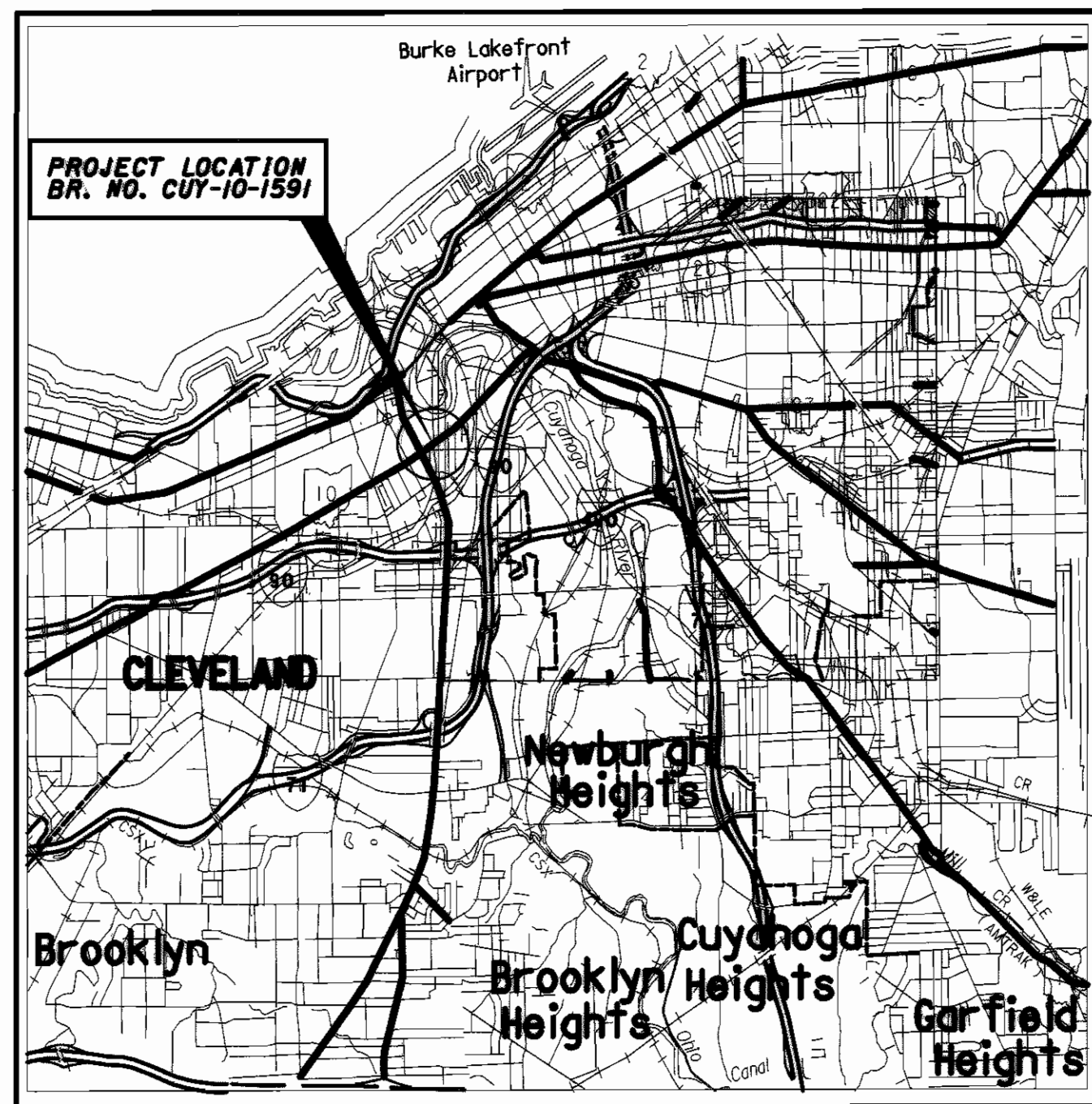


STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION  
**CUY-10-15.91**  
LORAIN AVE. OVER G. C. R. T. A.  
CITY OF CLEVELAND  
CUYAHOGA COUNTY

**PROJECT DESCRIPTION**

REHABILITATION OF THE EXISTING STRUCTURE CARRYING LORAIN AVENUE OVER THE G.C.R.T.A. TRACKS BY REPLACING THE SUPERSTRUCTURE.



**LOCATION MAP**

LATITUDE: 41°29'07" LONGITUDE: 81°42'06"

SCALE IN MILES



INTERSTATE & DIVIDED HIGHWAYS   
UNDIVIDED STATE & FEDERAL ROUTES   
OTHER ROADS

**DESIGN DESIGNATION**

CURRENT YEAR A.D.T. (2002) 11800  
DESIGN YEAR A.D.T. (2022) 13900  
D. H. V. (2022) 1390  
DIRECTIONAL DISTRIBUTION 60%  
TRUCKS (24 HOUR B&C) 3%  
DESIGN SPEED - 25 MPH (WEST OF W24TH ST) & 35 MPH (EAST OF W24TH ST)  
LEGAL SPEED - 25 MPH (WEST OF W24TH ST) & 35 MPH (EAST OF W24TH ST)

DESIGN FUNCTIONAL CLASSIFICATION- PRINCIPAL ARTERIAL

DESIGN EXCEPTIONS NONE REQUIRED

**INDEX OF SHEETS:**

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CUY-10-1591	49-52, 52A, 53-88
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**1997 SPECIFICATIONS**

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

**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

PLAN PREPARED BY:

BURGESS & NIPLE LTD.  
100 WEST ERIE ST.  
PAINESVILLE, OH 44077

ENGINEERS SEAL:



STANDARD CONSTRUCTION DRAWINGS								SUPPLEMENTAL SPECIFICATIONS			
BP-2.3	7-28-00	HL-10.11	4-19-02	TC-41.20	1-19-01	MT-35.10	4-20-01	AS-1-81	9-15-94	815	2-22-00
BP-2.5	7-28-00	HL-10.12	4-19-02	TC-41.40	1-18-02	MT-95.31	4-19-02	BR-2-98	12-29-98	828	12-14-00
BP-3.1	7-28-00	HL-10.13M	5-1-95	TC-41.41	1-19-01	MT-95.32	4-19-02	BS-1-93	12-19-94	830	10-21-98
BP-5.1	7-28-00	HL-20.14M	5-1-95	TC-42.20	4-20-01	MT-95.41	4-19-02	GSD-1-96	2-12-97	842	1-6-99
BP-7.1	7-28-00	HL-20.15M	3-31-95	TC-52.10	4-20-01	MT-99.10M	1-30-95	PCB-91	7-6-99	844	1-6-99
		HL-30.11	4-19-02	TC-52.20	4-20-01	MT-101.60M	4-25-94	SICD-1-96M	2-12-97	846	9-9-97
RM-3.1M	10-21-97	HL-30.22	4-19-02	TC-71.10	4-19-02	MT-105.10M	4-25-94	VPF-1-90M	3-20-95	863	10-12-99
RM-4.2	1-18-02	HL-30.31M	5-1-95	TC-81.20	5-01-00	MT-105.11M	4-25-94			870	3-27-01
		HL-30.32	4-19-02	TC-82.10	4-19-02	MT-110.20M	3-1-96			899	10-21-98
		HL-40.10	4-19-02	TC-85.20	5-01-00					905	4-1-98
		HL-50.21	4-19-02							906	5-5-98
		HL-60.11	7-20-01							907	10-21-98
										908	11-7-00
										910	7-11-00
										954	9-9-97

APPROVED   
DATE 8/NOV/2002 DISTRICT DEPUTY DIRECTOR

APPROVED   
DATE 11-13-02 DIRECTOR, DEPARTMENT OF TRANSPORTATION

CUY - SR 10 - 15.91 (Lorain Ave.) (City)  
030074 PID - 11528  
Dist 12 1/22/2003

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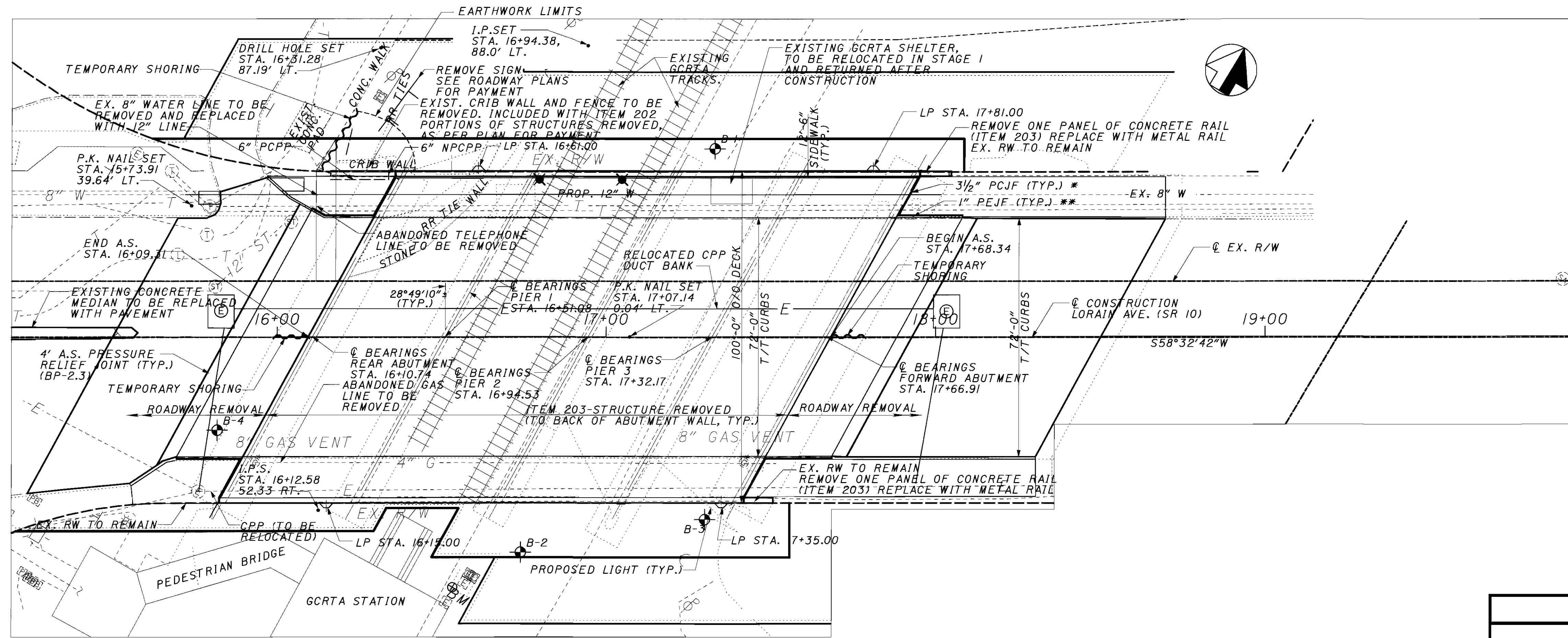
FEDERAL PROJECT NO.  
TEZI-G020(687)  
BRF-69(120)

PID NO.  
11528

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT  
G. C. R. T. A.

CUY-10-15.91



**PLAN**

**BENCHMARK #1**  
MONUMENT BOX  
STA. 14+60.93, 16.99' LT.  
ELEV. 685.16

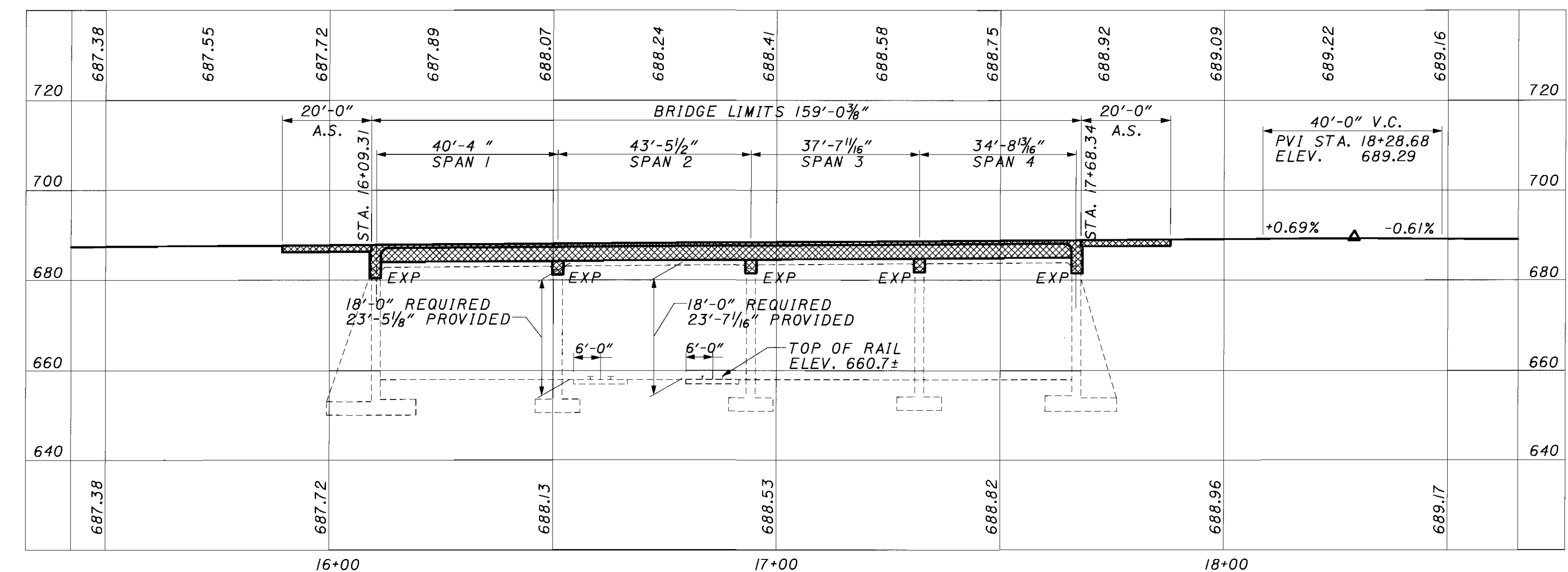
**BENCHMARK #2**  
IRON PIN IN MONUMENT BOX  
ON CENTERLINE SURVEY OF  
LORAIN AVE. AT STA. 23+92±  
ELEV. 688.33

**BENCHMARK #3**  
SOUTHWEST CORNER OF CONCRETE  
PAD OF ELECTRIC METER BOX AT THE  
NORTHEAST CORNER OF THE RTA  
STATION APPROXIMATELY 13'  
SOUTHEAST OF ELEVATOR STRUCTURE  
ELEV. 658.45

EARTHWORK LIMITS SHOWN  
ARE APPROXIMATE.

FOR TREES AND STUMPS SEE  
PLAN AND PROFILE.

**SOIL BORING LOCATIONS:**  
B-1 STA. 17+33, 57'± LT  
B-2 STA. 16+74, 65'± RT  
B-3 STA. 17+30, 55'± RT  
B-4 STA. 15+82, 28'± RT



**PROFILE**

\* INCLUDE WITH ITEM 844 - HIGH PERFORMANCE CONCRETE,  
SUPERSTRUCTURE (DECK), AS PER PLAN, FOR PAYMENT  
\*\* INCLUDE WITH ITEM 611 - REINFORCED CONCRETE APPROACH  
SLAB, AS PER PLAN, FOR PAYMENT

- LEGEND:**
- A.S. = APPROACH SLAB
  - C/C = CENTER TO CENTER
  - EX. = EXISTING
  - LP = LIGHT POLE
  - PROP. = PROPOSED
  - RW = RETAINING WALL
  - T/T = TOE TO TOE
  - CPP = CLEVELAND PUBLIC POWER
  - O/O = OUT TO OUT
  - ELEV. = ELEVATION
  - PCPP = PERFORATED CORRUGATED PLASTIC PIPE
  - NPCPP = NON-PERFORATED CORRUGATED PLASTIC PIPE
  - PCJF = PRECOMPRESSED EXPANSION JOINT FILLER
  - PEJF = PERFORMED EXPANSION JOINT FILLER
  - ⊕ = SOIL BORING LOCATION
  - TYP. = TYPICAL
  - ★ = LOCATION OF MINIMUM VERTICAL CLEARANCE

**TRAFFIC DATA**

CURRENT ADT (2002): 11,800  
DESIGN YEAR ADT (2022): 13,900  
DESIGN YEAR ADTT (2022): 420  
TRAFFIC DATA IS FOR BOTH DIRECTIONS

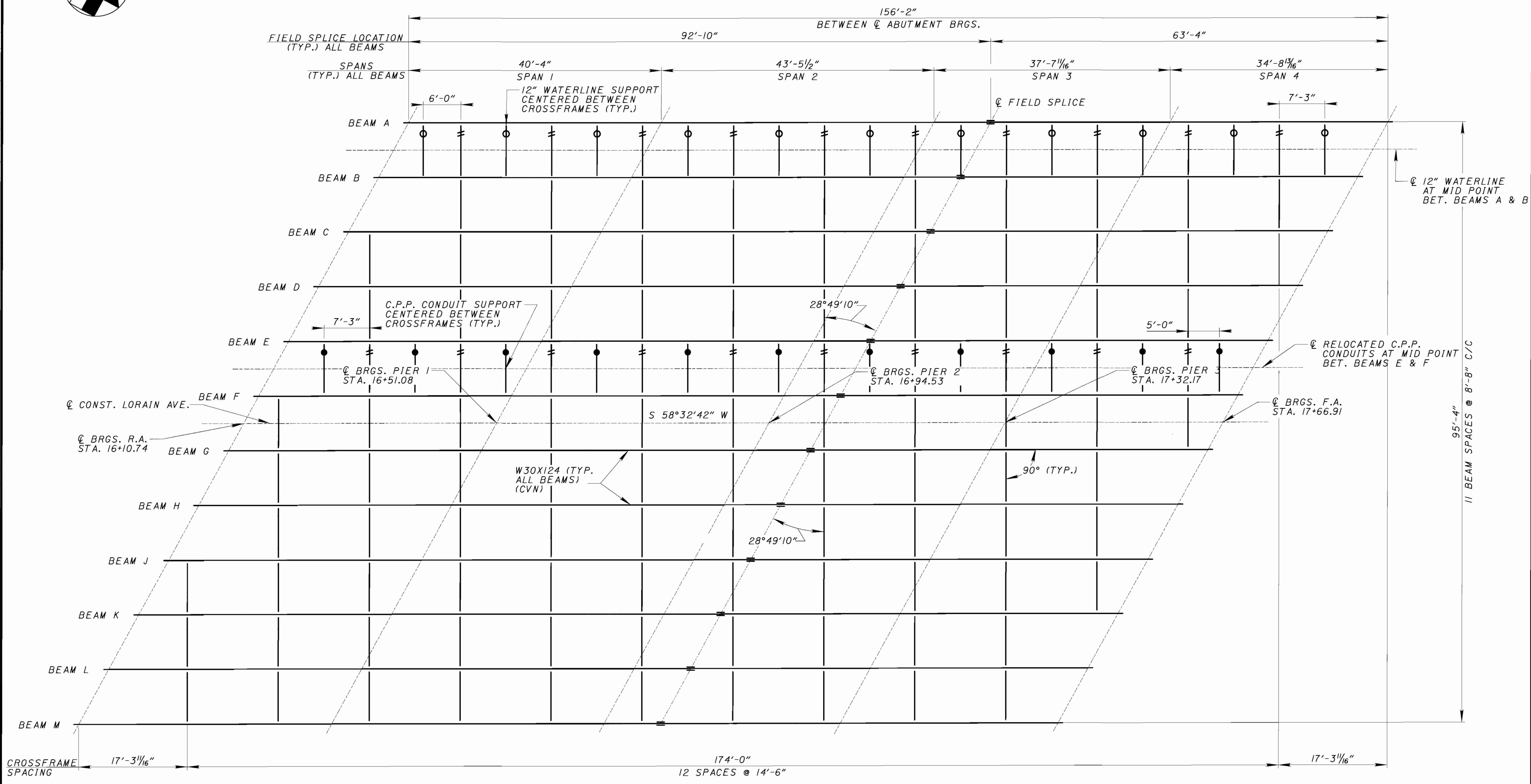
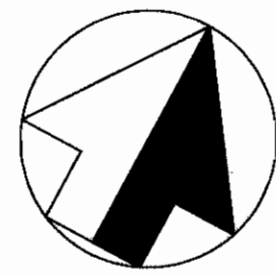
**EXISTING STRUCTURE**

TYPE: CONTINUOUS REINFORCED CONCRETE DECK SLAB ON CONCRETE ENCASED STEEL BEAMS AND REINFORCED CONCRETE BEAMS WITH REINFORCED CONCRETE SUBSTRUCTURE.  
SPANS: 40'-4"±, 43'-5 1/2"±, 37'-7 1/16"±, 34'-8 3/16"± C/C SUBSTRUCTURE UNITS  
ROADWAY: 72'-0"± FACE TO FACE OF CURBS WITH TWO 12'-6"± SIDEWALKS  
SKEW: 28°49'10"± L.F.  
LOADING: SEE EXISTING PLANS  
DATE BUILT: 1932  
STRUCTURE FILE NUMBER: 1801449  
APPROACH SLAB: NONE  
WEARING SURFACE: ASPHALT OVERLAY  
ALIGNMENT: TANGENT

**PROPOSED STRUCTURE**

TYPE: CONTINUOUS REINFORCED CONCRETE DECK SLAB ON PAINTED A709 GRADE 50W (A588) STEEL ROLLED BEAMS WITH REINFORCED CONCRETE SUBSTRUCTURE.  
SPANS: 40'-4"±, 43'-5 1/2"±, 37'-7 1/16"±, 34'-8 3/16"± C/C BEARINGS  
ROADWAY: 72'-0" T/T OF CURBS WITH TWO 12'-6" SIDEWALKS  
SKEW: 28°49'10"± L.F.  
LOADING: HS25-44, CASE II AND ALTERNATE MILITARY LOADING  
APPROACH SLAB: 20'-0"  
WEARING SURFACE: MONOLITHIC CONCRETE  
ALIGNMENT: TANGENT  
CROWN: 3/16" / FT  
NUMBER OF TRACKS: TWO EXISTING  
LATITUDE: N 41°29'07" LONGITUDE: W 81°42'06"

DESIGN AGENCY: BURGESS & NIPLÉ  
 100 WEST ERIE STREET PAINESVILLE, OHIO 44077  
 DATE: 8-27-02  
 STRUCTURE FILE NUMBER: 1801449  
 DRAWN: JAA  
 CHECKED: JSS  
 CUYAHOGA COUNTY  
 STA. 16+09.31  
 STA. 17+68.34  
**SITE PLAN**  
 BRIDGE NO. CUY-10-1591  
 LORAIN AVENUE OVER GCRTA  
**CUY-10-15.91**  
 1 / 40  
 49  
 92



**FRAMING LEGEND:**

- CROSS FRAME TYPE A
- ≠ CROSS FRAME TYPE B
- WATER LINE SUPPORT
- C.P.P. DUCT BANK SUPPORT

**FRAMING PLAN**

**NOTES:**

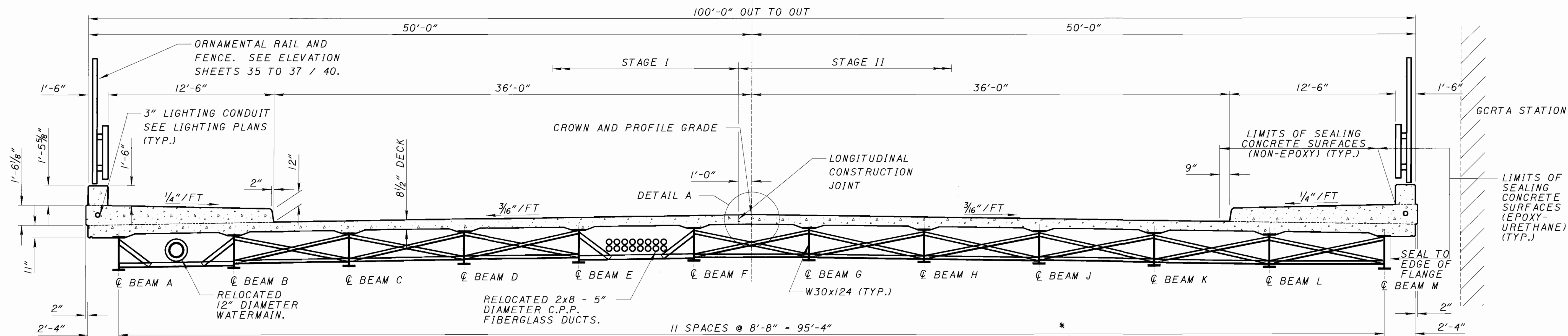
ALL BEAMS ARE PARALLEL TO  $\phi$  CONSTRUCTION  
 SEE SHEETS 29 TO 32 / 40 FOR SUPERSTRUCTURE STEEL DETAILS

THE FABRICATOR SHALL CHECK CROSS FRAME AND UTILITY SUPPORT LOCATIONS SO THAT INTERFERENCE WITH BOLTED SPLICES CAN BE AVOIDED. SPACINGS SHALL BE ADJUSTED TO PROVIDE AT LEAST 6" OF LONGITUDINAL CLEARANCE. THE CONTRACTOR MAY ADJUST CROSS FRAME SPACINGS UP TO A MAXIMUM OF 15'-0". AT LOCATIONS WHERE THERE IS A CONFLICT BETWEEN UTILITY SUPPORT MEMBER AND BEAM SPLICE, REPLACE THE UTILITY SUPPORT MEMBER WITH TWO MEMBERS, ONE AT EACH SIDE OF WEB SPLICE. INCLUDE WITH ITEM 863, STRUCTURAL STEEL MEMBERS, LEVEL TWO (2) FABRICATION.

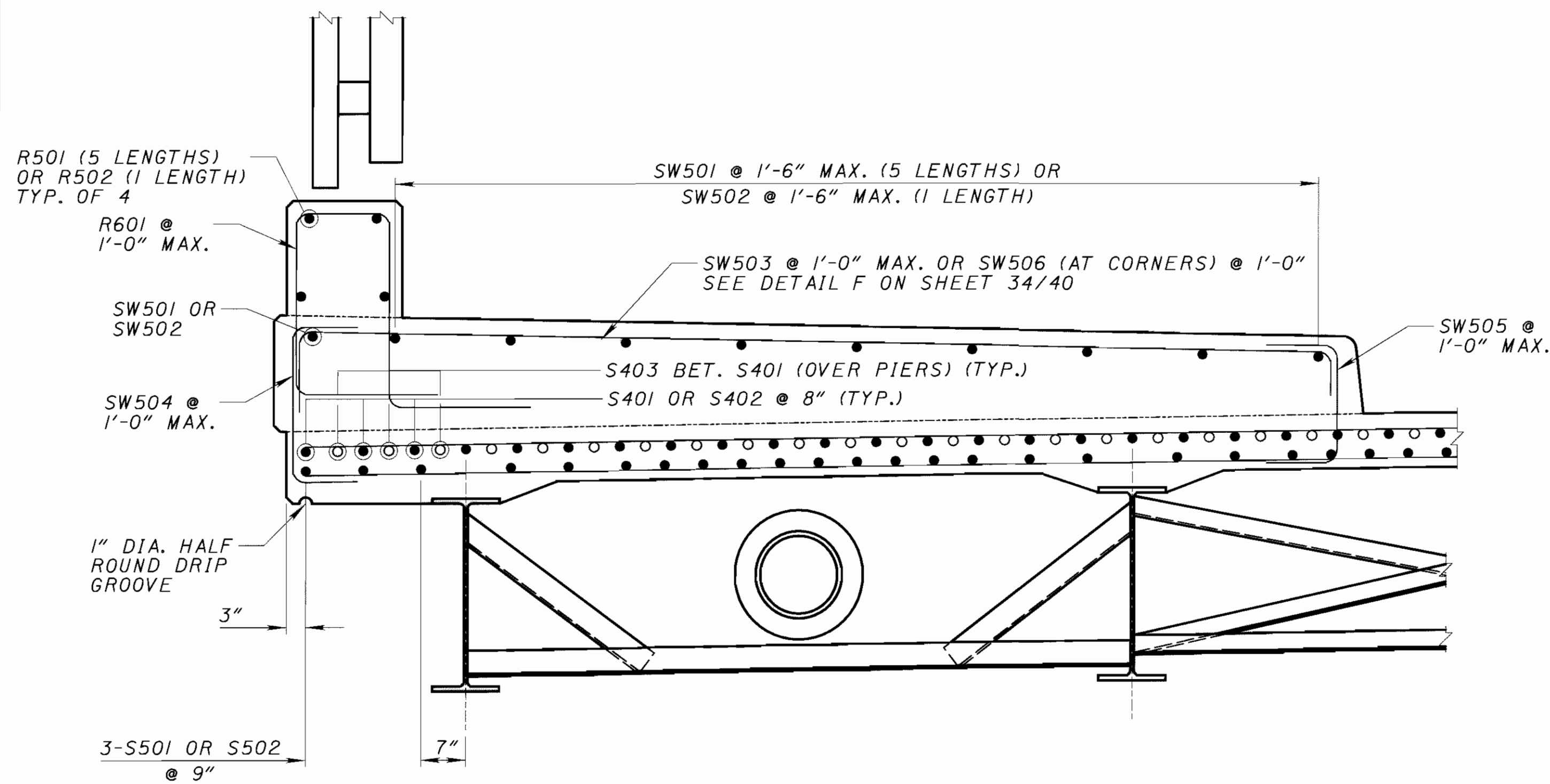
**LEGEND:**

- BET. = BETWEEN
- BRGS. = BEARINGS
- C.P.P. = CLEVELAND PUBLIC POWER
- F.A. = FORWARD ABUTMENT
- R.A. = REAR ABUTMENT
- TYP. = TYPICAL

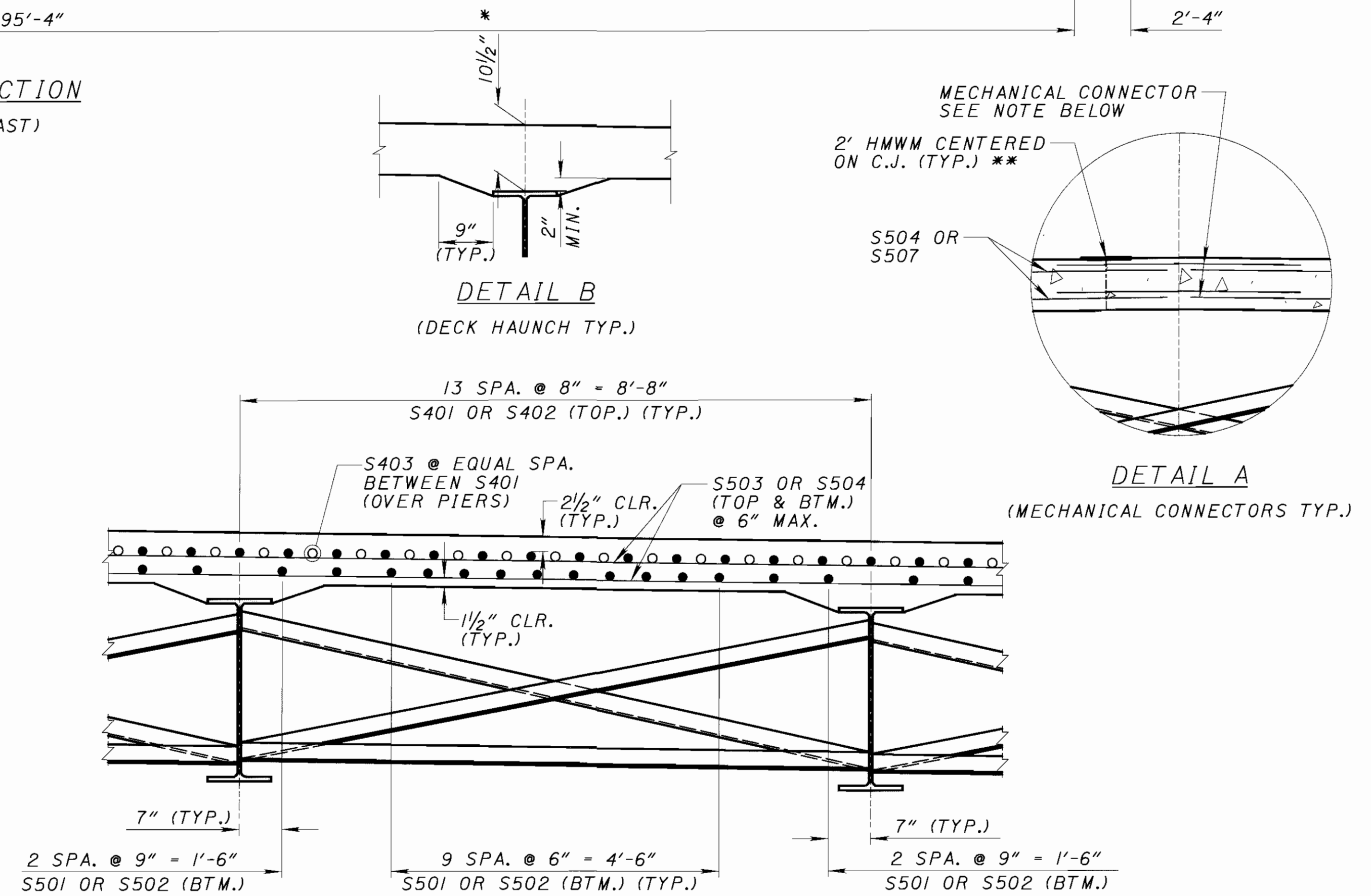




TRANSVERSE SECTION  
LOOKING AHEAD (EAST)



DECK SECTION (REBARS IN OVERHANG, TYP.)  
(LOOKING EAST & OVER PIERS)



DECK SECTION (REBARS BETWEEN STEEL BEAMS, TYP.)  
(LOOKING EAST & OVER PIERS)

LEGEND:

- BET. = BETWEEN
- BTM. = BOTTOM
- C.J. = CONSTRUCTION JOINT
- DIA. = DIAMETER
- HMWM = HIGH MOLECULAR WEIGHT METHACRYLATE
- MAX. = MAXIMUM
- MIN. = MINIMUM
- SPA. = SPACINGS
- TYP. = TYPICAL

NOTES:

- \* DECK SLAB DEPTH FOR CONCRETE QUANTITY:  
THE DIMENSION SHOWN FROM THE TOP OF THE CONCRETE DECK TO THE TOP OF THE TOP FLANGE, MINUS THE DESIGN HAUNCH THICKNESS OF 2 INCHES, HAS BEEN USED FOR COMPUTING THE DECK CONCRETE QUANTITIES. CONCRETE REQUIRED TO FILL THE HAUNCHES, INCLUDING ADDITIONAL OR LESS MATERIAL REQUIRED DUE TO HAUNCH CONSTRUCTION TOLERANCES, SHALL BE CONSIDERED AS INCIDENTAL AND WILL NOT BE INCLUDED IN THE QUANTITY CALCULATIONS FOR PAYMENT.

MINIMUM CONCRETE COVER IS 2 INCHES UNLESS OTHERWISE INDICATED

THE 8 1/2" DECK SLAB INCLUDES 1" MONOLITHIC WEARING SURFACE.

REFER TO STANDARD DRAWING GSD-I-91 FOR DETAILS NOT SHOWN.

\*\* INCLUDE WITH ITEM 844, HIGH PERFORMANCE CONCRETE, SUPERSTRUCTURE (DECK), AS PER PLAN, FOR PAYMENT.

MECHANICAL CONNECTORS:

PROVIDE MECHANICAL CONNECTORS. IF THE LAP TYPE IS USED, ENSURE A MINIMUM LAP LENGTH OF 30 INCHES FOR S504 AND S507 TOP & BOTTOM

REBAR LAP SPLICES

1'-8" MIN. LAP FOR NO. 4 BARS  
2'-0" MIN. LAP FOR NO. 5 BARS

DESIGN AGENCY: BURGESS & NIPLE  
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DATE: 7-30-01  
STRUCTURE FILE NUMBER: 1801449

DESIGNED: JAA  
CHECKED: YSS

DRAWN: MKB  
REVISED:

REVIEWED: GWM

BRIDGE NO. CUY-10-1591  
LORAIN AVENUE OVER GCRTA

DECK TRANSVERSE SECTION

33 / 40

81  
92