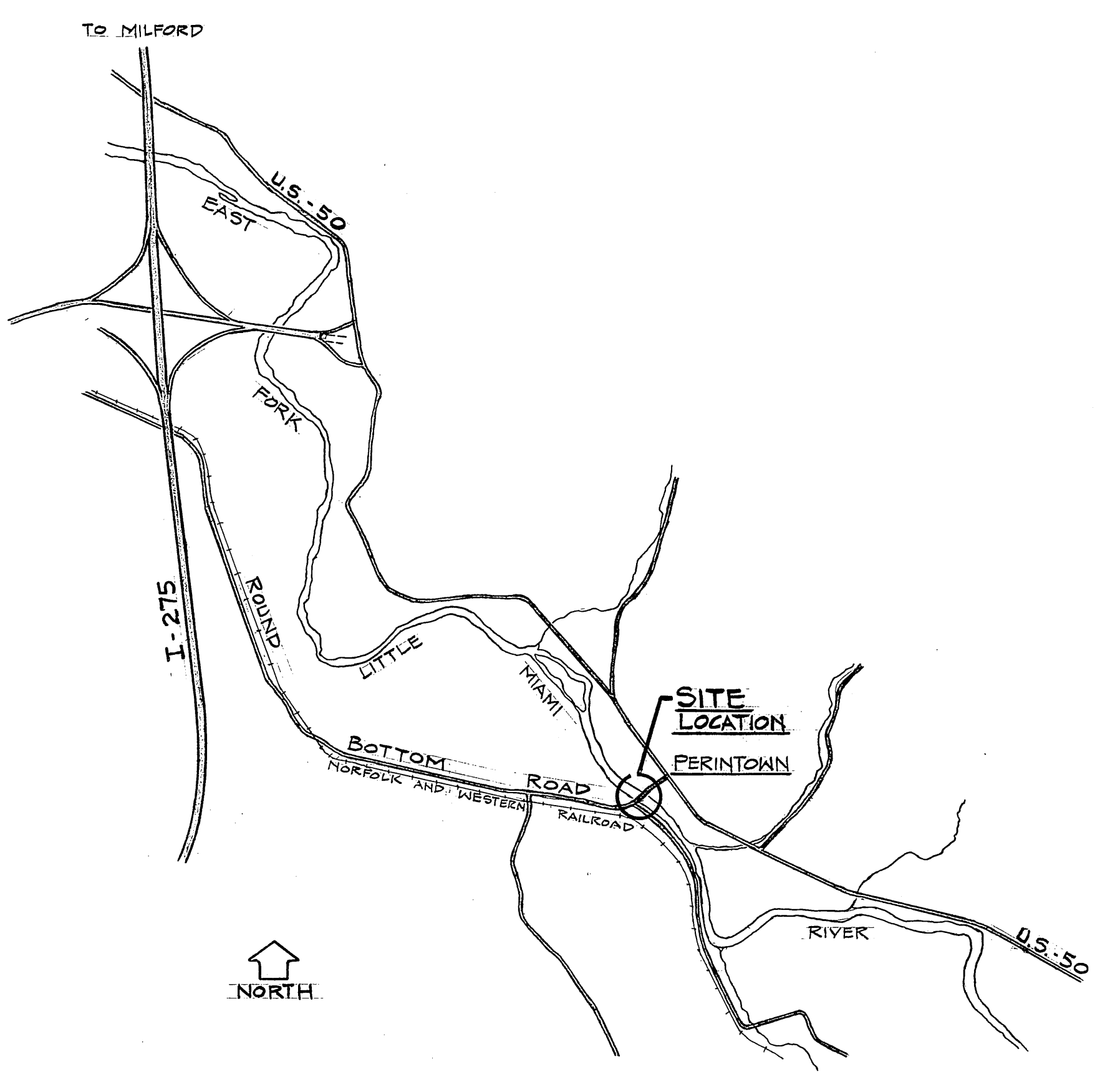


| ESTIMATED QUANTITIES | | | |
|------------------------|---|----------|----------|
| ITEM | DESCRIPTION | UNIT | QUANTITY |
| STRUCTURE ITEMS | | | |
| 202 | PORTIONS OF STRUCTURE REMOVED | L.S. | LUMP SUM |
| 403 | ASPHALT CONCRETE (85-100 OR AC-20) | C.Y. | 17 |
| 404 | ASPHALT CONCRETE (85-100 OR AC-20) | C.Y. | 17 |
| 503 | COFFERDAMS, CRIBS AND SHEETING | L.S. | LUMP SUM |
| 503 | UNCLASSIFIED EXCAVATION INCL. ROCK & SHALE | C.Y. | 120 |
| 509 | REINFORCING STEEL | LBS. | 14,230 |
| 510 | DOWEL HOLES | EACH | 120 |
| 511 | *CLASS C CONCRETE, ABUTMENTS | L.S. | LUMP SUM |
| 511 | CLASS C CONCRETE, PIERS ABOVE FOOTINGS | C.Y. | 94 |
| 511 | CLASS C CONCRETE, FOOTINGS | C.Y. | 36 |
| 512 | TYPE D WATERPROOFING | SQ.YDS. | 475 |
| 515 | PRESTRESSED CONC. BRIDGE MEMBERS (8'27x36) | LIN. FT. | 422.67 |
| 516 | 1" PREFORMED EXPANSION JOINT FILLER | SQ.FT. | 229 |
| 516 | 1x5x24" LAMINATED ELASTOMERIC BEARINGS | EACH | 6 |
| 516 | JOINT SEALER | LIN. FT. | 96 |
| 517 | RAILING (DEEP BEAM GUARD RAIL W/ STEEL POSTS) | LIN. FT. | 362 |
| 601 | DUMPED ROCK FILL TYPE A | C.Y. | 75 |
| ROADWAY ITEMS | | | |
| 404 | ASPHALT CONCRETE (85-100) DEPTH VARIES | C.Y. | 12 |
| 407 | TACK COAT AT 0.10 GALLONS/SQ. YD. | GAL. | 30 |
| 606 | GUARD RAIL TYPE 4 | LIN. FT. | 100 |

CLERMONT COUNTY, OHIO

ROUND BOTTOM ROAD OVER EAST FORK OF LITTLE MIAMI RIVER

CO. RD. NO. 106
WALTER G. CARTER
COUNTY ENGINEER



VICINITY MAP

*Estimated quantity of 16 C.Y. may vary depending on extent of deterioration of existing abutments. Contractor should inspect degree of deterioration of existing abutments in the field prior to submitting his bid.

GENERAL NOTES:

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS, 1973 INCLUDING ALL AASHTO INTERIM SPECIFICATIONS AND THE OHIO SUPPLEMENT TO THESE SPECIFICATIONS.

REFERENCE: SHALL BE MADE TO ODOT STANDARD DRAWINGS: DBR-2-73 DATED (REVISED) 4-10-73, PSBD-1-71 SHEET NO. 1 THRU 3 OF 3 DATED (REVISED) 9-1-71.

DESIGN DATA: ALL CONSTRUCTION WORK SHALL CONFORM TO ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS DATED JANUARY 1, 1975.

DESIGN DATA: DESIGN LOADING - HS 20-44

CONCRETE CLASS C - UNIT STRESS 1,333 P.S.I. FOR SUBSTRUCTURE.

REINFORCING STEEL - ASTM A615, A616 OR A617 - UNIT STRESSES 20,000 P.S.I.

CONCRETE FOR PRESTRESSED CONCRETE BEAMS - UNIT STRESS 2,200 P.S.I. COMPRESSION AND 444 P.S.I. TENSION.

PRESTRESSING STRANDS - ASTM A416, f's = 270,000 P.S.I., INITIAL STRESS = 0.7 f's.

FOUNDATION BEARING PRESSURE: PIER FOOTINGS ARE DESIGNED FOR A MAXIMUM BEARING PRESSURE OF 3 TONS PER SQUARE FOOT.

FOOTINGS SHALL EXTEND A MINIMUM OF 6 INCHES INTO BEDROCK. IF NECESSARY THE FOOTINGS SHOULD BE LOWERED. STEPPING OF INDIVIDUAL FOOTINGS WILL NOT BE PERMITTED.

REPAIR OF ABUTMENTS: AS INDICATED ON THE PLANS, BOTH ABUTMENTS SHALL BE PREPARED TO RECEIVE PRECAST CONCRETE BEAMS. THIS SHALL BE DONE BY REMOVING EXISTING BACK WALLS AND PROTRUDING PORTION OF THE WING WALLS, REMOVING DETERIORATED CONCRETE OR STONES, DRILLING HOLES THROUGH THE EXISTING MASONRY, FURNISHING AND PLACING OF GROUT INTO THE HOLES, FURNISHING AND PLACING SPECIFIED REINFORCING STEEL, FORMING AND POURING CONCRETE TO THE SPECIFIED ELEVATIONS.

UTILITY LINES: ALL EXPENSE INVOLVED IN RELOCATING THE AFFECTED UTILITY LINES, IF NECESSARY, SHALL BE BORNE BY THE OWNERS. THE CONTRACTOR AND OWNERS ARE REQUESTED TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WOULD BE HELD TO A MINIMUM.

ASPHALT CONCRETE SURFACE COURSE SHALL CONSIST OF A VARIABLE THICKNESS OF 403 AND 1/4" THICKNESS OF 404.

GAGING STATION: THE CONTRACTOR SHALL USE ALL PRECAUTIONS NECESSARY TO SEE THAT THE GAGING STATION IS NOT DISTURBED DURING CONSTRUCTION. THE COST OF REMOVING & RELOCATING EXISTING BRACING SHALL BE INCLUDED IN THE UNIT BID PRICE OF CONCRETE.

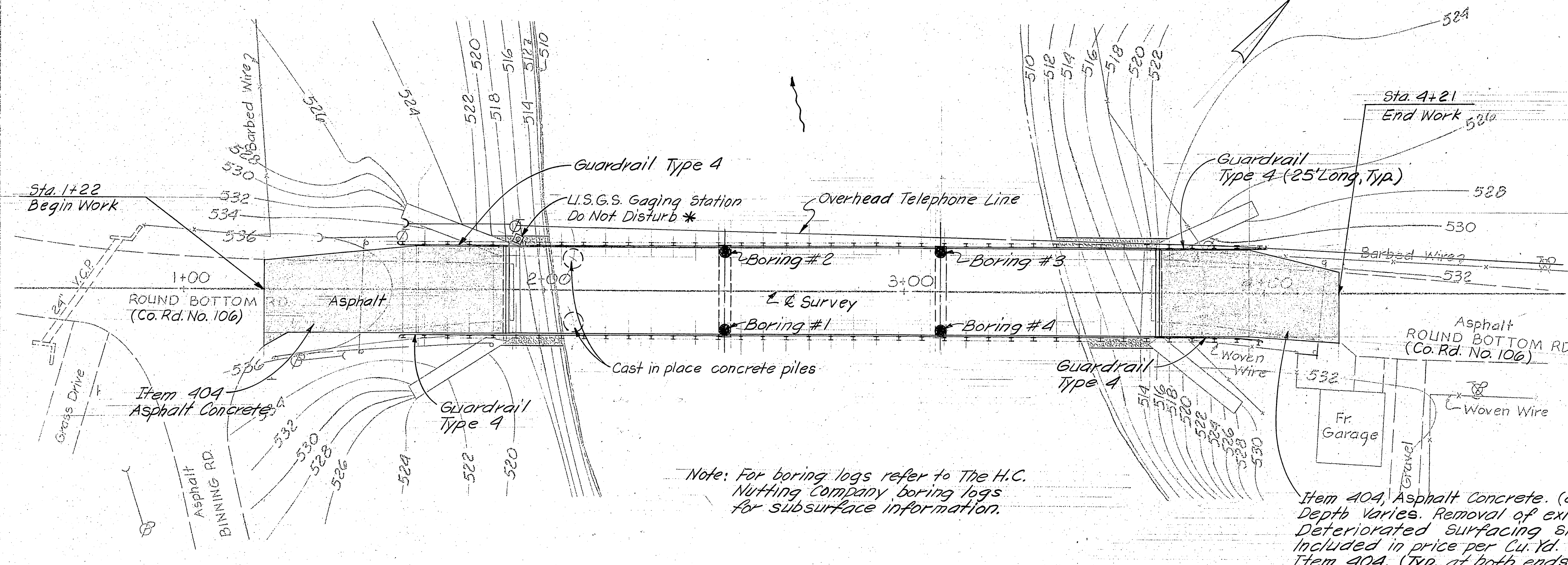
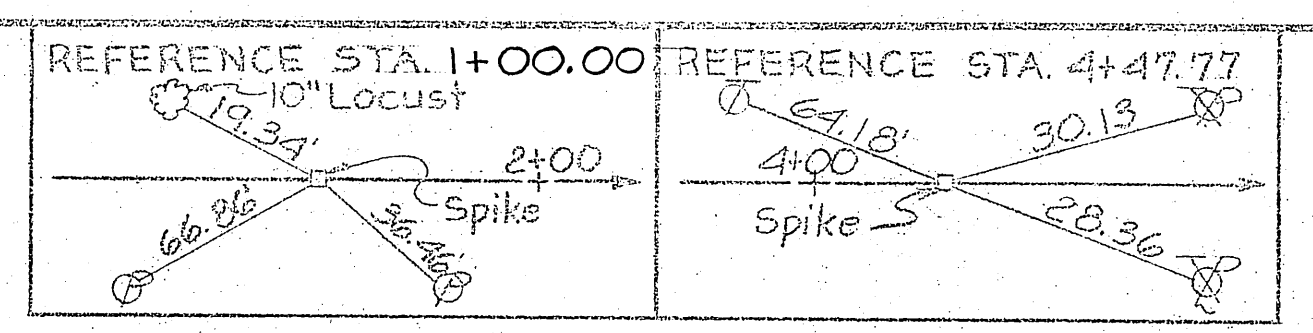
PROFILE GRADE: PROFILE GRADE ELEVATIONS SHOWN ON SITE PLAN ARE SET TO MEET THE EXISTING GRADE WITH THE MINIMUM OF RESURFACING ON THE APPROACH PAVEMENTS AT BOTH ENDS.

CENTER LINE OF BEARING ON ABUTMENTS: CONTRACTOR SHALL VERIFY THE LOCATION OF CENTER LINE OF BEARING ON THE ABUTMENTS TO CONFORM TO THE FABRICATED LENGTH OF THE PRESTRESSED BEAMS. USE THE CENTER LINES OF THE PIERS AS FIXED POINTS.

THE CONTRACTOR SHALL SUPPLY THE FABRICATOR WITH THE OVERALL VERIFIED FIELD DIMENSIONS OF THE TOTAL LENGTH OF THE BEAMS FOR FABRICATION PURPOSES. THE CONTRACTOR INCLUDES ALL EMBEDDED ADDITIONAL REINFORCING STEEL INDICATED ON THE PLANS. THE FABRICATOR'S SHOP DRAWINGS SHALL SHOW A COMPLETE LIST OF ALL REINFORCING.

THE PRICE BID FOR ITEM 515 SHALL INCLUDE FURNISHING AND PLACING ALL BOX BEAMS COMPLETE IN PLACE INCLUDING ALL TRANSVERSE TIE RODS, MORTARING ALL SHEAR KEYS AND ENDS OF BOXES. THE COST ALSO INCLUDES ALL EMBEDDED ADDITIONAL REINFORCING STEEL INDICATED ON THE PLANS. THE FABRICATOR'S SHOP DRAWINGS SHALL SHOW A COMPLETE LIST OF ALL REINFORCING.

| | | | | | |
|--|-------|--------|---------|----------------|---------|
| BALKE ENGINEERS 1/9 990 NASSAU STREET CINCINNATI, OHIO 45206 | | | | | |
| QUANTITIES AND GENERAL NOTES CO. RD. NO. 106 (ROUND BOTTOM ROAD) OVER EAST FORK OF LITTLE MIAMI RIVER | | | | | |
| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED DATE | REVISED |
| — | WP | — | P.R.B. | C.R.S. 1/16 | — |

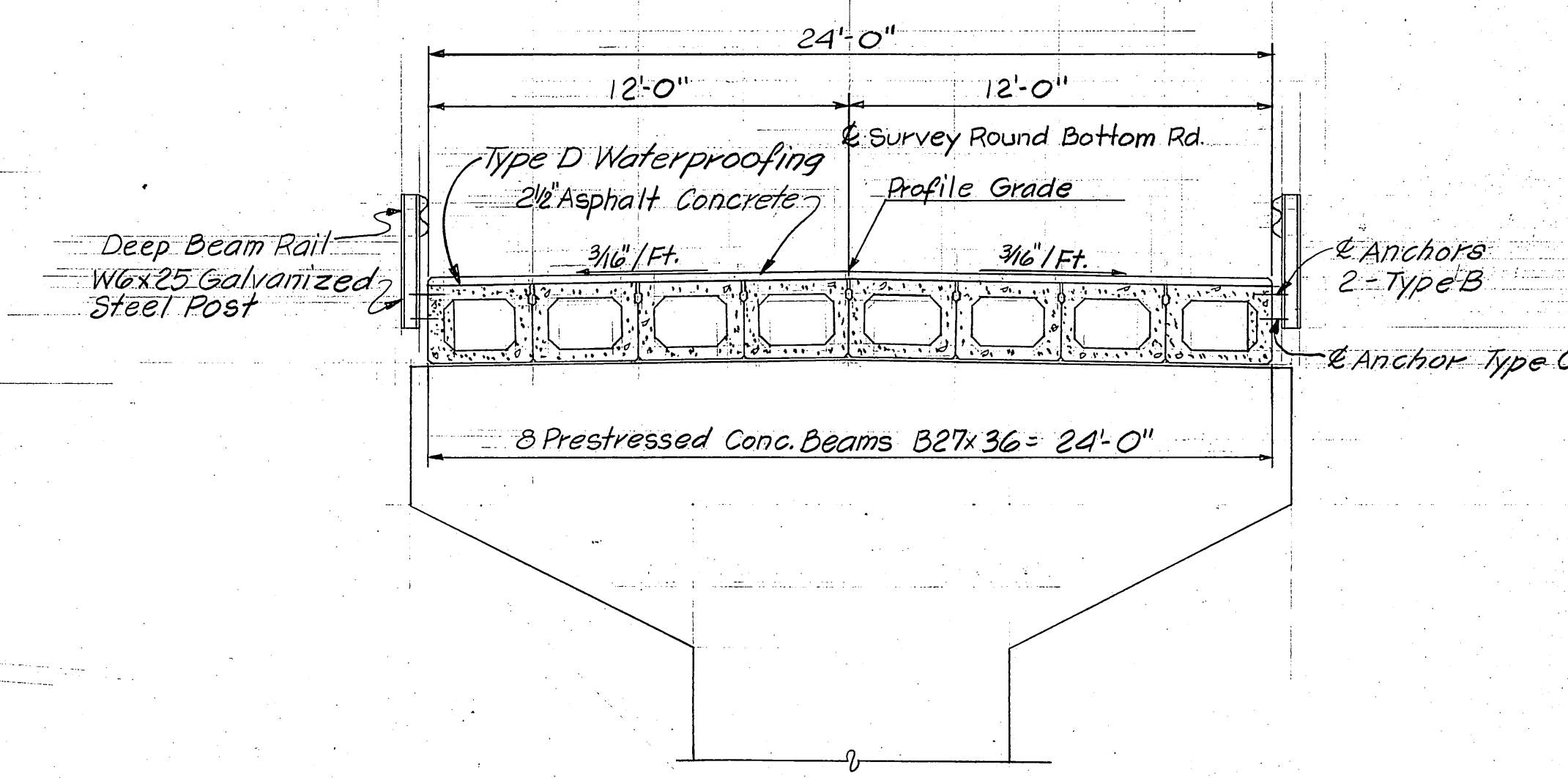


Note: For boring logs refer to The H.C. Nutting Company boring logs for subsurface information.

NOTE: * Remove existing bracing from Gaging Station as necessary and relocate bracing as required. Leave guard rail opening for Access to the Gaging Station.

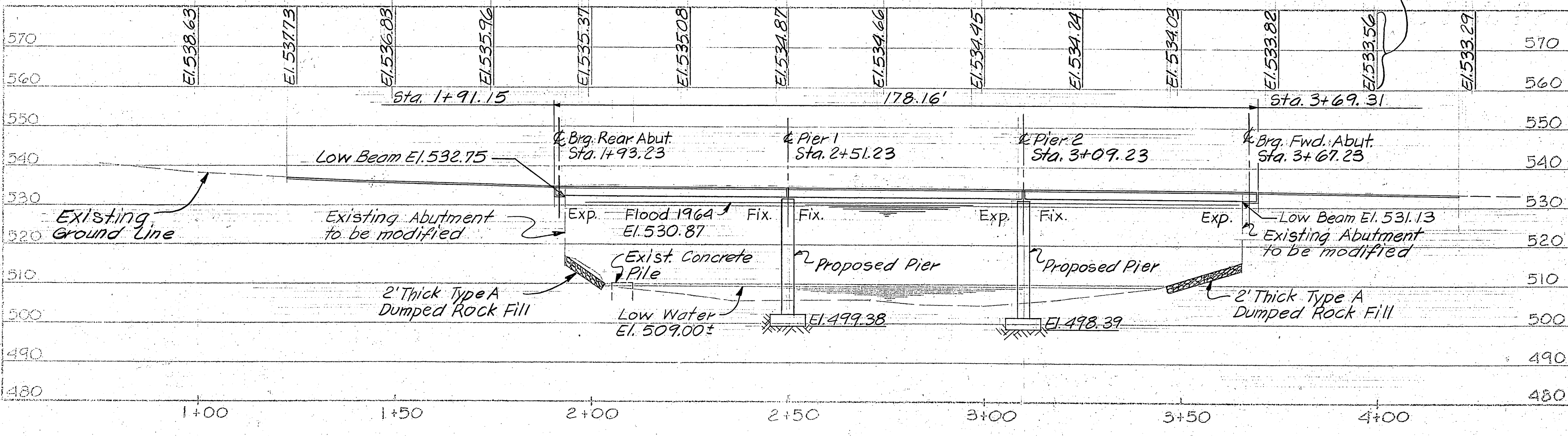
PLAN

B.M. River Gage @ G' Mark = Elevation 513.03



TYPICAL SECTION

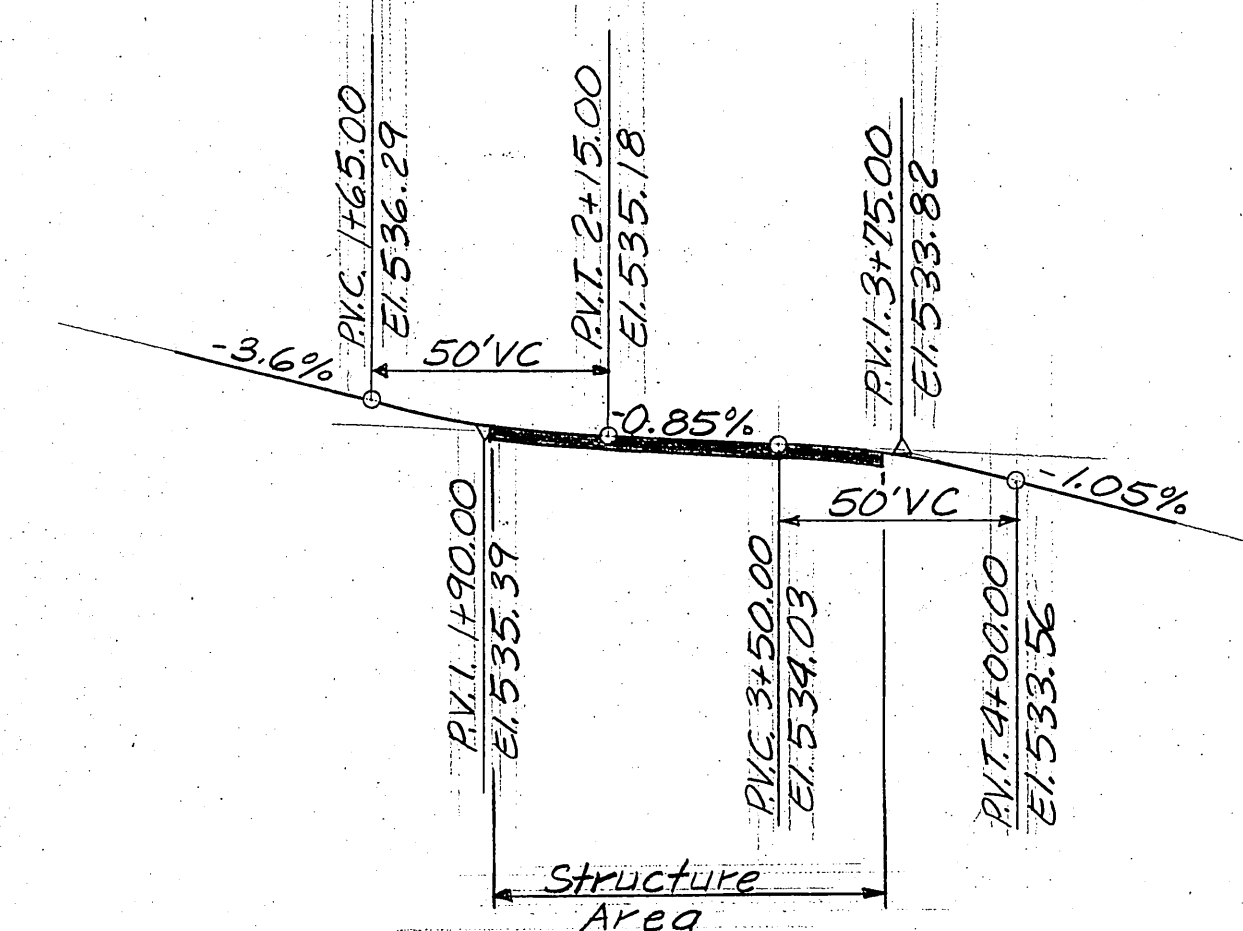
EXISTING STRUCTURE
 TYPE: Single Span Through Truss with Full Height Abutments
 YEAR BUILT: 1896
 SPAN: 177.3'
 ROADWAY: 15.8'
 LENGTH OF SUPERSTRUCTURE: 178'+
 DISPOSITION: Superstructure collapsed and has been removed. Existing Abutments to be used.



SECTION ALONG C-C

Elevations shown are at profile grade. Profile grade is set to meet the existing grade with minimum of resurfacing at both ends.

Drainage Area = 476 Sq. Miles
 Flood Mar. 10, 1964
 Source: U.S.G.S. Discharge: 42,400 c.f.s.
 Gage Located Near Rear Abutment. Gage 23.84' = El. 530.87
 Low Water El. 509.00 ±
 Controlled Q₅₀ = 17,100 c.f.s.
 V = 7.2 ft./sec.

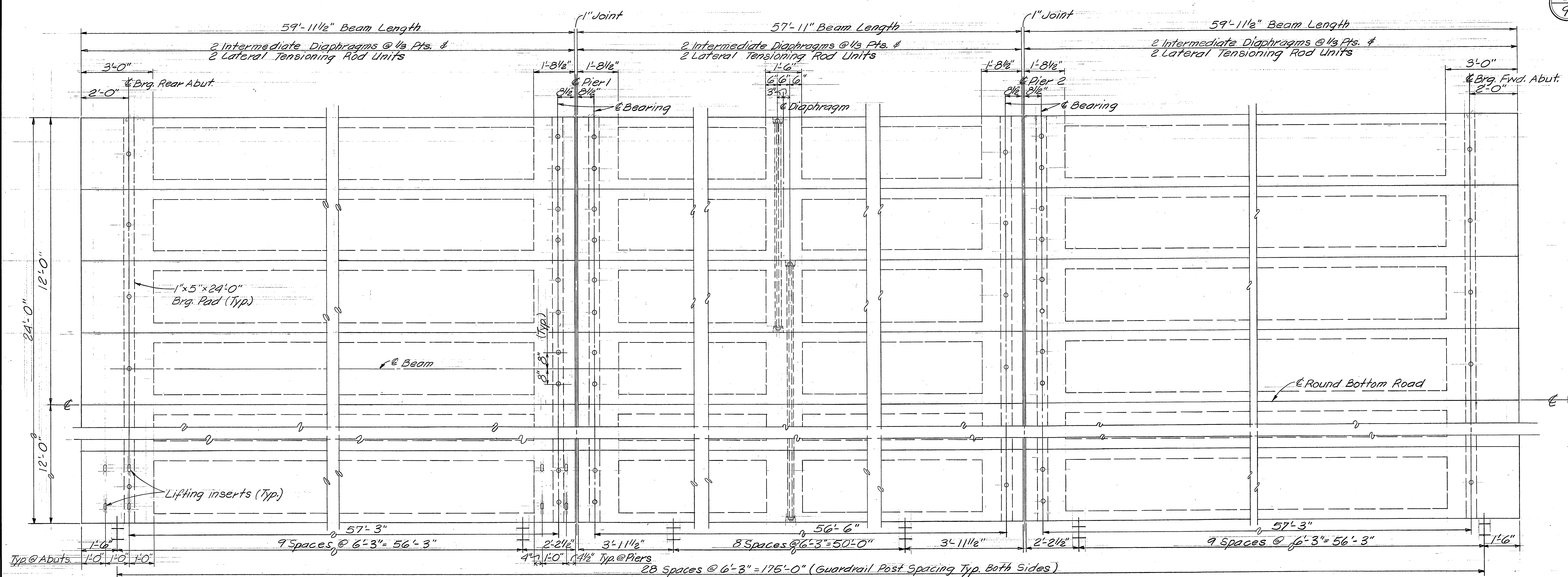


PROPOSED STRUCTURE

TYPE: Simple Span Prestressed Concrete Beams with existing abutments and reinforced concrete piers
 SPANS: 57'-3", 56'-6", 57'-3"
 ROADWAY: 24'-0" Face to Face of Railing
 LOADING: AASHTO HS 20-44
 SKEW: None
 WEARING SURFACE: 2 1/2" Asphaltic Concrete
 APPROACH SLAB: None
 ALIGNMENT: Tangent

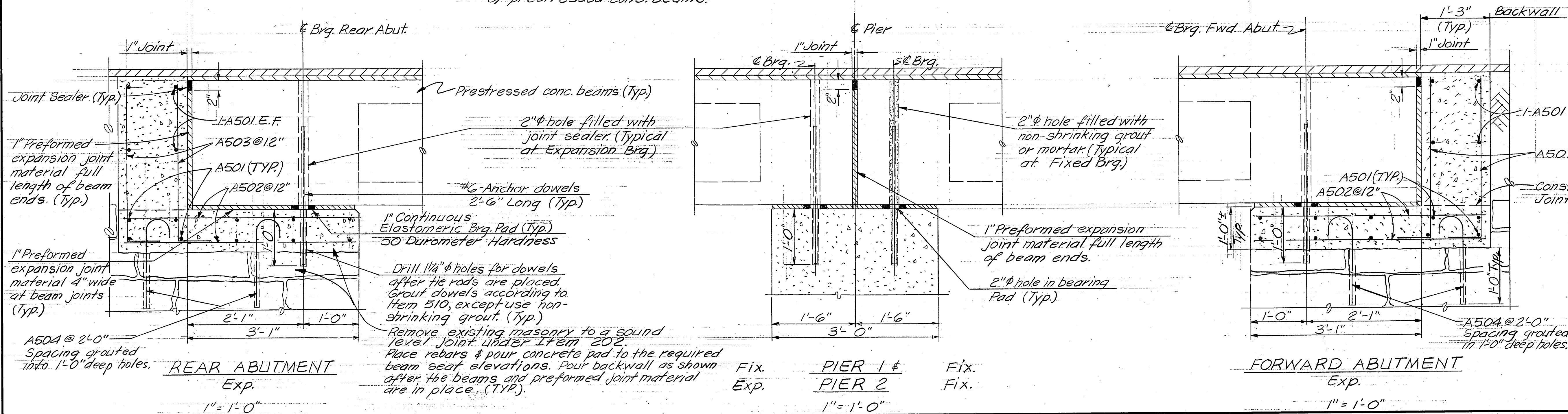
BALKE ENGINEERS 2/9
 990 NASSAU STREET
 CINCINNATI, OHIO 45206
SITE PLAN
 CO. RD. NO. 106
 (ROUND BOTTOM ROAD)
 OVER
 EAST FORK OF
 LITTLE MIAMI RIVER

| | |
|---------------------|----------------------------|
| EXISTING TOPOGRAPHY | PROPOSED WORK |
| SURVEYED D.G. | DESIGNED C.R.S. |
| DRAWN W.J.H. | CHECKED P.R.B. |
| | REVIEWED C.R.S. 7/76 |



DECK PLAN
1/2" = 1'-0"

Note: Cost of anchor dowels for prestressed concrete beams to be included in Unit price of prestressed conc. beams.

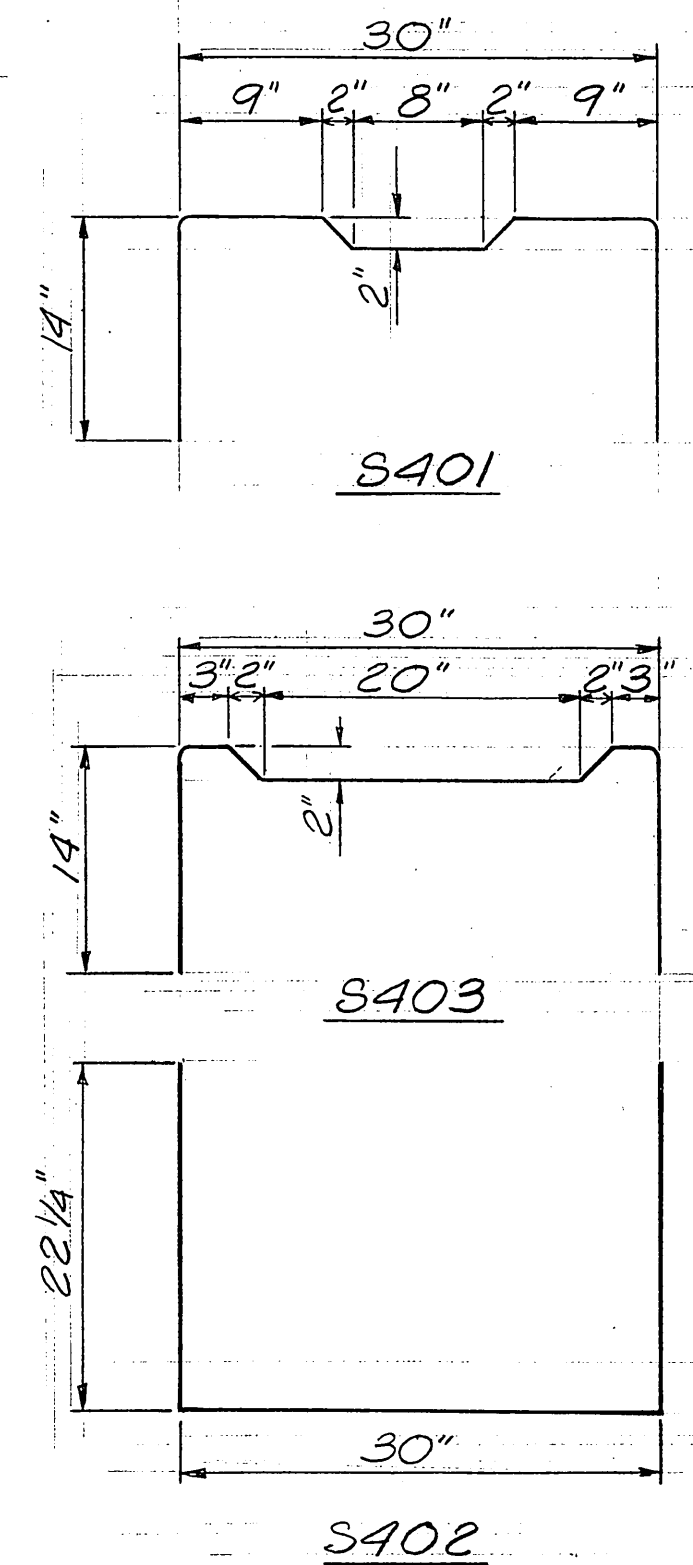
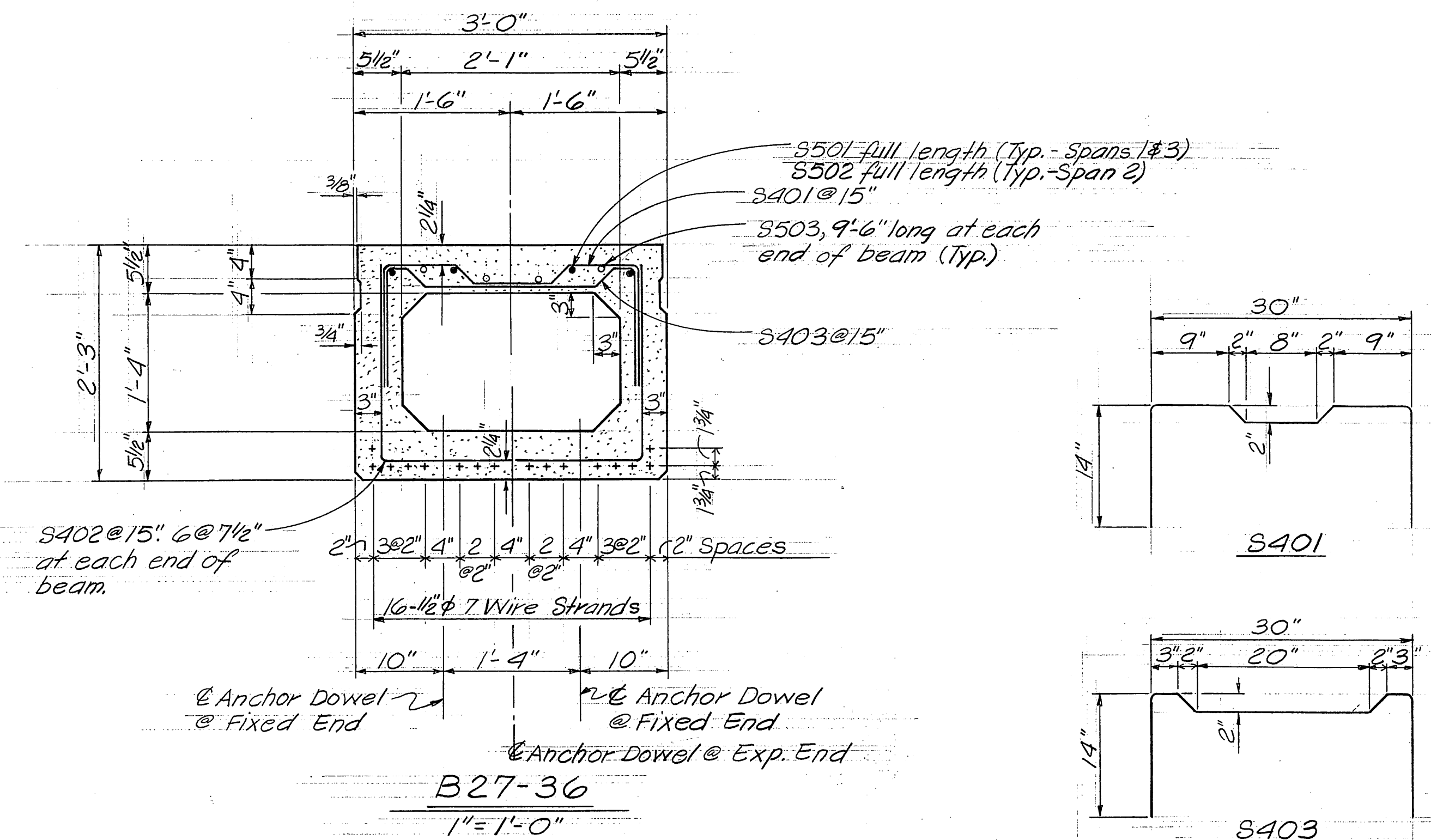
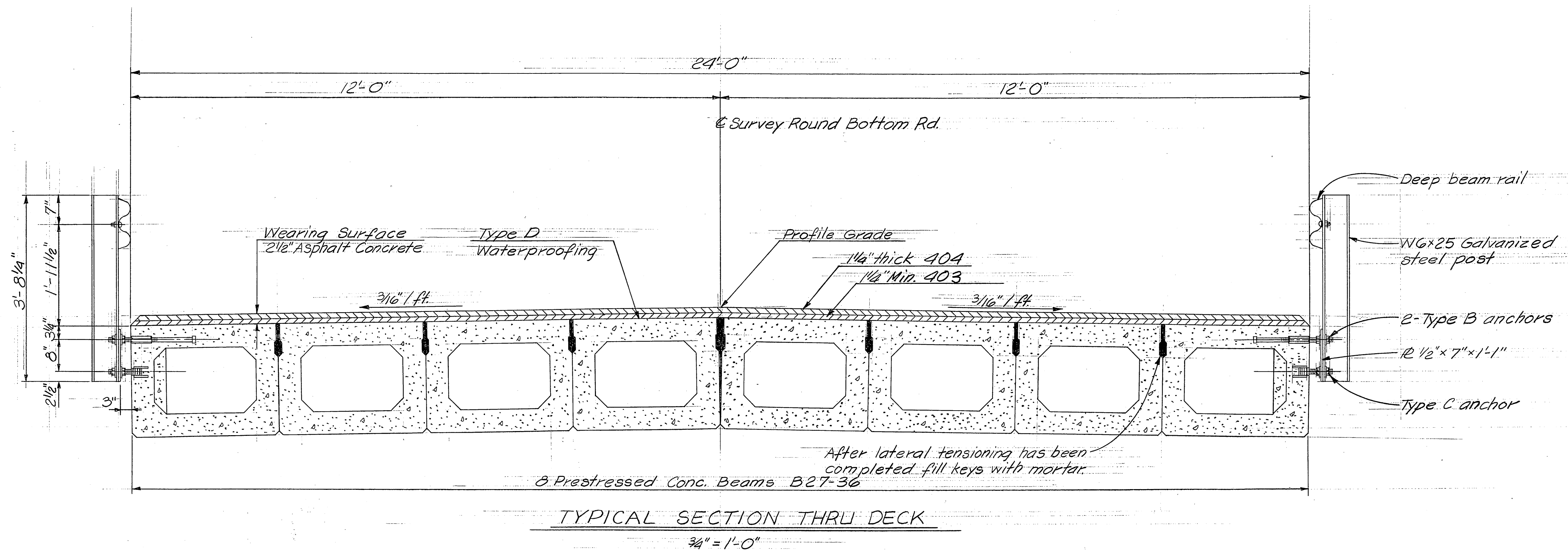


REAR ABUTMENT
Exp.
1" = 1'-0"

PIER 1 & PIER 2
Exp. Fix. Exp. Fix.
1" = 1'-0"

FORWARD ABUTMENT
Exp.
1" = 1'-0"

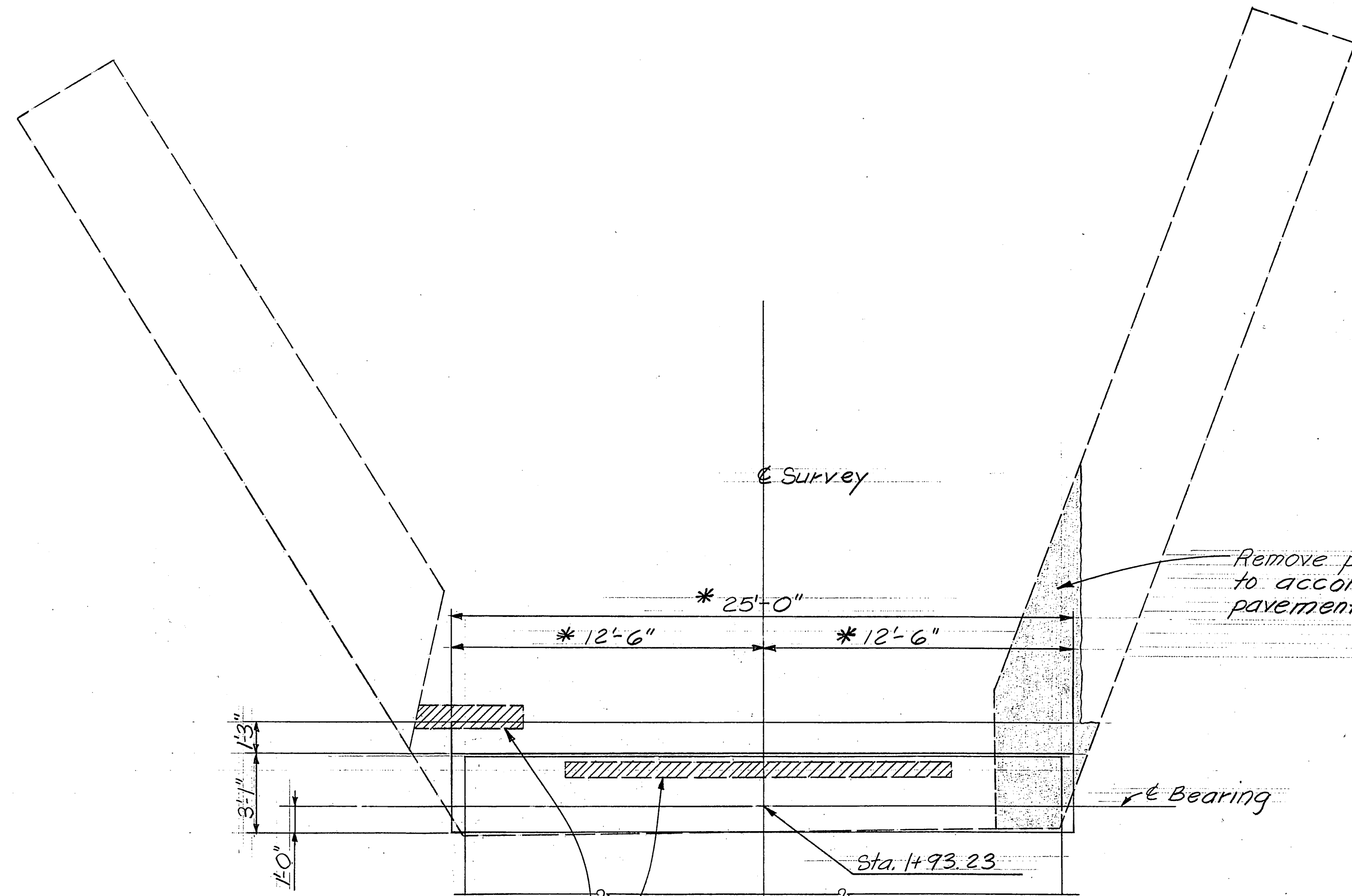
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| BALKE ENGINEERS 3/9 990 NASSAU STREET CINCINNATI, OHIO 45206 | | | | | |
| SUPERSTRUCTURE DETAILS - CO. RD. NO. 106 (ROUND BOTTOM ROAD) OVER EAST FORK OF LITTLE MIAMI RIVER | | | | | |
| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED DATE | REVISED |
| C.R.S. | WJH | / | P.R.B. | C.R.S. 7/76 | |



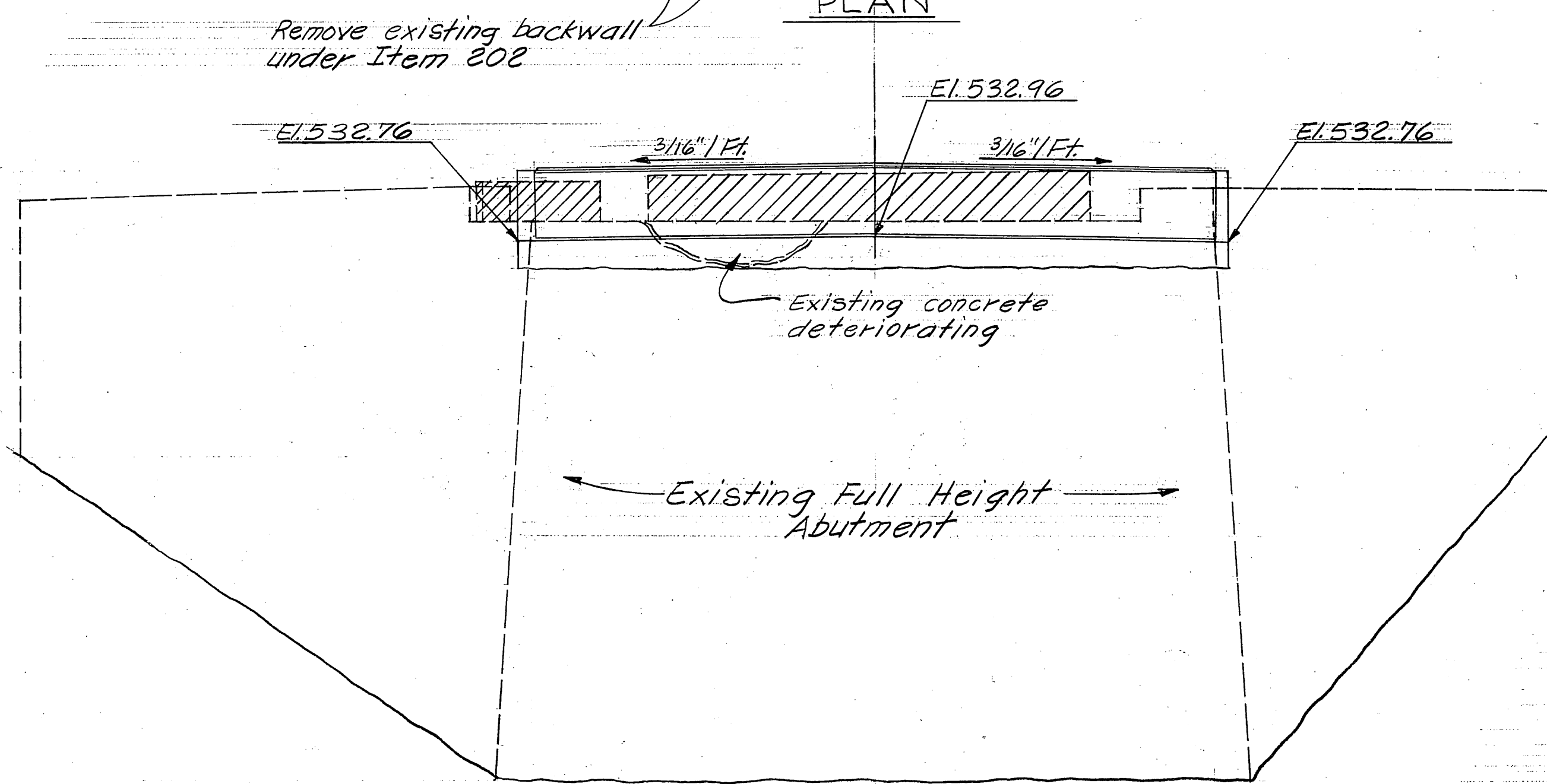
Note:
All reinforcing steel bars S501 thru S503 and S401 thru S403 shall be detailed by the fabricator on shop drawings and submitted for approval. The cost shall be included in unit bid price of prestressed box beams.

| REINFORCING FOR BOX BEAMS | | |
|---------------------------|------|-------|
| MARK | NO. | SHAPE |
| S501 | 64 | S |
| S502 | 32 | S |
| S503 | 192 | S |
| S401 | 1168 | B |
| S402 | 1312 | B |
| S403 | 1149 | B |

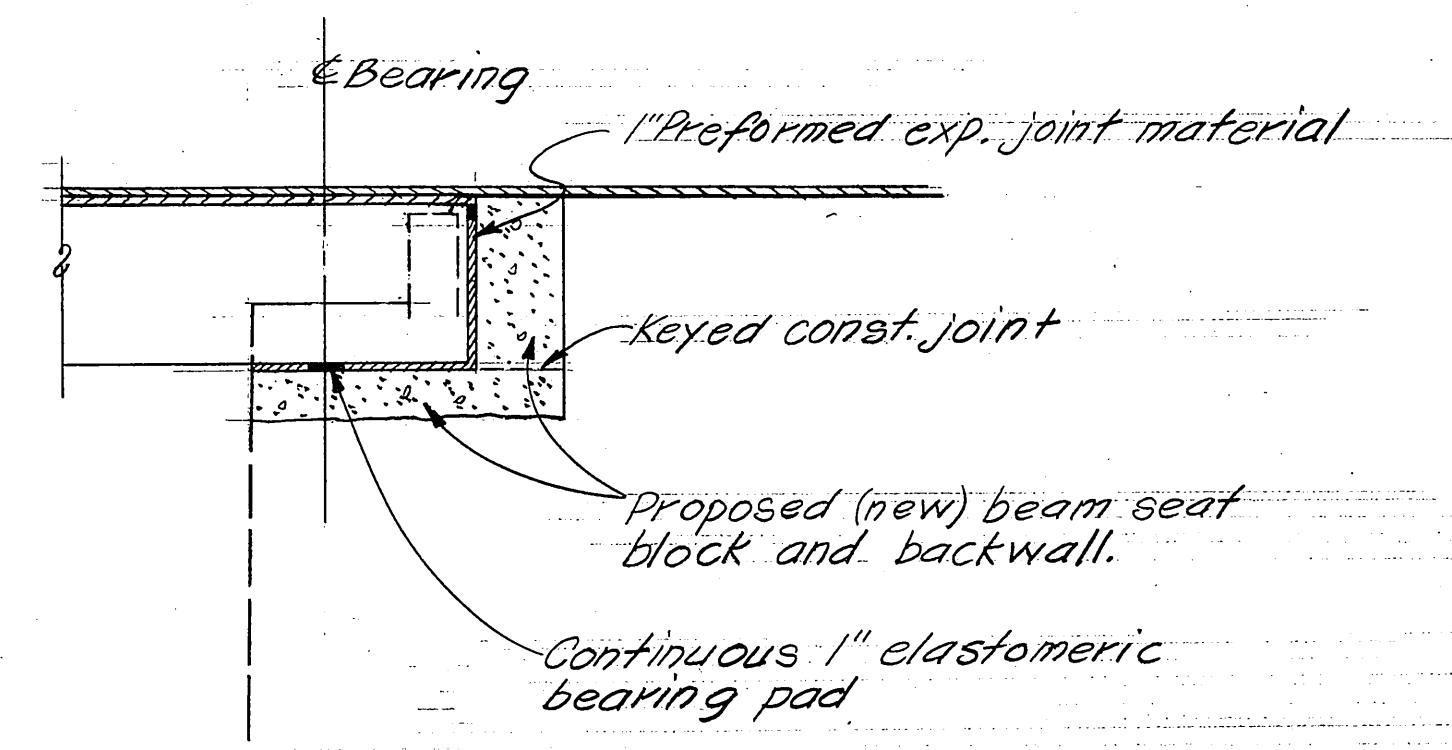
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| BALKE ENGINEERS 4/9 990 NASSAU STREET CINCINNATI, OHIO 45206 | | | | | |
| SUPERSTRUCTURE DETAILS CO. RD. NO. 106 (ROUND BOTTOM ROAD) OVER EAST FORK OF LITTLE MIAMI RIVER | | | | | |
| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED DATE | REVISED |
| CRS. | WJH | / | PR.B. | C.R.S. 7/76 | |



PLAN



ELEVATION

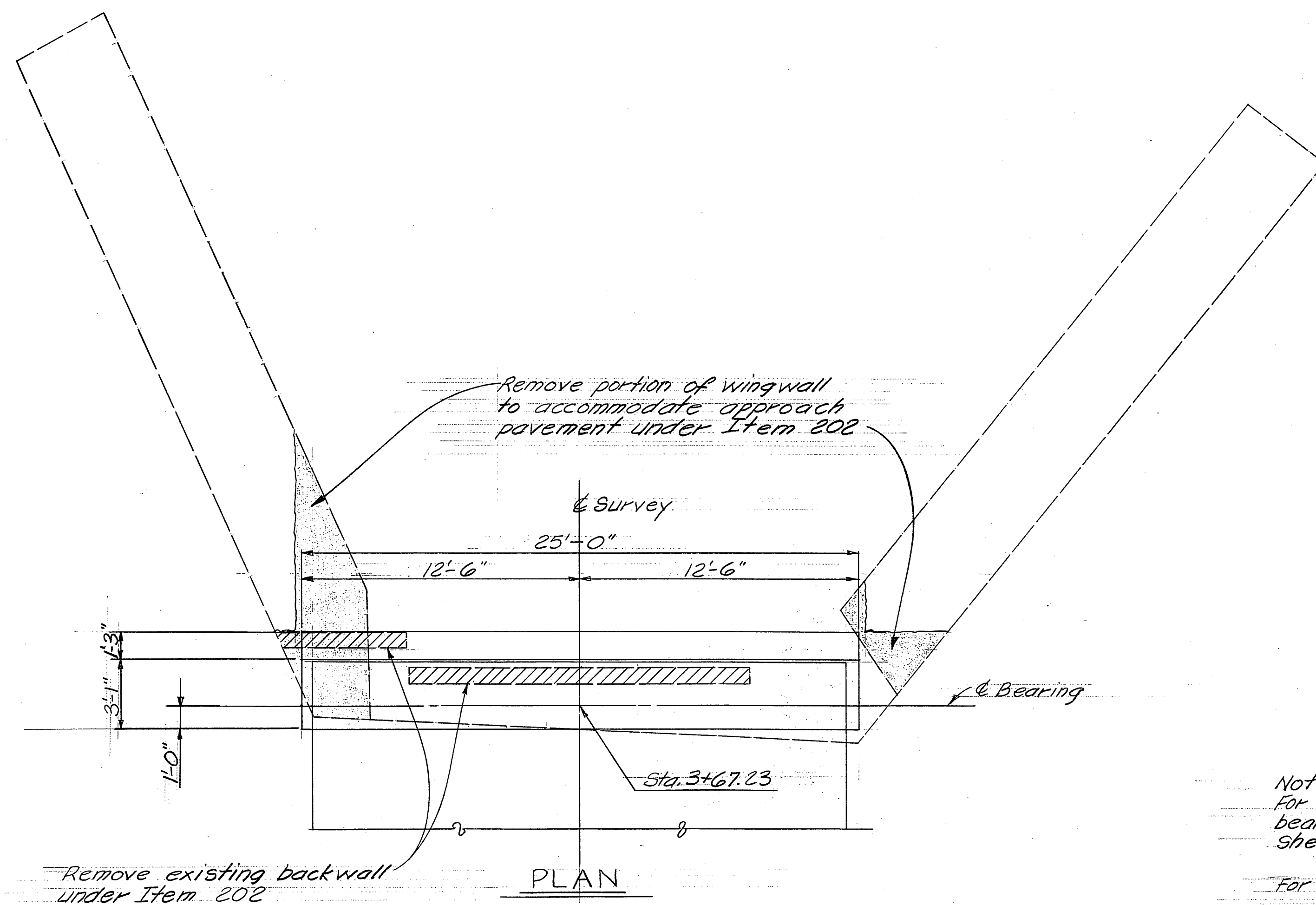


Note:
For reinforcement of the proposed (new) beam seat block and backwall see sheet 319.

Backwall Concrete: In addition to the provisions of 511.08, backwall concrete shall not be placed until after the prestressed concrete beams in the span adjacent to the backwall have been placed.

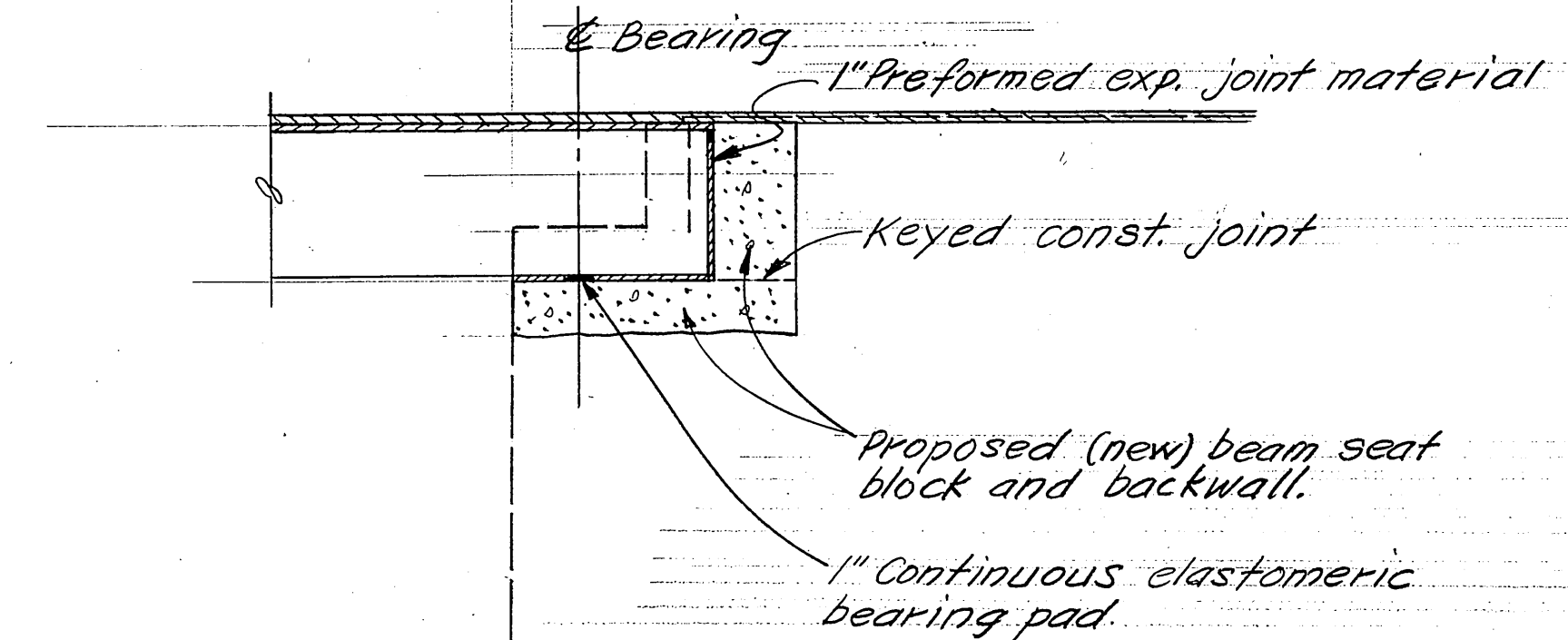
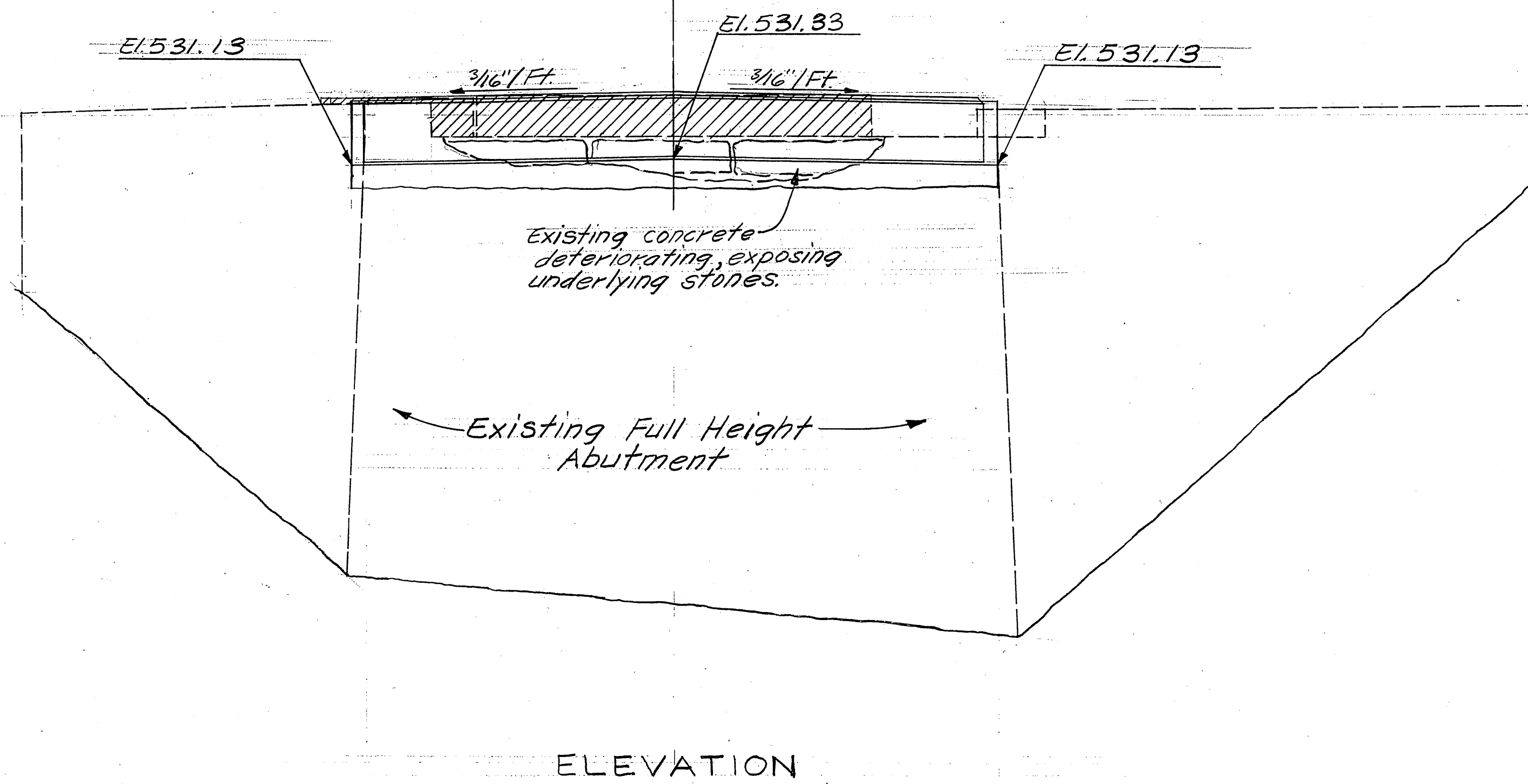
*These dimensions indicate preparation of beam seat on abutments and wingwalls. Projecting portion of wingwalls shall be removed. In determining beam seat width an allowance of 3/4" per longitudinal joint has been made.

| | | | | | |
|------------------------|--------|--------|---------|----------------|---------|
| BALKE ENGINEERS 5/9 | | | | | |
| 990 NASSAU STREET | | | | | |
| CINCINNATI, OHIO 45206 | | | | | |
| REAR ABUTMENT DETAILS | | | | | |
| CO. RD. NO. 106 | | | | | |
| (ROUND BOTTOM ROAD) | | | | | |
| OVER | | | | | |
| EAST FORK OF | | | | | |
| LITTLE MIAMI RIVER | | | | | |
| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED DATE | REVISED |
| C.R.S. | W.J.H. | | P.R.B. | C.R.S. 7/76 | |

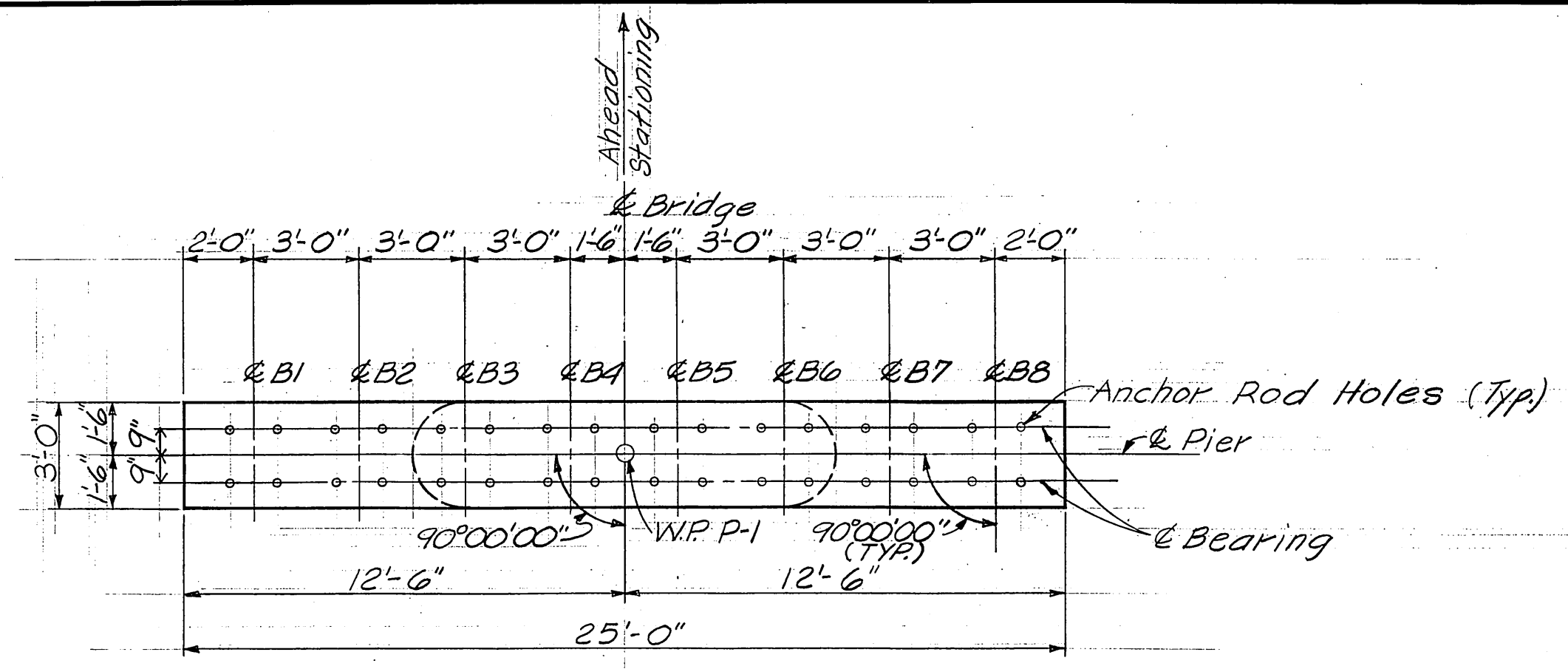


Note:
For reinforcement of the proposed (new) beam seat block and back wall see Sheet 319.

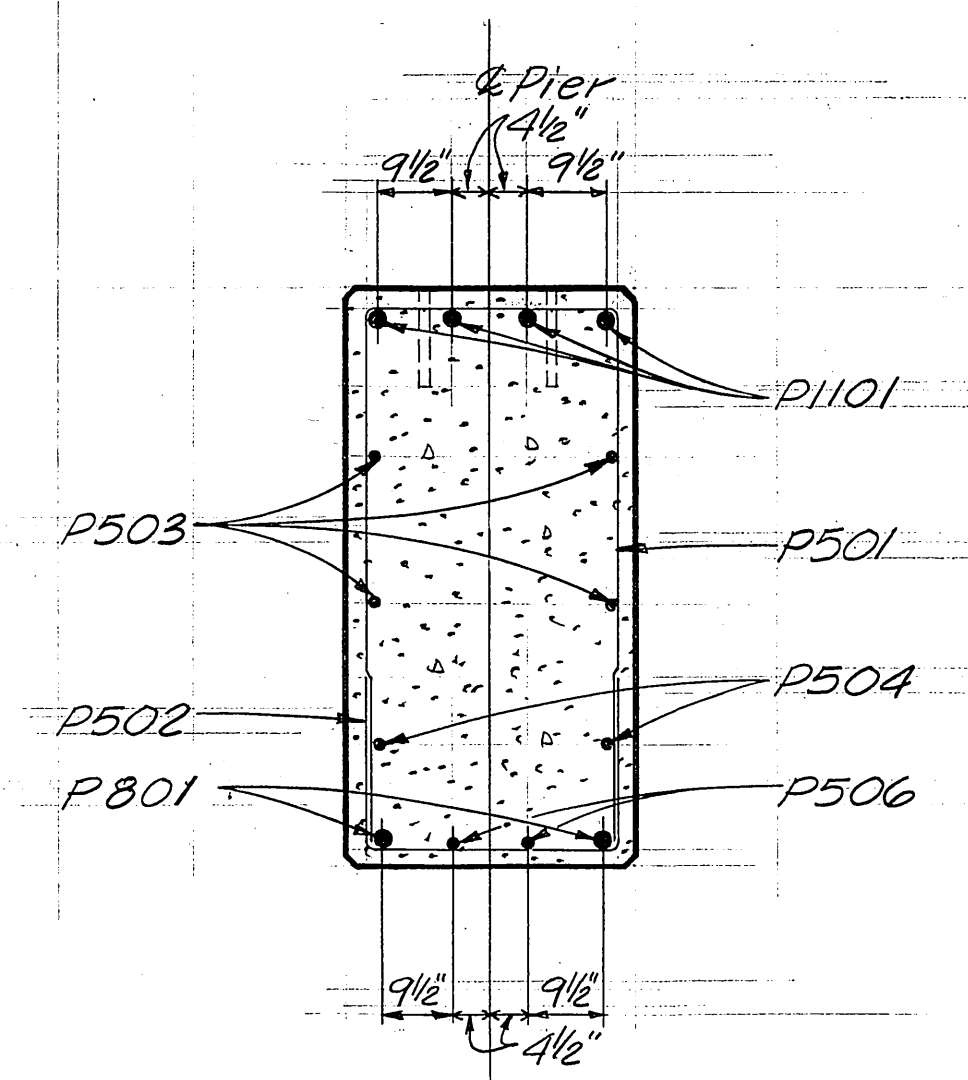
For additional notes see sht. 519.



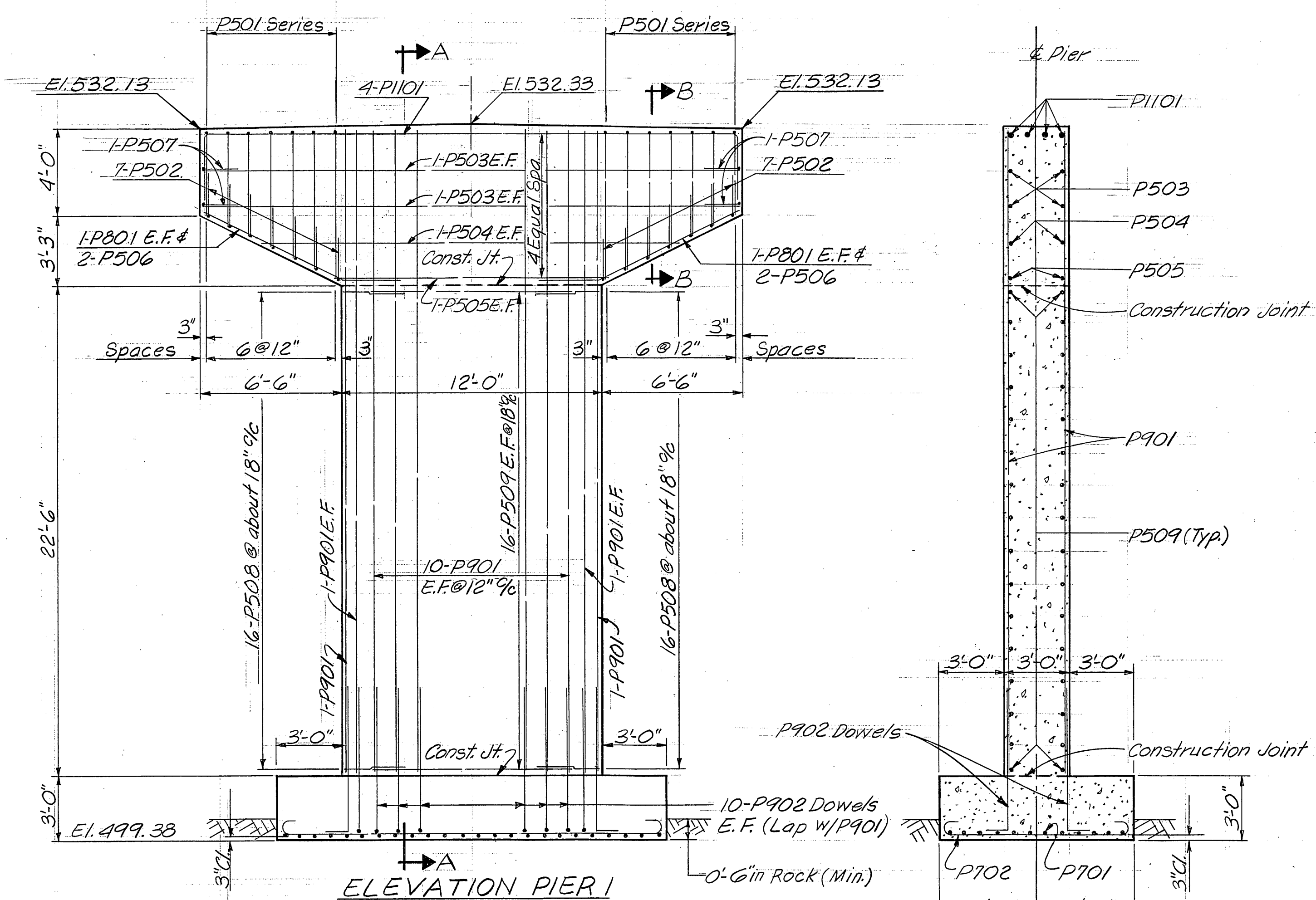
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| BALKE ENGINEERS 6/9 990 NASSAU STREET CINCINNATI, OHIO 45206 | | | | | |
| FWD. ABUTMENT DETAILS CO. RD. NO. 106 (ROUND BOTTOM ROAD) OVER EAST FORK OF LITTLE MIAMI RIVER | | | | | |
| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED DATE | REVISED |
| C.R.S. | WJH | | P.R.B. | C.R.S. 7/76 | |



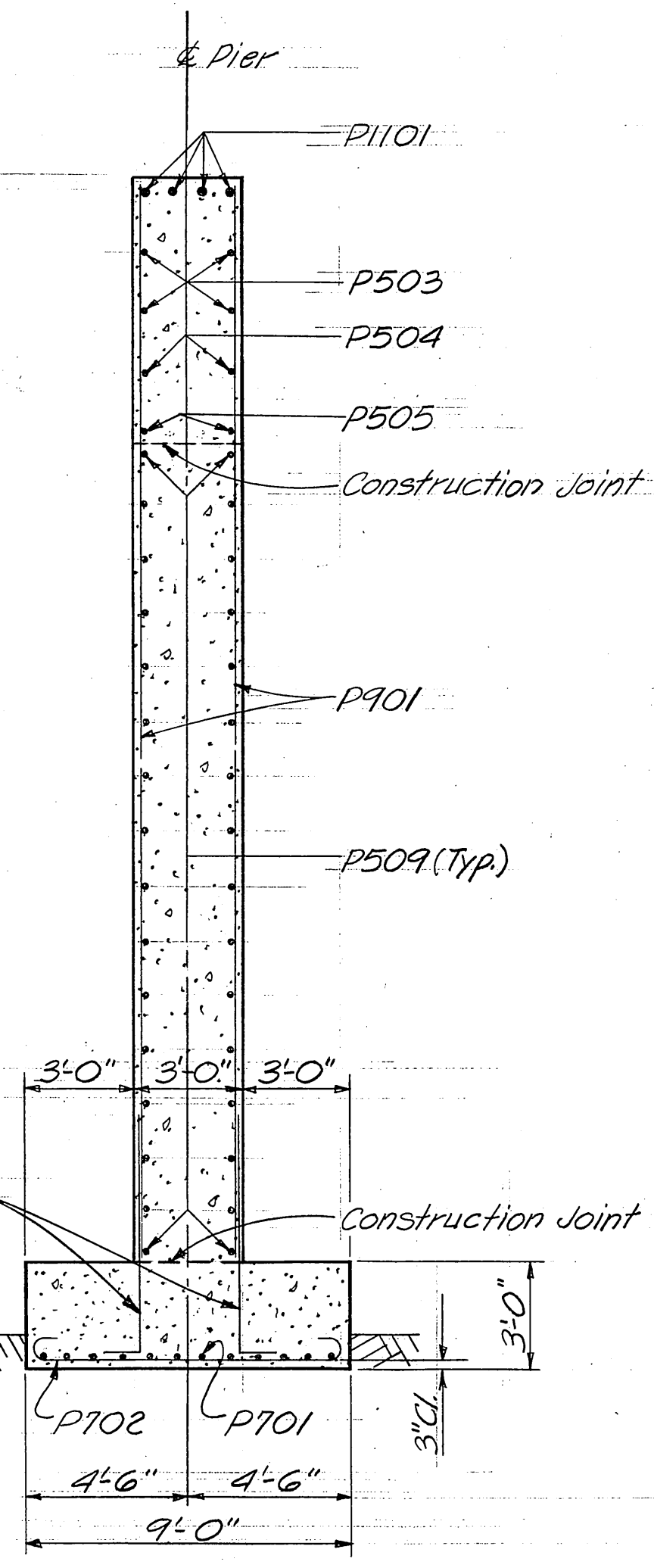
PLAN PIER I



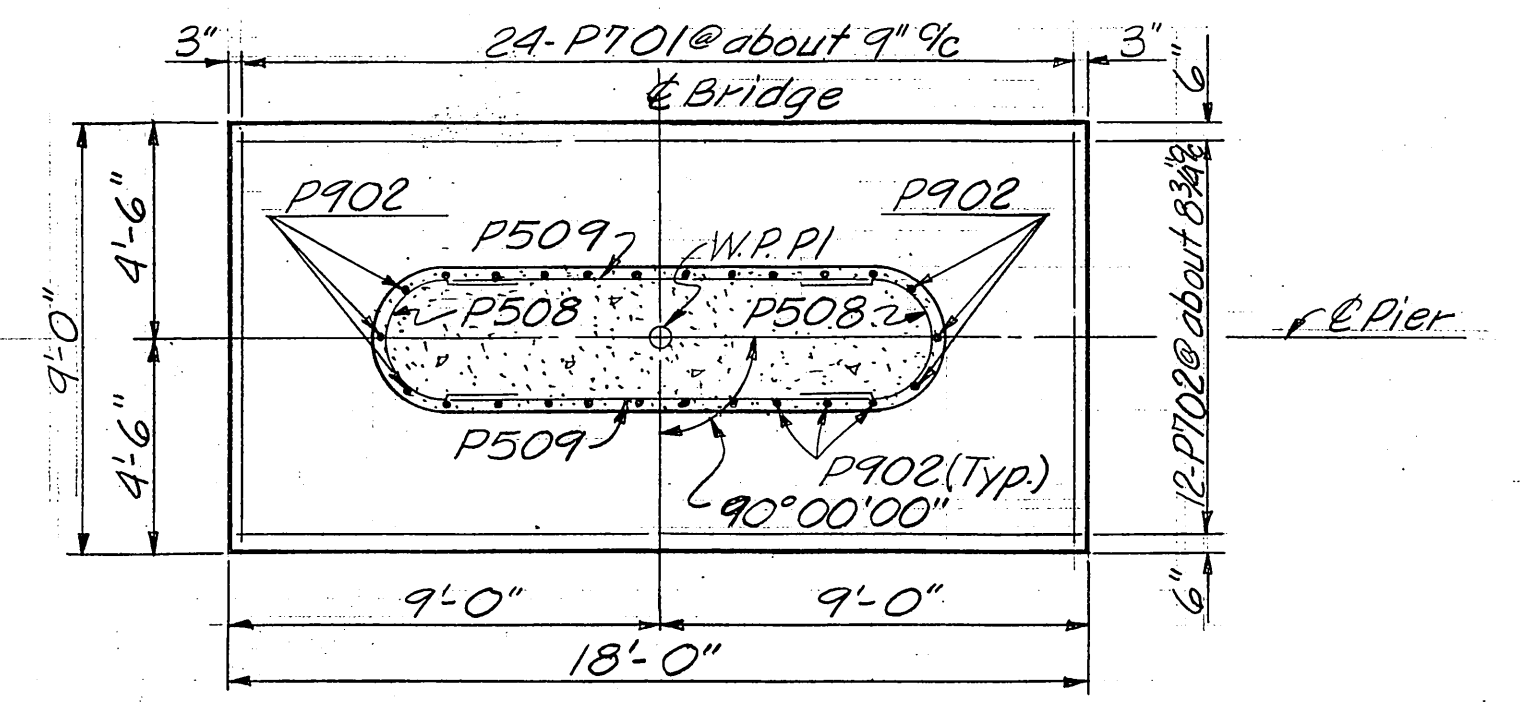
SECTION B-B



ELEVATION PIER I



SECTION A-A



FOOTING PLAN PIER I

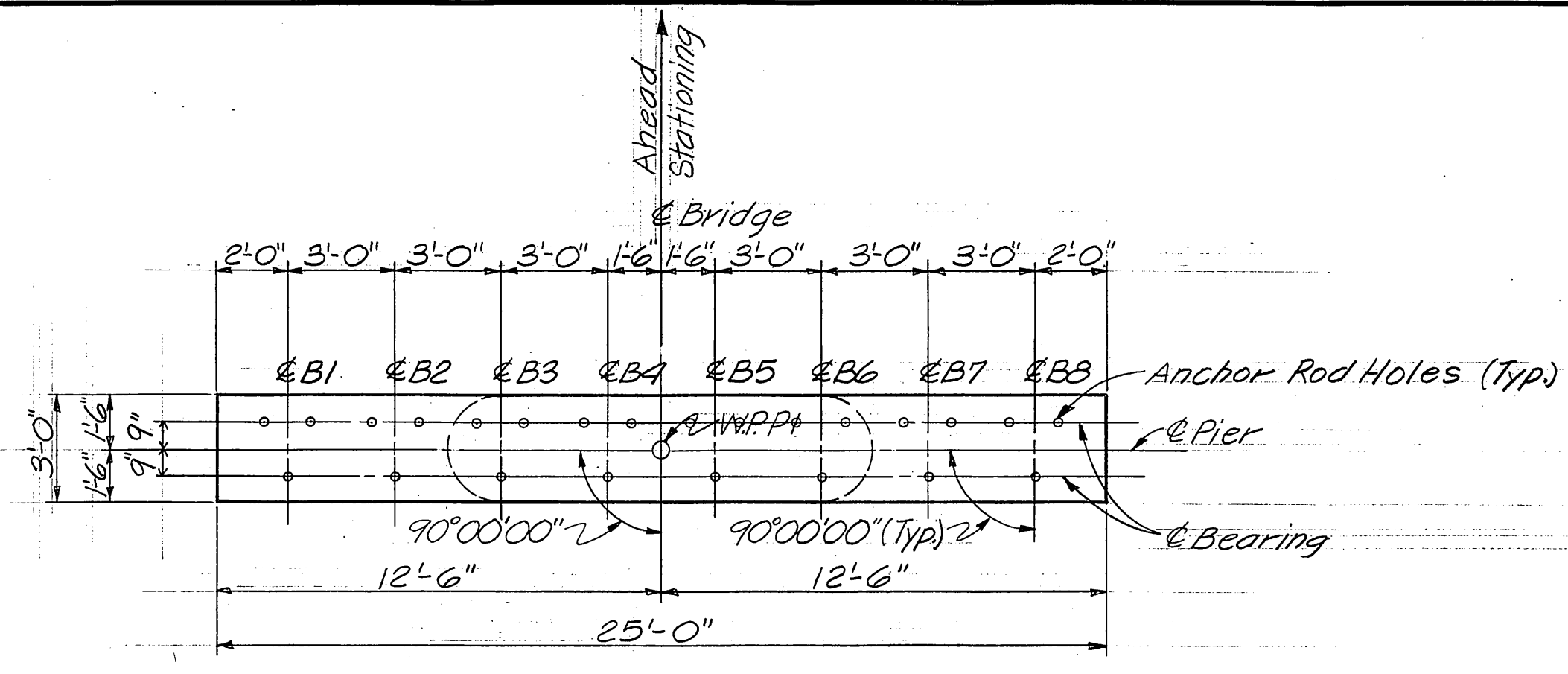
Note:
Special care shall be taken in placing reinforcing steel in the vicinity of beam seats so as to avoid interference with the drilling of anchor rod holes.

Notes:
1. For General Notes See Sheet 119.
2. For Reinforcing Steel List See Sheet 919.

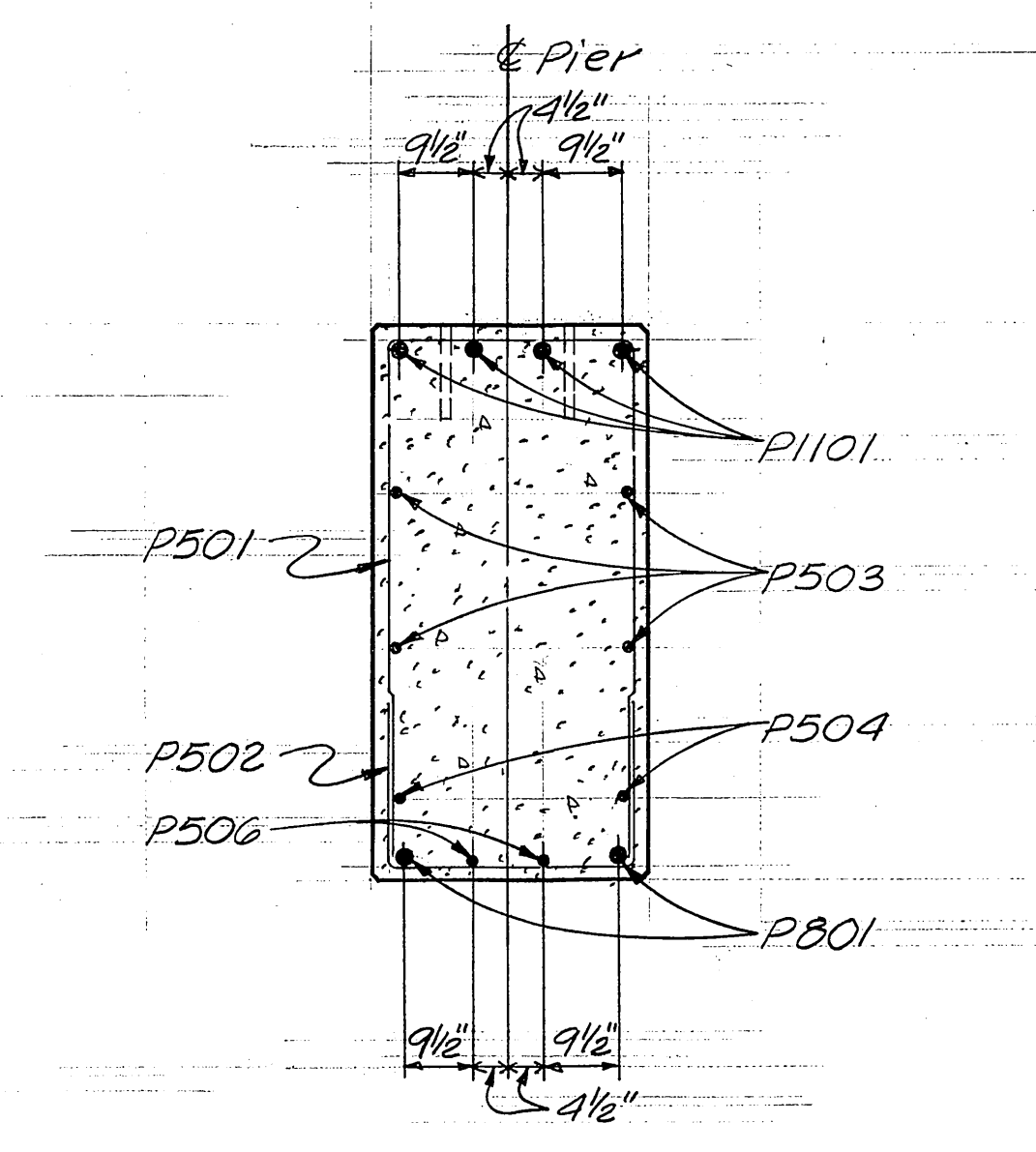
Class C Concrete: Pier above Footing 47 Cu. Yds.
Footing 18 Cu. Yds.
Reinforcing Steel: 6,276 Lbs.

NOTE: E.F. = Each Face
Spa. = Spaces

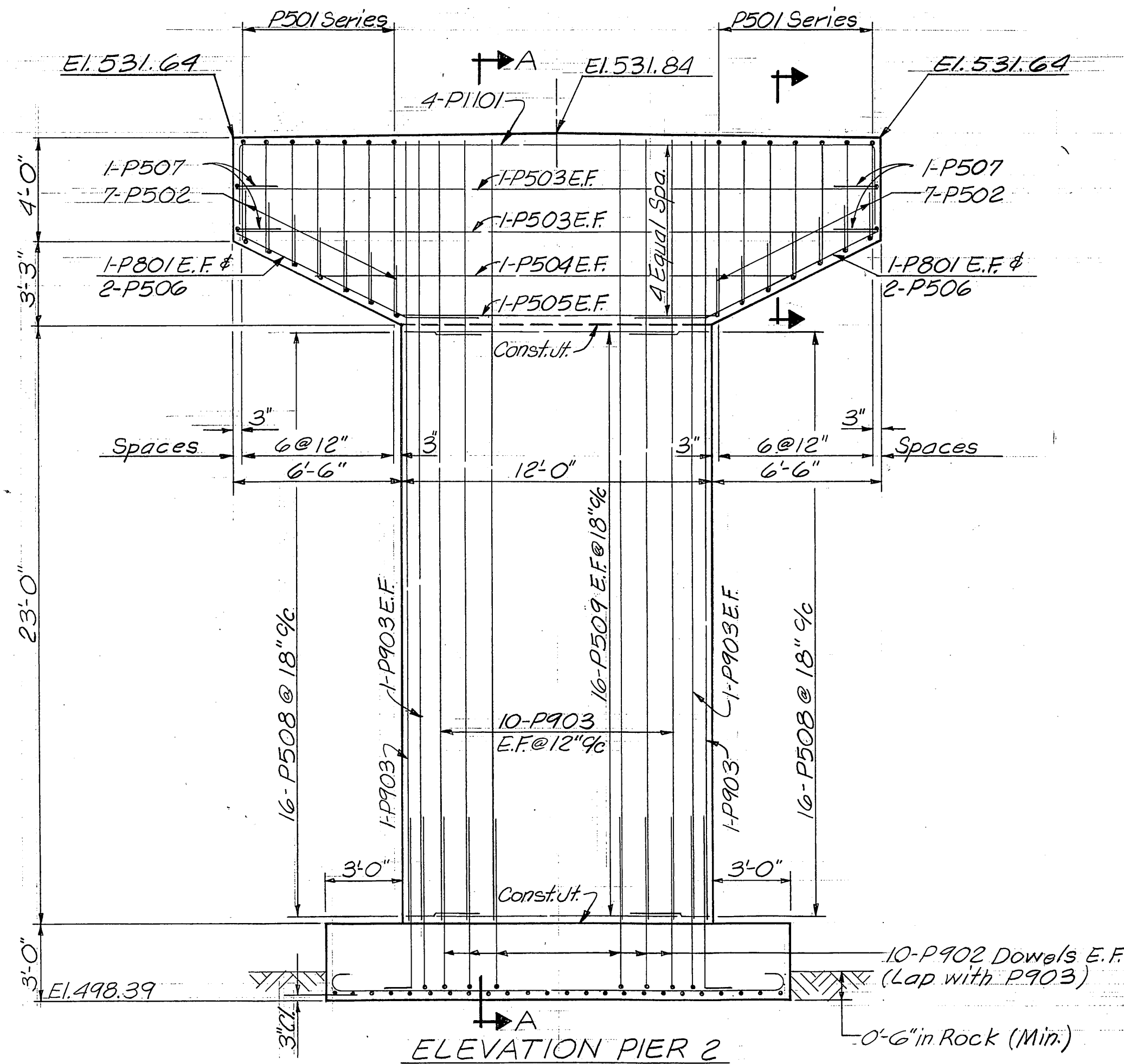
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| BALKE ENGINEERS 7/9 990 NASSAU STREET CINCINNATI, OHIO 45206 | | | | | |
| PIER I DETAILS CO. RD. NO. 106 (ROUND BOTTOM ROAD) OVER EAST FORK OF LITTLE MIAMI RIVER | | | | | |
| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED DATE | REVISED |
| PRB | WJH | — | WJH | C.R.S. 7/176 | |



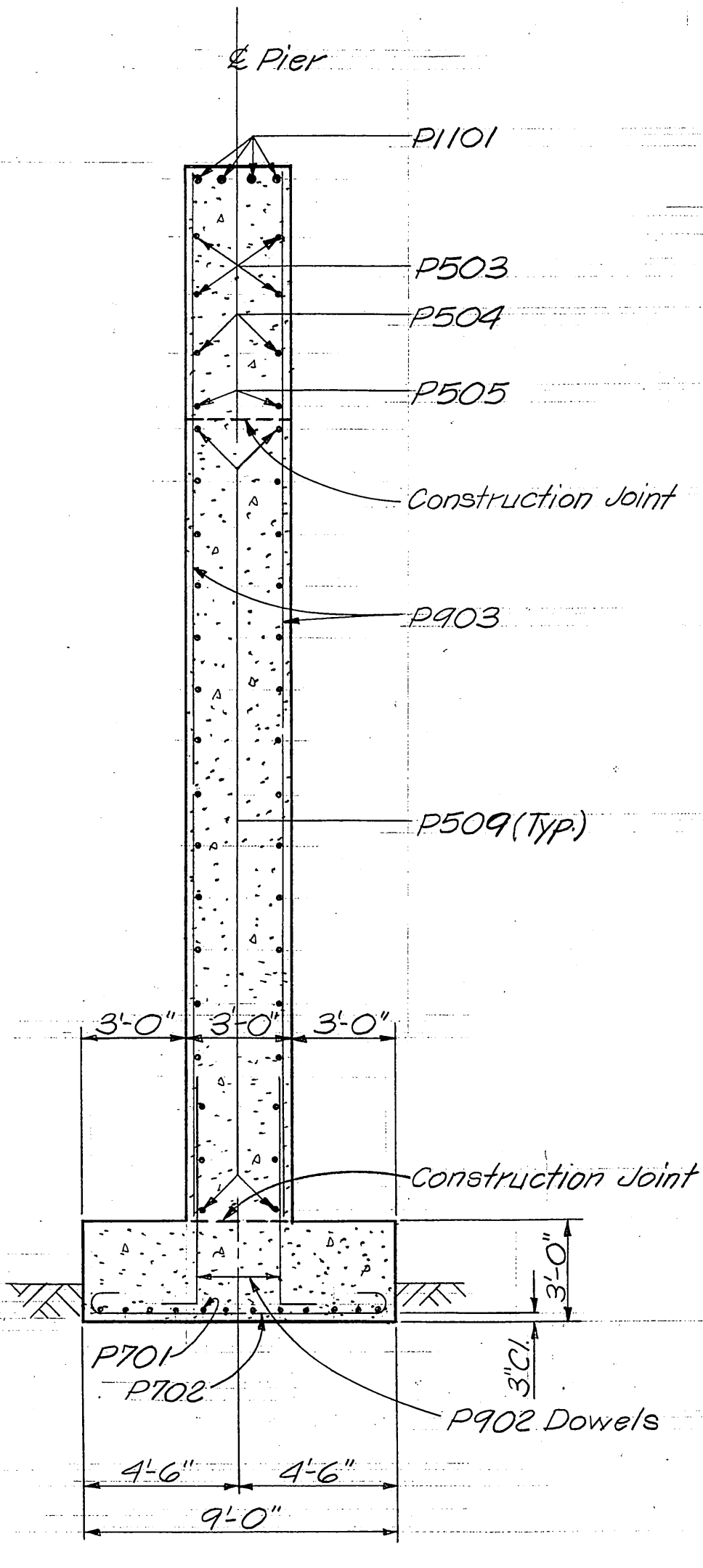
PLAN PIER 2



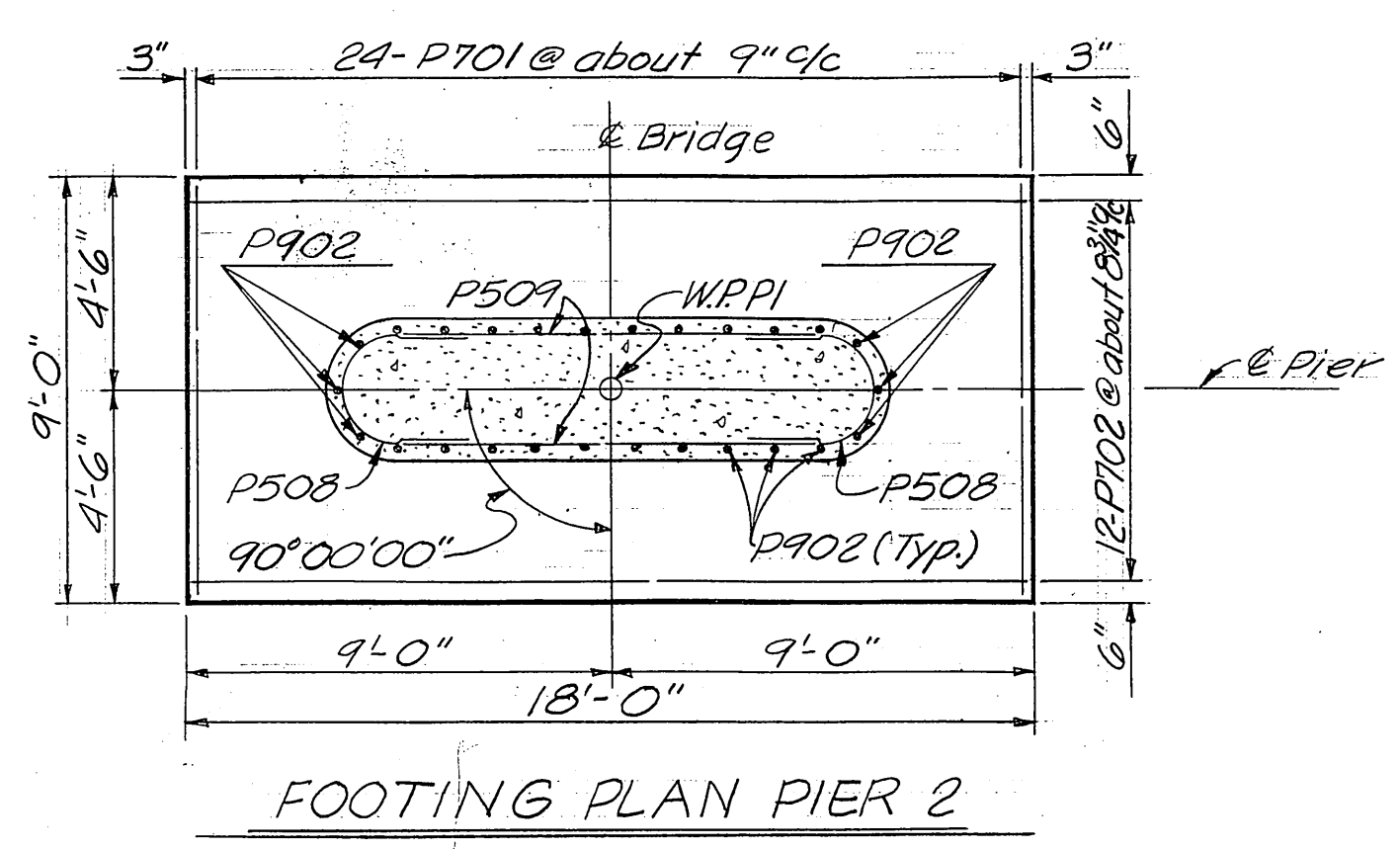
SECTION B-B



ELEVATION PIER 2



SECTION A-A



FOOTING PLAN PIER 2

Class C Concrete: Pier above Footing 47 Cu. Yds.
Footings 18 Cu. Yds.
Reinforcing Steel: 6,320 Lbs.

Notes:
For Notes See Sheet 719.

NOTE: E.F. = Each Face
Spa. = Spaces

| | | | | | |
|--|-------|--------|---------|----------------|---------|
| BALKE ENGINEERS 8/9 990 NASSAU STREET CINCINNATI, OHIO 45206 | | | | | |
| PIER 2 DETAILS CO. RD. NO. 106 (ROUND BOTTOM ROAD) OVER EAST FORK OF LITTLE MIAMI RIVER | | | | | |
| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED DATE | REVISED |
| PRB | WJH | — | WJH | C.R.S. 7/76 | |

