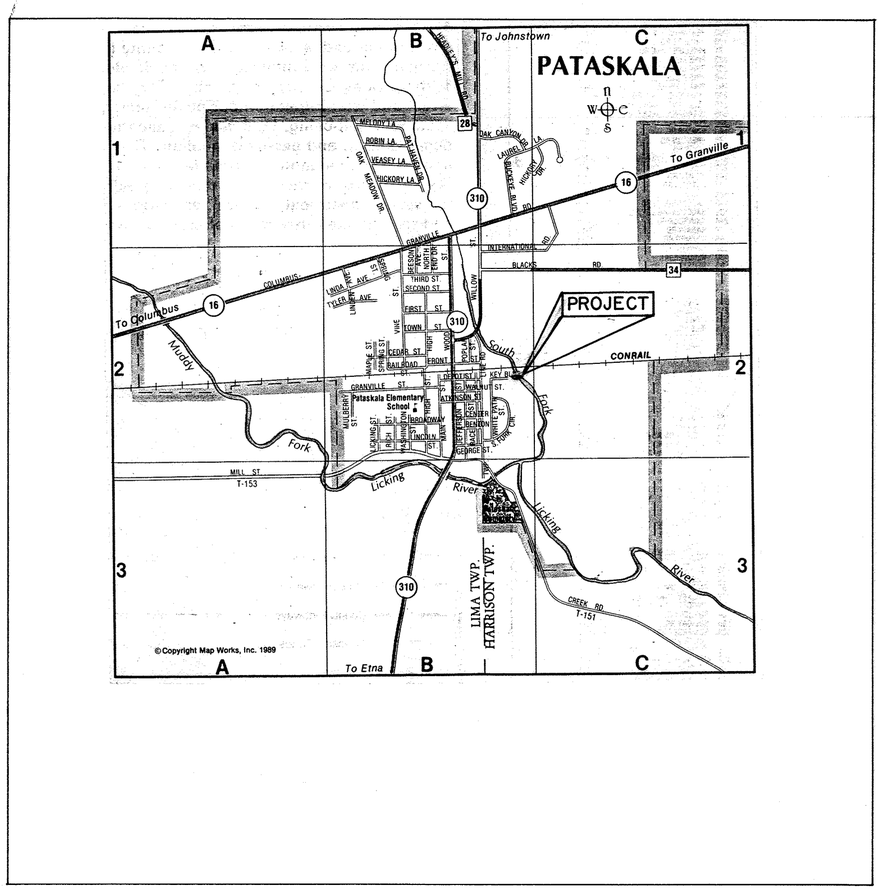
KEY BOULEVARD BRIDGE
OVER
SOUTH FORK LICKING RIVER
IN
PATASKALA, OHIO

INDEX



I HEREBY CERTIFY THAT I DID SUPERVISED THE PREPARATION OF THESE PLANS AND DO HEREBY ACCEPT STRUCTURAL RESPONSIBILITY FOR THEM.

Harold W. Hitchens

HAROLD W. HITCHENS
REGISTER ENGINEER 23312

I HEREBY ACCEPT THESE PLANS
THIS 11th DAY OF October 1990.

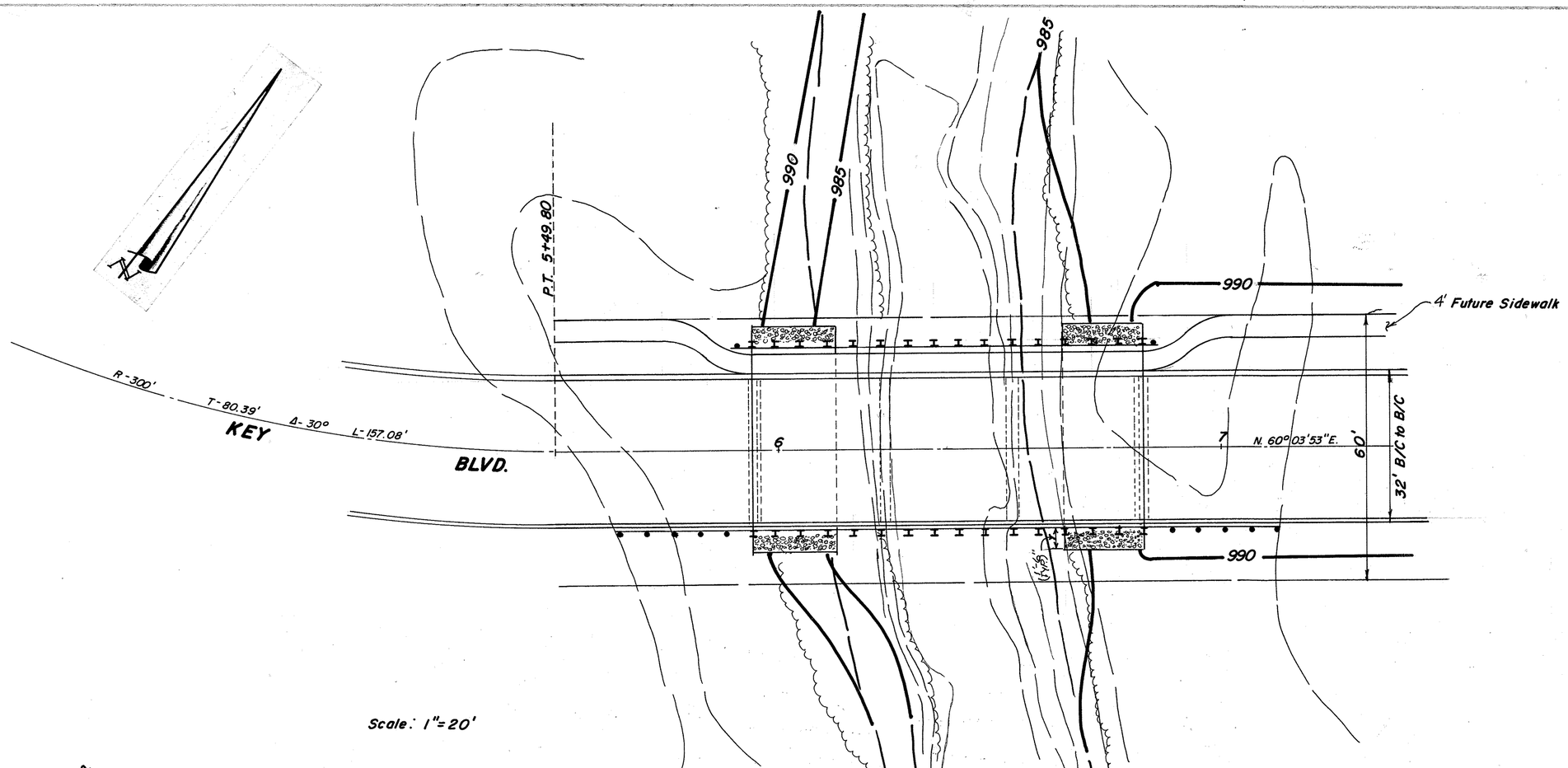
Michael Mast

MAYOR, VILLAGE OF PATASKALA

I HEREBY APPROVE THESE PLANS
THIS 10th DAY OF October 1990.
BY: Jack D Holt
DODSON-LINDBLOM ASSOCIATES INC.
VILLAGE ENGINEERS

I HEREBY ACCEPT THESE PLANS
THIS 10th DAY OF October 1990.
Phil Key Pres.
PHIL KEY, PRESIDENT
PKL DEVELOPERS, INC.

KEY BLVD. BRIDE OVER SOUTH FORK LICKING RIVER ORIGINAL DRWS. (5) "A"



THE HITCHENS CORPORATION
DIVISION OF ENGINEERING & SURVEYING
235 SUNSET DR.
NEWARK, OHIO 43055
PHONE (614) 763-2855

REVISIONS	TITLE SITE PLAN		
	SCALE 1"=50'	DR. BY	DRAWING NO.
	DATE 9/22/90	CK'D BY	

Reference shall be made to the Ohio Department of Transportation Standard Drawings:

AS-1-81	sheets 1 thru 3	Dated 11-27-81
PSBD-1-81	Sheets 1 thru 4	Dated 6-20-89
DBR-2-73	sheets	Dated 4-10-73

DECK PROTECTION METHOD: Type D waterproofing, 2½" Min. asphalt concrete overlay and steel drip strip.

DESIGN DATA:
Design Loading - HS20-44 and Alternate Military Loading
Concrete Class C - compressive strength 4000 p.s.i. for substructure, Class S (Superstructure) HES-4500 p.s.i.
Reinforcing Steel - ASTM A615, A616, A617 - Grade 60
unit stress 24,000 p.s.i.
Concrete for Prestressed Beams: unit stress 2200 p.s.i.
compression, 444 p.s.i. tension
Prestressing Strands ASTM: A416 - f'_s = 270,000 p.s.i.
Initial stress = 0.70 f'_s
Reinforcing Steel for Prestressed Beams as per CMS Section 515, Grade 40 or Grade 60
Abutment piling bending stress may approach, reach or exceed yield stress

PILES: The design load is 40 tons per pile

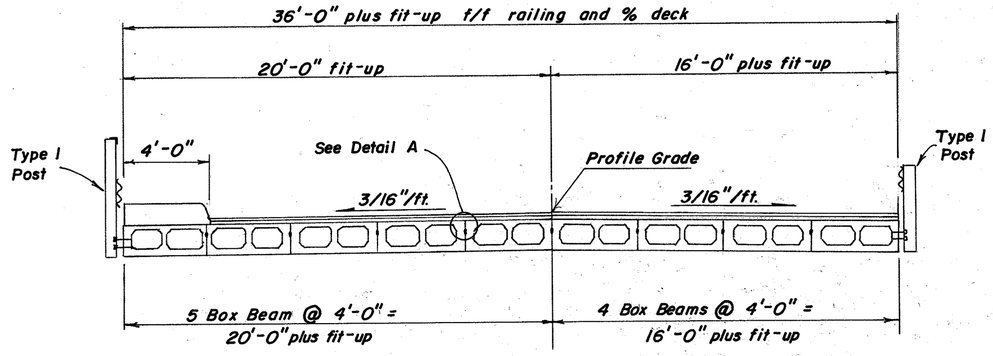
NON-SHRINKING MORTAR: Mortar or grout for keyways between prestressed concrete box beams, for tie rods recesses and for anchor dowel holes shall be a non-shrinking non-metallic mortar having a minimum compressive strength at 28 days of 5000 p.s.i. according to Corps of Engineers Specifications CRD-C621-83 when prepared to a moderate fluidity (124-145 % flow table flow). The mortar or grout shall also meet all other requirements of Specifications CRD-C621-83. The mortar shall be prepared, placed and cured in accordance with the manufacturer's recommendations, against surfaces as specified below.

PREPARATION OF CONCRETE SURFACES IN CONTACT WITH NON-SHRINKING MORTAR: The keyway surfaces shall be given a medium sandblast at the plant within four days before the beams leave the plant. Before mortaring, the keyways shall be thoroughly clean of all loose dirt, dust and other foreign matter. The keyway surfaces shall be wetted, but no free water shall be allowed to remain in the keyways.

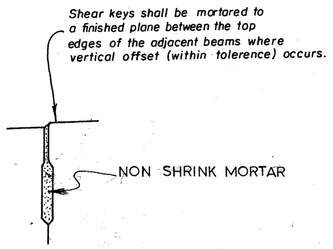
Transverse Tie Rod Anchorage - see sheet 2 of 4 of PSBD-1-81.
Anchor Dowels - see sheet 1 of 4 of PSBD-1-81
Beam Connection over Piers - see sheet 4 of 4 of PSBD-1-81.
Beam Lifting Inserts - see sheet 1 of 4 of PSBD-1-81
Details and reinforcement of beam ends see PSBD-1-81
Guardrail Post Anchorage - For details see DBR-2-73 and PSBD-1-81.
Prestressed Concrete BOX Beams shall meet the Design Data of The Ohio Department of Transportation, Bureau of Bridges.
Beam camber to be 1". This excess amount shall be compensated for by thickening the 403 leveling course at the ends of the spans.
Reinforcing steel - All to be epoxy coated.

GENERAL SUMMARY

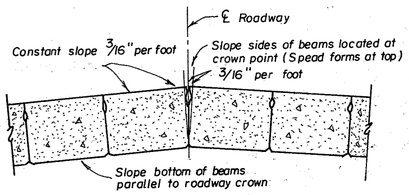
ITEM		DESCRIPTION	TOTAL	UNIT
403		ASPHALT CONCRETE AC-20 (1¼")	17	CU.YD.
404		ASPHALT CONCRETE AC-20 (1¼")	11	CU.YD.
503		COFFERDAMS CRIBS AND SHEETING	LUMP	LUMP
503		UNCLASSIFIED EXCAVATION	LUMP	LUMP
505		PILE DRIVING EQUIPMENT MOBILIZATION	LUMP	LUMP
507		14" DIA. CAST-IN-PLACE REINFORCED CONCRETE PILES	840	LIN.FT.
509		REINFORCING STEEL EPOXY COATED (GRADE 60)	8725	POUND
510		DOWEL HOLES (12")	108	EACH
511		CLASS S CONCRETE, SUPERSTRUCTURE	7	CU. YD.
511		CLASS C CONCRETE, SUBSTRUCTURE	90	CU. YD.
512		TYPE D WATERPROOFING	358	SQ. YD.
515		PRESTRESSED CONCRETE BRIDGE MEMBERS (B17 x 48)	27	EACH
516		1' x 7" x 12" ELASTOMERIC BEARING PADS	108	EACH
SPECIAL		1" x 9" POLYSTYRENE	54	SQ. FT.
517		RAILING (DEEP BEAM RAIL WITH STEEL POSTS TYPE B AND C ANCHORS)	187.5	LIN. FT.
518		POROUS BACKFILL	48	CU.YD.
601		ROCK CHANNEL PROTECTION, TYPE B	115	CU.YD.
SPECIAL		STEEL DRIP STRIP	209	LIN. FT.



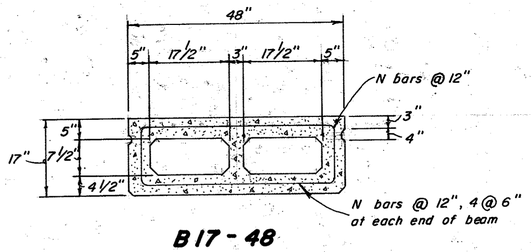
TYPICAL TRANSVERSE SECTION



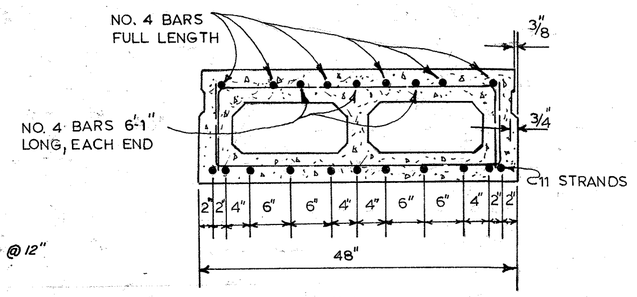
DETAIL A



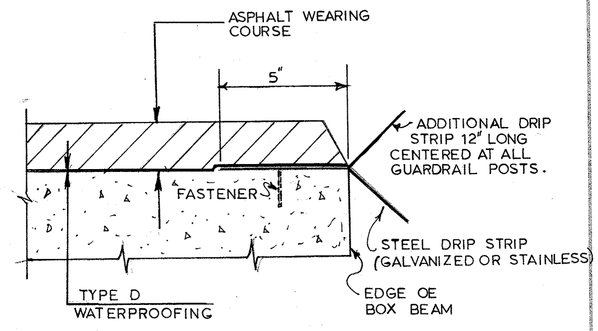
JOIN AT ℄ ROADWAY



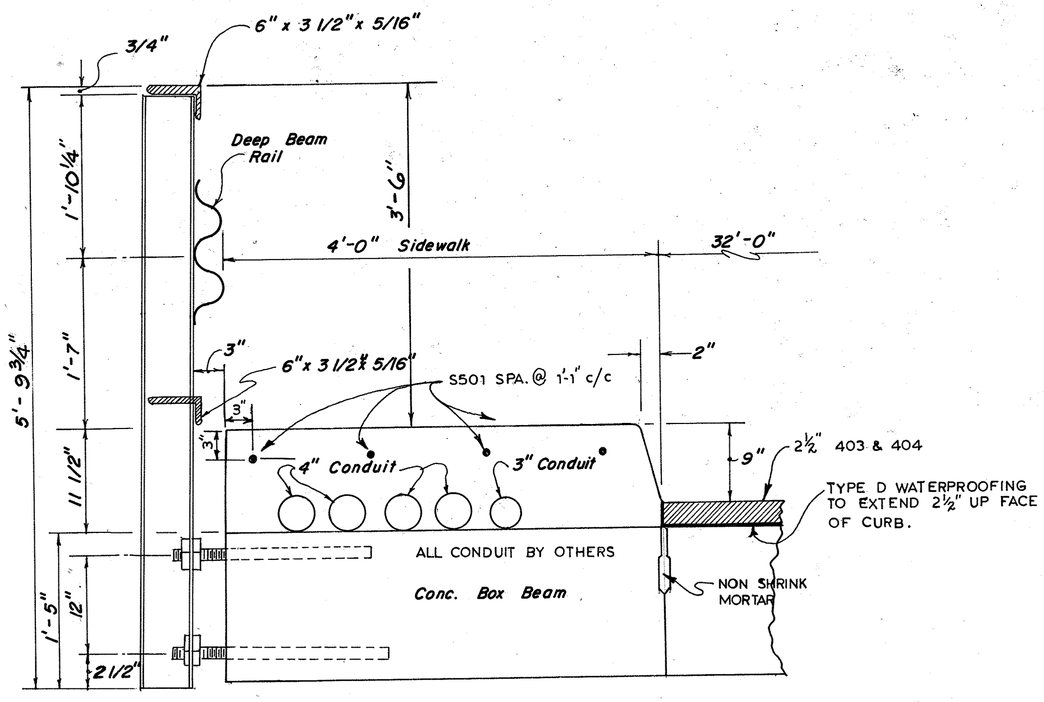
B17-48



STRAND PLACEMENT

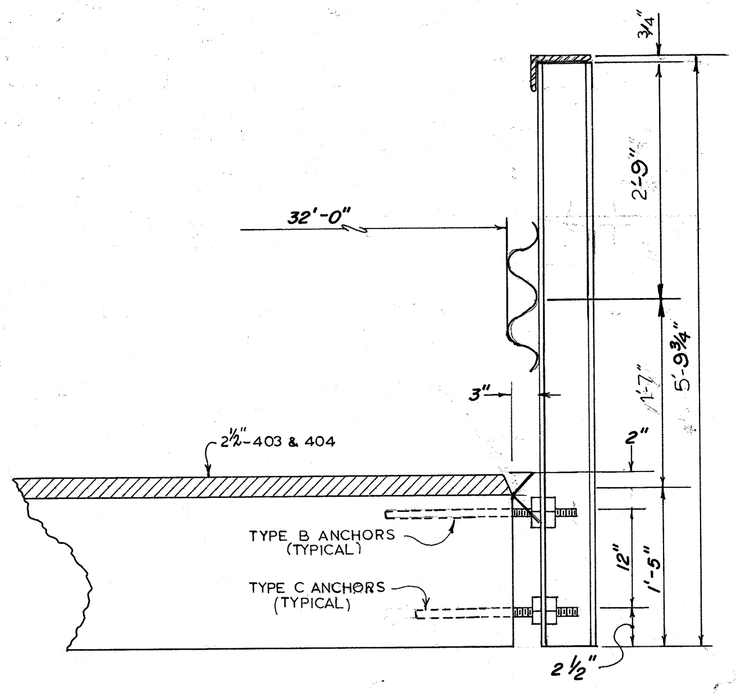


DRIP STRIP DETAIL



SECTION THRU SIDEWALK

Scale: 1"=1'-0"



SECTION THRU BRIDGE DECK

Scale: 1"=1'-0"

THE HITCHENS CORPORATION
DIVISION OF ENGINEERING & SURVEYING
437 SOUTH 30TH STREET
HEATH, OHIO 43056
PHONE (614) 522-8417

REVISIONS	TITLE SUPERSTRUCTURE DETAILS		
	SCALE VAR	DR. BY RD	DRAWING NO.
	DATE 9/23/90	CK'D BY	

TOTAL BRIDGE RAIL LENGTH 93'-9" (TYP. BOTH SIDES)

6'-3" | 3'-1½" | 5 SPA. @ 6'-3" = 31'-3" (BRIDGE POSTS) | 3'-1½" | 6'-3" | 3'-1½" | 5 SPA. @ 6'-3" = 31'-3" (BRIDGE POSTS) | 3'-1½" | 6'-3"

3'-1½" ℄ 3'-1½"

89'-6"

6" | 29'-6" | 6" | 29'-6" | 6" | 29'-6"

28'-6" | 28'-6" | 28'-6"

DOWEL HOLES

* 1"x7"x12" ELASTOMERIC BEARING PADS (60 DUROMETER) TYPICAL ALL BEAMS

20'-0" + FITUP

36'-0" FITUP

16'-0" + FITUP

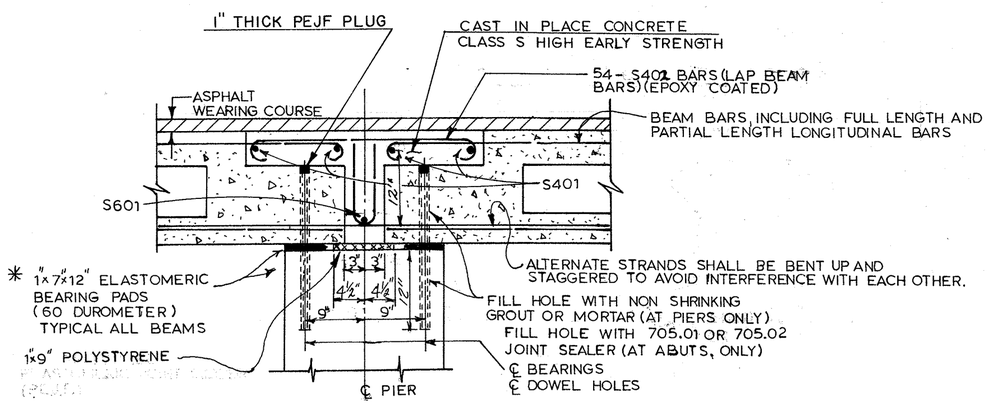
4'-0"

90°

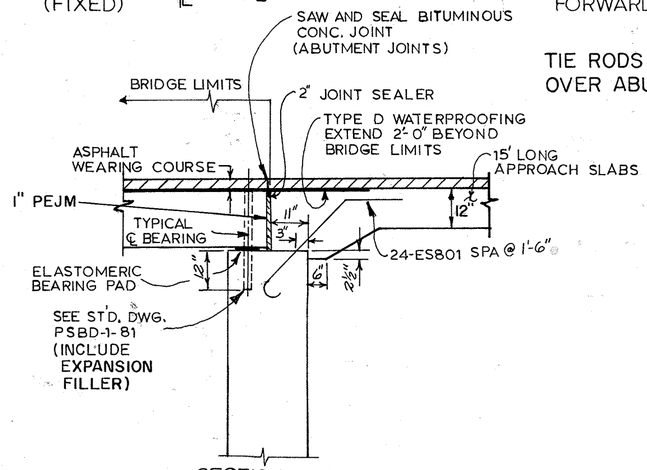
6" | ℄ BEARING (EXPANSION) REAR ABUTMENT | ℄ REAR SPAN & DIAPHRAGM | 9" | 9" | ℄ BEARING (FIXED) | ℄ PIER 1 | ℄ BEARING (FIXED) | ℄ MIDDLE SPAN & DIAPHRAGM | 9" | 9" | ℄ BEARING (FIXED) | ℄ PIER 2 | ℄ FORWARD SPAN & DIAPHRAGM | 6 | ℄ BEARING (EXPANSION) FORWARD ABUTMENT

1'-2" TYPICAL (ALL DOWELL HOLES)

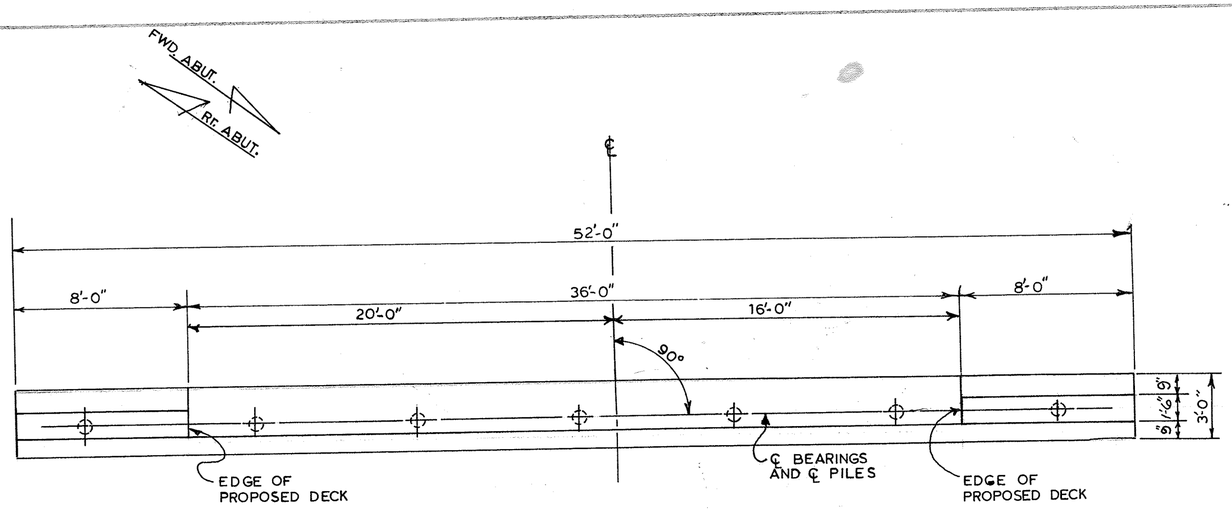
TIE RODS IN END DIAPHRAGMS OVER ABUTMENTS (TYP.)



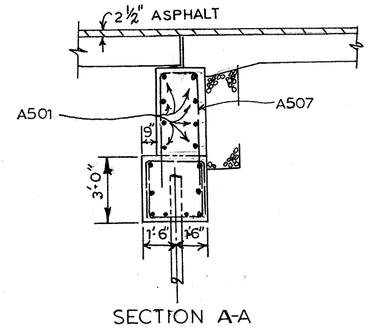
SUPERSTRUCTURE DETAIL AT PIERS



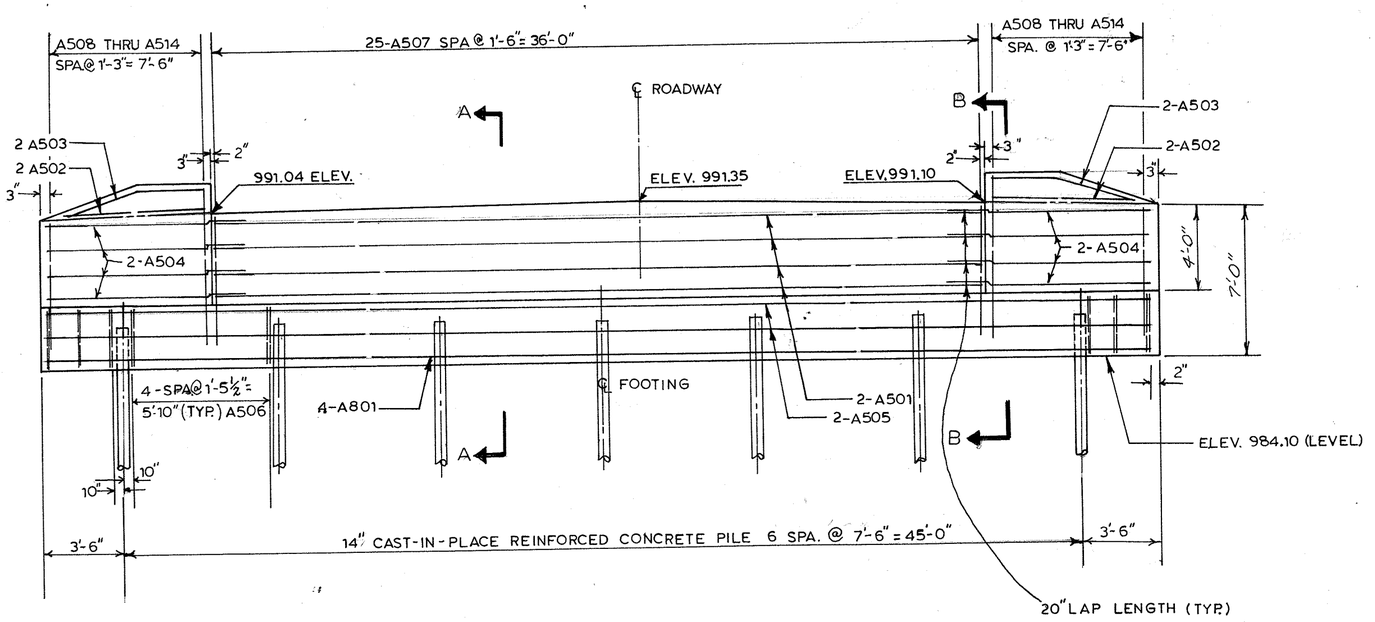
SECTION A-A
ABUTMENT DETAIL



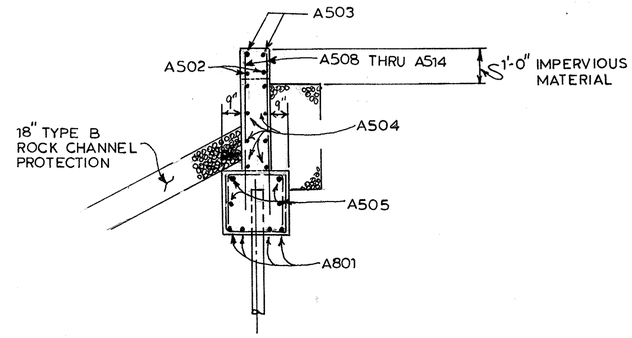
PLAN



SECTION A-A



ELEVATION

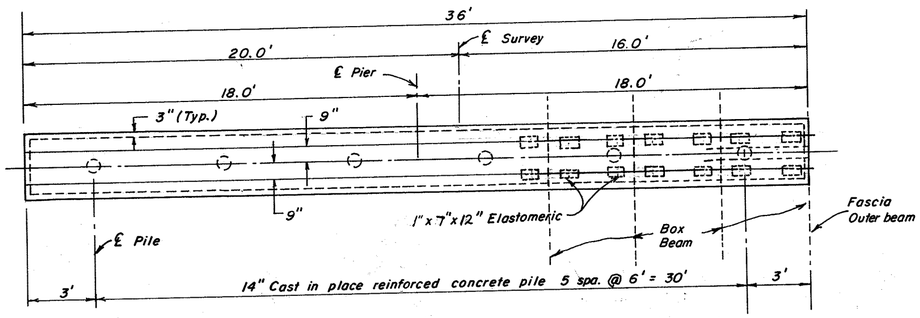


SECTION B-B

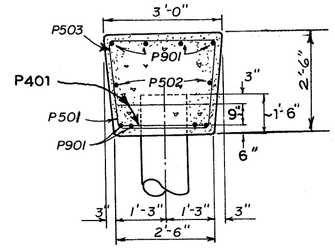
POROUS BACKFILL 2'-6" THICK SHALL EXTEND FOR THE FULL LENGTH OF THE ABUTMENT AND LATERALLY TO EMBANKMENT SURFACE.

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. TYPICAL FOR PIERS ALSO.

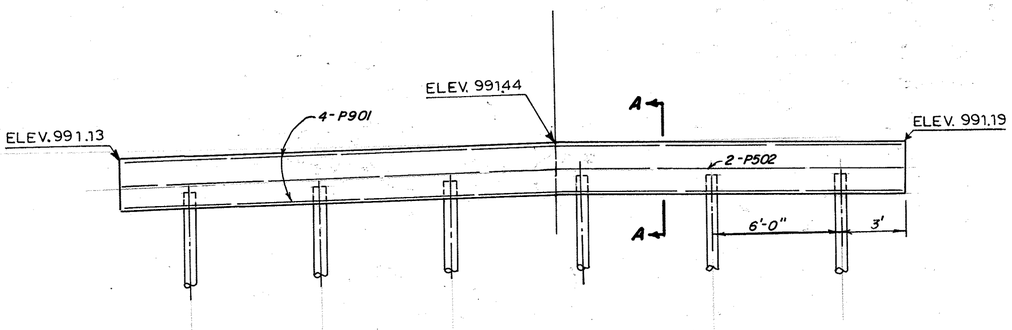
DO NOT PLACE CONCRETE ABOVE BRIDGE SEAT UNTIL AFTER BEAMS ARE COMPLETELY ERECTED.



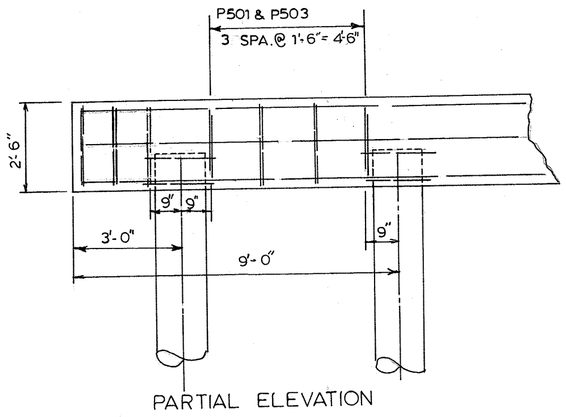
PIER PLAN



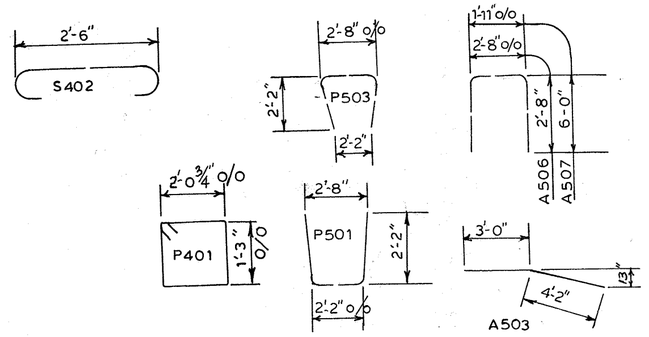
SECTION A-A



ELEVATION



PARTIAL ELEVATION



BENDING DIAGRAM

(ALL STEEL TO BE EPOXY COATED)

REINFORCING STEEL TABLE

MARK	Nº REQ'D	SHAPE	LENGTH	WEIGHT
SUPERSTRUCTURE				
S401	8	ST.	35'-8"	190
S601	2	ST.	35'-8"	107
S402	108	BT.	4'-0"	289
S501	20	ST.	20'-0"	417
ABUTMENTS				
A501	16	ST.	35'-8"	595
A502	8	ST	7'-2"	60
A503	8	BT.	7'-2"	60
A504	32	ST.	9'-5"	314
A505	8	ST.	51'-8"	431
A506	144	BT.	7'-9"	1164
A507	50	BT.	13'-8"	713
A508	8	ST.	7'-5"	62
A509	8	ST.	7'-2"	60
A510	8	ST.	6'-10"	57
A511	8	ST.	6'-7"	55
A512	8	ST.	6'-4"	53
A513	8	ST.	6'-1"	51
A514	8	ST.	5'-10"	49
A801	8	ST	51'-8"	1104
PIERS				
P501	52	BT.	6'-3"	339
P502	4	ST.	35'-8"	149
P503	52	BT.	6'-9"	366
P901	16	ST.	35'-8"	1940
P401	24	BT.	6'-3"	100
TOTALS				8725

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437 SOUTH 30TH STREET
HEATH, OHIO 43056
PHONE (614) 522-8417

REVISIONS	TITLE PIER DETAILS		
	SCALE VARS.	DR. BY RD	DRAWING NO.
	DATE 9/23/90	CK'D BY	