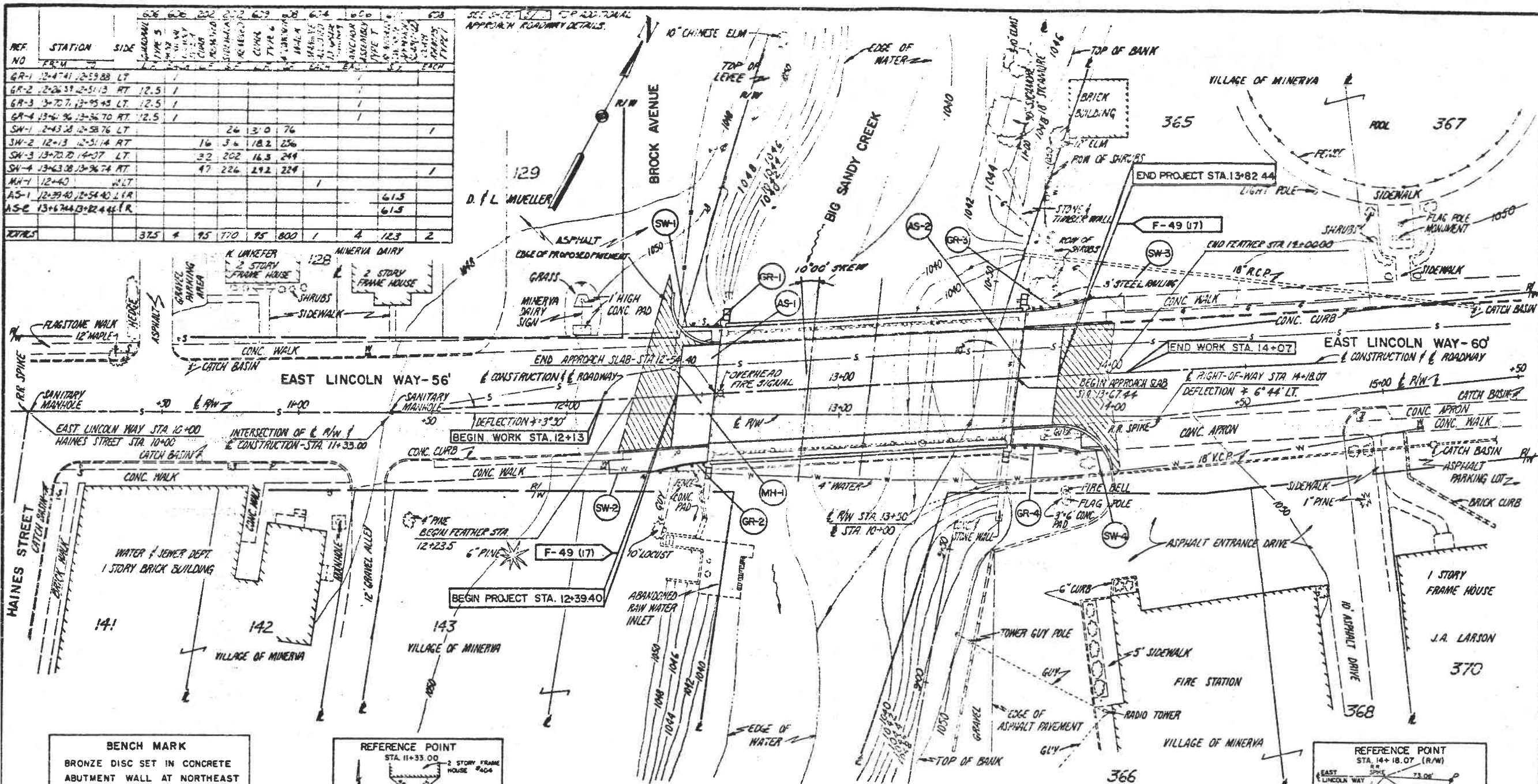
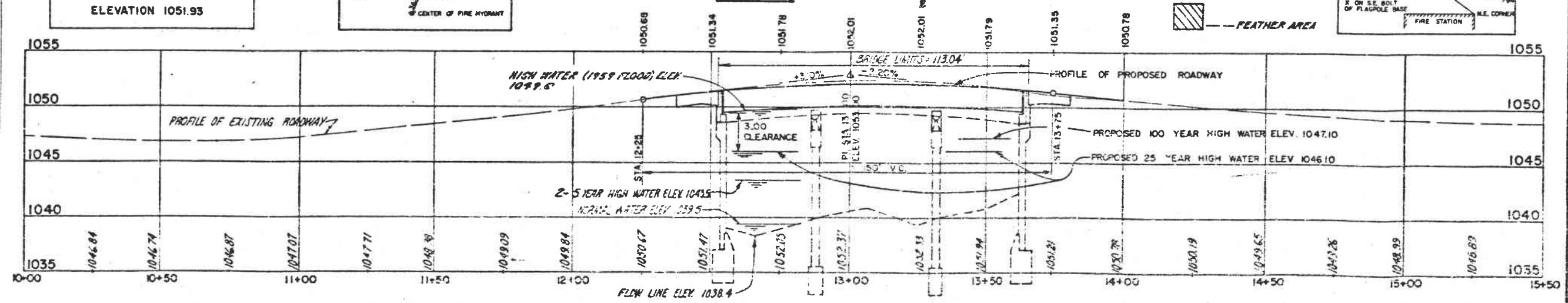


REF. NO.	STATION	SIDE	TYPE	DATE	BY	CHKD.	APP'D.	REMARKS
GR-1	12+47.41	259.88	LT					
GR-2	12+26.37	251.13	RT	12.5	1			
GR-3	13+70.7	13+95.45	LT	12.5	1			
GR-4	13+6.96	13+36.70	RT	12.5	1			
SW-1	12+43.28	259.76	LT					
SW-2	12+13	251.14	RT					
SW-3	13+70.7	14+07	LT					
SW-4	13+63.08	13+74.87	RT					
MH-1	12+40							
AS-1	12+39.40	12+54.40	11A					61.5
AS-2	13+64.03	12+44.1R						61.5
TOTALS								



PLAN



ELEVATION

REGION	STATE	PROJECT	4
5	OHIO		10

STARK COUNTY
STA-30-3118

DESIGN INFORMATION

1978 ADT = 6,254 VPD
1998 ADT = 11,500 VPD
1998 ADTT = 305 VPD
DESIGN SPEED = 30 MPH

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL I-BEAM WITH CONCRETE DECK ON REINFORCED CONCRETE ABUTMENTS AND PIERS
SPAN: 33'-44'-33" & BEARINGS
ROADWAY: 36'-0" 1/2 CURBS
SKEW: 10° L.F.
LOADING: HS-15
DATE BUILT: 1934
WEARING SURFACE: ASPHALT CONCRETE
APPROACH SLABS: AS-33 (14' LONG)
ALIGNMENT: TANGENT
SUPERELEVATION: NONE
DRAINAGE AREA: 612 SQ. MI.
WATERWAY AREA: 798 SQ. FT.
CONDITION: FAIR, CONCRETE DECK IN POOR CONDITION DUE TO EXCESSIVE CRACKING AND CORROSION OF REINFORCING STEEL CAUSED BY ROAD SALT

PROPOSED STRUCTURE

TYPE: NON-COMPOSITE PRESTRESSED CONCRETE BOX BEAMS ON EXISTING MODIFIED REINFORCED CONCRETE ABUTMENTS AND PIERS
SPAN: 33'-44'-33"
ROADWAY: 36'-0" 1/2 CURBS
SIDEWALKS: 6'-4" BOTH SIDES
LOADING: HS 20-44 AND THE ALTERNATE MILITARY LOADING
SKEW: 10° L.F.
WEARING SURFACE: ASPHALT CONCRETE - 2 1/2" MINIMUM
APPROACH SLABS: AS-1-72, 15' LONG
ALIGNMENT: TANGENT
SUPERELEVATION: NONE
DESIGN FREQUENCY: C₂₅ 9100
DISCHARGE = 4700 CFS 6070 CFS
VELOCITY = 7.8 FPS 85 FPS
HIGH WATER = 1046.10 1047.10

SITE PLAN

STA-30-3118 OVER BIG SANDY CREEK
STARK COUNTY BRIDGE NO. FA-36-1
EAST LINCOLN WAY, VILLAGE OF MINERVA
PARIS TOWNSHIP, STARK COUNTY, OHIO
DATE JAN. 1979

HAMMONTREE & ASSOCIATES, LTD.
1234 COMM. AND ENGINEERING BLDG. & SERVICE BLDG.
CANTON, OH 44705

Rev. 10-9-81

STARK COUNTY
STA-30-3116

GENERAL NOTES

REFERENCE SHALL BE MADE TO STANDARD DRAWING NO. 1:

AS-1-72	DATED	6-1-72
BR-2-77	REVISED	10-2-77
POSD-1-77	DATED	6-1-77
AND TO SUPPLEMENTAL SPECIFICATION		
MS2	DATED	6-8-77

DESIGN SPECIFICATION
THIS BRIDGE SHALL BE DESIGNED TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS, 1973, INCLUDING 1974, 1975 AND 1976 INTERIM SPECIFICATIONS AND THE OHIO "SUPPLEMENT TO THESE SPECIFICATIONS".

DESIGN DATA:
DESIGN LOADING - HS20-44 AND THE ALTERNATE MILITARY LOADING
CONCRETE CLASS S - UNIT STRESS 1200 P.S.I. FOR SUPERSTRUCTURE
CONCRETE CLASS C - UNIT STRESS 1333 P.S.I. FOR SUBSTRUCTURE
REINFORCING STEEL - ASTM A615, A616 OR A617 - UNIT STRESS 20,000 P.S.I.

CONCRETE FOR PRESTRESSED CONCRETE BEAMS -
UNIT STRESS 2200 P.S.I. COMPRESSION
444 P.S.I. TENSION

PRESTRESSING STRAND ASTM A416 -
F_s = 270,000 P.S.I.
INITIAL STRESS = 170 F_s

DECK PROTECTION METHOD - MEMBRANE WATERPROOFING AND ASPHALT CONCRETE OVERLAY

PROPOSED WORK
REHABILITATION OF THIS BRIDGE SHALL INCLUDE REMOVAL OF THE EXISTING CONCRETE DECK AND STEEL BEAM SUPERSTRUCTURE INCLUDING ALL BEARING DEVICES. PRIOR TO CONSTRUCTION OF A NEW PRESTRESSED CONCRETE BEAM SUPERSTRUCTURE, THE EXISTING ABUTMENTS AND PIERS SHALL BE MODIFIED AS SHOWN ON THE PLANS.

REMOVAL OF PORTIONS OF EXISTING STRUCTURE
WHEN NO LONGER NEEDED TO MAINTAIN THE EXISTING SUPERSTRUCTURE AND PORTIONS OF THE ABUTMENTS SHALL BE REMOVED. THE APPROACH PEDESTRIAN HANDRAIL AT THE NORTH-EAST AND SOUTHEAST CORNERS OF THE BRIDGE SHALL ALSO BE REMOVED AS PART OF THIS ITEM.

UTILITY LINES
ALL EXPENSE INVOLVED IN RELOCATING THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE OWNER. THE CONTRACTOR AND OWNER ARE REQUESTED TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

PRESTRESSED CONCRETE WORK BEAMS
PAYMENT FOR ITEM 515, PRESTRESSED CONCRETE BRIDGE MEMBERS, SHALL INCLUDE MORTARING THE SHEAR KEYS, TIE ROD RECESSED AND DRILLING FOR ANCHOR BAR HOLES.

CALCULATED CAMBER AT TIME OF PAVING, INCLUDING ALLOWANCE FOR CAMBER GROWTH DUE TO CREEP, IS 5/16 INCH FOR THE END SPANS AND 7/8 INCH FOR THE CENTER SPAN.

CALCULATED DEFLECTION DUE TO WEIGHT OF SURFACE COURSE IS 1/16 INCH FOR THE END SPANS AND 3/16 INCH FOR THE CENTER SPAN.
CAMBER OF 5/8 INCHES AT CENTER OF END SPANS AND 1 INCH AT CENTER OF CENTER SPANS IS REQUIRED FOR CORRECT VERTICAL CURVE.
3/8 INCH EXTRA CAMBER IS REQUIRED FOR THE END SPANS AND 5/16 INCH EXTRA CAMBER IS REQUIRED FOR THE CENTER SPAN. THIS SHALL BE PROVIDED BY THICKENING THE 403 LEVELING COURSE FROM 1 1/4 INCHES AT ENDS OF SPANS TO 1 5/8 INCHES AT CENTER OF ALL SPANS.

ASPHALT CONCRETE SURFACE COURSE SHALL CONSIST OF A VARIABLE THICKNESS OF 403 AND A 1 1/4 INCH THICKNESS OF 404. THE 403 SHALL BE PLACED IN TWO OPERATIONS. THE FIRST COURSE SHALL BE OF 1 1/4 INCH UNIFORM THICKNESS. THE SECOND COURSE SHALL BE FEATHERED TO PLACE THE SURFACE PARALLEL TO AND 1 1/4 INCH BELOW FINAL PAVEMENT SURFACE ELEVATION.

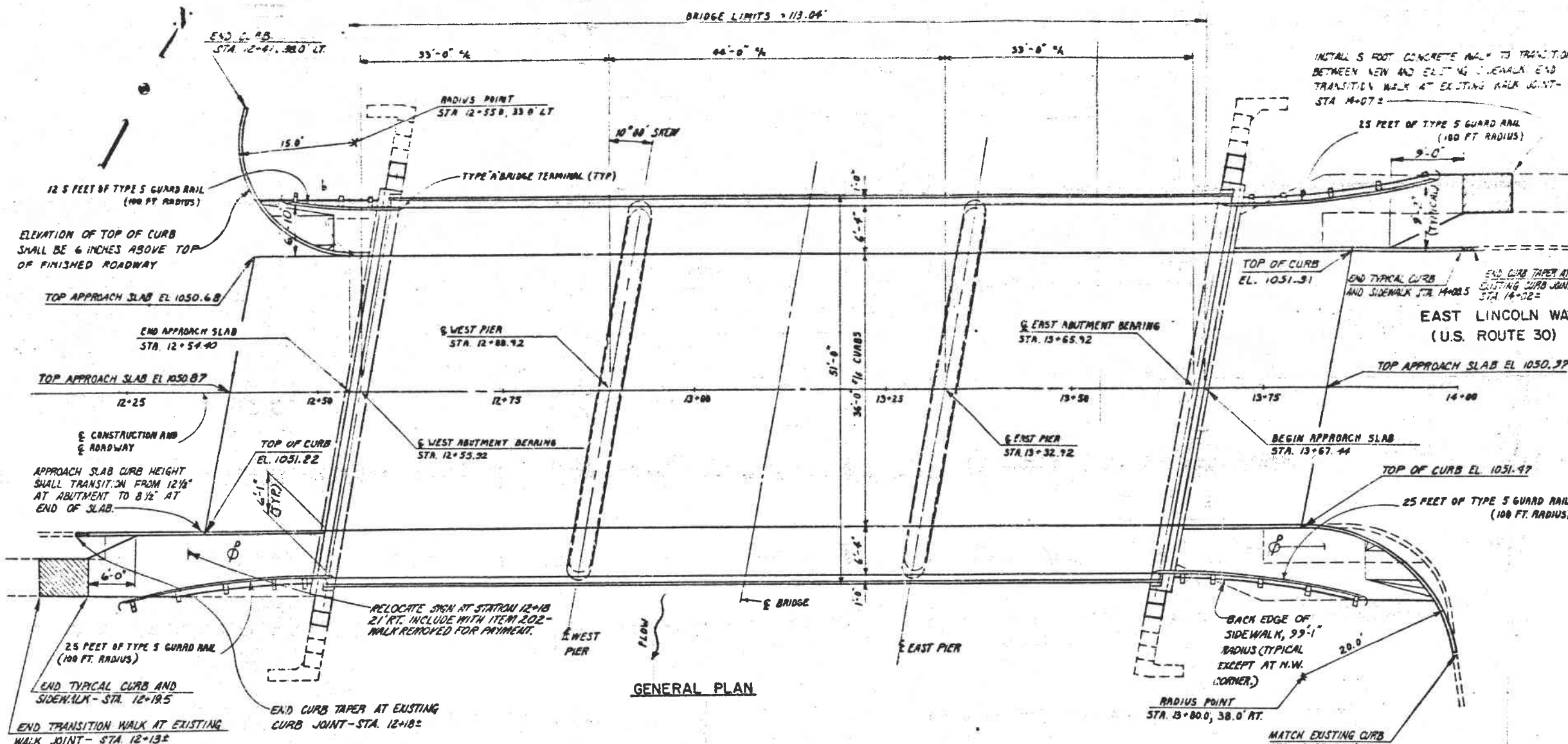
ATTACHMENT OF GUARDRAIL TO CONCRETE ELEMENTS
CONCRETE ELEMENTS SHALL BE REINFORCED ACCORDING TO CONSTRUCTION DRAWINGS GR-3 AND GR-1. SHALL BE PLACED DURING PARALLEL CONSTRUCTION. THE ANCHORAGE SYSTEM SHOWN IN STANDARD DRAWING BR-2-67 SHALL NOT BE USED.

SHIMS
THE 3" x 1/2" x 18" PREFORMED BEARING PADS ARE PROVIDED TO ACCOMMODATE ANY UNEVENNESS BETWEEN BOTTOM OF PRESTRESSED BEAMS AND BRIDGE SEAT.

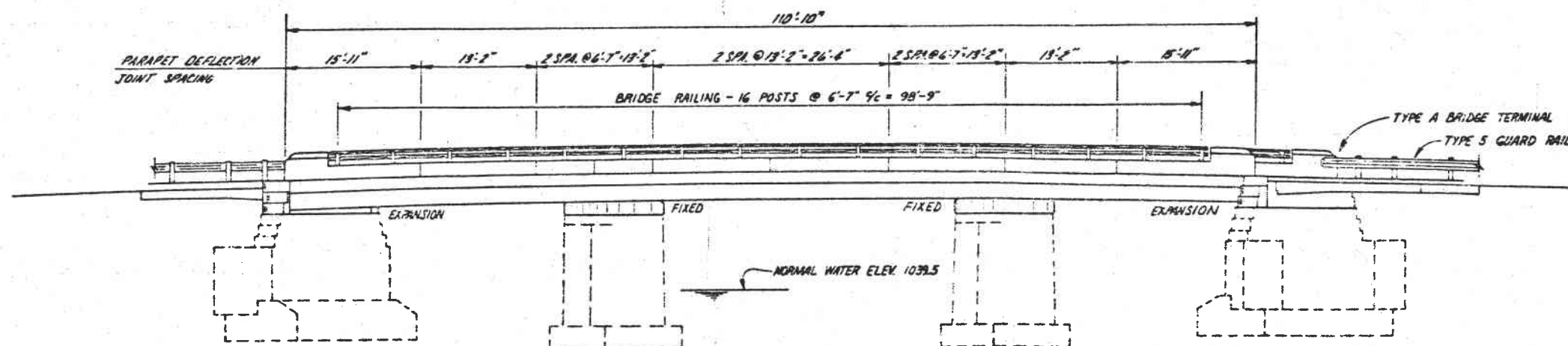
GENERAL NOTES CONTINUED ON SHEET 10.

DESCRIPTION	DATE	BY
GENERAL PLAN & ELEVATION, NOTES	12/7/79	
STA-30-3116 OVER B/S SANDY CREEK		
STARK COUNTY BRIDGE NO. PA-36-11		
EAST LINCOLN WAY, VILLAGE OF MINERVA		
PARIS TOWNSHIP, STARK COUNTY, OHIO		
HAMMOND & ASSOCIATES, LTD.	DATE JAN/80	
DESIGNED BY: TRANSPORTATION & SURVEYING		
CHECKED BY: CIVIL ENGINEER		

Rev. 10-9-81



GENERAL PLAN



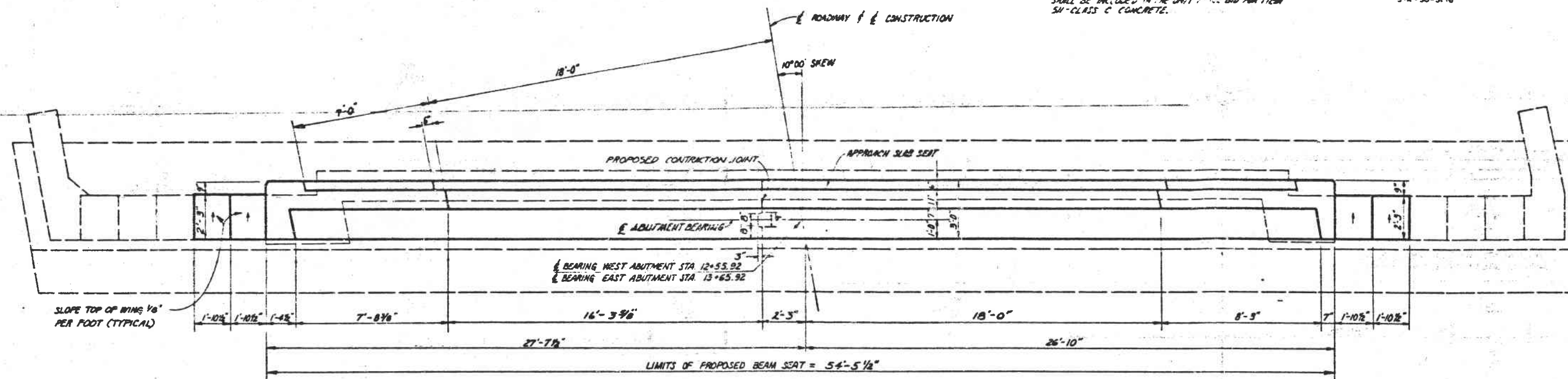
ELEVATION

FEDERAL REGION	STATE	PROJECT
5	OHIO	

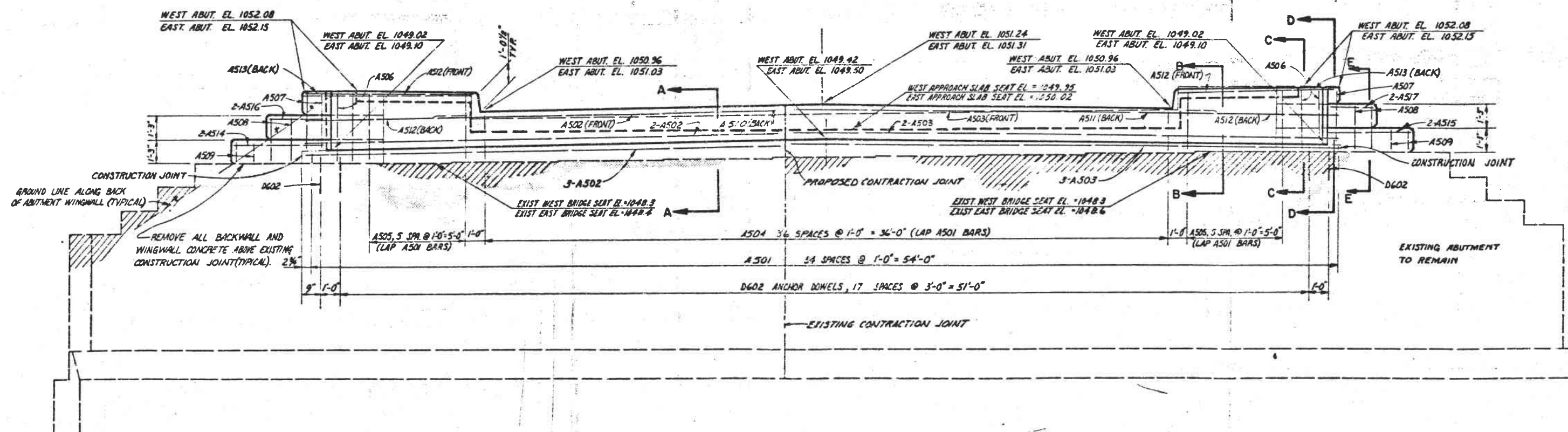
STARK COUNTY
STA-30-31.16

10

PREPARATION OF EXISTING BRIDGE SEAT PRIOR TO THE PLACEMENT OF NEW CONCRETE. THE EXISTING BRIDGE SEAT SHALL BE CLEARED IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF CONSTRUCTION AND MATERIAL SPECIFICATION 5.3.1.4. REINFORCEMENT FOR THIS WORK ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 5.11-CLASS C CONCRETE.



PLAN



ELEVATION

SECTIONS: ALL SECTION WELLS SHOWN ON SHEET 417

APPROXIMATE LIMITS OF CONCRETE DETERIORATION AT EAST ABUTMENT
APPROXIMATE LIMITS OF CONCRETE DETERIORATION AT WEST ABUTMENT

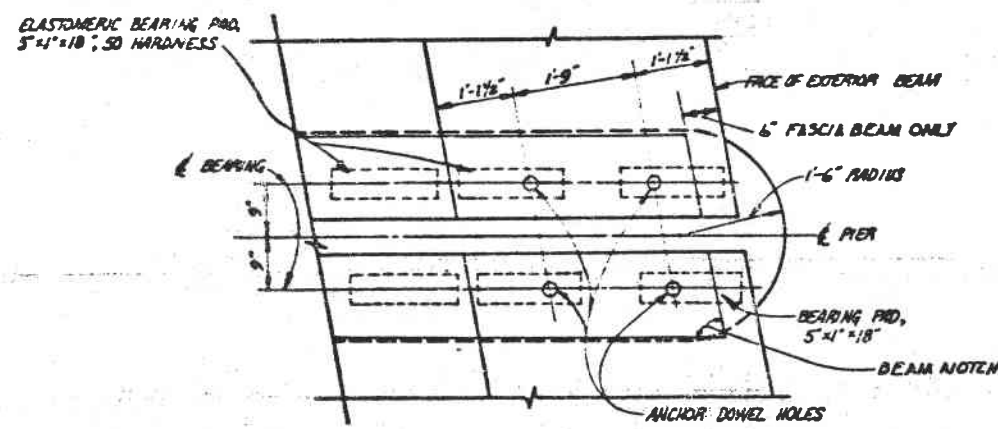
CONSTRUCTION AND CONTRACTION JOINTS: ALL JOINTS SHALL BE WATERPROOFED ON THE SIDE ADJACENT TO THE FILL USING A 36-INCH STRIP OF TYPE B WATERPROOFING ACCORDING TO ITEM 512. WATERPROOFING AT ENDS OF WINGWALLS SHALL NOT EXTEND BEYOND GROUND LINE.

EXCAVATION FOR RECONSTRUCTION: ALL EXCAVATION REQUIRED FOR REMOVAL OF BACKWALL AND WINGWALL CONCRETE ABOVE THE CONSTRUCTION JOINT ALONG THE EXISTING BEAM SEAT SHALL BE INCLUDED WITH ITEM 202. PORTIONS OF STRUCTURES REMOVED FOR PAYMENT. PLACING AND COMPACTING NEW EMBANKMENT MATERIAL BEHIND THE ABUTMENT BACKWALL, OUTSIDE THE LIMITS OF THE PAVING BACKFILL, SHALL ALSO BE INCLUDED WITH THIS ITEM FOR PAYMENT.

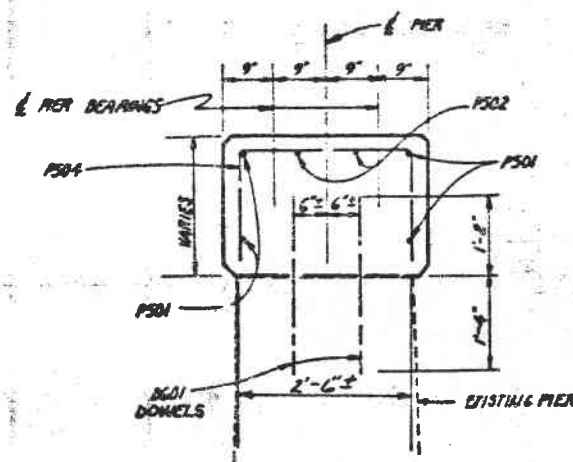
BRIDGE SEAT REINFORCING: REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT SHALL BE ACCURATELY PLACED TO AVOID INTERFERENCE WITH THE DRILLING OF ANCHOR BAY HOLES.

DESCRIPTION	DATE	BY
ABUTMENT DETAILS		
STA-30-3.5 OVER BIG SANDY CREEK		
STARK COUNTY BRIDGE NO. PAT36-1		
EAST LINCOLN WAY, VILLAGE OF MINERVA		
PARIS TOWNSHIP, STARK COUNTY, OHIO		
HAMMONTREE & ASSOCIATES, LTD.		
DATE JAN 87		

Rev. 10-9-51

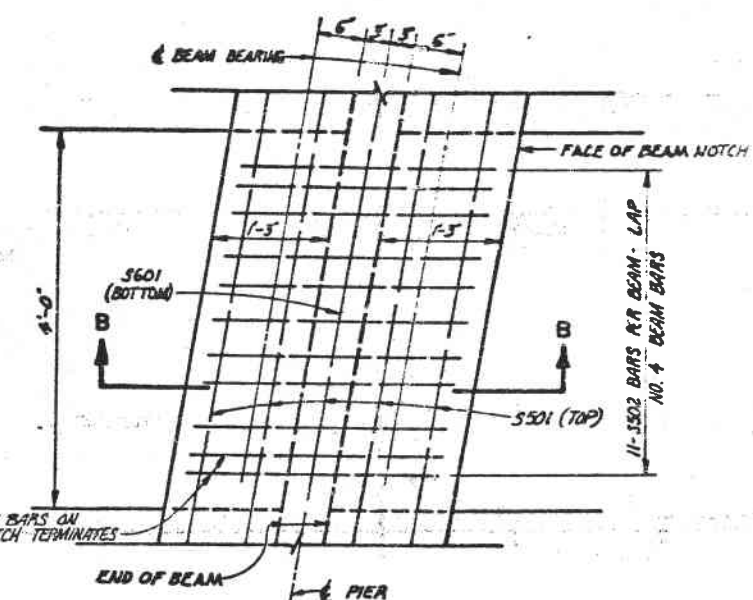


PIER PLAN DETAIL

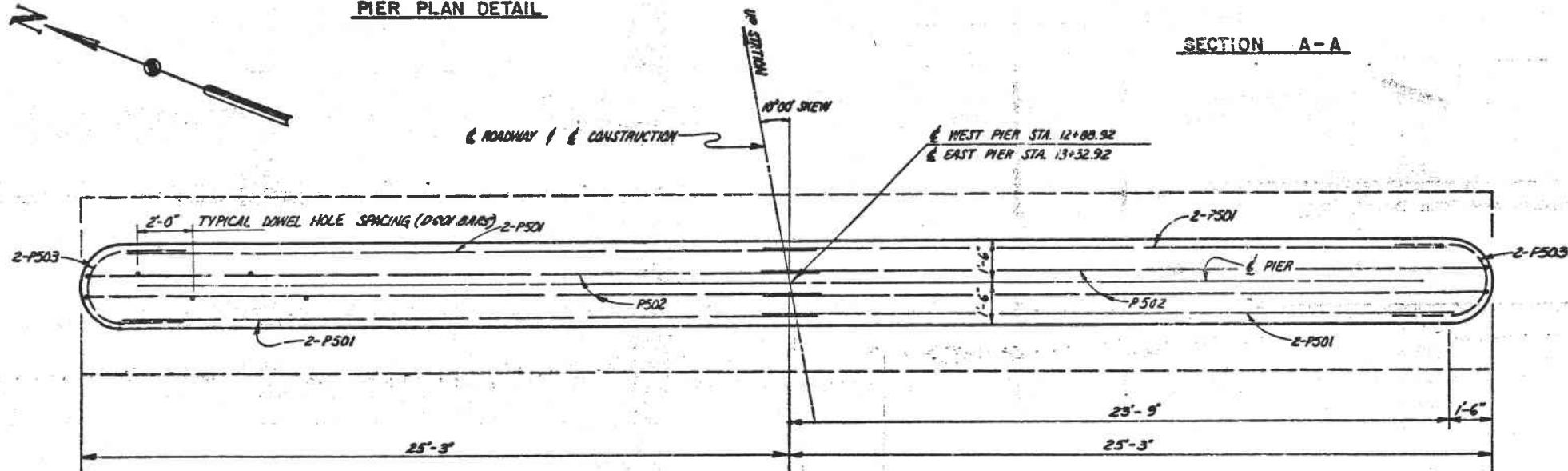


SECTION A-A

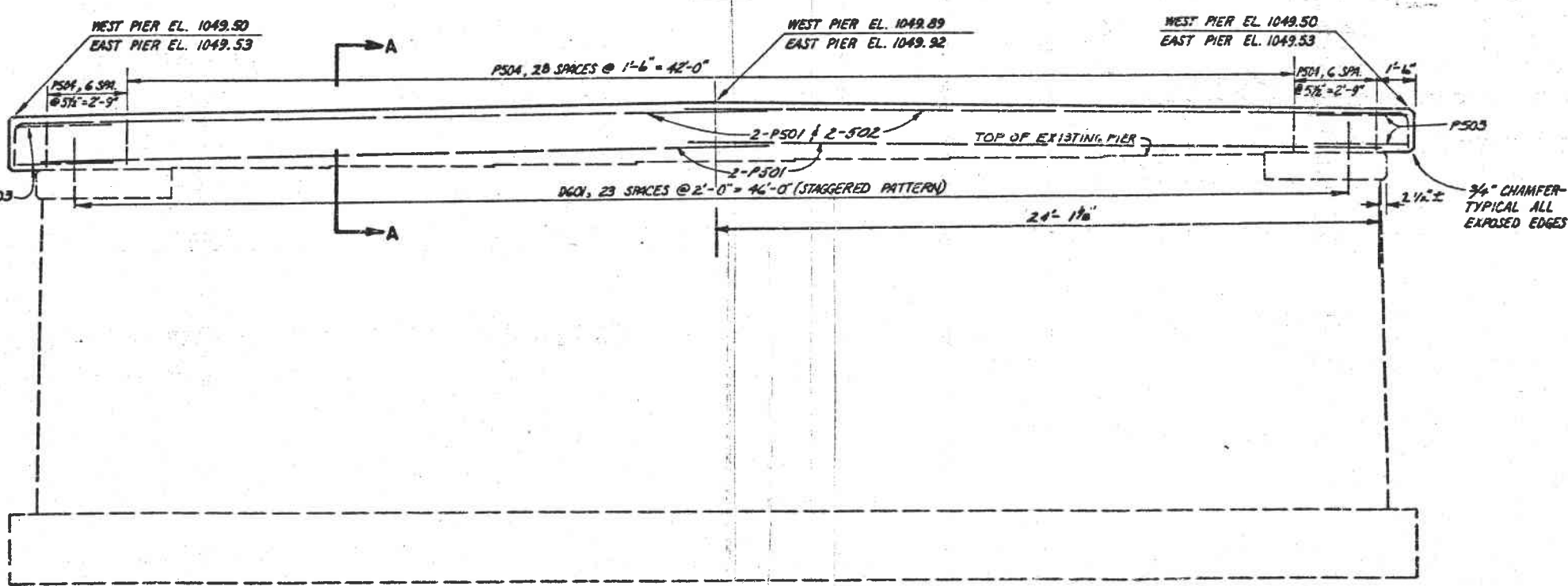
PREPARATION OF EXISTING BRIDGE SEAT:
(SEE NOTE, SHEET 3/7)



BEAM NOTCH PLAN

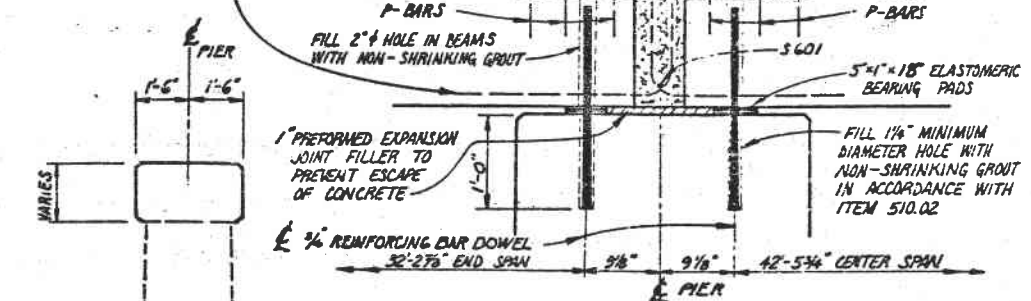


PLAN



ELEVATION

COLD BEND ALTERNATE PRESTRESSED
BEAM STRANDS AS SHOWN TO AVOID
INTERFERENCE WITH EACH OTHER



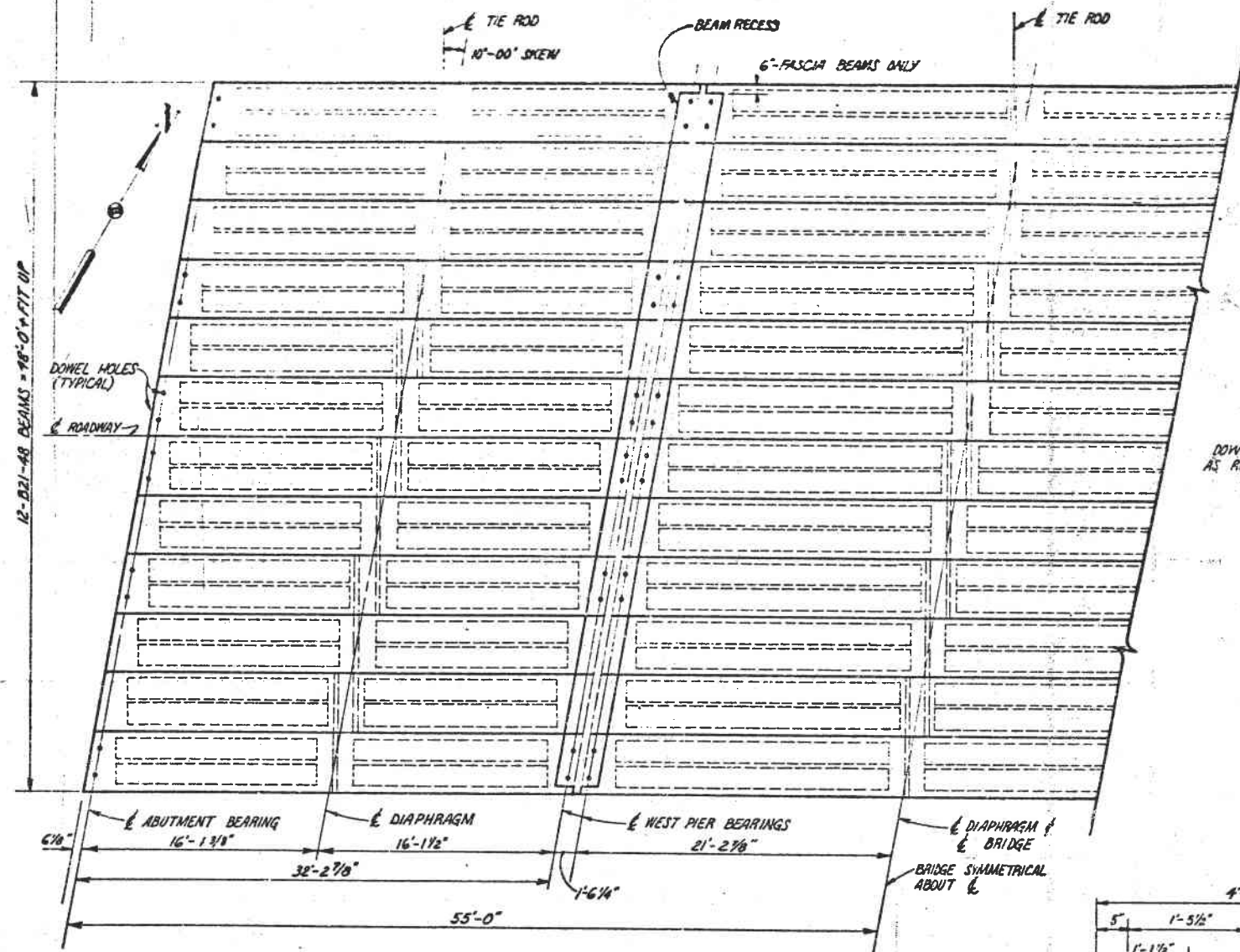
SECTION B-B

BRIDGE SEAT REINFORCING: REINFORCING STEEL IN THE VICINITY
OF THE BRIDGE SEAT SHALL BE ACCURATELY PLACED TO AVOID
INTERFERENCE WITH THE DRILLING OF ANCHOR BAR HOLES.

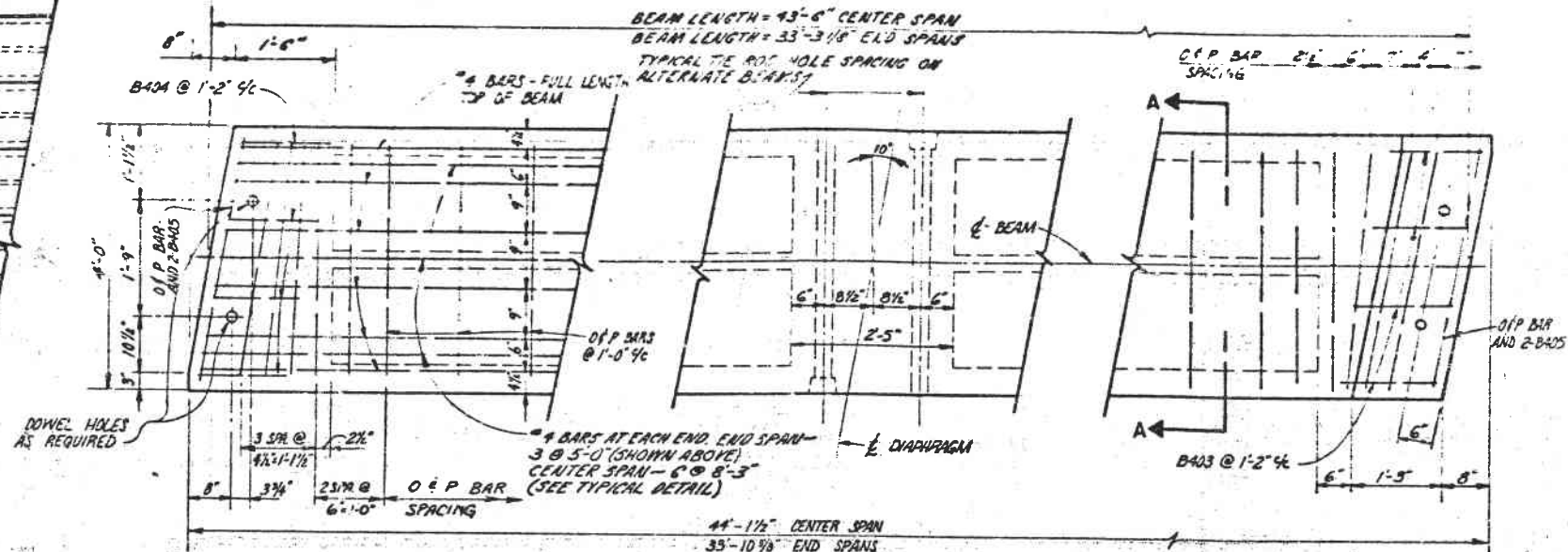
PROPOSED TYPICAL SECTION

DESCRIPTION	DATE	BY
PIER DETAILS	5/7	
STA-30-346 OVER S.S. SANDY CREEK STARK COUNTY BRIDGE NO. PA-36-1 EAST LINCOLN WAY, VILLAGE OF MINERVA PARIS TOWNSHIP, STARK COUNTY, OHIO		
DATE JAN 1979		
HAMMONTREE & ASSOCIATES, LTD.		
CONSULTING ENGINEER & SURVEYOR		
CARTER B. JARVIS, INC.		

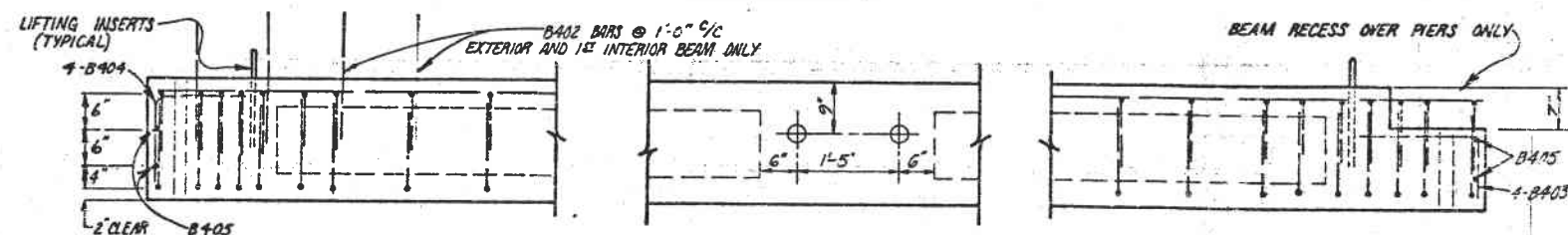
Rev. 10-9-81



PRESTRESSED BEAM PLAN

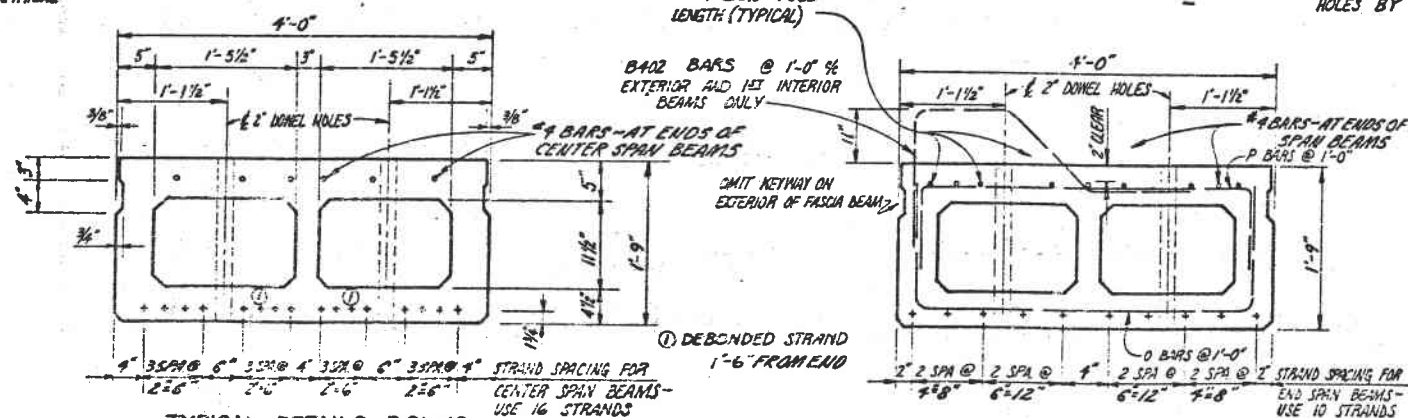


BEAM PLAN



BEAM ELEVATION

THE SPACING OF COMPOSITE 3402 BARS SHALL BE ADJUSTED BY THE MANUFACTURER TO CLEAR TIE ROD HOLES BY 2 INCHES.



TYPICAL DETAILS B21-48
(NON-COMPOSITE BOX BEAM)

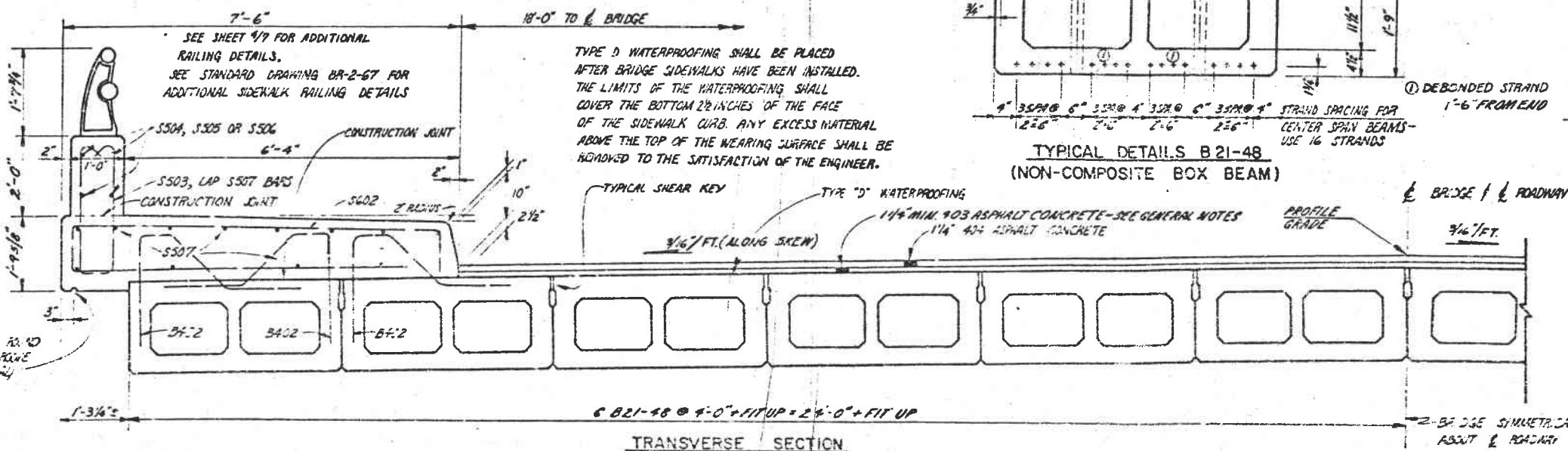
SECTION A-A

CONCRETE STRESSES:
MINIMUM CONCRETE STRENGTH AT 28 DAYS
IS $f'_c = 5500$ P.S.I.
MINIMUM CONCRETE STRENGTH AT TIME OF
INITIAL PRESTRESS $f_{ci} = 4000$ P.S.I.

ANCHOR DOWELS: THE DRILLING OF ANCHOR DOWEL HOLES, PROVIDING AND INSTALLING THE 1/4 INCH DIAMETER DOWEL BARS, AND FILLING THE DOWEL HOLE WITH JOINT SEALER OR NON-SHRINKING GROUT SHALL BE INCLUDED WITH ITEM 515 FOR PAYMENT.

FABRICATOR'S SHOP DRAWINGS SHALL SHOW COMPLETE DETAILS OF ALL BEAM REINFORCING, AND SHOP DRAWINGS SHALL BE APPROVED BY THE STARK COUNTY ENGINEER PRIOR TO MANUFACTURING BEAMS.

* THE ABOVE IS IN ADDITION TO THE REQUIREMENTS OF SDGS, C.M.S.



TRANSVERSE SECTION

REFERENCE SHALL BE MADE TO STANDARD DRAWING PSB-1-71 FOR ADDITIONAL DETAILS OF:

- BEAM LIFTING INSERTS
- ANCHOR DOWELS
- TRANSVERSE TIE RODS
- BEAM TOLERANCES
- BEAM REINFORCING BARS
- MORTARING SHEAR KEYS

DATE	BY

DESCRIPTION

SUPERSTRUCTURE DETAILS 6/7

STA-30-1-6 OVER BIG SANDY CREEK
STARK COUNTY BRIDGE NO. PA-36-1
EAST LINCOLN HWY. VILLAGE OF MINERVA
PARIS TOWNSHIP, STARK COUNTY, OHIO

DATE JAN 979

HAMMILL & ASSOCIATES, LTD.

REV. 10-9-81