

**TRAFFIC CONTROL NOTES**

ALL ADVANCED WARNING SIGNS, TYPE III BARRICADES, AND OTHER TRAFFIC CONTROL DEVICES FOR THIS PROJECT SHALL BE LOCATED AT THE BEGINNING AND END OF THE PROJECT, AND WHERE THE ROAD FOR CONSTRUCTION INTERSECTS OTHER PUBLIC ROADS AND SHALL INCLUDE ALL OTHER BARRICADES AND WARNING SIGNS NECESSARY TO PROTECT THE CONTRACTOR'S WORK AND EQUIPMENT, FOR PROVIDING FOR THE SAFETY OF THE TRAVELING PUBLIC.

THE LUMP SUM BID PRICE FOR TRAFFIC CONTROL SHALL INCLUDE THE FURNISHING, PLACING, MAINTENANCE AND REMOVAL BY THE CONTRACTOR.

This road will be closed to through traffic during construction. Local traffic to adjacent properties will be maintained as provided for in Article 1107.08 of the current Standard Specifications. Traffic control devices, procedures, and layouts shall be as per part VI of the Manual of Uniform Traffic Control Devices (MUTCD) Revision 3, dated September 3, 1993.

1. TRAFFIC CONTROL FOR WORK ENCHROACHING ON THE TRAVELED WAY SHALL BE IN ACCORDANCE WITH DESIGN DETAIL, RS-2 STANDARD.
2. THE LOCATION FOR OVERNIGHT STORAGE OF EQUIPMENT BY THE CONTRACTOR SHALL BE APPROVED BY THE ENGINEER IN CHARGE OF CONSTRUCTION.
3. PROPOSED CHANGES IN THE TRAFFIC CONTROL PLAN SHALL BE REVIEWED WITH THE COUNTY ENGINEER BEFORE CHANGES ARE MADE.

**IOWA DEPARTMENT OF TRANSPORTATION**  
PROJECT DEVELOPMENT DIVISION

PLANS OF PROPOSED IMPROVEMENT ON THE  
**URBAN ROAD SYSTEM**  
**CRAWFORD COUNTY**  
PROJECT NO. SBRC-AS24(38)--8D-24  
BRIDGE AND APPROACH GRADING

The Standard Specifications, Series of 1997, of the Iowa Department of Transportation Shall Apply to Construction Work on this Project  
Plus Current Special Provisions and Supplemental Specifications

ESTIMATED PROJECT QUANTITIES

No.	ITEM CODE	ITEM	UNITS	2 ABUTS	2 PIERS	SUPERST.	TOTAL
1	2102-2710070	EXCAVATION, CLASS 10, ROADWAY & BORROW	CY	---	---	---	14,655
2	2104-2710020	EXCAVATION, CLASS 10, CHANNEL	CY	---	---	---	466
3	2312-8260201	GRANULAR SURFACING ON ROAD, CLASS C GRAVEL	TON	---	---	---	384
4	2401-6745650	REMOVAL OF EXISTING STRUCTURES	LS	---	---	---	1
5	2402-2720000	EXCAVATION, CLASS 20	CY	4	---	---	4
6	2403-0900000	STRUCTURAL CONCRETE	CY	30.8	27.6	175.4	233.8
7	2404-7775000	REINFORCING STEEL	LB	---	3060	2035	5095
8	2404-7775005	REINFORCING STEEL, EPOXY COATED	LB	---	---	53020	53,020
9	2407-0580146	BEAMS PRESTENSIONED PRESTRESSED CONCRETE, LX A46	EACH	---	---	10	10
10	2407-0580155	BEAMS PRESTENSIONED PRESTRESSED CONCRETE, LX A55	EACH	---	---	5	5
11	2408-7800000	STRUCTURAL STEEL	LB	---	---	3369	3369
12	2414-6424120	CONCRETE OPEN RAIL	LF	---	---	337.6	337.6
13	2416-0100072	APRONS, CONCRETE, 72 IN. DIA.	EACH	---	---	---	2
14	2417-1040018	GULVERT, CORR. METAL ENTRANCE PIPE, 18 IN. DIA.	LF	---	---	---	48
15	2501-5425042	PILING, DRIVE STEEL BEARING, HP10X42	LF	720	---	---	720
16	2501-5425053	PILING, DRIVE STEEL BEARING, HP12X53	LF	---	1050	---	1050
17	2501-5475053	CONCRETE ENCASMENT OF STEEL BEARING PILING, HP12X53	LF	---	336	---	336
18	2501-5550042	PILING, FURNISH STEEL BEARING, HP10X42	LF	720	---	---	720
19	2501-5550053	PILING, FURNISH STEEL BEARING, HP12X53	LF	---	1050	---	1050
20	2501-6335010	PREBORED HOLES	LF	96	---	---	96
21	2507-3250005	ENGINEERING FABRIC	SY	---	---	---	1201
22	2507-6800060	REVESTMENT, CLASS E, RIP RAP	TON	---	---	---	881
23	2518-6910000	SAFETY CLOSURE	EACH	---	---	---	2
24	2528-8445110	TRAFFIC CONTROL	LS	---	---	---	1
25	2533-4980005	MOBILIZATION	LS	---	---	---	1

ITEM NOTES

1. TYPE "A" COMPACTION REQUIRED, INCLUDES 918 CU. YDS. FOR EAST ABUT. BERM CONSTRUCTION. CONTRACTOR WILL BE REQUIRED TO STRIP, SALVAGE, AND RESPREAD 8" OF TOPSOIL IN THE BORROW AREA. PAYMENT FOR THIS TOPSOIL SHALL BE CONSIDERED INCIDENTAL TO ITEM NO. 1, EXCAVATION CLASS 10, ROADWAY & BORROW. CONTRACTOR TO FURNISH & PLACE 8,763 CU. YDS. OF BORROW, SEE SHEET 2.
3. GRANULAR SURFACING SHALL MEET THE REQUIREMENT OF CLASS "C" GRAVEL IN ACCORDANCE WITH SECTION 4120, GRADATION NUMBER 10, AND SHALL INCLUDE THE COST OF SPREADING OF GRANULAR SURFACING ON THE ROAD SURFACE.
4. SEE SHEETS 2 & 3 FOR DESCRIPTION AND DISPOSAL. (2 ITEMS)
6. ALL STRUCTURAL CONCRETE IS TO BE CLASS "C"
22. 296 TONS WEST SIDE OF BRIDGE AND 585 TONS EAST SIDE OF BRIDGE.

STA. 26+57.0 @ 151'-4" X 30'-0" Prestensioned  
Prestressed Concrete Beam Bridge Bridge, 30°LT.  
Ahead Skew, DESIGN NO. 5196



LOCATION MAP

"THIS PROJECT IS COVERED BY THE CORPS OF ENGINEERS NATIONWIDE 404 PERMIT NO. 267940  
D.N.R. FLOOD PLAIN PERMIT NO. FP 93-12



1992  
1988 AADT 70 V.P.D.

**INDEX OF SHEETS**

No.	Description
1	TITLE SHEET, ESTIMATE OF QUANTITIES, LOCATION MAP, MILEAGE SUMMARY
2	PLAN & PROFILE SHEET, TYPICAL CROSS SECTION
3	SITUATION PLAN & SOUNDINGS DATA
4	TOP OF SLAB ELEVATIONS, MISC. DETAILS
5	520-27 TRAFFIC CONTROL LAYOUT FOR TEMPORARY ROAD CLOSURES AT BRIDGES AND AT SPOT LOCATIONS (RURAL AREAS)

**MILEAGE SUMMARY**

Div.	Location	Lin. Ft.	Miles
	STA. 21+50 TO STA. 35+00	1350.00	0.256
	STA. 26+57.0 @ BRIDGE DEDUCT	-154.08	-0.029
	TOTAL	1195.92	0.227

**ROAD STANDARD PLANS**

The following Standard Plans shall be considered applicable to construction work on this project.

Identification	Date	Identification	Date	Identification	Date
RF-3	11-10-92				
RF-30A	3-28-95				
RF-31	3-28-95				
RF-32	3-28-95				
RS-2	4-30-96				

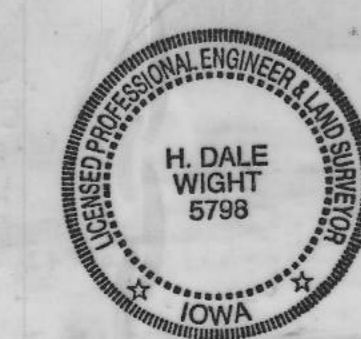
**BRIDGE STANDARDS**  
(May be obtained at Bridge Design Services)

Standard	Date Issued	Latest Revision	Standard	Date Issued	Latest Revision
H30-0-94	JAN., 1994		H30-20-94	JAN., 1994	
H30-1-94	JAN., 1994		H30-22-94	JAN., 1994	
H30-9-94	JAN., 1994		H30-25-94	JAN., 1994	
H30-14-94	JAN., 1994		PIOA	AUGUST 1988	12-14-92
H30-15-94	JAN., 1994				

*Michael J. Gordon*  
*Robert D. Lohmann*  
*G. Dean Hargis*  
*Hugh E. Anderson*  
*John P. Lawler*  
Approved  
Board of Supervisors

Iowa Department of Transportation Highway Division  
District Local Systems Engineer  
DATE

Iowa Department of Transportation  
PROJECT DEVELOPMENT DIVISION  
ACCEPTED FOR LETTING  
SECONDARY ROADS ENGINEER Date

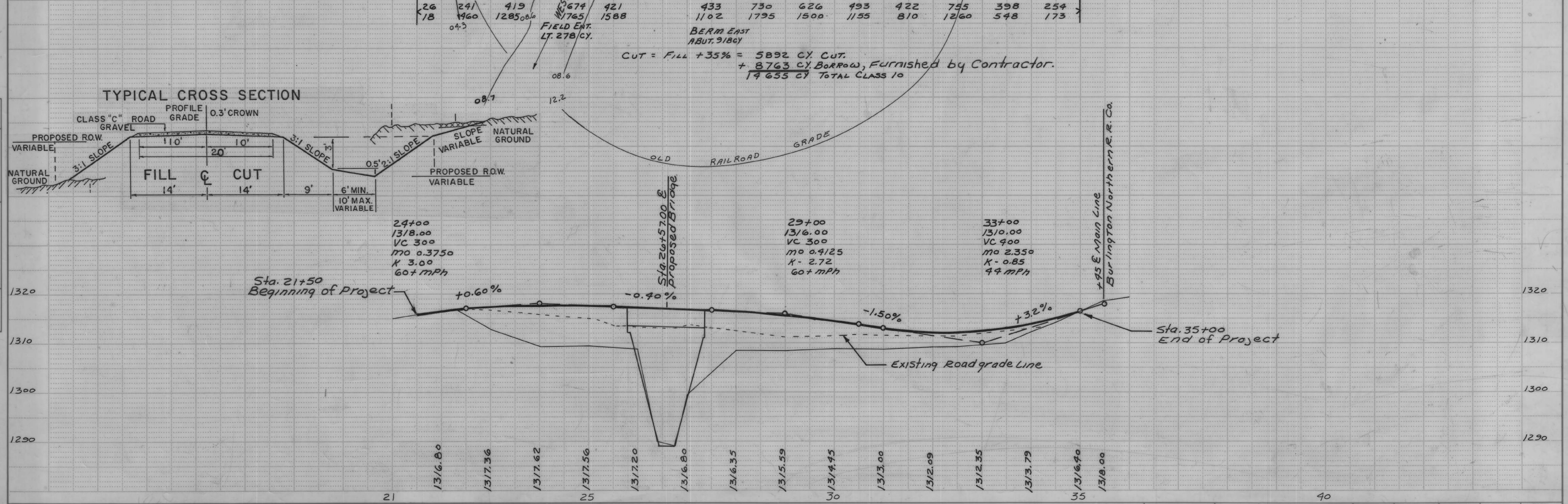
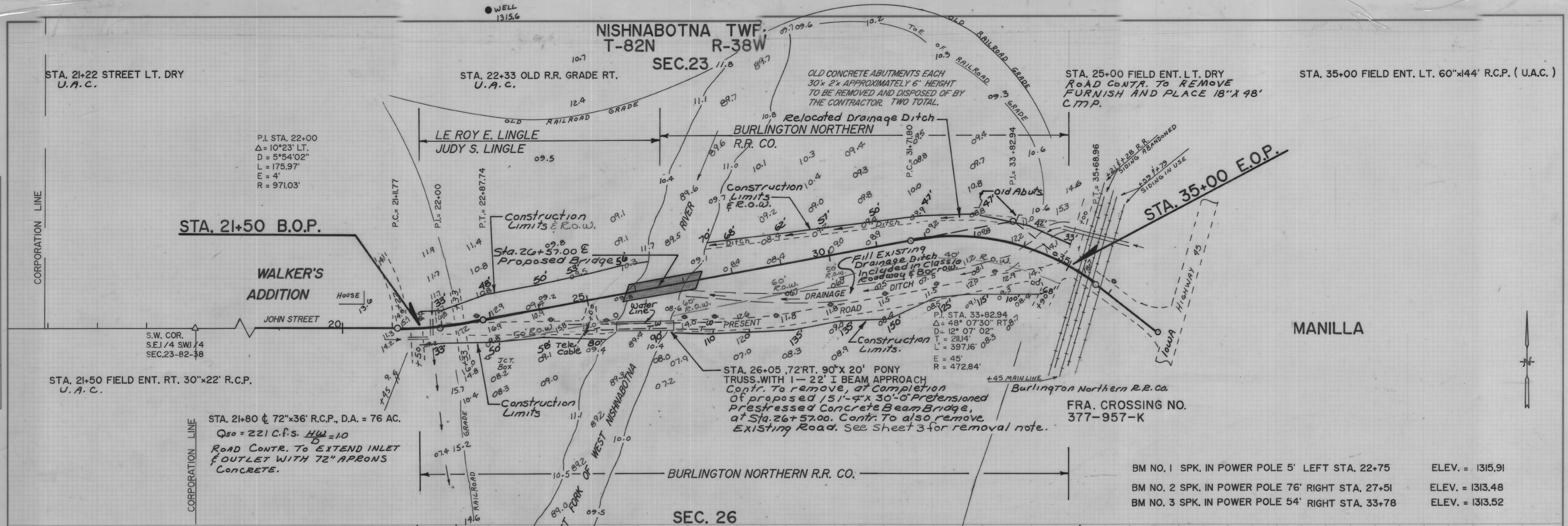


I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.  
H. Dale Wight P.E. & L.S. IA. REG. NO. 5798  
MY LICENSE RENEWAL DATE IS DECEMBER 31, \_\_\_\_\_ DATE  
SHEETS COVERED BY THIS SEAL

PROJECT NO. SBRC-AS24(38)--8D-24  
BRIDGE AND APPROACH GRADING  
CRAWFORD COUNTY  
Letting Date

DATE	
BY	
SURVEYED	
PLOTTED	
ALIGNED	
CHECKED	
NOTE BOOK	
NO.	
PLAN	
NO.	

DATE	
BY	
SURVEYED	
PLOTTED	
ALIGNED	
CHECKED	
NOTE BOOK	
NO.	
PROFILE	
NO.	



26	24	419	421	433	730	626	493	422	755	398	254
18	1960	1285	1765	1102	1795	1500	1155	810	1260	548	173
	04.3										

FIELD ENT. LT. 278 CY.

BERM EAST ABUT. 918 CY

CUT = FILL + 35% = 5892 CY CUT.  
+ 8763 CY BORROW, FURNISHED BY CONTRACTOR.  
14655 CY TOTAL CLASS 10

- BM NO. 1 SPK. IN POWER POLE 5' LEFT STA. 22+75 ELEV. = 1315.91
- BM NO. 2 SPK. IN POWER POLE 76' RIGHT STA. 27+51 ELEV. = 1313.48
- BM NO. 3 SPK. IN POWER POLE 54' RIGHT STA. 33+78 ELEV. = 1313.52

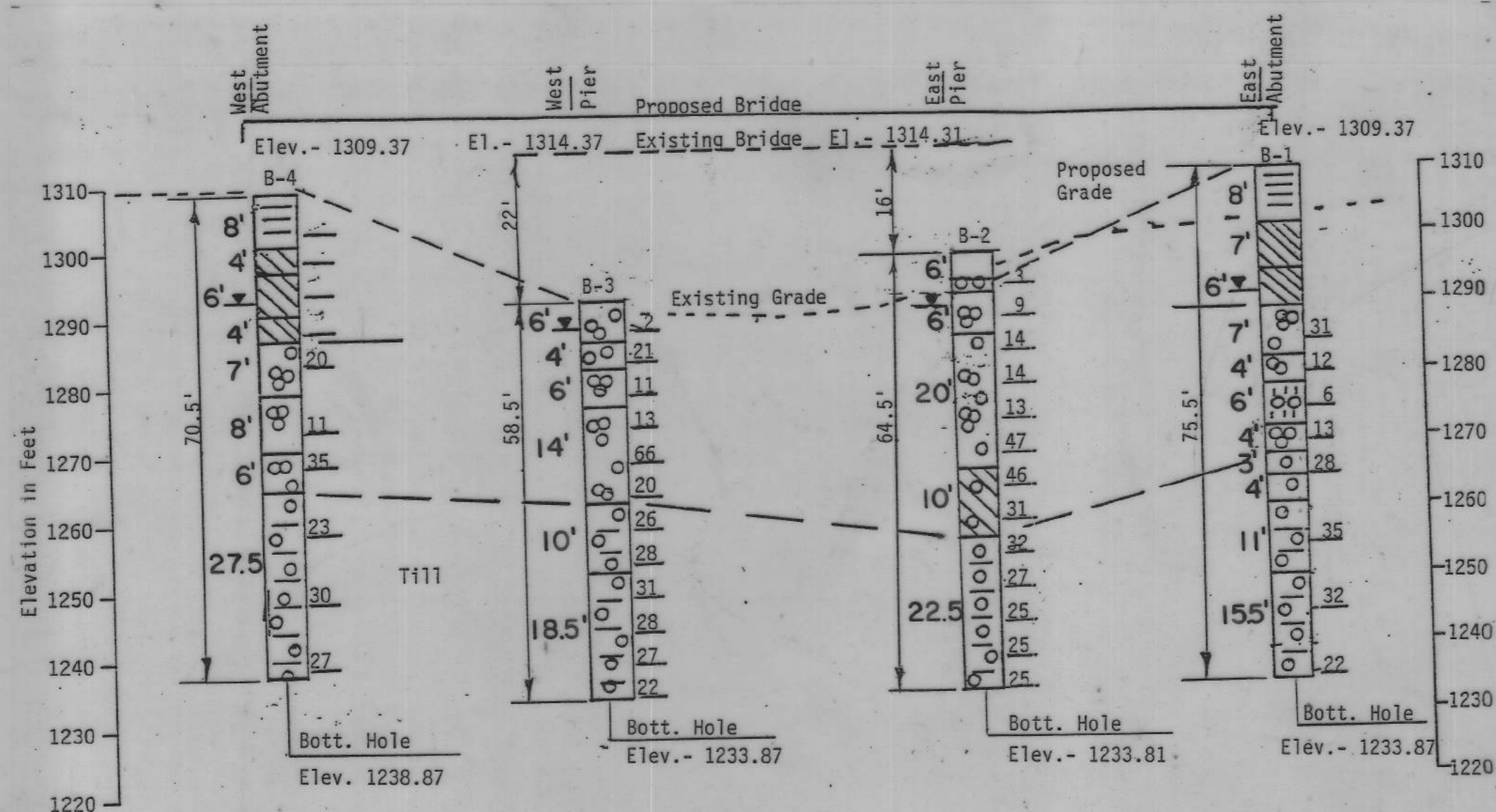
### HYDRAULIC DATA

Drainage Area	61.4 sq. mi.
Design Discharge (Q <sub>50</sub> )	8458 c.f.s.
Design Highwater	1309.6
Reach slope (Local)	5.20 ft./mi.
Basin slope	10.76 ft./mi.
Bridge waterway Area	1425 sq. ft.
Design Velocity	6.83 f.p.s.
Q <sub>50</sub>	8458 c.f.s. Stage - 1309.6
Q <sub>100</sub>	10175 c.f.s. Stage - 1311.1
Over topping	13,600 c.f.s. Stage - 1312.1
Q <sub>500</sub>	15,394 c.f.s. Stage - 1312.6
Extreme High Water	1312.0

#### REMOVAL NOTE:

STA. 26+57, 90'x20' PONY TRUSS WITH 1 - 22' I-BEAM APPROACH. TIMBER AND STEEL PILING, TIMBER BACKWALLS AND FLOOR, CONTRACTOR TO REMOVE. THE PONY TRUSS BRIDGE IS TO BE REMOVED FOR RE-ERECTION & REMAIN THE PROPERTY OF CRAWFORD COUNTY, MATCH MARK AS DIRECTED BY COUNTY ENGINEER. THE PLANKS AND APPROACH I-BEAMS ARE TO BE SALVAGED AND REMAIN THE PROPERTY OF CRAWFORD COUNTY. THE REMAINDER OF THE BRIDGE TO BE JUNKED, AND BECOME THE PROPERTY OF THE CONTRACTOR. THE SALVAGED MATERIAL SHALL BE STOCKPILED NEATLY WITHIN 300' OF THE SITE AND LOADED BY THE CONTRACTOR ON COUNTY TRUCKS AT THE COUNTY'S CONVENIENCE, AS DIRECTED BY THE COUNTY ENGINEER. PLANKS SHALL BE REMOVED IN A CAREFUL WORKMANSHIP LIKE MANNER, WITH THE SPIKES REMOVED FROM THE PLANKS BEFORE STACKING.

### SOUNDING DATA



- Fat Clay, USC: CH
  - Lean Clay, USC: CL
  - Sand and Gravel, USC: SP-SM to SW-SM
  - Till, USC: CL
  - Groundwater
- Sounding Data  
Scale: 1" = 20'  
Dated: 1-14, 15-93

### GENERAL NOTES

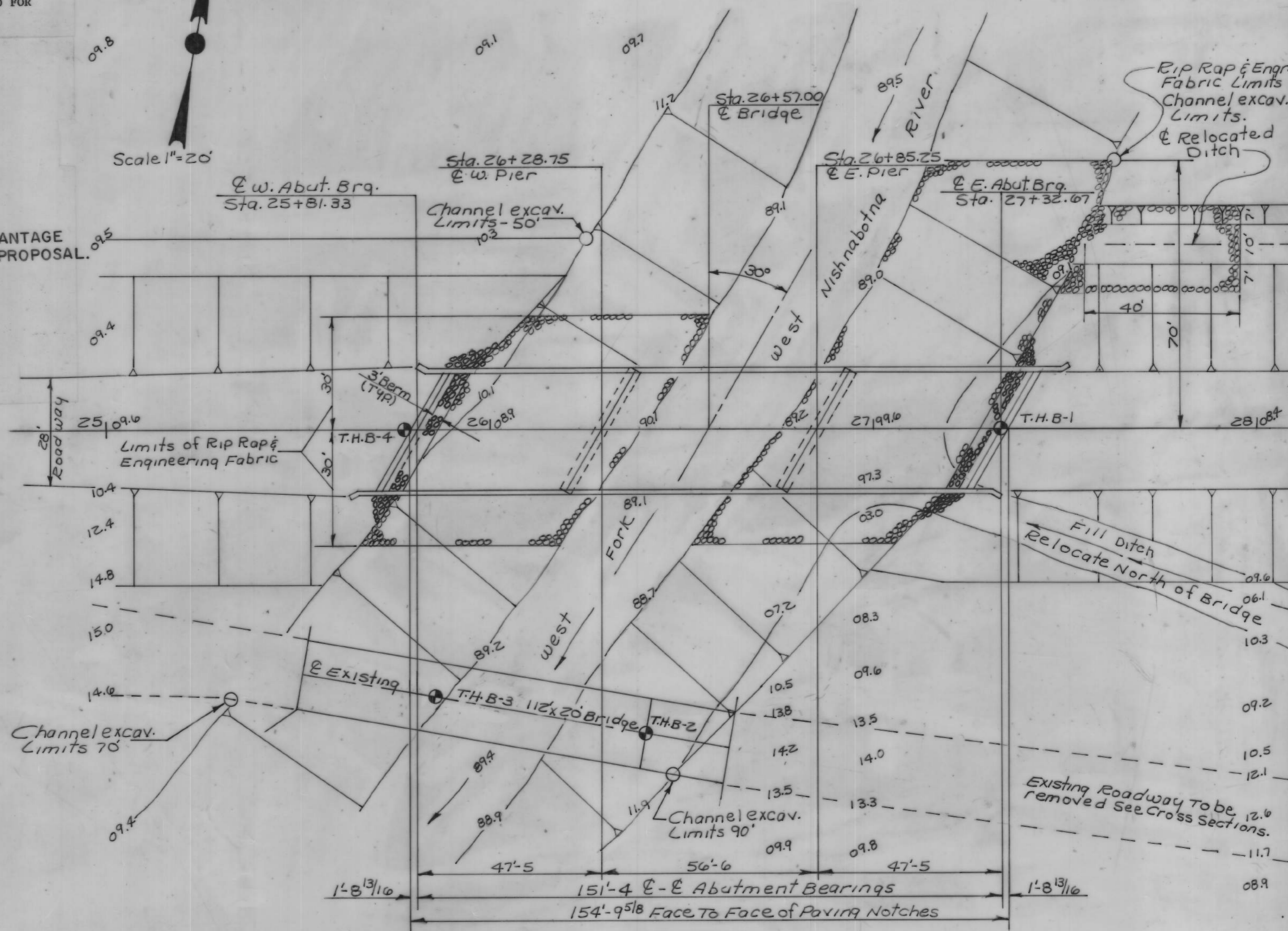
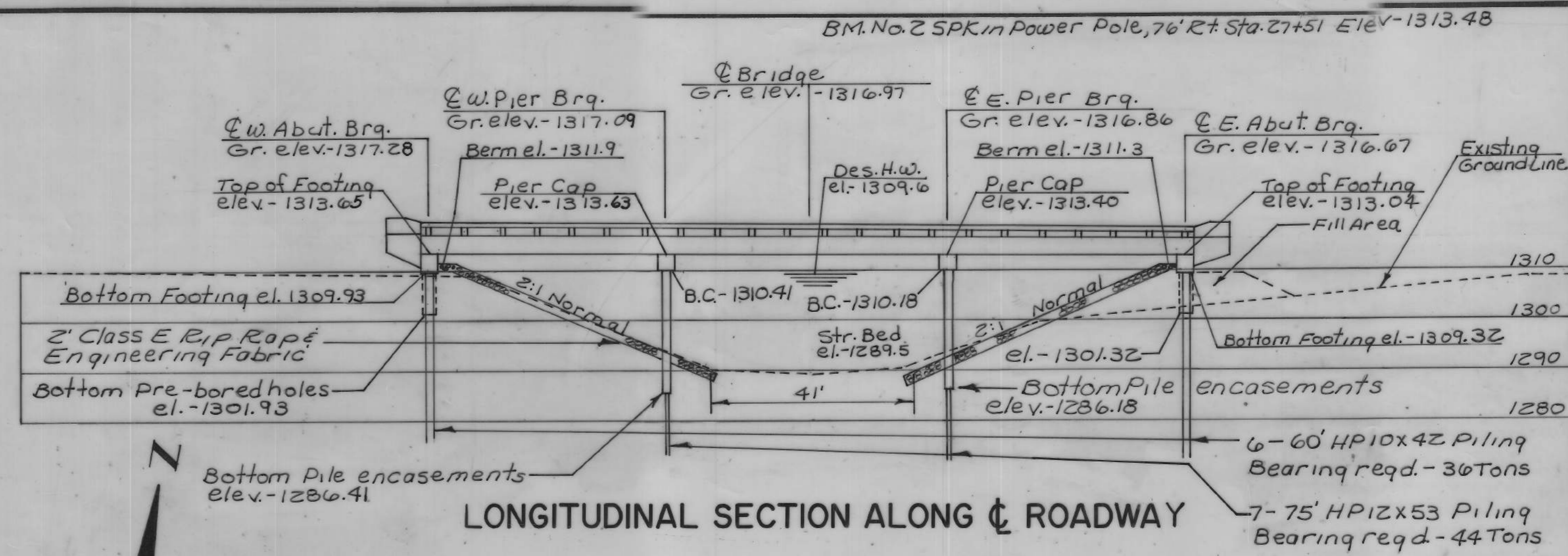
- NOTE: ANY INCONVENIENCE INCURRED BY THE ROAD CONTRACTOR DUE TO ARCHAEOLOGICAL WORK SHALL BE CONSIDERED INCIDENTAL TO CLASS "10" ROADWAY AND BORROW.
- NOTE: WHERE PUBLIC UTILITY FIXTURES ARE SHOWN AS EXISTING ON THE PLANS OR ENCOUNTERED WITHIN THE CONSTRUCTION AREA, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE OWNERS OF THOSE UTILITIES PRIOR TO THE BEGINNING OF ANY CONSTRUCTION. THE CONTRACTOR SHALL AFFORD ACCESS TO THESE FACILITIES FOR NECESSARY MODIFICATION OF SERVICES, UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS, AND THEREFORE THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. IT IS POSSIBLE THERE MAY BE OTHERS, THE EXISTENCE OF WHICH IS PRESENTLY NOT KNOWN OR SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THEIR EXISTENCE AND EXACT LOCATION AND TO AVOID DAMAGE THERETO, NO CLAIMS FOR ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR FOR ANY INTERFERENCE OR DELAY CAUSED BY SUCH WORK.
- NOTE: EROSION CONTROL BY OTHERS.
- NOTE: IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE WASTE AREAS FOR EXCESS MATERIAL WHICH IS NOT DESIRABLE TO BE INCORPORATED IN THE WORK INVOLVED ON THIS PROJECT. NO PAYMENT FOR OVERHAUL WILL BE ALLOWED FOR MATERIAL HAULED TO THESE SITES.

SCRAPE SAMPLES FROM 3 LOCATIONS OF THIS BRIDGE WERE TAKEN TO GET AN INDICATION OF THE EXISTENCE OF AND LEVEL OF TOTAL CHROMIUM AND TOTAL LEAD. THE ANALYSIS OF TOTAL CHROMIUM IN THESE SAMPLES WAS 1,300 PARTS PER MILLION (PPM). THE ANALYSIS OF TOTAL LEAD IN THESE SAMPLES WAS 130,000 PPM. THE ANALYSIS SHOW THE EXISTENCE OF THESE TWO TOXIC CONSTITUENTS. THE LEVELS INDICATED BY THESE TESTS COULD CREATE CONDITIONS ABOVE REGULATORY LIMITS FOR HEALTH AND SAFETY REQUIREMENTS. NO OTHER SUBSTANCES WERE ANALYZED. THE BIDDER SHOULD NOT RELY ON THE CONTRACTING AUTHORITY'S TESTING AND ANALYSIS FOR ANY PURPOSE OTHER THAN AS AN INDICATION OF THE EXISTENCE OF THESE TWO TOXIC CONSTITUENTS.

THE BRIDGE CONTRACTOR IS ENCOURAGED TO TAKE FULL ADVANTAGE OF SPECIFICATION 1105.15-- VALUE ENGINEERING INCENTIVE PROPOSAL.

WORKING DRAWINGS & FALSE WORK PLANS WILL BE CHECKED BY:

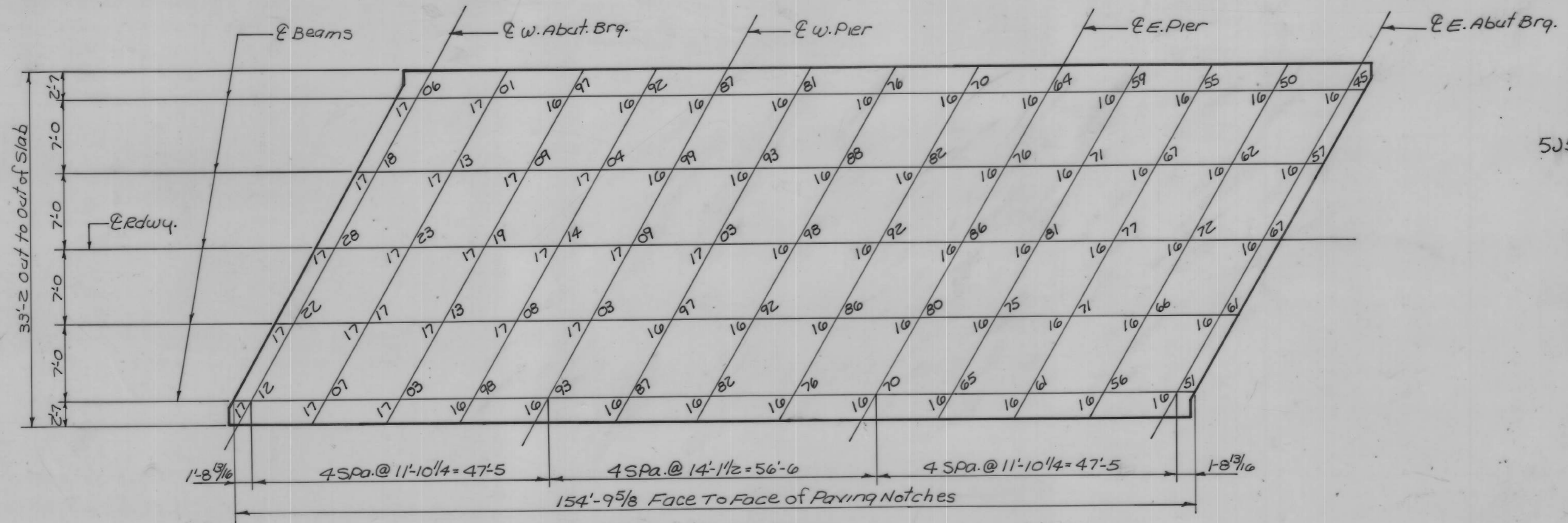
I.D.O.T. OFFICE OF BRIDGE DESIGN  
800 LINCOLN WAY  
AMES, IOWA 50010  
TELEPHONE #515-239-1487



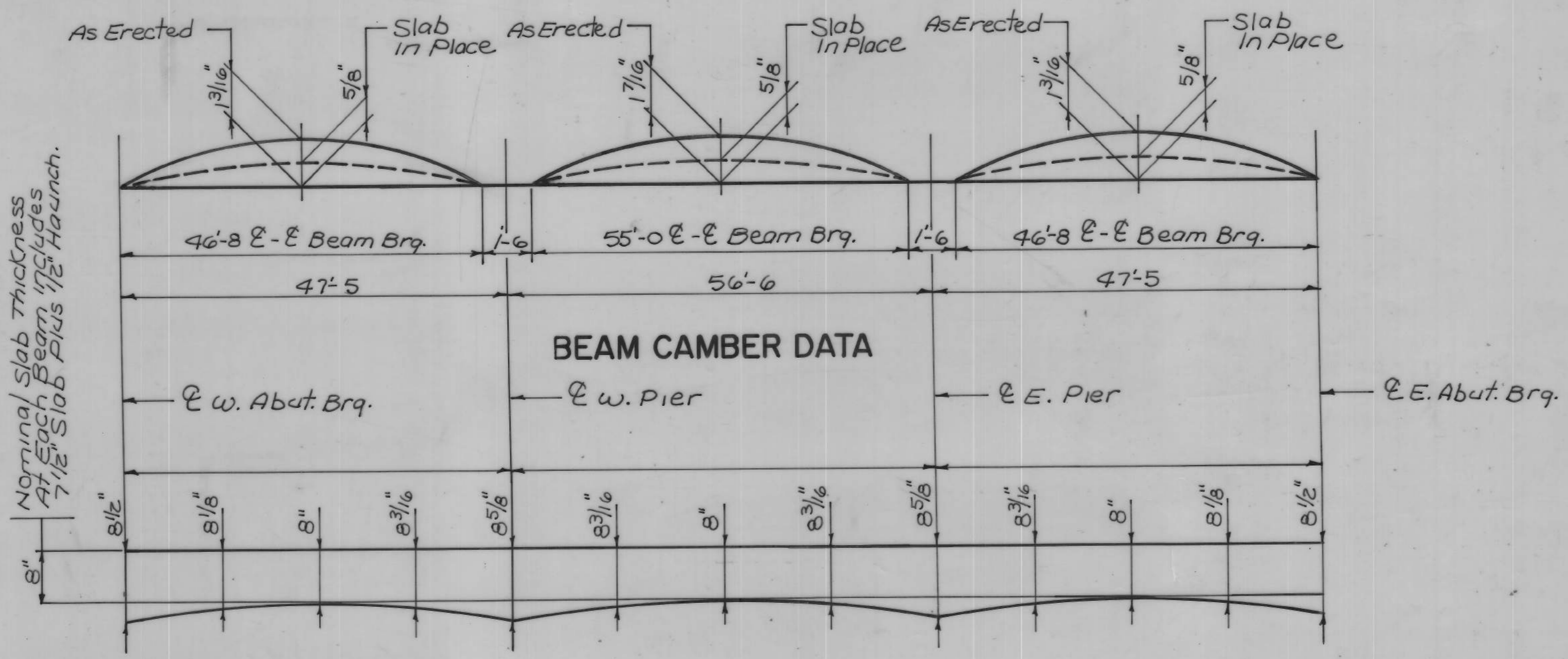
**151'-4" x 30' PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE**

INTEGRAL ABUTMENTS      P10A PIERS  
STATION 26+57.00      30° SKEW LT. AHEAD

152500  
 WFS-ES H21M  
 PS-DB--(AS)PSA--29A2

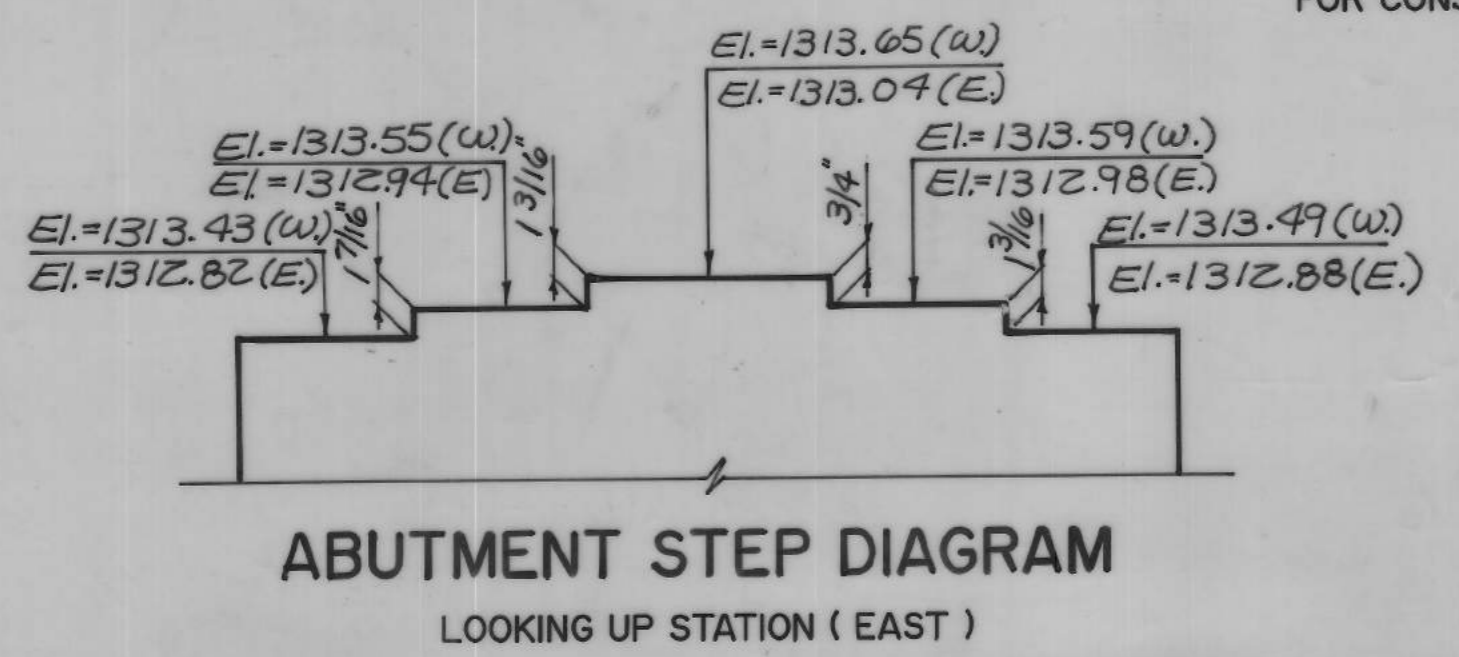


**TOP OF SLAB ELEVATIONS**  
(ADD 1300 TO ABOVE ELEVATIONS)

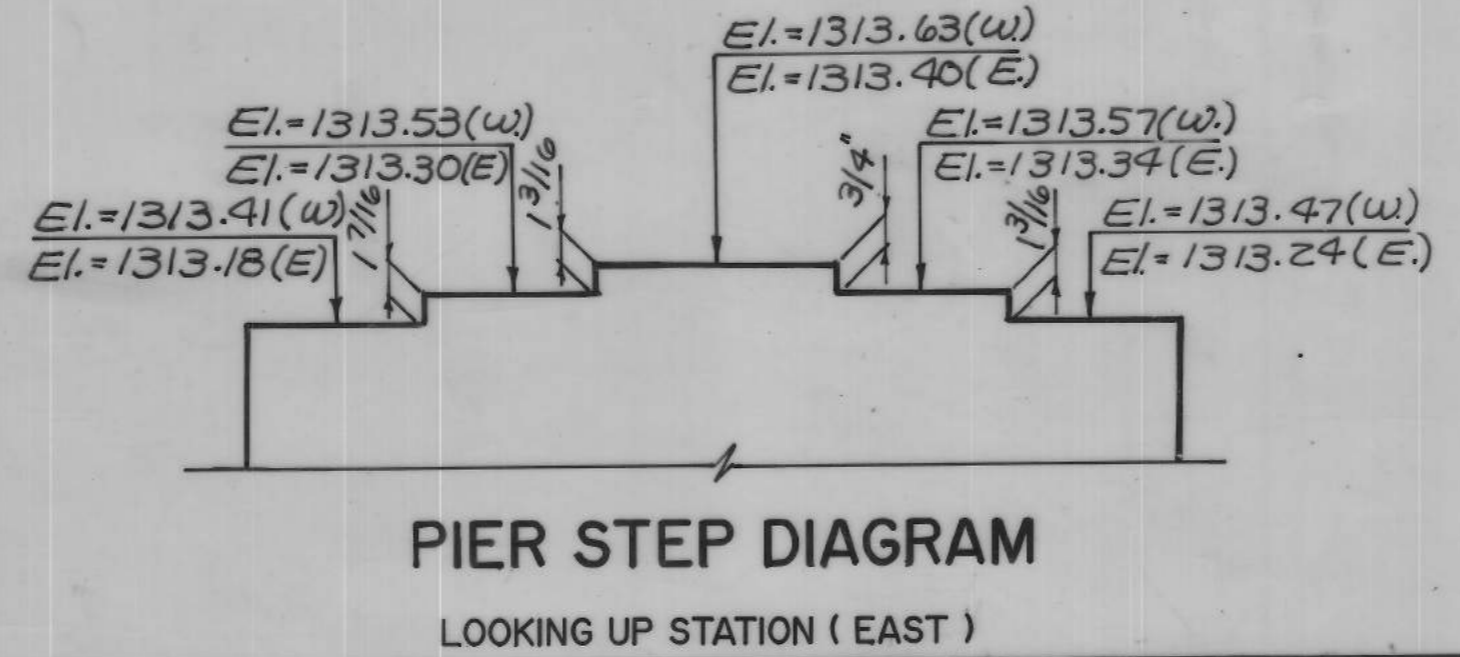


**SLAB THICKNESS AT BEAM (T)**

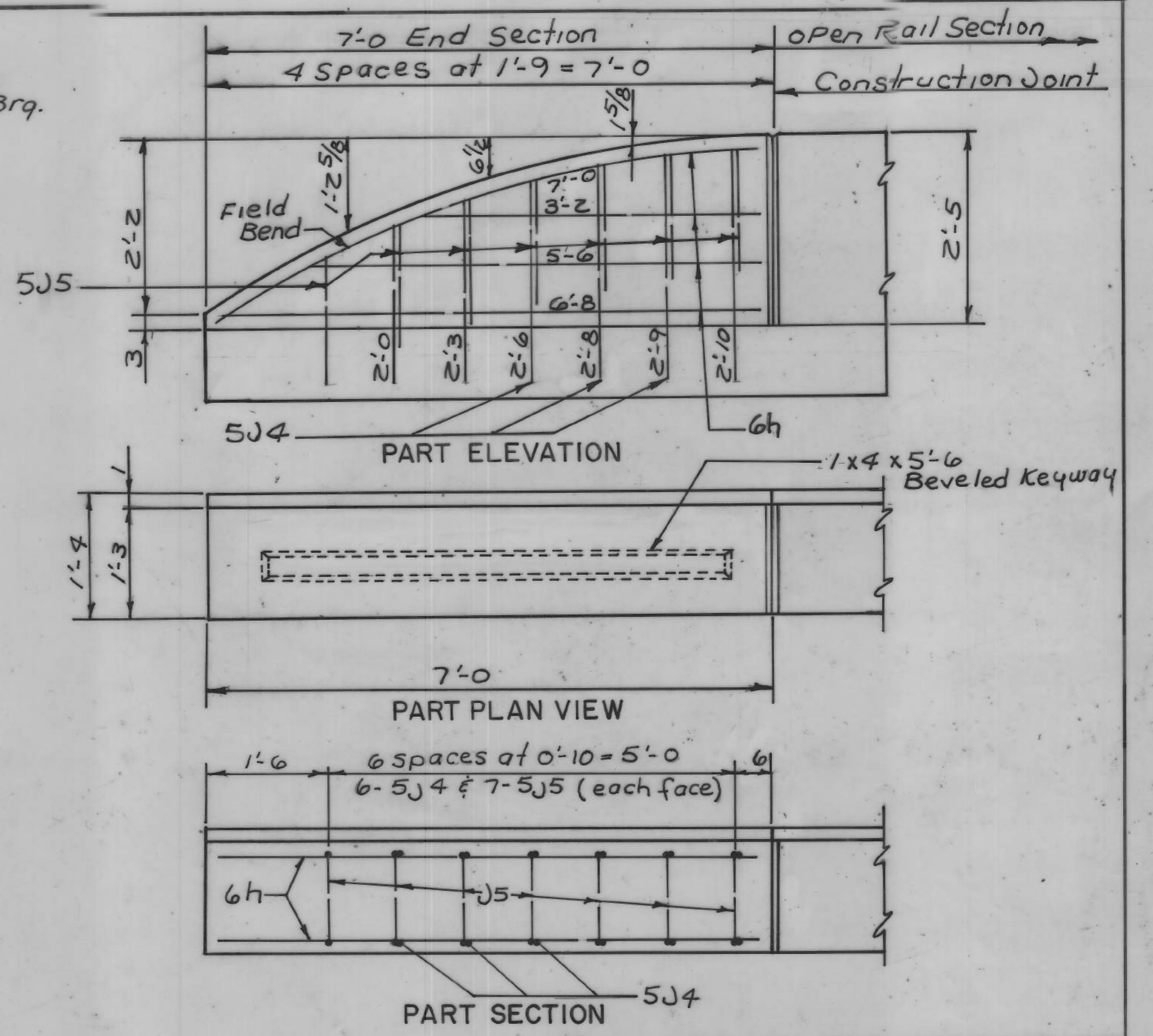
NOTE: HAUNCH THICKNESSES ARE SHOWN FOR ESTIMATING ONLY AND ARE NOT GUARANTEED FOR CONSTRUCTION.



**ABUTMENT STEP DIAGRAM**  
LOOKING UP STATION ( EAST )



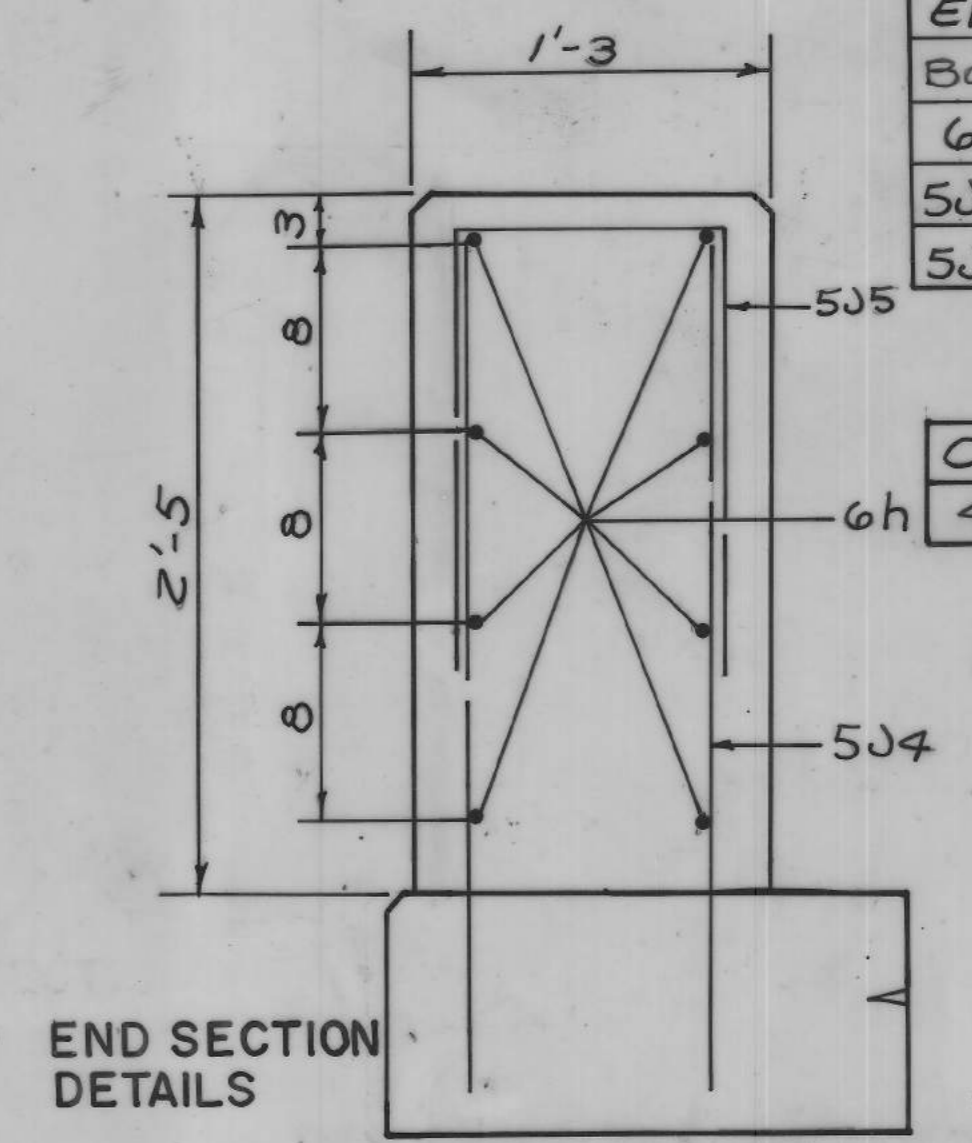
**PIER STEP DIAGRAM**  
LOOKING UP STATION ( EAST )



Epoxy Reinforcing Steel - 4 end sections

Bar	Location	Shape	No.	Length	Weight
6h	Rail Long.	—	32	Varies	179
5J4	Rail vertical	—	48	Varies	120
5J5	Rail vertical	□	28	3'-11"	110
<b>Total weight</b>					<b>409</b>

Class D Concrete - 4 end sections  
4 @ 0.56 = 2.2 Cu-yds.



**151'-4" x 30' PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE**

INTEGRAL ABUTMENTS 47'-5" END SPANS  
PIOA PIERS 56'-6" INTERIOR SPAN

**TOP OF SLAB ELEV. & MISC. DETAILS**

STATION 26+57.00 30° SKEW LT. AHEAD