FED. ROAD DIST.	STATE	FEDERAL AID	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	KY & IND				

SOUTH APPROACH

INDEX OF PLANS

Sheet 37 Added 11/25/70 DCS

COMMONWEALTH OF KENTUCKY

STATE OF INDIANA

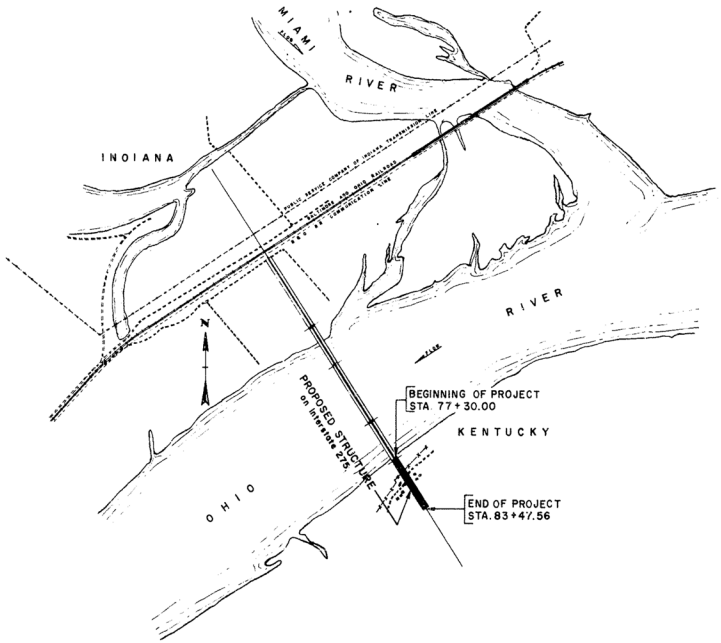
STATE HIGHWAY DEPARTMENTS

PLAN AND PROFILE OF PROPOSED

STATE HIGHWAY

BOONE COUNTY

PROJECT I-275-9(21)0



LAYOUT MAP

400 0 800 1600

SCALE IN FEET

GROSS LENGTH 617.56 LIN FT 0.117 MILES

NET LENGTH 617.56 LIN FT 0.117 MILES

RECOMMENDED FOR APPROVAL
HAZELET AND ERDAL
CONSULTING ENGINEERS
FILE NO. 872-0

BY Robert H. Wood

DATE June 4, 1968

STATE OF KENTUCKY ROBERT H. WOOD 1595 REGISTERED PROFESSIONAL ENGINEER

ROBERT H. WOOD REGISTERED NO. 1595 STATE OF INDIANA RESIDENT OF KENTUCKY REGISTERED PROFESSIONAL ENGINEER

APPROVED BY KENTUCKY DEPARTMENT OF HIGHWAYS

BY [signature] STATE HIGHWAY ENGINEER DATE 6/6/68

BY [signature] COMMISSIONER OF HIGHWAYS DATE 6/12/68

APPROVED BY INDIANA STATE HIGHWAY COMMISSION

[signature] CHIEF ENGINEER DATE 6-20-68

BY [signature] CHAIRMAN DATE 6-20-68

Sheet 1 of 37 (36)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED _____ 19____

DIVISION ENGINEER

KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION

PROJECT I 275-9 (21) 0
BRIDGE OVER OHIO RIVER ON I 275

BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA

STATION 80+38.56

HAZELET & ERDAL Consulting Engineers File No. 872-0	BRIDGE NUMBER	DRAWING NO. 17209	INDEX

BRIDGE

FED. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				

ESTIMATED QUANTITIES

DESCRIPTION	SHEET NUMBER DETAIL	SHEET NUMBER QUANTITY	CONCRETE CLASS "A" (Cu. Yds.)	CONCRETE CLASS "AA" (Cu. Yds.)	STEEL REINFORCEMENT (Lbs.)	① STRUCTURAL STEEL (Lump Sum)	HIGH STRENGTH HANDRAIL (Lin. Ft.)	PROTECT. COAT. Linseed Oil (Sq. Yds.)	6" ϕ DRAIN PIPE (Lin. Ft.)	STRUCTURE EXCAVATION COMMON (Cu. Yds.)	STRUCTURE EXCAVATION SOLID ROCK (Cu. Yds.)	END BENT BACKFILL (Cu. Yds.)	6" PERFORATED DRAIN PIPE (Lin. Ft.)	② 2" ϕ Steel Conduit (Lump Sum)	PROTECT. COAT. Styrene Butadiene (Gals.)
PIER 1S	9,10,14	10	937.6	[illegible]	126,011					875	270				
PIER 2S	11,12,14	12	677.5	[illegible]	82,666					510	155				3
PIER 3S	11,13,14	13	404.9	[illegible]	52,606					950	270				3
ABUTMENT	15 thru 17	16	121.1	111.4	17,790		14			95	195	385	200		2
STRUCTURAL STEEL	18 thru 25	-				Lump Sum									4
SUPERSTRUCTURE	26 thru 30	30		1,209.0	293,660		1,233	4078						Lump Sum	54
DRAINAGE	29	30							63						
TOTALS			2141.1	1,320.4	572,133	Lump Sum	1,307	4078	63	1,730	890	385	200	Lump Sum	66

2,23.3

NOTES:

For General Notes See Sheet 3.

① STRUCTURAL STEEL Approximately 1,464,700 Lbs. included in lump sum bid for Structural Steel. Approximate Estimate of Structural Steel does not include overrun or weld material.

② Approximately 650 Lin. Ft. included in Lump Sum bid for 2" ϕ Steel Conduit.

SPECIAL PROVISIONS

No. 8-A	Linseed Oil Protective Coating
No. 12	Joint Sealing Compound
No. 30-B	Membrane Curing of Concrete Structures
No. 35-B	Class "AA" Concrete
No. 36-A	Set-Retarding Admixtures for Concrete
No. 77-B	Styrene-Butadiene Protective Coating
No. 79	Concrete Bridge Deck Finishing Machine
No. 80-A	Blast Cleaning and Painting Structural Steel

SPECIAL NOTES

For Welding Structural Steel

REFERENCES

(Standard Drawings listed are current edition and are to be used with these plans)

AEI-D Armored Edge for Concrete

H117-E High-Strength Aluminum Handrail
1151-a Perforated Pipe Standards
SF2-B Details for Placing End Bent Backfill and Earth Core
1740a Guard Rail Connectors to Bridge Wings

BILL OF INCIDENTAL MATERIALS

ITEM	AMT.	DESCRIPTION	LOCATION
1" x 3½" Joint Sealing Compound (Lin. Ft.)	56		Superstructure Exp. Dam @ Abut.
#6 Coarse Aggregate (Cu. Yds.)	30		6" Perforated Drain Pipe behind Abut.
4-Bolt Insert Assembly	2	See Sh. 16 & 17 and Std. Drawing 17.40, current edition	Abutment Wing Walls

NOTE:

The Bill of Incidental Material is approximate only, and the Contractor is responsible for furnishing enough material to complete the work according to the plans and specifications. The cost of these items is to be included in the unit price bid for Class "AA" Concrete.

SHEET 2

KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION

PROJECT I 275-9 ( ) 0
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA

STATION 80+38.56

HAZELET & ERDAL Consulting Engineers File No. 8720 | BRIDGE NUMBER | DRAWING NO. 17209 | INDEX

SOUTH APPROACH
ESTIMATED QUANTITIES

DESIGNED BY J.M.K. | CHECKED BY | DATE
DETAILED BY C.B.F. | CHECKED BY | DATE
TRACED BY C.B.F. | CHECKED BY R.R.R. | DATE 8/68 | REVISED
DATE 5/67 | REVISED
DATE | REVISED

BRIDGE

FED. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				

ESTIMATED QUANTITIES

DESCRIPTION	SHEET NUMBER DETAIL	SHEET NUMBER QUANTITY	CONCRETE CLASS "A" (Cu. Yds.)	CONCRETE CLASS "AA" (Cu. Yds.)	STEEL REINFORCEMENT (Lbs.)	① STRUCTURAL STEEL (Lump Sum)	HIGH-STRENGTH HANDRAIL (Lin. Ft.)	PROTECT. COAT. Linseed Oil (Sq. Yds)	6" ϕ DRAIN PIPE (Lin. Ft.)	STRUCTURE EXCAVATION COMMON (Cu. Yds.)	STRUCTURE EXCAVATION SOLID ROCK (Cu. Yds.)	END BENT BACKFILL (Cu. Yds.)	6" ϕ PERFORATED DRAIN PIPE (Lin. Ft.)	② 2" ϕ Steel Conduit (Lump Sum)	PROTECT. COAT. Styrene - Butadiene (Gals.)
PIER 1S	9,10,14	10	937.6		126,011					675	270				3
PIER 2S	11,12,14	12	677.5		82,686					510	155				3
PIER 3S	11,13,14	13	404.9		52,608					450	270				2
ABUTMENT	15 thru 17	16	121.1	111.4	17,490		74			95	195	385	200		4
STRUCTURAL STEEL	18 thru 25	-				Lump Sum									
SUPERSTRUCTURE	26 thru 30	30		1,209.0	293,460		1,233	4,078						Lump Sum	54
DRAINAGE	29	30							63						
TOTALS			2141.1	1,320.4	572,433	Lump Sum	1,307	4,078	63	1,730	890	385	200	Lump Sum	66

NOTES:

For General Notes See Sheet 3.

① STRUCTURAL STEEL Approximately 1,464,700 Lbs. included in lump sum bid for Structural Steel. Approximate Estimate of Structural Steel does not include overrun or weld material.

② Approximately 450 Lin. Ft. included in Lump Sum bid for 2" ϕ Steel Conduit.

SPECIAL PROVISIONS

No. 8-A Linseed Oil Protective Coating
No. 12 Joint Sealing Compound
No. 30-B Membrane Curing of Concrete Structures
No. 35-B Class "AA" Concrete
No. 36-A Set-Retarding Admixtures for Concrete
No. 77-B Styrene-Butadiene Protective Coating
No. 79 Concrete Bridge Deck Finishing Machine
No. 80-A Blast Cleaning and Painting Structural Steel

SPECIAL NOTES

For Welding Structural Steel

REFERENCES

(Standard Drawings listed are current edition and are to be used with these plans)

AE1-D Armored Edge for Concrete

H117E High-Strength Aluminum Handrail
11.51a Perforated Pipe Standards
3F2B Details for Placing End Bent Backfill and Earth Core.
17.40a Guard Rail Connectors to Bridge Wings

BILL OF INCIDENTAL MATERIALS

ITEM	AMT.	DESCRIPTION	LOCATION
1" x 3/4" Joint Sealing Compound (Lin. Ft.)	56		Superstructure Exp. Dam @ Abut.
#6 Coarse Aggregate (Cu. Yds.)	30		6" Perforated Drain Pipe behind Abut.
4-Bolt Insert Assembly	2	See Sh. 16 & 17 and Std. Drawing 17.40, current edition	Abutment Wing Walls

NOTE:

The Bill of Incidental Material is approximate only, and the Contractor is responsible for furnishing enough material to complete the work according to the plans and specifications. The cost of these items is to be included in the unit price bid for Class "AA" Concrete.

SHEET 2

KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION

PROJECT I 275-9 ( ) 0
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA

STATION 80 + 38.56

SOUTH APPROACH
ESTIMATED QUANTITIES

HAZELET & ERDAL Consulting Engineers File No. 8720	BRIDGE NUMBER	DRAWING NO. 17209	INDEX

DESIGNED BY JWT. DATE
DETAILED BY L.C.B.C. DATE
CHECKED BY W.E.B. DATE
CHECKED BY R.E.K. DATE
REVISED BY
REVISED
REVISED
REVISED

FED. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				

SPECIFICATIONS: Kentucky Department of Highways, Standard Specifications for Road and Bridge Construction, current edition with Revisions, Special Notes, and Special Provisions shall apply to this project.

DESIGN LOAD: Bridge designed for HS20-44 Loading as specified in 1961 AASHO Specifications, including Interim Specifications for 1961, 1962, 1963 and 1964, and the proposed Section 8 for Structural Steel Design dated September 1, 1965, or alternate loading of two 24 kip axles spaced 4 feet apart, whichever produces the greater stress. Dead load includes 20 pounds per square foot of roadway surface allowance for future wearing surface.

DESIGN STRESSES: For reinforced concrete;

Class "AA" Concrete;
f_s = 20,000 psi. u = 200 psi.
f'_c = 4,000 psi. for embedment
f_c = 1,000 psi. u = 300 psi. for Σ_o, n = 8

Class "A" Concrete;
f_s = 20,000 psi. u = 200 psi.
f'_c = 3,000 psi. for embedment
f_c = 1,200 psi. u = 300 psi. for Σ_o, n = 10

f_c = 1,200 psi. for slab design.
For Structural Steel; f_s = 20,000 psi. for A 36 Steel.

WIND LOADS: This structure is designed using wind loads based on a wind velocity of 100 miles per hour.

FOUNDATION PRESSURE: Abutment and pier footings are designed for a maximum foundation pressure on the gray shale of 16,000 pounds per square foot of bearing area. This maximum is for Group I Loads with increases allowed for other loading groups in accordance with AASHO Article 1.4.1.

COORDINATION WITH CONTRACTORS ON ADJACENT PROJECTS: In addition to the requirements of Article 1.5.6 of the Standard Specifications, this Contractor shall coordinate his work with that of Contractors on adjacent sections of this Project.

STRUCTURE EXCAVATION - SOLID ROCK: All the provisions of Articles 105.1.2A and 105.3.3 of the Standard Specifications shall apply except as herein modified.

Pier 1S, 2S, 3S and the abutment shall be founded in sound solid rock.

When excavation for each footing has been completed down to the presumably suitable rock foundation level required, the footing area shall be explored by the Contractor who shall obtain cores not less than one and one-half (1½) inches in diameter not less than ten (10) feet into the rock in accordance with ASTM D 2113. Such core drillings shall be located in each of the four corners of every pier footing (8 cores per pier) and at the centerline of each girder and as close to the top of the abutment as practical (2 cores at abutment). The cores so taken shall be recovered, identified and logged on a plan and core log and made available for inspection as directed by the Engineer for determination of the final elevation for each pier and abutment foundation.

If any of the rock cores of ten (10) feet depth do not indicate sound, solid rock at least five (5) feet thick in that depth, the Contractor shall continue drilling in that hole until he has cored not less than five (5) feet into a solid rock foundation material, unless the Engineer directs the drilling be stopped at a higher elevation.

If the rock cores as described in the foregoing paragraphs indicate that a suitable foundation level has been reached, the footing area shall be cleaned as described below.

In the event that the rock cores specified above indicate unsound rock, soft layers of shale, weathered shale, layers of clay, or other soft material beneath the top layer or ledges of the rock which is unsuitable for any foundation in the opinion of the Engineer, the Contractor shall excavate the layers of rock and the unsuitable material down to sound, solid rock which in the opinion of the Engineer is suitable for the foundation.

After the final elevation for the footing has been reached and all excavation completed, the rock surface shall be cleaned thoroughly and the silt and debris removed by methods satisfactory to the Engineer. After cleaning of excavated area, and prior to placing of concrete foundation, the area shall be carefully inspected.

The work of cleaning the excavation, drilling and preserving rock cores and costs incidental thereto, as specified, will not be paid for separately, but will be included in the contract unit price per cubic yard for "Structure Excavation - Solid Rock".

DECK DRAINS: The cost of this item is to be included in the "Lump Sum" bid price for Structural Steel.

PLACING FILL: The fill at the abutment shall be placed in accordance with the Standard Drawing, "Standard Details for Placing End Bent Backfill and Earth Core".

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.

CONTROL OF THE WORK: In addition to the requirements of Article 1.5.9 of the Standard Specifications, subsequent to the Engineer's staking the reference lines, centerline or base lines for the various roadway elements of this project, the Contractor shall stake out and verify the locations of each substructure unit for agreement with the positions shown in the plans. Prior to fabrication of the structural steel, the Contractor shall again verify the locations of each substructure unit and the dimensions between centerlines of piers and between centerlines of columns to insure correct fit of the steelwork. In the event a discrepancy is found in any dimension, the Engineer shall be notified at once and no further work will be permitted until the discrepancy is corrected.

CONCRETE: Class "AA" Concrete is to be used throughout for superstructure and for all portions of the abutment backwall and wingwalls above the top of the footings. Class "A" Concrete is to be used in all other parts of the substructure.

CIRCULAR SECTION REINFORCED CONCRETE COLUMNS: This note modifies the requirements of Article 403.3.8 and 404.3.1 for pier columns of this project. The concrete shall be placed, finished and cured as specified in Article 404.3.1 except as required by the following:

(a) All forms for the circular section columns shall be made of metal or shall be plastic or plastic-lined so as to give the surface a true, smooth cylindrical shape free from fins, joints, and irregularities.
(b) The concrete shall be placed in, and carefully vibrated against the forms to assure smooth surfaces without voids, honeycomb, air pockets or irregularities in the surface.
(c) A rubbed surface finish will not be required for the columns as specified in Article 403.3.8-C. Instead, the surface shall be finished as specified in Article 403.3.8-B.

No extra payment will be made to the Contractor for the use of metal, plastic or plastic-lined forms, nor for placing or finishing the concrete. The cost of furnishing the forms, placing the concrete, and finishing as specified shall be included in the unit price bid for Class "A" Concrete.

CONCRETE FINISH: Exposed surfaces of concrete on plinths, curbs, median and abutment wingwalls shall be given a rubbed surface finish in accordance with Article 403.3.8-C of the Standard Specifications. Should it be necessary to grind the concrete in order to secure a straight line, and the grinding exposes the coarse aggregate in any section, then that section will not be acceptable and shall be removed and replaced. When forms are not held to true lines and grades within the limits set out in ***PERMISSIBLE VARIATIONS*** or if the plinth does not meet the minimum requirements of workmanship, the sections involved shall be removed and replaced.

SLAB FORMS: Stay-in-place forms will not be permitted for the concrete bridge floors.

BEVELED EDGES: All exposed edges shall be beveled 7/8" unless otherwise shown.

PERMISSIBLE VARIATIONS: The lines of the finished concrete, except bridge floors, shall not vary more than 1/4 inch in ten feet as measured from a straight edge, or vary from plan lines more than 0.1 percent of the distance between the extremities of the unit considered.

Any variations in excess of those permitted above will be, at the discretion of the Engineer, cause either for rejection and removal of the work as set out in Article 1.5.12 of the Standard Specifications, or for a deduction from the monies due or which may become due the Contractor in an amount calculated by multiplying the volume of concrete in the portion of the structure in which such variation occurs by the unit bid price for concrete.

REINFORCEMENT: Dimensions shown from face of concrete to bars are to center of bars unless noted as clear distance. Spacing of bars is from center to center of bars.

SPIRAL TIES - PIER COLUMNS: Splices for spiral ties 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, but the cost will be considered incidental to the cost of the developed length of spiral shown on the plans. Spiral ties shall meet the requirements of Article 541.5.0 of the Standard Specifications. See Note, "***ALTERNATE TO SPIRAL REINFORCEMENT***" this sheet.

JOINT SEALING COMPOUND: The cost of this item is to be included in the unit price bid for Class "AA" Concrete.

CONCRETE PLACEMENT: After a given pour has been completed, concrete in an adjacent pour shall not be started until the previously placed concrete has cured for the time required for "Slab and Girder Spans, Over 20 Ft. Span" as specified in Table of Article 403.3.5-F of the Standard Specifications.

SET RETARDING ADMIXTURE FOR CONCRETE: An approved admixture shall be added to the concrete for the bridge floor slabs to delay the initial set of the concrete so as to permit the placement and finishing of concrete in all spans of a continuous pour in a single continuous operation. The admixture and its use shall conform to the Special Provision for "Set Retarding Admixtures for Concrete". The amount of delay shall be dependent on the quantity of admixture, and the quantity of admixture 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 span until after the next adjacent span 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.

STRUCTURAL STEEL: See Sheet No. 4 for "Structural Steel Notes".

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.

CONTINUOUS STEEL GIRDERS: Girders which do not conform to plan camber and grade in the erected position shall be considered as requiring an adjustment in depth of concrete haunch over the steel supporting members, at no additional cost to the State. Temporary supports or shoring will not be permitted under the steel girders when taking top of steel elevations or when placing the concrete floor slab.

DRAIN PIPE: This is in addition to the requirements of the Standard Specifications for pipe material. The drain pipe for the bridge floor drainage shall be one of the following types:

(a) Wrought Iron Pipe shall be standard weight, black pipe in accordance with the current edition of ASTM A 72.
(b) Continuous Weld or Seamless Steel Pipe shall be standard weight, black pipe conforming with the applicable provisions of the current edition of ASTM A 53. It shall be weldable alloy steel containing a minimum of 0.75 percent copper and 1.5 percent nickel, by weight. It shall have the following minimum mechanical properties:
Tensile strength ..... 50,000 psi.
Yield strength ..... 37,000 psi.
Elongation in 2 inches ..... 30 percent

The pipe shall be of the size shown on the plans and shall be painted in accordance with the Special Provision for Blast Cleaning and Painting Structural Steel.

The drain pipe will be measured in lineal feet on the centerline of the pipe. This item will be paid for at the unit price bid per lineal foot, which price shall include and be full payment for furnishing and installing, complete in place and accepted, all materials including weld materials and welding, brackets, pipe clamps and hangers, fittings, connections, hardware and tools, paint and painting equipment, and incidentals necessary to complete the work.

CONSTRUCTION NOTE: Plans for the erection of the structure and for the cofferdams specified in the following note shall be submitted for approval to the Department of Highways.

The Contractor's attention is referred to Article 1.7.15 and to Article 1.7.18 of the Standard Specifications.

COFFERDAMS: Cofferdams or sheeting may be necessary for the construction of piers as specified in the Standard Specifications. The cost of cofferdams or sheeting will not be paid for separately, but will be included in the unit price bid for "Structure Excavation - Common".

CONSTRUCTION PHOTOGRAPHS: During all periods when construction work is under way, the Contractor shall take or have taken by a competent commercial photographer at least four (4) photographs each month showing progress and details of the work. Photographs shall be made with high quality camera and developed, printed and enlarged in such a manner as to produce first class professional results.

One (1) photograph shall be taken from at or about the same point each month so as to show the piers in elevation, including cofferdams, falsework, and other temporary construction. If necessary to clearly indicate the status of work, this picture may be made in two or more parts and than assembled. If material changes in the status of work occur over a short period of time, additional progress photographs are to be taken as directed by the Engineer.

The remaining monthly photographs are to be taken of critical and important phases of construction as directed by the Engineer.

All photographs are to be 8" x 10", properly identified, dated and mounted on linen with a hinged margin suitable for binding. Three (3) sets of such photographs shall be delivered to the Engineer promptly each month along with the negatives thereof which shall become the property of the State with full and unrestricted reproduction rights.

No direct payment shall be made for Construction Photographs, and the cost of same shall be included in the prices bid for pay items.

BRIDGE RAILING POSTS: Aluminum bridge railing posts shall meet the requirements of A.A.S.H.O. Specification M-193, current edition.

ALTERNATE TO SPIRAL REINFORCEMENT: Single hoop ties made of No. 5 deformed bars meeting the requirements of the Standard Specifications, Article 641.1.0. may be used in the pier columns in lieu of the 5/8" φ plain bar spirals detailed in the plans. The hoop ties shall conform to the detail shown as Figure A below, and shall be spaced 12" apart which is equal to the pitch of the spirals. No additional payment will be made for the hoop ties, but the pay weight allowed shall be the plan quantity for the spiral tie reinforcement.

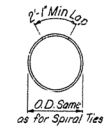


FIGURE A

FALSEWORK PLANS: The contractor shall submit to the Division of Construction for submission to U. S. Coast Guard for approval and 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 this bridge. 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.

LINSEED OIL PROTECTIVE COATING: Linseed Oil Protective Coating shall be applied in accordance with the Special Provision, except that it shall only be applied to the bridge deck between the gutter lines and shall not be applied until after the styrene-butadiene protective coating has been applied to the curbs and plinths.

STYRENE - BUTADIENE PROTECTIVE COATING: The protective coating shall be applied in accordance with the Special Provision and, in addition, to the vertical and horizontal surfaces of the median wall and tops of pier columns and top surfaces of wingwalls.

SHEET 3

KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION
PROJECT I 275-9 ( )0
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA

STATION 80+38.56

SOUTH APPROACH
GENERAL NOTES

HAZELET & ERDAL Consulting Engineers File No. 8720	BRIDGE NUMBER	DRAWING NO. 17209	INDEX

DESIGNED BY ____ CHECKED BY ____ DATE ____ REVISED ____
DETAILED BY ____ CHECKED BY ____ DATE ____ REVISED ____
TRACED BY ____ CHECKED BY ____ DATE ____ REVISED ____

FED. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				

These notes are modifications of and additions to Section 408 of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction. Division, Section and Article numbers and letters appearing herein refer to portions of the Standard Specifications bearing the same designation.

MATERIAL SPECIFICATIONS: The following A.S.T.M. Designations shall govern the material furnished:

A27-65	Carbon Steel Castings, Grade 70-36.
A36-69	Structural Steel, for all steel unless noted otherwise on the plans.
A48-64	Gray Iron Castings (Class 30 A).
A108-69	Cold Finished Carbon Steel Bars and Shafting (Grade 1016 to 1030).
A588-69	High Strength Low Alloy Structural Steel, Resistance to Atmospheric Corrosion of approximately 4 times carbon steel.
A307-68	Low Carbon Threaded Fasteners where High Strength Bolts are NOT designated.
A325-68	High Strength Steel Bolts, Nuts and Plain Hardened Washers.
A441-68	High Strength Low Alloy Structural Steel.
B29-55(1968)	Sheet Lead and Pig Lead.

SHOP DETAIL DRAWINGS: The Contractor shall submit shop detail drawings of all structural steel to the Bridge Engineer for approval in accordance with the Standard Specifications. After the fabrication is completed and accepted for shipment, the Contractor shall furnish the Department one full set of linen or drafting film tracings of approved correct shop drawings including the welding procedures. No direct payment will be made for the record tracings, but the cost shall be included in the lump sum bid for "Structural Steel".

Any material ordered or work done by the Contractor before the shop drawings, including the welding procedures, are approved shall be at his own risk. Qualification Test of all welding procedures shall be completed by the Contractor and approved by the Engineer prior to the final approval of shop drawings and start of fabrication.

DESIGN: Shop welded construction is intended for all built-up members unless otherwise indicated. High Strength Bolts will be used for shop and field connections unless shown otherwise on the plans.

SHOP ASSEMBLY: Holes for field bolted splices of continuous girders shall be subpunched and reamed, or drilled, while assembled. Each continuous girder unit shall be completely shop assembled with parts adjusted to line, elevations, camber, and fit for drilling and reaming.

Girders shall remain assembled for inspection by the Department of Highways Inspector and are to be match-marked while assembled. Other field bolted connections shall be drilled or reamed in the shop with connecting parts assembled or shall be drilled or reamed to a metal template without assembly.

Connections for the diaphragms, expansion joints and other minor members may be punched or drilled full size without assembly subject to the requirements in the Standard Specifications for general reaming.

In lieu of sub-punching or sub-drilling holes and reaming to full size with the parts assembled, electronic computer controlled drills may be used to drill holes full size. Holes drilled by this method shall be located within a tolerance of 5/1000 inch and eighty-five percent (85%) of the holes in any contiguous group shall show no offset greater than 1/32 inch between adjacent thicknesses of metal. The Contractor shall submit to the Engineer for approval his proposed procedure for drilling the holes and assuring correct fit of the members. If the Contractor uses numerical tape or computer controlled drills, shop assembly of at least twenty-five percent (25%) of the girder splices and at least ten percent (10%) of the floorbeam and bracket connections will be required as proof of accurate fit. In the event holes do not match as prescribed for the assembled pieces, all girder splices shall be assembled and reamed to fit and all floorbeam connections reamed to metal templates.

HIGH STRENGTH BOLTED CONNECTIONS: These are designed as friction type connections. All high strength bolted connections shall be in accordance with Article 408.3.1-F of the Standard Specifications except as noted herein. Unless otherwise noted, high strength bolts shall be 7/8" φ and open holes shall be 15/16" φ.

Bolt, nut and washer dimensions shall conform with paragraphs 2 (b), 2 (c), and 2 (e) respectively of the "Specifications for Structural Joints Using ASTM A325 and A490 Bolts", approved by the Research Council on Riveted and Bolted Structural Joints of the Engineering Foundation, September 1, 1966. (This requires the use of heavy hex structural bolts and nuts and slightly smaller hardened washers than given by Table III of the Standard Specifications.)

Installation shall be performed using the turn-of-nut method described in "Specifications for Structural Joints using ASTM A325 or A490 Bolts" noted above, and the Standard Specifications.

DIMENSIONS: Dimensions shown on the plans are for a normal temperature of 60 degrees Fahrenheit with dead load on the structure. Tapes used by the Contractor including the structural steel fabricator and erector, shall have been calibrated correctly with the U. S. Bureau of Standards to insure correct fit of the steelwork.

MISFITS: With prior approval of the Engineer, the correction of minor misfits involving harmless amounts of reaming, cutting and chipping will be considered a legitimate part of the erection. However, any error in the shop fabrication or deformation resulting from handling and transportation which prevents the proper assembling and fitting up of parts by the moderate use of drift pins or by a moderate amount of reaming and slight chipping or cutting, shall be reported immediately to the Inspector and his approval of the method of correction obtained. The correction shall be made in his presence.

BLAST CLEANING AND PAINTING: All structural steel shall be cleaned and painted in accordance with the Special Provision for Blast Cleaning and Painting Structural Steel, current edition.

Exterior surfaces of the cast iron drain body which will be in contact with concrete shall not be painted or coated and shall be free from rust, mold sand or other foreign material. Other surfaces which will not be in contact with concrete shall be painted as required for structural steel.

WELDS: All welding shall conform to "Specifications for Welded Highway and Railway Bridges (AWS D2.0-69) of the American Welding Society, Special Notes for welding structural steel, and the Plans. No field welding will be allowed except as shown on the Plans. See note, *PROHIBITED FIELD WELDING* on the General Notes Sheet.

GIRDER AND FLOORBEAM WEB PLATES: Web plates shall be cut to provide for camber as indicated on the plans. Optional shop welded web plate splices may be made by the Contractor as noted on the Plans and shall be located on the shop details. Such splices will not be paid for, but the cost thereof shall be included in the lump sum price bid for "Structural Steel."

GIRDER FLANGES: Prior to approval of the shop detail drawings, the Contractor may request permission from the Engineer to extend a thicker flange plate in the direction of a smaller to eliminate one or more butt welded flange splices. No extra payment will be made for the additional steel weight.

MILL TEST REPORTS: The Contractor shall furnish five (5) copies of mill orders, change orders, mill shipping statements, notarized mill test reports, fabricators shop bills (if not attached to drawings) and shipping statements to the Engineer for all structural steel materials. The notarized mill test reports shall show that all materials conform to the Standard Specifications.

FLAME CUTTING: Flame cutting shall be in accordance with Article 408.3.1-H.2 of the Standard Specifications except the roughness requirements for flame cut surfaces and repairs to such surfaces shall be as required by AWS D2.0-69, Subsection 302.

The net width of plates shall not be reduced by the repair of cracks, notches, and surface roughness at sections opposite bolt holes which would reduce the edge distances to less than the minimum required by Article 1.8.34 of AASHO proposed Section 8.

ERECTION: Each continuous girder unit has fixed bearings at three consecutive piers. The steel will be fabricated for erection at 60 degrees Fahrenheit. The bearings are to be placed the proper distance apart. If the girders are erected at some other temperature, provisions shall be made to deflect the piers so that the sole plates and shoes mate.

PAYMENT: The lump sum bid for Structural Steel includes and shall be full compensation for preparing shop detail and erection drawings, furnishing, fabricating, transporting, placing and erecting all materials, drilling anchor bolt holes and leading in anchor bolts, furnishing paint and painting, furnishing linen or drafting film tracings of shop detail and erection drawings, and all labor, equipment, tools and incidentals necessary to complete the structure in accordance with the plans and specifications. The item "Structural Steel" shall also include high strength bolts, washers, welding, and welding materials, pig lead and lead plates, anchor bolts, expansion dam bolts and nuts, cast iron drains with cast steel grates and miscellaneous materials necessary to complete the steelwork.

Payment changes for Structural Steel because of plan changes ordered by the Engineer shall be computed at a unit price rate based on the lump sum bid divided by the total estimated weight of Structural Steel listed in the plans.

STEEL FINISH: Steel bearing surfaces in contact shall be finished in accordance with Article 408.3.1-H of the Specifications.

ADDITIONAL FIELD SPLICES: 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.

STRUCTURAL STEEL SUBSTITUTION: A588 steel may be used wherever A441 steel is called for in these plans if the Contractor so desires.

SOUTH APPROACH

STRUCTURAL STEEL NOTES

SHEET 4

KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION

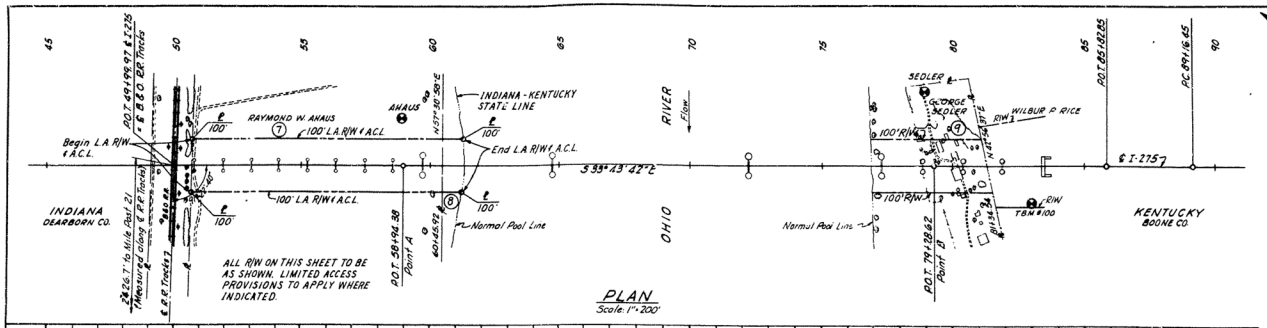
PROJECT I 275-9 ( )C
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA

STATION 80+38.56

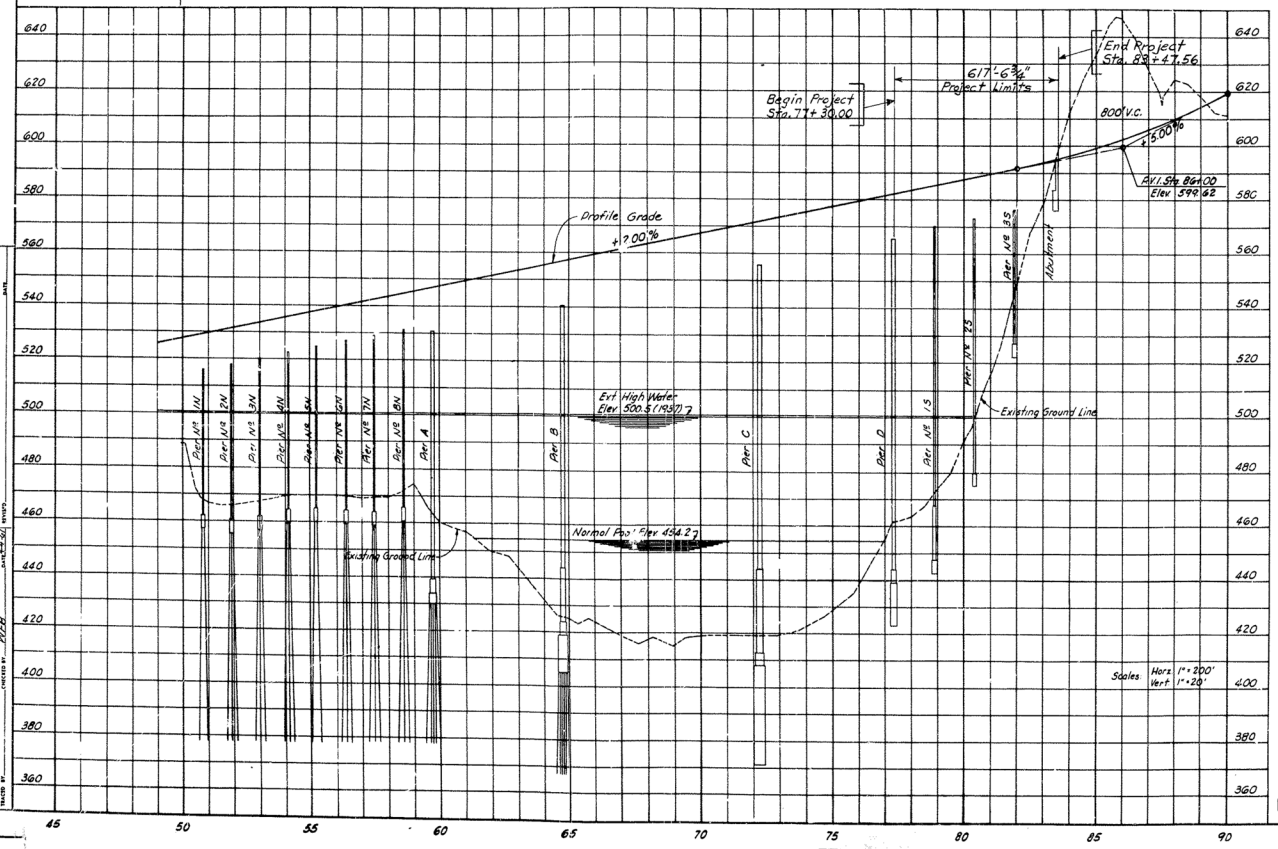
HAZELET & ERDAL Consulting Engineers File No. 6738	BRIDGE NUMBER	DRAWING NO. 17209	INDEX

DESIGNED BY NES CHECKED BY 269 DATE REVISED
DETAILED BY CHECKED BY DATE REVISED
TRACED BY CHECKED BY DATE REVISED

FED. ROAD DIV.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.	81-27(1)			

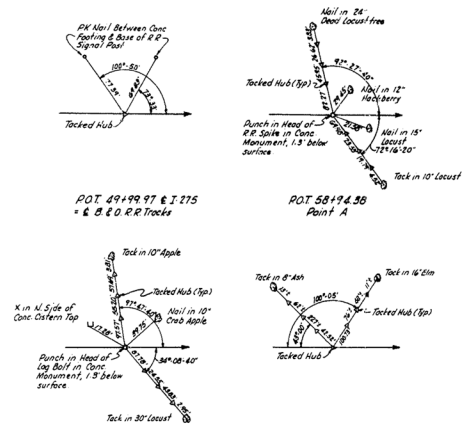


PLAN
Scale: 1" = 200'



UTILITIES

None



BENCH MARKS

INDIANA — AHAUS — Elev. 474.340
Survey Disk set in top of concrete cylinder projecting 2" and stamped AHAUS 1964, 178' Lt. Sta. 58+85

KENTUCKY — SEDLER — Elev. 482.620
Survey Disk set in top of concrete cylinder projecting 3" and stamped SEDLER 1964, 279' Lt. Sta. 78+92

TBM #100 — Elev. 573.098
R.R. Spike in N. Root of 42" White Oak, 136' Rt. Sta. 89+03

NOTE:
Elevations Refer to Mean Sea Level U.S.C.&G.S.-1929 General Adjustment

SHEET 5

KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION

PROJECT I 275-9 ( )0
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA

STATION 80+38.56

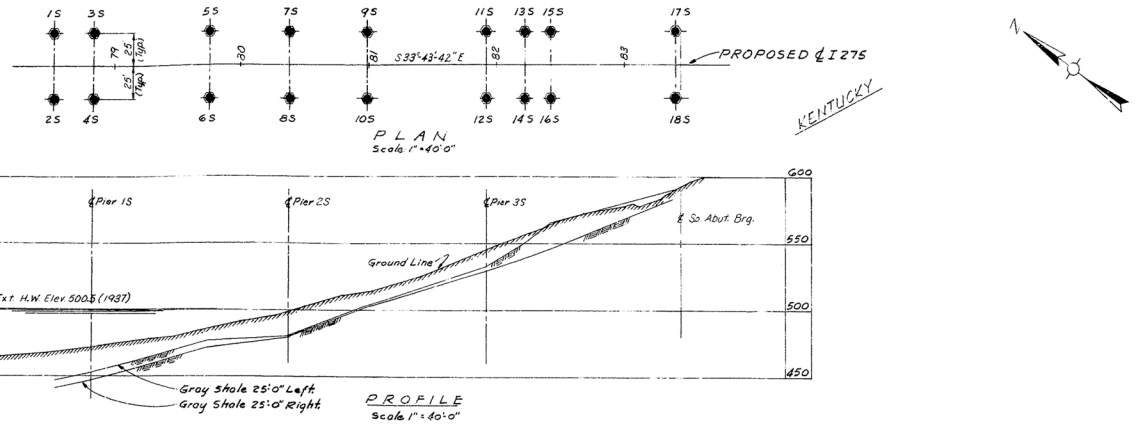
SOUTH APPROACH
PLAN & PROFILE

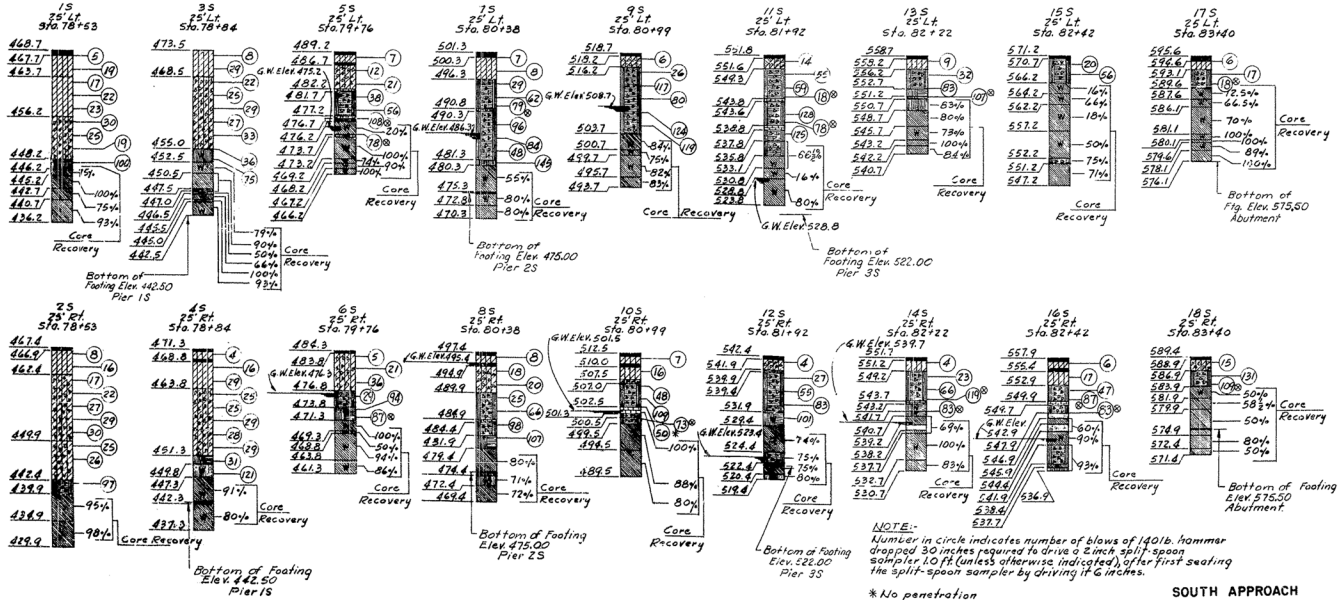
HAZELET & ERDAL Consulting Engineers File No. 8730	BRIDGE NUMBER	DRAWING NO. 17209	INDEX

DESIGNED BY: DATE: REVISED:
DETAILED BY: GRAF DATE: REVISED:
TRACED BY: DATE: REVISED:
CHECKED BY: DATE: REVISED:
CHECKED BY: GRAF DATE: 4-15-80 REVISED:
CHECKED BY: WCB DATE: 4-15-80 REVISED:

BRIDGE

FED. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				





SOIL TYPE LEGEND

- Topsoil.
- Topsoil & Silty Clay.
- Silty Clay with limestone fragments.
- Weathered, brown & gray shale with limestone fragments.
- Limestone.
- Brown & Gray Shale.
- Layered gray shale and fossiliferous limestone.
- Gray Shale
- Silty Clay
- Brown Shale.
- Silty Clay with Shale & limestone fragments.
- W Indicates some Weathering or Weathered zones.

NOTE:- Number in circle indicates number of blows of 140 lb. hammer dropped 30 inches required to drive a 2 inch split-spoon sampler 1.0 ft (unless otherwise indicated), after first seating the split-spoon sampler by driving it 6 inches.

* No penetration

⊗ in 0.5'

SHEET 6

SOUTH APPROACH LOG OF BORINGS

KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION

PROJECT I 275-9 ( ) 0

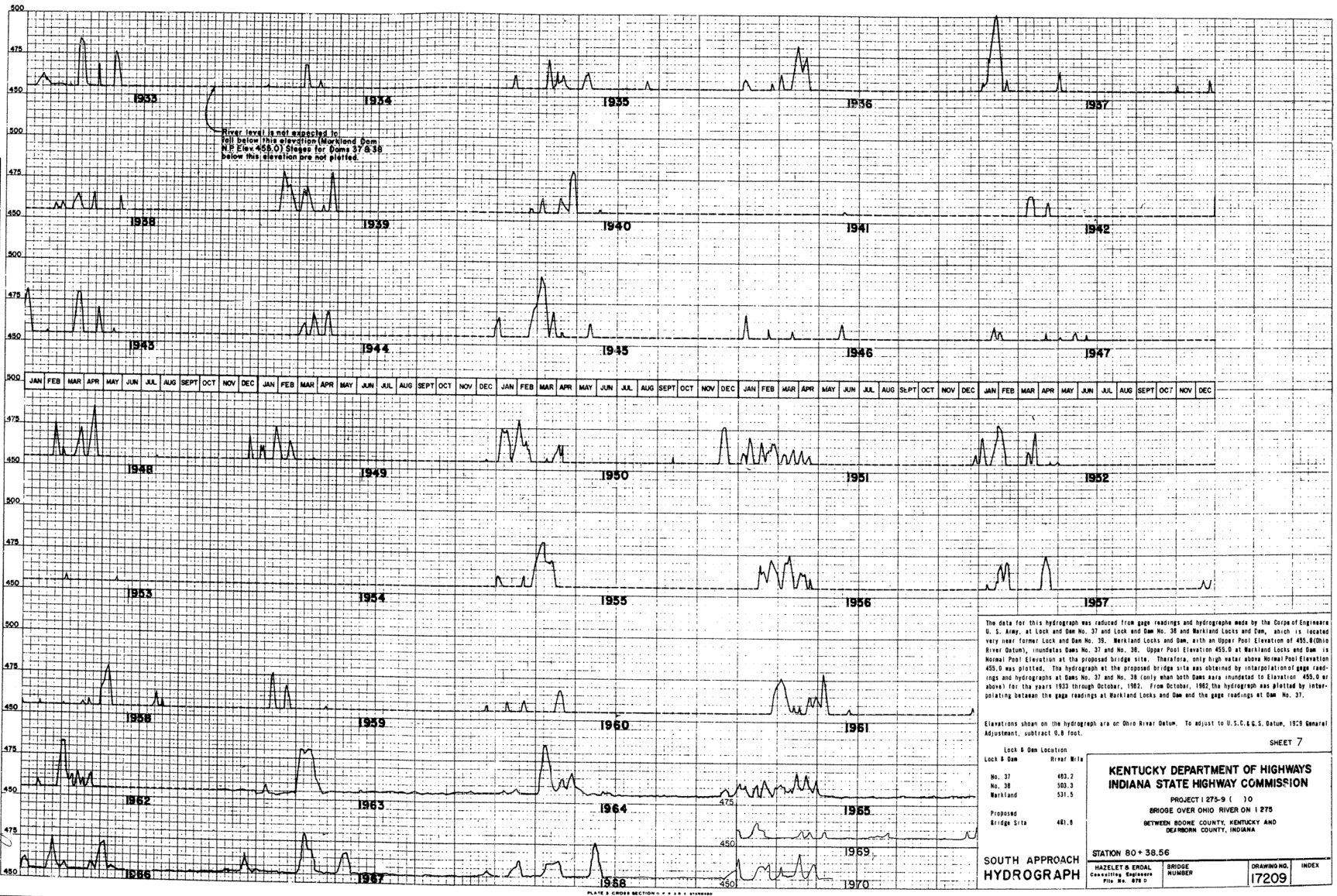
BRIDGE OVER OHIO RIVER ON I 275

BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA

STATION 80+38.56

HAZELET & ERDAL Consulting Engineers File No. 872D	BRIDGE NUMBER	DRAWING NO. 17209	INDEX

DESIGNED BY	K.M.K.	DATE	
DRAWN BY		DATE	
TRACED BY		DATE	
CHECKED BY	H.E.S.	DATE	
CHECKED BY	J.W.A.	DATE	



The data for this hydrograph was reduced from gage readings and hydrographs made by the Corps of Engineers U. S. Army, at Lock and Dam No. 37 and Lock and Dam No. 38 and Markland Locks and Dam, which is located very near former Lock and Dam No. 39. Markland Locks and Dam, with an Upper Pool Elevation of 455.0 (Ohio River Datum), inundates Dams No. 37 and No. 38. Upper Pool Elevation 455.0 at Markland Locks and Dam is Normal Pool Elevation at the proposed bridge site. Therefore, only high water above Normal Pool Elevation 455.0 was plotted. The hydrograph at the proposed bridge site was obtained by interpolation of gage readings and hydrographs at Dams No. 37 and No. 38 (only when both Dams were inundated to Elevation 455.0 or above) for the years 1933 through October, 1962. From October, 1962, the hydrograph was plotted by interpolating between the gage readings at Markland Locks and Dam and the gage readings at Dam No. 37.

Elevations shown on the hydrograph are on Ohio River Datum. To adjust to U.S.C.&G.S. Datum, 1929 General Adjustment, subtract 0.8 foot.

SHEET 7

Lock & Dam Location

Lock & Dam	River Mile
No. 37	483.2
No. 38	503.3
Markland	531.5
Proposed Bridge Site	481.8

SOUTH APPROACH
HYDROGRAPH

KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION

PROJECT I 275-9 ( )0

BRIDGE OVER OHIO RIVER ON I 275

BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA

STATION 80+38.56

HAZELET & ERDAL
Consulting Engineers
File No. 878 D

BRIDGE NUMBER

DRAWING NO. 17209

INDEX

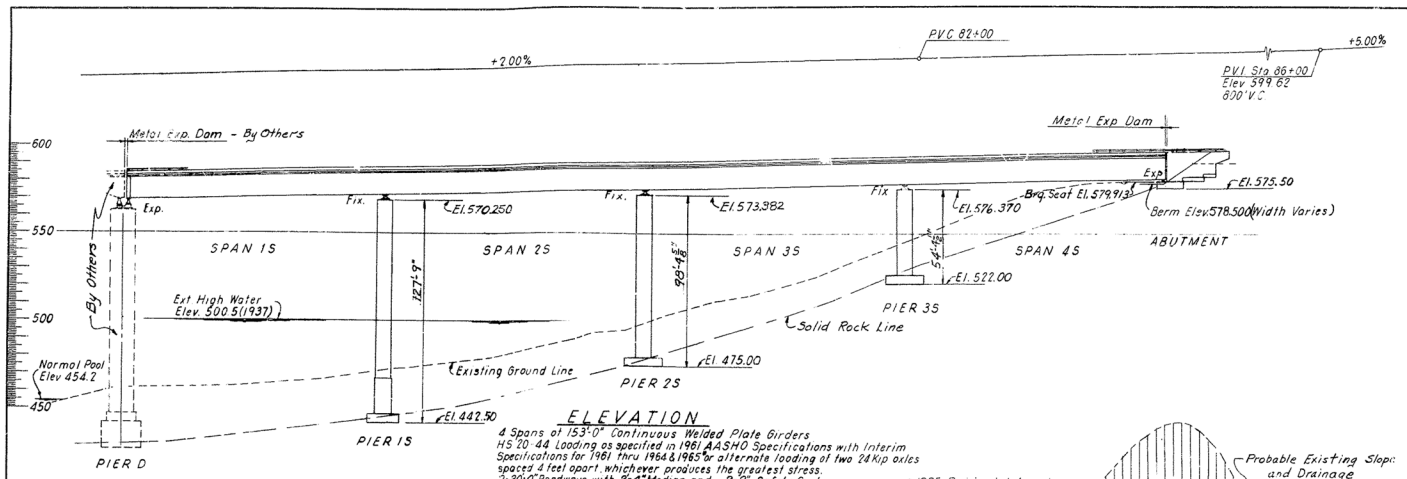
FINAL SURVEY

ORIGINAL SURVEY

PLATE 3 CROSS SECTION N.P.E.A.R.T. STANDARD
NATIONAL TRACING PAPER DIVISION

BRIDGE

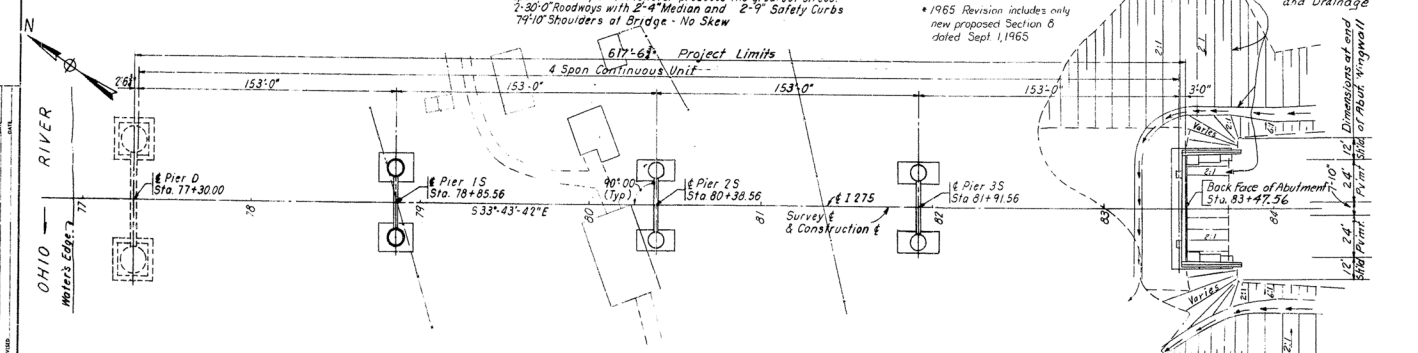
FED. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				



ELEVATION

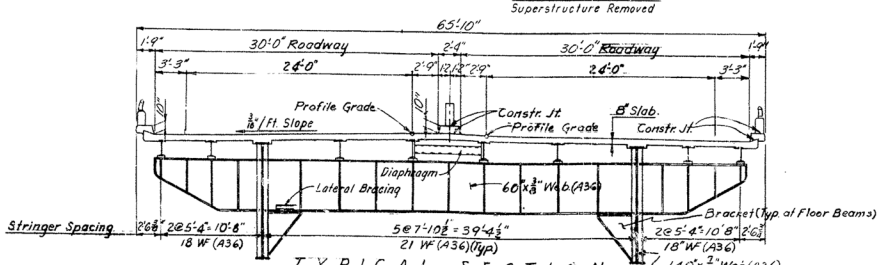
4 Spans of 153'-0" Continuous Welded Plate Girders
HS 20-44 Loading as specified in 1961 AASHO Specifications with Interim Specifications for 1961 thru 1964 & 1965* or alternate loading of two 24 Kip axles spaced 4 feet apart, whichever produces the greatest stress.
2-30'-0" Roadways with 2'-4" Median and 2-9" Safety Curbs
74'-10" Shoulders at Bridge - No Skew

*1965 Revision includes only new proposed Section 8 dated Sept. 1, 1965

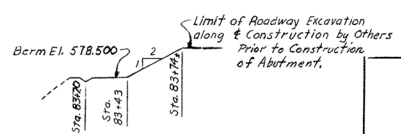


PLAN

Superstructure Removed



TYPICAL SECTION



GROUND PROFILE

SOUTH APPROACH
LAYOUT

SHEET 8

KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION

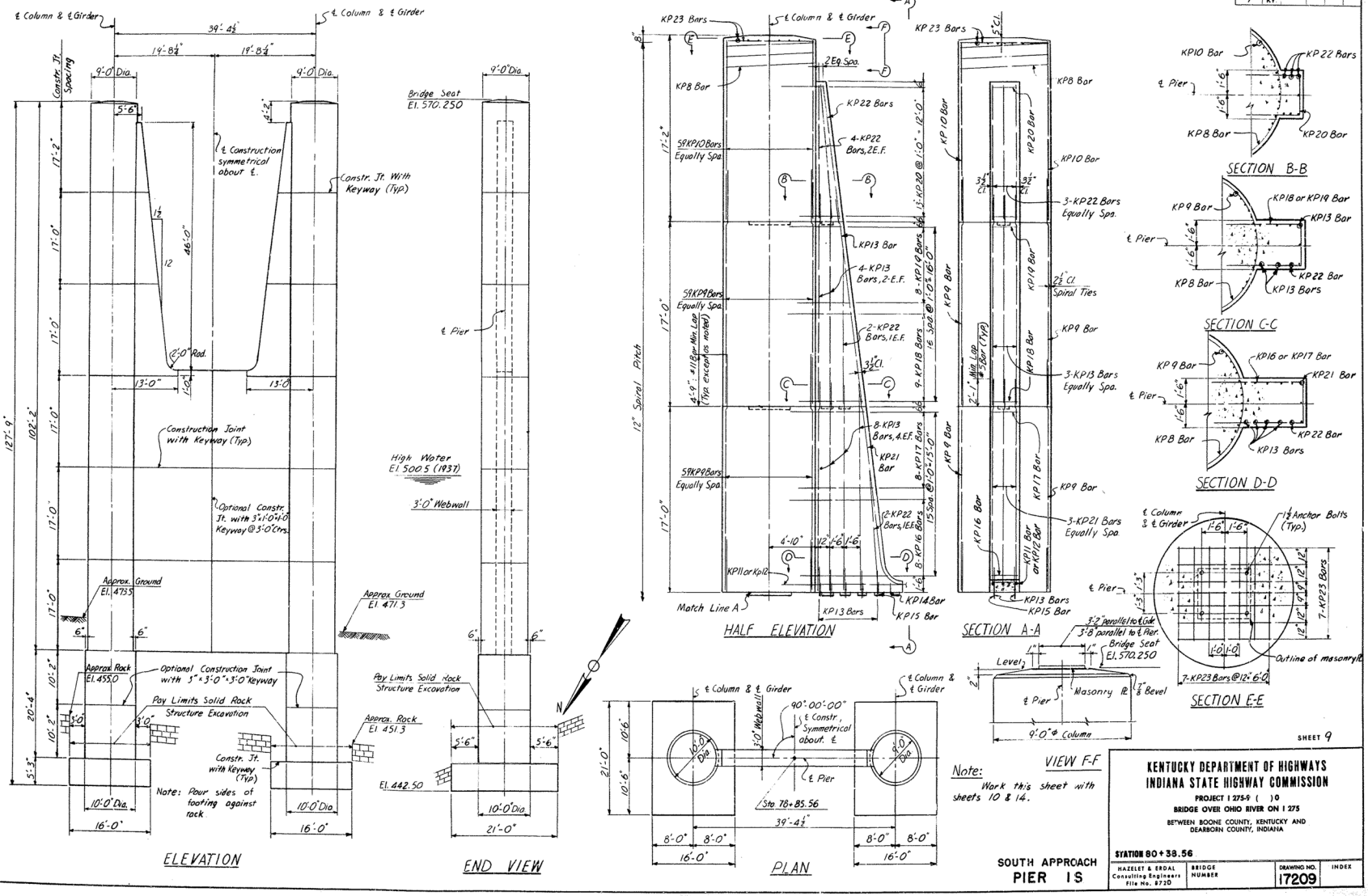
PROJECT I 275-9 ( )0
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA

STATION 80+38.56

HAZELET & ERDAL Consulting Engineers File No. 872D	BRIDGE NUMBER	DRAWING NO. 17209	INDEX

DESIGNED BY	DATE	REVISED	DATE
DETAILED BY	DATE	REVISED	DATE
CHECKED BY	DATE	REVISED	DATE
CHECKED BY	DATE	REVISED	DATE

FED. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				



KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION

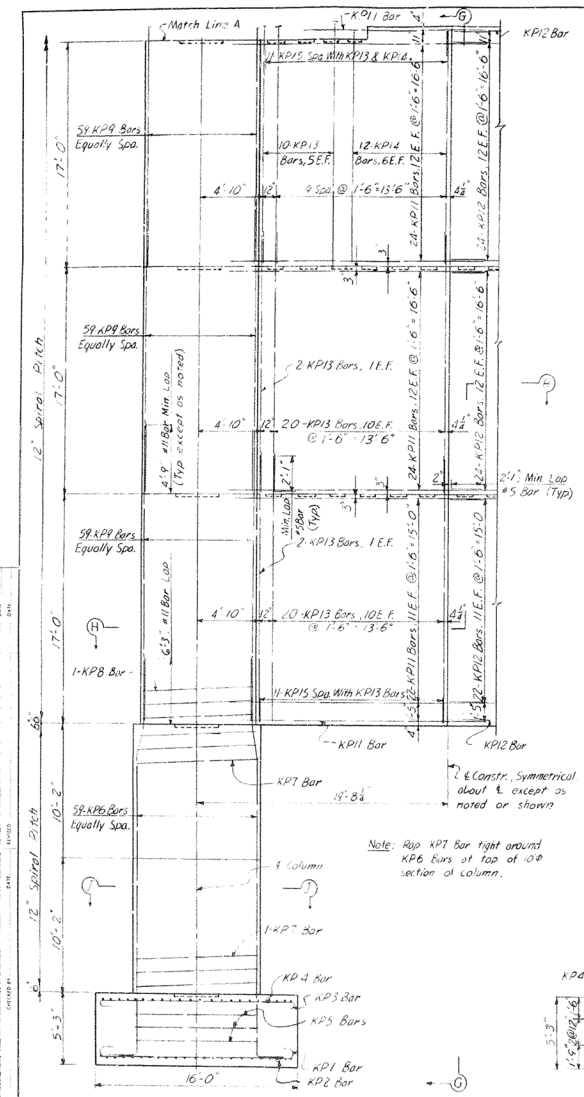
PROJECT I 275-9 ( )0
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA

STATION 80+38.56

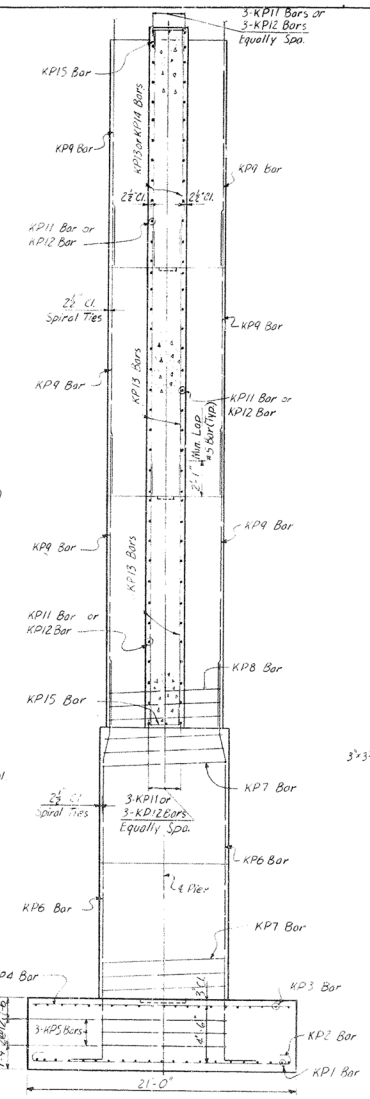
SOUTH APPROACH
PIER 1S

HAZELET & ERDAL Consulting Engineers File No. 8720	BRIDGE NUMBER	DRAWING NO. 17209	INDEX

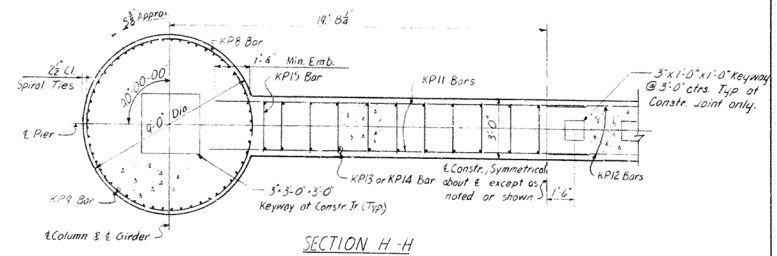
DESIGNED BY J.W.A. CHECKED BY
DETAILED BY R. SHAKTI CHECKED BY
TRACED BY CHECKED BY
DATE REVISED



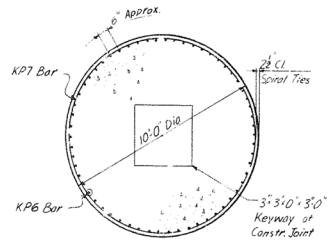
HALF ELEVATION



SECTION G-G



SECTION H-H



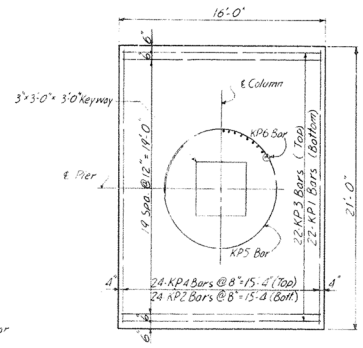
SECTION J-J

ESTIMATE OF QUANTITIES		
Steel Reinforcement	lbs.	126,011
Concrete Class "A"	Cu. Yds.	937.6
Structure Excavation - Common	Cu. Yds.	675
Structure Excavation - Solid Rock	Cu. Yds	270
Protective Coating - Styrene-Butadiene	(Gals)	3

Note: Work this sheet with sheets 9 & 14.

Pier Notes:

3" clear cover to main reinforcing bars, and 2½" to tie bars shall be maintained throughout except as noted.
All keyways are depressed keyways.
E.F. denotes each face.
For reinforcing bar details see sheet 14.
For general notes see sheet 3.



PLAN FOOTING

SHEET 10

KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION

PROJECT I 275-9 ( ) 0
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA

STATION 80+38.56

SOUTH APPROACH
PIER 1S

HAZELET & ERDAL Consulting Engineers File No. 8720

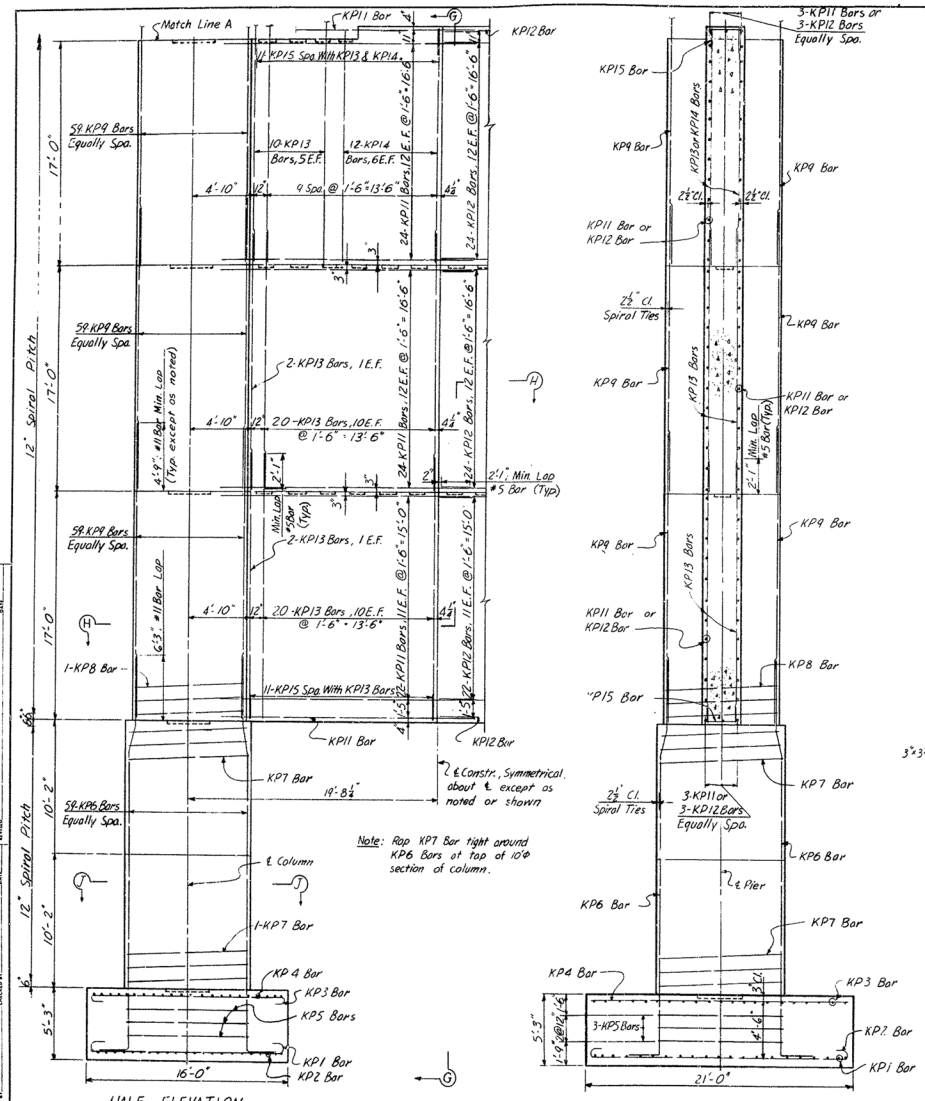
BRIDGE NUMBER

DRAWING NO. 17209

INDEX

BRIDGE

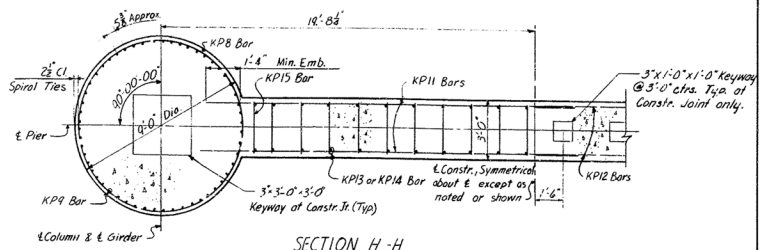
FED. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				



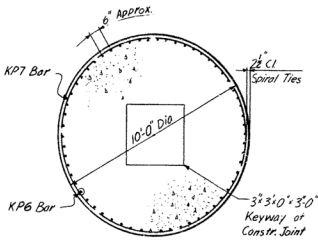
HALF ELEVATION

Note: Rap KP7 Bar tight around KP6 Bars at top of 10'ø section of column.

SECTION G-G



SECTION H-H



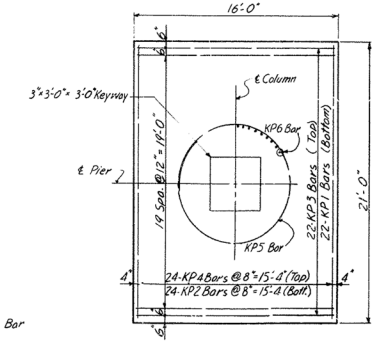
SECTION J-J

ESTIMATE OF QUANTITIES		
Steel Reinforcement	lbs.	126,011
Concrete Class "A"	Cu. Yds.	937.6
Structure Excavation - Common	Cu. Yds.	675
Structure Excavation - Solid Rock	Cu. Yds	270
Protective Coating - Styrene Butadiene	(Gals)	3

Note: Work this sheet with sheets 9 & 14.

Pier Notes:

3" clear cover to main reinforcing bars, and 2½" to tie bars shall be maintained throughout except as noted.
All keyways are depressed keyways.
E.F. denotes each face.
For reinforcing bar details see sheet 14.
For general notes see sheet 3.



PLAN FOOTING

SHEET 10

KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION

PROJECT I 275-9 ( ) 0
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA

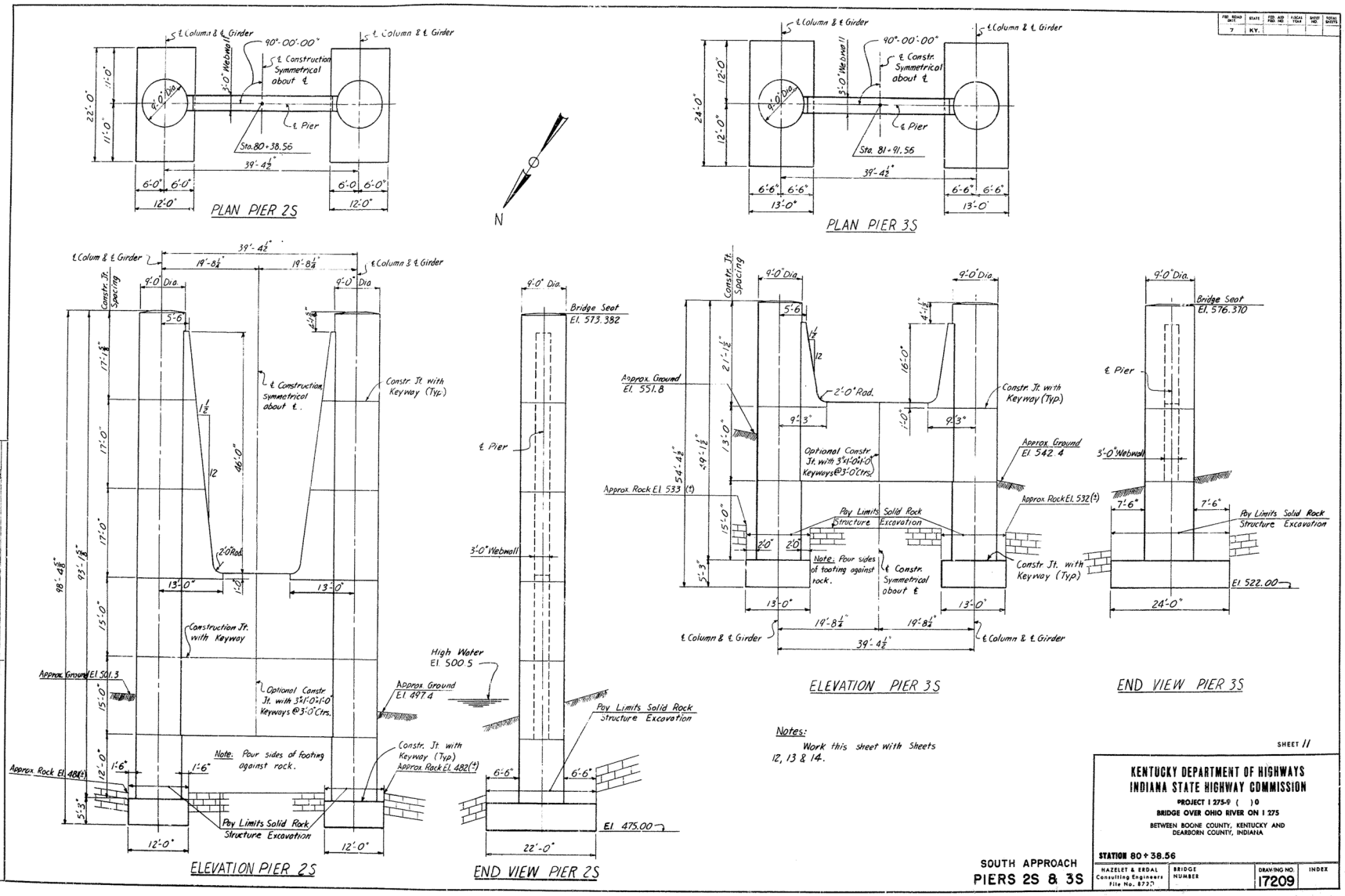
STATION 80+38.56

SOUTH APPROACH
PIER 1S

HAZELET & ERDAL Consulting Engineers File No. 8720	BRIDGE NUMBER	DRAWING NO. 17209	INDEX

DRAWN BY: J.W.A. CHECKED BY: JK DATE: 3-5-67 REVISED: DATE:
DETAILED BY: J. SABATI CHECKED BY: W.A. DATE: 5-16-67 REVISED: DATE:
TRACED BY: DATE: REVISED: DATE:

FED. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				



Notes:

Work this sheet with Sheets 12, 13 & 14.

SHEET 11

SOUTH APPROACH
PIERS 2S & 3S

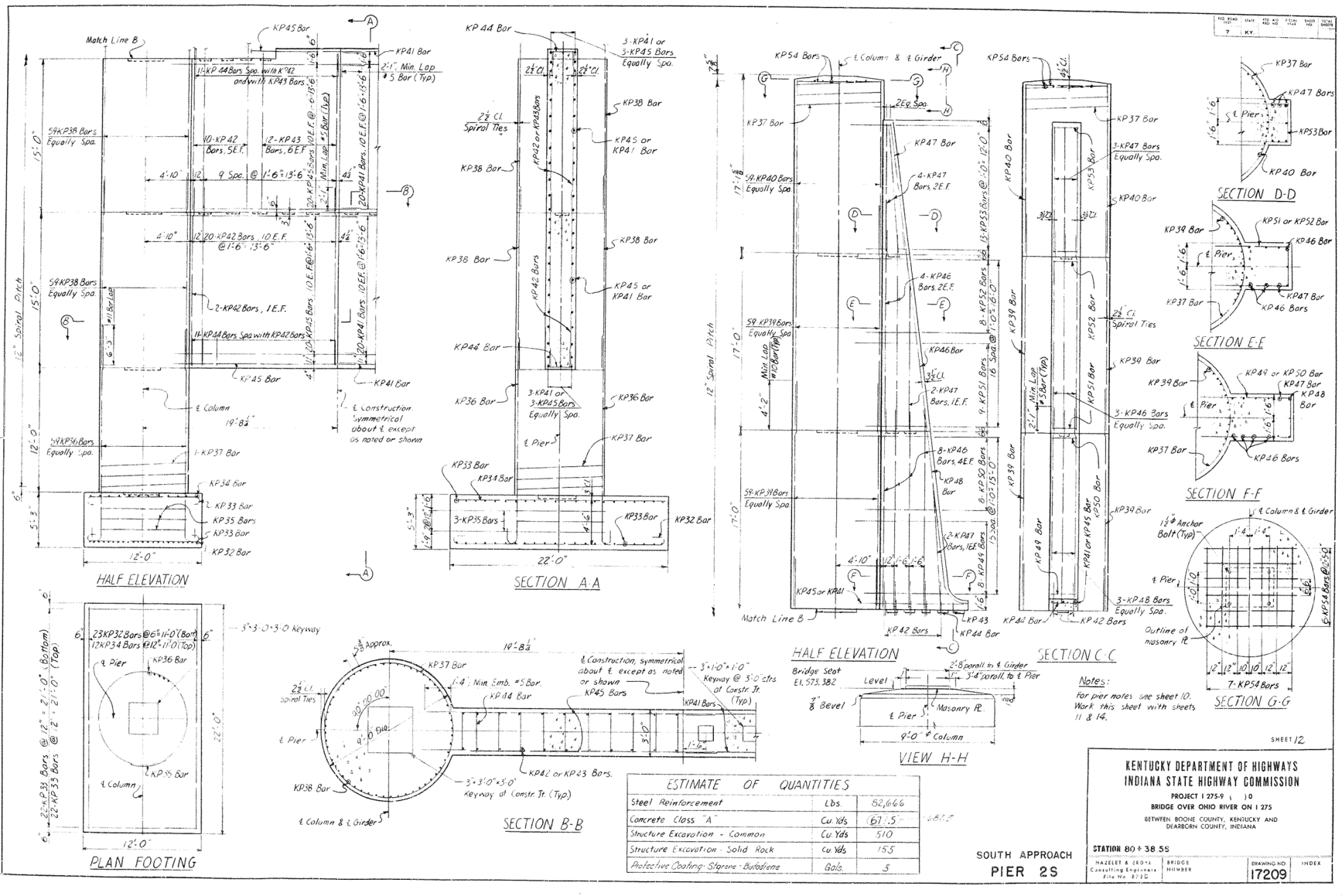
KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION

PROJECT I 275-9 ( )0
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA

STATION 80+38.56

HAZELET & ERDAL Consulting Engineers File No. 8727	BRIDGE NUMBER	DRAWING NO. 17209	INDEX

DRAWN BY J.W.A. CHECKED BY J.P.S. DATE 2-21-77 REVISED
DETAILED BY J.W.A. CHECKED BY J.P.S. DATE 3-14-77 REVISED
TRACED BY CHECKED BY DATE REVISED



Notes:
For pier notes see sheet 10. Work this sheet with sheets 11 & 14.

ESTIMATE OF QUANTITIES		
Steel Reinforcement	Lbs.	82,666
Concrete Class "A"	Cu. Yds	67.5
Structure Excavation - Common	Cu. Yds	510
Structure Excavation - Solid Rock	Cu. Yds	155
Protective Coating - Styrene - Butadiene	Gals.	5

SOUTH APPROACH
PIER 2S

SHEET 12

KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION
PROJECT I 275-9 ( ) 0
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA

STATION 80+38.55

HAZELET & ERDAL Consulting Engineers File No. 8725

BRIDGE NUMBER

DRAWING NO. 17209

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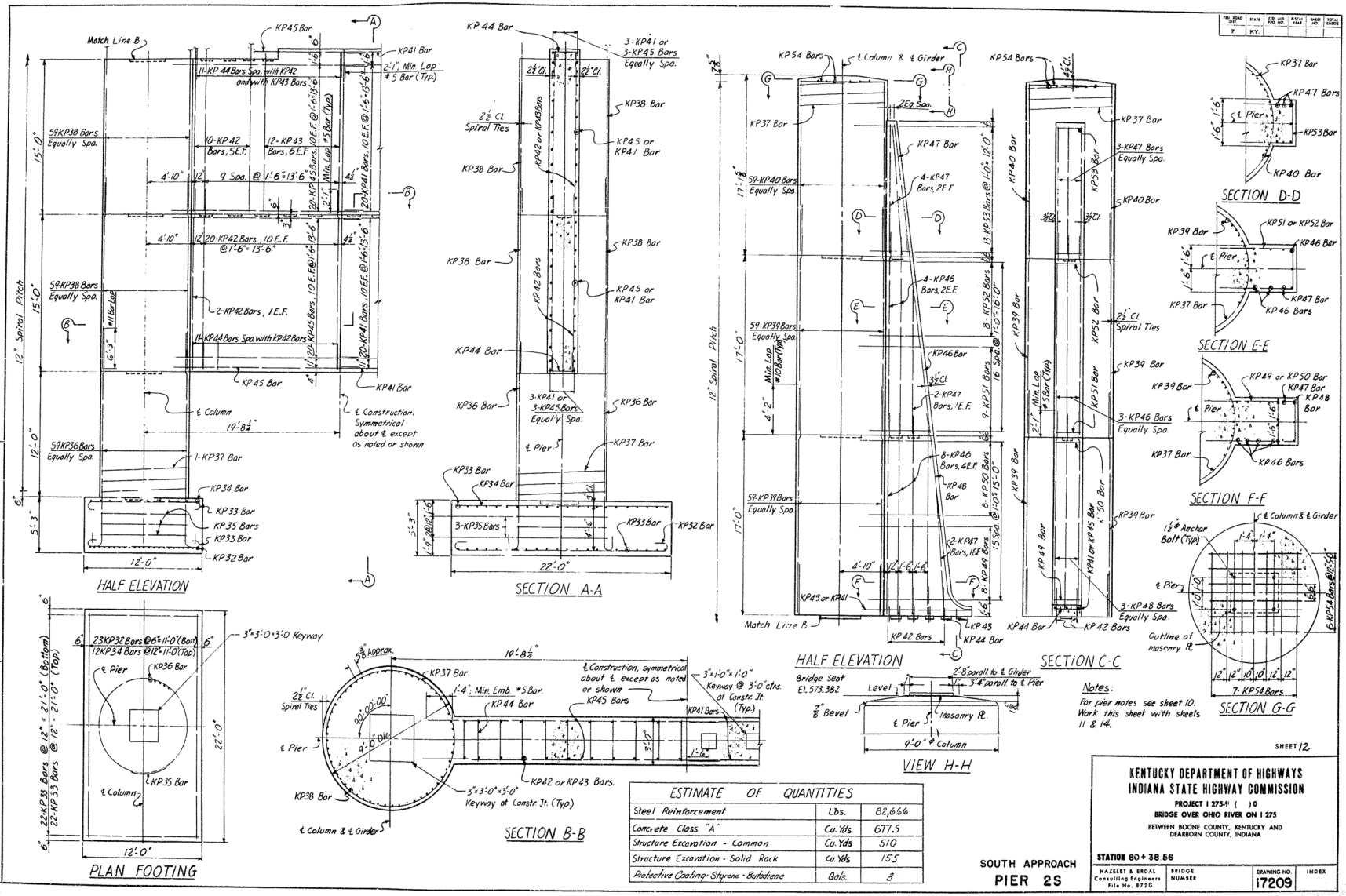
BRIDGE



ESTIMATE OF QUANTITIES		
Steel Reinforcement	Lbs.	82,666
Concrete Class "A"	Cu. Yds	677.5
Structure Excavation - Common	Cu. Yds	510
Structure Excavation - Solid Rock	Cu. Yds	155
Protective Coating - Styrene - Butadiene	Gals.	3

Notes:
For pier notes see sheet 10. Work this sheet with sheets 11 & 14.

SOUTH APPROACH
PIER 2S

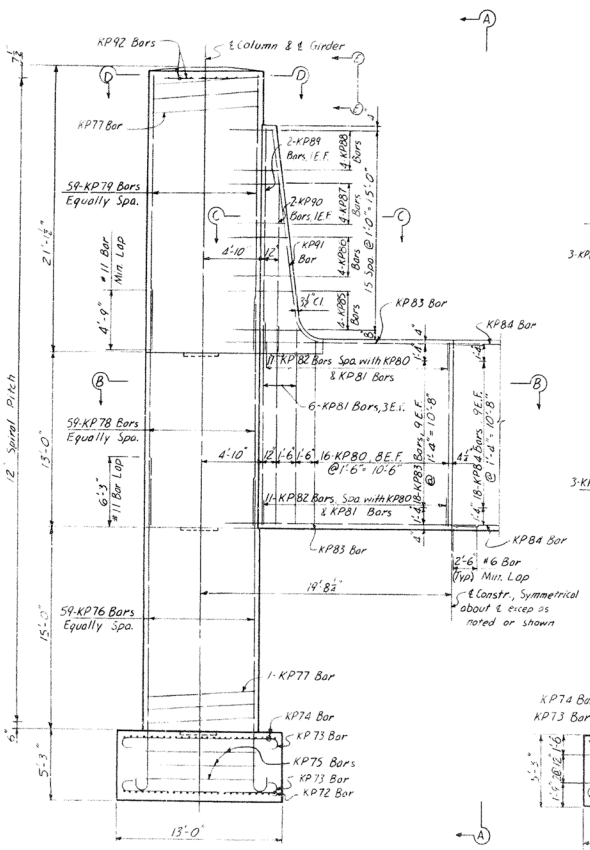
SHEET 12

KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION
PROJECT I 275-9 ( ) 0
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA

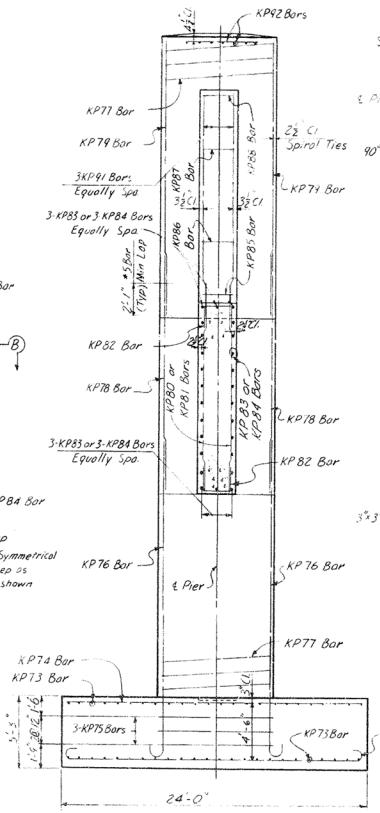
STATION 80+38.56

HAZELET & ERDAL Consulting Engineers File No. 8720
BRIDGE NUMBER
DRAWING NO. 17209
INDEX

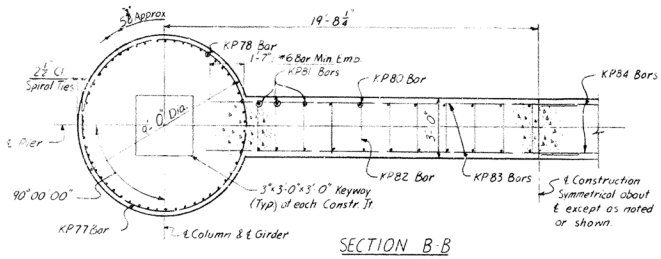
FED. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY				



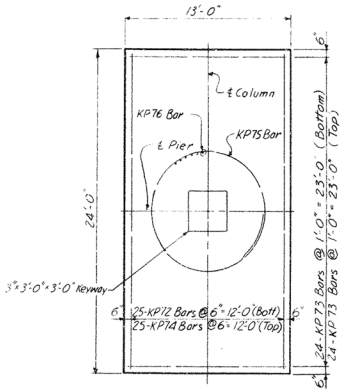
HALF ELEVATION



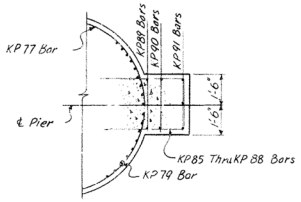
SECTION A-A



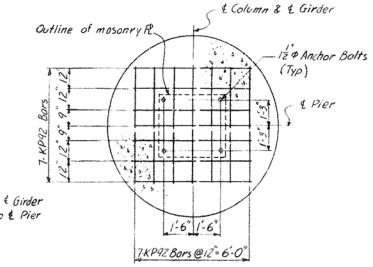
SECTION B-B



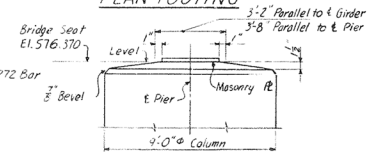
PLAN FOOTING



SECTION C-C



SECTION D-D



VIEW E-E

ESTIMATE OF QUANTITIES		
Steel Reinforcement	Lbs.	52,606
Concrete Class "A"	Cu. Yds.	402.9
Structure Excavation - Common	Cu. Yds.	450
Structure Excavation - Solid Rock	Cu. Yds.	270
Protective Coating - Styrene - Butadiene	Gals.	2

Notes:

For pier notes see sheet 10.
Work this sheet with sheets 11 & 14.

SOUTH APPROACH
PIER 3S

SHEET 13

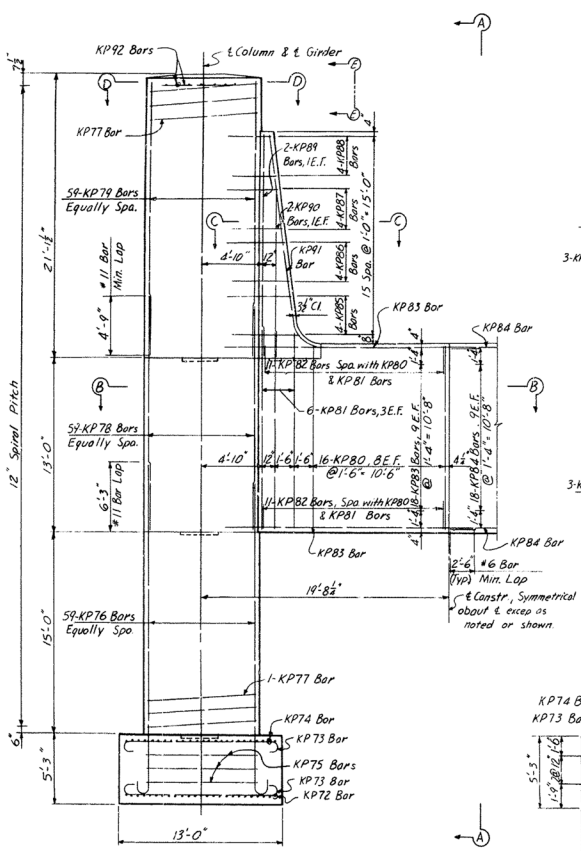
KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION
PROJECT I 275-9 (10
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA

STATION 80+38.56

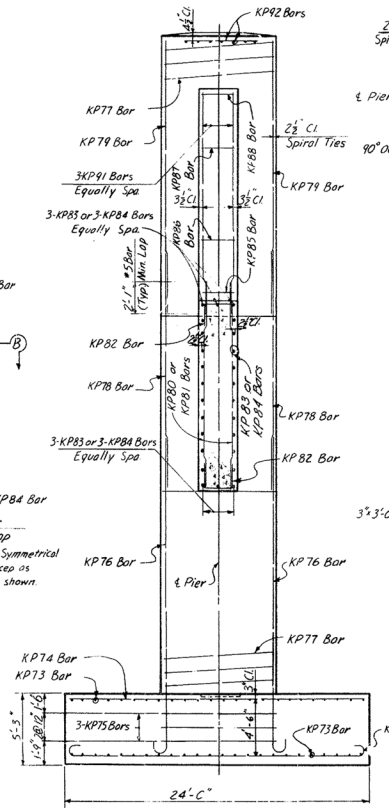
HAZELET & ERDAL Consulting Engineers File No. 8737	BRIDGE NUMBER	DRAWING NO.	INDEX
		17209	

BRIDGE

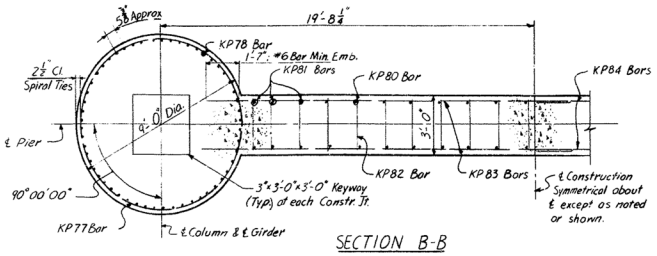
FED. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				



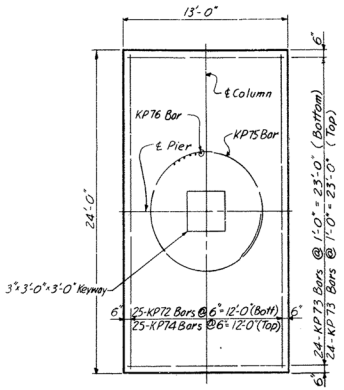
HALF ELEVATION



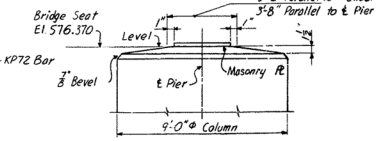
SECTION A-A



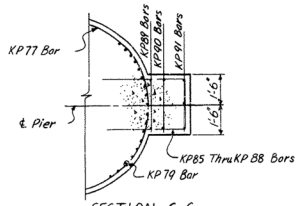
SECTION B-B



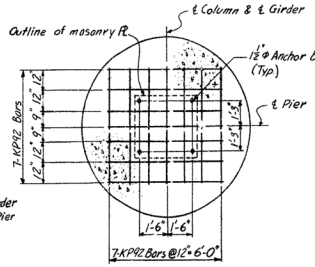
PLAN FOOTING



VIEW E-E



SECTION C-C



SECTION D-D

ESTIMATE OF QUANTITIES		
Steel Reinforcement	Lbs.	52,606
Concrete Class "A"	Cu.Yds.	403.9
Structure Excavation - Common	Cu.Yds.	450
Structure Excavation - Solid Rock	Cu.Yds.	270
Protective Coating - Styrene - Butadiene	Gals.	2

Notes:

For pier notes see sheet 10.
Work this sheet with sheets 11 & 14.

SOUTH APPROACH
PIER 3S

SHEET 13

KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION

PROJECT I 275-9 ( ) 0
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA

STATION 80+38.56

HAZELET & ERDAL Consulting Engineers File No. 872D | BRIDGE NUMBER | DRAWING NO. 17209 | INDEX

DESIGNED BY J.W.A. CHECKED BY
DRAWN BY D. SANDERS CHECKED BY
TRACED BY CHECKED BY
DATE 2-21-67 REVISED
DATE 3-7-67 REVISED
DATE REVISED
DATE REVISED

FED. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				

BILL OF REINFORCEMENT-PIER 1S

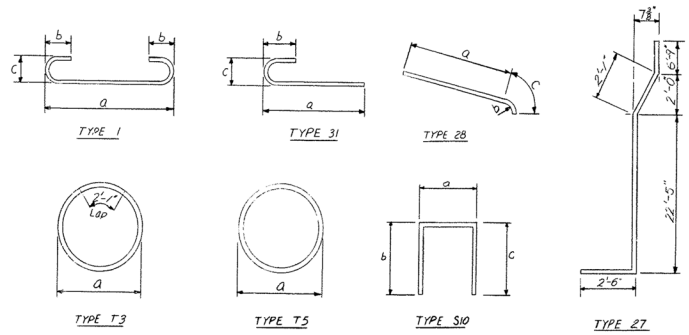
Mark	Type	Size	No. of Bars	Length ft.	Length in.	Dim. a ft.	Dim. a in.	Dim. b ft.	Dim. b in.	Dim. c ft.	Dim. c in.	Location
KP1	(1)	#9	44	17	0	15	6	0	10¼	0	11¼	Footing
KP2	(1)	#11	48	24	1	20	6	1	2	1	5	"
KP3	(1)	#5	44	16	8	15	6	0	5	0	5	"
KP4	str	#6	48	20	6	20	6					"
KP5	(T3)	#5	6	32	1	9	7					"
KP6	(27)	#11	118	33	9	See Bar Bending Details						Column
KP7	(T5)	5/8" ϕ bar	2	659	1	9	7					Column-Ties
KP8	(T5)	5/8" ϕ bar	2	2795	11	8	7					" - "
KP9	str	#11	590	21	9	21	9					Column
KP10	str	#11	118	16	9	16	9					"
KP11	str	#5	76	20	0	20	0					Wall
KP12	str	#5	76	18	0	18	0					"
KP13	str	#5	138	19	1	19	1					Wall & Rib
KP14	str	#5	24	17	6	17	6					Wall
KP15	(S10)	#4	44	5	6	2	6	1	6	1	6	"
KP16	(S10)	#4	16	19	0	2	6	8	3	8	3	Rib
KP17	(S10)	#4	16	17	0	2	6	7	3	7	3	"
KP18	(S10)	#4	18	15	0	2	6	6	3	6	3	"
KP19	(S10)	#4	16	13	0	2	6	5	3	5	3	"
KP20	(S10)	#4	26	10	6	2	6	4	0	4	0	"
KP21	(28)	#5	6	19	7	16	6	2	4	3	1	"
KP22	str.	#5	22	12	9	12	9					"
KP23	str.	#5	28	6	0	6	0					Column

BILL OF REINFORCEMENT-PIER 2S

Mark	Type	Size	No. of Bars	Length ft.	Length in.	Dim. a ft.	Dim. a in.	Dim. b ft.	Dim. b in.	Dim. c ft.	Dim. c in.	Location
KP32	(1)	#10	46	24	9	21	6	1	0¾	1	3¼	Footing
KP33	(1)	#5	88	12	8	11	6	0	5	0	5	"
KP34	str.	#5	24	21	6	21	6					"
KP35	(T3)	#5	6	28	11	8	7					"
KP36	(31)	#11	118	25	0	23	2	1	2	1	5	Column
KP37	(T5)	5/8" ϕ Bar	2	2550	0	8	7					Column-Ties
KP38	str	#10	236	19	2	19	2					Column
KP39	str	#10	236	21	2	21	2					"
KP40	str.	#10	118	16	6	16	6					"
KP41	str.	#5	46	18	0	18	0					Wall
KP42	str	#5	64	17	1	17	1					"
KP43	str.	#5	24	15	6	15	6					"
KP44	(S10)	#4	44	5	6	2	6	1	6	1	6	"
KP45	str.	#5	46	20	0	20	0					"
KP46	str	#5	30	19	1	19	1					"
KP47	str.	#5	22	12	6	12	6					Rib
KP48	(28)	#5	6	19	7	16	6	2	4	3	1	"
KP49	(S10)	#4	16	19	0	2	6	8	3	8	3	"
KP50	(S10)	#4	16	17	0	2	6	7	3	7	3	"
KP51	(S10)	#4	18	15	0	2	6	6	3	6	3	"
KP52	(S10)	#4	16	13	0	2	6	5	3	5	3	"
KP53	(S10)	#4	26	10	6	2	6	4	0	4	0	"
KP54	str.	#5	24	6	0	6	0					Column

BILL OF REINFORCEMENT-PIER 3S

Mark	Type	Size	No. of Bars	Length ft.	Length in.	Dim. a ft.	Dim. a in.	Dim. b ft.	Dim. b in.	Dim. c ft.	Dim. c in.	Location
KP72	(1)	#11	50	27	0	23	6	1	2	1	5	Footing
KP73	(1)	#5	96	13	8	12	6	0	5	0	5	"
KP74	str	#6	50	23	6	23	6					"
KP75	(T3)	#5	6	28	11	8	7					"
KP76	(31)	#11	118	27	10	26	0	1	2	1	5	Column
KP77	(T5)	5/8" ϕ Bar	2	1367	9	8	7					Column-Ties
KP78	str	#11	118	17	9	17	9					Column
KP79	str	#9	118	19	8	19	8					"
KP80	str	#5	32	13	6	13	6					Wall
KP81	str.	#5	12	15	1	15	1					"
KP82	(S10)	#4	44	5	6	2	6	1	6	1	6	"
KP83	str	#6	24	20	0	20	0					"
KP84	str.	#6	24	18	0	18	0					"
KP85	(S10)	#4	8	12	6	2	6	5	0	5	0	Rib
KP86	(S10)	#4	8	10	6	2	6	4	0	4	0	"
KP87	(S10)	#4	8	9	6	2	6	3	6	3	6	"
KP88	(S10)	#4	8	8	6	2	6	3	0	3	0	"
KP89	str	#5	4	16	6	16	6					"
KP90	str.	#5	4	13	9	13	9					"
KP91	(28)	#5	6	17	4	14	0	2	4	3	4	"
KP92	str.	#5	28	6	0	6	0					Column



Notes:
All bar dimensions are out to out. 1½ turns @ 0" pitch shall be provided at each end of the spiral ties (KP7, KP8, KP37 & KP77). See General notes on Sheet 3 for Material Specifications and requirements for splicing Spiral ties.

BAR BENDING DETAILS

SHEET 14

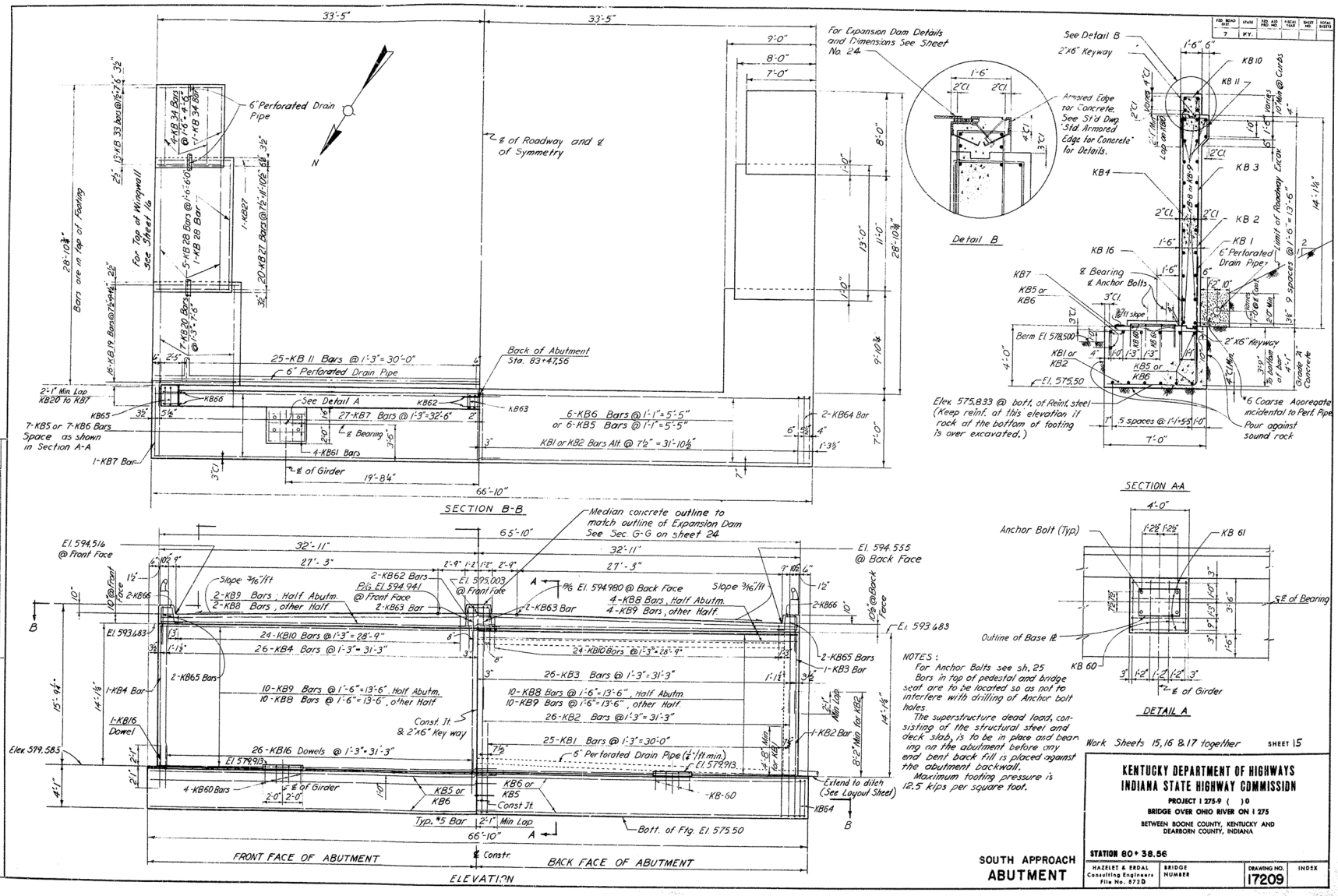
SOUTH APPROACH
BILL OF REINFORCEMENT PIERS

KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION
PROJECT I 275-9 ( )0
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA

STATION 80+38.56

HAZELET & ERDAL Consulting Engineers File No. 872D	BRIDGE NUMBER	DRAWING NO. 17209	INDEX

DESIGNED BY J.A.K. DATE
DRAWN BY J.A.K. DATE
CHECKED BY J.W.A. DATE
CHECKED BY DATE
CHECKED BY DATE
REVISED DATE
REVISED DATE
REVISED DATE



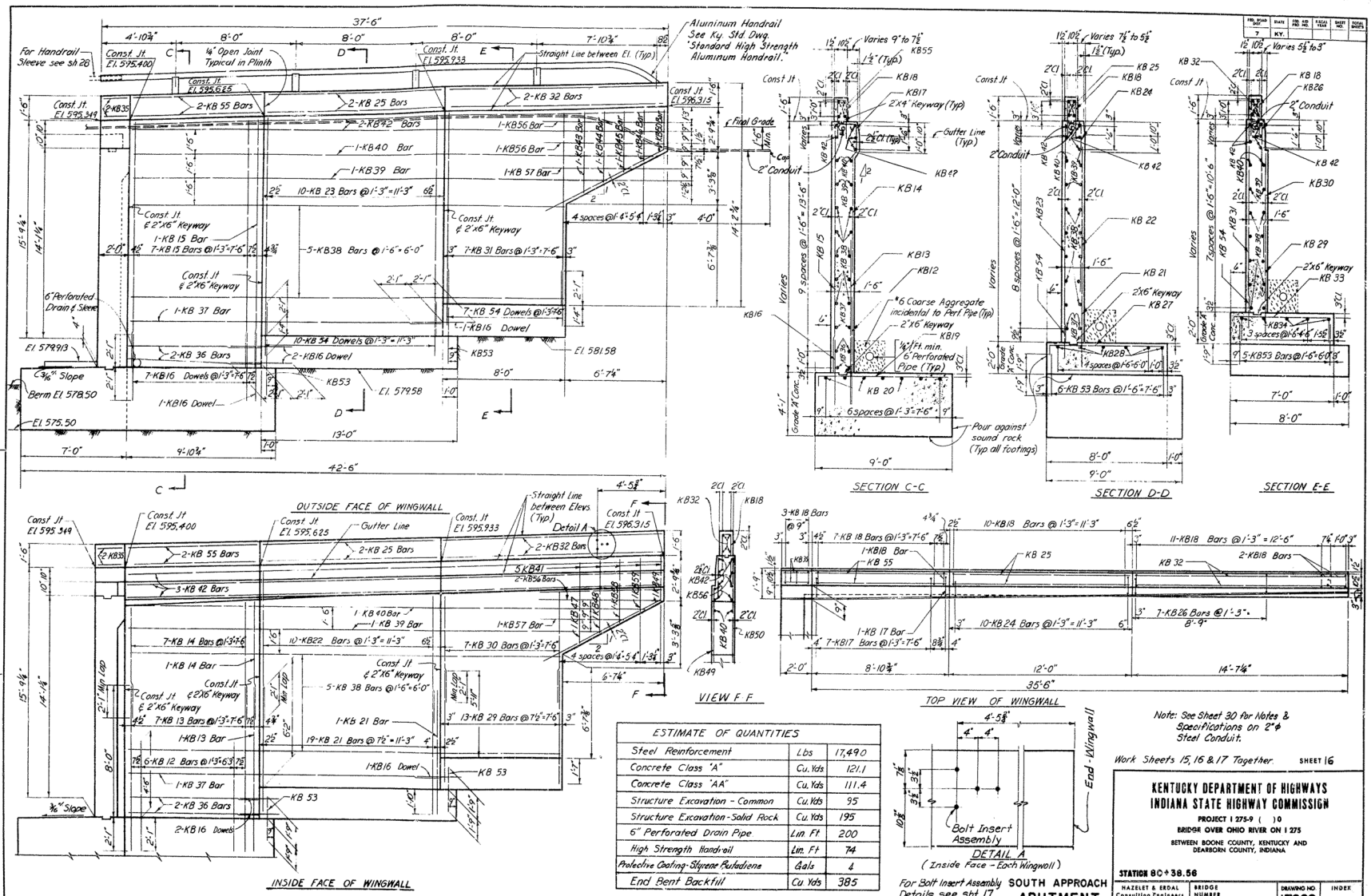
NOTES:

For Anchor Bolts see sh. 25

Bars in top of pedestal and bridge seat are to be located so as not to interfere with drilling of Anchor bolt holes.

The superstructure dead load, consisting of the structural steel and deck slab, is to be in place and bearing on the abutment before any end bent back fill is placed against the abutment backwall.

Maximum footing pressure is 12.5 kips per square foot.



ESTIMATE OF QUANTITIES		
Steel Reinforcement	Lbs	17,490
Concrete Class "A"	Cu. Yds	121.1
Concrete Class "AA"	Cu. Yds	111.4
Structure Excavation - Common	Cu. Yds	95
Structure Excavation - Solid Rock	Cu. Yds	195
6" Perforated Drain Pipe	Lin Ft	200
High Strength Handrail	Lin. Ft	74
Protective Coating - Styrene Butadiene	Gals	4
End Bent Backfill	Cu. Yds	385

Note: See Sheet 30 for Notes & Specifications on 2" ϕ Steel Conduit.

Work Sheets 15, 16 & 17 Together

SHEET 16

KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION

PROJECT I 275-9 ( ) 0

BRIDGE OVER OHIO RIVER ON I 275

BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA

STATION 80+38.56

SOUTH APPROACH ABUTMENT

HAZELET & ERDAL Consulting Engineers File No. 872D

BRIDGE NUMBER

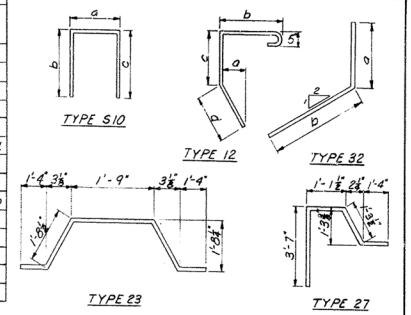
DRAWING NO. 17209

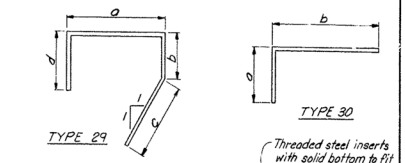
INDEX

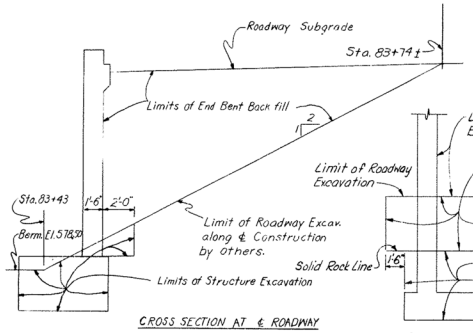
FED. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				

BILL OF REINFORCEMENT-ABUTMENT

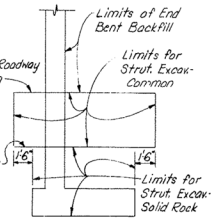
Mark	Type	Size	No. of Bars	Length ft.	Length in.	Dim. a ft.	Dim. a in.	Dim. b ft.	Dim. b in.	Dim. c ft.	Dim. c in.	Dim. d ft.	Dim. d in.	Location
KB1	30	#8	50	14	5	6	0	8	5					Abut. Footing
KB2	30	#8	54	11	11	6	0	11	11					"
KB3	str.	#5	54	8	0									Backwall
KB4	str.	#5	54	14	0									"
KB5	str.	#5	13	35	3									Abut. Footing
KB6	str.	#5	13	33	2									"
KB7	30	#5	56	8	3	1	9	6	6					"
KB8	str.	#5	26	32	8									Backwall
KB9	str.	#5	26	34	9									"
KB10	30	#5	48	7	6	1	2	3	2	3	2			"
KB11	29	#5	50	5	11	1	8	1	2	1	9	1	4	"
KB12	str.	#8	12	6	7									Wingwall Footing
KB13	str.	#8	16	10	1									"
KB14	str.	#5	16	8	2									Wingwall
KB15	str.	#5	16	15	9									"
KB16	str.	#5	82	4	2									Footings
KB17	12	#5	16	6	0	1	3	1	3	1	8	2	6	Wingwall & Curb
KB18	50	#6	68	3	6	0	6½	2	11¾	2	11¾			Wingwall & Plinth
KB19	30	#6	32	9	1	0	7	8	6					Wingwall Footing
KB20	str.	#5	14	12	0									"
KB21	str.	#7	40	8	0									"
KB22	str.	#5	20	8	4									Wingwall
KB23	str.	#5	20	14	0									"
KB24	12	#5	20	5	9	0	9	1	0	1	8	2	6	Wingwall & Curb
KB25	str.	#5	8	11	7									Plinth
KB26	12	#5	14	5	6	0	0	0	9	1	8	2	6	Wingwall & Curb
KB27	30	#6	42	8	1	0	7	7	6					Wingwall Footing
KB28	str.	#5	12	12	6									"
KB29	str.	#6	26	7	6									"
KB30	str.	#5	14	6	10									Wingwall
KB31	str.	#5	14	12	4									"
KB32	str.	#5	8	14	2									Plinth
KB33	30	#6	26	7	1	0	7	6	6					Wingwall Footing
KB34	str.	#5	10	7	6									"
KB35	str.	#5	8	1	7									Plinth
KB36	str.	#5	8	8	8									Wingwall
KB37	str.	#5	4	20	8									"
KB38	str.	#5	20	28	6									"
KB39	str.	#5	4	30	7									"
KB40	str.	#5	4	33	7									"
KB41	str.	#5	10	2	6									Wingwall & Curb
KB42	str.	#5	10	35	2									Wingwall
KB43	str.	#5	2	5	2									"
KB44	str.	#5	2	4	6									"
KB45	str.	#5	2	3	11									"
KB46	str.	#5	2	3	3									"
KB47	str.	#5	2	3	4									"
KB48	str.	#5	2	2	8									"
KB49	32	#5	2	9	6	0	9	8	9					"
KB50	32	#5	2	11	4	2	7	8	9					"
KB51	NOT USED													
KB52	NOT USED													
KB53	str.	#5	22	3	6									Wingwall Footing
KB54	str.	#5	34	3	5									"
KB55	str.	#5	8	8	6									Plinth
KB56	str.	#5	8	8	0									Wingwall
KB57	str.	#5	4	5	6									Wingwall
KB58	str.	#5	2	2	1									"
KB59	str.	#5	2	1	5									"
KB60	510	#5	8	6	5	3	1	1	8	1	8			Abut. Footing
KB61	510	#5	8	7	0	3	8	1	8	1	8			"
KB62	23	#5	2	7	10									Backwall & Med.
KB63	510	#5	4	9	6	1	2	4	2	4	2			"
KB64	30	#8	4	9	6	6	0	3	6					Abut. Footing
KB65	510	#5	4	9	1	1	8	3	8½	3	8½			Backwall & Curb
KB66	27	#5	4	7	4									"



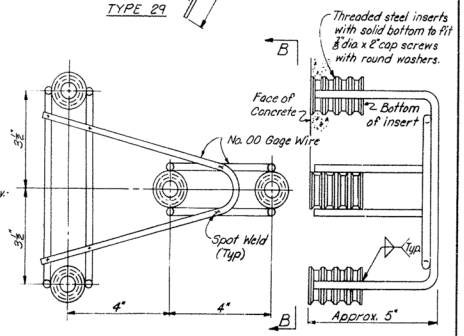




CROSS SECTION AT ℄ ROADWAY



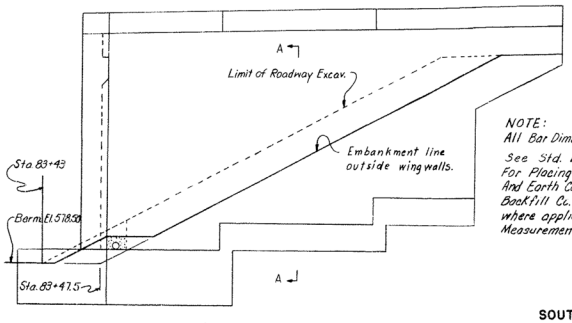
SECTION A-A



4-BOLT INSERT ASSEMBLY
(2 Required)
Incidental to Class AA Concrete

VIEW B-B

Note: For details and specifications of 4-Bolt Insert Assembly not shown see Std. Drawing 17.40, current edition.



WINGWALL ELEVATION

NOTE:
All Bar Dimensions are out to out.

See Std. Dwg. "Details For Placing End Bent Backfill And Earth Core", for End Bent Backfill Construction, Methods where applicable, Materials, Measurement and Payment.

SHEET 17

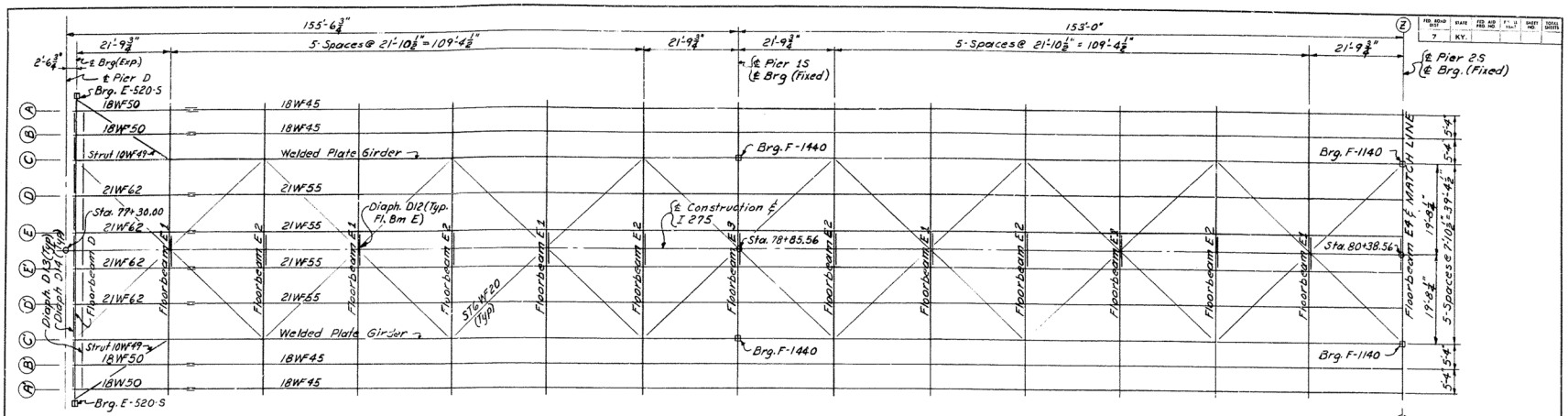
SOUTH APPROACH
BILL OF REINFORCEMENT
ABUTMENT

KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION
PROJECT I 275-9 ( ) 0
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA

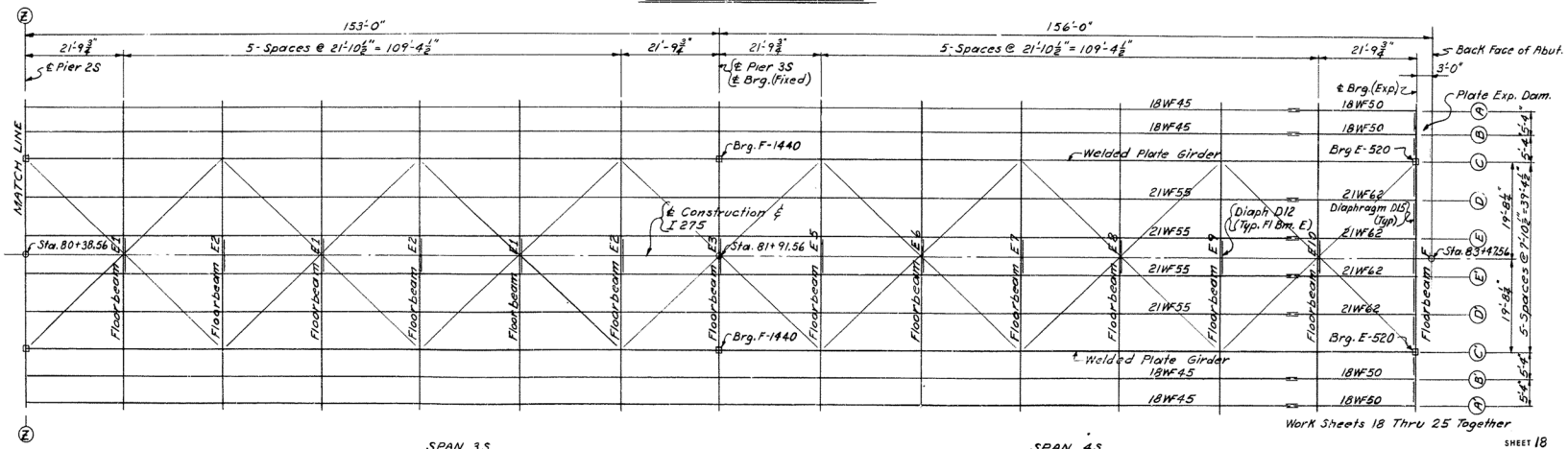
STATION 80+38.56

HAZELET & REDAL Consulting Engineers File No. 872D	BRIDGE NUMBER	DRAWING NO. 17209	INDEX

DATE ... REVISED ... DATE ... REVISED ... DATE ... REVISED ... DATE ... REVISED ...
CHECKED BY ... CHECKED BY ... CHECKED BY ... CHECKED BY ...
DETAILED BY ... DETAILED BY ... DETAILED BY ... DETAILED BY ...
DESIGN BY ... DESIGN BY ... DESIGN BY ... DESIGN BY ...



FRAMING PLAN-UNIT 1S



FRAMING PLAN-UNIT 1S

SHEET 18

N

Notes:
For Structural Steel Notes see Sheet 4.
For General Notes see Sheet 3.
Steel A36 U.N.
Bolts - 3/4" ø A325 Friction Type H.S. U.N.
Holes - 13/16" U.N.
All dimensions shown are horizontal. These should be corrected for grade where applicable.

See Special Note for Welding Structural Steel.
For Brg Details see Sheet 25.
All floorbeam webs and stiffeners are to be truly vertical.

SOUTH APPROACH
FRAMING PLAN
UNIT 1 S

KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION
PROJECT I 275-9 ( ) 0
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA

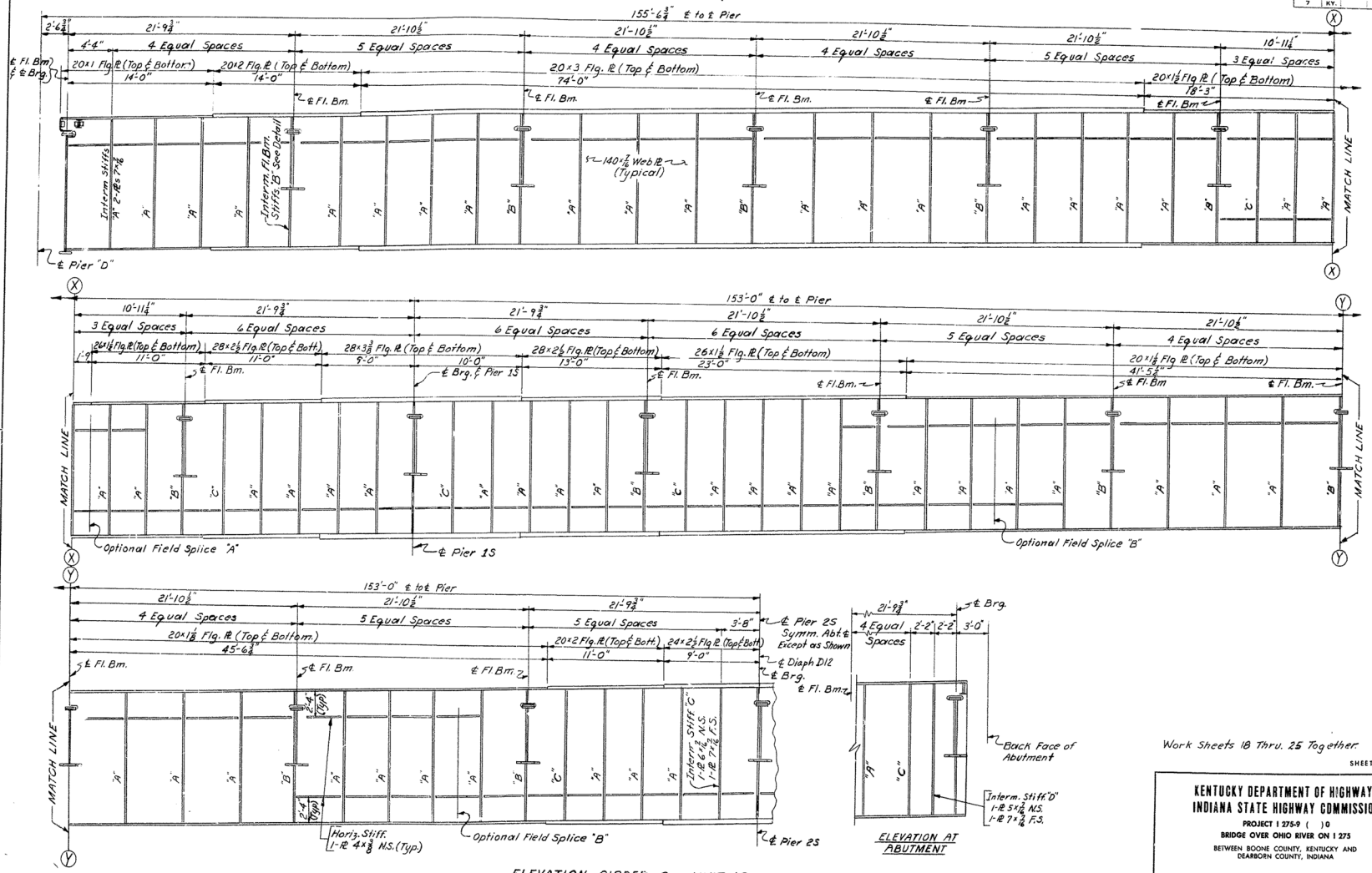
STATION 80+38.56

HAZELET & ERDAL Consulting Engineers File No. 872D | BRIDGE NUMBER | DRAWING NO. 17209 | INDEX

DESIGNED BY: KWM | CHECKED BY: KFB | DATE 2-26-69 | REVISED | DATE
DETAILED BY: KWM | CHECKED BY: | DATE | REVISED | DATE
TRACED BY: | CHECKED BY: | DATE | REVISED | DATE

KFB

FED. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				



ELEVATION AT ABUTMENT

ELEVATION GIRDER C – UNIT 1S

(See Sheet 22 For Camber Diagram)
Looking from ℄ I 275

Work Sheets 18 Thru. 25 Together.

SHEET 19

KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION

PROJECT I 275-9 ( )0
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA

STATION 80+38 56

SOUTH APPROACH GIRDERS

HAZELET & ERDAL Consulting Engineers File No. 872 D	BRIDGE NUMBER	DRAWING NO. 17209	INDEX

DESIGNED BY SGH
DETAILED BY J.W.T.
TRACED BY
CHECKED BY MFB
CHECKED BY WFB
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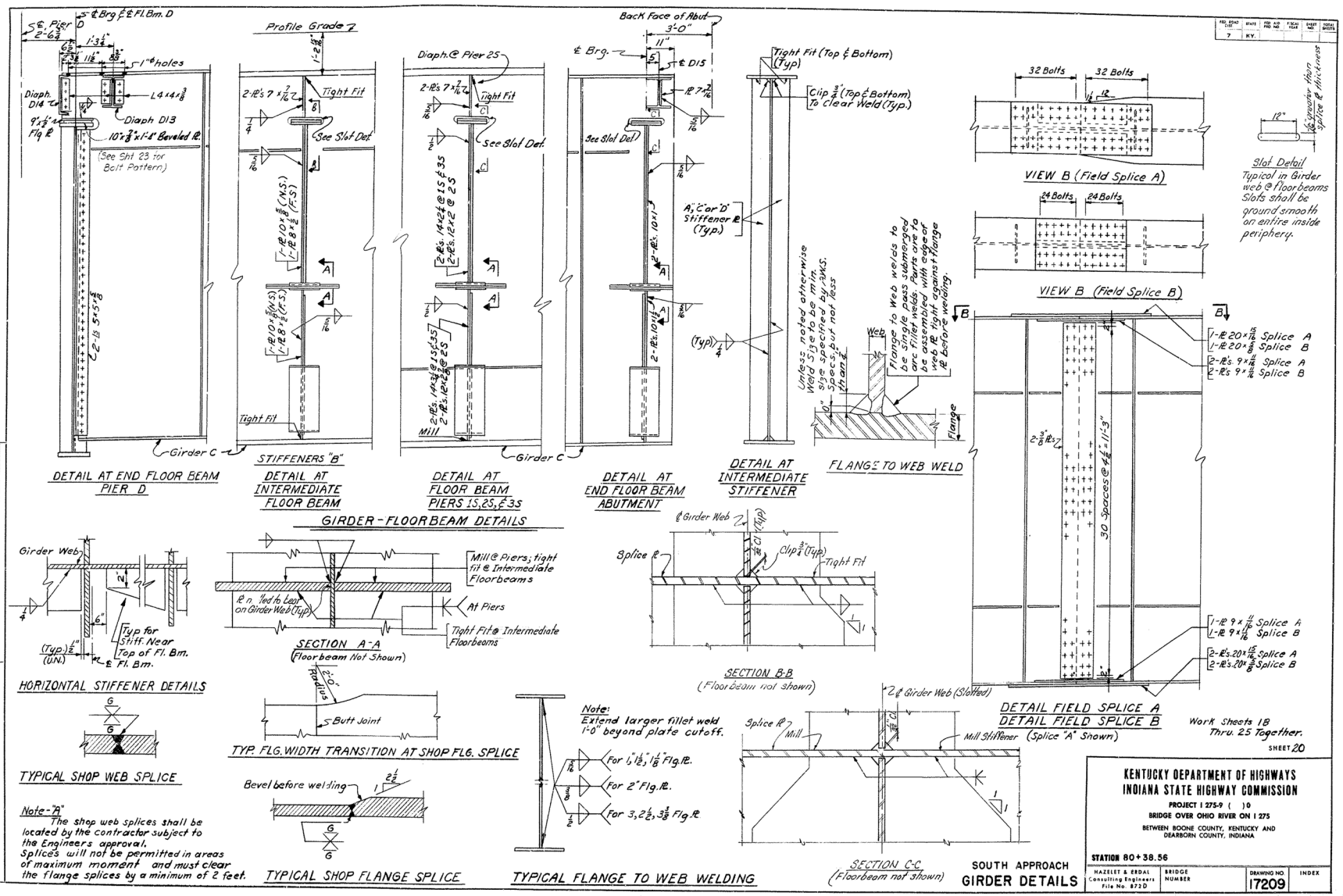
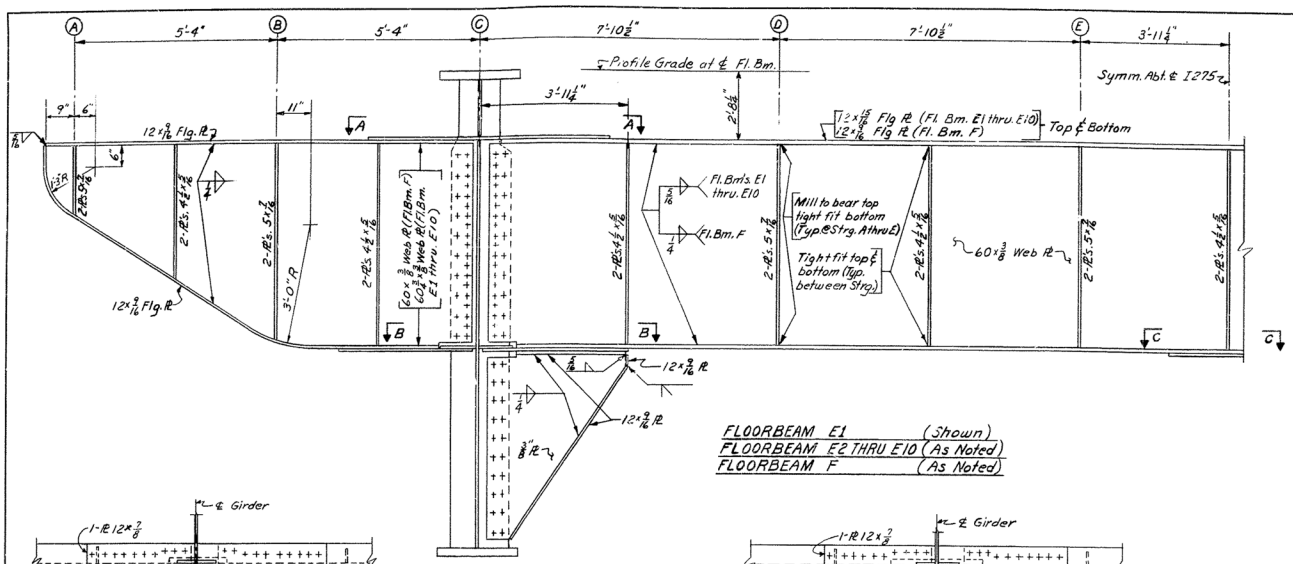
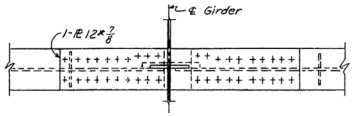
REVISED
REVISED
REVISED
DATE
DATE
DATE
DATE 3-26-57


DETAIL AT END FLOOR BEAM PIER D
STIFFENERS "B"
DETAIL AT INTERMEDIATE FLOOR BEAM
DETAIL AT FLOOR BEAM PIERS 1S, 2S, & 3S
DETAIL AT END FLOOR BEAM ABUTMENT
DETAIL AT INTERMEDIATE STIFFENER
FLANGE TO WEB WELD
GIRDER-FLOORBEAM DETAILS
VIEW B (Field Splice A)
VIEW B (Field Splice B)
Slot Detail
Typical in Girder web @ floorbeams
Slots shall be ground smooth on entire inside periphery.
HORIZONTAL STIFFENER DETAILS
SECTION A-A
(Floorbeam Not Shown)
SECTION B-B
(Floorbeam not shown)
DETAIL FIELD SPLICE A
DETAIL FIELD SPLICE B
Work Sheets 18 Thru. 25 Together.
SHEET 20
TYPICAL SHOP WEB SPLICE
TYP. FLG. WIDTH TRANSITION AT SHOP FLG. SPLICE
TYPICAL SHOP FLANGE SPLICE
TYPICAL FLANGE TO WEB WELDING
SECTION C-C
(Floorbeam not shown)
SOUTH APPROACH
GIRDER DETAILS
KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION
PROJECT I 275-9 ( )0
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA
STATION 80+38.56
HAZELET & ERDAL Consulting Engineers File No. 873D
BRIDGE NUMBER
DRAWING NO. 17209
INDEX
Note-"A"
The shop web splices shall be located by the contractor subject to the Engineers approval. Splices will not be permitted in areas of maximum moment and must clear the flange splices by a minimum of 2 feet.
Note:
Extend larger fillet weld 1'-0" beyond plate cutoff.
For 1", 1½", 1⅞" Flg. Pl.
For 2" Flg. Pl.
For 3, 2½, 3⅞ Flg. Pl.
Bevel before welding
Butt Joint
Mill
Mill Stiffener (Splice "A" Shown)
Girder Web
Splice Pl.
Clip ¾" (Typ)
Tight Fit
Tight Fit (Top & Bottom) (Typ)
Clip ¾" (Top & Bottom) To clear Weld (Typ.)
Flange to Web welds to be single pass submerged arc fillet welds. Parts are to be assembled with edge of web Pl. tight against flange Pl. before welding.
Unless noted otherwise Weld Size to be min. size specified but not less than ¼"
Mill @ Piers; tight fit @ Intermediate Floorbeams
At Piers
Tight Fit @ Intermediate Floorbeams
Typ for Stiff. Near Top of Fl. Bm.
℄ Fl. Bm.
Back Face of Abut.
Profile Grade 7
Diaph. @ Pier 2S
See Slot Det.
Girder C
32 Bolts
24 Bolts
30 Spaces @ 4½" = 11'-3"
1-Pl 20×15/16 Splice A
1-Pl 20×7/8 Splice B
2-Pls. 9×11/16 Splice A
2-Pls. 9×11/16 Splice B
1-Pl 9×11/16 Splice A
1-Pl 9×11/16 Splice B
2-Pls. 20×15/16 Splice A
2-Pls. 20×7/8 Splice B

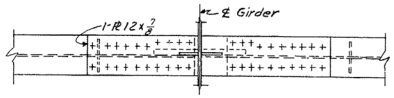
FED. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				



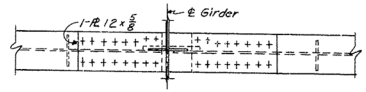
FLOORBEAM E1 (Shown)
FLOORBEAM E2 THRU E10 (As Noted)
FLOORBEAM F (As Noted)



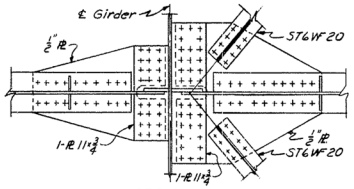
SECTION A-A
(Intermediate Floorbeams E1, E2 & E5 thru E10)



SECTION A-A
(Floorbeams E3 & E4 @ Piers 1S, 2S & 3S)

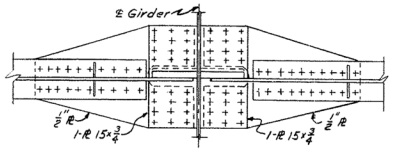


SECTION A-A
Floorbeam F @ Abutment

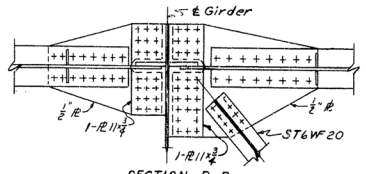


SECTION B-B
(Intermediate Floorbeams E2, E5, E7 & E9 With Bracing Connection)

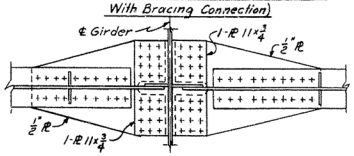
NOTE:
For fit between Lateral Plate (11" x 3/4" or 15" x 3/4") with stiffeners and web, see Section A-A, Sheet 20



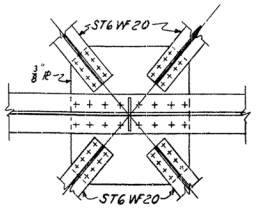
SECTION B-B
(Floorbeam E3 @ Piers 1S & 3S)



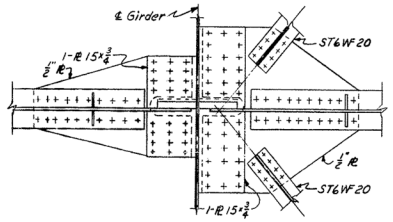
SECTION B-B
(Floorbeam F @ Abutment)



SECTION B-B
(Intermediate Floorbeam E1, E6, E8 & E10)



SECTION C-C
(Floorbeams E1, E3, E6, E8 & E10)



SECTION B-B
(Floorbeam E4 @ Pier 2S)

Note:
Floorbeams E & F are to be built with no camber.

Work Sheets 18 Thru. 25 Together.

SHEET 21

SOUTH APPROACH
FLOORBEAMS

KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION
PROJECT I 275-9 ( ) 0
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA

STATION 80+38.56

HAZELET & ERDAL Consulting Engineers File No. 8720	BRIDGE NUMBER	DRAWING NO. 17209	INDEX

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TRACED BY
CHECKED BY HWF
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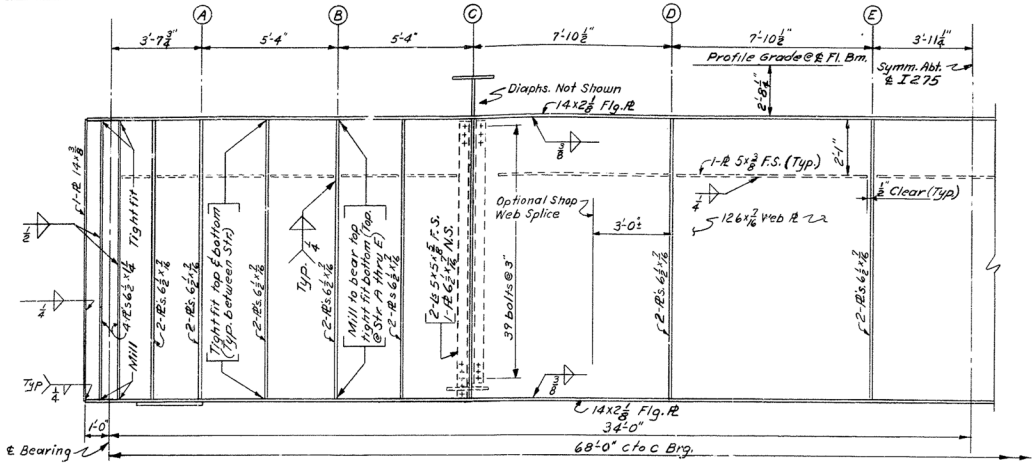
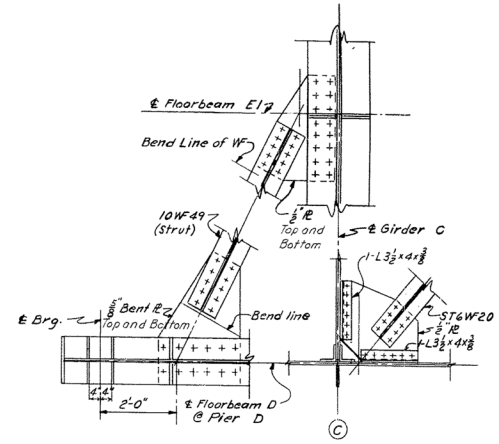
10-8-8

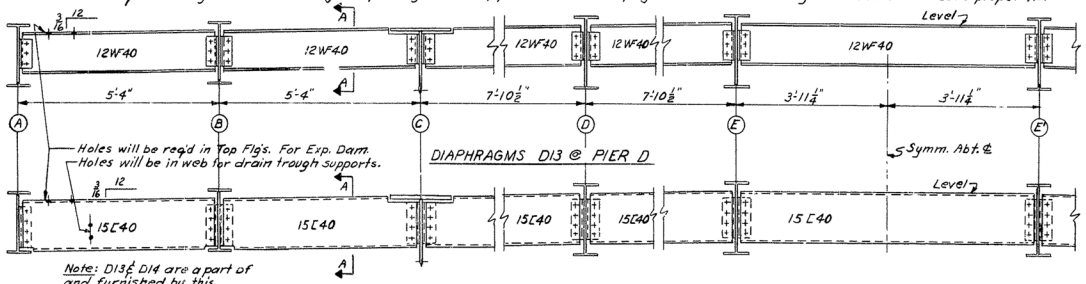


FLOORBEAM "D"



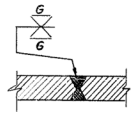
STRUT & BRACING DETAILS

Note: D13 & D14 support the Expansion Dam and drain trough at Pier D which is furnished with the Structural Steel of the Main Spans. Holes are also req'd. in the girder and stringer top flanges. The shop plans of the two projects are to be closely coordinated to assure proper fit.

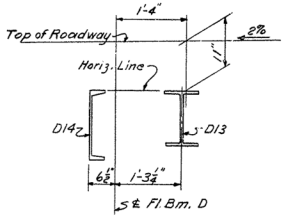


DIAPHRAGMS D13 @ PIER D

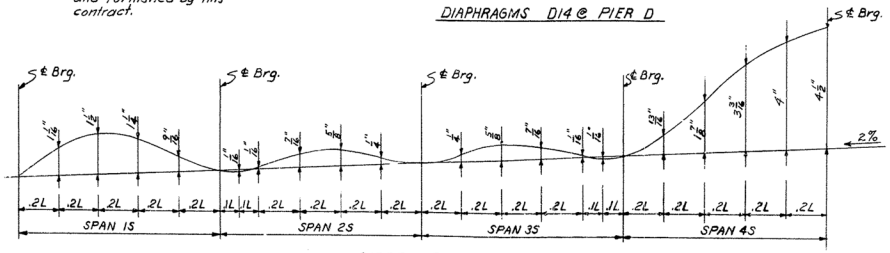
DIAPHRAGMS D14 @ PIER D



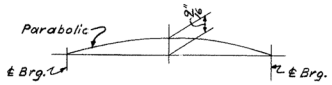
TYPICAL SHOP WEB SPLICE



SECTION A-A



GIRDER C CAMBER DIAGRAM
(Vertical Curve + Steel + Concrete + Handrail Dead Load)



FLOORBEAM "D" CAMBER DIAGRAM

Work Sheets 18 Thru. 25 Together

SHEET 22

SOUTH APPROACH
FLOORBEAM & DIAPHRAGMS

KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION
PROJECT I 275-9 ( )0
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA

STATION 80+38.56

HAZELET & ERDAL Consulting Engineers File No. 872D | BRIDGE NUMBER | DRAWING NO. 17209 | INDEX

FED. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEARS	SHEET NO.	TOTAL SHEETS
7	KY.				

DESIGNED BY: HFB
DETAILED BY: HWC
TRACED BY:
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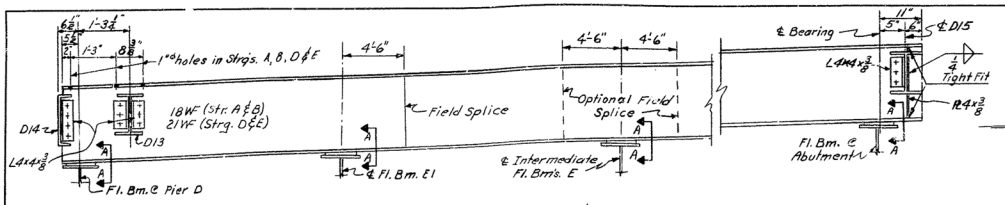
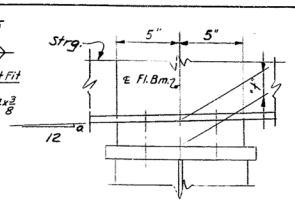
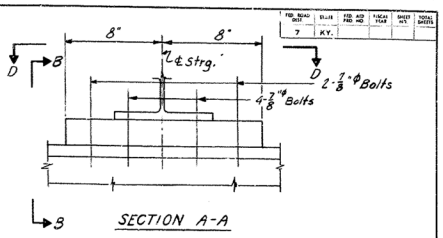
CHECKED BY:
REVISED:
REVISED:
REVISED:
DATE: 3-5-57
DATE:
DATE:



STRINGERS A, B, D & E



SECTION B-B

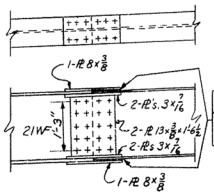


SECTION A-A

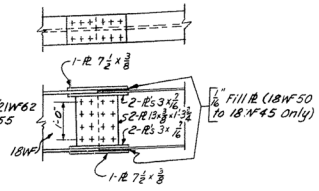
FED. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				

BEVELED FILL PL SLOPE ("a" in Inches)								
Floorbeam	D	E1 thru E4	E5	E6	E7	E8	E9	E10	F
"a"	¼	¼	¼	¼	¼	¼	5/16	5/16	5/16

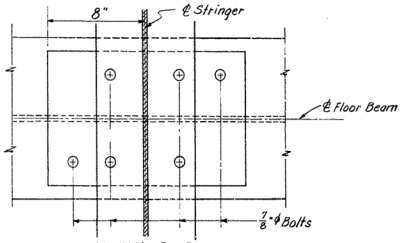
BEVELED FILL PL THICKNESS ("t" in Inches)								
Stringer	A		B		D		E	
	18WF50	18WF45	18WF50	18WF45	21WF62	21WF55	21WF62	21WF55
"t"	⅞	15/16	1¾	1 13/16	1¼	1⅜	2¾	2⅞



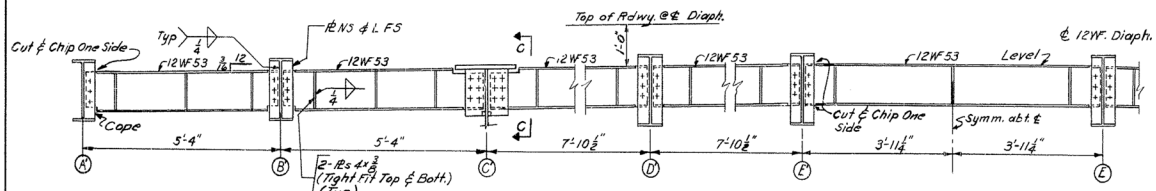
FIELD SPLICE
STRINGER LINE D & E



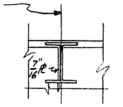
FIELD SPLICE
STRINGER LINE A & B



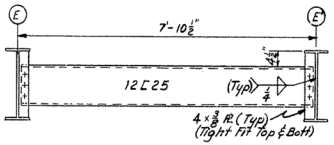
VIEW D-D



DIAPHRAGMS D15 @ ABUTMENT (As Noted)
(See Expansion Dam for Stiff. Locations for D15)



SECTION C-C



DIAPHRAGM D12

Natural camber of stringers to be up.

Work Sheets 18 Thru. 25 Together.

SHEET 23

KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION

PROJECT I 275-9 ( ) 0
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA

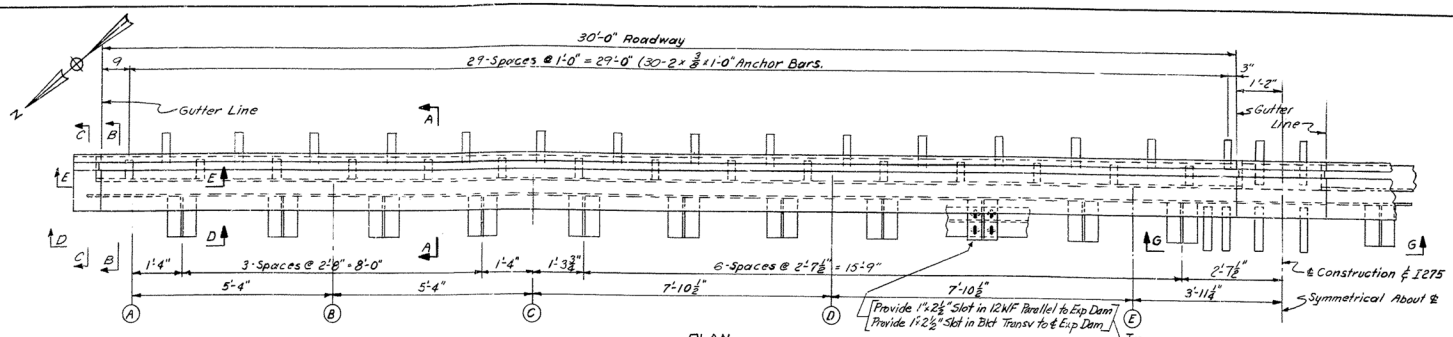
STATION 80+38.56

HAZELET & ERDAL Consulting Engineers File No. 872 D | BRIDGE NUMBER | DRAWING NO. 17209 | INDEX

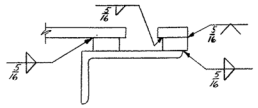
SOUTH APPROACH
STRINGERS & DIAPHRAGMS

DESIGNED BY: HWB | CHECKED BY: CSH | DATE: | REVISED:
DRAWN BY: HWT | CHECKED BY: HWB | DATE: 4-3-67 | REVISED:
TRACED BY: | CHECKED BY: | DATE: | REVISED:

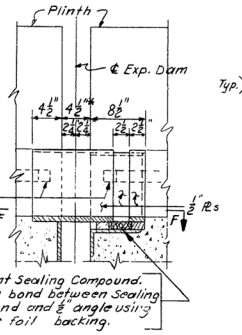
FED. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				



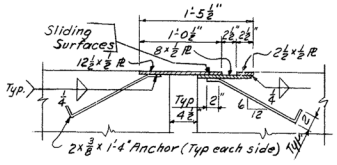
PLAN



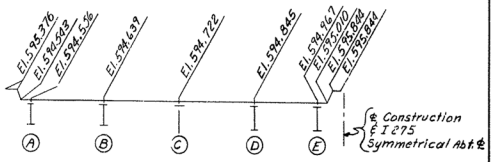
WELDING DETAILS



SECTION B-B

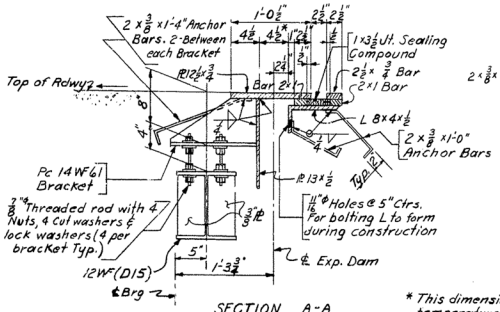


SECTION C-C

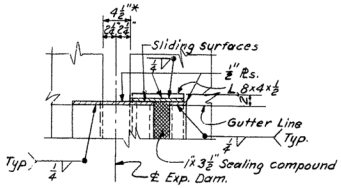


Note: Elevations are given on ℄ Expansion Dam See adjustment note on Construction Elevation Sheet. Field welding shall be performed only after the dam is completely erected and adjusted for crown and grade of roadway.

ELEVATIONS

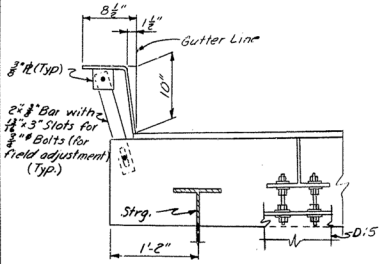


SECTION A-A

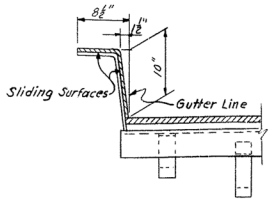


SECTION F-F

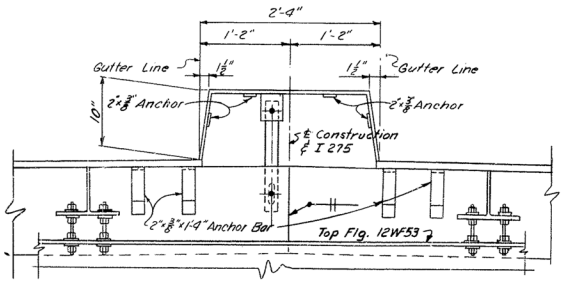
* This dimension to be maintained at normal temperature of 60°F. Adjust if temp. differs by 1/8" for each 10°F. temperature change.



SECTION D-D



SECTION E-E



SECTION G-G

Work Sheets 18 Thru 25 Together

SHEET 24

SOUTH APPROACH
EXPANSION DAM

KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION

PROJECT I 275-9 ( ) 0
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA

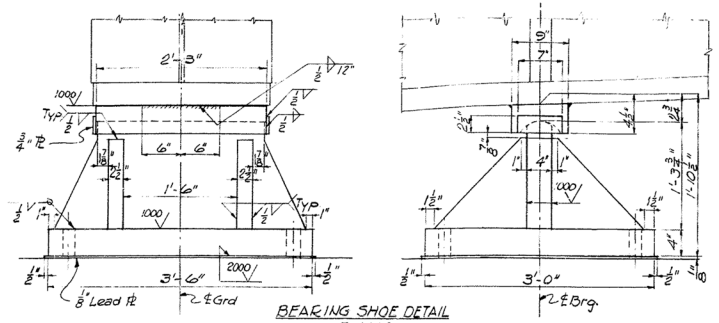
STATION 80 + 38.56

HAZELET & ERDAL Consulting Engineers File No. 8230	BRIDGE NUMBER	DRAWING NO.	INDEX
		17209	

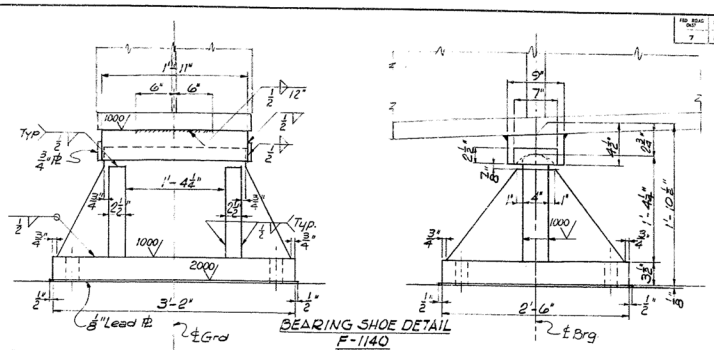
Note: Plates must be true and free from warp. Cold applied, elastomeric type joint sealing compound shall conform to the special provisions for this material. Special Provisions govern material requirements, sampling and testing, application and payment. The vertical edges of steel bars which require bonding to joint sealing compound shall receive neither shop nor field paint. Before applying joint sealing compound, vertical edges of steel bars shall be cleaned to bare metal.

Expansion Dams shall be completely assembled in shop to crown and grade of roadway to assure fit and movement of sliding surfaces.

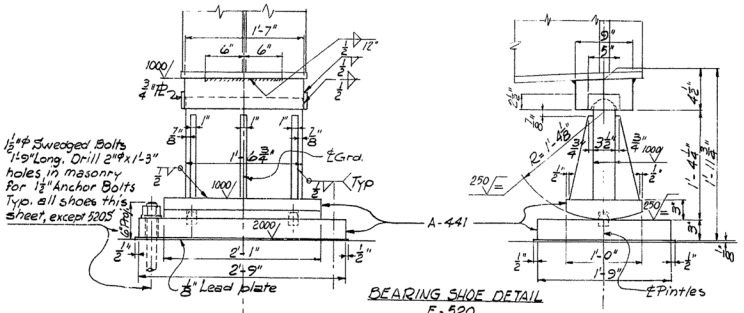
DESIGNED BY	CHECKED BY	CHECKED BY	CHECKED BY
HAZELET & ERDAL	WEB	WEB	WEB
DETAILED BY	DATE	DATE	DATE
HAZELET & ERDAL	12-2-57		
ISSUED BY	DATE	DATE	DATE



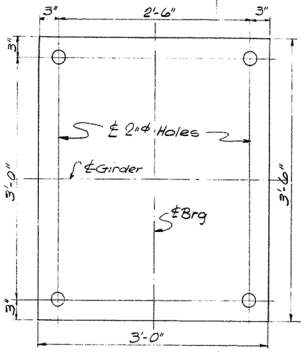
BEARING SHOE DETAIL
F-1440



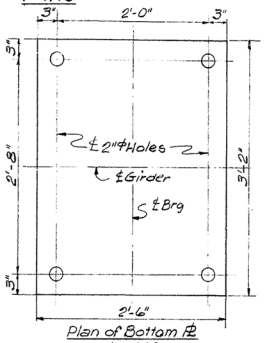
BEARING SHOE DETAIL
F-1140



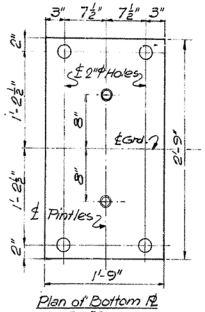
BEARING SHOE DETAIL
E-520



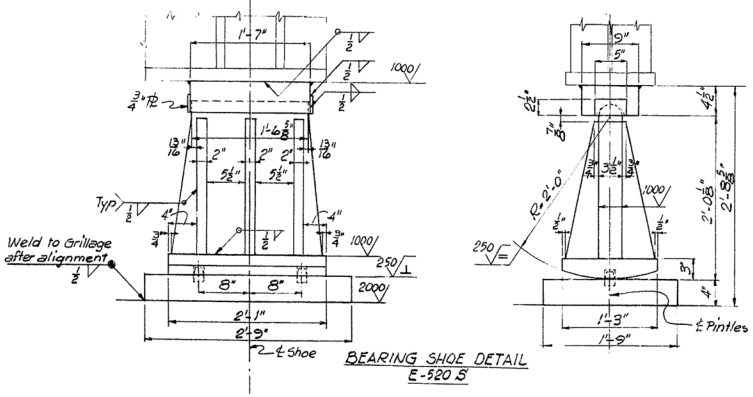
Plan of Bottom Pl.
F-1440



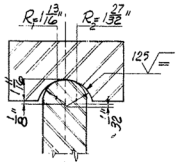
Plan of Bottom Pl.
F-1140



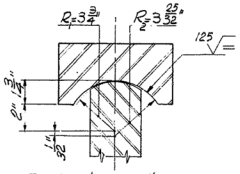
Plan of Bottom Pl.
E-520



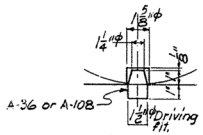
BEARING SHOE DETAIL
E-520 S



Top Bearing Detail
E-520 & E-5205



Top Bearing Detail
F-1440 & F-1140



Pintle Detail

ANCHOR BOLTS: Holes of depth and dimensions shown on the Plans shall be drilled for anchor bolts by the Structural Steel contractor who shall be responsible for keeping holes dry in wet and freezing weather. After the base plates are properly set and anchor bolts are placed in drilled holes, molten lead shall be poured in the holes and packed until holes are completely filled flush to top of base plates. At the time of setting, anchor bolts are to be heated to a blue heat to assure free flow of lead to bottom of hole.

NOTES:
For Anchor bolt location see substructure plan.
For Bearing Shoe location see Framing plan.
WHITE LEAD & TALLOW. Finished surfaces of structural steel formed by Radii R_1 & R_2 shall be coated with white lead & tallow in accordance with the current Standard Specifications of the Kentucky Department of Highways.
SCRIBING. At each bearing the centerlines in both directions are to be scribed on all matching parts to facilitate proper field erection.
MATERIALS. All steel A-36 u.n.
FINISH SYMBOLS. For machine finish symbols see A.N.S.I. B 46.1 - Current Edition.
Work Sheets 18 thru 25 together.

SHEET 25

SOUTH APPROACH
BEARING SHOES

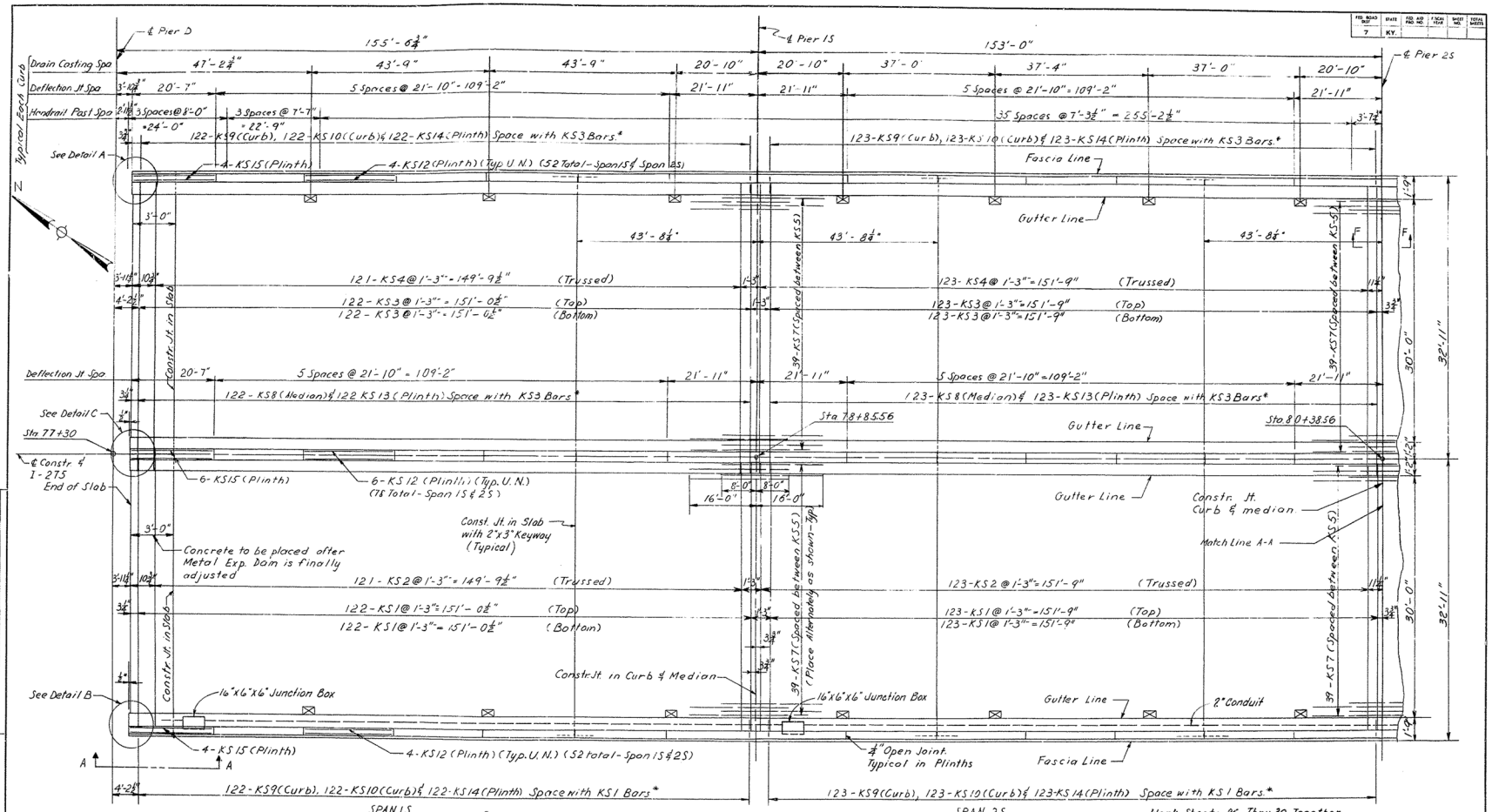
KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION
PROJECT I 275-9 ( )0
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA

STATION 80+38.56

HAZELET & ERDAL Consulting Engineers File No. 8720	BRIDGE NUMBER	DRAWING NO. 17209	INDEX

FED. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	N.Y.				

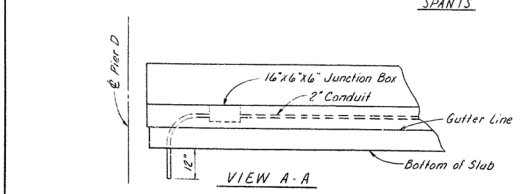
DESIGNED BY R.T.	CHECKED BY C.E.B.	DATE 7-28-69	REVISED
DETAILED BY R.T.	CHECKED BY C.E.B.	DATE 2-26-69	REVISED
TRACED BY R.T.	CHECKED BY	DATE	REVISED



*Adjust spacing of KS13 & KS14 Bars at plinth joints to provide 3" min. and 5" max. End clearance

PLAN - UNIT 1S

NOTE:
See Sheet No. 30 for Slab Placing Sequence and Notes & Specifications for 2" ϕ Steel Conduit.



VIEW A-A

SOUTH APPROACH
SLAB DETAILS
UNIT 1S

SHEET 26

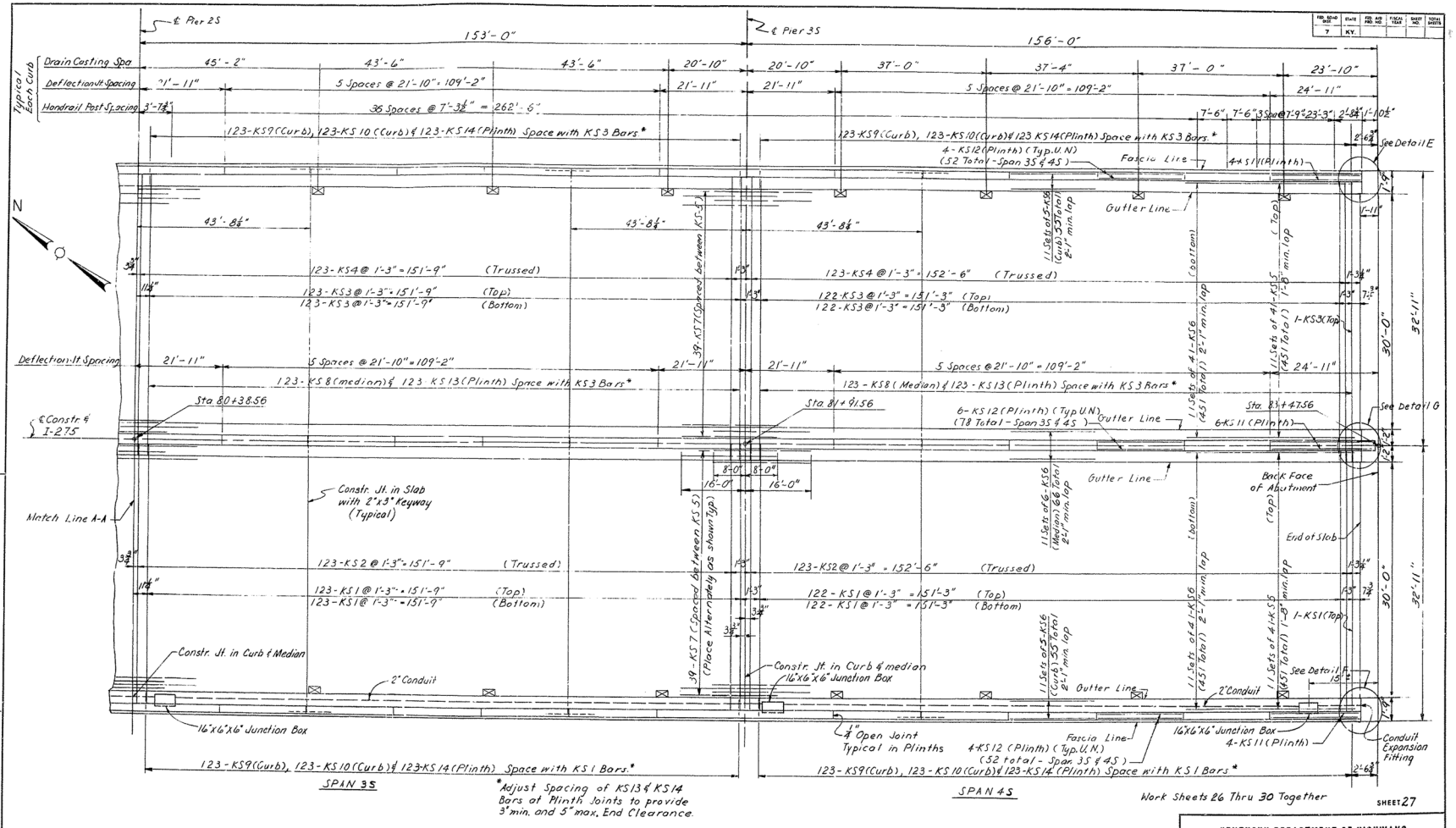
KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION

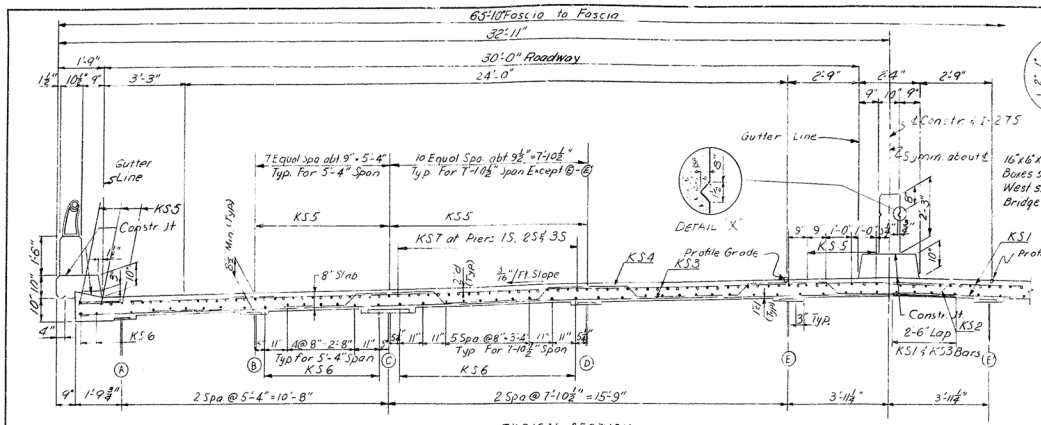
PROJECT I 275-9 ( )0
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA

STATION 80+38.56

HAZELET & ERDAL Consulting Engineers File No. 872D	BRIDGE NUMBER	DRAWING NO. 17209	INDEX

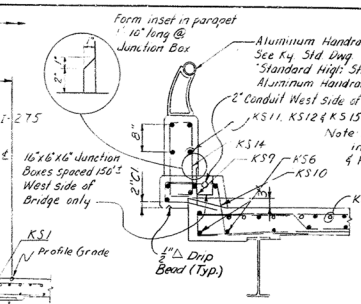
FED. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				


℄ Pier 2S
℄ Pier 3S
153'-0"
156'-0"
Drain Casting Spa
Deflection Jt Spacing
Handrail Post Spacing
Typical Each Curb
45'-2"
43'-6"
43'-6"
20'-10"
20'-10"
37'-0"
37'-4"
37'-0"
23'-10"
21'-11"
5 Spaces @ 21'-10" = 109'-2"
36 Spaces @ 7'-3½" = 262'-6"
24'-11"
123-KS9(Curb), 123-KS10(Curb) & 123-KS14(Plinth) Space with KS3 Bars*
123-KS9(Curb), 123-KS10(Curb) & 123-KS14(Plinth) Space with KS3 Bars*
4-KS12(Plinth) (Typ.U.N)
(52 Total - Span 3S & 4S)
Fascia Line
4-KS11(Plinth)
See Detail E
N
43'-8½"
43'-8½"
43'-8½"
123-KS4 @ 1'-3" = 151'-9" (Trussed)
123-KS3 @ 1'-3" = 151'-9" (Top)
123-KS3 @ 1'-3" = 151'-9" (Bottom)
123-KS4 @ 1'-3" = 152'-6" (Trussed)
122-KS3 @ 1'-3" = 151'-3" (Top)
122-KS3 @ 1'-3" = 151'-3" (Bottom)
39-KS7 (Spaced between KS3)
11 Sets of 5-KS6 (Curb) 55 Total 2'-1" min. lap
11 Sets of 4-KS6 (45 Total) 2'-1" min. lap
11 Sets of 4-KS5 (45 Total) 1'-8" min. lap
Gutter Line
(Top)
(Bottom)
1-KS3 (Top)
30'-0"
32'-11"
Deflection Jt Spacing
21'-11"
5 Spaces @ 21'-10" = 109'-2"
24'-11"
123-KS8 (median) & 123-KS13 (Plinth) Space with KS3 Bars*
123-KS8 (Median) & 123-KS13 (Plinth) Space with KS3 Bars*
Sta. 80+38.56
Sta. 81+91.56
Sta. 83+47.56
See Detail G
℄ Constr. of I-275
6-KS12 (Plinth) (Typ U.N)
(78 Total - Span 3S & 4S)
6-KS11 (Plinth)
8'-0"
8'-0"
16'-0"
16'-0"
Constr. Jt. in Slab with 2"x3" Keyway (Typical)
Back Face of Abutment
End of Slab
Match Line A-A
11 Sets of 6-KS6 (Median) 66 Total 2'-1" min. lap
39-KS7 (Spaced between KS3) (Place Alternately as shown Typ.)
123-KS2 @ 1'-3" = 151'-9" (Trussed)
123-KS1 @ 1'-3" = 151'-9" (Top)
123-KS1 @ 1'-3" = 151'-9" (Bottom)
123-KS2 @ 1'-3" = 152'-6" (Trussed)
122-KS1 @ 1'-3" = 151'-3" (Top)
122-KS1 @ 1'-3" = 151'-3" (Bottom)
1-KS1 (Top)
See Detail F
Constr. Jt. in Curb & Median
2" Conduit
Constr. Jt. in Curb & median
16"x6"x6" Junction Box
16"x6"x6" Junction Box
1/4" Open Joint Typical in Plinths
Fascia Line
4-KS12 (Plinth) (Typ.U.N.)
(52 total - Span 3S & 4S)
16"x6"x6" Junction Box
4-KS11 (Plinth)
Conduit Expansion Fitting
123-KS9(Curb), 123-KS10(Curb) & 123-KS14 (Plinth) Space with KS1 Bars*
123-KS9(Curb), 123-KS10(Curb) & 123-KS14 (Plinth) Space with KS1 Bars*
SPAN 3S
SPAN 4S
*Adjust Spacing of KS13 & KS14 Bars at Plinth Joints to provide 3" min. and 5" max. End Clearance.
Work Sheets 26 Thru 30 Together
SHEET 27
PLAN-UNIT 1S
SOUTH APPROACH
SLAB DETAILS
UNIT 1S
KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION
PROJECT I 275-9 ( )0
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA
STATION 80+38.56
HAZZLET & ERDAL Consulting Engineers File No. 872D
BRIDGE NUMBER
DRAWING NO. 17209
INDEX
FED. ROAD DIST. 7
STATE KY.
FED. AID PRO. NO.
FISCAL YEAR
SHEET NO.
TOTAL SHEETS
DESIGNED BY
DETAILED BY
CHECKED BY
CHECKED BY
REVISED
REVISED
REVISED
REVISED
DATE
DATE
DATE
DATE
DATE
DATE

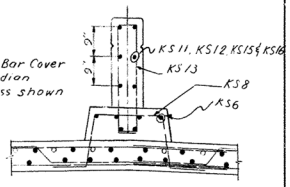


TYPICAL SECTION

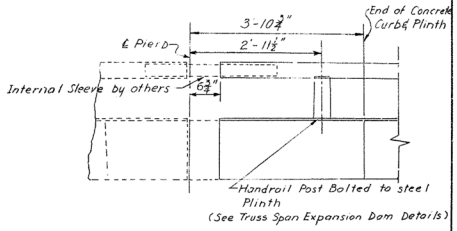
Note:
The top transverse reinforcement in the roadway slabs shall be anchored to the forms with a tie down device at 10 feet centers. The Contractor shall submit the proposed anchor to the Engineer for approval.



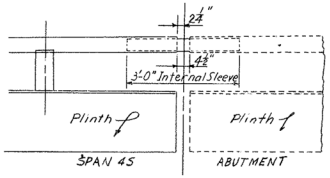
TYP. CURB



TYP MEDIAN

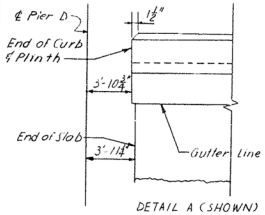


HANDRAIL DETAIL AT PIER D



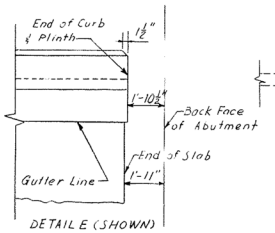
HANDRAIL DETAIL AT ABUTMENT

Work Sheets 26 Thru 30 Together



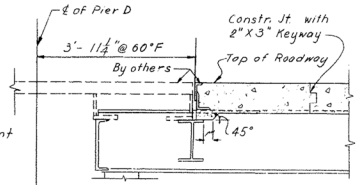
DETAIL A (SHOWN)

DETAIL B (OPP HAND)

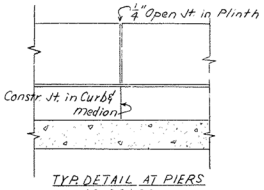


DETAIL E (SHOWN)

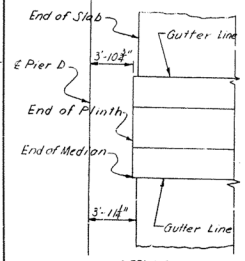
DETAIL F (OPP HAND)



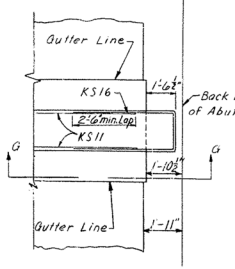
SECTION THRU EXP. DAM @ PIER D



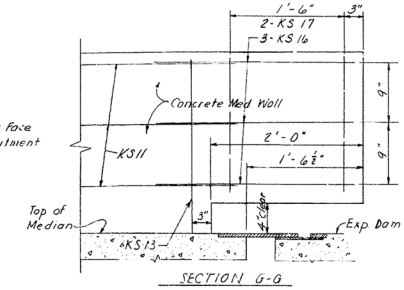
TYP. DETAIL AT PIERS 1S, 2S & 3S



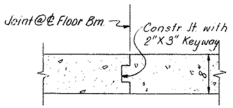
DETAIL C (SHOWN)



DETAIL G



SECTION G-G



TYPICAL SECTION AT TRANSVERSE CONSTRUCTION JT.

SOUTH APPROACH
SLAB DETAILS
UNIT 1S

SHEET 28

KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION

PROJECT I 275-9 ( )0
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA

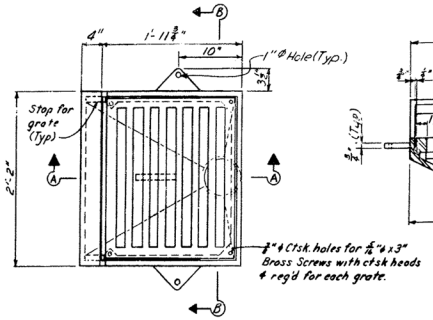
STATION 80+38.56

HAZELET & ERDAL Consulting Engineers File No. 872D	BRIDGE NUMBER	DRAWING NO. 17209	INDEX

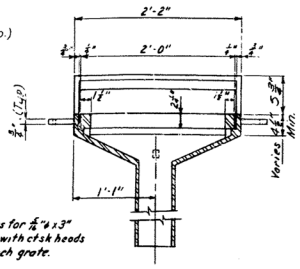
FED. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY				

DESIGNED BY: DATE: REVISED
DRAWN BY: DATE: REVISED
CHECKED BY: DATE: REVISED
CHECKED BY: DATE: REVISED
TRACED BY: DATE: REVISED

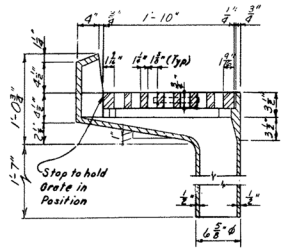
BRIDGE



DECK DRAIN



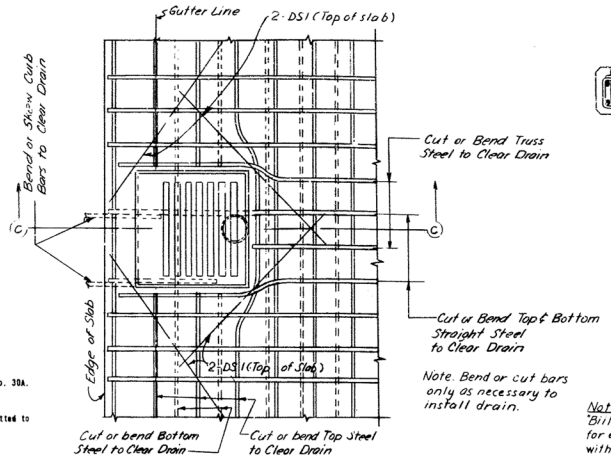
SECTION B-B



SECTION A-A

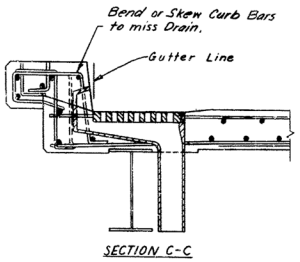
Foundry Notes

Body of Drain Casting shall be Grey Cast Iron, ASTM A48, Class No. 30A.
Drain Grates shall be Cast Steel, ASTM A27, Grade 70-36.
Fit grate to body and ship in place.
Form HD 64-201 report of field inspection of castings is to be submitted to the laboratory.
Payment for drain castings will be included in lump sum price of Structural Steel.
For painting, see Structural Steel Notes Sheet.
Wall thickness of castings to be 3/4" except down pipe.
Down pipe to have 1/2" wall thickness.



Note. Bend or cut bars only as necessary to install drain.

PLAN FOR REINFORCEMENT AT DECK DRAIN

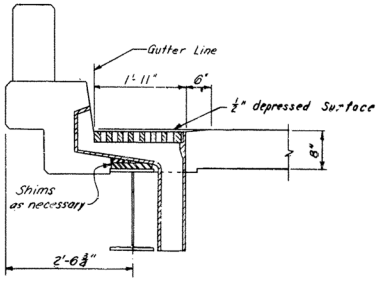


SECTION C-C

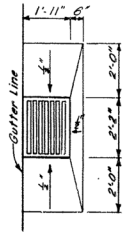
BILL OF REINFORCEMENT					
Mark	Type	Size	No	Length Ft.	Length In
DS1	Str.	6	4	4	0

Note:
"Bill of Reinforcement" indicates the number required for each installation and bars billed for construction with superstructure.

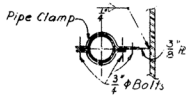
Note:
6" ϕ drain pipe will be paid for at the unit price bid for "6 Diameter Drain Pipe" which price shall include and be full payment for furnishing and installing, complete in place and accepted, all materials including weld material and welding, brackets, pipe clamps and hangers, fittings, connections, hardware and tools, paint and painting, equipment and incidentals necessary to complete the work.



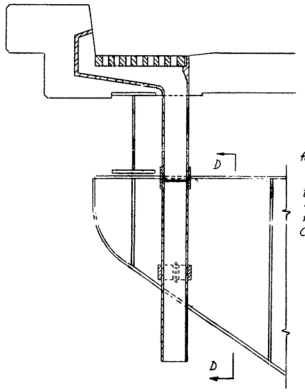
SECTION THRU DRAIN AT MID-POINT BETWEEN FL BMS.
(8 Req'd.)



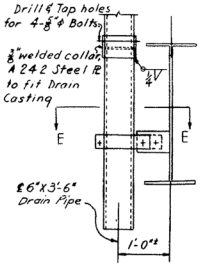
PLAN OF SLAB AT DRAIN
Depress drain 1/2" as shown



SECTION E-E



SECTION THRU DRAIN AT FLOOR BEAM
(20 Req'd)



SECTION D-D

Work Sheets 26 Thru 30 Together

SHEET 29

KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION
PROJECT I 275-9 ( )0
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA

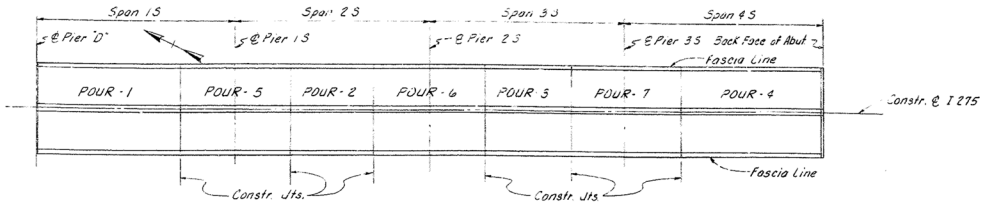
STATION 80+38.56

HAZELET & ERDAL Consulting Engineers File No. 872 D | BRIDGE NUMBER | DRAWING NO. 17209 | INDEX

SOUTH APPROACH
DRAINAGE DETAILS

FED. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY				

BILL OF REINFORCEMENT — SUPERSTRUCTURE						
MARK	TYPE	SIZE	No of BARS	LENGTH Ft	LENGTH In.	LOCATION
KS1	Str	#6	981	31	10	Slab Transverse
KS2	22	#6	490	33	4	
KS3	Str	#6	981	34	8	
KS4	22	#6	490	36	0	
KS5	Str.	#4	902	57	2	Slab longitudinal
KS6	Str	#5	1078	57	7	Slab & Median longit.
KS7	Str.	#4	234	24	0	Slab longitudinal
KS8	23	#5	491	7	0	Median Transverse
KS9	24	#6	982	3	1	Curb Transverse
KS10	25	#7	982	6	8	Curb Transverse
KS11	Str.	#4	14	22	9	Plinth longitudinal
KS12	Str.	#4	364	21	7	Plinth longitudinal
KS13	26	#6	491	7	5	Plinth Transverse
KS14	26	#6	982	5	8	Plinth Transverse
KS15	Str.	#4	14	20	4	Plinth longitudinal
KS16	S11	#6	3	8	6	Plinth longitudinal
KS17	26	#4	2	5	0	Plinth Transverse
DS1	Str.	#6	112	4	0	Drain



SLAB POUR SEQUENCE

Number indicates order of pouring slab

NOTES AND SPECIFICATIONS FOR 2"ϕ STEEL CONDUIT

STANDARDS: The following Specifications and Standards become a part of the following Specifications and the Plans.

Kentucky Department of Highways Standard Specifications, current edition with revisions and special provisions.
National Electrical Code, latest issue.
Standards of the Utility Company (Union Light, Heat and Power Co., Cincinnati, Ohio).

SCOPE OF WORK: The work shall include furnishing and installing steel conduit, junction boxes and expansion fittings in accordance with the specifications and plans.

MATERIAL: The Contractor shall provide in triplicate descriptive literature or drawings (furnished by the manufacturers) of all materials used, for approval, prior to commencement of work. Exceptions to materials specified may be taken only with the prior written approval of the Engineer.

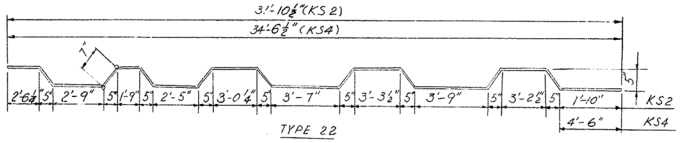
CONDUIT: All rigid steel conduit shall be galvanized inside and out, and shall conform to the Underwriters Laboratories' requirements for rigid metallic conduit. All conduit installations shall comform to the provisions of the National Electric Code unless otherwise specified in these plans. The ends of all the 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 coupling 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 twelve (12) times the nominal diameter of the conduit, unless otherwise directed. The total bending in any run of conduit shall not exceed 180°. Conduit which will not be subject to regular pressure from traffic shall be laid to a depth of not less than eighteen inches (18") below grade.

JUNCTION BOX: Junction Boxes on bridge shall be 8" wide x 6" deep and 16" long, flush mounting, inside flange recessed cover galvanized cast iron weather-proof box OZ Type "VJ", Spring City Type "IR", Hope Type HG20D, or approved equal.

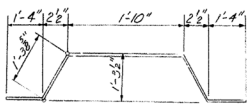
EXPANSION FITTING: Conduit expansion fittings shall be Crouse-Hinds Type XJG41 with GC100 bonding jumper, OZ Type EX200 with BJ1520-24 bonding jumper, Spring City Type EF200 with EJ200 bonding jumper, or approved equal.

PAINTING: All exposed portions of junction boxes or conduit shall be given one shop coat of red lead and two field coats of aluminum paint. Junction boxes shall be painted inside and outside. Galvanized metal shall be treated before painting.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT: All work and materials necessary for conduit installation will be measured as a unit and paid for at the contract lump sum bid for "2"ϕ Steel Conduit". The lump sum bid for "2"ϕ Steel Conduit" shall be full compensation for furnishing and installing all conduit, junction boxes, expansion fittings and any other incidental materials, equipment, labor, and incidentals necessary to complete this work as described in the plans.



TYPE 22



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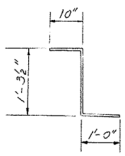

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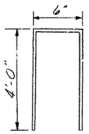
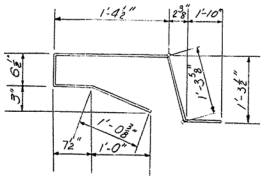
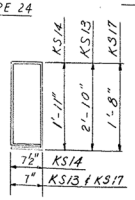


TYPE S11



TYPE 25



TYPE 26

ESTIMATE OF QUANTITIES		
ITEM	UNIT	AMOUNT UNIT IS
Concrete, Class "AA"	Cu. Yds.	1209.0
Steel Reinforcement	Lbs.	293,660
High-Strength Handrail	Lin.Ft.	1,233
Protective Coating-Linseed Oil	Sq. Yds.	4,078
6" Diameter Drain Pipe	Lin.Ft.	63
Protective Coating-Styrene Butadiene	(Gal.)	54

Work Sheet 26 Thru 30 Together

SHEET 30

KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION

PROJECT I 275-9 ( )0

BRIDGE OVER OHIO RIVER ON I 275

BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA

STATION 80+38.56

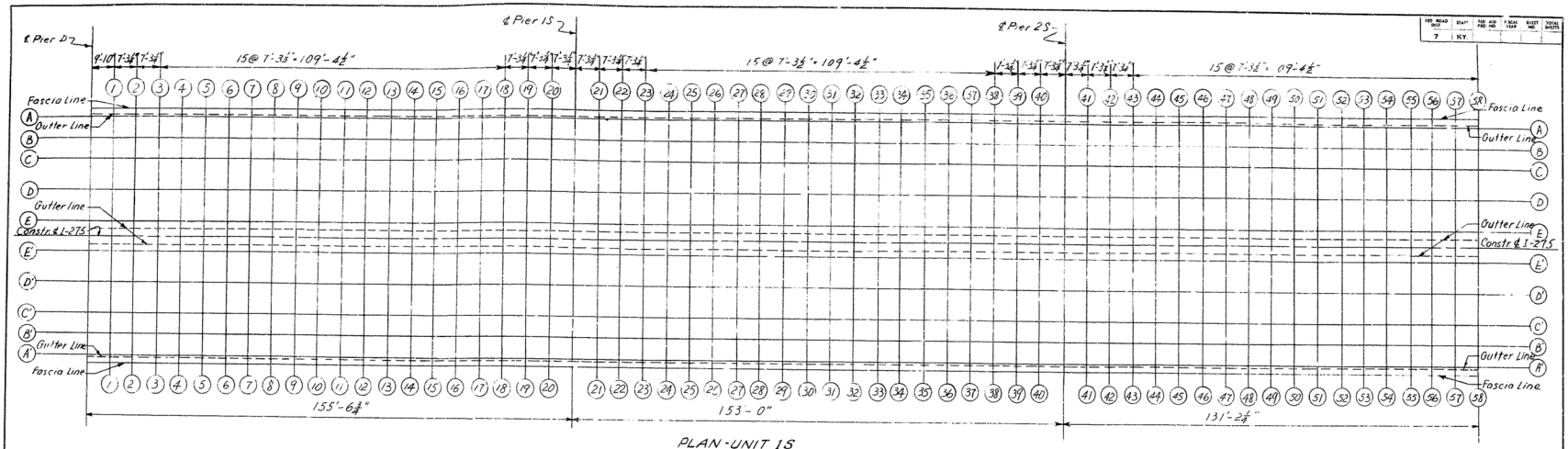
SOUTH APPROACH

BILL OF REINFORCEMENT
SUPERSTRUCTURE

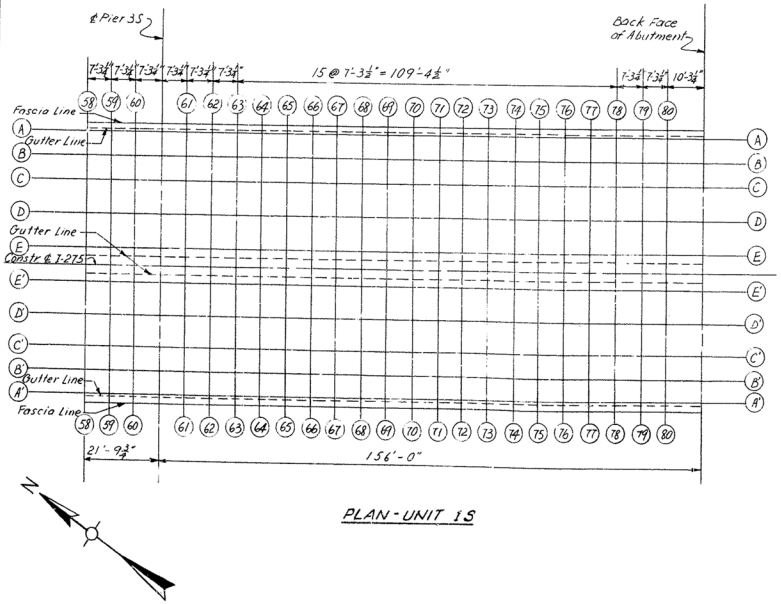
HAZELET & ERDAL Consulting Engineers File No. 872D	BRIDGE NUMBER	DRAWING NO. 17209	INDEX

DATE	REVISED	DATE	REVISED	DATE	REVISED

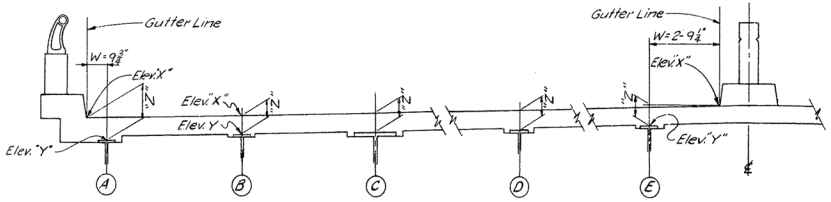
DESIGNED BY: CHECKED BY: DETAILED BY: CHECKED BY: TRACED BY: CHECKED BY:



PLAN - UNIT 1S



PLAN - UNIT 1S



TYPICAL SECTION

CONSTRUCTION NOTES FOR LINES
A THRU E AND A' THRU E'

1. Lay out Sections ①-①, ②-② etc. as shown in plan on the various Construction Elevations Sheets. Center punch marks on top of girders and stringers for elevation points.
2. Read elevations on top of girders and stringers as erected, after diaphragms are in place and shoring and falsework removed but before forms are placed and before deck slab, curbs, median, etc. are poured. These elevations are to be entered in the table as Elevation "Y".
3. Compute Dimension "Z" (see Typical Section). Top of concrete Elevation "X" minus Elevation "Y" equals Dimension "Z".
4. Always measure from top of steel to top of slab (Dimension "Z") for setting templates. DO NOT set templates by Elevation "X".
5. Elevation "X" includes calculated deflections due to weight of floor slab, curbs, plinths, handrail and median.
6. Gutter line elevations ("X" @ Gutter) contain the deflections of the adjacent stringer as shown in Typical Section. Dimension "Z" will indicate the difference in elevation of the top of steel at the center punch mark and the gutter line at a point measured along the section line. The Gutter Line is "W" distance from the ℄ of stringers.
7. Contractor shall adjust elevations of the top of metal expansion dam with adjacent elevations of completed slab so as to eliminate deviations in elevations.

Work sheets 31 thru 33 together

SHEET 31

KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION

PROJECT I 275-9 ( ) 0
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA

STATION 80+38.56

SOUTH APPROACH
CONSTRUCTION ELEVATIONS
UNIT 1S

HAZELET & ERDAL Consulting Engineers File No. 872D	BRIDGE NUMBER	DRAWING NO. 17209	INDEX

FED. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				

DESIGNED BY: HDT DATE: 7-17-70 CHECKED BY: HDT
DETAILED BY: HDT DATE: 8-28-70 CHECKED BY: HDT
TRACED BY: DATE: CHECKED BY: DATE:
REVISED: DATE: REVISED: DATE: REVISED: DATE: REVISED: DATE:

BRIDGE

FED. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				

UNIT 1S - NORTH BOUND

TABLE OF ELEVATIONS FOR UNIT

SECTION	STRINGER A			STRINGER B			GIRDER C			STRINGER D			STRINGER E		
	X@Gutter	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z	X@Gutter	Y	Z
℄ Pier 0															
1-1	582.031			582.132			582.214			582.349			582.519		
2-2	.200			.297			.377			.508			.678		
3-3	.383			.456			.537			.663			.832		
4-4	.523			.616			.696			.823			582.992		
5-5	.680			.773			582.853			582.980			583.149		
6-6	.832			582.926			583.008			583.133			.302		
7-7	582.987			583.080			.159			.287			.455		
8-8	583.135			.228			.307			.435			.603		
9-9	.278			.371			.453			.579			.747		
10-10	.424			.518			.597			.724			583.893		
11-11	.565			.659			.738			583.865			584.034		
12-12	.701			.794			583.876			584.002			.170		
13-13	.840			583.933			584.012			.139			.308		
14-14	583.974			584.068			.147			.274			.443		
15-15	584.104			.198			.280			.405			.574		
16-16	.239			.333			.412			.539			.708		
17-17	.371			.464			.543			.671			.839		
18-18	.501			.594			.676			.801			584.970		
19-19	.639			.732			.811			584.938			585.107		
20-20	584.775			584.868			584.947			585.074			585.243		
℄ Pier 1S															
21-21	585.055			585.148			585.227			585.355			585.523		
22-22	.200			.293			.373			.500			.669		
23-23	.345			.483			.520			.645			.814		
24-24	.498			.591			.670			797			585.966		
25-25	.649			.742			.822			585.949			586.118		
26-26	799			585.892			585.974			586.100			.268		
27-27	585.955			586.048			586.127			.254			.423		
28-28	586.107			.201			.280			.407			.576		
29-29	256			.349			.431			.557			.725		
30-30	.408			.502			.581			.708			586.877		
31-31	.557			.651			.730			586.857			587.026		
32-32	701			.794			586.876			587.001			.170		
33-33	.847			586.940			587.020			.147			.315		
34-34	586.989			587.082			.162			.289			.458		
35-35	587.127			.220			.302			.427			.596		
36-36	.269			.362			.442			.569			.737		
37-37	.408			.501			.580			.708			587.876		
38-38	.544			.637			.719			.845			588.013		
39-39	.687			.780			587.859			587.986			.155		
40-40	587.829			587.922			588.002			588.129			588.297		
℄ Pier 2S															
41-41	588.120			588.213			588.292			588.420			588.588		
42-42	.268			.362			.441			568			.737		
43-43	417			.510			.592			.717			588.886		
44-44	.572			.665			.745			588.872			589.040		
45-45	.725			.818			588.897			589.025			.193		
46-46	588.874			588.967			589.049			.175			.343		
47-47	589.028			589.122			.201			.328			.497		
48-48	589.178			589.271			589.350			589.478			589.646		

SECTION	STRINGER A			STRINGER B			GIRDER C			STRINGER D			STRINGER E		
	X@Gutter	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z	X@Gutter	Y	Z
49-49	589.323			589.416			589.498			589.624			589.792		
50-50	.472			.565			.644			771			589.940		
51-51	.614			.707			.787			589.914			590.083		
52-52	.754			.847			589.929			590.054			.223		
53-53	589.897			589.990			590.069			.196			.365		
54-54	590.035			590.129			.208			.335			.504		
55-55	.172			.265			.347			.472			.641		
56-56	.313			.407			.486			.613			.782		
57-57	.454			.547			.626			.753			590.922		
58-58	.592			.686			.768			590.893			591.061		
59-59	.739			.832			590.911			591.038			.207		
60-60	590.884			590.977			591.057			591.184			591.352		
℄ Pier 3S															
61-61	591.184			591.277			591.357			591.484			591.633		
62-62	.338			.431			.510			.637			.806		
63-63	.493			.587			.669			.794			591.962		
64-64	.658			.751			.831			591.958			592.127		
65-65	.824			591.917			591.996			592.124			.292		
66-66	591.988			592.081			592.163			.289			.457		
67-67	592.159			.252			.332			.459			.627		
68-68	.328			.421			.500			.627			.796		
69-69	494			.587			.669			.795			592.963		
70-70	.666			.759			592.838			592.965			593.134		
71-71	834			592.927			593.006			593.133			.302		
72-72	592.999			593.092			.174			.299			.468		
73-73	593.168			262			.341			.468			.637		
74-74	336			.429			.508			.635			.804		
75-75	498			.591			.673			.799			593.967		
76-76	.665			.758			593.838			593.965			594.133		
77-77	.829			593.921			594.002			594.128			.297		
78-78	593.992			594.085			.166			.292			.501		
79-79	594.159			.253			330			.459			.627		
80-80	594.323			594.417			594.493			594.623			594.791		
Bk. Fa. Out.															

Work sheets 31 thru 33 together

SHEET 32

SOUTH APPROACH
CONSTRUCTION ELEVATIONS
UNIT 1 S

KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION
PROJECT I 275-9 ( ) 0
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA

STATION 80+38.56

HAZELET & ERDAL Consulting Engineers File No. 872D	BRIDGE NUMBER	DRAWING NO. 17209	INDEX

UKB
DESIGNED BY: MM CHECKED BY: HWT DATE: REVISED: DATE:
DETAILED BY: B.W. CHECKED BY: HWT DATE: 2/1/62 REVISED: DATE:
TRACED BY: CHECKED BY: DATE: REVISED: DATE:

BRIDGE

FED. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				

UNIT 1S - SOUTH BOUND

TABLE OF ELEVATIONS FOR UNIT

SECTION	STRINGER A'			STRINGER B'			GIRDER C'			STRINGER D'			STRINGER E'		
	x@Gutter	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z	x@Gutter	Y	Z
℄ Pier 0															
1-1	582.031			582.132			582.214			582.349			582.519		
2-2	.200			.297			.377			.508			.678		
3-3	.363			.456			.537			.663			.832		
4-4	.523			.616			.696			.823			582.992		
5-5	.680			.773			582.853			582.980			583.149		
6-6	.832			582.926			583.008			583.133			.302		
7-7	582.987			583.080			.159			.287			.455		
8-8	583.135			.228			.307			.435			.603		
9-9	.278			.371			.453			.579			.747		
10-10	.424			.518			.597			.724			583.893		
11-11	.565			.659			.738			583.865			584.034		
12-12	.701			.794			583.876			584.002			.170		
13-13	.840			583.933			584.012			.139			.308		
14-14	583.974			584.068			.147			.274			.443		
15-15	584.104			.198			.280			.405			.574		
16-16	.239			.333			.412			.539			.708		
17-17	.371			.464			.543			.671			.839		
18-18	.501			.594			.676			.801			584.970		
19-19	.639			.732			.811			584.938			585.107		
20-20	584.775			584.868			584.947			585.074			585.243		
℄ Pier 1S															
21-21	585.035			585.148			585.227			585.355			585.523		
22-22	.200			.293			.373			.500			.669		
23-23	.345			.488			.520			.645			.814		
24-24	498			.591			.670			.797			585.966		
25-25	.649			.742			.822			585.949			586.118		
26-26	.799			585.892			585.974			586.100			.268		
27-27	585.955			586.048			586.127			.254			.423		
28-28	586.107			.201			.280			.407			.576		
29-29	.256			.349			.431			.557			.725		
30-30	.408			.502			.581			.708			586.877		
31-31	.557			.651			.730			586.857			587.026		
32-32	.701			.794			586.876			587.001			.170		
33-33	.847			586.940			587.020			.147			.315		
34-34	586.989			587.082			.162			.289			.458		
35-35	587.127			.220			.302			.427			.596		
36-36	.269			.362			.442			.568			.737		
37-37	.408			.501			.580			.708			587.876		
38-38	.544			.637			719			.845			588.013		
39-39	.687			.780			587.859			587.986			.155		
40-40	587.829			587.922			588.002			588.129			588.297		
℄ Pier 2S															
41-41	588.120			588.213			588.292			588.420			588.588		
42-42	.268			.362			.441			.568			.737		
43-43	.417			.510			.592			.717			588.886		
44-44	.572			.665			.745			588.872			589.040		
45-45	.725			.818			588.897			589.025			.193		
46-46	588.874			588.967			589.049			.175			.343		
47-47	589.028			589.122			.201			.328			.497		
48-48	589.178			589.271			589.350			589.478			589.646		
49-49	589.323			589.416			589.498			589.624			589.792		
50-50	.472			.565			.644			.771			589.940		
51-51	.614			.707			.787			589.914			590.053		
52-52	.754			.847			589.929			590.054			.223		
53-53	589.897			589.990			590.068			.196			.365		
54-54	590.035			590.129			.208			.335			.504		
55-55	.172			.265			.347			.472			.641		
56-56	.313			.407			.486			.613			.782		
57-57	.454			.547			.626			.753			590.922		
58-58	.592			.686			.768			590.893			591.061		
59-59	.739			.832			590.911			591.038			.207		
60-60	590.884			590.977			591.057			591.184			591.352		
℄ Pier 3S															
61-61	591.184			591.277			591.357			591.484			591.653		
62-62	.338			.431			.510			.637			.806		
63-63	.493			.587			.669			.794			591.962		
64-64	.638			.751			.831			591.958			592.127		
65-65	.824			591.917			591.996			592.124			.292		
66-66	591.988			592.081			592.163			.289			.457		
67-67	592.159			.252			.332			.459			.627		
68-68	.328			.421			.500			.627			.796		
69-69	.494			.587			.669			.795			592.963		
70-70	.666			.759			592.838			592.965			593.134		
71-71	.834			592.927			593.006			593.183			.302		
72-72	592.999			593.092			.174			.299			.468		
73-73	593.168			.262			.341			.468			.637		
74-74	.336			.429			.508			.685			.804		
75-75	.498			.591			.673			.799			593.967		
76-76	.665			.758			593.838			593.965			594.133		
77-77	.829			593.921			594.002			594.128			.297		
78-78	593.992			594.085			.166			.292			.501		
79-79	594.159			.253			.330			.459			.627		
80-80	594.323			594.417			594.493			594.623			594.791		
Bk. Fo. Abut.															

Work sheets 31 thru 33 together

SHEET 33

SOUTH APPROACH
CONSTRUCTION ELEVATIONS
UNIT 1S

KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION

PROJECT I 275-9 ( )0
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA

STATION 80+38.56

HAZELET & ERDAL Consulting Engineers File No. 872D	BRIDGE NUMBER	DRAWING NO. 17209	INDEX

DESIGNED BY		DATE	REVISED
DRAWN BY		DATE	REVISED
CHECKED BY		DATE	REVISED
CHECKED BY		DATE	REVISED
TRACED BY		DATE	REVISED

BRIDGE

U S ARMY ENGINEER DISTRICT, LOUISVILLE
CORPS OF ENGINEERS
600 WEST BROADWAY
LOUISVILLE KENTUCKY 40201

ADDRESS REPLY TO
DISTRICT ENGINEER
U.S. ARMY ENGINEER DISTRICT, LOUISVILLE
ATTN: ADMIN BRANCH
P.O. BOX 59
LOUISVILLE, KY 40201
IN REPLY REFER TO LMLOP-A(Bridge Over Ohio River Near Lawrenceburg, Ind.-MI 491.6)

23 November 1964

Commonwealth of Kentucky
Department of Highways
Frankfort, Kentucky

ATTN: D.H. Bray, State Highway Engineer

Gentlemen:

Your application to construct a highway bridge across the Ohio River near Lawrenceburg, Indiana, dated 20 August 1964, is approved.

In compliance with your request there is inclosed an instrument of approval issued by direction of the Secretary of the Army, dated 12 November 1964, authorizing the construction of a highway bridge across the Ohio River at Mile 491.6 near Lawrenceburg, Indiana. Should changes in the location or plans of the structure or work become necessary, revised plans shall be submitted to this office for approval before construction is commenced.

Please inform this office, as early as possible, the actual date upon which construction will begin and also the date when all physical work is completed. The latter information should also state whether or not the structure has been completed in accordance with the terms of the instrument and approved plans. It is requested that this office be furnished, when available, a set of the detailed construction plans of the project.

Very truly yours,

MORRIS L. GARDNER
Major, Corps of Engineers
Deputy District Engineer

Incl
Orig. Instrument of Approval w/plans attached.

DEPARTMENT OF THE ARMY
APPROVAL OF LOCATION AND PLANS OF BRIDGE

Whereas *by Title V of an act of Congress approved August 8, 1946, entitled General Bridge Act of 1946 (33 U. S. C., 525-533, as amended) the consent of Congress is granted to the construction, maintenance and operation of bridges and approaches thereto over the navigable waters of the United States;*

And whereas *section 10(b) of said act provides that "The location and plans of any bridge shall be submitted to the Secretary of the Army and the Secretary of the Army before construction is commenced, and for approving the location and plans of any bridge, they may impose any specific conditions relating to the maintenance and operation of the structure which they may deem necessary in the interest of public navigation, and the conditions so imposed shall have the force of law;"*

And whereas the KENTUCKY DEPARTMENT OF HIGHWAYS has *submitted plans and a map of the location of a bridge to be constructed across the OHIO RIVER near Lawrenceburg, in the State of Indiana*

Now therefore, *This is to certify that the location and attached plans are hereby approved by the Chief of Engineers and by the Secretary of the Army, pursuant to the above-mentioned act of Congress, subject to the following conditions:*

1. The district engineer in charge of the locality within which the bridge is to be built may supervise its construction in order that said plans shall be complied with.

2. All work shall be so conducted as that the free navigation of the waterway shall not be unreasonably interfered with and the present navigable depths shall not be impaired. The channel or channels through the structure shall be promptly cleared of all falsework, piling, or other obstructions placed therein or caused by the construction of the bridge, to the satisfaction of the said district engineer, when in his judgment the construction work has reached a point where such action should be taken, and in any case not later than [illegible] *days after the bridge has been opened to traffic.*

3. The approach hereby granted shall cease and be null and void unless the actual construction of the bridge be commenced within [illegible] *years and completed within* [illegible] *years from the date of this instrument.*

4. No deviation from the approved plans shall be made at any time before or after completion of the bridge unless modifications of said plans have previously been submitted to and received the approval of the Chief of Engineers and of the Secretary of the Army.

5. To maintain a display of a light to be approved by the district engineer and to be installed on the upstream and downstream ends of the Kentucky or south pier of the mid-river span by and at the expense of the owners of the structure.

In witness whereof *I have hereunto set my hand by direction of the Chief of Engineers this* 5th *day of* November *1964.*

MORRIS L. GARDNER
Major, Corps of Engineers
Deputy Chief, Civil Works

In witness whereof *I have hereunto set my hand by direction of the Secretary of the Army this* 12th *day of* November *1964.*

R. A. BOOTHBY
Chief, Office of Civil Functions

FED. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				

Proposed Bridge Across Ohio River near Lawrenceburg, Indiana Mile 491.6

Kentucky Department of Highways
Commonwealth of Kentucky
Frankfort, Kentucky

FINDINGS OF FACT

1. The proposed bridge is a fixed structure across the Ohio River between Boone County, Kentucky and Dearborn County, Indiana at Mile 491.6 below Pittsburgh, Pennsylvania about 1.4 miles upstream from Lawrenceburg, Indiana. The structure will consist of three steel truss spans; 506 feet, 750 feet, 506 feet, center to center of piers respectively, with fill and trestle work approaches. The main channel span in about mid-river will provide a horizontal clearance of 720 feet (clear opening). The minimum vertical clearance provided at the low point of steel at the north or Indiana end of the bridge will be 78.3 feet above normal pool level, which is 32 feet above the 1937 High Water.

2. The proposed highway bridge does not replace any other structure but is an additional link in the interstate highway system in the area.

3. A preliminary conference was held in the office of Hazelet & Erdal, Consulting Engineers for the applicant in Louisville, Kentucky, on 5 August 1964, to discuss navigation clearances to be provided in the proposed structure. Those attending represented the following:

Indiana State Highway Commission
Kentucky Department of Highways
Bureau of Public Roads, Indiana & Kentucky Division
Corps of Engineers
American Commercial Lines, Inc.)
The Ohio River Company) Member of Bridge Clearance
Mississippi Valley Barge Line Co.) Committee - American Waterway Operators.
Hazelet & Erdal

The clearances and pier locations as shown on the plans accompanying this application are those agreed upon by all concerned at this conference.

4. The present governing bridge clearances on the waterway are horizontal clearance of 241.5 feet in the span of the Pennsylvania Railroad Bridge across the Louisville Portland Canal M'a 604.4, and vertical clearance of 69.8 feet at low point of steel with this bridge in raised position.

5. No preliminary investigation has been made in this case, by the District Engineer since it is believed that the bridge proposed has adequate clearances for any foreseeable navigation and flood control purposes. There are no established standard bridge clearances on the Ohio River.

6. A notice of public hearing to consider the application and plans was issued on 27 August 1964. A public hearing was held at Burlington, Kentucky on 29 September 1964. The hearing was attended by 26 interested parties. Two prepared statements favoring the proposed construction were received and accompany the report on this application.

7. The principal method of handling traffic on the Ohio River is in tows of tank and cargo barges propelled by towboats. These barges vary in size. Those used in long haul tows by the large common carriers are principally 26 feet wide by 175 feet long and 35 feet wide by 195 feet long, and are capable of being loaded to a draft of 9 feet or more. They may be rafted into tows of from 1 to 23 or more barges. The present largest long haul tows for pool navigation are about 105 feet in width and not over 1200 feet in length, loaded to an 8-1/2 feet draft with a cargo of from 12,000 to 25,000 tons. It is not likely that the above size of tows will be greatly exceeded during normal pool stages of the river. During open river stages tows of somewhat greater length and width than mentioned above may be used.

The traffic which passed the site of the proposed bridge in 1963 amounted to approximately 20,400,000 tons, as compared with about 26,460,000 tons at Paducah, Kentucky; about 25,700,000 tons at Louisville, Kentucky and about 20,100,000 tons at Cincinnati, Ohio. The tonnage at the bridge site was composed principally of iron, steel, petroleum products, coal, coke, chemicals, sand, gravel, stone, sulphur and unclassified commodities.

8. The potential commercial, industrial and physical development along the Ohio River is steadily increasing and will create a further demand for river transportation for many commodities not now being shipped by water. It is believed that the proposed bridge is suitably located and provides adequate navigation clearances; it will not constitute an unreasonable hazard or menace to increased navigation and therefore, will have no adverse effect on prospective development of the area.

9. Requirements of extremes of navigation: - A large percentage of the towboats operating on the Ohio River in the vicinity of the proposed bridge range in height of 35 feet to 40 feet. At maximum looking stage of the new Markland Dam there will be a minimum clearance of 52.0 feet available in the proposed bridge. The vertical clearance proposed in the structure will not restrict or hamper the operations of the larger class of towboats. During extreme high river stages such as in 1937 and 1945 there is no navigation in the reach of the river due to the fact that most of the terminal landings are inundated.

10. The bridge is designed for increased road traffic on the interstate highway systems of Kentucky and Indiana. The bridge as proposed is believed to have sufficient floodway openings to adequately pass any flood that reasonably may be expected to occur. The navigation clearances provided are believed ample for present boating needs and for any foreseeable navigation purposes.

11. The criteria used in establishing the minimum vertical clearance of 78.3 feet above normal pool level in this bridge is based on the grade and elevation of Interstate 275 at this particular site. The grade is more or less fixed by the roadway project immediately south of the bridge. The high bluffs above the river and the deep cuts necessary result in a grade which is higher than would be necessary for navigational purposes. The 720 foot clear channel width in the mid-river span was considered ample clearance by representatives of the National Bridge Committee of the American Waterway Operators, Inc. Therefore, there is no justification for an increase in cost of construction, operation and maintenance of the bridge to provide increased clearances for any foreseeable prospective navigation.

12. Other pertinent data: None.

13. Conclusions:

a. The proposed bridge is within the legally navigable portion of the Ohio River.

b. Approval of the location and plans of the proposed bridge is required by the Secretary of the Army and the Chief of Engineers.

c. The structure is authorized by the General Bridge Act of 1946, subject to the approval of the location and plans.

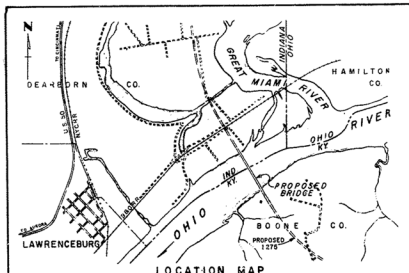
d. The application and description of the proposed bridge was duly publicized; a public hearing was held on 29 September 1964.

e. No protests were received from navigation or other interests.

f. That the clearances provided for the structure are sufficient for present navigation in this reach of the river and will not adversely affect any possible future navigation.

g. The bridge will have no adverse effect on flood heights or the passage of drift.

From the foregoing facts I find that the approval of the proposed plans should be recommended to the Secretary of the Army in the best interests of the general public.



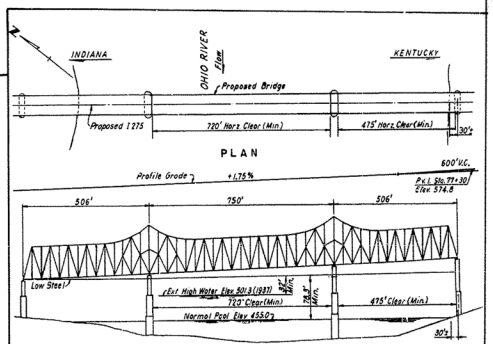
LOCATION MAP

VICINITY MAP
SCALE OF MILES

PREPARED BY HAZELET AND ERDAL CONSULTING ENGINEERS LOUISVILLE, KENTUCKY

The Proposed Bridge is to be located of Ohio River Mile 491.6, approx. 488 miles from the convergence of the Mississippi and Ohio Rivers

PROPOSED BRIDGE OVER OHIO RIVER
BOONE CO., KY.-DEARBORN CO., IND.
APPLICATION BY
KENTUCKY DEPT. OF HIGHWAYS
SHEET 1 of 2 DATE: 8-20-64



Elevations are in feet and refer to Mean Sea Level.
Bridge to be located at Ohio River Mile 491.6
Normal Pool Elevation corresponds to an elevation of 455.0 feet above Mean Sea Level. (Ohio River Datum)

SCALES OF FEET
HORIZONTAL 200 100 0 200
VERTICAL 100 50 0 100

PREPARED BY HAZELET AND ERDAL CONSULTING ENGINEERS LOUISVILLE, KENTUCKY

PROPOSED BRIDGE OVER OHIO RIVER
BOONE CO., KY.-OEARBORN CO., INO.
APPLICATION BY
KENTUCKY DEPT. OF HIGHWAYS
SHEET 2 of 2 DATE: 8-20-64

SHEET 34

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT
PROJECT I 275-9 (10)
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA

STATION 80+38.56

BRIDGE NUMBER

DRAWING NO. 17209

INDEX

SOUTH APPROACH

CONSTRUCTION PERMIT INFORMATION

DESIGNED BY	CHECKED BY	DATE	REVISED	DATE
DETAILED BY	CHECKED BY	DATE	REVISED	DATE
TRACED BY	CHECKED BY	DATE	REVISED	DATE

FED. REGION NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.				

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

Address reply to:
COMMANDANT
U.S. COAST GUARD
WASHINGTON, D.C.
20591

INSTRUMENT

29 NOV 1967

WHEREAS by an instrument signed on 5 November 1964 and 12 November 1964, the Chief of Engineers and the Secretary of the Army approved the map of location and plans of a bridge to be constructed by the Kentucky Department of Highways across the Ohio River near Lawrenceburg, Indiana, under authority of the General Bridge Act of 1946;

AND WHEREAS condition 3 of said instrument of approval fixed the times for commencing and completing construction of said bridge at 12 November 1966 and 12 November 1968;

AND WHEREAS the times for commencing and completing construction have been previously extended to 12 November 1967 and 12 November 1969;

AND WHEREAS construction of said bridge has not been commenced;

AND WHEREAS the functions, powers and duties of the Chief of Engineers and the Secretary of the Army under the General Bridge Act of 1946 have been transferred to and vested in the Secretary of Transportation by section 6(g)(6)(C) of the Department of Transportation Act (80 Stat. 931) and delegated by the Secretary of Transportation to the Commandant of the Coast Guard in title 49 Code of Federal Regulations, part 1;

AND WHEREAS the KENTUCKY DEPARTMENT OF HIGHWAYS - now requests that the times for commencing and completing construction of said bridge be extended;

NOW THEREFORE, This is to certify that the times for commencing and completing construction of said bridge are hereby extended to 12 November 1968 and 12 November 1970, all other conditions of the previous instrument of approval remaining unchanged, except condition 4 which is modified as follows:

4. No deviation from the approved plans shall 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 of the Coast Guard.

W. J. Smith
W. J. SMITH
Admiral, U. S. Coast Guard
Commandant

DEPARTMENT OF THE ARMY
LOUISVILLE DISTRICT CORPS OF ENGINEERS
P O BOX 59 830 WEST BROADWAY
LOUISVILLE KENTUCKY 40201

IN REPLY REFER TO ORLOP-AN(Bridge Over Ohio River Near Lawrenceburg, Ind. Mi 491.6) 12 December 1967

Commonwealth of Kentucky
Department of Highways
Frankfort, Kentucky 40601

ATTN: Mr. Charles G. Cook, Director
Division of Bridges

Gentlemen:

Reference your letter dated 19 October 1967 requesting an extension of time to the original Instrument of the Approval of Location and Plans of Bridge across the Ohio River near Lawrenceburg, Indiana.

Inclosed is an Instrument dated 29 November 1967, issued by the Department of Transportation, United States Coast Guard, extending the time of commencing and completing construction of said bridge to 12 November 1968 and 12 November 1970 respectively. This Instrument shall become a part of the original Instrument approved 12 November 1964.

Acknowledgement of receipt of this Instrument is requested.

Very truly yours,

John R. Bleidt
JOHN R. BLEIDT
Chief, Operations Division

Incl
As stated

Copy furnished:

Commander, 2nd Coast Guard District (o)
1520 Market Street - Federal Bldg.
St. Louis, Mo. 63103

DEPARTMENT OF THE ARMY
U S ARMY ENGINEER DISTRICT LOUISVILLE
P O BOX 59 830 WEST BROADWAY
LOUISVILLE KENTUCKY 40201

IN REPLY REFER TO ORLOP-A (Bridge Over Ohio River Near Lawrenceburg, Ind. - Mile 491.6) 11 March 1966

Commonwealth of Kentucky
Department of Highways
Frankfort, Kentucky

ATTN: Mr. Guy E. Vansant, Jr.,
Director, Division of Bridges

Gentlemen:

Reference is made to your letter of 4 March 1966, requesting an extension of time for commencing and completing construction of a highway bridge across the Ohio River, 491.6 miles below Pittsburgh, Pennsylvania near Lawrenceburg, Indiana.

Condition 3 of the Instrument of Approval of the location and plans of the bridge, signed by the Chief of Engineers and the Secretary of the Army on 5 November 1964 and 12 November 1964, fixed the times for commencing and completing construction of the bridge at 12 November 1966 and 12 November 1968.

This is to certify that by authority of the Secretary of the Army and the Chief of Engineers, the times for commencing and completing construction of the bridge are extended to 12 November 1967 and 12 November 1969, all other conditions of the original Instrument of Approval remaining unchanged.

Sincerely yours,

W. Roper
W. ROPER
Colonel, Corps of Engineers
District Engineer

SHEET 35

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT

PROJECT I 275-9 ( ) O
BRIDGE OVER OHIO RIVER ON I 275

BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA

STATION 80+38.56

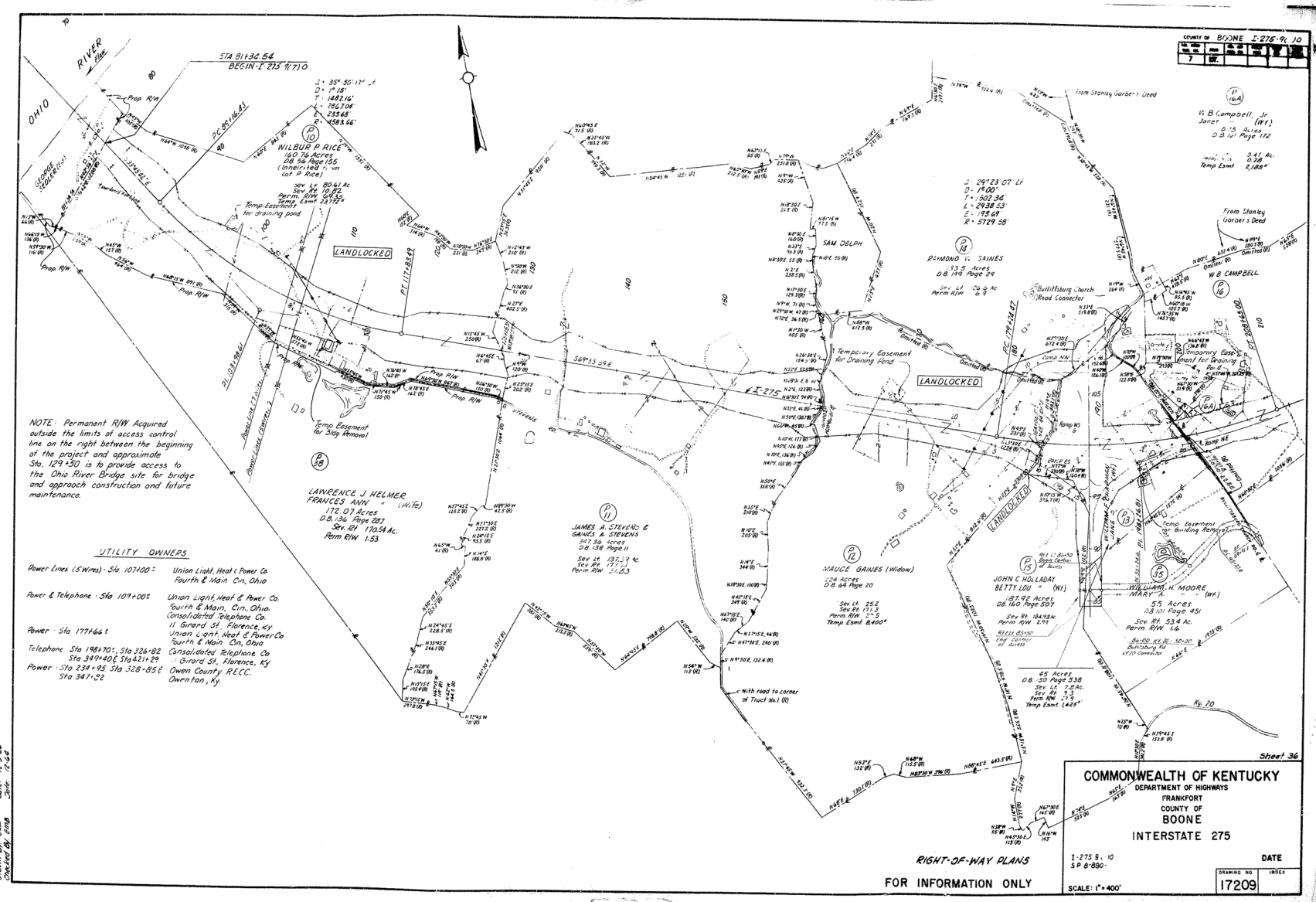
BRIDGE NUMBER | DRAWING NO. 17209 | INDEX

SOUTH APPROACH
CONSTRUCTION PERMIT INFORMATION

DESIGNED BY ... DATE ... CHECKED BY ... DATE ... REVISED ... DATE ...
DETAILED BY ... DATE ... CHECKED BY ... DATE ... REVISED ... DATE ...
TRACED BY ... DATE ... CHECKED BY ... DATE ... REVISED ... DATE ...

County of BOONE I-275-9, 10

7					



NOTE: Permanent R/W Acquired outside the limits of access control line on the right between the beginning of the project and approximate Sta. 129+50 is to provide access to the Ohio River Bridge site for bridge and approach construction and future maintenance.

UTILITY OWNERS

Power Lines (5 Wires) - Sta 107+00 ±	Union Light, Heat & Power Co. Fourth & Main Cin, Ohio
Power & Telephone - Sta 109+00 ±	Union Light, Heat & Power Co. Fourth & Main, Cin., Ohio. Consolidated Telephone Co. 11 Girard St. Florence, Ky.
Power - Sta 177+66 ±	Union Light, Heat & Power Co Fourth & Main Cin, Ohio
Telephone Sta 198+70 ±, Sta 326+82 Sta 349+40 ±, Sta 421+29	Consolidated Telephone Co. 11 Girard St. Florence, Ky.
Power - Sta 234+95 Sta 328+85 ± Sta 347+52	Owen County R.E.C.C. Owenton, Ky.

Drawn By: Gail Date: 12-3-64
Checked By: Ernie Date: 12-4-64

RIGHT-OF-WAY PLANS

FOR INFORMATION ONLY

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT
COUNTY OF
BOONE
INTERSTATE 275

I-275 9, 10
S P 8-890

DATE

SCALE: 1" = 400'

DRAWING NO. 17209

INDEX

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

Address reply to
COMMANDER (oan)
Second Coast Guard District
Federal Bldg
1520 Market St
St Louis Mo 63103

3271
04 NOV 1970

Mr. Charles S. Cook
Director, Division of Bridges
Commonwealth of Kentucky
Department of Highways
Frankfort, Kentucky 40601

Re: Proposed Interstate Route No. 275 Bridge across the Ohio River, Mile 491.6, near Lawrenceburg, Indiana

Dear Mr. Cook:

Your application dated 29 July 1970 requesting an extension of time for completing the construction of the above-referenced proposed bridge has been approved by the Commandant, U. S. Coast Guard, Washington, D. C. The time for completing construction has been extended to 12 November 1972. The instrument of approval, Amendment to Bridge Permit No. 125-67a dated 15 October 1970, is enclosed.

We should be kept informed concerning the status of the construction of the proposed bridge. Upon completion of the work furnish a certification as to whether or not the bridge was constructed in accordance with the approved plans and Conditions in the Permit. It would be appreciated, also, if you will furnish us two 8 x 10-inch black and white glossy photographs of the completed structure showing the bridge from abutment to abutment.

Your attention is invited to Condition No. 3 in the Amendment to Bridge Permit which requires your compliance with the provisions of any law or regulation under the jurisdiction of the Federal Water Quality Administration. Enclosed for your information is a copy of a letter dated 8 September 1971 from that agency listing its recommended conditions for this work.

The plans for any temporary structures in the water used in building the bridge should be submitted to us for approval. Your cooperation will be appreciated.

Very truly yours,

C. W. FAINCLOTH
Commander, U. S. Coast Guard
Chief, Aids to Navigation Branch
By direction of the District Commander

Encl: (1) USCG Amendment to Bridge Permit No. 125-67a dtd 15 Oct 70
(2) Ltr dtd 8 Sept 70 from USDI, FWQA

Encl (1)

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

Address reply to
COMMANDANT (oan)
U.S. COAST GUARD
WASHINGTON, D.C. 20591

AMENDMENT TO BRIDGE PERMIT
(125-67a)

15 October 1970

WHEREAS by a permit issued on 12 November 1964, as amended 11 March 1966, the Secretary of the Army approved the map of location and plans of a bridge to be constructed by the Commonwealth of Kentucky across the Ohio River near Lawrenceburg, Indiana, under authority of the General Bridge Act of 1946;

AND WHEREAS condition 3 of said permit, as amended, fixed the time for completing construction of said bridge at 12 November 1968;

AND WHEREAS the functions, powers and duties of the Secretary of the Army under the General Bridge Act of 1946 were transferred to and vested in the Secretary of Transportation by Section 6(g)(6)(C) of the Department of Transportation Act (80 Stat. 931) and have been delegated by the Secretary to the Commandant, U. S. Coast Guard by Section 1.46(c) of Title 49 Code of Federal Regulations, and by permit issued 29 November 1967, the Commandant extended the time for completing construction of said bridge to 12 November 1970;

AND WHEREAS the - COMMONWEALTH OF KENTUCKY - now requests that the time for completing the construction of said bridge be further extended;

NOW THEREFORE, This is to certify that the time for completing construction of said bridge is hereby extended. In granting this time extension, all conditions to which the original permit, as amended, was subject are superseded by the following conditions:

1. No deviation from the approved plans shall 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. 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. The construction of falsework, pilings or other obstructions, if required, shall be accomplished in accordance with plans submitted to and approved by the Commander, Second Coast Guard District. 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 his judgment the construction work has reached a point where such action should be taken, and in any case not later than ninety days after the bridge has been opened to traffic.

AMENDMENT TO BRIDGE PERMIT: (125-67a) Bridge constructed by Commonwealth of Kentucky across the Ohio River near Lawrenceburg, Indiana

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 Federal Water Quality Administration or any other federal, state or local authority having cognizance of any aspect of the location, construction or maintenance of said bridge.

4. Clearance gauges shall be installed and maintained in a good legible condition by and at the expense of the owner of the bridge. The Commander, Second Coast Guard District will specify the type of gauges and location in which they are to be installed.

5. The approval hereby granted shall cease and be null and void unless construction of the bridge is completed by 12 November 1972.

H. D. MUTH
Captain, U. S. Coast Guard
Chief, Aids to Navigation Division

UNITED STATES
DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION
Ohio Basin Region, Room 7017, Federal Building
550 Main Street, Cincinnati, Ohio 45202

RECEIVED
SEP 10 1970
BRIDGE SECTION

September 8, 1970

In reply refer to:
CO-13

Commander (o-1)
Second Coast Guard District
Federal Building
1520 Market Street
St. Louis, Missouri 63103

Your reference:
PUBLIC NOTICE
I-275 Highway Bridge
Ohio R., Mi. 491.6
Lawrenceburg, Ind.

Dear Sir:

We hereby acknowledge receipt of your letter dated 12 August 1970 regarding a request for a time extension for completing construction of the referenced bridge across the Ohio River by the Kentucky Department of Highways. We have reconsidered the water pollution potential connected with the construction of the bridge and the possible effects on water quality of the watercourse. We recommend that if a time extension is granted, it shall be subject to the following conditions:

1. Permittee will investigate for water supply intakes, or other activities immediately downstream which may be affected by suspended solids and turbidity increases caused by work in the watercourse. He will give notice before beginning work in the watercourse in sufficient time to allow the activities to prepare for any temporary change in water quality.

2. Excavation, dredging or filling in the watercourse will be done so as to minimize increases in suspended solids and turbidity which may degrade water quality and damage aquatic life outside the immediate area of operation.

3. Deposition of dredged or excavated materials on shore, and all earthwork operations on shore will be carried out in such a way that sediment runoff and soil erosion to the watercourse are controlled and minimized. Spoil materials from watercourse or on shore operations, including sludge deposits, will not be dumped into the watercourse.

4. Temporary sanitary facilities, for use during construction only, will be of the portable type rather than dug pit privies.

5. Permittee will employ measures to prevent or control spills from fuels or lubricants to keep them out of the watercourse.

Encl (2)

Commander (o-1)
St. Louis, Missouri

September 8, 1970
Page 2

6. Upon completion of earthwork operations, all fills in the watercourse or on shore and other areas on shore disturbed during construction will be seeded, riprapped or given some other type of protection from subsequent soil erosion.

If a time extension is granted on this application, please send a copy of correspondence to this effect to Mr. Burton H. Atwood, Department of the Interior Regional Coordinator, Room 215, 2510 Dempster Street, Des Plaines, Illinois 60016.

Sincerely yours,

E. P. Baker, Jr., P.E., Chief
Federal Activities Branch

cc:
E. N. Karl
B. H. Atwood
M. E. Noecker, FWQA, Evansville
R. C. Pickard, Ky. WPCC
Attn: J. Cramer
B. A. Poole, Ind. SPCB
Attn: J. Meier

SOUTH APPROACH
CONSTRUCTION PERMIT INFORMATION

SHEET 37

KENTUCKY DEPARTMENT OF HIGHWAYS
INDIANA STATE HIGHWAY COMMISSION
PROJECT I 275-9 ( )0
BRIDGE OVER OHIO RIVER ON I 275
BETWEEN BOONE COUNTY, KENTUCKY AND DEARBORN COUNTY, INDIANA

STATION 80+38.56

HAZELET & ERDAL Consulting Engineers File No. 873 D	BRIDGE NUMBER	DRAWING NO. 17209	INDEX

LETTING DATE