

DESIGN DESIGNATION

(S.R. 315 SB Road to I-70 EB)
 Current A.D.T. (1994) = 13,000
 Design Year A.D.T. (2014) = 15,500
 DHV (2014) = 1,550
 D = 100%
 T24 = 5%
 Td = 3%
 Design Speed = 40 MPH
 Legal Speed = Not Applicable
 Functional Classification = Interstate (Urban) Directional Roadway

STATE OF OHIO

DEPARTMENT OF TRANSPORTATION

PROJECT DESCRIPTION: Replace deck on FRA-70-1312 bridge, provide deck overlay on FRA-315-0030R bridge, reconstruct pavement between bridges and approach pavement. Traffic under each of the above bridges will be maintained on Road DB & S.R. 315 NB.

FHWA REGION	STATE	PROJECT
5	OHIO	IM-70-3(75)

1/44

FRANKLIN COUNTY
 FRA-70-1312
 FRA-315-0030R

IM-70-3(75)

FRA - 70 - 1312 & FRA - 315 - 0030R

ROAD BC OVER ROAD DB ROAD BC OVER ROAD A

CITY OF COLUMBUS
 FRANKLIN COUNTY

1995 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.

This improvement is especially designed for through traffic and has been declared a Limited Access Highway or Freeway by Action of the Director in accordance with the provisions of Section 5511.02 of the Revised Code of Ohio.

I hereby approve these plans and declare that the making of this improvement will require the closing to traffic of the highway and that detours will be provided as indicated on sheets 7 & 8.

FOR THE STATE OF OHIO

Approved: *[Signature]*
 Date 11/1/96 District Deputy Director

Approved: *[Signature]*
 Date 11/1/96 Director, Department of Transportation

DESIGN EXCEPTION

None Required

CONVENTIONAL SIGNS

County Line _____
 Township Line _____
 Section Line _____
 Corporation Line _____
 Fence (existing) - x - x (proposed) - x - x - x - x
 Center Line _____
 Trees Stumps R (to be removed) X X X
 Utility Poles: Telephone P Power P Light L Guy G
 Guardrail (existing) - o - o (proposed) - o - o
 Water Line - W - W - W
 Gas Line - G - G - G
 Property Line - P - P - P
 Existing Right of Way - Ex. R/W -
 Proposed Right of Way - R/W -

INDEX OF SHEETS

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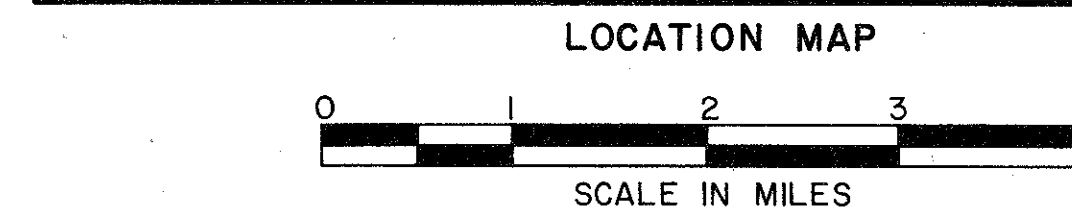
LINE DATA

Begin Project _____ 57+20.00
 End Project _____ 63+48.77
 Length of Project _____ 628.77 L.F. or 0.119 Miles
 Begin Work _____ 57+00.00
 End Work _____ 64+69.73
 Length of Work _____ 769.73 L.F. or 0.146 Miles

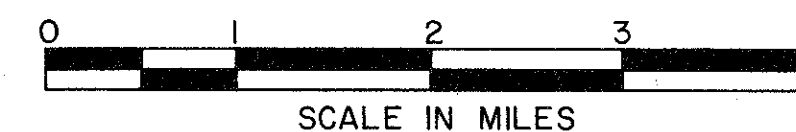
UNDERGROUND UTILITIES
 TWO WORKING DAYS
 BEFORE YOU DIG
 CALL... 1-800-362-2764 (TOLL FREE)
 OHIO UTILITIES PROTECTION SERVICE
 NON-MEMBERS
 MUST BE CALLED DIRECTLY

Portion to be Improved _____
 State & Federal Routes _____
 Other Roads _____
 PLAN: _____
 PROFILE: _____ Horizontal _____, Vertical _____
 CROSS SECTIONS: _____ Horizontal _____, Vertical _____

PLANS CERTIFIED BY:
 NAME: *Neil Patrick* DATE: 11/1/96
 DISTRICT 6
 OHIO DEPT. OF TRANSPORTATION



LOCATION MAP



SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS							
NUMBER	DATE	NUMBER	DATE	NUMBER	DATE	NUMBER	DATE
BP-1.1	2-21-92	GR-2.1	5-6-91	MC-4	7-26-76	EXJ-4-87	11-12-93
BP-2.1	2-21-92	GR-3.1	5-6-91	MC-7	10-15-76	AS-1-81	9-13-94
BP-2.2	2-21-92	GR-3.2	5-6-91	MC-9.3	10-30-92	BR-1	12-15-94
BP-2.3	2-21-92			MC-9.4	10-30-92	RB-1-55	2-2-59
BP-3.1	2-21-92	GR-4.2	5-6-91	MC-11	8-1-78	SD-1-69	6-12-69
BP-5.1	2-21-92	GR-5.3	10-30-92				
				MT-99.10	11-14-86	TC-41.10	8-29-84
GR-1.1	5-6-91	GR-8.1	1-31-94	MT-101.60	7-1-92	TC-41.20	6-1-94
GR-1.2	10-30-92			MT-105.10	7-1-92	TC-52.10	4-3-79
GR-1.3	2-21-92	CB-3A	5-1-79	MT-105.11	7-1-92	TC-52.20	4-3-79

SUPPLEMENTAL SPECIFICATIONS	
NUMBER	DATE
815	7-17-95
802	3-23-95
820	6-14-95
850	7-17-95
851	6-14-95
910	7-17-95
931	7-17-95
944	12-7-95

PLAN PREPARED BY
 E. P. FERRIS & ASSOCIATES, INC.
 766 NORTHWEST BLVD.
 COLUMBUS, OHIO 43212
 (614) 299-2999
 FOR
 THE STATE OF OHIO

REGISTERED ENGINEER
Ed P. Ferris
 NO. 32084 DATE 7-3-96
 PROJECT: FRA-70-1312
 FRA-315-0030R
 DATE OF LETTING: _____ 19____, CONTRACT NO. _____

DEPARTMENT OF TRANSPORTATION
 FEDERAL HIGHWAY ADMINISTRATION
 APPROVED: _____
 DIVISION ADMINISTRATOR _____ DATE _____

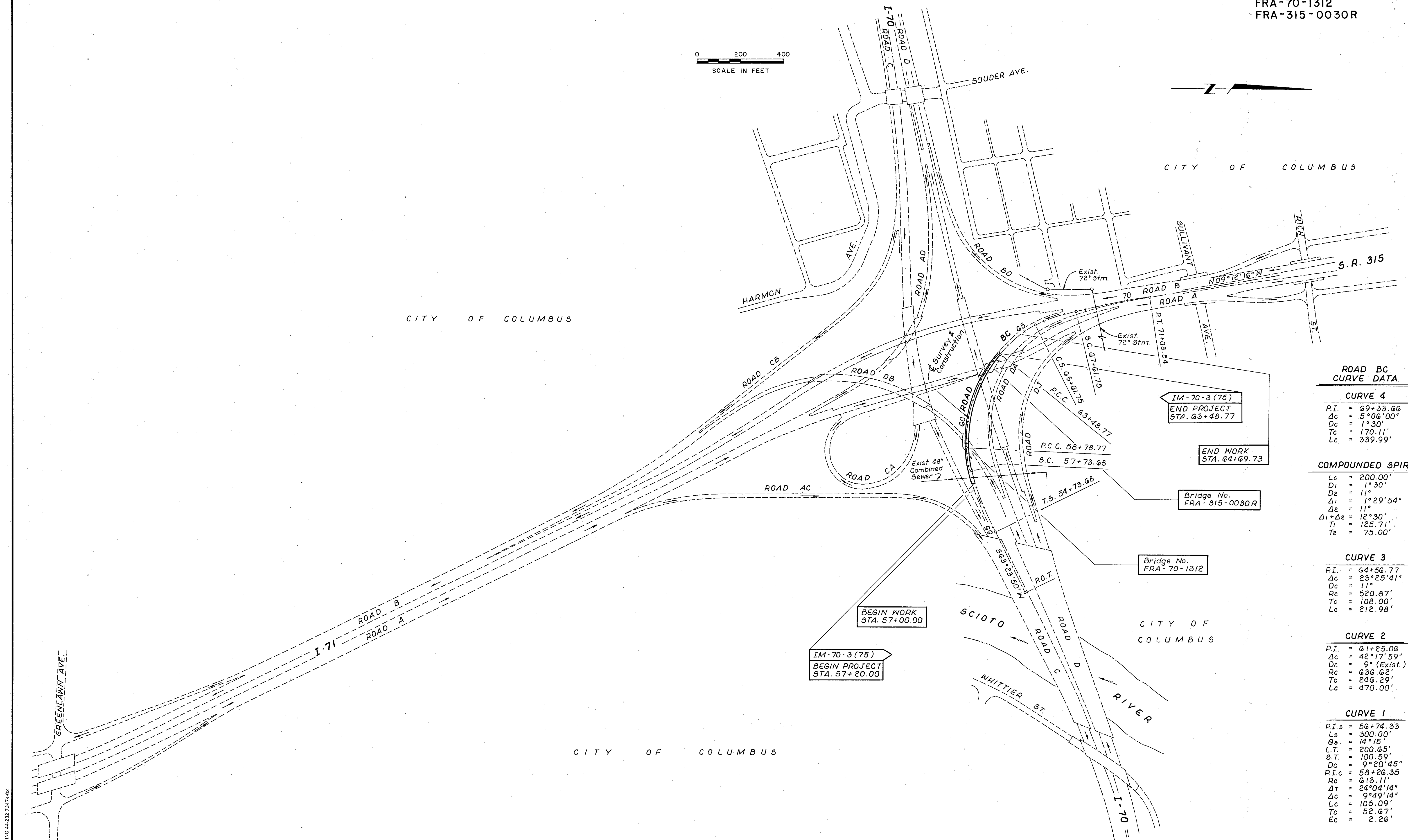
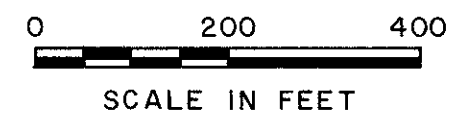
FRA-70-1312
 970383
 44PGS
 06-04-97
 DIST. 06

SCHEMATIC PLAN

FRA REGION	STATE	PROJECT
5	OHIO	IM-70-3 (75)

2
44

FRANKLIN COUNTY
FRA-70-1312
FRA-315-0030R



**ROAD BC
CURVE DATA**

CURVE 4

P.I.	= 69+33.66
Δc	= 5°06'00"
Dc	= 173.30'
Tc	= 170.11'
Lc	= 339.99'

COMPOUNDED SPIRAL

Ls	= 200.00'
D1	= 1°30'
D2	= 11°
Δ1	= 1°29'54"
Δ2	= 11°
Δ1+Δ2	= 12°30'
T1	= 125.71'
T2	= 75.00'

CURVE 3

P.I.	= 64+56.77
Δc	= 23°25'41"
Dc	= 11°
Rc	= 520.87'
Tc	= 108.00'
Lc	= 212.98'

CURVE 2

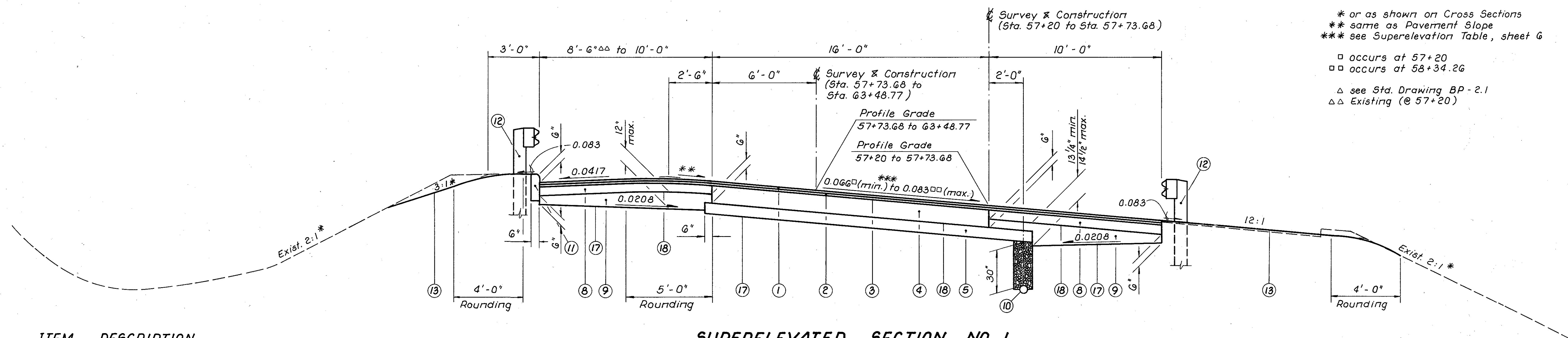
P.I.	= 61+25.06
Δc	= 42°17'59"
Dc	= 9° (Exist.)
Rc	= 636.62'
Tc	= 246.29'
Lc	= 470.00'

CURVE 1

P.I.s	= 56+74.33
Ls	= 300.00'
Δs	= 14°15'
L.T.	= 200.65'
S.T.	= 100.59'
Dc	= 9°20'45"
P.I.c	= 58+26.35
Rc	= 613.11'
ΔT	= 24°04'14"
Δc	= 9°49'14"
Lc	= 105.09'
Tc	= 52.67'
Ec	= 2.26'

TYPICAL SECTIONS

TYPE 448 on 301



* or as shown on Cross Sections
** same as Pavement Slope
*** see Superelevation Table, sheet G

□ occurs at 57+20
□ occurs at 58+34.26

△ see Std. Drawing BP-2.1
△△ Existing (@ 57+20)

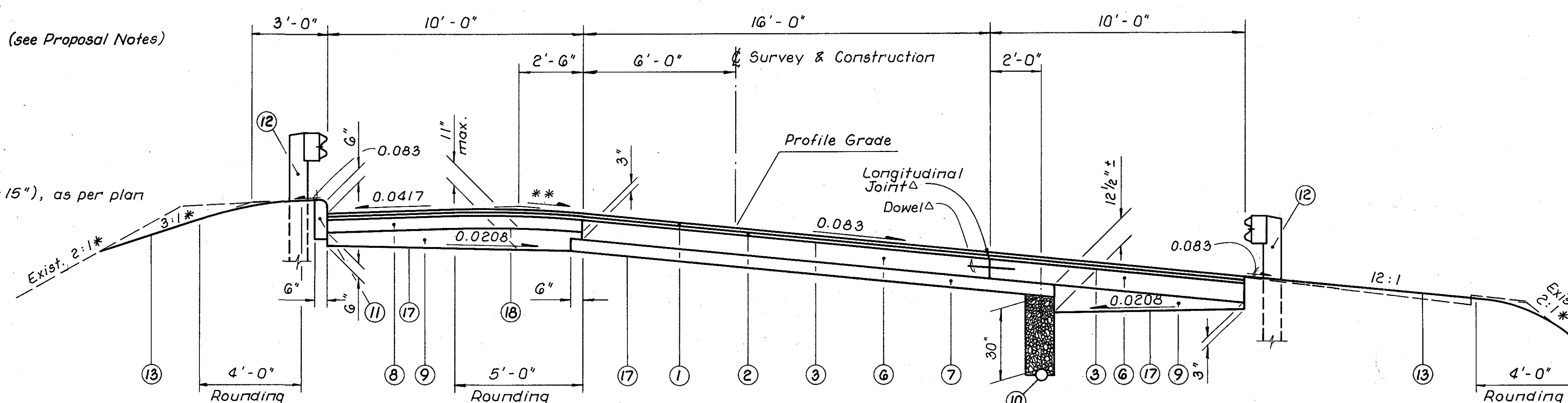
ITEM DESCRIPTION

- ① 448 ~ 1/4" Asphalt Concrete Surface Course, Type 1, AC-20
- ② 448 ~ 1/4" Asphalt Concrete Surface Course, Type 2, AC-20
- ③ 407 ~ Tack Coat (see General Note)
- ④ 301 ~ 9" Bituminous Aggregate Base, AC-20
- ⑤ 304 ~ 8" Aggregate Base (see Proposal Notes)
- ⑥ 305 ~ 9" Concrete Base
- ⑦ 304 ~ 6" Aggregate Base, Grading A (see Proposal Notes)
- ⑧ 301 ~ 6" Bituminous Aggregate Base, AC-20
- ⑨ 304 ~ Aggregate Base, variable Depth as shown, (see Proposal Notes)
- ⑩ 605 ~ 6" Pipe Underdrain
- ⑪ 609 ~ Curb, Type G
- ⑫ 606 ~ Guardrail, Type 5
- ⑬ 659 ~ Seeding and Mulching
- ⑭ 611 ~ Reinforced Concrete Approach Slab (T-15"), as per plan (see General Notes)
- ⑮ 609 ~ Curb, Type 2A^{△△△}
- ⑯ 304 ~ Aggregate Base, Grading A, variable Depth as shown, (see Proposal Notes)
- ⑰ 203 ~ Subgrade Compaction
- ⑱ 408 ~ Bituminous Prime Coat (@ 0.40 Gal./s.y.)

△△△ The cost of the Integral Type 2-A Curb is to be included with Item 611 Approach Slabs.

SUPERELEVATED SECTION NO. 1 ROAD "BC"

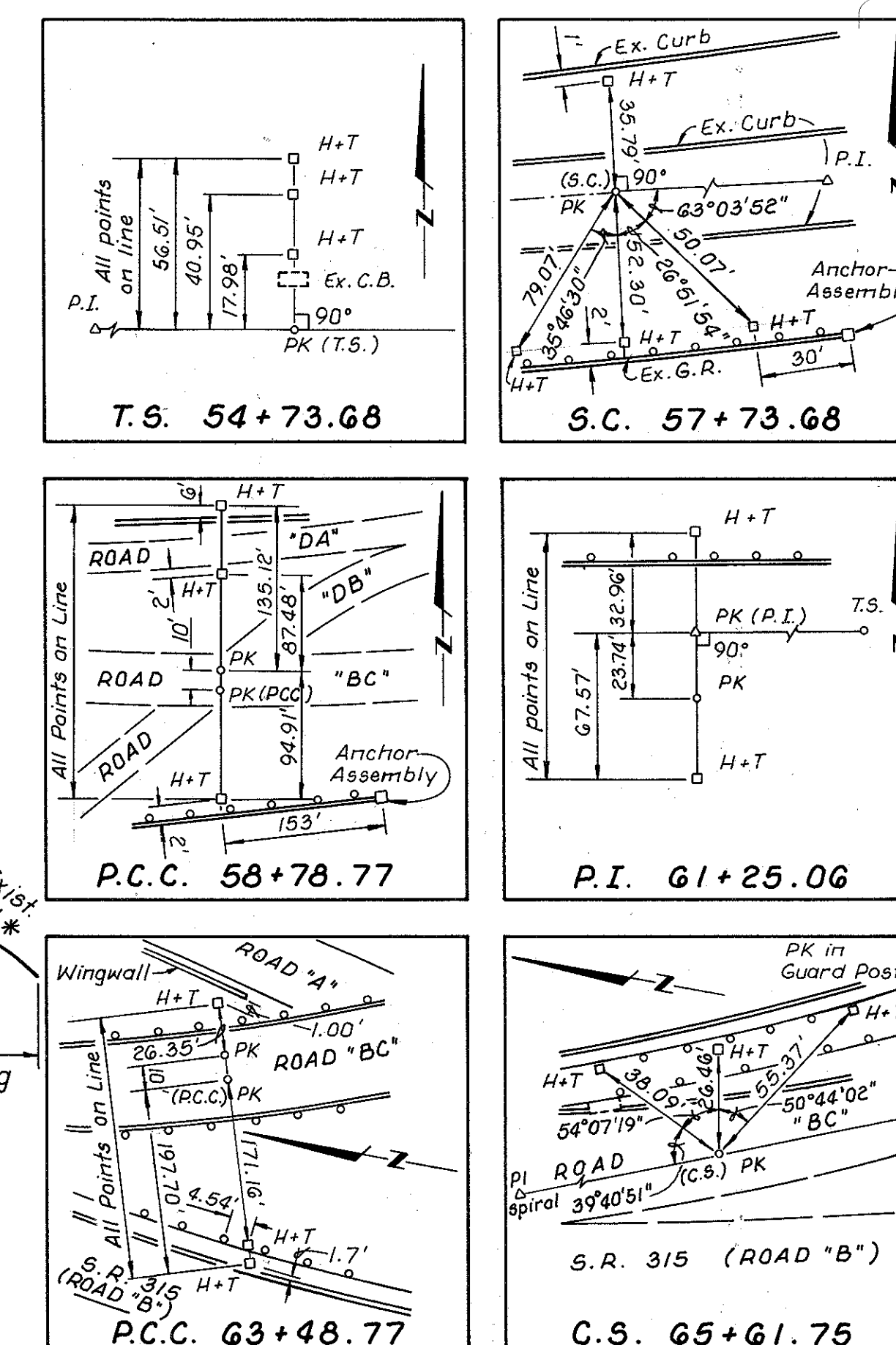
Sta. 57+20.00 to Sta. 58+34.26 Road BC = 114.26 Lin. Ft.
Sta. 63+18.98 to Sta. 63+48.77 Road BC = 29.79 Lin. Ft.
144.05 Lin. Ft.



SUPERELEVATED SECTION NO. 2 ROAD "BC"

Sta. 59+62.73 to Sta. 61+92.41 Road BC = 229.68 Lin. Ft.

REFERENCES



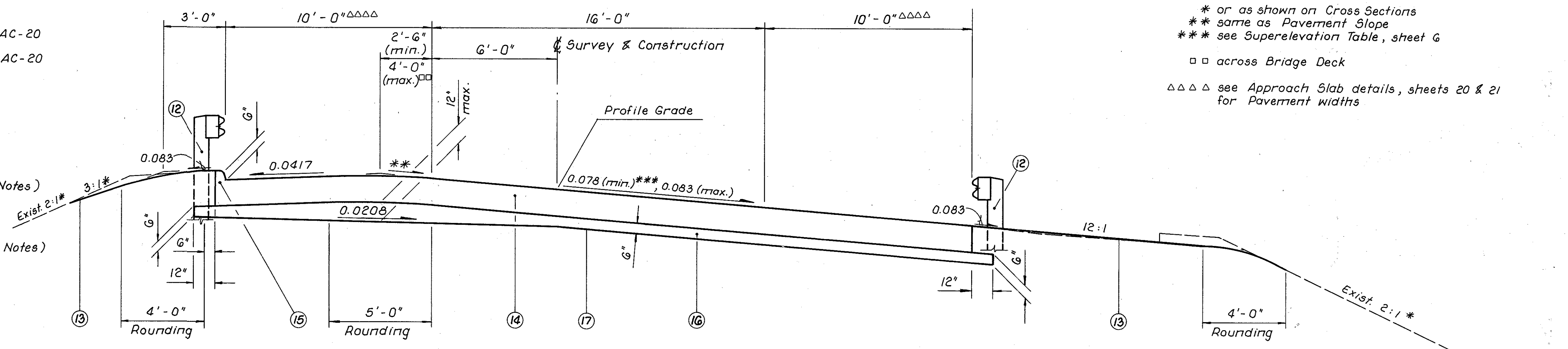
REFERENCES

TYPICAL SECTIONS

TYPICAL SECTIONS

TYPE 611 on 304

- | ITEM | DESCRIPTION |
|------|--|
| 1 | 448 ~ 1/4" Asphalt Concrete Surface Course, Type 1, AC-20 |
| 2 | 448 ~ 1 3/4" Asphalt Concrete Surface Course, Type 2, AC-20 |
| 3 | 407 ~ Tack Coat (see General Note) |
| 4 | 301 ~ 9" Bituminous Aggregate Base, AC-20 |
| 5 | 304 ~ 8" Aggregate Base (see Proposal Notes) |
| 6 | 305 ~ 9" Concrete Base |
| 7 | 304 ~ 6" Aggregate Base, Grading A (see Proposal Notes) |
| 8 | 301 ~ 6" Bituminous Aggregate Base, AC-20 |
| 9 | 304 ~ Aggregate Base, variable Depth as shown (see Proposal Notes) |
| 10 | 605 ~ 6" Pipe Underdrain |
| 11 | 609 ~ Curb, Type G |
| 12 | 606 ~ Guardrail, Type 5 |
| 13 | 659 ~ Seeding and Mulching |
| 14 | 611 ~ Reinforced Concrete Approach Slab (T=15"), as per plan (see General Notes) |
| 15 | 609 ~ Curb, Type 2A ^{△△△} |
| 16 | 304 ~ Aggregate Base, Grading A, variable Depth as shown, (see Proposal Notes) |
| 17 | 203 ~ Subgrade Compaction |
| 18 | 408 ~ Bituminous Prime Coat (@ 0.40 Gal./S.Y.) |

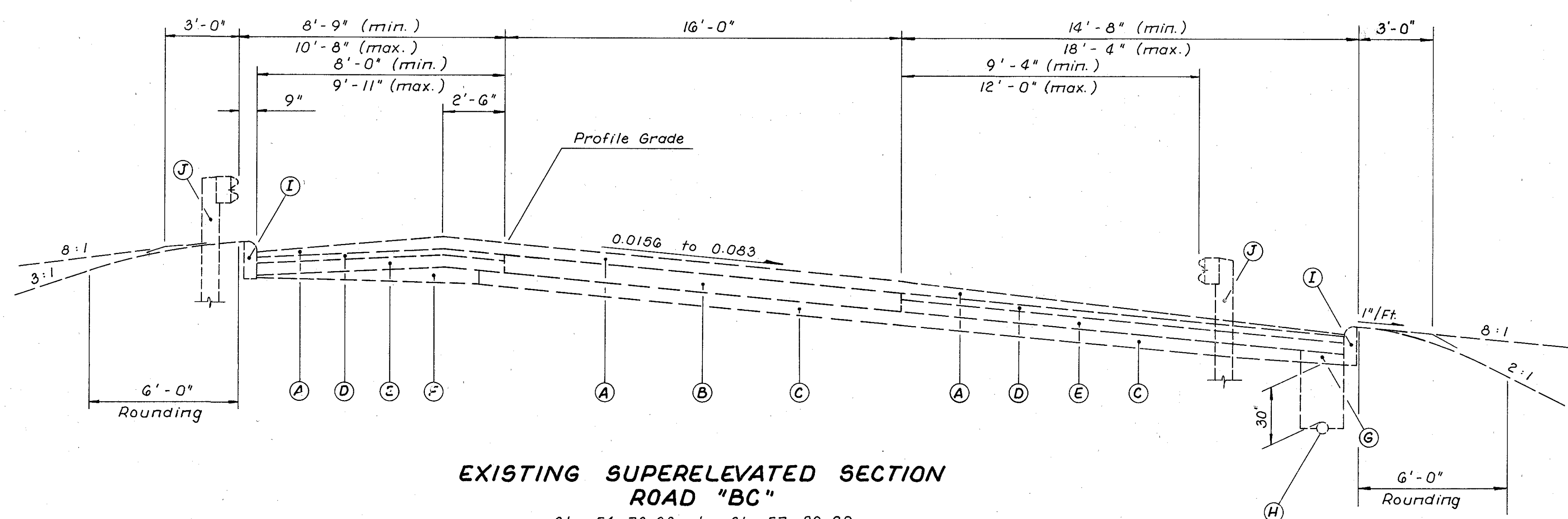


* or as shown on Cross Sections
 ** same as Pavement Slope
 *** see Superelevation Table, sheet G
 □ □ across Bridge Deck
 △△△ see Approach Slab details, sheets 20 & 21 for Pavement widths

APPROACH SLAB	TYPICAL
Sta. 58+34.26 to Sta. 58+59.26	= 25.00 Lin. Ft.
Sta. 59+37.73 to Sta. 59+62.73	= 25.00 Lin. Ft.
Sta. 61+92.41 to Sta. 62+17.41	= 25.00 Lin. Ft.
Sta. 62+93.98 to Sta. 63+18.98	= 25.00 Lin. Ft.
	100.00 Lin. Ft.

△△△ The cost of the Integral Type 2-A Curb is to be included with Item 611 Approach Slabs. For further Approach Slab details, see sheets 20 and 21.

- | DESCRIPTION | |
|-------------|---|
| A | Asphalt, variable Depth (1 1/2" to 5 1/2") |
| B | 9" Reinforced Portland Cement Concrete Pavement |
| C | 6" Subbase, Grading "A" |
| D | 3" Bituminous Aggregate Base |
| E | 6" Aggregate Base |
| F | Subbase, variable Depth |
| G | Drainage Connector Using No. 8 Aggregate |
| H | 6" Pipe Underdrain |
| I | Curb, Type G |
| J | Guardrail, Type 5 |



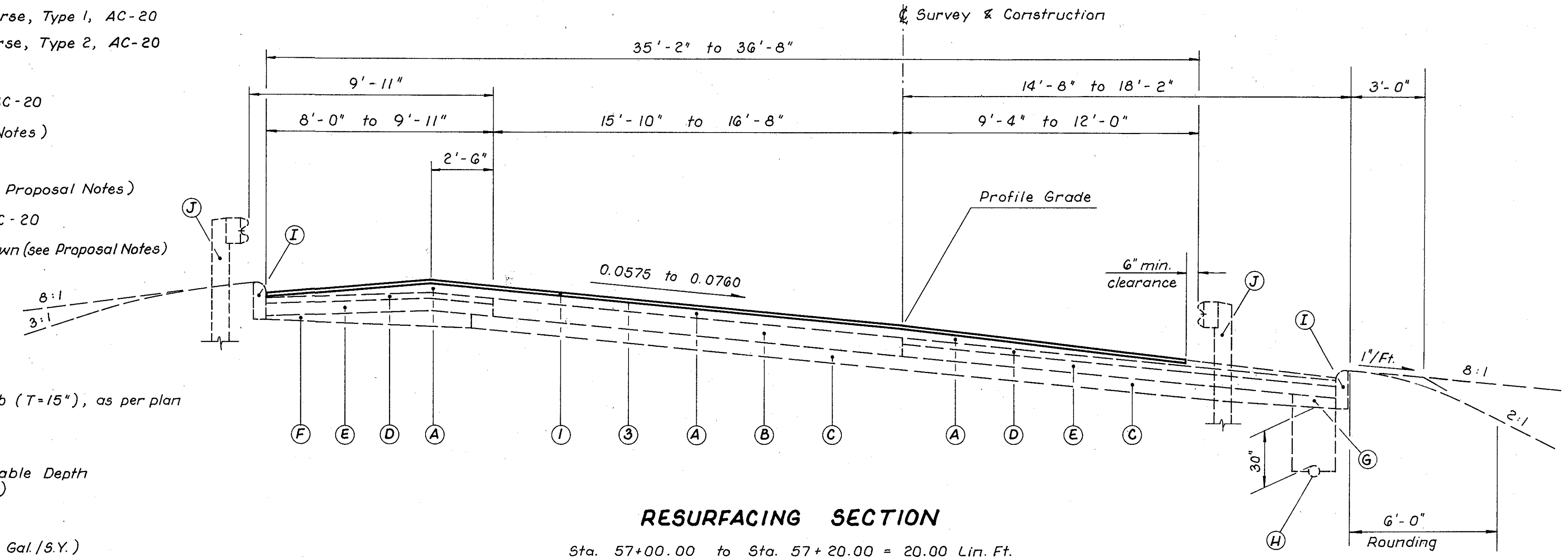
**EXISTING SUPERELEVATED SECTION
ROAD "BC"**
 Sta. 54+73.68 to Sta. 57+20.00
 Sta. 63+48.77 to Sta. 66+81.16
 (Adjoining Pavement)

BRUNING 44-232 73472-02

TYPICAL SECTIONS

ITEM DESCRIPTION

- ① 448 ~ 1/4" Asphalt Concrete Surface Course, Type 1, AC-20
- ② 448 ~ 3/4" Asphalt Concrete Surface Course, Type 2, AC-20
- ③ 407 ~ Tack Coat (see General Note)
- ④ 301 ~ 9" Bituminous Aggregate Base, AC-20
- ⑤ 304 ~ 8" Aggregate Base (see Proposal Notes)
- ⑥ 305 ~ 9" Concrete Base
- ⑦ 304 ~ 6" Aggregate Base, Grading A (see Proposal Notes)
- ⑧ 301 ~ 6" Bituminous Aggregate Base, AC-20
- ⑨ 304 ~ Aggregate Base, variable Depth as shown (see Proposal Notes)
- ⑩ 605 ~ 6" Pipe Underdrain
- ⑪ 609 ~ Curb, Type G
- ⑫ 606 ~ Guardrail, Type 5
- ⑬ 659 ~ Seeding and Mulching
- ⑭ 611 ~ Reinforced Concrete Approach Slab (T=15"), as per plan (see General Notes)
- ⑮ 609 ~ Curb, Type 2A^{ΔΔΔ}
- ⑯ 304 ~ Aggregate Base, Grading A, variable Depth as shown, (see Proposal Notes)
- ⑰ 203 ~ Subgrade Compaction
- ⑱ 408 ~ Bituminous Prime Coat (@ 0.40 Gal./S.Y.)



RESURFACING SECTION

Sta. 57+00.00 to Sta. 57+20.00 = 20.00 Lin. Ft.
 Sta. 63+48.77 to Sta. 63+75.00 = 26.23 Lin. Ft.
 46.23 Lin. Ft.

ΔΔΔ The cost of the Integral Type 2-A Curb is to be included with Item 611 Approach Slabs.

DESCRIPTION

- A Asphalt, variable Depth (1/2" to 5/2")
- B 9" Reinforced Portland Cement Concrete Pavement
- C 6" Subbase, Grading "A"
- D 3" Bituminous Aggregate Base
- E 6" Aggregate Base
- F Subbase, variable Depth
- G Drainage Connector Using No. 8 Aggregate
- H 6" Pipe Underdrain
- I Curb, Type G
- J Guardrail, Type 5

GENERAL NOTES

FHWA REGION	STATE	PROJECT

FRANKLIN COUNTY
FRA-70-1312
FRA-315-0030R

- 1. ROUNDING**
THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLY TO ALL CROSS-SECTIONS EVEN THOUGH OTHERWISE SHOWN.
- 2. UTILITIES**
LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

ELECTRIC: COLUMBUS SOUTHERN POWER COMPANY
215 N. FRONT STREET
COLUMBUS, OHIO 43215
(614) 464-7911

STORM/SANITARY: CITY OF COLUMBUS
DIVISION OF SEWERAGE AND DRAINAGE
910 DUBLIN RD.
COLUMBUS, OHIO 43215
(614) 645-7175

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE OBTAINED FROM THE OWNERS OF THE UTILITY AS REQUIRED BY SECTION 153.64 O.R.C.
- 3. CONTINGENCY QUANTITIES**
THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.
- 4. ITEM 659, SEEDING AND MULCHING**
SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE CONSTRUCTION LIMITS. QUANTITY CALCULATIONS FOR ITEM 659, SEEDING AND MULCHING, CARRIED ON SHEET 9, ARE BASED ON THESE LIMITS.
- 5. WATERING PERMANENT SEEDED AREAS**
THE FOLLOWING ESTIMATED QUANTITY IS TO BE USED AS DIRECTED BY THE ENGINEER TO PROMOTE GROWTH AND TO CARE FOR THE PERMANENT SEEDED AREAS PER 659.09:

ITEM 659 WATER 3 MGAL
- 6. DUST CONTROL**
THE CONTRACTOR SHALL FURNISH AND APPLY WATER AND CALCIUM CHLORIDE FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING CONTINGENCY QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES.

ITEM 616 CALCIUM CHLORIDE 1 TON
ITEM 616 WATER 2 MGAL
- 7. ELEVATION DATUM**
BENCHMARK DATUM ESTABLISHED FROM NE CORNER WINGWALL FRA-70-13.12 STRUCTURE OVER ROAD DB AS SHOWN AS BM 2 ON SHEET 12. ELEVATIONS VERIFIED WITH THE SW CORNER WINGWALL FRA-70-13.12.
- 8. ITEM 407, TACK COAT**
THE RATE OF APPLICATION OF THE 407 TACK COAT SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.075 GALLONS PER SQUARE YARD OF TACK COAT FOR ESTIMATING PURPOSES ONLY.
- 9. TEMPORARY SOIL EROSION AND SEDIMENT CONTROL**
THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES:

ITEM 207 STRAW OR HAY BALES 50 EACH
ITEM 207 FILTER FABRIC FENCE 200 L.F.
- 10. CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL**
WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED OR PUNCHED. THE CONNECTION SHALL BE MADE USING A "W-BEAM RAIL SPLICE" AS SHOWN ON STANDARD CONSTRUCTION DRAWING GR-1.1. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

- 11. ITEM 611, REINFORCED CONCRETE APPROACH SLAB (T=15"), AS PER PLAN:**
THE REINFORCING STEEL FOR THE APPROACH SLABS OF THIS STRUCTURE SHALL BE EPOXY COATED IN CONFORMANCE WITH ITEM 509.

TWO SEPARATE THICKNESSES OF CLEAR OR OPAQUE POLYETHYLENE FILM, 705.06, SHALL BE PLACED ON THE PREPARED SUBBASE AND WHERE THE APPROACH SLAB IS TO BE CONSTRUCTED. THE POLYETHYLENE FILMS SHALL COMPLETELY COVER THE FULL LENGTH AND WIDTH OF THE SUBBASE BETWEEN THE SIDEWALL FORMS FOR THE APPROACH SLAB.

PARAPET ON APPROACH SLABS SHALL BE CONSTRUCTED AS INDICATED ON SHEETS 20 & 21.

MATERIALS, LABOR AND INSTALLATION, INCLUDING PARAPET AND INTEGRAL CURB, SHALL BE INCLUDED FOR PAYMENT IN ITEM 611, REINFORCED CONCRETE APPROACH SLAB (T=15"), AS PER PLAN.

THE SHAPE OF THE CURBING ON APPROACH SLABS SHALL BE TRANSITIONED, FROM THE STANDARD SECTION ON THE APPROACHES TO THE SECTION USED ON THE BRIDGE, WITHIN THE LIMITS OF THE APPROACH SLAB.
- 12. CONSTRUCTION NOISE**
~~ACTIVITIES AND LAND USE ADJACENT TO THIS PROJECT MAY BE AFFECTED BY CONSTRUCTION NOISE. IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION NOISE IMPACTS, ANY POWER-OPERATED CONSTRUCTION TYPE DEVICE SHALL NOT BE OPERATED BETWEEN THE HOURS OF 11 P.M. AND 6 A.M. IN ADDITION, ANY SUCH DEVICE SHALL NOT BE OPERATED AT ANY TIME IN SUCH A MANNER THAT THE NOISE CREATED SUBSTANTIALLY EXCEEDS THE NOISE CUSTOMARILY AND NECESSARILY ATTENDANT TO THE REASONABLE AND EFFICIENT PERFORMANCE OF SUCH EQUIPMENT.~~
- 13. JOINT SEALERS**
ALL REFERENCES TO 705.01 OR 705.02 APPEARING ON STANDARD DRAWINGS OR ON THE PLANS, SHALL BE CONSIDERED TO READ 705.04.
- 14. REVIEW OF DRAINAGE FACILITIES**
BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE STATE, REPRESENTATIVES OF THE STATE AND THE CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCES SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE STATE.

ALL NEW CONDUITS, INLETS, CATCH BASINS AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE STATE.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEMS.
- 15. CONSTRUCTION INITIATION**
THE CONTRACTOR WILL ADVISE THE DISTRICT COMMUNICATIONS OFFICER AT 614-363-1251 EXTENSION 261 OR BY FAX AT 614-469-0235 SEVEN DAYS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES. THE PROJECTS ENGINEER WILL PROVIDE ASSISTANCE/CLARIFICATION FOR ANY QUESTIONS.
- 16. COORDINATION WITH THE COLUMBUS PAVING THE WAY PROGRAM (PTWP)**
THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES ON A WEEKLY BASIS. WHEN DETOURS ARE PLANNED THIS NOTIFICATION SHALL BE AT THE PRECONSTRUCTION MEETING OR 30 DAYS IN ADVANCE ONCE CONSTRUCTION HAS BEGUN. LANE AND RAMP CLOSURES FOR TWO OR MORE WEEKS SHALL BE REPORTED TWO WEEKS IN ADVANCE OF CLOSURE. LANE AND RAMP CLOSURES OF LESS THAN TWO WEEKS DURATION SHALL BE REPORTED AT LEAST 3 WORKING DAYS IN ADVANCE. FOR SHORT-TERM LANE OR RAMP CLOSURES (TWO DAYS OR LESS) NOTIFICATION SHALL BE MADE AT LEAST ONE WORKING DAY IN ADVANCE.

INFORMATION SHALL INCLUDE, BUT NOT BE LIMITED TO, ALL CONSTRUCTION ACTIVITIES THAT IMPACT TRAFFIC AT PRESENT AND IN THE NEXT 30 DAYS. THE REPORT SHALL BE OF A FORMAT APPROVED BY THE ENGINEER OR ONE SUPPLIED BY THE PTWP. THE CONTRACTOR SHALL DESIGNATE AN INDIVIDUAL WHO WILL BE RESPONSIBLE TO PREPARE THIS REPORT AT THE PRECONSTRUCTION MEETING.

ANY UNFORESEEN IMPACTS TO TRAFFIC SHALL BE REPORTED TO THE ENGINEER AS SOON AS POSSIBLE.

THE ENGINEER SHALL PROVIDE THIS INFORMATION TO THE PTWP PROGRAM. ALL CONSTRUCTION ACTIVITIES THAT INTERFERE WITH TRAFFIC SHALL BE REPORTED TO THE PTWP. THIS INFORMATION SHALL BE PROVIDED TO THE PROGRAM COORDINATOR AT 614-645-3970(6016), OR BY FAX 614-645-6938.
- 17. CONTRACTOR COOPERATION**
THE CONTRACTOR SHALL COORDINATE & COOPERATE HIS WORK WITH ALL OTHER PROJECTS IN THE SPRING-SANDUSKY PROJECT AREA.

- 17. ITEM 606, ANCHOR ASSEMBLY, TYPE E**
THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING AN ET-2000, OPTION "C" GUARDRAIL END TERMINAL AS MANUFACTURED BY SYRO STEEL COMPANY, 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 216-545-4373).

THE ANCHOR ASSEMBLY SHALL BE PLACED IN ACCORDANCE WITH THE MANUFACTURER'S CURRENT SPECIFICATIONS AND AT THE LOCATIONS SHOWN IN THE PLANS.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE CONTRACT PRICE FOR 606, EACH, ANCHOR ASSEMBLY, TYPE E. PAYMENT SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT THE 25' LONG ANCHOR ASSEMBLY, INCLUDING ALL RELATED HARDWARE, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER TO INSTALL A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY. THIS ITEM SHALL ALSO INCLUDE PAYMENT OVER AND ABOVE THE COST OF STANDARD TYPE 5 GUARDRAIL FOR INSTALLING TYPE 1 BREAKAWAY POSTS PER STANDARD CONSTRUCTION DRAWING GR-1.3 AT THE FOLLOWING LOCATIONS: 1) AT THE POINT WHERE THE ANCHOR ASSEMBLY AND THE GUARDRAIL RUN MEET; AND 2) AT THE NEXT THREE (3) POST LOCATIONS INTO THE GUARDRAIL RUN.

SUPERELEVATION TABLE								
STATION	PAVEMENT WIDTH		PAVEMENT ELEVATION			REMARKS & RATES		
	LT.	RT.	LT. 16'	△ C 10'	△△ RT. 0'	LT.	RT.	
56+50	16.7' *	0' *	731.54 *	731.23 *	730.77 *	0.0463 *	0.0463 *	
56+75	16.7' *	0' *	731.98 *	731.52 *	731.00 *	0.0519 *	0.0519 *	
57+00	16.7' *	0' *	732.15 *	731.77 *	731.19 *	0.0575 *	0.0575 *	
57+20	16.7' *	0' *	732.63 *	732.23 *	731.57 *	0.0660 *	0.0660 *	
57+25	16'	0'	732.73	732.32	731.64	0.0676	0.0676	
57+50	16'	0'	733.18	732.73	731.97	0.0757	0.0757	
57+73.68	16'/6'	10'/0'	733.54	733.04	732.21	0.0833	0.0833	
57+75	6'	10'	733.56	733.06	732.23			
58+00	6'	10'	733.75	733.25	732.42			
58+25	6'	10'	733.88	733.38	732.55			
58+50	6'	10'	733.94	733.44	732.61			
58+59.26	6' ■	10' ■	733.95	733.45	732.62	BEGIN	BRIDGE	
BRIDGE NO. FRA-70-1312			SEE SHEET 22 OF 44 FOR ELEVATIONS ACROSS BRIDGE					
59+37.73	6' ■	10' ■	733.64	733.14	732.31	END	BRIDGE	
59+50	6' ■	10' ■	733.53	733.03	732.20			
59+75	6'	10'	733.27	732.77	731.94			
60+00	6'	10'	732.93	732.43	731.60			
60+25	6'	10'	732.54	732.04	731.21			
60+50	6'	10'	732.07	731.57	730.74			
60+75	6'	10'	731.55	731.05	730.22			
61+00	6'	10'	730.95	730.45	729.62			
61+25	6'	10'	730.29	729.79	728.96			
61+50	6'	10'	729.57	729.07	728.24			
61+75	6'	10'	728.78	728.28	727.45			
62+00	6' ■	10' ■	727.97	727.47	726.64			
62+17.41	6' ■	10' ■	727.41	726.91	726.08	BEGIN	BRIDGE	
BRIDGE NO. FRA-315-0030R			SEE SHEET 34 OF 44 FOR ELEVATIONS ACROSS BRIDGE					
62+93.98	6' ■	10' ■	724.93	724.43	723.60	END	BRIDGE	
63+00	6' ■	10' ■	724.73	724.23	723.40			
63+25	6' ■	10' ■	723.92	723.42	722.59	0.0833	0.0833	
63+48.77	16'/6' *	10'/0' *	723.10 *	722.65 *	721.89 *	0.0760 *	0.0760 *	
63+50	15.4' *	0' *	723.04 *	722.65 *	721.90 *	0.0740 *	0.0740 *	
63+75	15.5' *	0' *	722.39 *	721.98 *	721.22 *	0.0755 *	0.0755 *	
64+00	15.6' *	0' *	721.74 *	721.31 *	720.54 *	0.0769 *	0.0769 *	

* EXISTING ELEVATION, WIDTH OR SUPER RATE
 • INTERPOLATED ELEVATION, WIDTH OR SUPER RATE
 ■ EDGE OF TRAFFIC LANE (FULL APPROACH SLAB OR BRIDGE WIDTH OF 36.0' NOT INCLUDED)
 △ C OF SURVEY AND CONSTRUCTION STA. 57+73.68 TO STA. 63+48.77
 △△ C OF SURVEY AND CONSTRUCTION UP TO STA. 57+73.68 AND AFTER STA. 63+48.77

Drawing: /franklin/510/01g1011 Sheet no: 07-02-96 13.38 Revised by: mgf - 13.08 - Not scale 1:1 MGP/S

MAINTENANCE OF TRAFFIC ~ GENERAL NOTES

FHWA REGION	STATE	PROJECT
5	OH	IM-70-3(75)

7
44

FRANKLIN COUNTY
FRA-70-1312
FRA-315-0030R

MAINTENANCE OF TRAFFIC

GENERAL

THE CONTRACTOR SHALL MAINTAIN TRAFFIC AT ALL TIMES IN ACCORDANCE WITH THE REQUIREMENTS OF SPEC. 614 AND THE CONSTRUCTION SEQUENCE WHICH FOLLOWS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL TRAFFIC CONTROL SIGNS AND DEVICES WHEN NO LONGER NEEDED, AND SHALL RESTORE EACH SITE TO ITS ORIGINAL CONDITION. ALL SUCH REMOVED SIGNS AND DEVICES SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

THE FOLLOWING QUANTITIES ARE PROVIDED FOR USE "AS DIRECTED BY THE ENGINEER" FOR MAINTENANCE OF TRAFFIC AND ARE INCLUDED IN THE GENERAL SUMMARY:

		TOTAL
ITEM 614	MAINTAINING TRAFFIC	LUMP
ITEM 614	TEMPORARY EDGE LINE, CLASS 1 (YELLOW)	0.2 MILE
ITEM 614	OBJECT MARKERS	40 EACH
ITEM SPECIAL	PLASTIC SAFETY DRUM	10 EACH
ITEM 614	LAW ENFORCEMENT OFFICER WITH PATROL CAR	32 HOURS

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

ITEM 622, PORTABLE CONCRETE BARRIER, 32"

ITEM 622 SHALL INCLUDE FURNISHING, PLACING, MAINTAINING AND SUBSEQUENTLY REMOVING PORTABLE CONCRETE BARRIER IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING MC-9.2.

PLACEMENT OF THE BARRIER SHALL BE ACCOMPLISHED IN ONE (1) WORKING DAY. FLAGGERS SHALL BE UTILIZED FOR THE PROTECTION OF VEHICULAR TRAFFIC UNTIL PLACEMENT OF THE PORTABLE CONCRETE BARRIER IS COMPLETED.

PAYMENT FOR ALL OF THE ABOVE SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 622 PORTABLE CONCRETE BARRIER, 32". THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY:

ITEM 622	PORTABLE CONCRETE BARRIER, 32"	960 L.F.
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ITEM 614, BARRIER REFLECTORS

REFLECTORS AND THEIR MOUNTING SHALL CONFORM TO SUPPLEMENTAL SPECIFICATION 802 EXCEPT THAT SPACING SHALL BE AT 25 FOOT INTERVALS.

ITEM 614	BARRIER REFLECTORS, TYPE B	40 EACH
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PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

SEE BRIDGE PLANS SHEET 23 & 35.

CONSTRUCTION SEQUENCE

BEFORE STARTING ANY STRUCTURE RECONSTRUCTION WHICH REQUIRES CLOSING EXISTING PAVEMENT TO TRAFFIC, ALL PORTABLE CONCRETE BARRIERS, TEMPORARY PAVEMENT MARKINGS AND TEMPORARY RAISED PAVEMENT MARKERS SHALL BE FURNISHED AND ERECTED BY THE CONTRACTOR ON SOUTHBOUND S.R. 315, AS SHOWN ON SHEET 8, TO RESTRICT TRAFFIC FROM THE RICH STREET ON-RAMP ONTO SOUTHBOUND S.R. 315 TO THE EASTBOUND I-70 RAMP. FLAGGERS SHALL BE UTILIZED FOR THE PROTECTION OF VEHICULAR TRAFFIC UNTIL ERECTION OF THE PORTABLE CONCRETE BARRIERS, TEMPORARY PAVEMENT MARKINGS AND TEMPORARY RAISED PAVEMENT MARKERS IS COMPLETED.

ADVANCED TEMPORARY SIGNING FOR THE RAMP CLOSURE SHALL BE ERECTED AND READ AS SHOWN ON SHEET 8. ALL SIGNS SHALL BE PLACED ACCORDING TO STANDARD PROCEDURES IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND ODOT STANDARD CONSTRUCTIONS DRAWINGS LISTED ON SHEET 1 AND MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER SO AS TO NOT CONFLICT WITH EXISTING SIGN LOCATIONS.

TRAFFIC FLOW ON THE WESTBOUND I-70 TO SOUTHBOUND I-71 RAMP UNDER THE BRIDGE FRA-70-1312 AND THE TRAFFIC FLOW ON NORTHBOUND S.R. 315 UNDER THE BRIDGE FRA-315-0030R SHALL BE MAINTAINED AS IT IS PRESENTLY. THE CONTRACTOR SHALL TAKE THE NECESSARY MEASURES TO PROTECT THESE TRAFFIC FLOWS DURING PARAPET, DECK AND STEEL REMOVAL AS WELL AS NEW CONSTRUCTION. THE CONTRACTOR SHALL SUBMIT A PLAN FOR MAINTAINING TRAFFIC IN THE AREA FOR APPROVAL PRIOR TO THE START OF CONSTRUCTION.

WHEN THE ABOVE REQUIREMENTS HAVE BEEN MET CONSTRUCTION MAY BEGIN.

ALL WORK SHALL BE COMPLETED IN ONE PHASE. WORK TO BE DONE INCLUDES THE FOLLOWING: REMOVE THE DECK AND SPECIFIED MEMBERS OF BRIDGE FRA-70-1312, PORTION OF THE SURFACE OF THE DECK AND SPECIFIED MEMBERS OF BRIDGE FRA-315-0030R, EXISTING GUARDRAIL AND EXISTING CONCRETE BASE PAVEMENT WHERE REQUIRED. COMPLETE THE EARTHWORK, STORM SEWER WORK, GRADING, UNDERDRAIN CONSTRUCTION, ALL PAVEMENT COURSES, PRESSURE RELIEF JOINTS, AND PARAPET AND GUARDRAIL CONSTRUCTION THE ENTIRE LENGTH OF THE PROJECT. COMPLETE THE NEW BRIDGE DECK ON FRA-70-1312 AND THE NEW DECK OVERLAY ON FRA-315-0030R AS WELL AS ALL OTHER REQUIRED BRIDGE ITEMS. PERMANENT STRIPING SHALL BE PLACED AFTER ALL CONSTRUCTION IS COMPLETED AND PRIOR TO ANY REOPENING OF THE RAMP TO TRAFFIC.

DURING PHASE I TWO BRIDGES, BY OTHERS, WILL BE CONSTRUCTED SIMULTANEOUSLY WITH FRA-315-0030R AND FRA-70-1312 AND UTILIZE THE SAME MAINTENANCE OF TRAFFIC OPERATION. IT IS INTENDED THAT THE FRA-315-0030R AND FRA-70-1312 WILL BE COMPLETED PRIOR TO THE NOTED S.R. 315 PROJECT. IF SO, MAINTENANCE OF TRAFFIC PHASE II SHALL BE IMPLEMENTED. DURING PHASE II, TRAFFIC FROM SOUTHBOUND S.R. 315 TO EASTBOUND I-70 WILL BE PERMITTED. RELOCATE THE PORTABLE CONCRETE BARRIERS AS SHOWN ON SHEET 8/44 TO ALLOW TRAFFIC ONTO THE I-70 EASTBOUND RAMP AND PLACE A COVERING OVER THE EXISTING SIGN THAT READS "ENTRY TO 70 EAST PROHIBITED FROM THIS RAMP". THIS COVERING SHALL BE REMOVED UPON COMPLETION OF THE NOTED PROJECTS. REMOVE PREVIOUSLY PLACED COVERINGS WHICH WERE PLACED TO RESTRICT TRAFFIC ONTO THE I-70 EASTBOUND RAMP.

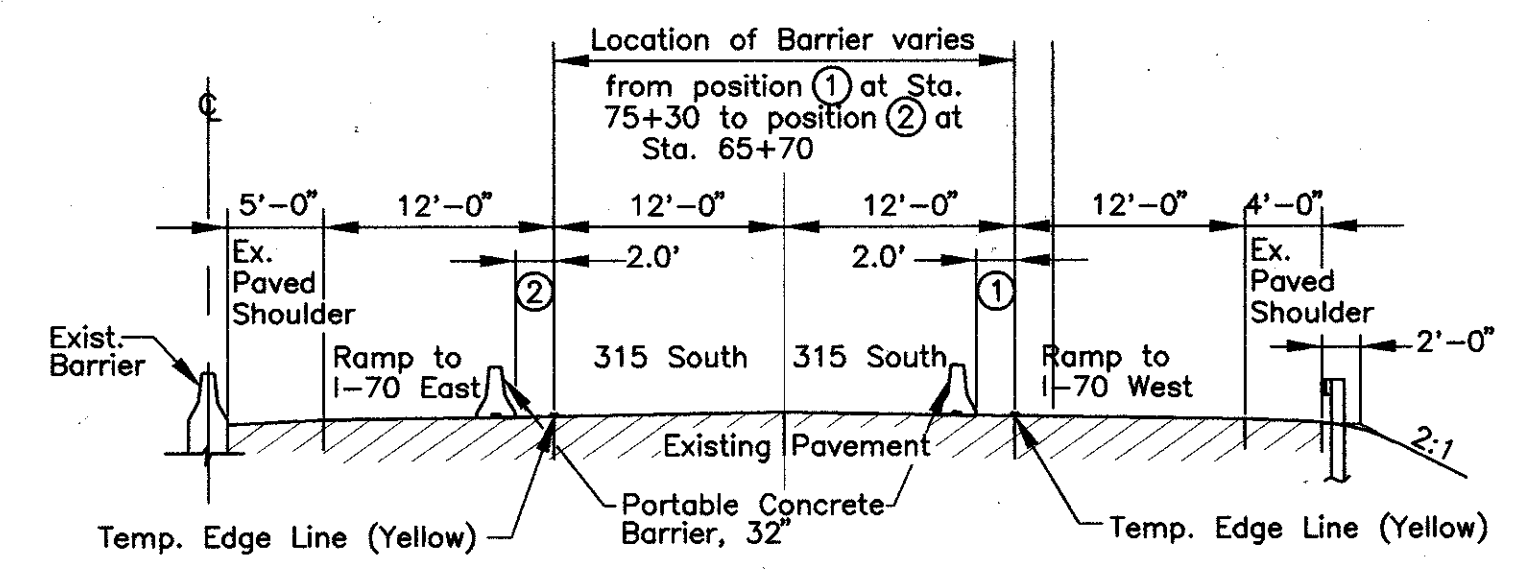
UPON COMPLETION OF ALL WORK, REMOVE THE PORTABLE CONCRETE BARRIER, BARRICADES, DRUMS, SIGNS, TEMPORARY PAVEMENT MARKINGS AND TEMPORARY RAISED PAVEMENT MARKERS.

FOR CONTRACTOR'S INFORMATION:

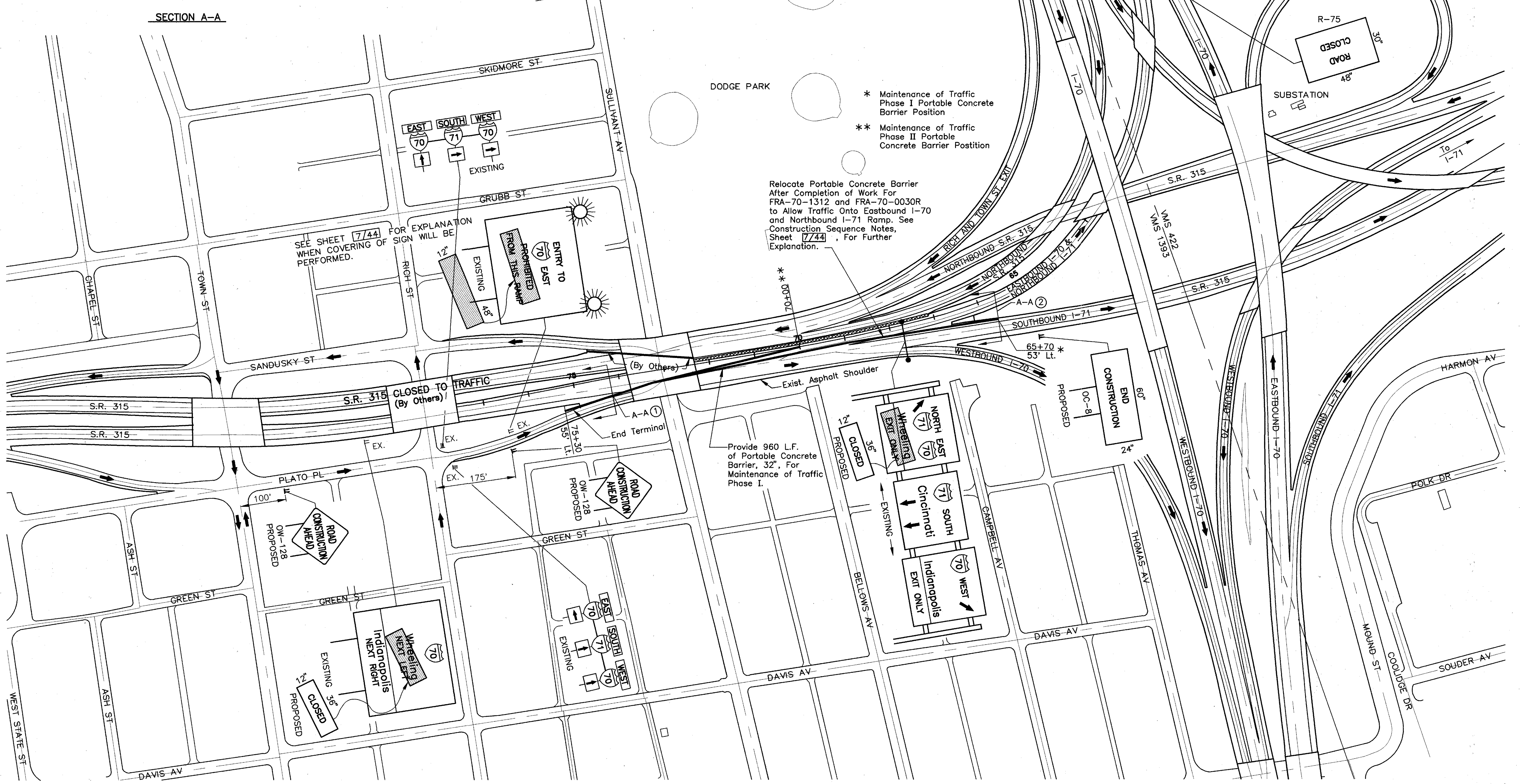
SIGN DESIGNATION	NO. REQ'D
OW-128	2
OC-8	1
R-75	1
SPECIAL	2
TOTAL	6

FRANKLIN COUNTY
 FRA-70-1312
 FRA-315-0030R

Scale: 1" = 100'



- LEGEND:
- DIRECTION OF TRAFFIC
 - ≡ SIGN (w/ No. of posts)
 - PROPOSED 32" PORTABLE CONCRETE BARRIER
 - ▨ EXISTING CONCRETE BARRIER



Drawing: /projects/70-315/0030R.dwg Date: 07-01-06 09:48 Plotted by: mfgm - Title: 100 - Plot scale: 1" = 100'

FRANKLIN COUNTY
FRA-70-1312
FRA-315-0030R

GENERAL SUMMARY

QUANTITIES BY: MLS 2-94
CHECKED BY: DAA 3-94

G	SHEET NUMBER					ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION
	9	10	12	13	13					
ROADWAY										
						201	11000	Lump		Clearing and Grubbing
				132	132	202	22900	264	Sq. Yd.	Approach Slab Removed
				77	105	202	23500	182	Sq. Yd.	Wearing Course Removed
				667	323	202	23900	990	Sq. Yd.	Concrete Base Removed
				458	416	202	32000	874	Lin. Ft.	Curb Removed
				10	10	202	35100	20	Lin. Ft.	Pipe Removed, 24" and under
				630	570	202	38000	1200	Lin. Ft.	Guardrail Removed
				1	1	202	58100	2	Each	Catch Basin Removed
	1511					203	12000	1511	Cu. Yd.	Excavation not including Embankment Construction
	895					203	20000	895	Cu. Yd.	Embankment
		1936				203	50000	1936	Sq. Yd.	Subgrade Compaction
				492.70	332.30	606	13000	825	Lin. Ft.	Guardrail, Type 5
					1	606	26100	1	Each	Anchor Assembly, Type E
					1	606	26500	1	Each	Anchor Assembly, Type T
					2	606	35000	4	Each	Bridge Terminal Assembly, Type 1
					2	606	35100	4	Each	Bridge Terminal Assembly, Type 2
				209	220	609	26000	429	Lin. Ft.	Curb, Type G
					60	622	24000	60	Lin. Ft.	Concrete Barrier, Type D
EROSION CONTROL										
200						207	30000	200	Lin. Ft.	Filter Fabric Fence (see Proposal Notes)
50						207	70000	50	Each	Straw or Hay Bales
				1268		659	10000	1268	Sq. Yd.	Seeding and Mulching
				0.12		659	20000	0.12	Ton	Commercial Fertilizer
				0.57		659	30000	0.57	Ton	Agricultural Liming
3				3		659	35000	6	MGal.	Water
					22	660	20000	22	Sq. Yd.	Reinforced Sodding
DRAINAGE										
				25	28	603	01500	53	Lin. Ft.	6" Conduit, Type F, 707.17 Non-Perforated, ASTM D3034 SDR 35, 55931 or 55944
				10	10	603	06100	20	Lin. Ft.	15" Conduit, Type C
				1	1	604	00600	2	Each	Catch Basin, No. 3A
				2	1	Spec.	60436600	3	Each	Precast Reinforced Concrete Outlet
				259	60	605	11100	319	Lin. Ft.	6" Shallow Pipe Underdrain, 707.15
				40		605	11100	40	Lin. Ft.	6" Shallow Pipe Underdrain, 707.01 or 707.21
					65	605	13300	65	Lin. Ft.	6" Unclassified Pipe Underdrain, 707.17; ASTM D3034 SDR35, 55931 or 55944 Perforated as per 707.15
PAVEMENT										
				152		301	10002	152	Cu. Yd.	Bituminous Aggregate Base, AC-20
				206		304	20000	206	Cu. Yd.	Aggregate Base (see Proposal Notes)
				222		304	20010	222	Cu. Yd.	Aggregate Base, Grading "A" (see Proposal Notes)
				705		305	13000	705	Sq. Yd.	9" Concrete Base
				75		407	10000	75	Gal.	Tack Coat
				314		408	10000	314	Gal.	Bituminous Prime Coat
				59		448	16000	59	Cu. Yd.	Asphalt Concrete Surface Course, Type 1, AC-20
				73		448	17100	73	Cu. Yd.	Asphalt Concrete Surface Course, Type 2, AC-20
					16	Spec.	45130000	16	Lin. Ft.	Pressure Relief Joint, Type A
				448		611	25001	448	Sq. Yd.	Reinforced Concrete Approach Slab (T=15"), as per plan (see Sht. 6)

G	SHEET NUMBER					ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION
	6	7	9	10	13					
TRAFFIC CONTROL										
						642	00102	0.26	Mile	Edge Line, Type 2
					13	802	00100	24	Each	Barrier Reflector, Type A
						802	00200	3	Each	Barrier Reflector, Type B
MAINTENANCE OF TRAFFIC										
						614	11100	32	Hours	Law Enforcement Officer with Patrol Car
	32					Special 614	12720	10	Each	Plastic Safety Drum
	10					614	13300	40	Each	Barrier Reflector, Type B
	40					614	13350	40	Each	Object Marker
	40					614	22000	0.2	Mile	Temporary Edge Line, Class I
	0.2									
2						616	10000	2	Mgal	Water
1						616	20000	1	Ton	Calcium Chloride
	960					622	40020	960	Lin. Ft.	Portable Concrete Barrier, 32"
STRUCTURES OVER 20 FOOT SPAN										
See Sheet No. 23 & 35 for Quantities										
						Special 614	25000	Lump		Computer Equipment for Type A office (See Proposal Note)
						614	11000	Lump		Maintaining Traffic
						619	15000	Lump		Field Office, Type A
						623	10000	Lump		Construction Layout Stakes
						624	10000	Lump		Mobilization

STATION	SIDE	Edge Line	Edge Line	
		Type 2 White	Type 2 Yellow	
FROM	TO	Mile	Mile	
57+00.00	63+75.00	Lt.	0.13	
57+00.00	63+75.00	Rt.	0.13	
TOTALS TO GENERAL SUMMARY		0.13	0.13	

1268 S.Y. x $\frac{120 \text{ GAL.}}{1000 \text{ S.F.}}$ x $\frac{9 \text{ S.F.}}{1 \text{ S.Y.}}$ x $\frac{1 \text{ MGAL.}}{1000 \text{ GAL.}}$ x (2 Applic.) = 2.8 MGal.	
TOTALS TO GENERAL NOTES	3

1268 S.Y. x $\frac{20 \text{ LBS.}}{1000 \text{ S.F.}}$ x $\frac{9 \text{ S.F.}}{1 \text{ S.Y.}}$ x $\frac{1 \text{ TON}}{2000 \text{ LBS.}}$ = 0.12 Ton	
TOTALS TO GENERAL SUMMARY	0.12

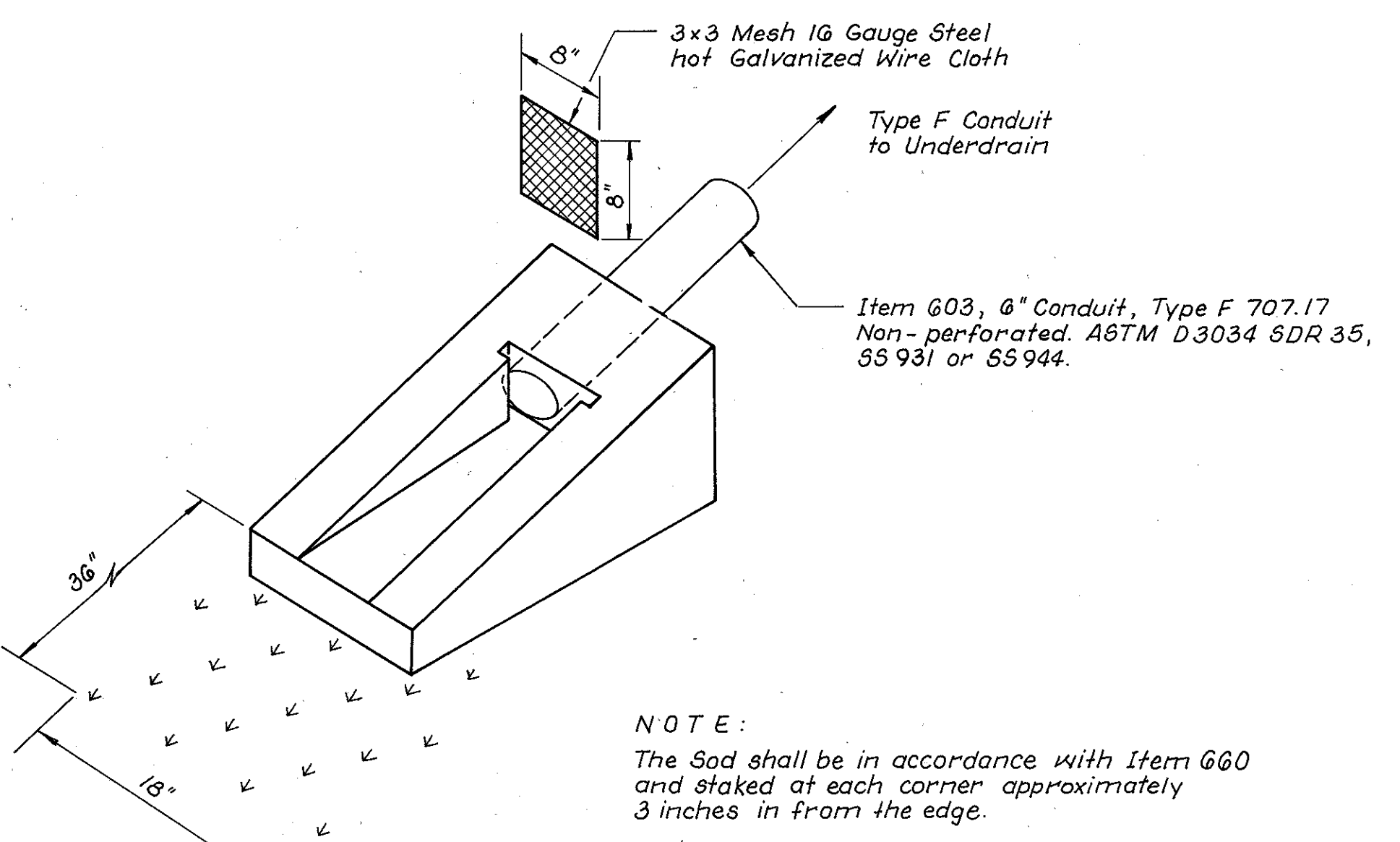
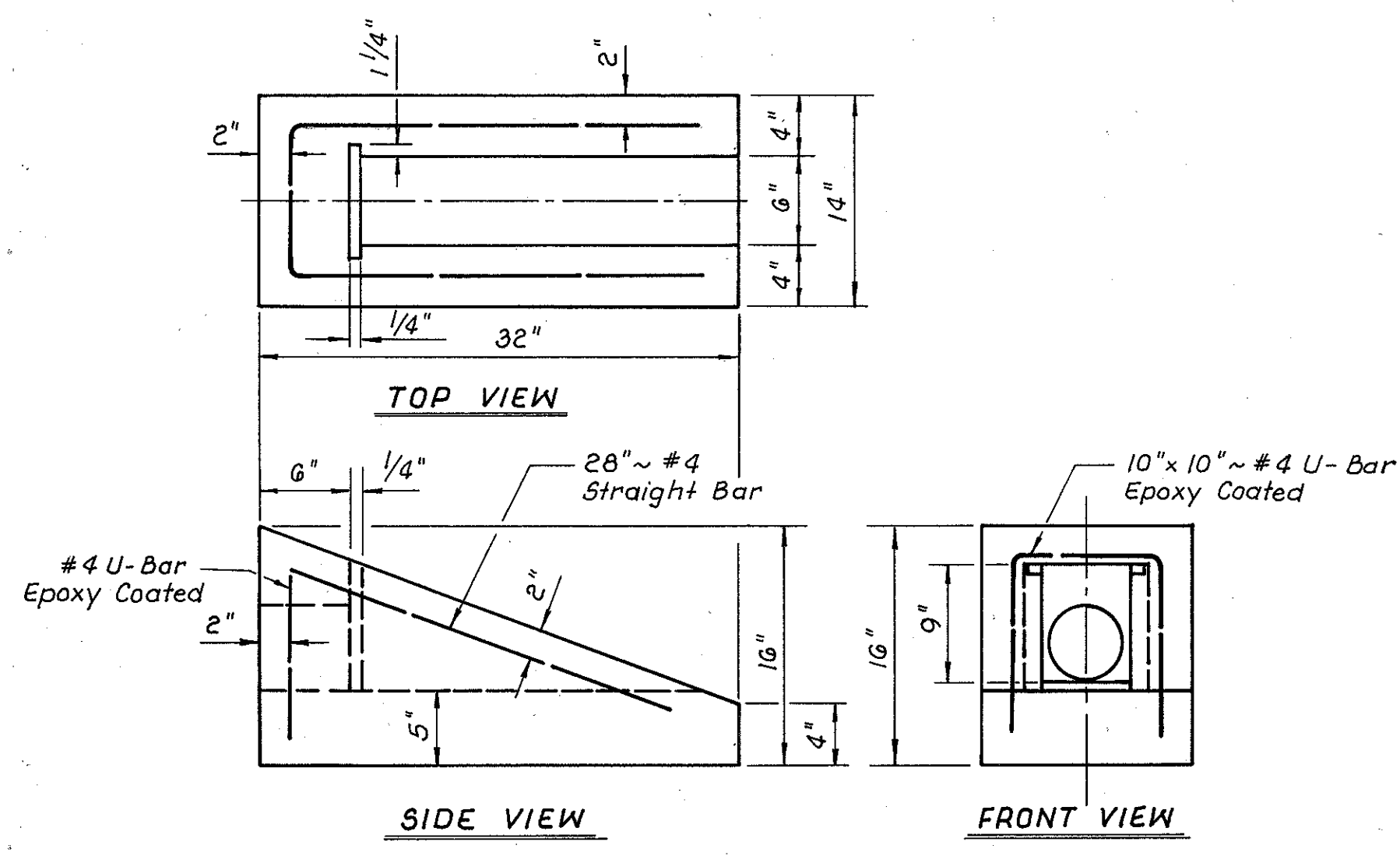
1268 S.Y. x $\frac{100 \text{ LBS.}}{1000 \text{ S.F.}}$ x $\frac{9 \text{ S.F.}}{1 \text{ S.Y.}}$ x $\frac{1 \text{ TON}}{2000 \text{ LBS.}}$ = 0.57 Ton	
TOTALS TO GENERAL SUMMARY	0.57

LOCATION	203	203	659
	EXCAVATION NOT INCL. EMBANK. CONSTRUCTION	EMBANKMENT	SEEDING AND MULCHING
STATION TO STATION	C.Y.	C.Y.	S.Y.
57+00 to 61+00	434	126	589
61+00 to 64+00	410	102	679
Contingency Earthwork (see Sht. 18)	667	667	
TOTALS TO GENERAL SUMMARY	1511	895	1268

BRUNING 44-232-73474-02

ITEM SPECIAL - PRECAST REINFORCED CONCRETE OUTLET

The Concrete Outlet shall meet the requirements of Item G04 in the Construction & Materials Specifications. Payment shall include the cost of the Sod & Wire Cloth. Payment shall be made on an Each basis.



NOTE:
The Sod shall be in accordance with Item G60 and staked at each corner approximately 3 inches from the edge.

QUANTITIES BY: MLS 2-94
CHECKED BY: DAA 3-94

PAVEMENT CALCULATIONS

STATION	LENGTH	WIDTH	AREA	PAVEMENT LAYERS															
				203	301	304	305	407	408	448	611								
From	To	Lin. Ft.	Lin. Ft.	Sq. Yd.	Sq. Yd.	BITUMINOUS AGGREGATE BASE, AC-20, (t=9")	BITUMINOUS AGGREGATE BASE, AC-20, (t=6")	AGGREGATE BASE, (t=6")	AGGREGATE BASE, (VARIABLE DEPTH)	AGGREGATE BASE, GRADING #4 (t=6")	AGGREGATE BASE, GRADING #4 (VARIABLE DEPTH)	9" CONCRETE BASE	TACK COAT (@ 0.075 GAL./SQ. YD.)	BITUMINOUS PRIME COAT (@ 0.40 GAL./SQ. YD.)	ASPH. CONC. SURFACE COURSE, TYPE 1 (t=1 1/4")	ASPH. CONC. SURFACE COURSE, TYPE 2 (t=1 3/4")	REINFORCED CONCRETE APPROACH SLAB (t=15")*		
57+00.00	57+20.00	20.00	36.70	81.56															
57+20.00	58+00.00	80.00	19.00	168.89				37.53											
		Rt.	80.00	16.00	142.22		35.56							10.67	56.9				
		Lt.	80.00	9.25*	82.22		13.70		22.22 [□]					32.9					
			80.00	35.25*	313.33	313.33									10.88	15.23			
58+00.00	58+34.26	32.50*	19.00	68.61				15.25											
		Rt.	33.50*	16.00	59.56		14.89							4.47	23.8				
		Lt.	11.00*	10.00	12.22		2.04		3.00 [□]					4.9					
			56.00*	10.00	62.22		10.37		18.35 [■]					24.9					
			33.50*	36.00	134.00	134.00									4.65	6.51			
58+34.26	58+59.26	25.00		112.7 [□]	112.7													112.7	
		25.00											23.2 [■]						
BRIDGE NO. FRA-70-1312																			
59+37.73	59+62.73	25.00		111.2 [□]	111.2													111.2	
		25.00											23.2 [■]						
59+62.73	59+79.00	19.50*	19.00	41.17					6.86										
		19.00*	16.00	33.78									33.78	2.53					
		Lt.	5.00*	10.00	5.56		0.93		1.31 [△]					2.2					
		Rt.	31.50*	10.00	35.00								5.55 ^{△△}	35.00	2.63				
			19.00*	36.00	76.00	76.00										2.64	3.69		
59+79.00	61+75.00	196.00	19.00	413.78					68.96										
		196.00	16.00	348.44										348.44	26.13				
		Rt.	196.00	10.00	217.78										16.34				
		Lt.	196.00	10.00	217.78		36.30		51.54 [△]							87.1			
			196.00	36.00	784.00	784.00										27.22	38.11		
61+75.00	61+92.41	19.50*	19.00	41.16					6.86										
		19.00*	16.00	33.78										33.78	2.53				
		Lt.	5.50*	10.00	6.11		1.02		1.45 [△]						2.5				
		Rt.	32.00*	10.00	35.56								5.63 ^{△△}	35.56	2.67				
			19.00*	36.00	76.00	76.00										2.64	3.69		
61+92.41	62+17.41	25.00		113.3 [□]	113.3													113.3	
		25.00											23.2 [■]						
BRIDGE NO. FRA-315-0030R																			
62+93.98	63+18.98	25.00		110.9 [□]	110.9													110.9	
		25.00											23.2 [■]						
63+18.98	63+48.77	25.00*	19.00	52.78					11.73										
		26.00*	16.00	46.22			11.55									3.47	18.5		
		Rt.	7.00*	10.00	7.78					1.30					3.1				
		Lt.	47.00*	10.00	52.22					8.70					20.9				
			26.00*	36.00	104.00	104.00										3.61	5.06		
63+48.77	63+75.00	26.23	35.60*	103.75												7.78	3.60		
TOTALS TO GENERAL SUMMARY					1936		62	90	65	141	83	139	705		75	314	59	73	448

* Average Dimension
□ Planimetered Area
For Variable Thickness use
Length x following
Cross-Section Area:
□ 7.5 sq.ft.
△ 7.1 sq.ft.
△△ 4.75 sq.ft.
Cross Section Area from Typical Sections
□ 9.05 sq.ft.
△ 7.1 sq.ft.
■ 25.0 sq.ft.
** as per plan

BEGIN PROJECT
STA. 57+20.00
IM-70-3(75)

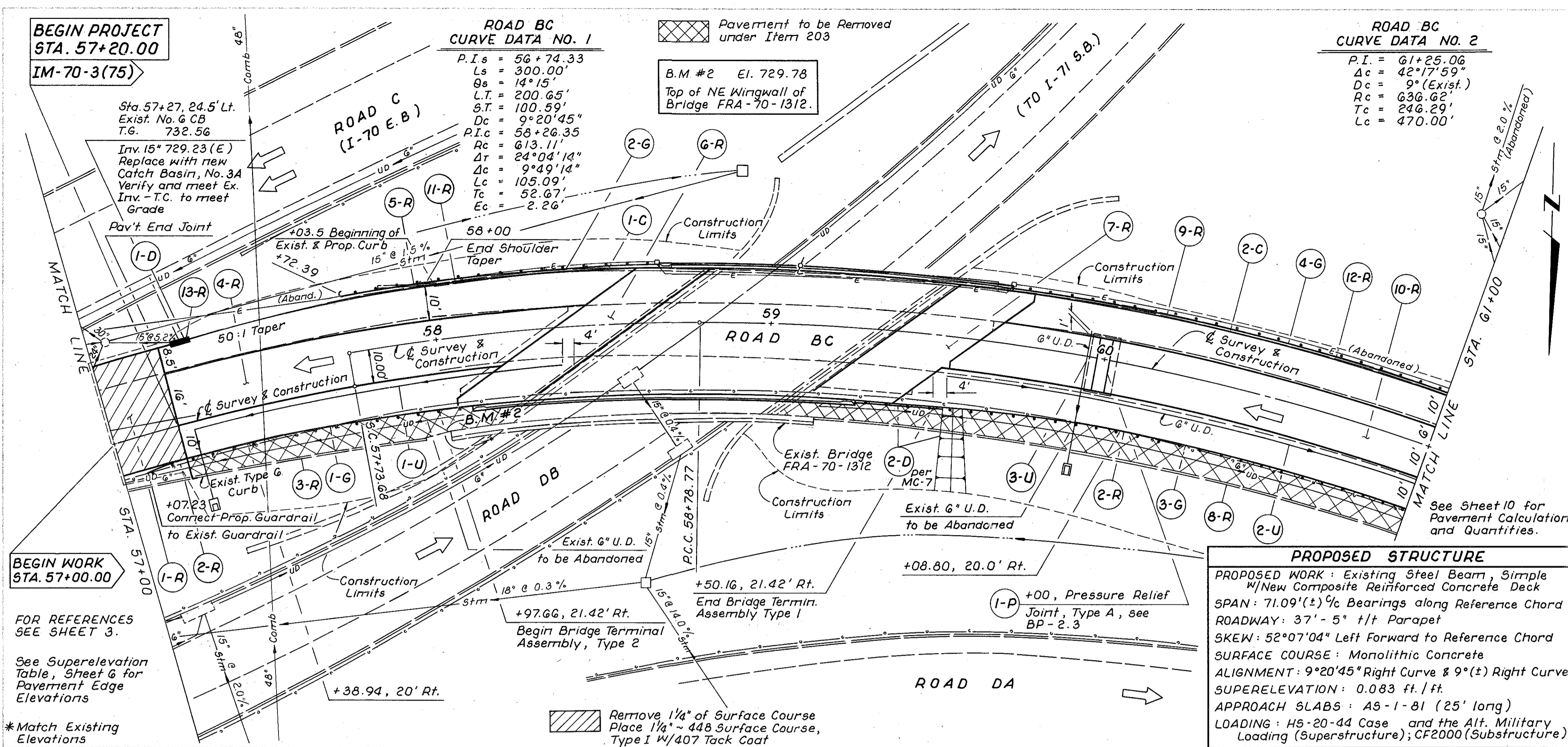
ROAD BC
CURVE DATA NO. 1
P.I. = 56+74.33
Ls = 300.00'
Bs = 14°15'
L.T. = 200.65'
S.T. = 100.59'
Dc = 9°20'45"
P.I.C. = 58+26.35
Rc = 613.11'
Δt = 24°04'14"
Δc = 9°49'14"
Lc = 105.09'
Tc = 52.67'
Ec = 2.26'

ROAD BC
CURVE DATA NO. 2
P.I. = 61+25.06
Δc = 42°17'59"
Dc = 9°(Exist.)
Rc = 636.62'
Tc = 246.29'
Lc = 470.00'

FRANKLIN COUNTY
FRA-70-1312
FRA-315-0030R

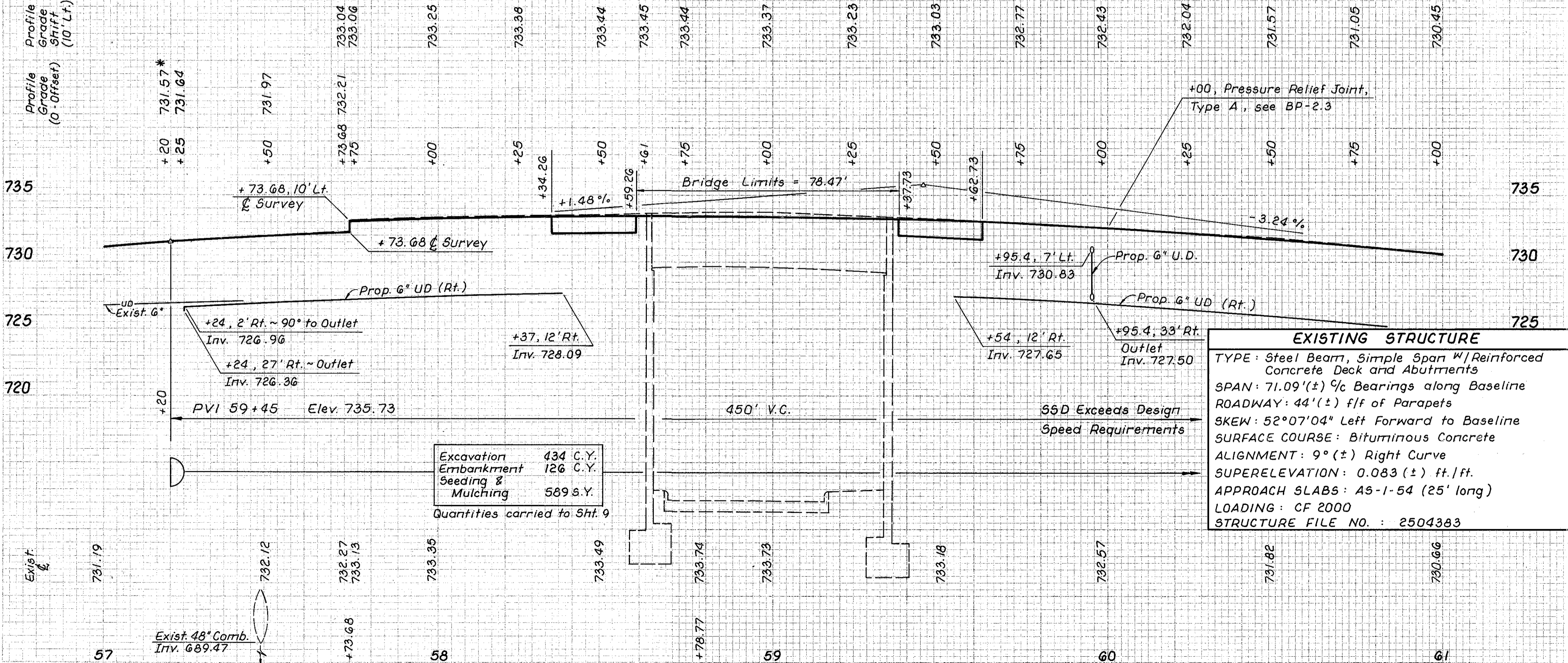
FORM NO. 10
STATE OF OHIO
PROJECT NO. IM-70-3(75)

12
44



FOR REFERENCES
SEE SHEET 3.
See Superelevation
Table, Sheet 6 for
Pavement Edge
Elevations
*Match Existing
Elevations

PROPOSED STRUCTURE
PROPOSED WORK: Existing Steel Beam, Simple W/ New Composite Reinforced Concrete Deck
SPAN: 71.09'(±) % Bearings along Reference Chord
ROADWAY: 37'-5" f/t Parapet
SKEW: 52°07'04" Left Forward to Reference Chord
SURFACE COURSE: Monolithic Concrete
ALIGNMENT: 9°20'45" Right Curve & 9°(±) Right Curve
SUPERELEVATION: 0.083 ft./ft.
APPROACH SLABS: AS-1-81 (25' long)
LOADING: HS-20-44 Case and the Alt. Military Loading (Superstructure); CF2000 (Substructure)



EXISTING STRUCTURE
TYPE: Steel Beam, Simple Span W/ Reinforced Concrete Deck and Abutments
SPAN: 71.09'(±) % Bearings along Baseline
ROADWAY: 44'(±) f/f of Parapets
SKEW: 52°07'04" Left Forward to Baseline
SURFACE COURSE: Bituminous Concrete
ALIGNMENT: 9°(±) Right Curve
SUPERELEVATION: 0.083 (±) ft./ft.
APPROACH SLABS: AS-1-54 (25' long)
LOADING: CF 2000
STRUCTURE FILE NO.: 2504383

ESTIMATED QUANTITIES

REF. NO.	ITEM	UNIT	QUANTITY	UNIT PRICE	TOTAL
1-R	Pressure Relief Joint, Type A	Lin. Ft.	16		16
2-R	Precast Reinforced Concrete Outlet	Each	2		2
3-R	Barrier Reflector, Type A	Each	3		3
4-R	Barrier Reflector, Type A	Each	3		3
5-R	Barrier Reflector, Type A	Each	4		4
6-R	Barrier Reflector, Type A	Each	3		3
7-R	Reinforced Sodding	Sq. Yd.	22		22
8-R	Curb, Type 6	Lin. Ft.	26		26
9-R	Curb, Type 6	Lin. Ft.	59		59
10-R	Curb, Type 6	Lin. Ft.	124		124
11-R	Pipe Removed 24" and Under	Lin. Ft.	10		10
12-R	Catch Basin Removed	Each	1		1
13-R	Catch Basin Removed	Each	1		1
14-R	Anchor Assembly, Type T	Each	1		1
15-R	Bridge Terminal Assembly, Type 2	Each	1		1
16-R	Bridge Terminal Assembly, Type 1	Each	1		1
17-R	Guardrail, Type 5	Lin. Ft.	100.0		100.0
18-R	Guardrail, Type 5	Lin. Ft.	87.5		87.5
19-R	Guardrail, Type 5	Lin. Ft.	170.14		170.14
20-R	Guardrail, Type 5	Lin. Ft.	185.06		185.06
21-R	6" Shallow Pipe U.D., 707.01 or 707.21	Lin. Ft.	40		40
22-R	6" Shallow Pipe U.D., 707.15	Lin. Ft.	113		113
23-R	6" Shallow Pipe U.D., 707.15	Lin. Ft.	146		146
24-R	Catch Basin, No. 3A	Each	1		1
25-R	6" Conduit, Type F ΔΔ	Lin. Ft.	25		25
26-R	15" Conduit, Type C	Lin. Ft.	10		10
27-R	Guardrail Removed	Lin. Ft.	400		400
28-R	Curb Removed	Lin. Ft.	72		72
29-R	Curb Removed	Lin. Ft.	178		178
30-R	Curb Removed	Lin. Ft.	70		70
31-R	Curb Removed	Lin. Ft.	133		133
32-R	Concrete Base Removed	Sq. Yd.	285		285
33-R	Concrete Base Removed	Sq. Yd.	362		362
34-R	Approach Slab Removed	Sq. Yd.	66		66
35-R	Approach Slab Removed	Sq. Yd.	66		66
36-R	Remove Wearing Course	Sq. Yd.	77		77
37-R	Excavation	C.Y.	434		434
38-R	Embankment	C.Y.	126		126
39-R	Seeding & Mulching	S.Y.	589		589

**ROAD BC
CURVE DATA NO. 2**

P.I. = 61+25.06
 Δc = 42°17'59"
 Dc = 9° (Existing)
 Rc = 636.62'
 Tc = 246.29'
 Lc = 470.00'

**END PROJECT
STA. 63+48.77**
IM-70-3(75)

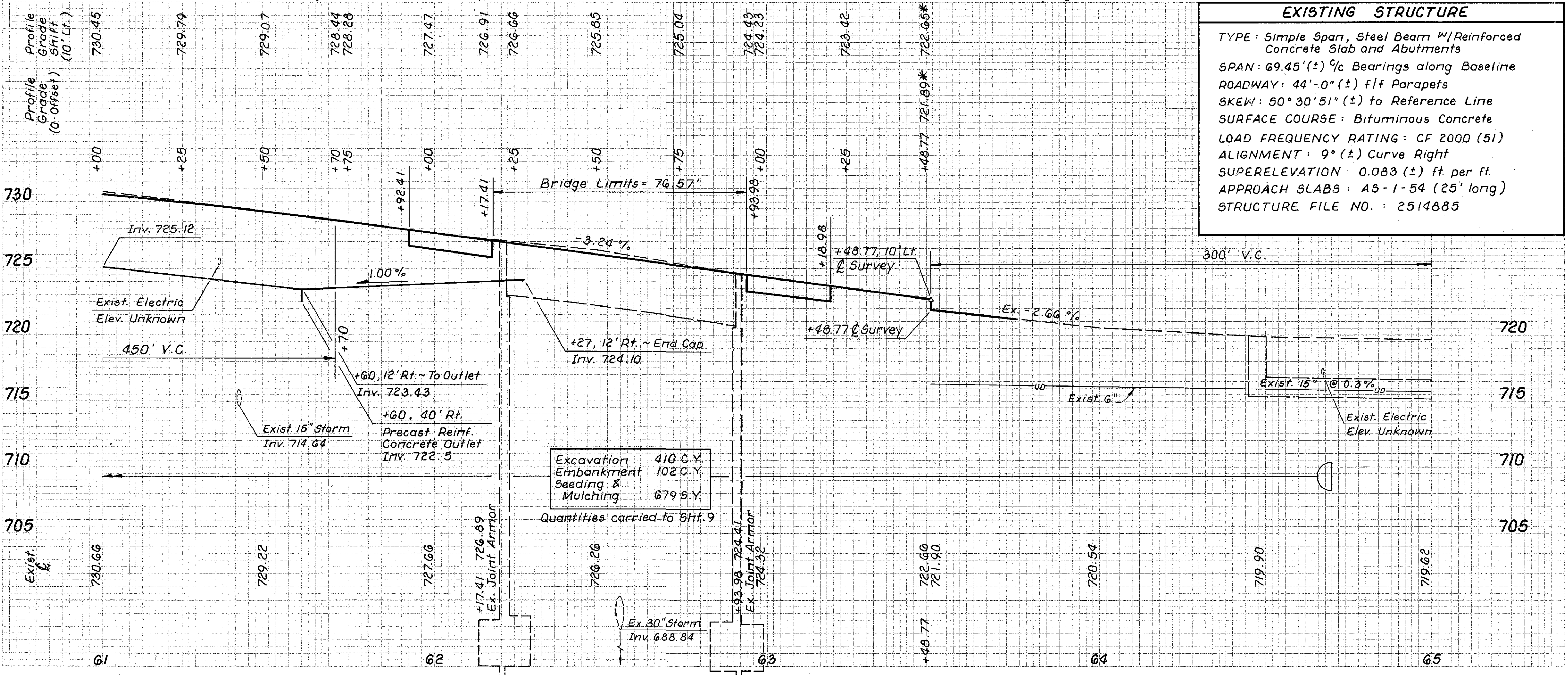
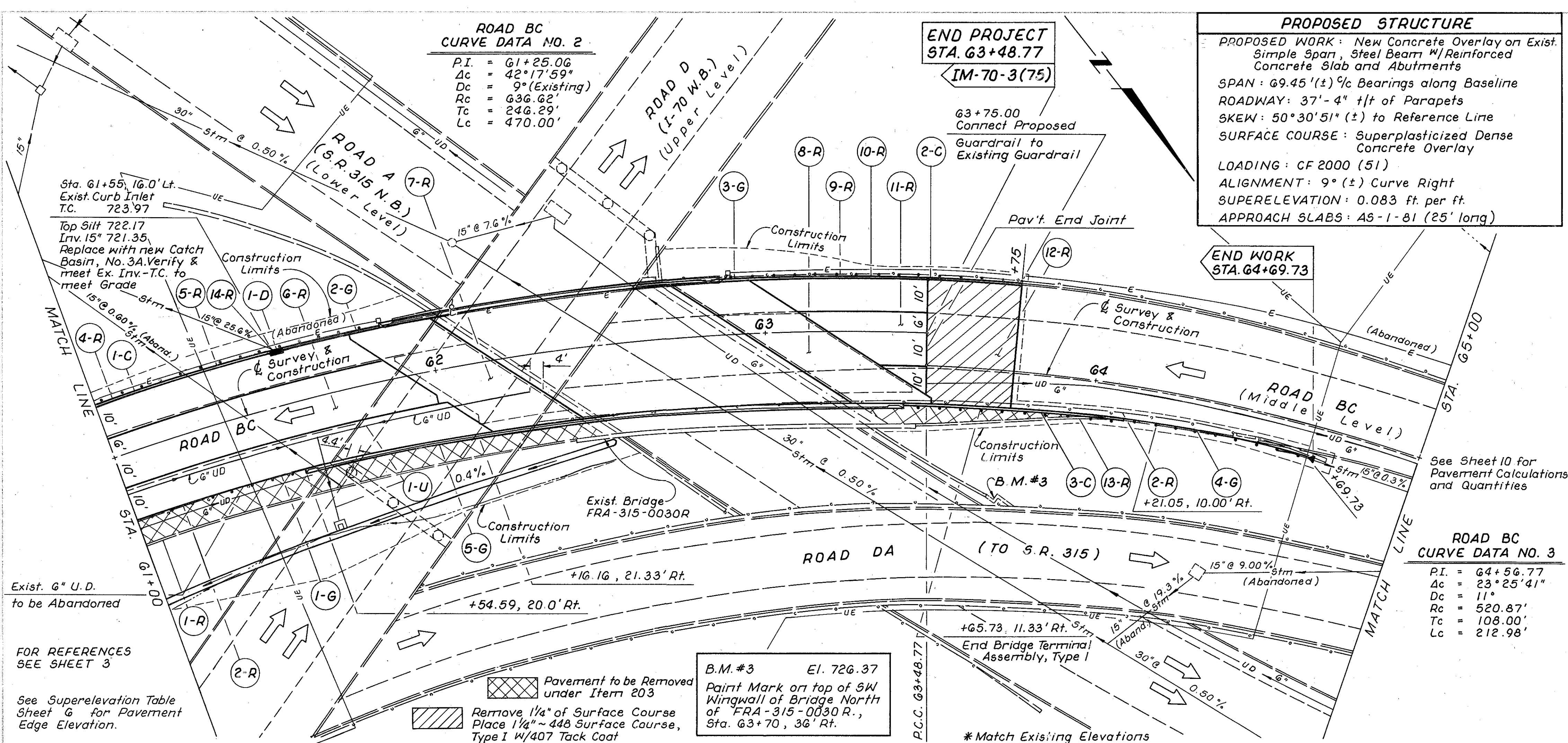
PROPOSED STRUCTURE

PROPOSED WORK: New Concrete Overlay on Exist. Simple Span, Steel Beam W/ Reinforced Concrete Slab and Abutments
 SPAN: 69.45' (±) %c Bearings along Baseline
 ROADWAY: 37'-4" t/f of Parapets
 SKEW: 50°30'51" (±) to Reference Line
 SURFACE COURSE: Superplasticized Dense Concrete Overlay
 LOADING: CF 2000 (51)
 ALIGNMENT: 9° (±) Curve Right
 SUPERELEVATION: 0.083 ft. per ft.
 APPROACH SLABS: A5-1-81 (25' long)

**FRANKLIN COUNTY
FRA-70-1312
FRA-315-0030R**

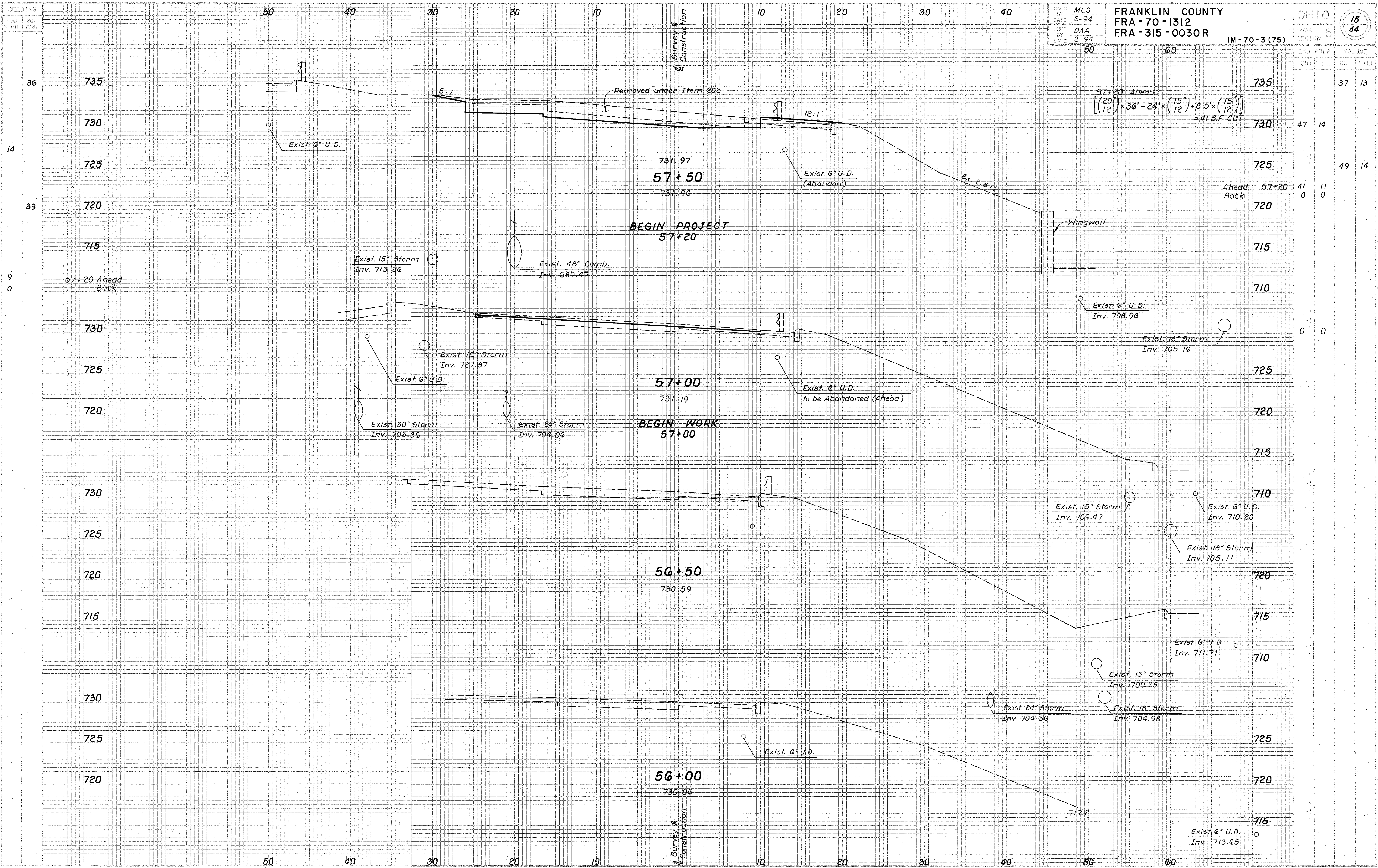
FRA-70-1312
STATE
PROJECT
CHIC
IM-70-3(75)

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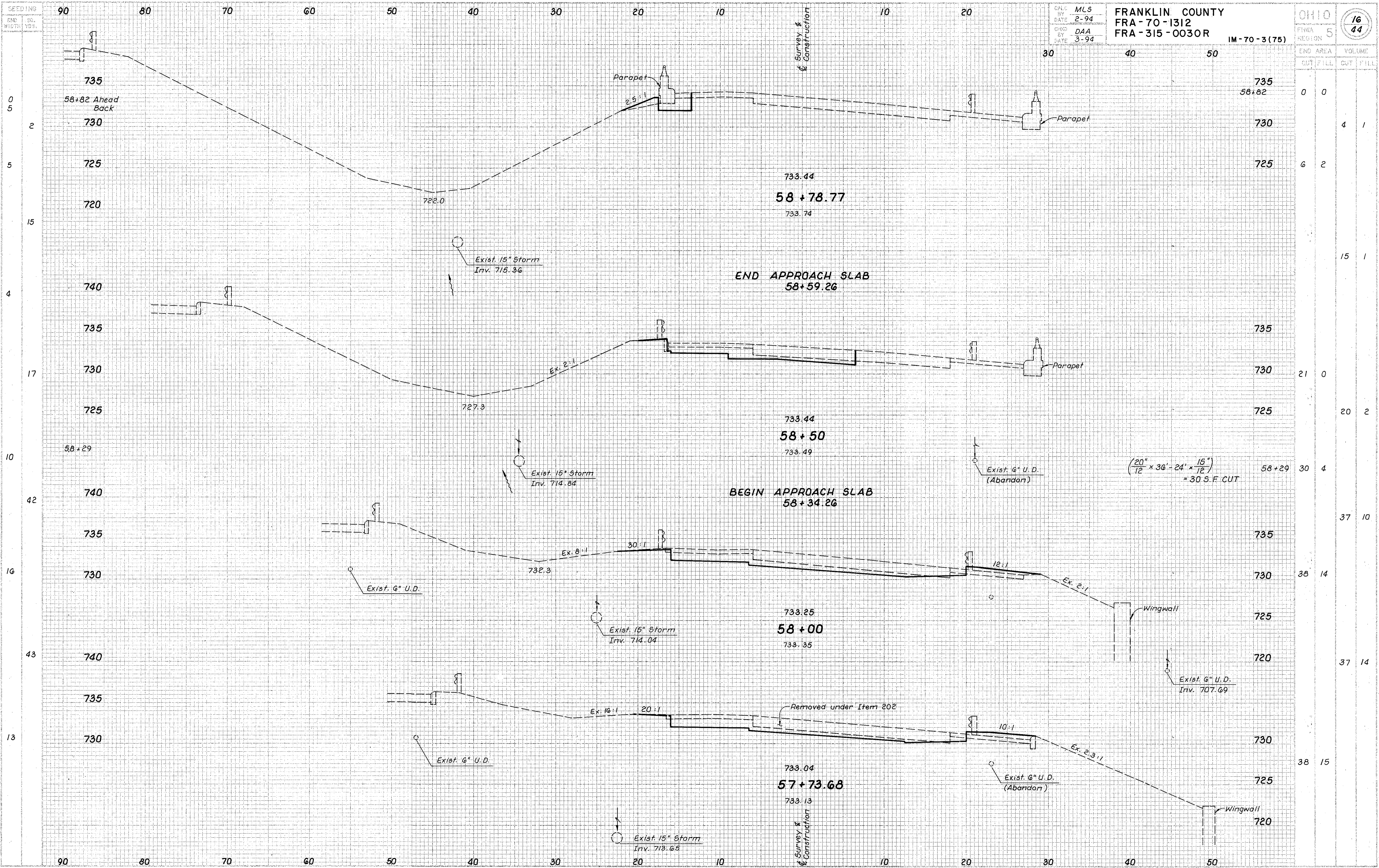


ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	PRICE	TOTAL
602	Barrier Reflector, Type A	Each	3		3
603	Barrier Reflector, Type B	Each	3		3
604	Barrier Reflector, Type C	Each	3		3
605	Concrete Barrier, Type D	Lin. Ft.	60		60
606	Curb, Type G	Lin. Ft.	76		76
607	Anchor Assembly, Type E	Each	1		1
608	Bridge Terminal Assembly, Type 2	Each	1		1
609	Bridge Terminal Assembly, Type 1	Each	1		1
610	Guardrail, Type 5	Lin. Ft.	54.87		54.87
611	6" Uncl. Pipe U.D., ΔΔΔ	Lin. Ft.	89.93		89.93
612	6" Shallow Pipe U.D., 707.15	Lin. Ft.	100.00		100.00
613	Catch Basin, No. 3A	Each	1		1
614	6" Conduit, Type F, ΔΔ	Lin. Ft.	28		28
615	15" Conduit, Type C	Lin. Ft.	10		10
616	Pipe Removed 24" and Under	Lin. Ft.	10		10
617	Catch Basin Removed	Each	1		1
618	Guardrail Removed	Lin. Ft.	370		370
619	Curb Removed	Lin. Ft.	125		125
620	Concrete Base Removed	Sq. Yd.	267		267
621	Approach Slab Removed	Sq. Yd.	66		66
622	Remove Wearing Course	Sq. Yd.	105		105
623	Excavation	C.Y.	410		410
624	Embankment	C.Y.	102		102
625	Seeding & Mulching	S.Y.	679		679
626	410 C.Y. Excavation				410
627	102 C.Y. Embankment				102
628	679 S.Y. Seeding & Mulching				679
629	Quantities carried to Sht. 9				
630	Exc. Joint Armor				
631	Exc. 30" Storm				
632	Exc. 17.41' Ex. Joint Armor				
633	Exc. 60' 12" Rt. To Outlet				
634	Exc. 60' 40' Rt.				
635	Exc. 27' 12" Rt. ~ End Cap				
636	Exc. 48.77' 10' Lt. Survey				
637	Exc. 48.77' Survey				
638	Exc. 15" @ 0.3%				
639	Exc. 6"				
640	Exc. Electric Elev. Unknown				
641	Exc. 300' V.C.				
642	Exc. 450' V.C.				
643	Exc. 1.00%				
644	Exc. -3.24%				
645	Exc. -2.66%				
646	Exc. 100%				
647	Exc. 17.41'				
648	Exc. 17.41'				
649	Exc. 17.41'				
650	Exc. 17.41'				
651	Exc. 17.41'				
652	Exc. 17.41'				
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819	Exc. 17.41'				
820	Exc. 17.41'				

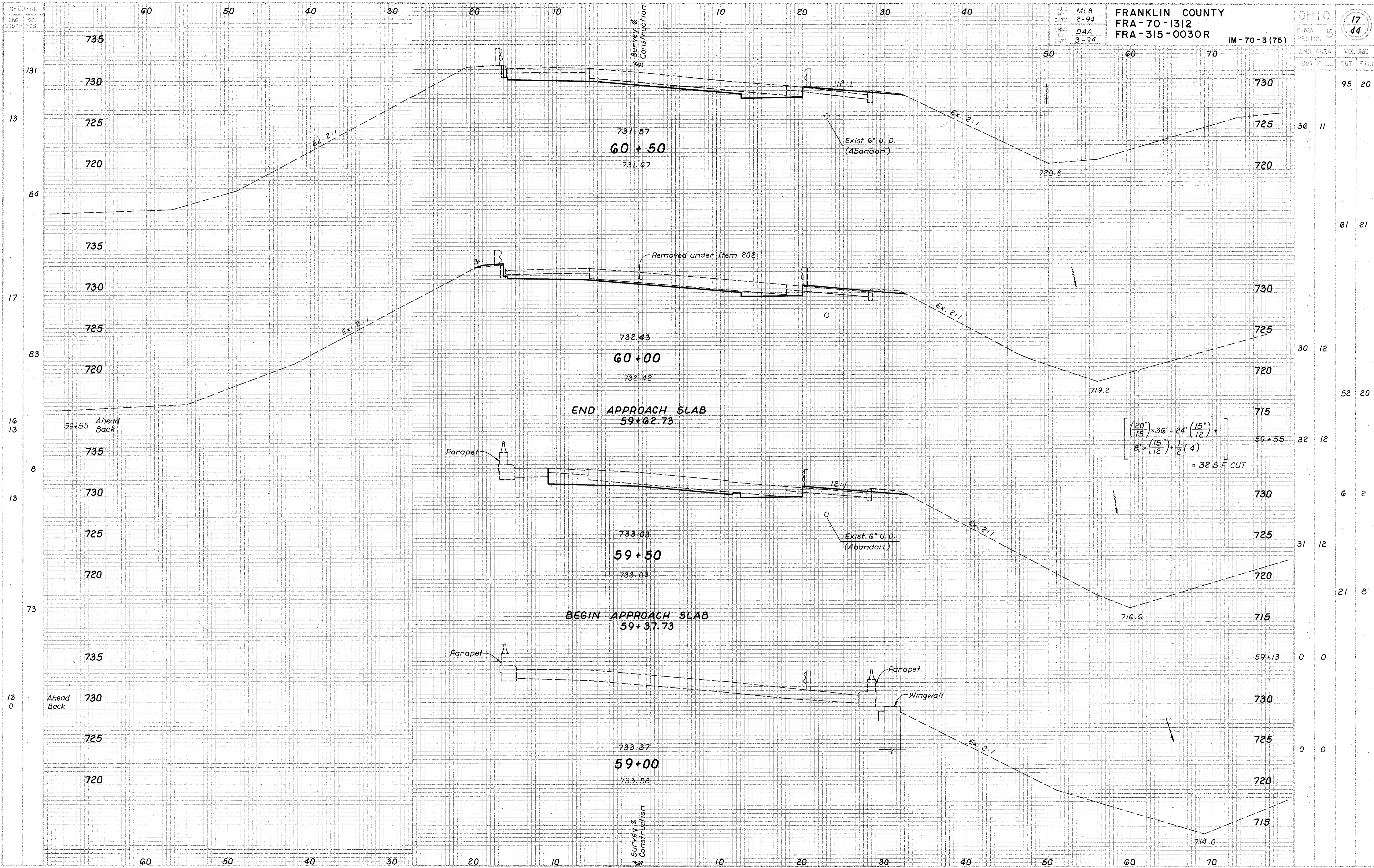


56+00 TO 57+50



STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
58+82	0	0		
58+78.77	6	2	4	1
58+59.26				
58+50				
58+34.26	21	0	15	1
58+00	30	4	20	2
57+73.68	37	10	30	4
57+75.40	38	14	37	10
	38	15	38	14
			37	14
			38	15

57+75.40 TO 58+78.77



END AREA	VOLUME	
CUT/FILL	CUT	FILL
95	20	
36	11	
61	21	
30	12	
52	20	
32	12	
6	2	
31	12	
21	8	
0	0	
0	0	

$$\left[\frac{(20')}{15'} \times 36' - 24' \left(\frac{15''}{12} \right) + 8' \times \left(\frac{15''}{12} \right) + \frac{1}{2} (4) \right] = 32 \text{ S.F. CUT}$$

731.57
60+50
 731.67

732.43
60+00
 732.42

END APPROACH SLAB
 59+62.73

733.03
59+50
 733.03

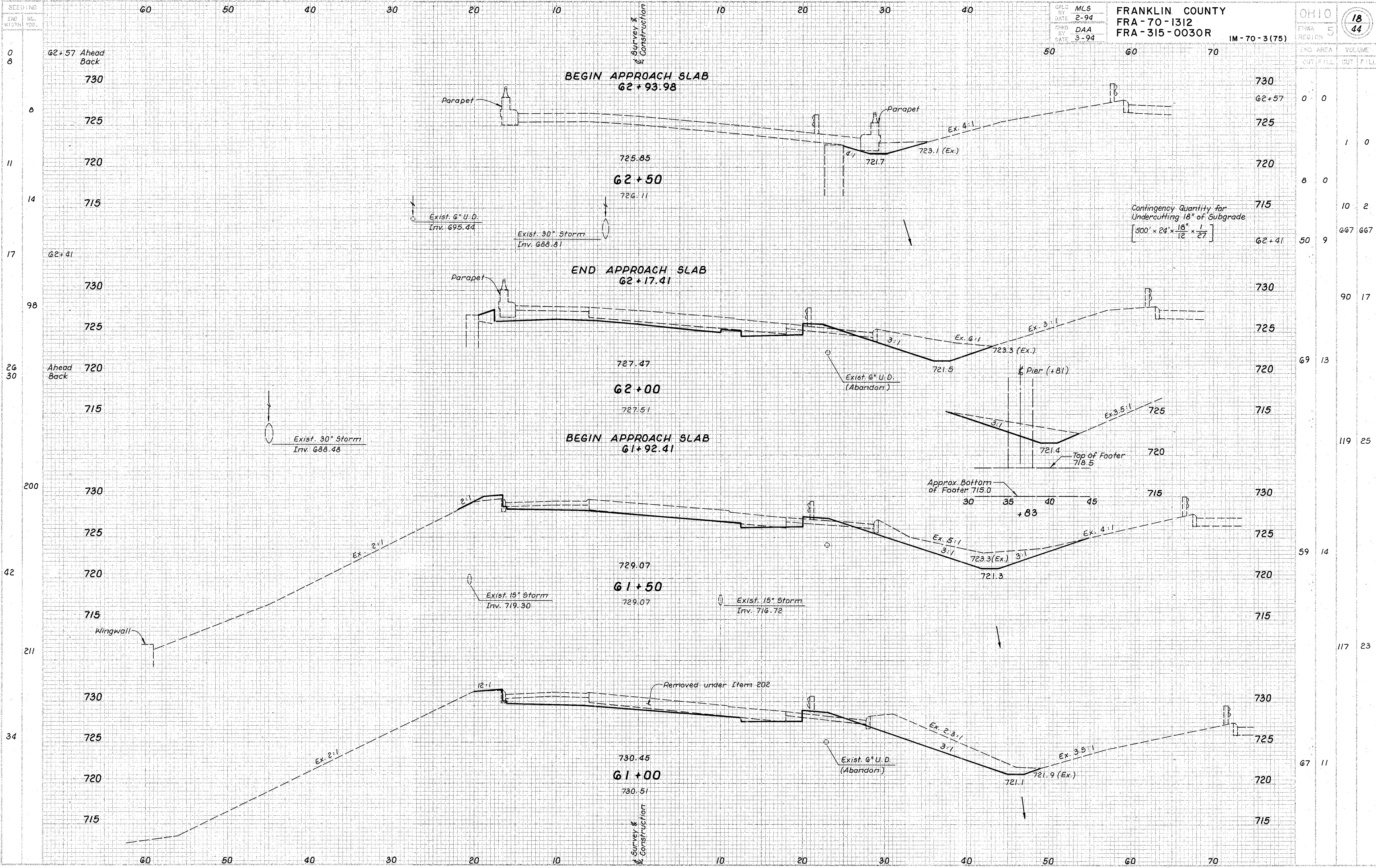
BEGIN APPROACH SLAB
 59+37.73

733.37
59+00
 733.58

59+55
 Ahead
 Back

59+00
 Ahead
 Back

Survey & Construction

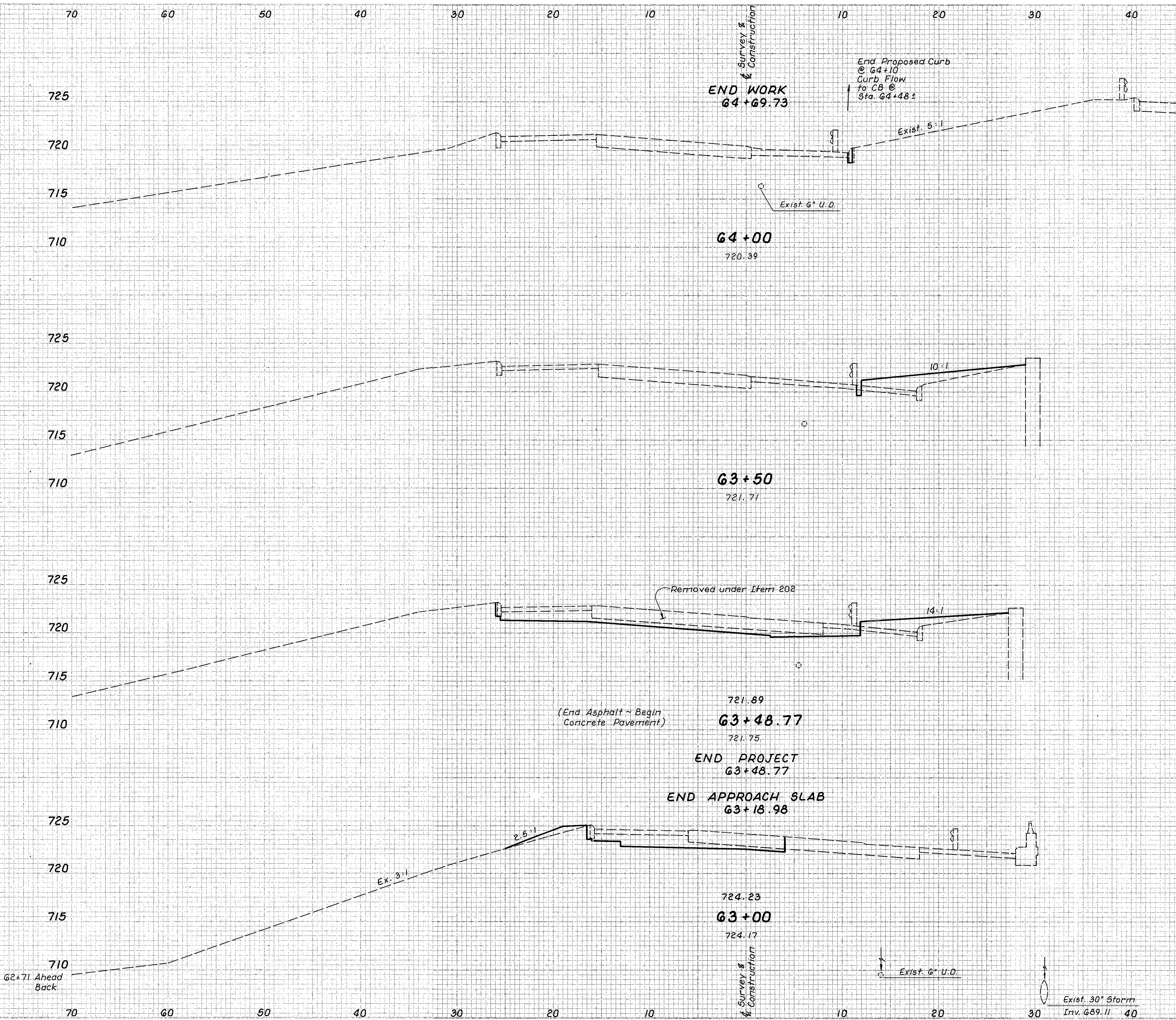


CALC M.L.S. FRANKLIN COUNTY
 BY DATE 2-94 FRA-70-1312
 CHD DAA FRA-315-0030R IM-70-3(75)
 BY DATE 3-94
 OHIO REGION 5 18/44

Contingency Quantity for
 Undercutting 18" of Subgrade
 $500' \times 24' \times \frac{18"}{12} \times \frac{1}{27}$

61+00 TO 62+50

SEEDING
END SQ.
WIDTH YDS



CALC BY: **MLS**
DATE: **2-94**
CHKD BY: **DAA**
DATE: **3-94**

FRANKLIN COUNTY
FRA-70-1312
FRA-315-0030R IM-70-3(75)

OHIO
SECTION 5
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44

STATION	ELEVATION	AREA	VOLUME
		CUT/FILL	CUT/FILL
64+00	720.39	0	0
63+50	721.71	3	18
63+48.77	721.75	3	15
63+48.77	721.75	39	22
63+48.77	721.75	34	12
63+23	725	32	2
63+00	724.17	23	2
63+00	724.23	22	3
62+71	710	12	3
62+71	710	0	3
62+71	710	0	0

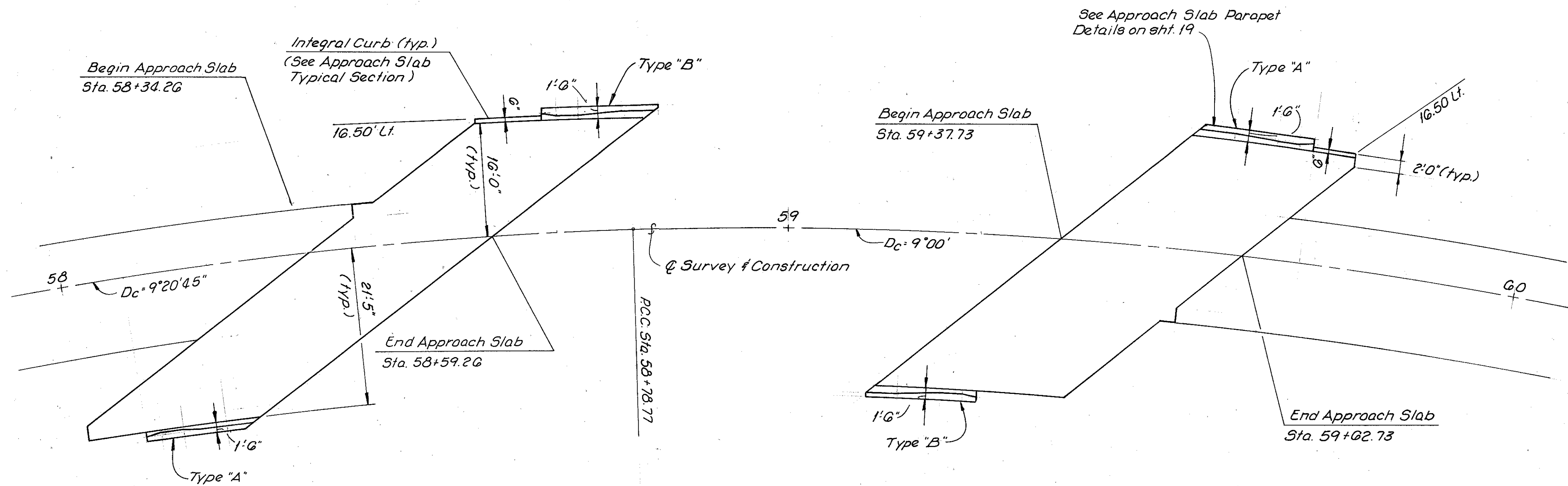
$$\left(\frac{20''}{12} \times 36' - 24' \times \frac{15''}{12}\right) = 30 \text{ S.F. CUT}$$

63+00 TO 64+00

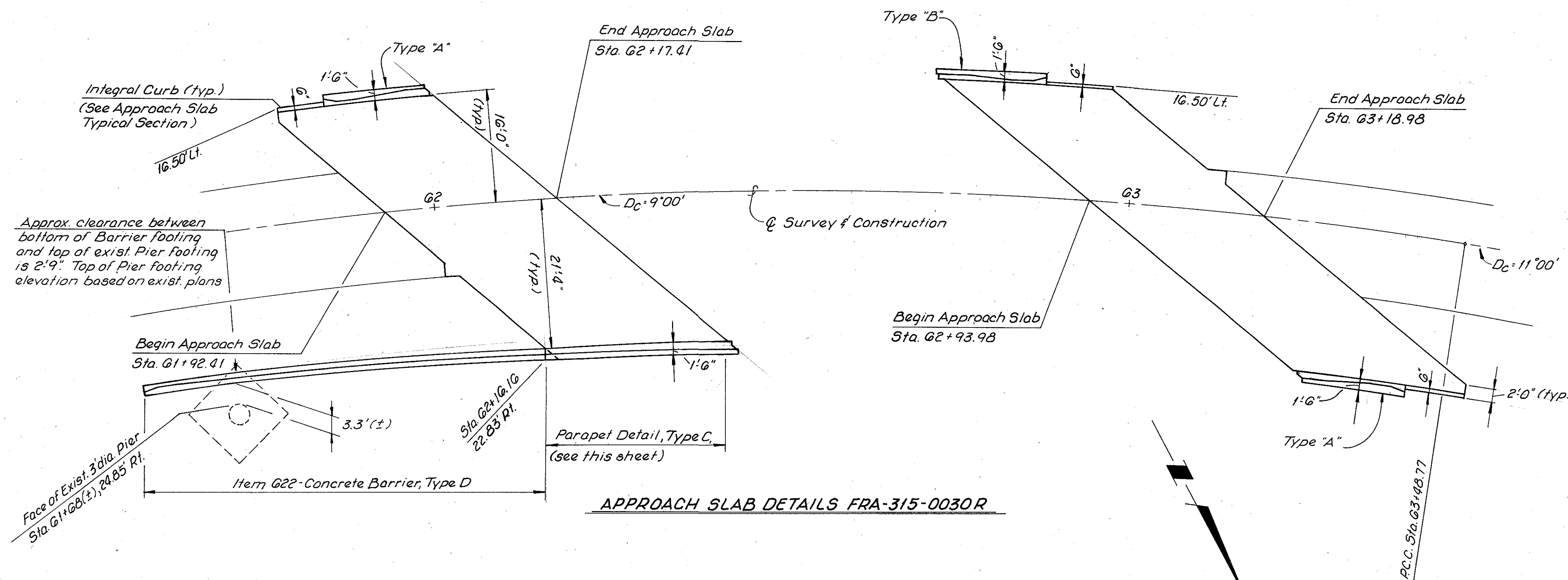
FHWA REGION	STATE	PROJECT
5	OHIO	IM-70-3 (75)

20
44

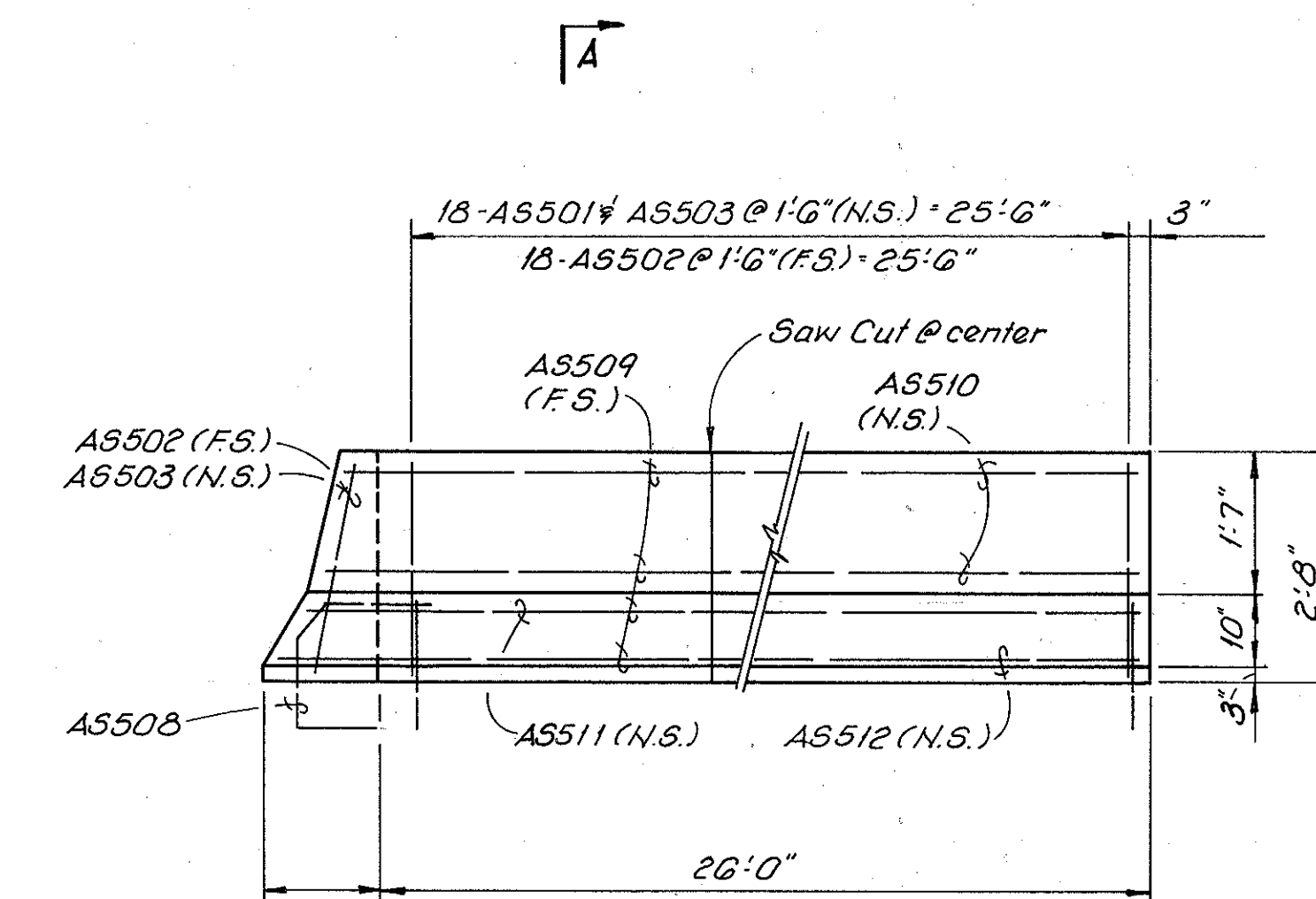
FRANKLIN COUNTY
FRA-70-1312
FRA-315-0030R



APPROACH SLAB DETAILS FRA-70-1312



APPROACH SLAB DETAILS FRA-315-0030R



ELEVATION OF DEFLECTOR BARRIER TRANSITION TYPE "C"

Sect "A-A" similar to Sect "A-A", see Sheet

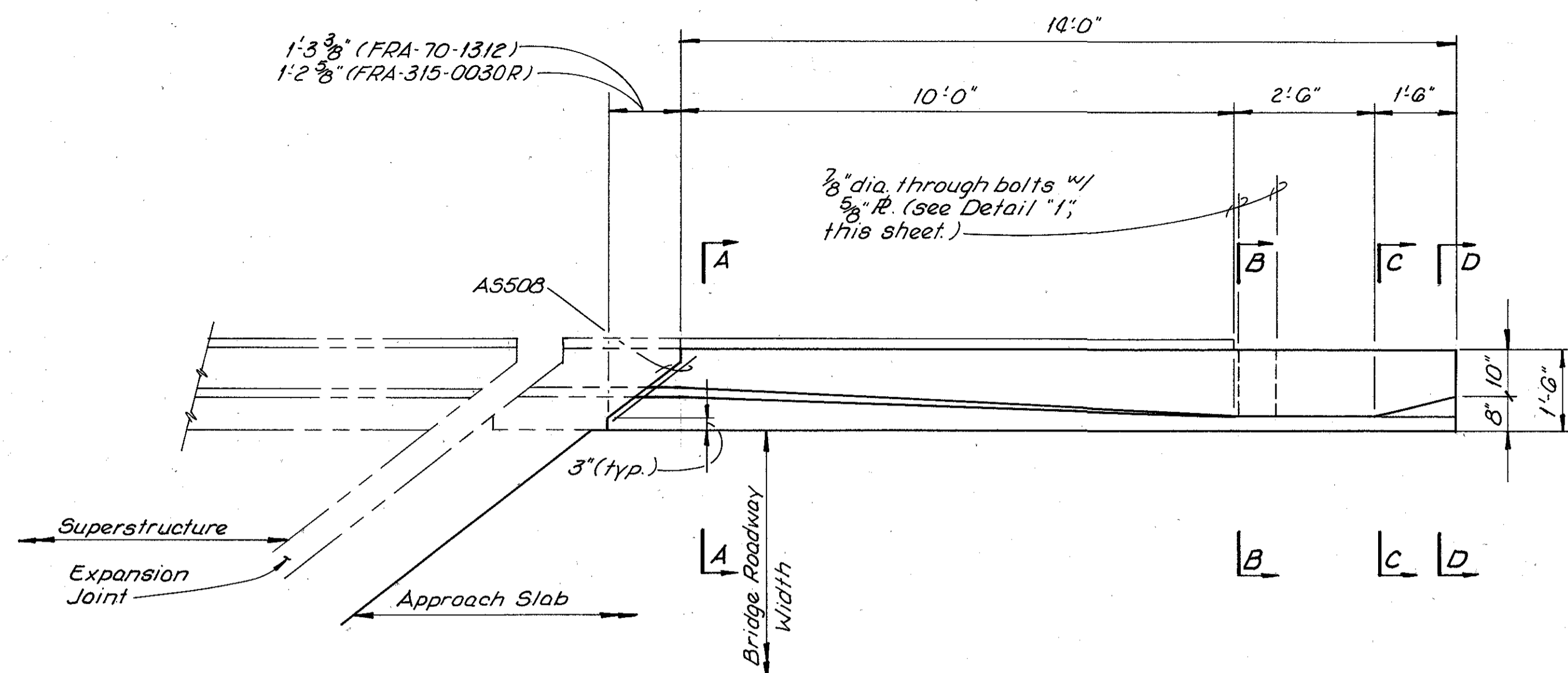
21
44

BRUNING 44-237 75474-02

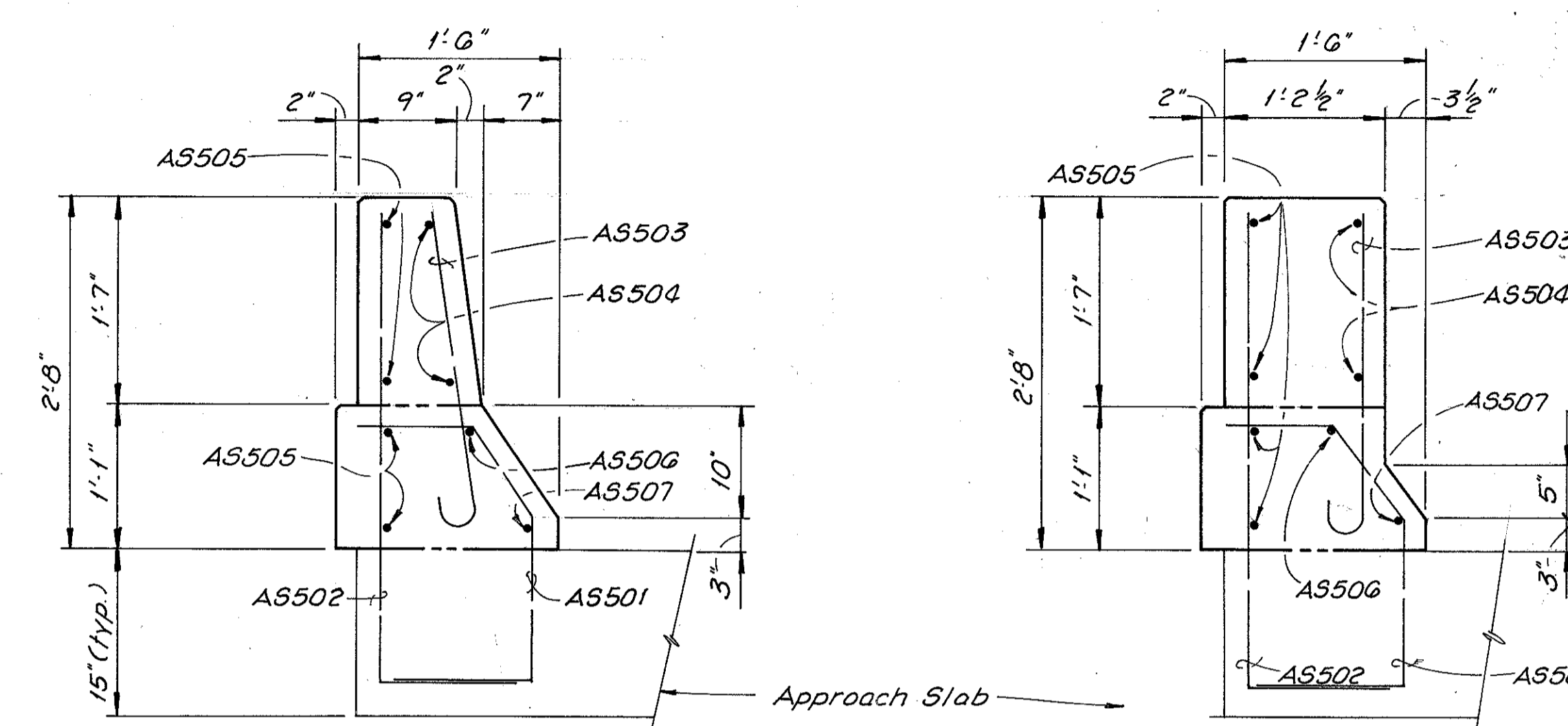
FHWA REGION	STATE	PROJECT
5	OHIO	IM-70-3(75)

21
44

FRANKLIN COUNTY
FRA-70-1312
FRA-315-0030R

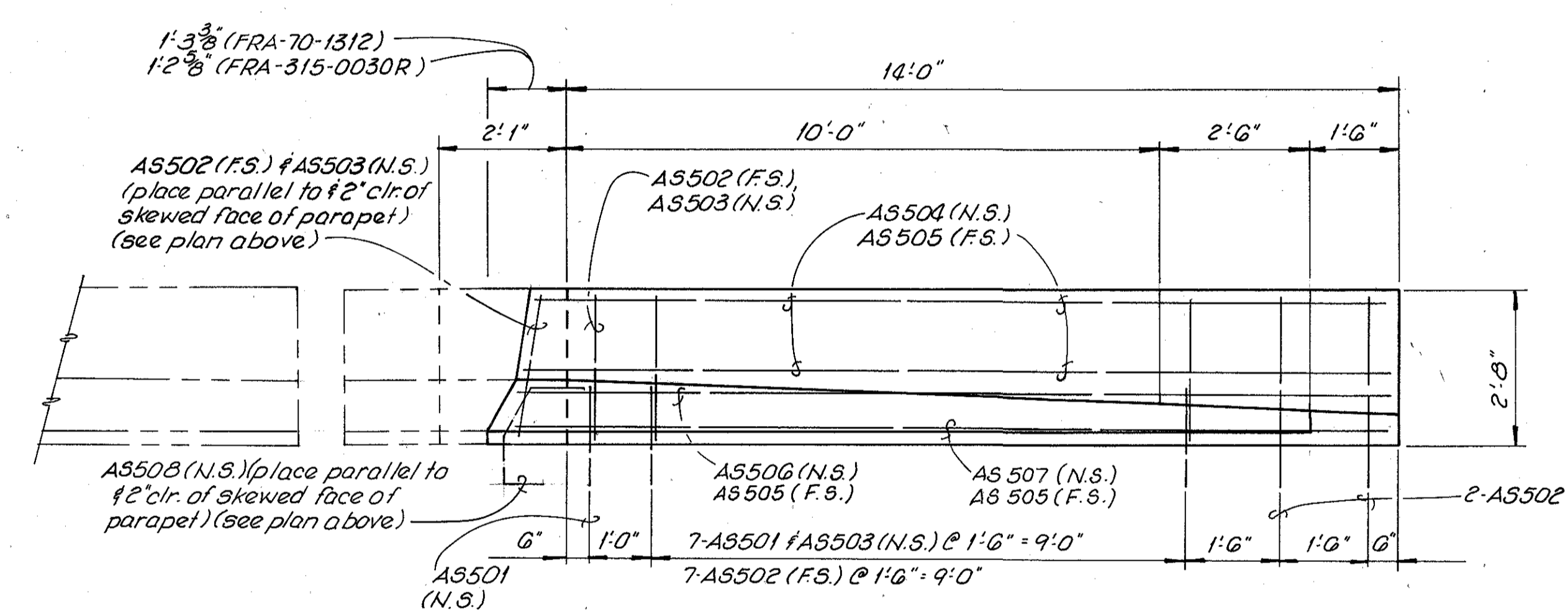


PLAN OF DEFLECTOR BARRIER TRANSITION TYPE "A"

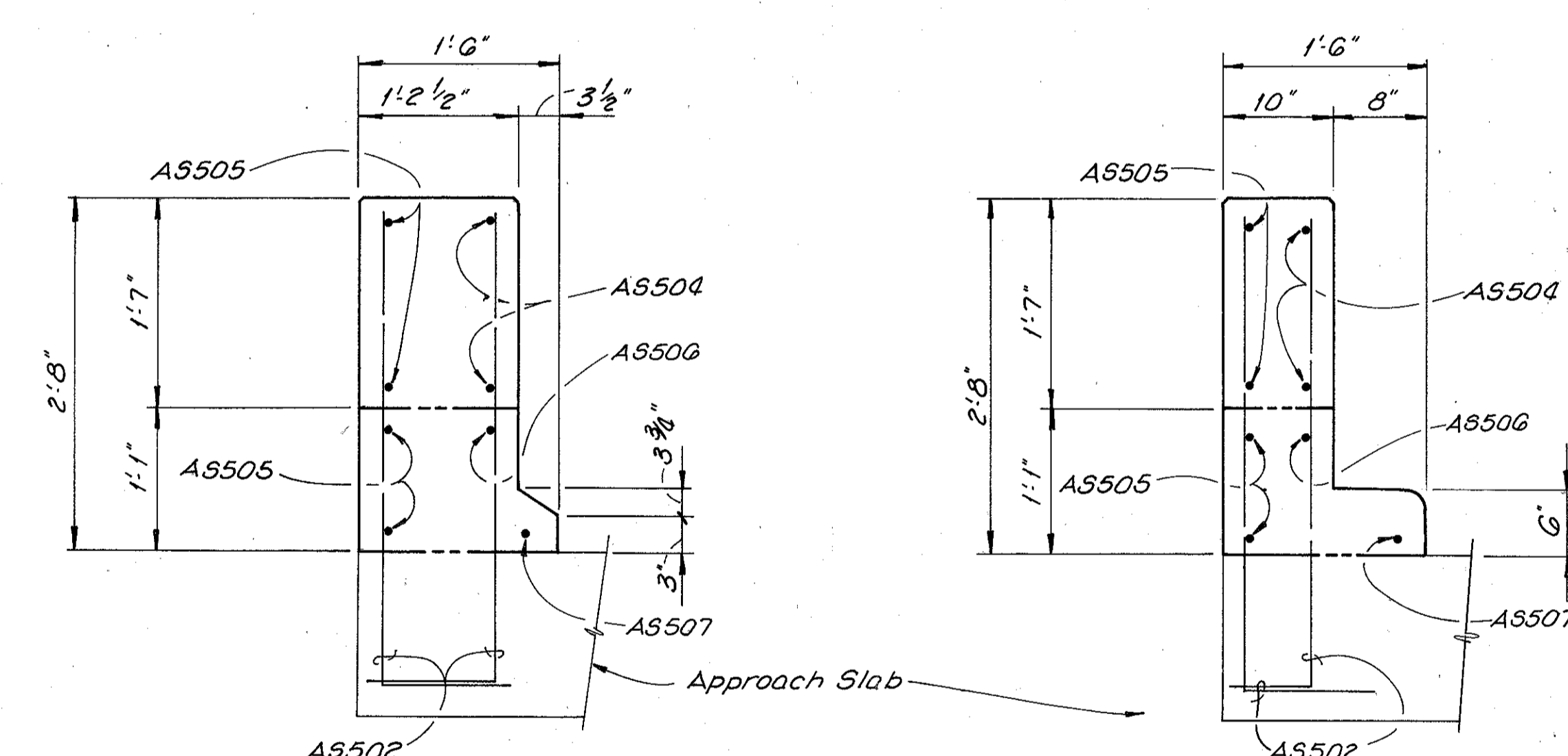


SECTION "A-A"

SECTION "B-B"

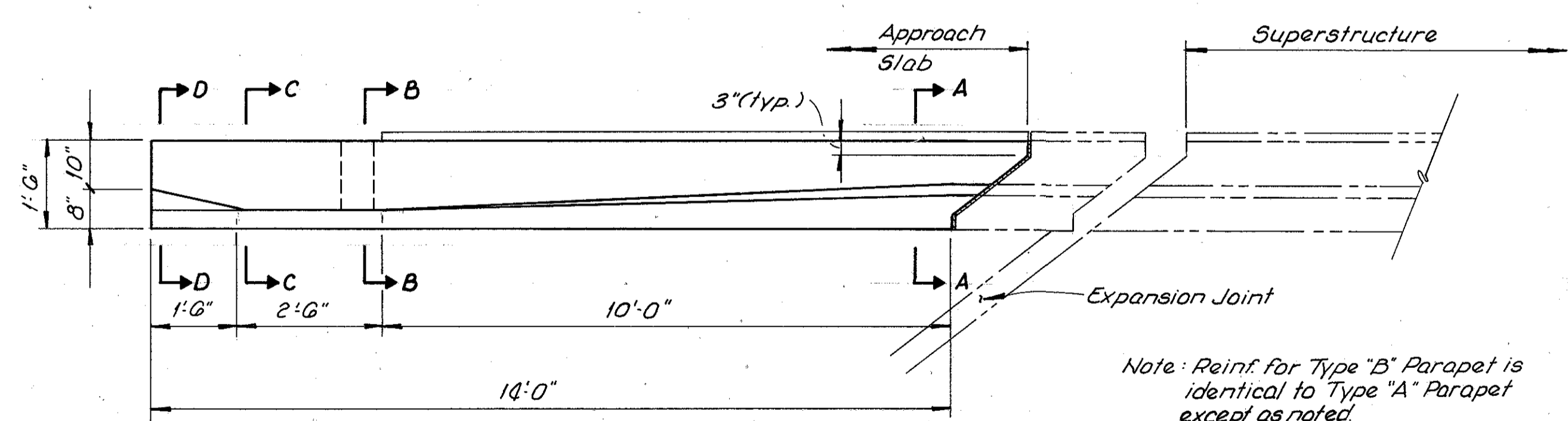


ELEVATION OF DEFLECTOR BARRIER TRANSITION TYPE "A"



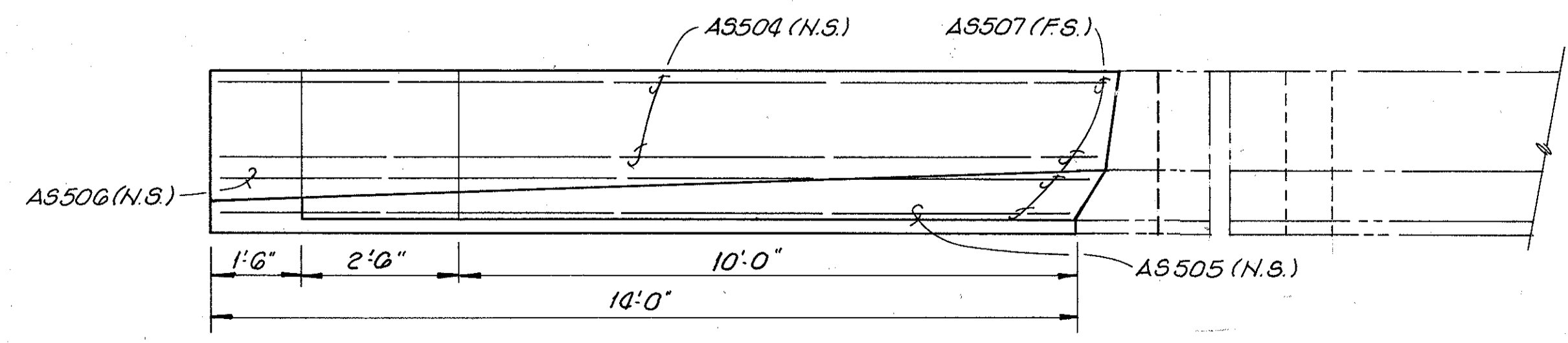
SECTION "C-C"

SECTION "D-D"



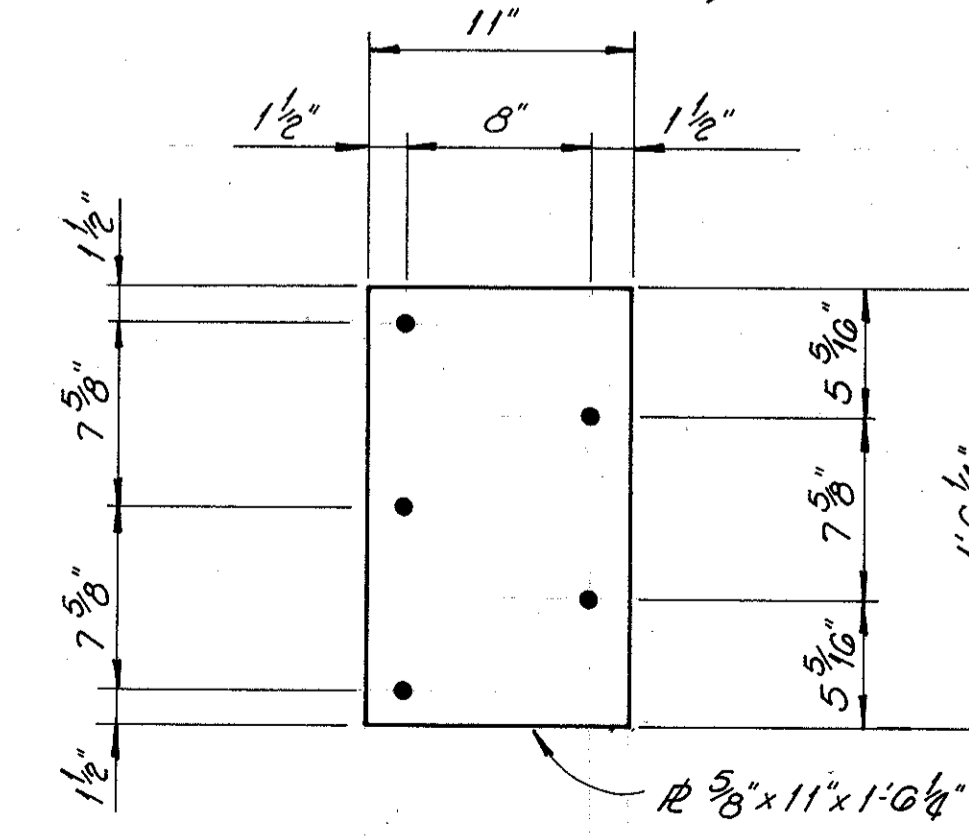
PLAN OF DEFLECTOR BARRIER TRANSITION TYPE "B"

Note: Reinf. for Type "B" Parapet is identical to Type "A" Parapet except as noted.



ELEVATION OF DEFLECTOR BARRIER TRANSITION TYPE "B"

NOTE: See Std. Dwg. AS-1-B1 for reinforcing other than Parapet reinforcing.



DETAIL "1"

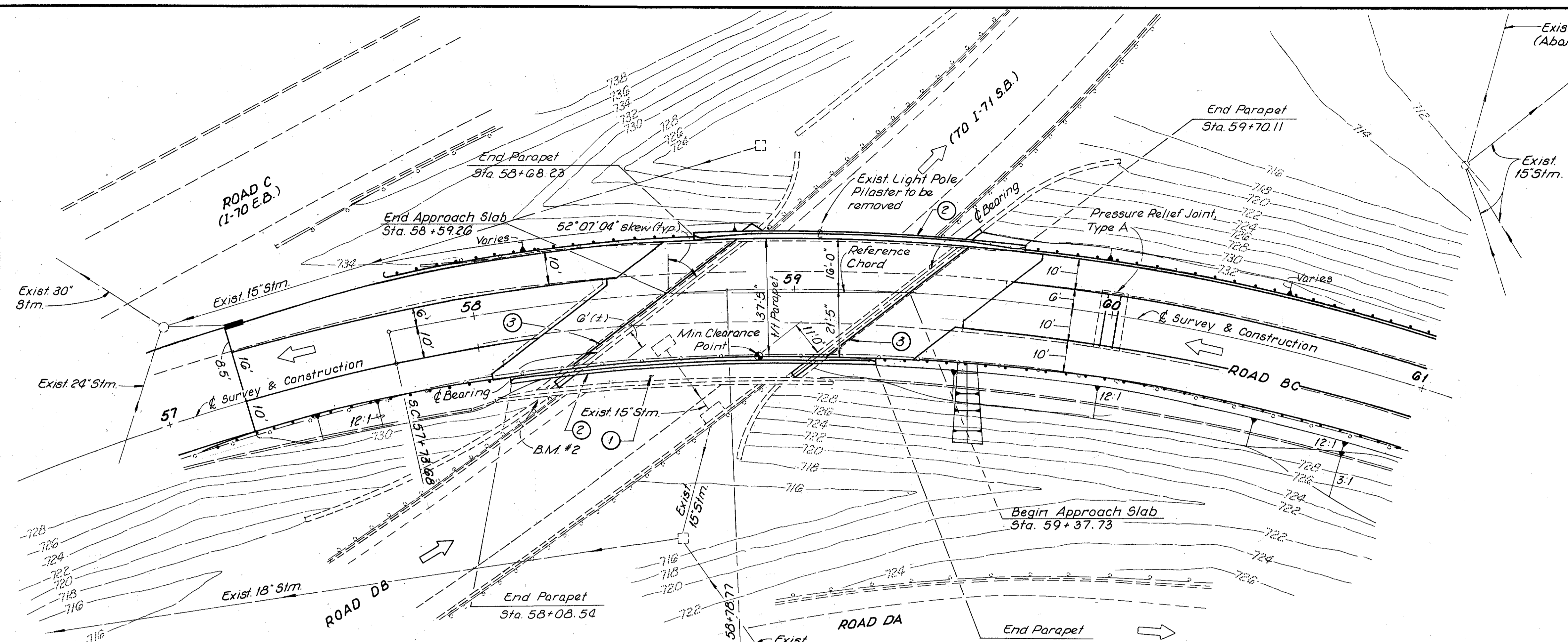
BRUNING 44-232 73474-02

FHWA REGION	STATE	PROJECT	
5	OHIO	IM-70-3(75)	

22
44

FRANKLIN COUNTY
FRA-70-13.12
FRA-315-0030R

B.M. #1 El. 724.44
South Anchor Bolt of
Tower Light, Sta. 55+50,
36' R.



**ROAD BC CURVE DATA
CURVE #1**

PIs = 58+74.33
Ls = 300'
Bs = 14°15'
LT = 200.65'
ST = 100.59'
Dc = 9°20'45"

PIc = 58+26.35
Rc = 613.11'
ΔT = 24°04'14"
Δc = 9°49'14"
Lc = 105.09'
Tc = 52.67'
Ec = 2.26'

**ROAD BC CURVE DATA
CURVE #2**

PI = 61+25.06
Δc = 42°17'59"
Dc = 9°(Exist.)
Rc = 636.62'
Tc = 206.29'
Lc = 470.00'

INDEX OF STRUCTURE WORK ITEMS

- ① Remove Existing Deck and place proposed Concrete Deck.
- ② Add Deflector Safety Shape Parapets.
- ③ Add Strip Seal.

B.M. #2 El. 729.78
Top of N.E. Wingwall
of Bridge FRA-70-1312.

● Indicates Point of Minimum Vertical Clearance

PLAN

NOTES:
1. Earthwork Limits shown are approximate. Actual slopes shall conform to Plan Cross-Sections.

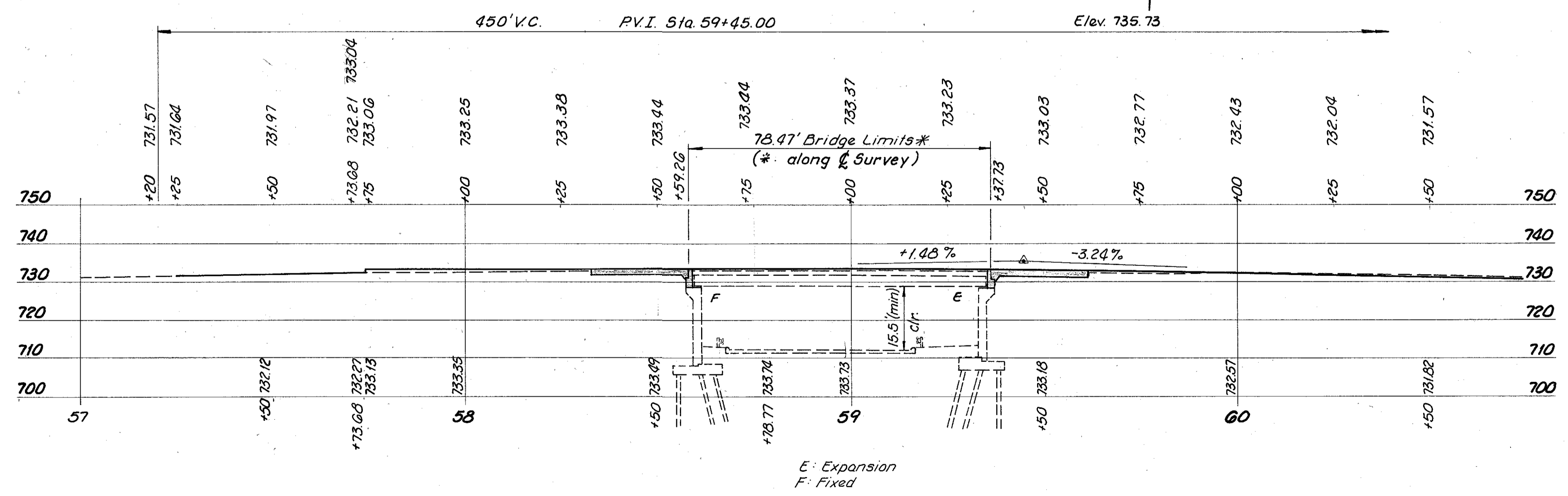
TRAFFIC COUNT
Current ADT (1994) - 13,000
Design Year (2014) - 15,500
ADTT - 715

EXISTING STRUCTURE

TYPE: Steel Beam, simple span with reinforced concrete deck and abutments.
SPAN: 71.09' (±) % Bearings along Baseline.
ROADWAY: 44' (±) / 1' of Parapets.
SKEW: 52°07'04" Left Forward to Baseline.
SURFACE COURSE: Bituminous concrete.
APPROACH SLABS: AS-1-54, 25' Long.
ALIGNMENT: 9° (±) Right Curve.
SUPERELEVATION: 0.083 (±) ft./ft.
LOADING: CF 2000.
STRUCTURE FILE No.: 2504383.

PROPOSED STRUCTURE

PROPOSED WORK: Existing Steel Beam, Simple with new composite reinforced concrete Deck.
SPAN: 71.09' % Bearings along Survey
ROADWAY: 37'5" / 1' Parapet
SKEW: 52°07'04" Left Forward to Reference Chord.
SURFACE COURSE: Monolithic Concrete.
APPROACH SLAB: AS-1-81 (25' Long).
ALIGNMENT: 9°20'45" (±) Right Curve & 9° (±) Right Curve.
SUPERELEVATION: 0.083 ft./ft.
LOADING: HS-20-44 Case II and the Alternate Military Loading (Superstructure); CF2000 (Substructure).



PROFILE ALONG SURVEY & CONSTRUCTION

E: Expansion
F: Fixed

Reviewed By Burgess & Niple, Ltd.
D.W.R. 6-28-96

E. P. FERRIS AND ASSOCIATES, INC.
CONSULTING CIVIL ENGINEERS & SURVEYORS
766 NORTHWEST BLVD. COLUMBUS, OHIO 43212

**SITE PLAN
BRIDGE No. FRA-70-13.12**

FRANKLIN COUNTY STA. 58+59.20 to STA. 59+37.73

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JWE	NAH/IEC		FA	EPF	2-23-94	

FHWA REGION	STATE	PROJECT	
5	OHIO		

23
44

FRANKLIN COUNTY
FRA -70- 1312
FRA -315-0030R

ESTIMATED QUANTITIES								CALC. BY: MH/JWE CHK'D BY: JWE/JAP		
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUTMENTS	SUPER.	GENERAL			
202	11203	LUMP	SUM	PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN AS PER PLAN						LUMP
503	21300	LUMP	SUM	UNCLASSIFIED EXCAVATION	LUMP					
509	15824	28,211	LBS.	EPOXY COATED REINFORCING STEEL, GRADE 60	4740	23,321	150			
510	10000	51	EACH	DOWEL HOLE WITH NONSHRINK, NONMETALLIC GROUT	51					
511	31502	114	CU. YD.	CLASS S CONCRETE SUPERSTRUCTURE		114				
511	45700	53	CU. YD.	CLASS C CONCRETE, ABUTMENT	53					
SPECIAL	512 67502	562	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY) *	413	149				
513	15901	2470	POUND	STRUCTURAL STEEL, REPLACEMENT OF DETERIORATED END CROSS FRAMES, AS PER PLAN		2470				
513	20000	952	EACH	WELDED STUD SHEAR CONNECTOR		952				
815	00050	5,350	SQ. FT.	SURFACE PREPARATION OF EXISTING STEEL, SYSTEM OZEU		5,350				
815	00056	5,350	SQ. FT.	FIELD PAINTING OF EXISTING STEEL, PRIME COAT, SYSTEM OZEU		5,350				
815	00060	5,350	SQ. FT.	FIELD PAINTING OF EXISTING STEEL, INTERMEDIATE COAT, SYSTEM OZEU		5,350				
815	00066	5,350	SQ. FT.	FIELD PAINTING OF EXISTING STEEL, FINISH COAT, SYSTEM OZEU		5,350				
815	00504	20	MANHOUR	GRINDING FINIS, TEARS, SLIVERS		20				
815	00508	889	LIN. FT.	GRINDING FLANGE EDGES		889				
516	11210	133	LIN. FT.	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL *		133				
516	13600	50	SQ. FT.	1" PREFORMED EXPANSION JOINT FILLER			50			
516	45305	6	EACH	REFURBISH BEARING DEVICE, AS PER PLAN		6				
516	47001	LUMP	SUM	JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN						LUMP
518	21200	67	CU. YD.	POROUS BACKFILL WITH FILTER FABRIC	67					
519	11100	56	SQ. FT.	PATCHING CONCRETE STRUCTURE	56					

* SEE PROPOSAL NOTE

E. P. FERRIS AND ASSOCIATES, INC. CONSULTING CIVIL ENGINEERS & SURVEYORS 766 NORTHWEST BLVD. COLUMBUS, OHIO 43212								2 / 23	
ESTIMATED QUANTITIES BRIDGE NO. FRA-70-1312									
FRANKLIN COUNTY					STA. 58+59.26 TO STA. 59+37.73				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED			
JWE	MAH		JLW	EPF	11-23-94				

GENERAL NOTES

FHWA REGION	STATE	STATE	
5	OHIO	OHIO	

24
44

FRANKLIN COUNTY
FRA-70-1312
FRA-315-0030R

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:

AS-1-81	DATED (REVISED)	9-15-94
EXJ-4-87	DATED (REVISED)	11-12-93
SD-1-69	DATED	6-12-69
RB-1-55	DATED (REVISED)	2-2-59
BR-1	DATED (REVISED)	12-15-94

AND TO SUPPLEMENTAL SPECIFICATIONS:

910	DATED	7-17-95
815	DATED	7-17-95

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1992, INCLUDING THE INTERIM 1993 SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING: HS20-44, CASE II AND THE ALTERNATE MILITARY LOADING.

DESIGN DATA:

CONCRETE CLASS S - COMPRESSIVE STRENGTH 4500 P.S.I. (SUPERSTRUCTURE)
CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 P.S.I. (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615, A616, OR A617.
GRADE 60 - MINIMUM YIELD STRENGTH 60,000 P.S.I.

EXISTING STRUCTURAL STEEL BEAMS
A373 - YIELD STRENGTH 32,000 P.S.I.

NEW STRUCTURAL STEEL A36 - UNIT STRESS 20,000 P.S.I.

DECK PROTECTION METHOD:

EPOXY COATED REINFORCING STEEL.

2-1/2" CONCRETE COVER

SEALING OF CONCRETE SURFACES

MONOLITHIC WEARING SURFACE: MONOLITHIC WEARING SURFACE FOR DESIGN PURPOSES IS ASSUMED TO BE 1" THICK.

PORTIONS OF STRUCTURE REMOVED, OVER 20-FOOT SPAN, AS PER PLAN: THIS WORK SHALL CONSIST OF THE REMOVAL, WHOLLY OR IN PART, AND SATISFACTORY DISPOSAL OF PORTIONS OF THE EXISTING STRUCTURE AS PER 202 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS AND AS DIRECTED ON THE PLANS. THIS WORK SHALL ALSO INCLUDE ANY DEVICES OR STRUCTURES NECESSARY FOR THE PROTECTION OF TRAFFIC, PREPARATION OF PLANS FOR SUCH STRUCTURES, AND ANY OTHER WORK ASSOCIATED WITH REMOVAL OF PORTIONS OF THE EXISTING STRUCTURE AS DESCRIBED BELOW. CARE SHALL BE TAKEN TO PROTECT PORTIONS OF THE STRUCTURE THAT ARE TO REMAIN AND BE INCORPORATED INTO THE PROPOSED STRUCTURE.

PROTECTION OF TRAFFIC: PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE, THE CONTRACTOR SHALL SUBMIT HIS PLANS FOR THE PROTECTION OF TRAFFIC (VEHICULAR, PEDESTRIAN, BOAT, ETC.) ADJACENT TO AND/OR UNDER THE STRUCTURE TO THE DIRECTOR FOR APPROVAL. THESE PLANS SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT MAY BE NECESSARY TO ENSURE SUCH PROTECTION. TEMPORARY VERTICAL CLEARANCES SPECIFIED ON THE PLANS OR IN THE PROPOSAL SHALL BE MAINTAINED AT ALL TIMES EXCEPT AS OTHERWISE APPROVED BY THE DIRECTOR.

PROTECTION OF STEEL SUPPORT SYSTEMS: BEFORE DECK SLAB CUTTING IS PERMITTED, THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK SHALL BE DRAWN ON THE SURFACE OF DECK. SMALL DIAMETER PILOT HOLES SHALL BE DRILLED 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2 INCHES OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL. CUTS MADE OUTSIDE 2 INCHES OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. DURING CUTTING OF THE DECK SLAB, CARE SHALL BE TAKEN NOT TO DAMAGE STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE.

REMOVAL METHODS: CONCRETE MAY BE REMOVED BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS ABOVE STEEL MEMBERS, A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS MAY BE USED AT THE APPROVAL OF THE ENGINEER, TO ENSURE ADEQUATE DEPTH CONTROL AND TO PREVENT NICKING OR COUGING THE PRIMARY STEEL MEMBERS.

DECK REMOVALS: DUE TO THE POSSIBLE PRESENCE OF WELDED ATTACHMENTS TO EXISTING STRUCTURAL STEEL (FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.) CARE SHALL BE TAKEN DURING DECK REMOVAL TO AVOID DAMAGING STRINGERS WHICH ARE TO REMAIN. STRINGERS DAMAGED BY THE CONTRACTOR'S REMOVAL OPERATIONS SHALL, AT NO COST TO THE PROJECT, BE REPLACED OR REPAIRED. PROPOSED REPAIRS, DEVELOPED BY A REGISTERED PROFESSIONAL ENGINEER, SHALL BE SUBMITTED IN WRITING FOR REVIEW AND APPROVAL BY THE DIRECTOR.

EXTRANEIOUS MEMBERS: EXISTING EXTRANEIOUS MEMBERS (I.E., FINISHING MACHINE AND FORM SUPPORTS, ETC., AND THE SUPPORT FOR SCUPPERS AND BULB ANGLES WHICH ARE TO BE REMOVED) ATTACHED BY WELDED CONNECTIONS TO PORTIONS OF THE TOP FLANGES DESIGNATED "TENSION" SHALL BE REMOVED AND THE FLANGE CONNECTIONS GROUND SMOOTH. GRINDING SHALL BE CAREFULLY DONE AND PARALLEL TO THE FLANGES.

LOADING LIMITATIONS: NO PART OF THE STRUCTURE SHALL BE SUBJECTED TO UNIT STRESSES THAT EXCEED 136.5% OF THE ALLOWABLE UNIT STRESSES GIVEN IN THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES DUE EITHER TO DEMOLITION, ERECTION OR CONSTRUCTION METHODS OR TO THE USE OR MOVEMENT OF DEMOLITION OR ERECTION EQUIPMENT ON OR ACROSS THE STRUCTURE. ANALYSIS COMPUTATIONS, BY A REGISTERED PROFESSIONAL ENGINEER, SHOWING THE ALLOWABLE STRESSES AND THE MAXIMUM STRESSES PRODUCED BY THE CONTRACTOR'S METHODS OR EQUIPMENT SHALL BE SUBMITTED TO THE DIRECTOR FOR REVIEW AND APPROVAL AT LEAST TWO WEEKS PRIOR TO THE START OF WORK.

PAYMENT: THIS WORK SHALL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE BID, WHICH PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK IN CONFORMANCE WITH THESE REQUIREMENTS, WITH PERTINENT PROVISIONS OF 202, AND TO THE SATISFACTION OF THE ENGINEER.

CUT LINE CONSTRUCTION JOINT PREPARATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE 1" DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. WHERE PRACTICABLE, THE EXISTING REINFORCING STEEL WHERE REQUIRED IN THE PLANS SHALL BE LEFT IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACE AND EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THEN, THE JOINT SURFACE AND EXPOSED REINFORCEMENT SHALL BE THOROUGHLY CLEANED OF ALL DIRT, DUST, OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. CONCRETE BONDING SURFACES SHALL BE WET WITHOUT FREE WATER AS CONCRETE IS PLACED.

SUBSTRUCTURE CONCRETE REMOVAL: SHALL BE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18-INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18-INCH LIMIT, A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS, MAY BE USED AT THE APPROVAL OF THE ENGINEER. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

EXISTING STRUCTURE VERIFICATION: DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.5, 105.2 AND 513.02.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

REPLACEMENT OF EXISTING REINFORCING STEEL: ANY EXISTING REINFORCING BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND WHICH ARE MADE UNUSABLE BY THE CONTRACTOR'S CONCRETE REMOVAL OPERATIONS SHALL BE REPLACED WITH NEW STEEL AT THEIR COST. ANY EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION SHALL BE REPLACED WITH NEW STEEL. AN ALLOWANCE OF 150 POUNDS IS INCLUDED IN ITEM 509 FOR THIS PURPOSE, LISTED IN THE "GENERAL" COLUMN OF THE ESTIMATED QUANTITIES TABLE.

ITEM 513 STRUCTURAL STEEL REPLACEMENT OF DETERIORATED END CROSS FRAMES, AS PER PLAN: STEEL MEMBERS TO BE FABRICATED UNDER THIS ITEM WILL NOT REQUIRE SHOP DRAWINGS PRIOR TO FABRICATION. THE CONTRACTOR SHALL MAKE NECESSARY MEASUREMENTS AND PREPARE SKETCHES, DRAWINGS, TABLES, ETC. THE ENGINEER SHALL HAVE AUTHORITY AND RESPONSIBILITY FOR ENSURING THAT THE FABRICATED STEEL IS ACCEPTABLE. TECHNICAL ASSISTANCE WILL BE PROVIDED ON REQUEST BY THE BUREAU OF BRIDGES. MILL TEST REPORTS AND SHIPPING DOCUMENTS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INCORPORATING STEEL ITEMS INTO THE WORK, AS REQUIRED BY 501.07. AFTER FABRICATION, THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR REVIEW AND APPROVAL TO ENSURE THAT THE DRAWINGS DEPICT THE STEEL AS ACTUALLY INCORPORATED INTO THE WORK. THE ENGINEER WILL THEN SEND ONE APPROVED SET TO THE BUREAU OF BRIDGES FOR INFORMATION. PAY WEIGHTS SHALL BE COMPUTED IN COMPLIANCE WITH 513 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS AND SUBMITTED TO THE ENGINEER FOR HIS REVIEW AND APPROVAL. THE FABRICATOR SHALL FURNISH A 35 MILLIMETER MICROFILM COPY OF EACH SHOP DRAWING, WHICH SHALL BE MOUNTED ON AN APERTURE CARD AS SPECIFIED IN 501.05.

ITEM 516 - REFURBISHING BEARING DEVICES, AS PER PLAN: THIS ITEM SHALL INCLUDE ALL WORK NECESSARY TO PROPERLY ALIGN AND RESET BRIDGE BEARINGS AS WELL AS THEIR CLEANING AND PAINTING. INCLUDED SHALL BE THE DISASSEMBLY OF THE BEARINGS, HAND TOOL CLEANING (GRINDING IF NECESSARY), PAINTING AS REQUIRED BY SYSTEM OZEU, REPLACEMENT OF ANY DAMAGED SHEET LEAD (711.19), INSTALLATION OF ANY NECESSARY STEEL SHIMS OF THE SAME SIZE AS THE BEARINGS TO PROVIDE A SNUG FIT, REALIGNMENT OF THE LOWER BEARING PLATE OF ROCKER BEARINGS SO THAT THE BEARINGS ARE VERTICALLY ALIGNED AT 60 DEGREES F, LUBRICATING SLIDING SURFACES, AND REASSEMBLY OF THE BEARINGS. THE CONTRACTOR SHALL BE SURE THAT ALL BEARINGS ARE SHIMMED ADEQUATELY AND THAT NO BEAMS AND/OR BEARING DEVICES ARE "FLOATING". AT THE OPTION OF THE CONTRACTOR AND AT NO ADDITIONAL COST TO THE STATE, NEW BEARINGS OF THE SAME TYPE AS THE EXISTING MAY BE INSTALLED IN PLACE OF REFURBISHING THE BEARINGS. ALL WORK SHALL BE TO THE SATISFACTION OF THE ENGINEER. PAYMENT FOR ALL THE ABOVE DESCRIBED LABOR AND MATERIALS WILL BE MADE AT THE CONTRACTOR PRICE BID FOR ITEM 516 - REFURBISH BEARING DEVICES, AS PER PLAN.

ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN: THIS ITEM SHALL CONSIST OF FURNISHING ALL NECESSARY LABOR, MATERIALS, AND EQUIPMENT TO RAISE OR REPOSITION ANY EXISTING STRUCTURES TO THE DIMENSIONS AND REQUIREMENTS DEFINED IN THE PROJECT PLANS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, INSTALLATION AND OPERATION OF AN ADEQUATE JACKING SYSTEM, INCLUDING ANY TEMPORARY OR PERMANENT SUPPORTS NECESSARY TO PERFORM THE WORK DESCRIBED IN THE PROJECT PLANS. THREE (3) SETS OF JACKING PLANS, WHICH INCLUDE THE INFORMATION DESCRIBED IN THIS NOTE, SHALL BE SUBMITTED TO THE DIRECTOR FOR APPROVAL AT LEAST THIRTY (30) DAYS BEFORE ACTUAL WORK IS TO BEGIN. THE PLANS SHALL BE PREPARED AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER.

JACKING SUBMITTALS SHALL INCLUDE AT LEAST THE FOLLOWING:

1. THE SIGNATURE AND NUMBER, OR PROFESSIONAL SEAL, OF THE REGISTERED PROFESSIONAL ENGINEER WHO PREPARED THE SUBMITTAL.
2. CALCULATIONS AND ANALYSIS OF THE STRUCTURE TO DETERMINE AND DEFINE THE ACTUAL LOADING APPLIED AT THE CONTRACTOR'S SELECTION JACKING POINTS.
3. A DRAWING SHOWING THE PHYSICAL AND DIMENSIONAL POSITION OF THE JACKS WITH RESPECT TO THE STRUCTURE INCLUDING CLEARANCES AND CENTER OF LIFT.

4. A SCHEMATIC LAYOUT OF JACKS, CHECK VALVES, PUMPS WITH 3 WAY RETRACTOR VALVE, PRESSURE GAGES, FLOW CONTROL VALVES, ETC. IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. ALL JACKS FOR EACH ABUTMENT OR PIER SHALL BE CONNECTED TOGETHER. ALL JACKS AT EACH ABUTMENT OR PIER SHALL BE THE SAME SIZE.

5. ANALYSIS AND CALCULATIONS OF THE STRESSES INDUCED OR CREATED IN THE STRUCTURE AND ANY TEMPORARY OR PERMANENT SUPPORTS. DESIGN CALCULATIONS FOR ANY TEMPORARY OR PERMANENT SUPPORTS.

6. PHYSICAL DIMENSIONS, MATERIALS, AND FABRICATION DETAILS OF ANY TEMPORARY OR PERMANENT SUPPORTS. HORIZONTAL AND VERTICAL MOVEMENT RESTRAINT SHALL BE PROVIDED.

7. A STEP BY STEP PROCEDURE DETAILING ALL STEPS IN THE JACKING OPERATION.

8. METHOD OF ATTACHMENT TO STRUCTURAL MEMBERS. WELDING TO TENSION AREAS WILL NOT BE PERMITTED.

THE ENTIRE SYSTEM INCLUDING JACKS SHALL HAVE 20% MORE CAPACITY THAN REQUIRED BASED ON CALCULATED LOADS.

FOR LIFTS GREATER THAN 1", JACKS SHALL HAVE LOCKING NUTS TO POSITIVELY LOCK AND SUPPORT THE STRUCTURE DURING THE LIFT.

JACKS SHALL HAVE A SWIVEL LOAD CAP, A DOMED PISTON HEAD OR SOME OTHER DEVICE TO PROTECT AGAINST THE EFFECTS OF SIDE LOAD ON THE JACK.

JACKS ALONE SHALL NOT BE USED TO SUPPORT LOADS EXCEPT DURING THE ACTUAL JACKING OPERATION. TEMPORARY SUPPORT, BLOCKING OR OTHER METHODS APPROVED BY THE DIRECTOR SHALL BE USED.

SINGLE ACTING RAMS WITH NO OVER-TRAVEL PROTECTION SYSTEM SHALL NOT BE USED.

SPARE EQUIPMENT SHALL BE AVAILABLE ON SITE FOR THE REQUIRED STRUCTURE RAISING TO PROCEED IN THE EVENT OF BREAKDOWN. A LIST OF SPARE EQUIPMENT SHALL BE PROVIDED TO THE ENGINEER.

AT A MINIMUM, A JACKING OPERATION SHALL LIFT ALL BEAMS AT ANY ONE ABUTMENT OR PIER SIMULTANEOUSLY. THE ONLY EXCEPTION IS THE SITUATION WHERE THE WORK INVOLVES REPLACING OR REHABILITATING INDIVIDUAL BEARINGS; NO PERMANENT SHIMMING IS REQUIRED AND THE HEIGHT OF THE LIFT SHALL NOT EXCEED 1/4 INCH.

MAXIMUM DIFFERENTIAL JACKING HEIGHT BETWEEN ANY ADJACENT ABUTMENTS OR PIERS SHALL BE 1" OR LESS.

IF, DURING THE JACKING OPERATIONS, CRACKING OF THE CONCRETE SUPERSTRUCTURE, SEPARATION OF THE CONCRETE DECK FROM THE STEEL STRINGERS, OR OTHER DAMAGE TO THE STRUCTURE IS VISUALLY OBSERVED, THE JACKING OPERATION SHALL IMMEDIATELY CEASE AND APPROVED SUPPORTS SHALL BE INSTALLED. THE CONTRACTOR SHALL THEN ANALYZE THE DAMAGE AND SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. ANY BEAMS THAT SEPARATE FROM THE DECK SHALL BE EPOXY INJECTED FOR THE DISTANCE OF THE SEPARATION IN ACCORDANCE WITH THE PROPOSAL NOTE "CONCRETE REPAIR BY EPOXY INJECTION". COST OF THIS EPOXY INJECTION OR OTHER REQUIRED REPAIRS SHALL BE BORNE BY THE CONTRACTOR.

THE CONTRACTOR SHALL DEMONSTRATE TO THE ENGINEER THAT THE BRIDGE BEARINGS ARE FULLY SEATED BETWEEN ALL CONTACT AREAS. IF FULL SEATING IS NOT ATTAINED, SUITABLE MEANS OF REPAIR, SUBJECT TO THE APPROVAL OF THE ENGINEER, WILL BE REQUIRED AT THE CONTRACTOR'S EXPENSE.

THE JACKING OPERATION SHALL BE DIRECTED BY A PROFESSIONAL ENGINEER EMPLOYED BY THE CONTRACTOR. FAILURE TO HAVE A PROFESSIONAL ENGINEER PRESENT SHALL BE CAUSE FOR CEASING JACKING OPERATIONS.

PAYMENT SHALL BE MADE AT THE LUMP SUM PRICE BID FOR ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN AND SHALL INCLUDE ALL NECESSARY TOOLS, LABOR, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THIS ITEM OF WORK.

STRUCTURAL STEEL, AS PER PLAN: NEW STEEL SHALL BE CLEANED AND IT SHALL BE PRIME PAINTED IN THE FIELD. AT THE CONTRACTOR'S OPTION, NEW STEEL MAY BE GIVEN A PRELIMINARY CLEANING IN THE SHOP. THE COST OF CLEANING AND PRIME PAINTING SHALL BE INCLUDED IN THE SEVERAL OZEU ITEMS.

PAINTING OF STRUCTURAL STEEL: NEW STEEL SHALL BE PROVIDED BARE FOR PREPARATION AND PAINTING IN THE FIELD. FOR PURPOSES OF FIELD PAINTING, NEWLY ERECTED STEEL SHALL BE CONSIDERED EXISTING STEEL AND SHALL BE PREPARED AND PAINTED WITH A PRIME, INTERMEDIATE, AND FINISH COAT OF PAINT IN CONFORMANCE WITH THE PROPOSAL NOTE "FIELD PAINTING OF EXISTING STEEL, SYSTEM OZEU". COST OF CLEANING AND PAINTING OF NEW AND EXISTING STEEL WITH THE OZEU PAINT SYSTEM SHALL BE INCLUDED IN THE SEVERAL OZEU ITEMS. THE SURFACE AREA PAY QUANTITIES ARE BASED ON THE SURFACE AREA OF MAIN MEMBERS INCREASED BY 20 PERCENT TO ACCOUNT FOR THE AREA OF CROSSFRAMES, BEARINGS AND OTHER STEEL INCIDENTALS BEING CLEANED AND PAINTED.

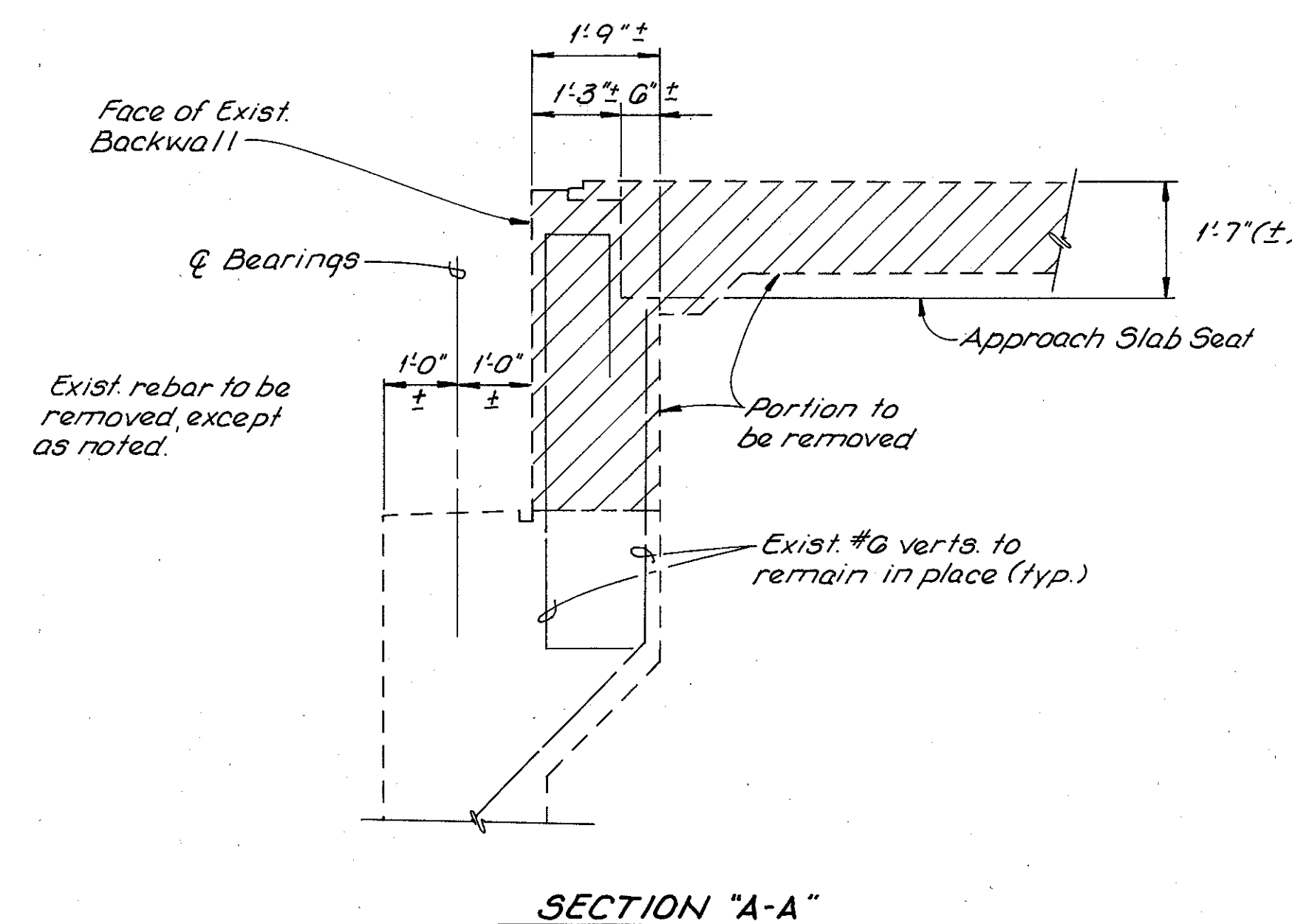
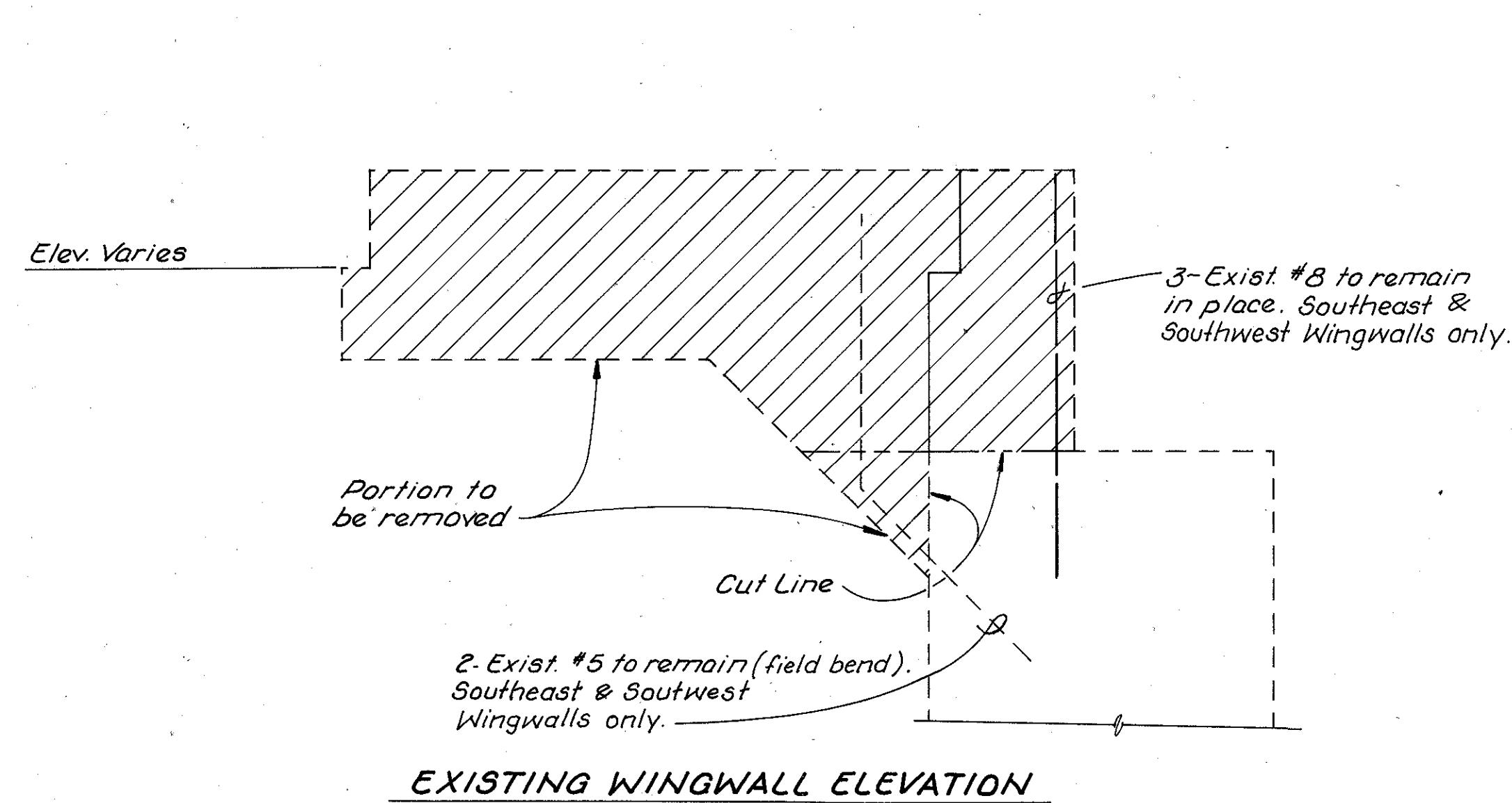
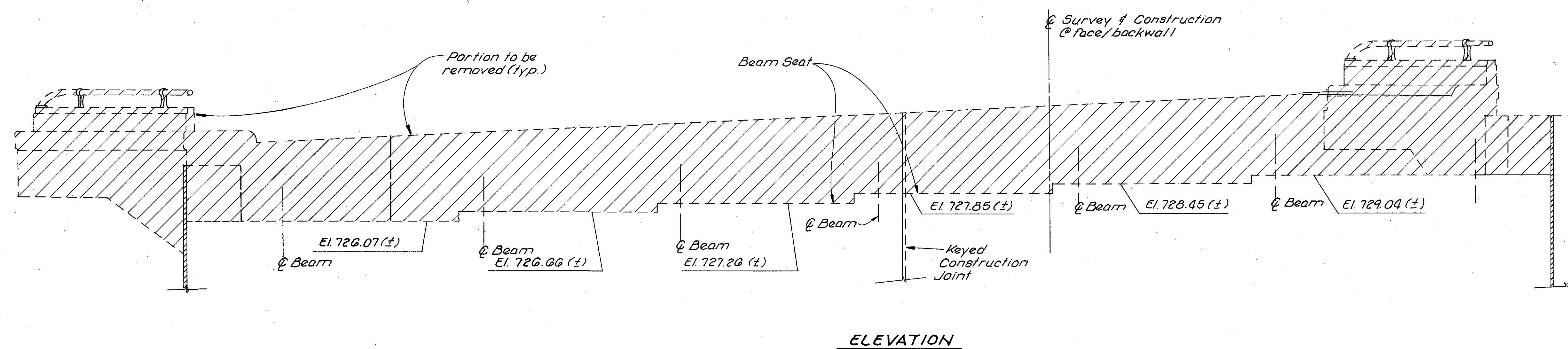
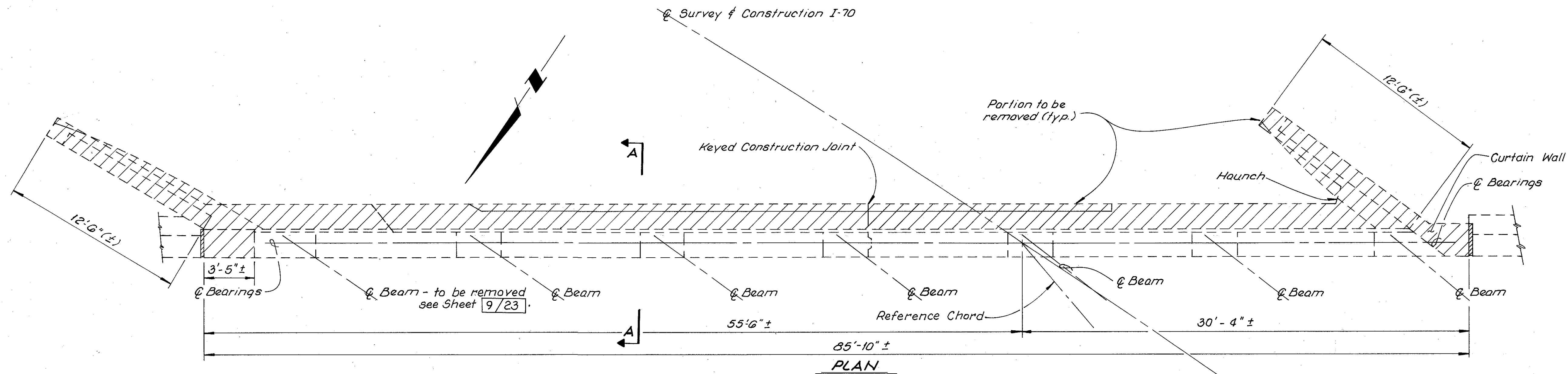
MAINTENANCE OF TRAFFIC: ONE LANE OF TRAFFIC WITH A MINIMUM WIDTH OF 15'-0" AND A MINIMUM VERTICAL CLEARANCE OF 14'-0" SHALL BE MAINTAINED ON ROAD DB (RAMP TO I-71 S.B.) AT ALL TIMES.

STRUCTURE EXCAVATION: NOT MADE AS PART OF 202 OR 518, AND ALL NECESSARY BACKFILL, SHALL BE INCLUDED IN THE LUMP SUM BID ITEM "UNCLASSIFIED EXCAVATION" FOR PAYMENT.

REINFORCING BAR SPLICE LENGTHS: SHALL CONFORM TO THE FOLLOWING, UNLESS SHOWN OR NOTED OTHERWISE ON THE PLANS (No. 4 1'-10", No. 5 2'-4", No. 6 2'-9").

ITEM 815 - FIELD PAINTING OF EXISTING STEEL FINISH COAT, SYSTEM OZEU: THE COLOR OF THE FINISHED COAT SHALL MATCH A COLORED CHIP TO BE PROVIDED BY DISTRICT 6.

E. P. FERRIS AND ASSOCIATES, INC. CONSULTING CIVIL ENGINEERS & SURVEYORS 766 NORTHWEST BLVD. COLUMBUS, OHIO 43212						
						3 / 23
GENERAL NOTES BRIDGE NO. FRA-70-1312						
FRANKLIN COUNTY STA. 58+59.26 TO STA. 59+37.73						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JWE	MAH		JLW	EPF	11-23-94	



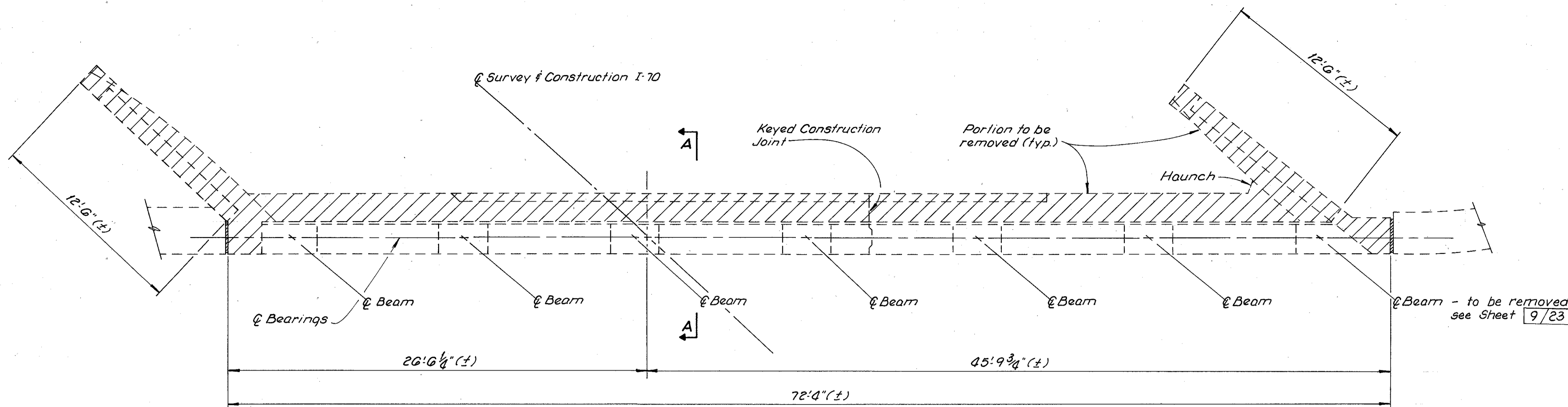
E. P. FERRIS AND ASSOCIATES, INC.
CONSULTING CIVIL ENGINEERS & SURVEYORS
766 NORTHWEST BLVD. COLUMBUS, OHIO 43212

4/23

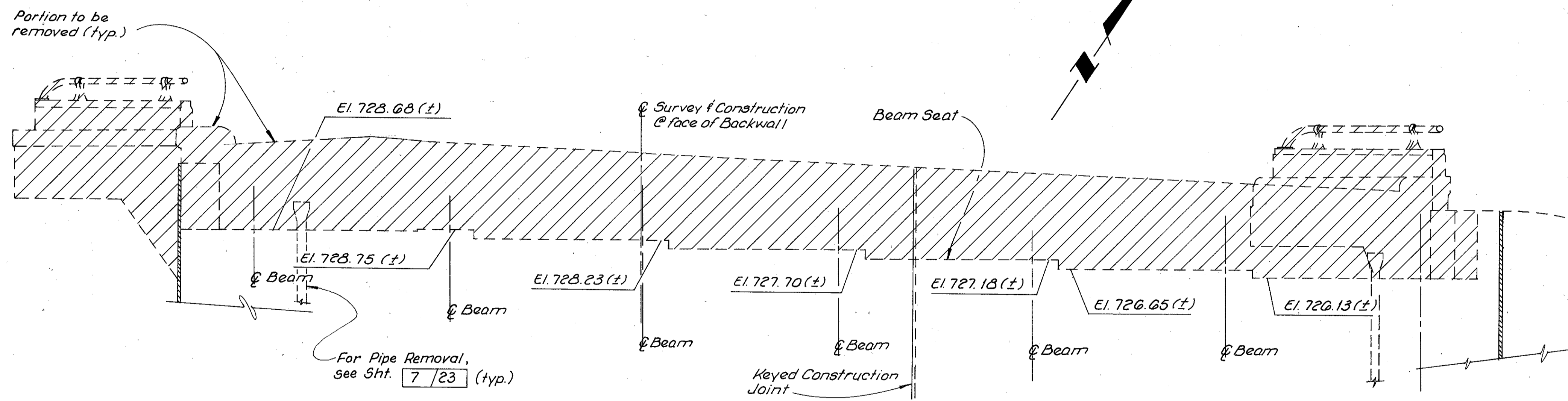
**DEMOLITION PLAN
REAR ABUTMENT & WINGWALL
BRIDGE No. FRA-70-1312**

FRANKLIN COUNTY STA. 58+59.26 to STA. 59+37.73

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JWE	MAH		JLW	EPF	11-23-94	



PLAN

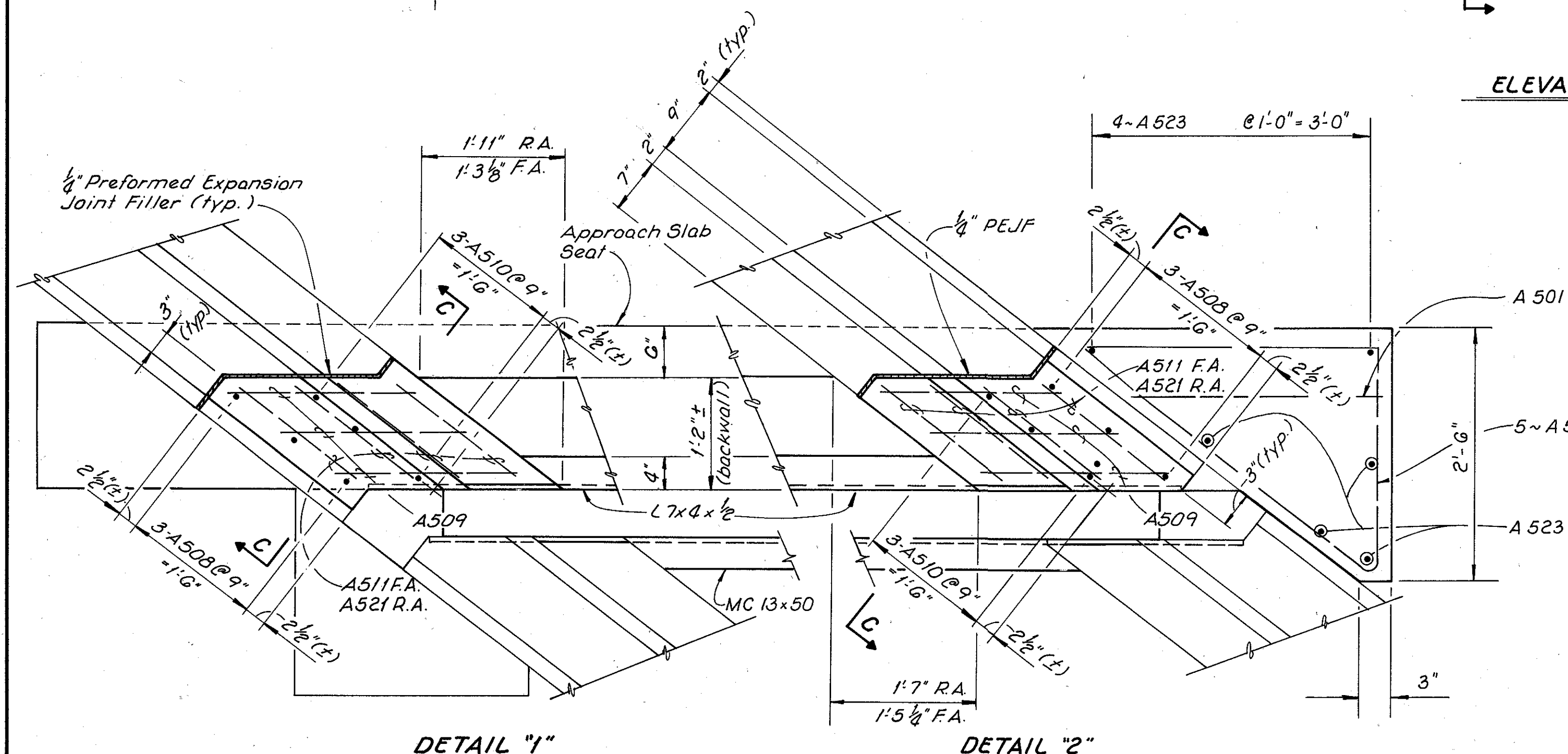
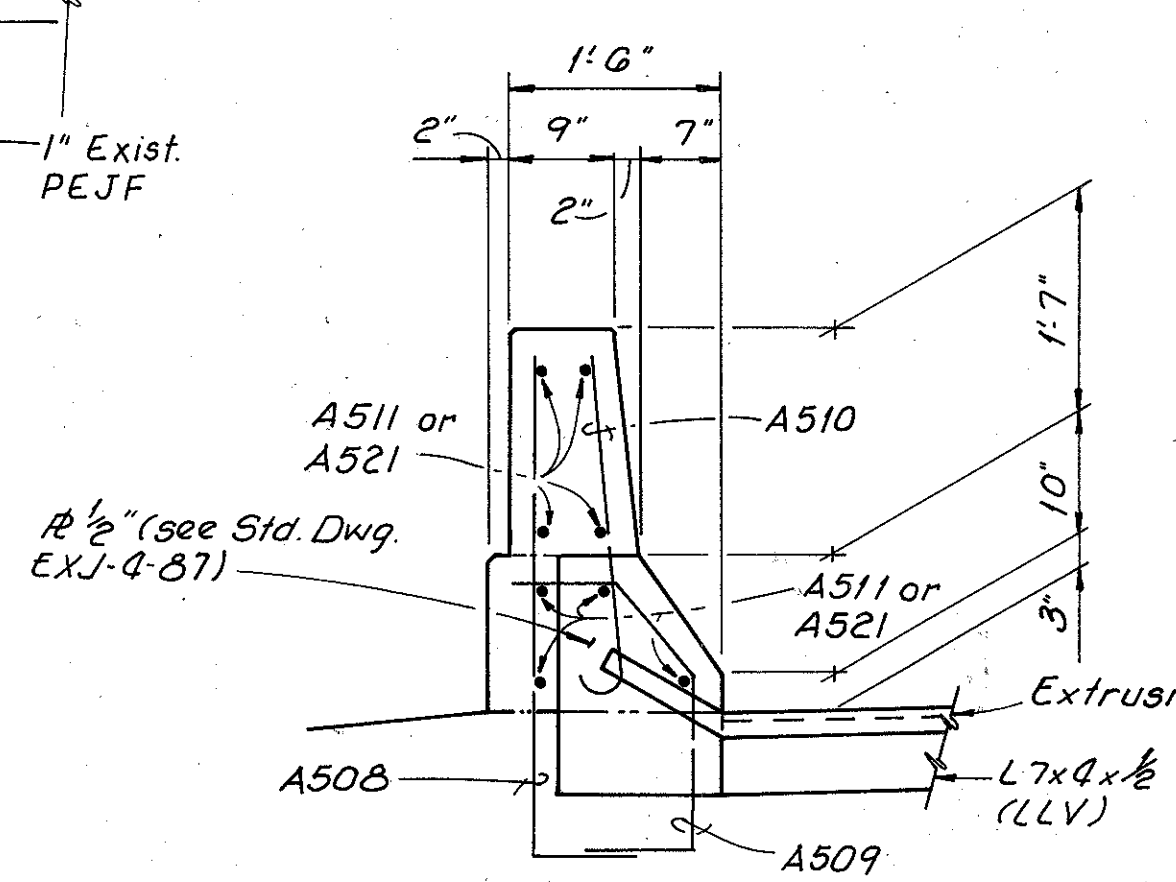
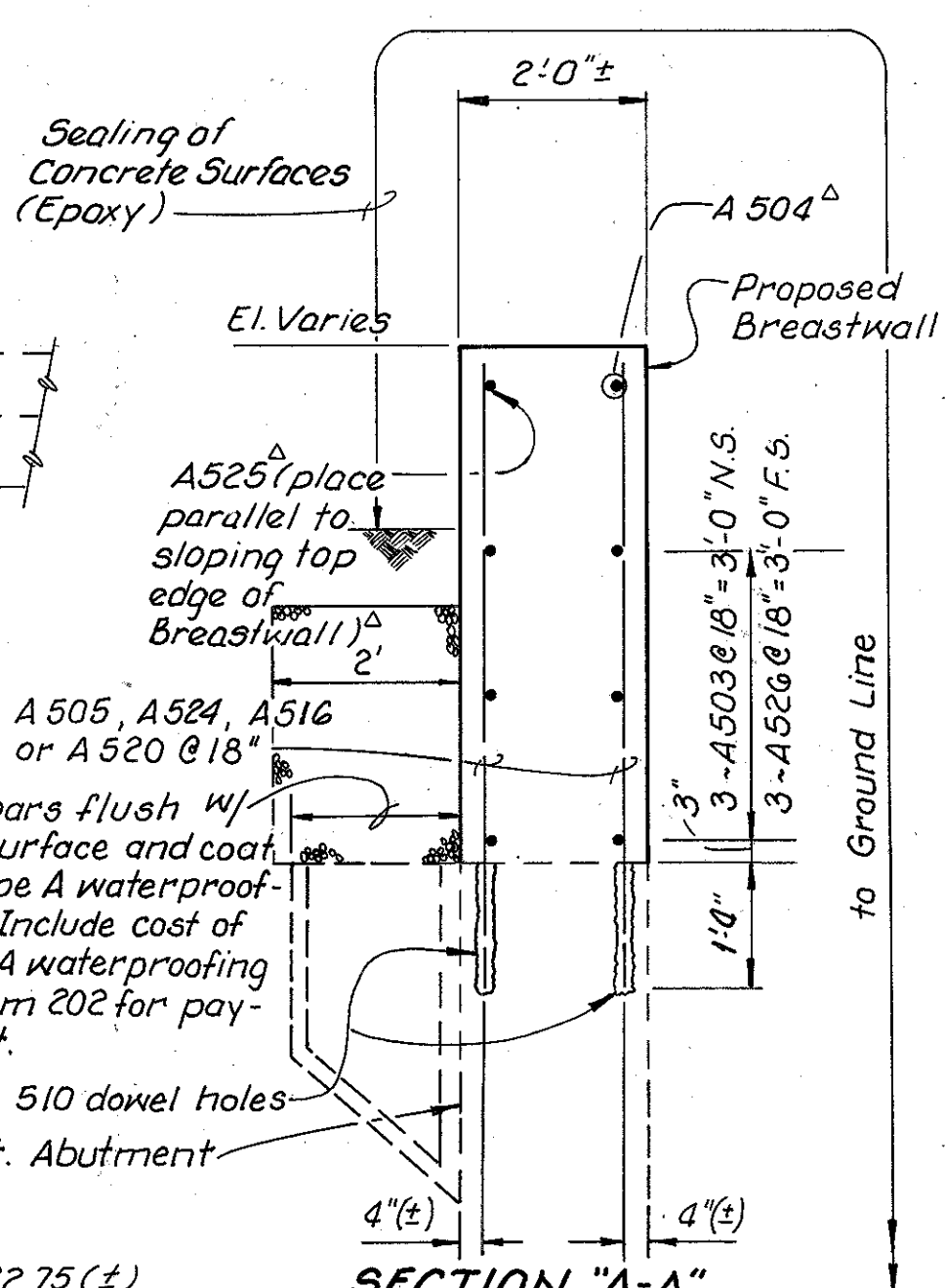
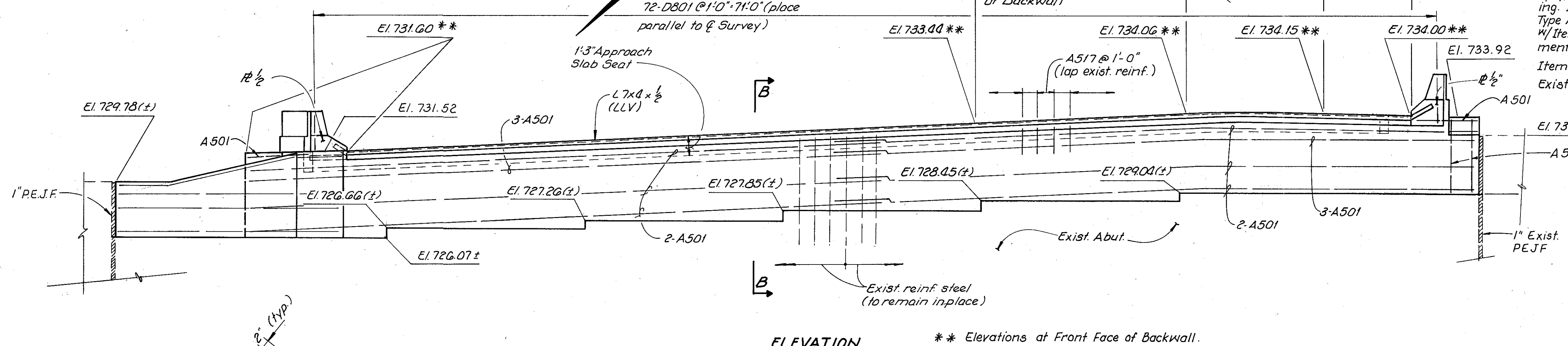
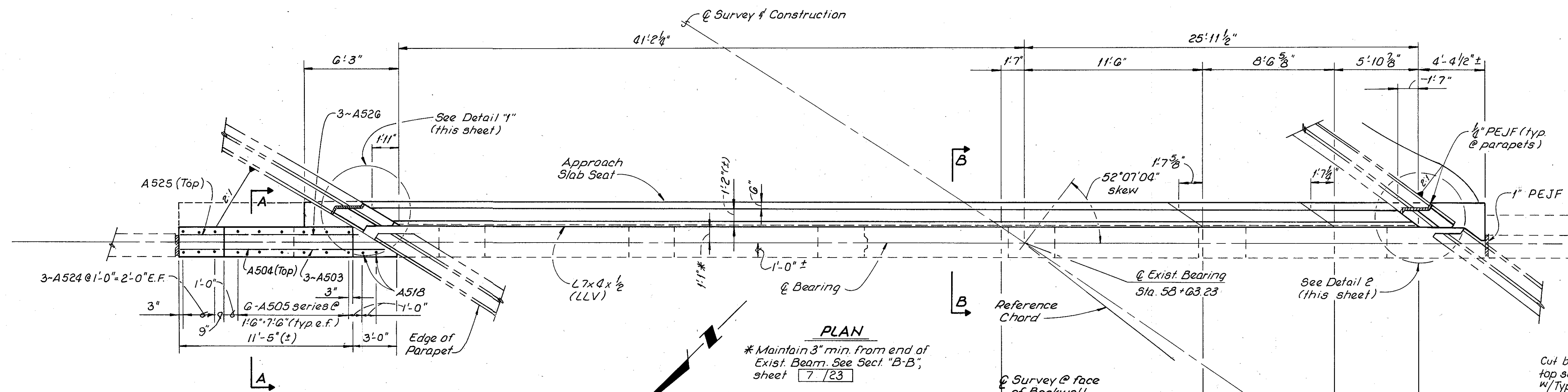


ELEVATION

1. For Existing Wingwall Elevation & Section "A-A", see sheet 4/23.

E. P. FERRIS AND ASSOCIATES, INC. CONSULTING CIVIL ENGINEERS & SURVEYORS 766 NORTHWEST BLVD. COLUMBUS, OHIO 43212					
5/23					
DEMOLITION PLAN FORWARD ABUTMENT & WINGWALL BRIDGE No. FRA-70-1312					
FRANKLIN COUNTY STA. 58+59.26 to STA. 59+37.73					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
JWE	MAH		JLW	EPF	11-23-94

FRANKLIN COUNTY
 FRA-70-1312
 FRA-315-0030R



NOTES:
 1. For Section "B-B" see sheet 7/23

E.F. = Each Face
 N.S. = Near Side
 F.S. = Far Side

F.A. = Forward Abutment
 R.A. = Rear Abutment
 P.E.J.F. = Preformed Expansion Joint Filler.

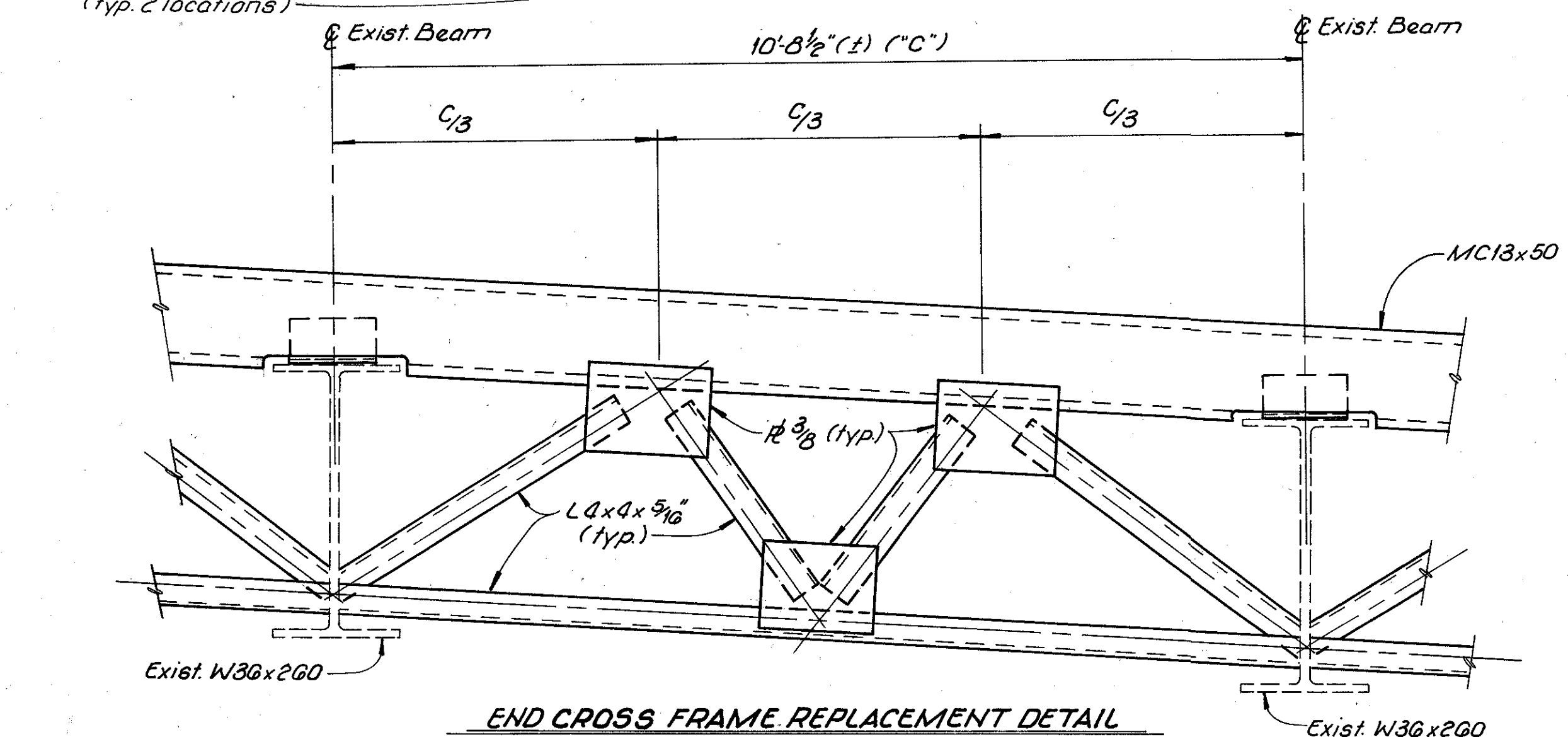
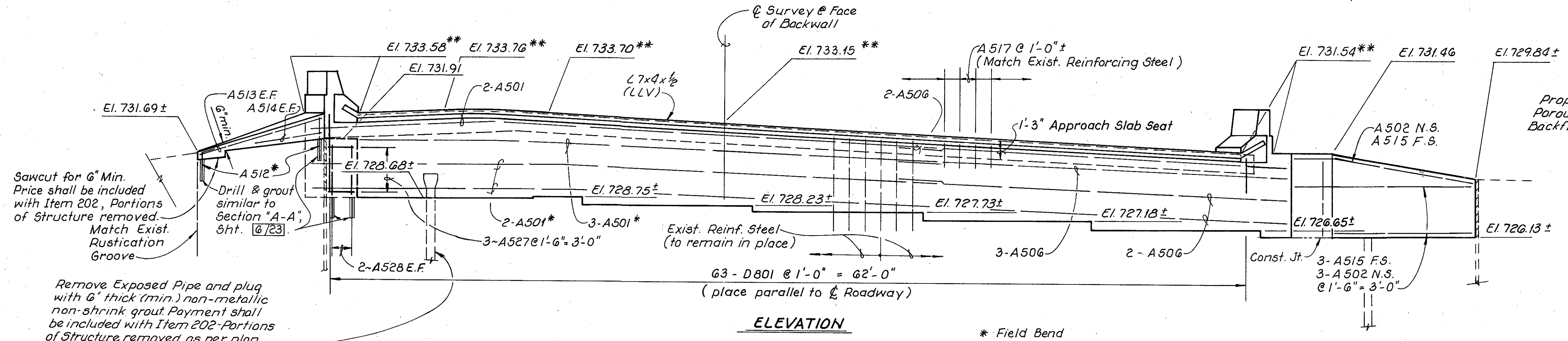
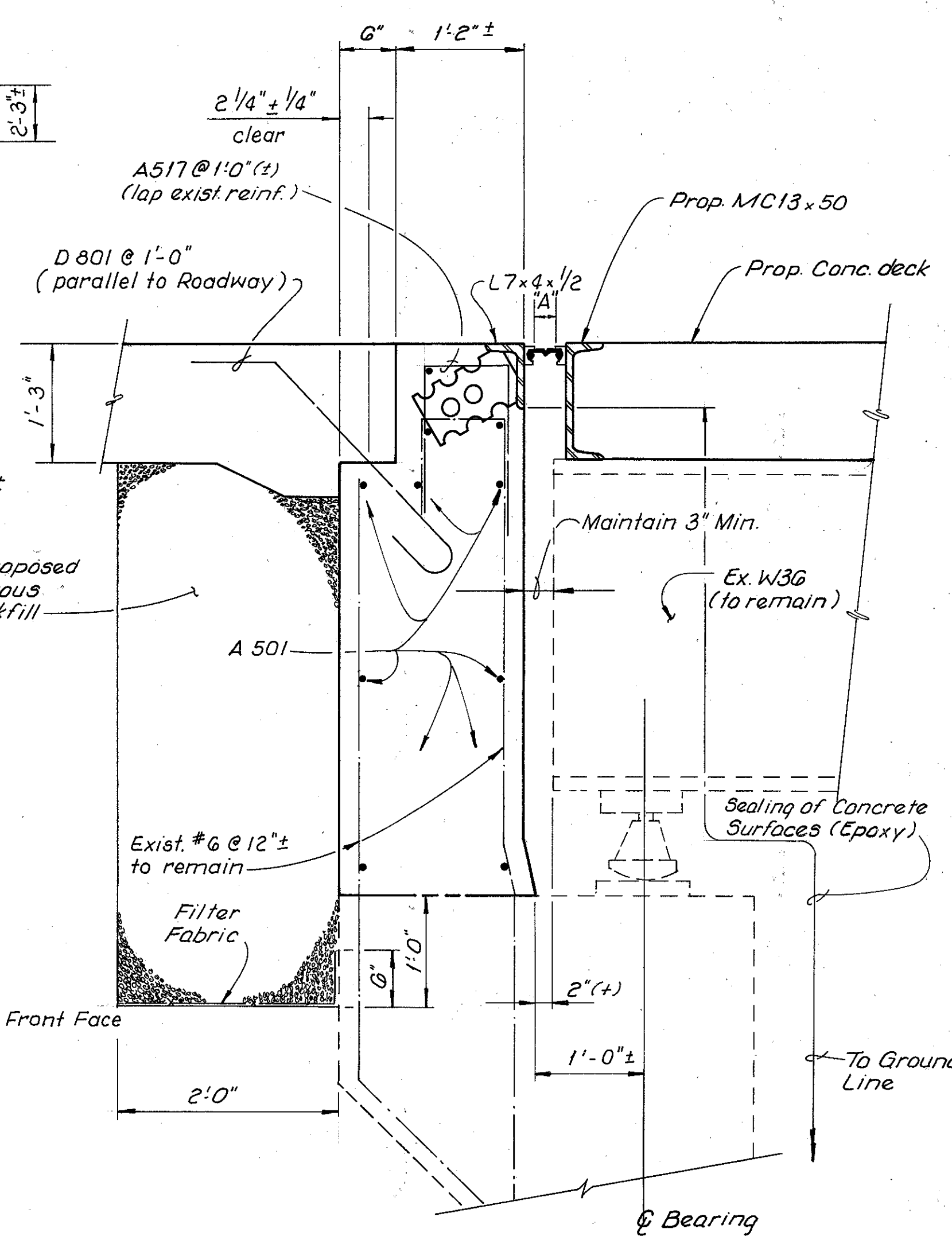
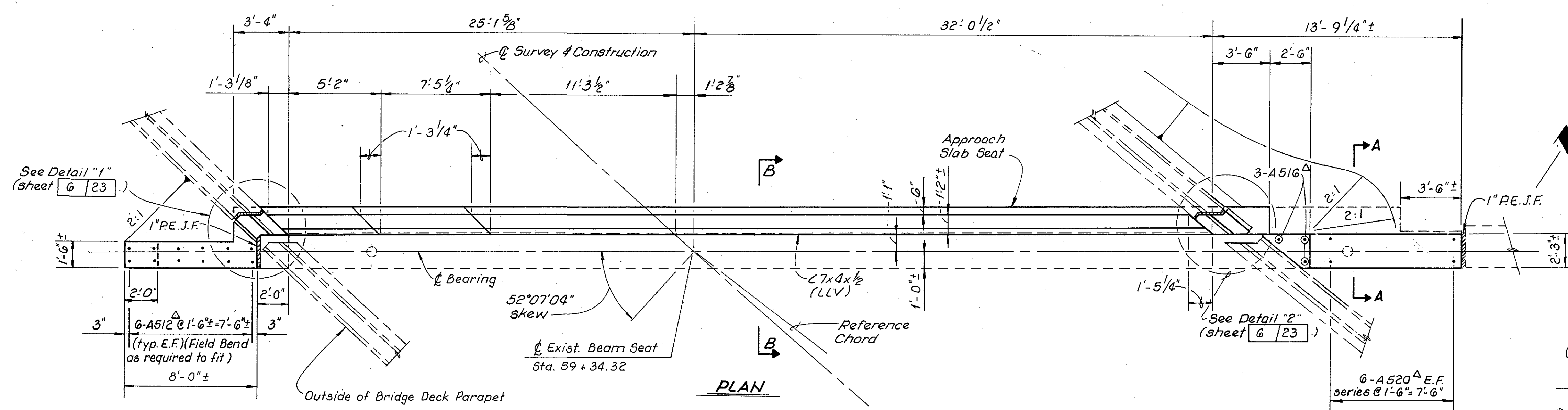
LAP LENGTH
 #5 = 2'-11"

E.P. FERRIS AND ASSOCIATES, INC. CONSULTING CIVIL ENGINEERS & SURVEYORS 766 NORTHWEST BLVD. COLUMBUS, OHIO 43212					
REAR ABUTMENT DETAILS BRIDGE No. FRA-70-1312					
FRANKLIN COUNTY STA. 58+59.26 to STA. 59+37.73					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
JWE	MAH		JLW	EPF	11-23-94

DRAWING 2707 FORM 8-89

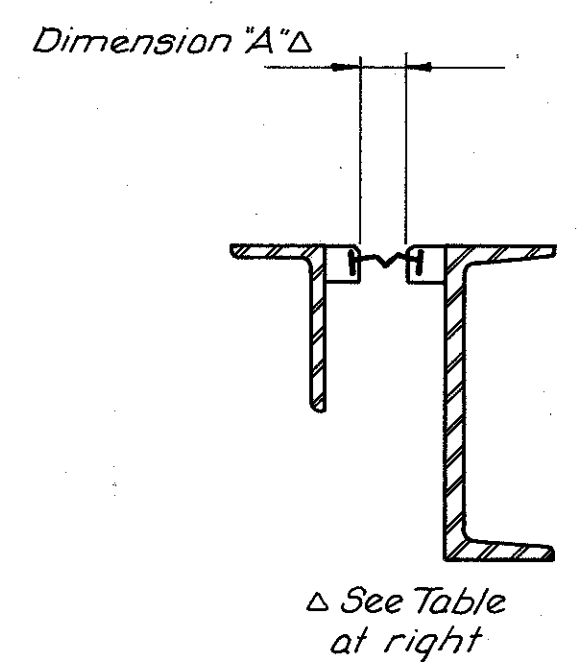
FRANKLIN COUNTY
 FRA-70-1312
 FRA-315-0030R

NOTE:
 For Details not shown, see Std. Dwg. EXJ-4-87
 Δ = Embed into Concrete 1'-4" (min.)



(Rear Abutment shown; Forward Abutment similar)
 Replace all End Cross Frames at Rear & Forward Abutments.

NOTE:
 For Details not shown, see Std. Dwg. EXJ-4-87; sheet 1/5
 For Forward Abutment, use detail for "C"=12'-0" to 16'
 "C"=12'-6" (±) for Forward Abutment.
 Use MC13x50 similar to Rear Abutment.



DECK JOINT DIMENSION "A"		
Temp. #	Rear Abut.	Fwd. Abut.
90		1 3/8"
80		1 3/8"
70		1 3/4"
60	1 3/4"	1 3/4"
50		1 3/4"
40		1 3/8"
30		1 3/8"

*: Temperature (F°) at time of Joint adjustment.

POROUS BACKFILL: Porous Backfill, with filter fabric, 2'-0" thick shall extend up to the plane of the subgrade, to one foot below the embankment surface, and laterally to the end of new construction.

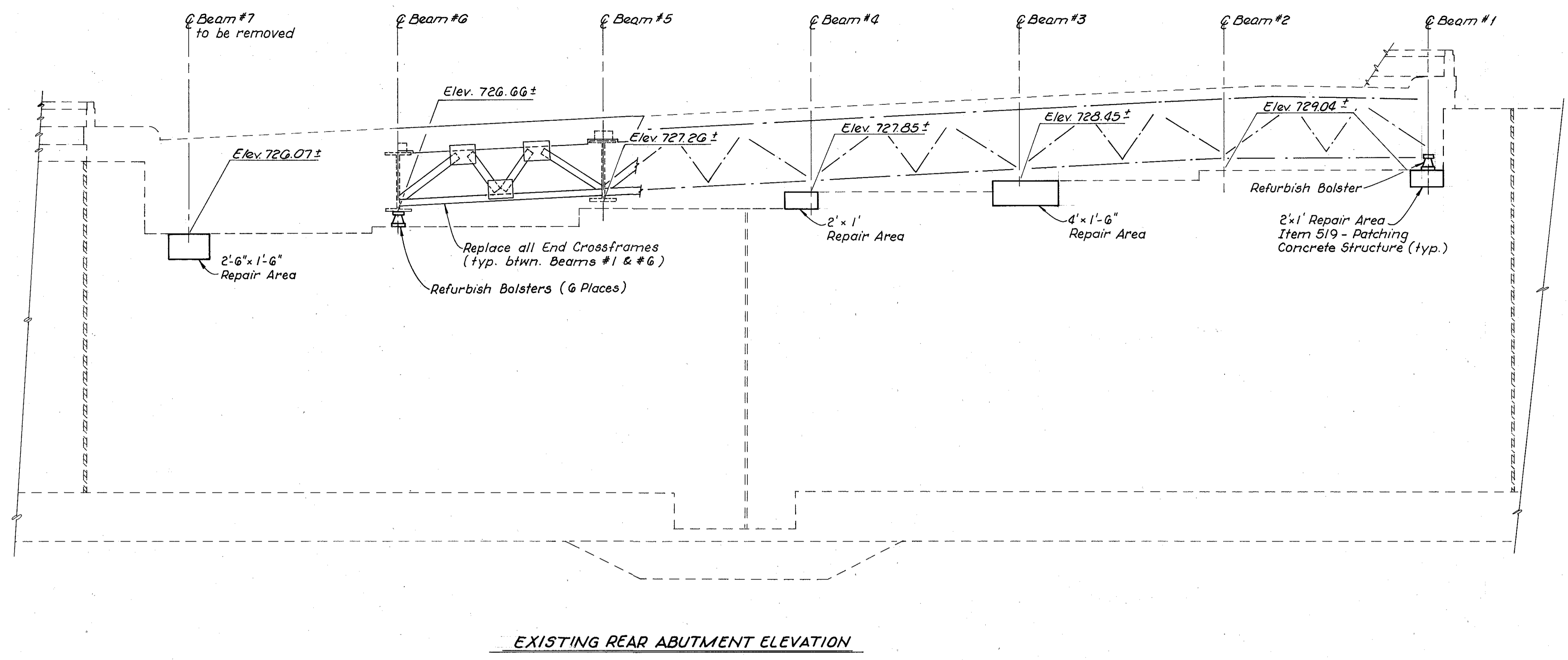
E.P. FERRIS AND ASSOCIATES, INC.
 CONSULTING CIVIL ENGINEERS & SURVEYORS
 766 NORTHWEST BLVD. COLUMBUS, OHIO 43212

FORWARD ABUTMENT DETAILS
 BRIDGE No. FRA-70-1312

FRANKLIN COUNTY STA. 58+59.26 to STA. 59+37.73

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JWE	MAH & IEC		JLW	EPF	11-23-94	

FRANKLIN COUNTY
FRA-70-13 12



NOTES

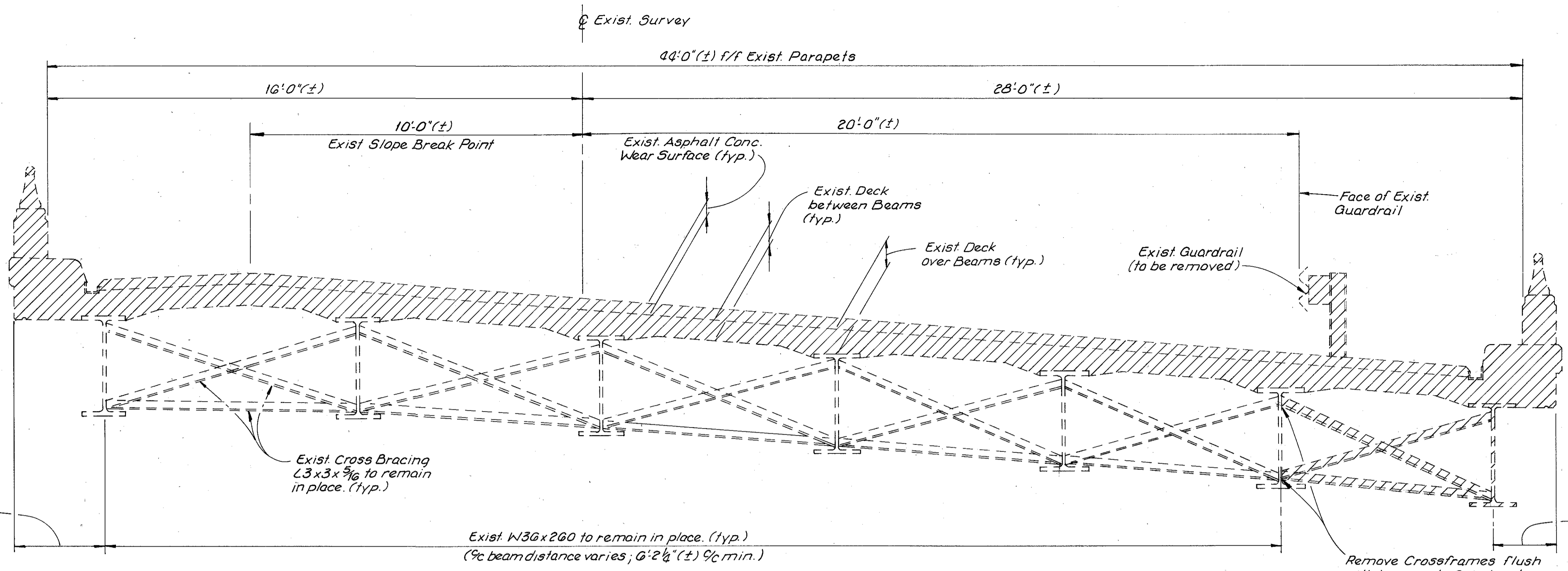
1. All End Crossframes for the Rear and Forward Abutment shall be replaced. See Sheet 7 / 23 for Details.
2. Existing Bolsters are B-100. Refurbishing of these Bearings shall be paid for under Item 516. Refurbish Bearing Device, as per plan. See Std. Dwg. RB-1-55 for existing Bolster Details.

EXISTING REAR ABUTMENT ELEVATION

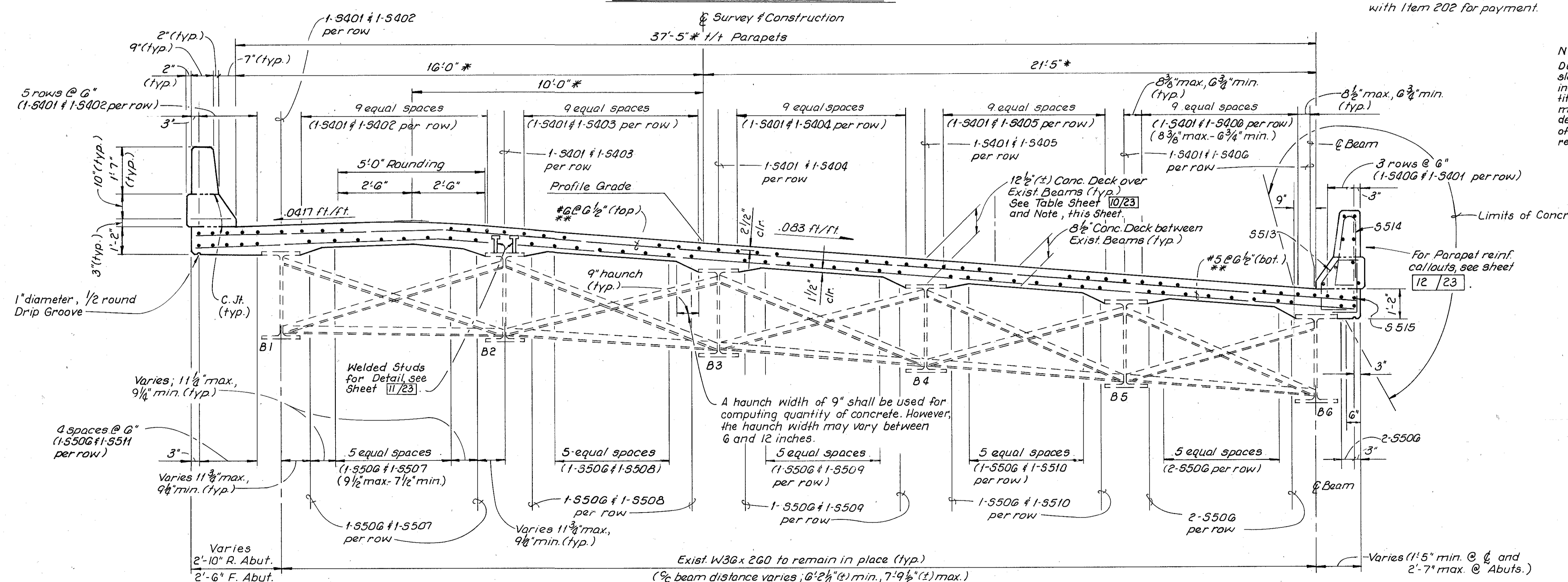
E.P. FERRIS AND ASSOCIATES, INC. CONSULTING CIVIL ENGINEERS & SURVEYORS 766 NORTHWEST BLVD. COLUMBUS, OHIO 43212					
					8 / 23
REAR ABUTMENT REPAIR DETAILS BRIDGE No. FRA-70-13 12					
FRANKLIN COUNTY STA. 58+59.26 to STA. 59+37.73					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
JWE	MAH & IEC		JLW	EPF	11-23-94

DRAWING 70174 FORDS # 8889

Indicates portions of Existing Structure to be removed.



SECTION THRU EXISTING DECK



SECTION THRU PROPOSED DECK

* Indicates dimension measured radially.
** Indicates reinf. bar to be field bent.

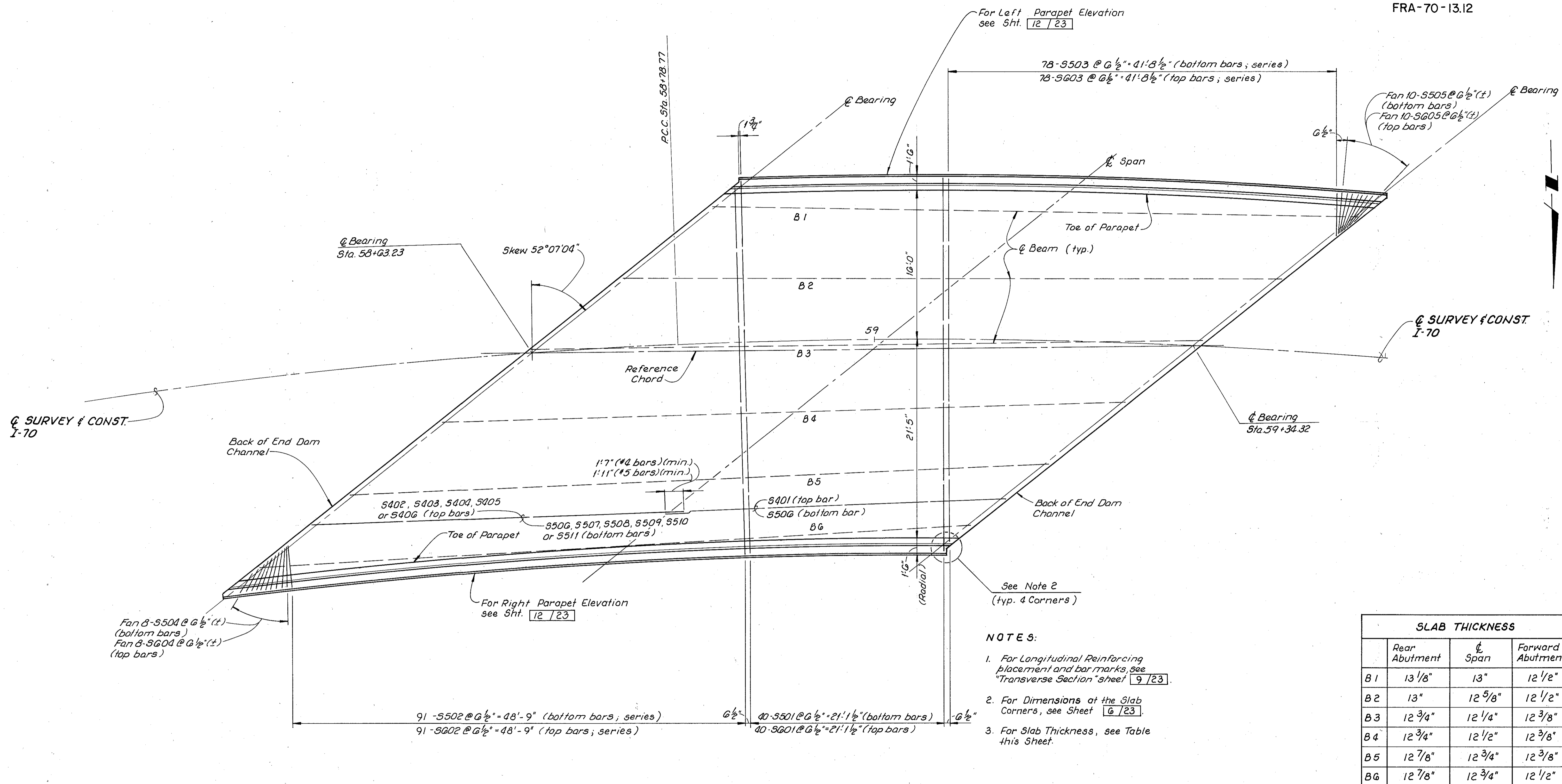
BAR SPLICES
#5 = 1'-11"
#4 = 1'-7"

NOTE:
DECK SLAB DEPTH: The distance shown from top of deck slab to top of steel beam is the theoretical design dimension including the design haunch thickness of 4 inches. The quantity of deck concrete to be paid for shall be based on this dimension, minus the design haunch thickness, even though deviation from it may be necessary because the top flange of the beam may not have the exact camber or conformation required to place it parallel to the finished grade.

E.P. FERRIS AND ASSOCIATES, INC.
CONSULTING CIVIL ENGINEERS & SURVEYORS
766 NORTHWEST BLVD. COLUMBUS, OHIO 43212

**TRANSVERSE SECTION
BRIDGE No. FRA-70-13 12**

FRANKLIN COUNTY		STA. 58+59.26 to STA. 59+37.73	
DESIGNED	DRAWN	TRACED	CHECKED
JWE	MAH		FA
REVIEWED	DATE	REVIS	
EPF	2-23-90		



PLAN

- NOTES:**
- For Longitudinal Reinforcing placement and bar marks, see "Transverse Section" sheet 9/23.
 - For Dimensions at the Slab Corners, see Sheet 6/23.
 - For Slab Thickness, see Table this Sheet.

SLAB THICKNESS			
	Rear Abutment	Span	Forward Abutment
B1	13 1/8"	13"	12 1/2"
B2	13"	12 5/8"	12 1/2"
B3	12 3/4"	12 1/4"	12 3/8"
B4	12 3/4"	12 1/2"	12 3/8"
B5	12 7/8"	12 3/4"	12 3/8"
B6	12 7/8"	12 3/4"	12 1/2"

BAR SPLICES
#4 - 1'7"
#5 - 1'11"

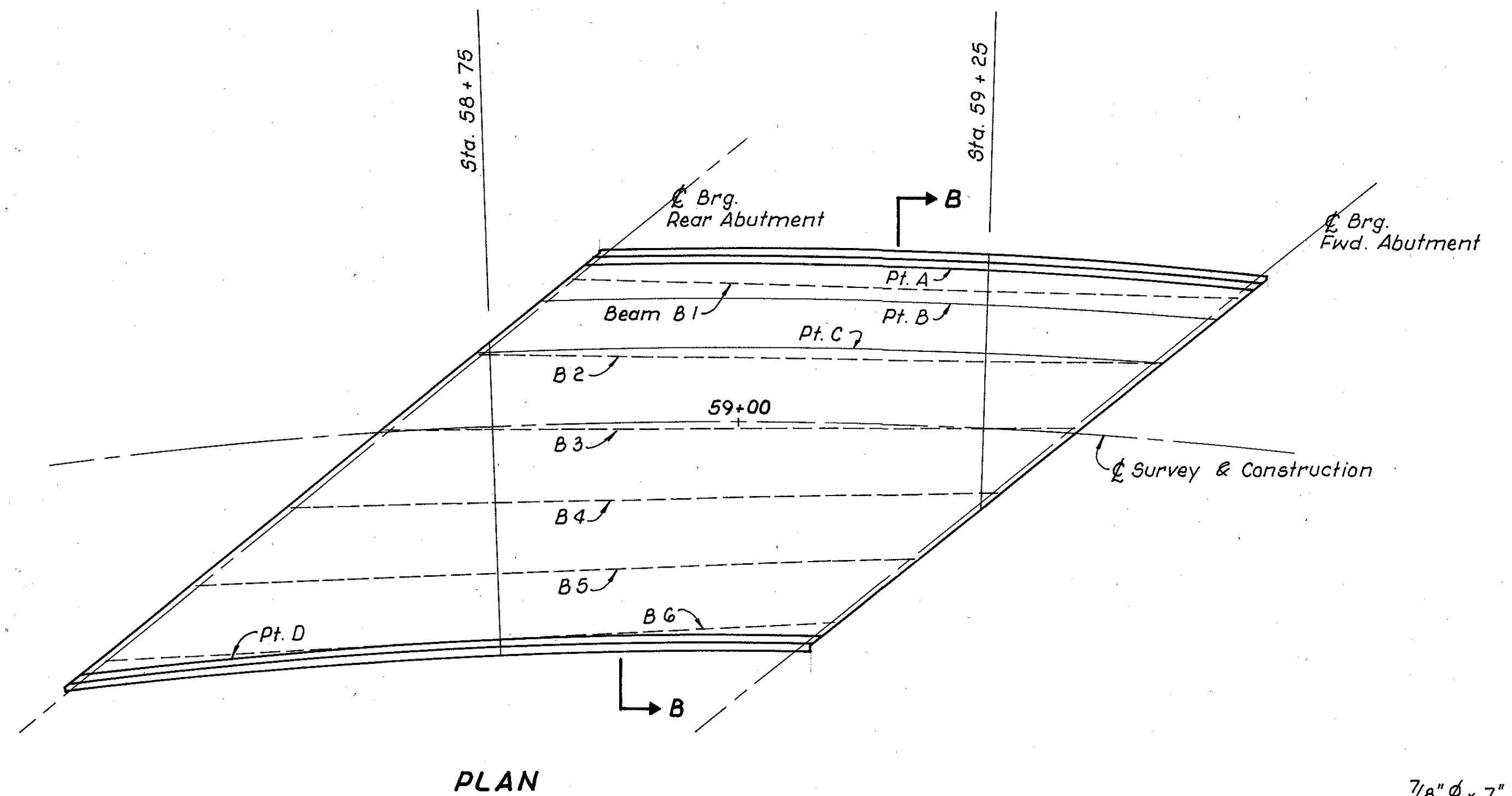
E.P. FERRIS AND ASSOCIATES, INC.
CONSULTING CIVIL ENGINEERS & SURVEYORS
766 NORTHWEST BLVD. COLUMBUS, OHIO 43212

SUPERSTRUCTURE PLAN
BRIDGE No. FRA-70-13.12

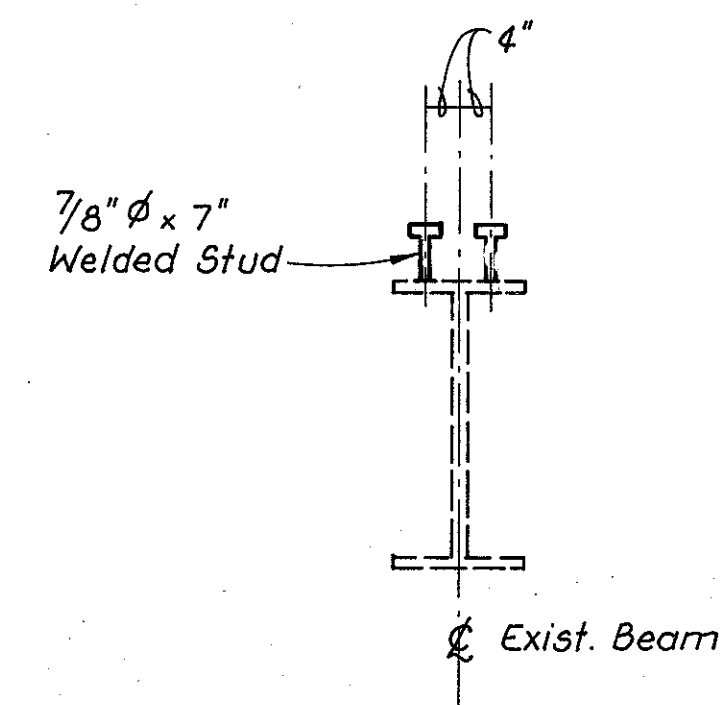
FRANKLIN COUNTY STA. 58+59.26 to STA. 59+37.73

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JWE	MAH		JLW	EPF	10-23-94	

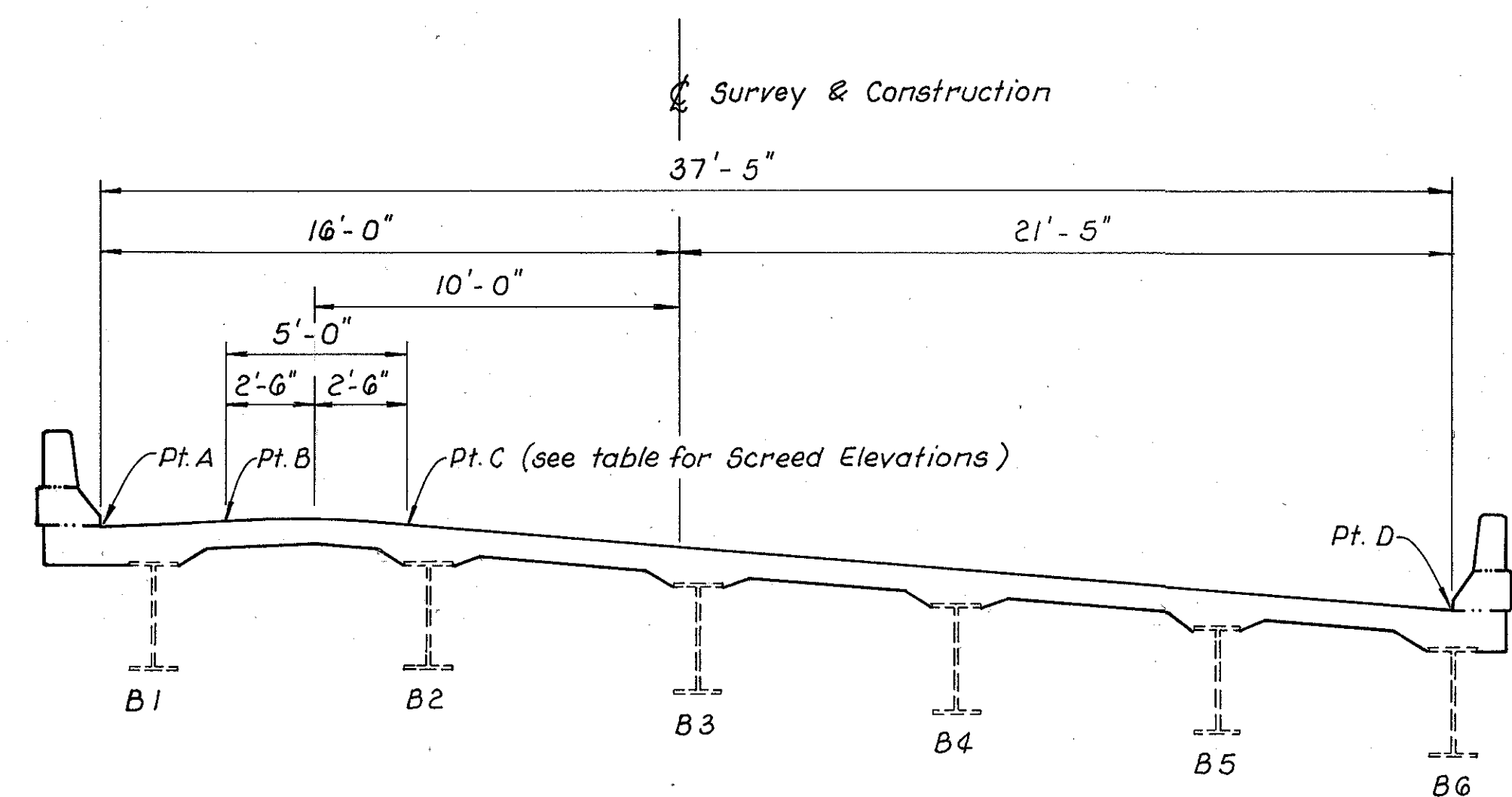
BRIDGE 2101 10/23/94



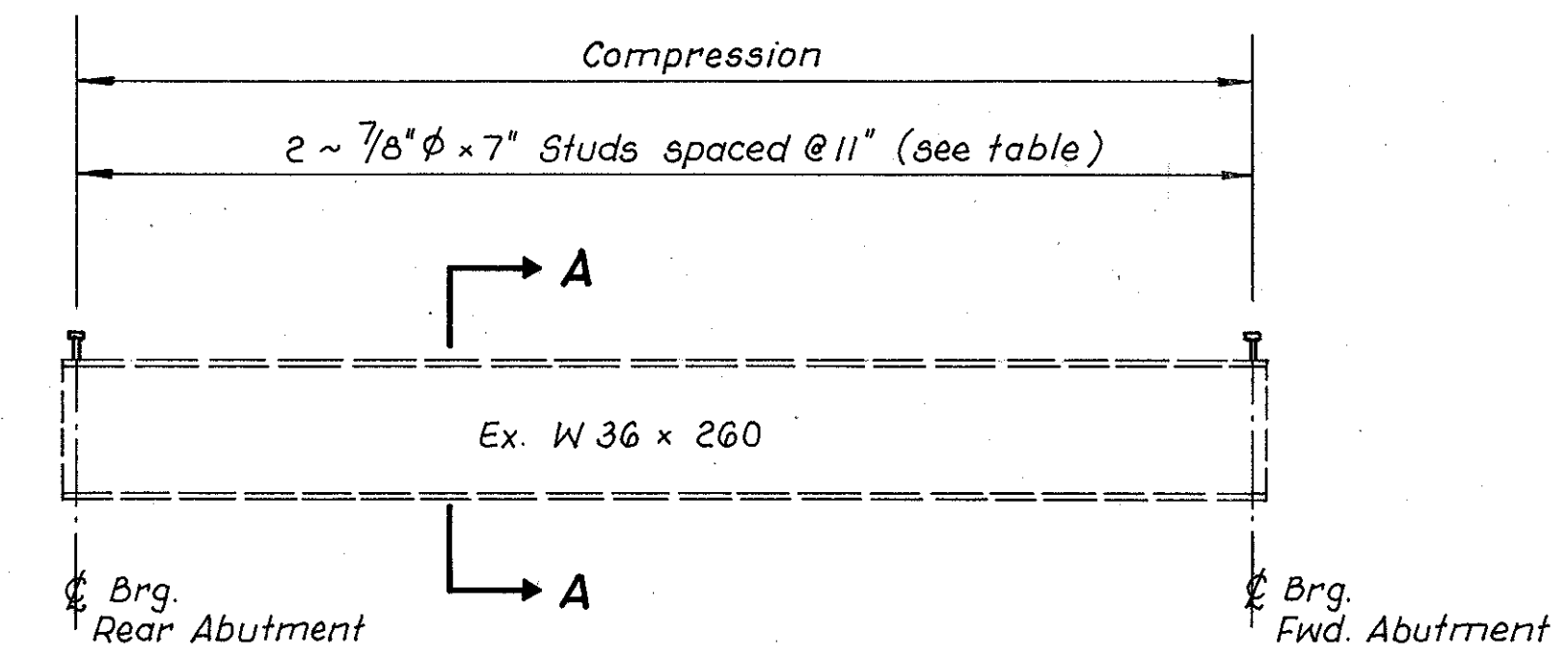
PLAN



SECTION A-A



SECTION B-B



BEAM ELEVATION

STATION	Pt. A	B 1	Pt. B	Pt. C	B 2	B 3	B 4	B 5	B 6	Pt. D
¢ Brg. Rear Abut.	734.00	734.06	734.15	734.07	734.06	733.47	732.88	732.30	731.72	731.61
58 + 75	—	—	—	734.07	734.06	733.46	732.88	732.32	731.77	731.77
59 + 00	734.00	734.10	734.18	734.07	733.99	733.42	733.82	732.26	731.69	731.63
59 + 25	733.90	733.98	734.05	733.92	733.87	733.27	732.68	—	—	—
¢ Brg. Fwd. Abut.	733.59	733.64	733.80	733.70	733.72	733.20	732.68	732.16	731.65	731.55

NOTES:

- The elevations shown are those which are required before the deck concrete is placed. An allowance has been made for the dead load deflections caused by the weight of the concrete.

BEAM	NO. OF STUDS
1	152 Studs, 75 spa. @ 11" = 68'-9"
2	154 Studs, 76 spa. @ 11" = 69'-8"
3	156 Studs, 77 spa. @ 11" = 70'-7"
4	160 Studs, 79 spa. @ 11" = 72'-5"
5	164 Studs, 81 spa. @ 11" = 74'-3"
6	166 Studs, 82 spa. @ 11" = 75'-2"

Total = 952

E. P. FERRIS AND ASSOCIATES, INC.
 CONSULTING CIVIL ENGINEERS & SURVEYORS
 766 NORTHWEST BLVD. COLUMBUS, OHIO 43212

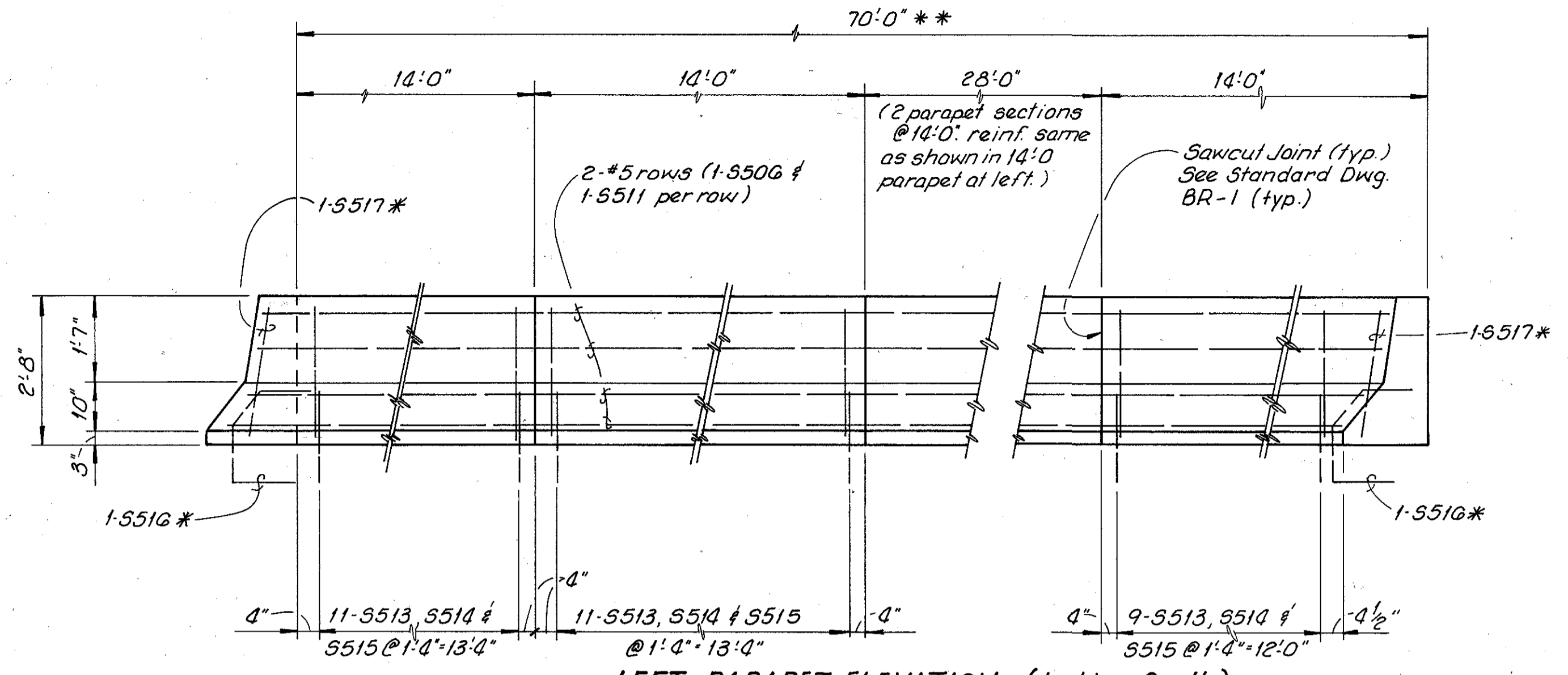
11 / 23

SUPERSTRUCTURE DETAILS
 BRIDGE No. FRA-70-1312

FRANKLIN COUNTY STA. 58+59.26 to STA. 59+37.73

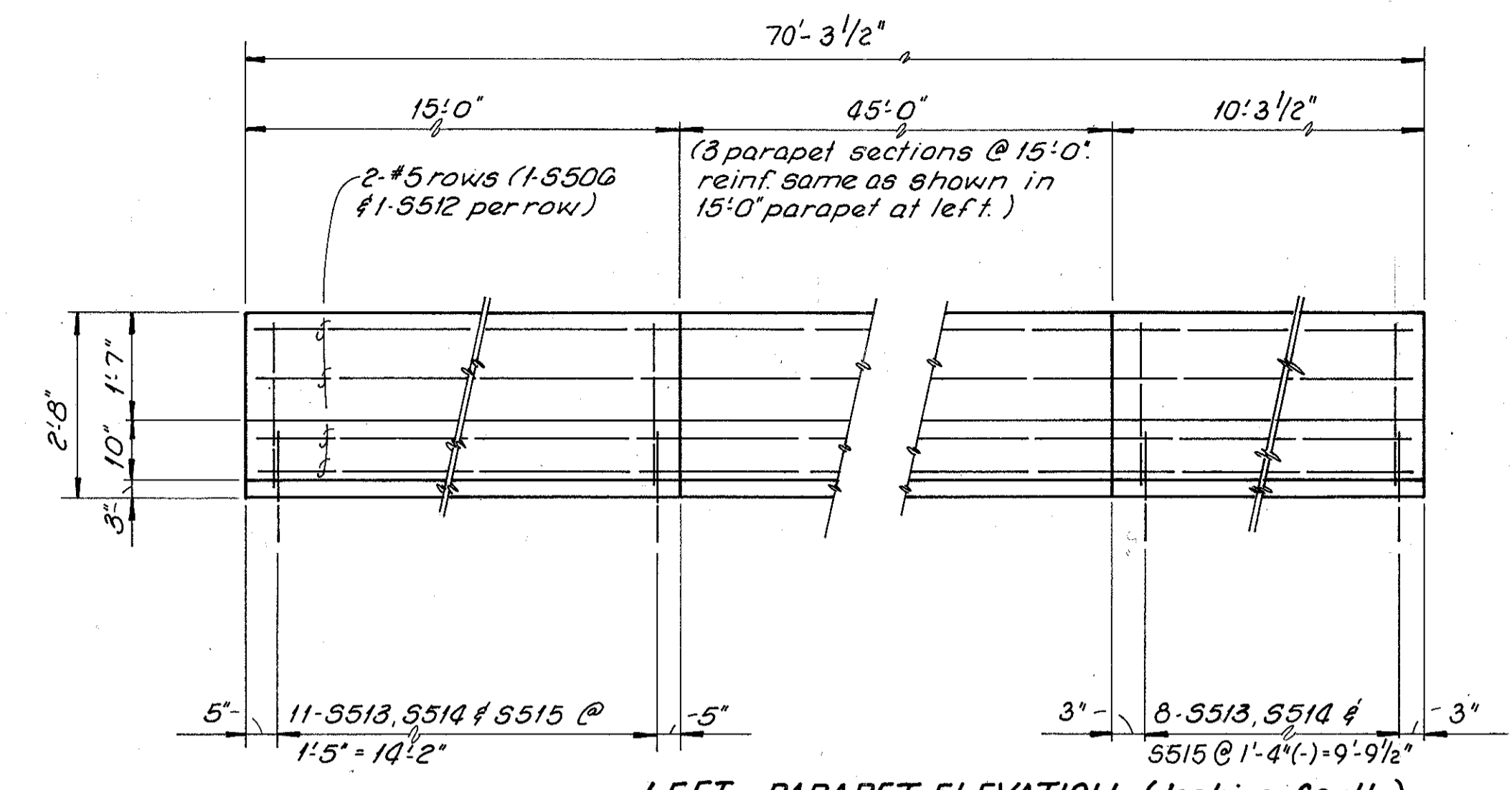
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JWE	MAH IEC		JLW	EPF	11-23-94	

FRANKLIN COUNTY
FRA-70-1312
FRA-315-0030R

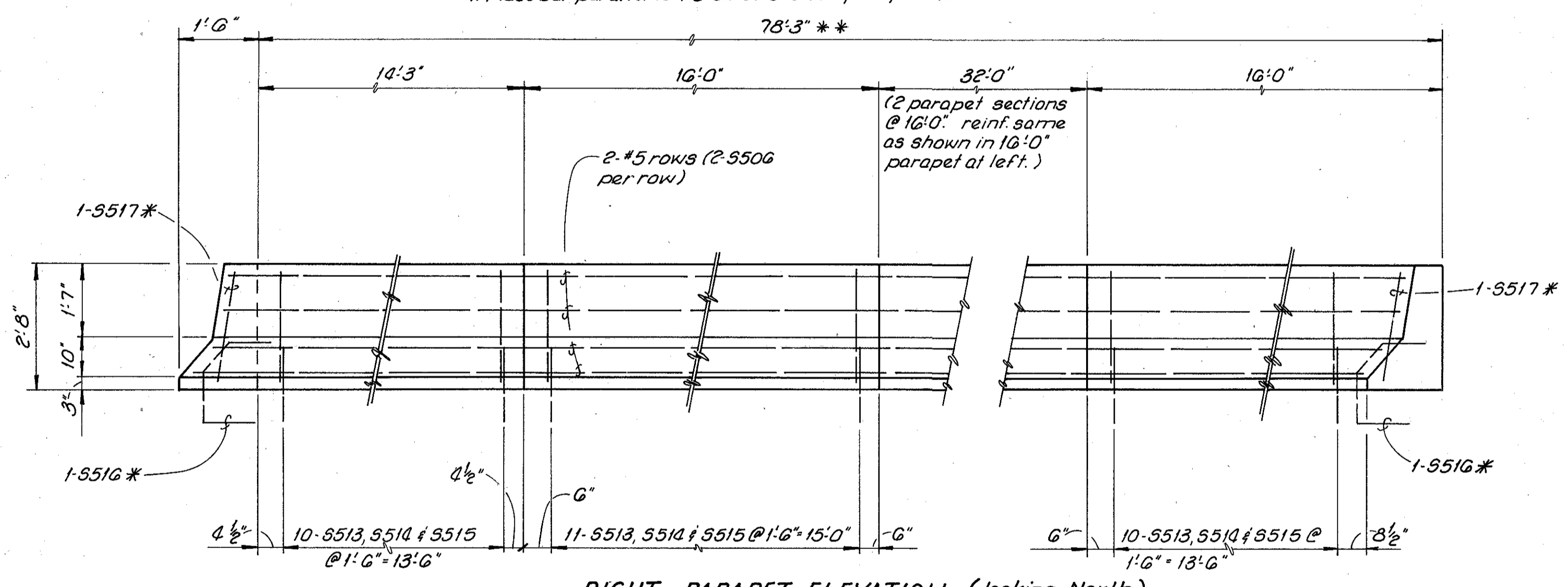


LEFT PARAPET ELEVATION (looking South)
(FRA-70-1312)

* Place bar parallel to 2" clr. of skewed parapet face.

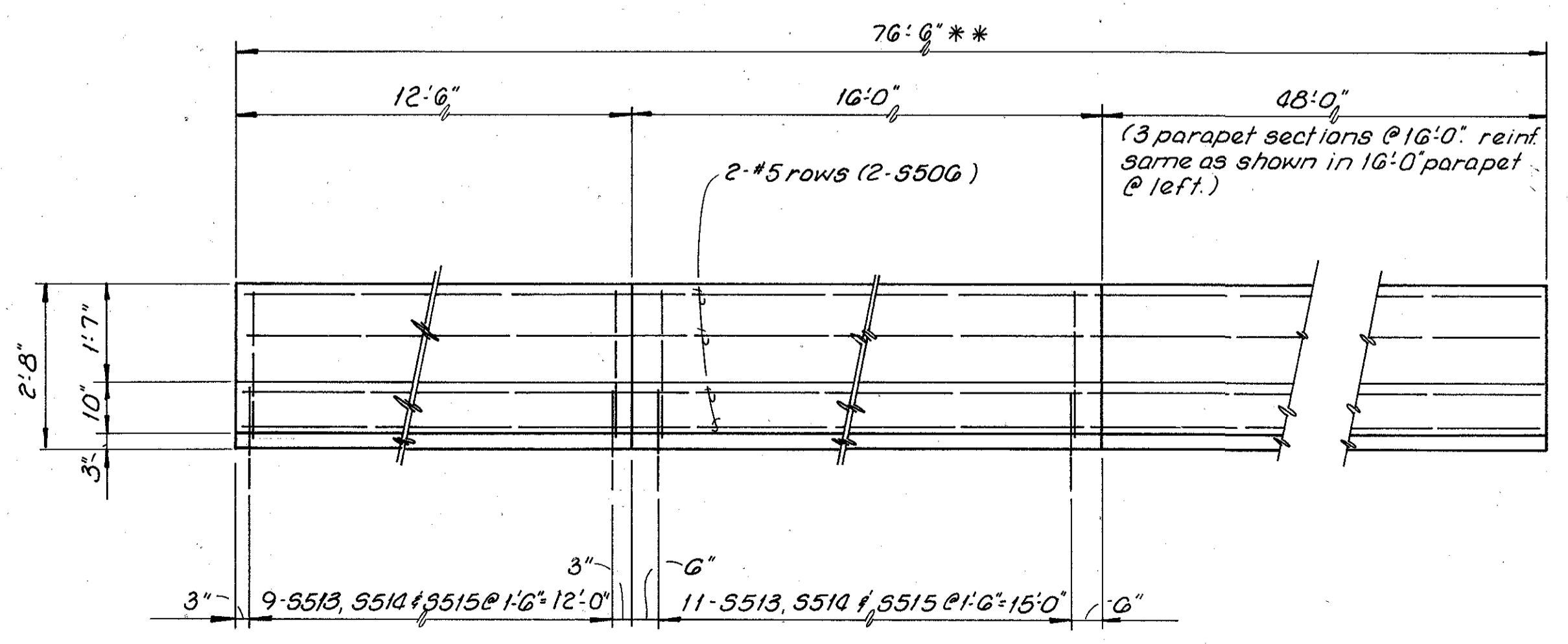


LEFT PARAPET ELEVATION (looking South)
(FRA-315-0030R)



RIGHT PARAPET ELEVATION (looking North)
(FRA-70-1312)

* Place bar parallel to 2" clr. of skewed parapet face.



RIGHT PARAPET ELEVATION (looking North)
(FRA-315-0030R)

NOTE:

For Transverse Parapet Sections, see sheets 9/23 & 19/23.

** Dimensions measured along outside of Parapet.

E.F. = Each Face
F.F. = Far Face
N.F. = Near Face

LAP LENGTHS:
5 = 2'-4"

E.P. FERRIS AND ASSOCIATES, INC.
CONSULTING CIVIL ENGINEERS & SURVEYORS
766 NORTHWEST BLVD. COLUMBUS, OHIO 43212

PARAPET DETAILS
BRIDGE No. FRA-70-1312 &
BRIDGE No. FRA-315-0030R

FRANKLIN COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JWE	MAH		MIH	EPF	11-23-94	

FRANKLIN COUNTY
FRA-70-1312
FRA-315-0030R

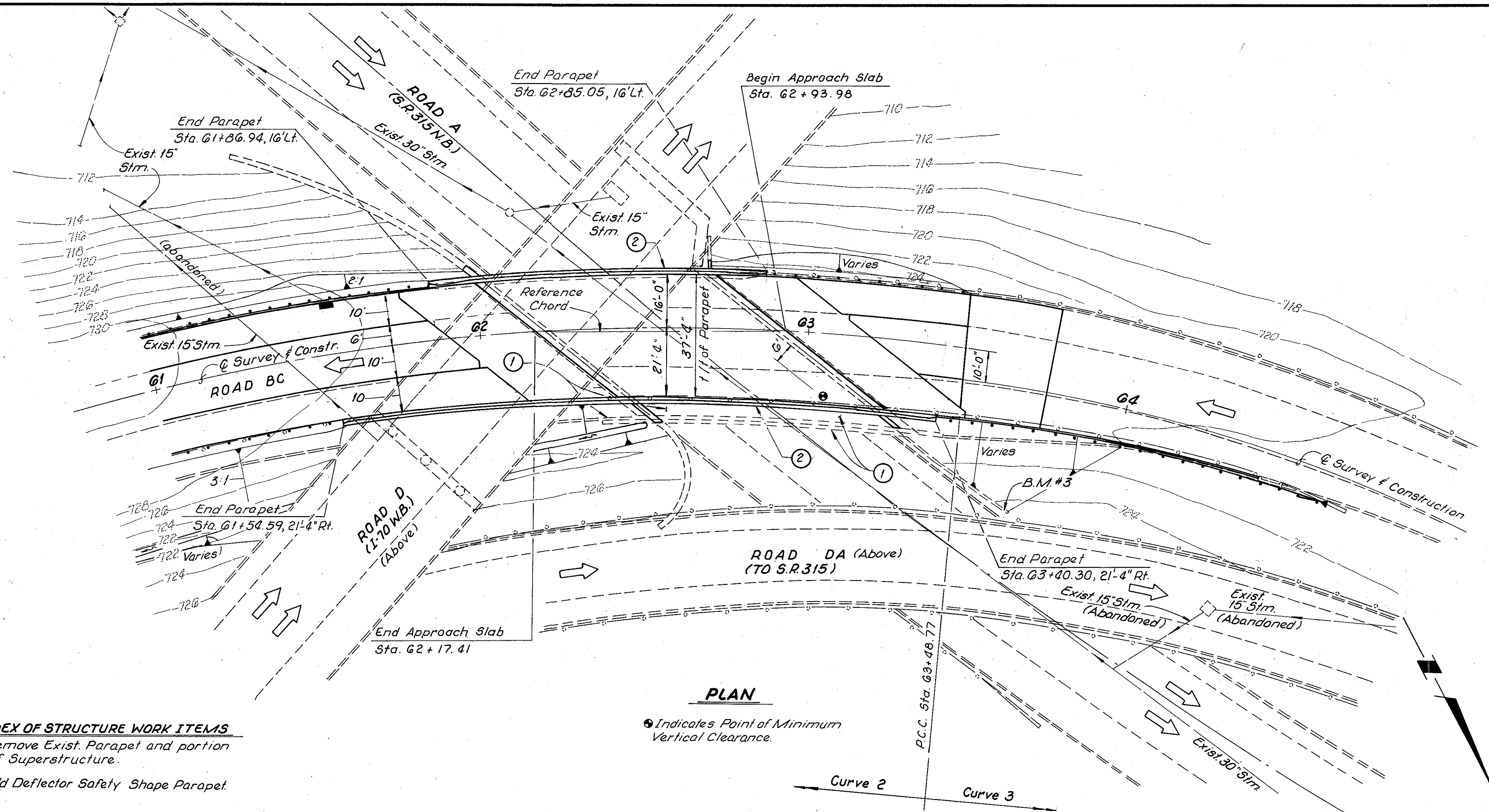
B.M.#3 El. 726.37
Paint Mark on top of SW
Wingwall of Bridge North
of FRA-315-0030R,
Sta. G3+70, 36' Rt.

**ROAD BC CURVE DATA
CURVE #2**

PI = G1+25.06
Δc = 42°17'59"
Dc = 9° (Exist.)
Rc = G36.02'
Tc = 246.29'
Lc = 470.00'

CURVE #3

PI = G4+56.77
Δc = 23°25'41"
Dc = 11°
Rc = 520.87'
Tc = 108.00'
Lc = 212.98'



- INDEX OF STRUCTURE WORK ITEMS**
- ① Remove Exist. Parapet and portion of Superstructure.
 - ② Add Deflector Safety Shape Parapet.

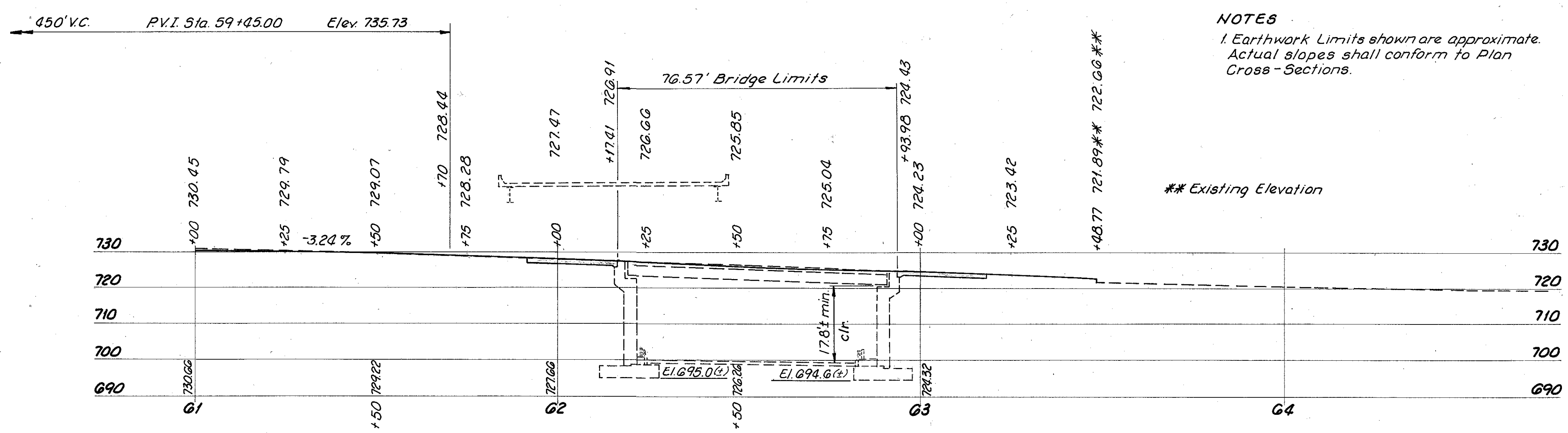
EXISTING STRUCTURE	
TYPE:	Simple Span, Steel Beam w/reinforced Concrete Slab and Abutments.
SPAN:	69.45' @ Bearings along Base Line
ROADWAY:	44'-0" @ Parapets
SKEW:	50°30'51" (±) to Reference Line.
SURFACE COURSE:	Bituminous Concrete
LOAD FREQUENCY RATING:	CF 2000 (51)
STRUCTURE FILE No.:	2514885
ALIGNMENT:	9° (±) Curve Rt.
SUPERELEVATION:	0.083' (±) per ft.
APPROACH SLABS:	A5-1-54 (25' long)
PROPOSED STRUCTURE	
PROPOSED WORK:	New Concrete Overlay on Exist. Simple Span, Steel Beam w/reinforced Concrete Slab and Abutments.
SPAN:	69.45' (±) @ Bearings Along & Survey
ROADWAY:	37'-4" @ Parapets
SKEW:	50°30'51" (±) Rt. Fwd. to Reference Chord
SURFACE COURSE:	Superplasticized Dense Concrete Overlay
LOADING:	CF 2000 (51)
ALIGNMENT:	9° (±) Curve Rt.
SUPERELEVATION:	0.083' per ft.
APPROACH SLABS:	A5-1-51 (25' long)

NOTES

1. Earthwork Limits shown are approximate. Actual slopes shall conform to Plan Cross-Sections.

TRAFFIC COUNT

Current ADT (1994) = 13,000
Design Year (2014) = 15,500
ADTT = 775



Reviewed By Burgess & Niple, Limited
DWR 07-03-96

E.P. FERRIS AND ASSOCIATES, INC.
CONSULTING CIVIL ENGINEERS & SURVEYORS
766 NORTHWEST BLVD. COLUMBUS, OHIO 43212

SITE PLAN
BRIDGE No. FRA-315-0030R

FRANKLIN COUNTY STA. G2+17.41 to STA. G2+93.98

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JWE	MAH # JEC		FA	EPF	2-23-94	

FRANKLIN COUNTY
FRA -70- 1312
FRA -315-0030R

ESTIMATED QUANTITIES

CALC BY: MAH/JWE CHK'D BY: JWE/JAP

ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	ABUTMENTS	SUPER.	GENERAL
202	11203	LUMP	SUM	PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN AS PER PLAN			LUMP
202	23500	362	SQ. YD.	WEARING COURSE REMOVED		362	
509	15824	7,084	LBS.	EPOXY COATED REINFORCING STEEL, GRADE 60	2,576	4,358	150
510	10000	176	EACH	DOWEL HOLES WITH NONSHRINK NONMETALLIC GROUT	176		
511	34400	28	CU. YD.	CLASS S CONCRETE SUPERSTRUCTURE		28	
511	45700	16	CU. YD.	CLASS C CONCRETE, ABUTMENT	16		
SPECIAL	512 67502	177	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY) *	32	145	
815	00050	5,190	SQ. FT.	SURFACE PREPARATION OF EXISTING STEEL, SYSTEM OZEU		5,190	
815	00056	5,190	SQ. FT.	FIELD PAINTING OF EXISTING STEEL, PRIME COAT, SYSTEM OZEU		5,190	
815	00060	5,190	SQ. FT.	FIELD PAINTING OF EXISTING STEEL, INTERMEDIATE COAT, SYSTEM OZEU		5,190	
815	00066	5,190	SQ. FT.	FIELD PAINTING OF EXISTING STEEL, FINISH COAT, SYSTEM OZEU		5,190	
815	00504	20	MANHOUR	GRINDING FINS, TEARS, SLIVERS		20	
815	00508	876	LIN. FT.	GRINDING FLANGE EDGES		876	
516	12201	4	LIN. FT.	STRUCTURAL STEEL EXPANSION JOINT, AS PER PLAN *		4	
516	13600	25	SQ. FT.	1" PREFORMED EXPANSION JOINT FILLER			25
850	14000	318	SQ. YD.	SUPERPLASTICIZED DENSE CONCRETE OVERLAY (2 3/4 INCHES THICK)		318	
850	20000	4	CU. YD.	SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE THICKNESS)		4	
850	30000	6	CU. YD.	FULL DEPTH REPAIR		6	
850	40000	LUMP		TEST SLAB			LUMP

* SEE PROPOSAL NOTE

GENERAL NOTES

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:
AS-1-81 DATED (REVISED) 09-15-94
SD-1-69 DATED 06-12-69
BR-1 DATED (REVISED) 12-15-94

AND TO SUPPLEMENTAL SPECIFICATIONS:
850 DATED 07-17-95
910 DATED 07-17-95
815 DATED 07-17-95

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1992, INCLUDING THE INTERIM 1993 SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING: HS20-44, CASE II AND THE ALTERNATE MILITARY LOADING. (PROPOSED WORK)

DESIGN DATA:

CONCRETE CLASS S - COMPRESSIVE STRENGTH 4500 P.S.I. (SUPERSTRUCTURE)
CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 P.S.I. (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615, A616, OR A617.
GRADE 60 - MINIMUM YIELD STRENGTH 60,000 P.S.I.

EXISTING STRUCTURAL STEEL BEAMS
A373 - YIELD STRENGTH 32,000 P.S.I.

NEW STRUCTURAL STEEL A36 - UNIT STRESS 20,000 P.S.I.

DECK PROTECTION METHOD:

EPOXY COATED REINFORCING STEEL.

SUPERPLASTICIZED DENSE CONCRETE OVERLAY

PORTIONS OF STRUCTURE REMOVED, OVER 20-FOOT SPAN, AS PER PLAN: THIS WORK SHALL CONSIST OF THE REMOVAL, WHOLLY OR IN PART, AND SATISFACTORY DISPOSAL OF PORTIONS OF THE EXISTING STRUCTURE AS PER 202 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS AND AS DIRECTED ON THE PLANS. THIS WORK SHALL ALSO INCLUDE ANY DEVICES OR STRUCTURES NECESSARY FOR THE PROTECTION OF TRAFFIC, PREPARATION OF PLANS FOR SUCH STRUCTURES, AND ANY OTHER WORK ASSOCIATED WITH REMOVAL OF PORTIONS OF THE EXISTING STRUCTURE AS DESCRIBED BELOW. CARE SHALL BE TAKEN TO PROTECT PORTIONS OF THE STRUCTURE THAT ARE TO REMAIN AND BE INCORPORATED INTO THE PROPOSED STRUCTURE.

PROTECTION OF TRAFFIC: PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE, THE CONTRACTOR SHALL SUBMIT HIS PLANS FOR THE PROTECTION OF TRAFFIC (VEHICULAR, PEDESTRIAN, BOAT, ETC.) ADJACENT TO AND/OR UNDER THE STRUCTURE TO THE DIRECTOR FOR APPROVAL. THESE PLANS SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT MAY BE NECESSARY TO ENSURE SUCH PROTECTION. TEMPORARY VERTICAL CLEARANCES SPECIFIED ON THE PLANS OR IN THE PROPOSAL SHALL BE MAINTAINED AT ALL TIMES EXCEPT AS OTHERWISE APPROVED BY THE DIRECTOR.

PROTECTION OF STEEL SUPPORT SYSTEMS: BEFORE DECK SLAB CUTTING IS PERMITTED, THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK SHALL BE DRAWN ON THE SURFACE OF DECK. SMALL DIAMETER PILOT HOLES SHALL BE DRILLED 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2 INCHES OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL. CUTS MADE OUTSIDE 2 INCHES OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. DURING CUTTING OF THE DECK SLAB, CARE SHALL BE TAKEN NOT TO DAMAGE STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE.

REMOVAL METHODS: CONCRETE MAY BE REMOVED BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS ABOVE STEEL MEMBERS, A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS MAY BE USED AT THE APPROVAL OF THE ENGINEER, TO ENSURE ADEQUATE DEPTH CONTROL AND TO PREVENT NICKING OR GOUGING THE PRIMARY STEEL MEMBERS.

DECK REMOVALS: DUE TO THE POSSIBLE PRESENCE OF WELDED ATTACHMENTS TO EXISTING STRUCTURAL STEEL (FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.) CARE SHALL BE TAKEN DURING DECK REMOVAL TO AVOID DAMAGING STRINGERS WHICH ARE TO REMAIN. STRINGERS DAMAGED BY THE CONTRACTOR'S REMOVAL OPERATIONS SHALL, AT NO COST TO THE PROJECT, BE REPLACED OR REPAIRED. PROPOSED REPAIRS, DEVELOPED BY A REGISTERED PROFESSIONAL ENGINEER, SHALL BE SUBMITTED IN WRITING FOR REVIEW AND APPROVAL BY THE DIRECTOR.

EXTRANEIOUS MEMBERS: EXISTING EXTRANEIOUS MEMBERS (I.E., FINISHING MACHINE AND FORM SUPPORTS, ETC., AND THE SUPPORT FOR SCUPPERS AND BULB ANGLES WHICH ARE TO BE REMOVED) ATTACHED BY WELDED CONNECTIONS TO PORTIONS OF THE TOP FLANGES DESIGNATED "TENSION" SHALL BE REMOVED AND THE FLANGE CONNECTIONS GROUND SMOOTH. GRINDING SHALL BE CAREFULLY DONE AND PARALLEL TO THE FLANGES.

LOADING LIMITATIONS: NO PART OF THE STRUCTURE SHALL BE SUBJECTED TO UNIT STRESSES THAT EXCEED 136.5% OF THE ALLOWABLE UNIT STRESSES GIVEN IN THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES DUE EITHER TO DEMOLITION, ERECTION OR CONSTRUCTION METHODS OR TO THE USE OR MOVEMENT OF DEMOLITION OR ERECTION EQUIPMENT ON OR ACROSS THE STRUCTURE. ANALYSIS COMPUTATIONS, BY A REGISTERED PROFESSIONAL ENGINEER, SHOWING THE ALLOWABLE STRESSES AND THE MAXIMUM STRESSES PRODUCED BY THE CONTRACTOR'S METHODS OR EQUIPMENT SHALL BE SUBMITTED TO THE DIRECTOR FOR REVIEW AND APPROVAL AT LEAST TWO WEEKS PRIOR TO THE START OF WORK.

PAYMENT: THIS WORK SHALL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE BID, WHICH PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK IN CONFORMANCE WITH THESE REQUIREMENTS, WITH PERTINENT PROVISIONS OF 202, AND TO THE SATISFACTION OF THE ENGINEER.

CUT LINE CONSTRUCTION JOINT PREPARATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE 1" DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. WHERE PRACTICABLE, THE EXISTING REINFORCING STEEL WHERE REQUIRED IN THE PLANS SHALL BE LEFT IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACE AND EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISENTEGRATED CONCRETE AND LOOSE RUST. THEN, THE JOINT SURFACE AND EXPOSED REINFORCEMENT SHALL BE THOROUGHLY CLEANED OF ALL DIRT, DUST, OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. CONCRETE BONDING SURFACES SHALL BE WET WITHOUT FREE WATER AS CONCRETE IS PLACED.

SUBSTRUCTURE CONCRETE REMOVAL: SHALL BE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18-INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18-INCH LIMIT, A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS, MAY BE USED AT THE APPROVAL OF THE ENGINEER. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

EXISTING STRUCTURE VERIFICATION: DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.5, 105.2 AND 513.02.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

REPLACEMENT OF EXISTING REINFORCING STEEL: ANY EXISTING REINFORCING BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND WHICH ARE MADE UNUSABLE BY THE CONTRACTOR'S CONCRETE REMOVAL OPERATIONS SHALL BE REPLACED WITH NEW STEEL AT THEIR COST. ANY EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION SHALL BE REPLACED WITH NEW STEEL. AN ALLOWANCE OF 150 POUNDS IS INCLUDED IN ITEM 509 FOR THIS PURPOSE, LISTED IN THE "GENERAL" COLUMN OF THE ESTIMATED QUANTITIES TABLE.

STRUCTURAL STEEL EXPANSION JOINT, AS PER PLAN

THIS WORK SHALL CONSIST OF EXTENDING THE EXISTING EXPANSION JOINT AS SHOWN ON THE PLANS. THIS INCLUDES NEW CURB PLATES, AND VERIFYING THE CONDITION OF THE EXISTING END DAMS PRIOR TO EXTENDING THE END DAMS. REMOVAL OF AND SUBSEQUENT REPLACEMENT OF EXISTING END DAMS SHALL BE APPROVED BY THE ENGINEER. COST OF THIS ADDITIONAL WORK SHALL BE INCLUDED WITH ITEM 516, STRUCTURAL STEEL EXPANSION JOINT, AS PER PLAN, FOR PAYMENT. SEE PLAN NOTE FOR PAINTING OF STRUCTURAL STEEL. THIS WORK CONSISTS OF ALL THE MATERIAL AND LABOR NECESSARY FOR EXTENSION OF THE EXPANSION JOINT.

DECK JOINT PAINTING:

AFTER CLEANING IN THE FIELD AS DIRECTED, ALL UPPER EXPOSED STEEL SURFACES EXCLUDING ROADWAY SURFACES IN TRAVELED LANES SHALL BE PAINTED WITH A SYSTEM OZEU PRIME, INTERMEDIATE, AND FINISH COAT OF PAINT AS DESCRIBED IN THE PROPOSAL NOTE FOR OZEU PAINTING. COST FOR FIELD CLEANING AND PAINTING SHALL BE INCLUDED IN THE PRICE BID PER LINEAR FOOT FOR THE DECK EXPANSION JOINTS.

DECK JOINT MATERIALS:

STEEL FOR DECK JOINTS SHALL BE ASTM A588
ALL OTHER STEEL PORTIONS OF THE JOINTS SHALL BE ASTM A588. STEEL SHALL BE ABRASIVELY CLEANED IN THE SHOP PRIOR TO FINAL ASSEMBLY. SHOP PAINTING IS NOT REQUIRED.

STRUCTURAL STEEL, AS PER PLAN:

NEW STEEL SHALL BE CLEANED AND IT SHALL BE PRIME PAINTED IN THE FIELD. AT THE CONTRACTOR'S OPTION, NEW STEEL MAY BE GIVEN A PRELIMINARY CLEANING IN THE SHOP. THE COST OF CLEANING AND PRIME PAINTING SHALL BE INCLUDED IN THE SEVERAL OZEU ITEMS.

PAINTING OF STRUCTURAL STEEL:

NEW STEEL SHALL BE PROVIDED BARE FOR PREPARATION AND PAINTING IN THE FIELD. FOR PURPOSES OF FIELD PAINTING, NEWLY ERECTED STEEL SHALL BE CONSIDERED EXISTING STEEL AND SHALL BE PREPARED AND PAINTED WITH A PRIME, INTERMEDIATE, AND FINISH COAT OF PAINT IN CONFORMANCE WITH THE PROPOSAL NOTE "FIELD PAINTING OF EXISTING STEEL, SYSTEM OZEU". COST OF CLEANING AND PAINTING OF NEW AND EXISTING STEEL WITH THE OZEU PAINT SYSTEM SHALL BE INCLUDED IN THE SEVERAL OZEU ITEMS. THE SURFACE AREA PAY QUANTITIES ARE BASED ON THE SURFACE AREA OF MAIN MEMBERS INCREASED BY 20 PERCENT TO ACCOUNT FOR THE AREA OF BEARINGS AND OTHER STEEL INCIDENTALS BEING CLEANED AND PAINTED.

MAINTENANCE OF TRAFFIC:

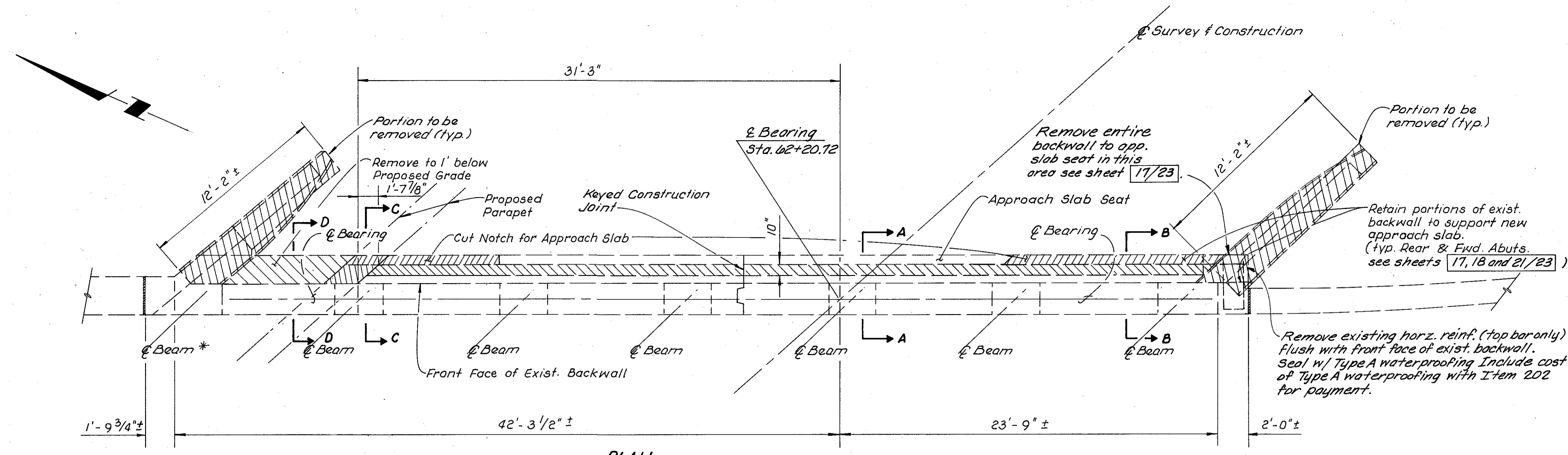
TWO LANES OF TRAFFIC WITH A MINIMUM HORIZONTAL WIDTH OF 26'-0" AND A MINIMUM VERTICAL CLEARANCE 14'-0" OF SHALL BE MAINTAINED ON ROAD A (S.R. 315 N.B.) AT ALL TIMES.

REINFORCING BAR SPLICE LENGTHS:

SHALL CONFORM TO THE FOLLOWING UNLESS SHOWN OR NOTED OTHERWISE ON THE PLANS (No. 4 1'-10", No. 5 2'-4", No. 6 2'-9").

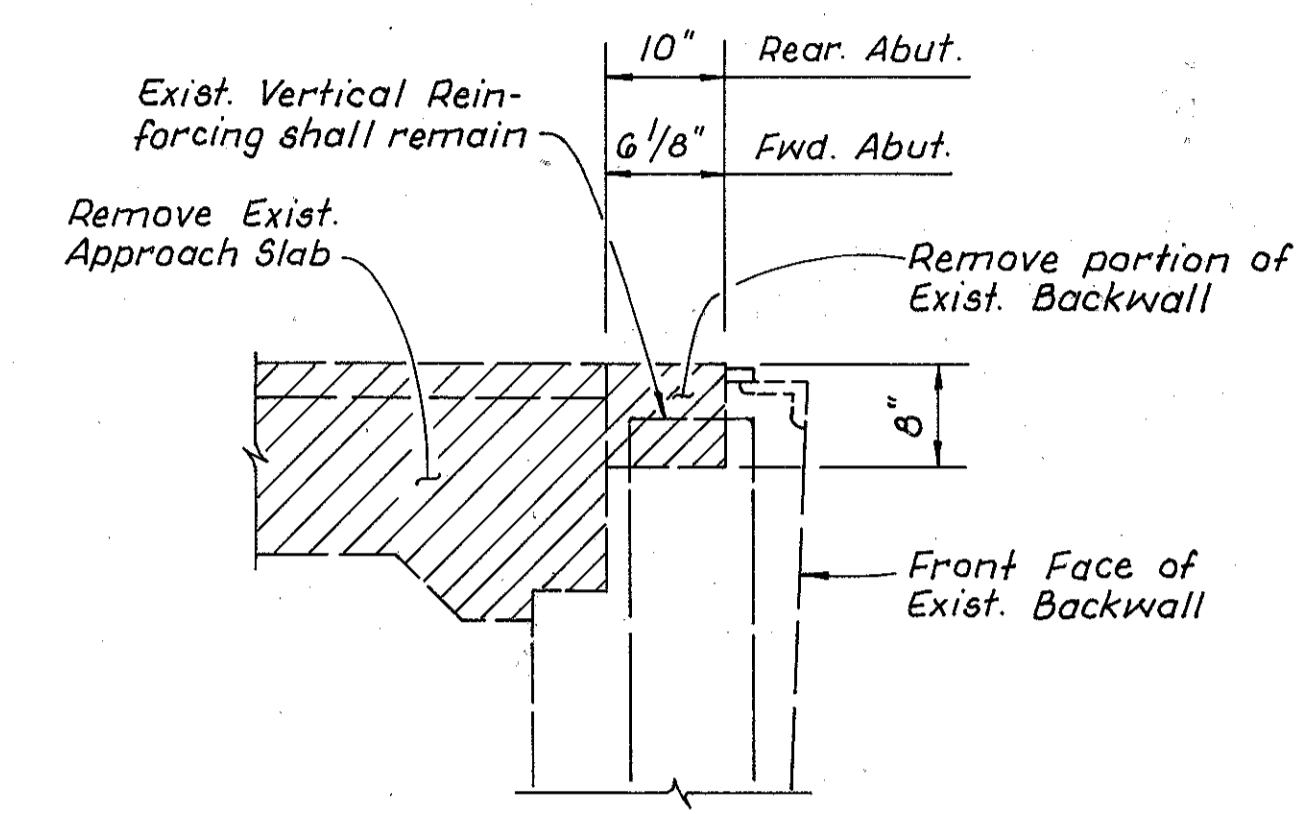
ITEM 815 - FIELD PAINTING OF EXISTING STEEL FINISH COAT, SYSTEM OZEU: THE COLOR OF THE FINISHED COAT SHALL MATCH A COLORED CHIP TO BE PROVIDED BY DISTRICT 6.

E. P. FERRIS AND ASSOCIATES, INC. CONSULTING CIVIL ENGINEERS & SURVEYORS 766 NORTHWEST BLVD. COLUMBUS, OHIO 43212		14 / 23
ESTIMATED QUANTITIES AND GENERAL NOTES BRIDGE NO. FRA-315-0030R		
FRANKLIN COUNTY STA. 62+17.41 TO STA. 62+93.98		
DESIGNED	DRAWN	TRACED
JWE	MAH	JLW
CHECKED	REVIEWED	DATE
EPF	11-23-94	

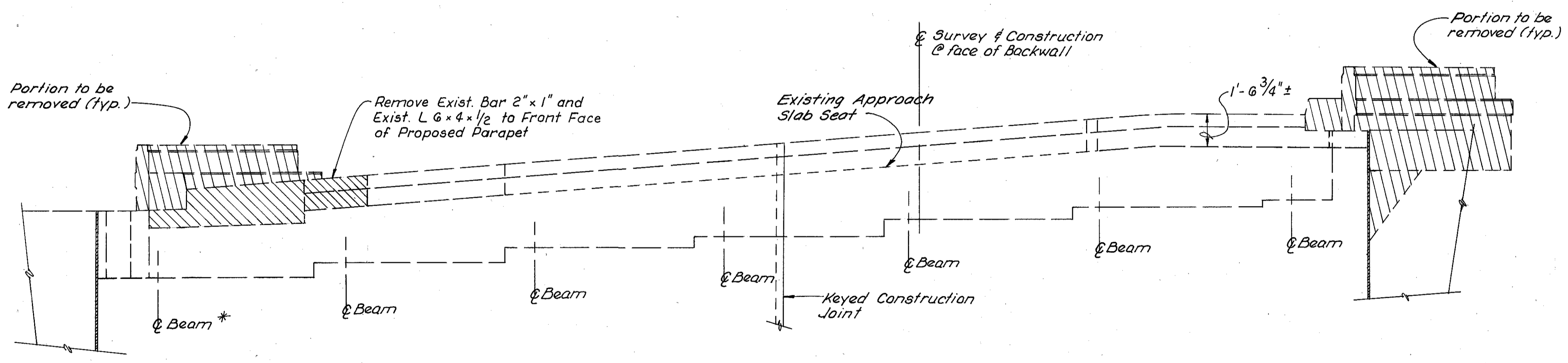


PLAN

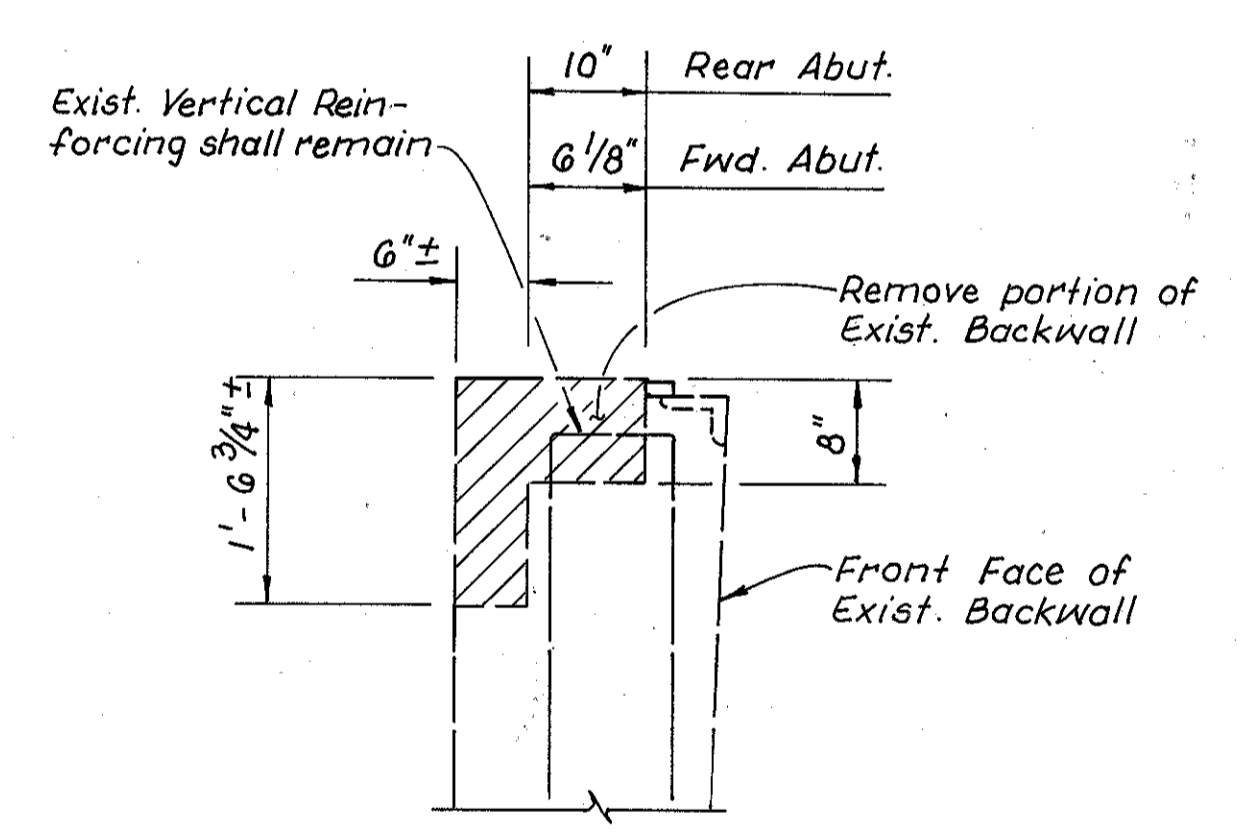
* to be Removed



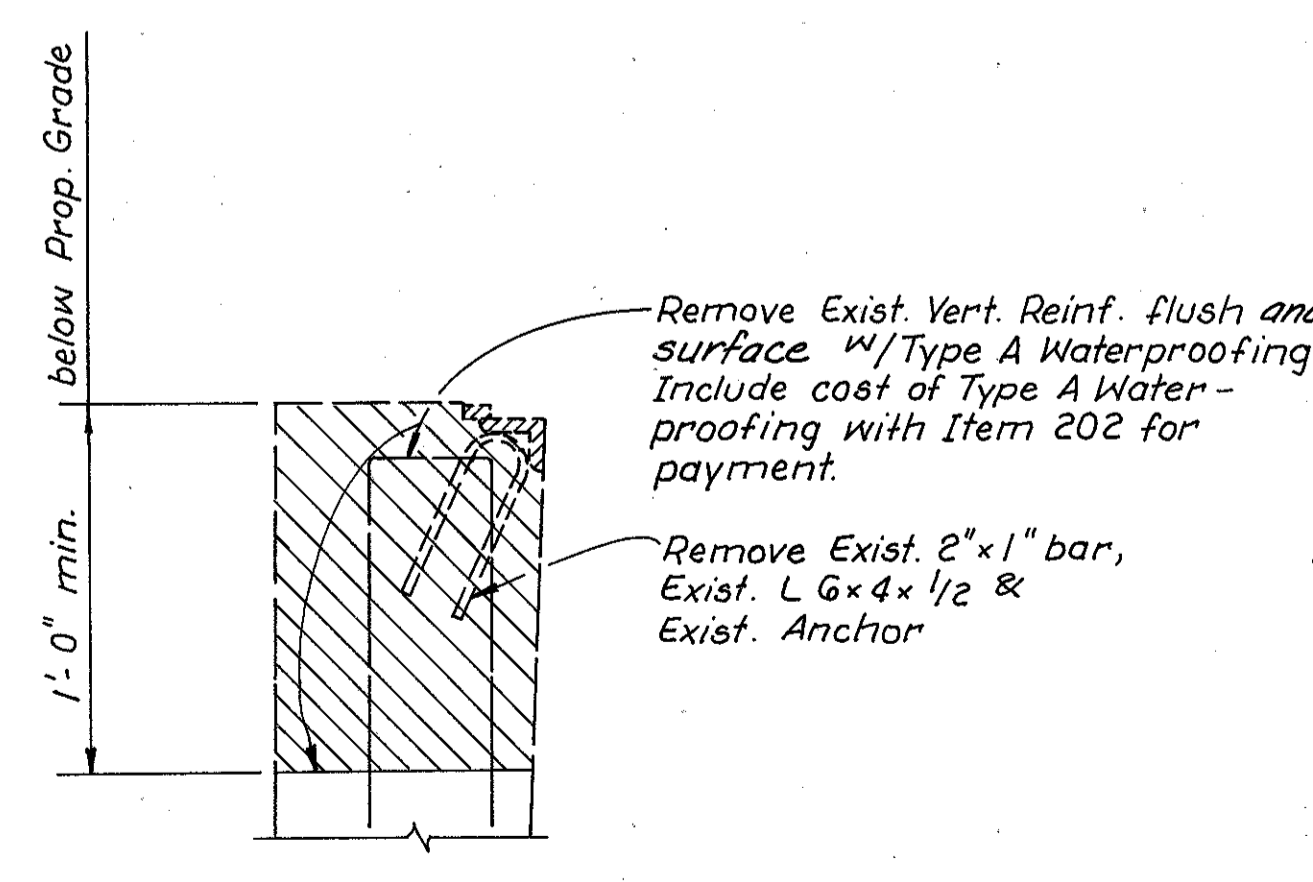
SECTION A-A



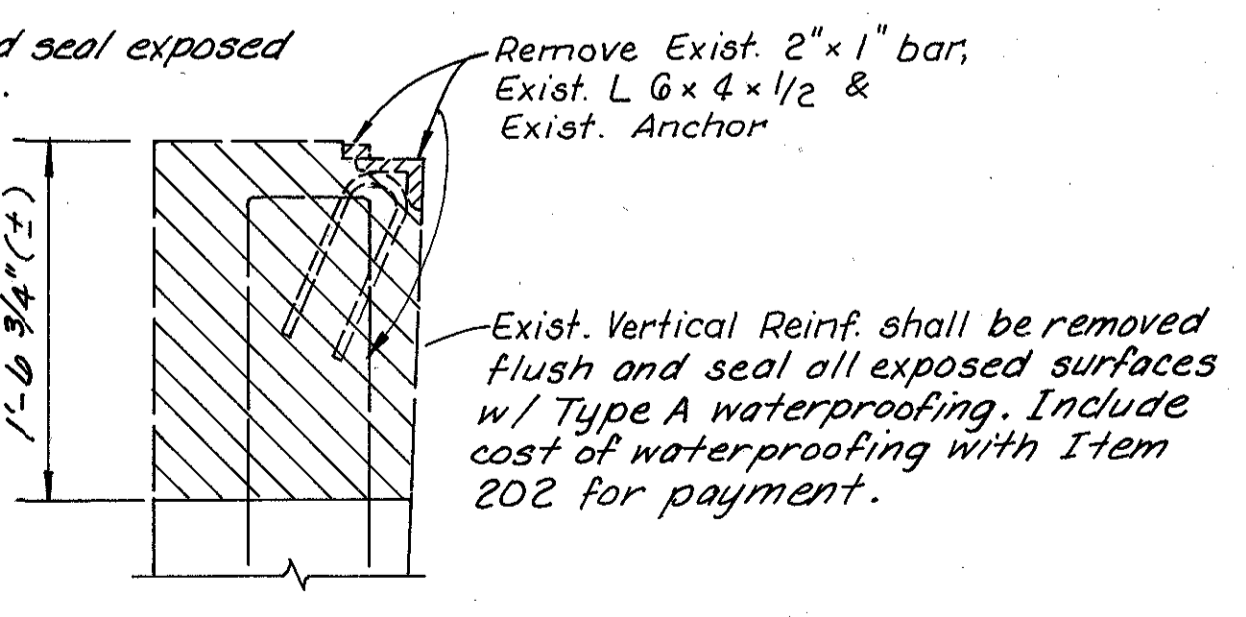
ELEVATION



SECTION B-B



SECTION D-D



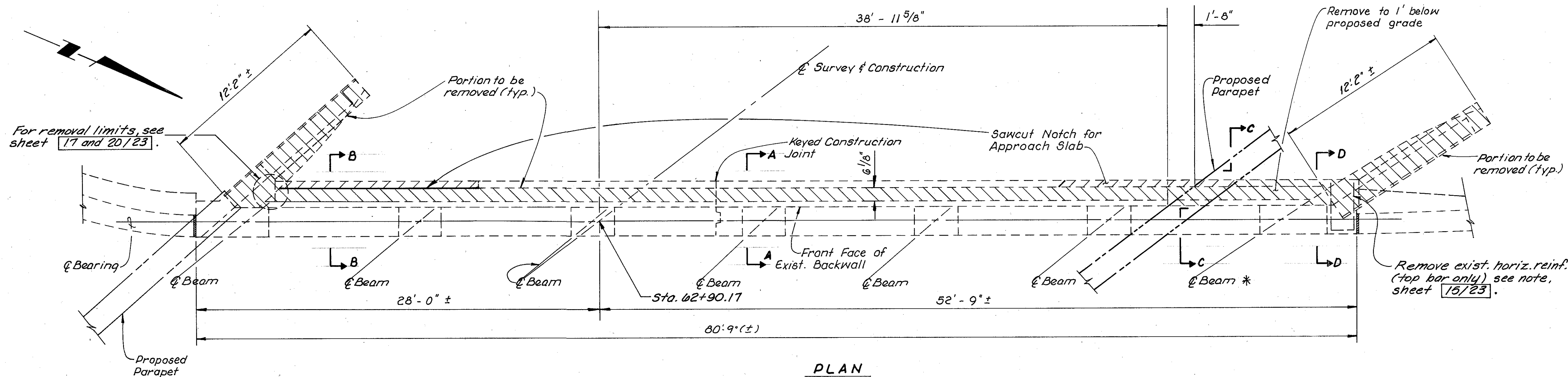
SECTION C-C

Within Limits of Proposed Parapet Only

E.P. FERRIS AND ASSOCIATES, INC.
CONSULTING CIVIL ENGINEERS & SURVEYORS
766 NORTHWEST BLVD. COLUMBUS, OHIO 43212

DEMOLITION PLAN
REAR ABUTMENT & WINGWALL
BRIDGE No. FRA-315-0030R

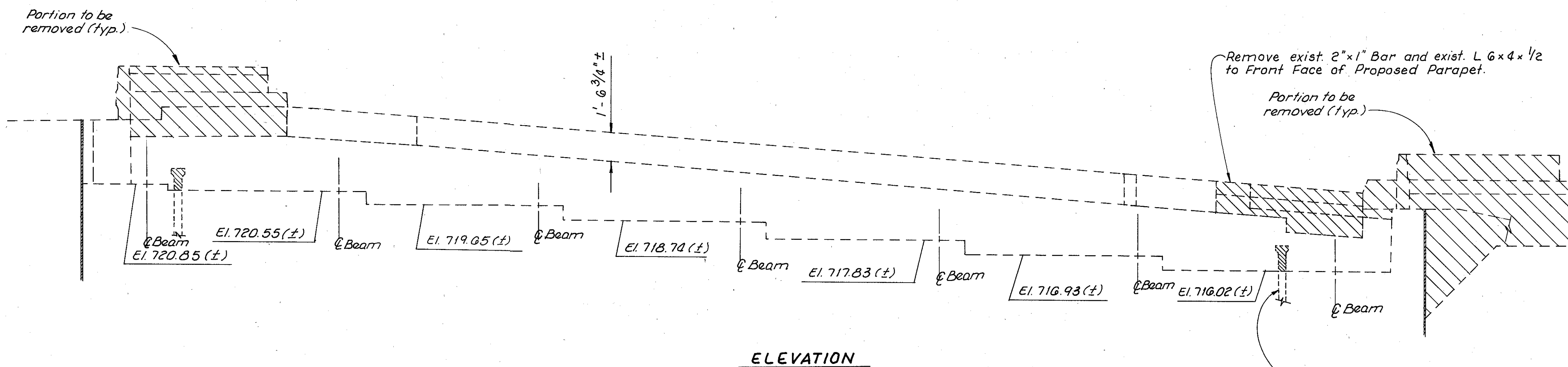
FRANKLIN COUNTY		STA. G2+17.41 to STA. G2+93.98	
DESIGNED	DRAWN	TRACED	CHECKED
JWE	MMH	JLW	EPF
DATE	REVIEWED	DATE	REVISED
11-23-94			



PLAN

NOTE: For Sections A-A thru D-D, see Sheet 15/23.

* to be Removed, see Sheet 19/23.



ELEVATION

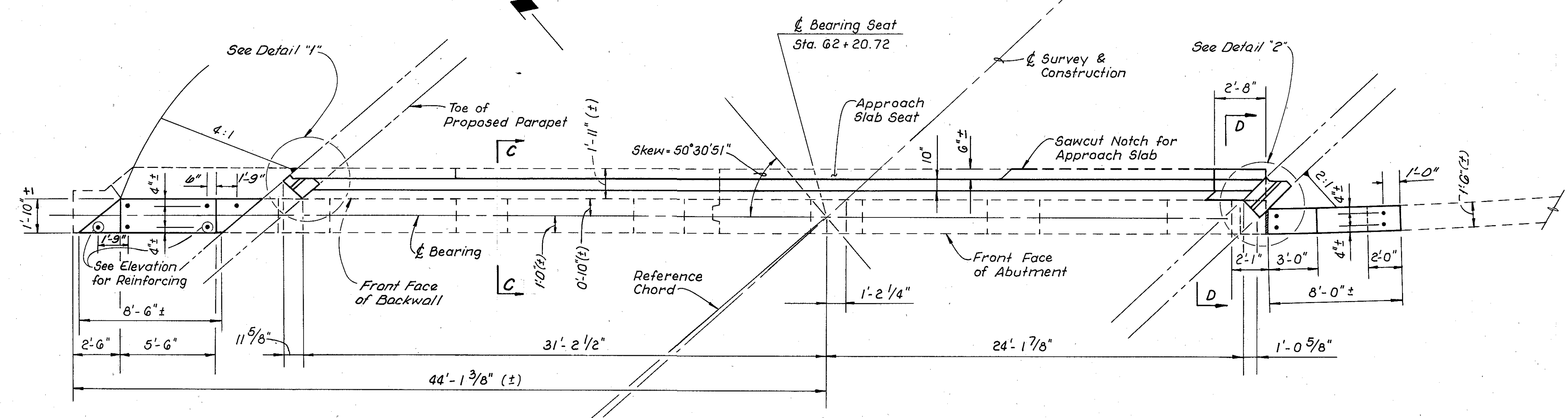
NOTE:
 Remove Exposed Pipe and plug with 6" thick (min.) non-metallic, non-shrink grout. Payment shall be included with Item 202 - Portions of Structure removed, as per plan (typ. 2 locations). Remove Exist. Scuppers also and include payment with Item 202.

E.P. FERRIS AND ASSOCIATES, INC.
 CONSULTING CIVIL ENGINEERS & SURVEYORS
 766 NORTHWEST BLVD. COLUMBUS, OHIO 43212

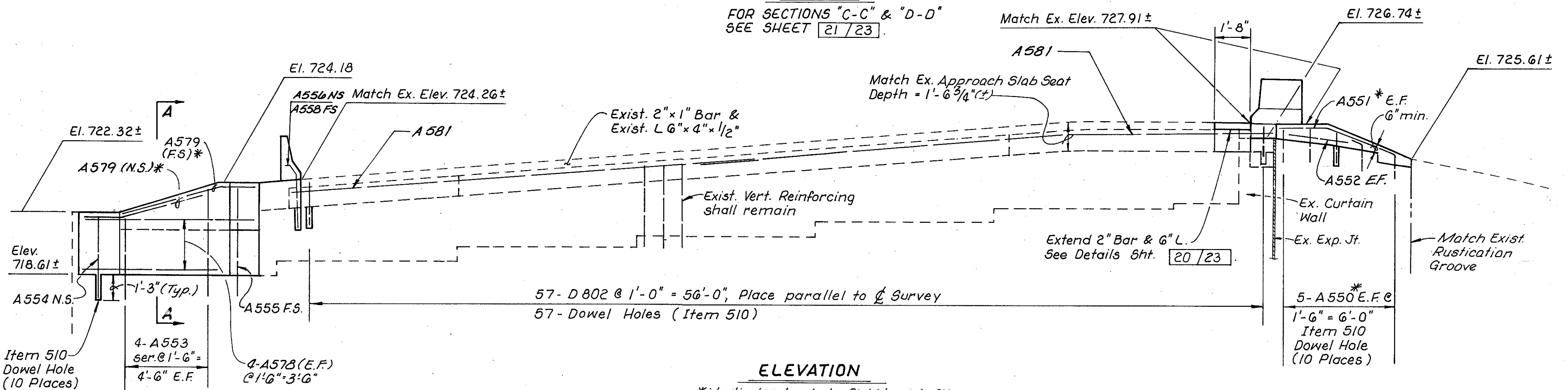
DEMOLITION PLAN
FORWARD ABUTMENT & WINGWALL
 BRIDGE NO. FRA-315-0030R
 FRANKLIN COUNTY STA. 62+17.41 to STA. 62+93.98

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JWE	MAH * IEC		JLW	EPF	11-23-94	

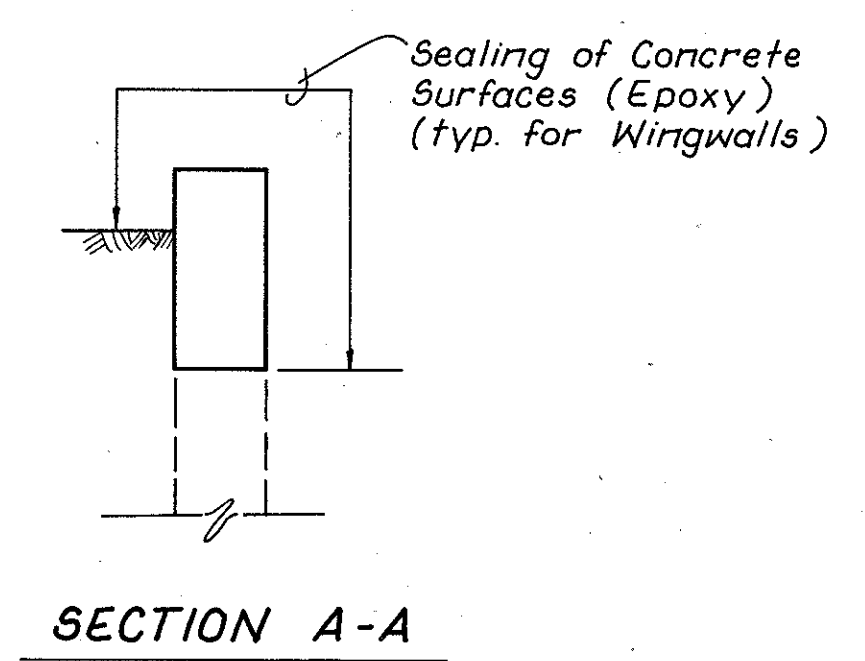
FRANKLIN COUNTY
FRA - 70-1312
FRA - 315-0030R



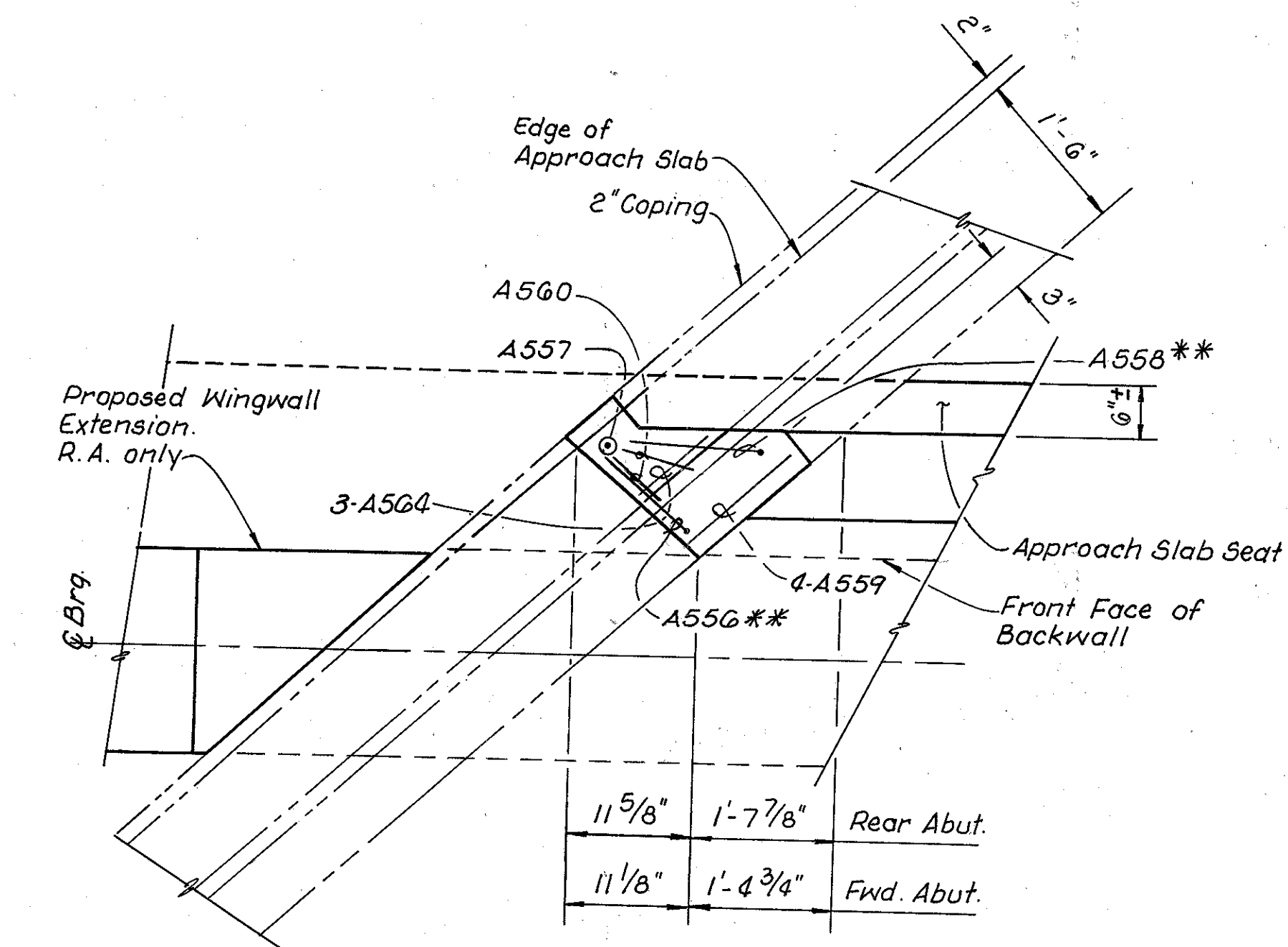
PLAN
FOR SECTIONS "C-C" & "D-D"
SEE SHEET 21/23



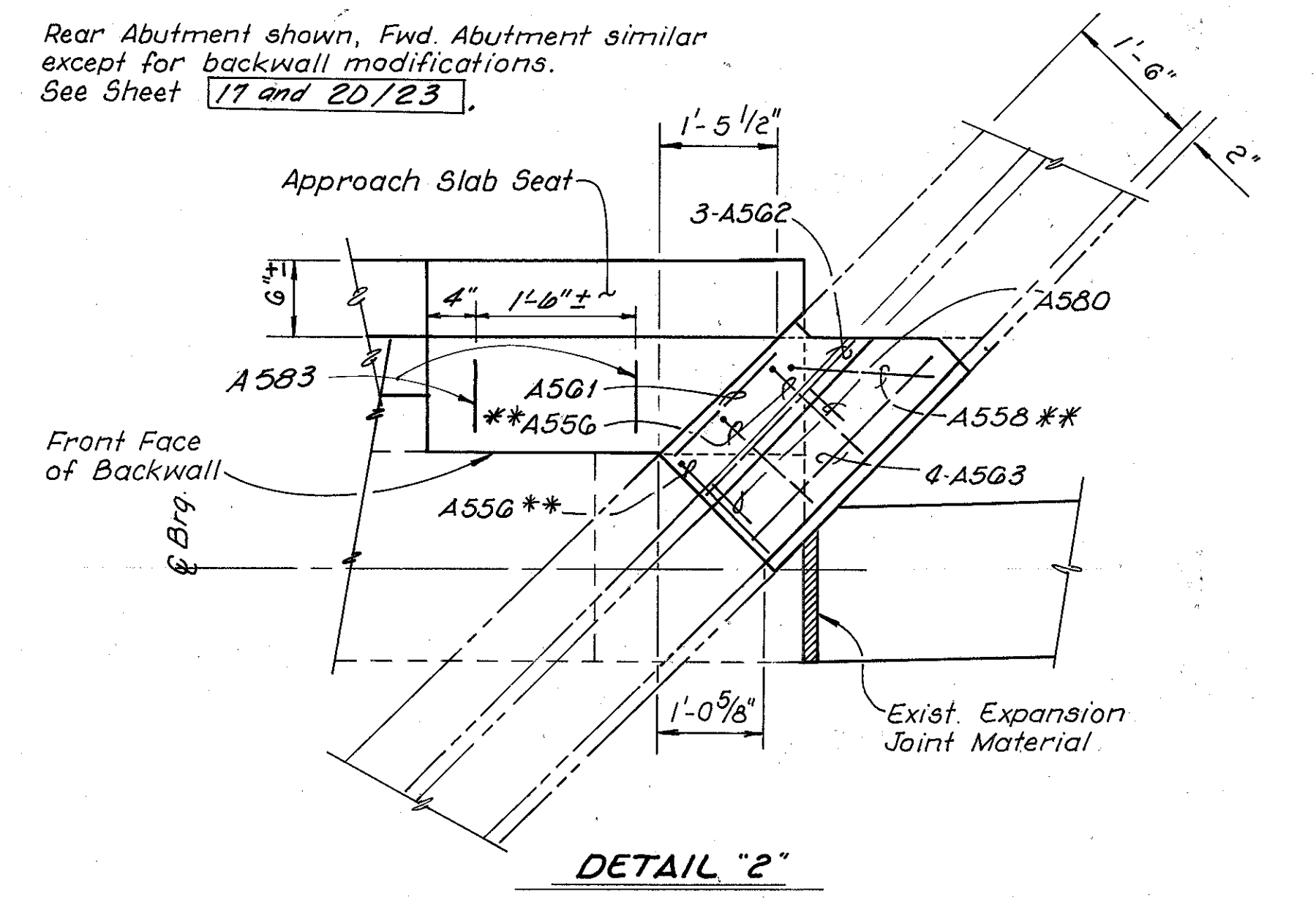
ELEVATION
* Indicates bar to be field bent to fit.
#5 Lap - 2'-4"



SECTION A-A



DETAIL "1"
** Dowel per Item 510, 1'-3" min.



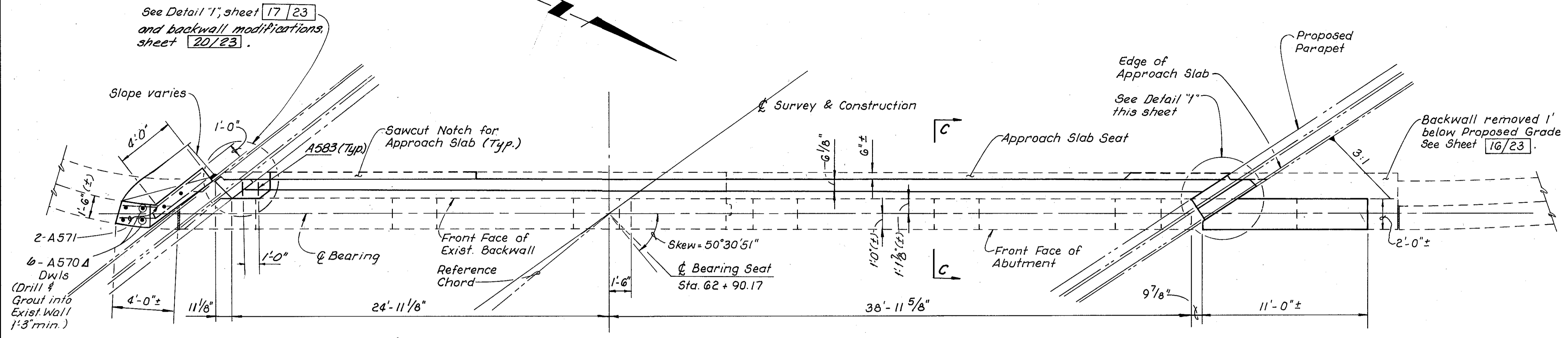
DETAIL "2"
NOTE: Expansion Joint not shown for Detail "1" & "2".
For Expansion Joint Details, see Sht. 20/23 and 21/23.

ABBREVIATION:
N.S. = Near Side
F.S. = Far Side
E.F. = Each Face
P.E.J.F. = Preformed Expansion Joint Filler

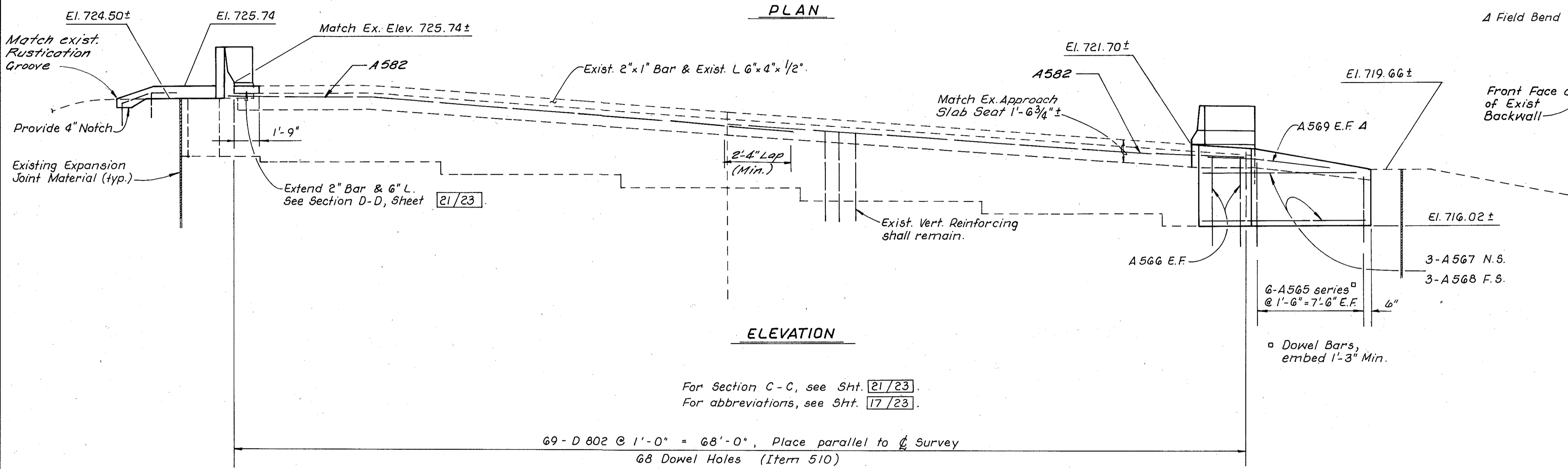
E.P. FERRIS AND ASSOCIATES, INC. CONSULTING CIVIL ENGINEERS & SURVEYORS 766 NORTHWEST BLVD. COLUMBUS, OHIO 43212					
REAR ABUTMENT DETAILS BRIDGE No. FRA-315-0030R					
FRANKLIN COUNTY STA. 62+17.41 to STA. 62+93.98					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
JWE	MAH/TEC		JLW	EPF	11-23-94

BRIDGE 2000 FORM 4-89

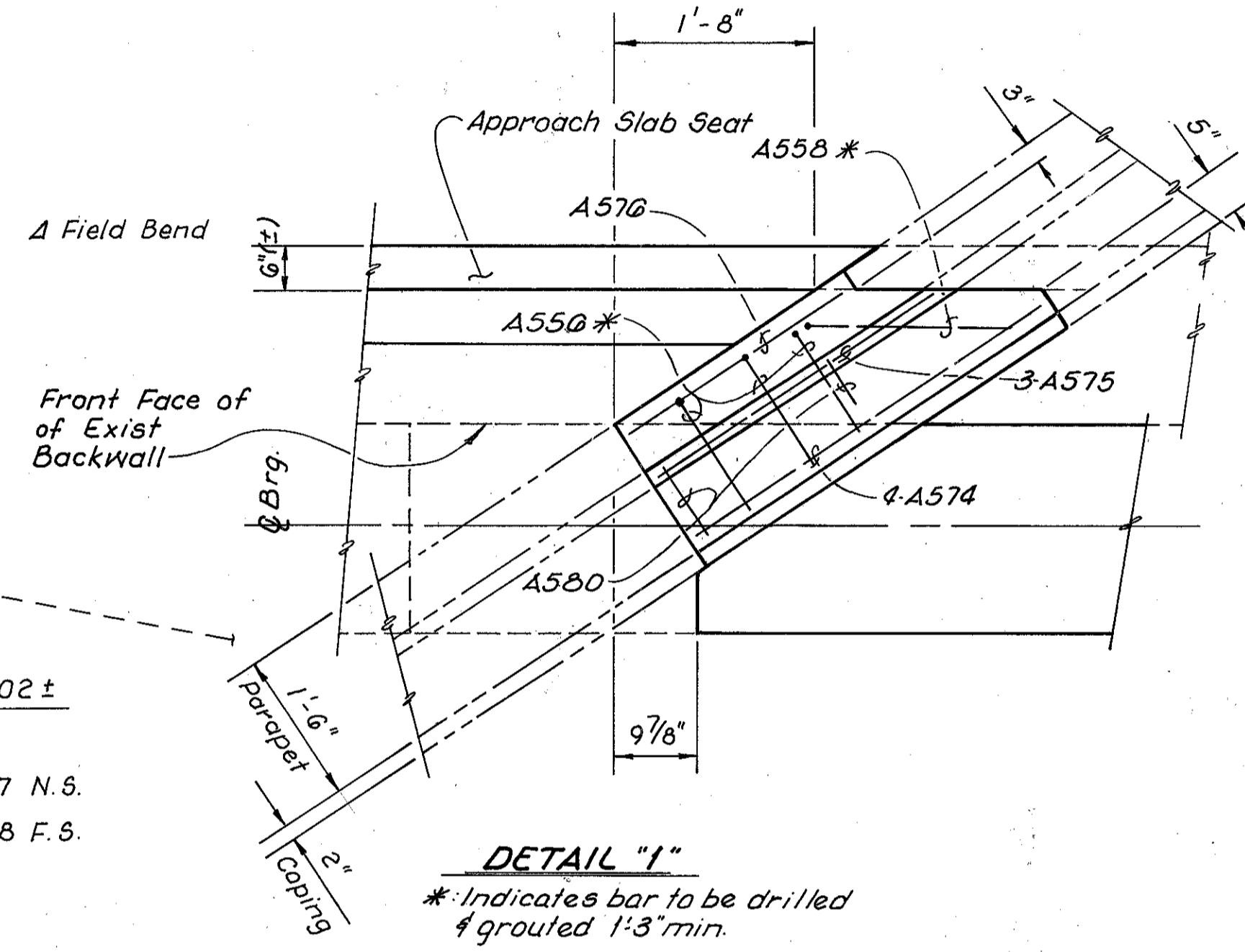
FRANKLIN COUNTY
FRA-315-0030R



PLAN



ELEVATION



DETAIL "1"

For Section C-C, see Sht. 21/23.
For abbreviations, see Sht. 17/23.

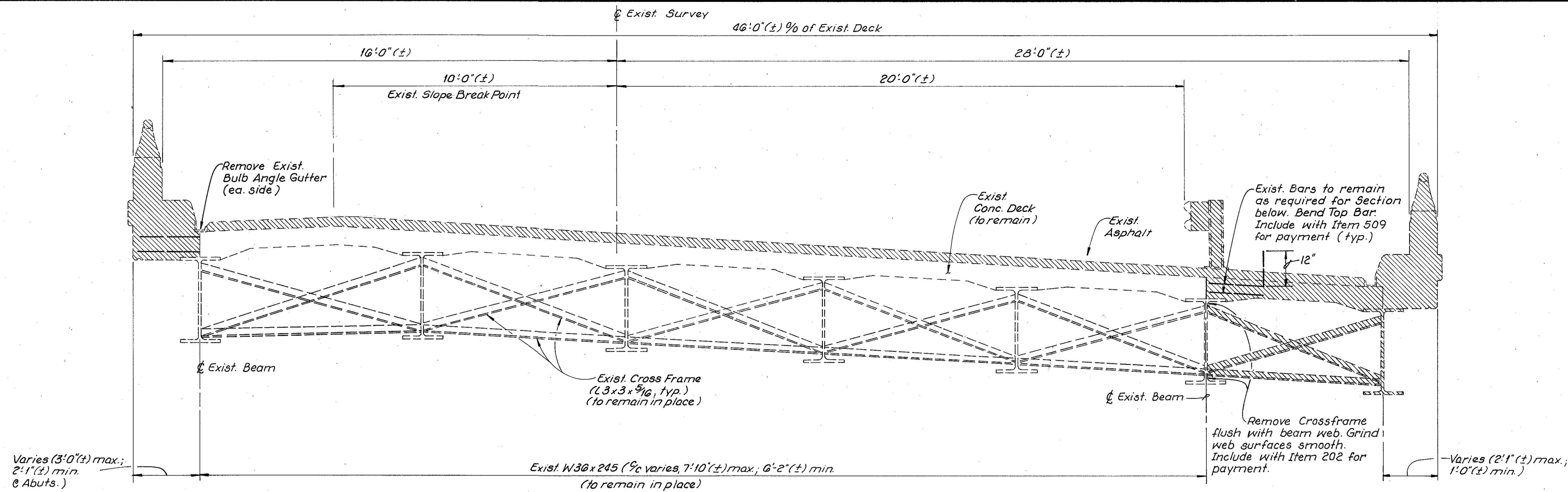
E.P. FERRIS AND ASSOCIATES, INC.
CONSULTING CIVIL ENGINEERS & SURVEYORS
766 NORTHWEST BLVD. COLUMBUS, OHIO 43212

FORWARD ABUTMENT DETAILS
BRIDGE No. FRA-315-0030R

FRANKLIN COUNTY STA. 62+17.41 to STA. 62+93.98

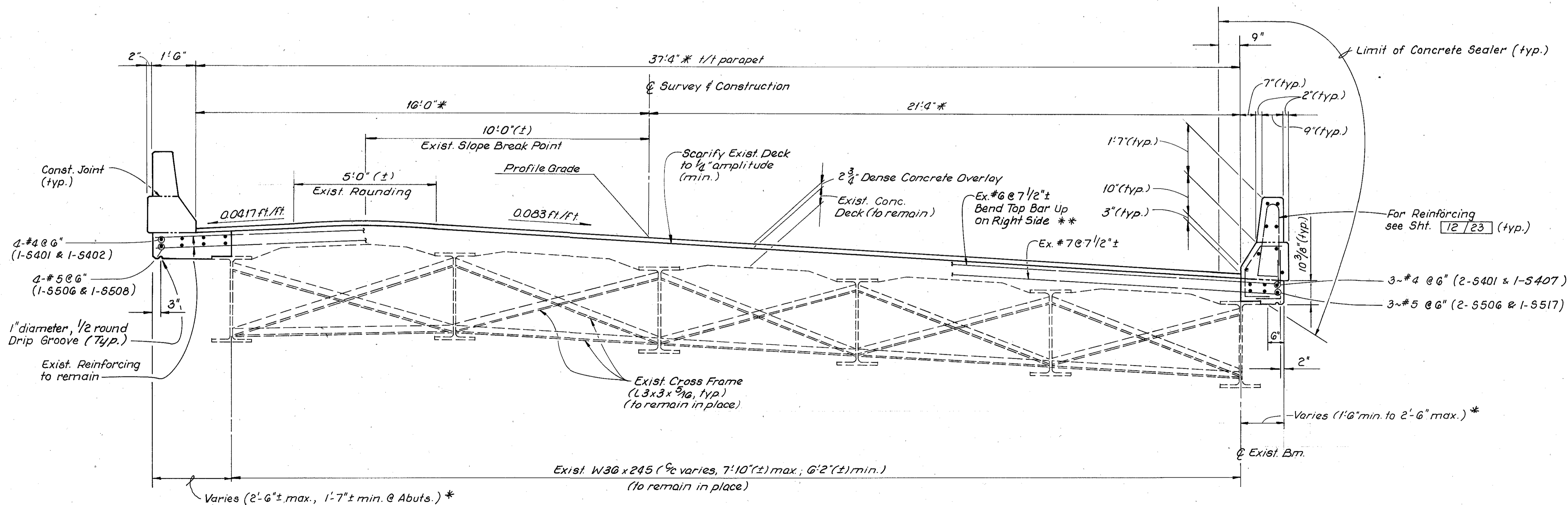
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JWE	MAH IEC		JLW	EPF	11-23-92	

BRUNNEN 25114 FORM # 8849



SECTION THRU EXISTING DECK

Indicates portion of Exist. Structure to be removed.



SECTION THRU PROPOSED DECK

* Indicates dimension measured radially.

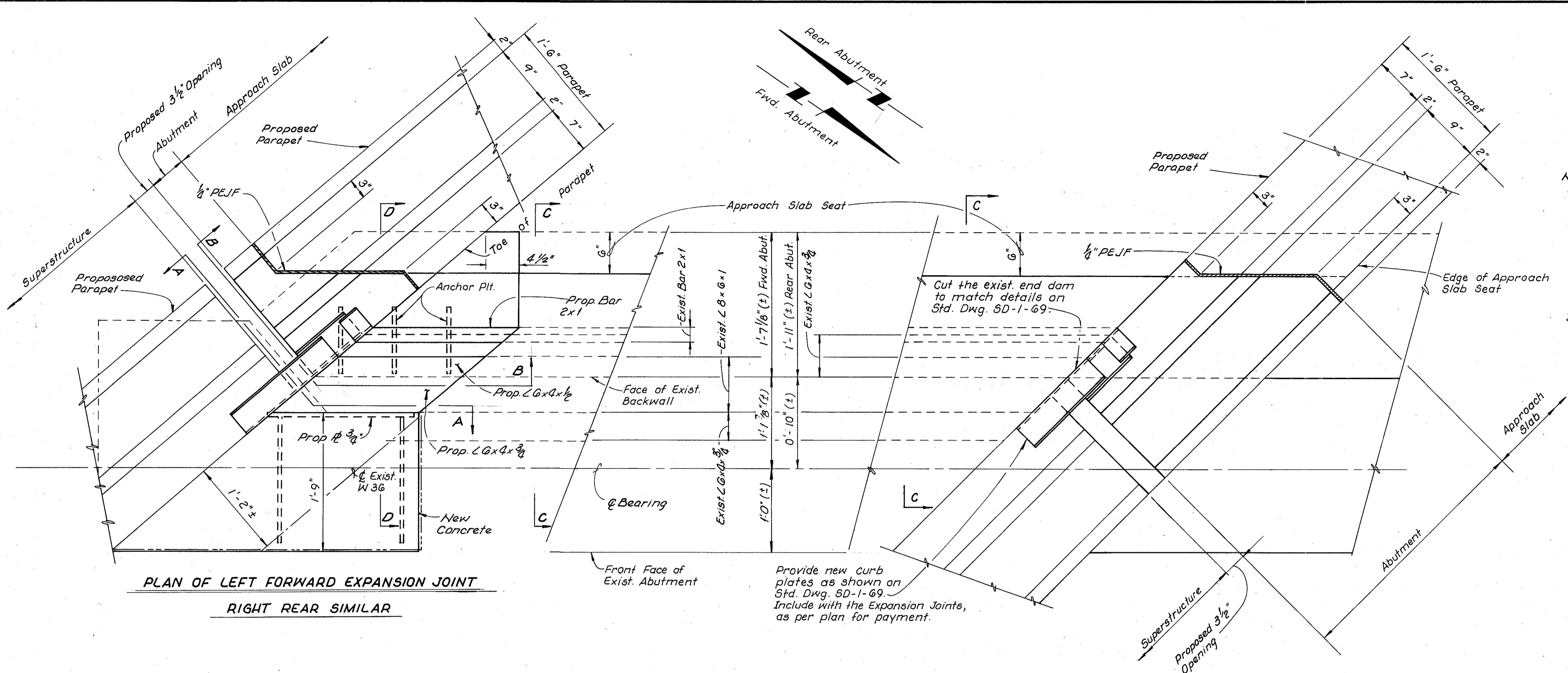
** Include cost with Item 509 for Payment (typ.)

For lap length, see Sheet 14/23

E.P. FERRIS AND ASSOCIATES, INC.
CONSULTING CIVIL ENGINEERS & SURVEYORS
766 NORTHWEST BLVD. COLUMBUS, OHIO 43212

**TRANSVERSE SECTION
BRIDGE No. FRA-315-0030R**

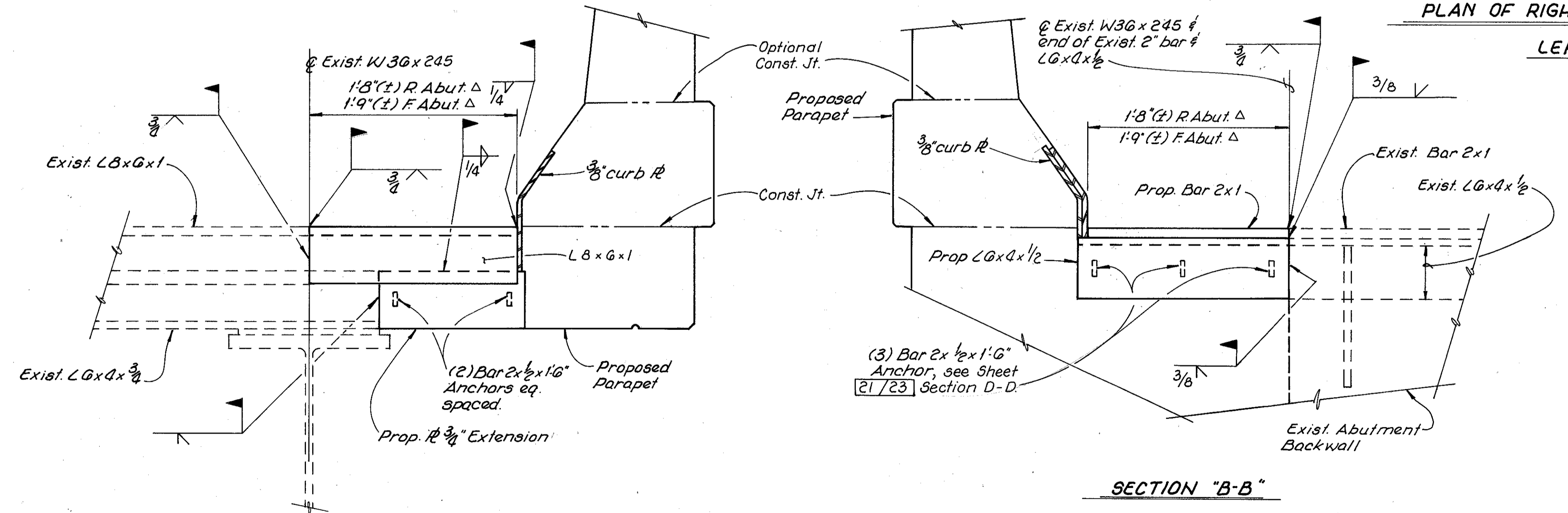
FRANKLIN COUNTY		STA. 62+17.41 to STA. 62+93.98	
DESIGNED	DRAWN	TRACED	CHECKED
JWE	MAH/EC		FA
			EPF
			11-23-94



- NOTES:**
1. Verify condition of existing end dams prior to fabricating end dam extensions. Removal of and subsequent replacement of additional existing end dams shall be approved by the Engineer. Cost of this additional work shall be included with Item 516. Structural Steel Expansion Joint, as per plan for payment.
 2. For details not shown, see Std. Dwg. SD-1-69.
 3. For Section "C-C" and "D-D" see Sheet [21/23].

PLAN OF LEFT FORWARD EXPANSION JOINT
 RIGHT REAR SIMILAR

PLAN OF RIGHT FORWARD EXPANSION JOINT
 LEFT REAR SIMILAR



SECTION "A-A"

SECTION "B-B"

Δ - See Note 1. above

E. P. FERRIS AND ASSOCIATES, INC.
 CONSULTING CIVIL ENGINEERS & SURVEYORS
 766 NORTHWEST BLVD. COLUMBUS, OHIO 43212

20 / 23

EXPANSION JOINT DETAILS
 BRIDGE No. FRA-315-0030R

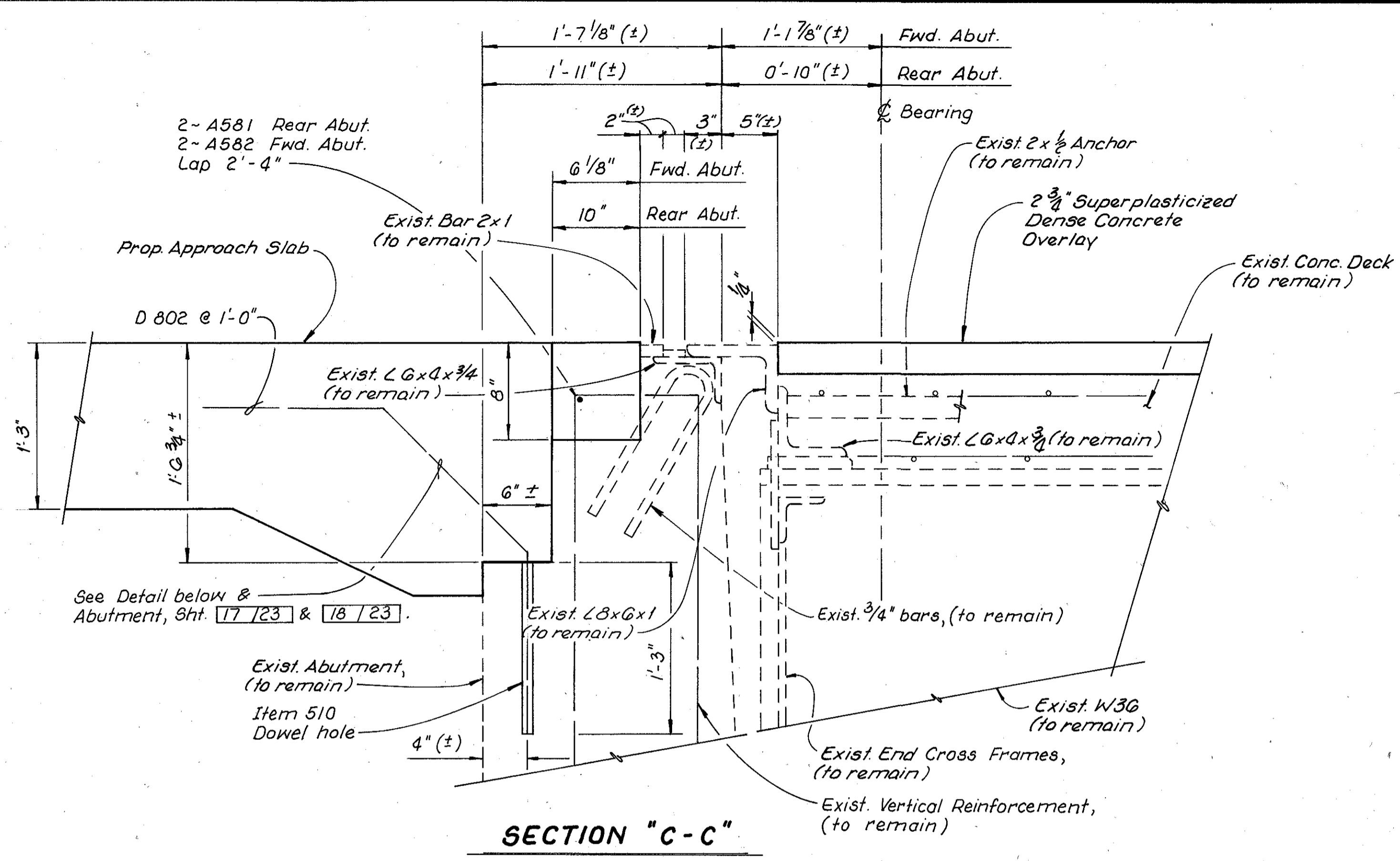
FRANKLIN COUNTY STA. G2+17.41 to
 STA. G2+93.93

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JWE	AAH		JLW	EDF	11-23-94	

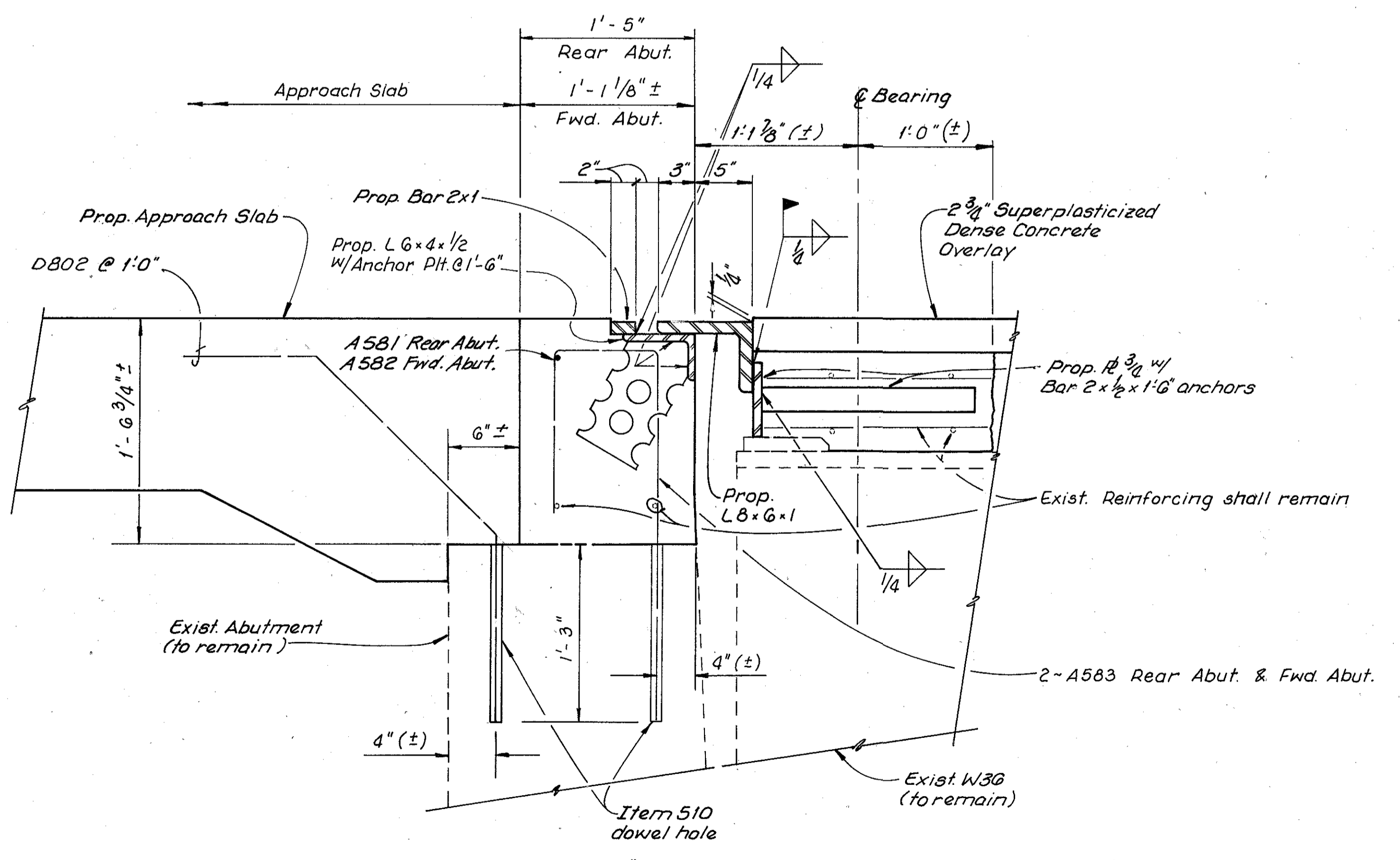
FHWA REGION	STATE	PROJECT
5	OHIO	

42
44

FRANKLIN COUNTY
FRA - 70 - 1312
FRA - 315 - 0030R



SECTION "C-C"



SECTION "D-D"

NOTE: See Std. Dwg. 3D-1-09 for details not shown.

E.P. FERRIS AND ASSOCIATES, INC. CONSULTING CIVIL ENGINEERS & SURVEYORS 766 NORTHWEST BLVD. COLUMBUS, OHIO 43212					
EXPANSION JOINT DETAILS BRIDGE No. FRA-315-0030R					21/23
FRANKLIN COUNTY STA. 02+17.41 to STA. 02+93.98					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
JWE	MAH		JLW	EPF	11-23-94

DRAWING 2149 FROM 6889

REINFORCING

STEEL

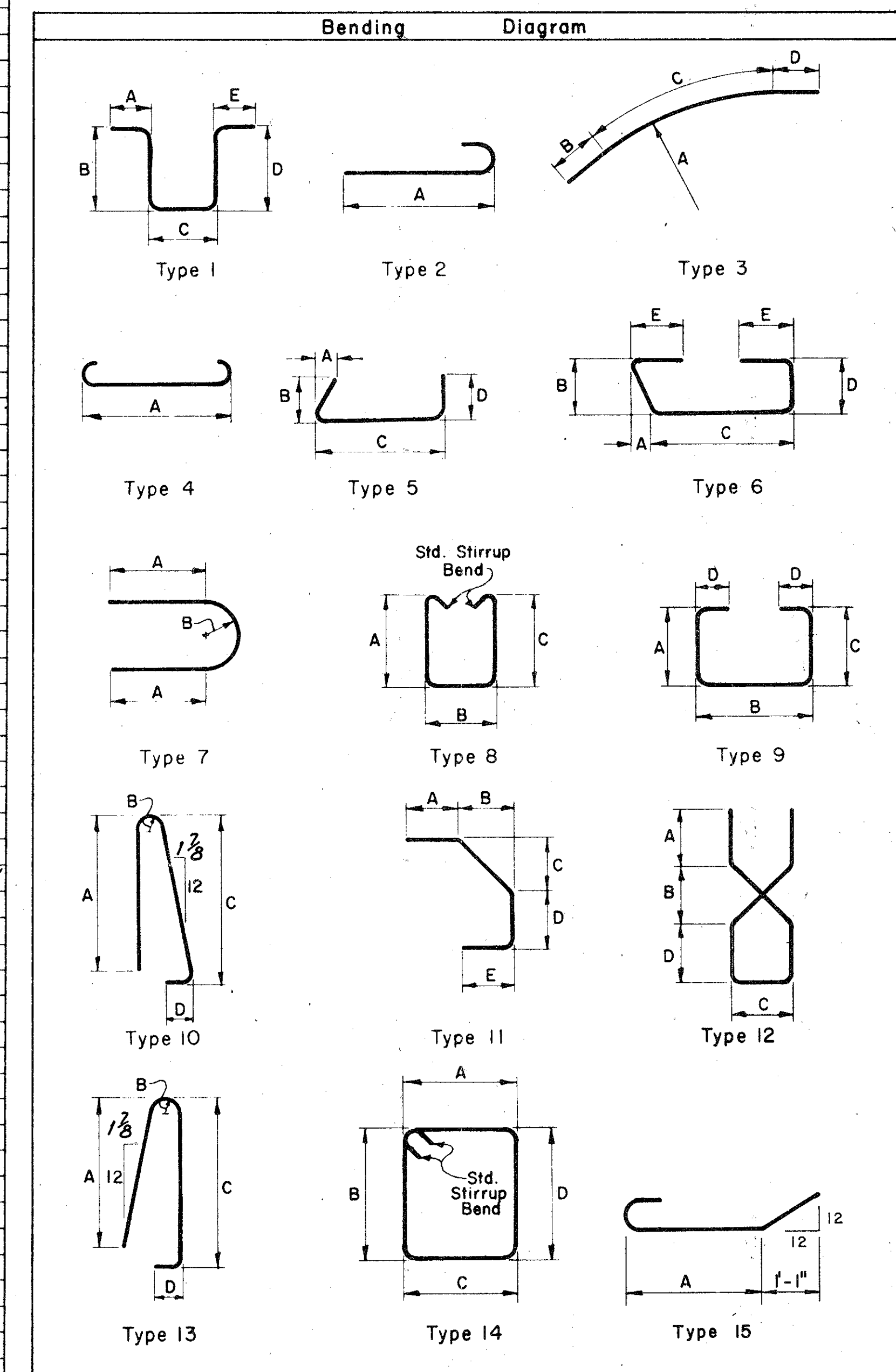
LIST

FRANKLIN COUNTY
 FRA-70-1312
 FRA-315-0030R

Mark	N ^o	Length	Weight	Shp	Inc	R.A.	F.A.	Type	"A"	"B"	"C"	"D"	"E"
ABUTMENTS (BRIDGE NO. FRA-70-1312)													
A501	29	40'-0"	1210	st.		20	9						
A502	4	7'-9"	32	st.			4						
A503	3	14'-0"	44	st.		3							
A504	1	14'-0"	15	bt.		1			11	3'-2"	10'-9"	1'-6"	
A505	2	4'-10"											
A505	Sr.of	to	72	st.	4 3/8"	12							
A506	9	26'-9"	251	st.			9						
A507	2	24'-0"	50	st.									
A508	12	4'-3"	53	bt.		6	6		1	8 1/2"	3'-8"		
A509	12	4'-1"	51	bt.		6	6		11	10"	1'-3"	8"	1'-5"
A510	12	2'-11"	37	bt.		6	6		2	2'-4"			
A511	16	1'-7"	26	st.			16						
A512	12	2'-4"	29	st.			12						
A513	2	7'-10"	16	st.			2						
A514	2	6'-0"	13	st.			2						
A515	4	10'-3"	43	st.			3						
A516	3	6'-0"	20	st.			3						
A517	134	5'-7"	780	bt.		72	62		1		2'-6"	10"	2'-6"
A518	2	6'-8"	10	st.			2						
A519	1	9'-6"	11	bt.			1		11		2'-0"	7'-6"	1'-7"
A520	2	4'-10"											
A520	Sr.of	to	71	st.	4"	12							
A521	16	1'-4"	22	st.			16						
A522	5	8'-5"	44	bt.		8			5	2'-2"	2'-9"	2'-2"	3'-0"
A523	8	4'-6"	38	st.			8						
A524	6	4'-10"	30	st.			6						
A525	1	11'-0"	12	bt.			1		11	3'-2"	7'-9"	1'-8"	
A526	3	11'-0"	34	st.			3						
A527	3	6'-10"	21	bt.			3		14	1'-8"	1'-8"	1'-8"	1'-8"
A528	4	4'-5"	18	st.			4						
D801	135	4'-8"	1,683	bt.		72	63		15	2'-4"			
Total = 4,740													
ABUTMENTS (BRIDGE NO. FRA-315-0030R)													
A550	10	2'-6"	26	st.									
A551	2	7'-0"	15	st.			2						
A552	2	4'-6"	9	st.			2						
A553	2	4'-9"											
A553	Sr.of	to	48	st.	7 3/8"	8							
A554	1	6'-8"					1						
A555	1	6'-8"					1						
A556	8	4'-4"	30	bt.		4	4		11	9"	6"	8 1/2"	2'-9"
A557	2	4'-10"	10	st.			1	1					
A558	4	4'-1"	17	bt.			1	3		11	6"	8"	8 1/2"
A559	8	1'-3"	10	st.			4	4					
A560	4	3'-0"	13	bt.			2	2		2	2'-5"		
A561	1	1'-4"					1						
A562	3	2'-3"	7	st.			3						
A563	4	2'-6"	10	st.			4						
A564	6	0'-10"	5	st.			3	3					
A565	2	4'-9"											
A565	Sr.of	to	72	st.	4 3/4"	12							
A566	6	6'-9"					6						
A567	3	10'-8"	33	st.			3						

Mark	N ^o	Length	Weight	Shp	Inc	R.A.	F.A.	Type	"A"	"B"	"C"	"D"	"E"
ABUTMENTS (CONT.) (BRIDGE FRA-315-0030R, cont.)													
A568	3	11'-8"	33	st.			3						
A569	2	8'-0"	18	st.			2						
A570	6	2'-6"	16	st.			5						
A571	4	4'-0"	17	st.			4						
A572	6	8'-0"	50	st.			G						
A573	2	7'-8"	16	bt.			2		11	2'-3"	5'-3"	1'-8"	
A574	4	3'-9"	16	st.			4						
A575	3	3'-0"	9	st.			3						
A576	1	2'-1"	2	st.			1						
A577	11	2'-11"	33	bt.			8		2	2'-4"			
A578	8	8'-0"	67	st.			8						
A579	2	8'-3"	17	st.			2		10	2'-2"	2'-8"	2'-5"	7 1/2"
A580	2	5'-3"	11	bt.			2						
D802	126	5'-3"	1,766	bt.		57	69		11	2'-2"	1'-3"	1'-3"	1'-4"
A581	2	30'-0"	63	st.			2						
A582	2	35'-0"	73	st.			2						
A583	4	4'-2"	17	bt.			2	2		1	2'-6"	9"	1'-2"
Total = 2,576													
SUPERSTRUCTURE (BRIDGE NO. FRA-70-1312)													
S401	64	40'-0"	1710	st.									
S402	16	33'-8"	359	st.									
S403	11	35'-0"	257	st.									
S404	11	36'-5"	267	st.									
S405	11	38'-0"	279	st.									
S406	15	39'-4"	394	st.									
S501	40	40'-0"	1669	st.									
S502	Sr.of	to	2104	st.	5'(-)								
S503	Sr.of	to	1780	st.	5(+)								
S504	Sr.of	to	29	st.	3(+)								
S505	10	4'-2"	43	st.									
S506	81	40'-0"	3379	st.									
S507	8	34'-3"	286	st.									
S508	8	35'-7"	297	st.									
S509	8	37'-0"	309	st.									
S510	8	38'-6"	321	st.									
S511	13	38'-6"	441	st.									
S513	107	3'-5"	381	bt.					11	9"	6"	8 1/2"	1'-2"
S514	107	5'-3"	586	bt.					10	2'-2"	2'-8"	2'-5"	7 1/2"
S515	107	2'-7"	288	bt.					1	10 1/2"	1'-10"		
S516	4	3'-10"	16	bt.					11	10"	1'-1"	8"	1'-3"
S517	4	2'-11"	12	st.									

Mark	N ^o	Length	Weight	Shp	Inc	Type	"A"	"B"	"C"	"D"	"E"			
SUPERSTRUCTURE (CONT.) (BRIDGE FRA-70-1312, cont.)														
S601	40	40'-0"	2403	st.										
S602	Sr.of	to	3030	st.	5'(-)									
S603	Sr.of	to	2572	st.	5(+)									
S604	Sr.of	to	41	st.	3(+)									
S605	10	4'-2"	62	st.										
Total: 23,321*														
SUPERSTRUCTURE (BRIDGE NO. FRA-315-0030R)														
S506	49	40'-0"	2044	st.										
S512	15	34'-9"	544	st.										
S513	105	3'-6"	384	bt.					11	9"	6"	8 1/2"	1'-3"	10 1/2"
S514	105	5'-3"	575	bt.					10	2'-2"	2'-8"	2'-5"	7 1/2"	
S515	105	2'-7"	283	bt.					1	10 1/2"	1'-10"			
S508	4	35'-7"	148	st.										
S517	3	5'-0"	16	st.										
S401	10	40'-0"	267	st.										
S402	4	33'-8"	90	st.										
S407	3	3'-6"	7	st.										
Total = 4,358														



E. P. FERRIS AND ASSOCIATES, INC.
 CONSULTING CIVIL ENGINEERS & SURVEYORS
 766 NORTHWEST BLVD. COLUMBUS, OHIO 43212

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REINFORCING BAR LIST
 BRIDGE NO. FRA-70-1312
 BRIDGE NO. FRA-315-0030R

FRANKLIN COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
MAH	MAH		JWE	EPF	11-23-94	

REINFORCING

STEEL

LIST

FHWA REGION	STATE	PROJECT
5	OHIO	

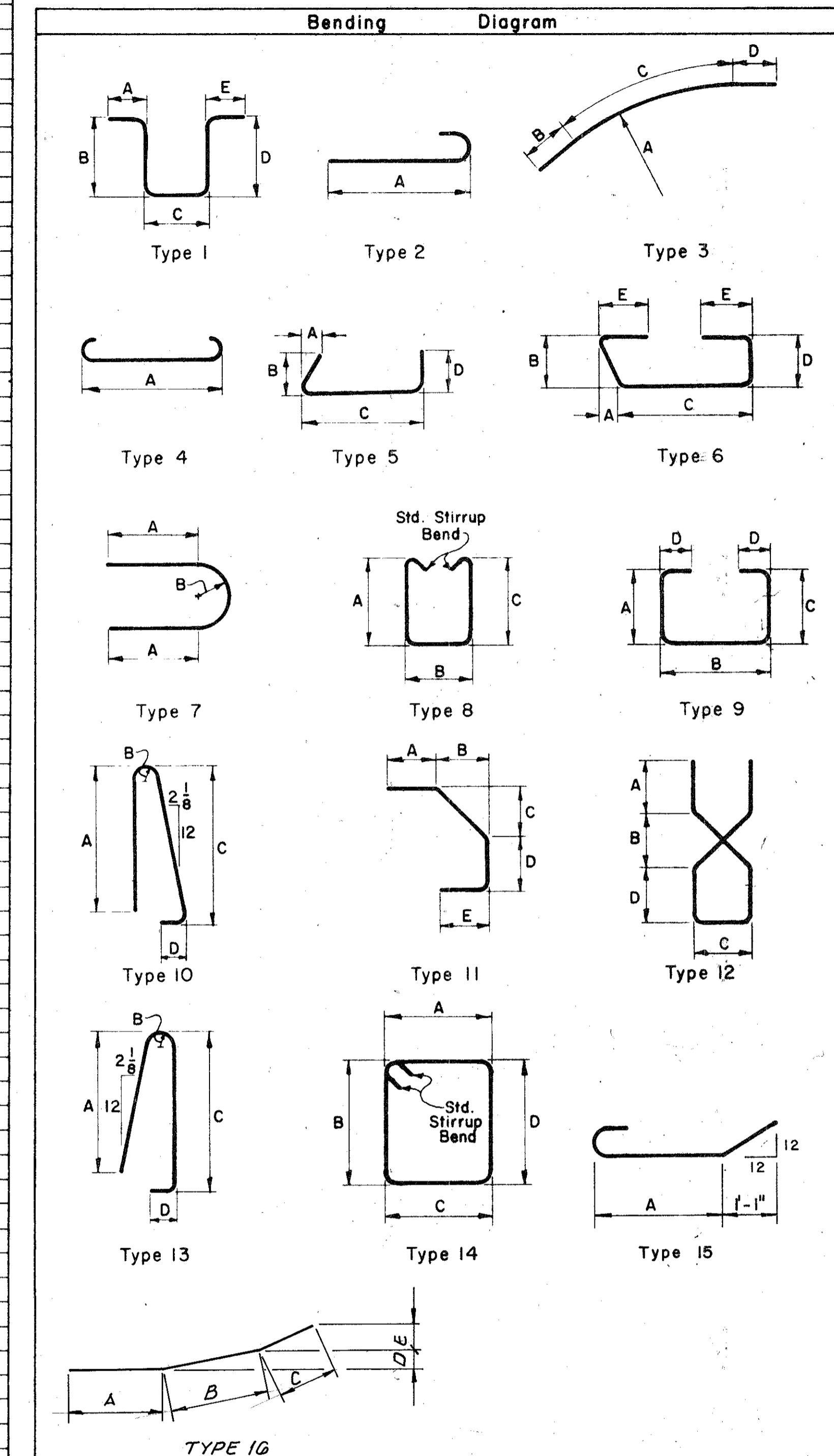
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FRANKLIN COUNTY
FRA-70-1312
FRA-315-0030R

Mark	N ^o	Length	Weight	Shp.	Type	"A"	"B"	"C"	"D"	"E"
<i>BRIDGE NO. FRA-70-1312 APPROACH SLAB PARAPET REINF.</i>										
A5501	32	3'-6"	117	bt	11	9"	6"	8 1/2"	1'-3"	10 1/2"
A5502	52	4'-3"	231	bt	1	10 1/2"	3'-6"			
A5503	30	3'-0"	113	bt	2	2'-5"				
A5504	8	13'-8"	110	bt	10	9'-11"	2'-4"	1'-5"	1 1/2"	5"
A5505	10	13'-8"	103	st						
A5506	4	10'-2"	59	st						
A5507	10	15'-0"	150	st						
A5508	4	4'-0"	17	bt	11	11"	1'-1"	8 1/2"	1'-3"	8 1/2"
Total:		950'								

Mark	N ^o	Length	Weight	Shp.	Type	"A"	"B"	"C"	"D"	"E"
<i>BRIDGE NO. FRA-315-0030R APPROACH SLAB PARAPET REINF.</i>										
A5501	42	3'-6"	153	bt	11	9"	6"	8 1/2"	1'-3"	10 1/2"
A5502	59	4'-3"	262	bt	1	10 1/2"	3'-6"			
A5503	40	3'-0"	104	bt	2	2'-5"				
A5504	6	13'-8"	80	bt	10	9'-11"	2'-4"	1'-5"	1 1/2"	5"
A5505	10	13'-8"	103	st						
A5506	3	10'-2"	44	st						
A5507	6	15'-0"	94	st						
A5508	4	4'-0"	17	bt	11	11"	1'-1"	8 1/2"	1'-3"	8 1/2"
A5509	4	25'-8"	107	st						
A5510	2	26'-5"	55	st						
A5511	1	26'-8"	28	st						
A5512	1	27'-0"	28	st						
Total:		1,161'								

NOTE: Bar sizes & quantities shown above are for informational purposes only.



23/23

REINFORCING BAR LIST
BRIDGE NO. FRA-70-1312 &
BRIDGE NO. FRA-315-0030R

FRANKLIN COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
MAH	MAH		JWE	EPF	11-23-94	

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