

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

DESIGN DESIGNATION table with columns for current and design ADT, DHV, D, T, V-RURAL EXPRESSWAY, URBAN ARTERIAL, LEGAL SPEEDS- RURAL, URBAN.

HUR - 20 - 0.98 VILLAGE OF MONROEVILLE LYME AND RIDGEFIELD TOWNSHIPS HURON COUNTY

FR - 69(85)

No PID C No. 870431

1987 SPECIFICATIONS

The standard specifications of the State of Ohio, Department of Transportation, including changes and supplemental specifications listed in the proposal shall govern this improvement.

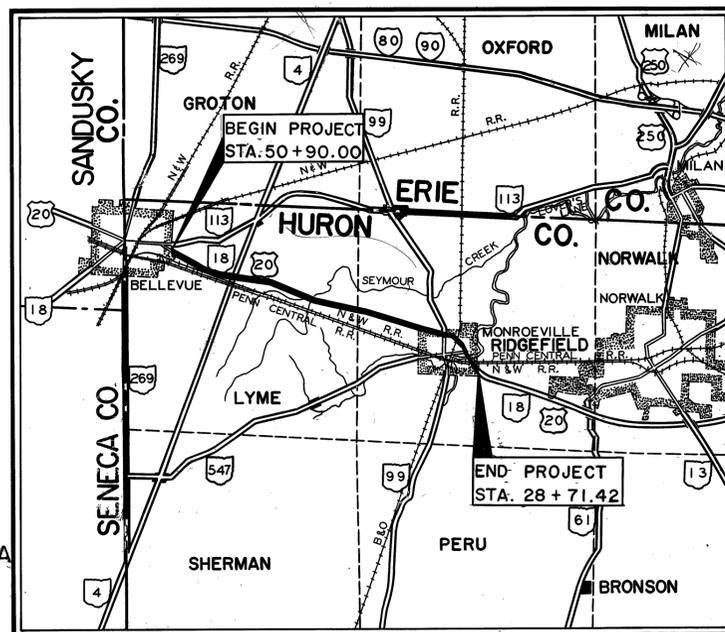
I hereby approve these plans and declare that the making of this improvement will not require the closing of the highway to traffic and that provisions for the maintenance and safety of traffic will be as set forth on the plans and estimates.

CONVENTIONAL SIGNS

Table of conventional signs including County Line, Township Line, Section Line, Corporation Line, Fence Line, Center Line, Trees, Utility Poles, Limited Access (only), Right of Way (only), etc.

INDEX OF SHEETS

Index of sheets table listing titles like TITLE SHEET, SCHEMATIC PLANS, TYPICAL SECTIONS, GENERAL NOTES, etc., with sheet numbers and descriptions.



LOCATION MAP



Portion to be improved. State & Federal Routes. Other Roads.

SCALES

Plan, Profile: Horizontal, Vertical, Cross Section: Horizontal, Vertical.

SUPPLEMENTAL SPECIFICATIONS table with columns for drawing number and date.

LINE DATA

Line data table with columns for stationing (BEGIN PROJECT, STATION EQUATION, END PROJECT, DEDUCT FOR BRIDGE, NET PROJECT LENGTH).

UNDERGROUND UTILITIES box with text: 2 WORKING DAYS BEFORE YOU DIG, Call--800-362-2764 (Toll free), OHIO UTILITIES PROTECTION SERVICE.

ADD FOR WORK table listing items like S.R. 4 INTERSECTION SIGNAL WORK, BRIDGE HUR-20-0813, STA. 28+71.42 TO 29+00, NET WORK LENGTH.

Plan Prepared By DISTRICT 3 DESIGN

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS table listing drawing numbers and dates.

Approved [Signature] Date 12/12/86 District Deputy Director of Transportation

Approved [Signature] Date 1-5-87 Engineer, Bureau of Bridges and Structural Design

Approved [Signature] Date 5-1-87 Chief Engineer, Planning and Design

Approved [Signature] Date 5-1-87 Director, Department of Transportation

DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR

DATE

Project: HUR - 20 - 0.98, HURON COUNTY Date of Letting 19, Contract No.

SEAL

US 20 VERTICAL ALIGNMENT	
P.V.I. Sta. 66+00 (Sag)	L=400' A=1.54% K=260 Exceeds Design Speed
P.V.I. Sta. 73+00 (Crest)	L=400' A=2.06% K=194 Exceeds Design Speed
P.V.I. Sta. 83+00 (Sag)	L=400' A=0.68% K=588 Exceeds Design Speed
P.V.I. Sta. 94+00 (Crest)	L=400' A=0.68% K=588 Exceeds Design Speed
P.V.I. Sta. 109+00 (Sag)	L=200' A=0.12% K=1667 Exceeds Design Speed
P.V.I. Sta. 170+00 (Crest)	L=200' A=0.34% K=588 Exceeds Design Speed

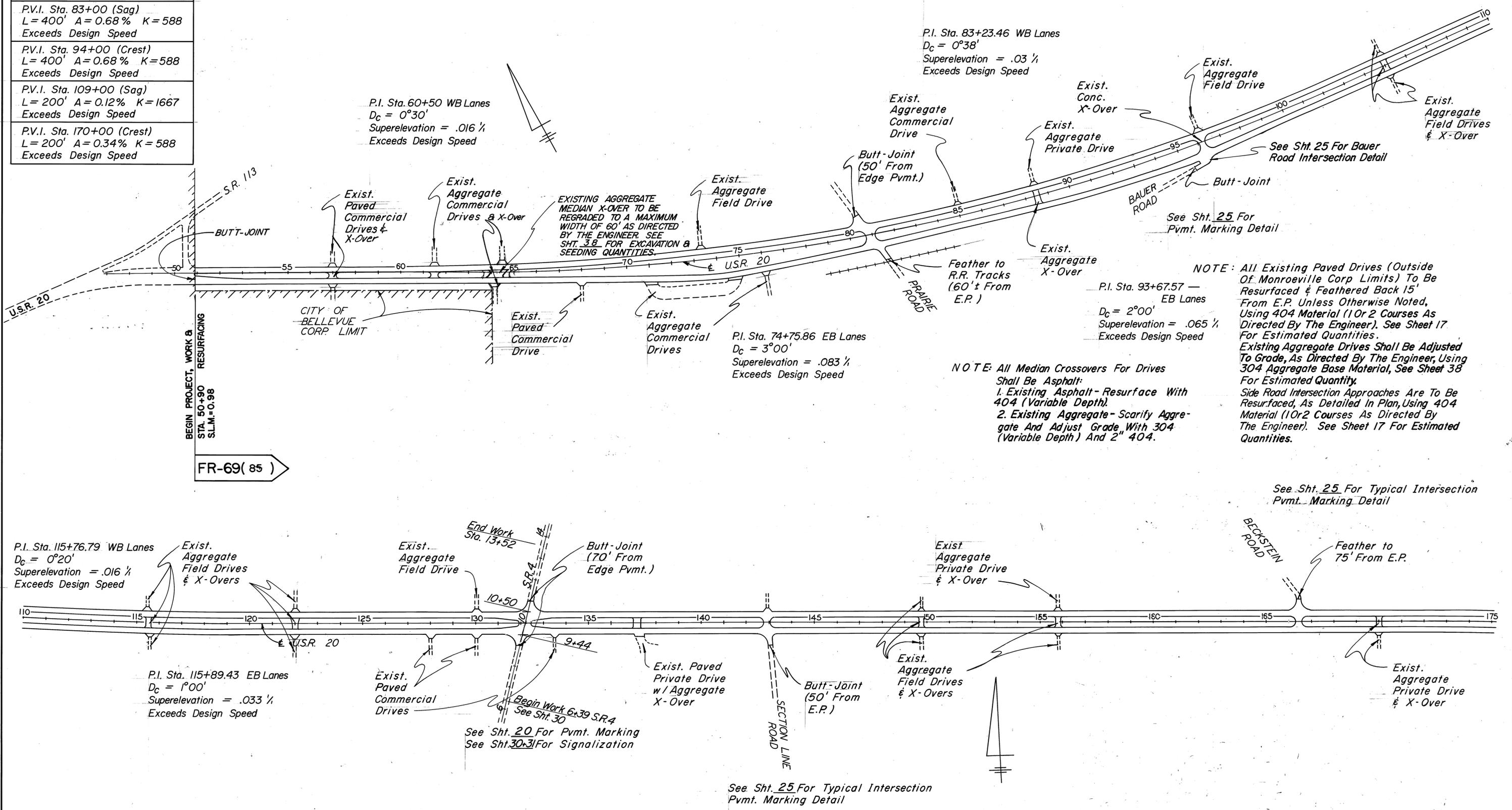
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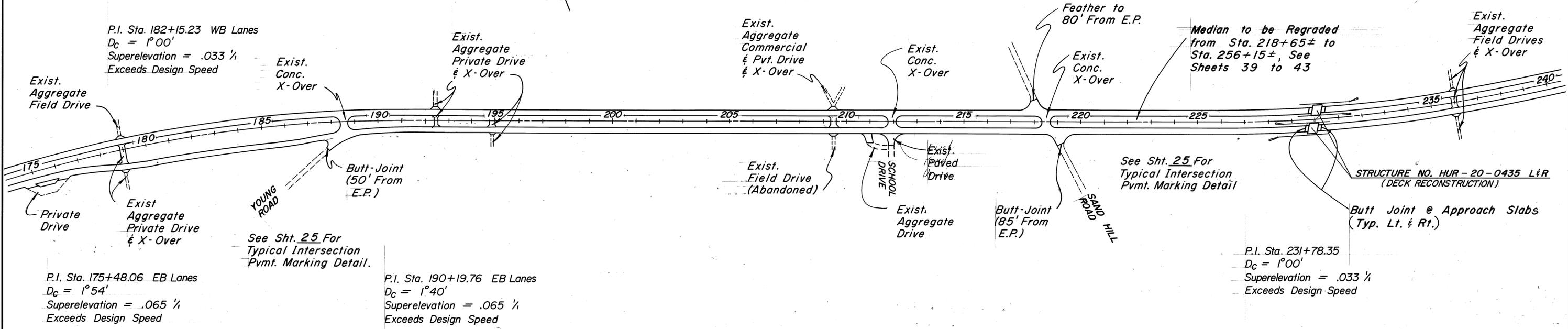
FHWA REGION	STATE	PROJECT
5	OHIO	

HUR - 20 - 0.98

2
70



SCHEMATIC PLAN - STA. 47+00 TO STA. 175+00

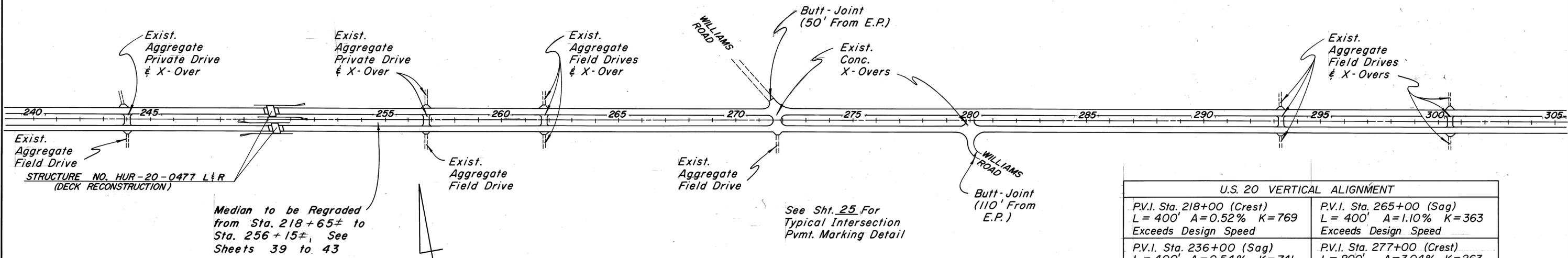


P.I. Sta. 175+48.06 EB Lanes
D_c = 1°54'
Superelevation = .065 1/2
Exceeds Design Speed

See Sht. 25 For
Typical Intersection
Pvmt. Marking Detail.

P.I. Sta. 190+19.76 EB Lanes
D_c = 1°40'
Superelevation = .065 1/2
Exceeds Design Speed

P.I. Sta. 231+78.35
D_c = 1°00'
Superelevation = .033 1/2
Exceeds Design Speed



Median to be Regraded
from Sta. 218+65± to
Sta. 256+15±, See
Sheets 39 to 43

See Sht. 25 For
Typical Intersection
Pvmt. Marking Detail

U.S. 20 VERTICAL ALIGNMENT	
P.V.I. Sta. 218+00 (Crest) L = 400' A = 0.52% K = 769 Exceeds Design Speed	P.V.I. Sta. 265+00 (Sag) L = 400' A = 1.10% K = 363 Exceeds Design Speed
P.V.I. Sta. 236+00 (Sag) L = 400' A = 0.54% K = 741 Exceeds Design Speed	P.V.I. Sta. 277+00 (Crest) L = 800' A = 3.04% K = 263 Exceeds Design Speed
P.V.I. Sta. 248+00 (Sag) L = 200' A = 0.36% K = 555 Exceeds Design Speed	P.V.I. Sta. 283+50 (Sag) L = 500' A = 2.04% K = 245 Exceeds Design Speed
P.V.I. Sta. 256+00 (Crest) L = 400' A = 0.40% K = 1000 Exceeds Design Speed	P.V.I. Sta. 302+00 (Sag) L = 200' A = 0.16% K = 1250 Exceeds Design Speed

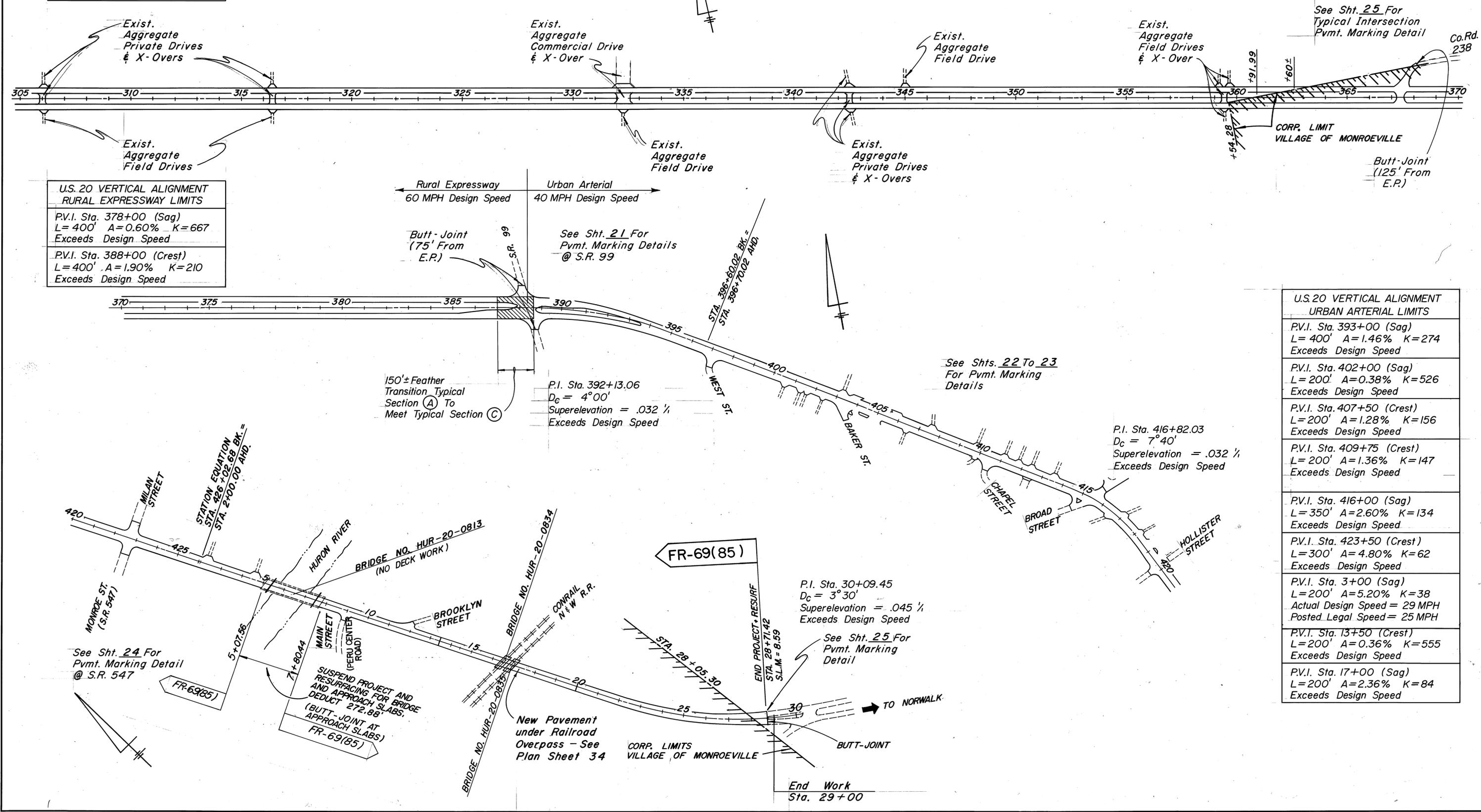
FRWA REGION	STATE	PROJECT
5	OHIO	

HUR - 20 - 0, 98

U.S. 20 VERTICAL ALIGNMENT
RURAL EXPRESSWAY LIMITS
P.V.I. Sta. 317+00 (Crest)
L=200' A=0.26% K=769
Exceeds Design Speed

U.S. 20 VERTICAL ALIGNMENT
RURAL EXPRESSWAY LIMITS
P.V.I. Sta. 378+00 (Sag)
L=400' A=0.60% K=667
Exceeds Design Speed
P.V.I. Sta. 388+00 (Crest)
L=400' A=1.90% K=210
Exceeds Design Speed

U.S. 20 VERTICAL ALIGNMENT
URBAN ARTERIAL LIMITS
P.V.I. Sta. 393+00 (Sag)
L=400' A=1.46% K=274
Exceeds Design Speed
P.V.I. Sta. 402+00 (Sag)
L=200' A=0.38% K=526
Exceeds Design Speed
P.V.I. Sta. 407+50 (Crest)
L=200' A=1.28% K=156
Exceeds Design Speed
P.V.I. Sta. 409+75 (Crest)
L=200' A=1.36% K=147
Exceeds Design Speed
P.V.I. Sta. 416+00 (Sag)
L=350' A=2.60% K=134
Exceeds Design Speed
P.V.I. Sta. 423+50 (Crest)
L=300' A=4.80% K=62
Exceeds Design Speed
P.V.I. Sta. 3+00 (Sag)
L=200' A=5.20% K=38
Actual Design Speed = 29 MPH
Posted Legal Speed = 25 MPH
P.V.I. Sta. 13+50 (Crest)
L=200' A=0.36% K=555
Exceeds Design Speed
P.V.I. Sta. 17+00 (Sag)
L=200' A=2.36% K=84
Exceeds Design Speed



SCHEMATIC PLAN - STA. 305 + 00 TO STA. 28 + 71.42

ESTIMATED QUANTITIES

Item	Total	Unit	Description	Abutments	Piers	Super.	General
202	Lump		Portions of Structure Removed, Superstructure, As Per Plan			Lump	
202	43	Cu.Yd.	Portions of Structure Removed, Abutments, As Per Plan	43			
202	13	Cu.Yd.	Portions of Structure Removed, Pier Caps, As Per Plan		13		
503	Lump		Unclassified Excavation	Lump			
511	29	Cu.Yd.	Class "S" Concrete, Pier Caps, As Per Plan		29		
511	60	Cu.Yd.	Class "S" Concrete, Abutments, As Per Plan	60			
511	157	Cu.Yd.	Class "S" Concrete, Superstructure, As Per Plan			157	
517	200	Lin. Ft.	Railing (Deep Beam Rail with Steel Tubular Back-up, Type 2 Posts and Bolts)			200	
518	51	Cu.Yd.	Porous Backfill, As Per Plan	51			
824	44,322	Lb.	Epoxy Coated Reinforcing Steel	4469	6237	33,616	
Special	42	Sq. Yd.	Sealing of Concrete Surfaces (See Proposal Note)			42	

EXISTING STRUCTURE

TYPE: Continuous Concrete Slab with Concrete Substructure
 SPAN: 2 @ 18'-0" Clear
 ROADWAY: 2 @ 44'-0" F/F Guardrail
 SKEW: 15° L.F.
 LOADING: S-20-46
 WEARING SURFACE: Asphalt
 APPROACH SLABS: 15' Long x 24' Wide
 ALIGNMENT: 1°-00' L.C.
 SUPERELEVATION: 0.033 1/4

PROPOSED STRUCTURE

TYPE: Continuous Concrete Slab on Existing Substructure
 SPAN: 2 @ 19'-0" Clear
 ROADWAY: 2 @ 44'-6" F/F Railing
 SKEW: 15° L.F.
 LOADING: HS-20-44 (Slab only)
 WEARING SURFACE: 1" Monolithic Concrete
 APPROACH SLABS: 25' Long x 44'-6" Wide
 ALIGNMENT: 1°-00' L.C.
 SUPERELEVATION: 0.033 1/4

References shall be made to Standard Drawings:
 AS-1-81 - Dated 11-27-81
 CS-2-73 - Dated 4-10-73
 DBR-2-73 - Dated 4-10-73
 GR-1 Dated 1-11-85
 And to Supplemental Specification
 824 - Dated 10-8-82

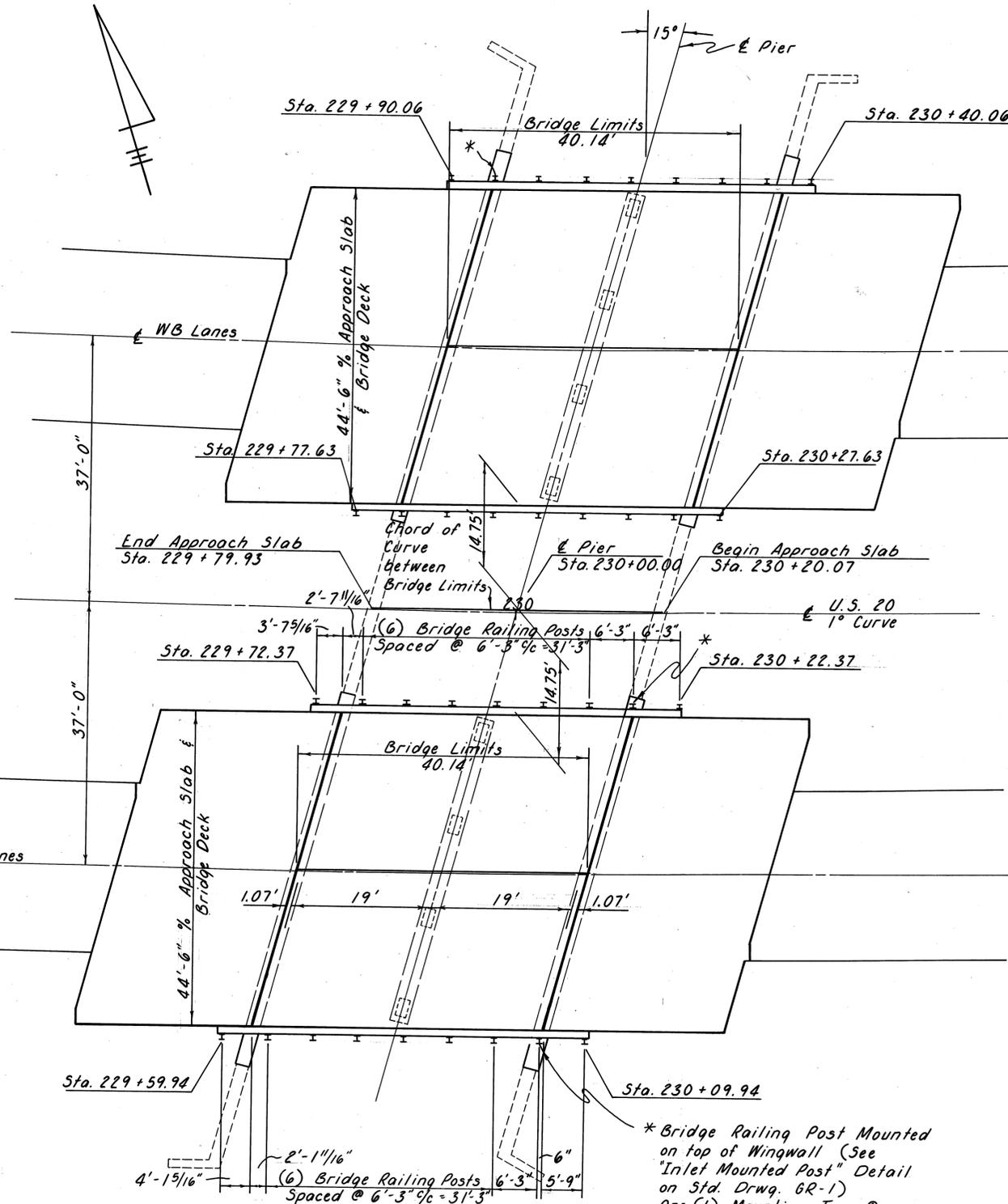
Design Specifications: This Structure Conforms to "Standard Specifications for Highway Bridges" Adopted by the American Association of State Highway and Transportation Officials, 1983, including the 1984 & 1985 Interim Specifications and the "Ohio Supplement" to the Specifications.

Design Data: Design Loading - HS-20-44 and the Alternate Military Loading.
 Concrete Class "S" - Unit Stress 1500 P.S.I.
 Concrete Class "C" - Unit Stress 1333 P.S.I.
 Reinforcing Steel - ASTM A615, A616, or A617
 Unit Stress 20,000 P.S.I.

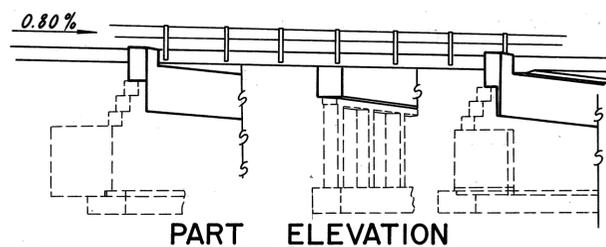
Deck Protection Method: Epoxy Coated Reinforcing Steel, Top and Bottom Mats. 2 1/2" Clearance of Top Reinforcing from Surface of Deck.

Monolithic Wearing Surface: Is Assumed, for Design purposes, to be 1" thick.

Bench Mark: Spike in Cable Pole
 South Side of Bridge 0435 Rt.
 Elev. = 759.34.



PLAN VIEW



PART ELEVATION

* Bridge Railing Post Mounted on top of Wingwall (See "Inlet Mounted Post" Detail on Std. Drwg. GR-1)
 One (1) Mounting Typ. @ Trailing End of each side of both Bridges. Cost included in Item 517.

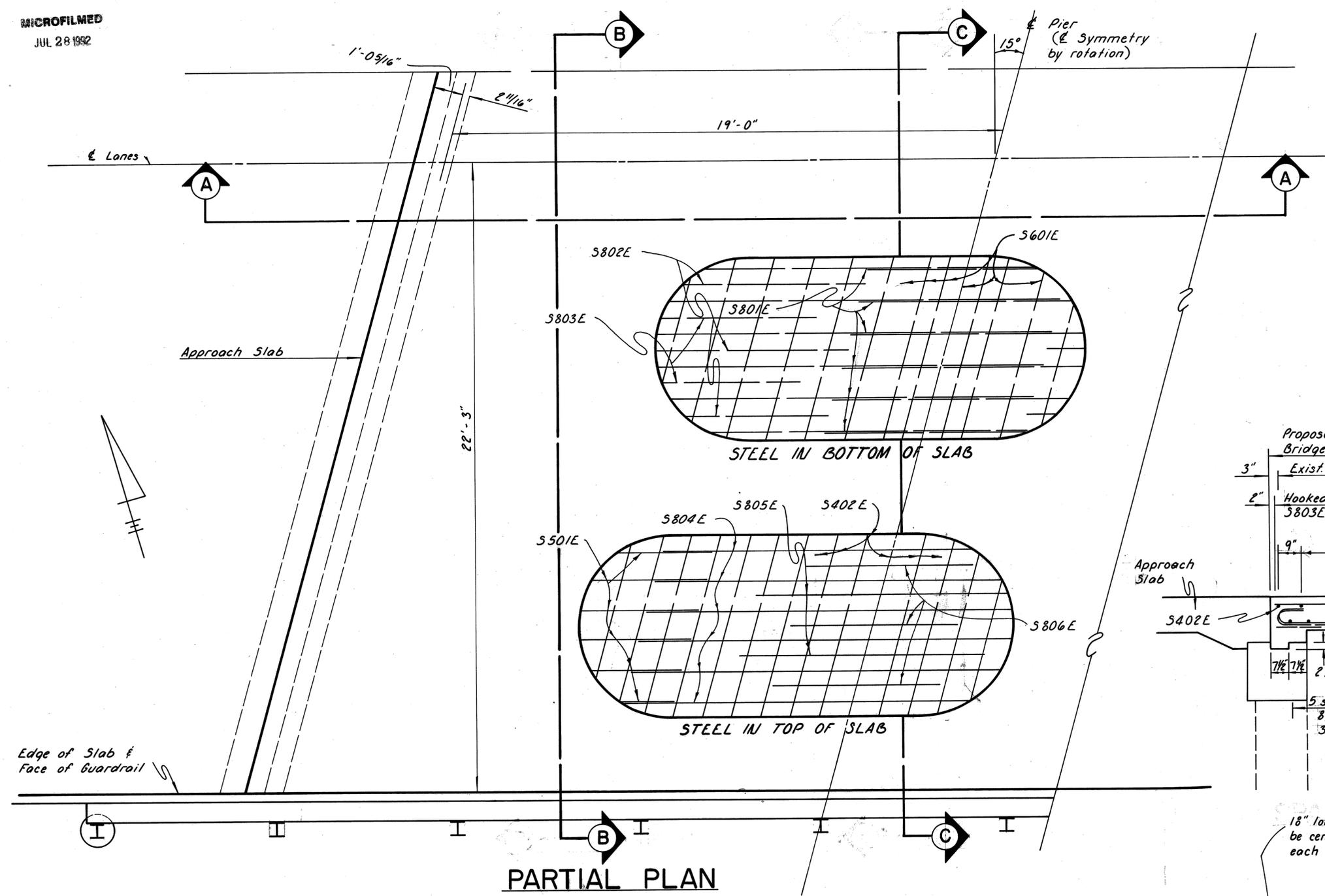
STATE OF OHIO
 DEPARTMENT OF TRANSPORTATION
 DISTRICT THREE

GENERAL PLAN - ELEVATION

ESTIMATED QUANTITIES

HUR - 20 - 0435 L & R

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RJR	MA	MA	KW	JEC	11/85	1-29-86
11/85	11/85	11/85	12-85			

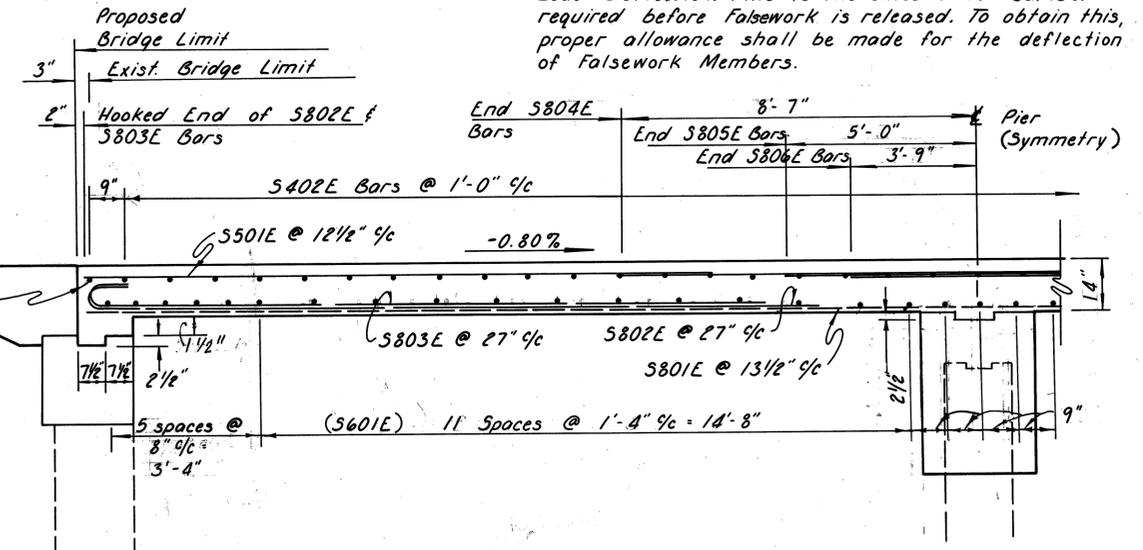


GENERAL NOTES

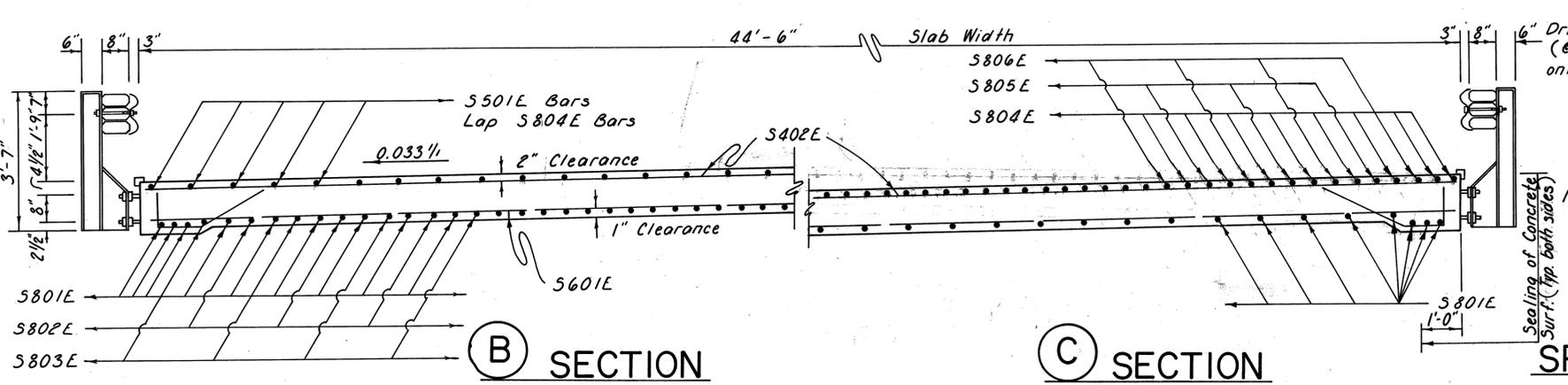
CONSTRUCTION JOINTS: One Construction Joint in Bridge Slab may be placed on Transverse Centerline of Middle Span or 1'-0" ± off Transverse Centerline if necessary to miss Railing Post and Transverse Reinforcing Steel.
One Longitudinal Joint will be permitted, on Centerline of Roadway.

REINFORCING STEEL: At the option of the Contractor, the S601E and S402E Bars may be furnished in pairs of equal length, lapped thirty diameters at the Centerline of Roadway, or in pairs of different lengths, in order to place the thirty diameter lap beyond a Longitudinal Joint at the center of Roadway. Determination of the Pay Quantity will be according to the number and length of Bars shown on the Project Plans.

CAMBER: Of 1/800 of the Span shall be provided in each Span in addition to that required for confirmation with the profile of the highway to allow for Dead Load Deflection. This is the amount of Camber required before falsework is released. To obtain this, proper allowance shall be made for the deflection of falsework Members.

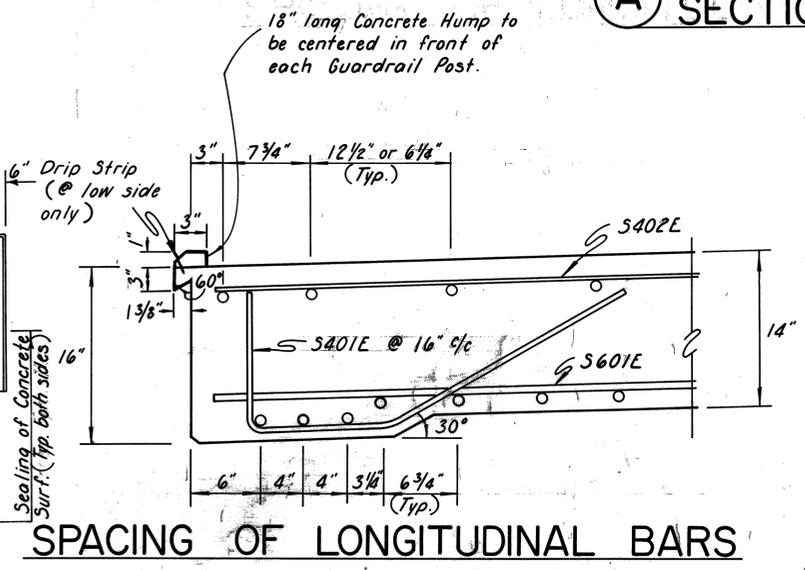


A SECTION



B SECTION

C SECTION



SPACING OF LONGITUDINAL BARS

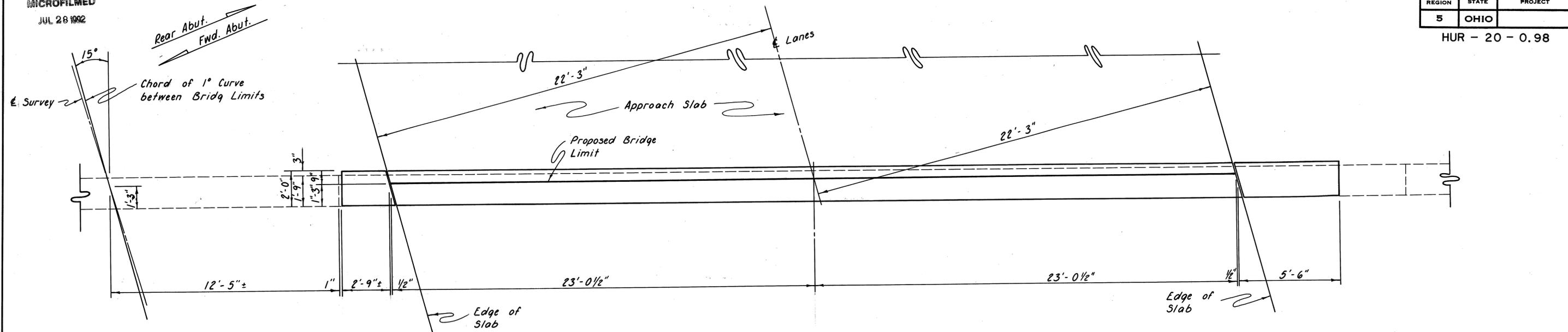
STATE OF OHIO DEPARTMENT OF TRANSPORTATION DISTRICT THREE					
SUPERSTRUCTURE DETAILS HUR - 20 - 0435 L & R					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE REVISION
RJR	MA	MA	KW	MC	9-29-86
11/85	11/85	11/85	12/85		

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JUL 28 1992

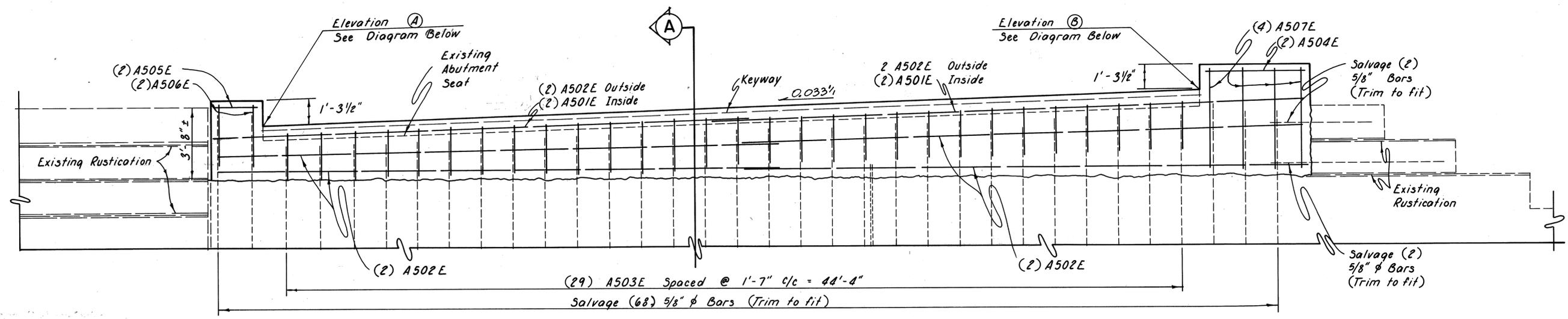
FHWA REGION	STATE	PROJECT	
5	OHIO		

HUR - 20 - 0.98

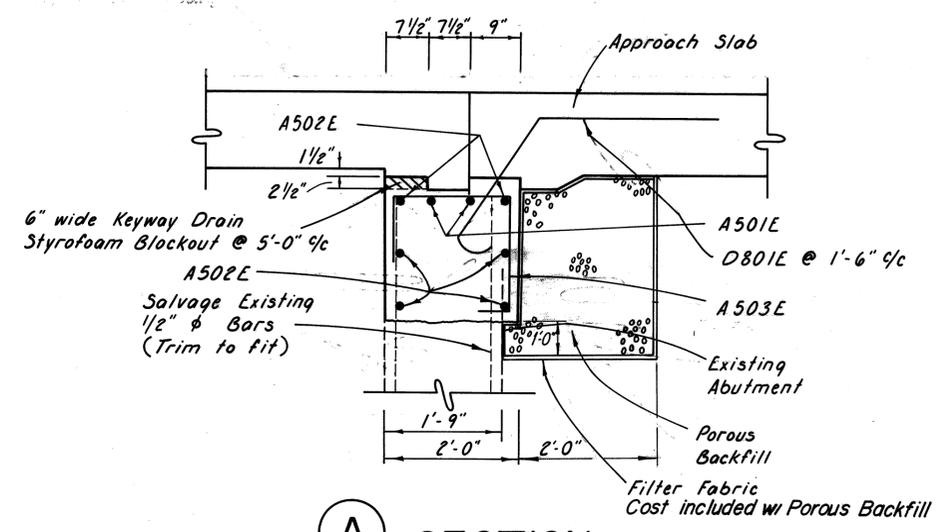
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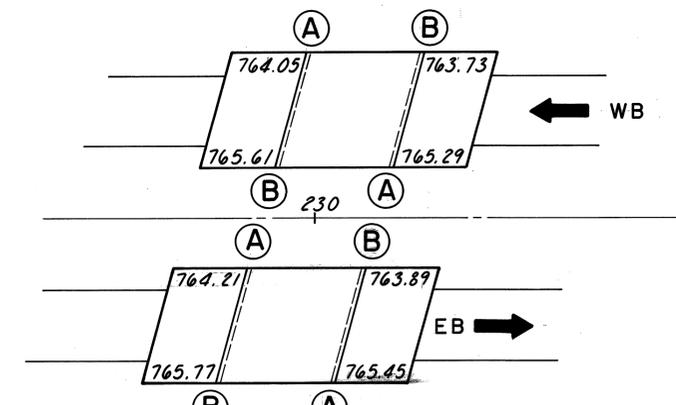
PLAN



ELEVATION



A SECTION



ABUTMENT ELEVATIONS

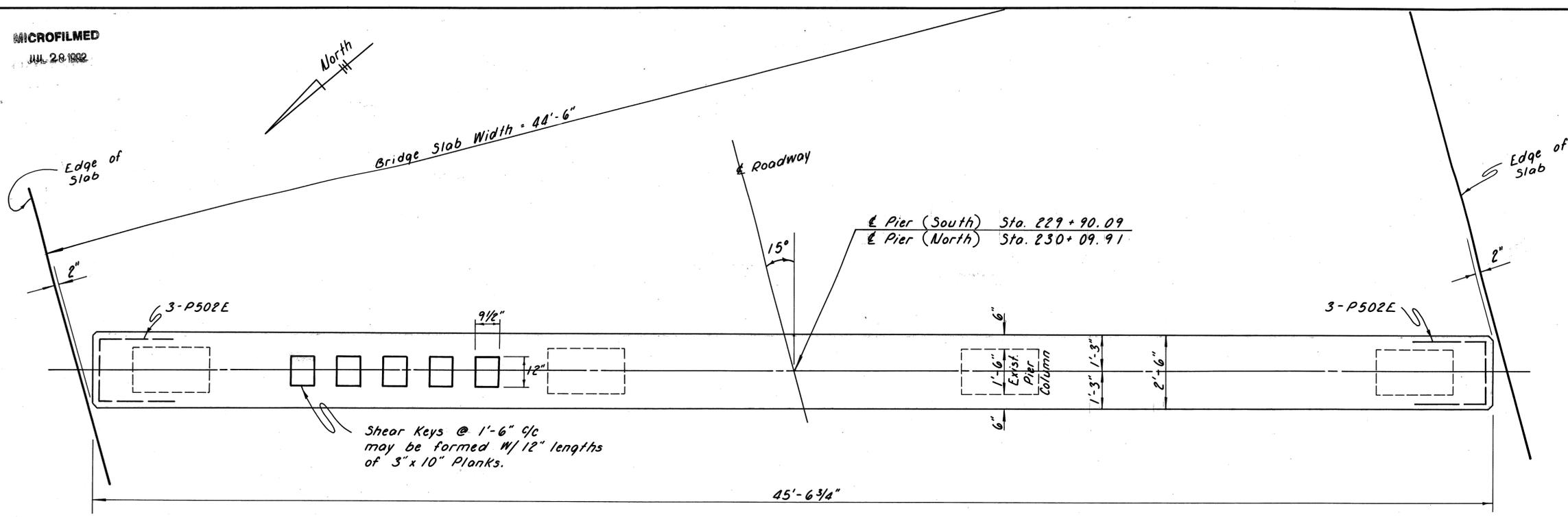
STATE OF OHIO DEPARTMENT OF TRANSPORTATION DISTRICT THREE					
ABUTMENT DETAILS					
HUR - 20 - 0435 L & R					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
RJR 11/85	MA 11/85	MA 11/85	KW 12/85	JCC 9-29-86	

MICROFILMED
JUL 28 1982

FHWA REGION	STATE	PROJECT
5	OHIO	

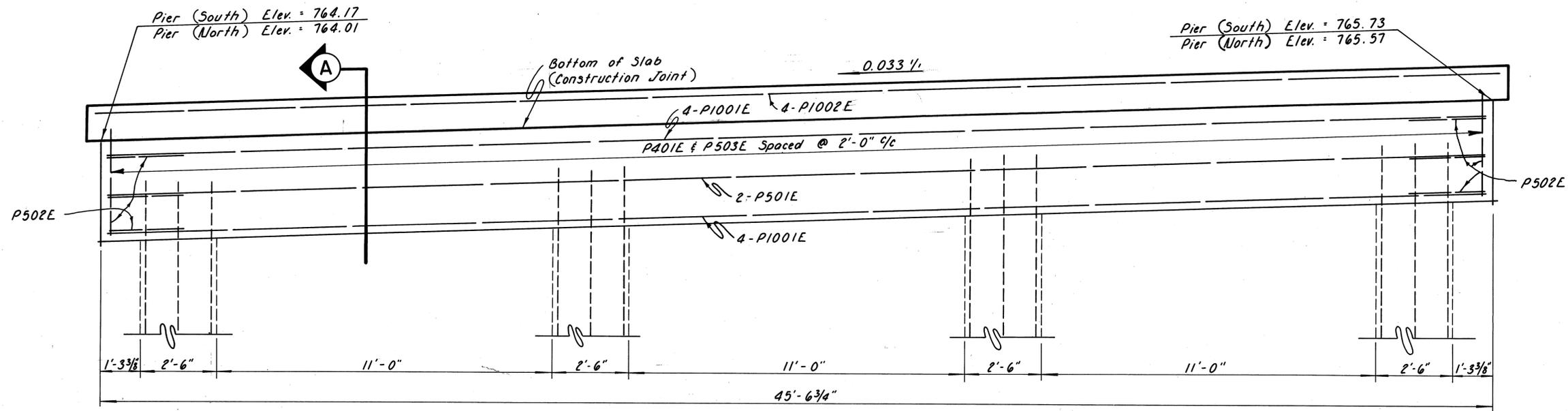
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HUR - 20 - 0.98

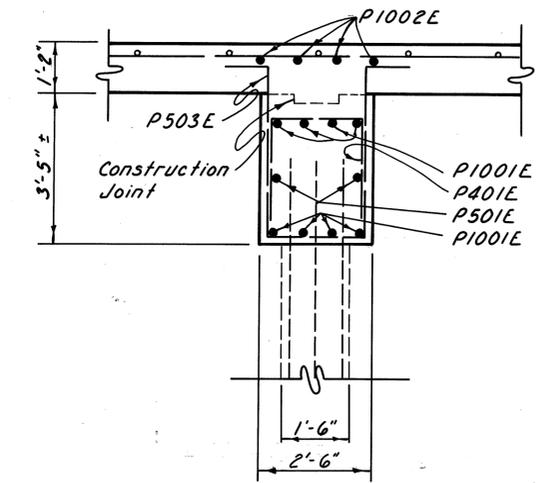


REINFORCING STEEL: The P501, P1001, and P1002E Bars, at the option of the Contractor, may be furnished in one length as shown hereon, or in pairs Lapped at or near the Centerline of the Roadway. Determination of the Pay Quantity will be according to the number and length of Bars as shown on the Project Plans. The P1001 and P1002E shall be Lapped 4'-10". The P501 Bar shall be Lapped 1'-8".

PLAN



ELEVATION



A SECTION

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT THREE

PIER
HUR - 20 - 0435 L & R

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RJR	MA	MA	RW	JJC	11/85	2-28-86

