.

Material: All material shall be Grade 36 except as noted.

Centerlines shall be scribed on base plates and top blocks to insure proper alignment of bearings.

Work this Sheet with Bearing Detail Sheet 80 and Piers A & D Sheets 39 & 40

MAIN SPANS SHEET 81

BEARING DETAILS

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO
NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073D

CONSTRUCTION PROJECT NO. | MAINTENANCE PROJECT NO. | DRAWING NO. 22740

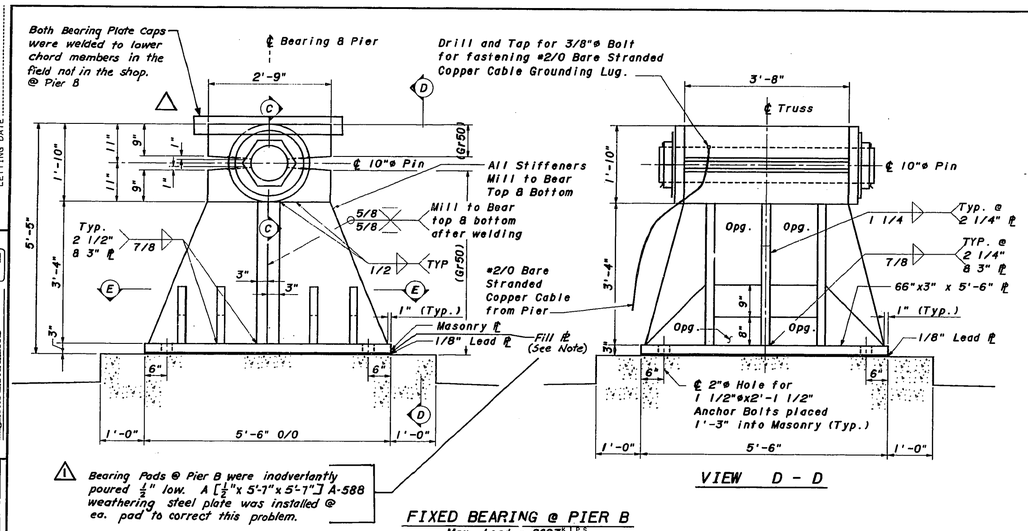
PLANS PREPARED & SUBMITTED BY Burgess & Niple, Limited Engineers and Architects

UPDATE DATE
LETTING DATE

DESIGNED BY JAP CHECKED BY DRK & ESS DATE 9/91 REVISED
DETAILED BY CADD CHECKED BY DRK & ESS DATE 9/91 REVISED
TRACED BY CHECKED BY DATE REVISED

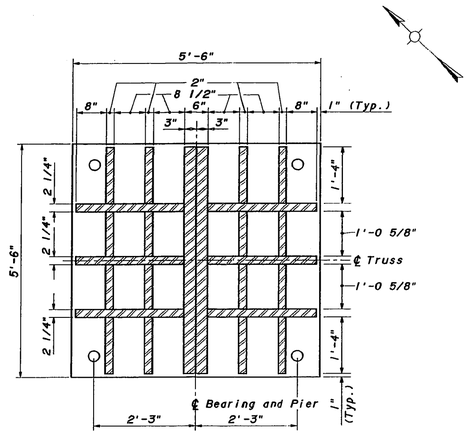
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FIRST SHEET OF BEARING DETAILS

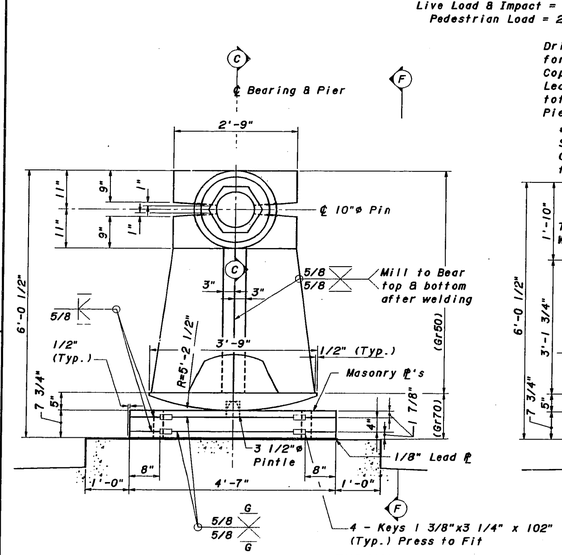


FIXED BEARING @ PIER B

Max. Load = 8693 KIPS
Dead Load = 7053 KIPS
Live Load & Impact = 1415 KIPS
Pedestrian Load = 225 KIPS

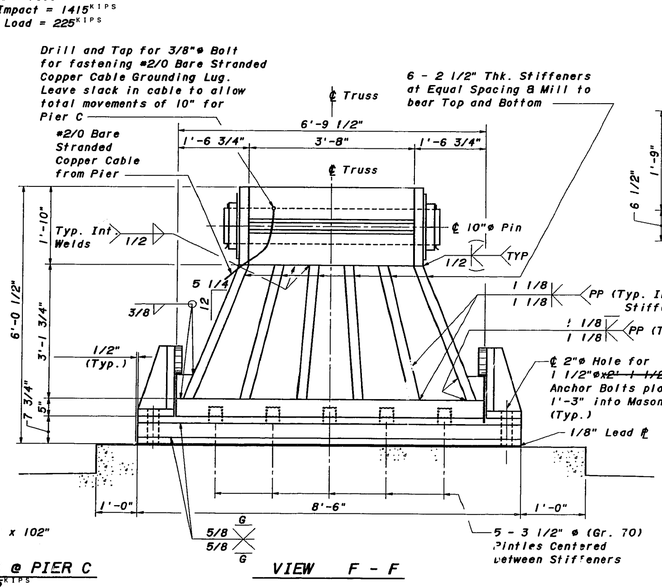


SECTION E - E

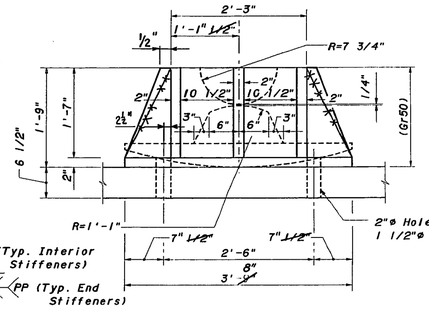


EXPANSION BEARING @ PIER C

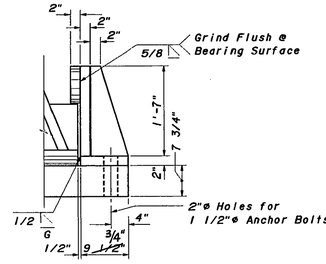
Max. Load = 7795 KIPS
Dead Load = 6262 KIPS
Live Load & Impact = 1323 KIPS
Pedestrian Load = 210 KIPS



VIEW F - F



EXPANSION BEARING HOLD-DOWN DEVICE AT PIER C



△ Note:
Fabricate Hold-Down Device with 1/2" continuous Fillet Welds unless noted otherwise.

Abbreviations:
Opg. Opening

Work this Sheet with Bearing Detail Sheets.

BEARING DETAILS

MAIN SPANS SHEET 82

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073D

CONSTRUCTION PROJECT NO | MAINTENANCE PROJECT NO. | DRAWING NO. 22740

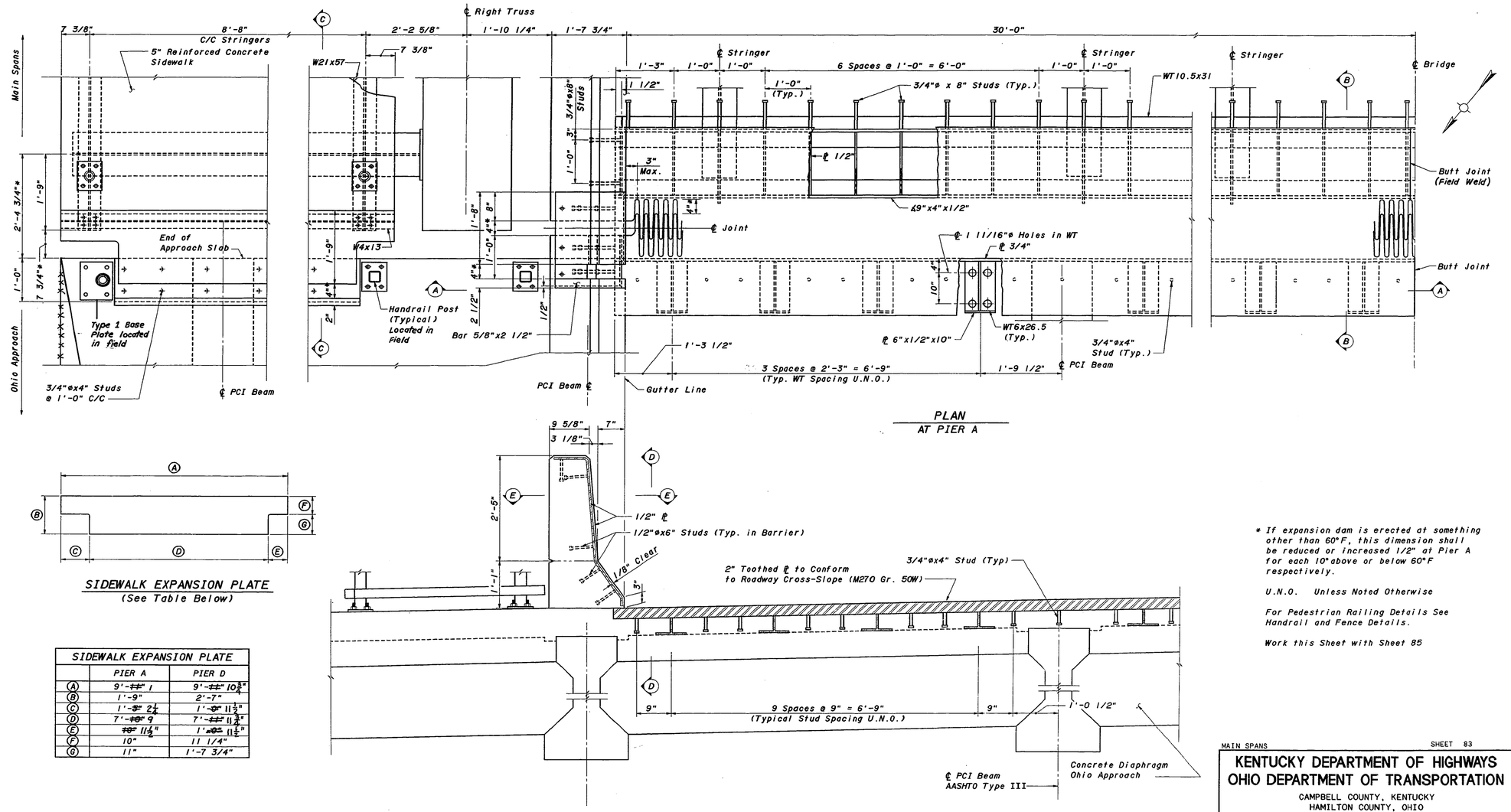
HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

PLANS PREPARED & SUBMITTED BY Burgess & Niple, Limited Engineers and Architects

H+E	DATE 11-95	UPDATE DATE	-
	DATE -	LETTING DATE	-
	DATE -		

DESIGNED BY	JAP	CHECKED BY	DRK & ESS	DATE 9/91	REVISED - As Built
DETAILED BY	MSM	CHECKED BY	DRK & ESS	DATE 9/91	REVISED -
TRACED BY	-	CHECKED BY	-	DATE -	REVISED -

09-13-01 FILE MAIN/PER PR10855>MULTI>MR.BERGET1
09-13-01 FILE MAIN/PER PR10855>BERGET1>BERGET1.DBE(BERGET1.DBE(BERGET1.FILE AUX/#IN PR10855>FRAMES11>.XMULTI/RECALL PR10855>MULTI>X



PLAN
AT PIER A

SIDEWALK EXPANSION PLATE
(See Table Below)

SIDEWALK EXPANSION PLATE		
	PIER A	PIER D
(A)	9'-~~11"~~ 1	9'-~~11"~~ 10 3/4"
(B)	1'-9"	2'-7"
(C)	1'-~~3"~~ 2 1/4	1'-~~0"~~ 11 1/2"
(D)	7'-~~10"~~ 9	7'-~~11"~~ 11 3/4"
(E)	~~10"~~ 11 1/2"	1'-~~0"~~ 11 1/2"
(F)	10"	11 1/4"
(G)	11"	1'-7 3/4"

SECTION A - A
AT PIER A

* If expansion dam is erected at something other than 60°F, this dimension shall be reduced or increased 1/2" at Pier A for each 10° above or below 60°F respectively.

U.N.O. Unless Noted Otherwise

For Pedestrian Railing Details See Handrail and Fence Details.

Work this Sheet with Sheet 85

EXPANSION DAM DETAILS

UPDATE DATE ..... -
LETTING DATE ..... -

PLANS PREPARED & SUBMITTED BY
Burgess & Niple, Limited
Engineers and Architects

	DATE	-	DATE	-	DATE	-
DESIGNED BY	JKS	CHECKED BY		REVISED		
DETAILED BY	KEK	CHECKED BY		REVISED		
TRACED BY		CHECKED BY		REVISED		
DRK		DATE 8-91				
JKS		DATE 7/9/91				

08-23-91 FILE MAIN/PIER PR10858\EXDET3\EXDET3.EXDET3 FILE AUX/XTN PR10858\FRAMES11\FRAMES11.XMULTI/RECALL PR10858\MULTI\MR.EXDET3

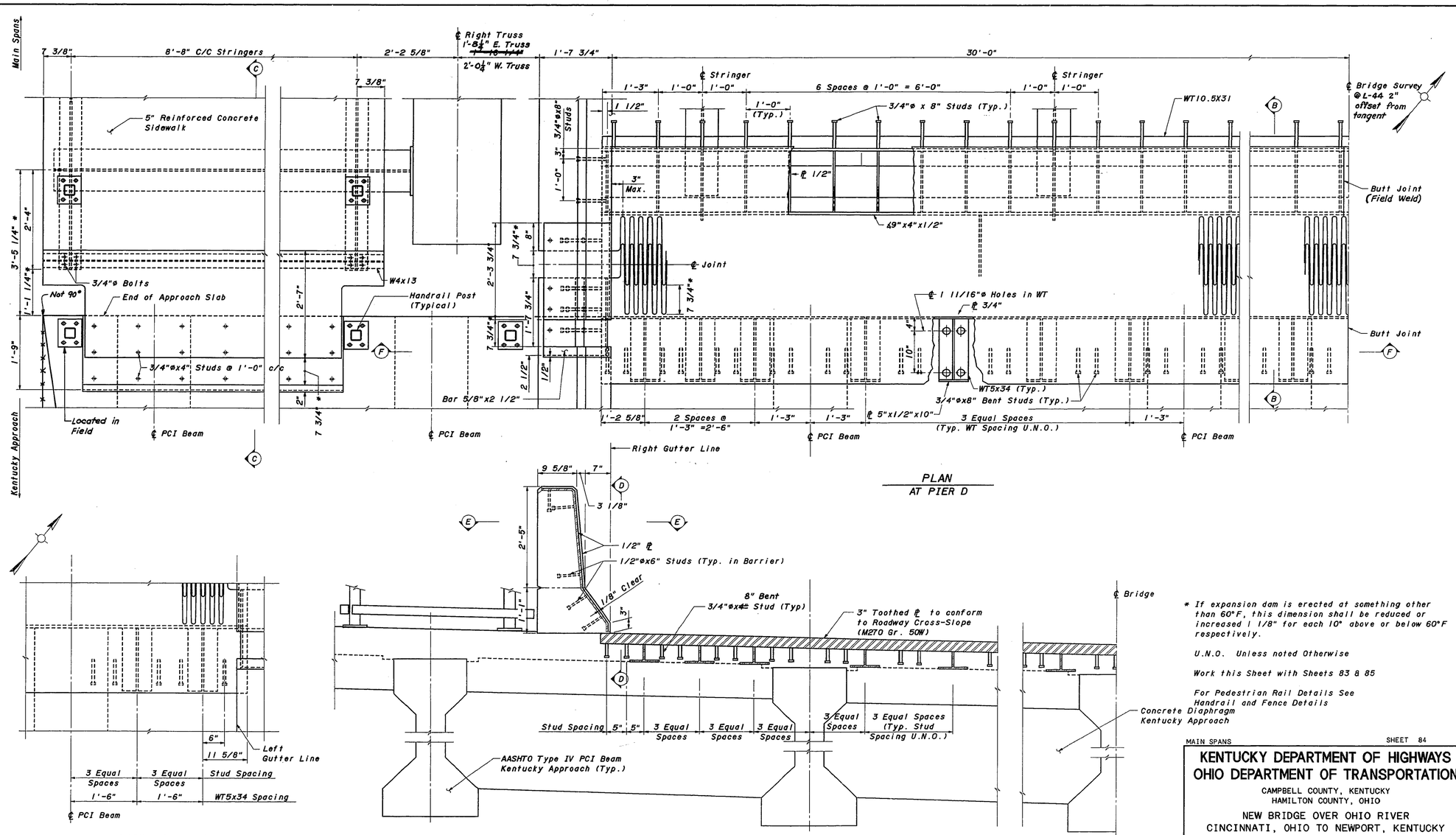
MAIN SPANS SHEET 83

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO
NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073D

CONSTRUCTION PROJECT NO	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS



PLAN
AT PIER D

PARTIAL PLAN
LEFT GUTTER

SECTION F - F
AT PIER D

* If expansion dam is erected at something other than 60°F, this dimension shall be reduced or increased 1 1/8" for each 10° above or below 60°F respectively.

U.N.O. Unless noted Otherwise

Work this Sheet with Sheets 83 & 85

For Pedestrian Rail Details See Handrail and Fence Details

EXPANSION DAM DETAILS

MAIN SPANS SHEET 84

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

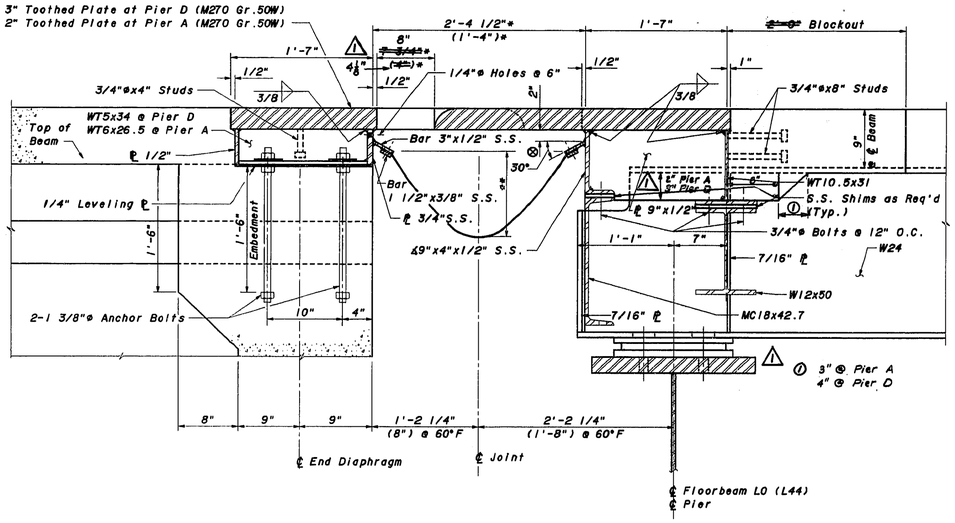
PLANS PREPARED & SUBMITTED BY
Burgess & Niple, Limited
Engineers and Architects

H.E. DATE 11-95

UPDATE DATE
LETTING DATE

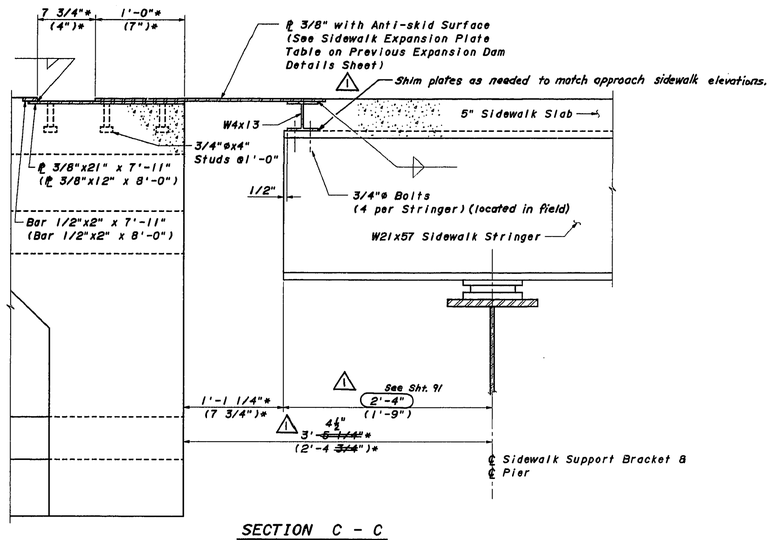
DESIGNED BY	JKS	CHECKED BY	DRK	DATE	8-91	REVISED	-
DETAILED BY	KSM	CHECKED BY	JKS	DATE	7/9/91	REVISED	As Built
TRACED BY		CHECKED BY		DATE		REVISED	-

08-22-91 FILE MAIN/PER PR10858>EXDET1>EXDET1.DGN FILE AUX/MAIN PR10858>FRAMES11>XMULTI/RECALL PR10858>MULTI



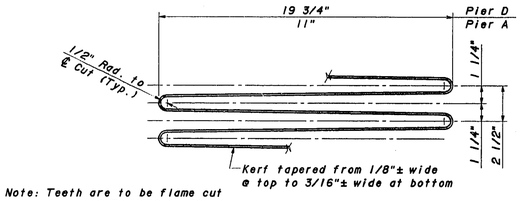
SECTION B - B

Dimensions for Pier A are in ( ) if different from Pier D



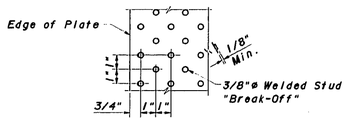
SECTION C - C

Dimensions for Pier A are in ( ) if different from Pier D



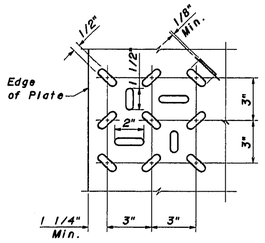
Note: Teeth are to be flame cut from AASHTO M270 Gr.50W Material of 3" thickness at Pier D and 2" thickness at Pier A

FINGER DETAIL



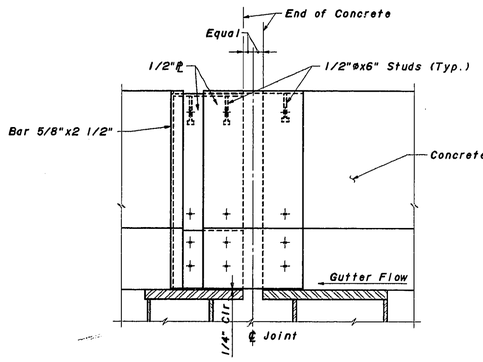
DETAIL OF ALTERNATE ANTI-SKID PATTERN

Used on traffic plates

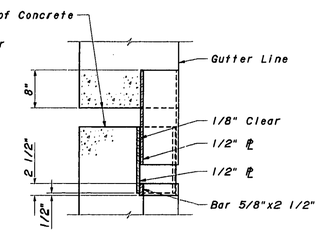


DETAIL OF ANTI-SKID PATTERN

Note: Anti-skid pattern shall be placed on entire area of Traffic Plates and Sidewalk Plates.



SECTION D - D



SECTION E - E

(Studs Not Shown)

NOTES:

* If expansion dam is erected at something other than 60°F, this dimension shall be reduced or increased 1 1/8" at Pier D or 1/2" at Pier A for each 10° above or below 60°F respectively.

** 12" @ 60°F at Pier D
6 3/4" @ 60°F at Pier A

⊗ Varies, see Table on sheet 98.

S.S. Stainless Steel

See Sheet 76 for Diaphragm Details

EXPANSION DAM DETAILS

HAZELET + ERDAL, INC.
In association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

MAIN SPANS SHEET 85

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

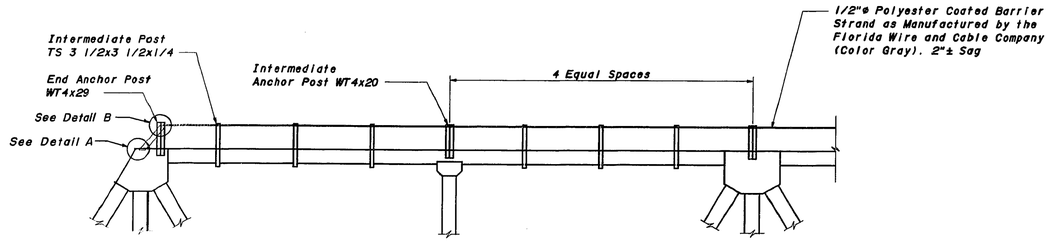
UPDATE DATE ..... LETTING DATE .....

PLANS PREPARED & SUBMITTED BY
Burgess & Niple, Limited
Engineers and Architects

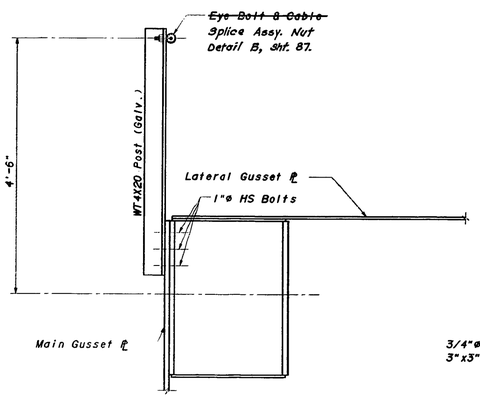
H&E DATE 11-95

DESIGNED BY JMS	CHECKED BY DRK	DATE 8-91	REVISED 1/ As Built
DETAILED BY DR	CHECKED BY JMS	DATE 7/9/91	REVISED -
TRACED BY	CHECKED BY	DATE -	REVISED -

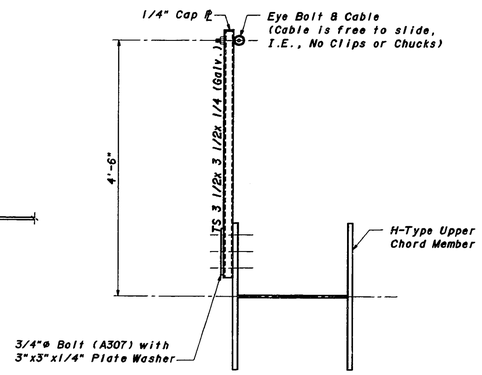
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UPPER CHORD SAFETY CABLE PARTIAL ELEVATION

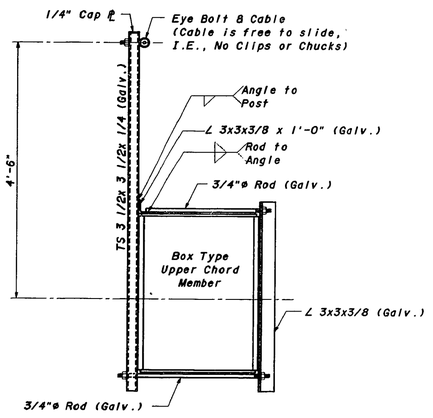


ANCHOR POST
TYPICAL AT U JOINT



Place an Intermediate Post
at quarter points of each panel.

INTERMEDIATE POST
FOR H-MEMBER



Place an Intermediate Post
at quarter points of each panel.

INTERMEDIATE POST
FOR BOX MEMBER

INSPECTION ACCESS

Grating for inspection walk shall be 9 inches wide on 2-1/2-inch male and female legs 18 gage galvanized steel grating made from 1'-7" lengths as manufactured by the United McGill Corporation, Columbus, Ohio under the trade name 'United Interlocking Grating', with anti-skid surface or shall be 18 3/4 inches wide on 2 1/2" channels, 14 gage galvanized steel made up from standard lengths as manufactured by United States Gypsum under the trade name of 'Grip Strut', with serrated grated surface, or approved equal. Grating shall be shop welded to supports where practical, or secured to supports per the manufacturers recommendation.

All steel shall be A36 unless otherwise shown or noted.

Bolts connecting inspection walk members to floor beams, bracing, etc. shall be 3/4-inch-diameter high-strength (M164) unless noted. Bolts connecting ladders to platforms, platforms to supports, light support to truss, etc. shall be 3/4 inch diameter (ASTM A307) unless noted.

All welds shall be 1/4 inch unless noted otherwise or governed by material thickness.

Rough edges and sharp corners are to be removed.

Painting of railings, platforms, ladders, inspection walk, etc. are to be in accordance with the specifications for painting structural steel.

Pipe Railing posts maximum spacing is 7'-0".

All pipe rails shall be 1 1/2 inch diameter ASTM A53 Std. Wt.

All pipe posts shall be 1 1/2 inch diameter ASTM A53 Ex. Str., Type E or S, Grade B.

Adhesive anchors shall by Hilti HVA Anchors with SAE 4140 Adhesive, or shall be Molly Parabond Capsule Anchors, or approved equal.

Upper chord access ladders shall be provided with a rail and sleeve type fall prevention device. The device shall be as manufactured by Air Space Devices, Norton Company, Paramount, California, under the trade name "Saf-T-Climb, or by Sur-Loc Inc., Fremont, Indiana, or approved equal. The devices shall be corrosion resistant, either galvanized steel, aluminum or fiberglass and shall include all corrosion resistant hardware. All aluminum materials shall be 100 percent separated from contact with steel materials with fiberglass washers or by other approved means of galvanic protection.

Rectangular hinged manhole cover with lock shall be Model R-6661-TH with one lip, Type T flush hinges and Type J - "T" handle bar lock as manufactured by Neenah Foundry Company or approved equal.

The cost of the galvanized grating, anchor parts, all steel plates and shapes, tools, labor, and all incidentals necessary to complete the installation of the inspection walk, all ladders, fall prevention devices, cables and pipe railing are included in the lump sum bid for structural steel.

UPDATE DATE -
LETTING DATE -

PLANS PREPARED & SUBMITTED BY
Burgess & Niple, Limited
Engineers and Architects

DESIGNED BY DRK	CHECKED BY ESS	DATE 8/91
DETAILED BY KEK	CHECKED BY DRK	DATE 7-9/91
TRACED BY -	CHECKED BY -	DATE YXX

DATE	REVISED
-	-
DATE	REVISED
-	-
DATE	REVISED
-	-

08-28-91 FILE MAIN:PER PROJ55>INHALK7:INHALK7.DGN#ALK7.FILE AUX:#IN PROJ55>FRAME511:XHALT1/RECALL PROJ55>HALT

MAIN SPANS SHEET 86

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

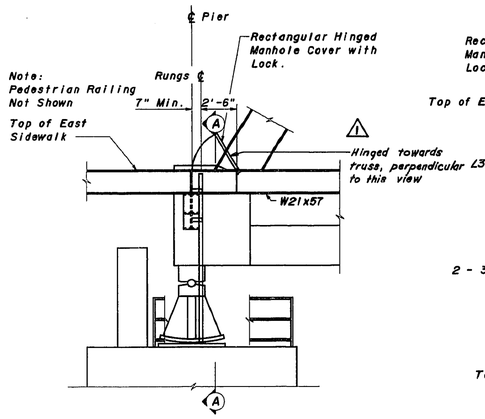
NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073D

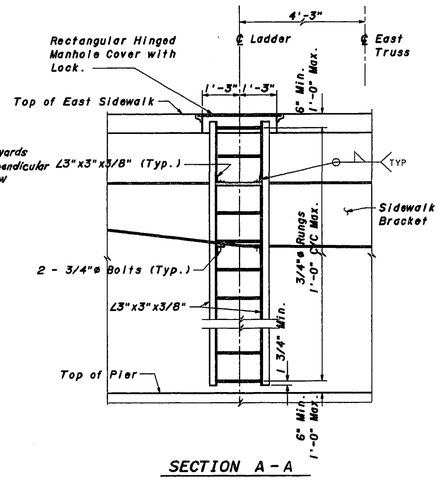
CONSTRUCTION PROJECT NO	MAINTENANCE PROJECT NO	DRAWING NO
		22740

HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

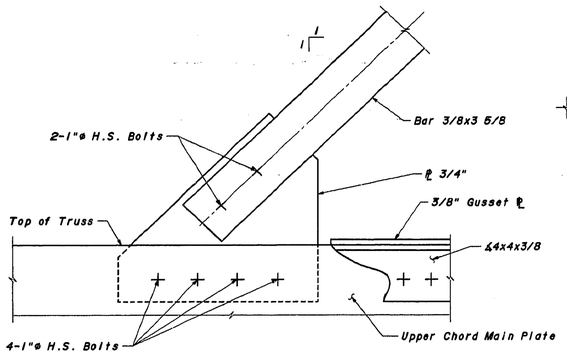
INSPECTION ACCESS



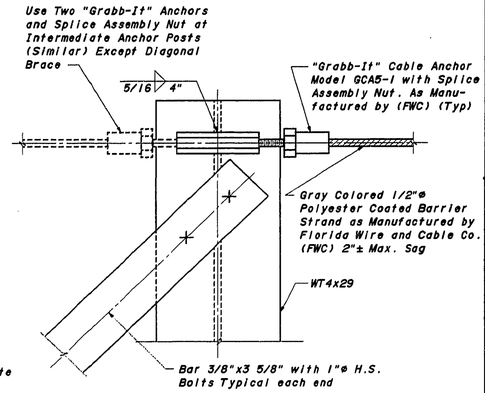
ELEVATION AT PIER D
(PIER A OPPOSITE HAND)



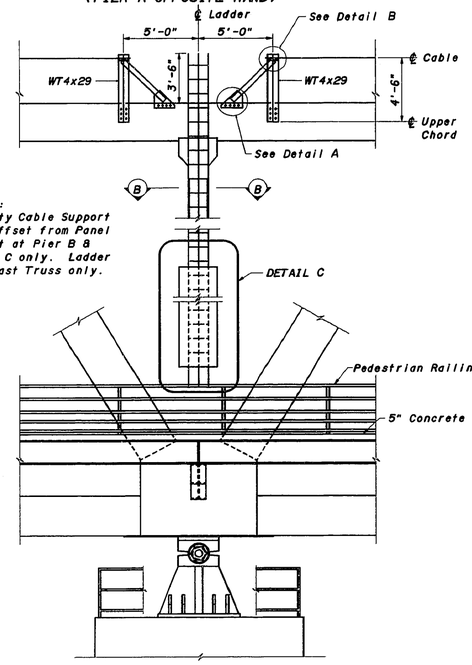
SECTION A - A



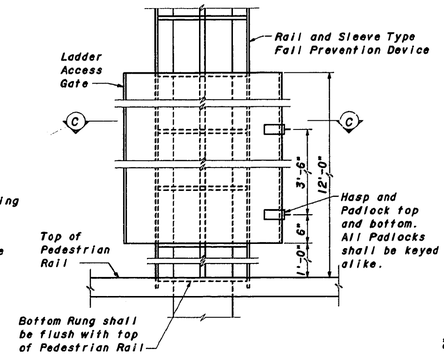
DETAIL A
WORK THIS DETAIL WITH SHEET 68
"INSPECTION ACCESS MODIFICATIONS"



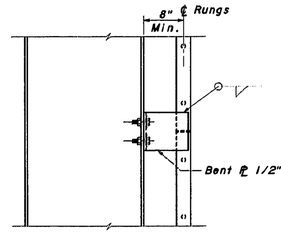
DETAIL B
(TYPICAL END ANCHOR POST)



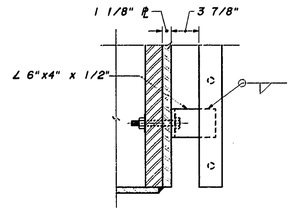
ELEVATION AT PIER B



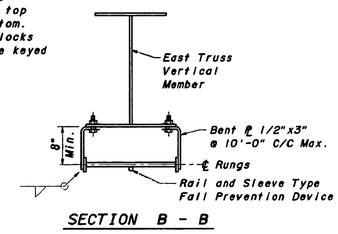
DETAIL C



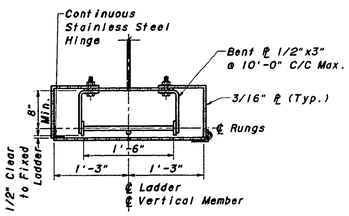
LADDER CONNECTION TO VERTICAL AT SPLICE



LADDER CONNECTION AT GUSSET PLATE



SECTION B - B



SECTION C - C
(LADDER ACCESS GATE)

INSPECTION ACCESS

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

MAIN SPANS SHEET 87

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO
NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

8RF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073D

CONSTRUCTION PROJECT NO	MAINTENANCE PROJECT NO	DRAWING NO
		22740

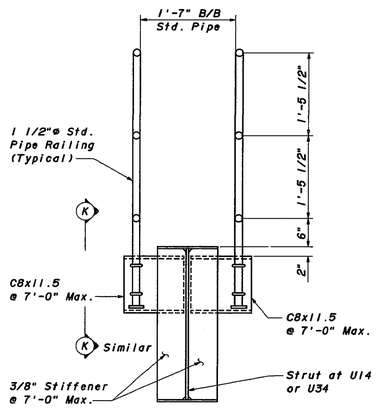
PLANS PREPARED & SUBMITTED BY: Burgess & Niple, Limited Engineers and Architects

UPDATE DATE
LETTING DATE

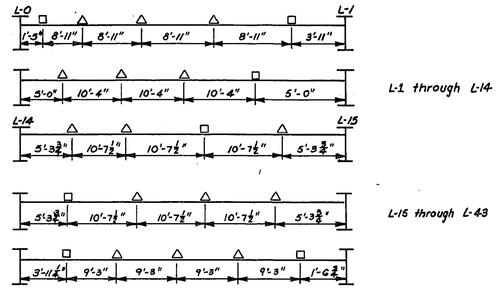
DESIGNED BY	DK	CHECKED BY	ESS	DATE	8/91	REVISED	As Built
DETAILED BY	REJ/DR	CHECKED BY	DK	DATE	7/95	REVISED	
TRACED BY	-	CHECKED BY	-	DATE	-	REVISED	

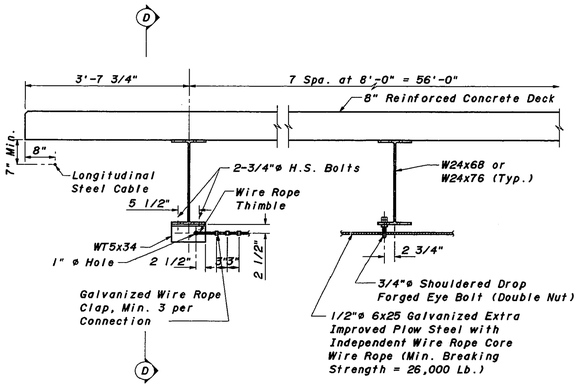
HJE DATE 11-96

08-28-96 - FILE MAIN/PER PR108583\XMULT2\INWALK2\INWALK2.DINWALK4)-FILE AUX/4TH PR108583\FRAMES11\XMULT1/RECALL PR108583\FRAMES11\INWALK4



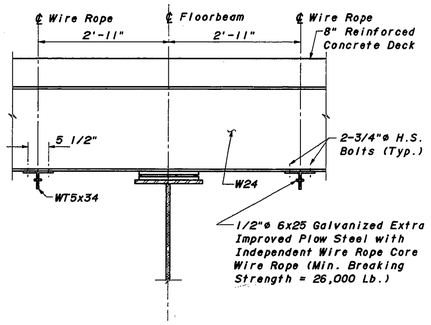
UPPER CHORD TRANSVERSE INSPECTION WALK



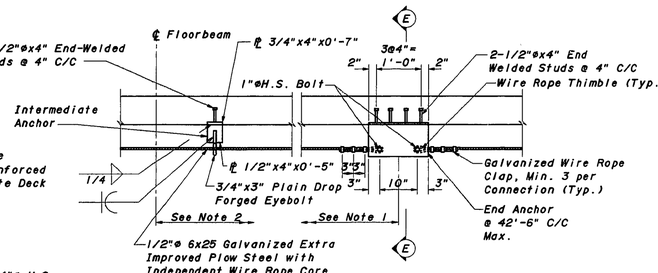


ELEVATION OF TRANSVERSE SAFETY CABLE

Note: Transverse Safety Cable omitted at Piers A & D



SECTION D - D

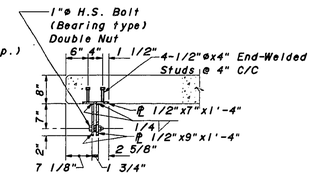


ELEVATION OF TYPICAL LONGITUDINAL BELOW DECK SAFETY CABLE

Notes:

1. Intermediate Anchors shall not be spaced greater than 10'-6" C/C.
2. Anchors shall not be located at Floorbeam centerlines. Midpoint of anchor spacing shall coincide with the centerline of Floorbeams. (See above)

Work this sheet with Sheet 89.



SECTION E - E

MAIN SPANS SHEET 88

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073D

CONSTRUCTION PROJECT NO | MAINTENANCE PROJECT NO | DRAWING NO 22740

INSPECTION ACCESS

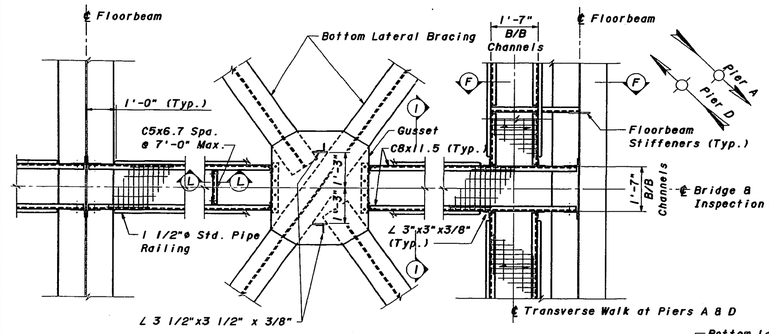
HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

PLANS PREPARED & SUBMITTED BY
Burgess & Niple, Limited
Engineers and Architects

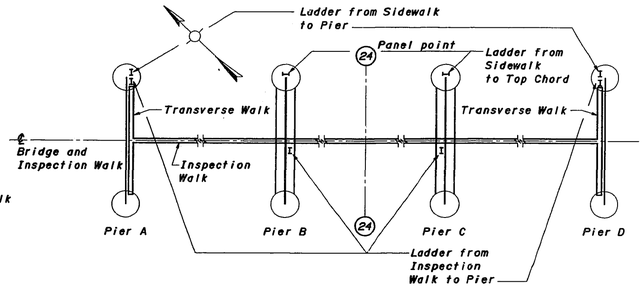
UPDATE DATE .....
LETTING DATE .....

		DATE	REVISED
DESIGNED BY	DRK	CHECKED BY ESS	DATE 8/91
DETAILED BY	CADD	CHECKED BY DRK	DATE 7/9/91
TRACED BY	-	CHECKED BY -	DATE -

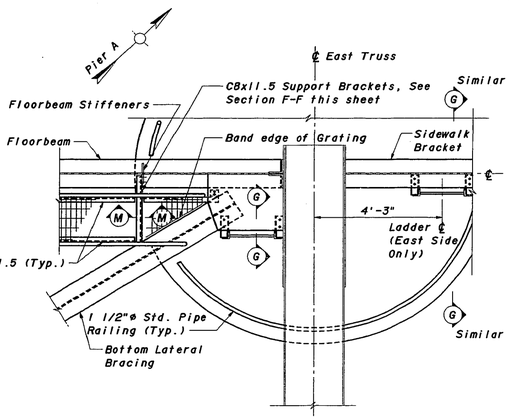
09-03-91 FILE MAIN/PER PR10858>INWALKS>TINWALKS.TINWALKS-DINWALKS)-FILE AUX/MIN PR10858>FRAMES11>FRAMES11-JXMULTI/RECALL PR10858>MULTI>MR.INWALKS



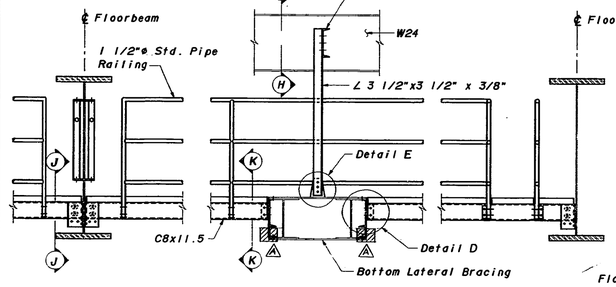
PLAN OF INSPECTION WALK (TYP.)



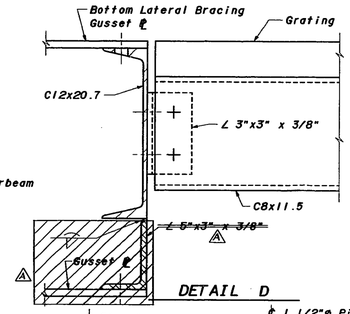
INSPECTION WALK AND LADDER KEY PLAN



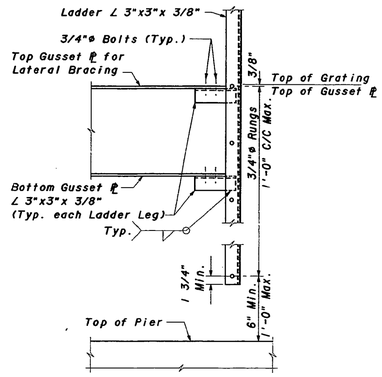
PLAN OF TRANSVERSE WALK
PIER A, PIER D OPP. HAND



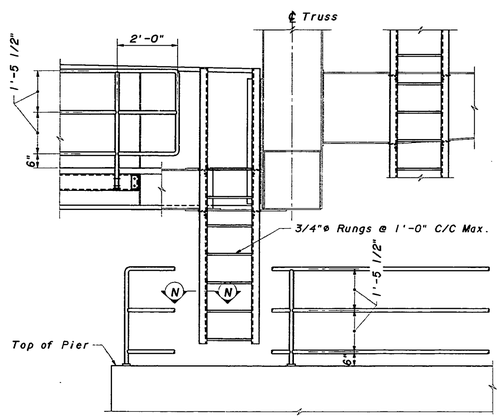
ELEVATION OF INSPECTION WALK



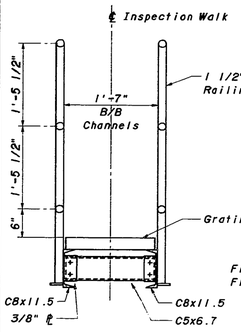
DETAIL D



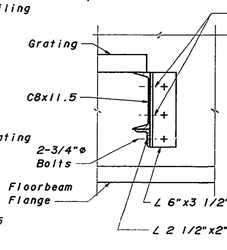
SECTION G - G



ELEVATION OF TRANSVERSE WALK
AT PIERS A & D

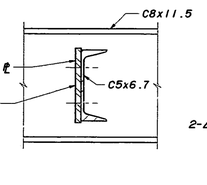


SECTION I - I

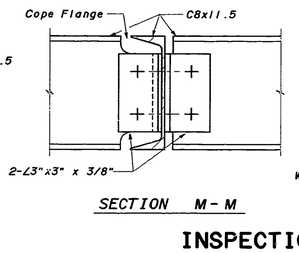


SECTION J - J

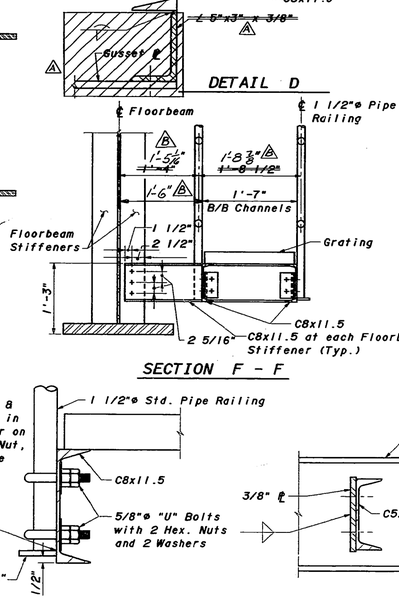
SECTION K - K



SECTION L - L



SECTION M - M



SECTION F - F

Work this sheet with Sheet 90

INSPECTION ACCESS

MAIN SPANS SHEET 89

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073D

CONSTRUCTION PROJECT NO | MAINTENANCE PROJECT NO | DRAWING NO 22740

HAZELET + ERDAL, INC.
In association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

PLANS PREPARED & SUBMITTED BY
Burgess & Niple, Limited
Engineers and Architects

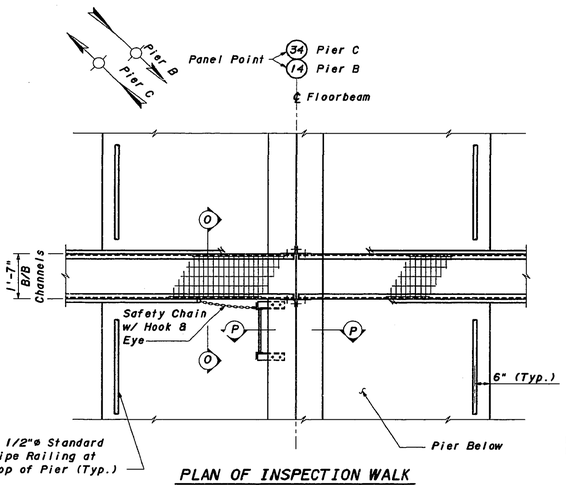
UPDATE DATE
LETTING DATE

DESIGNED BY HJE DATE 2/24/92 CHECKED BY ESS DATE 8-91
DETAILED BY HJE DATE 2/24/92 CHECKED BY DRK DATE 7/9/91
TRACED BY CHECKED BY DATE

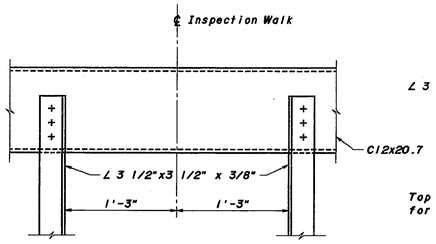
REVISED - DATE
REVISED - DATE
REVISED - DATE

Revised lower angle from Walk Connection
Changed dimension Trans. walk to ℄ Elbow

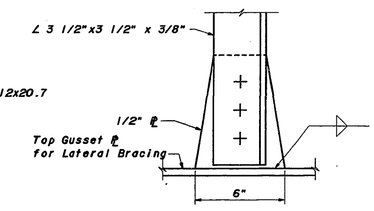
08-22-91 FILE MAIN/PER PRJ0558>INWLK1>TINWLK1.M, DATE: FILE AUX/#IN PRJ0558>FRAMES11>JNWLT1/RECALL PRJ0558>WALT1>WR.INWLK1



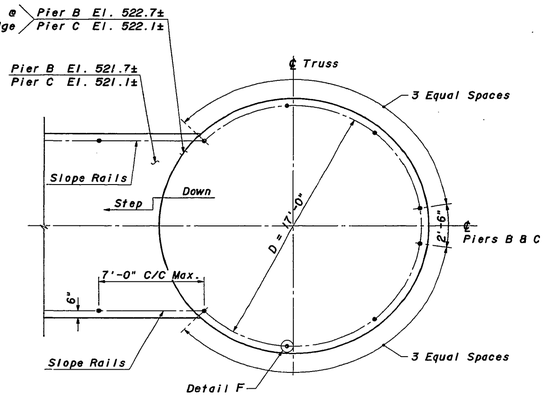
PLAN OF INSPECTION WALK AT PIERS B & C



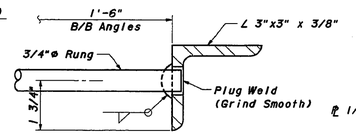
VIEW H - H



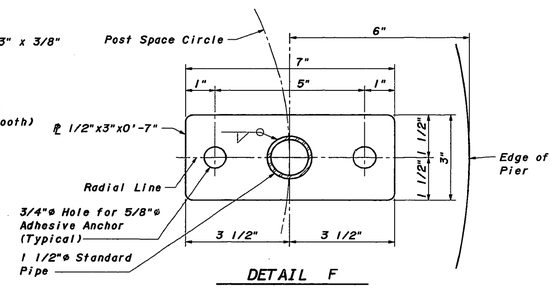
DETAIL E



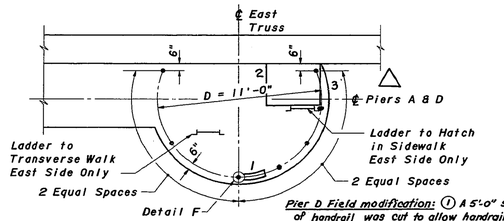
RAILING PLAN PIERS B & C
Work With Detail D on Sheet 45



SECTION N - N
(Typical All Rungs)

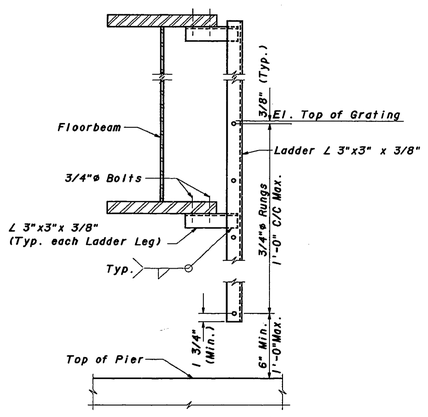


DETAIL F



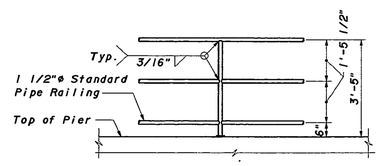
Pier D Field modification: ① A 5'-0" section of handrail was cut to allow handrail to accomidate drainbox. ② Anchor post was relocated to front of drainbox. ③ Upstream

RAILING PLAN PIERS A & D



SECTION O - O

SECTION P - P



TYPICAL RAILING DETAIL ON PIERS

INSPECTION ACCESS

MAIN SPANS SHEET 90

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073D

CONSTRUCTION PROJECT NO. | MAINTENANCE PROJECT NO. | DRAWING NO. 22740

HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

PLANS PREPARED & SUBMITTED BY: Burgess & Niple, Limited Engineers and Architects

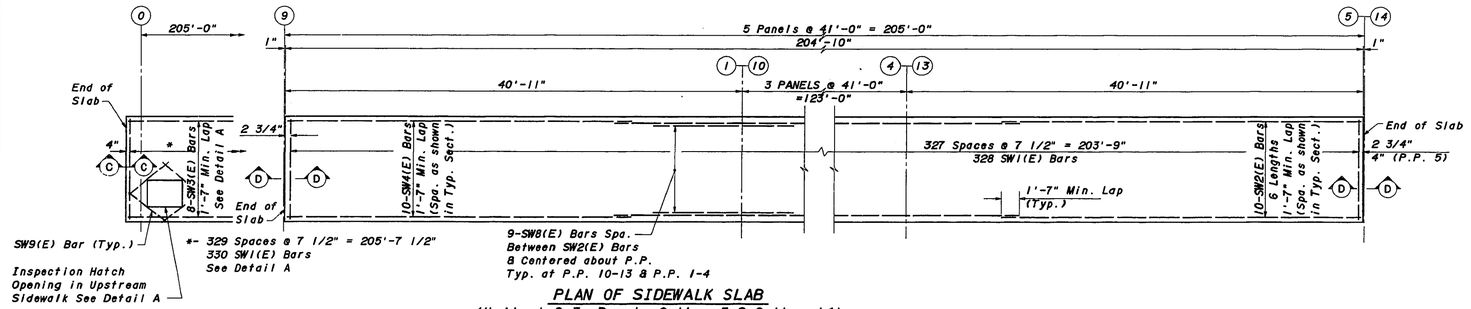
UPDATE DATE ..... LETTING DATE .....

H.E.E. DATE 11-96

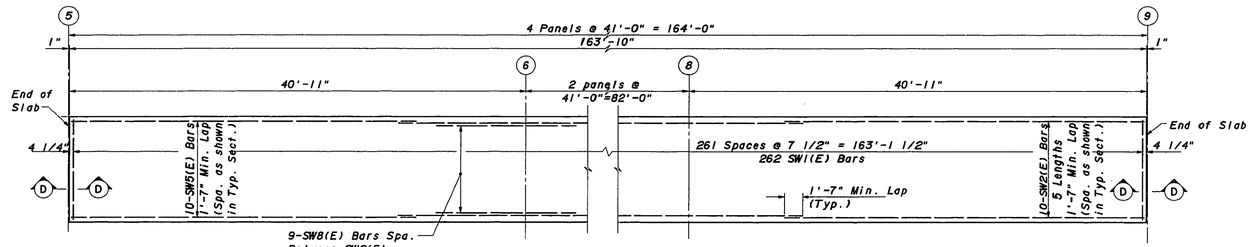
DESIGNED BY DK CHECKED BY ESS DATE 8-91
DETAILED BY MSN CHECKED BY DK DATE 7/93
TRACED BY - CHECKED BY - DATE -

REVISED 1 As Built
REVISED -
REVISED -

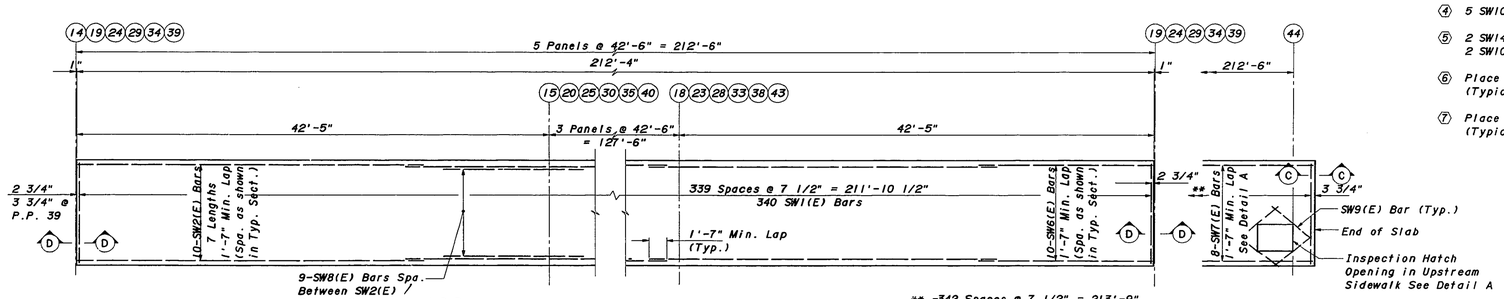
09-21-91 FILE MAIN/PER PR10858>INWLK2>TINWLK2>DINWLK2>FILE AUX/#IN PR10858>FRAMES113>XMULTI/RECALL PR10858>MULTI/INWLK2



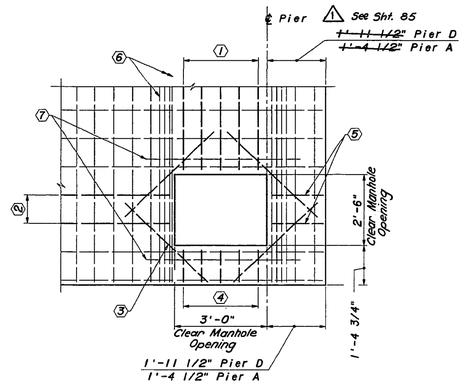
PLAN OF SIDEWALK SLAB
(Units 1 & 3, Panels 0 thru 5 & 9 thru 14)



PLAN OF SIDEWALK SLAB
(Unit 2, Panels 5 thru 9)



PLAN OF SIDEWALK SLAB
(Units 4,5,6,7,8, & 9, Panels 14 thru 19, 19 thru 24, 24 thru 29, 29 thru 34, 34 thru 39, & 39 thru 44)



DETAIL A
Pier A Opposite Hand

CODED NOTES

① 5 SW12(E) Bars @ 7 1/2" (Typ. Piers A & D)

② 2 SW13(E) Bars @ 12" (Pier D)
2 SW11(E) Bars @ 12" (Pier A)

③ SW9(E) Bar Typical at each corner of opening
Place to maintain 2" Clear Cover

④ 5 SW10(E) Bars @ 7 1/2" (Typ. Piers A & D)

⑤ 2 SW14(E) Bars @ 7 1/2" (Pier D)
2 SW10(E) Bars @ 7 1/2" (Pier A)

⑥ Place 3 SW1(E) Bars on both sides of opening
(Typical Piers A & D)

⑦ Place SW15(E) Bars on both sides of opening
(Typical Piers A & D)

○ Indicates Panel Point (P.P.)

For Section C-C See Sheet 85

Work this Sheet with Sheet 92

SIDEWALK DETAILS

HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

MAIN SPANS SHEET 91

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

PLANS PREPARED & SUBMITTED BY
Burgess & Niple, Limited
Engineers and Architects

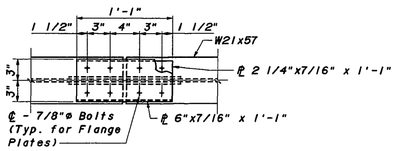
UPDATE DATE -
LETTING DATE -

DESIGNED BY	JKS	CHECKED BY	DRK
DETAILED BY	MSM	CHECKED BY	JKS
TRACED BY	-	CHECKED BY	-
DATE 11-95		DATE -	

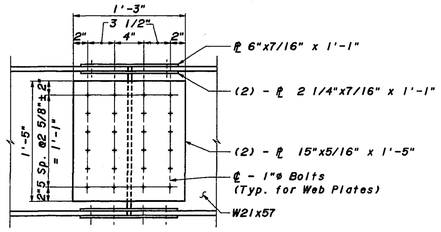
REVISED -	DATE 8/22/91
REVISED -	DATE 7/9/91
REVISED -	DATE -

As Built

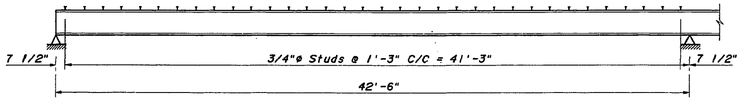
08-28-91 FILE MAIN/PER PR10853\SHEET1\SHEET1.DGN(SET1).FILE AUX/MIN PR10858\FRAMES11\FRAMES11.XML(T1/RECALL PR10858\MULTI\MR.DGN(SET1

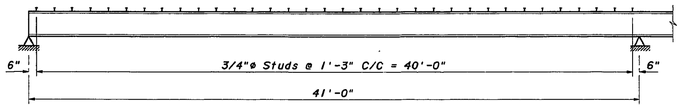


PLAN OF SIDEWALK STRINGER SPLICE

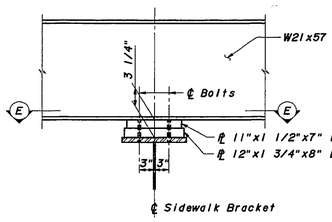


ELEVATION OF SIDEWALK STRINGER SPLICE

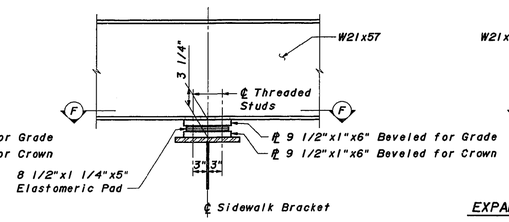




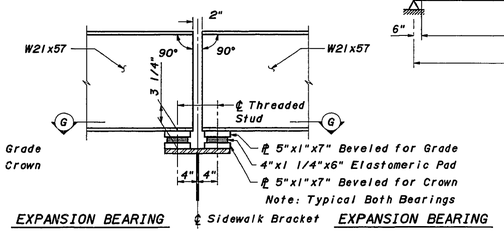
SIDEWALK STRINGER STUD SPACING



INTERMEDIATE SUPPORT - FIXED
TYPE V

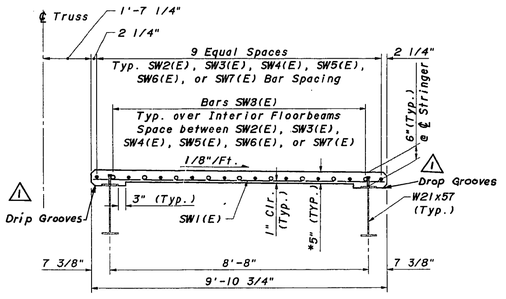


INTERMEDIATE SUPPORT - EXPANSION
TYPE VI

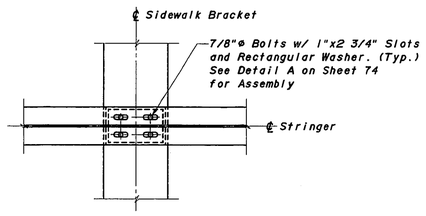


EXPANSION BEARING — EXPANSION BEARING

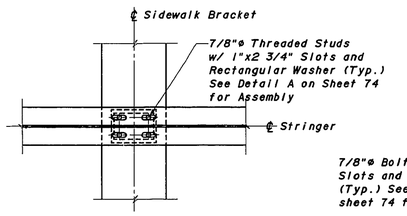
AT STRINGER EXPANSION JOINT
TYPE VII



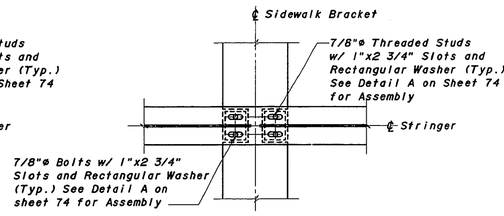
TYPICAL SIDEWALK SECTION
* THICKNESS OF WEST SIDEWALK VARIES AT OHIO STAIRS (SEE DETAIL)



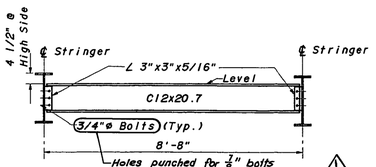
SECTION E - E



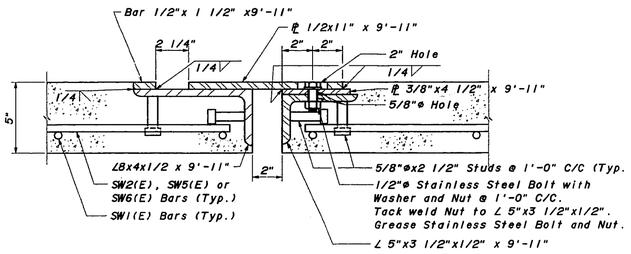
SECTION F - F



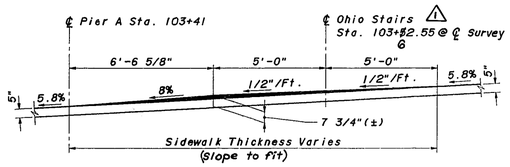
SECTION G - G



TYPICAL SIDEWALK DIAPHRAGM



SECTION D - D



ELEVATION OF SIDEWALK SLAB AT OHIO STAIRS
(WEST SIDEWALK ONLY)

E.S. - Each Side

Work this Sheet with Sheet 75

For Bill of Reinforcement See Sheet 96.

MAIN SPANS — SHEET 92

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

SIDEWALK DETAILS

HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

PLANS PREPARED & SUBMITTED BY
Burgess & Niple, Limited
Engineers and Architects

UPDATE DATE ..... LETTING DATE .....

DESIGNED BY JNS	CHECKED BY DRK	DATE 8/22/91	REVISED -
DETAILED BY JNS	CHECKED BY JNS	DATE 7/9/91	REVISED -
TRACED BY -	CHECKED BY -	DATE XXX	REVISED -

#12 DATE 11-95 — DATE - — DATE -

08-26-91 FILE MAIN/PER PR10855(S)SHEET2\ISHEET2.ISHEET2-2SHEET2\FILE AUX/MIN PR10855(S)FRAMES11)\XWALT1/RECALL PR10855(MULTI)\MR.SHEET2

08-28-91 FILE MAIN/PER PR10583<SLBDET1>(CLBDET1,TSLBDET1,DSLBDET1)-FILE AUX/MAIN PR10805<FRAMES11>(FRAMES11)-XREL:T1/RECALL PR10583<MULTI>MR-SLABDET1

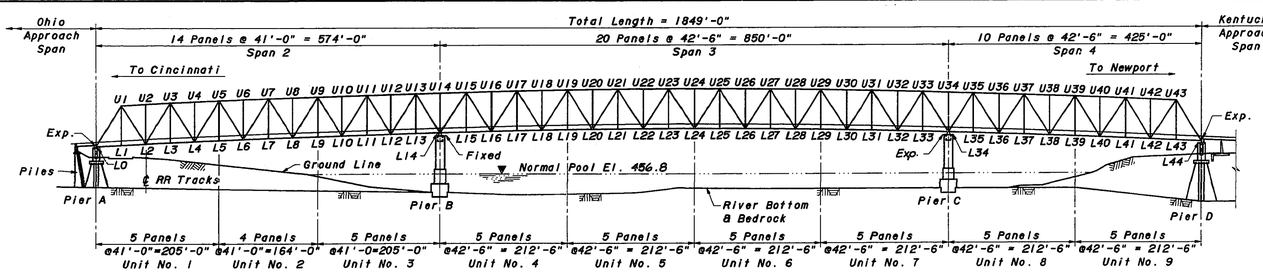
UPDATE DATE.....

LETTING DATE.....

PLANS PREPARED & SUBMITTED BY
Burgess & Niple, Limited
Engineers and Architects

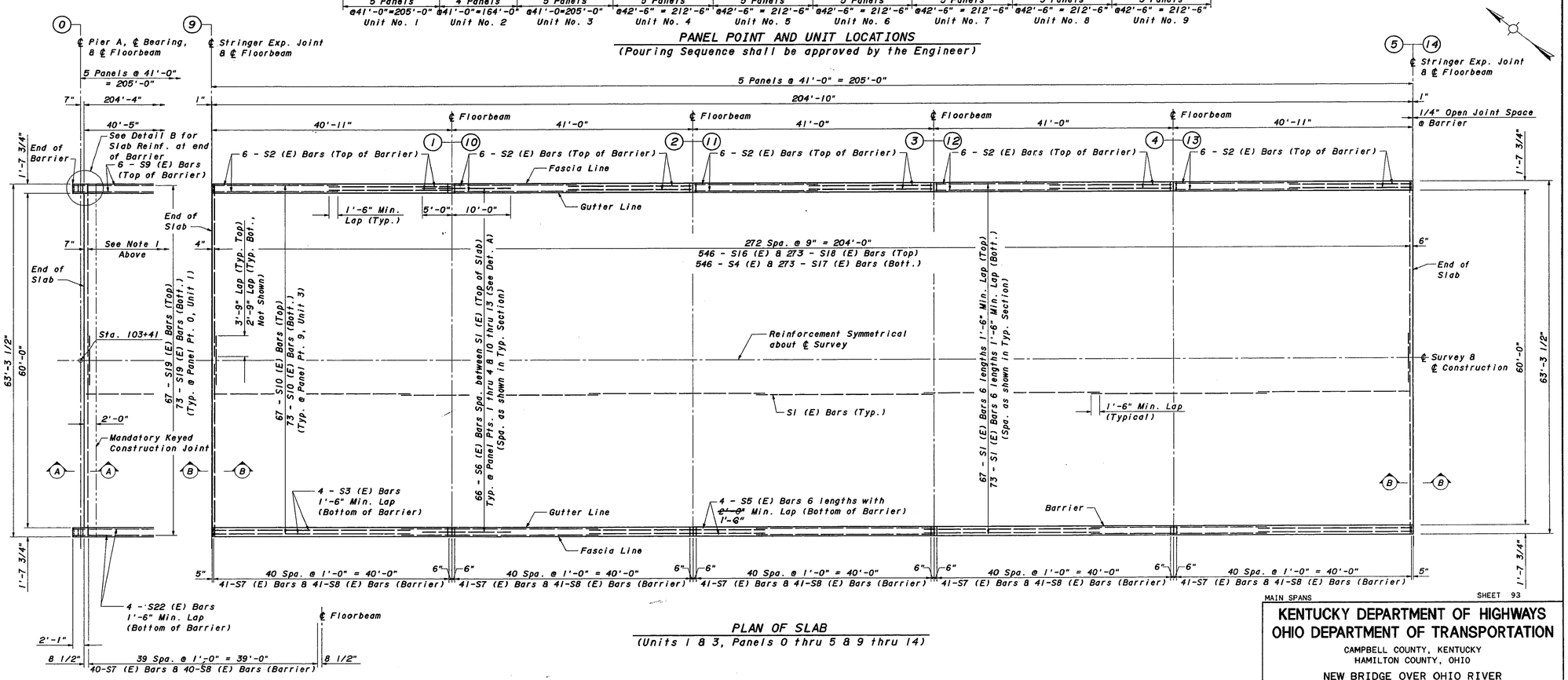
DESIGNED BY	JKS	DRK	8/92
DETAILED BY	MSM	CHECKED BY	JKS
TRACED BY		CHECKED BY	
DATE		DATE	7/29/91
REVISED		REVISED	

Note 1:
271 Spa.@ 9" = 203'-3"
544 - S16 (E) Bars & 272 - S18 (E) Bars (Top),
544 - S4 (E) Bars & 272 - S17 (E) Bars (Bott.)



Note: Truss deck slabs pouring sequence: Pouring of deck slabs to start from End Units No.1 and No.9 and progress either alternately or simultaneously toward Unit No.5.

PANEL POINT AND UNIT LOCATIONS
(Pouring Sequence shall be approved by the Engineer)



PLAN OF SLAB
(Units 1 & 3, Panels 0 thru 5 & 9 thru 14)

SLAB DETAILS

HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

MAIN SPANS

SHEET 93

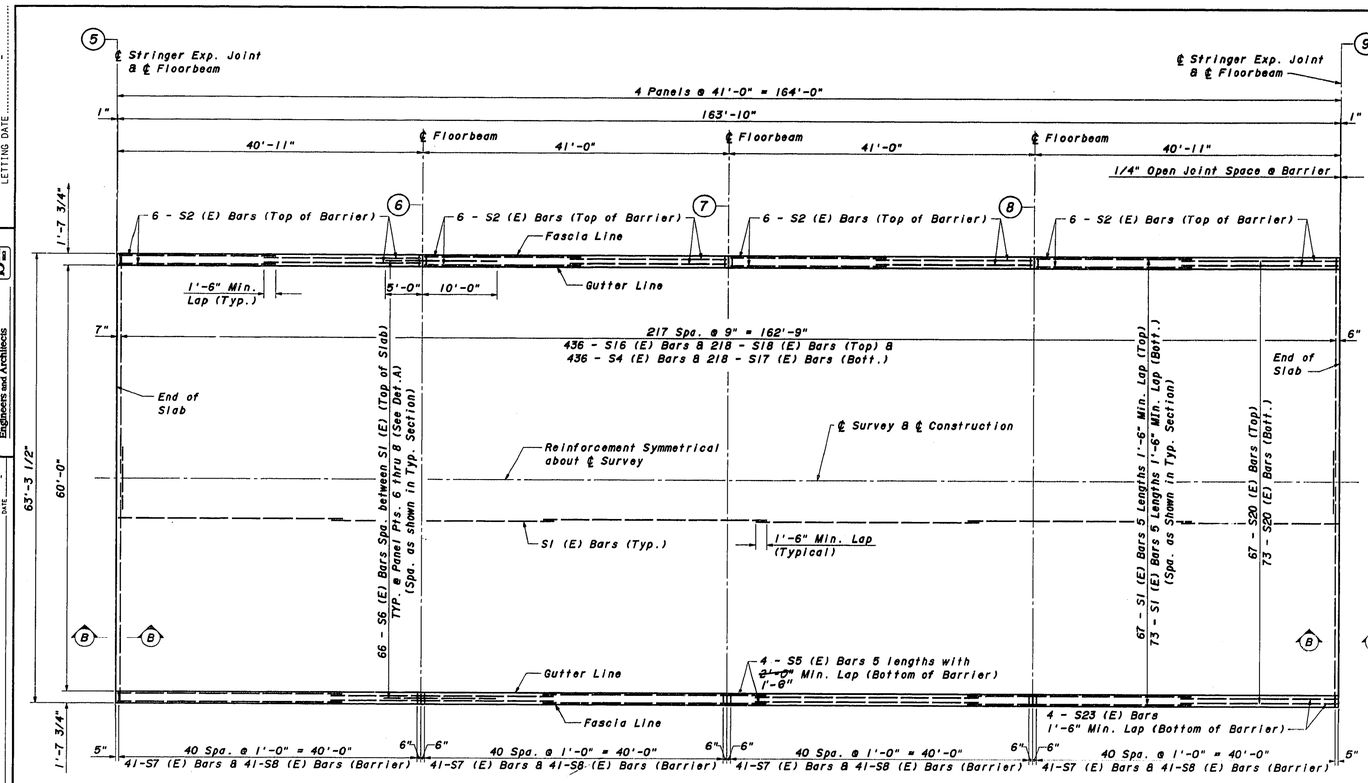
KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

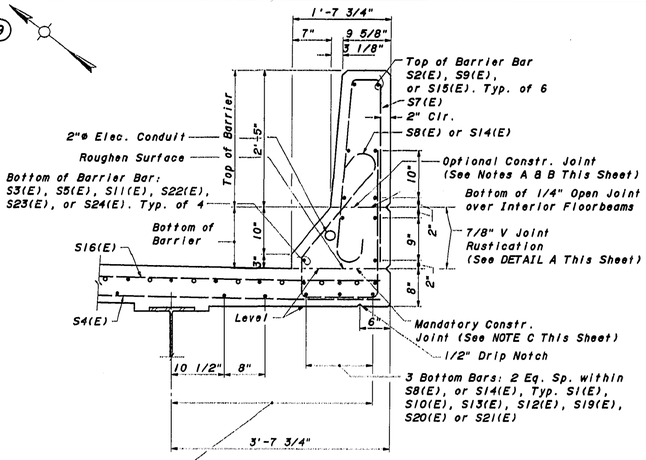
NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740



PLAN OF SLAB
(Unit 2, Panel Pts. 5 thru 9)

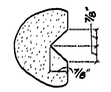


TYPICAL FASCIA BARRIER DETAIL

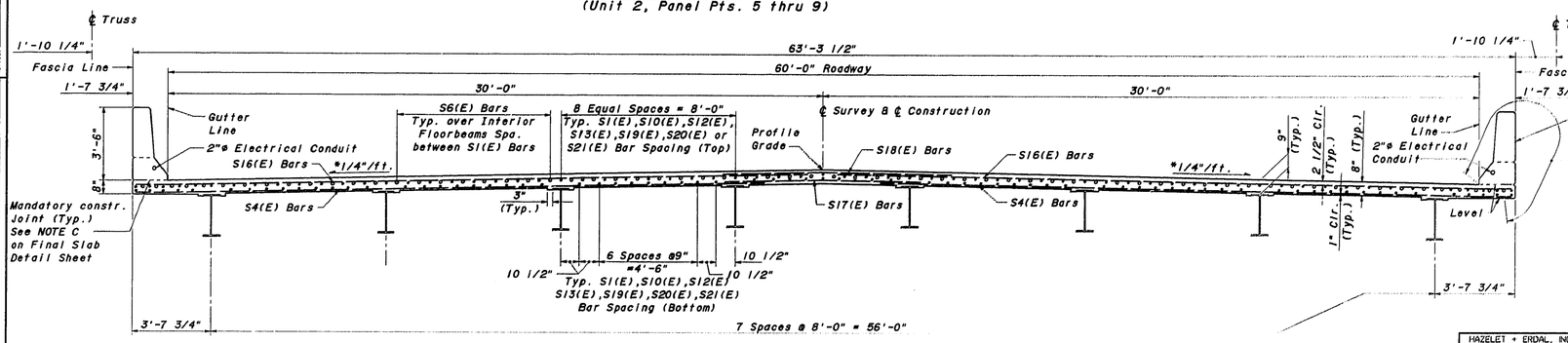
NOTE A:
Rustication groove is required only when constr. jt. is used. If the optional constr. jt. is used for the barrier curb in any wingwall or superstructure section, it shall be used for all sections for the full length of the bridge.

NOTE B:
The non-rusticated horizontal construction joint at roadway face shall be level formed or have a troweled upper edge of the pour in order that the joint will be acceptable without unsightly repairs or surface rubbing.

NOTE C:
There shall be a mandatory constr. jt. between deck slab & barrier curb. Concrete above this joint may not be poured until deck slab has been properly cured (Typ.).



DETAIL A
See Note "A" This Sheet



TYPICAL SECTION
* Superelevation Starts Sta. 120+72.06

SLAB DETAILS

MAIN SPANS SHEET 94

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

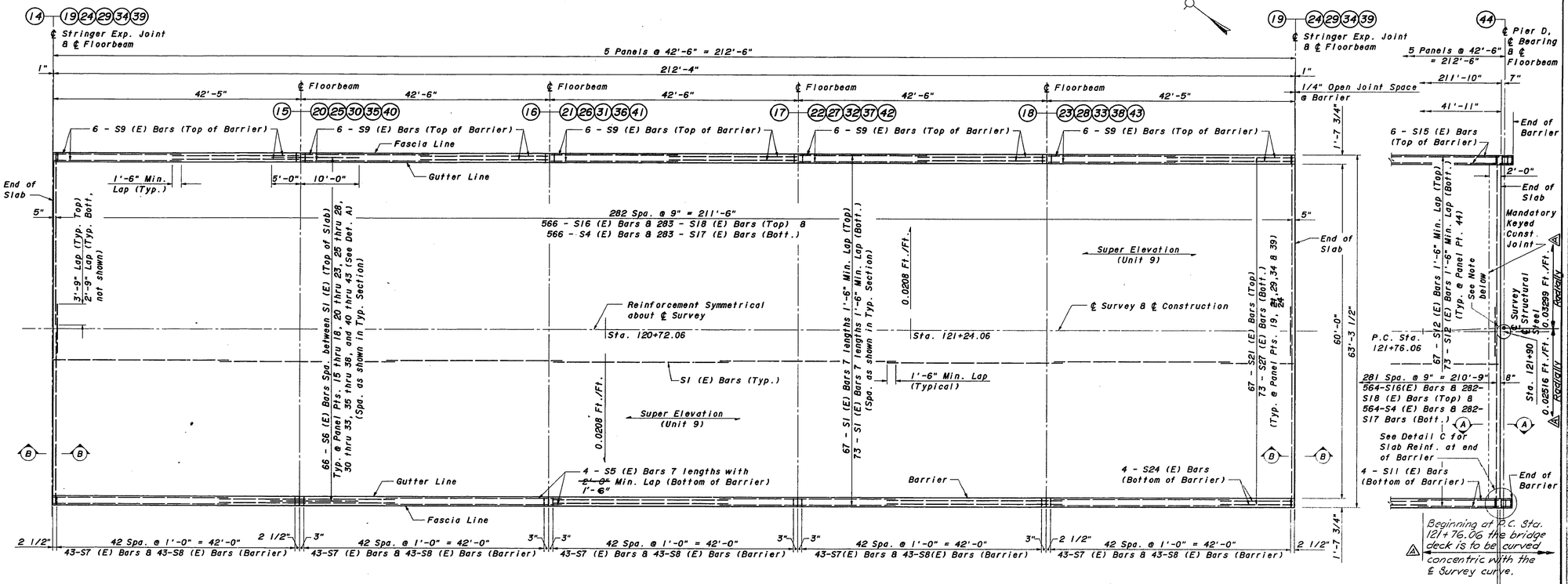
HAZELET ★ ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

PLANS PREPARED & SUBMITTED BY
Burgess & Niple, Limited
Engineers and Architects

UPDATE DATE .....
LETTING DATE .....

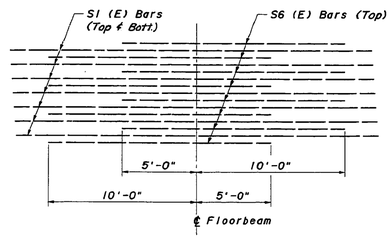
		DATE	REVISED
DESIGNED BY	JKS	8/91	
DETAILED BY	DRK	7/9/91	
CHECKED BY	JKS		
CHECKED BY	MSM		
CHECKED BY			
TRACED BY			

08-26-91 FILE MAIN/PRS PR1005&9%BLRDET2\7%BLRDET2.05%BLRDET2\ FILE AUX/MIN PR1005&9%FRAMES11)\FRAMES11).XWALT1/RECALL PR1005&9%WALT1)MSM.%LRDET2

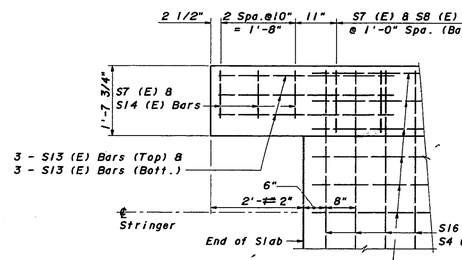


Note: ℄ Survey and ℄ Bridge Deck are offset 2" @ Sta. 121+90 with respect to ℄ Bridge Structural Steel.

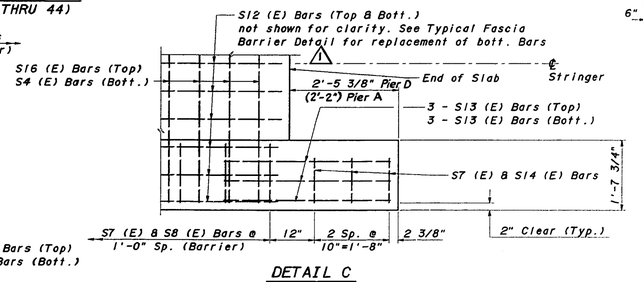
PLAN OF SLAB
(UNITS 4 THRU 9, PANEL POINTS 14 THRU 44)



LONGITUDINAL DISTRIBUTION REINFORCEMENT
TYP. OVER INTERIOR FLOORBEAMS



DETAIL B



DETAIL C

SLAB DETAILS

MAIN SPANS SHEET 95

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

PLANS PREPARED & SUBMITTED BY: Burgess & Niple, Limited Engineers and Architects

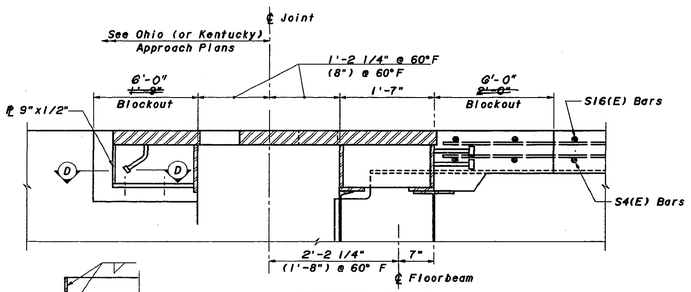
UPDATE DATE .....
LETTING DATE .....

DESIGNED BY JKS CHECKED BY 44E DATE 2-92
DETAILED BY CADD CHECKED BY 44E DATE 11-92
TRACED BY - CHECKED BY - DATE -

DRK	8/94
JKS	9/27/91

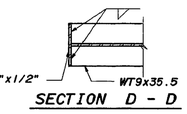
REVISIONS
Add Notes to clarify curve of bridge deck 44E
As Built

08-26-91 FILE MAIN/PER PR10858/SLBDET3) FILE AUX/MIN PR10858/FRAMES11) XMULTI/RECALL PR10858/MULTI2NR.SLBDET3



SECTION A - A

Dimensions from Pier A are in ( ) if different from Pier D



SECTION D - D

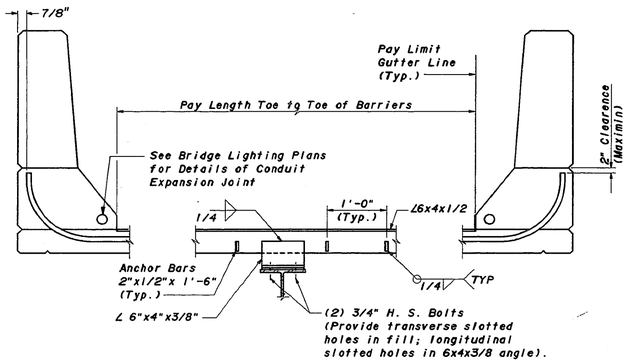
Note:
See Sheet 132 for General Notes unless Noted Otherwise on this Sheet.

~~Joint Opening Increment for 10° Temperature Change is 3/16"~~

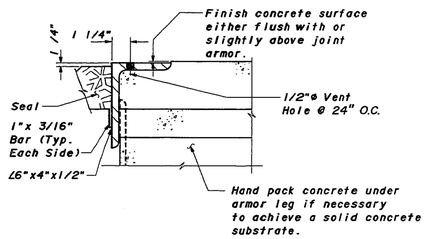
Note: All Reinforcing Bars designated by Suffix (E) in the plans shall be Epoxy Coated in accordance with Art. 811.10 of the Specification.

BILL OF REINFORCEMENT

Mark	Type	Size	Length Ft.	Length In.	Number per Unit 1	2	3	4	5	6	7	8	9	Total	Location
S1(E)	Str	5	30	0	840	700	840	980	980	980	980	980	980	8260	Slab
S2(E)	Str	5	21	1	96	96	120	0	0	0	0	0	0	312	Top of Barrier
S3(E)	Str	5	33	6	0	0	8	0	0	0	0	0	0	8	Bottom of Barrier
S4(E)	Str	6	29	1	544	436	546	566	566	566	566	566	564	4920	Slab
S5(E)	Str	5	30	0	48	40	48	56	56	56	56	56	56	472	Bottom of Barrier
S6(E)	Str	6	15	0	264	198	264	264	264	264	264	264	264	2310	Slab
S7(E)	①	5	7	5	414	328	410	430	430	430	430	430	434	3736	Barrier
S8(E)	②	5	7	0	408	328	410	430	430	430	430	430	428	3724	Barrier
S9(E)	Str	5	21	10	24	0	0	120	120	120	120	120	96	720	Top of Barrier
S10(E)	Str	5	33	6	0	0	140	0	0	0	0	0	0	140	Slab
S11(E)	Str	5	14	5	0	0	0	0	0	0	0	0	8	8	Bottom of Barrier
S12(E)	Str	5	12	0	0	0	0	0	0	0	0	0	140	140	Slab
S13(E)	Str	5	4	0	12	0	0	0	0	0	0	0	12	24	Slab
S14(E)	②	5	6	9	6	0	0	0	0	0	0	0	6	12	Barrier
S15(E)	Str	5	22	9	0	0	0	0	0	0	0	0	24	24	Top of Barrier
S16(E)	Str	7	31	0	544	436	546	566	566	566	566	566	564	4920	Slab
S17(E)	③	6	10	9	272	218	273	283	283	283	283	283	282	2460	Slab
S18(E)	③	7	8	10	272	218	273	283	283	283	283	283	282	2460	Slab
S19(E)	Str	5	33	0	140	0	0	0	0	0	0	0	0	140	Slab
S20(E)	Str	5	21	0	0	140	0	0	0	0	0	0	0	140	Slab
S21(E)	Str	5	12	6	0	0	0	140	140	140	140	140	0	700	Slab
S22(E)	Str	5	35	1	8	0	0	0	0	0	0	0	0	8	Bottom of Barrier
S23(E)	Str	5	21	0	0	8	0	0	0	0	0	0	0	8	Bottom of Barrier
S24(E)	Str	5	12	6	0	0	0	8	8	8	8	8	0	40	Bottom of Barrier
SW1(E)	Str	4	9	6	661	524	656	680	680	680	680	680	687	5928	Sidewalk
SW2(E)	Str	4	30	0	120	100	120	140	140	140	140	140	140	1180	Sidewalk
SW3(E)	Str	4	35	6	16	0	0	0	0	0	0	0	0	16	Sidewalk
SW4(E)	Str	4	34	0	0	0	20	0	0	0	0	0	0	20	Sidewalk
SW5(E)	Str	4	21	5	0	20	0	0	0	0	0	0	0	20	Sidewalk
SW6(E)	Str	4	13	1	0	0	0	20	20	20	20	20	0	100	Sidewalk
SW7(E)	Str	4	15	0	0	0	0	0	0	0	0	0	16	16	Sidewalk
SW8(E)	Str	6	15	0	72	54	72	72	72	72	72	72	72	630	Sidewalk
SW9(E)	Str	4	4	0	4	0	0	0	0	0	0	0	4	8	Sidewalk
SW10(E)	Str	4	1	0	7	0	0	0	0	0	0	0	5	12	Sidewalk
SW11(E)	Str	4	31	0	2	0	0	0	0	0	0	0	0	2	Sidewalk
SW12(E)	Str	4	5	7	5	0	0	0	0	0	0	0	5	10	Sidewalk
SW13(E)	Str	4	9	11	0	0	0	0	0	0	0	0	2	2	Sidewalk
SW14(E)	Str	4	1	7	0	0	0	0	0	0	0	0	2	2	Sidewalk
SW15(E)	Str	4	5	7	2	0	0	0	0	0	0	0	2	4	Sidewalk

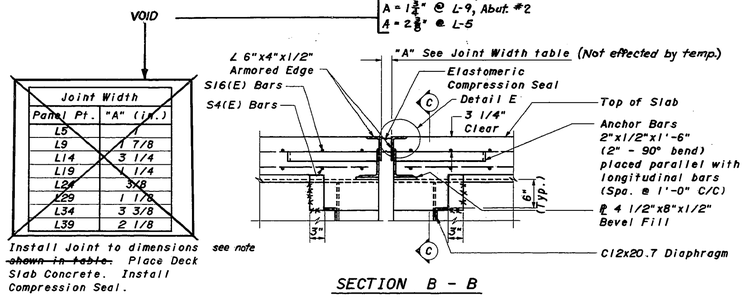


SECTION C - C

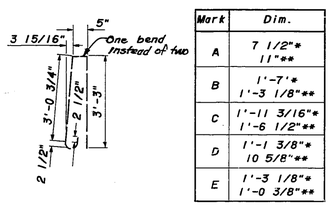


DETAIL E

A = 2 1/4" @ L-L-29
A = 2 3/4" @ L-19, L-24
A = 2 3/8" @ L-14, L-34
A = 1 3/4" @ L-9, Abut. #2
A = 2 5/8" @ L-5



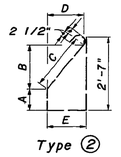
SECTION B - B



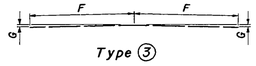
Type ①

Mark	Dim.
A	7 1/2"* 11"**
B	1'-7"* 1'-3 1/8"**
C	1'-11 3/16"* 1'-6 1/2"**
D	1'-1 3/8"* 10 5/8"**
E	1'-3 1/8"* 1'-0 3/8"**

*S8 (E) Bars
**S14 (E) Bars



Type ②



Type ③

Mark	Dim.
F	5'-4 1/2" * 4'-5" **
G	0'-1 3/8" * 0'-1 1/8" **

* S17(E) Bars
**~~S18~~(E) Bars
J8

UPDATE DATE
LETTING DATE

PLANS PREPARED & SUBMITTED BY
Burgess & Niple, Limited
Engineers and Architects

DESIGNED BY		CHECKED BY	DATE
DETAILED BY	KSM	CHECKED BY	JKS DATE 6/7/91
TRACED BY	-	CHECKED BY	DATE

H.E.	DATE 11-92	REVISED -	
⚠ As Built	DATE -	REVISED -	
	DATE -	REVISED -	
	DATE	REVISED -	

09-03-91 FILE MAIN/PIER PR1985B/SLIDET4;1SLIDET4.DGLIDET4;FILE AUX/MIN PR1985B/FRAMES11;XMULTI/RECALL PR1985B/MULTI;MR-SLIDET4

MAIN SPANS SHEET 96

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

SLAB DETAILS

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073D

CONSTRUCTION PROJECT NO	MAINTENANCE PROJECT NO	DRAWING NO
		22740

UPDATE DATE ----------
LETTING DATE ----------

PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

DATE ----------
DATE ----------
DATE ----------

DESIGNED BY B.C.S. CHECKED BY JSL / TJC DATE 9/94 REVISED
REVISED BY B.C.S. CHECKED BY JSL DATE 9/94 REVISED
ISSUED BY ---------- CHECKED BY ---------- DATE ---------- REVISED

PLOTTING BY DUNGFASTSUPPLIER

CONSTRUCTION ELEVATIONS

SCREED LINES	STRINGER A			STRINGER B			STRINGER C			STRINGER D				STRINGER E				STRINGER F			STRINGER G			STRINGER H			SCREED LINES
	CONSTR. ELEV.	TOP OF BEAM	DIM "X"/ MACH.ORD. (INCH.)	CONSTR. ELEV.	TOP OF BEAM	DIM "X" (INCH.)	CONSTR. ELEV.	TOP OF BEAM	DIM "X" (INCH.)	CONSTR. ELEV.	TOP OF BEAM	DIM "X" (INCH.)	MACH. ORD. (INCH.)	CONSTR. ELEV.	TOP OF BEAM	DIM "X" (INCH.)	MACH. ORD. (INCH.)	CONSTR. ELEV.	TOP OF BEAM	DIM "X" (INCH.)	CONSTR. ELEV.	TOP OF BEAM	DIM "X" (INCH.)	CONSTR. ELEV.	TOP OF BEAM	DIM "X"/ MACH.ORD. (INCH.)	
L0–1	514.024	513.293	8 3/4"	514.201	513.452	9"	514.375	513.626	9"	514.546	513.794	9"	8 3/4"	514.546	513.794	9"	8 3/4"	514.375	513.639	8 11/16"	514.201	513.467	8 13/16"	514.024	513.304	8 5/8"	L0–1
2	514.558	513.800	9 1/16"	514.739	513.961	9 3/8"	514.915	514.127	9 7/16"	515.086	514.282	9 5/16"	9 5/16"	515.086	514.283	9 5/16"	9 5/16"	514.915	514.143	9 1/4"	514.739	513.976	9 3/16"	514.558	513.804	9 1/16"	2
3	515.077	514.305	9 1/4"	515.262	514.466	9 9/16"	515.439	514.629	9 11/16"	515.611	514.777	10"	9 5/8"	515.611	514.777	10"	9 5/8"	515.439	514.648	9 1/2"	515.262	514.483	9 3/8"	515.077	514.303	9 5/16"	3
4	515.575	514.806	9 1/4"	515.762	514.969	9 1/2"	515.941	515.133	9 11/16"	516.115	515.286	9 15/16"	9 1/2"	516.115	515.280	10"	9 9/16"	515.941	515.151	9 1/2"	515.762	514.987	9 5/16"	515.575	514.805	9 1/4"	4
5	516.059	515.303	9 1/16"	516.248	515.467	9 3/8"	516.428	515.641	9 7/16"	516.602	515.807	9 9/16"	9 1/16"	516.602	515.802	9 5/8"	9 1/8"	516.428	515.653	9 5/16"	516.248	515.486	9 1/4"	516.059	515.308	9"	5
L1–1	516.545	515.792	9 1/16"	516.734	515.970	9 5/16"	516.916	516.155	9 1/4"	517.092	516.332	9 1/8"	8 15/16"	517.092	516.330	9 1/8"	8 15/16"	516.916	516.160	9 1/16"	516.734	515.990	8 15/16"	516.545	515.816	8 3/4"	L1–1
2	517.042	516.274	9 1/16"	517.232	516.460	9 1/4"	517.414	516.662	9"	517.588	516.842	8 15/16"	8 7/8"	517.588	516.858	8 3/4"	8 13/16"	517.414	516.672	8 7/8"	517.232	516.485	8 15/16"	517.042	516.322	8 7/8"	2
3	517.545	516.765	9 3/8"	517.735	516.945	9 1/2"	517.917	517.154	9 1/4"	518.092	517.323	9 1/16"	8 11/16"	518.092	517.342	9"	8 1/16"	517.917	517.163	9 1/16"	517.735	516.974	9 1/8"	517.545	516.812	8 13/16"	3
4	518.042	517.257	9 7/16"	518.232	517.439	9 1/2"	518.414	517.640	9 5/16"	518.589	517.812	9 5/16"	8 3/4"	518.589	517.819	9 1/4"	8 11/16"	518.414	517.648	9 3/16"	518.232	517.465	9 3/16"	518.042	517.299	8 15/16"	4
5	518.531	517.751	9 3/8"	518.721	517.933	9 7/16"	518.902	518.134	9 3/16"	519.077	518.301	9 5/16"	8 3/4"	519.077	518.308	9 1/4"	8 11/16"	518.902	518.134	9 1/8"	518.721	517.951	9 1/4"	518.531	517.787	8 15/16"	5
L2–1	519.022	518.254	9 11/16"	519.210	518.431	9 3/8"	519.392	518.615	9 5/16"	519.567	518.788	9 3/8"	8 13/16"	519.567	518.794	9 5/16"	8 3/4"	519.392	518.630	9 1/8"	519.210	518.450	9 1/8"	519.022	518.275	9"	L2–1
2	519.526	518.752	9 5/16"	519.716	518.918	9 7/16"	519.898	519.090	9 11/16"	520.072	519.254	9 13/16"	9 1/4"	520.072	519.269	9 5/16"	9 1/16"	519.898	519.112	9 1/16"	519.716	518.942	9 5/16"	519.526	518.760	9 11/16"	2
3	520.031	519.240	9 1/4"	520.221	519.417	9 5/16"	520.402	519.586	9 13/16"	520.577	519.749	9 15/16"	9 3/8"	520.577	519.759	9 13/16"	9 5/16"	520.402	519.622	9 3/8"	520.221	519.443	9 5/16"	520.031	519.258	9 5/16"	3
4	520.522	519.728	9 1/4"	520.711	519.910	9 5/16"	520.893	520.063	9 15/16"	521.068	520.253	9 3/4"	9 1/4"	521.068	520.256	9 3/4"	9 7/16"	520.893	520.117	9 7/16"	520.711	519.938	9 1/4"	520.522	519.759	9 11/16"	4
5	520.993	520.216	9 15/16"	521.183	520.405	9 7/16"	521.364	520.581	9 3/8"	521.538	520.728	9 3/4"	9 3/16"	521.538	520.758	9 3/8"	8 13/16"	521.364	520.609	9 1/16"	521.183	520.423	9 1/8"	520.993	520.254	8 7/8"	5
L3–1	521.456	520.692	9 13/16"	521.644	520.873	9 1/4"	521.826	521.073	9 1/16"	522.001	521.246	9 1/16"	8 1/4"	522.001	521.254	8 15/16"	8 7/16"	521.826	521.089	8 5/8"	521.644	520.912	8 13/16"	521.456	520.740	8 5/8"	L3–1
2	521.916	521.159	9 1/16"	522.106	521.341	9 3/16"	522.287	521.537	9"	522.462	521.705	9 1/16"	8 5/16"	522.462	521.711	9"	8 7/16"	522.287	521.548	8 7/8"	522.106	521.376	8 3/4"	521.916	521.200	8 5/8"	2
3	522.369	521.609	9 1/8"	522.559	521.796	9 1/16"	522.741	521.981	9 1/8"	522.915	522.154	9 1/8"	8 7/16"	522.915	522.151	9 3/16"	8 5/8"	522.741	521.997	8 15/16"	522.559	521.826	8 13/16"	522.369	521.649	8 5/8"	3
4	522.806	522.057	9"	522.996	522.245	9"	523.178	522.426	9"	523.352	522.584	9 1/4"	8 1/16"	523.352	522.589	9 3/16"	8 5/8"	523.178	522.434	8 15/16"	522.996	522.272	8 11/16"	522.806	522.091	8 9/16"	4
5	523.229	522.480	9"	523.417	522.673	8 15/16"	523.600	522.854	8 15/16"	523.775	523.024	9"	8 7/16"	523.775	523.029	8 15/16"	8 5/8"	523.600	522.864	8 13/16"	523.417	522.702	8 9/16"	523.229	522.524	8 7/16"	5
L4–1	523.647	522.897	9"	523.837	523.081	9 1/16"	524.019	523.266	9 1/16"	524.194	523.438	9 1/16"	8 1/4"	524.194	523.445	9"	8 7/16"	524.019	523.280	8 5/8"	523.837	523.103	8 13/16"	523.647	522.931	8 9/16"	L4–1
2	524.075	523.305	9 1/4"	524.265	523.481	9 7/16"	524.448	523.677	9 1/4"	524.622	523.845	9 5/16"	8 3/4"	524.622	523.851	9 1/4"	8 11/16"	524.448	523.683	9 1/16"	524.265	523.514	9"	524.075	523.340	8 13/16"	2
3	524.497	523.709	9 7/16"	524.687	523.877	9 11/16"	524.869	524.071	9 9/16"	525.044	524.236	9 11/16"	9 1/8"	525.044	524.247	9 9/16"	9"	524.869	524.080	9 7/16"	524.687	523.911	9 5/16"	524.497	523.733	9 3/16"	3
4	524.894	524.095	9 9/16"	525.084	524.262	9 7/8"	525.266	524.448	9 13/16"	525.441	524.620	9 7/8"	9 5/16"	525.441	524.632	9 11/16"	9 3/16"	525.266	524.464	9 5/8"	525.084	524.292	9 1/2"	524.894	524.121	9 1/4"	4
5	525.262	524.479	9 5/8"	525.452	524.641	9 1/4"	525.633	524.826	9 11/16"	525.808	524.992	9 13/16"	9 1/4"	525.808	525.002	9 11/16"	9 1/8"	525.633	524.831	9 5/8"	525.452	524.655	9 9/16"	525.262	524.487	9 5/16"	5
L5–1	525.606	524.837	9 1/4"	525.794	525.005	9 1/2"	525.976	525.178	9 9/16"	526.150	525.385	9 3/16"	8 11/16"	526.150	525.355	9 9/16"	9"	525.976	525.220	9 1/16"	525.794	525.029	9 3/16"	525.606	524.851	9 1/16"	L5–1
2	525.993	525.189	9 5/8"	526.183	525.373	9 11/16"	526.365	525.556	9 11/16"	526.539	525.714	9 5/8"	9 5/8"	526.539	525.708	9 15/16"	9 7/16"	526.365	525.568	9 9/16"	526.183	525.380	9 5/8"	525.993	525.222	9 1/4"	2
3	526.356	525.540	9 13/16"	526.547	525.730	9 13/16"	526.728	525.919	9 11/16"	526.902	526.064	10 1/16"	9 1/2"	526.902	526.053	10 1/16"	9 5/8"	526.728	525.925	9 5/8"	526.547	525.747	9 5/8"	526.356	525.574	9 5/8"	3
4	526.690	525.891	9 9/16"	526.880	526.076	9 3/8"	527.062	526.273	9 9/16"	527.237	526.413	9 5/8"	9 7/16"	527.237	526.407	9 15/16"	9 7/16"	527.062	526.282	9 5/8"	526.880	526.096	9 3/8"	526.690	525.918	9 1/4"	4
5	527.000	526.230	9 1/4"	527.191	526.417	9 5/16"	527.372	526.606	9 3/16"	527.547	526.765	9 3/8"	8 13/16"	527.547	526.757	9 1/2"	8 15/16"	527.372	526.613	9 1/8"	527.191	526.434	9 1/16"	527.000	526.261	8 7/8"	5
L6–1	527.304	526.551	9 1/16"	527.493	526.737	9 1/16"	527.676	526.927	9"	527.851	527.106	8 15/16"	8 7/8"	527.851	527.100	9"	8 7/16"	527.676	526.932	8 15/16"	527.493	526.765	8 3/4"	527.304	526.580	8 11/16"	L6–1
2	527.618	526.869	9"	527.807	527.051	9 1/16"	527.989	527.243	8 15/16"	528.164	527.450	8 9/16"	8"	528.164	527.419	8 15/16"	8 3/8"	527.989	527.250	8 7/8"	527.807	527.090	8 5/8"	527.618	526.908	8 1/2"	2
3	527.929	527.169	9 1/8"	528.119	527.350	9 1/4"	528.300	527.537	9 1/8"	528.475	527.741	8 13/16"	8 1/4"	528.475	527.710	9 1/16"	8 5/8"	528.300	527.540	9 1/8"	528.119	527.384	8 13/16"	527.929	527.217	8 9/16"	3
4	528.225	527.455	9 1/4"	528.414	527.639	9 5/16"	528.595	527.824	9 1/4"	528.770	528.021	9"	8 7/16"	528.770	527.991	9 5/16"	8 13/16"	528.595	527.822	9 5/16"	528.414	527.666	9"	528.225	527.484	8 7/8"	4
5	528.503	527.736	9 3/16"	528.692	527.918	9 1/16"	528.873	528.112	9 1/8"	529.047	528.296	9"	8 1/2"	529.047	528.278	9 1/4"	8 11/16"	528.873	528.105	9 1/16"	528.692	527.950	8 7/8"	528.503	527.763	8 7/8"	5

NOTE:

1. DIMENSIONS "X" WERE COMPUTED AS FOLLOWS: CONSTRUCTION ELEVATION MINUS TOP OF BEAM ELEVATION EQUALS DIMENSION "X". CONSTRUCTION ELEVATIONS INCLUDE TRUSS, STRINGER AND FLOORBEAM CAMBERS DUE TO WEIGHT OF CONCRETE SLAB, BARRIERS, HANDRAILS AND FUTURE SURFACING.
2. FOR SETTING SLAB BOTTOM FORMS MEASURE DIMENSIONS "X" ABOVE TOP OF STRINGERS FOR IMAGINARY TOP OF SLAB TEMPLATES AND SUBTRACT 8 INCHES FOR SLAB THICKNESS. DO NOT SET FORMS BY ELEVATIONS.
3. A SLAB FINISHING MACHINE, FULL WIDTH OF THE DECK, SUPPORTED DIRECTLY ON STRINGERS A AND H, IS ASSUMED FOR COMPUTING THE "MACHINE ORDINATE" DIMENSIONS. "MACH. ORD." DIMENSIONS ARE DIMENSIONS "X" REDUCED FOR FLOORBEAM DEFLECTION BETWEEN THE FINISHING MACHINE WHEELS THAT WILL OCCUR WHEN PLACING CONCRETE. SET THE FINISHING MACHINE TO "MACH. ORD." DIMENSIONS AT STRINGERS A AND H WITH CAMBER TO MATCH THE FINISHED SLAB CROSS SLOPE. MEASURING OF "MACH. ORD." DIMENSIONS AT STRINGERS D AND E GIVES THE FINAL CHECK ON SLAB THICKNESS.
4. CONSTRUCT BARRIER CURB TO RODWAY GRADE. DO NOT ADD CAMBER TO BARRIER CURB.

CONSTRUCTION ELEVATIONS

SHEET 96A

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

UPDATE DATE
LETTING DATE

PREPARED AND SUBMITTED BY:
HAZLET + ERDAL, INC.
CONSULTING ENGINEERS

DATE
DATE
DATE

REVISED
REVISED
REVISED

DESIGNED BY: RLS — CHECKED BY: JSL / TJG — DATE: 9/94
DETAILED BY: RLS — CHECKED BY: JSL — DATE: 9/94
TRACED BY: — CHECKED BY: — DATE:

9/29/94 11:41 D:\DWG\FILES\11\TAL01.V

CONSTRUCTION ELEVATIONS

SCREED LINE	STRINGER A			STRINGER B			STRINGER C			STRINGER D				STRINGER E				STRINGER F			STRINGER G			STRINGER H			SCREED LINE
	CONSTR. ELEV.	TOP OF BEAM	DIM "X"/ MACH.ORD. (INCH.)	CONSTR. ELEV.	TOP OF BEAM	DIM "X" (INCH.)	CONSTR. ELEV.	TOP OF BEAM	DIM "X" (INCH.)	CONSTR. ELEV.	TOP OF BEAM	DIM "X" (INCH.)	MACH. ORD. (INCH.)	CONSTR. ELEV.	TOP OF BEAM	DIM "X" (INCH.)	MACH. ORD. (INCH.)	CONSTR. ELEV.	TOP OF BEAM	DIM "X" (INCH.)	CONSTR. ELEV.	TOP OF BEAM	DIM "X" (INCH.)	CONSTR. ELEV.	TOP OF BEAM	DIM "X"/ MACH.ORD. (INCH.)	
L7–1	528.773	528.016	9 1/16"	528.961	528.186	9 5/16"	529.142	528.379	9 1/8"	529.316	528.553	9 3/16"	8 5/8"	529.316	528.559	9 1/16"	8 11/16"	529.142	528.381	9 1/8"	528.961	528.223	8 5/8"	528.773	528.037	8 13/16"	L7–1
2	529.041	528.263	9 5/16"	529.229	528.444	9 1/16"	529.410	528.639	9 1/4"	529.585	528.801	9 1/16"	8 5/8"	529.585	528.817	9 3/16"	8 11/16"	529.410	528.648	9 1/8"	529.229	528.488	8 5/8"	529.041	528.300	8 5/8"	2
3	529.300	528.519	9 3/8"	529.490	528.703	9 1/16"	529.672	528.895	9 5/16"	529.845	529.058	9 1/16"	8 15/16"	529.845	529.061	9 1/16"	8 5/8"	529.672	528.902	9 1/4"	529.490	528.742	9"	529.300	528.554	8 15/16"	3
4	529.551	528.779	9 1/4"	529.741	528.954	9 1/16"	529.922	529.149	9 1/4"	530.097	529.321	9 5/16"	8 3/4"	530.097	529.311	9 1/16"	8 5/8"	529.922	529.165	9 1/16"	529.741	529.006	8 13/16"	529.551	528.809	8 5/8"	4
5	529.795	529.033	9 1/8"	529.983	529.208	9 5/16"	530.166	529.405	9 1/8"	530.341	529.565	9 3/16"	8 3/4"	530.341	529.562	9 1/8"	8 13/16"	530.166	529.402	9 1/16"	529.983	529.258	8 11/16"	529.795	529.056	8 5/8"	5
L8–1	530.043	529.279	9 1/16"	530.233	529.469	9 1/16"	530.416	529.651	9 3/16"	530.590	529.822	9 1/16"	8 5/8"	530.590	529.828	9 1/8"	8 9/16"	530.416	529.669	8 15/16"	530.233	529.499	8 13/16"	530.043	529.304	8 5/8"	L8–1
2	530.314	529.535	9 3/8"	530.505	529.723	9 3/16"	530.686	529.901	9 1/16"	530.861	530.069	9 1/4"	8 15/16"	530.861	530.078	9 3/8"	8 5/8"	530.686	529.920	9 1/16"	530.505	529.745	9 1/16"	530.314	529.552	9 1/8"	2
3	530.587	529.783	9 3/8"	530.777	529.975	9 5/16"	530.959	530.154	9 11/16"	531.134	530.311	9 1/8"	9 1/16"	531.134	530.323	9 1/4"	9 3/16"	530.959	530.170	9 1/2"	530.777	529.989	9 1/16"	530.587	529.807	9 3/8"	3
4	530.844	530.039	9 11/16"	531.035	530.229	9 11/16"	531.217	530.406	9 3/8"	531.390	530.567	9 5/8"	9 1/16"	531.390	530.578	9 3/4"	9 1/16"	531.217	530.414	9 5/8"	531.035	530.243	9 1/2"	530.844	530.063	9 3/8"	4
5	531.081	530.294	9 1/16"	531.272	530.484	9 1/16"	531.453	530.660	9 1/2"	531.627	530.823	9 5/8"	9 1/8"	531.627	530.833	9 1/2"	9"	531.453	530.674	9 5/16"	531.272	530.501	9 1/4"	531.081	530.322	9 1/8"	5
L9–1	531.304	530.566	8 5/8"	531.491	530.740	9"	531.673	530.914	9 1/2"	531.847	531.092	9 1/16"	8 15/16"	531.847	531.098	9"	8 1/2"	531.673	530.944	8 3/4"	531.491	530.766	8 11/16"	531.304	530.580	8 11/16"	L9–1
2	531.583	530.815	9 1/4"	531.774	531.002	9 1/4"	531.956	531.173	9 3/8"	532.129	531.340	9 1/16"	8 15/16"	532.129	531.334	9 1/16"	9"	531.956	531.189	9 1/16"	531.774	531.012	9 1/8"	531.583	530.825	9 1/8"	2
3	531.849	531.067	9 3/8"	532.040	531.260	9 3/8"	532.221	531.427	9 1/2"	532.396	531.590	9 11/16"	9 1/2"	532.396	531.576	9 1/16"	9 5/16"	532.221	531.448	9 1/4"	532.040	531.261	9 3/8"	531.849	531.074	9 1/16"	3
4	532.094	531.319	9 5/16"	532.284	531.512	9 1/4"	532.466	531.683	9 3/8"	532.641	531.848	9 1/2"	8 15/16"	532.641	531.836	9 11/16"	9 1/8"	532.466	531.694	9 1/4"	532.284	531.512	9 1/4"	532.094	531.322	9 1/2"	4
5	532.323	531.574	9"	532.513	531.767	8 15/16"	532.695	531.939	9 1/16"	532.869	532.111	9 3/8"	8 5/8"	532.869	532.107	9 1/8"	8 3/8"	532.695	531.950	8 15/16"	532.513	531.769	8 15/16"	532.323	531.575	9"	5
L10–1	532.554	531.829	8 11/16"	532.744	532.016	8 3/4"	532.925	532.191	8 13/16"	533.101	532.368	8 13/16"	8 1/4"	533.101	532.364	8 13/16"	8 5/16"	532.925	532.204	8 5/8"	532.744	532.022	8 11/16"	532.554	531.832	8 11/16"	L10–1
2	532.811	532.085	8 11/16"	532.999	532.251	9"	533.182	532.436	8 15/16"	533.357	532.607	9"	8 1/16"	533.357	532.607	9"	8 1/16"	533.182	532.455	8 3/4"	532.999	532.282	8 5/8"	532.811	532.082	8 3/4"	2
3	533.072	532.324	9"	533.262	532.488	9 5/16"	533.444	532.677	9 3/16"	533.618	532.838	9 3/8"	8 13/16"	533.618	532.830	9 1/16"	8 15/16"	533.444	532.696	9"	533.262	532.507	9 1/16"	533.072	532.321	9"	3
4	533.328	532.561	9 3/16"	533.518	532.727	9 1/4"	533.699	532.928	9 1/4"	533.874	533.078	9 1/16"	9"	533.874	533.074	9 5/8"	9 1/16"	533.699	532.938	9 1/8"	533.518	532.734	9 1/16"	533.328	532.555	9 1/4"	4
5	533.576	532.803	9 1/4"	533.765	532.969	9 1/16"	533.947	533.176	9 1/4"	534.122	533.336	9 1/16"	8 7/8"	534.122	533.331	9 1/2"	8 15/16"	533.947	533.181	9 3/16"	533.765	532.973	9 1/4"	533.576	532.784	9 1/2"	5
L11–1	533.825	533.044	9 3/8"	534.014	533.217	9 1/16"	534.196	533.426	9 1/2"	534.371	533.595	9 1/16"	8 3/4"	534.371	533.599	9 1/4"	8 3/4"	534.196	533.428	9 1/16"	534.014	533.211	9 5/8"	533.825	533.030	9 1/16"	L11–1
2	534.091	533.284	9 11/16"	534.281	533.466	9 3/4"	534.462	533.678	9 1/16"	534.636	533.843	9 1/2"	9"	534.636	533.856	9 3/8"	8 13/16"	534.462	533.678	9 3/8"	534.281	533.449	10"	534.091	533.268	9 1/16"	2
3	534.357	533.549	9 11/16"	534.546	533.728	9 13/16"	534.728	533.933	9 1/16"	534.903	534.085	9 11/16"	9 1/4"	534.903	534.105	9 1/16"	9 1/16"	534.728	533.930	9 1/16"	534.546	533.719	9 15/16"	534.357	533.548	9 11/16"	3
4	534.611	533.824	9 7/16"	534.801	534.000	9 5/8"	534.983	534.196	9 7/16"	535.158	534.351	9 11/16"	9 1/8"	535.158	534.366	9 1/4"	8 15/16"	534.983	534.192	9 1/4"	534.801	533.997	9 11/16"	534.611	533.833	9 1/16"	4
5	534.856	534.099	9 1/16"	535.046	534.268	9 1/16"	535.228	534.451	9 1/16"	535.402	534.614	9 1/16"	8 15/16"	535.402	534.631	9 1/4"	8 11/16"	535.228	534.455	9 1/4"	535.046	534.274	9 1/4"	534.856	534.102	9 1/16"	5
L12–1	535.101	534.373	8 3/4"	535.290	534.531	9 1/8"	535.471	534.709	9 1/8"	535.646	534.879	9 1/16"	8 11/16"	535.646	534.884	9 1/8"	8 5/8"	535.471	534.724	9"	535.290	534.553	8 5/8"	535.101	534.371	8 3/4"	L12–1
2	535.366	534.637	8 3/4"	535.555	534.799	9 1/16"	535.738	534.966	9 1/4"	535.912	535.115	9 1/16"	9"	535.912	535.114	9 1/16"	9 1/16"	535.738	534.981	9 1/16"	535.555	534.816	8 5/8"	535.366	534.627	8 5/8"	2
3	535.633	534.902	8 3/4"	535.823	535.066	9 1/16"	536.005	535.226	9 3/8"	536.179	535.354	9 5/8"	9 3/8"	536.179	535.352	9 15/16"	9 3/8"	536.005	535.234	9 1/4"	535.823	535.068	9 1/16"	535.633	534.884	9"	3
4	535.893	535.155	8 7/8"	536.083	535.334	9"	536.264	535.486	9 5/16"	536.439	535.613	9 15/16"	9 3/8"	536.439	535.589	10 3/16"	9 3/8"	536.264	535.484	9 3/8"	536.083	535.316	9 1/16"	535.893	535.134	9 1/8"	4
5	536.146	535.426	8 3/8"	536.335	535.596	8 7/8"	536.517	535.763	9 1/16"	536.692	535.884	9 11/16"	9 1/8"	536.692	535.859	10"	9 1/16"	536.517	535.745	9 1/4"	536.335	535.567	9 3/16"	536.146	535.388	9 1/8"	5
L13–1	536.404	535.662	8 15/16"	536.594	535.846	9"	536.776	536.018	9 1/8"	536.951	536.184	9 1/16"	8 5/8"	536.951	536.174	9 5/16"	8 3/8"	536.776	536.011	9 3/16"	536.594	535.836	9 1/8"	536.404	535.657	8 15/16"	L13–1
2	536.687	535.928	9 1/8"	536.878	536.091	9 1/16"	537.059	536.272	9 1/16"	537.234	536.465	9 1/4"	8 11/16"	537.234	536.465	9 1/4"	8 11/16"	537.059	536.271	9 1/16"	536.878	536.103	9 5/16"	536.687	535.920	9 1/16"	2
3	536.972	536.188	9 7/16"	537.163	536.348	9 3/4"	537.345	536.528	9 13/16"	537.520	536.748	9 1/4"	8 11/16"	537.520	536.748	9 1/4"	8 11/16"	537.345	536.529	9 13/16"	537.163	536.365	9 1/16"	536.972	536.178	9 1/2"	3
4	537.242	536.458	9 3/8"	537.433	536.618	9 3/4"	537.615	536.788	9 15/16"	537.789	536.998	9 1/2"	8 15/16"	537.789	537.004	9 7/16"	8 7/8"	537.615	536.803	9 3/4"	537.433	536.629	9 5/8"	537.242	536.450	9 1/4"	4
5	537.491	536.738	9 1/16"	537.682	536.898	9 3/8"	537.863	537.068	9 9/16"	538.037	537.268	9 3/8"	8 13/16"	538.037	537.268	9 1/4"	8 11/16"	537.863	537.078	9 7/16"	537.682	536.908	9 1/2"	537.491	536.722	9 1/4"	5

SHEET 96B

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

CONSTRUCTION ELEVATIONS

UPDATE DATE _____
LETTING DATE _____

PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

DESIGNED BY B.S. DATE 9/94 REVISED
DRAWN BY B.S. DATE 9/94 REVISED
CHECKED BY JSI / TIC DATE REVISED
REVIEWED BY JSI DATE REVISED

09/15/1994 M:\B DRAWFILES\SHT-ELEV3

CONSTRUCTION ELEVATIONS

SCREED LINE	STRINGER A			STRINGER B			STRINGER C			STRINGER D				STRINGER E				STRINGER F			STRINGER G			STRINGER H			SCREED LINE
	CONSTR. ELEV.	TOP OF BEAM	DIM "X"/ MACH.ORD. (INCH.)	CONSTR. ELEV.	TOP OF BEAM	DIM "X" (INCH.)	CONSTR. ELEV.	TOP OF BEAM	DIM "X" (INCH.)	CONSTR. ELEV.	TOP OF BEAM	DIM "X" (INCH.)	MACH. ORD. (INCH.)	CONSTR. ELEV.	TOP OF BEAM	DIM "X" (INCH.)	MACH. ORD. (INCH.)	CONSTR. ELEV.	TOP OF BEAM	DIM "X" (INCH.)	CONSTR. ELEV.	TOP OF BEAM	DIM "X" (INCH.)	CONSTR. ELEV.	TOP OF BEAM	DIM "X"/ MACH.ORD. (INCH.)	
L14–1	537.725	536.998	8 3/4"	537.913	537.161	9"	538.095	537.355	8 7/8"	538.269	537.526	8 15/16"	8 7/8"	538.269	537.552	8 9/16"	8 1/16"	538.095	537.365	8 5/8"	537.913	537.191	8 11/16"	537.725	537.011	8 13/16"	L14–1
2	538.057	537.319	8 5/8"	538.247	537.499	9"	538.429	537.669	9 1/8"	538.603	537.845	9 1/8"	8 15/16"	538.603	537.847	9 1/16"	8 1/2"	538.429	537.673	9 1/16"	538.247	537.515	8 13/16"	538.057	537.319	8 5/8"	2
3	538.373	537.628	8 15/16"	538.564	537.791	9 5/16"	538.747	537.975	9 1/4"	538.921	538.151	9 1/4"	8 11/16"	538.921	538.143	9 1/16"	8 3/4"	538.747	537.978	9 1/4"	538.564	537.816	9"	538.373	537.621	9"	3
4	538.669	537.932	8 7/8"	538.860	538.091	9 1/4"	539.043	538.282	9 3/8"	539.218	538.454	9 1/16"	8 7/8"	539.218	538.445	9 1/4"	8 11/16"	539.043	538.281	9 3/8"	538.860	538.111	9"	538.669	537.915	9 1/16"	4
5	538.947	538.222	8 11/16"	539.138	538.392	8 15/16"	539.320	538.580	8 7/8"	539.495	538.758	8 7/8"	8 1/4"	539.495	538.755	8 7/8"	8 13/16"	539.320	538.575	8 15/16"	539.138	538.399	8 7/8"	538.947	538.213	8 13/16"	5
L15–1	539.221	538.510	8 1/2"	539.411	538.689	8 11/16"	539.595	538.877	8 5/8"	539.769	539.043	8 11/16"	8 1/8"	539.769	539.045	8 11/16"	8 1/8"	539.595	538.863	8 3/4"	539.411	538.686	8 11/16"	539.221	538.493	8 3/4"	L15–1
2	539.515	538.790	8 11/16"	539.704	538.970	8 13/16"	539.887	539.156	8 3/4"	540.063	539.298	9 1/16"	8 5/8"	540.063	539.318	8 15/16"	8 5/8"	539.887	539.140	9"	539.704	538.962	8 5/8"	539.515	538.764	9"	2
3	539.807	539.075	8 13/16"	539.998	539.259	8 5/8"	540.181	539.443	8 5/8"	540.355	539.569	9 1/16"	8 5/8"	540.355	539.571	9 1/16"	8 5/8"	540.181	539.429	9"	539.998	539.255	8 15/16"	539.807	539.056	9"	3
4	540.088	539.360	8 3/4"	540.279	539.545	8 13/16"	540.461	539.732	8 3/4"	540.636	539.862	9 1/16"	8 11/16"	540.636	539.857	9 1/8"	8 13/16"	540.461	539.723	8 7/8"	540.279	539.550	8 3/4"	540.088	539.355	8 13/16"	4
5	540.354	539.641	8 7/8"	540.543	539.820	8 11/16"	540.726	540.010	8 13/16"	540.901	540.160	8 7/8"	8 13/16"	540.901	540.156	8 15/16"	8 5/8"	540.726	540.008	8 7/8"	540.543	539.835	8 1/2"	540.354	539.641	8 7/8"	5
L16–1	540.616	539.915	8 5/8"	540.806	540.099	8 1/2"	540.987	540.279	8 1/2"	541.162	540.448	8 13/16"	8"	541.162	540.448	8 13/16"	8"	540.987	540.277	8 1/2"	540.806	540.106	8 5/8"	540.616	539.925	8 13/16"	L16–1
2	540.897	540.172	8 11/16"	541.087	540.356	8 3/4"	541.269	540.526	8 15/16"	541.444	540.716	8 3/4"	8 13/16"	541.444	540.716	8 3/4"	8 13/16"	541.269	540.526	8 15/16"	541.087	540.369	8 5/8"	540.897	540.168	8 3/4"	2
3	541.172	540.435	8 13/16"	541.363	540.621	8 15/16"	541.545	540.796	9"	541.720	540.973	8 15/16"	8 8/8"	541.720	540.968	9"	8 15/16"	541.545	540.780	9 1/16"	541.363	540.630	8 13/16"	541.172	540.428	8 15/16"	3
4	541.430	540.702	8 3/4"	541.620	540.874	8 15/16"	541.802	541.059	8 15/16"	541.978	541.223	9 1/16"	8 1/2"	541.978	541.222	9 1/16"	8 1/2"	541.802	541.041	9 1/8"	541.620	540.892	8 3/4"	541.430	540.698	8 13/16"	4
5	541.669	540.960	8 1/2"	541.859	541.133	8 11/16"	542.042	541.307	8 13/16"	542.216	541.478	8 7/8"	8 15/16"	542.216	541.483	8 13/16"	8 1/4"	542.042	541.298	8 15/16"	541.859	541.143	8 9/16"	541.669			5
L17–1	541.903	541.212	8 15/16"	542.093	541.382	8 1/2"	542.274	541.558	8 8/8"	542.449	541.728	8 11/16"	8 8/8"	542.449	541.731	8 8/8"	8 1/16"	542.274	541.558	8 8/8"	542.093	541.388	8 7/16"	541.903	541.188	8 9/16"	L17–1
2	542.147	541.447	8 8/8"	542.337	541.614	8 11/16"	542.519	541.800	8 8/8"	542.694	541.962	8 3/4"	8 15/16"	542.694	541.956	8 8/8"	8 15/16"	542.519	541.800	8 8/8"	542.337	541.626	8 1/4"	542.147	541.418	8 3/4"	2
3	542.387	541.664	8 11/16"	542.578	541.837	8 8/8"	542.759	542.028	8 3/4"	542.934	542.187	9"	8 8/8"	542.934	542.177	9 1/16"	8 1/2"	542.759	542.038	8 8/8"	542.578	541.863	8 9/16"	542.387	541.648	8 8/8"	3
4	542.612	541.881	8 3/4"	542.803	542.054	9"	542.986	542.252	8 13/16"	543.160	542.408	9"	8 15/16"	543.160	542.399	9 8/8"	8 15/16"	542.986	542.268	8 8/8"	542.803	542.089	8 9/16"	542.612	541.858	9 1/16"	4
5	542.825	542.108	8 8/8"	543.014	542.291	8 11/16"	543.198	542.489	8 1/2"	543.373	542.656	8 8/8"	8 1/16"	543.373	542.646	8 3/4"	8 8/8"	543.198	542.517	8 13/16"	543.014	542.317	8 8/8"	542.825	542.078	8 15/16"	5
L18–1	543.037	542.324	8 9/16"	543.227	542.500	8 3/4"	543.410	542.692	8 8/8"	543.585	542.861	8 11/16"	8 8/8"	543.585	542.874	8 1/4"	7 15/16"	543.410	542.725	8 13/16"	543.227	542.531	8 8/8"	543.037	542.330	8 1/2"	L18–1
2	543.267	542.535	8 3/4"	543.457	542.707	9"	543.640	542.898	8 8/8"	543.815	543.061	9 1/16"	8 1/2"	543.815	543.077	8 8/8"	8 1/16"	543.640	542.928	8 8/8"	543.457	542.728	8 3/4"	543.267	542.536	8 3/4"	2
3	543.492	542.737	9 1/16"	543.683	542.909	9 1/16"	543.866	543.092	9 1/16"	544.041	543.246	9 9/16"	9"	544.041	543.260	9 8/8"	8 13/16"	543.866	543.118	9"	543.683	542.919	9 1/16"	543.492	542.727	9 3/16"	3
4	543.696	542.938	9 1/8"	543.888	543.106	9 8/8"	544.071	543.279	9 1/2"	544.245	543.427	9 13/16"	9 1/4"	544.245	543.441	9 8/8"	9 8/8"	544.071	543.299	9 1/4"	543.888	543.103	9 1/16"	543.696	542.916	9 8/8"	4
5	543.875	543.121	9 1/16"	544.065	543.286	9 8/8"	544.248	543.458	9 1/2"	544.422	543.623	9 8/8"	9 1/16"	544.422	543.626	9 9/16"	9"	544.248	543.473	9 5/16"	544.065	543.281	9 1/16"	543.875	543.098	9 5/16"	5
L19–1	544.032	543.286	8 15/16"	544.221	543.446	9 1/16"	544.403	543.621	9 8/8"	544.577	543.783	9 9/16"	9"	544.577	543.793	9 7/16"	8 8/8"	544.403	543.613	9 1/2"	544.221	543.447	9 1/16"	544.032	543.263	9 1/4"	L19–1
2	544.238	543.450	9 1/16"	544.429	543.616	9 1/2"	544.611	543.803	9 11/16"	544.785	543.947	10 1/16"	9 1/2"	544.785	543.962	9 8/8"	9 9/16"	544.611	543.784	9 15/16"	544.429	543.621	9 11/16"	544.238	543.439	9 9/16"	2
3	544.423	543.620	9 8/8"	544.614	543.790	9 8/8"	544.796	543.974	9 8/8"	544.971	544.119	10 1/4"	9 11/16"	544.971	544.137	10"	9 11/16"	544.796	543.953	10 1/8"	544.614	543.800	9 3/4"	544.423	543.613	9 11/16"	3
4	544.581	543.791	9 1/2"	544.772	543.968	9 8/8"	544.955	544.142	9 3/4"	545.129	544.291	10 1/16"	9 1/2"	545.129	544.309	9 13/16"	9 1/4"	544.955	544.124	10"	544.772	543.972	9 8/8"	544.581	543.780	9 8/8"	4
5	544.718	543.966	9"	544.909	544.144	9 5/16"	545.092	544.314	9 7/8"	545.267	544.471	9 9/16"	9"	545.267	544.490	9 5/16"	8 3/4"	545.092	544.311	9 8/8"	544.909	544.145	9 3/16"	544.718	543.955	9 8/8"	5
L20–1	544.852	544.129	8 11/16"	545.042	544.292	9"	545.226	544.490	8 13/16"	545.400	544.645	9 1/16"	8 1/2"	545.400	544.657	8 15/16"	8 5/8"	545.226	544.475	9"	545.042	544.320	8 11/16"	544.852	544.119	8 13/16"	L20–1
2	544.999	544.283	8 9/16"	545.189	544.448	8 7/8"	545.372	544.641	8 3/4"	545.547	544.803	8 15/16"	8 5/16"	545.547	544.817	8 3/4"	8 5/8"	545.372	544.662	8 1/2"	545.189	544.486	8 7/16"	544.999	544.292	8 1/2"	2
3	545.146	544.388	9 1/8"	545.336	544.564	9 1/4"	545.519	544.760	9 1/8"	545.694	544.897	9 9/16"	9"	545.694	544.927	9 3/16"	8 8/8"	545.519	544.770	9"	545.336	544.610	8 11/16"	545.146	544.410	8 13/16"	3
4	545.280	544.517	9 3/16"	545.471	544.686	9 7/16"	545.653	544.878	9 5/16"	545.828	545.023	9 11/16"	9 1/16"	545.828	545.046	9 8/8"	8 13/16"	545.653	544.891	9 1/8"	545.471	544.728	8 15/16"	545.280	544.530	9"	4
5	545.400	544.639	9 1/8"	545.589	544.812	9 5/16"	545.772	545.001	9 1/2"	545.947	545.156	9 1/2"	8 15/16"	545.947	545.173	9 7/16"	8 3/4"	545.772	545.006	9 7/16"	545.589	544.841	9"	545.400	544.645	9 1/16"	5

SHEET 96C

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022–023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

CONSTRUCTION ELEVATIONS

UPDATE DATE _____
LETTING DATE _____

PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

DATE _____
DATE _____
DATE _____

DESIGNED BY: BLS — CHECKED BY: ISI / TIC — DATE: 9/94 — REVISED
DRAWN BY: BLS — CHECKED BY: ISI — DATE: 9/94 — REVISED
TRACED BY: _____ — CHECKED BY: _____ — DATE: _____ — REVISED

09/15/1994 K:\B DUSKIFILES\117\ELEV4

CONSTRUCTION ELEVATIONS

SCREED LINE	STRINGER A			STRINGER B			STRINGER C			STRINGER D				STRINGER E				STRINGER F			STRINGER G			STRINGER H			SCREED LINE
	CONSTR. ELEV.	TOP OF BEAM	DIM "X"/ MACH.ORD. (INCH.)	CONSTR. ELEV.	TOP OF BEAM	DIM "X" (INCH.)	CONSTR. ELEV.	TOP OF BEAM	DIM "X" (INCH.)	CONSTR. ELEV.	TOP OF BEAM	DIM "X" (INCH.)	MACH. ORD. (INCH.)	CONSTR. ELEV.	TOP OF BEAM	DIM "X" (INCH.)	MACH. ORD. (INCH.)	CONSTR. ELEV.	TOP OF BEAM	DIM "X" (INCH.)	CONSTR. ELEV.	TOP OF BEAM	DIM "X" (INCH.)	CONSTR. ELEV.	TOP OF BEAM	DIM "X"/ MACH.ORD. (INCH.)	
L21–1	545.515	544.763	9"	545.705	544.933	9 1/4"	545.887	545.121	9 15/16"	546.061	545.290	9 1/4"	8 11/16"	546.061	545.295	9 15/16"	8 3/8"	545.887	545.125	9 1/8"	545.705	544.953	9"	545.515	544.757	9 1/8"	L21–1
2	545.633	544.884	9"	545.823	545.048	9 5/16"	546.005	545.235	9 1/4"	546.180	545.406	9 5/16"	8 3/4"	546.180	545.395	9 5/16"	8 3/8"	546.005	545.234	9 1/4"	545.823	545.054	9 1/4"	545.633	544.867	9 1/16"	2
3	545.745	544.971	9 5/16"	545.936	545.142	9 1/4"	546.117	545.327	9 1/4"	546.292	545.497	9 1/16"	9"	546.292	545.486	9 11/16"	9 1/8"	546.117	545.331	9 1/16"	545.936	545.152	9 1/16"	545.745	544.958	9 1/16"	3
4	545.838	545.052	9 7/16"	546.029	545.232	9 1/16"	546.212	545.415	9 1/16"	546.386	545.586	9 5/8"	9 1/16"	546.386	545.576	9 3/4"	9 1/16"	546.212	545.424	9 1/16"	546.029	545.247	9 3/8"	545.838	545.053	9 1/16"	4
5	545.915	545.141	9 5/16"	546.104	545.317	9 1/16"	546.287	545.505	9 3/8"	546.462	545.663	9 1/16"	9"	546.462	545.674	9 1/16"	8 1/2"	546.287	545.506	9 3/8"	546.104	545.327	9 1/16"	545.915	545.140	9 1/16"	5
L22–1	545.985	545.212	9 1/4"	546.175	545.381	9 1/2"	546.356	545.574	9 3/8"	546.531	545.738	9 1/2"	8 15/16"	546.531	545.748	9 1/16"	8 1/2"	546.356	545.574	9 3/8"	546.175	545.408	9 1/16"	545.985	545.213	9 1/4"	L22–1
2	546.064	545.282	9 3/8"	546.254	545.455	9 1/16"	546.436	545.646	9 1/4"	546.611	545.795	9 1/16"	9 1/4"	546.611	545.814	9 1/16"	9"	546.436	545.639	9 1/16"	546.254	545.471	9 3/8"	546.064	545.271	9 1/2"	2
3	546.139	545.349	9 1/2"	546.329	545.519	9 1/4"	546.512	545.701	9 3/4"	546.686	545.851	10"	9 1/16"	546.686	545.891	9 1/16"	9"	546.512	545.699	9 1/4"	546.329	545.528	9 3/8"	546.139	545.323	9 1/16"	3
4	546.199	545.407	9 1/2"	546.390	545.583	9 11/16"	546.573	545.759	9 3/4"	546.747	545.911	10"	9 1/16"	546.747	545.955	9 1/2"	8 15/16"	546.573	545.751	9 3/8"	546.390	545.584	9 11/16"	546.199	545.382	9 13/16"	4
5	546.246	545.466	9 3/8"	546.437	545.652	9 1/16"	546.620	545.830	9 1/2"	546.794	545.988	9 11/16"	9 3/8"	546.794	546.024	9 1/2"	8 11/16"	546.620	545.820	9 3/8"	546.437	545.638	9 1/16"	546.246	545.443	9 3/8"	5
L23–1	546.294	545.496	9 7/16"	546.484	545.684	9 3/8"	546.668	545.857	9 3/4"	546.843	546.031	9 3/4"	9 1/16"	546.843	546.053	9 1/2"	8 1/2"	546.668	545.853	9 3/4"	546.484	545.668	9 1/16"	546.294	545.478	9 13/16"	L23–1
2	546.343	545.516	9 15/16"	546.533	545.716	9 11/16"	546.716	545.892	9 7/8"	546.891	546.068	9 3/8"	9 1/16"	546.891	546.065	9 15/16"	9 1/16"	546.716	545.878	10 1/16"	546.533	545.700	10"	546.343	545.506	10 1/16"	2
3	546.387	545.534	10 1/4"	546.579	545.746	10"	546.762	545.919	10 1/4"	546.936	546.093	10 1/4"	9 1/8"	546.936	546.077	10 1/16"	9 3/4"	546.762	545.897	10 1/8"	546.579	545.734	10 1/8"	546.387	545.530	10 1/16"	3
4	546.411	545.546	10 3/8"	546.603	545.767	10 1/16"	546.785	545.946	10 1/16"	546.959	546.120	10 1/16"	9 3/4"	546.959	546.093	10 3/8"	9 13/16"	546.785	545.931	10 1/4"	546.603	545.756	10 3/16"	546.411	545.559	10 1/4"	4
5	546.409	545.568	10 3/8"	546.599	545.794	9 7/8"	546.781	545.968	9 3/4"	546.956	546.142	9 3/4"	9 11/16"	546.956	546.138	9 15/16"	9 1/4"	546.781	545.970	9 3/4"	546.599	545.777	9 7/8"	546.409	545.587	9 7/16"	5
L24–1	546.385	545.606	9 7/8"	546.574	545.789	9 7/16"	546.756	545.968	9 7/16"	546.930	546.147	9 7/8"	8 7/16"	546.930	546.152	9 15/16"	8 13/16"	546.756	545.957	9 7/8"	546.574	545.777	9 15/16"	546.385	545.579	9 11/16"	L24–1
2	546.413	545.612	9 7/8"	546.603	545.800	9 7/8"	546.786	545.980	9 11/16"	546.960	546.131	9 15/16"	9 7/8"	546.960	546.152	9 11/16"	9 1/8"	546.786	545.963	9 7/8"	546.603	545.780	9 7/8"	546.413	545.595	9 13/16"	2
3	546.420	545.607	9 3/4"	546.612	545.775	10 1/16"	546.794	545.969	9 7/8"	546.968	546.100	10 1/16"	9 7/8"	546.968	546.143	9 7/8"	9 7/8"	546.794	545.936	10 1/16"	546.612	545.769	10 1/8"	546.420	545.588	10"	3
4	546.400	545.587	9 3/4"	546.592	545.762	9 15/16"	546.775	545.943	10"	546.949	546.087	10 1/8"	9 13/16"	546.949	546.124	9 7/8"	9 15/16"	546.775	545.936	10 1/16"	546.592	545.757	10"	546.400	545.579	9 7/8"	4
5	546.361	545.572	9 7/16"	546.551	545.751	9 9/16"	546.734	545.945	9 7/16"	546.909	546.082	9 15/16"	9 7/8"	546.909	546.116	9 3/4"	8 15/16"	546.734	545.917	9 15/16"	546.551	545.736	9 3/4"	546.361	545.562	9 9/16"	5
L25–1	546.316	545.547	9 3/4"	546.506	545.735	9 3/4"	546.690	545.912	9 15/16"	546.865	546.085	9 7/8"	8 13/16"	546.865	546.082	9 7/8"	8 13/16"	546.690	545.893	9 9/16"	546.506	545.718	9 7/16"	546.316	545.541	9 7/16"	L25–1
2	546.272	545.514	9 1/16"	546.462	545.716	8 15/16"	546.645	545.880	9 1/16"	546.820	546.064	9 1/16"	8 1/2"	546.820	546.040	9 7/8"	8 13/16"	546.645	545.861	9 1/16"	546.462	545.673	9 1/16"	546.272	545.509	9 1/8"	2
3	546.227	545.447	9 5/8"	546.418	545.639	9 7/8"	546.601	545.807	9 7/16"	546.775	545.992	9 5/8"	8 13/16"	546.775	545.975	9 5/8"	9 1/16"	546.601	545.793	9 11/16"	546.418	545.606	9 3/4"	546.227	545.451	9 5/16"	3
4	546.170	545.378	9 1/2"	546.361	545.571	9 1/2"	546.544	545.740	9 7/8"	546.718	545.938	9 3/4"	8 15/16"	546.718	545.907	9 3/4"	9 1/16"	546.544	545.740	9 7/8"	546.361	545.551	9 11/16"	546.170	545.384	9 7/16"	4
5	546.099	545.315	9 7/16"	546.288	545.504	9 1/16"	546.471	545.670	9 5/8"	546.646	545.860	9 7/16"	8 7/8"	546.646	545.849	9 15/16"	9"	546.471	545.666	9 11/16"	546.288	545.489	9 1/16"	546.099	545.308	9 1/4"	5
L26–1	546.023	545.241	9 3/8"	546.213	545.424	9 1/16"	546.394	545.605	9 1/4"	546.569	545.776	9 1/16"	9"	546.569	545.792	9 15/16"	8 3/4"	546.394	545.587	9 11/16"	546.213	545.430	9 3/8"	546.023	545.237	9 7/16"	L26–1
2	545.955	545.165	9 1/4"	546.145	545.357	9 7/16"	546.327	545.526	9 5/8"	546.502	545.698	9 5/8"	9 1/8"	546.502	545.708	9 15/16"	9"	546.327	545.513	9 3/4"	546.145	545.350	9 9/16"	545.955	545.162	9 1/2"	2
3	545.881	545.069	9 3/4"	546.072	545.255	9 13/16"	546.255	545.431	9 3/4"	546.429	545.591	10 1/16"	9 1/4"	546.429	545.599	9 15/16"	9 3/8"	546.255	545.422	10"	546.072	545.269	9 5/8"	545.881	545.069	9 3/4"	3
4	545.790	544.965	9 5/8"	545.981	545.150	10"	546.162	545.327	10"	546.337	545.508	9 15/16"	9 3/8"	546.337	545.495	10 1/16"	9 9/16"	546.162	545.322	10 1/16"	545.981	545.163	9 13/16"	545.790	544.959	10"	4
5	545.680	544.860	9 7/8"	545.871	545.049	9 3/4"	546.052	545.232	9 7/8"	546.227	545.412	9 3/4"	9 1/4"	546.227	545.408	9 13/16"	9 1/4"	546.052	545.229	9 7/8"	545.871	545.053	9 13/16"	545.680	544.850	9 15/16"	5
L27–1	545.565	544.762	9 5/8"	545.755	544.943	9 3/4"	545.937	545.135	9 5/8"	546.111	545.321	9 1/2"	8 15/16"	546.111	545.318	9 1/2"	8 15/16"	545.937	545.131	9 11/16"	545.755	544.939	9 13/16"	545.565	544.743	9 7/8"	L27–1
2	545.452	544.636	9 13/16"	545.641	544.819	9 7/8"	545.824	545.012	9 3/4"	545.999	545.203	9 9/16"	9"	545.999	545.199	9 5/8"	9 1/16"	545.824	545.010	9 3/4"	545.641	544.816	9 7/8"	545.452	544.624	9 15/16"	2
3	545.334	544.503	10"	545.525	544.687	10 1/16"	545.706	544.881	9 7/8"	545.881	545.077	9 7/8"	9 1/16"	545.881	545.084	9 9/16"	9"	545.706	544.884	9 7/8"	545.525	544.687	10 1/16"	545.334	544.510	9 7/8"	3
4	545.202	544.370	10"	545.392	544.555	10 1/16"	545.575	544.758	9 13/16"	545.750	544.952	9 9/16"	9"	545.750	544.955	9 9/16"	8 15/16"	545.575	544.765	9 3/4"	545.392	544.564	9 15/16"	545.202	544.396	9 11/16"	4
5	545.056	544.250	9 11/16"	545.246	544.441	9 11/16"	545.429	544.653	9 15/16"	545.604	544.842	9 9/16"	8 9/16"	545.604	544.849	9 11/16"	8 1/2"	545.429	544.648	9 7/8"	545.246	544.455	9 1/2"	545.056	544.277	9 5/16"	5

SHEET 96D

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022–023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

CONSTRUCTION ELEVATIONS

UPDATE DATE

LETTING DATE

PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

DATE

DATE

DATE

REVISED	DATE
REVISED	DATE
REVISED	DATE

DESIGNED BY	RLS	CHECKED BY	JSL / TTG
DETAILED BY	RLS	CHECKED BY	JSL
TRACED BY		CHECKED BY	

DATE 9/94
DATE 9/94

09/05/94 K:\B 0\DWGFILES\U77\CLEVS

CONSTRUCTION ELEVATIONS

SCREED LINE	STRINGER A			STRINGER B			STRINGER C			STRINGER D				STRINGER E				STRINGER F			STRINGER G			STRINGER H			SCREED LINE
	CONSTR. ELEV.	TOP OF BEAM	DIM "X"/ MACH.ORD. (INCH.)	CONSTR. ELEV.	TOP OF BEAM	DIM "X" (INCH.)	CONSTR. ELEV.	TOP OF BEAM	DIM "X" (INCH.)	CONSTR. ELEV.	TOP OF BEAM	DIM "X" (INCH.)	MACH. ORD. (INCH.)	CONSTR. ELEV.	TOP OF BEAM	DIM "X" (INCH.)	MACH. ORD. (INCH.)	CONSTR. ELEV.	TOP OF BEAM	DIM "X" (INCH.)	CONSTR. ELEV.	TOP OF BEAM	DIM "X" (INCH.)	CONSTR. ELEV.	TOP OF BEAM	DIM "X"/ MACH.ORD. (INCH.)	
L28–1	544.911	544.118	9 1/2"	545.101	544.314	9 7/16"	545.285	544.505	9 3/8"	545.459	544.693	9 3/16"	8 7/8"	545.459	544.696	9 1/8"	8 9/16"	545.285	544.509	9 5/16"	545.101	544.334	9 1/16"	544.911	544.136	9 1/16"	L28–1
2	544.779	543.976	9 7/8"	544.970	544.175	9 9/16"	545.153	544.362	9 1/2"	545.327	544.532	9 5/16"	8 15/16"	545.327	544.545	9 3/8"	8 13/16"	545.153	544.363	9 1/2"	544.970	544.177	9 1/2"	544.779	543.988	9 1/2"	2
3	544.642	543.828	9 3/4"	544.834	544.025	9 11/16"	545.017	544.209	9 11/16"	545.191	544.361	9 15/16"	9 3/8"	545.191	544.381	9 3/8"	9 1/16"	545.017	544.202	9 3/8"	544.834	544.033	9 7/8"	544.642	543.831	9 3/4"	3
4	544.486	543.676	9 7/8"	544.677	543.873	9 7/8"	544.860	544.055	9 7/8"	545.034	544.201	10"	9 7/16"	545.034	544.218	9 1/16"	9 1/4"	544.860	544.040	9 1/16"	544.677	543.873	9 7/8"	544.486	543.677	9 11/16"	4
5	544.302	543.521	9 7/8"	544.493	543.717	9 5/16"	544.676	543.892	9 7/8"	544.849	544.052	9 1/16"	9"	544.849	544.061	9 1/16"	8 15/16"	544.676	543.881	9 1/16"	544.493	543.712	9 7/8"	544.302	543.511	9 1/2"	5
L29–1	544.098	543.372	8 11/16"	544.287	543.559	8 3/4"	544.469	543.740	8 3/4"	544.643	543.916	8 3/4"	8 1/16"	544.643	543.920	8 11/16"	8 1/8"	544.469	543.730	8 7/8"	544.287	543.552	8 13/16"	544.098	543.359	8 7/8"	L29–1
2	543.942	543.178	9 3/16"	544.132	543.381	9"	544.315	543.554	9 1/8"	544.489	543.730	9 1/16"	8 9/16"	544.489	543.745	8 15/16"	8 5/8"	544.315	543.543	9 1/4"	544.132	543.360	9 1/4"	543.942	543.186	9 1/16"	2
3	543.764	542.987	9 1/16"	543.956	543.188	9 1/16"	544.138	543.365	9 1/4"	544.313	543.534	9 1/16"	8 13/16"	544.313	543.550	9 1/8"	8 5/8"	544.138	543.349	9 1/16"	543.956	543.170	9 1/16"	543.764	542.998	9 1/16"	3
4	543.561	542.784	9 5/16"	543.752	542.987	9 3/16"	543.934	543.171	9 3/16"	544.109	543.346	9 1/8"	8 7/8"	544.109	543.353	9 1/16"	8 1/2"	543.934	543.151	9 1/8"	543.752	542.981	9 1/4"	543.561	542.793	9 1/16"	4
5	543.336	542.591	8 15/16"	543.526	542.788	8 7/8"	543.709	542.967	8 7/8"	543.884	543.152	8 13/16"	8 5/16"	543.884	543.154	8 3/4"	8 3/16"	543.709	542.957	9"	543.526	542.782	8 15/16"	543.336	542.595	8 7/8"	5
L30–1	543.107	542.384	8 11/16"	543.297	542.571	8 11/16"	543.480	542.760	8 5/8"	543.655	542.938	8 5/8"	8"	543.655	542.943	8 9/16"	7 15/16"	543.480	542.762	8 5/8"	543.297	542.570	8 3/4"	543.107	542.376	8 3/4"	L30–1
2	542.894	542.167	8 3/4"	543.083	542.353	8 3/4"	543.266	542.548	8 5/8"	543.442	542.728	8 9/16"	8"	543.442	542.702	8 5/8"	8 5/16"	543.266	542.557	8 7/8"	543.083	542.350	8 13/16"	542.894	542.163	8 3/4"	2
3	542.679	541.923	9 1/16"	542.870	542.118	9 1/16"	543.053	542.303	9"	543.227	542.472	9 1/16"	8 1/4"	543.227	542.444	9 1/16"	8 1/8"	543.053	542.318	8 15/16"	542.870	542.112	9 1/8"	542.679	541.926	9 1/16"	3
4	542.453	541.691	9 1/8"	542.644	541.886	9 1/16"	542.826	542.067	9 1/8"	543.001	542.236	9 1/16"	8 5/8"	543.001	542.217	9 1/8"	8 1/16"	542.826	542.078	8 15/16"	542.644	541.879	9 1/16"	542.453	541.686	9 1/16"	4
5	542.212	541.468	8 15/16"	542.402	541.658	8 15/16"	542.584	541.830	9 1/16"	542.759	542.011	9"	8 7/16"	542.759	542.001	9 1/8"	8 1/16"	542.584	541.842	8 7/8"	542.402	541.645	9 1/16"	542.212	541.454	9 1/8"	5
L31–1	541.967	541.243	8 11/16"	542.157	541.437	8 7/8"	542.338	541.601	8 7/8"	542.513	541.789	8 11/16"	8 1/8"	542.513	541.783	8 3/4"	8 3/16"	542.338	541.601	8 7/8"	542.157	541.417	8 5/8"	541.967	541.222	8 15/16"	L31–1
2	541.730	541.014	8 7/8"	541.921	541.209	8 15/16"	542.103	541.362	8 7/8"	542.277	541.559	8 7/8"	8 1/16"	542.277	541.540	8 7/8"	8 1/16"	542.103	541.352	9"	541.921	541.177	8 15/16"	541.730	540.984	8 15/16"	2
3	541.489	540.752	8 13/16"	541.679	540.949	8 3/4"	541.861	541.111	9"	542.036	541.304	8 13/16"	8 1/4"	542.036	541.279	9 1/16"	8 1/8"	541.861	541.091	9 1/4"	541.679	540.920	9 1/8"	541.489	540.714	9 1/16"	3
4	541.228	540.482	8 15/16"	541.419	540.681	8 7/8"	541.602	540.851	9"	541.776	541.037	8 7/8"	8 1/16"	541.776	541.021	9 1/16"	8 1/8"	541.602	540.832	9 1/4"	541.419	540.649	9 1/4"	541.228	540.450	9 1/16"	4
5	540.950	540.217	8 13/16"	541.141	540.409	8 13/16"	541.322	540.584	8 7/8"	541.497	540.773	8 11/16"	8 1/8"	541.497	540.758	8 7/8"	8 5/16"	541.322	540.571	9"	541.141	540.387	9 1/16"	540.950	540.181	9 1/4"	5
L32–1	540.667	539.949	8 7/8"	540.857	540.136	8 7/8"	541.038	540.317	8 7/8"	541.213	540.502	8 7/8"	8"	541.213	540.494	8 7/8"	8 1/16"	541.038	540.305	8 13/16"	540.857	540.121	8 13/16"	540.667	539.919	9"	L32–1
2	540.400	539.662	8 7/8"	540.589	539.845	8 15/16"	540.772	540.032	8 7/8"	540.947	540.204	8 15/16"	8 3/8"	540.947	540.196	9"	8 7/8"	540.772	540.017	9 1/16"	540.589	539.825	9 1/16"	540.400	539.637	9 1/8"	2
3	540.129	539.372	9 1/16"	540.320	539.555	9 1/16"	540.502	539.742	9 1/8"	540.677	539.905	9 1/4"	8 11/16"	540.677	539.905	9 1/4"	8 11/16"	540.502	539.730	9 1/4"	540.320	539.542	9 1/16"	540.129	539.346	9 1/8"	3
4	539.843	539.079	9 3/16"	540.034	539.259	9 1/16"	540.217	539.445	9 1/4"	540.391	539.618	9 5/16"	8 11/16"	540.391	539.623	9 1/16"	8 5/8"	540.217	539.442	9 1/16"	540.034	539.253	9 1/8"	539.843	539.058	9 7/16"	4
5	539.546	538.807	8 7/8"	539.735	538.979	9 1/16"	539.918	539.159	9 1/8"	540.094	539.345	9"	8 5/8"	540.094	539.359	8 15/16"	8 1/4"	539.918	539.172	8 15/16"	539.735	538.981	9 1/16"	539.546	538.780	9 1/16"	5
L33–1	539.247	538.490	9 1/16"	539.437	538.661	9 1/16"	539.621	538.864	9 1/16"	539.795	539.055	8 7/8"	8 5/16"	539.795	539.053	8 7/8"	8 5/16"	539.621	538.883	8 7/8"	539.437	538.684	9 1/16"	539.247	538.498	9"	L33–1
2	538.968	538.185	9 1/8"	539.159	538.373	9 1/16"	539.341	538.569	9 1/4"	539.516	538.727	9 1/2"	8 7/8"	539.516	538.743	9 1/4"	8 11/16"	539.341	538.562	9 1/8"	539.159	538.389	9 1/4"	538.968	538.191	9 1/16"	2
3	538.685	537.877	9 11/16"	538.876	538.084	9 1/2"	539.059	538.271	9 1/16"	539.234	538.429	9 11/16"	9 1/8"	539.234	538.436	9 1/8"	9"	539.059	538.267	9 1/2"	538.876	538.097	9 3/8"	538.685	537.897	9 7/16"	3
4	538.383	537.584	9 9/16"	538.575	537.782	9 1/2"	538.758	537.964	9 1/4"	538.932	538.118	9 3/4"	9 1/16"	538.932	538.128	9 1/8"	9 1/8"	538.758	537.958	9 3/8"	538.575	537.793	9 3/8"	538.383	537.599	9 1/16"	4
5	538.035	537.284	9"	538.253	537.475	9 1/16"	538.434	537.656	9 1/16"	538.609	537.817	9 1/2"	8 15/16"	538.609	537.824	9 7/16"	8 7/8"	538.434	537.649	9 1/16"	538.253	537.477	9 5/16"	538.035	537.302	8 13/16"	5
L34–1	537.725	536.968	9 1/16"	537.914	537.179	8 15/16"	538.096	537.348	9"	538.270	537.513	9 1/16"	8 9/16"	538.270	537.513	9 1/16"	8 9/16"	538.096	537.342	9 1/16"	537.914	537.164	9"	537.725	536.988	8 7/8"	L34–1
2	537.476	536.683	9 1/2"	537.667	536.879	9 7/16"	537.849	537.076	9 1/4"	538.023	537.225	9 9/16"	9"	538.023	537.208	9 3/4"	9 1/4"	537.849	537.070	9 3/8"	537.667	536.888	9 5/16"	537.476	536.714	9 1/8"	2
3	537.212	536.417	9 9/16"	537.404	536.611	9 1/4"	537.585	536.806	9 3/8"	537.760	536.945	9 3/4"	9 1/4"	537.760	536.924	10"	9 1/2"	537.585	536.796	9 1/4"	537.404	536.616	9 1/16"	537.212	536.435	9 1/16"	3
4	536.927	536.131	9 9/16"	537.118	536.325	9 1/2"	537.301	536.524	9 1/16"	537.476	536.678	9 9/16"	9"	537.476	536.655	9 7/8"	9 5/16"	537.301	536.517	9 1/2"	537.118	536.344	9 1/16"	536.927	536.157	9 1/4"	4
5	536.627	535.878	9"	536.818	536.062	9 1/16"	537.000	536.245	9 1/16"	537.176	536.423	9"	8 7/16"	537.176	536.407	9 1/4"	8 7/8"	537.000	536.253	8 15/16"	536.818	536.091	8 3/4"	536.627	535.898	8 3/4"	5

SHEET 96E

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022–023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

CONSTRUCTION ELEVATIONS

UPDATE DATE ----------
LETTING DATE ----------

PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

DESIGNED BY BLS DATE 9/94
DETAILED BY BLS CHECKED BY ISL / TTC DATE 9/94
ISSUED BY ____ CHECKED BY ISL DATE ____
REVISED BY ____ CHECKED BY ____ DATE ____
REVISED ____
REVISED ____

CONSTRUCTION ELEVATIONS

SCREED LINE	STRINGER A			STRINGER B			STRINGER C			STRINGER D				STRINGER E				STRINGER F			STRINGER G			STRINGER H			SCREED LINE
	CONSTR. ELEV.	TOP OF BEAM	DIM "X"/ MACH.ORD. (INCH.)	CONSTR. ELEV.	TOP OF BEAM	DIM "X" (INCH.)	CONSTR. ELEV.	TOP OF BEAM	DIM "X" (INCH.)	CONSTR. ELEV.	TOP OF BEAM	DIM "X" (INCH.)	MACH. ORD. (INCH.)	CONSTR. ELEV.	TOP OF BEAM	DIM "X" (INCH.)	MACH. ORD. (INCH.)	CONSTR. ELEV.	TOP OF BEAM	DIM "X" (INCH.)	CONSTR. ELEV.	TOP OF BEAM	DIM "X" (INCH.)	CONSTR. ELEV.	TOP OF BEAM	DIM "X"/ MACH.ORD. (INCH.)	
L35–1	536.330	535.602	8 3/4"	536.519	535.792	8 3/4"	536.703	535.974	8 3/4"	536.878	536.144	8 15/16"	8 1/16"	536.878	536.151	8 3/8"	8 1/8"	536.703	535.980	8 11/16"	536.519	535.812	8 1/4"	536.330	535.621	8 1/2"	L35–1
2	536.053	535.312	8 5/8"	536.243	535.521	8 11/16"	536.426	535.683	8 15/16"	536.601	535.858	8 15/16"	8 5/16"	536.601	535.877	8 11/16"	8 1/8"	536.426	535.699	8 3/4"	536.243	535.533	8 1/4"	536.053	535.339	8 9/16"	2
3	535.783	534.997	9 7/16"	535.974	535.207	9 1/16"	536.156	535.391	9 1/16"	536.331	535.549	9 3/8"	8 13/16"	536.331	535.578	9"	8 7/16"	536.156	535.412	8 15/16"	535.974	535.220	9 1/16"	535.783	535.022	9 3/8"	3
4	535.505	534.726	9 3/8"	535.696	534.932	9 5/16"	535.878	535.115	9 1/8"	536.053	535.278	9 1/16"	8 3/4"	536.053	535.300	9 1/16"	8 1/4"	535.878	535.136	8 15/16"	535.696	534.943	9"	535.505	534.756	9"	4
5	535.219	534.495	8 11/16"	535.409	534.661	9"	535.591	534.867	8 11/16"	535.766	535.007	9 1/8"	8 9/16"	535.766	535.012	9 1/16"	8 1/4"	535.591	534.832	9 1/8"	535.409	534.683	8 11/16"	535.219	534.484	8 13/16"	5
L36–1	534.935	534.221	8 9/16"	535.124	534.409	8 9/16"	535.306	534.581	8 11/16"	535.481	534.785	8 7/8"	7 13/16"	535.481	534.783	8 7/8"	7 13/16"	535.306	534.592	8 9/16"	535.124	534.422	8 7/16"	534.935	534.245	8 1/4"	L36–1
2	534.674	533.920	9 1/16"	534.865	534.130	8 13/16"	535.047	534.302	8 15/16"	535.221	534.523	8 7/8"	7 13/16"	535.221	534.502	8 7/8"	8 1/16"	535.047	534.308	8 7/8"	534.865	534.143	8 11/16"	534.674	533.963	8 9/16"	2
3	534.415	533.661	9 1/16"	534.606	533.836	9 1/4"	534.788	534.021	9 1/16"	534.963	534.246	8 7/8"	8 1/16"	534.963	534.209	9 1/16"	8 1/4"	534.788	534.036	9"	534.606	533.856	9"	534.415	533.687	8 3/4"	3
4	534.143	533.386	9 1/16"	534.334	533.574	9 1/4"	534.516	533.759	9 1/16"	534.691	533.961	8 3/4"	8 1/16"	534.691	533.934	9 1/16"	8 1/4"	534.516	533.744	9 1/4"	534.334	533.593	8 7/8"	534.143	533.402	8 7/8"	4
5	533.859	533.115	8 15/16"	534.050	533.310	8 7/8"	534.231	533.498	8 13/16"	534.406	533.687	8 7/8"	8 1/16"	534.406	533.682	8 11/16"	8 1/8"	534.231	533.490	8 7/8"	534.050	533.320	8 3/4"	533.859	533.122	8 13/16"	5
L37–1	533.576	532.875	8 1/16"	533.765	533.012	9 1/16"	533.947	533.236	8 9/16"	534.122	533.421	8 7/8"	7 5/8"	534.122	533.425	8 5/8"	7 13/16"	533.947	533.221	8 3/4"	533.765	533.050	8 9/16"	533.576	532.848	8 3/4"	L37–1
2	533.309	532.580	8 3/4"	533.499	532.783	8 5/8"	533.682	532.966	8 9/16"	533.856	533.159	8 5/8"	7 13/16"	533.856	533.144	8 9/16"	8"	533.682	532.957	8 11/16"	533.499	532.777	8 11/16"	533.309	532.580	8 3/4"	2
3	533.045	532.323	8 11/16"	533.236	532.505	8 3/4"	533.418	532.695	8 11/16"	533.593	532.877	8 9/16"	8"	533.593	532.875	8 5/8"	8 1/16"	533.418	532.689	8 3/4"	533.236	532.508	8 11/16"	533.045	532.313	8 13/16"	3
4	532.768	532.048	8 5/8"	532.959	532.234	8 11/16"	533.142	532.410	8 13/16"	533.316	532.604	8 9/16"	8"	533.316	532.606	8 1/2"	7 15/16"	533.142	532.415	8 3/4"	532.959	532.236	8 11/16"	532.768	532.040	8 3/4"	4
5	532.479	531.772	8 1/2"	532.668	531.962	8 1/2"	532.851	532.135	8 9/16"	533.027	532.343	8 5/8"	7 5/8"	533.027	532.332	8 1/2"	7 3/4"	532.851	532.136	8 9/16"	532.668	531.958	8 1/2"	532.479	531.779	8 5/8"	5
L38–1	532.187	531.485	8 7/16"	532.377	531.672	8 7/16"	532.560	531.848	8 9/16"	532.735	532.036	8 5/8"	7 13/16"	532.735	532.027	8 1/2"	7 15/16"	532.560	531.842	8 5/8"	532.377	531.665	8 9/16"	532.187	531.472	8 9/16"	L38–1
2	531.914	531.178	8 3/8"	532.105	531.378	8 3/4"	532.288	531.545	8 15/16"	532.462	531.718	8 15/16"	8 5/8"	532.462	531.716	8 15/16"	8 5/8"	532.288	531.537	9"	532.105	531.359	8 15/16"	531.914	531.155	9 1/8"	2
3	531.636	530.870	9 3/16"	531.827	531.064	9 1/8"	532.010	531.233	9 1/16"	532.185	531.389	9 1/8"	9"	532.185	531.389	9 1/16"	9"	532.010	531.226	9 3/8"	531.827	531.045	9 1/8"	531.636	530.846	9 1/4"	3
4	531.336	530.566	9 1/4"	531.527	530.753	9 1/16"	531.710	530.922	9 1/16"	531.884	531.081	9 1/8"	9 1/16"	531.884	531.069	9 1/16"	9 1/4"	531.710	530.914	9 1/16"	531.527	530.739	9 1/16"	531.336	530.544	9 1/2"	4
5	531.008	530.248	9 1/8"	531.199	530.430	9 1/4"	531.381	530.602	9 3/8"	531.555	530.774	9 3/8"	8 13/16"	531.555	530.765	9 1/2"	8 15/16"	531.381	530.605	9 1/16"	531.199	530.423	9 1/16"	531.008	530.234	9 1/16"	5
L39–1	530.658	529.928	8 3/4"	530.848	530.102	8 15/16"	531.029	530.276	9 1/16"	531.203	530.468	8 15/16"	8 1/4"	531.203	530.473	8 3/4"	8 1/4"	531.029	530.288	8 7/8"	530.848	530.114	8 13/16"	530.658	529.924	8 13/16"	L39–1
2	530.358	529.574	9 1/16"	530.549	529.758	9 1/2"	530.730	529.950	9 3/8"	530.905	530.117	9 1/16"	8 7/8"	530.905	530.130	9 1/16"	8 3/4"	530.730	529.950	9 3/8"	530.549	529.775	9 1/16"	530.358	529.582	9 1/16"	2
3	530.035	529.280	9 1/16"	530.226	529.413	9 3/4"	530.408	529.615	9 1/2"	530.583	529.769	9 3/4"	9 1/16"	530.583	529.783	9 3/8"	9 1/16"	530.408	529.602	9 11/16"	530.226	529.431	9 1/16"	530.035	529.235	9 3/8"	3
4	529.685	528.887	9 9/16"	529.875	529.071	9 3/8"	530.058	529.272	9 7/16"	530.233	529.427	9 11/16"	9 1/8"	530.233	529.443	9 1/2"	8 15/16"	530.058	529.267	9 1/2"	529.875	529.085	9 1/2"	529.685	528.892	9 1/2"	4
5	529.311	528.549	9 3/8"	529.502	528.736	9 13/16"	529.685	528.925	9 3/8"	529.860	529.089	9 1/4"	8 11/16"	529.860	529.104	9 1/16"	8 1/2"	529.685	528.918	9 13/16"	529.502	528.735	9 13/16"	529.311	528.583	8 3/4"	5
L40–1	528.934	528.228	8 7/16"	529.124	528.404	8 3/8"	529.307	528.582	8 11/16"	529.482	528.765	8 5/8"	8"	529.482	528.772	8 1/2"	7 15/16"	529.307	528.573	8 13/16"	529.124	528.397	8 3/4"	528.934	528.206	8 3/4"	L40–1
2	528.571	527.881	8 5/16"	528.761	528.055	8 7/16"	528.944	528.223	8 3/8"	529.119	528.420	8 3/8"	7 13/16"	529.119	528.436	8 5/16"	7 5/8"	528.944	528.216	8 3/4"	528.761	528.050	8 9/16"	528.571	527.844	8 3/4"	2
3	528.207	527.502	8 7/16"	528.398	527.671	8 3/4"	528.581	527.839	8 5/8"	528.755	528.029	8 11/16"	8 1/8"	528.755	528.033	8 11/16"	8 1/8"	528.581	527.845	8 13/16"	528.398	527.671	8 3/4"	528.207	527.454	9 1/16"	3
4	527.830	527.114	8 9/16"	528.019	527.280	8 5/8"	528.202	527.456	8 15/16"	528.377	527.648	8 3/4"	8 1/16"	528.377	527.650	8 3/4"	8 1/16"	528.202	527.465	8 5/8"	528.019	527.289	8 3/4"	527.830	527.068	9 1/8"	4
5	527.435	526.719	8 5/8"	527.626	526.895	8 3/4"	527.808	527.077	8 3/4"	527.982	527.266	8 5/8"	8 1/16"	527.982	527.266	8 5/8"	8 1/16"	527.808	527.079	8 3/4"	527.626	526.908	8 5/8"	527.435	526.691	8 15/16"	5
L41–1	527.037	526.317	8 5/8"	527.226	526.506	8 5/8"	527.408	526.686	8 11/16"	527.583	526.871	8 9/16"	8"	527.583	526.872	8 9/16"	8"	527.408	526.683	8 11/16"	527.226	526.513	8 9/16"	527.037	526.317	8 5/8"	L41–1
2	526.639	525.912	8 3/4"	526.830	526.107	8 11/16"	527.011	526.288	8 11/16"	527.186	526.466	8 5/8"	8 1/16"	527.186	526.451	8 15/16"	8 1/4"	527.011	526.300	8 9/16"	526.830	526.148	8 5/16"	526.639	525.983	7 5/8"	2
3	526.235	525.483	9"	526.426	525.688	8 5/8"	526.609	525.867	8 7/8"	526.783	526.032	9"	8 1/16"	526.795	526.023	9 1/4"	8 11/16"	526.643	525.916	8 1/2"	526.484	525.776	8 1/2"	526.316	525.643	8 1/16"	3
4	525.812	525.061	9"	526.003	525.271	8 13/16"	526.185	525.453	8 3/4"	526.360	525.621	8 5/8"	8 1/16"	526.384	525.621	9 1/16"	8 3/8"	526.259	525.537	8 11/16"	526.127	525.405	8 1/16"	525.986	525.300	8 1/4"	4
5	525.372	524.648	8 11/16"	525.562	524.845	8 5/8"	525.744	525.032	8 9/16"	525.919	525.214	8 7/16"	7 7/8"	525.957	525.229	8 3/4"	8 3/16"	525.858	525.156	8 7/16"	525.753	525.041	8 9/16"	525.638	524.969	8 1/16"	5

Superelevation Right Side

CONSTRUCTION ELEVATIONS

SHEET 96F

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022–023 073 D BRF 00272 048

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

UPDATE DATE
LETTING DATE

PREPARED AND SUBMITTED BY:
HAZLET + ERDAL, INC.
CONSULTING ENGINEERS
DATE

DESIGNED BY: RLS CHECKED BY: JSL / TJG DATE 9/04
DETAILED BY: RLS CHECKED BY: JSL DATE 9/04
TRACED BY: CHECKED BY: DATE

REVISED
REVISED
REVISED

09/15/2004 R:\DWGFILES\11273\CLC7

SUPERELEVATION LEFT SIDE

CONSTRUCTION ELEVATIONS

SCREED LINES	STRINGER A CONSTR. ELEV.	STRINGER A TOP OF BEAM	STRINGER A DIM "X"/ MACH.ORD. (INCH.)	STRINGER B CONSTR. ELEV.	STRINGER B TOP OF BEAM	STRINGER B DIM "X" (INCH.)	STRINGER C CONSTR. ELEV.	STRINGER C TOP OF BEAM	STRINGER C DIM "X" (INCH.)	STRINGER D CONSTR. ELEV.	STRINGER D TOP OF BEAM	STRINGER D DIM "X" (INCH.)	STRINGER D MACH. ORD. (INCH.)	STRINGER E CONSTR. ELEV.	STRINGER E TOP OF BEAM	STRINGER E DIM "X" (INCH.)	STRINGER E MACH. ORD. (INCH.)	STRINGER F CONSTR. ELEV.	STRINGER F TOP OF BEAM	STRINGER F DIM "X" (INCH.)	STRINGER G CONSTR. ELEV.	STRINGER G TOP OF BEAM	STRINGER G DIM "X" (INCH.)	STRINGER H CONSTR. ELEV.	STRINGER H TOP OF BEAM	STRINGER H DIM "X"/ MACH.ORD. (INCH.)	SCREED LINES
L42–1	524.932	524.229	8 7/16"	525.121	524.423	8 3/8"	525.303	524.607	8 3/8"	525.478	524.795	8 3/16"	7 5/8"	525.529	524.834	8 3/8"	7 15/16"	525.457	524.775	8 1/2"	525.378	524.681	8 3/8"	525.291	524.595	8 3/8"	L42–1
2	524.510	523.781	8 1/4"	524.699	523.983	8 1/8"	524.882	524.179	8 1/16"	525.057	524.357	8 3/16"	7 13/16"	525.121	524.419	8 7/16"	7 7/8"	525.076	524.383	8 1/2"	525.022	524.316	8 1/2"	524.962	524.252	8 1/2"	2
3	524.090	523.330	9 1/8"	524.280	523.545	8 1/16"	524.462	523.744	8 5/16"	524.637	523.919	8 5/16"	8 1/16"	524.715	524.006	8 1/2"	7 15/16"	524.696	523.994	8 7/16"	524.670	523.953	8 9/16"	524.635	523.906	8 3/4"	3
4	523.627	522.871	9 1/16"	523.828	523.105	8 1/16"	524.020	523.319	8 7/16"	524.204	523.478	8 11/16"	8 1/8"	524.300	523.596	8 7/16"	7 7/8"	524.307	523.603	8 7/16"	524.307	523.591	8 9/16"	524.299	523.568	8 3/4"	4
5	523.148	522.431	8 5/8"	523.359	522.676	8 1/16"	523.564	522.893	8 1/16"	523.762	523.065	8 5/16"	7 13/16"	523.877	523.208	8"	7 15/16"	523.910	523.227	8 7/16"	523.936	523.244	8 5/16"	523.955	523.247	8 7/16"	5
L43–1	522.674	521.971	8 7/16"	522.898	522.207	8 5/16"	523.116	522.427	8 1/4"	523.325	522.633	8 5/16"	7 3/4"	523.460	522.785	8 1/8"	7 1/2"	523.521	522.825	8 3/8"	523.573	522.869	8 7/16"	523.618	522.911	8 1/2"	L43–1
2	522.212	521.490	8 11/16"	522.450	521.725	8 11/16"	522.679	521.955	8 11/16"	522.901	522.178	8 11/16"	8 1/16"	523.056	522.347	8 1/2"	7 15/16"	523.143	522.421	8 11/16"	523.222	522.485	8 5/8"	523.293	522.572	8 5/8"	2
3	521.752	521.006	8 15/16"	522.003	521.249	9 1/16"	522.245	521.491	9 1/16"	522.479	521.720	9 1/8"	8 3/16"	522.653	521.906	8 15/16"	8 3/8"	522.767	522.008	9 1/8"	522.873	522.114	9 1/8"	522.970	522.230	8 7/8"	3
4	521.277	520.519	9 1/16"	521.541	520.773	9 1/16"	521.795	521.030	9 1/16"	522.042	521.270	9 1/4"	8 11/16"	522.235	521.467	9 1/16"	8 11/16"	522.375	521.605	9 1/4"	522.509	521.742	9 1/16"	522.632	521.884	9"	4
5*	520.767	520.038	8 7/8"	521.047	520.300	8 15/16"	521.319	520.561	9 1/16"	521.581	520.821	9 1/8"	8 5/16"	521.798	521.038	9 1/8"	8 3/8"	521.969	521.201	9 7/16"	522.130	521.367	9 3/16"	522.283	521.535	9"	5
L44–1*	520.237	519.553	8 13/16"	520.536	519.826	8 7/8"	520.827	520.096	8 7/8"	521.108	520.369	8 7/8"	8 5/16"	521.349	520.603	8 15/16"	8 11/16"	521.551	520.788	9 1/16"	521.744	520.987	9 1/16"	521.928	521.184	8 15/16"	L44–1

* SCREED LINES ARE NORMAL TO ℄ TRUSS

SUPERELEVATION RIGHT SIDE

CONSTRUCTION ELEVATIONS

SHEET 96G

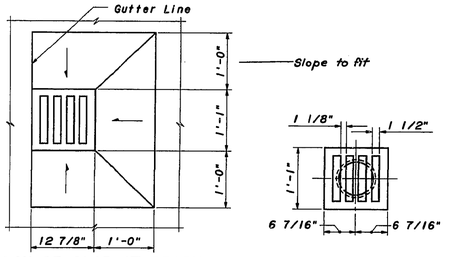
KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

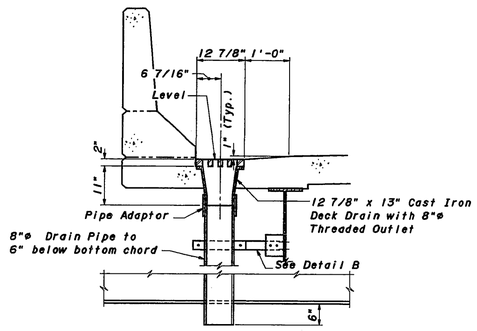
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022–023 073 D
BRF 00272 048

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

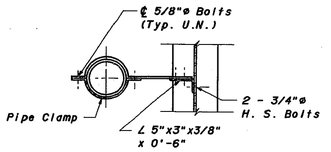


PLAN OF SLAB AT DRAIN

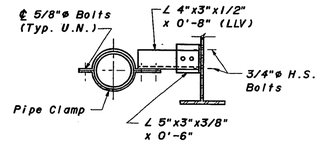
DECK DRAIN



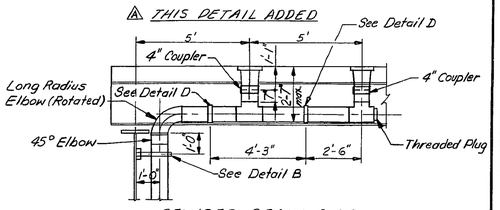
Section @ Typical Deck Drain



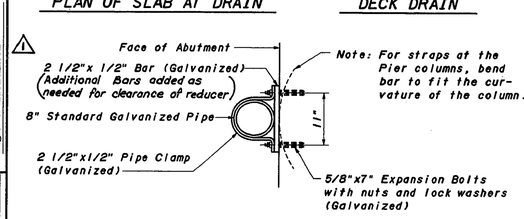
DETAIL B



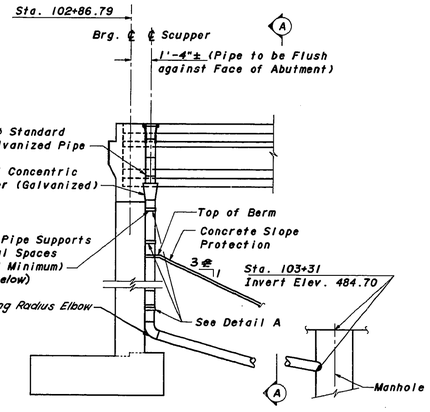
DETAIL D



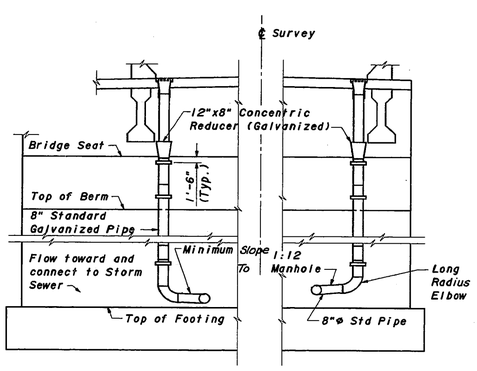
REVISED DRAIN PIPE DETAIL



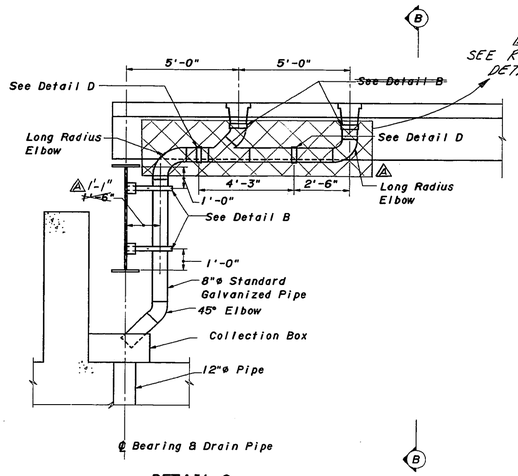
DETAIL A



SECTION @ OHIO ABUTMENT

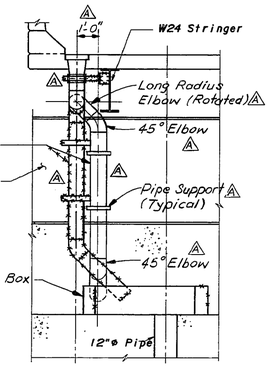


VIEW A - A



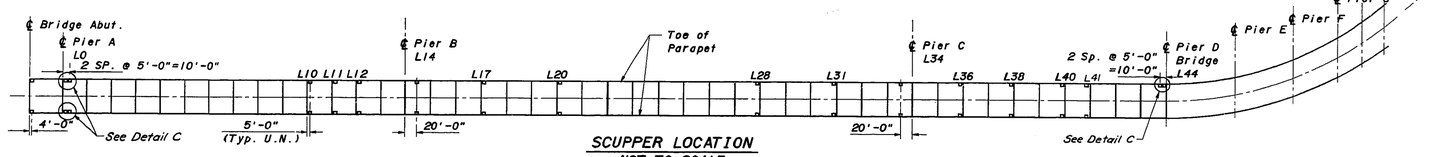
DETAIL C
PIER A LEFT AND RIGHT GUTTER, PIER D LEFT GUTTER ONLY

SEE REVISED DETAIL



SECTION B - B
SIMILAR OPPOSITE HAND PIER A ONLY

Work this Sheet with Drainage Detail Sheet 99



SCUPPER LOCATION
NOT TO SCALE

DRAINAGE DETAILS

SHEET 97

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

PLANS PREPARED & SUBMITTED BY
Burgess & Niple, Limited
Engineers and Architects

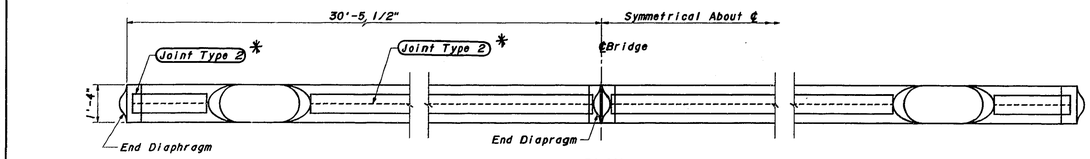
UPDATE DATE
LETTING DATE

DESIGNED BY JAP	CHECKED BY ESS	DATE 8/91	REVISED -
DETAILED BY KEK	CHECKED BY JAP	DATE 7/9/91	REVISED -
TRACED BY -	CHECKED BY -	DATE -	REVISED -

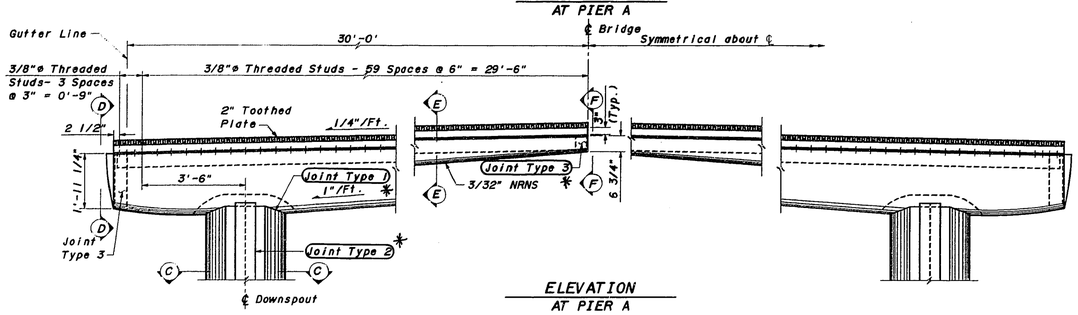
H+E DATE 8/17/92
H+E DATE 11-95

△ Revised 8"ø drain pipe at DETAIL C H+E
△ As Built H+E

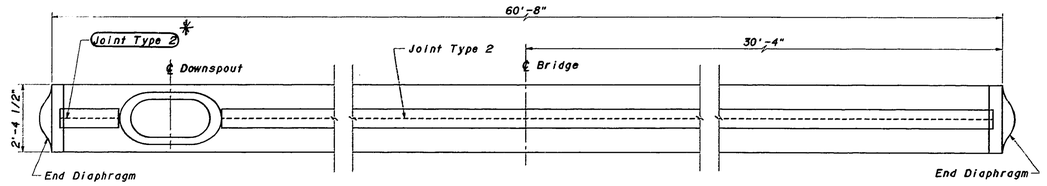
08-30-91 FILE MAIN(PER PR10855)<DRAIN1>,FILE AUX(MAIN PR10855)<FRAMES11>,DRAIN1.TDRAIN1.ADRAIN1),FILE AUX(MAIN PR10855)<FRAMES11>,XMULTI/RECALL PR10855<MULTI>WHL.DRAIN1



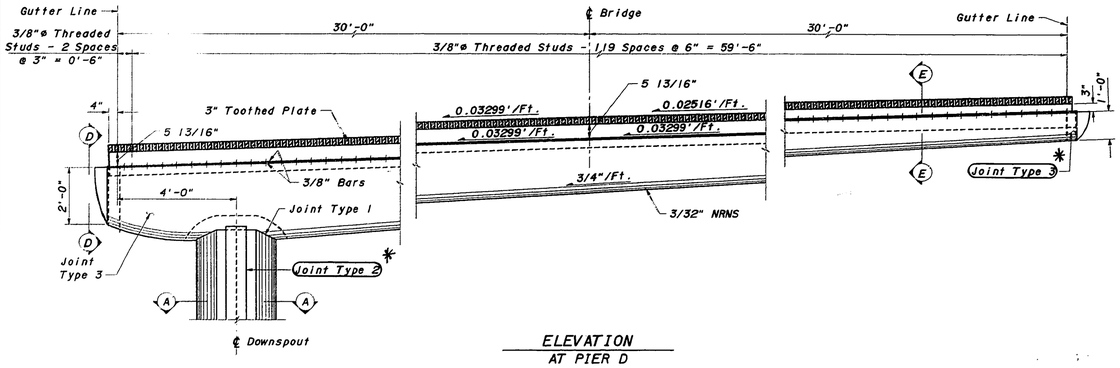
PLAN
AT PIER A



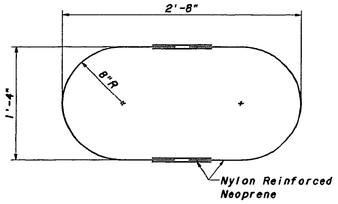
ELEVATION
AT PIER A



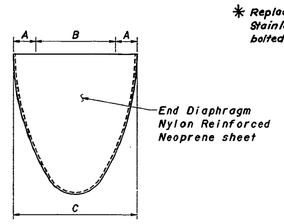
PLAN
AT PIER D



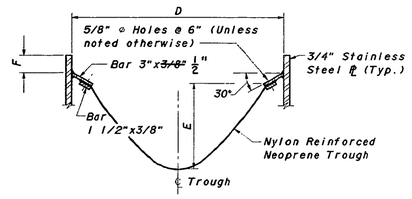
ELEVATION
AT PIER D

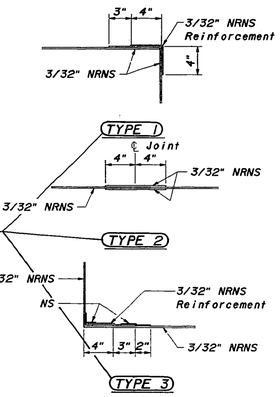


SECTION C - C

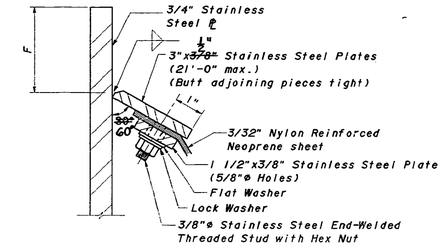


DEVELOPED VIEW D - D



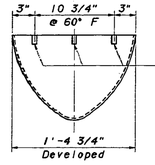


JOINT TYPES



TROUGH CONNECTION DETAIL

SECTION E - E



Location	A	B	C	D	E	F Left Gutter	F ℄ Bridge	F Right Gutter
At Pier A	3"	10 3/4"	1'-4 3/4"	1'-4" F/F ℄'s	Varies 6 3/4" to 2'-2 1/4"±	3"	3"	3"
At Pier D	5"	1'-11 1/4"	2'-9 1/4"	2'-4 1/2" F/F ℄'s	Varies 12" to 2'-8 1/2"±	5 13/16"	5 13/16"	3"

Note: All Dimensions based on 60° F.

Trough Fabricator shall furnish 3 removable Stainless Steel Clamps for the pair of Troughs to permit joining End Diaphagms during installation. Include with Neoprene Troughs for payment. (Pier A Only)

Designations:
NRNS - Nylon Reinforced Neoprene Sheet
NS - Nylon Sheet

DEVELOPED VIEW F - F

Work this Sheet with Drainage Detail Sheet 99 and Expansion Dam Details Sheets 83 & 84

DRAINAGE DETAILS

HAZELET + ERDAL, INC. in association with BURGESS & NPLE, LIMITED and BALKE ENGINEERS

MAIN SPANS SHEET 98

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073D

CONSTRUCTION PROJECT NO	MAINTENANCE PROJECT NO	DRAWING NO
		22740

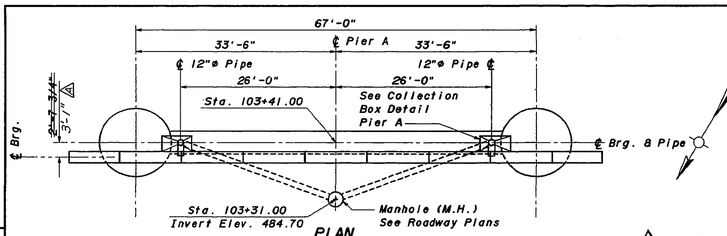
PLANS PREPARED & SUBMITTED BY: Burgess & Niple, Limited Engineers and Architects

UPDATE DATE
LETTING DATE

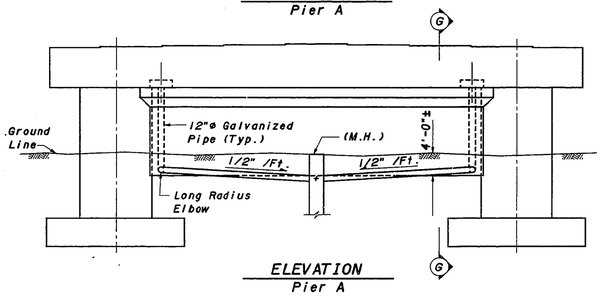
DESIGNED BY	JJD	CHECKED BY		DATE	11-95
DETAILED BY	MSM	CHECKED BY	JJD	DATE	11-95
CHECKED BY	-	CHECKED BY	-	DATE	-

REVISED	6/97	As Built
DATE	12/95	
REVISED	-	-
DATE	-	-
REVISED	-	-
DATE	-	-

02-26-97 FILE M:\PER PROJECTS\SCHEET1\TRDHDET1.DTRDHDET1 FILE AUX\MAIN PROJECTS\FRAMES1\FRAMES111.VWG,T1/RECALL PROJECTS\VWG,T1

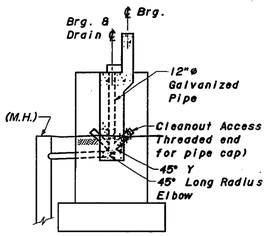


PLAN
Pier A

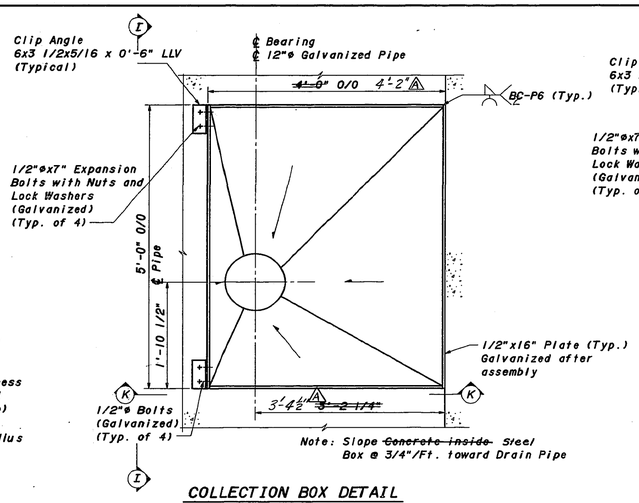


ELEVATION
Pier A

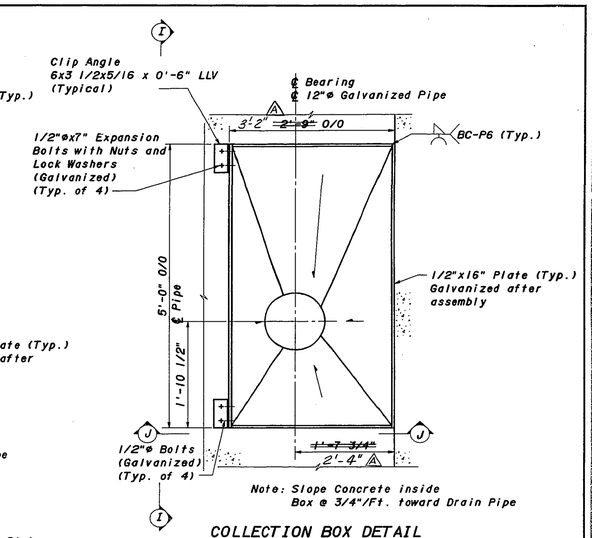
⚠1 THIS VIEW IS INCORRECT



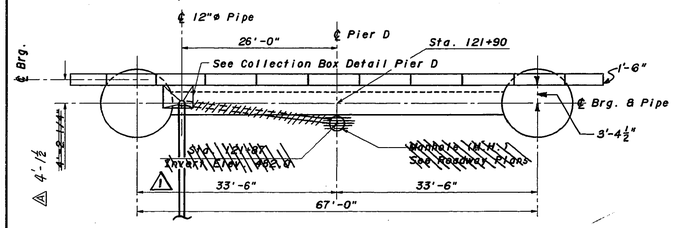
SECTION G - G



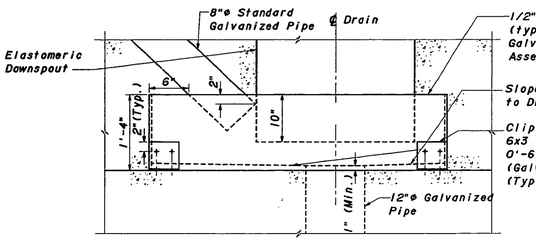
COLLECTION BOX DETAIL
At Pier D



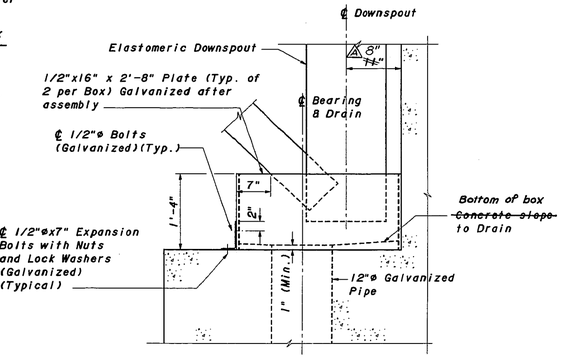
COLLECTION BOX DETAIL
At Pier A



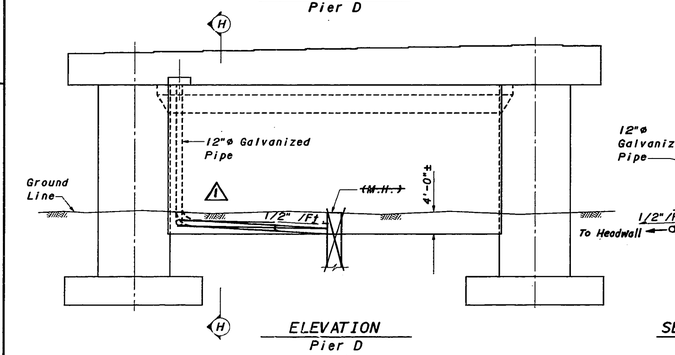
PLAN
Pier D



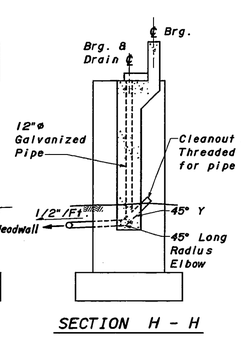
VIEW I - I



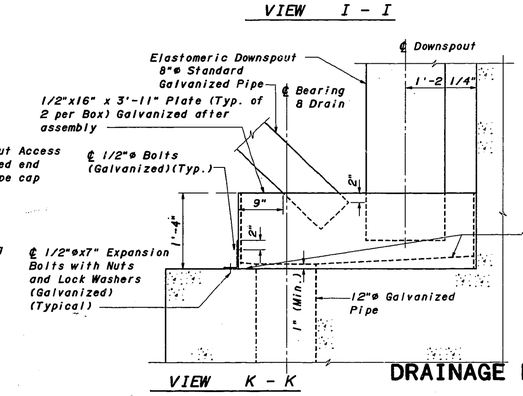
VIEW J - J



ELEVATION
Pier D



SECTION H - H



VIEW K - K

Work this Sheet with Drainage Detail Sheets 97 & 98

Designations:
LLV - Long Leg Vertical

DRAINAGE DETAILS

MAIN SPANS SHEET 99

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

PLANS PREPARED & SUBMITTED BY
Burgess & Niple, Limited
Engineers and Architects

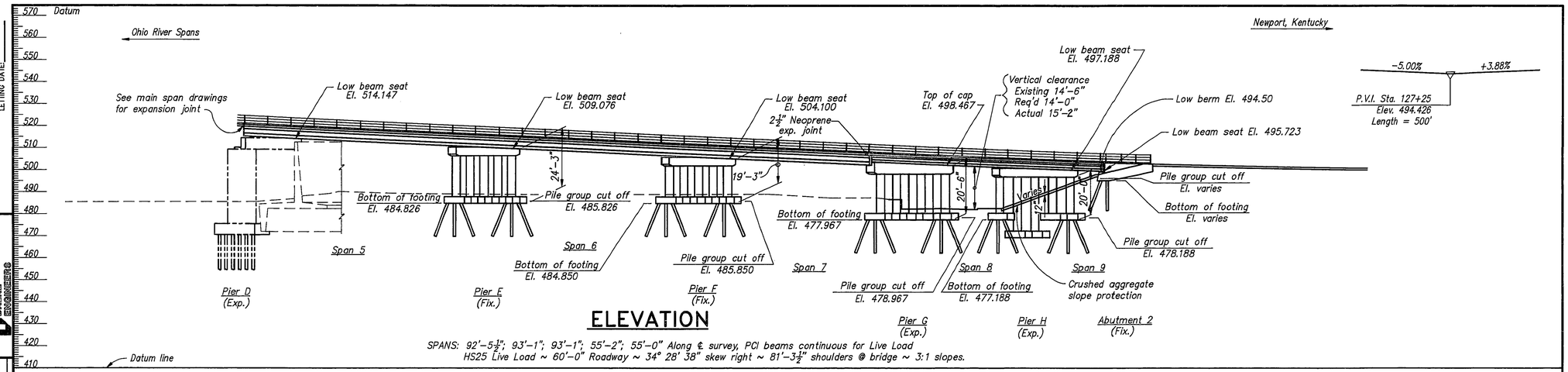
H+E DATE 3/17/92
H+E DATE 11-95

	REVISED	DATE
Revised Dimensions	ESS	8/91
As Built	JAP	7/9/91
-	-	DATE
-	-	DATE

DESIGNED BY JAP CHECKED BY ESS
DETAILED BY MSH CHECKED BY JAP
TRACED BY - CHECKED BY -

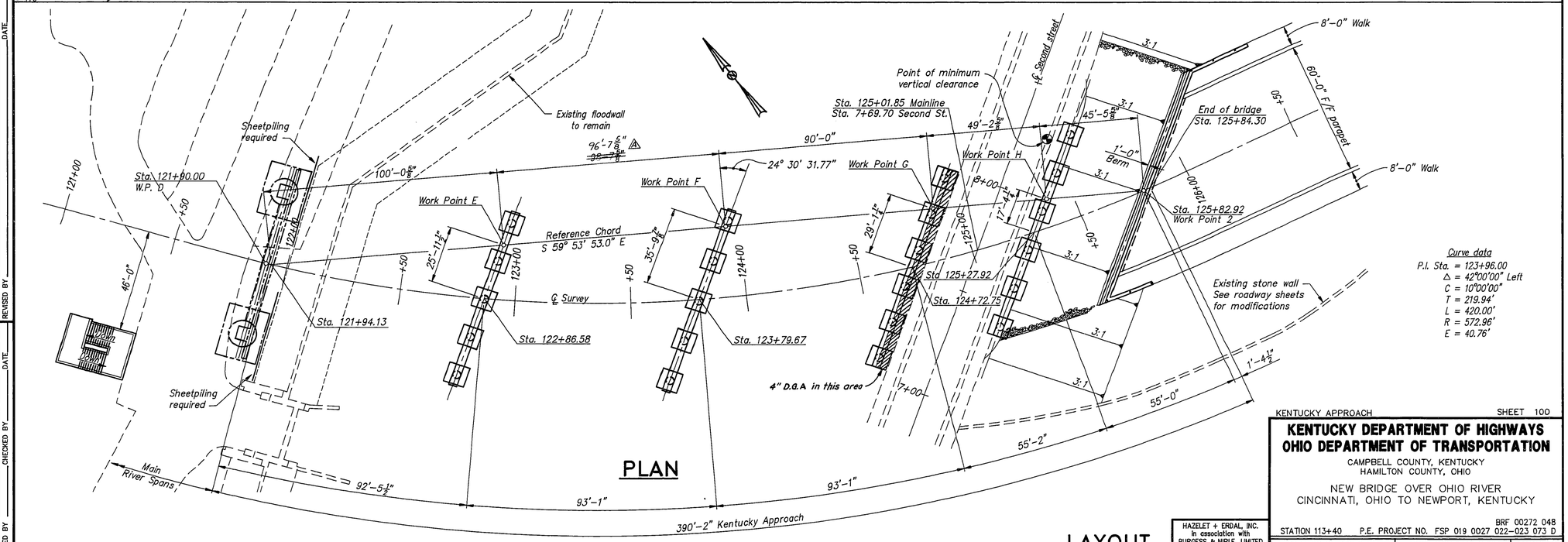
UPDATE DATE
LETTING DATE

08-30-91 FILE MAIN/PER PR10858>TRGDET2>(TRGDET2,TRGDET2,DTRGDET2)-FILE AUX/MIN PR10858>FRAMES11>FRAMES11).XWLT)/RECALL PR10858>WALT1>WR1.TRGDET2



ELEVATION

SPANS: 92'–5½"; 93'–1"; 93'–1"; 55'–2"; 55'–0" Along ℄ survey, PCI beams continuous for Live Load
HS25 Live Load ~ 60'–0" Roadway ~ 34° 28' 38" skew right ~ 81'–3½" shoulders @ bridge ~ 3:1 slopes.



PLAN

Curve data
P.I. Sta. = 123+96.00
Δ = 42°00'00" Left
C = 10°00'00"
T = 219.94'
L = 420.00'
R = 572.96'
E = 40.76'

LAYOUT

UPDATE DATE:
LETTING DATE:

PLANS PREPARED AND SUBMITTED BY:
BALKE ENGINEERS
DATE: 3/7/92

H.E.E. DATE
DATE
DATE

DESIGNED BY	MRS	CHECKED BY	DWM	DATE 4/91
DETAILED BY	JDG	CHECKED BY	MRS	DATE 8/91
TRACED BY		CHECKED BY		DATE

⚠ Revised Dimension	REVISED BY
	REVISED BY
	REVISED BY

DISK 1 9003SP1.DWG

KENTUCKY APPROACH SHEET 100

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

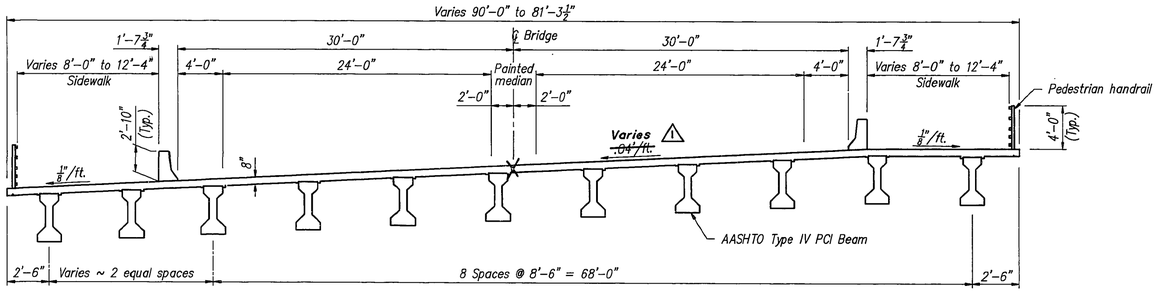
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022–023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

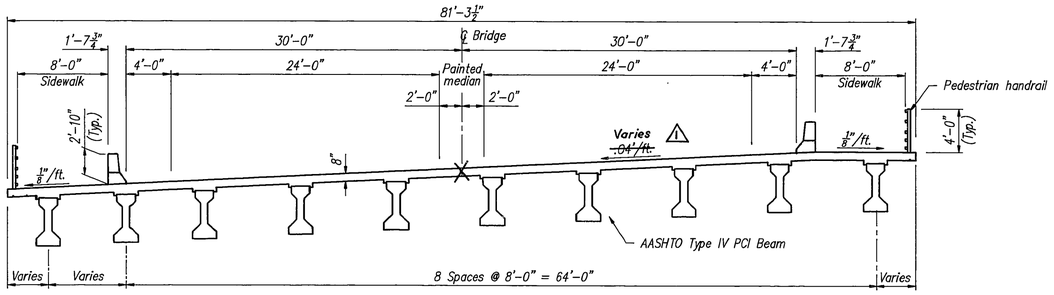
HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS



Dimensions are normal to ℄ bridge.

TYPICAL SECTION

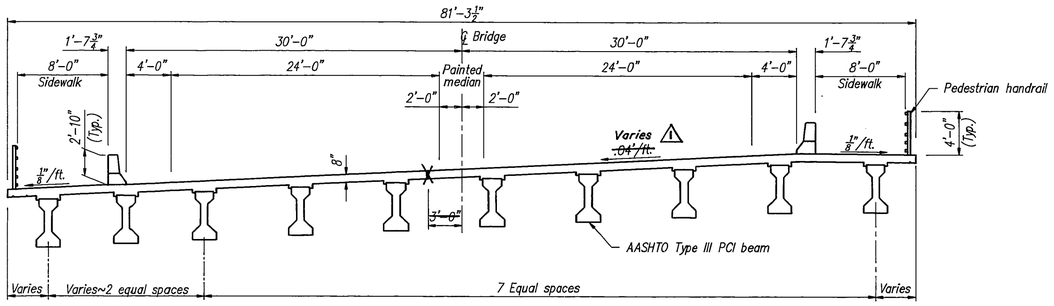
(Span 5)



Dimensions are normal to ℄ bridge.

TYPICAL SECTION

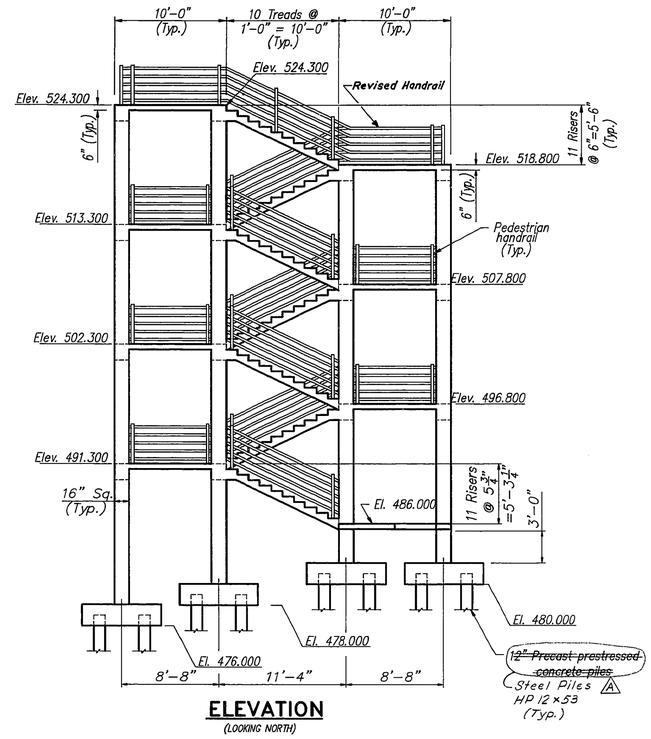
(Spans 6 & 7)



Dimensions are normal to ℄ bridge.

TYPICAL SECTION

(Spans 8 & 9)



ELEVATION

(LOOKING NORTH)

UPDATE DATE:
LETTING DATE:

PLANS PREPARED AND SUBMITTED BY:
BALKE ENGINEERS

DESIGNED BY: HHC DATE 12-03
DETAILED BY: HJE DATE 1-15
TRACED BY: DATE

REVISED BY	DATE
⚠ Revised Piling Type	
⚠ As Built	
REVISED BY	DATE
REVISED BY	DATE

CHECKED BY	DATE
JM	12/03
JM	1/15
CHECKED BY	DATE
CHECKED BY	DATE

DESIGNED BY: MDS
DETAILED BY: DS
TRACED BY:
CHECKED BY:
CHECKED BY:

DISK 8 9003SP2.DWG

KENTUCKY APPROACH SHEET 101

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

LAYOUT

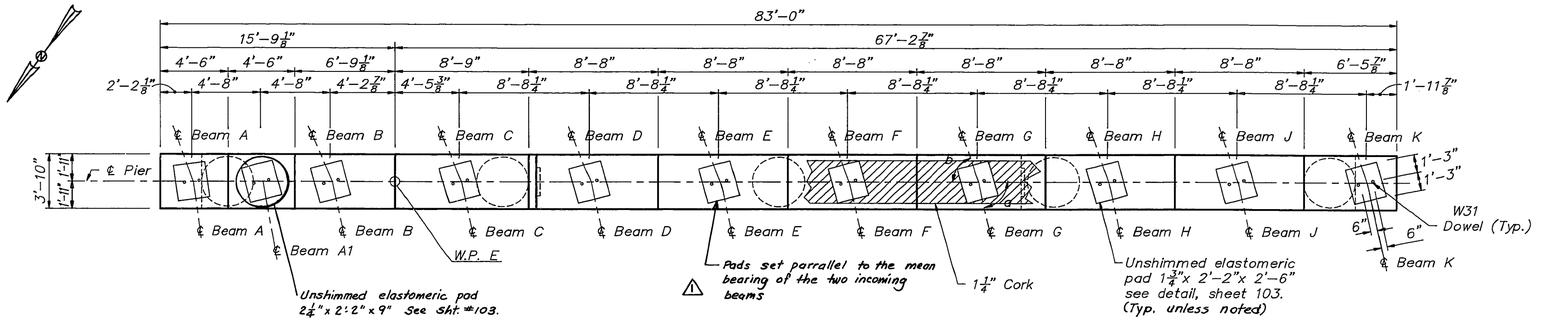
HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

UPDATE DATE:
LETTING DATE:

PLANS PREPARED AND SUBMITTED BY:
BALKE ENGINEERS

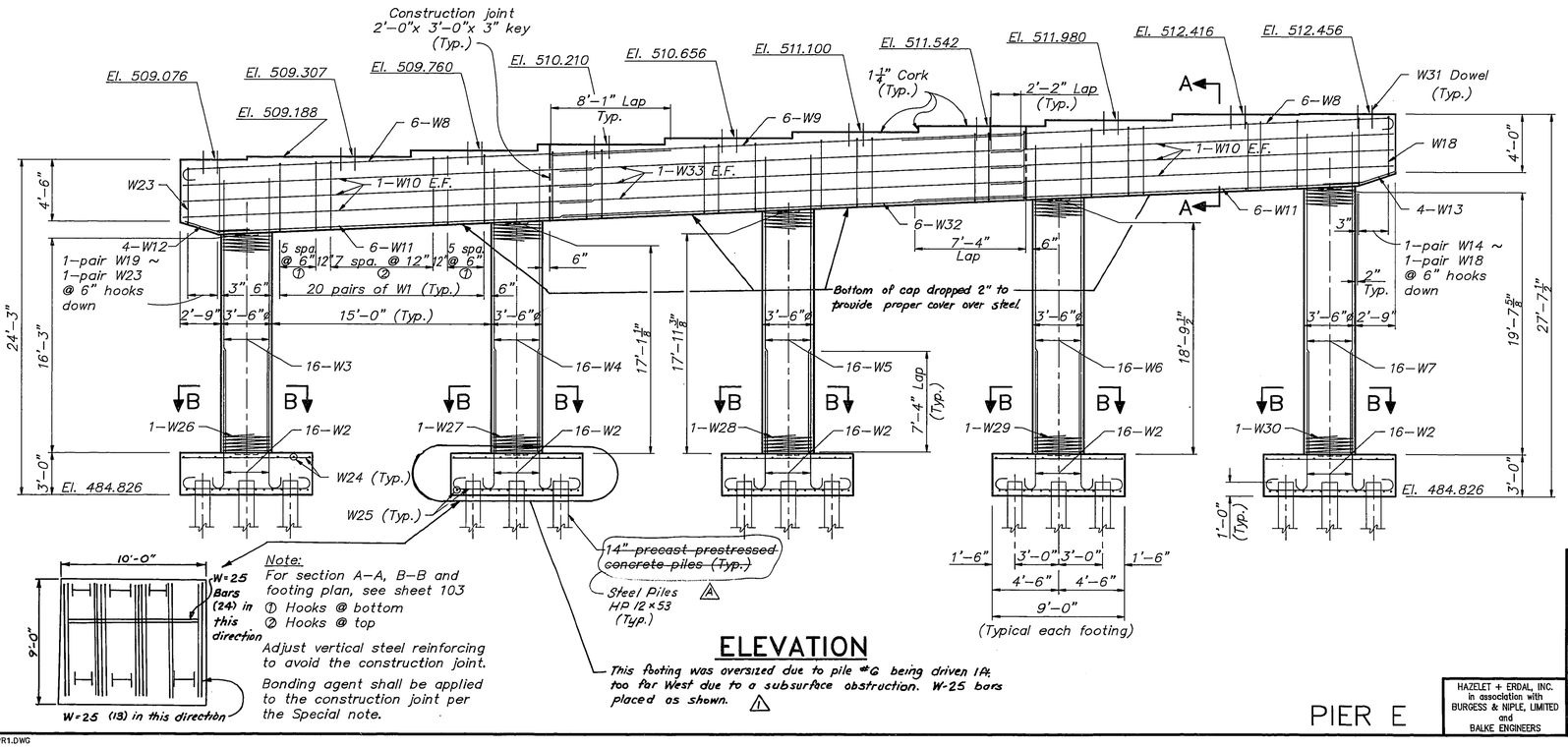
H+E DATE 12-92
H+E DATE 11-93
DATE
DATE

DESIGNED BY	MRS	CHECKED BY	DWL	DATE 4/91	REVISED BY	Revised Piling Type
DETAILED BY	AJH	CHECKED BY	MRS	DATE 8/91	REVISED BY	H+E
TRACED BY		CHECKED BY		DATE	REVISED BY	H+E

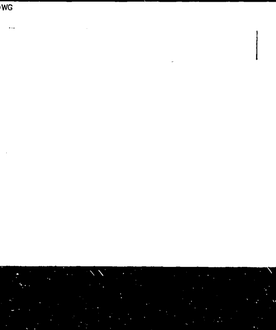


BEAM	ANGLE	
	a	b
A	82°18'10.8"	70°36'19.4"
A1	80°12'02.2"	--------
B	78°06'14.2"	67°38'13.1"
C	78°06'14.2"	68°14'13.3"
D	78°06'14.2"	68°50'31.6"
E	78°06'14.2"	69°27'07.9"
F	78°06'14.2"	70°04'01.9
G	78°06'14.2"	70°41'13.3
H	78°06'14.2"	71°18'41.7"
J	78°06'14.2"	71°56'26.8"
K	78°06'14.2"	72°34'28.2"

CAP PLAN



ELEVATION

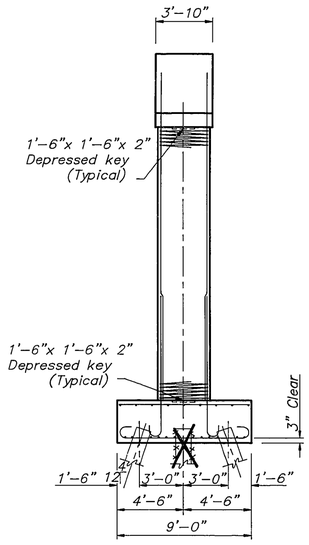


Note:
For section A–A, B–B and footing plan, see sheet 103
① Hooks @ bottom
② Hooks @ top

Adjust vertical steel reinforcing to avoid the construction joint.

Bonding agent shall be applied to the construction joint per the Special note.

This footing was oversized due to pile #G being driven 1Ft. too far West due to a subsurface obstruction. W-25 bars placed as shown. ⚠



END ELEVATION

KENTUCKY APPROACH SHEET 102

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

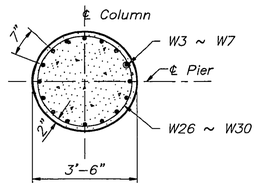
BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

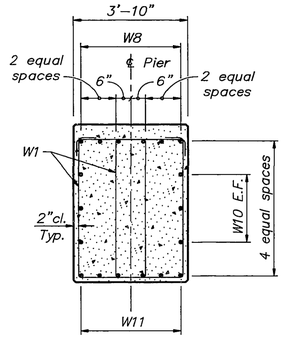
HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

PIER E

DISK 5 9003PR1.DWG

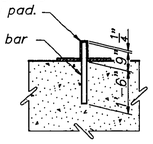


SECTION B–B

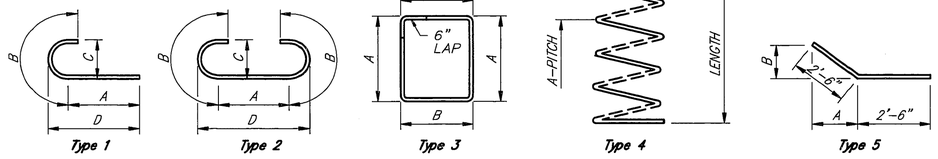


SECTION A–A

2"
Std. wt. ~~2½"~~ commercial pipe sleeve closed at one end and 7" long. Secure pipe sleeve to prevent floating while placing concrete. Sleeve to sit on bearing pad.



DOWEL DETAIL



BILL OF REINFORCEMENT

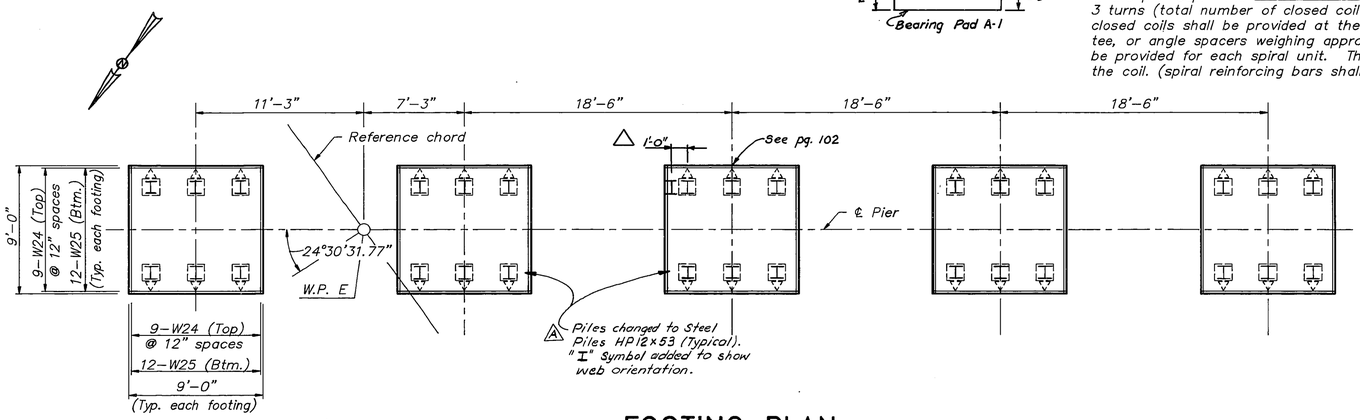
MARK	TYPE	NO.	SIZE	LENGTH FT.	LENGTH IN.	LOCATION	A FT.	A IN.	B FT.	B IN.	C FT.	C IN.	D FT.	D IN.
W1	3	160	5	14	11	Pier cap	4	8	2	5				
W2	1	80	10	11	7	Column	9	5	2	2	1	1¼	10	0
W3	Str.	16	10	20	6	Column								
W4	Str.	16	10	21	4	Column								
W5	Str.	16	10	22	2	Column								
W6	Str.	16	10	23	0	Column								
W7	Str.	16	10	23	10	Column								
W8	1	12	9	35	1	Pier cap	33	2	1	11	0	11¾	33	8
W9	Str.	6	9	32	6	Pier cap								
W10	Str.	12	5	27	6	Pier cap								
W11	Str.	12	10	30	0	Pier cap								
W12	5	4	6	5	0	Pier cap	2	4	0	11				
W13	5	4	6	5	0	Pier cap	2	4¼	0	8½				
W14	3	2	5	14	11	Pier cap	4	8	2	5				
W15	3	2	5	14	7½	Pier cap	4	6¼	2	5				
W16	3	2	5	14	4	Pier cap	4	4½	2	5				
W17	3	2	5	14	0	Pier cap	4	2¼	2	5				
W18	3	2	5	13	9	Pier cap	4	0½	2	5				
W19	3	2	5	14	11	Pier cap	4	8	2	5				
W20	3	2	5	14	6	Pier cap	4	5¾	2	5				
W21	3	2	5	14	2	Pier cap	4	3⅛	2	5				
W22	3	2	5	13	9	Pier cap	4	1	2	5				
W23	3	2	5	13	4	Pier cap	3	10¾	2	5				
W24	Str.	90	5	8	8	Footing								
W25	2	120	9	11	6¼	Footing	7	8¼	1	11	0	11¾	8	8
W26	4	1	4	16	4	Column	0	3	3	2		68		
W27	4	1	4	17	2	Column	0	3	3	2		72		
W28	4	1	4	18	0½"	Column	0	3	3	2		75		
W29	4	1	4	18	10½	Column	0	3	3	2		78		
W30	4	1	4	19	8½	Column	0	3	3	2		82		
W31	Str.	22	*	2	2	Pier cap								
W32	Str.	6	10	32	6	Pier cap								
W33	Str.	6	5	32	6	Pier cap								

ESTIMATE OF QUANTITIES

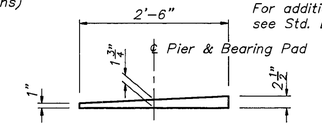
ITEM	QUANTITY	UNIT
CONCRETE CLASS "A"	136.7 ~~135.4~~	CU. YDS.
STEEL REINFORCEMENT	~~27,218.0~~ 28,289.98	LBS.

⚠ 1¾" * 2" smooth round dowel bars, may be commercial grade steel.

NOTE– SPIRAL REINFORCING BARS: The length shown in the bill of reinforcement for spiral bars is the distance from top of footing to the bottom layer of reinforcement in the pier cap. The number of turns shown is the length divided by the pitch, plus 3 turns (total number of closed coils) expressed to the nearest whole number. 1¼ closed coils shall be provided at the ends of each spiral unit. Four steel channel, tee, or angle spacers weighing approximately .80 lbs. per linear foot of spacers shall be provided for each spiral unit. They shall be equally spaced along the periphery of the coil. (spiral reinforcing bars shall have deformations)



FOOTING PLAN



For additional details, see Std. Dwg. BBP–002

SECTION THRU BEARING PAD

BEAMS A & B thur K

PIER E

KENTUCKY APPROACH SHEET 103

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022–023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

HAZELET + ERDAL, INC. In association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

UPDATE DATE: LETTING DATE:

PLANS PREPARED AND SUBMITTED BY: BALKE ENGINEERS

DESIGNED BY HJE DATE 12-92
DETAILED BY HJE DATE 12-93
TRACED BY DATE
CHECKED BY DATE
CHECKED BY DATE
CHECKED BY DATE 5/93
CHECKED BY MRS DATE 8/93

DWG MRS

REVISED BY ⚠ Revised Piling Type
REVISED BY ⚠ As Built
REVISED BY
REVISED BY

DISK 9 9003PR1a.DWG

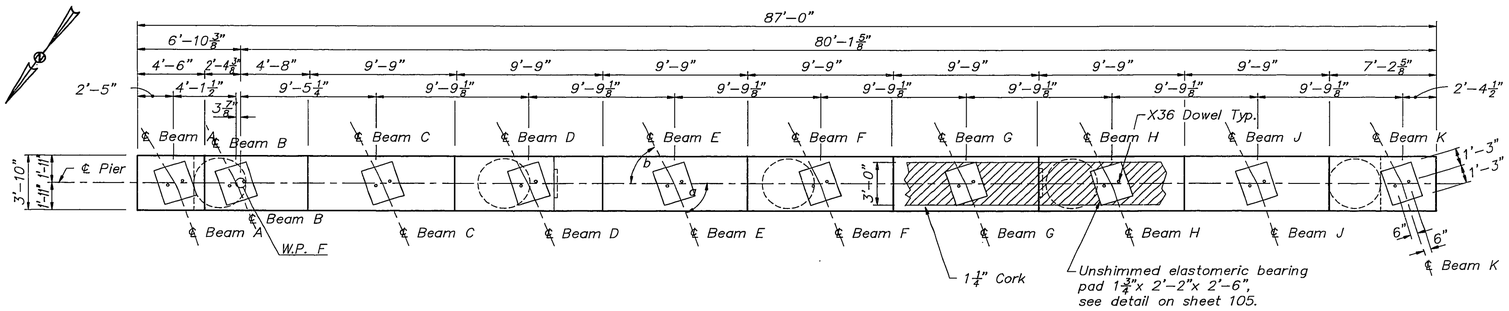
UPDATE DATE:
LETTING DATE:

PLANS PREPARED AND SUBMITTED BY: BALKE ENGINEERS

DESIGNED BY	MRS	CHECKED BY	DM	DATE 4/91	REVISED BY
DETAILED BY	AJH	CHECKED BY	MRS	DATE 8/91	REVISED BY
TRACED BY		CHECKED BY		DATE	REVISED BY

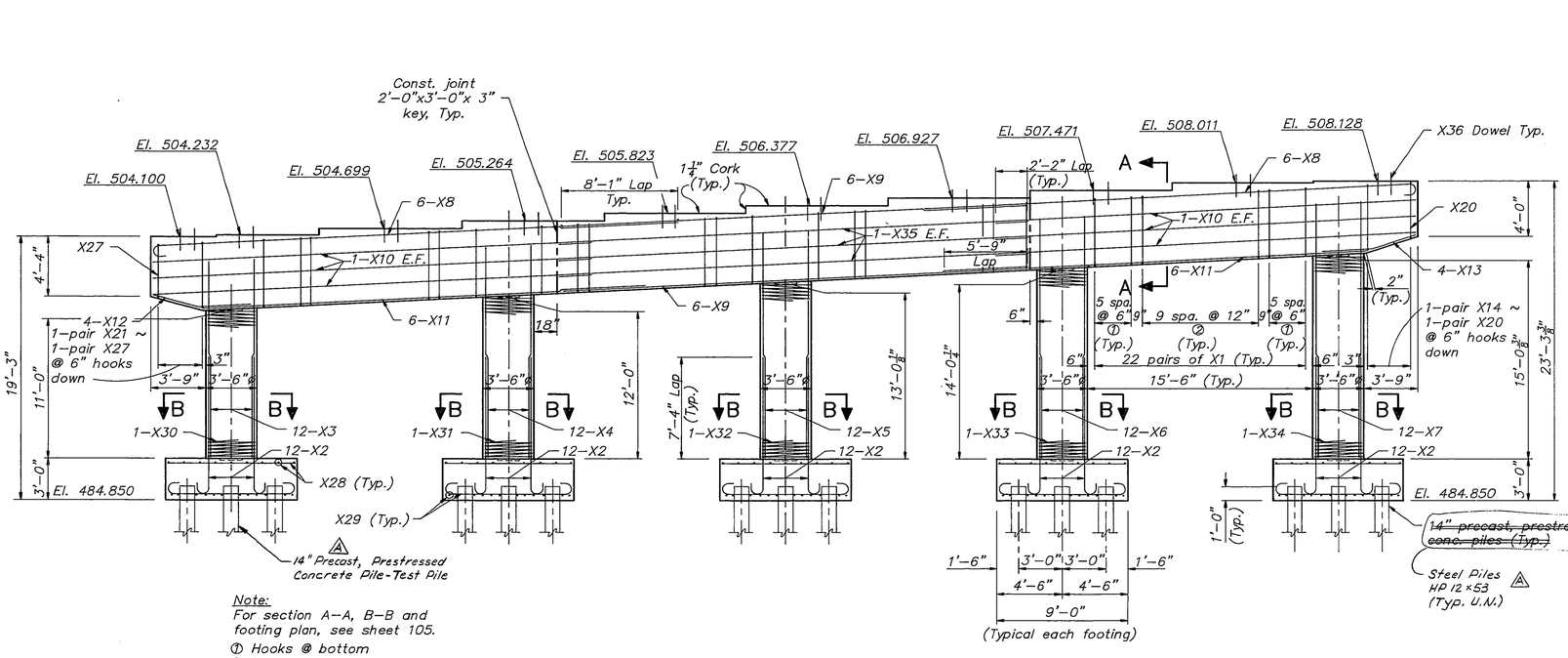
DATE: 12-92
DATE:
DATE:

Revised Piling Type H-E



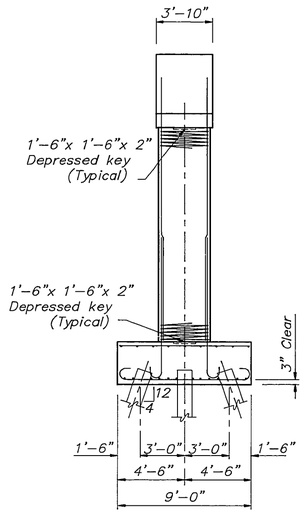
BEAM	ANGLE	
	a	b
A	70°36'19.4"	59°38'01.5"
B	67°38'13.1"	63°43'02.1"
C	68°14'13.3"	63°43'02.1"
D	68°50'31.6"	63°43'02.1"
E	69°27'07.9"	63°43'02.1"
F	70°04'01.9"	63°43'02.1"
G	70°41'13.3"	63°43'02.1"
H	71°18'41.7	63°43'02.1"
J	71°56'26.8"	63°43'02.1"
K	72°34'28.2"	63°43'02.1"

CAP PLAN



Note:
For section A–A, B–B and footing plan, see sheet 105.
① Hooks @ bottom
② Hooks @ top
Adjust vertical reinforcing bars to accommmodate construction joint.
Bonding agent shall be applied to the construction joint per the Special note.

ELEVATION



END ELEVATION

PIER F

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

KENTUCKY APPROACH SHEET 104

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

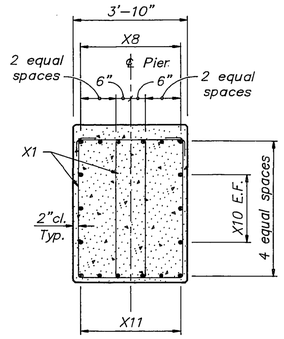
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

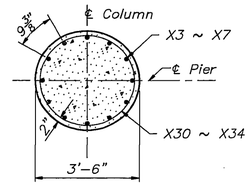
BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

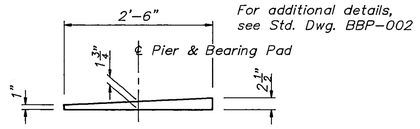
DISK 5 9003PR2.DWG



SECTION A–A

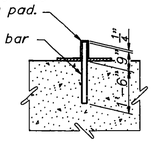


SECTION B–B

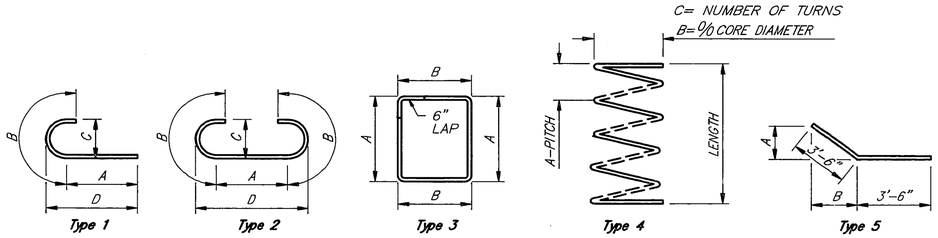


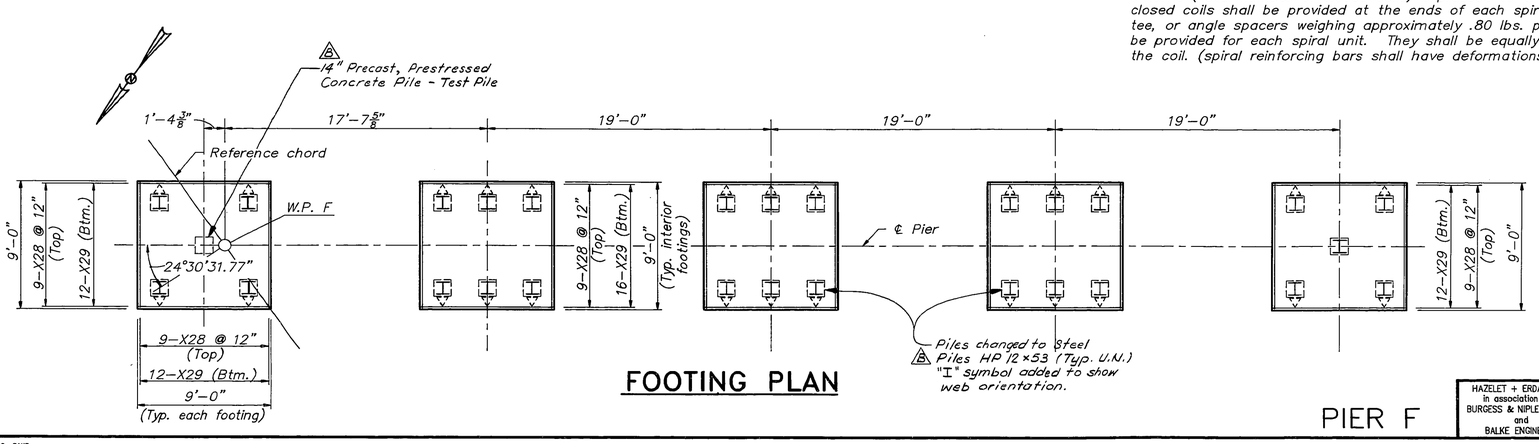
SECTION THRU BEARING PAD

2" Std. wt. 4½" commercial pipe sleeve closed at one end and 7" long. Secure pipe sleeve to prevent floating while placing concrete. Sleeve to sit on bearing pad.



DOWEL DETAIL





FOOTING PLAN

BILL OF REINFORCEMENT

MARK	TYPE	NO.	SIZE	LENGTH FT.	LENGTH IN.	LOCATION	A FT.	A IN.	B FT.	B IN.	C FT.	C IN.	D FT.	D IN.
X1	3	176	5	14	11	Pier cap	4	8	2	5				
X2	1	60	10	11	7	Column	9	5	2	2	1	1¼	10	0
X3	Str.	12	10	15	3	Column								
X4	Str.	12	10	16	3	Column								
X5	Str.	12	10	17	3	Column								
X6	Str.	12	10	18	3	Column								
X7	Str.	12	10	19	3	Column								
X8	1	12	9	37	1	Pier cap	35	2	1	11	0	11¾	35	8
X9	Str.	12	9	32	4	Pier cap								
X10	Str.	12	5	30	0	Pier cap								
X11	Str.	12	9	29	9	Pier cap								
X12	5	4	6	7	0	Pier cap	1	1½	3	3¾				
X13	5	4	6	7	0	Pier cap	0	10¼	3	0¼				
X14	3	2	5	14	11	Pier cap	4	8	2	5				
X15	3	2	5	14	8	Pier cap	4	6¼	2	5				
X16	3	2	5	14	4	Pier cap	4	4⅜	2	5				
X17	3	2	5	14	1	Pier cap	4	2½	2	5				
X18	3	2	5	13	9	Pier cap	4	1⅛	2	5				
X19	3	2	5	13	6	Pier cap	3	11¼	2	5				
X20	3	2	5	13	3	Pier cap	3	9¾	2	5				
X21	3	2	5	14	11	Pier cap	4	8	2	5				
X22	3	2	5	14	7	Pier cap	4	6	2	5				
X23	3	2	5	14	3	Pier cap	4	4	2	5				
X24	3	2	5	13	11	Pier cap	4	2	2	5				
X25	3	2	5	13	7	Pier cap	4	0	2	5				
X26	3	2	5	13	3	Pier cap	3	10	2	5				
X27	3	2	5	12	11	Pier cap	3	8	2	5				
X28	Str.	90	5	8	8	Footing								
X29	2	132	9	11	6¼	Footing	7	8¼	1	11	0	11¾	8	8
X30	4	1	4	11	1	Column	0	3	3	2		47		
X31	4	1	4	12	1	Column	0	3	3	2		51		
X32	4	1	4	13	1	Column	0	3	3	2		55		
X33	4	1	4	14	1	Column	0	3	3	2		59		
X34	4	1	4	15	1	Column	0	3	3	2		63		
X35	Str.	6	5	32	4	Pier cap								
X36	Str.	20	*	2	2	Pier cap								

ESTIMATE OF QUANTITIES

22,959.8 ~~23,733~~ ⚠

ITEM	QUANTITY	UNIT
CONCRETE CLASS "A"	132.25 ~~128.1~~	CU. YDS.
STEEL REINFORCEMENT	~~18,565~~	LBS.

1¼" * ¾" smooth round dowel bars, may be commercial grade steel.

NOTE– SPIRAL REINFORCING BARS: The length shown in the bill of reinforcement for spiral bars is the distance from top of footing to the bottom layer of reinforcement in the pier cap. The number of turns shown is the length divided by the pitch, plus 3 turns (total number of closed coils) expressed to the nearest whole number. 1½ closed coils shall be provided at the ends of each spiral unit. Four steel channel, tee, or angle spacers weighing approximately .80 lbs. per linear foot of spacers shall be provided for each spiral unit. They shall be equally spaced along the periphery of the coil. (spiral reinforcing bars shall have deformations)

PIER F

UPDATE DATE:
LETTING DATE:

PLANS PREPARED AND SUBMITTED BY:
HAZELET & ERDAL DATE 12/22/89
BALKE ENGINEERS DATE 2-2-90
DATE

DESIGNED BY MRS CHECKED BY DW REVISED BY DATE 5/91
DETAILED BY ALH CHECKED BY MRS REVISED BY DATE 5/91
TRACED BY CHECKED BY REVISED BY DATE

⚠ Revised Steel Reinf. Quantity 4/91
⚠ Revised Piling Type 4/91

DISK 5 9003PR2a.DWG

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

KENTUCKY APPROACH SHEET 105

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

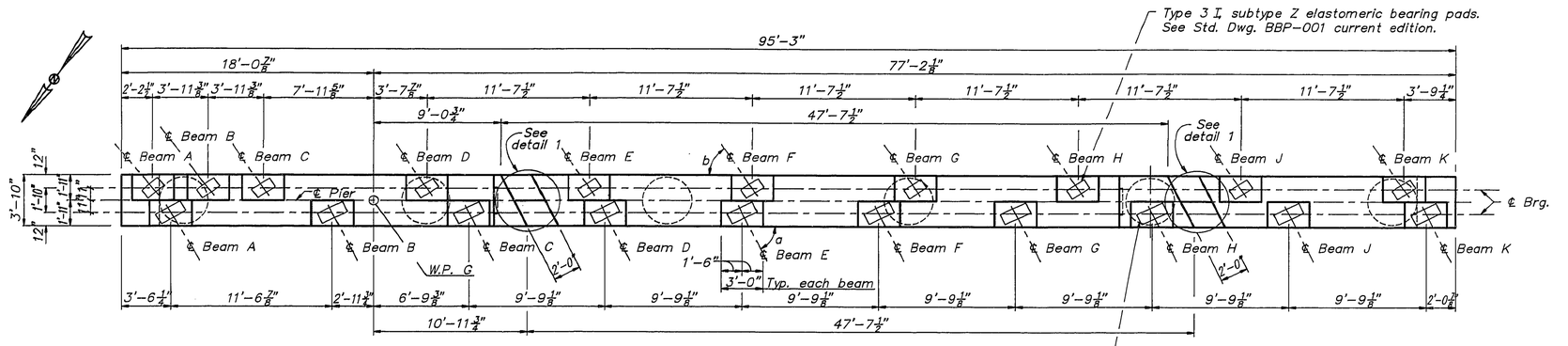
NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022–023 073 D

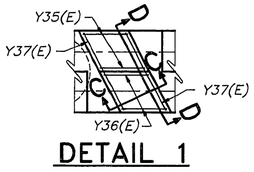
CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

UPDATE DATE:
LETTING DATE:

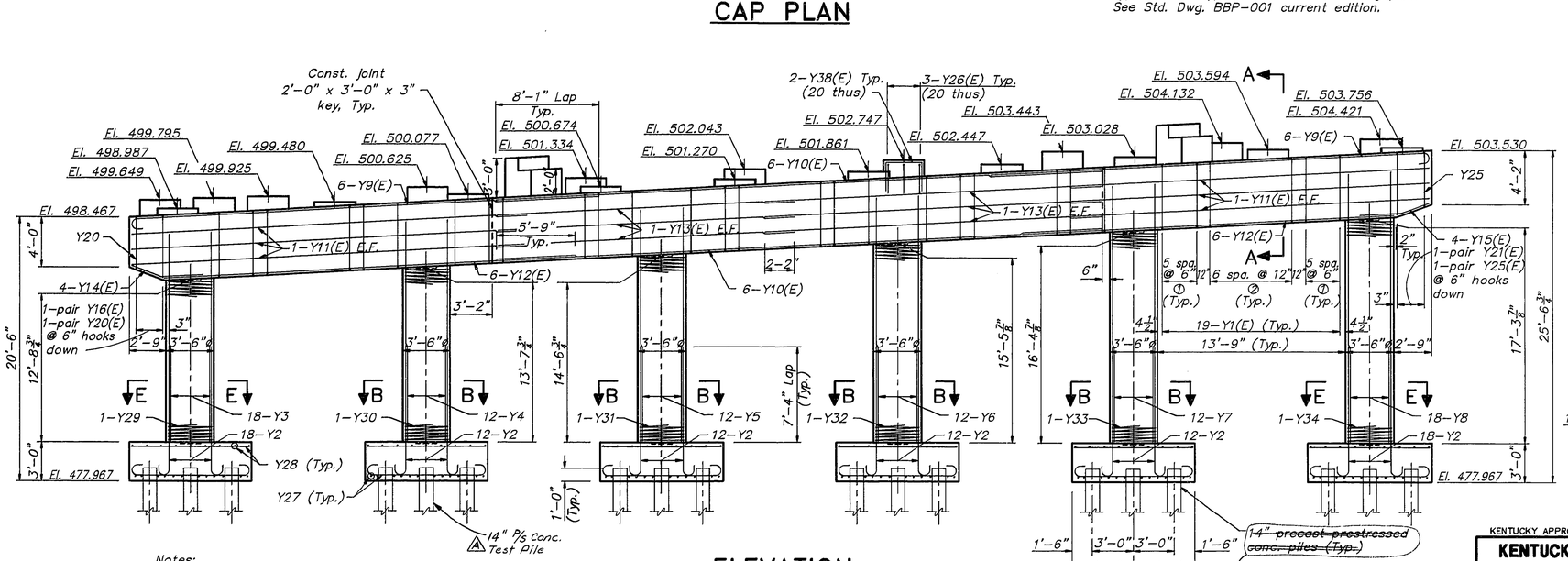
BEAM	ANGLE a	ANGLE b
A	59°38'01.5"	50°19'17.6"
B	63°43'02.1"	53°09'14.0"
C	63°43'02.1"	56°14'17.4"
D	63°43'02.1"	56°14'17.4"
E	63°43'02.1"	56°14'17.4"
F	63°43'02.1"	56°14'17.4"
G	63°43'02.1"	56°14'17.4"
H	63°43'02.1"	56°14'17.4"
J	63°43'02.1"	56°14'17.4"
K	63°43'02.1"	56°14'17.4"



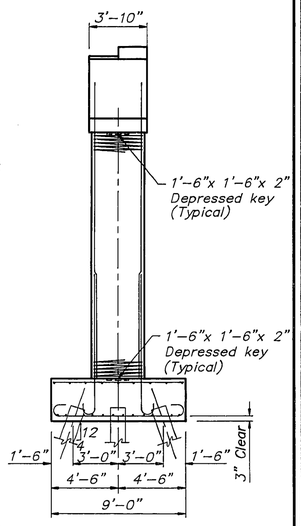
CAP PLAN



DETAIL 1



ELEVATION



END ELEVATION

Notes:

① Hooks @ bottom
② Hooks @ top

No construction joint permitted between top of cap & pedestal. For pedestals over 8" in height, an optional construction joint is permitted 4" above the top of cap.

For section A-A, B-B, C-C, D-D, and footing plan, see sheet 107.

Adjust vertical reinforcing bars to accommmodate construction joint.

Bonding agent shall be applied to the construction joint per the Special note.

PIER G

KENTUCKY APPROACH SHEET 106

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

H+E DATE 12-92 PLANS PREPARED AND SUBMITTED BY: BALKE ENGINEERS
⚠ Revised Piling Type H+E
REVISED BY DATE 4/01
REVISED BY DATE 8/01
REVISED BY DATE
DESIGNED BY MRS CHECKED BY DW
DETAILED BY AJH CHECKED BY MRS
TRACED BY CHECKED BY

DISK 5 9003PR3.DWG

UPDATE DATE:
LETTING DATE:

PLANS PREPARED AND SUBMITTED BY: BALKE ENGINEERS

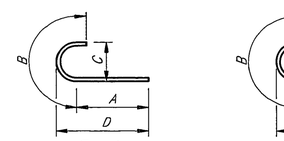
H+E	DATE 12-92	
H+E	DATE 11-93	
	DATE	

REVISED BY	DW	DATE 5/01
REVISED BY	MRS	DATE 3/01
REVISED BY		DATE

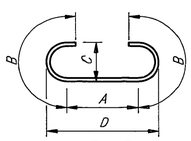
⚠ Revised Piling Type
As Built

DESIGNED BY	MRS	CHECKED BY	DW
DETAILED BY	ALH	CHECKED BY	MRS
TRACED BY		CHECKED BY	

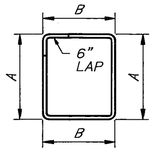
DISK 9 9003PR3a.DWG



Type 1

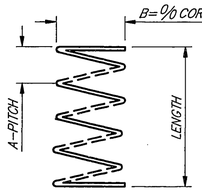


Type 2

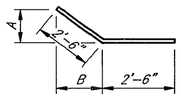


Type 3

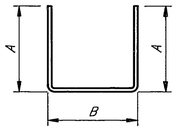
C= NUMBER OF TURNS
B=% CORE DIAMETER



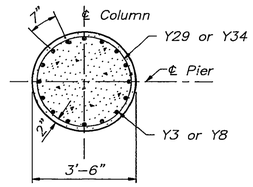
Type 4



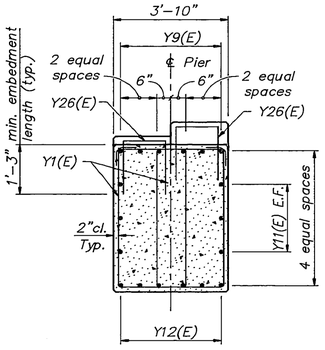
Type 5



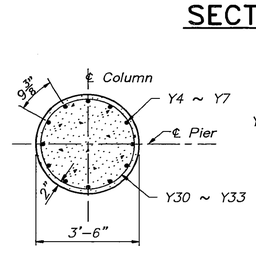
Type 6



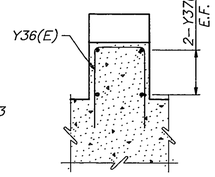
SECTION E-E



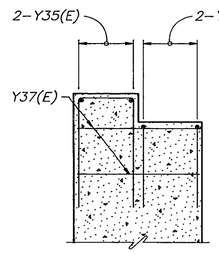
SECTION A-A



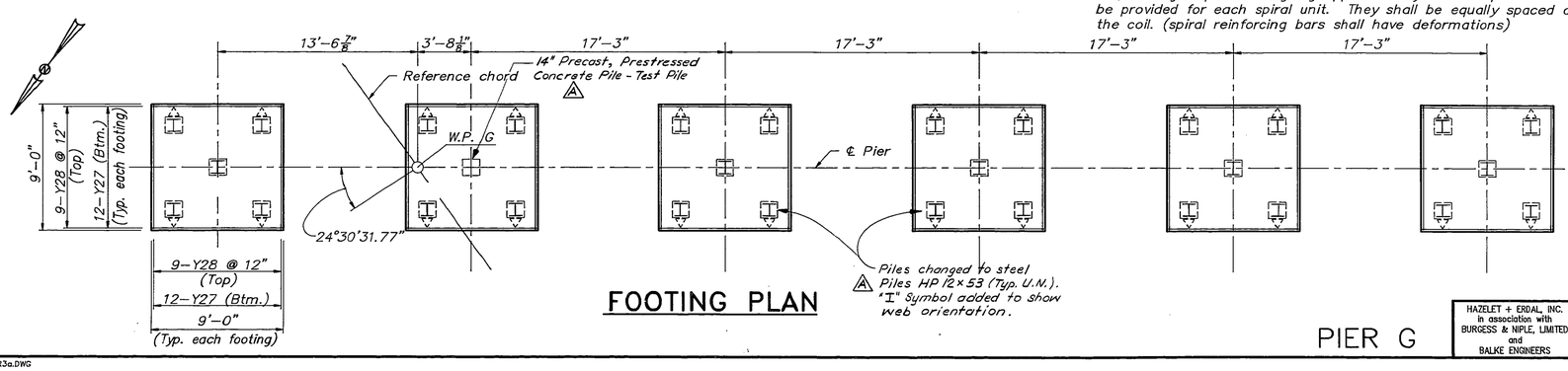
SECTION B-B



SECTION C-C



SECTION D-D



FOOTING PLAN

BILL OF REINFORCEMENT

MARK	TYPE	NO.	SIZE	LENGTH FT.	LENGTH IN.	LOCATION	A FT.	A IN.	B FT.	B IN.	C FT.	C IN.	D FT.	D IN.
Y1(E)	3	190	5	14	11	Pier Cap	4	8	2	5				
Y2	1	84	10	11	7	Column	9	5	2	2	1	1 1/4	10	0
Y3	Str.	18	10	17	0	Column								
Y4	Str.	12	10	18	0	Column								
Y5	Str.	12	10	18	10	Column								
Y6	Str.	12	10	19	10	Column								
Y7	Str.	12	10	20	9	Column								
Y8	Str.	18	10	21	8	Column								
Y9(E)	1	12	9	36	1	Pier cap	34	2	1	11	0	11 3/4	34	8
Y10(E)	Str.	12	9	42	0	Pier cap								
Y11(E)	Str.	12	5	28	10	Pier cap								
Y12(E)	Str.	12	9	29	8	Pier cap								
Y13(E)	Str.	12	5	22	0	Pier cap								
Y14(E)	5	4	6	5	0	Pier cap	1	0 1/2	2	3 1/4				
Y15(E)	5	4	6	5	0	Pier cap	0	9	2	4 3/8				
Y16(E)	3	2	5	14	11	Pier cap	4	8	2	5				
Y17(E)	3	2	5	14	5	Pier cap	4	5 3/8	2	5				
Y18(E)	3	2	5	14	0	Pier cap	4	2 3/8	2	5				
Y19(E)	3	2	5	13	7	Pier cap	4	0	2	5				
Y20(E)	3	2	5	13	2	Pier cap	3	9 1/4	2	5				
Y21(E)	3	2	5	14	11	Pier cap	4	8	2	5				
Y22(E)	3	2	5	14	7	Pier cap	4	6	2	5				
Y23(E)	3	2	5	14	3	Pier cap	4	4	2	5				
Y24(E)	3	2	5	13	11	Pier cap	4	2	2	5				
Y25(E)	3	2	5	13	7	Pier cap	4	0	2	5				
Y26(E)	6	60	5	6	6	Pedestal	2	6	1	7				
Y27	2	144	9	11	6 1/2	Footing	7	8 1/4	1	11	0	11 3/4	8	8
Y28	Str.	108	5	8	8	Footing								
Y29	4	1	4	12	10	Column	0	3	3	2		54		
Y30	4	1	4	13	10	Column	0	3	3	2		58		
Y31	4	1	4	14	8	Column	0	3	3	2		62		
Y32	4	1	4	15	7	Column	0	3	3	2		65		
Y33	4	1	4	16	6	Column	0	3	3	2		69		
Y34	4	1	4	17	5	Column	0	3	3	2		73		
Y35(E)	6	4	5	9	6	Shear key	3	10	1	11				
Y36(E)	6	4	5	7	6	Shear key	2	10	1	11				
Y37(E)	Str.	8	5	4	0	Shear key								
Y38(E)	6	40	5	7	7	Pedestal	2	6	2	8				

ESTIMATE OF QUANTITIES ⚠

ITEM		QUANTITY	UNIT
CONCRETE CLASS "A"	151.85	~~158.7~~	CU. YDS.
STEEL REINFORCEMENT	20,615	~~20,432~~	LBS.
EPOXY COATED STEEL REINFORCEMENT		~~9,163~~ 9,069	LBS.

Bars with suffix (E) shall be epoxy coated.

NOTE— SPIRAL REINFORCING BARS: The length shown in the bill of reinforcement for spiral bars is the distance from top of footing to the bottom layer of reinforcement in the pier cap. The number of turns shown is the length divided by the pitch, plus 3 turns (total number of closed coils) expressed to the nearest whole number. 1 1/2 closed coils shall be provided at the ends of each spiral unit. Four steel channel, tee, or angle spacers weighing approximately .80 lbs. per linear foot of spacers shall be provided for each spiral unit. They shall be equally spaced along the periphery of the coil. (spiral reinforcing bars shall have deformations)

KENTUCKY APPROACH SHEET 107

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

PIER G

UPDATE DATE:
LETTING DATE:

DESIGNED BY MRS CHECKED BY DW DATE 4/81 — REVISED BY
DETAILED BY ALH CHECKED BY MRS DATE 8/81 — REVISED BY
TRACED BY CHECKED BY DATE — REVISED BY

PLANS PREPARED AND SUBMITTED BY: BALKE ENGINEERS
H+E DATE 12-82
H+E DATE 1/83
DATE

⚠ Revised Piling Type H+E
⚠ As Built H+E

101'-6"
34'-4 7/8" | 67'-1 1/8"
6'-4" | 7'-6" | 9'-6" | 11'-0 7/8" | 11'-7" | 11'-7" | 11'-7" | 11'-7" | 11'-7" | 8'-7 3/8"
2'-6 7/8" | 7'-5 3/4" | 7'-5 3/4" | 11'-7 1/2" | 5'-3" | 6'-4 1/2" | 11'-7 1/2" | 11'-7 1/2" | 11'-7 1/2" | 11'-7 1/2" | 11'-7 1/2" | 2'-7 1/8" (G-3-93)
℄ Beam A | ℄ Beam B | ℄ Beam C | ℄ Beam D | 6 3/4" W.P. H | ℄ Beam E | ℄ Beam F | ℄ Beam G | ℄ Beam H | ℄ Beam J | ℄ Beam K
1/2" Cork
3'-10" | 1'-11" | 1'-11"
b | a
℄ Pier
℄ Brg. | ℄ Brg. | 1'-0" | 1'-0"
2'-1 3/8" | 8" | 2'-0" | 47'-3" | 2'-1 3/8" | 2'-0"
See detail 1
Styrofoam (Typ.) Thickness to match elastomeric bearing pad (10-26-92)
Elastomeric bearing pad type 31, subtype Z with E=2 11/32", F=7/32", G=2 49/64", see standard drawing BBP-001, current edition for details.
Elastomeric bearing pad type 31, subtype Z with E=3 15/32", F=13/32", G=3 29/64", see standard drawing BBP-001 current edition for details.

BEAM	ANGLE a	ANGLE b
A	50°19'17.6"	46°46'39.7"
B	53°09'14.0"	49°12'39.0"
C	56°14'17.4"	51°50'08.6"
D	56°14'17.4"	51°50'08.8"
E	56°14'17.4"	51°50'09.1"
F	56°14'17.4"	51°50'09.3"
G	56°14'17.4"	51°50'09.5"
H	56°14'17.4"	51°50'09.8"
J	56°14'17.4"	51°50'10.0"
K	56°14'17.4"	51°50'10.3"

CAP PLAN

3'-10"
1'-6"x 1'-6"x 2" Depressed key (Typical)
1'-6"x 1'-6"x 2" Depressed key (Typical)
3" Clear
12
3'-0" | 3'-0" | 1'-6"
4'-6" | 4'-6"
9'-0"

END ELEVATION

8'-1" Lap Typ.
Const. joint 2'-0" x 3'-0" x 3" key, Typ.
Cork 3" ~~Styrofoam~~
El. 501.709
El. 502.008
El. 499.720
El. 500.378
El. 501.044
2'-6"
A
6-Z4
6-Z3
El. 497.188
El. 497.432
El. 497.767
El. 498.414
El. 499.066
1-Z6 E.F.
1-Z2 E.F.
5'-9" Typ.
Z18
4'-2
Z13
4'-6"
4-Z7
1-pair Z9 ~ 1-pair Z13 @ 6" hooks down
20'-0"
11'-9"
3'-0"
El. 477.188
2'-9" | 3'-6"
6"
12'-8 1/2"
13'-8 1/8"
2'-2" Typ.
6-Z4
1-Z25 | 18-Z19 | 18-Z31 | Z32 (Typ.)
1-Z26 | 12-Z20 | 12-Z31 | Z33 (Typ.)
1-Z27 | 12-Z21 | 12-Z31
1'-0" (Typ.)
1-Z28 | 12-Z22 | 12-Z31 | El. 469.074
3'-3"
6-Z5
5 spa. @ 6" ① (Typ.) | 12 spa. @ 12" ② (Typ.) | 5 spa. @ 6" ① (Typ.)
20 pairs of Z1 (Typ.)
15'-0" (Typ.)
4-Z8
2" Typ.
1-pair Z14 ~ 1-pair Z18 @ 6" hooks down
16'-6 3/4"
24'-9 7/8"
23'-8 1/2"
22'-9"
1-Z29 | 12-Z23 | 12-Z31 | El. 469.074
1-Z30 | 18-Z24 | 18-Z31 | El. 477.188
7'-4" Lap Typ.
3'-0"
1'-6" | 3'-0" | 3'-0" | 1'-6"
4'-6" | 4'-6"
9'-0"
(Typical each footing)
~~14" precast prestressed conc. piles (Typ.)~~
Steel Piles HP 12 x 53 (Typ.) A

ELEVATION

* Bottom of cap lowered 2" for proper cover over steel

Note:
For section A-A, B-B, C-C, D-D, and footing plan, see sheet 109.
① Hooks @ bottom
② Hooks @ top
Adjust vertical reinforcing bars to accommmodate construction joint.
Bonding agent shall be applied to the construction joint per the Special note.

Y35
Y34
C
D

DETAIL 1

PIER H

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

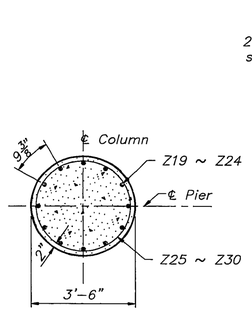
KENTUCKY APPROACH — SHEET 108

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO
NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

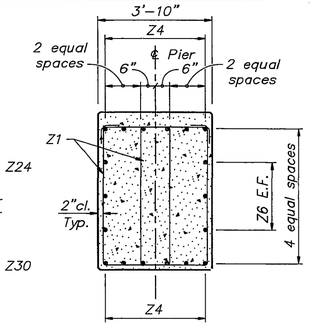
BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

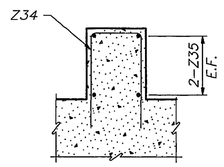
DISK 5 9003PR4.DWG



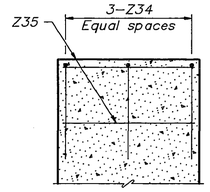
SECTION B-B



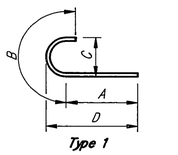
SECTION A-A



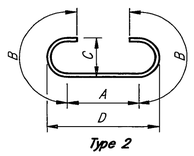
SECTION C-C



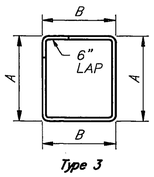
SECTION D-D



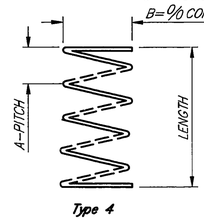
Type 1



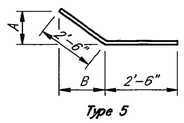
Type 2



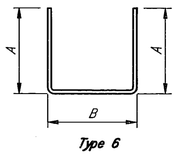
Type 3



Type 4



Type 5



Type 6

NOTE- SPIRAL REINFORCING BARS: The length shown in the bill of reinforcement for spiral bars is the distance from top of footing to the bottom layer of reinforcement in the pier cap. The number of turns shown is the length divided by the pitch, plus 3 turns (total number of closed coils) expressed to the nearest whole number. $1\frac{1}{2}$ closed coils shall be provided at the ends of each spiral unit. Four steel channel, tee, or angle spacers weighing approximately .80 lbs. per linear foot of spacers shall be provided for each spiral unit. They shall be equally spaced along the periphery of the coil. (spiral reinforcing bars shall have deformations)

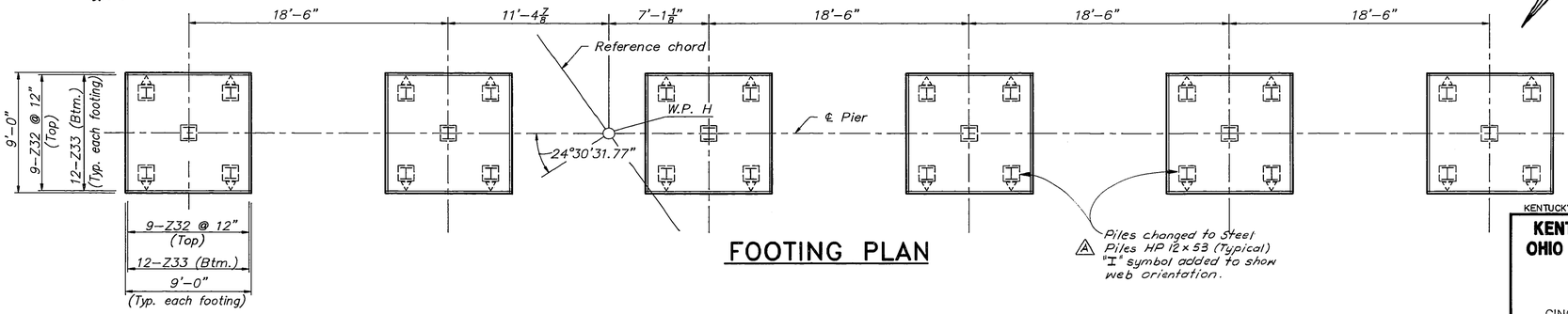
BILL OF REINFORCEMENT

MARK	TYPE	NO.	SIZE	LENGTH FT.	LENGTH IN.	LOCATION		A FT.	A IN.	B FT.	B IN.	C FT.	C IN.	D FT.	D IN.
Z1	3	200	5	14	11	Pier cap		4	8	2	5				
Z2	Str.	12	5	30	0	Pier cap									
Z3	1	12	9	37	1	Pier cap		35	2¼	1	11	0	11¾	36	2
Z4	Str.	12	9	48	6	Pier cap									
Z5	Str.	12	9	31	0	Pier cap									
Z6	Str.	12	5	25	6	Pier cap									
Z7	5	4	6	5	0	Pier cap		2	4½	0	9				
Z8	5	4	6	5	0	Pier cap		2	3¼	1	0¼				
Z9	3	2	5	14	11	Pier cap		4	8	2	5				
Z10	3	2	5	14	5	Pier cap		4	5¼	2	5				
Z11	3	2	5	14	0	Pier cap		4	2¾	2	5				
Z12	3	2	5	13	7	Pier cap		3	11¼	2	5				
Z13	3	2	5	13	1	Pier cap		3	9	2	5				
Z14	3	2	5	14	11	Pier cap		4	8	2	5				
Z15	3	2	5	14	7	Pier cap		4	6	2	5				
Z16	3	2	5	14	3	Pier cap		4	4¼	2	5				
Z17	3	2	5	13	11	Pier cap		4	2¾	2	5				
Z18	3	2	5	13	7	Pier cap		4	0¼	2	5				
Z19	Str.	18	10	16	0	Column									
Z20	Str.	12	10	17	0	Column									
Z21	Str.	12	10	18	0	Column									
Z22	Str.	12	10	27	0	Column									
Z23	Str.	12	10	25	0	Column	✳								
Z24	Str.	18	10	20	11	Column									
Z25	4	1	4	11	10	Column		0	3	3	2		50		
Z26	4	1	4	12	9	Column		0	3	3	2		54		
Z27	4	1	4	13	9	Column		0	3	3	2		58		
Z28	4	1	4	22	10	Column		0	3	3	2		95		
Z29	4	1	4	23	10	Column		0	3	3	2		99		
Z30	4	1	4	16	8	Column		0	3	3	2		70		
Z31	1	84	10	11	7	Footing		9	5	2	2	1	1¼	10	0
Z32	Str.	108	5	8	8	Footing									
Z33	2	144	9	11	6¼	Footing		7	8¼	1	11	0	11¾	8	8
Z34	6	6	5	8	7	Shearkey		3	6	1	8				
Z35	Str.	8	5	4	5	Shearkey									

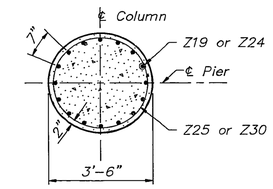
ESTIMATE OF QUANTITIES △

ITEM	QUANTITY	UNIT
CONCRETE CLASS "A" IG7.34	~~182.3~~	CU. YDS.
STEEL REINFORCEMENT 30,612	~~30,154~~ ~~30,697~~ ✳ △	LBS.

△ ✳ 12-#10 Splice bars x 10'-4" added to Z23 Bars to provide required length.



FOOTING PLAN



SECTION B-B

PIER H

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

KENTUCKY APPROACH SHEET 109

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

UPDATE DATE:
LETTING DATE:

PLANS PREPARED AND SUBMITTED BY:
BALKE ENGINEERS

DESIGNED BY	MRS	H.T.E.	DATE: 12-92
DETAILED BY	ALH	H.T.E.	DATE: 2-93
TRACED BY			DATE:
CHECKED BY	MRS		DATE:
CHECKED BY	ALH		DATE:
CHECKED BY			DATE:
REVISED BY	DWI		DATE: 5/95
REVISED BY	MRS		DATE: 5/95
REVISED BY			DATE:

△ Revised Piling Type
△ Revised Z23 Bar & Quantity

UPDATE DATE:
LETTING DATE:

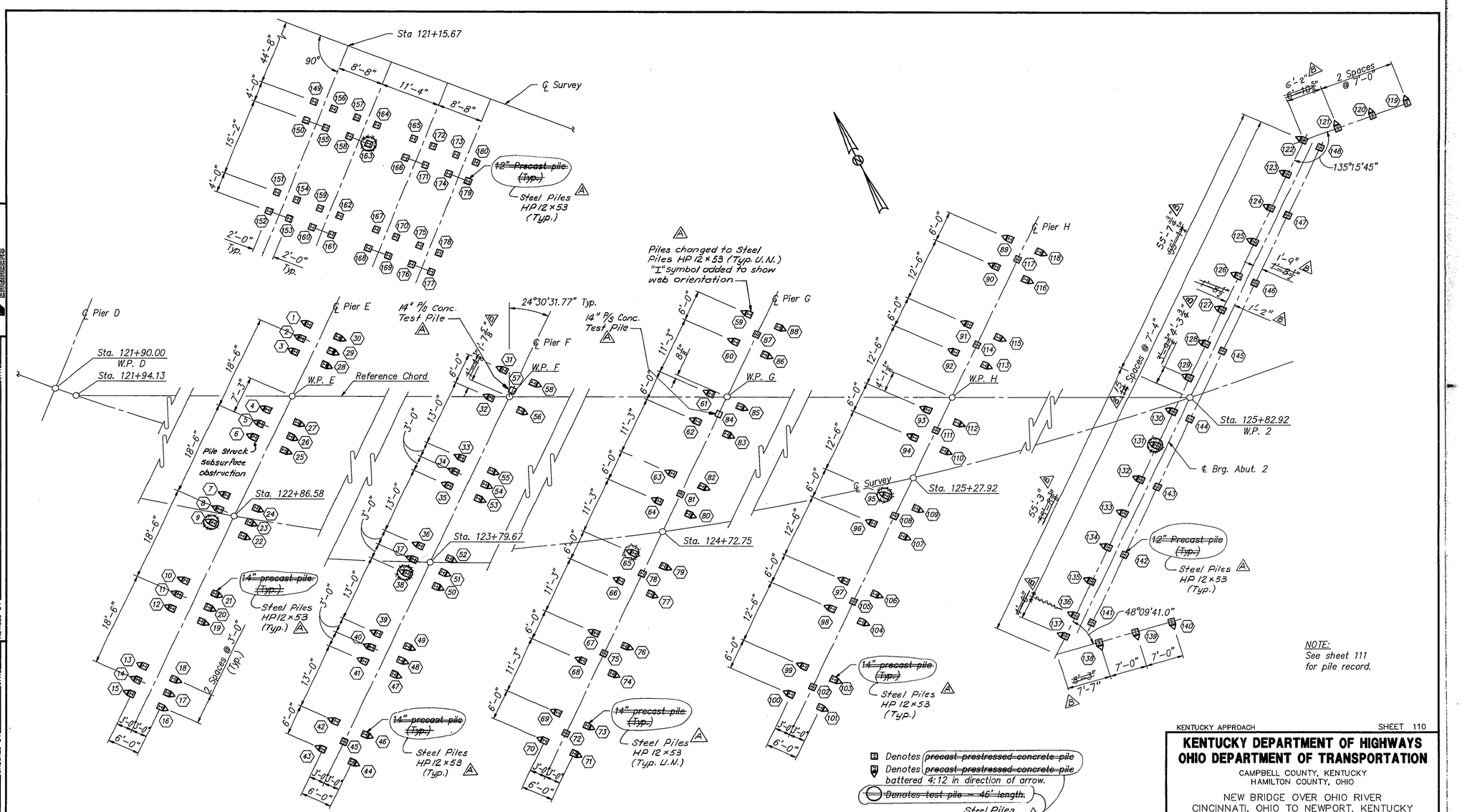
PLANS PREPARED AND SUBMITTED BY: BALKE ENGINEERS

DESIGNED BY	MRS	CHECKED BY	DW
DETAILED BY	JDD/AH	CHECKED BY	DW
TRACED BY		CHECKED BY	

H.E. DATE 12-22
H.E. DATE 12-22
H.E. DATE

Revised Piling Type
Revised Dimensions

REVISED BY DW DATE 7-91
REVISED BY DW DATE 6-93
REVISED BY DW DATE



PLAN

PILE LAYOUT

Denotes ~~precast prestressed concrete pile~~
Denotes ~~precast prestressed concrete pile~~ battered 4:12 in direction of arrow.
~~Denotes test pile - 46' length.~~
Steel Piles HP 12×53 (Typ.)

NOTE:
See sheet 111 for pile record.

KENTUCKY APPROACH SHEET 110

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

HAZELET + ERDAL, INC.
In association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

DISK 6 9003F1.DWG

UPDATE DATE:
LETTING DATE:

H+E DATE 3/17/92 PLANS PREPARED AND SUBMITTED BY:
H+E DATE 11-95
DATE
HALL ENGINEERS

DESIGNED BY	MRS	CHECKED BY	DWL	DATE 7/91
DETAILED BY	ALH	CHECKED BY	MRS	DATE 8/91
TRACED BY		CHECKED BY		DATE

⚠ Revised Cut-off Elevations
⚠ As Built

REVISED BY
REVISED BY
REVISED BY

PILE RECORD

PILE NO.	PILE CUT-OFF ELEVATION	TIP OF PILE ELEVATION AS DRIVEN	LENGTH OF PILE IN PLACE (LINEAR FEET)	CALCULATED BEARING (TONS)
1	485.826	405.68	85.00	180
2	485.826	405.68	85.00	177
3	485.826	406.62	84.00	142
4	485.826	406.62	84.00	210
5	485.826	407.60	82.96	197
6	485.826	407.09	83.50	185
7	485.826	406.62	84.00	145
8	485.826	406.62	84.00	157
9	485.826	406.22	84.42	202
10	485.826	407.09	83.50	185
11	485.826	405.64	85.04	182
12	485.826	407.29	83.29	179
13	485.826	406.62	84.00	152
14	485.826	406.42	84.21	157
15	485.826	406.62	84.50	152
16	485.826	405.68	85.00	177
17	485.826	405.91	84.75	157
18	485.826	406.62	84.00	180
19	485.826	405.95	84.71	157
20	485.826	405.82	84.85	177
21	485.826	406.56	79.06	157
22	485.826	403.79	87.00	177
23	485.826	404.26	86.50	202
24	485.826	405.20	85.50	157
25	485.826	404.73	86.00	202
26	485.826	404.02	86.75	167
27	485.826	404.34	86.42	157
28	485.826	404.21	86.55	189
	485.826	404.19	86.58	142
30	485.826	403.39	87.42	142
31	485.850	404.15	86.62	180
32	485.850	406.47	84.16	187
33	485.850	406.22	84.42	177
34	485.850	405.44	85.25	177
35	485.850	404.57	86.17	157
36	485.850	405.02	85.69	157
37	485.850	402.18	88.71	167
38	485.850	404.01	86.77	157
39	485.850	403.91	86.87	157
40	485.850	404.34	86.42	160
41	485.850	403.83	86.96	157
42	485.850	403.39	87.42	172
43	485.850	404.46	86.29	177
44	485.850	404.73	86.00	157
45	485.850	403.75	82.08	149
46	485.850	404.73	86.00	157
47	485.850	404.73	86.00	161
48	485.850	407.18	83.40	165
49	485.850	404.73	86.00	180
50	485.850	406.58	84.04	157
51	485.850	407.58	82.98	177
52	485.850	402.54	83.29	157
53	485.850	404.73	86.00	202
54	485.850	407.94	82.60	169
55	485.850	408.09	82.44	177
56	485.850	405.28	85.42	174
57	* 485.850	425.12	60.73	74
58	485.850	406.19	84.45	182
59	478.967	406.63	76.71	161
60	478.967	406.04	77.34	157
61	478.967	406.89	77.50	177
62	478.967	406.65	76.69	157
63	478.967	405.89	77.50	152
64	478.967	405.89	77.50	174
65	478.967	406.23	77.14	160
66	478.967	407.06	76.26	177
67	478.967	406.48	76.87	157
68	478.967	405.13	78.30	152
69	478.967	406.40	76.96	152
70	478.967	405.96	77.42	180
71	478.967	406.09	77.29	177
72	478.967	403.78	75.19	157
73	478.967	405.45	77.96	167

PILE RECORD

PILE NO.	PILE CUT-OFF ELEVATION	TIP OF PILE ELEVATION AS DRIVEN	LENGTH OF PILE IN PLACE (LINEAR FEET)	CALCULATED BEARING (TONS)
74	478.967	405.89	77.50	157
75	478.967	404.51	74.46	161
76	478.967	405.34	78.08	164
77	478.967	405.07	78.37	167
78	478.967	404.26	74.71	155
79	478.967	404.83	78.62	161
80	478.967	407.46	75.83	189
81	478.967	403.87	75.10	182
82	478.967	404.22	79.27	157
83	478.967	404.63	78.83	177
84	* 478.967	444.23	34.74	165
85	478.967	408.08	75.17	182
86	478.967	404.08	79.42	172
87	478.967	403.76	75.21	180
88	478.967	404.29	79.19	177
89	~~478.303~~ 478.188	405.75	76.82	185
90	~~478.303~~ 478.188	406.47	76.05	161
91	~~478.303~~ 478.188	406.07	76.48	164
92	~~478.303~~ 478.188	406.24	76.30	145
93	~~478.303~~ 478.188	406.03	76.52	167
94	~~478.303~~ 478.188	406.16	76.38	152
95	~~470.189~~ 470.074	403.75	70.33	174
96	~~470.189~~ 470.074	404.11	69.95	162
97	~~470.189~~ 470.074	405.60	68.37	164
98	~~470.189~~ 470.074	403.77	70.31	154
99	~~478.303~~ 478.188	412.74	70.23	152
100	~~478.303~~ 478.188	409.11	74.08	177
101	~~478.303~~ 478.188	405.22	78.21	167
102	~~478.303~~ 478.188	404.92	74.05	157
103	~~478.303~~ 478.188	409.22	73.14	157
104	⚠ ~~470.189~~ 470.074	405.14	68.86	157
105	~~470.189~~ 470.074	403.24	66.83	170
106	~~470.189~~ 470.074	404.31	69.73	154
107	~~470.189~~ 470.074	403.28	70.83	157
108	~~470.189~~ 470.074	402.24	67.83	167
109	~~470.189~~ 470.074	403.82	70.25	174
110	~~478.303~~ 478.188	404.13	78.54	157
111	~~478.303~~ 478.188	403.12	75.07	157
112	~~478.303~~ 478.188	403.46	79.25	170
113	~~478.303~~ 478.188	403.34	79.37	162
114	~~478.303~~ 478.188	403.06	75.13	145
115	~~478.303~~ 478.188	403.73	78.96	174
116	~~478.303~~ 478.188	404.99	77.62	189
117	~~478.303~~ 478.188	403.08	75.11	177
118	~~478.303~~ 478.188	404.11	78.56	180
119	492.962	403.65	94.71	177
120	492.962	403.32	95.06	157
121	492.962	402.09	96.36	157
122	492.962	402.18	96.27	177
123	493.162	402.56	96.08	177
124	493.362	402.83	96.00	174
125	493.562	402.21	96.87	157
126	493.762	402.85	96.40	157
127	493.962	403.78	95.63	177
128	494.162	403.18	96.16	177
129	494.362	403.68	96.48	182
130	494.562	403.14	96.95	157
131	494.762	403.67	96.60	157
132	494.962	403.14	97.37	161
133	495.162	403.26	97.45	177
134	495.362	404.26	96.61	177
135	495.562	404.07	97.02	157
136	495.762	403.56	97.77	164
137	495.962	404.83	96.84	157
138	495.962	404.31	97.19	157
139	495.962	404.51	100.16	157
140	495.962	403.95	97.57	189
141	495.762	400.66	95.10	177
142	495.362	401.26	94.10	177
143	494.962	402.23	92.73	157
144	494.562	407.06	87.48	157
145	494.162	402.35	91.81	177
146	493.762	401.09	92.67	157

PILE RECORD

PILE NO.	PILE CUT-OFF ELEVATION	TIP OF PILE ELEVATION AS DRIVEN	LENGTH OF PILE IN PLACE (LINEAR FEET)	CALCULATED BEARING (TONS)
147	493.362	401.11	92.25	177
148	493.162	400.93	92.23	177
149	477.000	410.02	66.98	157
150	477.000	412.21	64.79	167
151	477.000	412.86	64.14	161
152	477.000	419.19	61.30	167
153	477.000	413.09	63.91	160
154	477.000	412.21	64.79	185
155	477.000	413.22	67.64	169
156	477.000	409.41	67.59	167
157	479.000	409.38	69.62	164
158	479.000	413.65	69.30	169
159	479.000	411.22	67.78	178
160	479.000	412.94	66.06	157
161	479.000	413.57	69.38	152
162	479.000	415.67	67.16	167
163	479.000	413.27	69.70	178
164	479.000	412.80	70.20	169
165	481.000	413.15	71.95	167
166	481.000	413.12	71.98	157
167	481.000	413.59	71.48	167
168	481.000	410.97	74.26	191
169	481.000	413.34	71.45	155
170	481.000	409.39	75.94	143
171	481.000	408.80	72.20	185
172	481.000	408.95	72.05	161
173	481.000	408.68	72.32	177
174	481.000	408.81	72.19	157
175	481.000	408.72	72.28	166
176	481.000	411.36	69.64	161
177	481.000	410.81	70.19	195
178	481.000	406.35	74.65	157
179	481.000	409.05	71.95	177
180	481.000	408.41	72.59	157

NOTE:
After all piles have been driven, the Project Engineer shall record for each pile, the Tip of Pile Elevation as driven, the Length of Pile in Place and the Calculated Bearing Capacity, and shall return one blue print copy of this data to the Director of the Division of Bridges so that the data may be recorded on original plans. Length of piles in place shown hereon are the actual length of piles in the finished structure below cut-off elevation. This Pile Record does not replace other Records of Piles required to be kept and submitted by the Project Engineer.

* Concrete Test Pile

DISK 6 9003F3.DWG

KENTUCKY APPROACH SHEET 111

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

HAZELET + ERDAL, INC.
in association with

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

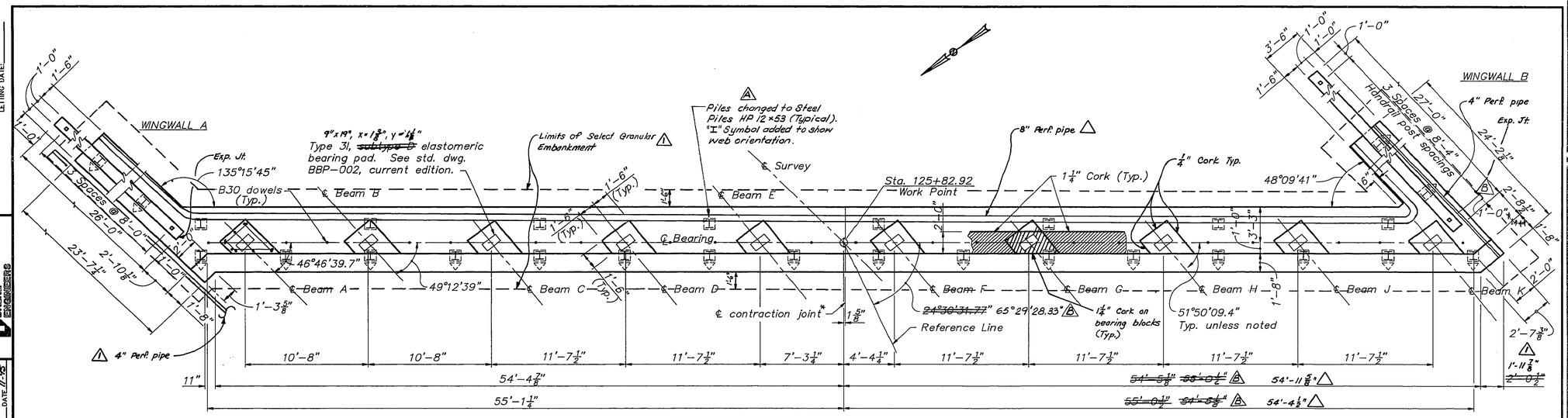
CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

UPDATE DATE:
LETTING DATE:

PLANS PREPARED AND SUBMITTED BY:
BALKE ENGINEERS

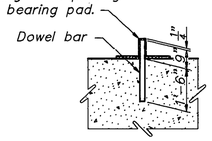
H+E	DATE: ~~12-92~~	
H+E	DATE: ~~12-92~~	
H+E	DATE: ~~11-95~~	

DESIGNED BY	MRS	CHECKED BY	DATE 3/01	REVISED BY	Revised Piling Type
DETAILED BY	JDC/AJH	CHECKED BY	DATE 8/01	REVISED BY	Revised Dimensions
TRACED BY		CHECKED BY	DATE	REVISED BY	As Built



PLAN

Std. wt. 2½" commercial pipe sleeve closed at one end and 7" long. Secure pipe sleeve to prevent floating while placing concrete. Sleeve to sit on bearing pad.



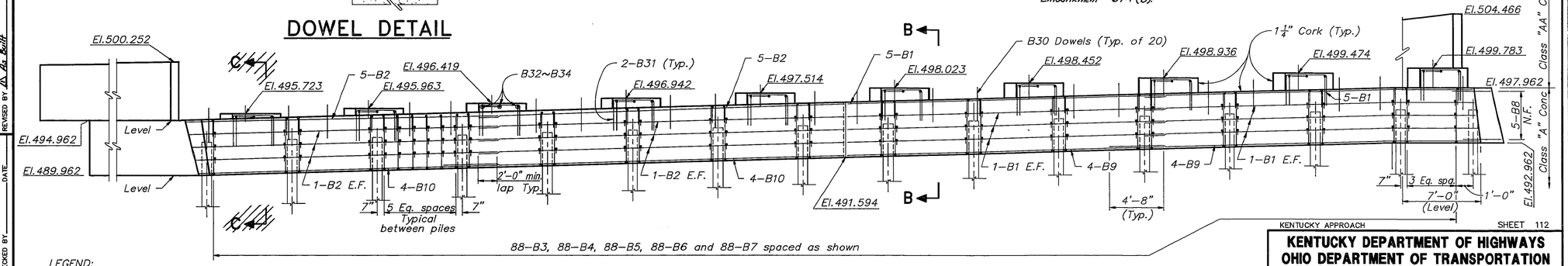
DOWEL DETAIL

* Contraction joint shall have a full height 2"x 8" key.

** Construction joint permitted in pedestal, 4" above top of cap. If pedestal exceeds 8" in height, provide 2"x 8" key.

—For handrail details see sheet 137.

⚠ - See special provisions for Select Granular Embankment 69-1(D).



LEGEND:
E.F. = Each Face
N.F. = Near Face
F.F. = Far Face
Denotes ~~12" Precast concrete pile,~~ vertical.
Denotes ~~12" Precast concrete pile,~~ battered 4:12 in direction of arrow.
Steel Piles HP 12x53 (Typ.)

ELEVATION

ABUTMENT 2

KENTUCKY APPROACH SHEET 112

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

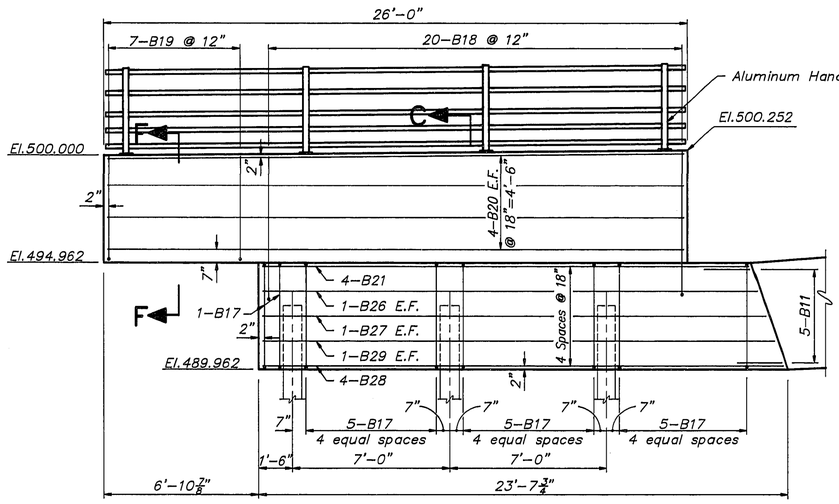
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

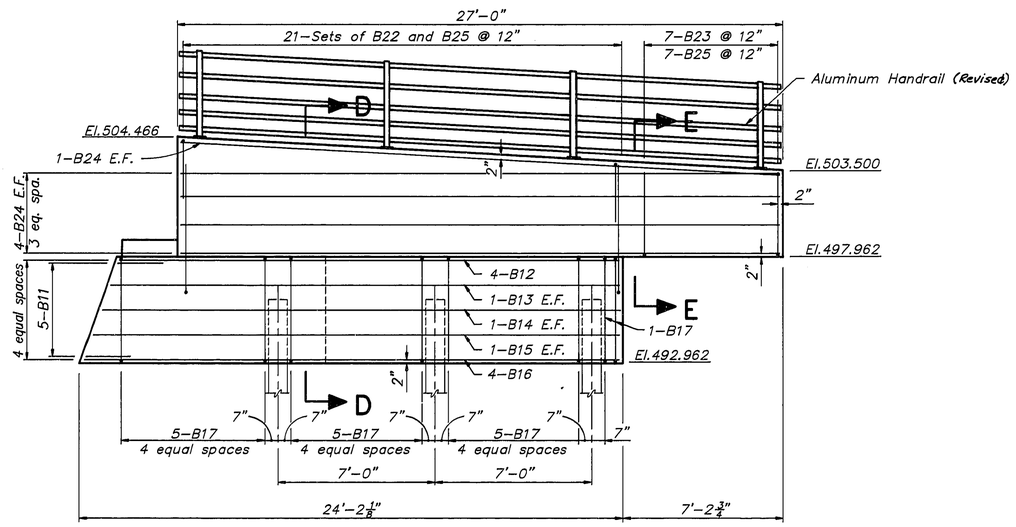
BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

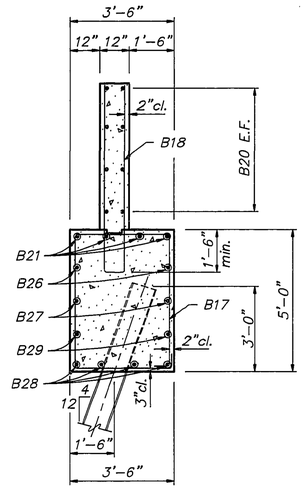
DISK 8 9003FA1.DWG



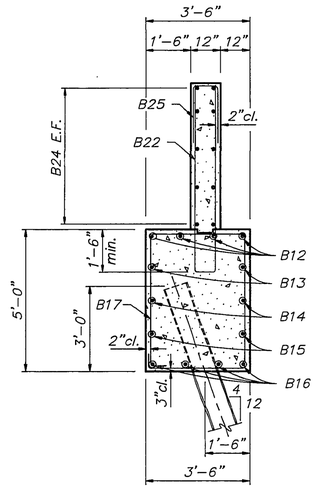
WINGWALL A



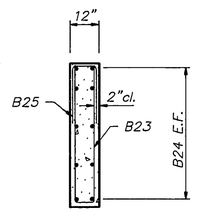
WINGWALL B

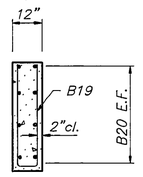


SECTION C–C



SECTION D–D





SECTION E–E SECTION F–F

LEGEND:
E.F. = Each Face
N.F. = Near Face
F.F. = Far Face

ABUTMENT 2

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

KENTUCKY APPROACH SHEET 113

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

UPDATE DATE
LETTING DATE

PLANS PREPARED AND SUBMITTED BY: BALKE ENGINEERS

DESIGNED BY	MRS	CHECKED BY	DWL	REVISED BY	
DETAILED BY	AUH/JDG	CHECKED BY	MRS	REVISED BY	
TRACED BY		CHECKED BY		REVISED BY	
DATE		DATE	3/91	DATE	
DATE		DATE	8/91	DATE	
DATE		DATE		DATE	

DISK 4 9003FA2.DWG

BILL OF REINFORCEMENT

MARK	TYPE	NO.	SIZE	LENGTH FT.	LENGTH IN.	LOCATION	A FT.	A IN.	B FT.	B IN.	C FT.	C IN.
B1	Str.	22	5	28	0	Cap						
B2	Str.	22	5	28	8	Cap						
B3	3	88	5	15	0	Cap						
B4	4	88	5	6	2	Cap	5	2	0	6		
B5	4	88	5	~~6~~ 6'	11	Cap	4	9	0	6		
B6	4	88	5	5	4	Cap	4	4	0	6		
B7	1	88	5	6	10	Cap	1	6	3	11	1	6
B8	5	5	5	3	4	Cap	1	0	1	0		
B9	Str.	8	8	29	4	Cap						
B10	Str.	8	8	31	0	Cap						
B11	1	10	5	4	0	Cap	2	0	2	0	0	0
B12	Str.	4	5	22	2	Cap						
B13	Str.	2	5	22	7	Cap						
B14	Str.	2	5	23	0	Cap						
B15	Str.	2	5	23	5	Cap						
B16	Str.	4	8	23	10	Cap						
B17	2	34	5	16	3	Cap	4	7	3	2		
B18	1	20	6	13	9	Wingwall	6	7	0	8	6	7
B19	1	7	6	9	11	Wingwall	4	8	0	8	4	8
B20	Str.	8	5	25	8	Wingwall						
B21	Str.	4	5	21	8	Cap						
B22	1	21	5	14	9	Wingwall	7	1	0	8	7	1
B23	1	7	5	10	11	Wingwall	5	2	0	8	5	2
B24	Str.	10	5	26	8	Wingwall						
B25	1	28	5	5	7	Wingwall	2	6	0	8	2	6
B26	Str.	2	5	22	0	Cap						
B27	Str.	2	5	22	6	Cap						
B28	Str.	4	8	23	3	Cap						
B29	Str.	2	5	22	10	Cap						
* B30	Str.	20	*	2	2	Cap						
B31	1	20	5	9	2	Cap	3	4	2	8	3	4
B32	1	10	5	7	11	Cap	3	4	1	4	3	4
B33	1	10	5	9	2	Cap	3	4	2	8	3	4
B34	1	10	5	10	8	Cap	3	4	4	1	3	4

* 10.68 Lbs./Ft. Used for B-30 Bars ⚠1

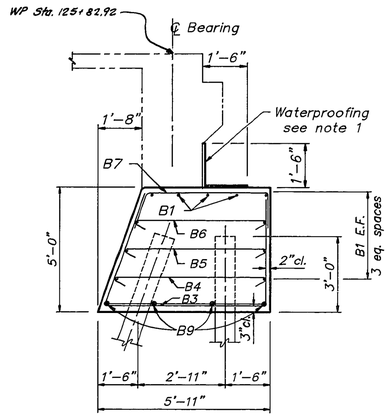
ESTIMATE OF QUANTITIES

ITEM ⚠	QUANTITY	UNIT
CONCRETE CLASS "A" 133.96	~~133.7~~	CU. YDS.
CONCRETE CLASS "AA" 11.5	~~10.9~~	CU. YDS.
STEEL REINFORCEMENT 10,243	~~10,091~~	LBS.

* 2½"ø smooth round dowel bars, may be commercial grade steel.

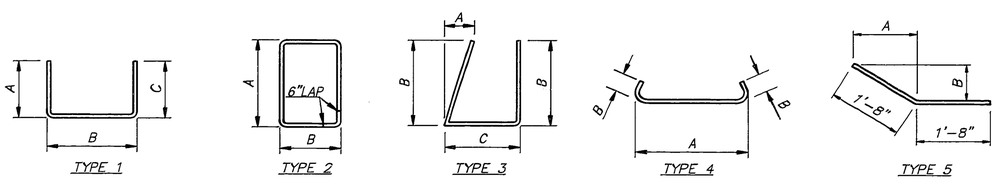
NOTES:

1) Waterproofing shall be per 729 of the standard spec. and consist of a primer coat, 3 layers of bituminous material and 2 layers of waterproofing fabric. Cost of waterproofing shall be incidental to the cost of class A concrete.



SECTION B-B

LEGEND:
E.F. = Each Face
N.F. = Near Face
F.F. = Far Face



DESIGNED BY MRS DATE 3/91 REVISED BY
DETAILED BY AJH CHECKED BY MRS DATE 8/91 REVISED BY
TRACED BY CHECKED BY DATE REVISED BY
⚠ As Built

PLANS PREPARED AND SUBMITTED BY: BALKE ENGINEERS

DATE
DATE
DATE

UPDATE DATE:
LETTING DATE:

DISK 4 9003FA3.DWG

ABUTMENT 2

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

KENTUCKY APPROACH SHEET 114

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

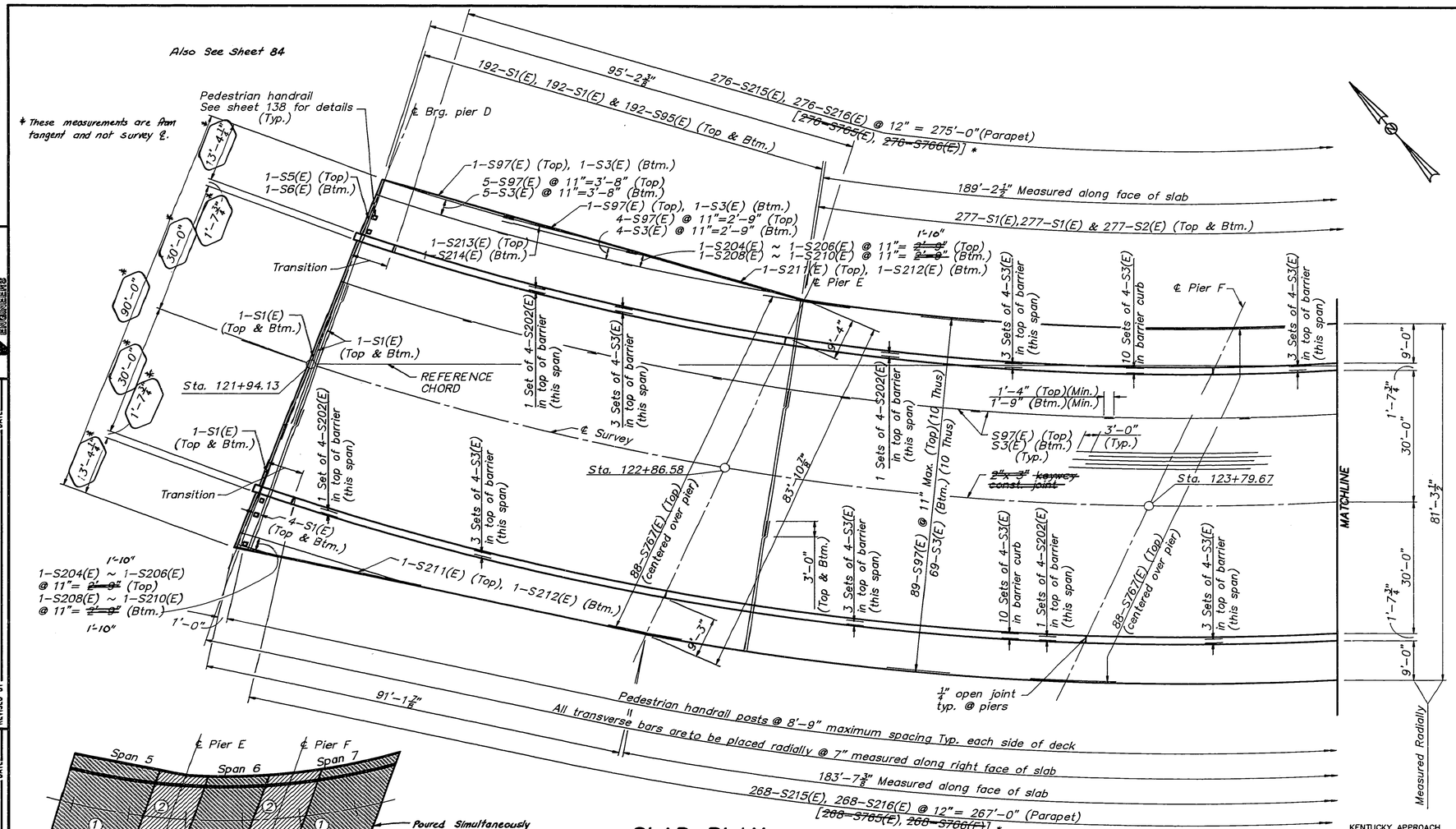
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048

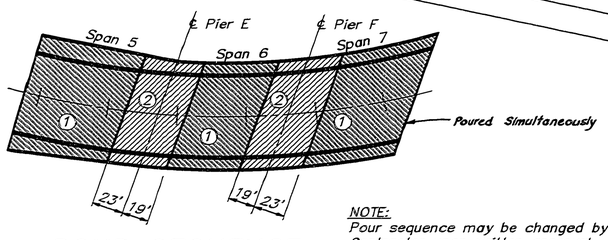
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740



SLAB PLAN

NOTES:
For details of 8' transition see sheet 116.
* These bars to be used if alternate parapet detail is selected. (Not Used)
See lighting plans for pilaster details and locations.
Bonding agent shall be applied to joint per the Special note. the joint may be relocated by the Contractor upon written approval from the Engineer.



POUR SEQUENCE

NOTE:
Pour sequence may be changed by Contractor upon written approval from the Engineer. (Revised)

SUPERSTRUCTURE

UPDATE DATE:
LETTING DATE:

PLANS PREPARED AND SUBMITTED BY: BALKE ENGINEERS

DESIGNED BY	MRS	CHECKED BY	DATE 4/21
DETAILED BY	AKM	CHECKED BY	DATE 9/21
TRACED BY		CHECKED BY	DATE

REVISED BY: △ As Built
REVISED BY:
REVISED BY:

DISK 6 9003D55.DWG

KENTUCKY APPROACH SHEET 115

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022–023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

UPDATE DATE:
LETTING DATE:

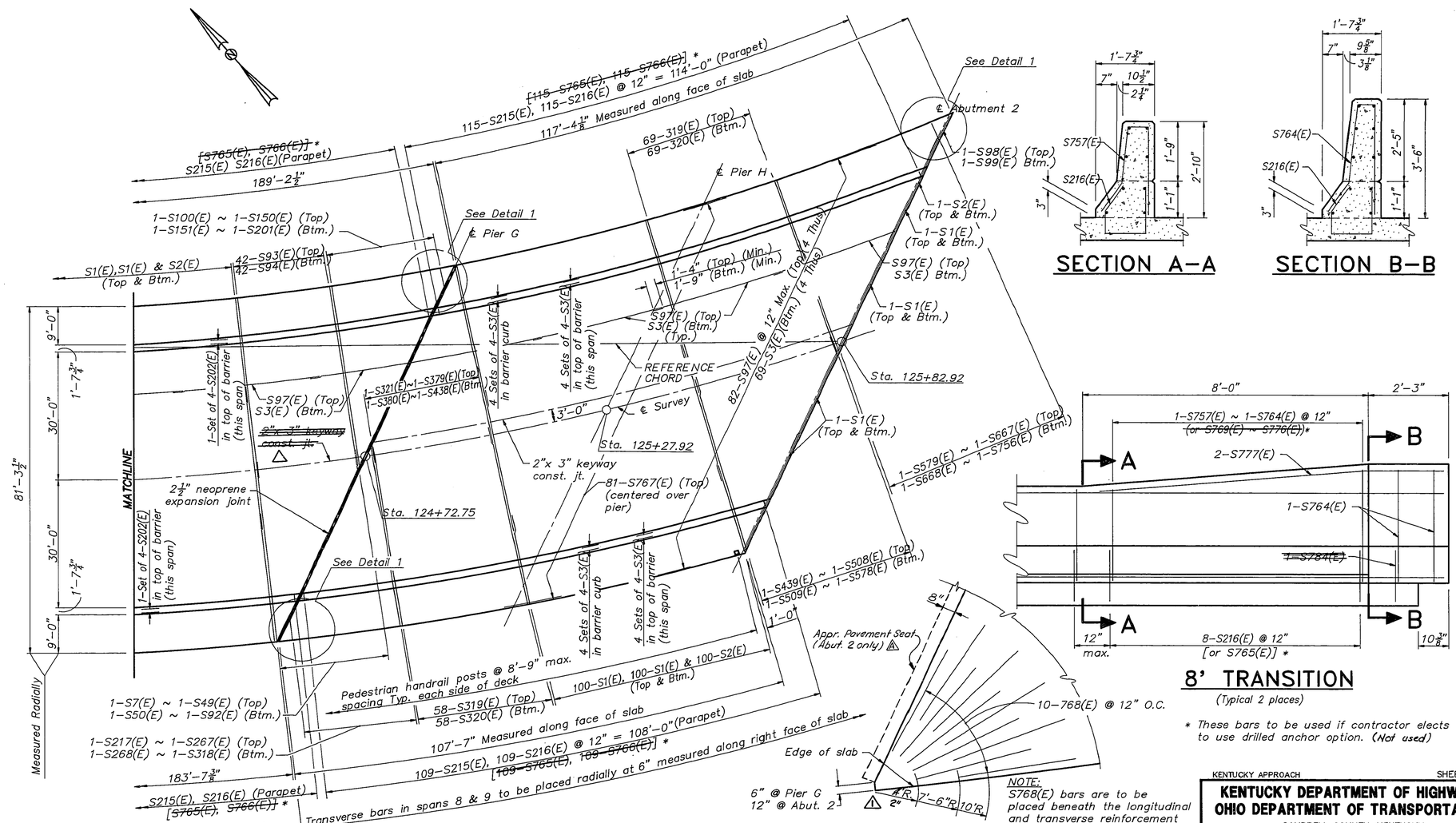
PLANS PREPARED AND SUBMITTED BY:
BALKE ENGINEERS
DATE: 4-23
DATE: 1-95
DATE:

REVISED BY	DW	DATE 3/91
REVISED BY	MRS	DATE 8/91
REVISED BY		DATE

△ Revise Appr. Pavement Seat Of Abut. 2 H.E.
△ As Built H.E.

DESIGNED BY	MRS
DETAILED BY	AJH
TRACED BY	
CHECKED BY	
CHECKED BY	
CHECKED BY	

DISK 6 9003DS11.DWG



SLAB PLAN

NOTE:
See lighting plans for pilaster details and locations.

For 2 1/2" neoprene expansion joint, see sheet 132.

SECTION A–A

SECTION B–B

8' TRANSITION

(Typical 2 places)

* These bars to be used if contractor elects to use drilled anchor option. (Not used)

NOTE:
S768(E) bars are to be placed beneath the longitudinal and transverse reinforcement in the top of the slab.

DETAIL 1

(TYPICAL 3 PLACES)

SUPERSTRUCTURE

KENTUCKY APPROACH SHEET 116

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

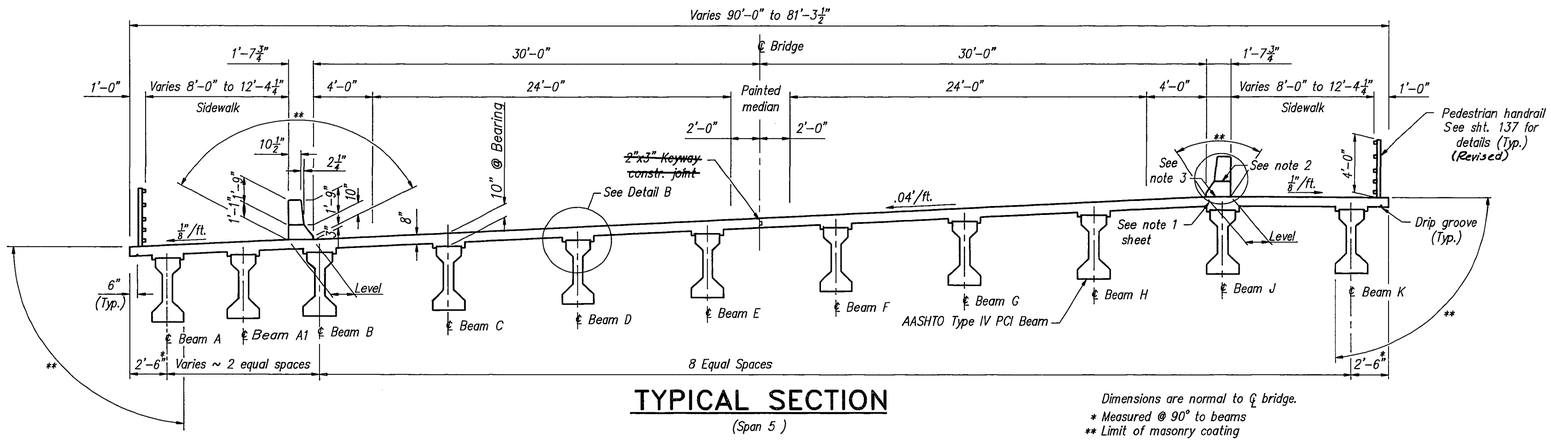
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022–023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

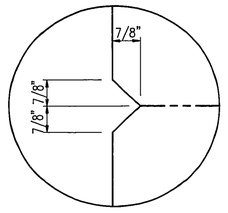
HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS



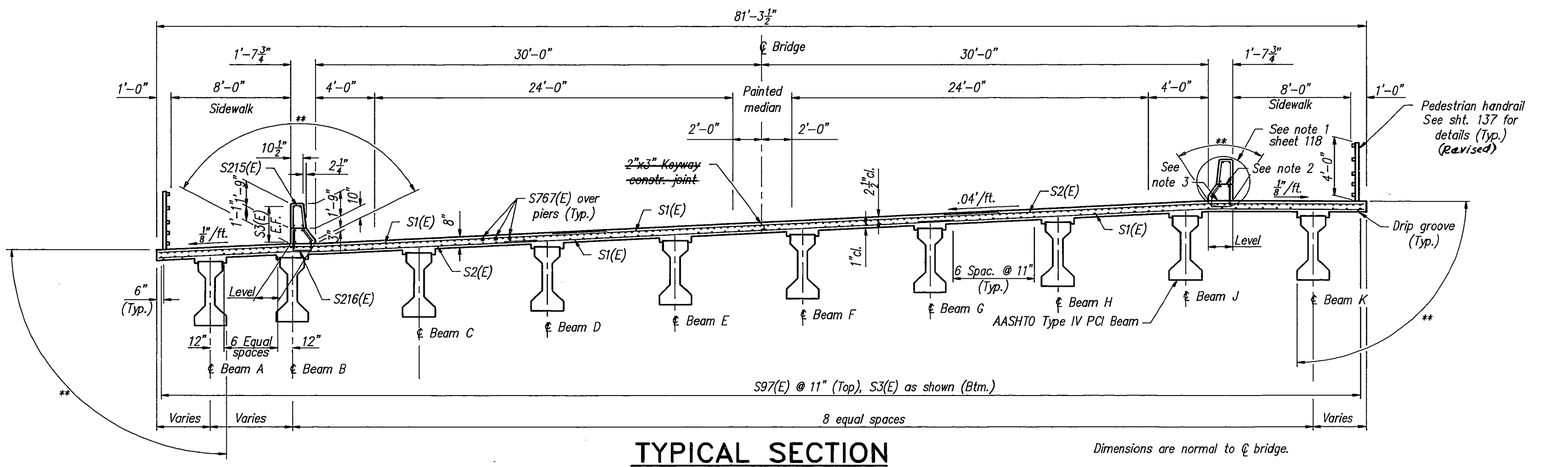
TYPICAL SECTION

(Span 5)

Dimensions are normal to ℄ bridge.
* Measured @ 90° to beams
** Limit of masonry coating



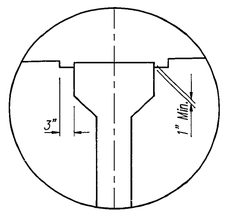
DETAIL A



TYPICAL SECTION

(Spans 6 & 7)

Dimensions are normal to ℄ bridge.



DETAIL B

Notes:

1) Reinforcing shown for spans 6 & 7 applies to span 5 also. **Except S-95 bars in Span 5.**
2) Permissible construction joint. "V-Groove" rustication joint required if construction joint is used.
3) Mandatory roughened construction joint. Concrete above this joint is to be placed after the slab has properly cured.
4) For additional details and reinforcing see sheets 116 & 117.

SUPERSTRUCTURE

UPDATE DATE:
LETTING DATE:

PLANS PREPARED AND SUBMITTED BY: BALKE ENGINEERS

HSE	DATE 4-95	REVISED BY	DATE
DESIGNED BY MRS	CHECKED BY DW	Δ5 Built	3/97
DETAILED BY ALH/JDG	CHECKED BY MRS	REVISED BY	DATE 8/97
TRACED BY	CHECKED BY	REVISED BY	DATE

DISK 1 9003DS4.DWG

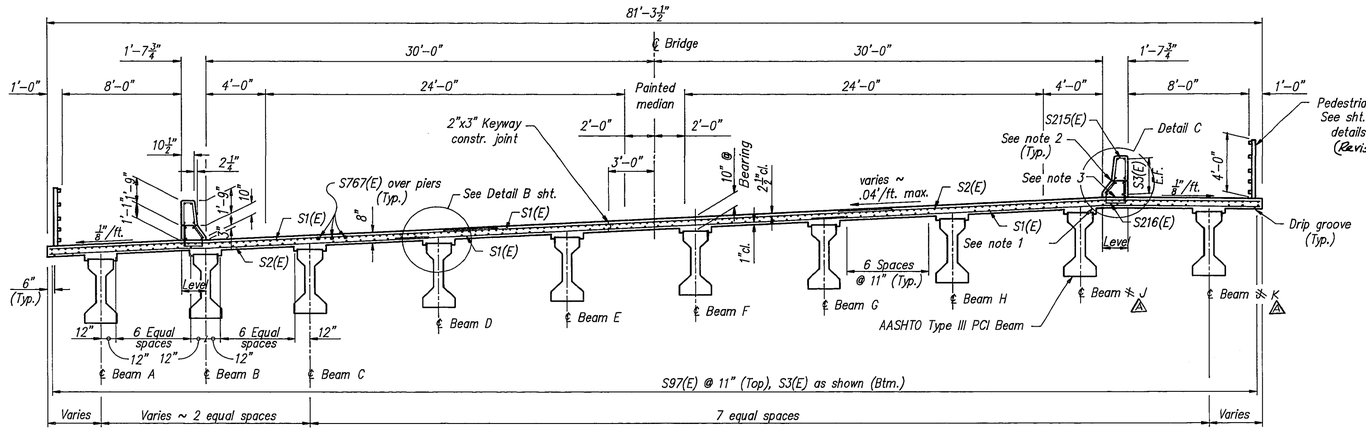
KENTUCKY APPROACH SHEET 117

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO
NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

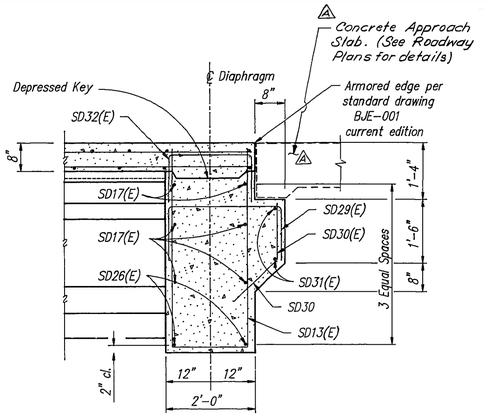
CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740



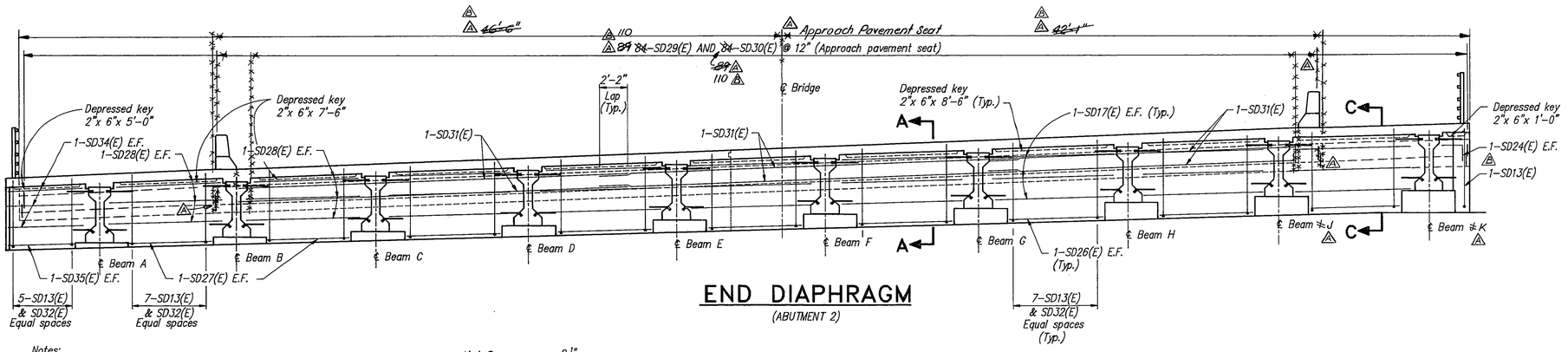
TYPICAL SECTION

(Spans 8 & 9)

Dimensions are normal to ℄ bridge.



SECTION A–A

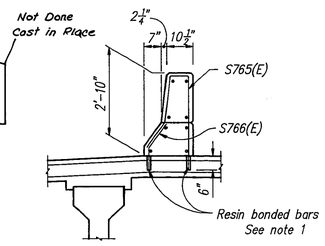


END DIAPHRAGM

(ABUTMENT 2)

Notes:

1) The contractor has the option of placing and screeding the deck and sidewalk in one operation. The vertical bars in the barrier (S215e & S216e) shall be replaced with epoxy coated, resin bonded bars as indicated in detail C. When the concrete has attained a compressive strength of 3000 psi or greater, six inch deep holes shall be drilled and bars S765e & S766e shall be grouted in place with a resin system. See Special Note for Resin Bonded Reinforcing Bars for additional details.
2) Permissible construction joint. "V-Groove" rustication joint required if construction joint is used, see detail A sheet 117.
3) Mandatory roughened construction joint. Concrete above this joint is to be placed after the slab has properly cured.
4) For additional details and reinforcing, see sheets 116 & 117.
5) For Section C–C, see sheet 120.



DETAIL C

Legend
N.F. = Near face
F.F. = Far face
E.F. = Each face

SUPERSTRUCTURE

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

KENTUCKY APPROACH SHEET 118

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022–023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

UPDATE DATE:
LETTING DATE:

PLANS PREPARED AND SUBMITTED BY: BALKE ENGINEERS

H+E DATE 6-92
H+E DATE 12-92
DATE

REVISED BY ⚠ Changed length of Appr. Pvmt. Seat & Misc. H+E DATE 3/93
REVISED BY ⚠ Increased length of Appr. Pvmt. Seat H+E DATE 8/93
REVISED BY DATE

DESIGNED BY MRS CHECKED BY DW DATE 3/91
DETAILED BY ALH CHECKED BY MRS DATE 8/91
TRACED BY CHECKED BY DATE

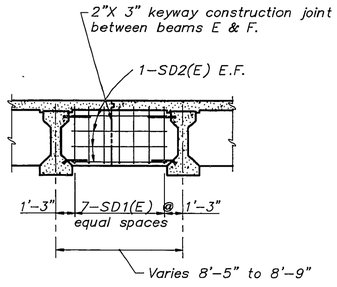
DISK 1 9003DS6.DWG

UPDATE DATE:
LETTING DATE:

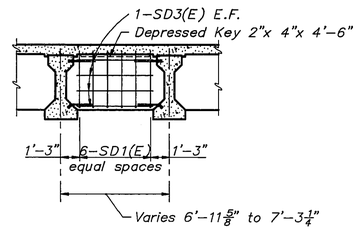
PLANS PREPARED AND SUBMITTED BY:
BALKE ENGINEERS

H+E DATE 1/95
DATE
DATE

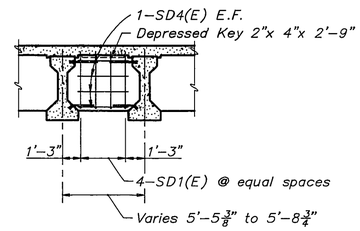
DESIGNED BY	MRS	CHECKED BY	DWL	DATE 5/91	REVISED BY	△ As Built
DETAILED BY	MRS	CHECKED BY	MRS	DATE 8/91	REVISED BY	
TRACED BY	ALH	CHECKED BY		DATE	REVISED BY	



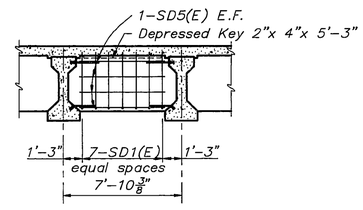
TYPE Ⓐ
Span 5, 16 Thus
Span 6, 16 Thus
Span 7, 16 Thus



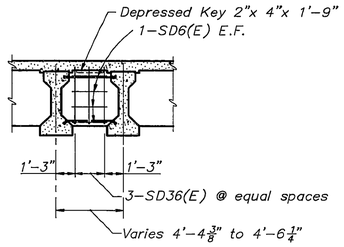
TYPE Ⓑ
Span 5, 2 Thus
Span 6, 1 Thus



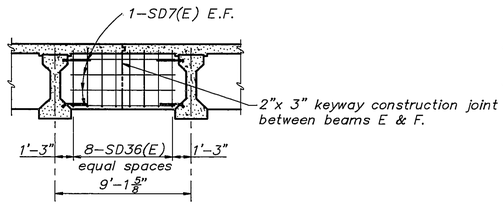
TYPE Ⓒ
Span 5, 2 Thus
Span 6, 1 Thus
Span 7, 1 Thus



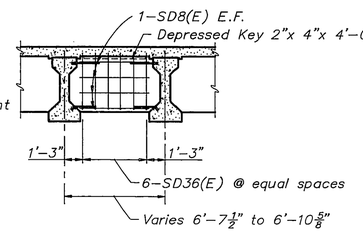
TYPE Ⓓ
Span 7, 1 Thus



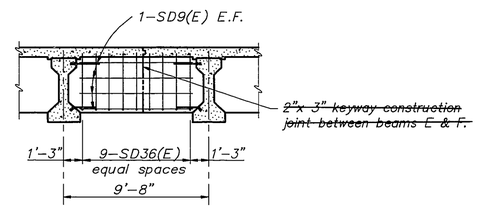
TYPE Ⓔ
Span 8, 2 Thus



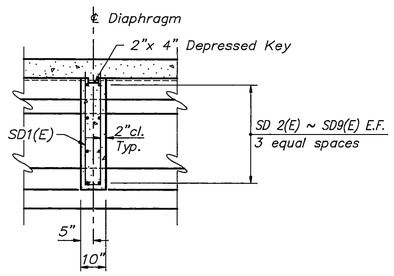
TYPE Ⓕ
Span 9, 7 Thus



TYPE Ⓖ
Span 9, 2 Thus



TYPE Ⓗ
Span 8, 7 Thus



SECTION TYPICAL

Note:
The diaphragm below the longitudinal construction joint shall be placed in two pours. Each section of the diaphragm shall be placed with the slab above.

Not Done

INTERMEDIATE DIAPHRAGMS SUPERSTRUCTURE

KENTUCKY APPROACH SHEET 119

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

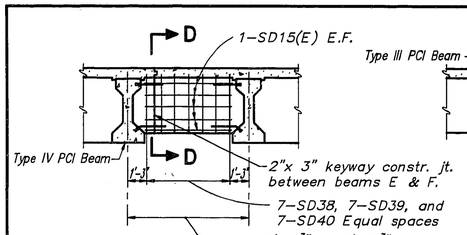
NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022–023 073 D

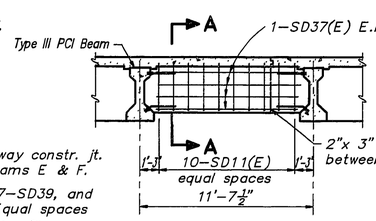
HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

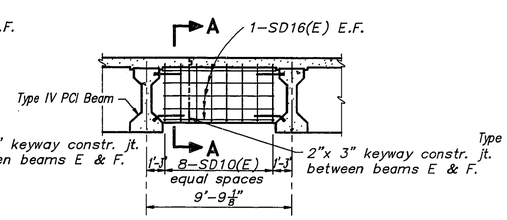
DISK 7 9003D1.DWG



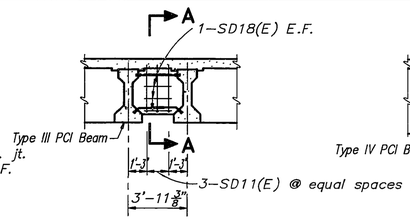
TYPE (I)
Pier D, 10 Thus



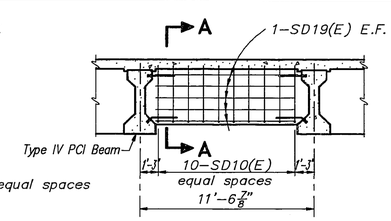
TYPE (M)
Pier G, 7 Thus



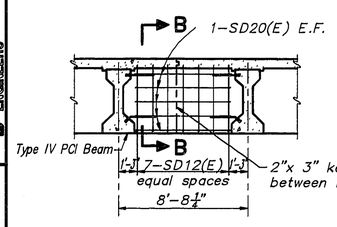
TYPE (N)
Pier G, 8 Thus



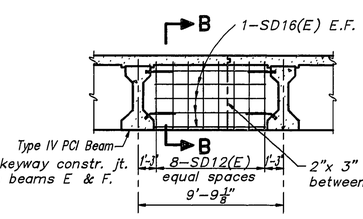
TYPE (O)
Pier G, 2 Thus



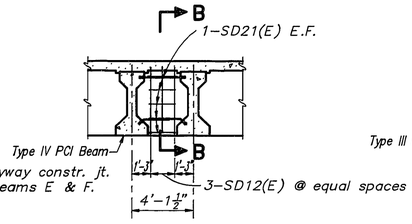
TYPE (U)
Pier G, 1 Thus



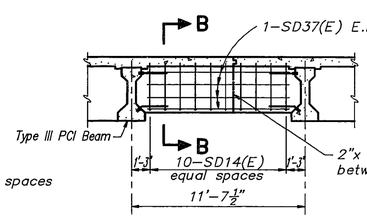
TYPE (J)
Pier E, 8 Thus



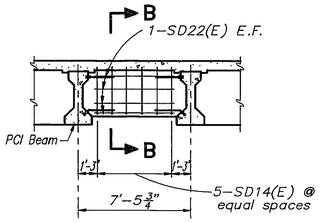
TYPE (K)
Pier F, 8 Thus



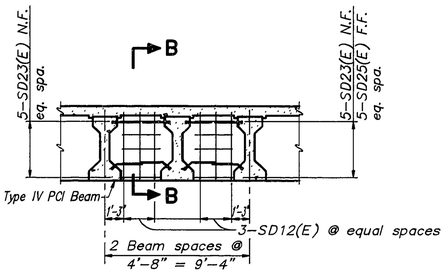
TYPE (L)
Pier F, 1 Thus



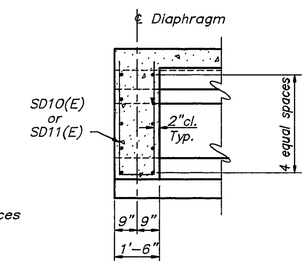
TYPE (P)
Pier H, 7 Thus



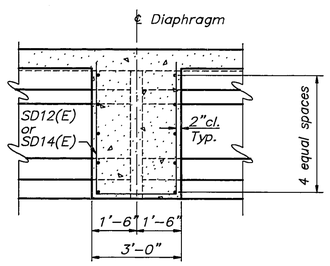
TYPE (Q)
Pier H, 2 Thus



TYPE (T)
Pier E, 1 Thus

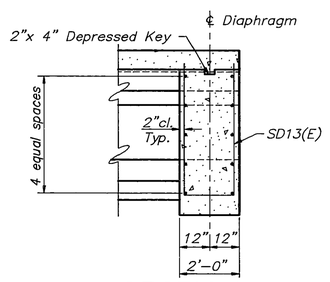


SECTION A–A

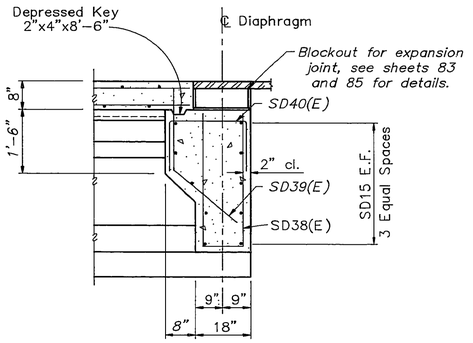


SECTION B–B

Pier diaphragm to be poured monolithically with the slab.



SECTION C–C



SECTION D–D

Note:
The diaphragm below the longitudinal construction joint shall be placed in two pours. Each section of the diaphragm shall be placed with the slab above. Reinforcing in the diaphragms shall be field cut at shear keys.

Not Done

PIER DIAPHRAGMS SUPERSTRUCTURE

UPDATE DATE:
LETTING DATE:

PLANS PREPARED AND SUBMITTED BY: BALKE ENGINEERS

H+E DATE 11-95
DATE
DATE

DESIGNED BY	MRS	CHECKED BY	DW	DATE 6/91	REVISED BY
DETAILED BY	ALH	CHECKED BY	MRS	DATE 9/91	REVISED BY
TRACED BY		CHECKED BY		DATE	REVISED BY

△ As built

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

KENTUCKY APPROACH SHEET 120

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO
NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022–023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

UPDATE DATE:
LETTING DATE:

PLANS PREPARED AND SUBMITTED BY:
BALKE ENGINEERS

DATE
DATE
DATE

DESIGNED BY MRS CHECKED BY DW DATE 4/91 REVISED BY
DETAILED BY ALH CHECKED BY MRS DATE 8/91 REVISED BY
TRACED BY CHECKED BY DATE REVISED BY

BILL OF REINFORCEMENT

MARK	TYPE	NO.	SIZE	LENGTH FT.	LENGTH IN.	LOCATION
S1(E)	Str.	2296	6	30	0	Top & Btm. of deck
S2(E)	Str.	756	6	27	0	Top & Btm. of deck
S3(E)	Str.	1193	5	30	0	Btm. of deck, parapet
S4(E)				Not used		
S5(E)	Str.	1	6	36	11	Top of deck
S6(E)	Str.	1	6	34	4	Btm. of deck
S7(E)	Str.	1	6	4	6	Top of deck
S8(E)	Str.	1	6	5	5	Top of deck
S9(E)	Str.	1	6	6	4	Top of deck
S10(E)	Str.	1	6	7	3	Top of deck
S11(E)	Str.	1	6	8	1	Top of deck
S12(E)	Str.	1	6	9	0	Top of deck
S13(E)	Str.	1	6	9	11	Top of deck
S14(E)	Str.	1	6	10	10	Top of deck
S15(E)	Str.	1	6	11	9	Top of deck
S16(E)	Str.	1	6	12	8	Top of deck
S17(E)	Str.	1	6	13	6	Top of deck
S18(E)	Str.	1	6	14	5	Top of deck
S19(E)	Str.	1	6	15	4	Top of deck
S20(E)	Str.	1	6	16	2	Top of deck
S21(E)	Str.	1	6	17	1	Top of deck
S22(E)	Str.	1	6	18	0	Top of deck
S23(E)	Str.	1	6	18	11	Top of deck
S24(E)	Str.	1	6	19	9	Top of deck
S25(E)	Str.	1	6	20	8	Top of deck
S26(E)	Str.	1	6	21	7	Top of deck
S27(E)	Str.	1	6	22	6	Top of deck
S28(E)	Str.	1	6	23	4	Top of deck
S29(E)	Str.	1	6	24	3	Top of deck
S30(E)	Str.	1	6	25	2	Top of deck
S31(E)	Str.	1	6	26	1	Top of deck
S32(E)	Str.	1	6	26	11	Top of deck
S33(E)	Str.	1	6	27	10	Top of deck
S34(E)	Str.	1	6	28	9	Top of deck
S35(E)	Str.	1	6	29	8	Top of deck
S36(E)	Str.	1	6	30	7	Top of deck
S37(E)	Str.	1	6	31	5	Top of deck
S37(E)	Str.	1	6	32	4	Top of deck
S39(E)	Str.	1	6	33	3	Top of deck
S40(E)	Str.	1	6	34	2	Top of deck
S41(E)	Str.	1	6	35	0	Top of deck
S42(E)	Str.	1	6	35	11	Top of deck
S43(E)	Str.	1	6	36	10	Top of deck
S44(E)	Str.	1	6	37	9	Top of deck
S45(E)	Str.	1	6	38	8	Top of deck
S46(E)	Str.	1	6	39	6	Top of deck
S47(E)	Str.	1	6	40	5	Top of deck
S48(E)	Str.	1	6	41	4	Top of deck
S49(E)	Str.	1	6	42	2	Top of deck
S50(E)	Str.	1	6	4	6	Btm. of deck
S51(E)	Str.	1	6	5	5	Btm. of deck
S52(E)	Str.	1	6	6	4	Btm. of deck
S53(E)	Str.	1	6	7	3	Btm. of deck
S54(E)	Str.	1	6	8	1	Btm. of deck
S55(E)	Str.	1	6	9	0	Btm. of deck
S56(E)	Str.	1	6	9	11	Btm. of deck
S57(E)	Str.	1	6	10	10	Btm. of deck
S58(E)	Str.	1	6	11	9	Btm. of deck
S59(E)	Str.	1	6	12	8	Btm. of deck
S60(E)	Str.	1	6	13	6	Btm. of deck
S61(E)	Str.	1	6	14	5	Btm. of deck
S62(E)	Str.	1	6	15	4	Btm. of deck
S63(E)	Str.	1	6	16	2	Btm. of deck
S64(E)	Str.	1	6	17	1	Btm. of deck
S65(E)	Str.	1	6	18	0	Btm. of deck
S66(E)	Str.	1	6	18	11	Btm. of deck
S67(E)	Str.	1	6	19	9	Btm. of deck
S68(E)	Str.	1	6	20	8	Btm. of deck
S69(E)	Str.	1	6	21	7	Btm. of deck
S70(E)	Str.	1	6	22	6	Btm. of deck
S71(E)	Str.	1	6	23	4	Btm. of deck

BILL OF REINFORCEMENT

MARK	TYPE	NO.	SIZE	LENGTH FT.	LENGTH IN.	LOCATION
S72(E)	Str.	1	6	24	3	Btm. deck
S73(E)	Str.	1	6	25	2	Btm. deck
S74(E)	Str.	1	6	26	1	Btm. deck
S75(E)	Str.	1	6	26	11	Btm. deck
S76(E)	Str.	1	6	27	10	Btm. deck
S77(E)	Str.	1	6	28	9	Btm. deck
S78(E)	Str.	1	6	29	8	Btm. deck
S79(E)	Str.	1	6	30	7	Btm. deck
S80(E)	Str.	1	6	31	5	Btm. deck
S81(E)	Str.	1	6	32	4	Btm. deck
S82(E)	Str.	1	6	33	3	Btm. deck
S83(E)	Str.	1	6	34	2	Btm. deck
S84(E)	Str.	1	6	35	0	Btm. deck
S85(E)	Str.	1	6	35	11	Btm. deck
S86(E)	Str.	1	6	36	10	Btm. deck
S87(E)	Str.	1	6	37	9	Btm. deck
S88(E)	Str.	1	6	38	8	Btm. deck
S89(E)	Str.	1	6	39	6	Btm. deck
S90(E)	Str.	1	6	40	5	Btm. deck
S91(E)	Str.	1	6	41	4	Btm. deck
S92(E)	Str.	1	6	42	2	Btm. deck
S93(E)	Str.	42	6	42	2	Top deck
S94(E)	Str.	42	6	42	2	Btm. deck
S95(E)	Str.	384	6	36	6	Top deck
S96(E)				Not used		
S97(E)	Str.	1229	4	30	0	Top deck
S98(E)	Str.	1	6	14	8	Top deck
S99(E)	Str.	1	5	9	0	Btm. deck
S100(E)	Str.	1	6	4	0	Top deck
S101(E)	Str.	1	6	4	10	Top deck
S102(E)	Str.	1	6	5	7	Top deck
S103(E)	Str.	1	6	6	3	Top deck
S104(E)	Str.	1	6	7	1	Top deck
S105(E)	Str.	1	6	7	10	Top deck
S106(E)	Str.	1	6	8	8	Top deck
S107(E)	Str.	1	6	9	5	Top deck
S108(E)	Str.	1	6	10	2	Top deck
S109(E)	Str.	1	6	10	11	Top deck
S110(E)	Str.	1	6	11	8	Top deck
S111(E)	Str.	1	6	12	5	Top deck
S112(E)	Str.	1	6	13	3	Top deck
S113(E)	Str.	1	6	13	11	Top deck
S114(E)	Str.	1	6	14	9	Top deck
S115(E)	Str.	1	6	15	6	Top deck
S116(E)	Str.	1	6	16	3	Top deck
S117(E)	Str.	1	6	17	0	Top deck
S118(E)	Str.	1	6	17	10	Top deck
S119(E)	Str.	1	6	18	7	Top deck
S120(E)	Str.	1	6	19	4	Top deck
S121(E)	Str.	1	6	20	1	Top deck
S122(E)	Str.	1	6	20	10	Top deck
S123(E)	Str.	1	6	21	8	Top deck
S124(E)	Str.	1	6	22	5	Top deck
S125(E)	Str.	1	6	23	2	Top deck
S126(E)	Str.	1	6	23	11	Top deck
S127(E)	Str.	1	6	24	8	Top deck
S128(E)	Str.	1	6	25	5	Top deck
S129(E)	Str.	1	6	26	3	Top deck
S130(E)	Str.	1	6	27	0	Top deck
S131(E)	Str.	1	6	27	9	Top deck
S132(E)	Str.	1	6	28	6	Top deck
S133(E)	Str.	1	6	29	3	Top deck
S134(E)	Str.	1	6	30	0	Top deck
S135(E)	Str.	2	6	30	10	Top deck
S136(E)	Str.	2	6	31	7	Top deck
S137(E)	Str.	2	6	32	4	Top deck
S138(E)	Str.	2	6	33	1	Top deck
S139(E)	Str.	2	6	33	10	Top deck
S140(E)	Str.	2	6	34	8	Top deck
S141(E)	Str.	2	6	35	5	Top deck
S142(E)	Str.	2	6	36	2	Top deck

BILL OF REINFORCEMENT

MARK	TYPE	NO.	SIZE	LENGTH FT.	LENGTH IN.	LOCATION
S143(E)	Str.	1	6	36	11	Top deck
S144(E)	Str.	1	6	37	8	Top deck
S145(E)	Str.	1	6	38	5	Top deck
S146(E)	Str.	1	6	39	3	Top deck
S147(E)	Str.	1	6	40	0	Top deck
S148(E)	Str.	1	6	40	9	Top deck
S149(E)	Str.	1	6	41	6	Top deck
S150(E)	Str.	1	6	42	3	Top deck
S151(E)	Str.	1	6	4	0	Btm. deck
S152(E)	Str.	1	6	4	10	Btm. deck
S153(E)	Str.	1	6	5	7	Btm. deck
S154(E)	Str.	1	6	6	3	Btm. deck
S155(E)	Str.	1	6	7	1	Btm. deck
S156(E)	Str.	1	6	7	10	Btm. deck
S157(E)	Str.	1	6	8	8	Btm. deck
S158(E)	Str.	1	6	9	5	Btm. deck
S159(E)	Str.	1	6	10	2	Btm. deck
S160(E)	Str.	1	6	10	11	Btm. deck
S161(E)	Str.	1	6	11	8	Btm. deck
S162(E)	Str.	1	6	12	5	Btm. deck
S163(E)	Str.	1	6	13	3	Btm. deck
S164(E)	Str.	1	6	13	11	Btm. deck
S165(E)	Str.	1	6	14	9	Btm. deck
S166(E)	Str.	1	6	15	6	Btm. deck
S167(E)	Str.	1	6	16	3	Btm. deck
S168(E)	Str.	1	6	17	0	Btm. deck
S169(E)	Str.	1	6	17	10	Btm. deck
S170(E)	Str.	1	6	18	7	Btm. deck
S171(E)	Str.	1	6	19	4	Btm. deck
S172(E)	Str.	1	6	20	1	Btm. deck
S173(E)	Str.	1	6	20	10	Btm. deck
S174(E)	Str.	1	6	21	8	Btm. deck
S175(E)	Str.	1	6	22	5	Btm. deck
S176(E)	Str.	1	6	23	2	Btm. deck
S177(E)	Str.	1	6	23	11	Btm. deck
S178(E)	Str.	1	6	24	8	Btm. deck
S179(E)	Str.	1	6	25	5	Btm. deck
S180(E)	Str.	1	6	26	3	Btm. deck
S181(E)	Str.	1	6	27	0	Btm. deck
S182(E)	Str.	1	6	27	9	Btm. deck
S183(E)	Str.	1	6	28	6	Btm. deck
S184(E)	Str.	1	6	29	3	Btm. deck
S185(E)	Str.	1	6	30	0	Btm. deck
S186(E)	Str.	1	6	30	10	Btm. deck
S187(E)	Str.	1	6	31	7	Btm. deck
S188(E)	Str.	1	6	32	4	Btm. deck
S189(E)	Str.	1	6	33	1	Btm. deck
S190(E)	Str.	1	6	33	10	Btm. deck
S191(E)	Str.	1	6	34	8	Btm. deck
S192(E)	Str.	1	6	35	5	Btm. deck
S193(E)	Str.	1	6	36	2	Btm. deck
S194(E)	Str.	1	6	36	11	Btm. deck
S195(E)	Str.	1	6	37	8	Btm. deck
S196(E)	Str.	1	6	38	5	Btm. deck
S197(E)	Str.	1	6	39	3	Btm. deck
S198(E)	Str.	1	6	40	0	Btm. deck
S199(E)	Str.	1	6	40	9	Btm. deck
S200(E)	Str.	1	6	41	6	Btm. deck
S201(E)	Str.	1	6	42	3	Btm. deck
S202(E)	Str.	48	5	10	2	Parapet
S203(E)				Not used		
S204(E)	Str.	2	4	14	1	Top deck
S205(E)	Str.	2	4	23	7	Top deck
S206(E)	Str.	2	4	30	0	Top deck
S207(E)				Not used		
S208(E)	Str.	2	5	14	1	Btm. deck
S209(E)	Str.	2	5	23	7	Btm. deck
S210(E)	Str.	2	5	30	0	Btm. deck

BILL OF REINFORCEMENT

MARK	TYPE	NO.	SIZE	LENGTH FT.	LENGTH IN.	LOCATION
S211(E)	Str.	2	4	42	0	Btm. deck
S212(E)	Str.	2	5	42	0	Top deck
S213(E)	Str.	1	4	18	0	Top deck
S214(E)	Str.	1	5	18	0	Btm. deck
S215(E)	1	768	5	5	9	Parapet
S216(E)	2	784	5	4	5	Parapet
S217(E)	Str.	1	6	4	6	Top deck
S218(E)	Str.	1	6	5	3	Top deck
S219(E)	Str.	1	6	6	1	Top deck
S220(E)	Str.	1	6	6	10	Top deck
S221(E)	Str.	1	6	7	7	Top deck
S222(E)	Str.	1	6	8	4	Top deck
S223(E)	Str.	1	6	9	1	Top deck
S224(E)	Str.	1	6	9	10	Top deck
S225(E)	Str.	1	6	10	7	Top deck
S226(E)	Str.	1	6	11	4	Top deck
S227(E)	Str.	1	6	12	1	Top deck
S228(E)	Str.	1	6	12	10	Top deck
S229(E)	Str.	1	6	13	7	Top deck
S230(E)	Str.	1	6	14	4	Top deck
S231(E)	Str.	1	6	15	2	Top deck
S232(E)	Str.	1	6	15	11	Top deck
S233(E)	Str.	1	6	16	8	Top deck
S234(E)	Str.	1	6	17	5	Top deck
S235(E)	Str.	1	6	18	2	Top deck
S236(E)	Str.	1	6	18	11	Top deck
S237(E)	Str.	1	6	19	8	Top deck
S238(E)	Str.	1	6	20	5	Top deck
S239(E)	Str.	1	6	21	2	Top deck
S240(E)	Str.	1	6	21	11	Top deck
S241(E)	Str.	1	6	22	8	Top deck
S242(E)	Str.	1	6	23	5	Top deck
S243(E)	Str.	1	6	24	3	Top deck
S244(E)	Str.	1	6	25	0	Top deck
S245(E)	Str.	1	6	25	9	Top deck
S246(E)	Str.	1	6	26	5	Top deck
S247(E)	Str.	1	6	27	3	Top deck
S248(E)	Str.	1	6	28	0	Top deck
S249(E)	Str.	1	6	28	9	Top deck
S250(E)	Str.	1	6	29	6	Top deck
S251(E)	Str.	1	6	30	3	Top deck
S252(E)	Str.	1	6	31	0	Top deck
S253(E)	Str.	1	6	31	9	Top deck
S254(E)	Str.	1	6	32	6	Top deck
S255(E)	Str.	1	6	33	3	Top deck
S256(E)	Str.	1	6	34	0	Top deck
S257(E)	Str.	1	6	35	10	Top deck
S258(E)	Str.	1	6	35	7	Top deck
S259(E)	Str.	1	6	36	4	Top deck
S260(E)	Str.	1	6	37	1	Top deck
S261(E)	Str.	1	6	37	10	Top deck
S262(E)	Str.	1	6	38	7	Top deck
S263(E)	Str.	1	6	39	4	Top deck
S264(E)	Str.	1	6	40	1	Top deck
S265(E)	Str.	1	6	40	10	Top deck
S266(E)	Str.	1	6	41	7	Top deck
S267(E)	Str.	1	6	42	4	Top deck

Suffix (E) denotes epoxy coated bars.

SUPERSTRUCTURE

SHEET 121

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

HAZELET + ERDAL, INC.
In association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

..SK 6 9003058.DWG

UPDATE DATE:
LETTING DATE:

PLANS PREPARED AND SUBMITTED BY: BALKE ENGINEERS

DESIGNED BY MRS DATE 11-95
DETAILED BY ALH DATE
TRACED BY DATE

REVISED BY Δ As Built DATE
REVISED BY DATE
REVISED BY DATE

CHECKED BY DWI DATE 4/97
CHECKED BY MRS DATE 8/97
CHECKED BY DATE

DISK 6 9003DS10.DWG

BILL OF REINFORCEMENT

MARK	TYPE	NO.	SIZE	LENGTH FT.	LENGTH IN.	LOCATION
S268(E)	Str.	1	6	4	6	Btm. deck
S269(E)	Str.	1	6	5	3	Btm. deck
S270(E)	Str.	1	6	6	1	Btm. deck
S271(E)	Str.	1	6	6	10	Btm. deck
S272(E)	Str.	1	6	7	7	Btm. deck
S273(E)	Str.	1	6	8	4	Btm. deck
S274(E)	Str.	1	6	9	1	Btm. deck
S275(E)	Str.	1	6	9	10	Btm. deck
S276(E)	Str.	1	6	10	7	Btm. deck
S277(E)	Str.	1	6	11	4	Btm. deck
S278(E)	Str.	1	6	12	1	Btm. deck
S279(E)	Str.	1	6	12	10	Btm. deck
S280(E)	Str.	1	6	13	7	Btm. deck
S281(E)	Str.	1	6	14	4	Btm. deck
S282(E)	Str.	1	6	15	2	Btm. deck
S283(E)	Str.	1	6	15	11	Btm. deck
S284(E)	Str.	1	6	16	8	Btm. deck
S285(E)	Str.	1	6	17	5	Btm. deck
S286(E)	Str.	1	6	18	2	Btm. deck
S287(E)	Str.	1	6	18	11	Btm. deck
S288(E)	Str.	1	6	19	8	Btm. deck
S289(E)	Str.	1	6	20	5	Btm. deck
S290(E)	Str.	1	6	21	2	Btm. deck
S291(E)	Str.	1	6	21	11	Btm. deck
S292(E)	Str.	1	6	22	8	Btm. deck
S293(E)	Str.	1	6	23	5	Btm. deck
S294(E)	Str.	1	6	24	3	Btm. deck
S295(E)	Str.	1	6	25	0	Btm. deck
S296(E)	Str.	1	6	25	9	Btm. deck
S297(E)	Str.	1	6	26	5	Btm. deck
S298(E)	Str.	1	6	27	3	Btm. deck
S299(E)	Str.	1	6	28	0	Btm. deck
S300(E)	Str.	1	6	28	9	Btm. deck
S301(E)	Str.	1	6	29	6	Btm. deck
S302(E)	Str.	1	6	30	3	Btm. deck
S303(E)	Str.	1	6	31	0	Btm. deck
S304(E)	Str.	1	6	31	9	Btm. deck
S305(E)	Str.	1	6	32	6	Btm. deck
S306(E)	Str.	1	6	33	3	Btm. deck
S307(E)	Str.	1	6	34	0	Btm. deck
S308(E)	Str.	1	6	35	10	Btm. deck
S309(E)	Str.	1	6	35	7	Btm. deck
S310(E)	Str.	1	6	36	4	Btm. deck
S311(E)	Str.	1	6	37	1	Btm. deck
S312(E)	Str.	1	6	37	10	Btm. deck
S313(E)	Str.	1	6	38	7	Btm. deck
S314(E)	Str.	1	6	39	4	Btm. deck
S315(E)	Str.	1	6	40	1	Btm. deck
S316(E)	Str.	1	6	40	10	Btm. deck
S317(E)	Str.	1	6	41	7	Btm. deck
S318(E)	Str.	1	6	42	4	Btm. deck
S319(E)	Str.	127	6	42	0	Top deck
S320(E)	Str.	127	6	42	0	Bottom ~~Top~~ deck
S321(E)	Str.	1	6	4	7	Top deck
S322(E)	Str.	1	6	5	3	Top deck
S323(E)	Str.	1	6	5	11	Top deck
S324(E)	Str.	1	6	6	7	Top deck
S325(E)	Str.	1	6	7	3	Top deck
S326(E)	Str.	1	6	7	10	Top deck
S327(E)	Str.	1	6	8	7	Top deck
S328(E)	Str.	1	6	9	2	Top deck
S329(E)	Str.	1	6	9	10	Top deck
S330(E)	Str.	1	6	10	6	Top deck
S331(E)	Str.	1	6	11	2	Top deck
S332(E)	Str.	1	6	11	10	Top deck
S333(E)	Str.	1	6	12	5	Top deck
S334(E)	Str.	1	6	13	2	Top deck
S335(E)	Str.	1	6	13	9	Top deck
S336(E)	Str.	1	6	14	5	Top deck
S337(E)	Str.	1	6	15	1	Top deck
S338(E)	Str.	1	6	15	9	Top deck

BILL OF REINFORCEMENT

MARK	TYPE	NO.	SIZE	LENGTH FT.	LENGTH IN.	LOCATION
S339(E)	Str.	1	6	16	5	Top deck
S340(E)	Str.	1	6	17	1	Top deck
S341(E)	Str.	1	6	17	9	Top deck
S342(E)	Str.	1	6	18	5	Top deck
S343(E)	Str.	1	6	19	0	Top deck
S344(E)	Str.	1	6	19	8	Top deck
S345(E)	Str.	1	6	20	4	Top deck
S346(E)	Str.	1	6	21	0	Top deck
S347(E)	Str.	1	6	21	8	Top deck
S348(E)	Str.	1	6	22	4	Top deck
S349(E)	Str.	1	6	23	30	Top deck
S350(E)	Str.	1	6	23	7	Top deck
S351(E)	Str.	1	6	24	3	Top deck
S352(E)	Str.	1	6	24	11	Top deck
S353(E)	Str.	1	6	25	7	Top deck
S354(E)	Str.	1	6	26	3	Top deck
S355(E)	Str.	1	6	26	11	Top deck
S356(E)	Str.	1	6	27	6	Top deck
S357(E)	Str.	1	6	28	2	Top deck
S358(E)	Str.	1	6	28	10	Top deck
S359(E)	Str.	1	6	29	5	Top deck
S360(E)	Str.	1	6	30	2	Top deck
S361(E)	Str.	1	6	30	10	Top deck
S362(E)	Str.	1	6	31	5	Top deck
S363(E)	Str.	1	6	32	2	Top deck
S364(E)	Str.	1	6	32	9	Top deck
S365(E)	Str.	1	6	33	5	Top deck
S366(E)	Str.	1	6	34	1	Top deck
S367(E)	Str.	1	6	34	9	Top deck
S368(E)	Str.	1	6	35	5	Top deck
S369(E)	Str.	1	6	36	1	Top deck
S370(E)	Str.	1	6	36	9	Top deck
S371(E)	Str.	1	6	37	5	Top deck
S372(E)	Str.	1	6	38	0	Top deck
S373(E)	Str.	1	6	38	8	Top deck
S374(E)	Str.	1	6	39	4	Top deck
S375(E)	Str.	1	6	40	0	Top deck
S376(E)	Str.	1	6	40	8	Top deck
S377(E)	Str.	1	6	41	4	Top deck
S378(E)	Str.	1	6	42	0	Top deck
S379(E)	Str.	1	6	42	7	Top deck
S380(E)	Str.	1	6	4	7	Btm. deck
S381(E)	Str.	1	6	5	3	Btm. deck
S382(E)	Str.	1	6	5	11	Btm. deck
S383(E)	Str.	1	6	6	7	Btm. deck
S384(E)	Str.	1	6	7	3	Btm. deck
S385(E)	Str.	1	6	7	10	Btm. deck
S386(E)	Str.	1	6	8	7	Btm. deck
S387(E)	Str.	1	6	9	2	Btm. deck
S388(E)	Str.	1	6	9	10	Btm. deck
S389(E)	Str.	1	6	10	6	Btm. deck
S390(E)	Str.	1	6	11	2	Btm. deck
S391(E)	Str.	1	6	11	10	Btm. deck
S392(E)	Str.	1	6	12	5	Btm. deck
S393(E)	Str.	1	6	13	2	Btm. deck
S394(E)	Str.	1	6	13	9	Btm. deck
S395(E)	Str.	1	6	14	5	Btm. deck
S396(E)	Str.	1	6	15	1	Btm. deck
S397(E)	Str.	1	6	15	9	Btm. deck
S398(E)	Str.	1	6	16	5	Btm. deck
S399(E)	Str.	1	6	17	1	Btm. deck
S400(E)	Str.	1	6	17	9	Btm. deck
S401(E)	Str.	1	6	18	5	Btm. deck
S402(E)	Str.	1	6	19	0	Btm. deck
S403(E)	Str.	1	6	19	8	Btm. deck
S404(E)	Str.	1	6	20	4	Btm. deck
S405(E)	Str.	1	6	21	0	Btm. deck
S406(E)	Str.	1	6	21	8	Btm. deck
S407(E)	Str.	1	6	22	4	Btm. deck
S408(E)	Str.	1	6	23	30	Btm. deck
S409(E)	Str.	1	6	23	7	Btm. deck

BILL OF REINFORCEMENT

MARK	TYPE	NO.	SIZE	LENGTH FT.	LENGTH IN.	LOCATION
S410(E)	Str.	1	6	24	3	Btm. deck
S411(E)	Str.	1	6	24	11	Btm. deck
S412(E)	Str.	1	6	25	7	Δ Btm. ~~Top~~ deck
S413(E)	Str.	1	6	26	3	Top deck
S414(E)	Str.	1	6	26	11	Top deck
S415(E)	Str.	1	6	27	6	Top deck
S416(E)	Str.	1	6	28	2	Top deck
S417(E)	Str.	1	6	28	10	Top deck
S418(E)	Str.	1	6	29	5	Top deck
S419(E)	Str.	1	6	30	2	Top deck
S420(E)	Str.	1	6	30	10	Top deck
S421(E)	Str.	1	6	31	5	Top deck
S422(E)	Str.	1	6	32	2	Top deck
S423(E)	Str.	1	6	32	9	Top deck
S424(E)	Str.	1	6	33	5	Top deck
S425(E)	Str.	1	6	34	1	Top deck
S426(E)	Str.	1	6	34	9	Top deck
S427(E)	Str.	1	6	35	5	Top deck
S428(E)	Str.	1	6	36	1	Top deck
S429(E)	Str.	1	6	36	9	Top deck
S430(E)	Str.	1	6	37	5	Top deck
S431(E)	Str.	1	6	38	0	Top deck
S432(E)	Str.	1	6	38	8	Top deck
S433(E)	Str.	1	6	39	4	Top deck
S434(E)	Str.	1	6	40	0	Top deck
S435(E)	Str.	1	6	40	8	Top deck
S436(E)	Str.	1	6	41	4	Top deck
S437(E)	Str.	1	6	42	0	Top deck
S438(E)	Str.	1	6	42	7	Btm. Top deck
S439(E)	Str.	1	6	4	11	Top deck
S440(E)	Str.	1	6	5	6	Top deck
S441(E)	Str.	1	6	6	0	Top deck
S442(E)	Str.	1	6	6	7	Top deck
S443(E)	Str.	1	6	7	2	Top deck
S444(E)	Str.	1	6	7	8	Top deck
S445(E)	Str.	1	6	8	3	Top deck
S446(E)	Str.	1	6	8	9	Top deck
S447(E)	Str.	1	6	9	3	Top deck
S448(E)	Str.	1	6	9	10	Top deck
S449(E)	Str.	1	6	10	5	Top deck
S450(E)	Str.	1	6	11	0	Top deck
S451(E)	Str.	1	6	11	6	Top deck
S452(E)	Str.	1	6	12	1	Top deck
S453(E)	Str.	1	6	12	7	Top deck
S454(E)	Str.	1	6	13	2	Top deck
S455(E)	Str.	1	6	13	8	Top deck
S456(E)	Str.	1	6	14	3	Top deck
S457(E)	Str.	1	6	14	9	Top deck
S458(E)	Str.	1	6	15	3	Top deck
S459(E)	Str.	1	6	15	10	Top deck
S460(E)	Str.	1	6	16	5	Top deck
S461(E)	Str.	1	6	17	0	Top deck
S462(E)	Str.	1	6	17	6	Top deck
S463(E)	Str.	1	6	18	1	Top deck
S464(E)	Str.	1	6	18	7	Top deck
S465(E)	Str.	1	6	19	2	Top deck
S466(E)	Str.	1	6	19	8	Top deck
S467(E)	Str.	1	6	20	3	Top deck
S468(E)	Str.	1	6	20	9	Top deck
S469(E)	Str.	1	6	21	4	Top deck
S470(E)	Str.	1	6	21	10	Top deck
S471(E)	Str.	1	6	22	5	Top deck
S472(E)	Str.	1	6	23	0	Top deck
S473(E)	Str.	1	6	23	6	Top deck
S474(E)	Str.	1	6	24	1	Top deck
S475(E)	Str.	1	6	24	7	Top deck
S476(E)	Str.	1	6	25	2	Top deck
S477(E)	Str.	1	6	25	8	Top deck

BILL OF REINFORCEMENT

MARK	TYPE	NO.	SIZE	LENGTH FT.	LENGTH IN.	LOCATION
S478(E)	Str.	1	6	26	3	Top deck
S479(E)	Str.	1	6	26	9	Top deck
S480(E)	Str.	1	6	27	4	Top deck
S481(E)	Str.	1	6	27	11	Top deck
S482(E)	Str.	1	6	28	5	Top deck
S483(E)	Str.	1	6	29	0	Top deck
S484(E)	Str.	1	6	29	6	Top deck
S485(E)	Str.	1	6	30	1	Top deck
S486(E)	Str.	1	6	30	7	Top deck
S487(E)	Str.	1	6	31	2	Top deck
S488(E)	Str.	1	6	31	8	Top deck
S489(E)	Str.	1	6	32	3	Top deck
S490(E)	Str.	1	6	32	9	Top deck
S491(E)	Str.	1	6	33	4	Top deck
S492(E)	Str.	1	6	33	11	Top deck
S493(E)	Str.	1	6	34	5	Top deck
S494(E)	Str.	1	6	35	0	Top deck
S495(E)	Str.	1	6	35	6	Top deck
S496(E)	Str.	1	6	36	1	Top deck
S497(E)	Str.	1	6	36	7	Top deck
S498(E)	Str.	1	6	37	2	Top deck
S499(E)	Str.	1	6	37	9	Top deck
S500(E)	Str.	1	6	38	3	Top deck
S501(E)	Str.	1	6	38	10	Top deck
S502(E)	Str.	1	6	39	4	Top deck
S503(E)	Str.	1	6	39	11	Top deck
S504(E)	Str.	1	6	40	5	Top deck
S505(E)	Str.	1	6	41	0	Top deck
S506(E)	Str.	1	6	41	6	Top deck
S507(E)	Str.	1	6	42	1	Top deck
S508(E)	Str.	1	6	42	7	Top deck
S509(E)	Str.	1	6	4	11	Btm. deck
S510(E)	Str.	1	6	5	6	Btm. deck
S511(E)	Str.	1	6	6	0	Btm. deck
S512(E)	Str.	1	6	6	7	Btm. deck
S513(E)	Str.	1	6	7	2	Btm. deck
S514(E)	Str.	1	6	7	8	Btm. deck
S515(E)	Str.	1	6	8	3	Btm. deck
S516(E)	Str.	1	6	8	9	Btm. deck
S517(E)	Str.	1	6	9	3	Btm. deck
S518(E)	Str.	1	6	9	10	Btm. deck
S519(E)	Str.	1	6	10	5	Btm. deck
S520(E)	Str.	1	6	11	0	Btm. deck
S521(E)	Str.	1	6	11	6	Btm. deck
S522(E)	Str.	1	6	12	1	Btm. deck
S523(E)	Str.	1	6	12	7	Btm. deck
S524(E)	Str.	1	6	13	2	Btm. deck
S525(E)	Str.	1	6	13	8	Btm. deck
S526(E)	Str.	1	6	14	3	Btm. deck
S527(E)	Str.	1	6	14	9	Btm. deck
S528(E)	Str.	1	6	15	3	Btm. deck
S529(E)	Str.	1	6	15	10	Btm. deck
S530(E)	Str.	1	6	16	5	Btm. deck
S531(E)	Str.	1	6	17	0	Btm. deck
S532(E)	Str.	1	6	17	6	Btm. deck
S533(E)	Str.	1	6	18	1	Btm. deck
S534(E)	Str.	1	6	18	7	Btm. deck

Suffix (E) denotes epoxy coated bars.

SHEET 122

SUPERSTRUCTURE

HAZELET + ERDAL, INC.
In association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

UPDATE DATE:
LETTING DATE:

PLANS PREPARED AND SUBMITTED BY:
BALKE ENGINEERS

DESIGNED BY MRS CHECKED BY DJK DATE 5/21 REVISED BY
DETAILED BY PJH CHECKED BY MRS DATE 5/21 REVISED BY
TRACED BY CHECKED BY DATE REVISED BY
DATE
DATE
DATE

BILL OF REINFORCEMENT

MARK	TYPE	NO.	SIZE	LENGTH FT.	LENGTH IN.	LOCATION
S535(E)	Str.	1	6	19	2	Btm. deck
S536(E)	Str.	1	6	19	8	Btm. deck
S537(E)	Str.	1	6	20	3	Btm. deck
S538(E)	Str.	1	6	20	9	Btm. deck
S539(E)	Str.	1	6	21	4	Btm. deck
S540(E)	Str.	1	6	21	10	Btm. deck
S541(E)	Str.	1	6	22	5	Btm. deck
S542(E)	Str.	1	6	23	0	Btm. deck
S543(E)	Str.	1	6	23	6	Btm. deck
S544(E)	Str.	1	6	24	1	Btm. deck
S545(E)	Str.	1	6	24	7	Btm. deck
S546(E)	Str.	1	6	25	2	Btm. deck
S547(E)	Str.	1	6	25	8	Btm. deck
S548(E)	Str.	1	6	26	3	Btm. deck
S549(E)	Str.	1	6	26	9	Btm. deck
S550(E)	Str.	1	6	27	4	Btm. deck
S551(E)	Str.	1	6	27	11	Btm. deck
S552(E)	Str.	1	6	28	5	Btm. deck
S553(E)	Str.	1	6	29	0	Btm. deck
S554(E)	Str.	1	6	29	6	Btm. deck
S555(E)	Str.	1	6	30	1	Btm. deck
S556(E)	Str.	1	6	30	7	Btm. deck
S557(E)	Str.	1	6	31	2	Btm. deck
S558(E)	Str.	1	6	31	8	Btm. deck
S559(E)	Str.	1	6	32	3	Btm. deck
S560(E)	Str.	1	6	32	9	Btm. deck
S561(E)	Str.	1	6	33	4	Btm. deck
S562(E)	Str.	1	6	33	11	Btm. deck
S563(E)	Str.	1	6	34	5	Btm. deck
S564(E)	Str.	1	6	35	0	Btm. deck
S565(E)	Str.	1	6	35	6	Btm. deck
S566(E)	Str.	1	6	36	1	Btm. deck
S567(E)	Str.	1	6	36	7	Btm. deck
S568(E)	Str.	1	6	37	2	Btm. deck
S569(E)	Str.	1	6	37	9	Btm. deck
S570(E)	Str.	1	6	38	3	Btm. deck
S571(E)	Str.	1	6	38	10	Btm. deck
S572(E)	Str.	1	6	39	4	Btm. deck
S573(E)	Str.	1	6	39	11	Btm. deck
S574(E)	Str.	1	6	40	5	Btm. deck
S575(E)	Str.	1	6	41	0	Btm. deck
S576(E)	Str.	1	6	41	6	Btm. deck
S577(E)	Str.	1	6	42	1	Btm. deck
S578(E)	Str.	1	6	42	7	Btm. deck
S579(E)	Str.	1	6	4	4	Top deck
S580(E)	Str.	1	6	4	10	Top deck
S581(E)	Str.	1	6	5	3	Top deck
S582(E)	Str.	1	6	5	8	Top deck
S583(E)	Str.	1	6	6	1	Top deck
S584(E)	Str.	1	6	6	7	Top deck
S585(E)	Str.	1	6	7	0	Top deck
S586(E)	Str.	1	6	7	5	Top deck
S587(E)	Str.	1	6	7	10	Top deck
S588(E)	Str.	1	6	8	4	Top deck
S589(E)	Str.	1	6	8	9	Top deck
S590(E)	Str.	1	6	9	2	Top deck
S591(E)	Str.	1	6	9	7	Top deck
S592(E)	Str.	1	6	10	0	Top deck
S593(E)	Str.	1	6	10	5	Top deck
S594(E)	Str.	1	6	10	11	Top deck
S595(E)	Str.	1	6	11	4	Top deck
S596(E)	Str.	1	6	11	9	Top deck
S597(E)	Str.	1	6	12	3	Top deck
S598(E)	Str.	1	6	12	8	Top deck
S599(E)	Str.	1	6	13	2	Top deck
S600(E)	Str.	1	6	13	6	Top deck
S601(E)	Str.	1	6	13	11	Top deck
S602E	Str.	1	6	14	5	Top deck
S603(E)	Str.	1	6	14	10	Top deck
S604(E)	Str.	1	6	15	3	Top deck

BILL OF REINFORCEMENT

MARK	TYPE	NO.	SIZE	LENGTH FT.	LENGTH IN.	LOCATION
S605(E)	Str.	1	6	15	8	Top deck
S606(E)	Str.	1	6	16	2	Top deck
S607(E)	Str.	1	6	16	7	Top deck
S608(E)	Str.	1	6	17	0	Top deck
S609(E)	Str.	1	6	17	5	Top deck
S610(E)	Str.	1	6	17	10	Top deck
S611(E)	Str.	1	6	18	4	Top deck
S612(E)	Str.	1	6	18	9	Top deck
S613(E)	Str.	1	6	19	2	Top deck
S614(E)	Str.	1	6	19	7	Top deck
S615(E)	Str.	1	6	20	1	Top deck
S616(E)	Str.	1	6	20	5	Top deck
S617(E)	Str.	1	6	20	11	Top deck
S618(E)	Str.	1	6	21	4	Top deck
S619(E)	Str.	1	6	21	9	Top deck
S620(E)	Str.	1	6	22	3	Top deck
S621(E)	Str.	1	6	22	8	Top deck
S622(E)	Str.	1	6	23	1	Top deck
S623(E)	Str.	1	6	23	6	Top deck
S624(E)	Str.	1	6	24	0	Top deck
S625(E)	Str.	1	6	24	5	Top deck
S626(E)	Str.	1	6	24	10	Top deck
S627(E)	Str.	1	6	25	3	Top deck
S628(E)	Str.	1	6	25	9	Top deck
S629(E)	Str.	1	6	26	2	Top deck
S630(E)	Str.	1	6	26	8	Top deck
S631(E)	Str.	1	6	27	0	Top deck
S632(E)	Str.	1	6	27	5	Top deck
S633(E)	Str.	1	6	27	10	Top deck
S634(E)	Str.	1	6	28	10	Top deck
S635(E)	Str.	1	6	28	9	Top deck
S636(E)	Str.	1	6	29	2	Top deck
S637(E)	Str.	1	6	29	8	Top deck
S638(E)	Str.	1	6	30	1	Top deck
S639(E)	Str.	1	6	30	6	Top deck
S640(E)	Str.	1	6	30	11	Top deck
S641(E)	Str.	1	6	31	5	Top deck
S642(E)	Str.	1	6	31	10	Top deck
S643(E)	Str.	1	6	32	3	Top deck
S644(E)	Str.	1	6	32	8	Top deck
S645(E)	Str.	1	6	33	1	Top deck
S646(E)	Str.	1	6	33	7	Top deck
S647(E)	Str.	1	6	34	0	Top deck
S648(E)	Str.	1	6	34	5	Top deck
S649(E)	Str.	1	6	34	10	Top deck
S650(E)	Str.	1	6	35	4	Top deck
S651(E)	Str.	1	6	35	9	Top deck
S652(E)	Str.	1	6	36	2	Top deck
S653(E)	Str.	1	6	36	7	Top deck
S654(E)	Str.	1	6	37	0	Top deck
S655(E)	Str.	1	6	37	5	Top deck
S656(E)	Str.	1	6	37	11	Top deck
S657(E)	Str.	1	6	38	4	Top deck
S658(E)	Str.	1	6	38	9	Top deck
S659(E)	Str.	1	6	39	3	Top deck
S660(E)	Str.	1	6	39	8	Top deck
S661(E)	Str.	1	6	40	1	Top deck
S662(E)	Str.	1	6	40	6	Top deck
S663(E)	Str.	1	6	40	11	Top deck
S664(E)	Str.	1	6	41	5	Top deck
S665(E)	Str.	1	6	41	10	Top deck
S666(E)	Str.	1	6	42	3	Top deck
S667(E)	Str.	1	6	42	8	Top deck
S668(E)	Str.	1	6	4	4	Btm. deck
S669(E)	Str.	1	6	4	10	Btm. deck
S670(E)	Str.	1	6	5	3	Btm. deck
S671(E)	Str.	1	6	5	8	Btm. deck
S672(E)	Str.	1	6	6	1	Btm. deck
S673(E)	Str.	1	6	6	7	Btm. deck
S674(E)	Str.	1	6	7	0	Btm. deck

BILL OF REINFORCEMENT

MARK	TYPE	NO.	SIZE	LENGTH FT.	LENGTH IN.	LOCATION
S675(E)	Str.	1	6	7	5	Btm. deck
S676(E)	Str.	1	6	7	10	Btm. deck
S677(E)	Str.	1	6	8	4	Btm. deck
S678(E)	Str.	1	6	8	9	Btm. deck
S679(E)	Str.	1	6	9	2	Btm. deck
S680(E)	Str.	1	6	9	7	Btm. deck
S681(E)	Str.	1	6	10	0	Btm. deck
S682(E)	Str.	1	6	10	5	Btm. deck
S683(E)	Str.	1	6	10	11	Btm. deck
S684(E)	Str.	1	6	11	4	Btm. deck
S685(E)	Str.	1	6	11	9	Btm. deck
S686(E)	Str.	1	6	12	3	Btm. deck
S687(E)	Str.	1	6	12	8	Btm. deck
S688(E)	Str.	1	6	13	2	Btm. deck
S689(E)	Str.	1	6	13	6	Btm. deck
S690(E)	Str.	1	6	13	11	Btm. deck
S691(E)	Str.	1	6	14	5	Btm. deck
S692(E)	Str.	1	6	14	10	Btm. deck
S693(E)	Str.	1	6	15	3	Btm. deck
S694(E)	Str.	1	6	15	8	Btm. deck
S695(E)	Str.	1	6	16	2	Btm. deck
S696(E)	Str.	1	6	16	7	Btm. deck
S697(E)	Str.	1	6	17	0	Btm. deck
S698(E)	Str.	1	6	17	5	Btm. deck
S699(E)	Str.	1	6	17	10	Btm. deck
S700(E)	Str.	1	6	18	4	Btm. deck
S701(E)	Str.	1	6	18	9	Btm. deck
S702(E)	Str.	1	6	19	2	Btm. deck
S703(E)	Str.	1	6	19	7	Btm. deck
S704(E)	Str.	1	6	20	1	Btm. deck
S705(E)	Str.	1	6	20	5	Btm. deck
S706(E)	Str.	1	6	20	11	Btm. deck
S707(E)	Str.	1	6	21	4	Btm. deck
S708(E)	Str.	1	6	21	9	Btm. deck
S709(E)	Str.	1	6	22	3	Btm. deck
S710(E)	Str.	1	6	22	8	Btm. deck
S711(E)	Str.	1	6	23	1	Btm. deck
S712(E)	Str.	1	6	23	6	Btm. deck
S713(E)	Str.	1	6	24	0	Btm. deck
S714(E)	Str.	1	6	24	5	Btm. deck
S715(E)	Str.	1	6	24	10	Btm. deck
S716(E)	Str.	1	6	25	3	Btm. deck
S717(E)	Str.	1	6	25	9	Btm. deck
S718(E)	Str.	1	6	26	2	Btm. deck
S719(E)	Str.	1	6	26	8	Btm. deck
S720(E)	Str.	1	6	27	0	Btm. deck
S721(E)	Str.	1	6	27	5	Btm. deck
S722(E)	Str.	1	6	27	10	Btm. deck
S723(E)	Str.	1	6	28	4	Btm. deck
S724(E)	Str.	1	6	28	9	Btm. deck
S725(E)	Str.	1	6	29	2	Btm. deck
S726(E)	Str.	1	6	29	8	Btm. deck
S727(E)	Str.	1	6	30	1	Btm. deck
S728(E)	Str.	1	6	30	6	Btm. deck
S729(E)	Str.	1	6	30	11	Btm. deck
S730(E)	Str.	1	6	31	5	Btm. deck
S731(E)	Str.	1	6	31	10	Btm. deck
S732(E)	Str.	1	6	32	3	Btm. deck
S733(E)	Str.	1	6	32	8	Btm. deck
S734(E)	Str.	1	6	33	1	Btm. deck
S735(E)	Str.	1	6	33	7	Btm. deck
S736(E)	Str.	1	6	34	0	Btm. deck
S737(E)	Str.	1	6	34	5	Btm. deck
S738(E)	Str.	1	6	34	10	Btm. deck
S739(E)	Str.	1	6	35	4	Btm. deck
S740(E)	Str.	1	6	35	9	Btm. deck
S741(E)	Str.	1	6	36	2	Btm. deck

BILL OF REINFORCEMENT

MARK	TYPE	NO.	SIZE	LENGTH FT.	LENGTH IN.	LOCATION
S742(E)	Str.	1	6	36	7	Btm. deck
S743(E)	Str.	1	6	37	0	Btm. deck
S744(E)	Str.	1	6	37	5	Btm. deck
S745(E)	Str.	1	6	37	11	Btm. deck
S746(E)	Str.	1	6	38	4	Btm. deck
S747(E)	Str.	1	6	38	9	Btm. deck
S748(E)	Str.	1	6	39	3	Btm. deck
S749(E)	Str.	1	6	39	8	Btm. deck
S750(E)	Str.	1	6	40	1	Btm. deck
S751(E)	Str.	1	6	40	6	Btm. deck
S752(E)	Str.	1	6	40	11	Btm. deck
S753(E)	Str.	1	6	41	5	Btm. deck
S754(E)	Str.	1	6	41	10	Btm. deck
S755(E)	Str.	1	6	42	3	Btm. deck
S756(E)	Str.	1	6	42	8	Btm. deck

Continued

Suffix (E) denotes epoxy coated bars.

DISK 6 9003DSS.DWG

SUPERSTRUCTURE

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

SHEET 123

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

UPDATE DATE:
LETTING DATE:

PLANS PREPARED AND SUBMITTED BY: BALKE ENGINEERS

DESIGNED BY MRS DATE 2-92
DETAILED BY AJH CHECKED BY DATE 2-93
TRACED BY CHECKED BY DATE

REVISED BY Rev. Appr. Prnt. Seal bars and quantities HJE DATE 6/91
REVISED BY Rev. Appr. Prnt. Seal bars and quantities HJE DATE
REVISED BY DATE

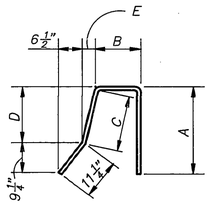
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CHECKED BY MRS DATE
CHECKED BY DATE

BILL OF REINFORCEMENT

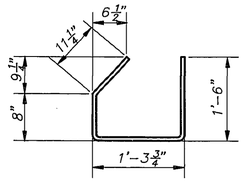
MARK	TYPE	NO.	SIZE	LENGTH FT.	LENGTH IN.	LOCATION	A FT.	A IN.	B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.
S757(E)	1	2	5	5	11	Parapet transition	2	8 1/2	0	6 3/4	1	8 5/8	1	8 1/2	0	2
S758(E)	1	2	5	6	1	Parapet transition	2	9 1/2	0	6 3/4	1	9 5/8	1	9 1/2	0	2 1/4
S759(E)	1	2	5	6	3	Parapet transition	2	10 1/4	0	6 3/4	1	10 5/8	1	10 1/2	0	2 1/4
S760(E)	1	2	5	6	5	Parapet transition	2	11 1/4	0	6 3/4	1	11 5/8	1	11 1/2	0	2 3/4
S761(E)	1	2	5	6	7	Parapet transition	3	0 1/4	0	6 3/4	2	0 5/8	2	0 1/2	0	2 3/4
S762(E)	1	2	5	6	9	Parapet transition	3	1 1/4	0	6 3/4	2	1 5/8	2	1 1/2	0	2 3/4
S763(E)	1	2	5	6	11	Parapet transition	3	2	0	6	2	2 5/8	2	2 1/2	0	2 3/4
S764(E)	1	2	5	7	1	Parapet transition	3	3	0	5 7/8	2	3 5/8	2	3 1/2	0	2 3/4
S765(E)	1	784	5	6	4	Alternate parapet	3	2	0	6 3/4	1	7 5/8	1	7 1/2	0	2
S766(E)	5	768	5	1	8	Alternate parapet	0	8	0	10	0	7	1	0		
S767(E)	Str.	257	6	38	0	Top deck slab over piers										
S768(E)	Str.	30	6	10	0	Top deck slab (corners)										
S769(E)	1	2	5	6	6	Alternate parapet detail										
S770(E)	1	2	5	6	8	Alternate parapet detail	3	4	0	6 3/4	1	9 5/8	1	9 1/2	0	2 1/4
S771(E)	1	2	5	6	10	Alternate parapet detail	3	5	0	6 3/4	1	10 5/8	1	10 1/2	0	2 1/4
S772(E)	1	2	5	7	0	Alternate parapet detail	3	6	0	6 3/4	1	11 5/8	1	11 1/2	0	2 3/4
S773(E)	1	2	5	7	2	Alternate parapet detail	3	7	0	6 7/8	2	0 5/8	2	0 1/2	0	2 3/4
S774(E)	1	2	5	7	4	Alternate parapet detail	3	8	0	6 7/8	2	1 5/8	2	1 1/2	0	2 3/4
S775(E)	1	2	5	7	6	Alternate parapet detail	3	9	0	6	2	2 5/8	2	2 1/2	0	2 3/4
S776(E)	1	4	5	7	8	Alternate parapet detail	3	10	0	5 7/8	2	3 5/8	2	3 1/2	0	2 3/4
S777(E)	Str.	4	5	9	3	Alternate parapet detail										
SD1(E)	3	369	5	8	5	Intermediate diaphragm	4	0	0	6						
SD2(E)	Str.	384	5	6	1	Intermediate diaphragm										
SD3(E)	Str.	24	5	4	8	Intermediate diaphragm										
SD4(E)	Str.	16	5	3	2	Intermediate diaphragm										
SD5(E)	Str.	8	5	5	7	Intermediate diaphragm										
SD6(E)	Str.	16	5	2	1	Intermediate diaphragm										
SD7(E)	Str.	64	5	6	11	Intermediate diaphragm										
SD8(E)	Str.	8	5	4	4	Intermediate diaphragm										
SD9(E)	Str.	56	5	7	4	Intermediate diaphragm										
SD10(E)	3	74	5	9	5	End diaphragm	4	2	1	2						
SD11(E)	3	76	5	8	1	Pier diaphragm	3	6	1	2						
SD12(E)	3	114	5	12	3	Pier diaphragm	4	10	2	8						
SD13(E)	3	69	5	11	7	End diaphragm	5	0	1	8						
SD14(E)	3	80	5	10	9	Pier diaphragm	4	1	2	8						
SD15(E)	Str.	100	5	5	8	Pier diaphragm										
SD16(E)	Str.	75	5	7	3	Pier diaphragm										
SD17(E)	Str.	42	5	8	9	Pier & End diaphragm										
SD18(E)	Str.	16	5	1	10	Pier diaphragm										
SD19(E)	Str.	10	5	9	1	Pier diaphragm										
SD20(E)	Str.	70	5	6	2	Pier diaphragm										
SD21(E)	Str.	10	5	1	10	Pier diaphragm										
SD22(E)	Str.	16	5	5	4	Pier diaphragm										
SD23(E)	Str.	10	5	2	2	Pier diaphragm										
SD24(E)	4	2	5	5	11	End diaphragm	3	0	3	0						
SD25(E)	Str.	5	5	6	10	Pier diaphragm										
SD26(E)	Str.	14	5	7	3	End diaphragm										
SD27(E)	Str.	4	5	6	3	End diaphragm										
SD28(E)	Str.	12	5	7	9	End diaphragm										
SD29(E)	~~5~~ 1	~~109~~ 184	5	2	8	Approach pavement seat	1	4	1	0	1	4	1	0		
SD30(E)	~~3~~ 1	~~109~~ 184	5	4	~~37~~ 7	Approach pavement seat	1	2	2	4						
SD31(E)	Str.	6	5	~~28~~ 29	~~3~~ 119	Approach pavement seat										
SD32(E)	3	69	5	6	7	End diaphragm	2	6	1	8						
SD33(E)	3	21	5	13	7	End diaphragm	6	0	1	8						
SD34(E)	Str.	6	5	3	9	End diaphragm										
SD35(E)	Str.	2	5	3	3	End diaphragm										
SD36(E)	3	139	5	7	5	Intermediate diaphragm	3	6	0	6						
SD37(E)	Str.	56	5	9	4	Pier diaphragm										
SD38(E)	3	70	5	8	3	End diaphragm	3	7	1	2						
SD39(E)	5	70	5	2	10	End diaphragm	1	8	1	2	1	2	1	8		
SD40(E)	3	70	5	4	1	End diaphragm	1	2	1	10						

ESTIMATE OF QUANTITIES

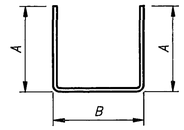
ITEM	QUANTITY	UNIT
CONCRETE CLASS ~~"AA"~~ "S" ⚠	~~1,182.9~~ 1,184.1 ⚠ ~~1,183.1~~	CU. YDS.
EPOXY COATED STEEL REINFORCEMENT	~~308,030~~ ~~308,080~~ 306,290 ⚠	LBS.



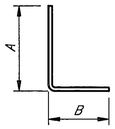
Type 1



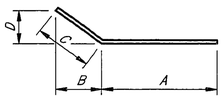
Type 2



Type 3



Type 4



Type 5

NOTES:

1. Epoxy coated reinforcing steel: All reinforcing bars designated by suffix (E) specifications.
2. Weight of reinforcement does not include weight of bars for alternate parapet detail. Weight of alternate bars is 6,633 lbs.

SUPERSTRUCTURE

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

KENTUCKY APPROACH SHEET 124

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

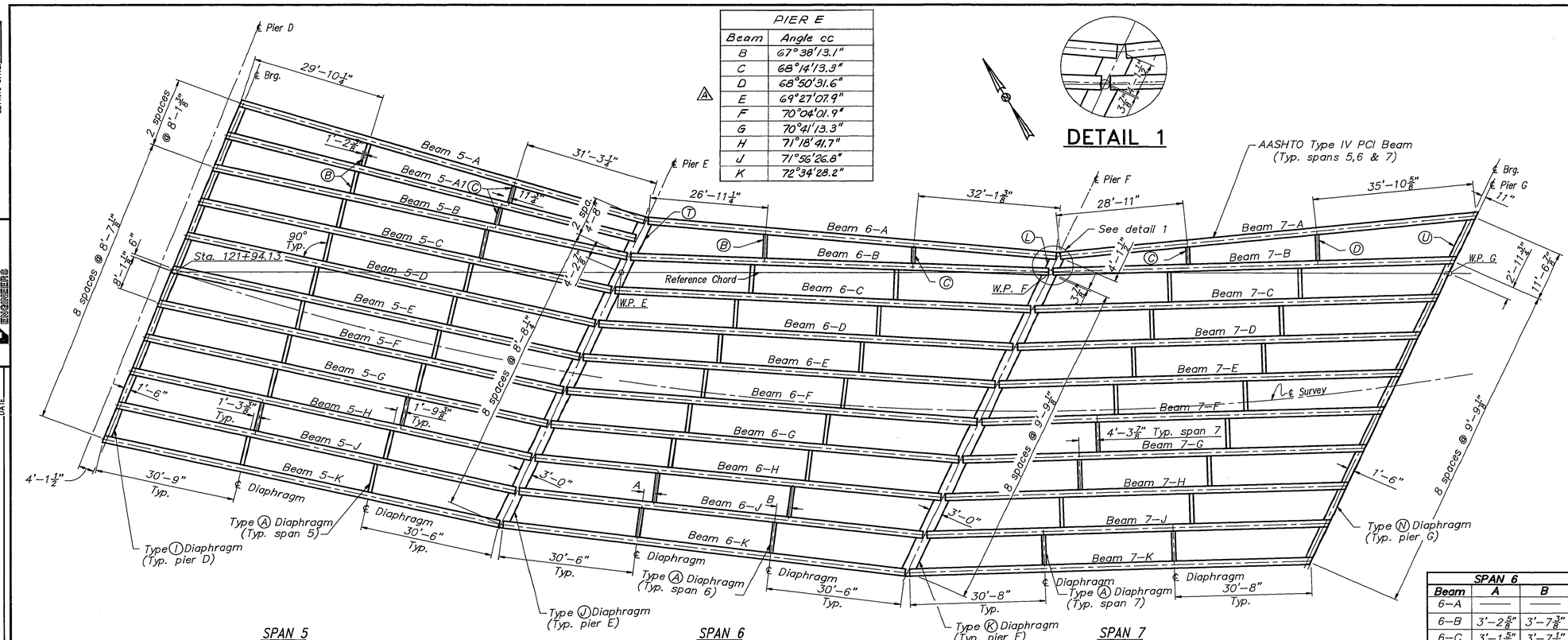
NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

DISK 7 9003DS13

PIER E	
Beam	Angle cc
B	67°38'13.1"
C	68°14'13.3"
D	68°50'31.6"
E	69°27'07.9"
F	70°04'01.9"
G	70°41'13.3"
H	71°18'41.7"
J	71°56'26.8"
K	72°34'28.2"



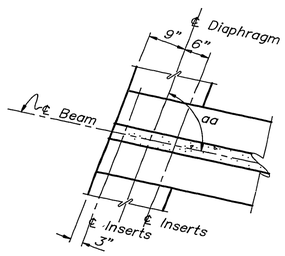
SPAN 5 SPAN 6 SPAN 7

FRAMING PLAN

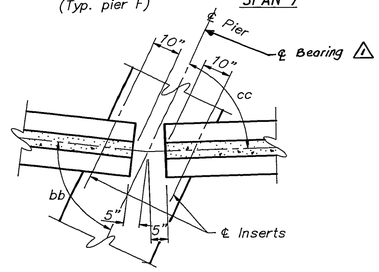
SPAN 6		
Beam	A	B
6-A	———	———
6-B	3'-2 5/8"	3'-7 3/8"
6-C	3'-1 5/8"	3'-7 1/2"
6-D	3'-0 1/2"	3'-1 1/2"
6-E	2'-11 1/2"	3'-4"
6-F	2'-10 3/8"	3'-2 3/4"
6-G	2'-9 3/8"	3'-1 1/2"
6-H	2'-8 1/4"	3'-0 3/8"
6-J	2'-7 1/8"	2'-10 1/8"
6-K	———	———

TABLE OF BEAM ANGLES

PIER D		PIER E			PIER F			PIER G	
Beam	Angle aa	Beam	Angle bb	Angle cc	Beam	Angle bb	Angle cc	Beam	Angle aa
A	85°33'56"	A	82°18'10.8"	70°36'19.4"	A	70°36'19.4"	59°38'01.5"	A	59°38'01.5"
A1	83°27'47"	A1	80°12'02.2"	~~67°38'13.1"~~	B	67°38'13.1"	63°43'02.1"	B	63°43'02.1"
B	81°22'00"	B	78°06'14.2"	~~68°14'13.3"~~	C	68°14'13.3"	63°43'02.1"	C	63°43'02.1"
C	81°22'00"	C	78°06'14.2"	~~68°50'31.6"~~	D	68°50'31.6"	63°43'02.1"	D	63°43'02.1"
D	81°22'00"	D	78°06'14.2"	~~69°27'07.9"~~	E	69°27'07.9"	63°43'02.1"	E	63°43'02.1"
E	81°22'00"	E	78°06'14.2"	~~70°04'01.9"~~	F	70°04'01.9"	63°43'02.1"	F	63°43'02.1"
F	81°22'00"	F	78°06'14.2"	~~70°41'13.3"~~	G	70°41'13.3"	63°43'02.1"	G	63°43'02.1"
G	81°22'00"	G	78°06'14.2"	~~71°18'41.7"~~	H	71°18'41.7"	63°43'02.1"	H	63°43'02.1"
H	81°22'00"	H	78°06'14.2"	~~71°56'26.8"~~	J	71°56'26.8"	63°43'02.1"	J	63°43'02.1"
J	81°22'00"	J	78°06'14.2"	~~72°34'28.2"~~	K	72°34'28.2"	63°43'02.1"	K	63°43'02.1"
K	81°22'00"	K	78°06'14.2"	———	———	———	———	———	———



BEAM END @ PIER D & G



BEAM END @ PIER E & F

FRAMING PLAN

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

KENTUCKY APPROACH SHEET 125

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

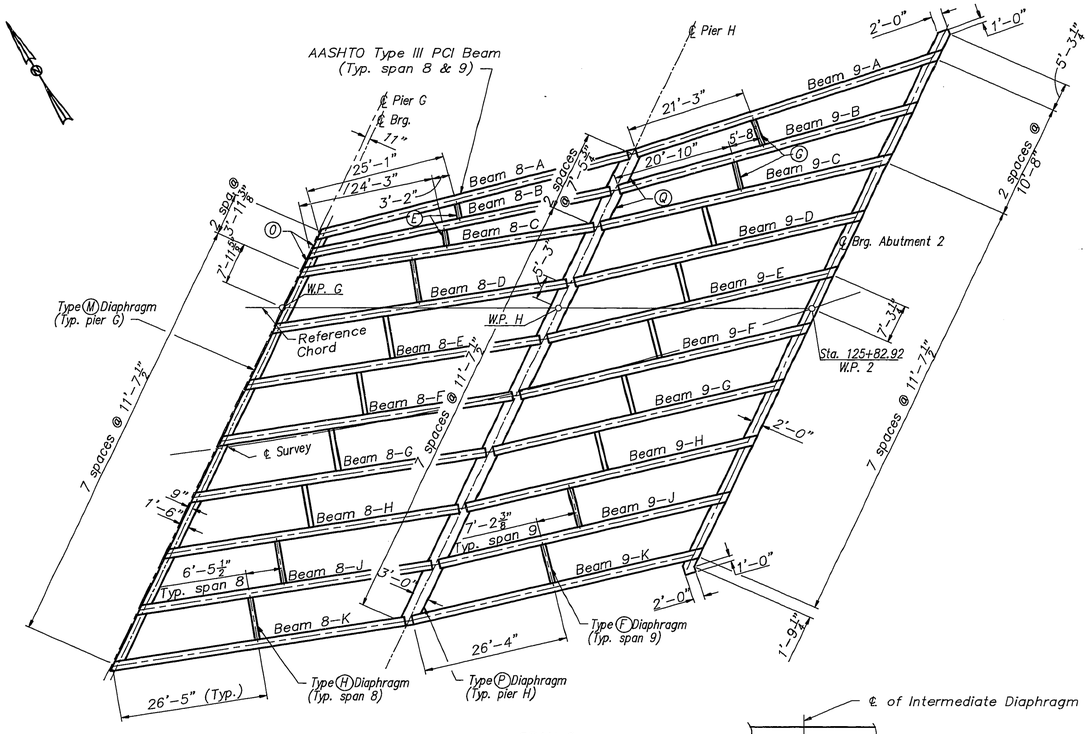
UPDATE DATE:
LETTING DATE:

PLANS PREPARED AND SUBMITTED BY: BALKE ENGINEERS

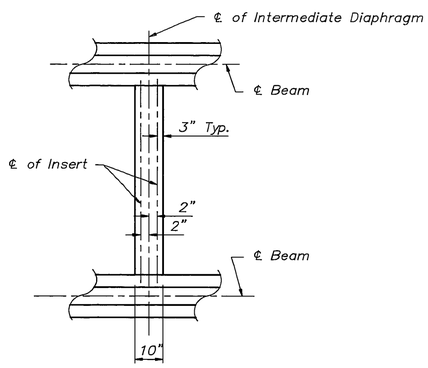
DESIGNED BY MRS DATE 3/98 REVISED BY
DETAILED BY AJH DATE 3/99 REVISED BY
TRACED BY DATE REVISED BY

Revised Angles, Pier E
As Built

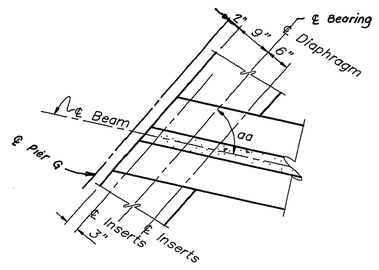
DISK 4 9003S2.DWG



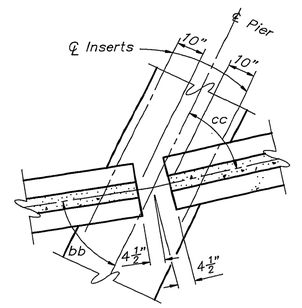
FRAMING PLAN



INSERT LOCATION INTERMEDIATE DIAPHRAGMS



BEAM END @ PIER G & ABUTMENT 2



BEAM END @ PIER H

49°12'39.0"

TABLE OF BEAM ANGLES						
PIER G		PIER H			ABUTMENT	
Beam	Angle aa	Beam	Angle bb	Angle cc	Beam	Angle aa
A	50°19'17.6"	A	50°19'17.6"	46°46'39.7"	A	46°46'39.7"
B	53°09'14.0"	B	53°09'14.0"	~~49°18'39.6"~~	B	49°12'39.0"
C	56°14'17.4"	C	56°14'17.4"	51°50'08.6"	C	51°50'09.4"
D	56°14'17.4"	D	56°14'17.4"	51°50'08.8"	D	51°50'09.4"
E	56°14'17.4"	E	56°14'17.4"	51°50'09.1"	E	51°50'09.4"
F	56°14'17.4"	F	56°14'17.4"	51°50'09.3"	F	51°50'09.4"
G	56°14'17.4"	G	56°14'17.4"	51°50'09.5"	G	51°50'09.4"
H	56°14'17.4"	H	56°14'17.4"	51°50'09.8"	H	51°50'09.4"
J	56°14'17.4"	J	56°14'17.4"	51°50'10.0"	J	51°50'09.4"
K	56°14'17.4"	K	56°14'17.4"	51°50'10.3"	K	51°50'09.4"

UPDATE DATE:
LETTING DATE:

PLANS PREPARED AND SUBMITTED BY:
BALKE ENGINEERS

H.E.	DATE 3/1/94		
H.E.	DATE 11-95		
	DATE		

Revised Angle Pier H	REVISED BY	DWI	DATE 4/97
As Built	REVISED BY	MRS	DATE 8/97
	REVISED BY		DATE

DESIGNED BY	MRS	CHECKED BY	DWI
DETAILED BY	ALH	CHECKED BY	MRS
TRACED BY		CHECKED BY	

DISK 2 9003S3.DWG

KENTUCKY APPROACH SHEET 126

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

FRAMING PLAN

UPDATE DATE
LETTING DATE
Date: 05-JUL-1990

DESIGNED BY MRS DATE
DETAILED BY ALH DATE
PREPARED BY GRAPHICS SECTION CHECKED BY
REVISED DATE 4/91
REVISED DATE 8/91
REVISED DATE
CHECKED BY DWI
CHECKED BY MRS
CHECKED BY DATE

GENERAL NOTES

CONCRETE: Prestressed girder concrete shall be in accordance with the plans and Specifications.

MATERIALS DESIGN SPECIFICATIONS: For prestressed girder
F'C = 5000 psi F'S = 270000 psi

PRESTRESSING REINFORCEMENT: Strands shall be stabilized strand (½" nominal diameter, 270 grade, low-relaxation uncoated seven-wire strand in accordance with AASHTO M203). If an alternate strand arrangement or strand type is preferred by the contractor, the designer that developed the original plans shall provide the design and also revise the original plans to reflect the changes. These design and plan modifications shall be done at the contractor's expense.

TENSIONING METHOD: Beams shall be pretensioned.

ELASTOMERIC BEARING PADS: The material specifications for elastomeric bearing pads shall conform to the AASHTO standard specifications for highway bridges, except that the requirement of the low temperature test is waived and a durometer hardness of 50 or 60 is required. The cost of this item is to be included in the price per linear foot for precast beams.

CONSTRUCTION METHOD: No bond stress shall be transferred to the concrete, nor shall end anchors be released until the concrete has attained a compressive strength as shown by standard cylinders made and cured identically with the girders, of at least a minimum strength of 5000 psi, cylinder strength shall be 6000 psi at or prior to 28 days. An initial force shall be applied to each low relaxation strand such as to develop a stress of 202,500 psi. Beams with honeycomb of such extent as to affect the strength or resistance to deterioration will not be accepted. An allowance of .0005L shall be made for shortening of beams due to shrinkage and elastic change. Shop plans shall show a detensioning plan by numbering, in sequence, the strand pattern.

DEFORMED WIRE FABRIC: Fabric may be used in the precast beams in lieu of reinforcing bars, provided an equivalent area of steel is furnished. Wire fabric shall conform to the requirements of AASHTO specification M221 (A497) and is to be made of deformed wire conforming to AASHTO specification M225 (A496).

BEAM DIMENSIONS *

MARK	NO. REQ'D.	DIMENSIONS A	B	C	D	E	F	M	APPROX WT. EACH
5A	1	94'-9	42'-4 1/2	10'-0	36	12"	18"	2 3/4"	77,885
5A1	1	94'-10	47'-5	10'-0	36	12"	18"	2 3/4"	77,950
5B	1	95'-0 1/4	42'-6 1/8	10'-0	36	12"	18"	2 3/4"	78,090
5C	1	94'-6 1/4	42'-3 1/8	10'-0	36	12"	18"	2 3/4"	77,680
5D	1	94'-0 1/4	42'-0 1/8	10'-0	36	12"	18"	2 3/4"	77,270
5E	1	93'-6 1/4	46'-9 1/8	10'-0	36	12"	18"	2 3/4"	76,860
5F	1	93'-0 1/4	46'-6 1/8	10'-0	36	12"	18"	2 3/4"	76,445
5G	1	92'-6 1/4	46'-3 1/8	10'-0	35	12"	18"	2 3/4"	76,035
5H	1	92'-0 1/4	46-0 1/8	10'-0	35	12"	18"	2 3/4"	75,625
5J	1	91'-6 1/4	45'-9 1/8	10'-0	35	12"	18"	2 3/4"	75,215
5K	1	91'-0 1/4	45'-6 1/8	10'-0	35	12"	18"	2 3/4"	74,800
6A	1	92'-6	41'-3	10'-0	35	12"	18"	2 3/4"	76,035
6B	1	94'-4 1/4	42'-2 1/8	10'-0	36	12"	18"	2 3/4"	75,900
6C	1	93'-11 1/2	41'-11 3/4	10'-0	36	12"	18"	2 3/4"	77,235
6D	1	93'-6 3/4	41'-9 3/8	10'-0	36	12"	18"	2 3/4"	76,860
6E	1	93'-2 1/4	41'-7 1/8	10'-0	36	12"	18"	2 3/4"	76,650
6F	1	92'-9 3/4	41'-4 7/8	10'-0	36	12"	18"	2 3/4"	76,240
6G	1	92'-5 1/2	41'-2 3/4	10'-0	35	12"	18"	2 3/4"	76,035
6H	1	92'-1 1/4	41'-0 5/8	10'-0	35	12"	18"	2 3/4"	75,695
6J	1	91'-9 1/4	40'-10 5/8	10'-0	35	12"	18"	2 3/4"	75,420
6K	1	91'-5 1/4	40'-8 5/8	10'-0	35	12"	18"	2 3/4"	75,150
7A	1	94'-4 3/4	42'-2 3/8	10'-0	36	12"	18"	2 3/4"	77,610
7B~7K	9	90'-10	40'-5	10'-0	35	12"	18"	2 3/4"	74,665

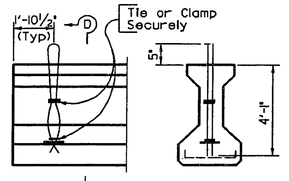
* These dimensions given on ℄ of beams.

AS BUILT PRESTRESS DATA

STRAND TYPE	
PRESTRESSED FORCE/STRAND	
CONC. RELEASE STRENGTH	
CONC. 28 DAY STRENGTH	
STRAND PATTERN	
NO. OF DRAPED STRANDS	
NO. OF DEBONDED STRANDS	

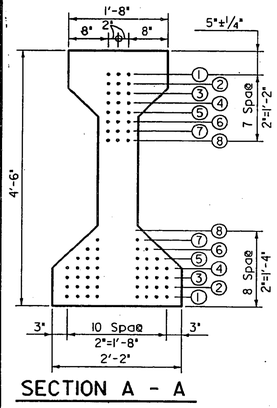
REMARKS:

BY: DATE:

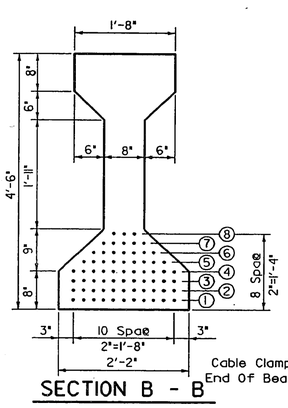


LIFTING DEVICE SECTION D-D

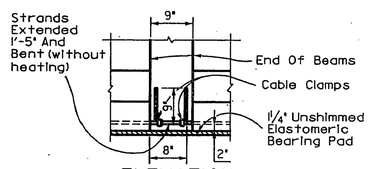
DETAIL "L"



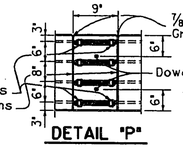
SECTION A - A



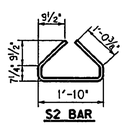
SECTION B - B



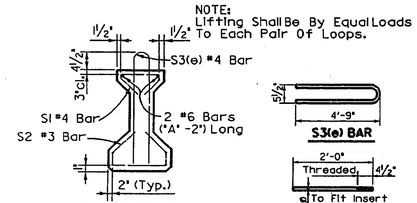
ELEVATION
(Strand Splice Detail)



DETAIL "P"



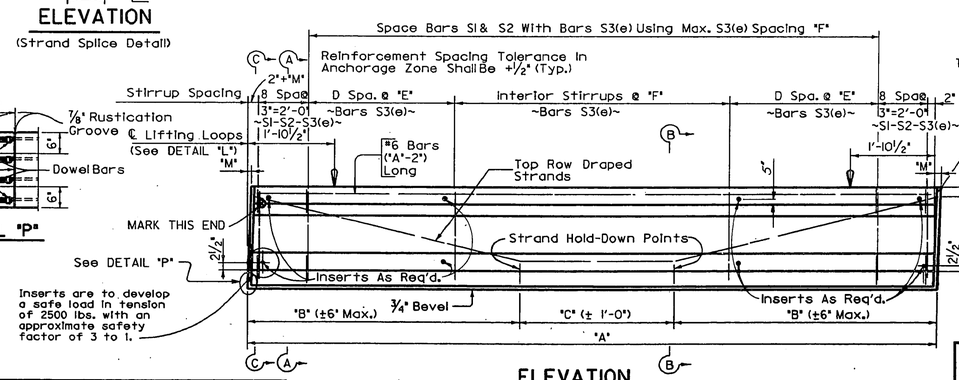
S2 BAR



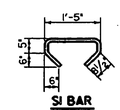
SECTION C-C
Typical Section Showing Steel Reinforcement

S3(e) BAR

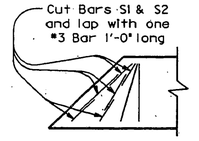
BAR DETAIL
THREADED ANCHOR



ELEVATION



S1 BAR



PART PLAN
(Showing Skewed End, 15° Skew or Greater)

NUMBER OF ½" Ø - 7 WIRE STRANDS IN INDICATED ROWS

MARK	MIDSPAN (SECTION B - B) BOTTOM ①	②	③	④	⑤	⑥	⑦	⑧	END (SECTION A-A) BOTTOM ①	②	③	④	⑤	⑥	⑦	⑧	TOP ①	②	③	④	⑤	⑥	⑦	⑧	TOTAL NO.	INITIAL PRESTRESS FORCE / STRAND (LBS)
5A to 5K	11	11	11	11	3				8	8	8	8					3	3	3	3	3				47	30,980
6A to 6K	11	11	11	11	3				8	8	8	8					3	3	3	3	3				47	30,980
7A to 7K	11	11	11	11	3				8	8	8	8					3	3	3	3	3				47	30,980

FOR ADDITIONAL DETAILS ON INSERT LOCATIONS, SEE SHEET 125

PRESTRESSED - CONCRETE I-BEAM TYPE IV DETAILS

HAZELET + ERDAL, INC. In association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

KENTUCKY APPROACH SHEET 127

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

UPDATE DATE
LETTING DATE
Date: 05-JUL-1990

GENERAL NOTES

CONCRETE: Prestressed girder concrete shall be in accordance with the plans and Specifications.

MATERIALS DESIGN SPECIFICATIONS: For prestressed girder
F'C = 5000 psi F'S = 270000 psi

PRESTRESSING REINFORCEMENT: Strands shall be stabilized strand (½" nominal diameter, 270 grade, low-relaxation uncoated seven-wire strand in accordance with AASHTO M203). If an alternate strand arrangement or strand type is preferred by the contractor, the designer that developed the original plans shall provide the design and also revise the original plans to reflect the changes. These design and plan modifications shall be done at the contractor's expense.

TENSIONING METHOD: Beams shall be pretensioned.

ELASTOMERIC BEARING PADS: The material specifications for elastomeric bearing pads shall conform to the AASHTO standard specifications for highway bridges, except that the requirement of the low temperature test is waived and a durometer hardness of 50 or 60 is required. The cost of this item is to be included in the price per linear foot for precast beams.

CONSTRUCTION METHOD: No bond stress shall be transferred to the concrete, nor shall end anchors be released until the concrete has attained a compressive strength as shown by standard cylinders made and cured identically with the girders, of at least a minimum strength of 4000 psi, cylinder strength shall be 5000 psi at or prior to 28 days. An initial force shall be applied to each low relaxation strand such as to develop a stress of 202,500 psi. Beams with honeycomb of such extent as to affect the strength or resistance to deterioration will not be accepted. An allowance of .0005L shall be made for shortening of beams due to shrinkage and elastic change. Shop plans shall show a detensioning plan by numbering, in sequence, the strand pattern.

DEFORMED WIRE FABRIC: Fabric may be used in the precast beams in lieu of reinforcing bars, provided an equivalent area of steel is furnished. Wire fabric shall conform to the requirements of AASHTO specification M221 (A497) and is to be made of deformed wire conforming to AASHTO specification M225 (A496).

BEAM DIMENSIONS *

MARK	NO. REQ'D.	DIMENSIONS A	B	C	D	E	F	M	APPROX WT. EACH
8A	1	57'-8	23'-10	10'-0	28	4"	12"	1 3/4"	33,620
8B	1	55'-5 1/2	22'-8 3/4	10'-0	27	4"	12"	1 3/4"	32,355
8C~8K	8	53'-4 1/2	21'-8 1/4	10'-0	26	4"	12"	1 3/4"	31,120
9A	1	57'-6	23'-9	10'-0	28	4"	12"	1 3/4"	33,525
9B	1	55'-4	22'-8	10'-0	27	4"	12"	1 3/4"	32,260
9C~9K	8	53'-3 1/4	21'-7 5/8	10'-0	26	4"	12"	1 3/4"	31,045

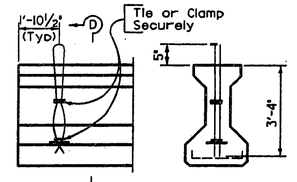
* These dimensions given on ℄ of beams.

AS BUILT PRESTRESS DATA

STRAND TYPE	
PRESTRESSED FORCE/STRAND	
CONC. RELEASE STRENGTH	
CONC. 28 DAY STRENGTH	
STRAND PATTERN	
NO. OF DRAPED STRANDS	
NO. OF DEBONDED STRANDS	

REMARKS:

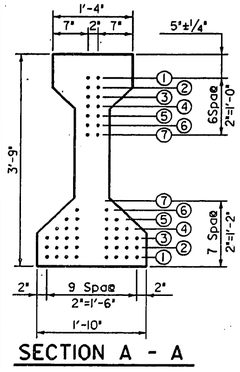
BY: DATE:



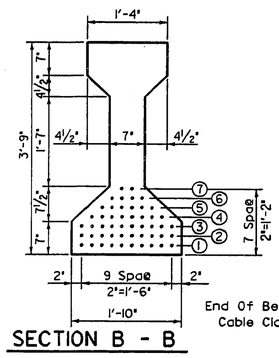
LIFTING DEVICE SECTION D-D

DETAIL "L"

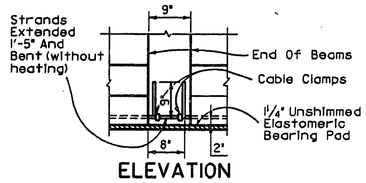
NOTE:
Lifting Shall Be By Equal Loads To Each Pair Of Loops.



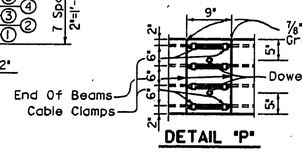
SECTION A - A



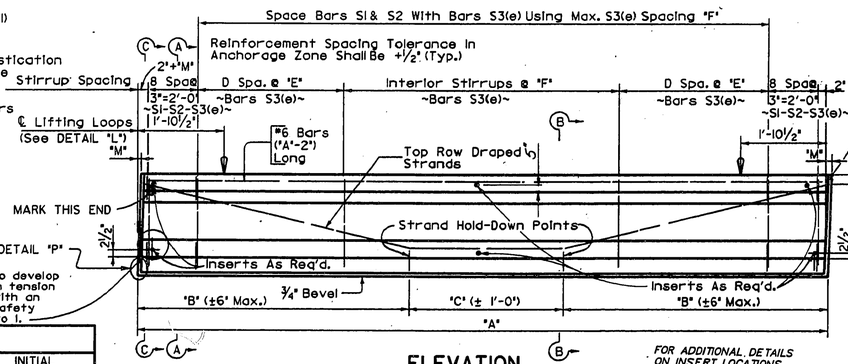
SECTION B - B



ELEVATION
(Strand Splice Detail)

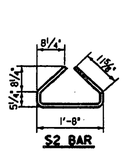


DETAIL "P"

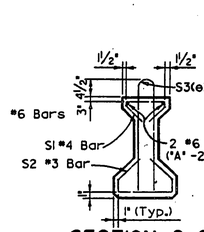


ELEVATION

FOR ADDITIONAL DETAILS ON INSERT LOCATIONS, SEE SHEET 126



S2 BAR

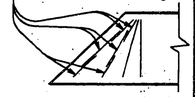


SECTION C-C
Typical Section Showing Steel Reinforcement

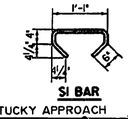


S3(e) BAR

BAR DETAIL
THREADED ANCHOR



PART PLAN
(Showing Skewed End, 15° Skew or Greater)



S1 BAR

NUMBER OF ½" Ø - 7 WIRE STRANDS IN INDICATED ROWS

MARK	MIDSPAN (SECTION B - B) BOTTOM ①	②	③	④	⑤	⑥	⑦	END (SECTION A-A) BOTTOM ①	②	③	④	⑤	⑥	⑦	TOP ①	②	③	④	⑤	⑥	⑦	TOTAL NO.	INITIAL PRESTRESS FORCE / STRAND (LBS)
8A to 8K	8	6	4	4				6	6	4	4				2							20	30,980
9A to 9K	8	6	4	4				6	6	4	4				2							20	30,980

DESIGNED BY: MRS CHECKED BY: DWL DATE: 4/91 REVISED
DETAILED BY: ALH CHECKED BY: MRS DATE: 10/91 REVISED
PREPARED BY GRAPHICS SECTION CHECKED BY: DATE: REVISED

KENTUCKY APPROACH SHEET 128

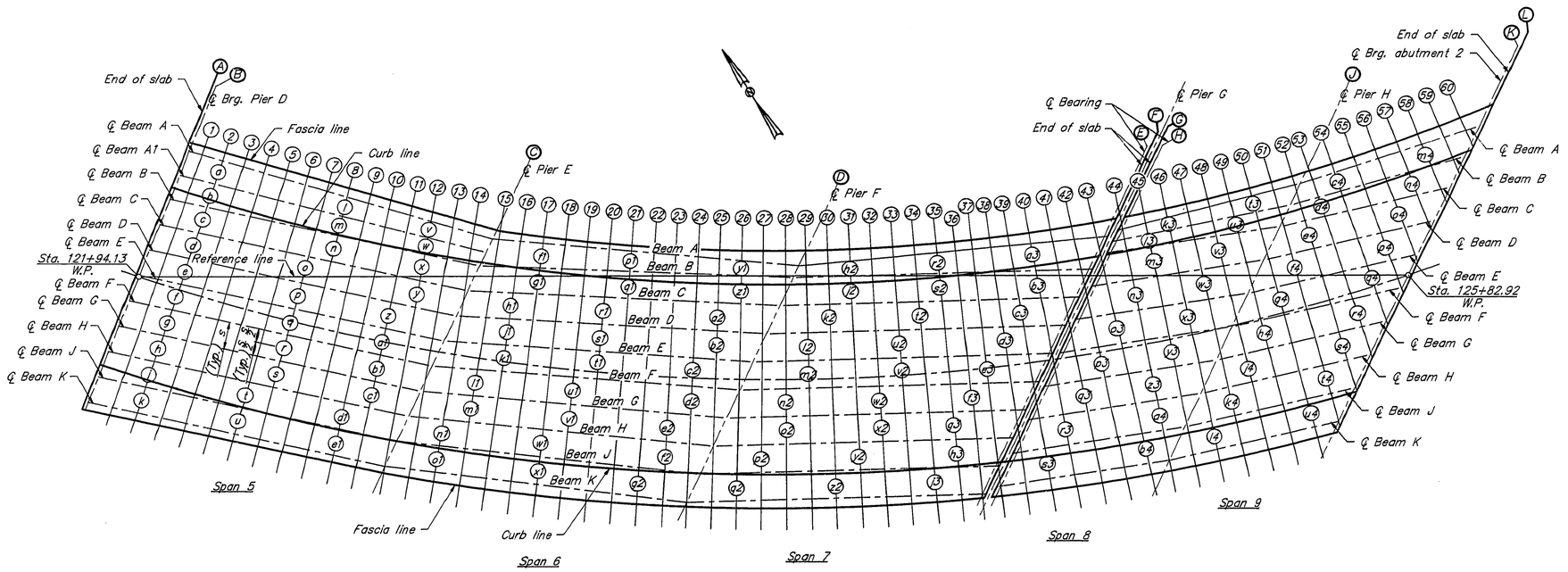
PRESTRESSED CONCRETE I-BEAM, TYPE III DETAILS

HAZELET + ERDAL, INC. In association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO
NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO..	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740



LAYOUT

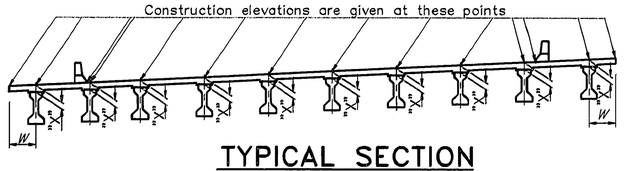
Grid line	Distance along ℄ beam (ft.)	
	Beam A	Beam K
1	3.9736	7.5471
2	10.4572	15.0941
3	16.9525	22.6412
4	23.4596	30.1883
5	29.9783	37.7354
6	36.5089	45.2824
7	43.0513	52.8295
8	49.6055	60.3766
9	56.1716	67.9236
10	62.7497	75.4707
11	69.3396	83.0178
12	75.9416	0.0000
13	82.6661	7.6801
14	89.4194	15.3602
15	1.8806	23.0403
16	8.6208	30.7203
17	15.3553	38.4004
18	22.0839	46.0805
19	28.8066	53.7606
20	35.5236	61.4407
21	42.2348	69.1208
22	48.9401	76.8009
23	55.6396	84.4810
24	62.3334	0.0000
25	68.9026	7.5253
26	75.4913	15.0507
27	82.0995	22.5760
28	88.7274	30.1013
29	2.1483	37.6267
30	8.7794	45.1520
31	15.3988	52.6773
32	22.0065	60.2027
33	28.6026	67.7280
34	35.1872	75.2533
35	41.7602	82.7787
36	48.3216	~~88.8792~~ 90.3099
37	50.4423	0.0000
38	57.0290	7.5387
39	63.6254	15.0775
40	70.2313	22.6162
41	76.8470	30.1550
42	83.4724	37.6937
43	90.1075	45.2325
44	0.6466	0.0000
45	7.2557	7.5164
46	13.8604	15.0328
47	20.4608	22.5492
48	27.0569	30.0656
49	33.6487	37.5821
50	40.2363	45.0985
51	46.8195	52.5052
52	~~0.9316~~	8.00 *
53	3.8131	16.0 *
54	10.7916	24.00 *
55	17.7541	32.00 *
56	24.7006	40.00 *
57	31.6311	48.00 *
58	38.5458	56.00 *
59	45.4445	64.00 *
60	52.3275	72.00 *

53.8125

Notes:
Dimensions are measured from skew lines B, C, D, H, and J for each span.

* Measured along an extension of beam K from skew line K

Construction elevations are given at these points



TYPICAL SECTION

See sheet 131 for dimension W.
See sheets 130 and 131 for elevations.

CONSTRUCTION ELEVATIONS

KENTUCKY APPROACH SHEET 129

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

UPDATE DATE:
LETTING DATE:

PLANS PREPARED AND SUBMITTED BY:
BALKE ENGINEERS
DATE 1-95
DATE
DATE

DESIGNED BY	MRS	CHECKED BY	DATE
DETAILED BY	ALH/DDG	CHECKED BY	DATE
TRACED BY		CHECKED BY	DATE

REVISED BY	DIM	DATE 4/97	△ As Built
REVISED BY	MRS	DATE 8/97	
REVISED BY		DATE	

DISK 4 9003SC1.DWG

UPDATE DATE:
LETTING DATE:

CONSTRUCTION ELEVATIONS

LOCATION	BEAM A			BEAM A1			BEAM B			BEAM C			BEAM D			BEAM E			BEAM F			BEAM G			BEAM H			BEAM J			BEAM K			LOCATION
	CONST. ELEV.	TOP OF BEAM	DIM "X"	CONST. ELEV.	TOP OF BEAM	DIM "X"	CONST. ELEV.	TOP OF BEAM	DIM "X"	CONST. ELEV.	TOP OF BEAM	DIM "X"	CONST. ELEV.	TOP OF BEAM	DIM "X"	CONST. ELEV.	TOP OF BEAM	DIM "X"	CONST. ELEV.	TOP OF BEAM	DIM "X"	CONST. ELEV.	TOP OF BEAM	DIM "X"	CONST. ELEV.	TOP OF BEAM	DIM "X"	CONST. ELEV.	TOP OF BEAM	DIM "X"	CONST. ELEV.	TOP OF BEAM	DIM	
Skew Line A	519.809			519.910			520.082			520.387			520.691			520.993			521.235			521.473			521.709			521.814			521.734			Skew Line A
Skew Line B	519.764			519.865			520.035			520.342			520.648			520.952			521.198			521.439			521.677			521.788			521.708			Skew Line B
Skew Line C	514.555			514.667			514.786			515.239			515.689			516.135			516.579			517.021			517.459			517.895			517.935			Skew Line C
Skew Line D	509.579						509.711			510.178			510.743			511.302			511.856			512.406			512.950			513.490			513.607			Skew Line D
Skew Line E	504.604						505.097			505.694			506.291			506.887			507.478			508.064			508.645			509.211			509.373			Skew Line E
Skew Line F	504.562						505.061			505.657			506.253			506.849			507.441			508.027			508.606			509.171			509.333			Skew Line F
Skew Line G	504.541						504.685			504.813			505.514			506.223			506.933			507.636			508.332			509.021			509.306			Skew Line G
Skew Line H	504.493						504.639			504.769			505.469			506.178			506.887			507.591			508.287			508.976			509.265			Skew Line H
Skew Line J	502.032						502.276			502.611			503.258			503.910			504.564			505.222			505.888			506.553			506.852			Skew Line J
Skew Line K	500.410						500.650			501.106			501.629			502.201			502.710			503.139			503.623			504.161			504.470			Skew Line K
Skew Line L	500.391						500.632			501.089			501.609			502.177			502.681			503.106			503.586			504.120			504.427			Skew Line L
Grid Line 1	519.566	518.808	0.758	519.652	518.861	0.791	519.799	519.031	0.768	520.101	519.351	0.750	520.401	519.630	0.771	520.703	519.932	0.771	520.961	520.174	0.787	521.213	520.408	0.805	521.466	520.634	0.832	521.613	520.761	0.852	521.528	520.687	0.841	Grid Line 1
Grid Line 2	519.235			519.319	518.579	0.740	519.450	518.704	0.746	519.763	519.002	0.761	520.076	519.324	0.752	520.388	519.612	0.776	520.671	519.882	0.789	520.946	520.112	0.834	521.222	520.351	0.871	521.418	520.485	0.933	521.333	520.422	0.911	Grid Line 2
Grid Line 3	518.895	518.208	0.687	518.977	518.293	0.684	519.092	518.392	0.700	519.415	518.695	0.720	519.738	518.990	0.748	520.062	519.328	0.734	520.367	519.584	0.783	520.665	519.813	0.852	520.964	520.062	0.902	521.207	520.231	0.976	521.122	520.143	0.979	Grid Line 3
Grid Line 4	518.545	517.891	0.654	518.624	517.969	0.655	518.723	518.044	0.679	519.057	518.368	0.689	519.391	518.658	0.733	519.725	518.999	0.726	520.050	519.258	0.792	520.371	519.512	0.859	520.692	519.755	0.937	520.974	519.940	1.034	520.895	519.881	1.014	Grid Line 4
Grid Line 5	518.185	517.564	0.621	518.261	517.641	0.620	518.346	517.708	0.638	518.690	518.038	0.652	519.033	518.326	0.707	519.378	518.632	0.746	519.720	518.945	0.775	520.063	519.195	0.868	520.407	519.442	0.965	520.727	519.659	1.068	520.652	519.582	1.070	Grid Line 5
Grid Line 6	517.855	517.230	0.625	517.927	517.284	0.633	517.997	517.356	0.641	518.341	517.683	0.658	518.683	517.965	0.718	519.025	518.312	0.713	519.367	518.597	0.770	519.708	518.854	0.854	520.050	519.104	0.946	520.385	519.342	1.043	520.312	519.285	1.027	Grid Line 6
Grid Line 7	517.515	516.875	0.640	517.584	516.955	0.629	517.643	516.993	0.650	517.983	517.318	0.665	518.323	517.612	0.711	518.664	517.941	0.723	519.004	518.235	0.769	519.343	518.500	0.843	519.682	518.785	0.897	520.020	518.995	1.025	519.956	518.939	1.017	Grid Line 7
Grid Line 8	517.167	516.518	0.649	517.231	516.572	0.659	517.280	516.613	0.667	517.619	516.922	0.697	517.957	517.221	0.736	518.295	517.539	0.757	518.632	517.839	0.793	518.968	518.120	0.848	519.304	518.400	0.904	519.640	518.653	0.987	519.583	518.626	0.957	Grid Line 8
Grid Line 9	516.808	516.133	0.675	516.868	516.162	0.706	516.911	516.221	0.690	517.246	516.507	0.739	517.581	516.829	0.752	517.916	517.147	0.769	518.250	517.465	0.785	518.584	517.742	0.842	518.917	518.011	0.906	519.249	518.281	0.968	519.195	518.232	0.963	Grid Line 9
Grid Line 10	516.440	515.738	0.702	516.496	515.784	0.712	516.535	515.802	0.733	516.866	516.128	0.738	517.198	516.431	0.767	517.530	516.738	0.792	517.861	517.067	0.794	518.191	517.338	0.853	518.520	517.631	0.889	518.848	517.911	0.937	518.792	517.883	0.909	Grid Line 10
Grid Line 11	516.063	515.337	0.726	516.115	515.418	0.697	516.149	515.384	0.765	516.478	515.723	0.755	516.807	516.009	0.798	517.135	516.308	0.827	517.462	516.624	0.838	517.788	516.929	0.859	518.113	517.256	0.857	518.437	517.538	0.899	518.374	517.485	0.889	Grid Line 11
Grid Line 12	515.678	514.912	0.766	515.725	514.948	0.777	515.758	514.946	0.812	516.084	515.296	0.788	516.408	515.575	0.833	516.732	515.902	0.830	517.055	516.208	0.847	517.376	516.479	0.897	517.697	516.814	0.883	518.016	517.134	0.882	517.923			Grid Line 12
Grid Line 13	515.276	514.493	0.783	515.318	514.518	0.800	515.353	514.519	0.835	515.675	514.842	0.833	515.995	515.131	0.864	516.314	515.455	0.859	516.966	515.739		516.967	516.145	0.822	517.320	516.500	0.820	517.674	516.864	0.810	517.660	516.824	0.836	Grid Line 13
Grid Line 14	514.863	514.042	0.821	518.901	514.103	0.798	514.941	514.109	0.832	515.586			515.600	514.770	0.830	515.951	515.172	0.778	516.303	515.465	0.838	516.656	515.855	0.801	517.010	516.208	0.802	517.364	516.577	0.787	517.370	516.525	0.845	Grid Line 14
Grid Line 15	514.474	513.681	0.793	4			514.579	513.759	0.820	514.928	514.149	0.779	515.279	514.451	0.828	515.630	514.851	0.779	516.335	515.534	0.801	516.688	515.901	0.787	517.043	516.262	0.781	517.063	516.222	0.841	Grid Line 15
Grid Line 16	514.176	513.378	0.798				514.272	513.460	0.812	514.600	513.811	0.789	514.950	514.135	0.815	515.301	514.517	0.784	515.652	514.843	0.809	516.004	515.231	0.772	516.357	515.594	0.763	516.711	515.943	0.768	516.741	515.904	0.837	Grid Line 16
Grid Line 17	513.868	513.061	0.807				513.963	513.152	0.811	514.264	513.506	0.758	514.612	513.832	0.780	514.962	514.189	0.773	515.313	514.546	0.767	515.664	514.904	0.760	516.017	515.253	0.764	516.369	515.611	0.758	516.403	515.564	0.839	Grid Line 17
Grid Line 18	513.549	512.739	0.810				513.642	512.835	0.807	513.919	513.160	0.759	514.267	513.468	0.799	514.616	513.853	0.763	514.965	514.191	0.774	515.314	514.566	0.748	515.665	514.900	0.765	516.016	515.269	0.747	516.048	515.215	0.833	Grid Line 18
Grid Line 19	513.221	512.415	0.806				513.306	512.517	0.789	513.566	512.835	0.731	513.913	513.162	0.751	514.259	513.492	0.767	514.607	513.874	0.733	514.955	514.192	0.763	515.304	514.559	0.745	515.652	514.906	0.746	515.678	514.847	0.831	Grid Line 19
Grid Line 20	512.883	512.077	0.806				512.959	512.183	0.766	513.206	512.472	0.734	513.551	512.804	0.747	513.895	513.138	0.757	514.241	513.474	0.767	514.587	513.855	0.732	514.933	514.170	0.763	515.280	514.536	0.744	515.294	514.444	0.850	Grid Line 20
Grid Line 21	512.534	511.747	0.787				512.603	511.859	0.744	512.838	512.101	0.737	513.180	512.443	0.737	513.523	512.756	0.767	513.866	513.090	0.776	514.209	513.449	0.760	514.552	513.759	0.793	514.896	514.131	0.765	514.892	514.035	0.857	Grid Line 21
Grid Line 22	512.177	511.378	0.799				512.238	511.470	0.768	512.462	511.723	0.739	512.803	512.018	0.785	513.142	512.355	0.787	513.482	512.693	0.789	513.822	513.050	0.772	514.162	513.375	0.787	514.503	513.712	0.791	514.476	513.639	0.837	Grid Line 22
Grid Line 23	511.810	511.024	0.786				511.840	511.068	0.772	512.080	511.329	0.751	512.416	511.633	0.783	512.754	511.961	0.793	513.090	512.296	0.794	513.427	512.637	0.790	513.763	512.951	0.812	514.099	513.297	0.802	514.045	513.186	0.859	Grid Line 23
Grid Line 24	511.433	510.661	0.772				511.504	510.687	0.817	511.691	510.898	0.793	512.024	511.221	0.803	512.357	511.538	0.819	512.690	511.873	0.817	513.022	512.197	0.831	513.354	512.514	0.840	513.686	512.872	0.814	513.607			Grid Line 24
Grid Line 25	511.053	510.255	0.798				511.094	510.293	0.801	511.302	510.521	0.781	511.631	510.813	0.818	511.960	511.121	0.839	512.288	511.434	0.854	512.617	511.821	0.796	512.952	512.175	0.777	513.341	512.527	0.820	513.333	512.503	0.830	Grid Line 25
Grid Line 26	510.663	509.839	0.824				510.699	509.850	0.849	510.904	510.129	0.775	511.229	510.395	0.834	511.554	510.736	0.818	511.880			512.267	511.454	0.813	512.654	511.820	0.834	513.037	512.221	0.816	513.044	512.207	0.837	Grid Line 26
Grid Line 27	510.264	509.465	0.799				510.293	509.445	0.848	510.499	509.686	0.813	510.820	510.051	0.769	511.194			511.582			511.967			512.347			512.724			512.742			Grid Line 27
Grid Line 28	509.854	509.073	0.781				509.877	509.056	0.821	510.119	509.292	0.827	510.510	509.679	0.831	510.896	510.069	0.827	511.279	510.466	0.813	511.657	510.868	0.789	512.031	511.253	0.778	512.402	511.615	0.787	512.424	511.641	0.783	Grid Line 28
Grid Line 29	509.485	508.720	0.765				509.542	508.701	0.841	509.825	509.011	0.814	510.210	509.405	0.805	510.590	509.785	0.805	510.966	510.168	0.798	511.338	510.580	0.758	511.706	510.932	0.733	512.070	511.331	0.739	512.093	511.265	0.828	Grid Line 29
Grid Line 30	509.248	508.430	0.818				509.248	508.430	0.818	509.523	508.721	0.802	509.973	509.129	0.844	510.278	509.465	0.811	510.646	509.868	0.778	511.011	510.260	0.751	511.372	510.615	0.757	511.729	510.990	0.739	511.747	510.928	0.819	Grid Line 30
Grid Line 31	508.888	508.127	0.761				508.943	508.128	0.815	509.214	508.436	0.778	509.586	508.840	0.746	509.954	509.146	0.808	510.317	509.559	0.758	510.675	509.941	0.734	511.029	510.278	0.751	511.379	510.628	0.751	511.386	510.563	0.823	Grid Line 31
Grid Line 32	508.575	507.842	0.733				508.629	507.835	0.794	508.898	508.151	0.747	509.264	508.566	0.698	509.624	508.835	0.789	509.980	509.231	0.749	510.331	509.599	0.733	510.678	509.917	0.761	511.020	510.252	0.768	511.013	510.175	0.838	Grid Line 32
Grid Line 33	508.253	507.539	0.714				508.307	507.508	0.799	508.574	507.830	0.744	508.933	508.230	0.703	509.287	508.518	0.769	509.636	508.878	0.758	509.979	509.251	0.728	510.318	509.531	0.787	510.652	509.877	0.775	510.625	509.772	0.853	Grid Line 33
Grid Line 34	507.922	507.212	0.710				507.975	507.159	0.816	508.244	507.497	0.747	508.595	507.880	0.715	508.942	508.160	0.782	509.283	508.517	0.766	509.619	508.897	0.722	509.950	509.175	0.775	510.276	509.466	0.810	510.223	509.391	0.832	Grid Line 34
Grid Line 35	507.582	506.899	0.683				507.633	506.853	0.780	507.907	507.167	0.740	508.251	507.528	0.723	508.590	507.820	0.770	508.923	508.147	0.776	509.250	508.498	0.752	509.573	508.767	0.806	509.890	509.078	0.812	509.807	508.957	0.850	Grid Line 35
Grid Line 36	507.233	506.546	0.687				507.283	506.529	0.754	507.563	506.830	0.733	507.899	507.151	0.748	508.230	507.451	0.779	508.555	507.753	0.802	508.874	508.092	0.782	509.188	508.355	0.833	509.495	508.649	0.846	509.373	508.574	0.799	Grid Line 36
Grid Line 37	507.118	506.432	0.686				507.165	506.420	0.745	507.450	506.702	0.748	507.784	507.030	0.754	508.112	507.330	0.782	508.434	507.662	0.812	508.750	507.940	0.810	509.061	508.233	0.828	509.364	508.511	0.853	509.265	508.487	0.778	Grid Line 37
Grid Line 38	506.756	506.071	0.685				506.796	506.039	0.757	507.095	506.351	0.744	507.420	506.659	0.761	507.741	506.940	0.801	508.054	507.241	0.813	508.362	507.560	0.802	-----			508.911	508.157	0.754	508.945	508.226	0.719	Grid Line 38
Grid Line 39	506.384	505.706	0.678				506.416	505.665	0.751	506.732	505.951	0.781	507.050	506.272	0.778	507.360	506.541	0.819	507.665	506.831	0.834	-----			508.166	507.425	0.741	508.575	507.882	0.693	508.615	507.918	0.697	Grid Line 39
Grid Line 40	506.002	505.303	0.699				506.046	505.290	0.756	506.362	505.560	0.802	506.670	505.855	0.815	506.971	506.171	0.800	-----			507.423	506.666	0.757	507.831	507.159	0.672	508.233	507.568	0.665	508.273	507.593	0.680	Grid Line 40
Grid Line 41	505.613	504.894	0.719				505.678	504.906	0.772	505.985	505.172	0.813	-----			-----			-----			506.684	505.962	0.722	507.093	506.401	0.642	507.493	506.817	0.676	507.887	507.290	0.597	507.922	507.262	0.660	Grid Line 41
Grid Line 42	505.222	504.496	0.726				505.311	504.498	0.813	-----			-----			505.956	505.225	0.731	506.364	505.702	0.662	506.764	506.105	0.659	507.157	506.507	0.650	507.543	506.895	0.648	507.568	506.879	0.689	Grid Line 42
Grid Line 43	504.830	504.083	0.747				-----			-----			505.239	504.508	0.731	505.647	504.963	0.684	506.048	505.427	0.621	506.439	505.783	0.656	506.824	506.165	0.659	507.201	506.531	0.670	507.212	506.464	0.748	Grid Line 43
Grid Line 44	504.465	503.704	0.761				504.512	503.792	0.720	504.536	503.795	0.741	504.943	504.272	0.671	505.342	504.704	0.638	505.734	505.121	0.613	506.119	505.472	0.647	506.495	505.803	0.692	506.863	506.127	0.736	506.852	506.062	0.790	Grid Line 44
Grid Line 45	504.178	503.445	0.733				504.225	503.505	0.720	504.249	503.582	0.667	504.650	504.043	0.607	505.042	504.411	0.631	505.426	504.822	0.604	505.802	505.079	0.723	506.169	505.445	0.725	506.530	505.721	0.809	506.568	505.767	0.801	Grid Line 45
Grid Line 46	503.891	503.210	0.681				503.939	503.233	0.706	503.969	503.326	0.643	504.362	503.747	0.615	504.746	504.102	0.644	505.122	504.452	0.670	505.489	504.720	0.769	505.851	505.065	0.786	506.244	505.452	0.792	506.283	505.472	0.811	Grid Line 46
Grid Line 47	503.604	502.929	0.675				503.652	502.957	0.695	503.693	503.060	0.633	504.078	503.450	0.628	504.454	503.763	0.691	504.820	504.074	0.746	505.174	504.326	0.848	505.560	504.801	0.759	505.936	505.155	0.781	506.970	506.126	0.844	Grid Line 47
Grid Line 48	503.319	502.654	0.665				503.366	502.682	0.686	503.421	502.772	0.649	503.797	503.132	0.665	504.165	503.413	0.752	504.525	503.741	0.784	504.886	504.141	0.745	505.238	504.531	0.707	505.580	504.845	0.735	505.598	504.810	0.788	Grid Line 48
Grid Line 49	503.035	502.366	0.669				503.080	502.363	0.717	503.154	502.464	0.690	503.521	502.807	0.714	503.882	503.071	0.811	504.272	503.523	0.749	504.600	503.910	0.690	504.918	504.279	0.639	505.226	504.487	0.739	505.225	504.447	0.778	Grid Line 49
Grid Line 50	502.751	502.060	0.691				502.794	502.074	0.720	502.890	502.169	0.721	503.248	502.443	0.805	503.644	502.892	0.752	504.022	503.305	0.717	504.316	503.648	0.668	504.600	503.944	0.656	504.874	504.164	0.710	504.850	504.030	0.820	Grid Line 50
Grid Line 51	502.470	501.741	0.729				502.508	501.742	0.766	502.631	501.841	0.790	503.023	502.302	0.721	503.410	502.713	0.697	503.774	503.091	0.683	504.034	503.381	0.653	504.283	503.606	0.677	504.523	503.790	0.733	504.470	503.700	0.770	Grid Line 51
Grid Line 52	502.171	501.359	0.812				502.221	501.379	0.842	502.400	501.655	0.745	502.787	502.111	0.676	503.165	502.501	0.664	503.512	502.811	0.701	503.734	503.024	0.710	503.947	503.190	0.755	504.150							Grid Line 52
Grid Line 53	501.911	501.135	0.776				501.996	501.228	0.768	502.178	501.496	0.682	502.556	501.923	0.633	502.925	502.261	0.664	503.248	502.529	0.719	503.435	502.669	0.766	503.248	502.529	0.719	503.435	502.669	0.766	503.610			Grid Line 53
Grid Line 54	501.691	501.013	0.678				501.772	501.080	0.692	501.962	501.302	0.660	502.331	501.691	0.640	502.689	502.011	0.678	502.986	502.230	0.756	503.135	502.308	0.827										Grid Line 54
Grid Line 55	501.472	500.807	0.665				501.546	500.890	0.656	501.750	501.116	0.634	502.109	501.435	0.674	502.458	501.731	0.727	502.722	501.905	0.817													Grid Line 55
Grid Line 56	501.255	500.634	0.619				501.320	500.677	0.643	501.545	500.912	0.633	501.893	501.190	0.703	502.231	501.433	0.798																Grid Line 56
Grid Line 57	501.039	500.447	0.592				501.092			501.343	500.682	0.661	501.683	500.888	0.795																			Grid Line 57
Grid Line 58	500.862	500.242	0.620				500.901	500.228	0.673	501.176	500.426	0.750																						Grid Line 58
Grid Line 59	500.693	500.010	0.683				500.738	500.005	0.733																									Grid Line 59
Grid Line 60	500.524	499.784	0.740																															Grid Line 60

PLANS PREPARED AND SUBMITTED BY:
BALKE ENGINEERS
P.E. DATE 11/95
DATE
DATE

DESIGNED BY	MRS	CHECKED BY	DWE
DETAILED BY	ALH/JDG	CHECKED BY	MRS
TRACED BY		CHECKED BY	

⚠ AS BUILT
REVISED BY DATE 6/01
REVISED BY DATE 8/01
REVISED BY DATE

DISK 4 9003SC2.DWG

CONSTRUCTION ELEVATIONS

HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

KENTUCKY APPROACH

SHEET 130

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

BRF 00272 048

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

UPDATE DATE:
LETTING DATE:

PLANS PREPARED AND SUBMITTED BY: BALKE ENGINEERS

MEMO DATE 4/4/94
DATE
DATE

REVISED BY DWT DATE 4/91
REVISED BY MRS DATE 8/91
REVISED BY DATE

DESIGNED BY MRS CHECKED BY
DETAILED BY JDG/DLH CHECKED BY
TRACED BY CHECKED BY

CONSTRUCTION ELEVATIONS AND SLAB OFFSETS

LOCATION		LEFT OFFSET "W"	LEFT EDGE OF BRIDGE	LEFT GUTTER	℄ OF SURVEY	RIGHT GUTTER	RIGHT EDGE OF BRIDGE	RIGHT OFFSET "W"	
Grid Line 1		2'-6"	519.540	519.688	520.747	521.628	521.502	2'-6"	
Grid Line 2		2'-6"	519.209	519.360	520.460	521.425	521.307	2'-6"	
Grid Line 3		2'-6"	518.869	519.021	520.160	521.207	521.096	2'-6"	
Grid Line 4		2'-6"	518.519	518.670	519.847	520.974	520.869	2'-6"	
Grid Line 5		2'-6"	518.159	518.309	519.521	520.727	520.626	2'-6"	
Grid Line 6		2'-6"	517.829	517.975	519.183	520.385	520.286	2'-6"	
Grid Line 7		2'-6"	517.489	517.631	518.831	520.027	519.930	2'-6"	
Grid Line 8		2'-6"	517.140	517.276	518.468	519.656	519.557	2'-6"	
Grid Line 9		2'-6"	516.781	516.911	518.091	519.270	519.168	2'-6"	
Grid Line 10		2'-6"	516.414	516.535	517.703	518.870	518.766	2'-6"	
Grid Line 11		2'-6⅛"	516.037	516.149	517.302	518.457	518.348	2'-6"	
Grid Line 12		2'-6⅛"	515.652	515.752	516.889	518.029	517.909	2'-6⅛"	
Grid Line 13		2'-6⅛"	515.249	515.339	516.457	517.702	517.629	3'-0⅛"	2.97
Grid Line 14		2'-6⅛"	514.837	514.914	516.151	517.411	517.335	3'-4⅛"	3.37
Grid Line 15	2.30	2'-11⅛"	514.450	514.569	515.854	517.105	517.025	3'-6⅛"	3.67
Grid Line 16	1.89	1'-10⅛"	514.156	514.272	515.544	516.784	516.700	3'-3⅛"	3.87
Grid Line 17	1.57	1'-5⅛"	513.851	513.963	515.222	516.449	516.361	3'-11⅛"	3.97
Grid Line 18	1.33	1'-3⅛"	513.536	513.643	514.886	516.100	516.007	3'-11⅛"	3.98
Grid Line 19	1.18	1'-2"	513.209	513.312	514.538	515.736	515.638	3'-3"	3.89
Grid Line 20	1.11	1'-1⅛"	512.871	512.971	514.178	515.360	515.255	3'-11⅛"	3.70
Grid Line 21	1.13	1'-1⅛"	512.522	512.618	513.804	514.968	514.856	3'-4⅛"	3.42
Grid Line 22	1.23	1'-2⅛"	512.164	512.255	513.419	514.563	~~514.320~~	3'-0⅛"	3.04
Grid Line 23	1.41	1'-5⅛"	511.795	511.859	513.022	514.145	~~513.920~~	2'-8⅛"	2.56
Grid Line 24	1.68	1'-8⅛"	511.415	511.524	512.613	513.712	~~513.586~~	2'-0"	1.99
Grid Line 25	2.02	2'-0⅛"	511.032	511.114	512.199	513.366	~~513.202~~	2'-6⅛"	2.50
Grid Line 26	2.45	2'-5⅛"	510.638	510.718	511.776	513.079	~~512.890~~	2'-11⅛"	2.92
Grid Line 27	2.96	3'-0"	510.233	510.310	511.487	512.779	~~512.571~~	3'-0"	3.24
Grid Line 28	3.55	3'-7⅛"	509.817	509.892	511.193	512.466	~~512.242~~	3'-5⅛"	3.47
Grid Line 29	3.81	3'-9⅛"	509.446	509.556	510.885	512.139	~~511.904~~	3'-7⅛"	3.61
Grid Line 30	3.30	3'-3⅛"	509.157	509.262	510.567	511.800	~~511.557~~	3'-8"	3.66
Grid Line 31	2.87	2'-10⅛"	508.858	508.956	510.236	511.448	~~511.198~~	3'-7⅛"	3.61
Grid Line 32	2.52	2'-6⅛"	508.548	508.642	509.894	511.083	~~510.832~~	3'-5⅛"	3.48
Grid Line 33	2.25	2'-3⅛"	508.229	508.317	509.541	510.706	~~510.391~~	3'-3"	3.24
Grid Line 34	2.07	2'-0⅛"	507.900	507.982	509.176	510.317	~~510.192~~	2'-11⅛"	2.92
Grid Line 35	1.96	1'-11⅛"	507.561	507.637	508.800	509.915	~~509.751~~	2'-6⅛"	2.50
Grid Line 36	1.94	1'-11⅛"	507.212	507.283	508.413	509.500	~~509.235~~	2'-3⅛"	1.99
Grid Line 37	1.95	1'-11⅛"	507.098	507.165	508.285	509.364	509.239	2'-7⅛"	2.52
Grid Line 38	2.03	2'-0⅛"	506.734	506.796	507.881	508.986	508.915	2'-11⅛"	2.87
Grid Line 39	2.20	2'-2⅛"	506.361	506.416	507.465	508.661	508.583	3'-1⅛"	3.12
Grid Line 40	2.45	2'-5⅛"	505.976	506.024	------	508.325	508.239	3'-3⅛"	3.29
Grid Line 41	2.78	2'-9⅛"	505.584	505.623	506.739	507.982	507.887	3'-4⅛"	3.36
Grid Line 42	3.19	3'-2⅛"	505.189	505.219	506.417	507.636	507.534	3'-3⅛"	3.34
Grid Line 43	3.68	2'-0⅛"	504.791	------	506.097	507.290	507.178	3'-1⅛"	3.23
Grid Line 44	3.95	3'-10⅛"	------	504.531	505.776	506.944	506.820	3'-0⅛"	3.02
Grid Line 45	3.53	3'-5⅛"	504.141	504.246	505.457	506.601	506.534	3'-3⅛"	3.29
Grid Line 46	3.19	3'-1⅛"	503.857	503.959	505.138	506.322	506.247	3'-5⅛"	3.48
Grid Line 47	2.94	2'-10⅛"	503.573	503.672	504.818	506.017	505.933	3'-6⅛"	3.57
Grid Line 48	2.76	2'-8⅛"	503.290	503.384	504.506	505.655	505.561	3'-6⅛"	3.57
Grid Line 49	2.67	2'-8"	503.007	503.096	504.252	505.292	505.189	3'-5⅛"	3.48
Grid Line 50	2.66	2'-8⅛"	502.723	502.806	503.998	504.929	504.816	3'-3⅛"	3.29
Grid Line 51	2.73	2'-9⅛"	502.441	502.516	503.745	504.566			
Grid Line 52	2.88	2'-11⅛"	502.141	502.224	503.476	504.178			
Grid Line 53	2.91	2'-10⅛"	501.881	501.999	503.206				
Grid Line 54	2.82	2'-8⅛"	501.662	501.772	502.937				
Grid Line 55	2.63	2'-10"	501.442	501.546	502.669				
Grid Line 56	2.92	2'-11⅛"	501.225	501.320					
Grid Line 57	3.10	2'-1⅛"	501.007	501.092					
Grid Line 58	3.35	3'-4⅛"	500.828	500.900					
Grid Line 59	3.60	3'-7⅛"	500.658	500.715					
Grid Line 60	3.85	3'-10⅛"	500.487						

LOCATION	RIGHT EDGE OF BRIDGE
GRID LINE 22	514.444
GRID LINE 23	514.018
GRID LINE 24	513.586
GRID LINE 25	513.307
GRID LINE 26	513.014
GRID LINE 27	512.708
GRID LINE 28	512.398
GRID LINE 29	512.056
GRID LINE 30	511.709
GRID LINE 31	511.349
GRID LINE 32	510.976
GRID LINE 33	510.591
GRID LINE 34	510.192
GRID LINE 35	509.781
GRID LINE 36	509.352

TABLE OF ELEVATIONS FOR CONTROL OF SLAB THICKNESS

CHECK POINT	TOP OF SLAB ELEVATION	BOTTOM OF SLAB ELEVATION	COMPUTED SLAB THICKNESS	CHECK POINT	TOP OF SLAB ELEVATION	BOTTOM OF SLAB ELEVATION	COMPUTED SLAB THICKNESS
a	519.277			m2	510.778		
b	519.384			n2	511.468		
c	519.606			o2	511.844		
d	519.919			p2	512.536		
e	520.232			q2	513.041		
f	520.529			r2	507.608		
g	520.809			s2	507.770		
h	521.084			t2	508.420		
i	521.320			u2	509.110		
k	521.375			v2	509.462		
l	517.199			w2	510.156		
m	517.256			x2	510.505		
n	517.450			y2	511.204		
o	518.153			z2	511.738		
p	518.494			a3	506.024		
q	518.834			b3	506.204		
r	519.173			c3	506.891		
s	519.512			d3	507.581		
t	520.217			e3	508.273		
u	520.349			f3	508.715		
v	515.701			g3	509.412		
w	515.741			h3	509.731		
x	515.921			i3	510.249		
y	516.246			k3	503.915		
z	516.971			l3	504.237		
a1	517.298			m3	504.450		
b1	517.625			n3	505.142		
c1	517.950			o3	505.847		
d1	518.684			p3	506.564		
e1	518.820			q3	507.293		
f1	513.916			r3	508.032		
g1	514.113			s3	508.595		
h1	514.775			t3	502.772		
j1	515.126			u3	503.117		
k1	515.477			v3	503.609		
l1	516.159			w3	504.266		
m1	516.512			x3	504.934		
n1	517.187			y3	505.614		
o1	517.367			z3	506.307		
p1	512.569			a4	506.679		
q1	512.721			b4	507.207		
r1	513.378			c4	501.732		
s1	513.723			d4	502.087		
t1	514.068			e4	502.593		
u1	514.781			f4	503.217		
v1	515.130			g4	503.833		
w1	515.840			h4	504.436		
x1	516.032			i4	505.062		
y1	510.681			k4	505.748		
z1	510.802			l4	506.263		
a2	511.466			m4	500.881		
b2	511.796			n4	501.218		
c2	512.523			o4	501.719		
d2	512.856			p4	502.284		
e2	513.595			q4	502.838		
f2	513.931			r4	503.342		
g2	514.489			s4	503.841		
h2	508.916			t4	504.403		
j2	509.079			u4	504.862		
k2	509.713						
l2	510.400						

NOTES:

1. Take elevations on top of beam at points indicated after diaphragms are in place, after all false work has been removed, and after forms for concrete slabs have been put in place. Read elevations to three decimals using a target rod and enter readings in table under top of beam elevations.
2. Compute dimension "X" as follows: Construction elevation minus top of beam elevation equals dimension "X". Construction elevation includes camber due to weight of concrete slab, barrier, and future surfacing.
3. For setting templates, measure dimension "X" above top of beam for top of template. Do not set template by elevations.
4. Construct barrier to gutter line grade. Do not add camber to barrier.
5. Slab Thickness Control. After the slab forms are erected and before the slab reinforcement is placed, the Resident Engineer shall take field elevations at the slab thickness check points and enter them in the table in the space provided. The slab thickness shall then be computed. If the computed slab thickness varies more than ¼ inch from the plan thickness, allowing 1/360 of the slab span for deflection of the formwork, the form shall be adjusted until the computed slab thickness is within the tolerance allowed.

SLAB THICKNESS CONTROL ELEVATIONS DO NOT APPLY AS SIP METAL FORMS WERE USED.

KENTUCKY APPROACH SHEET 131

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

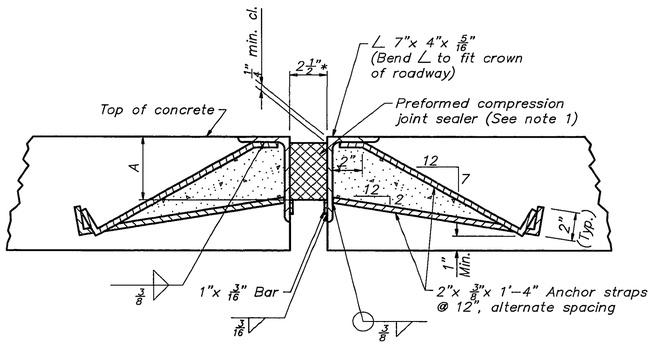
STATION 113+40 P.E. PROJECT NO. FSP 013 0027 022-023 073.0

HAZELET & ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

CONSTRUCTION PROJECT NO. | MAINTENANCE PROJECT NO. | DRAWING NO. 22740

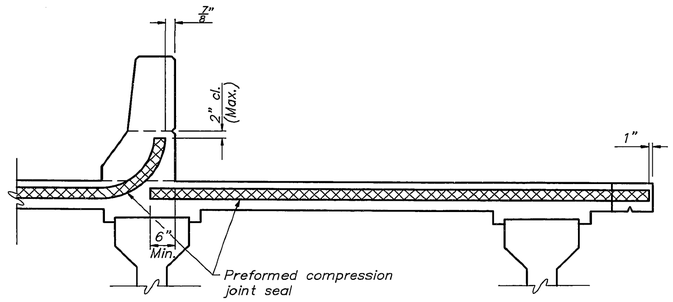
CONSTRUCTION ELEVATIONS

DISK 4 90035C3.DWG



A = Compressed height of seal as required by manufacturer +¼".

CROSS SECTION OF EXPANSION DAM



SECTION THRU BARRIER & SIDEWALK

Notes:

1) Seal supplied must accomodate 2" of movement.

* Dimension shall be set with temperature change correction and as recommended by seal manufacturer to obtain required movement.

GENERAL NOTES

SPECIFICATIONS
The Kentucky Department of Highways standard specifications for road and bridge construction, current edition shall apply to this project.

INSTALLATION PROCEDURE
The ends of the joint seal shall be sealed to prevent the entrance of water and foreign material.

WELDING SPECIFICATIONS
Techniques and welding procedure shall comply with joint specification ANSI/AASHTO/AWS D1.5–88 Bridge Welding Code with revisions.

BASIS OF PAYMENT
The accepted quantities of expansion dam will be paid for at the contract unit price per linear foot for each size, measured along the centerline of joint. This payment shall be full compensation for all materials (including preformed compression joint sealer with lubricant adhesive, armored edges, anchor straps, 1"x 3/16" bars, welding and welding materials and installing hardware) and installation. Payment will be made under:

PAY ITEM	PAY UNIT
Expansion dam (size) neoprene	Linear foot

MATERIAL SPECIFICATIONS
Steel material shall conform to AASHTO designation M–183. Preformed compression joint sealer with lubricant adhesive shall be in accordance with section 807.02.03 of the specifications.

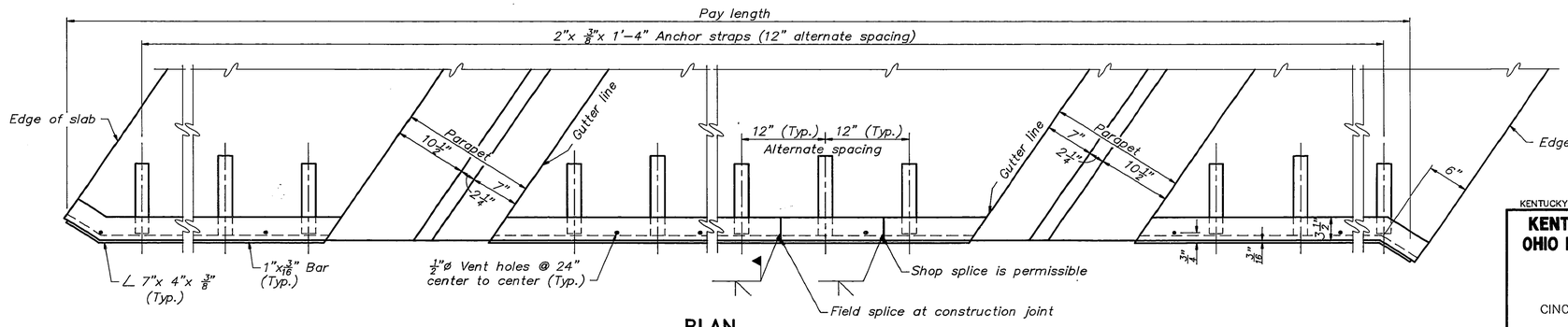
LOCATION
The location of expansion dams shall be in accordance with the the detail plans.

Exposed Surfaces Only →

PAINT
All structural steel shall be cleaned and painted in accordance with the specifications, except that the area in contact with concrete shall not be painted.

SHOP PLANS
Contrary to the specifications, shop plans will not be required.

JOINT OPENING
Increment for 10° temperature change is 1/8".



PLAN

2 1/2" NEOPRENE EXPANSION DAM

KENTUCKY APPROACH SHEET 132

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022–023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

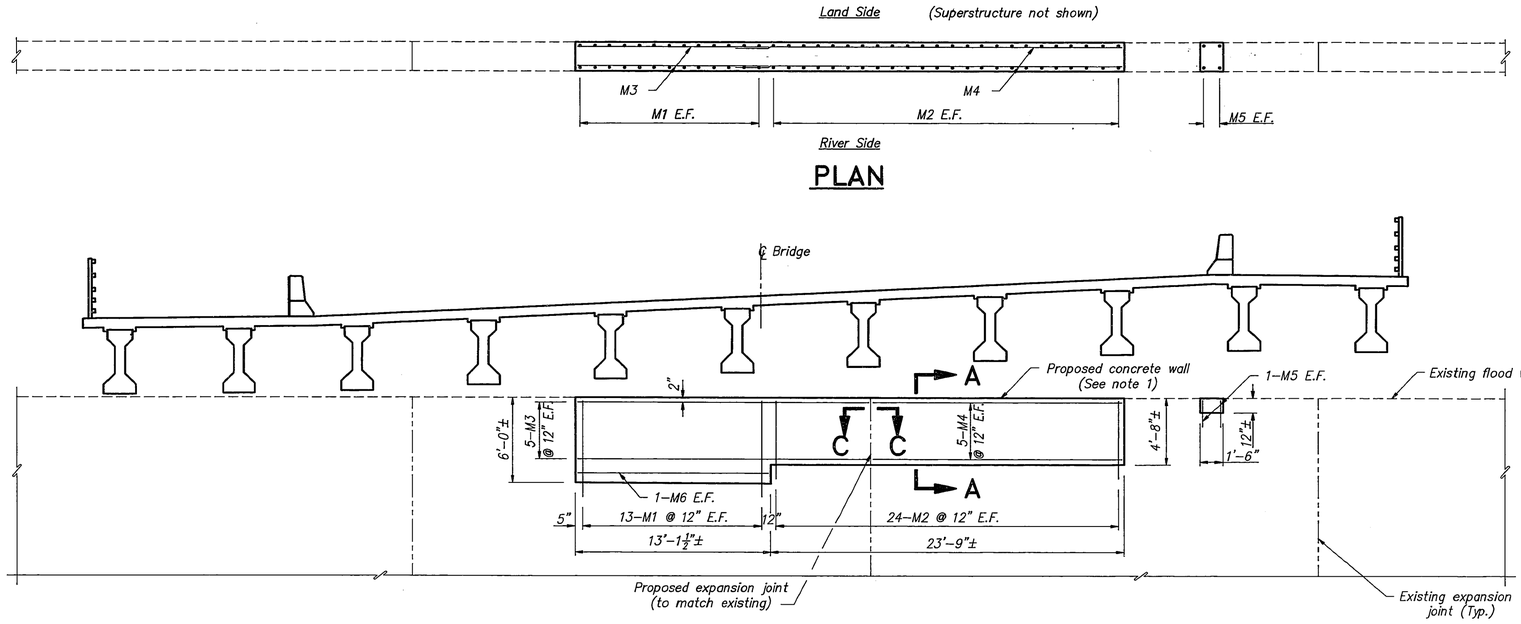
HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

UPDATE DATE:
LETTING DATE:

PLANS PREPARED AND SUBMITTED BY:
BALKE ENGINEERS

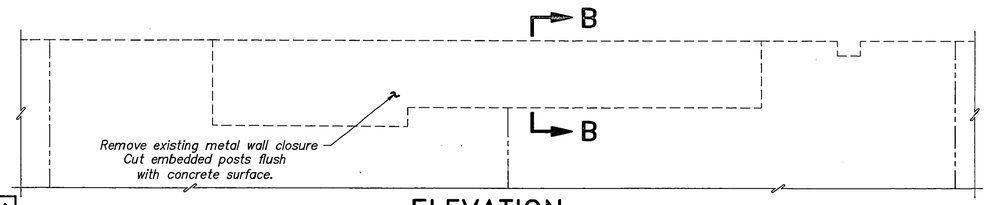
DESIGNED BY	MRS	CHECKED BY	DWI	DATE 6/91	REVISED BY
DETAILED BY	ALH	CHECKED BY	MRS	DATE 8/91	REVISED BY
TRACED BY		CHECKED BY		DATE	REVISED BY

DISK 8 9003ED1



PLAN

ELEVATION



ELEVATION

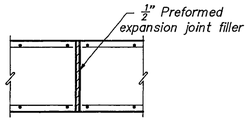
(Existing Condition)

MARK	TYPE	NO.	SIZE	LENGTH FT.	LENGTH IN.	LOCATION△
M1	Str.	26	5	6	10	Flood wall
M2	Str.	~~48~~ 50	5	5	6	Flood wall
M3	Str.	10	5	16	~~9~~ 6	Flood wall
M4	Str.	10	5	~~19~~ 17	~~1~~ 8	Flood wall
M5	Str.	4	5	1	10	Flood wall
M6	Str.	2	5	12	11	Flood wall

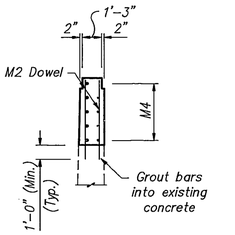
ESTIMATE OF QUANTITIES △

ITEM	QUANTITY	UNIT
CONCRETE CLASS "A"	11~~8~~ 2	CU. YDS.
STEEL REINFORCEMENT	890	LBS.

Note:
1) Existing concrete surface shall be cleaned, washed, and scrubbed as described in 601.18 of the specifications. In addition, the surface shall be roughened prior to placing new concrete and bonding agent applied per the Special note.

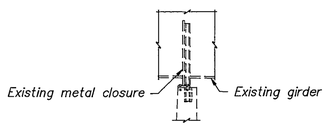


SECTION C–C



SECTION A–A

Note:
Top of new concrete shall match shape and elevation of existing wall.



SECTION B–B

UPDATE DATE:
LETTING DATE:

PLANS PREPARED AND SUBMITTED BY:
BALKE ENGINEERS

DESIGNED BY	MRS	DATE 11-21	REVISED BY △ As Built
DETAILED BY	JDG	DATE	REVISED BY
TRACED BY		DATE	REVISED BY
CHECKED BY	DWL	DATE 6/21	
CHECKED BY	DWL	DATE 8/21	
CHECKED BY		DATE	

XOJWALL DISK 3

KENTUCKY APPROACH SHEET 133

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022–023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

FLOODWALL MODIFICATIONS

UPDATE DATE:
LETTING DATE:

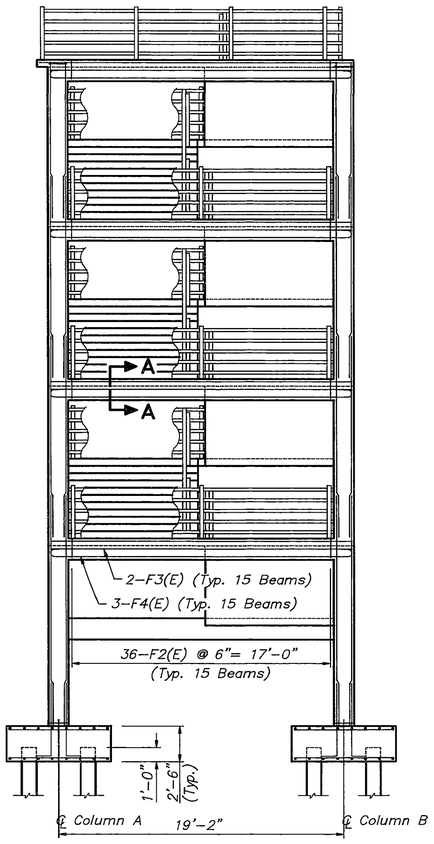
PLANS PREPARED AND SUBMITTED BY:
BALKE ENGINEERS

H+E DATE: 12-22
H+E DATE: 4/25
DATE:

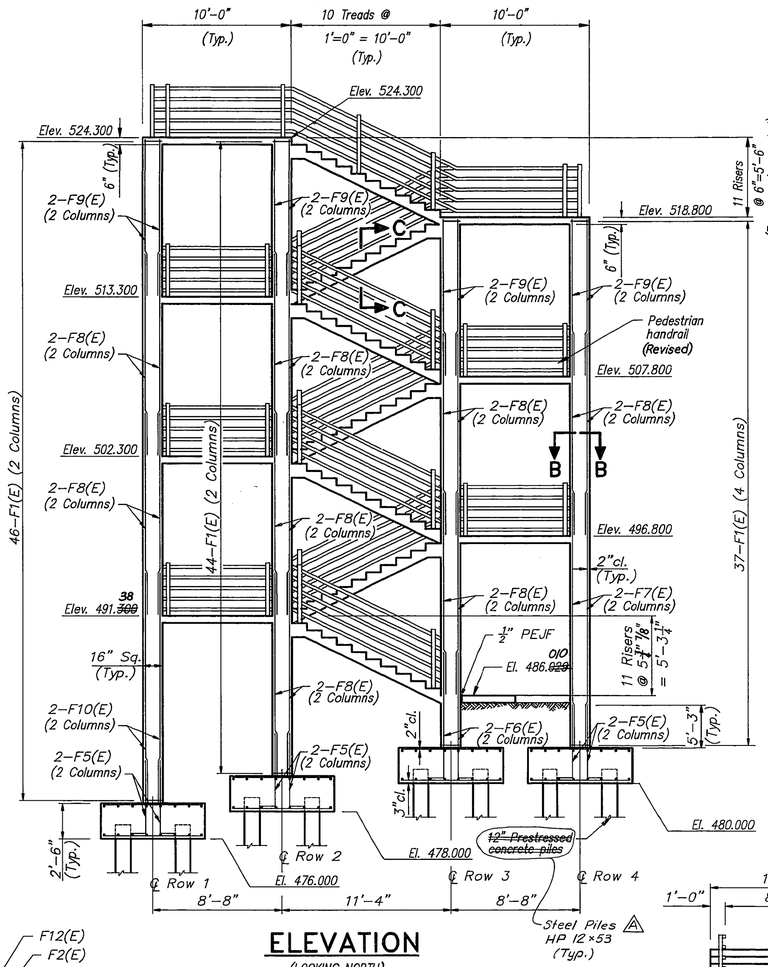
REVISED BY	DM	DATE 4/01
REVISED BY	MRS	DATE 8/01
REVISED BY		DATE

⚠ Revised Piling Type
⚠ As Built

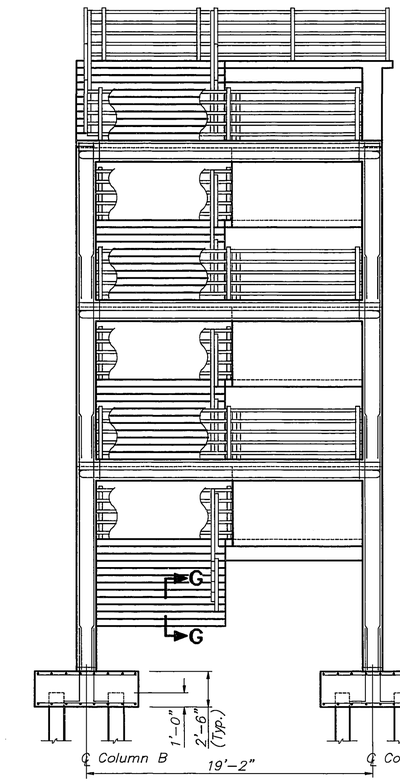
DESIGNED BY MRS CHECKED BY DM
DETAILED BY ALH/DG CHECKED BY MRS
TRACED BY CHECKED BY



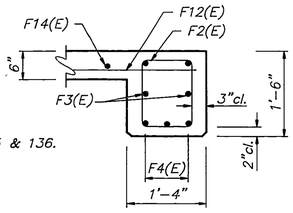
ELEVATION
(LOOKING EAST)



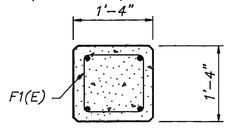
ELEVATION
(LOOKING NORTH)



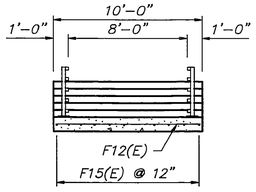
ELEVATION
(LOOKING WEST)



SECTION A–A



SECTION B–B



SECTION C–C

NOTE:
For additional details, see sheets 135 & 136.

KENTUCKY STAIRS

KENTUCKY APPROACH SHEET 134

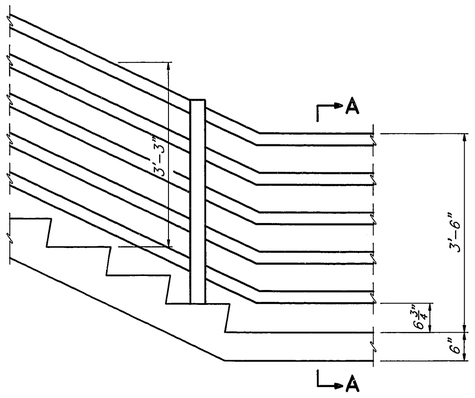
KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

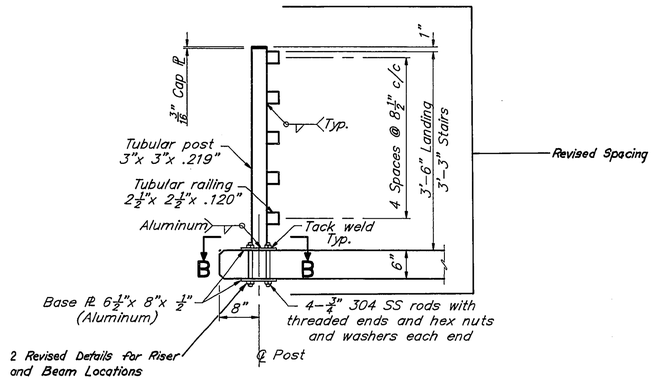
BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022–023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

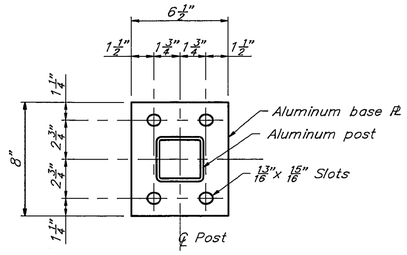
HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS



STRUCTURAL TUBING HANDRAIL



SECTION A–A



SECTION B–B

Notes:
1. Aluminum post shall be spaced a maximum of 8'–6".
2. Aluminum base plates to be completly insulated from concrete with an alumilastic compound or approved equal.

KENTUCKY STAIRS

KENTUCKY APPROACH SHEET 135

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022–023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

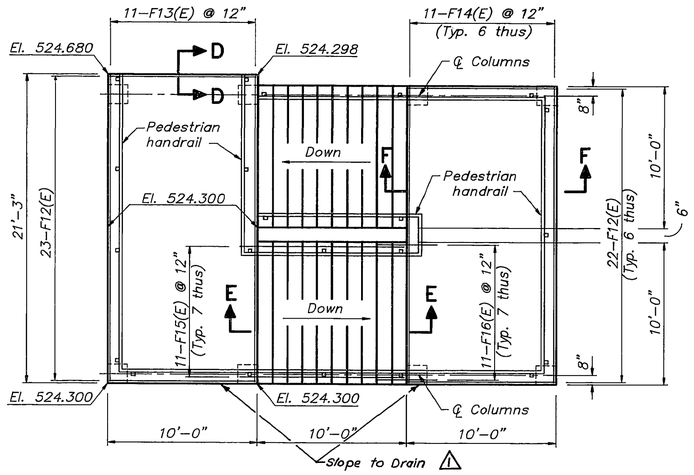
HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

PLANS PREPARED AND SUBMITTED BY: BALKE ENGINEERS
H+E DATE 7/95
DATE
DATE

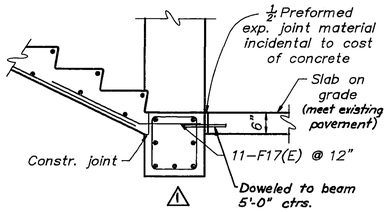
UPDATE DATE:
LETTING DATE:

DESIGNED BY	MRS	CHECKED BY	DM
DETAILED BY	JDC	CHECKED BY	DM
TRACED BY		CHECKED BY	
DATE 5/97		DATE 8/97	
REVISED BY	⚠ As Built		
REVISED BY			
REVISED BY			

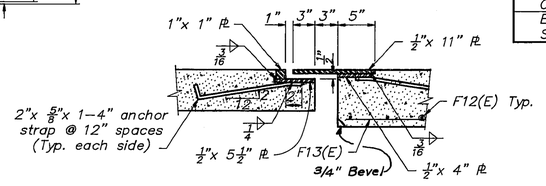
RAILDETL DISK 8



PLAN



SECTION G–G



SECTION D–D

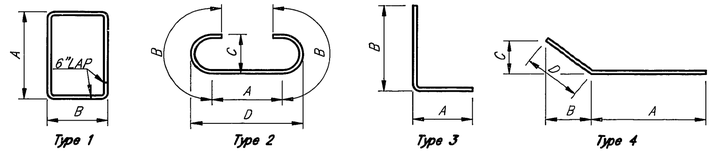
BILL OF REINFORCEMENT

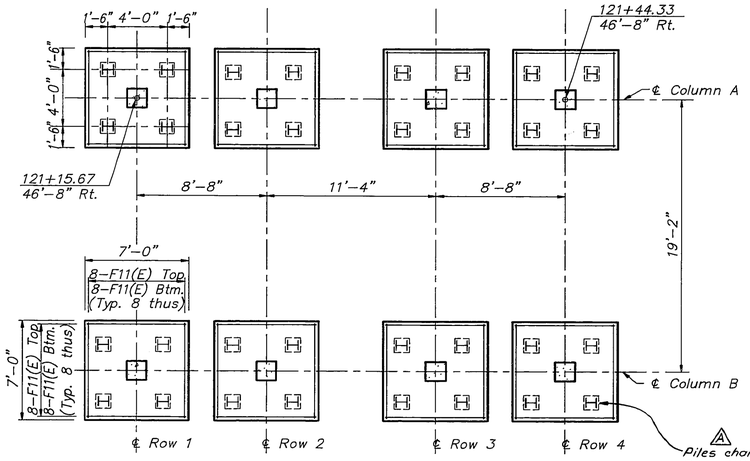
MARK	TYPE	NO.	SIZE	LENGTH FT.	LENGTH IN.	LOCATION	A FT.	A IN.	B FT.	B IN.	C FT.	C IN.	D FT.	D IN.
F1(E)	1	328	4	4	9	Columns	1	0	1	0				
F2(E)	1	540	5	4	9	Beams	1	0	1	0				
F3(E)	Str.	30	5	20	2	Beams								
F4(E)	2	45	9	23	0	Beams	19	2	1	11	0	11 ¾	20	2
F5(E)	3	24	8	8	9	Footings	1	4	7	6				
F6(E)	3	8	8	12	3	Footings	1	4	11	0				
F7(E)	Str.	8	8	19	6	Columns								
F8(E)	Str.	64	8	16	3	Columns								
F9(E)	Str.	32	8	10	9	Columns								
F10(E)	Str.	8	8	18	0	Columns								
F11(E)	Str.	256	8	6	8	Footings								
F12(E)	Str.	295	5	9	8	Landing & Stairs								
F13(E)	Str.	11	5	20	11	Landings								
F14(E)	Str.	66	5	20	2	Landings								
F15(E)	Str.	77	5	12	6	Stairs								
F16(E)	4	66	5	4	4	Stairs	2	2	1	11	0	11 ¾	2	2
F17(E)	4	11	5	3	4	Stairs	2	2	1	0½	0	6½	1	2

ESTIMATE OF QUANTITIES

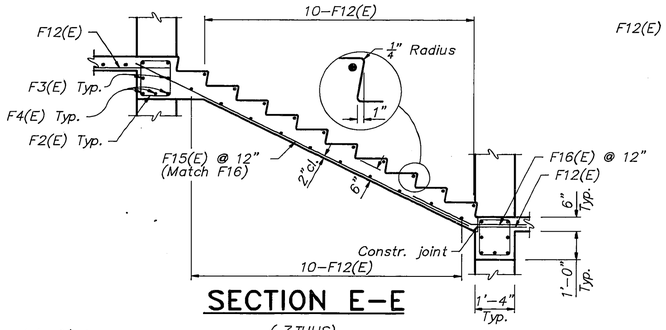
ITEM		QUANTITY	UNIT
CONCRETE CLASS "A"	118.5	~~126.0~~	CU. YDS.
EPOXY COATED STEEL REINFORCEMENT	23,671	~~23,693~~	⚠ LBS.

Suffix (E) denotes epoxy coated bars.



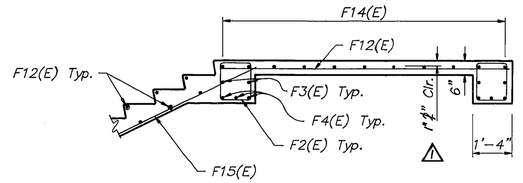


FOOTING PLAN



SECTION E–E

(7 THUS)



SECTION F–F

(6 THUS)

KENTUCKY STAIRS

KENTUCKY APPROACH SHEET 136

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022–023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

HAZELET + ERDAL, INC.
In association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

UPDATE DATE:
LETTING DATE:

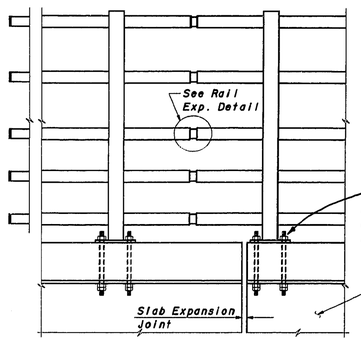
PLANS PREPARED AND SUBMITTED BY:
BALKE ENGINEERS
H+E DATE 12-92
H+E DATE 11/95
DATE

DESIGNED BY	MRS	DWI	DATE 4/91
DETAILED BY	ALH	MRS	DATE 8/91
TRACED BY		CHECKED BY	DATE
		CHECKED BY	
		CHECKED BY	

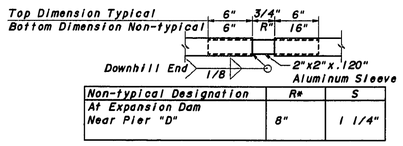
⚠ As Built
REVISED BY
REVISED BY
REVISED BY

Revised Piling Type

DISK 8 KYSTAIR2.DWG



DETAIL AT SLAB EXPANSION JOINT

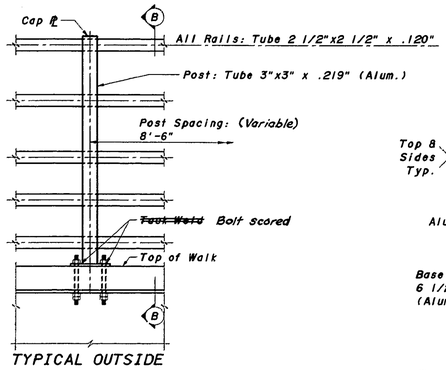


Non-typical Designation	R*	S
At Expansion Dam Near Pier "D"	8"	1 1/4"

If Railing is erected at something other than 60° F, 'R' Dimension shall be reduced or increased by 'S' for each 10° above or below 60° F, Respectively

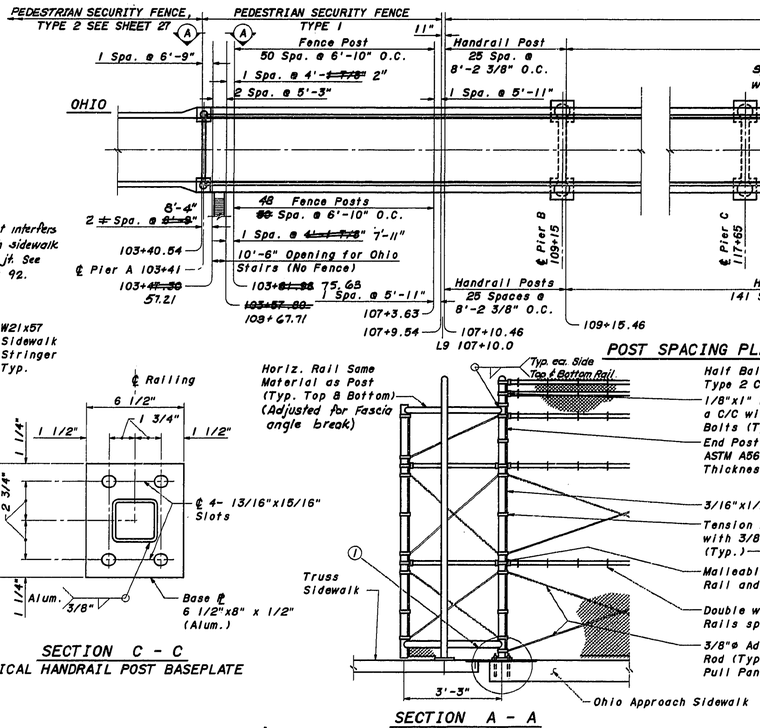
RAIL EXPANSION DETAIL

TYPICAL AFTER EVERY THIRD POST AND AT EXPANSION JOINTS



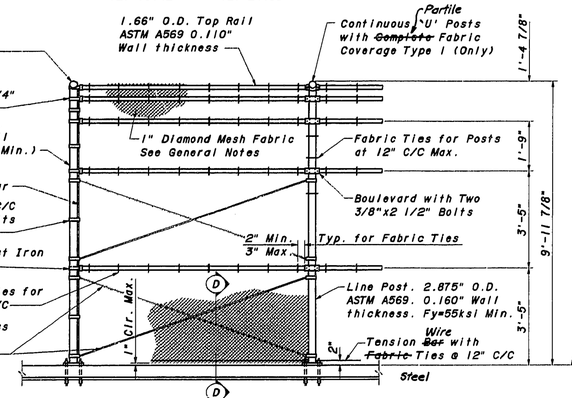
TYPICAL OUTSIDE HANDRAIL ELEVATION
POST CONNECTION DETAIL

SECTION C - C
TYPICAL HANDRAIL POST BASEPLATE

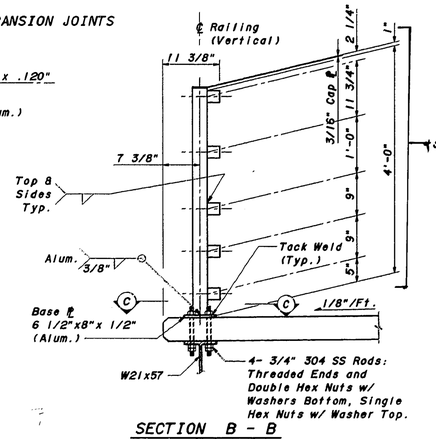


POST SPACING PLAN

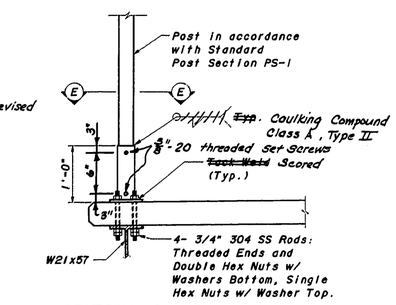
SECTION A - A



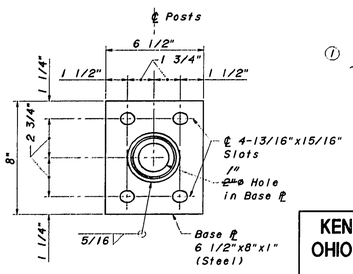
PEDESTRIAN SECURITY FENCE, TYPE 1 CURVED
TYPE 2 CURVED SIMILAR (SEE SHEET 141 POST SECTION PS-1)



SECTION B - B
4'-0" PEDESTRIAN HANDRAIL



SECTION D - D
PEDESTRIAN SECURITY FENCE TYPE 1 POST CONNECTION



SECTION E - E
TYPE 1 FENCE POST BASEPLATE

CODED NOTE

① ~~See Sheet 140 for Pedestrian Security Fence, Type 2 Curved Post Baseplate. BP-1~~
Not used. Type 1 Post Used.

Work this Sheet with Sheets 138-142

SHEET 137

HANDRAIL & FENCE DETAILS

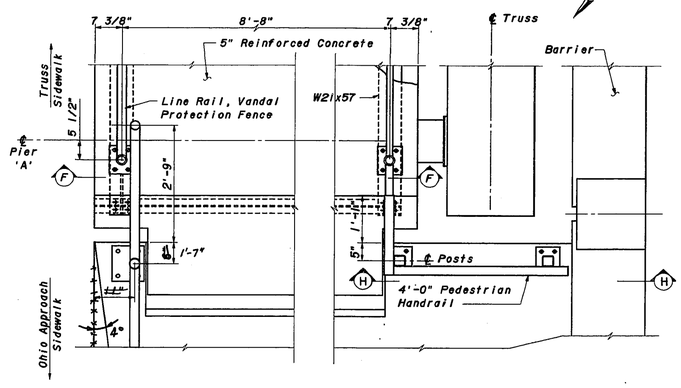
HAZELET + ERDAL, INC. in association with BURGESS & NIPLE, LIMITED and BALKE ENGINEERS

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO
NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

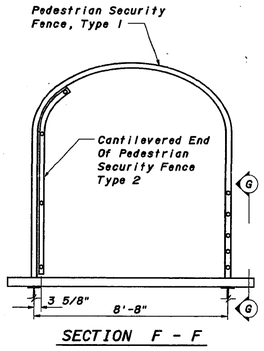
BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 002/ 022-023 073D
CONSTRUCTION PROJECT NO | MAINTENANCE PROJECT NO | DRAWING NO 22740

PLANS PREPARED & SUBMITTED BY Burgess & Niple, Limited Engineers and Architects
UPDATE DATE
LETTING DATE
H+E DATE 11-95
DESIGNED BY CJS DATE -
DETAILED BY MSH DATE -
CHECKED BY BAS DATE -
QUANTITIES BY - DATE -
CHECKED BY - DATE -
CHECKED BY - DATE -
REVISED - As Built
REVISED - DATE 1/19/96
REVISED - DATE 2/17/95
REVISED -

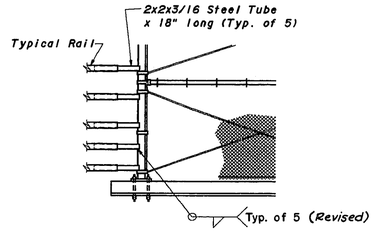
95-30-91 FILE MAIN(PER PRI0593)>MDRL1>HNDRL1-DMDRL11-FILE AUX#IN PRI0858>FRAME511>XMULTI/RECALL PRI0859>MULTI>MR_HNDRL1



FENCE PLAN AT PIER A

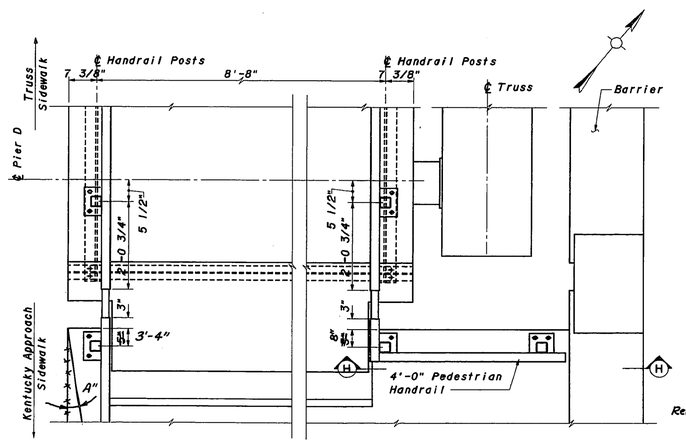


SECTION F - F

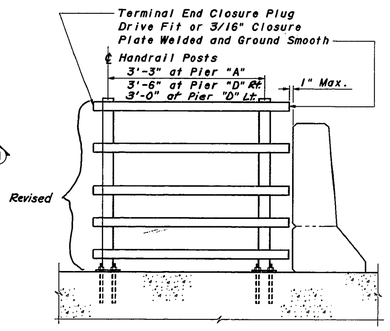


SECTION G - G

SEE SECTION B - B FOR DIMENSIONS NOT SHOWN



RAILING PLAN AT PIER D



SECTION H - H

SEE SECTION B - B FOR DIMENSIONS NOT SHOWN

4'-0" PEDESTRIAN HANDRAIL, NOTES

Specifications: Kentucky Department of Highways Standard Specifications for Road and Bridge Construction, current edition with revisions.

FABRICATION

General: See Detail Drawings for exact horizontal (Plan) spacing of posts. Post spacings are not to be measured along the same slope as the sidewalk surface. The Contractor shall furnish the Bureau of Highways with complete shop detail plans of Handrail for review.

Cutting: Saw and mill all cuts.

Holes: All holes in castings shall be cored.

Welding: Use inert gas shield arc. No flux. Welding not permitted except as shown on this sheet.

Finish: Post, tubing rails and expansion sleeves shall receive a normal mill finish.

Appearance: Scoring or marring of surfaces sufficient to cause objectionable appearance shall be cause for rejection of damaged pieces.

MEASUREMENT

Erection: Locate all rails parallel to sidewalk surface and all posts in true vertical position. Washer shims (maximum thickness 1/8 inch) may be used between concrete and post base for post and/or tubing alignment. The void space under the post base shall be filled with an alumilastic compound or approved equal so as to completely insulate the aluminum from the concrete. The Contractor shall furnish the Department with complete erection detail plans showing location of joints and erection details for review.

Allowable Tolerances: Manufacture and install units so that each unit after erection complies with dimensional tolerances listed in PCI MNL 117, NAAMM pipe railing manual including round tube and as indicated in shop drawings.

Payment: Payment will be made on the basis of the measured length of handrail between ends. Payment will be made at the contract unit price per lineal foot for complete handrail in place, including anchor bolts, and shall be complete compensation for materials, equipment, tools, and labor incidental to the manufacture, fabrication, and erection of the handrail.

MATERIALS

Rails, Post Cap, Post Base, Post: Aluminum ASTM B-221, alloy 6061-T6511, or alloy 6063-T6.

TYPICAL RAILING PANELS

Closure Plate: 3/16 inch thick ASTM B209, alloy 6061-T6, welded and ground smooth.

End Cast Closure Plug: 3/16 inch thick ASTM B-26, alloy 356-F or ASTM B-108, alloy 356-F or Aluminum Association alloy A-356.

Certified Mill Test Reports: Certified mill test reports or statements certifying that the materials comply with the Specifications, shall be furnished in triplicate to the Bureau of Highways.

Washer Shims: Washer shims shall meet the requirements of ASTM B209 alloy alclad 2024-T3 or alloy 1100.

Welding Material: Welding and welding material shall conform to Section 10 of the AWS D1.2 Structural Welding Code - Aluminum.

Base Anchor Nuts: All nuts shall be hexagon and shall comply with ANSI B18.2.2 for dimensions. Steel nuts in the anchor bar assembly shall be ASTM 304SS.

Anchor Rods: Stainless steel anchor rods shall conform to ASTM 304SS with threaded ends.

HANDRAIL & FENCE DETAILS

PLANS PREPARED & SUBMITTED BY
Burgess & Niple, Limited
Engineers and Architects

UPDATE DATE -
LETTING DATE -

DESIGNED BY	CJS	CHECKED BY	ESS
DETAILED BY	MSM	CHECKED BY	CJS
TRACED BY	-	CHECKED BY	-

DATE	-	DATE	8/91
DATE	-	DATE	6-27-91
DATE	-	DATE	XXX
DATE	-	DATE	XXX

REVISED -
REVISED -
REVISED -
REVISED -

HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

Work this Sheet with Sheets 138-142

SHEET 138

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO
NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073D

CONSTRUCTION PROJECT NO	MAINTENANCE PROJECT NO	DRAWING NO
		22740

05-30-91 FILE MAIN/PER PR10855\HNDRL2\HNDRL2.DHNDRL2>FILE AUX/#IN PR10855\FRAMES11\(FRAMES11)XMULTI/RECALL PR10855\XMULTI\MR.HNDRL2

GENERAL NOTES

VANDAL PROTECTION FENCE:
This item shall consist of furnishing all materials, labor, equipment and incidentals necessary to provide for fence retrofits and new fence installations.
Fence shall be provided in reasonably close conformance with lines, grades and locations specified on the plans or established by the Project Engineer.
Construction shall be accomplished in a manner that provides a rigid, taut fence which closely conforms to the top surface of the concrete parapet.

(1) FENCE POSTS shall be 2.875-inch outside diameter pipe ~~ASTM A53, Type E or S, Grade B,~~ ASTM A446 Grade D, or ASTM A569. ~~(See Project Plans).~~ Posts shall be coated as per AASHTO M181 and shall be plumb after installation.

(2) FENCE TOP RAILS AND LINE RAILS shall be 1.66 - inch outside diameter ~~A53 pipe, Grade I at 2.27 Lbs/Ft galvanized as per AASHTO M181, ASTM A446 Grade D or~~ ASTM A569. ~~(See Project Plans)~~ The protective coating for ~~ASTM A446 and~~ ASTM A569 rails shall be the same as that for AASHTO M181 Grade 2 fence posts.

(3) BASE PLATES shall be ASTM A36 steel galvanized as per 711.02 (1) Typ.

(4) THREE-QUARTERS (3/4) " DIA. HIGH STRENGTH THREADED ANCHORS, nuts and washers shall meet the requirements of ASTM A325.
All hardware shall be galvanized as per 711.02 3/4" dia. threaded anchors shall be doweled 6⅝ inches min. into existing or new concrete and shall project a minimum of 2¾" above the top of parapet. They shall be secured with vinylester resin or epoxy mortar as per (2) ~~Supplemental Specifications 852 & 952.~~ Anchor hole diameter shall be ⅛" larger than the anchor unless recommended otherwise by the manufacturer.

As an option with new parapets, the anchors may be cast-in-place with 6⅝ inches min. of embedment or installed in threaded ferrule concrete inserts unless otherwise indicated. The inserts shall be approved by the Director.

(5) THREE QUARTERS (3/4) " DIA. HIGH STRENGTH BOLTS, nuts and washers shall meet the requirements of ASTM A325.
All hardware shall be galvanized as per 711.02.

(6) TENSION BARS shall be 3/16-inch by 1/2-inch steel galvanized as per 711.02.

(7) TENSION BANDS AND BRACE BANDS shall be 1/8-inch x 1-inch galvanized steel assembled with 3/8-inch diameter by 1 1/4-inch galvanized bolts. One tension band shall be supplied for each foot of fabric height. Bands shall be galvanized as per 711.02.

(8) LINE RAIL CLAMPS OR BOULEVARDS shall be steel galvanized as per 711.02. These clamps shall be used to connect line rails or top rails of curved fences to interior posts.
Installation shall be made using 3/8-inch diameter by 2 1/2-inch bolts galvanized as per 711.02.

(9) MALLEABLE OR CAST IRON FITTINGS shall be used for end post dome caps, half bail and loop line post caps and line or top rail ends. All fittings shall be galvanized as per 711.02.

This was used →

(10) TENSION WIRE shall be aluminized 0.177-inch diameter steel coil spring wire conforming to AASHTO M181. Tension wire shall be placed as close to the concrete parapet as practicable but the location dimension shall not exceed two inches maximum.

(11) FABRIC TIES AND HOG RINGS shall be 0.148-inch core diameter galvanized PVC-coated steel wire and 0.120-inch A478 annealed stainless steel wire respectively.
One fabric tie shall be supplied for each foot of fabric height to connect fabric to the line posts. To connect the fabric to the tension wire, use hog rings 2 to 3 inches on each side of and at spacings not exceeding 12 inches center to center between posts. PVC coating shall be the same as that for the steel fabric.

(12) ADJUSTABLE TRUSS RODS shall be 3/8-inch diameter steel galvanized as per 711.02 and shall have suitable adjustment.

(13) DOUBLE WRAP FABRIC TIES shall be 0.091-inch core diameter galvanized PVC-coated steel wire 15¼ inches long, as per the chain-link fence industry. To connect fabric to the line and top rails, use double wrap ties 2 to 3 inches on each side of posts and at spacings not to exceed 12 inches center to center between posts. The PVC coating shall be the same as that for the steel fabric.

(14) STEEL FABRIC: The 11 gage core wires shall be uniformly galvanized with zinc metal of 0.30 oz/ft² minimum weight in accordance with ASTM A641-82. The galvanized wire shall then be PVC coated in accordance with ASTM F668-84, Class 2a or 2b with the following changes:
a) The coating shall be virgin PVC of 22 mils thickness for Class 2a and 7 mils for class 2b.
b) The PVC coating shall be gray in color closely approaching Federal Standard No. 595a - 16251 unless otherwise specified in the plans.
c) The finished fabric shall be composed of a 1- inch diamond pattern in which the individual pickets are helically woven and interwoven in the form of a continuous chain-link mesh with knuckled selvages.
d) All PVC coated fabric shall be handled with care. If the PVC coating is damaged, the Contractor shall replace the fabric or repair the PVC coating as directed by the Project Engineer at no cost to the Department.

(15) FILLET WELDS shall conform to 513.17.

(16) SLEEVES shall be 3.500-inch outside diameter pipe ASTM A53, Type E or S, Grade B and shall be galvanized as per 711.02. Sleeves shall be plumb after installation.

(17) SHIM PLATES shall be made from any multi-polymer plastic with a minimum compressive strength of 5,000 p.s.i. For post plumbness, ends of posts and sleeves may be cut on a bias.

(18) TRAFFIC MAINTENANCE:
Traffic shall be maintained at all times. Any disruption of traffic flow shall be under the direction of the Project Engineer. The cost of traffic maintenance will be paid for under 614-Maintaining Traffic.

(19) CAULKING COMPOUND shall meet Federal Specification TT-S-002306 Type II, Class A, aluminum gray.

(20) CONSTRUCTION PROCEDURE:
1. Field verify all plan base plate locations and mark ~~parapets.~~ Slabs
2. ~~Mark and drill holes for 3/4-inch H.S. Threaded Anchors, 3/4-inch bolts, or 3/4-inch inserts using a base plate or template.~~
3. Install 3/4-inch dia. H.S. Threaded Anchors, 3/4-inch Bolts, or 3/4-inch Inserts.
4. Install and shim (if necessary) posts and base plates.
5. Seal along edges of base plates, shims, and sleeves with caulking compound.
6. Complete installation of fence.

(21) METHOD OF MEASUREMENT: Fence shall be measured by the linear foot, complete in place. Measurement shall be along the bottom of fence from center to center of end posts.

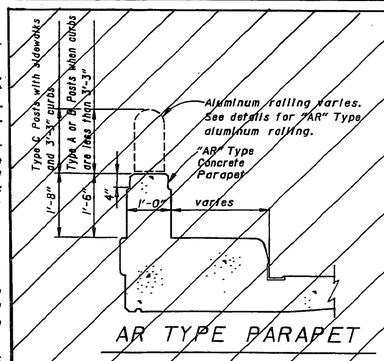
(22) BASIS OF PAYMENT: The accepted quantities of fence or parapet and fence measured, will be paid for under:

Item	Unit	Description
~~Special~~	Linear Foot	~~Vandal protection fence, *~~
Pedestrian Security Fence:	* :	~~6 ft. straight, coated fabric~~
Type I Curved		~~8 ft. straight, coated fabric~~
Type 2 Curved		~~10 ft. curved, coated fabric~~
		~~12 ft. curved, coated fabric~~

(23) WHEN FENCE HEIGHT EXCEEDS 20 FT. above the normal terrain, there shall be a special design for the fence.
Maximum Wind Velocity = 80 mph plus 30% Gust Factor.

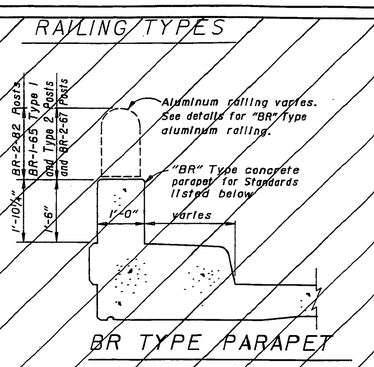
(24) PROJECT PLANS shall show a schematic deck plan for fence post spacing together with a tabulation of fence post spacings and required Base Plate and Post Section types for each bridge.

RAILING TYPES



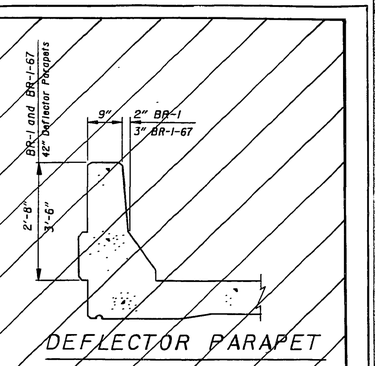
AR TYPE PARAPET

See Standard Drawing AR-1-57. Use curved fence or straight 8'-0" high fence as determined by curb or sidewalk width and and Base Plates BP-1, BP-2, BP-3 or BP-4.



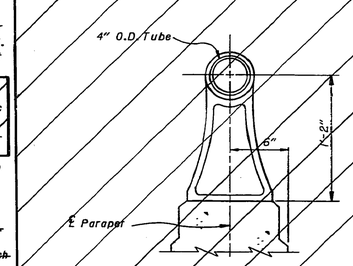
BR TYPE PARAPET

See Standard Drawings BR-2-82, BR-2-67 and BR-1-65. Use curved fence or straight 8'-0" high fence as determined by curb or sidewalk width and Base Plate BP-1.

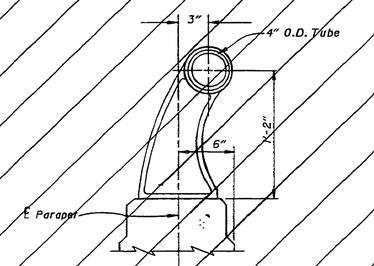


DEFLECTOR PARAPET

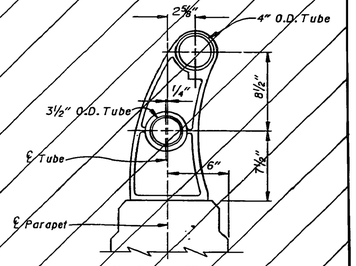
See Standard Drawings BR-1 & BR-1-67 and 42" Deflector Parapet. Use straight 6'-0" high fence and Base Plate BP-5.



Aluminum railing for Standard Drawing AR-1-57 with Type A Posts

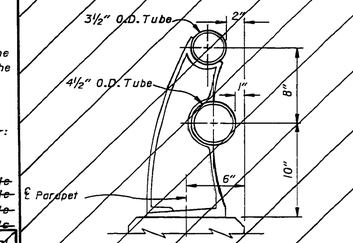


Aluminum railing for Standard Drawing AR-1-57 with Type B Posts

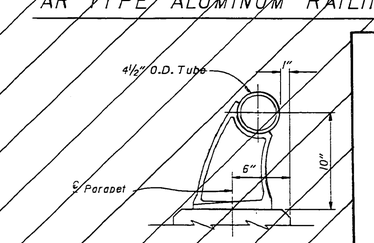


Aluminum railing for Standard Drawing AR-1-57 with Type C Posts

AR TYPE ALUMINUM RAILING



Aluminum railing for Standard Drawings BR-2-82, BR-2-67 and BR-1-65 with Type 2 Posts



Aluminum railing for Standard Drawing BR-1-65 with Type 1 Posts

BR TYPE ALUMINUM RAILING

CODED NOTES
(1) ASTM F1083
(2) Special Note for Resin Bonded Reinforcing Bars

SHEET 139

REVISIONS

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
BUREAU OF BRIDGES AND STRUCTURAL DESIGN

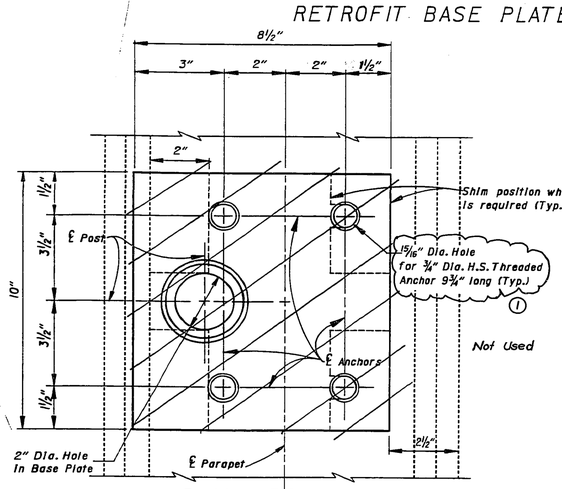
STANDARD

VANDAL PROTECTION FENCE

GENERAL NOTES AND RAILING TYPES

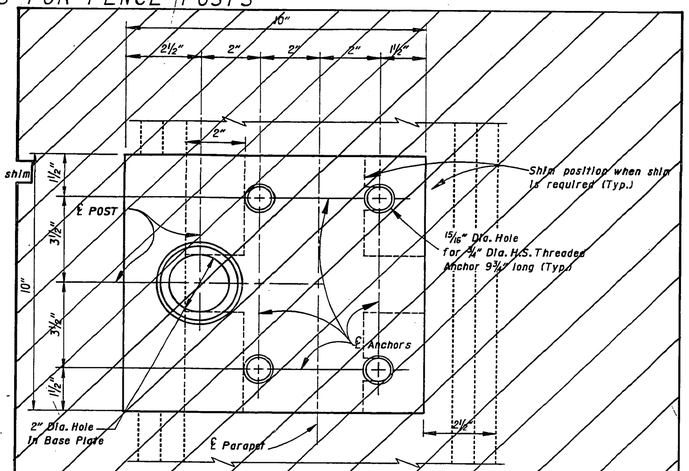
APPROVED:				DRAWING NO.
DATE: 9-26-90	ENGINEER OF BRIDGES			VPF- 30
PREPARED	DRAWN	CHECKED	REVIEWED	SHEET NO.
JCM	GFJ	RLD	WTF	OF 5 SHEETS

RETROFIT BASE PLATES FOR FENCE POSTS



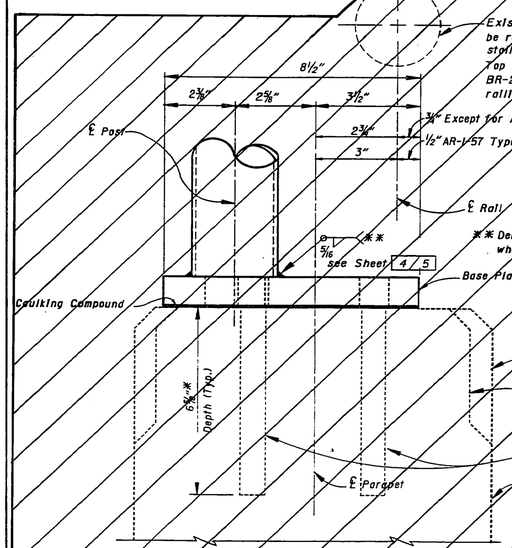
PLAN BP-1

SHIM POSITIONS ARE SHOWN



PLAN BP-2

SHIM POSITIONS ARE SHOWN

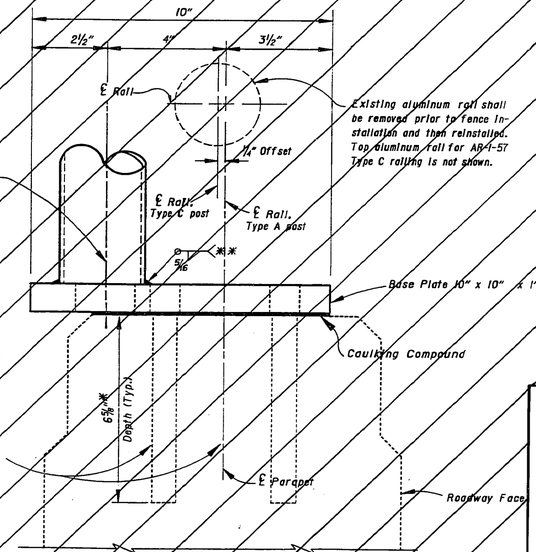


END VIEW BP-1

Fence shall be installed by removing and reinstalling the aluminum rail(s). Base Plate shall be used on parapets having aluminum railing as shown on Standard Drawings BR-2-82, BR-2-67, BR-1-65 with Types 1&2 Posts and AR-1-57 with Type B Posts. Base Plate requires a sleeve for Post Sections PS-1 and PS-2. (See Sleeve Detail)

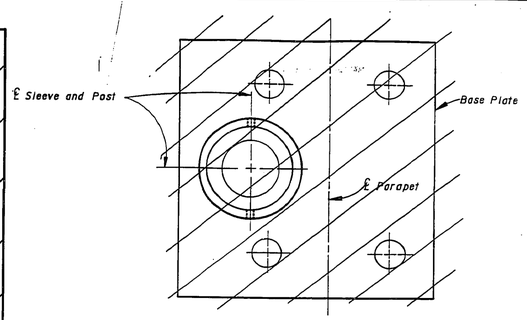
Note: Before holes are drilled into an existing concrete parapet, the existing rebars shall be located by the use of a pachometer or other rebar locator.

* or as recommended by the by the Fastener manufacturer.



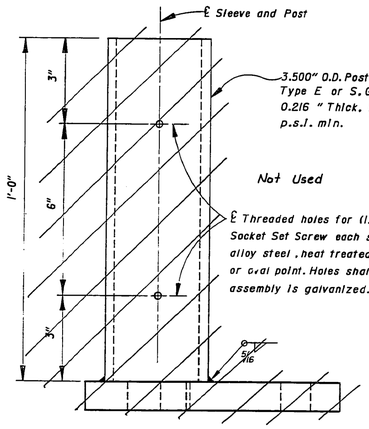
END VIEW BP-2

Fence shall be installed by removing and reinstalling the aluminum rail(s). Base Plate shall be used on parapets having aluminum railing as shown on Standard Drawing AR-1-57 with Types A and C Posts. Base Plate required a sleeve for Post Sections PS-1 and PS-2. (See Sleeve Detail)



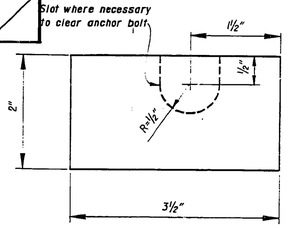
POST SLEEVE PLAN

POST AND SET SCREWS NOT SHOWN



POST SLEEVE ELEVATION

POST AND SET SCREWS NOT SHOWN



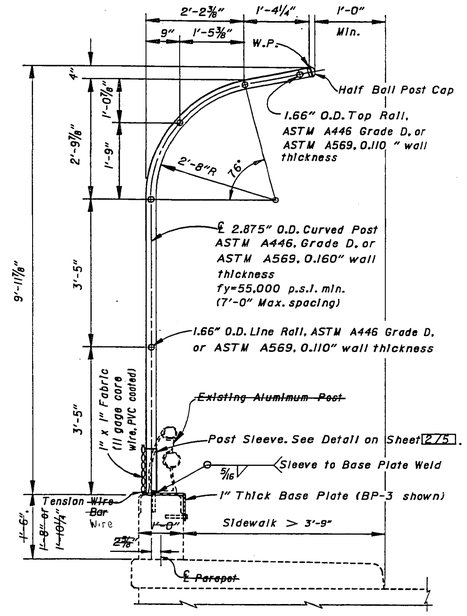
BASE PLATE SHIMS

1/16", 1/8" and ¼" thick

CODED NOTES:

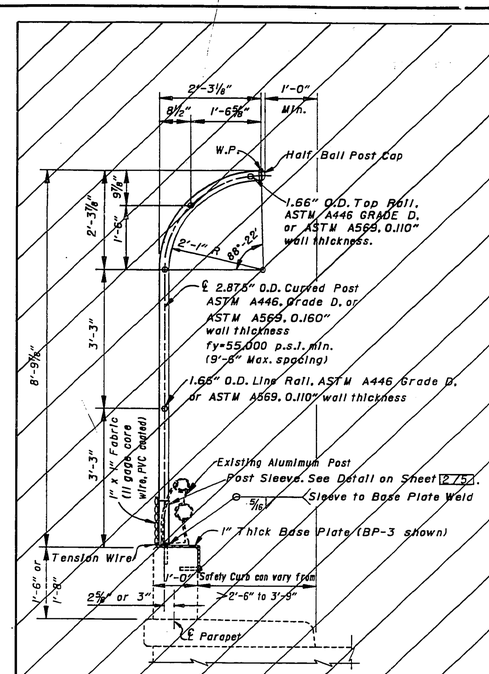
① 4- 3/4" ϕ Stainless Steel Threaded Rod With Hex Nut & Washer. Drill & Resin Bond 6" Into Slab

REVISIONS	SHEET 140
	STATE OF OHIO DEPARTMENT OF TRANSPORTATION BUREAU OF BRIDGES AND STRUCTURAL DESIGN
	STANDARD
	VANDAL PROTECTION FENCE RETROFIT BASE PLATES WHEN RAILS ARE REMOVED AND REINSTALLED
	APPROVED: [signature] ENGINEER OF BRIDGES — DRAWING NO. VPF-1-90
	PREPARED JCR · DRAWN GFJ · CHECKED RLD · REVIEWED WTF · SHEET NO. 2 OF 5 SHEETS



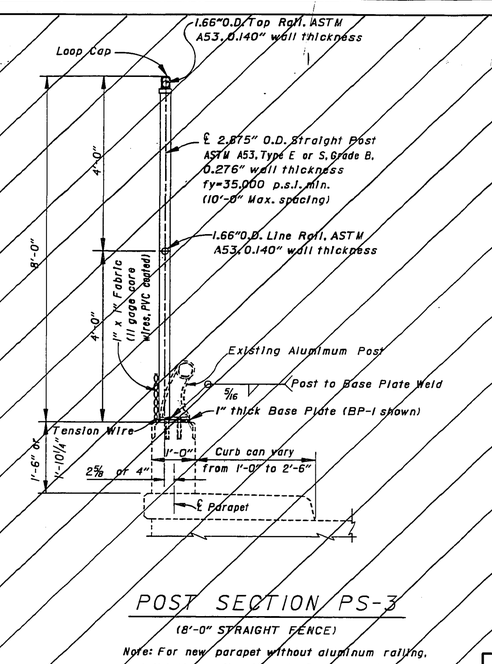
POST SECTION PS-1

(12'-0" CURVED FENCE)



POST SECTION PS-2

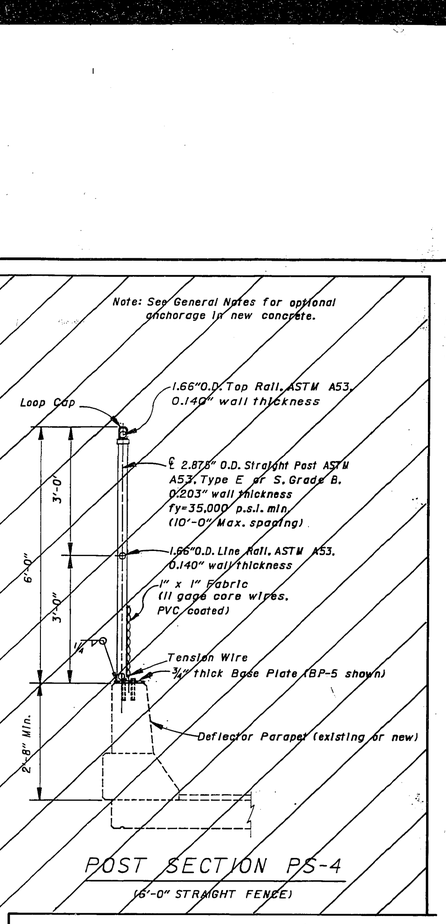
(10'-0" CURVED FENCE)



POST SECTION PS-3

(8'-0" STRAIGHT FENCE)

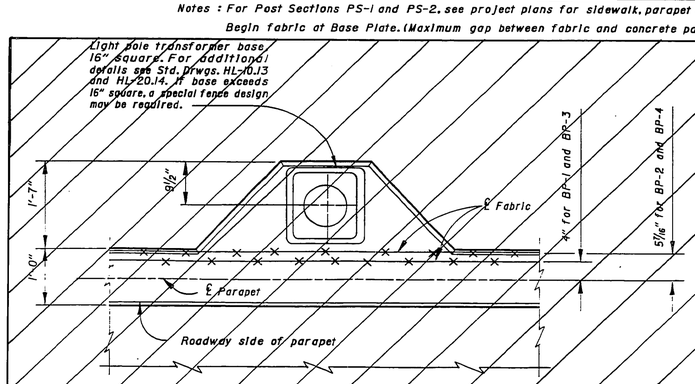
Note: For new parapet without aluminum railing, install bottom rail and locate fence opposite hand.



POST SECTION PS-4

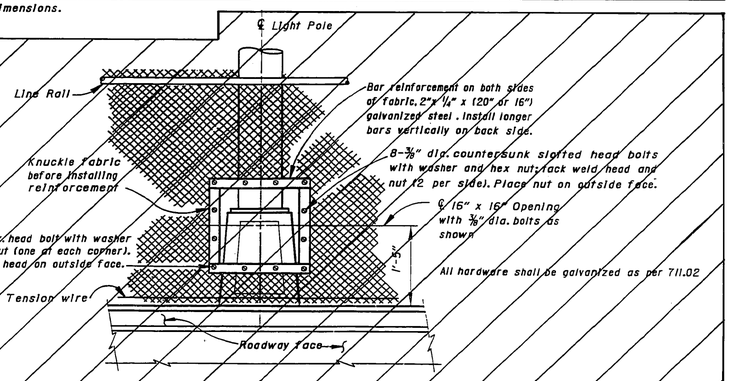
(6'-0" STRAIGHT FENCE)

Notes : For Post Sections PS-1 and PS-2, see project plans for sidewalk, parapet and fence post dimensions.
Begin fabric at Base Plate. (Maximum gap between fabric and concrete parapet = 1")



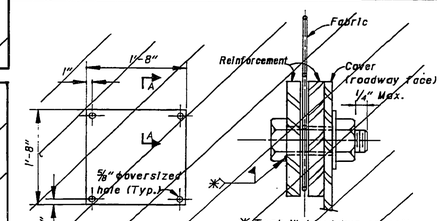
FENCE DETAILS AT TYPICAL LIGHT POLE PILASTER

(EXISTING ALUMINUM RAIL(S) NOT SHOWN)



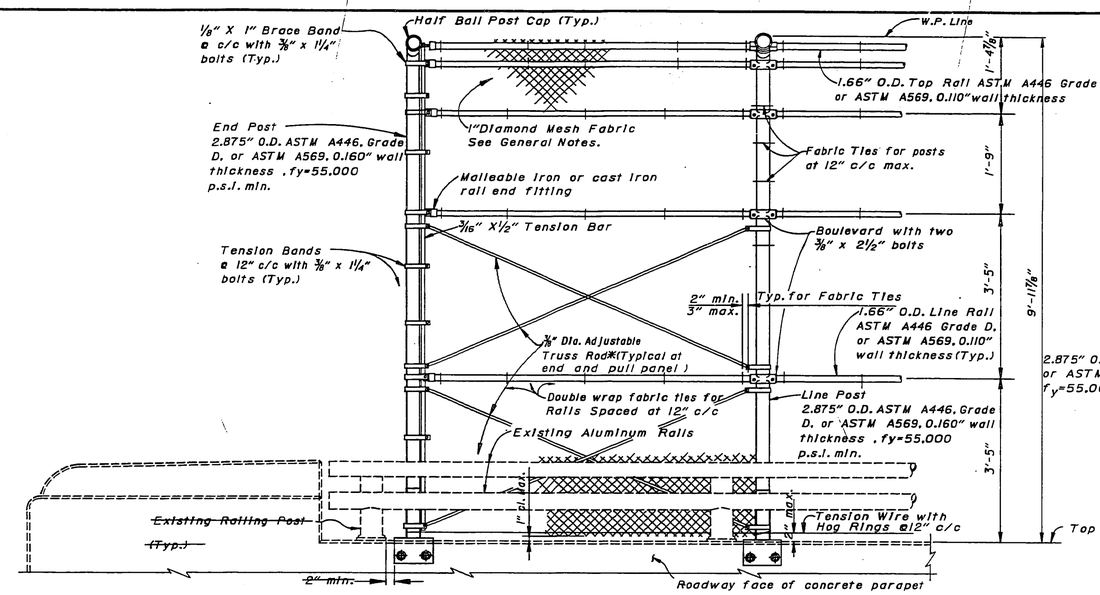
ACCESS OPENING AT LIGHT POLE

(COVER NOT SHOWN)

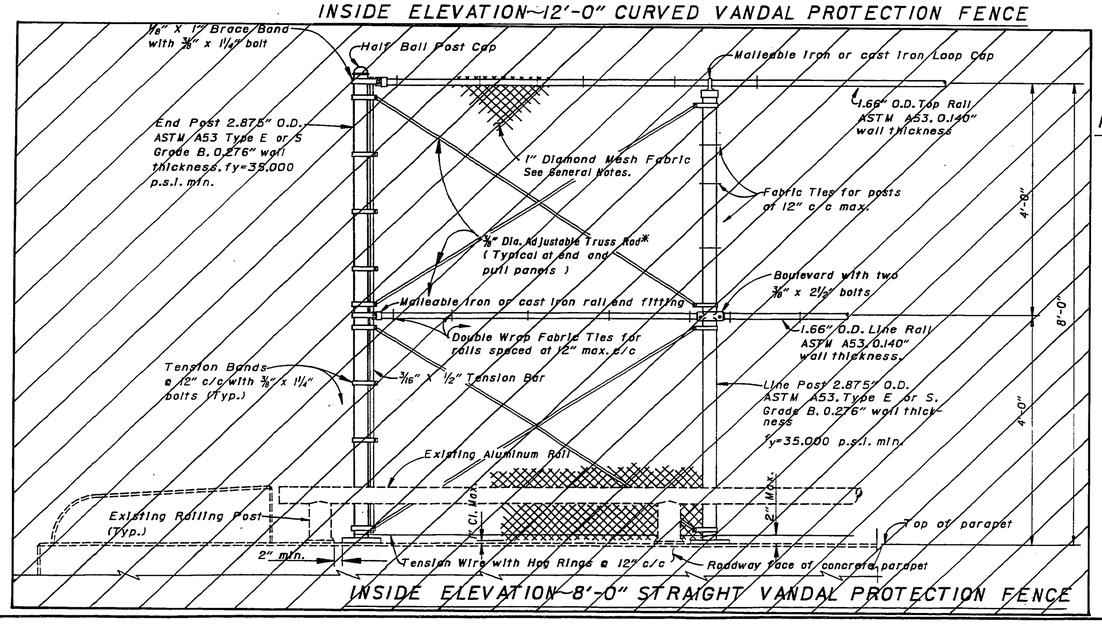


ACCESS COVER

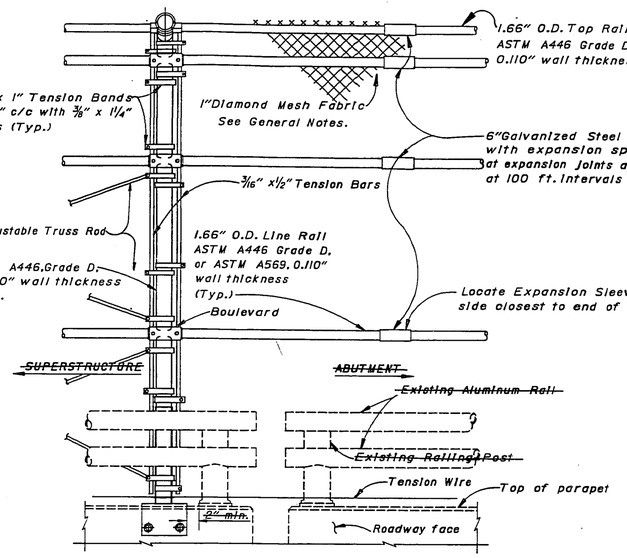
REVISIONS	SHEET 141
	STATE OF OHIO DEPARTMENT OF TRANSPORTATION BUREAU OF BRIDGES AND STRUCTURAL DESIGN
	STANDARD
	VANDAL PROTECTION FENCE POST SECTIONS AND DETAILS
	APPROVED: ENGINEER OF BRIDGES — DRAWING NO. VPF-1-90
	DATE: 9-26-90 — PREPARED JCR — DRAWN GFJ — CHECKED RLD — REVIEWED WTF — SHEET NO. 4 OF 5 SHEETS



INSIDE ELEVATION—12'-0" CURVED VANDAL PROTECTION FENCE



INSIDE ELEVATION—8'-0" STRAIGHT VANDAL PROTECTION FENCE



INSIDE ELEVATION—10'-0" CURVED FENCE AT EXPANSION JOINT

12'-0" CURVED FENCE—SIMILAR

NOTES

8'-0" straight fence & 8'-11 7/8" curved fence shown.

6'-0" straight fence & 8'-9 7/8" curved fence are similar.

Base plates shall clear parapet deflection joints by 2" minimum as shown.

* Truss rods in end and pull panels shall not be installed unless required by the plans.

SHEET 142

REVISIONS

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
BUREAU OF BRIDGES AND STRUCTURAL DESIGN

STANDARD

VANDAL PROTECTION FENCE ELEVATIONS AND DETAILS

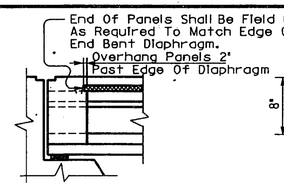
APPROVED:		DRAWING #
DATE: 9-26-90	ENGINEER OF BRIDGES	VPF-1-91

PREPARED	DRAWN	CHECKED	REVIEWED	SHEET NO. 5 OF 5 SHEETS
JCR	GFJ	RLD	WTF	

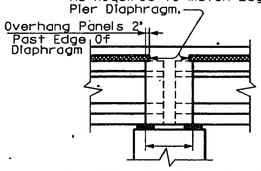
GENERAL NOTES

1. DESIGN SPECIFICATIONS: ALL REFERENCESS TO STANDARD SPECIFICATIONS ARE TO THE 1991 EDITION OF THE KENTUCKY SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. ALL REFERENCES TO THE AASHTO SPECIFICATIONS ARE TO THE 1989 EDITION OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, WITH INTERIMS THRU 1990.
2. CONCRETE: SHALL BE CLASS 'D' AND SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 5000 P.S.I. AND A MINIMUM RELEASE STRENGTH OF 4000 P.S.I.
3. REINFORCEMENT: REINFORCING STEEL TO BE ASTM A615 GRADE 60. ALL STEEL IS TO BE EPOXY COATED.
4. PRESTRESSED STRANDS: TO BE 3/8" Ø 270 K.S.I. 7 WIRE UNCOATED LOW RELAXATION STRANDS WITH AN INITIAL TENSION OF 17212 LBS. PER STRAND.
5. PANELS ARE DESIGNED TO SUPPORT THE DEAD LOAD OF PANEL, REINFORCEMENT, PLASTIC CONCRETE, AND A 50 POUND PER SQUARE FOOT CONSTRUCTION LOAD. PANEL PLUS SLAB SHALL BE DESIGNED TO SUPPORT THE DEAD LOAD OF THE PANEL, REINFORCEMENT AND PLASTIC CONCRETE ACTING ON THE NON-COMPOSITE SECTION (I.E. PANEL) PLUS THE DESIGN LIVE LOADS AND DEAD LOADS ACTING ON THE COMPOSITE SECTION (PANEL PLUS SLAB).
6. SHOP DRAWINGS AND PROPOSED CONSTRUCTION DETAILS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
7. THE TOPS OF PANELS SHALL BE SCORED LONGITUDINALLY WITH APPROXIMATELY 1/8" WIDE, 1/8" DEEP DEPRESSIONS AT 1" CENTERS RUNNING PARALLEL TO THE STRANDS. CARE SHALL BE TAKEN SO AS NOT TO DISPLACE THE COARSE AGGREGATES WHEN PREPARING THE ROUGHENED SURFACE.
8. CONCRETE SHALL BE PLACED IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS. PARTICULAR EMPHASIS SHALL BE GIVEN TO PROPER VIBRATION OF THE CONCRETE TO AVOID HONEY COMBS AND VOIDS. ALL PANEL JOINTS MUST BE MORTAR TIGHT. IMMEDIATELY PRIOR TO PLACING THE CAST IN PLACE PORTION OF THE DECK SLAB, THE PRECAST DECK PANELS SHALL BE WETTED UNTIL FREE MOISTURE APPEARS AND REMAINS.
9. PRECAST CONCRETE PANELS SHALL NOT BE CONSIDERED AS LATERAL BRACING FOR FLANGES OF SUPPORTING STRUCTURAL MEMBERS.
10. MATING SURFACES OF THE PRECAST PANELS SHALL NOT DEVIATE FROM A STRAIGHT LINE BY MORE THAN 1/4" IN TEN (10) FEET. THE THICKNESS OF THE PANEL SHALL NOT VARY BY MORE THAN +1/4", -0. ALL OTHER DIMENSIONS SHALL BE FABRICATED (+-) 1/4" EXCEPT THAT ALL STRANDS SHALL BE LOCATED TO (+-)1/8" VERTICALLY. PANELS SHALL BE SUPPORTED SO AS TO PRESENT A UNIFORM BOTTOM SURFACE. THE DIAGONAL DIMENSION OF RECTANGULAR PANELS SHALL NOT DIFFER BY MORE THAN 1".
11. REINFORCEMENT IN THE PANEL SHALL HAVE A MINIMUM OF ONE (1) INCH COVER ON THE BOTTOM SIDE OF PANEL. THE CONTRACTOR MAY SUBSTITUTE EPOXY COATED WELDED WIRE FABRIC (ASTM A497), OF EQUAL AREA, FOR NO. 3 BARS. EXCEPT FOR THOSE SHOWN AT THE PANEL ENDS.
12. WHEN PANELS ARE USED, THE BOTTOM MATS OF REINFORCEMENT MAY BE OMITTED BETWEEN EXTERIOR BEAMS. BARS F AND ANY OTHER SUPPLEMENTAL BARS REQUIRED TO BE PLACED IN THE CAST IN PLACE PORTIONS OF THE SLAB SHALL BE ASTM A615 GRADE 60. THE MINIMUM AMOUNT OF NON-PRESTRESSED LONGITUDINAL REINFORCEMENT IN THE CAST IN PLACE PORTIONS OF THE SLABS UTILIZING DECK PANELS SHALL BE 0.25 SQ. IN. PER FOOT OF SLAB WIDTH. SEE AASHTO SPEC. ART. 9.18.2.2. THIS SUPPLEMENTAL STEEL SHALL BE INCLUDED AS A PART OF THE SHOP DRAWINGS AND BILL OF STEEL. IN AREAS WHERE PANELS ARE OMITTED, THE BOTTOM MAT OF STEEL REINFORCEMENT SHALL BE FULLY DETAILED ON THE SHOP DRAWINGS AND BILL OF STEEL. REINFORCEMENT IN THE CAST IN PLACE CONCRETE SHALL HAVE ONE HALF (1/2") INCH MINIMUM CLEARANCE BETWEEN THE PANEL AND SLAB REINFORCEMENT.
13. THE DESIGN CHART ON THIS SHEET IS APPLICABLE FOR FOR BRIDGE DECKS WITH GIRDER SPACING WITHIN THE RANGES SHOWN AND FOR 8'-0" WIDE PANELS. PANELS HAVING A WIDTH OF LESS THAN 8'-0 MAY BE USED, WITH A MINIMUM PANEL WIDTH OF 3'-0". ALTERNATE DESIGN FOR BRIDGE DECK SLABS MAY BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER FOR APPROVAL. EACH ALTERNATE DESIGN SHALL BE ACCOMPANIED BY A SET OF DESIGN CALCULATIONS AND DETAILS. PANELS ON SKEWED ENDS SHALL HAVE A MINIMUM BEARING LENGTH OF THREE (3) FEET. PANELS MAY BE SAW CUT TO PRODUCE NARROW PANELS. THE SAWED EDGE MUST BE PLACED ADJACENT TO THE DIAPHRAGMS AT THE END BENT, ABUTMENT, OR PIERS ONLY. THE SAW CUT SHALL BE CAREFULLY LOCATED TO PROVIDED AT LEAST 2" EDGE DISTANCE TO THE NEAREST 3/8" STRAND.
14. PAYMENT FOR SUPERSTRUCJURE CONCRETE WILL BE BASED ON PLAN DIMENSIONS AND DETAILS FOR THE REGULAR 8" THICK REINFORCED CONCRETE SLAB. NO ADDITIONAL COMPENSATION SHALL BE MADE FOR THE PRECAST PANELS. ANY INCREASE IN QUANTITIES OF CONCRETE, MILD REINFORCING, PRESTRESSING STRAND, GROUT, OR OTHER ITEMS OF LABOR AND EQUIPMENT DUE TO THE USE OF PRESTRESSED BRIDGE DECK PANELS SHALL BE AT THE CONTRACTOR'S EXPENSE.
15. THE GROUT PAD BENEATH THE PANEL SHOULD EXTEND 1 1/2" TO 2" INSIDE THE EDGE OF PANEL SO THAT IT DOES NOT SLUMP DOWN AND LEAVE A GAP BENEATH THE PANEL. THE GROUT PAD SHOULD ALSO BE PLACED APPROXIMATELY 1/8" HIGHER THAN THE FOAM STRIP SO THAT THE PANEL SINKS INTO THE GROUT TO OBTAIN UNIFORM BEARING. THE GROUT MUST BE PLASTIC WHEN THE PANEL IS SET INTO IT. THE CONTRACTOR SHOULD REMOVE SHORT SECTIONS OF THE FORM AT RANDOM LOCATIONS TO DETERMINE IF THE GROUT IS IN FULL BEARING TO THE BOTTOM OF PANEL. IF IT IS FOUND THAT FULL BEARING IS NOT PROVIDED THEN ALL FOAM STRIPS MUST BE REMOVED AND THE OPENINGS GROUTED. ALTERNATE METHODS FOR SUPPORTING THE PANELS MAY BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER FOR APPROVAL.

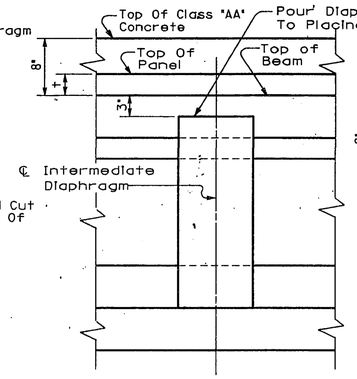
UPDATE DATE
LETTING DATE
June 26, 1991
DATE REVISED
DATE REVISED
DATE REVISED
DESIGNED BY ... CHECKED BY
DETAILED BY ... CHECKED BY
PREPARED BY DIAPHRAGM SECTION ... CHECKED BY



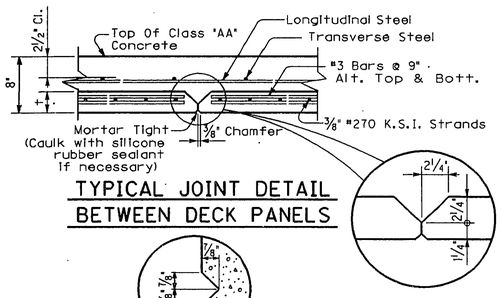
SECTION AT END BENTS



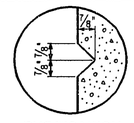
SECTION AT PIERS



SECTION AT INTERMEDIATE DIAPHRAGMS



TYPICAL JOINT DETAIL BETWEEN DECK PANELS



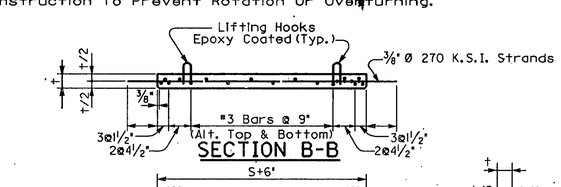
RUSTICATION GROOVE

DESIGN CHART		
CLEAR SPAN "S"	PANEL THICKNESS "t"	NUMBER OF STRANDS
* 3'-6"	3½"	10
* 3'-9"	3½"	10
* 4'-0"	3½"	10
* 4'-3"	3½"	10
4'-6"	3½"	11
4'-9"	3½"	11
5'-0"	3½"	11
5'-3"	3½"	11
5'-6"	3½"	11
5'-9"	3½"	12
6'-0"	3½"	12
6'-3"	3½"	12
6'-6"	3½"	12
6'-9"	3½"	12
7'-0"	3½"	12
7'-3"	3½"	14
7'-6"	3½"	14
7'-9"	3½"	16
8'-0"	3½"	16
8'-3"	3½"	19
8'-6"	3½"	19

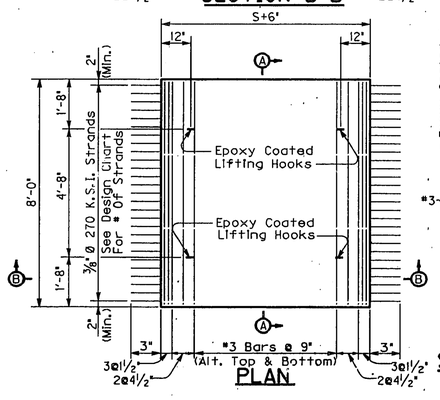
*Space A #3 Epoxy Coated Reinforcing Bar Between Each Strand For These Panels.

Note:
At Ends Of Girders Where End Diaphragms are Poured Concurrently With Deck, The Contractor Shall Be Responsible For Supporting The Girders During Construction To Prevent Rotation Or Overturning.

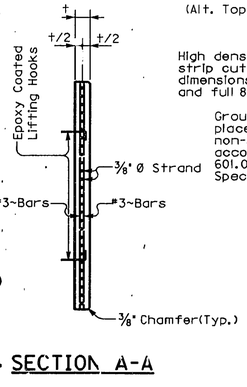
Note:
The Top Mat Of Reinforcement, Shall Be Tied To Projecting Steel Reinforcement In The Beam And To The Strands Projecting From The Ends Of Panels At Alternate 12" Spacing.



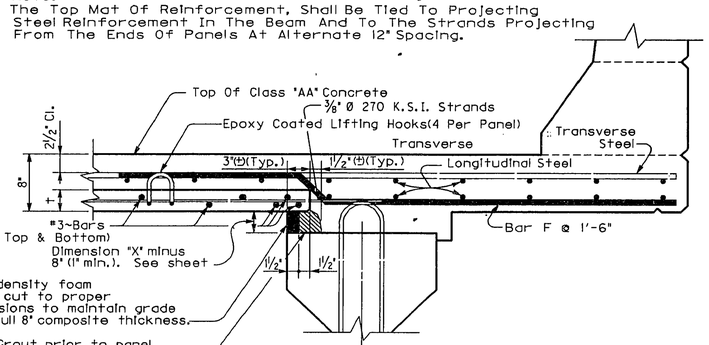
SECTION B-B



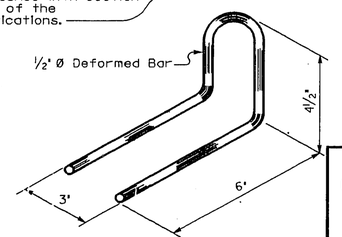
PLAN



SECTION A-A



SUPERSTRUCTURE SECTION



LIFTING HOOK DETAIL
(4 Required Per Panel)

(STAY-IN-PLACE PRECAST PRESTRESSED DECK PANEL DETAILS)

SHEET 143

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

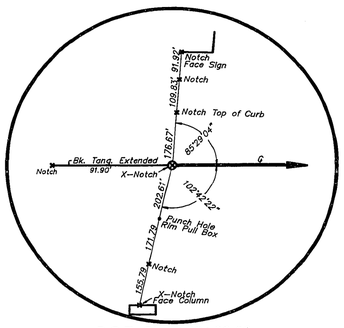
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

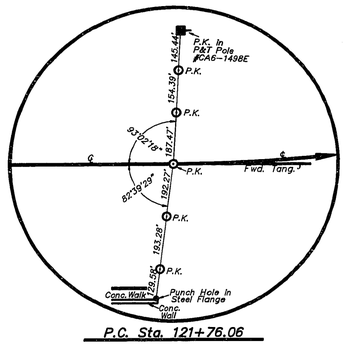
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 07,5 BRF 00272 048

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

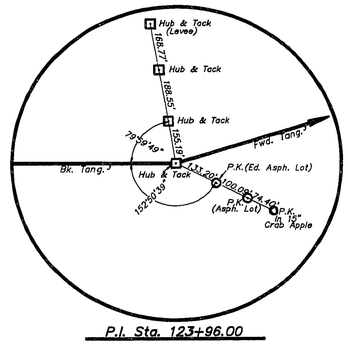
COUNTY OF	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
CAMPBELL			



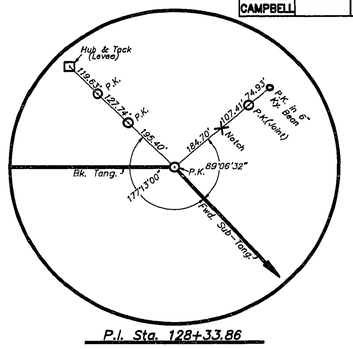
P.O.T. Sta. 100+00.00



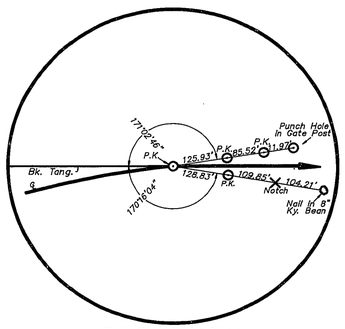
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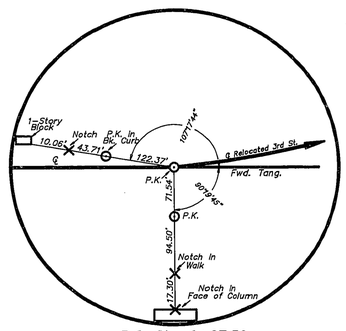
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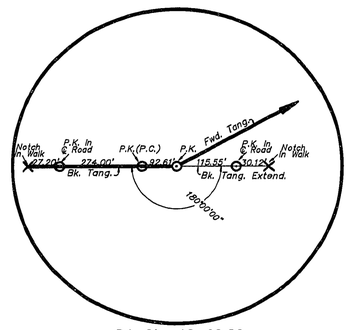
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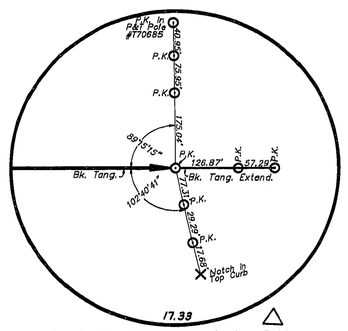
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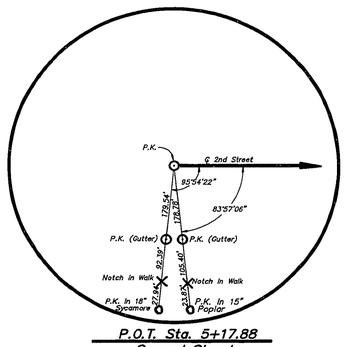
P.C. Sta. 9+07.39
Relocated Third Street



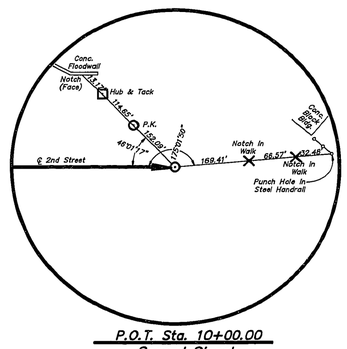
P.I. Sta. 10+00.00
Relocated Third Street



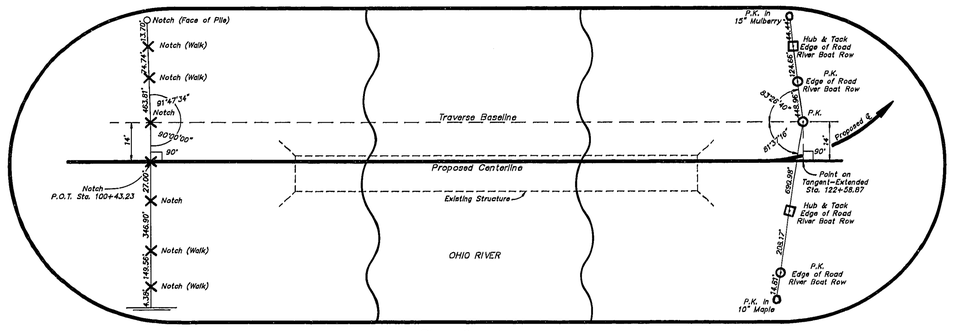
P.O.T. Sta. 130+~~16.79~~ ℄ New Bridge
P.T. Sta. 13+05.46 ℄ Third Street



P.O.T. Sta. 5+17.88
Second Street



P.O.T. Sta. 10+00.00
Second Street



River Crossing
℄ Traverse Offset 14' From Proposed ℄

144

REFERENCE POINTS

PLANS PREPARED & SUBMITTED BY: Burgess & Niple, Limited — Engineers and Architects

UPDATE DATE

LETTING DATE

DESIGNED BY ESS — DATE
DETAILED BY CJDD — CHECKED BY —
TRACED BY — CHECKED BY —

REVISED — DATE
REVISED — DATE
REVISED — DATE

7/93 — DATE XXX

INTENT OF DEMOLITION PLANS

These demolition plans have been prepared for the sole purpose of providing a general arrangement of the existing structure since there are no existing plans of this structure.

The intent of these plans is to serve only as an aid in the bidding and demolition permitting process.

EXISTING STRUCTURE VERIFICATION

Details and dimensions show on these plans pertaining to the existing structure have been obtained from The American Society of Civil Engineers Report titled, "The Cantilever Highway Bridge At Cincinnati" dated August 1892 and from past bridge inspection reports. Kentucky approach substructure units have been scaled from photographs. Consequently, they are indicative of the existing structure but they shall be considered tentative and approximate. The Contractor is referred to Sections 102.06 and 105.02 of the Kentucky Transportation Cabinet Standard Specifications for Road and Bridge Construction.

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 and approved by the Engineer.

DEMOLITION PERMIT

Coast Guard Bridge Permits require that the proposed method and schedule for removal of an existing bridge over a navigable waterway shall be submitted to the Commander, Second Coast Guard District for approval. Review of demolition plans and coordination with other agencies takes a minimum of 45 days. Contact the Bridge Branch, Second Coast Guard District, 1430 Olive Street, St. Louis, Missouri 63101-2398, telephone number (314) 425-4607.

NAVIGATION CHANNEL RESTRICTIONS (TENTATIVE)

It is the responsibility of the Permittee to maintain proper temporary navigational lighting and such other marking as may be prescribed on bridges during construction and permanent lighting on the bridge when it spans the river and falsework has been removed. Temporary lights and reflectors must be of the same color and characteristic and have a range of visibility equal to that prescribed for permanent lights.

The main channel could be permitted to be closed for a period of 48 to 72 hours maximum.

The side channels could be permitted to be closed for an unspecified amount of time during the demolition of the river spans provided the areas were properly marked with buoys to restrict pleasure boat traffic. The Coast Guard will provide, place and remove the buoys as required.

Clearing of debris and rubble from the channel shall be done to the satisfaction of the United States Coast Guard. A representative of the United States Coast Guard shall be present during the sweeping operation of the river bottom upon completion of the existing bridge demolition.

All restrictions listed herein are tentative and subject to actual permit restrictions.

DEMOLITION OF EXISTING SUBSTRUCTURE UNITS

Existing substructure units in conflict with the substructure of the replacement structure shall be completely removed. All existing land substructure units shall be removed to an elevation of 3'-0" below the final grade as called out in the roadway plans. All existing river piers not in conflict with the replacement structure shall be removed down to 1'-0" below the existing river bottom or flush to bedrock.

HISTORIC PRESERVATION CONSIDERATIONS

The State Historic Preservation Officer (SHPO) or his designee will provide the Kentucky Transportation Cabinet Department of Highways (KTC DOH) and the Federal Highways Administration (FHWA) with a list of architectural elements to be carefully removed and delivered to a designated storage site. The cost of removal of these items and delivery to the storage site is to be included in the contract lump sum price bid for "Demolition, Existing Superstructure and Substructure".

The identified items are as follows:

* The two plaques attached to the south portal.
* The four dedication plaques attached to the horizontal struts over the roadway located at the tower supports.
* The eight triangular shaped decorative pieces.
* Numerous miscellaneous pieces to be retained for the city of Newport will also be identified at a future time.

The following architectural elements of the existing Central Bridge shall be carefully removed and delivered to the City of Newport at the City's Harbor Town Project Site:

The two spandrels which are crested by ornamental finials (on both the Cincinnati and Newport approaches).

All of the ornamental medallions and brackets not required for placement on the New Bridge.

The "Built by King Iron Bridge" marker on the Ohio side of the existing bridge.

1,000± linear feet of bridge handrail.

All of the numbered pier stones identifying water levels.

15,000± square feet of finished pier stones.

The Harbor Town Project Site is located on the Ohio River east of the I-471 Bridge on Riverboat Row. The cost of removal of these items and delivery to the storage site is to be included in the contract lump sum price for "Demolition, Existing Superstructure and Substructure."

All remaining portions of the existing structure not identified above shall become the property of the contractor, and shall be disposed of in accordance with Section 202.03 of the Standard Specifications and the Coast Guard Demolition Permit. The existing structure contains lead paint.

SHEET 145

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

DEMOLITION NOTES & RESTRICTIONS

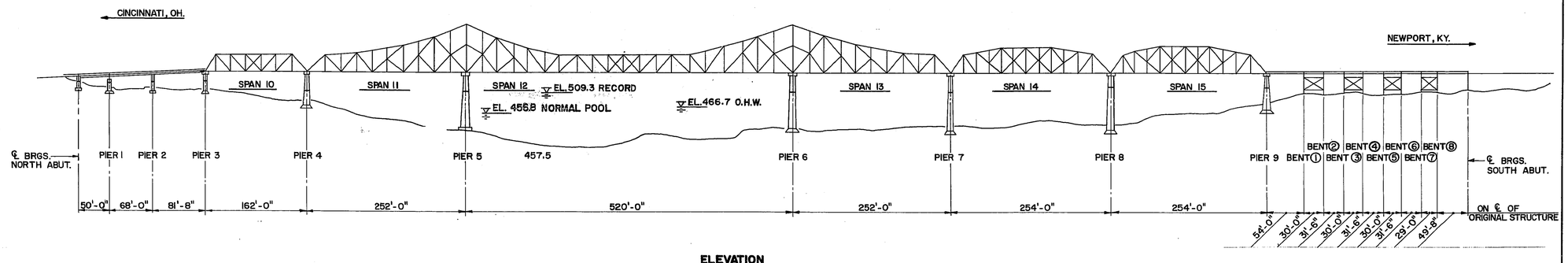
HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

FRF 0027(048)
STATION 113+40 ; P.E. PROJECT NO. FSP 015 0027 022-023 073D

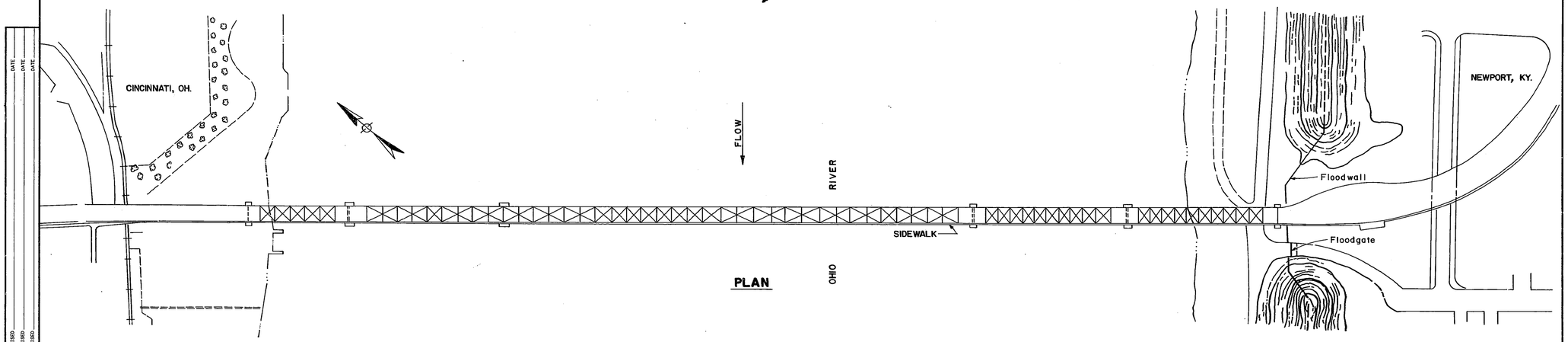
CONSTRUCTION PROJECT NO. | MAINTENANCE PROJECT NO. | DRAWING No. 22740

UPDATE DATE

LETTING DATE



ELEVATION
○ BENTS



PLAN

DEMOLITION PLAN AND ELEVATION

DESIGNED BY ____ DATE ____
DETAILED BY CL CHECKED BY ESS DATE 11-29-90
ISSUED BY ____ CHECKED BY ____ DATE ____
REVISED ____ DATE ____
REVISED ____ DATE ____
REVISED ____ DATE ____

05-02-96 PM16855\FRAMES11

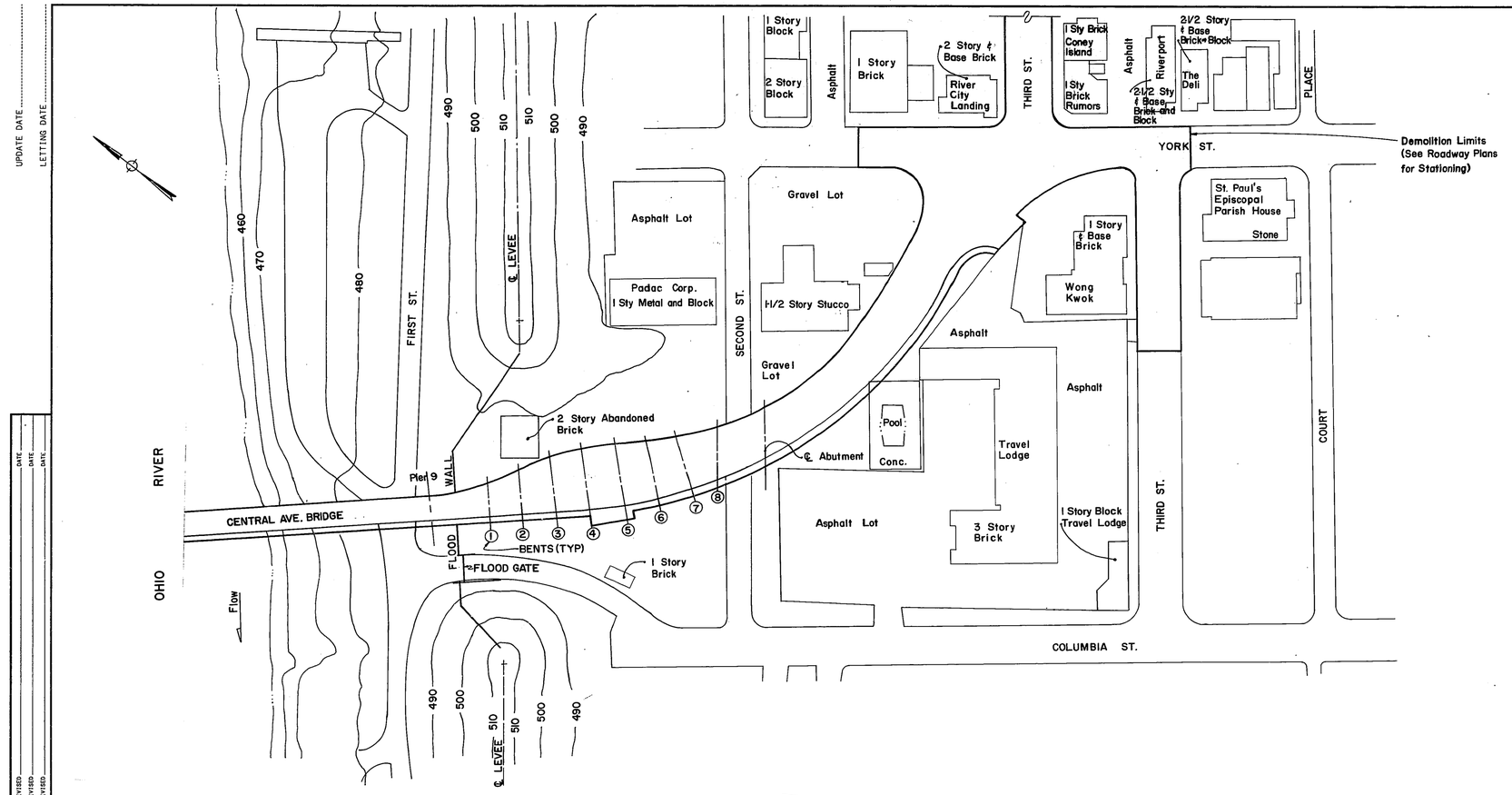
SHEET 146

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO
NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

HAZELET • ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

CONSTRUCTION PROJECT NO. | MAINTENANCE PROJECT NO. | DRAWING NO. 22740



UPDATE DATE

LETTING DATE

DESIGNED BY	CHECKED BY	DATE
DETAILED BY C.L.	CHECKED BY ESS	DATE 11-27-90
TRACED BY	CHECKED BY	DATE

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REVISED

08-02-90 PRI0850\FRAMES11

KENTUCKY APPROACH DEMOLITION PLAN

SHEET 147

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

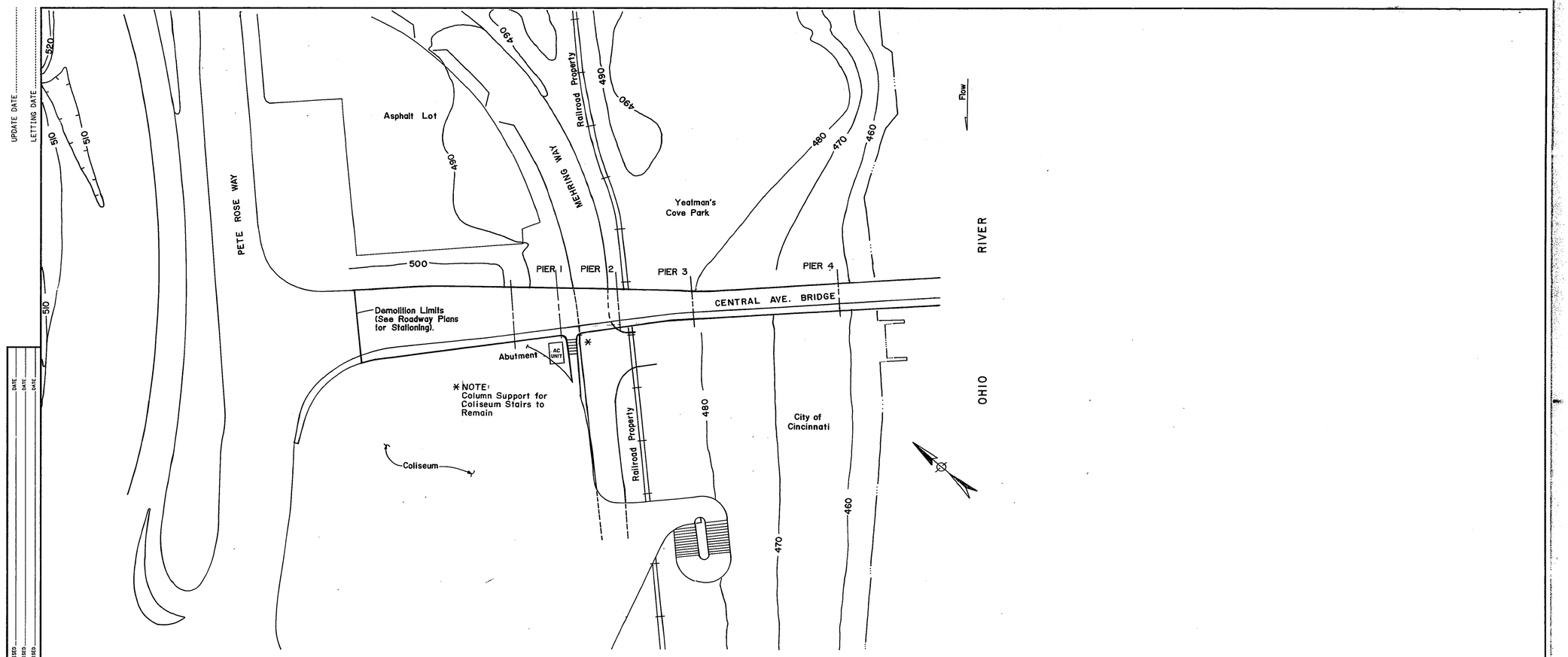
NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

HAZELET • ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS



SHEET 148

OHIO APPROACH DEMOLITION PLAN

HAZELET • ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

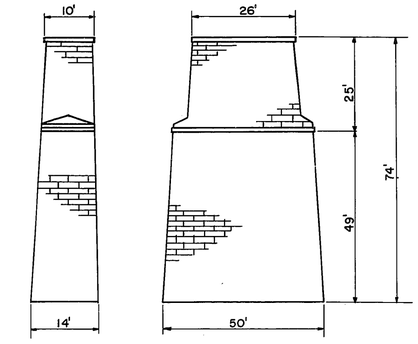
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

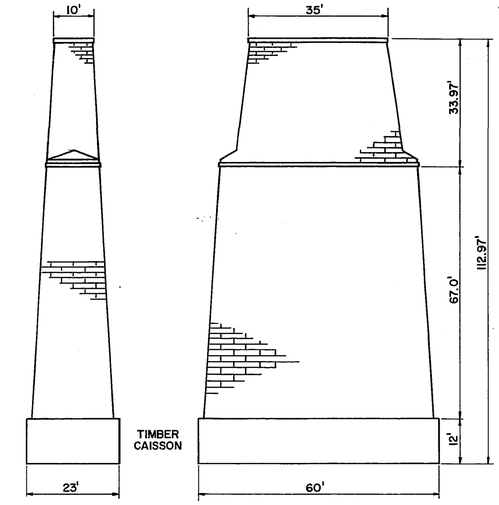
BRF 00272 048

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

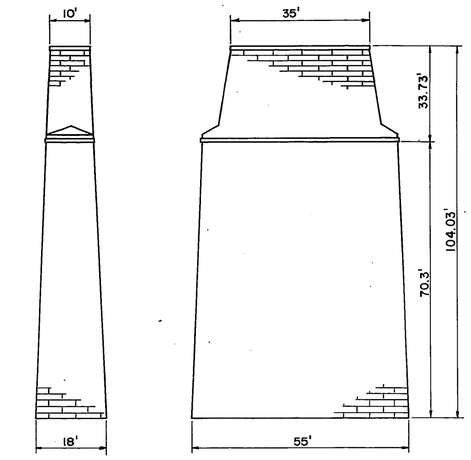
CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740



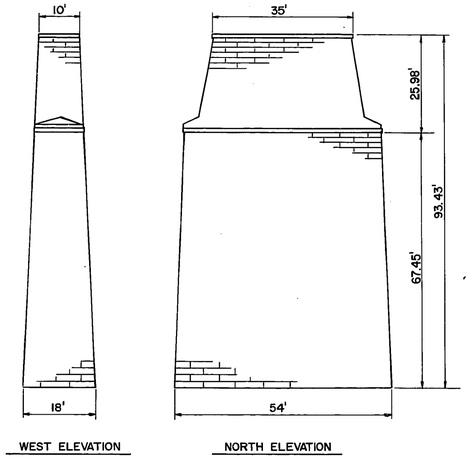
PIER 4



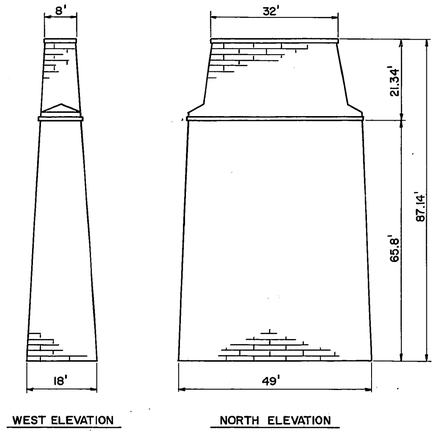
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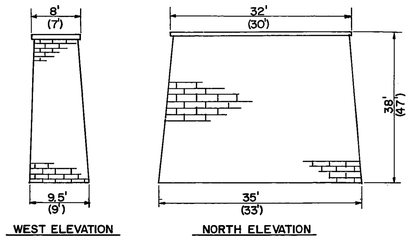
PIER 6



PIER 7



PIER 8



PIER 3 & 9
PIER 3 DIMENSIONS( )

Note: -All dimensions ±, see note on plan & elevation sheet.

-Piers 3 & 9 are on timber piling

-Piers 1 & 2 not shown are standard KTC 4-column type "L" piers without cantilevered cap ends

-Piers 3-9 are masonry construction Berea sandstone & Ohio River freestone with either concrete or freestone backing.

UPDATE DATE
LETTING DATE

DESIGNED BY		CHECKED BY	DATE 11-29-90
DETAILED BY	CL	CHECKED BY	ES S
TRACED BY		CHECKED BY	

REVISED DATE
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REVISED DATE

08-02-90 PW:\DGN\SS07\FRAME511

SHEET 149

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

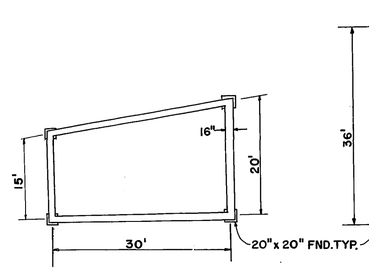
PIER DEMOLITION ELEVATIONS

UPDATE DATE

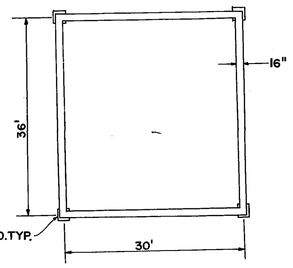
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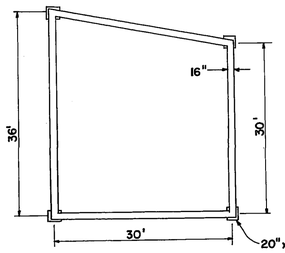
08-22-98 PR1805SDFRAMES11



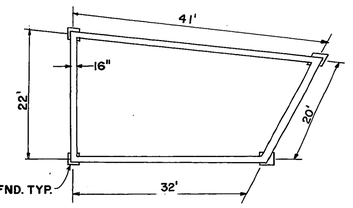
PLAN VIEW 1



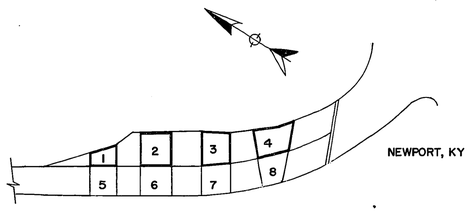
PLAN VIEW 2



PLAN VIEW 3

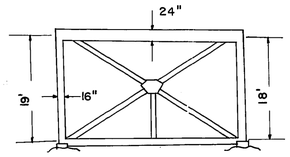


PLAN VIEW 4

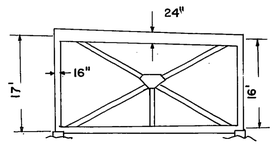


KEY PLAN AREAS

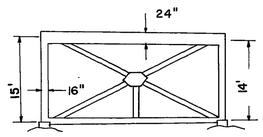
□ - Denotes deck widening renovation 1930
□ - (See partial plan below of original bridge substructure)



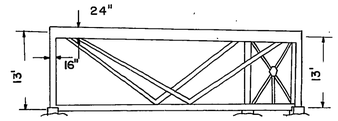
NORTH ELEVATION
LOOKING DOWN STREAM



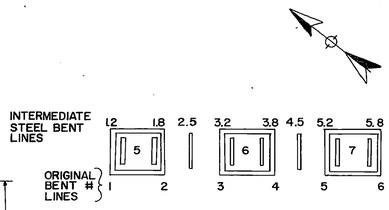
NORTH ELEVATION



NORTH ELEVATION



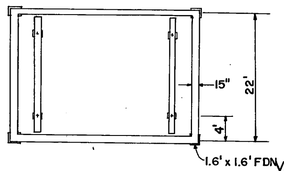
NORTH ELEVATION



PARTIAL PLAN

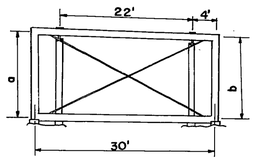
General arrangement plan of original bridge substructure. Bent lines 1-8 represent original steel laced framing. The laced frames have been encased in concrete and additional intermediate steel bents have been added. (i.e. 1.2 - 8.8)

Note: All dimensions t: see note on plan & elevation sheet.

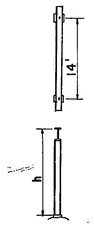


PLAN VIEWS 5-7

PLAN VIEWS	DIM. a	DIM. b
5	19'	18'
6	17'	16'
7	15'	14'

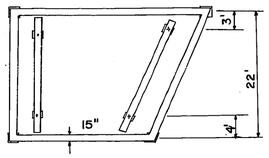


SOUTH ELEVATION
LOOKING UP STREAM

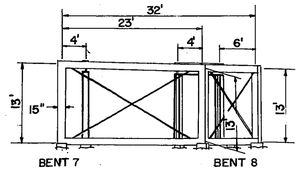


BENT	h
2.5	18'
4.5	16'
6.5	14'

INTERMEDIATE BENTS



PLAN VIEW 8



SOUTH ELEVATION

KENTUCKY APPROACH SUBSTRUCTURE

SHEET 150

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

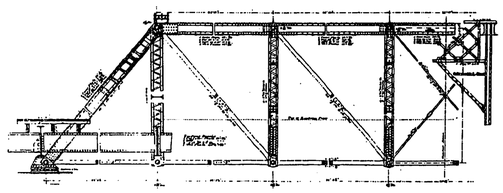
HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

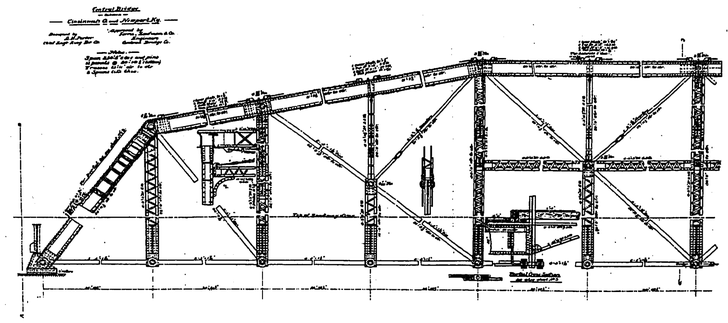
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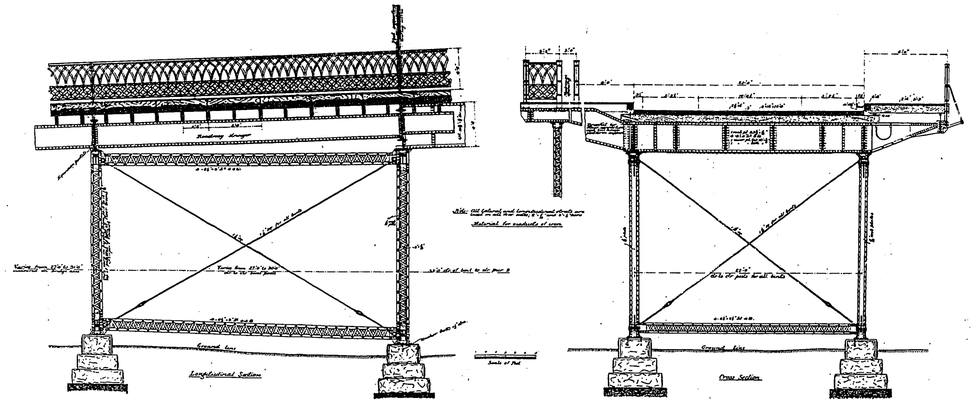
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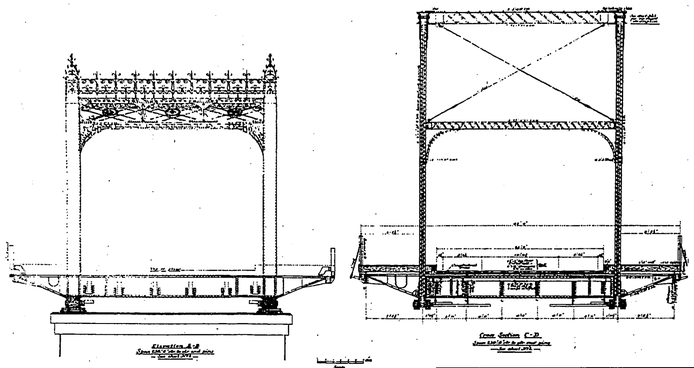
	DATE	REVISED
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DETAILED BY	CHECKED BY	DATE 11-29-90
TRACED BY JJH	CHECKED BY ESS	DATE

08-02-90 PR18SS5-FRAMES11









EXISTING SUPERSTRUCTURE DETAILS

SHEET 151

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048

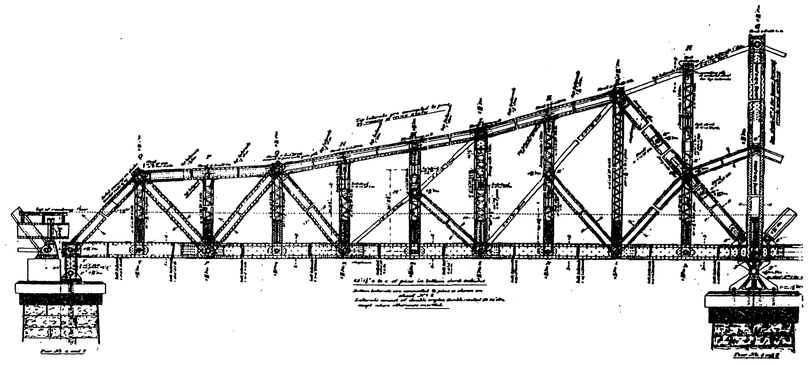
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

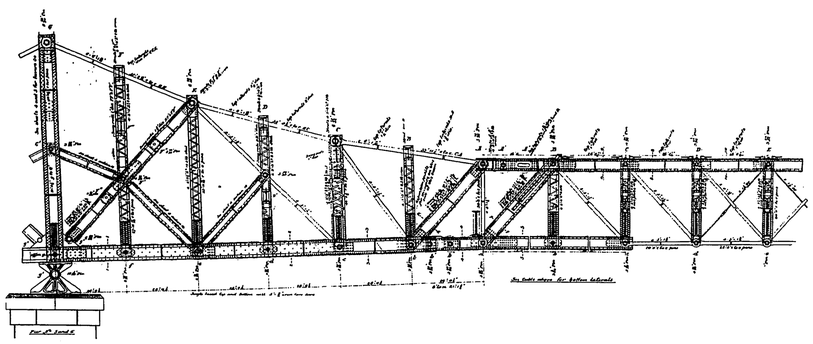
CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

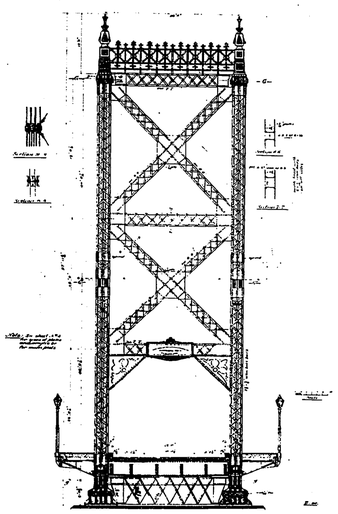
HAZELET + ERDAL, INC.
In association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

UPDATE DATE

LETTING DATE







EXISTING SUPERSTRUCTURE DETAILS

DESIGNED BY		CHECKED BY		DATE		REVISED
DETAILED BY		CHECKED BY		DATE		REVISED
TRACED BY	N/A	CHECKED BY	ESS	DATE	11-29-90	REVISED

08-02-00 PR10858\FRAME511

SHEET 152

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

HAZELET • ERDAL, INC.
In association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

U.S. Department of Transportation
United States Coast Guard

Commander
Second Coast Guard District

1222 Spruce Street
St. Louis, MO 63103-2832
Staff Symbol: (obr)
Phone: 314-539-3724
FTS 262-3017

RECEIVED
DEC 17 1991
DIVISION OF BRIDGES
FRANKFORT, KENTUCKY

16591.1/469.95 OHR
December 9, 1991

Mr Art Duncan, P. E.
Director, Division of Bridges
Commonwealth of Kentucky
Transportation Cabinet
Frankfort, KY 40622

Subj: REPLACEMENT CENTRAL BRIDGE, MILE 469.95, OHIO RIVER

Dear Mr. Duncan:

Your application of June 6, 1991 requesting approval of the location and plans for a replacement bridge across the Ohio River at Mile 469.95 has been approved. Bridge Permit No. 9-91-2 dated November 25, 1991, is enclosed.

This Permit approves Alternate Design "A" and Alternate Design "B" for construction of this bridge. We invite your attention to Condition (4) of the Permit which requires that you notify this office, in writing, which alternate bridge design is selected for construction. Written notification must reach our office within 90 calendar days after bid award; otherwise the Permit automatically becomes null and void. Timely notification will avoid your having to submit an application for reinstatement of the Permit and avoid an unnecessary delay of the project.

It is essential that we be kept informed of any events that could affect navigation during demolition of the old bridge and construction of the bridge. Your representative should be specifically instructed to keep this office informed of the progress of construction with particular reference to any and all events that may have an effect on navigation. The information received regarding the work will be disseminated to mariners by radio and written notices.

Plans for cofferdams, temporary causeways, work bridges, falsework bents, or any other temporary structures that will be placed in the water to facilitate construction of this bridge must be approved by this office. Construction of this bridge must be accomplished with minimal interference with navigation. To this end, construction schedules, demolition plans and erection schemes should be submitted to us at the earliest possible time so that approval can be assured prior to commencing work.

16591.1/469.95 OHR
December 9, 1991

Subj: REPLACEMENT CENTRAL BRIDGE, MILE 469.95, OHIO RIVER

The Ohio Historic Preservation Office and the Kentucky Resources and Enviromental Protection Cabinet have asked us to inform you that certain precautions should be taken during construction. A copy of each agency's letter listing recommended conditions is enclosed.

Navigation lights and reflectors for the bridge are prescribed in enclosure (2). The lights, prescribed in accordance with Title 33, Code of Federal Regulations, Part 118, shall be installed at the locations and in the manner shown on the enclosed marked-up copies of the Permit drawing.

You are required by Condition 5 of the Permit to install vertical clearance gauges. The gauges shall be installed as prescribed in enclosure (2). Enclosure (3) is a copy of Coast Guard instructions for installing vertical clearance gauges on bridges.

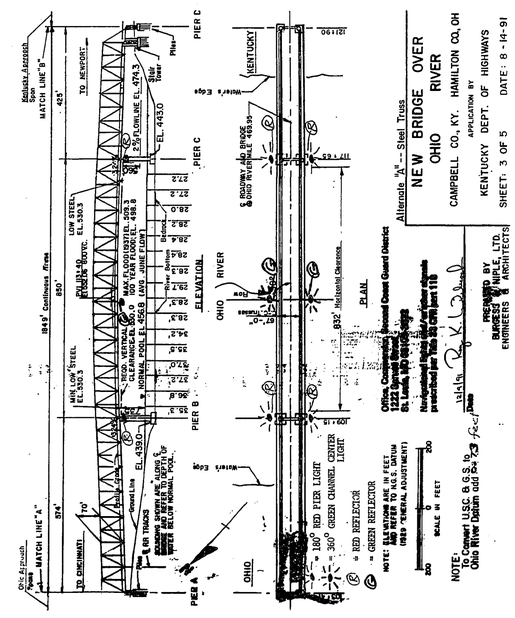
Please acknowledge receipt of the Permit. If you have any questions concerning our jurisdiction or requirements, you can contact us at 314-539-3724.

Sincerely,

ROGER K. WIEBUSCH
Bridge Administrator
By direction of the District Commander

Encl: (1) USCG Bridge Permit No. 9-91-2 dtd 11-25-91
(2) Navigation lights req'd w/marked-up permit dwgs. Sht 3 and 5 of 5
(3) Vertical clearance gauge instruction sheet
(4) OHEPA ltr dtd 10/15/91
(5) KYR & EPC ltr dtd 10/18/91 w/encls

Copy: Distengr Louisville Dist (Permits Branch) w/encl (1)
FHWA KY Div. w/o encl
USCGC CHIPPEWA w/encl (2)
CG MSO Louisville, KY w/o encls
CG MSD Cincinnati, OH w/o encls
CG GRU OHV w/encl (2)
FHWA OH Div w/o encls
OHEPA w/o encls
KY R & EPC w/o encls

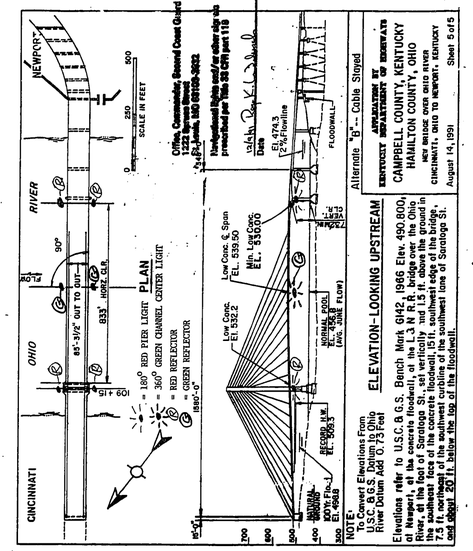


Alternate "A" -- Steel Truss

NEW BRIDGE OVER OHIO RIVER
CAMPBELL CO., KY. HAMILTON CO., OH
APPLICATION BY
KENTUCKY DEPT. OF HIGHWAYS
SHEET: 3 OF 5 DATE: 8-14-91

PREPARED BY
BURGESS & NIPLE, LTD.
ENGINEERS & ARCHITECTS

Office, Commander, Second Coast Guard District
1222 Spruce Street
St. Louis, MO 63103-2832
Navigation lights and/or other signals prescribed per Title 33 CFR, part 118



Alternate "B" -- Cable Stayed

KENTUCKY DEPARTMENT OF HIGHWAYS
APPLICATION BY
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO
NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY
August 14, 1991 Sheet 5 of 5

NOTE:
To Convert Elevations From U.S.C. & G.S. Datum to Ohio River Datum Add 0.7 Feet

Elevations refer to U.S.C. & G.S. Bench Mark G142, 1966 Elev. 490.800, Stamped "In the concrete floodwall, at the L & N R.R. bridge over the Ohio River, at the foot of Saratoga Street, Newport, Ky., 25.5 ft. southwest of the southwest cubline of the southwest lane of Saratoga St. and about 20.1 ft. below the top of the floodwall."

UPDATE DATE _____
LETTING DATE _____

PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

DESIGNED BY: DATE
DETAILED BY: DATE
QUANTITIES BY: DATE
CHECKED BY: DATE
REVISED
REVISED
REVISED

U.S. Department of Transportation
United States Coast Guard

BRIDGE PERMIT

(9-91-2)

25 NOV 1991

WHEREAS by Title V of an act of Congress approved August 2, 1946, entitled "General Bridge Act of 1946," as amended (33 U.S.C. 525-533), the consent of Congress was granted for the construction, maintenance and operation of bridges and approaches thereto over the navigable waters of the United States;

AND WHEREAS the Secretary of Transportation has delegated the authority of Section 502(b) of that act to the Commandant, U. S. Coast Guard by Section 1.46(c) of Title 49 Code of Federal Regulations;

AND WHEREAS before construction is commenced, the Commandant must approve the location and plans of any such bridge and may impose any specific conditions relating to the construction, maintenance and operation of the structure which he deems necessary in the interest of public navigation, such conditions to have the force of law;

AND WHEREAS the COMMONWEALTH OF KENTUCKY has submitted for approval the location and plans indicating alternate designs of a bridge to be constructed across the Ohio River between Cincinnati, Ohio, and Newport, Kentucky;

NOW THEREFORE, this is to certify that the location and plan sheets 1, 2, 4 and 5 (of 5) dated 14 August 1991 and sheet 3 revised 3 September 1991 are hereby approved by the Commandant, subject to the following conditions:

1: No deviation from the approved plans may be made either before or after completion of the structure unless the modification of said plans has previously been submitted to and received the approval of the Commandant.

2. The construction of falsework, cofferdams, or other obstructions, if required, and the scheme for constructing and erecting the new bridge shall be in accordance with plans submitted to and approved by the Commander, Second Coast Guard District prior to construction of the bridge. All work shall be so conducted that the free navigation of the waterway is not unreasonably interfered with and the present navigable depths are not impaired. Timely notice of any and all events that may affect navigation shall be given to the District Commander during construction of the bridge. The channel or channels through the structure shall be promptly cleared of all obstructions placed therein or caused by the construction of the bridge to the

satisfaction of the District Commander, when in the judgment of the District Commander the construction work has reached a point where such action should be taken, but in no case later than 90 days after the bridge has been opened to traffic.

3. Issuance of this permit does not relieve the permittee of the obligation or responsibility for compliance with the provisions of any other law or regulation as may be under the jurisdiction of the Commonwealth of Kentucky: National Resources and Environmental Protection Cabinet, Department for Environmental Protection; Kentucky Heritage Council, State Historic Preservation Office; State of Ohio: Environmental Protection Agency; Ohio Historical Society, State Historic Preservation Office, or any other federal, state or local authority having cognizance of any aspect of the location, construction or maintenance of said bridge.

4. The permittee shall notify the District Commander in writing of the alternative chosen for the construction of the bridge within 90 calendar days subsequent to the bid award. Failure by the permittee to so advise the District Commander renders this permit null and void.

5. Clearance gauges shall be installed and maintained in a good and legible condition by and at the expense of the owner of the bridge. The type of gauges and the locations in which they are to be installed will be submitted to the District Commander for approval.

6. All parts of the existing, to be replaced Central Bridge across the Ohio River, mile 469.95, not utilized in the new bridge, except the land piers, shall be removed to at least one foot below the river bed or to bedrock whichever is lower. The land piers shall be removed to at least three feet below final grade. The waterway shall be cleared to the satisfaction of the District Commander when in the judgment of the District Commander the construction of the new bridge, mile 469.95, has reached a point where such action should be taken. The proposed method and schedule for demolishing the existing bridge shall be submitted to the Commander, Second Coast Guard District, for approval prior to commencement of such removal.

7. When the proposed bridge is no longer used for transportation purposes, it shall be removed in its entirety or to an elevation deemed appropriate by the District Commander and the waterway cleared to the satisfaction of the District Commander. Such removal and clearance shall be completed by and at the expense of the owner of the bridge upon due notice from the District Commander.

8. The approval hereby granted shall cease and be null and void unless construction of the bridge is commenced within five years and completed within eight years after the date of this permit.

N. E. MPRAS
Chief, Bridge Administration
Division
U. S. Coast Guard
By direction of the Commandant

SHEET 153

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 0:8

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO. | MAINTENANCE PROJECT NO. | DRAWING NO. 22740

CONSTRUCTION PERMIT INFORMATION

HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

UPDATE DATE _____
LETTING DATE _____

PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

DESIGNED BY: BLS DATE
DETAILED BY: DATE
CHECKED BY: TLG DATE
QUANTITIES BY: DATE
REVISED
REVISED
REVISED

NAVIGATION LIGHTS FOR BRIDGE ACROSS
OHIO RIVER, Mile 469.95

Application to both Alternate A and Alternate B.

The center of the channel shall be marked by a range of two green lights. Each green light shall show through a horizontal arc of 360 degrees and shall be securely mounted just below the outermost edge of the bridge span structure in line with the axis of the channel so as to be visible from an approaching vessel.

The carter of the channel should be marked with green reflectors. The reflectors should be placed near the mid-channel green lights on the upstream and downstream sides of the bridge so as to effectively reflect the searchlight of an approaching vessel. Each reflector shall have a reflective area of not less then 36 square inches and not more than 144 square inches.

The upstream and downstream sides of both channel piers shall be marked with red lights. Each red light shall show through a horizontal arc of 180 degrees and shall be securely mounted on the pier as low as practicable but no lower than two feet above navigable high water to show 90 degrees on either side of a line parallel to the axis of the channel so as to be visible from an approaching vessel.

The upstream and downstream sides of both channel piers shall be marked with red reflectors. The reflectors should be placed near the top of the pier on the column or pier cap so as to effectively reflect the searchlight of an approaching vessel. The reflectors shall have a reflective area of not less then 36 square inches and not more than 144 square inches.

The lights and reflectors prescribed above shall be displayed from sunset to sunrise each night of the year and at other times when the visibility is less than one mile. The lights shall be of sufficient candlepower as to be visible against the background lighting at a distance of at least 2,000 yards 90% of the nights of the year.

Responsibility of the owner does not cease upon installation of the prescribed lights or reflectors. Provisions for maintaining all lights and reflectors prescribed herein should be included in the planning for initial installation. A continuing program of inspection and maintenance is necessary to insure that the lights and reflectors are properly displayed.

VERTICAL CLEARANCE GAUGE REQUIREMENT

The size of the numerals to be placed on the bridge piers depends on the width of the piers. The 36-inch Series E standard numerals should be used unless the width of the piers is too narrow to accommodate that large of a numeral. If the bridge piers are too narrow for the 36-inch numerals, then use the largest numeral that is compatible with the width of the pier. The gauges shall be installed on the upstream side of the right descending channel pier, and the downstream side of the left descending channel pier. The line indicating the topmost numeral of the gauge shall be located 15 feet below the lowest point of steel in the channel span (low steel). The line indicating the bottom numeral shall be located 70 feet below low steel.

This is enclosure (2) to CGDTWO(ob) ltr dtd December 9, 1991.

KENTUCKY HERITAGE COUNCIL
The State Historic Preservation Office

October 11, 1991

Mr. D. W. Lambert, Director
Division of Environmental Analysis
Transportation Cabinet
419 Ann Street
Frankfort, Kentucky 40622

Re: **Central Bridge Replacement**
US 27, Campbell County, Kentucky.

Dear Mr. Lambert:

Thank you for letter concerning the above referenced project. Based on our review of the project plans and specifications as well as previous documentation (e.g., photographs) provided by the Transportation Cabinet, we recommend that all areas that were not disturbed during construction of the floodwall or that presently do not contain standing structures, be systematically investigated by a professional archaeologists. These areas would include but are not limited to existing yards, parking lots, and streets. Investigations in other urban contexts, have demonstrated that well preserved archaeological remains are often covered by parking lots and in some cases existing streets.

On the enclosed attachment I have marked four general areas that based on our review appear to warrant further investigation. Should you have reason to believe that some of these areas do not warrant additional study, then please feel free to consult with us further concerning our recommendations. If you have any questions concerning this project please feel free to contact David Pollack of my staff at 502-564-7005.

Sincerely,

David L. Morgan, Director
Kentucky Heritage Council and
State Historic Preservation Officer

Enclosure

677 Comanche Trail
Frankfort, Kentucky 40601

25th Anniversary
1966-1991

Telephone
(502) 564-7005

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John F. Nichols, Jr.
SECRETARY

WALLACE G. WILKINSON
GOVERNOR

COMMONWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
FRANKFORT OFFICE PARK
18 REILLY ROAD
FRANKFORT, KENTUCKY 40601
October 18, 1991

Mr. Roger K. Wiebush
Bridge Administrator
U.S. Coast Guard
1222 Spruce Street
St. Louis, MO 63103-2832

RE: Public Notice - Proposed Replacement Central Bridge (US 27) Across Ohio River, Mile 469.95, at Newport, Campbell County, Kentucky

Dear Mr. Wiebush:

The Natural Resources and Environmental Protection Cabinet has coordinated the review of the above referenced public notice in order to prepare a statement of concern.

The agencies listed on the attached sheet were given the opportunity to review the public notice. Listed below are the comments that were received by this office.

1) The Water Resources Branch in the Division of Water within this Cabinet indicates that a floodplain construction permit is not required from the Commonwealth of Kentucky; however, the Transportation Cabinet should adhere to the floodplain design criteria as per Federal Emergency Management Agency (FEMA) regulations, since Campbell County is a participant in the National Flood Insurance Program. Please contact Mr. Jeff Grubbs at 502-564-3410 if you have any questions.

2) The Office of the State Archaeologist located at the University of Kentucky states that the construction of the bridge will undoubtedly impact archaeological resources, as the area has had many recorded sites. Therefore, an archaeological survey and testing will be required for the Kentucky side of the project area. Please contact Ms. Susan Duncan, Assistant State Archaeologist at 606-257-5735 if you have any questions.

3) Comments from the Kentucky Heritage Council were forwarded directly to Mr. Lambert in the Transportation Cabinet on October 11, 1991. A copy of this letter without the enclosure is attached for your information.

Please contact me at 502-564-2150 if you have any questions.

RECEIVED
OCT 1991
Coast Guard District

Sincerely yours,

Valerie A. Hudson
Deputy Commissioner for Special Projects

Attachments

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Ohio Historic Preservation Office

Ohio Historical Center
1982 Velma Avenue
Columbus, Ohio 43211-2497
614/297-2470
Fax: 297-2411

RECEIVED
OCT 21 1991
Coast Guard District

OHIO HISTORICAL SOCIETY
SINCE 1885

October 15, 1991

Roger K. Wiebusch
Office of the Commander
Second Coast Guard District
Bridge Branch
1222 Spruce Street
St. Louis, MO 63103-2832

Re: Proposed Replacement Central Bridge (US 27) Across Ohio River
Mile 469.95, At Newport, Campbell County, Kentucky

Dear Mr. Wiebusch,

This is in response to Public Notice No. 2-578 dated September 16, 1991 (received September 18) regarding the proposed replacement of Central Bridge (US 27) across the Ohio River at Mile 469.95, Newport, Campbell County, Kentucky. We wish to take this opportunity to reiterate our earlier concerns for the protection and preservation of historic properties, identified or not yet identified, within the project area.

As stated in the Memorandum of Agreement among the Federal Highway Administration, Kentucky Transportation Cabinet, Kentucky State Historic Preservation Officer, and the Ohio Historic Preservation Officer, the US 27 (Central Bridge) highway has been determined eligible for inclusion on the National Register of Historic Places. Therefore, its replacement by removal will result in an adverse effect to an historic property, and we concur with the stipulations of the MOA to mitigate this adverse effect.

The construction plans, as set forth in the Public Notice of September 10, 1991, raise continuing historic preservation concerns. These concerns are the same for either of the two proposed alternatives. It is our understanding that an archaeological research design is being developed to identify and evaluate possible adverse effects to potentially eligible properties (letter of May 11, 1987 from David Morgan to David Smith). It is the position of the Ohio Historic Preservation Office that both the proposed excavation and the proposed excavation of fill material are an integral part of the project area an subject to the full measure of the Section 106 review process.

The following Kentucky agencies were given the opportunity to review Public Notice No. 2-578 - Proposed Replacement Central Bridge (US 27) Across Ohio River, Mile 469.95, at Newport, Campbell County, Kentucky:

1) Natural Resources and Environmental Protection Cabinet
   a. Department for Environmental Protection
      1. Division for Air Quality
      2. Division of Water
      3. Division of Waste Management
   b. Department for Natural Resources
   c. Kentucky State Nature Preserves Commission
2) Department of Fish and Wildlife Resources
3) Kentucky Heritage Council
4) Office of the State Archaeologist, University of Kentucky
5) Department of Agriculture
6) Transportation Cabinet
7) Tourism Cabinet
8) Department of Housings, Buildings & Construction

Mr. Roger Wiebusch
October 15, 1991
Page 2

Specifically, this includes the identification and evaluation of potentially eligible historic properties which would be affected by operations at any and all contractor-option pits excavated to provide fill for the project.

Thank you for the opportunity to participate in the review of this project.

Any questions concerning this matter should be addressed to David Snyder at (614) 297-2470, between the hours of 8 am. to 5 pm. Thank you, again, for your cooperation.

Sincerely,

Martha J. Raymond

Martha Raymond, Department Head
Technical and Review Services

MJR/DMS:ds

xc: SHPO, Kentucky Heritage Council, Kentucky
Druscilla Null, Advisory Council

SHEET 154

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

CONSTRUCTION PERMIT INFORMATION

HAZELET + ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 07.3 D
BRF 00272 048

CONSTRUCTION PROJECT NO. | MAINTENANCE PROJECT NO. | DRAWING NO. 22740

UPDATE DATE
LETTING DATE

PREPARED AND SUBMITTED BY:
HAZELET + ERDAL, INC.
CONSULTING ENGINEERS

DESIGNED BY: DRH/BLS DATE 9-91
DETAILED BY: DATE
CHECKED BY: DATE
CHECKED BY: DATE
CHECKED BY: DATE

08/27/1991 DRH D:\BW3\FILES\113EN44\KEITDR3C

22"

32"

BRIDGE NAME

THIS CONTINUOUS TRUSS BRIDGE, CONSTRUCTED IN 1994, REPLACED THE CENTRAL BRIDGE BUILT IN 1890-91 BY THE KING IRON BRIDGE & MFG. CO. OF CLEVELAND, OHIO.

THE ORIGINAL STRUCTURE EVENTUALLY BECAME KNOWN TO DESIGNERS AS THE "STANDARD CANTILEVER TRUSS" AND SERVED AS THE PROTOTYPE FOR MANY OTHER BRIDGES.

THE MAIN SPANS OF THE 1890 CENTRAL BRIDGE CONSISTED OF A THREE SPAN CANTILEVER TRUSS FLANKED BY TWO PENNSYLVANIA TRUSSES ON THE SOUTH AND A PRATT TRUSS ON THE NORTH.

ORNAMENTAL IRONWORK FROM THE ORIGINAL BRIDGE IS MOUNTED NEARBY.

To Newport — To Cincinnati

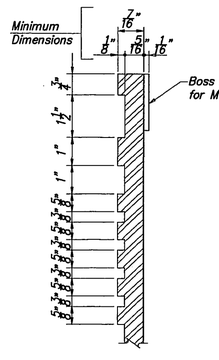


CENTRAL BRIDGE
BUILT 1890-91

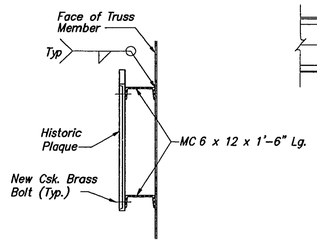
Raised boss area for mounting – Back Side. (Typ. Top & Bottom)

Drill & Tap Back Side for 2-$\frac{3}{8}$"ø Brass Screws. (Typ. Top & Bottom)

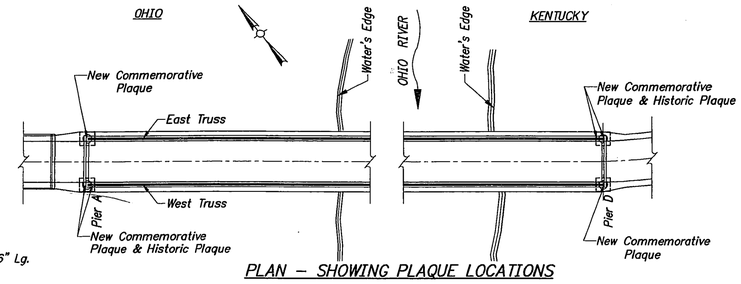
NEW COMMEMORATIVE PLAQUE
4–22" x 32" Cast Bronze Plaques Required



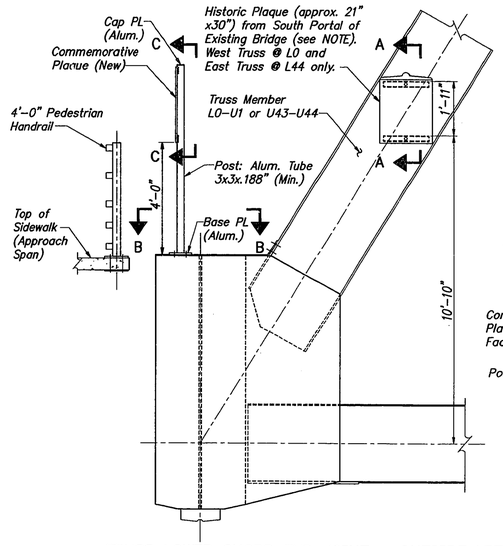
PLAQUE SECTION



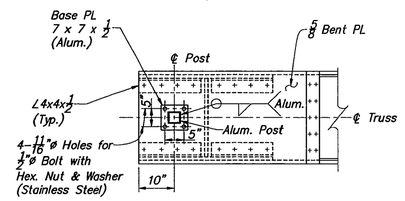
SECTION A–A



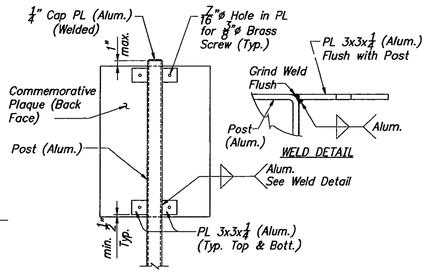
PLAN – SHOWING PLAQUE LOCATIONS



TRUSS LOWER CHORD END JOINT – OUTSIDE VIEW
West Truss at L0 and East Truss at L44 Shown.
West Truss at L44 and East Truss at L0 Opposite Hand.



SECTION B–B



VIEW C–C

NOTES

Two historic plaque castings are to be carefully removed from the existing bridge and the Contractor shall be responsible for their safe storage until they are in place on the new bridge. These plaques, mounted on the existing bridge South Portal are approx. 21"x30" and contain the inscription "CENTRAL RAILWAY & BRIDGE CO." at the top and "BUILT BY KING IRON BRIDGE & MFG. CO., CLEVELAND, OHIO, 1890" at the bottom. Any cracks in the castings (no cracks are known) are to be repaired by brazing and grinding to restore the original appearance. The castings are to have all paint removed and be refinished in a shop which is equipped and experienced for this work. Refinishing shall consist of applying a background of flat black, baked-on enamel with flat surfaces of raised letters and patterns polished natural metal, followed by two coats of clear acrylic finish. This work shall be incidental and the cost included in the Lump Sum bid for "Structural Steel".

The four new commemorative plaques shall be dark cast bronze, approx. 22"x32" in size, in conformance with the details shown. They shall be mounted on aluminum posts as shown.

The castings shall be free of pits, blemishes and other imperfections. Letters shall be clean cut and accurately spaced and aligned. Letters and patterns shall be raised above the background to give a good three dimensional appearance. Backgrounds shall have a stippled texture with a flat black, baked-on enamel coating. Borders and faces of letters shall have a fine satin finish of natural metal. The competed plaque shall receive two coats of clear acrylic finish.

Aluminum posts shall have a flat black, durable finish applied after all welding and grinding work is complete.

The bottom of the post base plate shall receive an additional coating of commercially available zinc chromate paint.

The lettering shown is subject to change, but it does indicate the scope and nature of work for the desired plaques. ~~The Engineer will provide complete and revised data for the plaques not less than 90 days before scheduled completion of the contract. The Contractor shall submit for approval detailed drawings or actual rubbing from casting prior to finishing.~~

The cost of new plaques, posts and hardware shall be include in the lump sum for "structural steel".

HISTORIC & COMMEMORATIVE PLAQUES

SHEET 55

HAZELET + ERDAL, INC.
In association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 0C272 048
STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022–023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

COUNTY OF	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
CAMPBELL			

E1

FOP 019 0021 022-023 0130

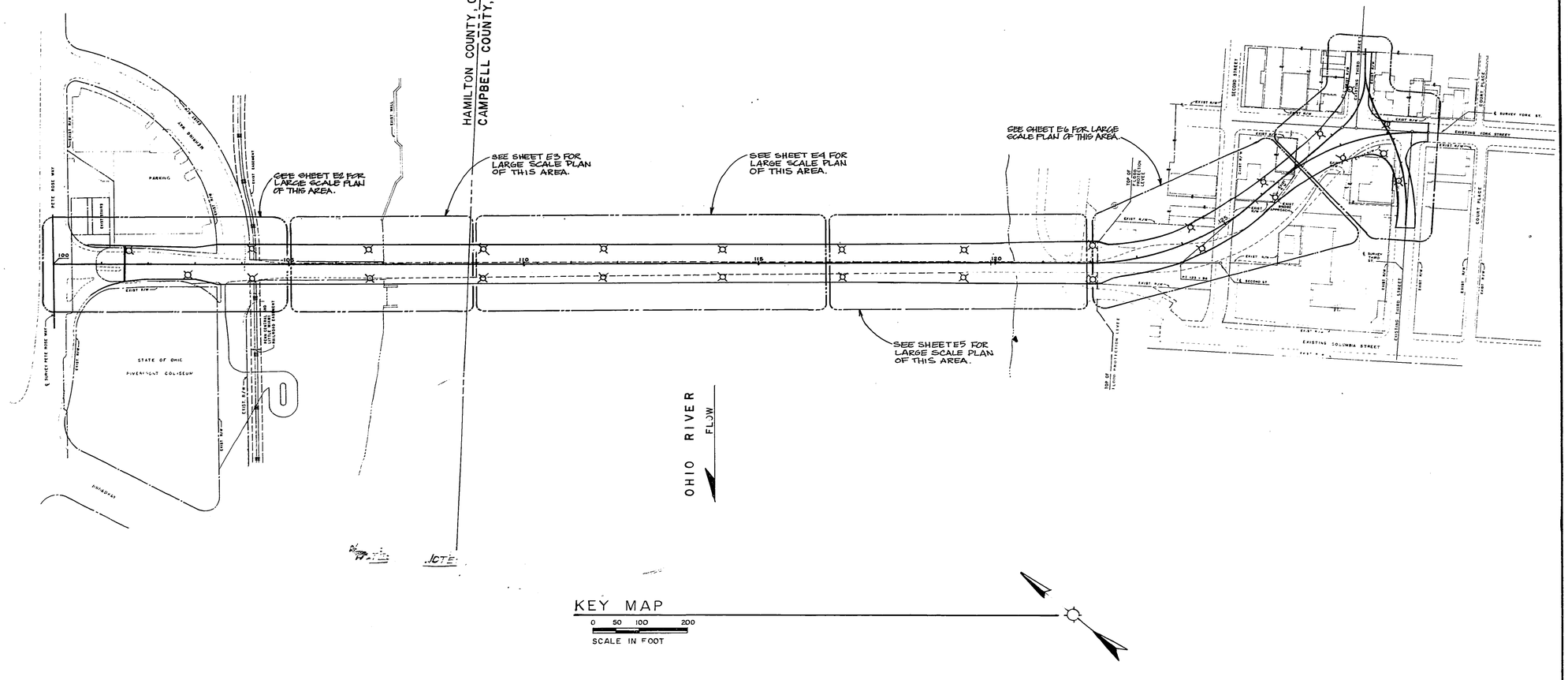
HAMILTON COUNTY, OHIO
CAMPBELL COUNTY, KENTUCKY

SEE SHEET E3 FOR LARGE SCALE PLAN OF THIS AREA.

SEE SHEET E4 FOR LARGE SCALE PLAN OF THIS AREA.

SEE SHEET E6 FOR LARGE SCALE PLAN OF THIS AREA.

SEE SHEET E5 FOR LARGE SCALE PLAN OF THIS AREA.



KEY MAP

0 50 100 200

SCALE IN FOOT

SHEET 156

7-13-73 FORM NO. 2

COUNTY OF	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
CAMPBELL			

E2

FED 019 0027 022-023 0730

UPDATE DATE

LETTING DATE

PLANS PREPARED & SUBMITTED BY
Burgess & Niple, Limited
Engineers and Architects

DESIGNED BY ____ DATE ____ REVISED
DETAILED BY ____ DATE ____ REVISED
TRACED BY ____ DATE ____ REVISED
CHECKED BY ____ DATE ____ REVISED
CHECKED BY ____ DATE ____ REVISED
CHECKED BY ____ DATE ____ REVISED

LEGEND

- BARRIER MOUNTED POLE AND ROADWAY LUMINAIRE SEE BASE DETAIL SHEET E 11
- STANDARD TRANSFORMER BASE MOUNTED POLE AND ROADWAY LUMINAIRE SEE DETAILS SHEET E 11
- VERTICAL COLUMN MOUNTED BRACKET ARM AND ROADWAY LUMINAIRE SEE MOUNTING DETAIL SHEET E10
- BARRIER MOUNTED TYPE "C" JUNCTION BOX
- (E) ELECTRICAL PULL BOX
- △ CONTROL CENTER
- ---E--- CONDUIT IN DUCT BANK OR CONCRETE BARRIER T=TELEPHONE, E=ELECTRIC
- (T) MANHOLE T=TELEPHONE, E=ELECTRIC
- (J) JUNCTION BOX - SIZED PER PLAN.
- PB PULL BOX
- RGC RIGID GALVANIZED STEEL CONDUIT
- GRD GROUND
- ⊙ GROUND ROD (PLAN) ⏚ GROUND ROD (SECTION)
- EXISTING LUMINAIRE AND STANDARD
- POLE MOUNTED WALKWAY LUMINAIRE. SEE TRANSFORMER BASE AND FOUNDATION DETAILS ON E11
- BARRIER MOUNTED POLE AND WALKWAY LUMINAIRE SEE BASE DETAIL SHEET E11
- VERTICAL COLUMN MOUNTED BRACKET ARM AND WALKWAY LUMINAIRE SEE MOUNTING DETAIL SHEET E10
- PARKING DECK TYPE LUMINAIRE

101+55, BB2
1-310,12,40(37)
- STATION
- CONTROL CENTER
- CIRCUIT
- LUMINAIRE NO
- OFFSET FROM CENTER LINE
- MOUNTING HEIGHT
- BRACKET ARM LENGTH
- LAMP WATTAGE
- # OF LUMINAIRES

PB-BB1
102+80(34)
- BOX TYPE
- CONTROL CENTER
- CIRCUIT
- BOX #
- OFFSET FROM CENTER LINE
- STATION

PETE ROSE WAY

CITY OF CINCINNATI
LEASE TO RIVERFRONT PARKING CCKP

STATE OF OHIO
RIVERFRONT COLISEUM

*#- LUMINAIRE MOUNTED ON FACE OF VERTICAL TRUSS SEE CORRESPONDING DETAIL

CITY OF CINCINNATI

Elec. Box

APPROXIMATE LOCATION OF RELOCATED ELECTRICAL SERVICE AND CONTROL CENTER "B" ON FACE OF PIER

LIMITS OF OHIO ROADWAY LIGHTING

BEGIN BRIDGE LIGHTING

Perpetual Easement

Construction Limits

Proposed R/W

Proposed Retaining Wall

Relocated out of walk

PB-BB2
101+49 (34)

2°C W/2#4, 1#6GRD IN TRENCH

PB-BB1
102+80(34)

BEGIN CONSTRUCTION STA. 100+50

101+55, BB2
1-310,12,40(37)

℄ Survey

Removed

3°C W/2#4, 1#6GRD IN DUCT BANK UNDER ROADWAY. INSTALL PRIOR TO PLACING PAVEMENT

Ex. R/W

MEHRING WAY

103+82, AA1
1-70,.5,20,(#)

104+23, AA1
1-250,4,40(#)

Permanent Easement

2°C W/2#4 IN CONCRETE BARRIER

Remove Concrete Island, Replace With 8" POC Pavement

Loop Detector

Loop Detector Removed

BEGIN PROJECT STA. 101+~~50~~48

Elec. Box Lowered to grade

Elec. Box Removed

Limits of Overhead Walkway

102+85, BB1
1-310, 10,40(30)

103+55.80, ABP1-ABP2
2-70,.5,20(45)

1½°C W/2#4-ROUTE CONDUIT ALONG UNDERSIDE OF WALKWAY

104+23, AB1
1-260,4,40(#)

Air Cond.

OHIO STAIRS

Permanent Easement

Removed

LIMITS OF OHIO ROADWAY LIGHTING

BEGIN BRIDGE LIGHTING

Ex. R/W

NOTE: METER FOR ROADWAY LIGHTING MUST BE OBTAINED FROM CINCINNATI GAS & ELECTRIC CO. DONE BY CITY OF CINCINNATI

CODED NOTES - ⬡

1. TO BE RELOCATED BY UTILITY
2. ~~#4/0 BARE COPPER GROUND WIRE FROM OHIO APPROACH STRUCTURAL STEEL TO 4'-0" x 10'-0" COPPER CLAD GROUND ROD~~ Eliminated
3. ~~#4/0 BARE COPPER GROUND WIRE FROM BRIDGE STRUCTURAL STEEL ACROSS EXPANSION JOINT TO OHIO APPROACH STRUCTURAL STEEL~~ Eliminated
4. USE MINIMUM 2'-0" LIQUIDTIGHT FLEXIBLE NONMETALLIC CONDUIT FOR TRANSITION FROM WALKWAY TO OHIO STAIR STRUCTURE.
5. SEE BEAM MOUNTED LIGHT POLE DETAIL ON SHEET E14.

STA 100+00 To STA 105+00

SCALE : 1"=20'

SHEET 157

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION
CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048

STATION	P.E. PROJECT NO. FSP 019 0027 022-023 073 D	
CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.

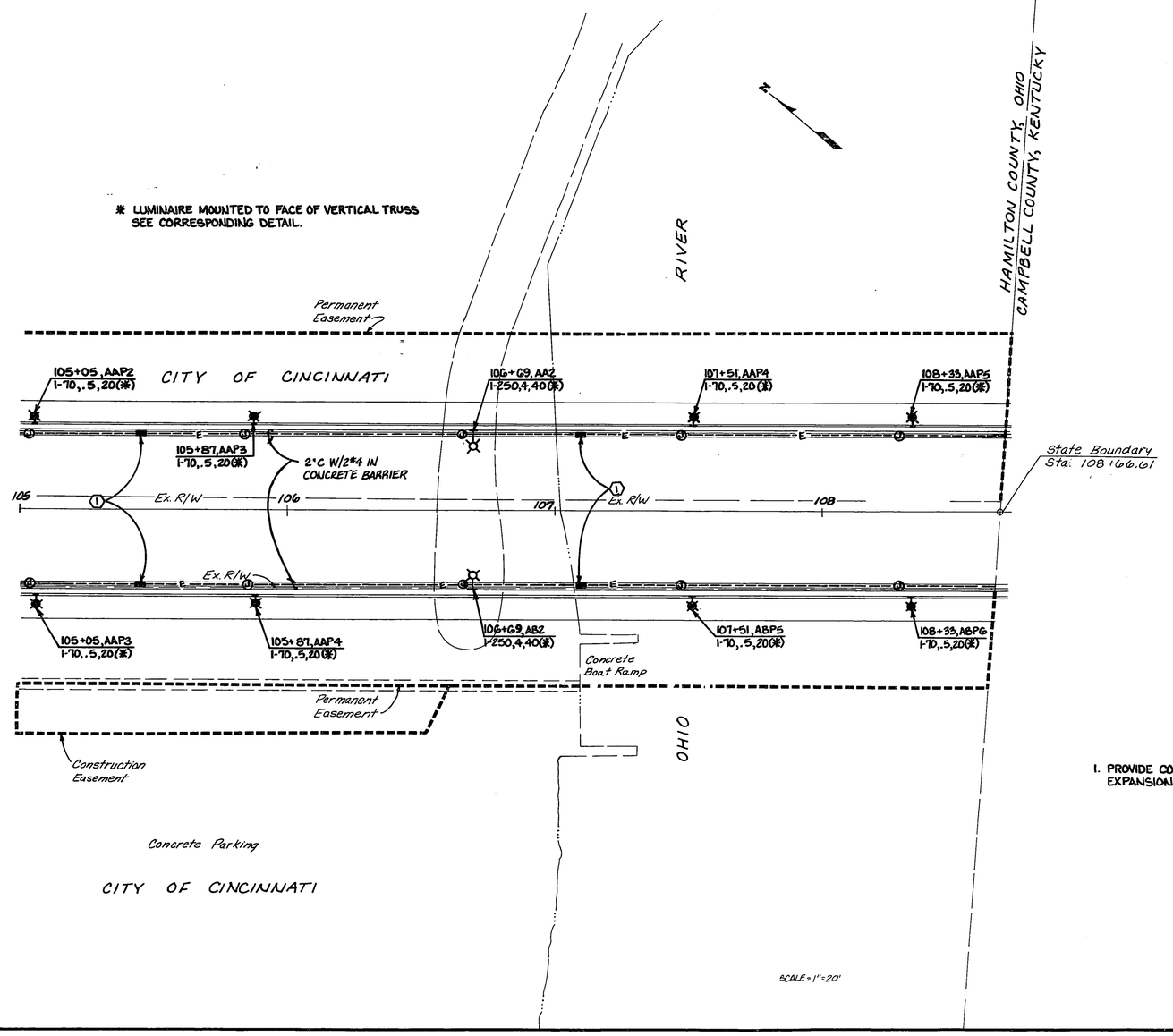
HAZELET + ERDAL, INC.
In association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

COUNTY OF	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
Campbell			

E3

FSP 019 0027 022-023 073D

* LUMINAIRE MOUNTED TO FACE OF VERTICAL TRUSS SEE CORRESPONDING DETAIL.



CODED NOTES - ⬡

1. PROVIDE CONDUIT EXPANSION FITTING AT BARRIER EXPANSION JOINT, SEE DETAIL ON SHEET E-12.

SCALE = 1" = 20'

SHEET 158

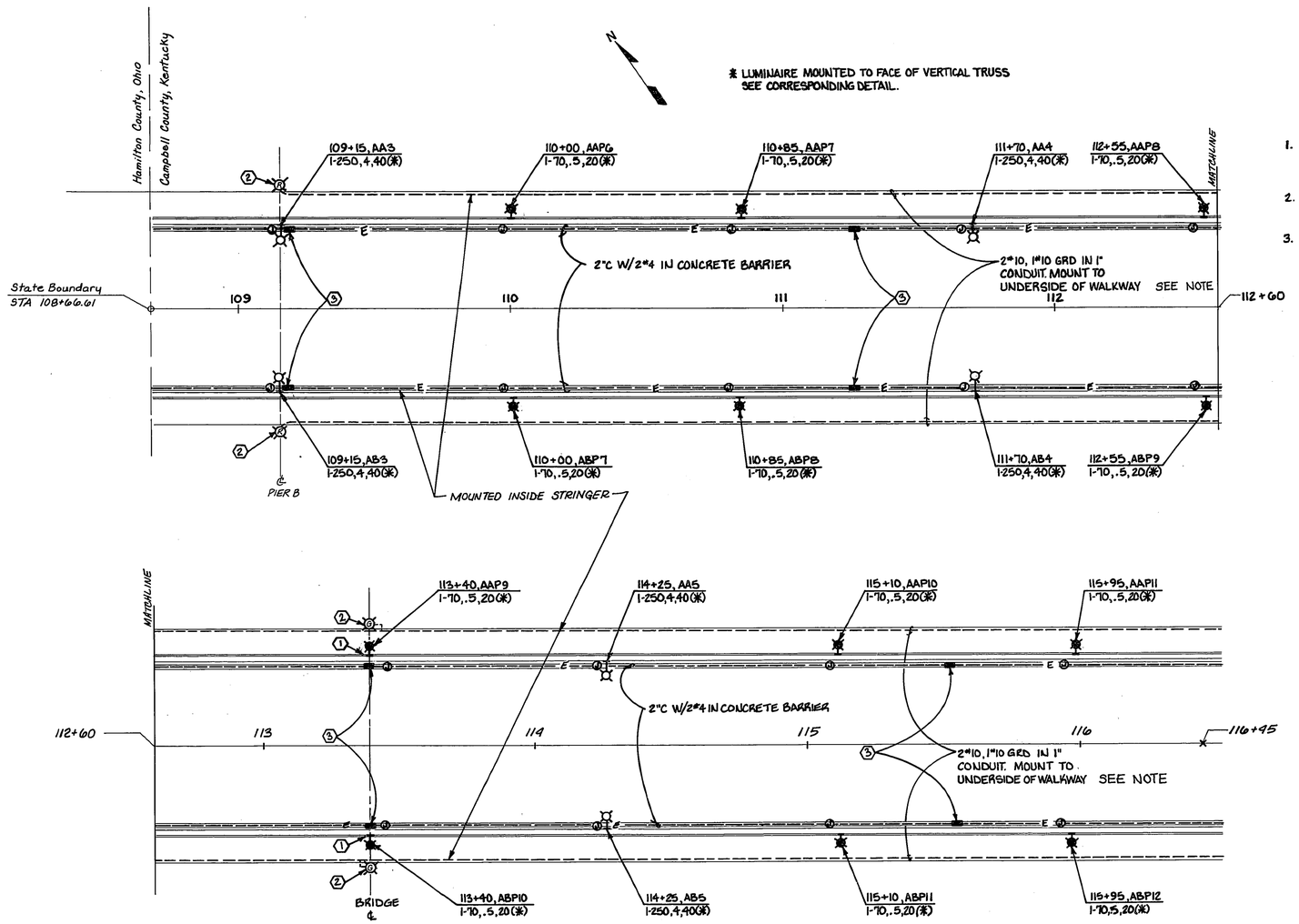
STA 105+00 TO STA 108+66.61

7-13-73 FORM NO. 2

COUNTY OF	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
Campbell			

E4

FSP 019 0027 022-023 073D



Scale: 1"=20'

CODED NOTES-⬡

1. 1.0 KVA, 480/120V TRANSFORMER MOUNTED 10'-0" ABOVE SIDEWALK ON VERTICAL MEMBER. SEE NAVIGATIONAL LAMP INSTALLATION DETAIL ON SHEET E12
2. SEE NAVIGATIONAL LIGHT INSTALLATION DETAIL SHEET E-12.
3. PROVIDE CONDUIT EXPANSION FITTING AT BARRIER EXPANSION JOINT - SEE DETAIL ON SHEET E-12.

SHEET 159

STA 108+66.61 TO STA 116+95

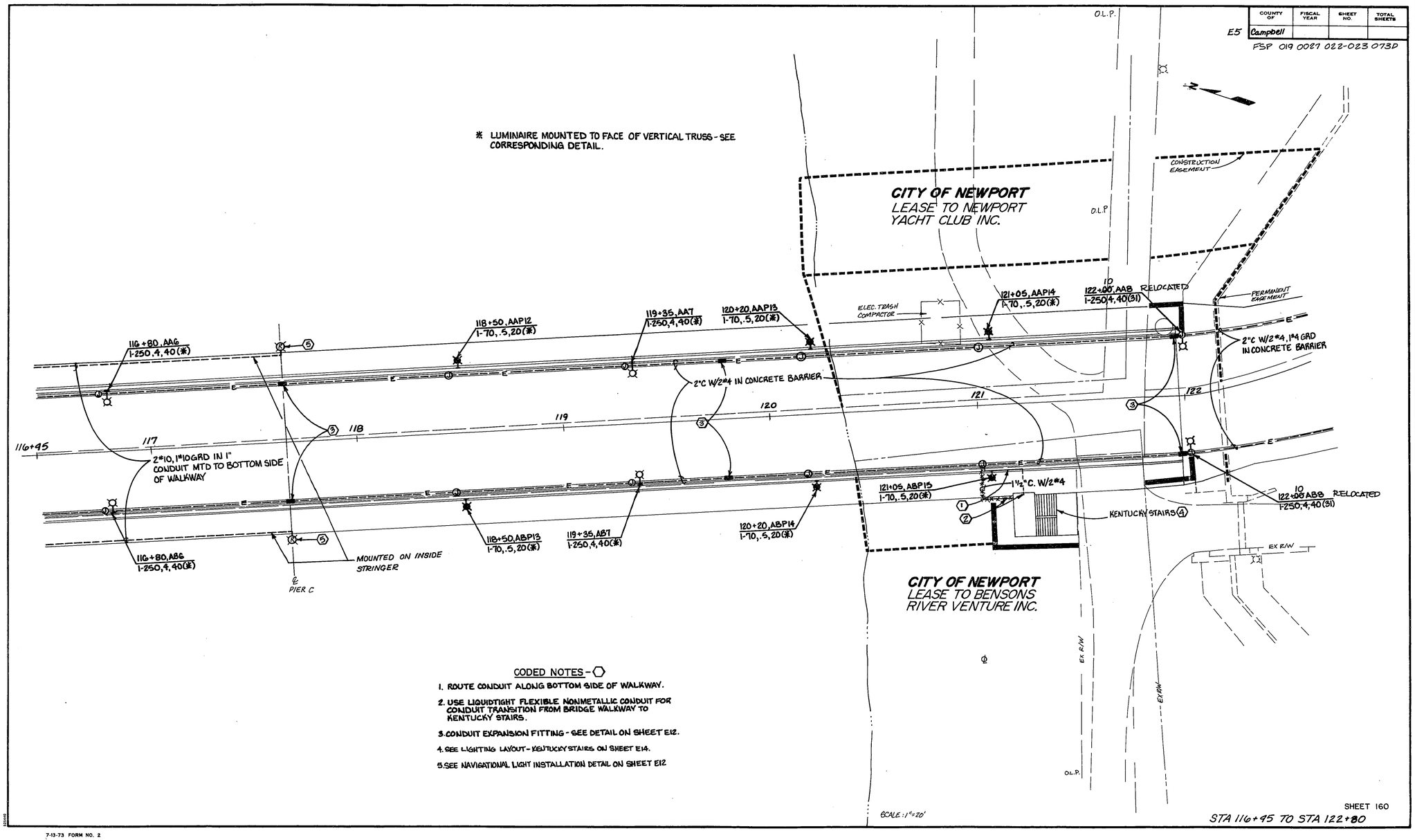
7-13-73 FORM NO. 2

COUNTY OF	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
Campbell			

E5

FSP 019 0027 022-023 073D

* LUMINAIRE MOUNTED TO FACE OF VERTICAL TRUSS - SEE CORRESPONDING DETAIL.



CODED NOTES - ⬡

1. ROUTE CONDUIT ALONG BOTTOM SIDE OF WALKWAY.
2. USE LIQUIDTIGHT FLEXIBLE NONMETALLIC CONDUIT FOR CONDUIT TRANSITION FROM BRIDGE WALKWAY TO KENTUCKY STAIRS.
3. CONDUIT EXPANSION FITTING - SEE DETAIL ON SHEET E12.
4. SEE LIGHTING LAYOUT - KENTUCKY STAIRS ON SHEET E14.
5. SEE NAVIGATIONAL LIGHT INSTALLATION DETAIL ON SHEET E12

SCALE: 1"=20'

SHEET 160

STA 116+95 TO STA 122+80

7-13-73 FORM NO. 2

COUNTY OF	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
CAMPBELL			

FDP 019 0027 022-023 0780

PLANS PREPARED & SUBMITTED BY
Burgess & Niple, Limited
Engineers and Architects

CITY OF NEWPORT

EX R/W

CONSTRUCTION EASEMENT

PERMANENT EASEMENT

124+10, AA8
1-250, 4, 40, A38

122

123+10, AAP15
1-70, .5, 20(31)

123

124+10, AA9
1-250, 4, 40(31)

PROP. R/W

℄ PIER G

125+10, AAP16
1-70, .5, 20(31)

123+10, ABP16
1-70, .5, 20(31)

2°C W/2#4, 1#4 GRD IN CONCRETE BARRIER

124

PERMANENT EASEMENT

124+10, AB9
1-250, 4, 40(31)

125

PIER F

ROUTE #6 SOLID, INSULATED GROUND WIRE FROM JB THRU PIER G TO GROUND ROD AS SHOWN IN STRUCTURE GROUNDING SCHEMATIC ON SHEET E12

EX R/W

CONSTRUCTION EASEMENT

EX R/W

END CONSTRUCTION ON SECOND ST. STA. 9+85

LIMITS OF BRIDGE LIGHTING

BEGIN KENTUCKY ROADWAY LIGHTING

CONTROL CENTER "A" (2)
SEE CONTROL CENTER DETAIL ON SHEET E9

EX R/W

SECOND STREET

PROP. R/W

YORK STREET

(3) 2°C W/2#4 IN TRENCH

126+20, AC8
1-250, 12, 40(41)

PB-AA1 (3)
126+50(43)

2-2°C W/2#4 IN (2) EACH DUCT

JB-AA2 (2)
126+48(30)

INSTALL DUCT BANK UNDER ROADWAY PRIOR TO PLACING PAVEMENT

126

127

2°C W/2#4 IN CONCRETE BARRIER (1)

JB-AB3 (2)
126+42(30)

2-2°C W/2#4 IN TRENCH (2)

EX R/W

2°C W/2#4 IN TRENCH (3)

125+10, ABP17
1-10, 5, 20(31)

(3) 2°C W/2#4 IN TRENCH

PB-AC2 (3)
126+42(43)

126+20, AC7
1-250, 12, 40, (41) (3)

EX R/W

LIMITS OF BRIDGE LIGHTING

BEGIN KENTUCKY ROADWAY LIGHTING

EX R/W

CITY OF NEWPORT

TIMBER SIGN

BEGIN CONSTRUCTION ON SECOND ST STA. 5+35

EX R/W

PROPOSED R/W

CONSTRUCTION EASEMENT

CONSTRUCTION LIMITS

EX R/W

SCALE: 1"=20'

CODED NOTES - ⬡

1. CONDUIT EXPANSION FITTING - SEE DETAIL ON SHEET E12
2. INCLUDED IN SCOPE OF BRIDGE LIGHTING PLANS (STEEL ALTERNATIVE) ONLY.
3. INCLUDE IN SCOPE OF ROADWAY LIGHTING PLANS ONLY.

STA 121+76.06 TO STA. 127+35

SHEET 161

DIETZGEN 7-13-73 FORM NO. 2

COUNTY OF	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
CAMPBELL			

E 8

FSP 019 0027 022 023 073D

BASIC FORMULAS AND DATA

*VOLTAGE DROP IN A SECTION = AMPERES IN AND BEYOND THE SECTION X LENGTH OF THE SECTION IN FEET X THE WIRE FACTOR IN OHMS/MFT.

WIRE FACTOR = $\frac{\text{OHMS PER 1,000 FT X 2 WIRES}}{1,000}$

FOR NO. 4 AWG: CIRCULAR MILS = 41,742 OHMS/MFT = 0.308 PER
WIRE FACTOR = 0.616/1,000 NEC TABLE 8

BECAUSE OF THE SMALL WIRE SIZES INVOLVED AND THE HIGH POWER FACTOR OF LIGHTING LOADS, THE REACTANCE IS CONSIDERED TO BE NEGLIGIBLE IN THIS COMPUTATION.

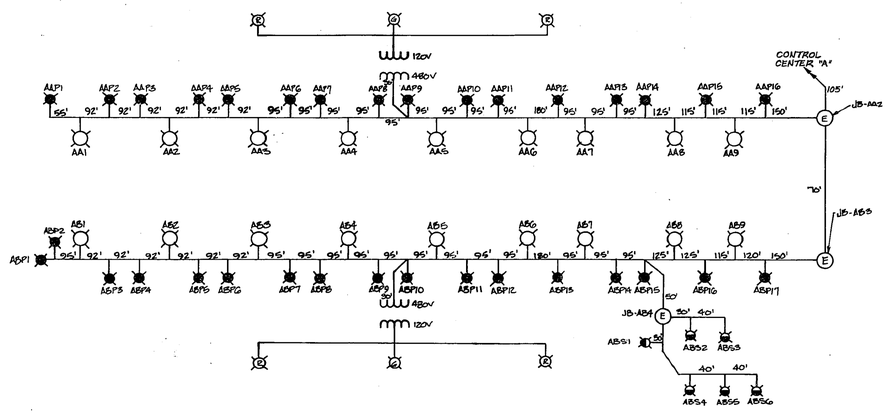
HIGH PRESSURE SODIUM ELECTRICAL DATA

LAMP WATTAGE	LINE VOLTS	LINE AMPS OPERATING
250	480	0.70
70	480	0.21

TABULATION OF CIRCUIT LOADS

CONTROL CENTER "A": CIRCUIT A - (9) 250 WATT LIGHTS, 0.70 AMPS EA. = 6.30A
(16) 70 WATT LIGHTS, 0.21 AMPS EA. = 3.36A
(1) 480-120 VOLT XFMR, 2.08 AMPS = 2.08A
TOTAL AMPS FOR CIRCUIT A = 11.74A

CIRCUIT B - (9) 250 WATT LIGHTS, 0.70 AMPS EA. = 6.30A
(23) 70 WATT LIGHTS, 0.21 AMPS EA. = 4.83A
(1) 480-120 VOLT XFMR, 2.08 AMPS = 2.08A
TOTAL AMPS FOR CIRCUIT B = 13.21A



CONTROL CENTER "A" CIRCUIT DIAGRAM

SUPPLY POINT A CIRCUIT A

VOLTAGE 480 WIRE FACTORS USED
NO. OF WIRES 2 NO. 4 AWG 0.616 OHMS/MFT

SECTION FROM	SECTION TO	SECTION FEET	AMPERES AT POINT	AMPERES ACCUM.	AMPERE FEET	AWG	VOLTAGE DROP IN SECTION	VOLTAGE DROP ACCUM.	VOLTAGE DROP % OF DROP	VOLTAGE DROP AT POINT
AAP1	AA1	65	.21	.21	13.65	4	.0084	10.9617	2.2837	AAP1
AA1	AAP2	92	.70	.91	83.72	4	.0516	10.9533	2.2819	AA1
AAP2	AAP3	92	.21	1.12	103.04	4	.0635	10.9017	2.2712	AAP2
AAP3	AA2	92	.21	1.33	122.36	4	.0754	10.8382	2.2580	AAP3
AA2	AAP4	92	.70	2.03	186.76	4	.1150	10.7628	2.2423	AA2
AAP4	AAP5	92	.21	2.24	206.08	4	.1269	10.6478	2.2183	AAP4
AAP5	AA3	92	.21	2.45	225.40	4	.1388	10.5209	2.1919	AAP5
AA3	AAP6	95	.70	3.15	299.25	4	.1843	10.3821	2.1630	AA3
AAP6	AAP7	95	.21	3.36	319.20	4	.1966	10.1978	2.1245	AAP6
AAP7	AA4	95	.21	3.57	339.15	4	.2089	10.0012	2.0836	AAP7
AA4	AAP8	95	.70	4.27	405.65	4	.2499	9.7923	2.0400	AA4
AAP8	AAP9	95	.21	4.48	425.60	4	.2622	9.5424	1.988	AAP8
T1	AAP9	30	2.08	2.08	62.4	4	.0384	9.3186	1.9414	T1
AAP9	AA5	95	.21	6.77	643.15	4	.3962	9.2802	1.9334	AAP9
AA5	AAP10	95	.70	7.47	709.65	4	.4371	8.884	1.8508	AA5
AAP10	AAP11	95	.21	7.68	729.60	4	.4494	8.4469	1.7598	AAP10
AAP11	AA6	95	.21	7.89	749.55	4	.4617	7.9975	1.6661	AAP11
AA6	AAP12	180	.70	8.59	1546.20	4	.9525	7.5358	1.5700	AA6
AAP12	AA7	95	.21	8.80	836.00	4	.5150	6.5833	1.3715	AAP12
AA7	AAP13	95	.70	9.50	902.50	4	.5559	6.0683	1.2642	AA7
AAP13	AAP14	95	.21	9.71	922.45	4	.5682	5.5124	1.1484	AAP13
AAP14	AA8	125	.21	9.92	1240.00	4	.7638	4.9442	1.0300	AAP14
AA8	AAP15	115	.70	10.62	1221.30	4	.7523	4.1804	.8709	AA8
AAP15	AA9	115	.21	10.83	1245.45	4	.7672	3.4281	.7142	AAP15
AA9	AAP16	115	.70	11.53	1325.95	4	.8168	2.6609	.5544	AA9
AAP16	JB-AA2	150	.21	11.74		4	1.0848	1.8441	.3842	AAP16
JB-AA2	CONTROL CENTER "A"	105	11.74	11.74	1232.7	4	.7593	.7593	.1582	JB-AA2

SUPPLY POINT A CIRCUIT B

VOLTAGE 480 WIRE FACTORS USED
NO. OF WIRES 2 NO. 4 AWG 0.616 OHMS/MFT

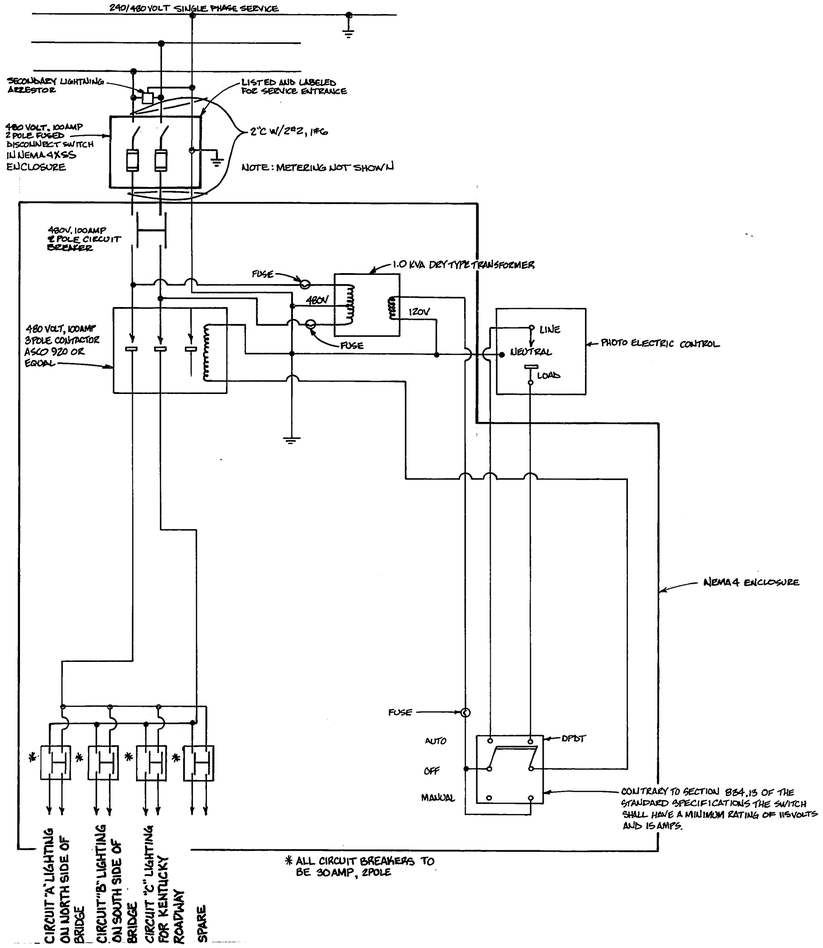
SECTION FROM	SECTION TO	SECTION FEET	AMPERES AT POINT	AMPERES ACCUM.	AMPERE FEET	AWG	VOLTAGE DROP IN SECTION	VOLTAGE DROP ACCUM.	VOLTAGE DROP % OF DROP	VOLTAGE DROP AT POINT
ABP1,2	AB1	95	.42	.42	39.90	4	.0246	12.5606	2.6167	ABP1,2
AB1	ABP3	92	.70	1.12	103.04	4	.0635	12.536	2.6117	AB1
ABP3	ABP4	92	.21	1.33	122.36	4	.0754	12.4725	2.5984	ABP3
ABP4	AB2	92	.21	1.54	141.68	4	.0873	12.3971	2.5827	ABP4
AB2	ABP5	92	.70	2.24	206.08	4	.1269	12.3098	2.5645	AB2
ABP5	ABP6	92	.21	2.45	225.40	4	.1388	12.1829	2.5381	ABP5
ABP6	AB3	92	.21	2.66	244.72	4	.1507	12.0441	2.5092	ABP6
AB3	ABP7	95	.70	3.36	319.20	4	.1966	11.8934	2.4778	AB3
ABP7	ABP8	95	.21	3.57	339.15	4	.2089	11.6968	2.4368	ABP7
ABP8	AB4	95	.21	3.78	359.10	4	.2212	11.4879	2.3933	ABP8
AB4	ABP9	95	.70	4.48	425.60	4	.2622	11.2667	2.3472	AB4
ABP9	ABP10	95	.21	4.69	445.55	4	.2745	11.0045	2.2926	ABP9
T2	ABP10	30	2.08	2.08	62.4	4	.0384	10.7684	2.2434	T2
ABP10	AB5	95	.21	6.98	663.10	4	.4084	10.73	2.2354	ABP10
AB5	ABP11	95	.70	7.68	729.60	4	.4494	10.3216	2.1503	AB5
ABP11	ABP12	95	.21	7.89	749.55	4	.4617	9.8722	2.0567	ABP11
ABP12	AB6	95	.21	8.10	769.50	4	.4740	9.4105	1.9605	ABP12
AB6	ABP13	180	.70	8.80	1584.00	4	.9757	8.9365	1.8618	AB6
ABP13	AB7	95	.21	9.01	855.95	4	.5273	7.9608	1.6585	ABP13
AB7	ABP14	95	.70	9.71	922.45	4	.5682	7.4335	1.5486	AB7
ABP14	ABP15	95	.21	9.92	942.40	4	.5805	6.8653	1.4303	ABP14
ABS6	ABS5	40	.21	.21	8.4	4	.0052	6.3662	1.3263	ABS6
ABS5	ABS4	40	.21	.42	16.8	4	.0103	6.361	1.3252	ABS5
ABS4	ABS1	30	.21	.63	18.9	4	.0116	6.3507	1.3231	ABS4
ABS1	JB-AB4	30	.21	.84	25.2	4	.0155	6.3391	1.3206	ABS1
ABS3	ABS2	40	.21	.21	8.4	4	.0052	6.3366	1.3201	ABS3
ABS2	JB-AB4	30	.21	.42	12.6	4	.0078	6.3314	1.3190	ABS2
JB-AB4	ABP15	50	1.26	1.26	63	4	.0388	6.3236	1.3174	JB-AB4
ABP15	AB8	125	.21	11.39	1423.75	4	.877	6.2848	1.3093	ABP15
AB8	ABP16	125	.70	12.09	1511.25	4	.9309	5.4078	1.1266	AB8
ABP16	AB9	115	.21	12.3	1414.5	4	.8713	4.4769	.9327	ABP16
AB9	ABP17	120	.70	13.0	1560.0	4	.9610	3.6056	.7512	AB9
ABP17	JB-AB3	150	.21	13.21	1981.5	4	1.2206	2.6446	.5510	ABP17
JB-AB3	CONTROL CENTER "A"	175	13.21	13.21	2311.75	4	1.4240	1.4240	.2967	JB-AB3

DIETZGEN 7-13-73 FORM NO. 2

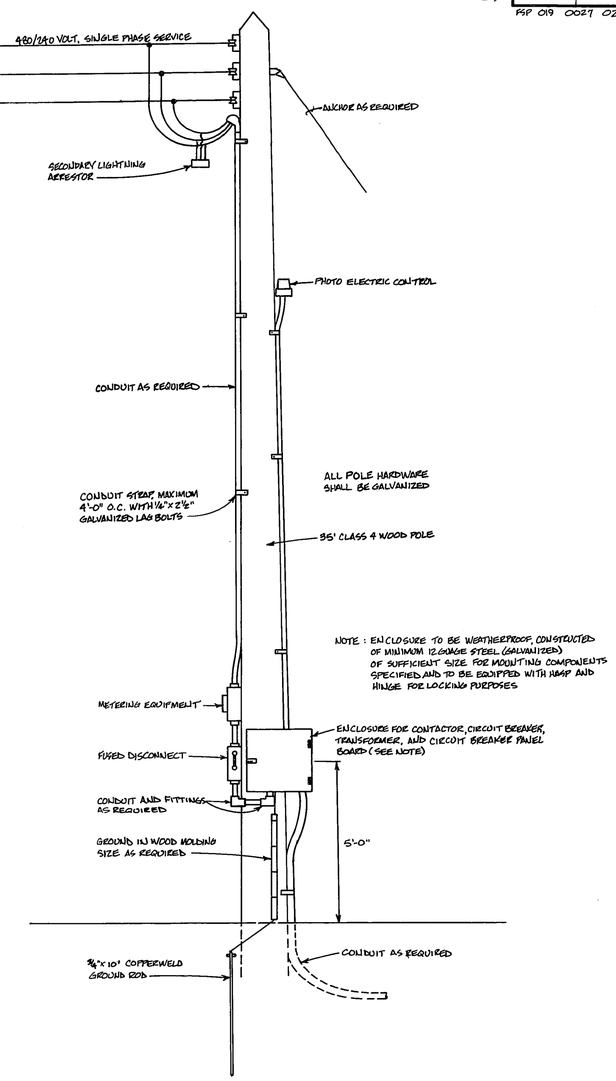
COUNTY OF	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
CAMPBELL			

E9

FSP 019 0027 022-023 0751D



CONTROL CENTER "A" CONTROL CIRCUIT DIAGRAM



CONTROL CENTER "A" DETAIL

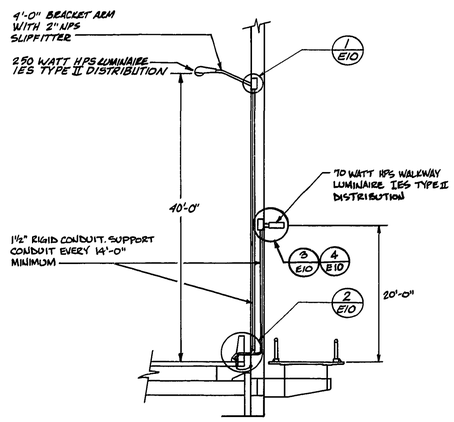
SHEET 163

DIETZGEN 7-13-73 FORM NO. 2

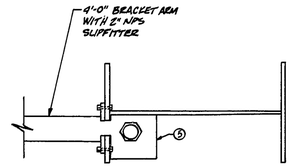
COUNTY OF	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
CAMPBELL			

E10

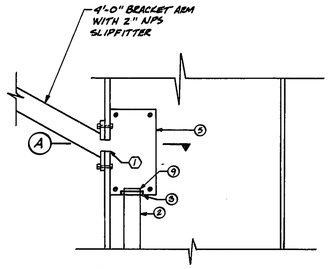
FSP 019 0027 022-023 073D



VERTICAL TRUSS MEMBER MOUNTED LUMINAIRE DETAIL



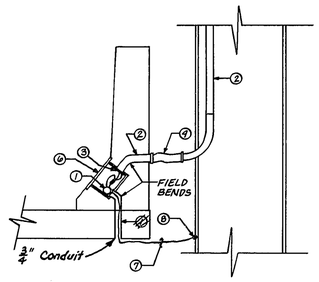
A SECTION NTS



1 E10 DETAIL NTS

CODED NOTES - ⬡

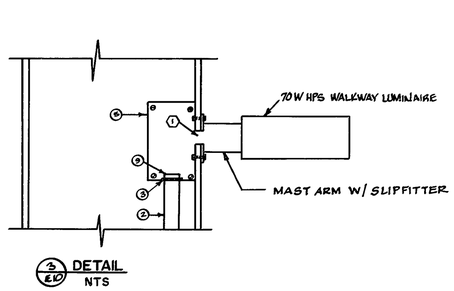
1. DRILL 1½"Ø HOLE THROUGH BEAM AT LOCATION SHOWN TO MATCH UP WITH 1"Ø HOLE IN BASE OF LUMINAIRE SUPPORT ARM. GRIND EDGES OF HOLE SMOOTH AND LINE WITH RUBBER GROMMET.



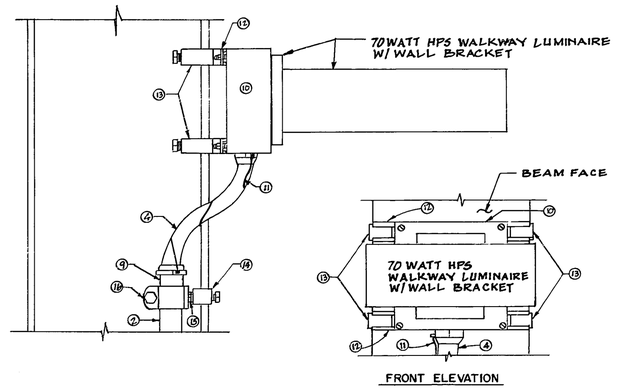
2 E10 DETAIL NTS

ITEM LIST - ⬡

1. 2"Ø CONDUIT
2. 1½"Ø CONDUIT
3. GROUNDING BUSHING & LOCKNUT FOR 1½" Ø CONDUIT
4. 1½"Ø FLEXIBLE WATERTIGHT CONDUIT
5. 12"x6"x6" CAST JUNCTION BOX - CROUSE & HINDS TYPE WAB OR EQUAL
6. TYPE C JUNCTION BOX IN CONCRETE BARRIER
7. NO.4 SOLID COPPER GROUND WIRE
8. EXOTHERMIC WELD - CADWELD OR EQUAL
9. CABLE SUPPORTS - 0-2 GEDNEY TYPE "S" OR EQUAL
10. 10"x10"x4" CAST WEATHERPROOF JUNCTION BOX WITH GASKETED COVER
11. EXTERNAL BONDING JUMPER
12. 15/8"x15/8" GALVANIZED STEEL CHANNEL-UNITRUST, B-LINE OR EQUAL
13. B-LINE B435 BEAM CLAMP OR EQUAL
14. B-LINE ~~B-310~~ BC-318 BEAM CLAMP OR EQUAL
15. 1/2"Ø THREADED ROD. DOUBLE NUT CONNECTION TO TO CONDUIT HANGER
16. 1½" RIGID CONDUIT HANGER



3 E10 DETAIL NTS



FRONT ELEVATION

4 E10 DETAIL — STATION 103+82 (L T) ONLY NTS

SHEET 164

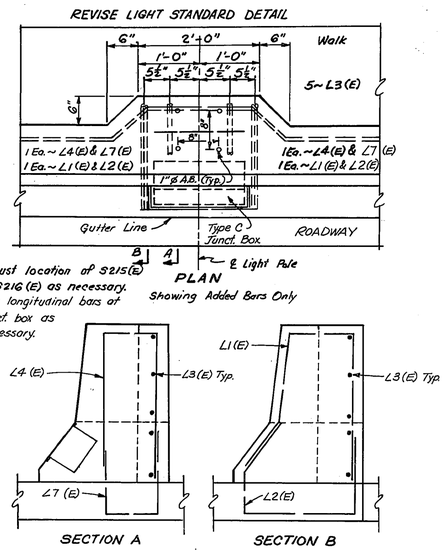
DIETZGEN 7-13-73 FORM NO. 2

COUNTY OF	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
CAMPBELL			

E11

FSP 019 0027 022 023 073D

REVISE LIGHT STANDARD DETAIL



PLAN

Showing Added Bars Only

Adjust location of S215(E) & S216(E) as necessary. Cut longitudinal bars at junct. box as necessary.

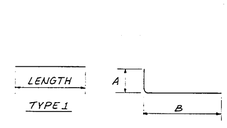
SECTION A SECTION B

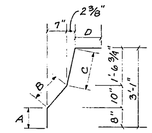
L1(E)	18	5	6'-3"	117
L2(E)	18	5	4'-11"	92
L3(E)	45	5	6'-3"	293
L4(E)	18	5	6'-2"	116
L5	72	5	7'-7"	569
L6	12	4	7'-7"	917
L7(E)	18	5	3'-10"	72

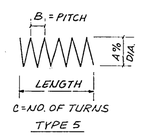
REINFORCING STEEL LIST Revised

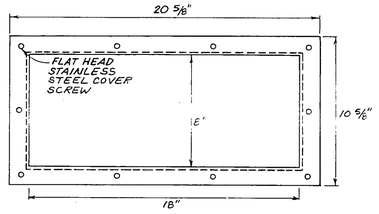
MARK	~~NO~~	SIZE	LENGTH	WEIGHT	TYPE	A	B	C	D
L1(E)	36	5	4'-11½	186	2	1'-9"	3½"		
L2(E)	36	5	5'-2⅛	199	3	8"	1'-0½"	1'-6⅞"	1'-9"
L3(E)	45	5	9'-1"	426	4	1'-5½"	1'-6"	1'-5½"	1'-6"
L4(E)	36	5	3'-1"	116	1				
L5	72	5	7'-7"	569	1				
L6	12	4	7'-7"	917	5	1'-7"	4"	23	

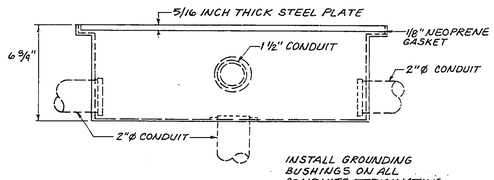
(E) = EPOXY COATED REINFORCING





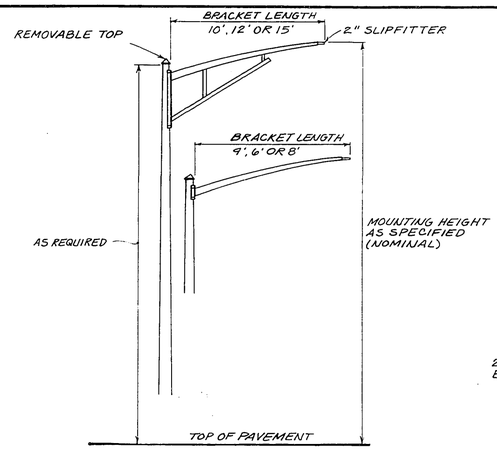




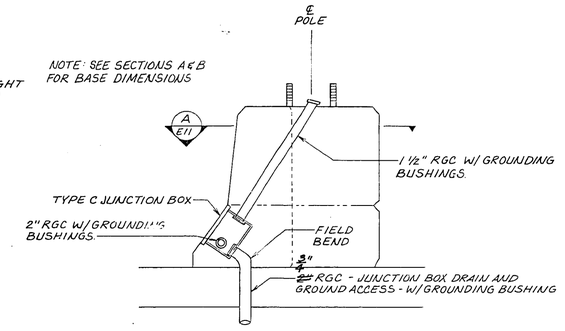


INSTALL GROUNDING BUSHINGS ON ALL CONDUITS TERMINATING IN JUNCTION BOX.

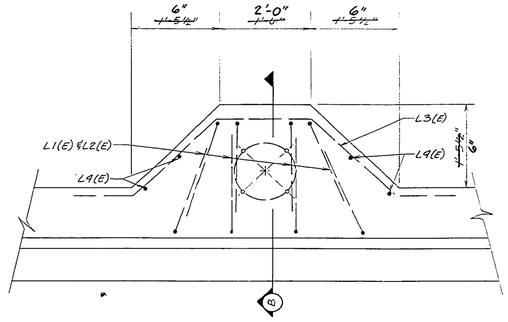
JUNCTION BOX TYPE C



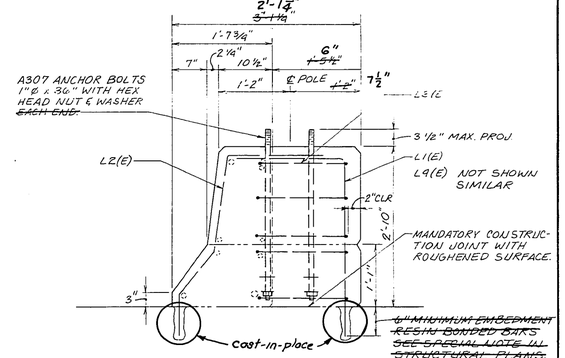
TYPICAL DESIGN FOR HIGH PRESSURE SODIUM LUMINAIRES



BARRIER MOUNTED POLE BASE DETAIL



SECTION



SECTION

COUNTY OF	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
CAMPBELL			

E12

FSP 019 0027 022-023 073D

UPDATE DATE

LETTING DATE

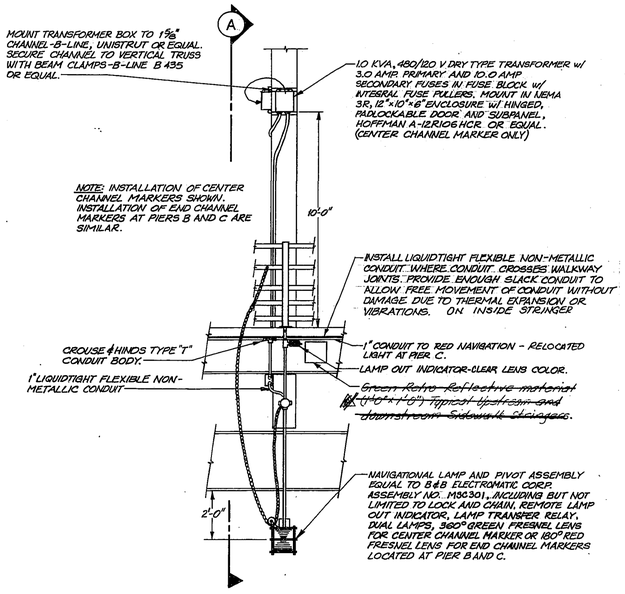
PLANS PREPARED & SUBMITTED BY
Burgess & Niple, Limited
Engineers and Architects

HJE DATE 12/19/96

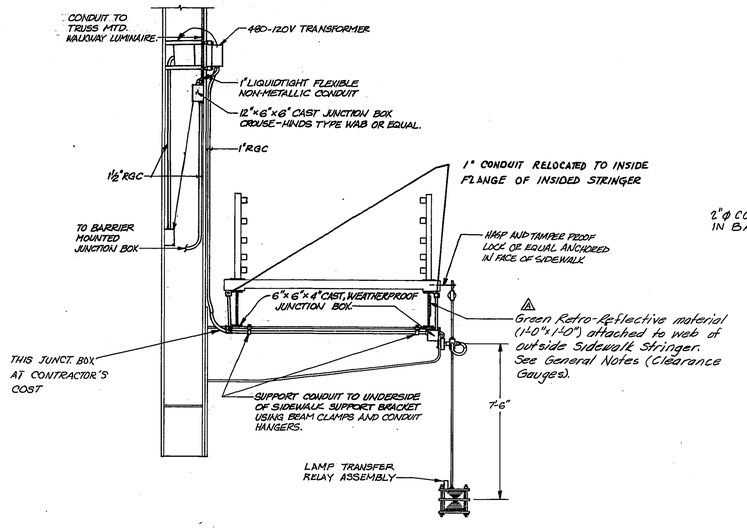
Added Green Retro-Reflectors

REVISED DATE
REVISED DATE
REVISED DATE

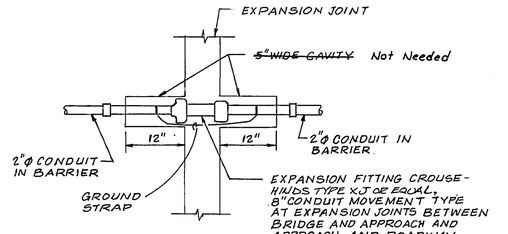
DESIGNED BY CHECKED BY DATE
DETAILED BY CHECKED BY DATE
TRACED BY CHECKED BY DATE



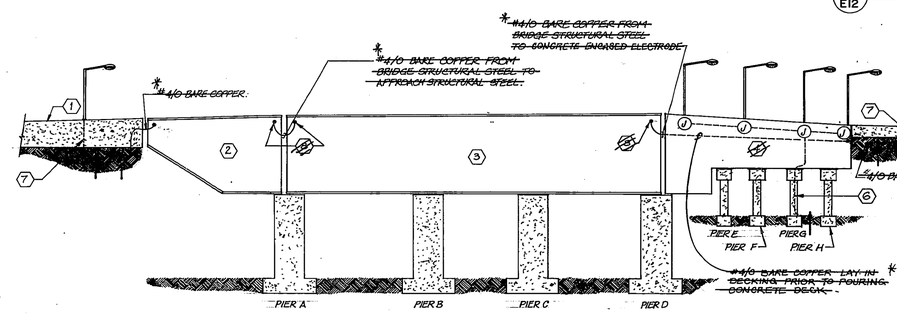
NAVIGATIONAL LIGHT INSTALLATION DETAIL



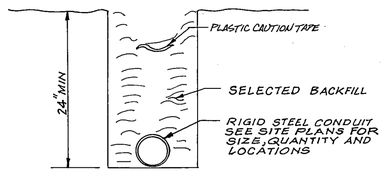
A / E12 SECTION



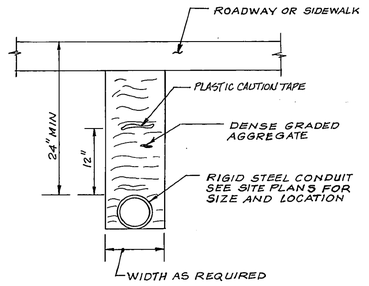
CONDUIT EXPANSION FITTING FOR BARRIER ENCASED CONDUIT



NAVIGATIONAL LIGHT INSTALLATION DETAIL



TRENCH DETAIL UNPAVED AREAS



TRENCH DETAIL PAVED AREAS

CODED NOTES- ⬡

1. OHIO ROADWAY.
2. OHIO APPROACH.
3. MAIN BRIDGE STRUCTURE-SEE "MISCELLANEOUS DETAILS-PIERS" IN STRUCTURAL PLAN SET FOR STRUCTURE GROUNDING DETAILS.
4. KENTUCKY APPROACH.
5. KENTUCKY ROADWAY.
6. NO. 1/0 INSULATED GROUND CABLE IN 1¼" CONDUIT ENCASED IN PIER. PROVIDE MINIMUM 1'-6" COVER OVER GROUND ROD.
7. SEE POLE CONNECTION DETAILS AND SITE PLANS FOR POLE GROUNDING REQUIREMENTS.
8. EXOTHERMIC WELD

GENERAL NOTE

SCHEMATIC SHOWN AS SOUTH ELEVATION-NORTH ELEVATION MIRROR IMAGE OF SOUTH ELEVATION.

* THESE ITEMS ARE ELIMINATED FROM STRUCTURAL GROUNDING.

STRUCTURE GROUNDING SCHEMATIC

SHEET 166

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

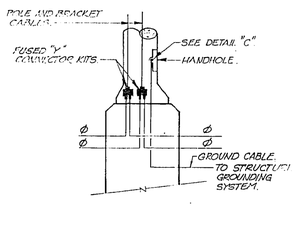
NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

HAZELET - ERDAL, INC.
in association with
BURGESS & NIPLE, LIMITED
and
BALKE ENGINEERS

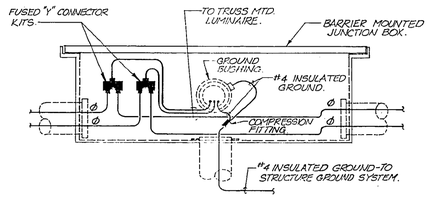
BRF 00272 048

STATION P.E. PROJECT NO. FSP 019 0027 022-023 073 C

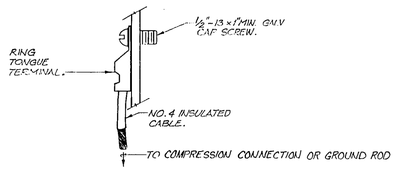
CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.



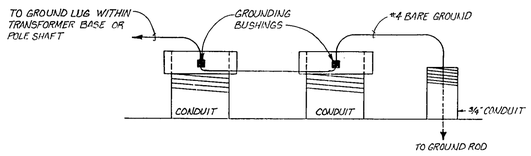
STRUCTURE MOUNTED POLE WIRING



TRUSS MOUNTED LUMINAIRE WIRING DETAIL



DETAIL "C"

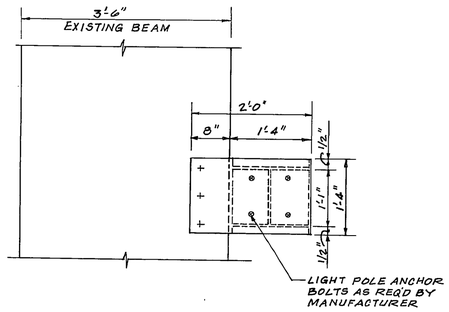


TYPICAL POLE BASE GROUNDING DETAIL

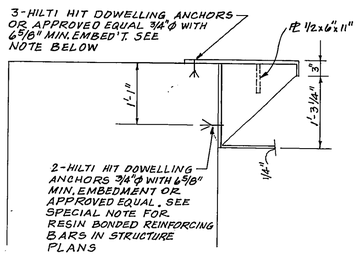
COUNTY OF ...	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
CAMPBELL			

E14

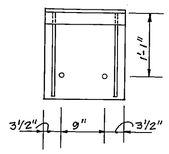
FSP 019 0027 022-023 073 D



BEAM MOUNTED LIGHT POLE DETAIL
NTS

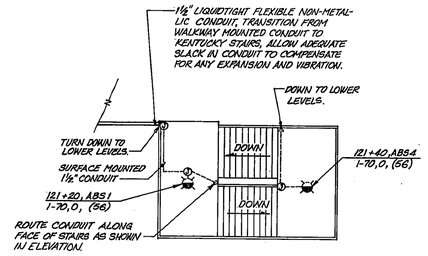


SIDE ELEVATION
NTS

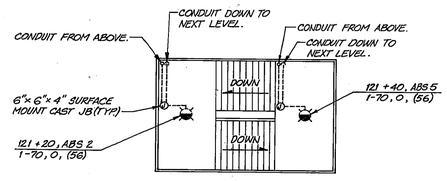


FRONT ELEVATION
NTS

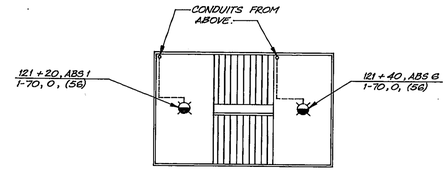
NOTE: USE 1/2" A36 STEEL PLATE (TYPICAL)



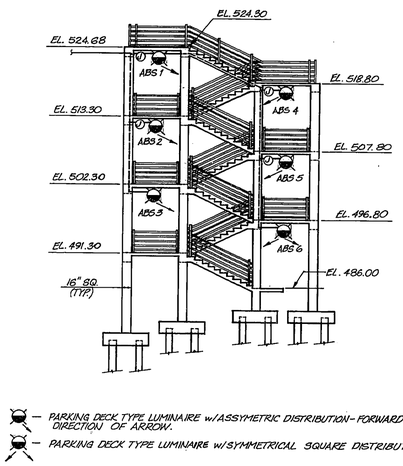
PLAN AT ELEVATION 524.68
NTS



PLAN AT ELEVATION 513.30
NTS



PLAN AT ELEVATION 502.30
NTS



– PARKING DECK TYPE LUMINAIRE w/ASSYMETRIC DISTRIBUTION-FORWARD THROW IN DIRECTION OF ARROW.

– PARKING DECK TYPE LUMINAIRE w/SYMMETRICAL SQUARE DISTRIBUTION.

NORTH ELEVATION
NTS

LIGHTING LAYOUT — KENTUCKY STAIRS

PLANS PREPARED & SUBMITTED BY
Burgess & Niple, Limited
Engineers and Architects

UPDATE DATE .....
LETTING DATE .....

DESIGNED BY — DATE — REVISED
DETAILED BY — DATE — REVISED
CHECKED BY — DATE — REVISED
TRACED BY — DATE — REVISED

LIGHTING QUANTITIES – CENTRAL BRIDGE

COUNTY OF	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
CAMPBELL			

E-16

FSP 019 0027 022-023 073D

REFERENCE NUMBER	SIDE	STATION	STATION	EACH 250 WATT HPS ROADWAY LUMINAIRE IES TYPE II DISTRIBUTION	EACH 70 WATT HPS WALKWAY LUMINAIRE IES TYPE II DISTRIBUTION	EACH 70 WATT HPS PARKING DECK TYPE LUMINAIRE	EACH 4'-0" 4PM @ BRACKET WITH 2" NPS SLIPFITTER	EACH NAVIGATIONAL LAMP 360° DEG. GREEN	EACH NAVIGATIONAL LAMP 180° DEG. RED	EACH 40' POLE WITH 4' ARM @ BRACKET WITH 2" NPS SLIPFITTER	EACH 20' POLE	EACH 12"X6"X6" CAST JUNCTION BOX	EACH TYPE C JUNCTION BOX SEE DETAIL 2 ON SHEET E10	EACH 12"X6"X8" CAST JUNCTION BOX AND ASSEMBLY, SEE DETAIL SHEET E10	EACH 6"X6"X4" CAST JUNCTION BOX	EACH PRECAST POLYMER CONCRETE PULLBOX	LIN FT 2" DIAMETER RIGID GALVANIZED STEEL CONDUIT	LIN FT 1 1/2" DIAMETER RIGID GALVANIZED STEEL CONDUIT	LIN FT 1" DIAMETER RIGID GALVANIZED STEEL CONDUIT	LIN FT 1 1/2"ø LIQUID-TIGHT FLEXIBLE NONMETALLIC CONDUIT	LIN FT #4, 600 VOLT THW-USE CABLE	LIN FT #10, 600 VOLT THW CABLE	LIN FT #12 POLE AND BRACKET CABLE RHW-USE	EACH EXOTHERMIC WELD	EACH 3/4"X 10' COPPERWELD GROUND ROD	EACH BEAM MOUNTED LIGHT POLE. SEE DETAIL SHEET E14.	EACH 10 KVA, 480-120 VOLT TRANSFORMER, SEE DETAIL SHEET E12	EACH 4" EXPANSION FITTING, SEE DETAIL SHEET E12	EACH 8" EXPANSION FITTING SEE DETAIL SHEET E12	LIN FT	LIN FT	EACH FUSED DISCONNECT CABLE CONNECTOR KIT
1	RT	103+55			2						1					1	85 → 68			2	136 → ~~170~~		77 → ~~80~~	2	+0	1						4
2	RT	103+55	104+23														40			23	0 → ~~10~~		104.5 → ~~150~~	1							2
3	RT	104+23		1			1						1	1			~~85~~ → 82				164 → ~~170~~										
4	RT	104+23	105+05														20			23	0 → ~~10~~		51.7 → ~~90~~	1							2
5	RT	105+05			1								1	1			40				80 → ~~80~~										
6	RT	105+05	105+45														42				84 → ~~84~~										
7	RT	105+45															20			23	0 → ~~10~~		51.7 → ~~90~~	1							2
8	RT	105+45	105+87														~~85~~ → 82				164 → ~~170~~										
9	RT	105+87			1								1	1			40			23	0 → ~~10~~		104.5 → ~~150~~	1							2
10	RT	105+87	106+69														41				82 → ~~82~~										
11	RT	106+69		1			1						1	1			41				82 → ~~87~~										
12	RT	106+69	107+10														20			23	0 → ~~10~~		51.7 → ~~90~~	1							2
13	RT	107+10															~~85~~ → 82				164 → ~~170~~										
14	RT	107+10	107+51														20			23	0 → ~~10~~		51.7 → ~~90~~	1							2
15	RT	107+51			1								1	1			~~85~~ → 82				164 → ~~170~~										
16	RT	107+51	108+33														20			23	0 → ~~10~~		51.7 → ~~90~~	1							2
17	RT	108+33			1								1	1			~~85~~ → 82				164 → ~~170~~										
18	RT	108+33	109+15														40			23	0 → ~~10~~		104.5 → ~~150~~	1							2
19	RT	109+15		1			1						1	1			5				10 → 10										
20	RT	109+15	109+20														80				160 → 160										
21	RT	109+20															20			23	0 → ~~10~~		51.7 → ~~90~~	1							2
22	RT	109+20	110+00														85				170 → 170										
23	RT	110+00			1								1	1			20			23	0 → ~~10~~		51.7 → ~~90~~	1							2
24	RT	110+00	110+85														85				170 → 170										
25	RT	110+85			1								1	1			20			23	0 → ~~10~~		51.7 → ~~90~~	1							2
26	RT	110+85	111+30														45				90 → 90										
27	RT	111+30															40				80 → 80										
28	RT	111+30	111+70														40			23	0 → ~~10~~		104.5 → ~~150~~	1							2
29	RT	111+70		1			1						1	1			85				170 → 170										
30	RT	111+70	112+55														20			23	0 → ~~10~~		51.7 → ~~90~~	1							2
31	RT	112+55			1								1	1			85				170 → 170										
32	RT	112+55	113+40														20			23	0 → ~~10~~		51.7 → ~~90~~	1							2
33	RT	113+40			1									1			85				170 → 170										
34	RT	113+40	113+42														20			23	0 → ~~10~~		51.7 → ~~90~~	1							2
35	RT	113+42											1				2				4 → 4										
36	RT	113+42	114+25														~~85~~ → 85				170 → 170										
37	RT	114+25		1			1						1	1			40			23	0 → ~~10~~		104.5 → ~~150~~	1							2
38	RT	114+25	115+10														85				170 → 170										
39	RT	115+10			1								1	1			20			23	0 → ~~10~~		51.7 → ~~90~~	1							2
40	RT	115+10	115+52														42				84 → ~~84~~										
41	RT	115+52															43				86 → ~~86~~										
42	RT	115+52	115+95														20			23	0 → ~~10~~		51.7 → ~~90~~	1							2
43	RT	115+95			1								1	1			85				170 → 170										
44	RT	115+95	116+80														40			23	0 → ~~10~~		104.5 → ~~150~~	1							2
45	RT	116+80		1			1						1	1			86				172 → 172										
46	RT	116+80	117+66														84				168 → 168										
47	RT	117+66															20			23	0 → ~~10~~		51.7 → ~~90~~	1							2
48	RT	117+66	118+50														85				170 → 170										
49	RT	118+50			1								1	1			40			23	0 → ~~10~~		104.5 → ~~150~~	1							2
50	RT	118+50	119+35														43				86 → 86										
51	RT	119+35		1			1						1	1			42				84 → 84										
52	RT	119+35	119+78														20			23	0 → ~~10~~		51.7 → ~~90~~	1							2
53	RT	119+78															85				170 → 170										
54	RT	119+78	120+20														20			23	0 → ~~10~~		51.7 → ~~90~~	1							2
55	RT	120+20			1								1	1			90				180 → 180										
56	RT	120+20	121+05														15				10 → 10										
57	RT	121+05			1								1	1																	
58	RT	121+05	121+95																												
59	RT	121+95	10																												
60	RT	121+95	~~122+00~~																												
	SUB	TOTAL		7	15		7				1		20	20		1	~~1878~~ 1855	540		~~40~~ 62	~~3957~~ 3694		~~1280~~ 1480.6	22	1	1		8	1		44

PLANS PREPARED & SUBMITTED BY
Burgess & Niple, Limited
Engineers and Architects

UPDATE DATE
LETTING DATE

DESIGNED BY ... DATE 11-95
DETAILED BY ... CHECKED BY ... DATE
TRACED BY ... CHECKED BY ... DATE

△ As Built
REVISED ... DATE
REVISED ... DATE
REVISED ... DATE

SHEET 169

LIGHTING QUANTITIES - CENTRAL BRIDGE

COUNTY OF	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
CAMPBELL			

E-17

FSP 019 0027 022-023 073D

REFERENCE NUMBER	SIDE	STATION	STATION		250 WATT HPS ROADWAY LUMINAIRE IES TYPE II DISTRIBUTION EACH	70 WATT HPS WALKWAY LUMINAIRE IES TYPE II DISTRIBUTION EACH	70 WATT HPS PARKING DECK TYPE LUMINAIRE EACH		4'-0" ARM & BRACKET WITH 2" NPS SLIPFITTER EACH	NAVIGATIONAL LAMP 360° DEG. GREEN EACH	NAVIGATIONAL LAMP 180° DEG. RED EACH	40' POLE WITH 4' ARM & BRACKET WITH 2" NPS SLIPFITTER EACH		20' POLE EACH	12"x6"x6" CAST JUNCTION BOX EACH	TYPE C JUNCTION BOX SEE DETAIL 2 ON SHEET E10 EACH	12"x6"x6" CAST JUNCTION BOX AND ASSEMBLY, SEE DETAIL SHEET E10 EACH	6"x6"x4" CAST JUNCTION BOX EACH	PRECAST POLYMER CONCRETE PULLBOX EACH	2" DIAMETER RIGID GALVANIZED STEEL CONDUIT LIN FT	1 1/2" DIAMETER RIGID GALVANIZED STEEL CONDUIT LIN FT	1" DIAMETER RIGID GALVANIZED STEEL CONDUIT LIN FT	1 1/2" Ø LIQUID-TIGHT FLEXIBLE NONMETALLIC CONDUIT LIN FT		#4,600 VOLT RHW-USE CABLE LIN FT		#10, 600 VOLT THW CABLE LIN FT	#12 POLE AND BRACKET CABLE RHW-USE LIN FT	EXOTHERMIC WELD EACH	3/4"+0" COPPERWELD GROUND ROD EACH	BEAM MOUNTED LIGHT POLE. SEE DETAIL SHEET E14. EACH		10 KVA, 480-120 VOLT TRANSFORMER. SEE DETAIL SHEET E12 EACH	4" EXPANSION FITTING. SEE DETAIL SHEET E12 EACH	8" EXPANSION FITTING. SEE DETAIL SHEET E12 EACH			FUSED DISCONNECT CABLE CONNECTOR KIT EACH					
61	RT	~~100+00~~	122+10	⚠	1							1				1																							2					
62	RT	~~122+60~~	125+10																		~~110~~	100				220	~~330~~		104.5	~~100~~	-	≠											
63	RT	123+10				1								1			1												51.7	~~50~~	1	≠											
64	RT	123+10	124+10																		100					200	~~300~~																
65	RT	124+10			1							1					1												104.5	~~100~~	1	≠											
66	RT	124+10	125+10																		100					200	~~300~~																
67	RT	125+10				1								1			1												51.7	~~50~~	1	≠											
68	RT	125+10	125+60																		50					100	~~100~~																
69	RT	125+60																																						1				
70	RT	109+15								1					1				1																									
71	RT	109+15	113+40																					425					1275														
72	RT	113+40							1						1				1						2					1	≠				1								
73	RT	113+40	117+65																					425					1275														
74	RT	117+65									1				1				1																									
75	RT	121+05	121+20																			~~80~~			2 ~~30~~																		
76	RT	121+20					3												2		138.9	~~100~~				337.3	~~200~~																
77	RT	121+20	121+40																			~~20~~					~~40~~																
78	RT	121+40					3												2			~~100~~					~~200~~																
79	RT	126+42													1																										6			
																					350	138.9							312.4														
	SUB	TOTAL			2	2	6		1	2	2		2	3	5		7				~~360~~	~~240~~	850	~~400~~		1057.3	~~550~~		2550	~~300~~	5	0 ~~8~~			1		1			20 ~~8~~					
	RT	TOTAL			9	17	6		7	1	2	2	3	3	25	20	7	1			~~2238~~	~~700~~	850	~~300~~		4751.3	~~3307~~		2550	~~2000~~	27	0 ~~6~~	1		1	8	2			~~58~~	64				
																					~~2208~~	678.9				66			1793														
																					2205	⚠																					

⚠ As Built

REVISED BY	DATE	REVISED
DETAILED BY	DATE	REVISED
TRACED BY	DATE	REVISED
CHECKED BY	DATE	

PLANS PREPARED & SUBMITTED BY
Burgess & Niple, Limited
Engineers and Architects

UPDATE DATE

LETTING DATE

HJE DATE 11-95

COUNTY OF	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
CAMPBELL			

E-18

FSP 019 0027 022-023 073D

LIGHTING QUANTITIES – CENTRAL BRIDGE

REFERENCE NUMBER	SIDE	STATION	STATION	EACH 250 WATT HPS ROADWAY LUMINAIRE IES TYPE II DISTRIBUTION	EACH 70 WATT HPS WALKWAY LUMINAIRE IES TYPE II DISTRIBUTION			EACH 4'-0" ARM & BRACKET WITH 2" NPS SLIPFITTER	EACH NAVIGATIONAL LAMP 360° RED GREEN	EACH NAVIGATIONAL LAMP 180° DER RED	EACH 40' POLE WITH 4' ARM & BRACKET WITH 2" NPS SLIPFITTER		EACH 20' POLE	EACH 12"x6"x6" CAST JUNCTION BOX	EACH TYPE C JUNCTION BOX SEE DETAIL 2 ON SHEET E10.	EACH 12"x6"x6" CAST JUNCTION BOX AND ASSEMBLY. SEE DETAIL SHEET E10	EACH 6"x6"x4" CAST JUNCTION BOX	EACH 10"x10"x4" CAST JUNCTION BOX AND ASSEMBLY. SEE DETAIL SHEET E10.	LIN FT 2" DIAMETER RIGID GALVANIZED STEEL CONDUIT	LIN FT 1 1/2" DIAMETER RIGID GALVANIZED STEEL CONDUIT	LIN FT 1" DIAMETER RIGID GALVANIZED STEEL CONDUIT	LIN FT 1 1/2"ø LIQUID-TIGHT FLEXIBLE NONMETALLIC CONDUIT		LIN FT #4, 600 VOLT RHW-USE CABLE		LIN FT #10, 600 VOLT THW CABLE	LIN FT #12 POLE AND BRACKET CABLE RHW-USE	LUMP STRUCTURE GROUNDING SYSTEM, AS PER PLAN	EACH EXOTHERMIC WELD	EACH 3/4"x10' COPPERWELD GROUND ROD		EACH 1.0 KVA, 480-120 VOLT TRANSFORMER, SEE DETAIL SHEET E12	EACH 4" EXPANSION FITTING, SEE DETAIL SHEET E12	EACH 8" EXPANSION FITTING, SEE DETAIL SHEET E12	LIN. FT. UNPAVED TRENCH SEE DETAIL ON SHEET E12		EACH FUSED DISCONNECT CABLE CONNECTOR KIT					
1	℄	102+85	125+85																																							
2	LT	103+82			1										1			1	20		23	0	10		51.7	90		1										2					
3	LT	103+82	104+23															45 ~~41~~	41			82	90																				
4	LT	104+23		1				1							1	1			40		23	0	10		104.5	150		1										2					
5	LT	104+23	105+05															85 ~~82~~				164	170																			
6	LT	105+05			1										1	1			20		23	0	10		51.7	90		1										2					
7	LT	105+05	105+45															40				80	80																			
8	LT	105+45																																		1						
9	LT	105+45	105+87															45 ~~42~~				84	90																			
10	LT	105+87			1										1	1			20		23	0	10		51.7	90		1										2					
11	LT	105+87	106+69															85 ~~82~~				164	170																			
12	LT	106+69		1				1							1	1			40		23	0	10		104.5	150		1										2					
13	LT	106+69	107+10															41				82	82																			
14	LT	107+10																																		1						
15	LT	107+10	107+51															41				82	82																			
16	LT	107+51			1										1	1			20		23	0	10		51.7	90		1										2					
17	LT	107+51	108+33															85 ~~82~~				164	170																			
18	LT	108+33			1										1	1			20		23	0	10		51.7	90		1										2					
19	LT	108+33	109+15															85 ~~82~~				164	170																			
20	LT	109+15		1				1							1	1			40		23	0	10		104.5	150		1										2					
21	LT	109+15	109+20															5				10	10																			
22	LT	109+20																																		1						
23	LT	109+20	110+00															80				160	160																			
24	LT	110+00			1										1	1			20		23		10		51.7	90		1										2					
25	LT	110+00	110+85															85					170																			
26	LT	110+85			1										1	1			20		23		10		51.7	90		1										2					
27	LT	110+85	111+30															45					90																			
28	LT	111+30																																		1						
29	LT	111+30	111+70															40					80																			
30	LT	111+70			1				1						1	1			40		23		10		104.5	150		1										2					
31	LT	111+70	112+55															85					170																			
32	LT	112+55			1										1	1			20		23		10		51.7	90		1										2					
33	LT	112+55	113+40															85					170																			
34	LT	113+40			1											1			20		23		10		51.7	90		1										2					
35	LT	113+40	113+42															2					4																			
36	LT	113+42														1																										
37	LT	113+42	114+25															~~85~~ 83				166	~~170~~																			
38	LT	114+25		1				1							1	1			40		23		10		104.5	150		1										2					
39	LT	114+25	115+10															85					170																			
40	LT	115+10			1										1	1			20		23		10		51.7	90		1										2					
41	LT	115+10	115+52															42					84																			
42	LT	115+52																																		1						
43	LT	115+52	115+95															43					86																			
44	LT	115+95			1										1	1			20		23		10		51.7	90		1										2					
45	LT	115+95	116+80															85					170																			
46	LT	116+80		1				1							1	1			40		23		10		104.5	150		1										2					
47	LT	116+80	117+66															86					172																			
48	LT	117+66																																		1						
49	LT	117+66	118+50															84					168																			
50	LT	118+50			1										1	1			20		23		10		51.7	90		1										2					
51	LT	118+50	119+35															85					170																			
52	LT	119+35		1				1							1	1			40		23		10		104.5	150		1										2					
53	LT	119+35	119+78															43					86																			
54	LT	119+78																																		1						
55	LT	119+78	120+20															42					84																			
56	LT	120+20			1										1	1			20		23		10		51.7	90		1										2					
57	LT	120+20	121+05															85					170																			
58	LT	121+05			1										1	1			20		23		10		51.7	90		1										2					
59	LT	121+05	121+95															90					180																			
60	LT	121+95																																			1					
61	LT/RT	126+50	126+68															75					380																			
	SUB	TOTAL		7	14			7							21	20		1	~~4909~~ 1891 1888	560		~~72~~ 63		~~4285~~ 4136		1508.1	~~2510~~	1	21				8	1	0 ~~75~~			42					

DESIGNED BY — DATE
DETAILED BY — CHECKED BY — DATE
TRACED BY — CHECKED BY — DATE

REVISED AS BUILT
REVISED — DATE
REVISED — DATE

PLANS PREPARED & SUBMITTED BY
Burgess & Niple, Limited
Engineers and Architects

UPDATE DATE
LETTING DATE

SHEET 171

LIGHTING QUANTITIES – CENTRAL BRIDGE

E-19

CONTRACT NO.	TOTAL NO.	SHEET NO.	TOTAL SHEETS
CAMPBELL			

FSP 019 0027 022-023 073D

REFERENCE NUMBER	SIDE	STATION	STATION		EACH 250 WATT HPS ROADWAY LUMINAIRE IES TYPE II DISTRIBUTION	EACH 70 WATT HPS WALKWAY LUMINAIRE IES TYPE II DISTRIBUTION			EACH 4'-0" ARM AND BRACKET WITH 2" NPS SLIPFITTER	EACH NAVIGATIONAL LAMP 360° DEG. GREEN	EACH NAVIGATIONAL LAMP 180° DEG. RED	EACH 40' POLE WITH 4' ARM & BRACKET WITH 2" NPS SLIPFITTER	EACH 35 CLASS 4 WOOD POLE WITH GUY, ANCHOR & RISER ASSEMBLY	EACH 20' POLE	EACH 12"x6"x6" CAST JUNCTION BOX	EACH TYPE C JUNCTION BOX	EACH 12"x6"x6" CAST JUNCTION BOX AND ASSEMBLY, SEE DETAIL SHEET E10	EACH 6"x6"x4" CAST JUNCTION BOX	EACH 10"x10"x4" CAST JUNCTION BOX AND ASSEMBLY, SEE DETAIL SHEET E10	LIN FT 2" DIAMETER RIGID GALVANIZED STEEL CONDUIT	LIN FT 1 1/2" DIAMETER RIGID GALVANIZED STEEL CONDUIT	LIN FT 1" DIAMETER RIGID GALVANIZED STEEL CONDUIT	LIN FT 1 1/2"ø LIQUID-TIGHT FLEXIBLE NONMETALLIC CONDUIT		LIN FT #4, 600 VOLT RHW-USE CABLE		LIN FT #10, 600 VOLT THW CABLE	LIN FT #12, POLE & BRACKET CABLE RHW-USE	LUMP STRUCTURE GROUNDING SYSTEM, AS PER PLAN	EACH EXOTHERMIC WELD	EACH 2#4"x10' COPPERWELD GROUND ROD		EACH 10 KVA, 480-120 VOLT TRANSFORMER, SEE DETAIL SHEET E 12	EACH 4" EXPANSION FITTING, SEE DETAIL SHEET E 12	EACH 8" EXPANSION FITTING, SEE DETAIL SHEET E 12	LIN.FT. UNPAVED TRENCH - SEE DETAIL ON SHEET E12	LIN. FT. PAVED TRENCH - SEE DETAIL ON SHEET E12	EACH FUSED DISCONNECT CABLE CONNECTOR KIT	EACH CONTROL CENTER SEE DETAIL SHEET E9	EACH 240/480 V, 1Ø METER SOCKET	EACH 240/480 V, 2P FUSED DISCONNECT SWITCH WITH FUSES	EACH SECONDARY LIGHTNING ARRESTOR	
62	LT	121+95	122+~~00~~ 10	⚠																15					10																	
63	LT	122+~~00~~ 10			1							1				1																											
64	LT	122+~~65~~	125+10																	~~110~~	100				220																	
65	LT	123+10				1								1		1																											
66	LT	123+10	124+10																	100					200																	
67	LT	124+10			1							1				1																											
68	LT	124+10	125+10																	100					200																	
69	LT	125+10				1								1		1																											
70	LT	125+10	126+10																	100					200																	
71	LT	126+10																																								
72	LT/RT	124+50	126+42																	75								150	~~190~~													
73	LT	109+15								1						1																											
74	LT	109+15	113+40																			425			1275																	
75	LT	113+40							1							1																											
76	LT	113+40	117+65																			425	2		1275																	
77	LT	117+65														1																											
78	LT	126+48																																								
79	LT	126+68											1																													
	SUB	TOTAL			2	2				1	2	2	1	2	3	5		3		490		850	2		~~980~~ 980		2550	312.4			5	08		1		1		75	8	1	1	1	1
	LT	TOTAL			9	16			7	1	2	2	1	2	3	26	20	3	1	~~2668~~ 2378	560	850	~~82~~ 65		~~2238~~ 5116		2550	~~1820~~ 1820.5	1	26	08		1	8	2	75	75	50	1	1	1	1

3(1)-382	8+-	1/2
3(1)-382	8+-	1/2
3(1)-382	8+-	1/2

Δ As Built

PLANS PREPARED & SUBMITTED BY
Burgess & Niple, Limited
Engineers and Architects

11-95

COUNTY OF	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
CAMPBELL			

E2.1

FSP 019 0027 022-023 073D

UPDATE DATE

LETTING DATE

PLANS PREPARED & SUBMITTED BY
Burgess & Niple, Limited
Engineers and Architects

DATE
DATE
DATE

REVISED
REVISED
REVISED

DESIGNED BY ____ DATE ____
CHECKED BY ____ DATE ____
DETAILED BY ____ CHECKED BY ____ DATE ____
TRACED BY ____ DATE ____

BRIDGE GENERAL NOTES

STANDARDS

THE FOLLOWING SPECIFICATIONS AND STANDARDS FORM A PART OF THESE SPECIFICATIONS UNLESS OTHERWISE DIRECTED IN THESE PLANS:

GENERAL

NATIONAL ELECTRICAL CODE (NEC), LATEST ISSUE.

STANDARDS OF THE UTILITY COMPANY SERVING THE INSTALLATION.

MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR HIGHWAY CONSTRUCTION AND MAINTENANCE PROJECTS.

BRIDGE LIGHTING

THE KENTUCKY DEPARTMENT OF HIGHWAYS STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, MOST CURRENT EDITION, AND OTHER SPECIAL NOTES AND SPECIFICATIONS WILL APPLY ON THIS PROJECT.

SCOPE OF WORK

THE WORK SHALL INCLUDE THE FURNISHING, INSTALLING, CONNECTING, AND PLACING IN SATISFACTORY OPERATING CONDITION ROADWAY LIGHTING SYSTEMS IN ACCORDANCE WITH THESE SPECIFICATIONS AND THE APPLICABLE DRAWINGS.

RESPONSIBILITY

THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR DEFECTIVE MATERIALS AND/OR WORKMANSHIP FOR A PERIOD OF 1 YEAR FROM DATE OF ACCEPTANCE. UPON NOTICE OF FAILURE FROM THE ENGINEER DURING THIS 1-YEAR PERIOD, THE AFFECTED PART(S) SHALL BE REPLACED BY AND AT THE EXPENSE OF THE CONTRACTOR.

GENERAL

THE LIGHTING SYSTEMS SHALL BE COMPLETE WITH ALL NECESSARY ACCESSORIES FOR PROPER OPERATION. POWER FOR THE BRIDGE STRUCTURE AND ROADWAY LIGHTING SYSTEMS WILL BE FURNISHED BY UNION LIGHT, HEAT AND POWER, COVINGTON, KENTUCKY, AT THE APPROXIMATE LOCATION INDICATED ON THE DRAWING. BEFORE ORDERING EQUIPMENT, CONTRACTOR SHALL CONTACT UTILITY COMPANY CONCERNED TO DETERMINE TYPE OF SERVICE AVAILABLE AT TIME INSTALLATION IS MADE. ALL POLES AND CROSS-ARMS FOR MOUNTING TRANSFORMERS AND ASSOCIATED EQUIPMENT SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNLESS OTHERWISE NOTED IN THESE PLANS. THE INSTALLATION OF ALL EQUIPMENT SHALL BE PERFORMED BY THE CONTRACTOR IN ACCORDANCE WITH THE RULES AND STANDARDS OF THE UTILITY COMPANY SERVING THE INSTALLATION. THE CONTRACT DRAWINGS INDICATE THE EXTENT AND GENERAL ARRANGEMENT OF THE LIGHTING CIRCUITS AND EQUIPMENT. THE CONTRACT DRAWINGS ARE TO BE USED FOR THE GENERAL GUIDANCE OF THE CONTRACTOR AND ANY COMMISSION OR OMISSION SHOWN OR IMPLIED SHALL NOT BE CAUSE FOR DEVIATING FROM THE INTENT OF THE DRAWINGS AND SPECIFICATIONS. IF ANY DEPARTURES FROM THE CONTRACT ARE DEEMED NECESSARY BY THE CONTRACTOR, DETAILS OF SUCH DEPARTURES AND THE REASONS THEREFOR SHALL BE SUBMITTED IN WRITING TO THE ENGINEER FOR WRITTEN APPROVAL PRIOR TO COMMENCEMENT OF SUCH WORK. ALL EXISTING LUMINAIRES AND STANDARDS SHALL BE REMOVED FROM THE BRIDGE AND TURNED OVER TO THE DEPARTMENT OF HIGHWAYS AND STACKED AT THE DIRECTION OF THE ENGINEER.

CONDUIT

ALL CONDUCTORS SHALL BE RUN INSIDE RIGID STEEL CONDUIT EXCEPT FOR OVERHEAD INSTALLATIONS OR WHERE CONDUCTORS ARE RUN INSIDE POLES. ALL RIGID STEEL CONDUIT SHALL BE GALVANIZED INSIDE AND OUT, AND SHALL CONFORM TO THE UNDERWRITER'S LABORATORIES' REQUIREMENTS FOR RIGID METALLIC CONDUIT. ALL CONDUIT INSTALLATIONS SHALL CONFORM TO THE PROVISIONS OF THE NATIONAL ELECTRICAL CODE UNLESS OTHERWISE DIRECTED IN THESE PLANS. THE ENDS OF ALL CONDUITS SHALL BE REAMED TO REMOVE BURRS AND ROUGH EDGES. DAMAGED PORTIONS OF THE GALVANIZED COATING AND UNTREATED THREADS RESULTING FROM FIELD CUTS SHALL BE PAINTED WITH AN APPROVED RUST INHIBITIVE PAINT. SLIP JOINTS WILL BE PERMITTED FOR COUPLING RIGID CONDUIT TO JUNCTION BOXES. WHEN A STANDARD COUPLING CANNOT BE USED FOR COUPLING RIGID CONDUIT, AN APPROVED THREADED UNION SHALL BE USED. ALL CONDUIT THREADS SHALL BE PAINTED WITH WHITE LEAD WHEN FITTED UP. CONDUIT BENDS SHALL HAVE A RADIUS OF NOT LESS THAN 12 TIMES THE NOMINAL DIAMETER OF THE CONDUIT. THE TOTAL BENDING IN ANY RUN OF CONDUIT SHALL NOT EXCEED 180°. THE CONTRACTOR WILL NOT BE PERMITTED TO CUT ANY PAVEMENT IN CARRYING OUT ANY OF THE WORK OF THE CONTRACT, EXCEPT AS DIRECTED IN THE DRAWINGS.

LUMINAIRES

GENERAL

ALL ROADWAY AND WALKWAY LUMINAIRES SHALL BE HIGH PRESSURE SODIUM. ROADWAY LUMINAIRES SHALL BE MOGUL SOCKET TYPE AND WALKWAY LUMINAIRES SHALL BE MEDIUM SOCKET TYPE FOR USE WITH APPROVED LAMPS. ARRANGED FOR IES TYPE II DISTRIBUTION AND FOR 2-INCH SLIP FITTER. TO BE PROVIDED WITH INTEGRAL BALLAST AND INTERNAL FUSE PROTECTION.

BRIDGE ROADWAY

LUMINAIRE SHALL BE 480V, 250W, GE TYPE M-250R2, AMERICAN LIGHTING PRODUCTS SERIES 125, HUBBELL RL-400, OR APPROVED EQUAL.

WALKWAY

LUMINAIRE SHALL BE 480V, 70W, MCGRAW-EDISON CONCOURSE III DESIGN 20, LITHONIA/HI-TEK KAS R2, CROUSE & HINDS RCL, OR APPROVED EQUAL. SHOULD BE COMPATIBLE WITH WALL BRACKET AND MAST ARM MOUNTING AT LOCATIONS AS INDICATED ON PLANS. DIRECT ARM MOUNTING TO BE UTILIZED ON ALL POLE MOUNTED.

KENTUCKY STAIRS

LUMINAIRE SHALL BE 480V, 70W HIGH PRESSURE SODIUM, PARKING DECK TYPE. MCGRAW-EDISON PARK-KING, LITHONIA KPS, GE SCM-175, OR APPROVED EQUAL.

LAMPS

HIGH PRESSURE SODIUM LAMPS SHALL BE GENERAL ELECTRIC "LUCALOX," WESTINGHOUSE "CERMALUX," SYLVANIA "LUMALUX," OR APPROVED EQUAL.

LIGHTING STANDARDS

GENERAL

TRANSFORMER BASES SHALL BE UTILIZED FOR ALL NONSTRUCTURE MOUNTED POLES. ALL POLES SHALL BE OF ROUND, TAPERED, SEAMLESS ALUMINUM SHAFT WITH A FABRICATED ANCHOR BASE. A REINFORCED HANDHOLE SHALL BE 18 INCHES ABOVE THE BASE WITH APPROXIMATELY 4" X 6" OPENING WITH INTERNAL GROUND LUG. SEE PLANS AND SPECIFICATIONS FOR DETAILS.

PLUMBING POLES

ALL POLES SHALL BE INSTALLED PLUMB.

NAVIGATIONAL LIGHTS

NAVIGATIONAL LIGHT, SUPPORTS, PIVOT ASSEMBLY, LAMP OUT RELAY, LAMP OUT INDICATOR, JUNCTION BOX, AND MOUNTING HARDWARE SHALL BE SUPPLIED AS A SINGLE UNIT. FRESNEL LENS LANTERNS SHALL BE USED AND INSTALLED PROVIDING A SERVICE LAMP AND AT LEAST ONE STANDBY LAMP CONTROLLED BY THE LAMP OUT RELAY, SO AS TO EXHIBIT BOTH THE STANDBY LAMP AND THE "LAMP OUT" INDICATING LAMP ON BURN OUT OF THE MAIN LAMP.

UNIT SHALL BE RAINTIGHT, WATERTIGHT, WEATHERPROOF, AND CORROSION RESISTANT TYPE. SIGNAL LAMPS SHALL BE STANDARD MARINE, 100 WATT (W), 120V MEDIUM BASE, 32,000 HOUR UNIT. THE LIGHT INTENSITY SHALL BE NOT LESS THAN 85 CANDLE POWER AGAINST THE BACKGROUND LIGHTING FOR A DISTANCE OF AT LEAST 2,000 YARDS, 90 PERCENT OF THE NIGHTS OF THE YEAR.

NAVIGATIONAL LAMPS AND ASSEMBLY SHALL BE AS INDICATED ON PLAN AND SUPPLIED BY B&B ELECTROMATIC CORP., CROUSE-HINDS, SECURITY PRODUCTS DIV.-FEDERAL SIGNAL CORP., OR APPROVED EQUAL.

TESTING

AFTER THE INSTALLATION IS COMPLETED, AND AT SUCH TIME AS THE ENGINEER SHALL DIRECT, THE CONTRACTOR SHALL CONDUCT AN OPERATING TEST FOR APPROVAL. THE SYSTEMS SHALL BE DEMONSTRATED TO OPERATE IN ACCORDANCE WITH SPECIFICATIONS. THE TESTS SHALL BE PERFORMED IN THE PRESENCE OF THE ENGINEER. THE CONTRACTOR SHALL FURNISH ALL INSTRUMENTS AND PERSONNEL NECESSARY FOR THE TEST, AND THE DEPARTMENT OF HIGHWAYS WILL FURNISH THE POWER. CIRCUITS SHALL TEST FREE OF GROUNDS AND SHORTS SHALL HAVE AN INSULATING RESISTANCE NOT LESS THAN 10 MEGOHMS WHEN TESTED WITH A 500 VOLT (V) DIRECT CURRENT POTENTIAL IN A REASONABLY DRY ATMOSPHERE BETWEEN CONDUCTORS AND GROUND.

NOTES: THE CONTRACTOR SHALL USE ALL POSSIBLE CARE IN EXCAVATING ON THIS PROJECT SO AS NOT TO DISTURB ANY EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT SHOWN ON THE PLANS. ANY UTILITIES DISTURBED OR DAMAGED BY THE CONTRACTOR THROUGH CARELESSNESS DURING HIS CONSTRUCTION OPERATIONS SHALL BE REPLACED BY THE CONTRACTOR AT NO EXTRA COST TO THE DEPARTMENT.

DRAWINGS FOR STANDARD WARNING SIGNS FOR THE PROTECTION OF TRAFFIC WILL BE FURNISHED BY THE DISTRICT ENGINEER.

SANITARY SEWER AND WATER LINE SUMMARY

COUNTY OF	FISCAL YEAR	SHEET NO.	TOTAL SHEETS

ITEM CODE	ITEM	UNIT	SHT. 2		TOTALS	
	WATER LINE, RIVERBOAT ROW					
	8" DUCTILE IRON PIPE, CLASS 52	L.F.	~~195~~	201	~~195~~	201
	8" 45° BEND	EACH	4		4	
	8" GATE VALVE	EACH	~~1~~ 0		~~1~~ 0	

SHEET 174

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

COMMONWEALTH OF KENTUCKY
BRUCE G. BRANDSTETTER
13090
PROFESSIONAL ENGINEER

SUMMARY SHEET
RIVERBOAT ROW WATER

DATE
FOR

SANITARY SEWER AND WATER LINE SUMMARY

COUNTY OF	FISCAL YEAR	SHEET NO.	TOTAL SHEETS

ITEM CODE	ITEM	UNIT	SHT. 2	TOTALS
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	8" 45° BEND	EACH	4	4
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SHEET 174

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

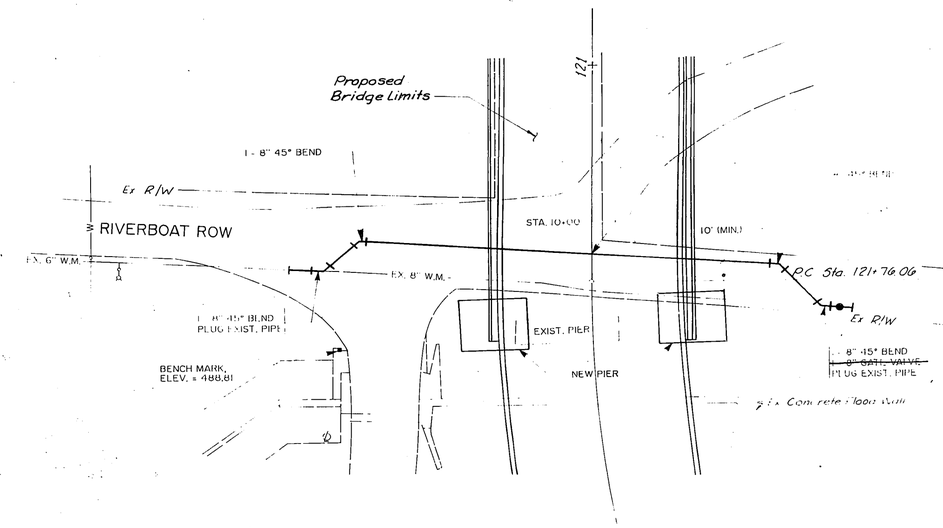
BRF 00272 048

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

COMMONWEALTH OF KENTUCKY
BRUCE B. BRAMSTETTER
13030
REGISTERED PROFESSIONAL ENGINEER

SUMMARY SHEET
RIVERBOAT ROW WATER

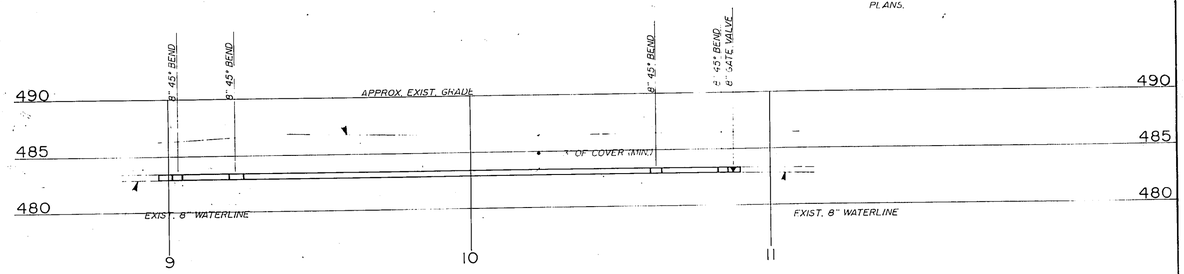


PLAN
SCALE: 1" = 20'



TYPE A
PAVEMENT REPLACEMENT DETAIL
NOT TO SCALE

NOTES:
1. PLEASE SEE SHT. 6 WATER LINE DETAILS AND GENERAL NOTES OF THE SANITARY SEWER AND WATER LINE RELOCATION PLANS.



SHEET 175

KENTUCKY DEPARTMENT OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

CAMPBELL COUNTY, KENTUCKY
HAMILTON COUNTY, OHIO

NEW BRIDGE OVER OHIO RIVER
CINCINNATI, OHIO TO NEWPORT, KENTUCKY

BRF 00272 048

STATION 113+40 P.E. PROJECT NO. FSP 019 0027 022-023 073 D

CONSTRUCTION PROJECT NO.	MAINTENANCE PROJECT NO.	DRAWING NO.
		22740

SCALE: 1" = 20' HORIZ.
1" = 5' VERT.

COMMONWEALTH OF KENTUCKY
BRUCE G. BRANDSTETTER
13030
LICENSED PROFESSIONAL ENGINEER

CITY OF NEWPORT SANITARY SEWER AND WATER LINE SHEET 2 OF 2