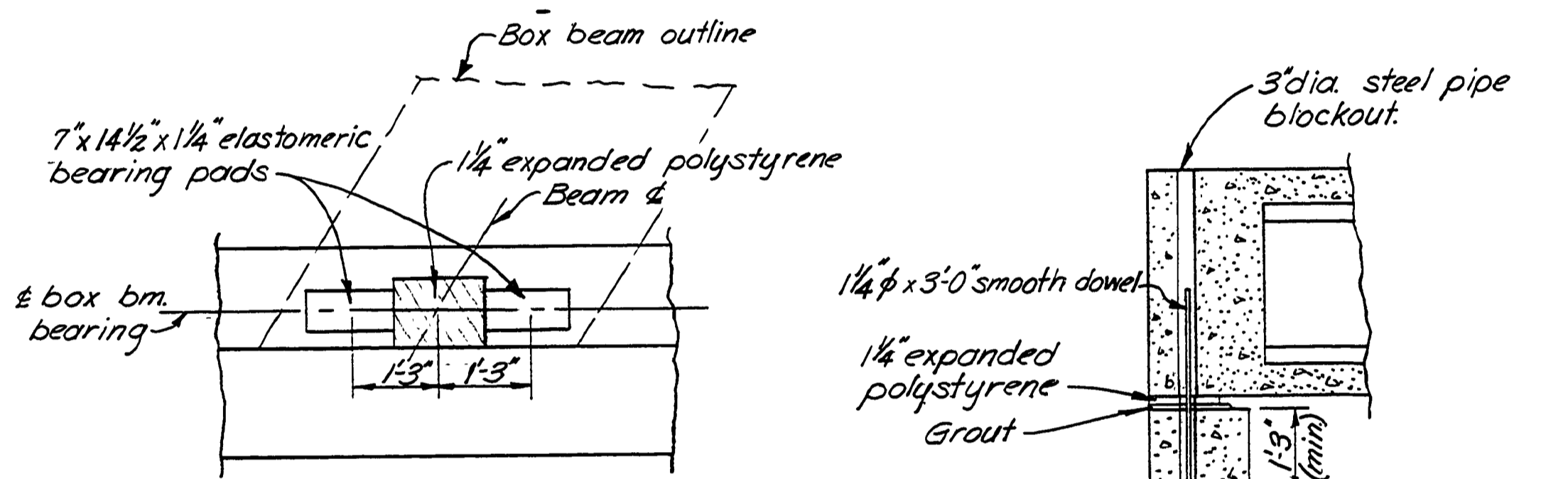
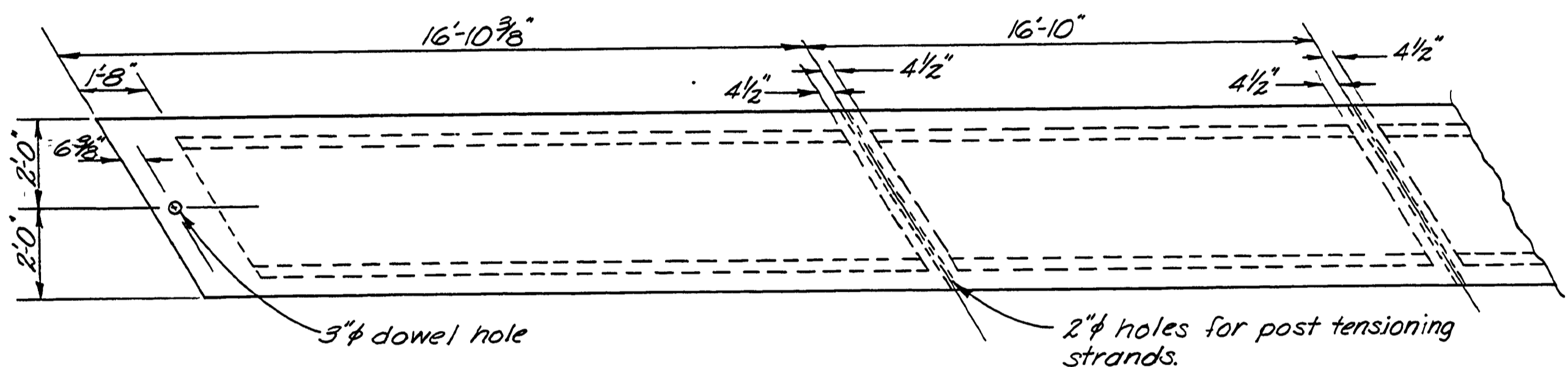


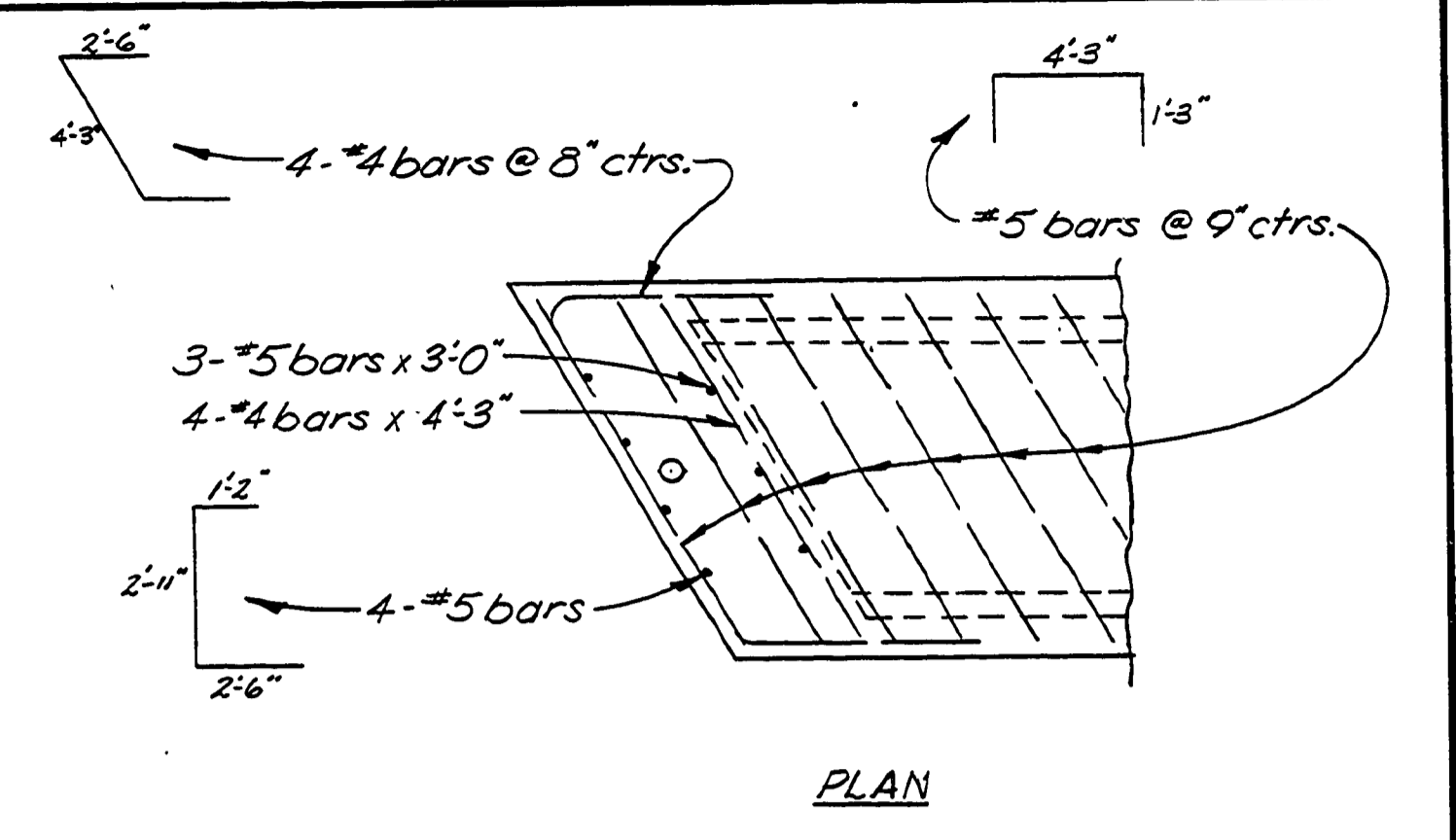
PARTIAL LAYOUT



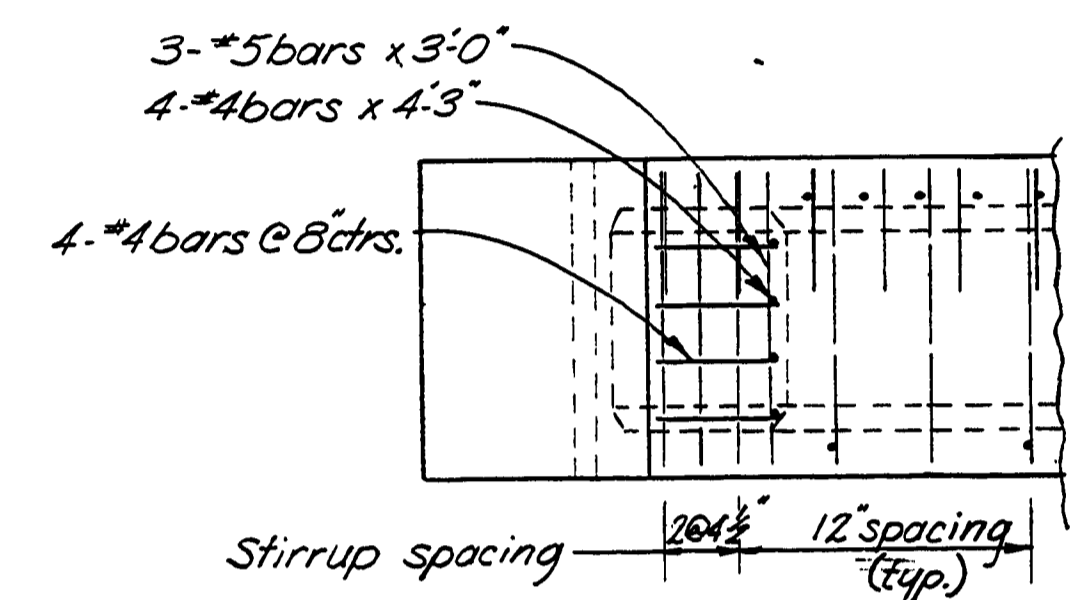
PLAN

SECTION

Note:  
 Pinned End - Fill dowel holes to top of box beam with grout.  
 Expansion End - Fill dowel holes to top of box beam with cold-poured joint sealer.



SECTION A-A



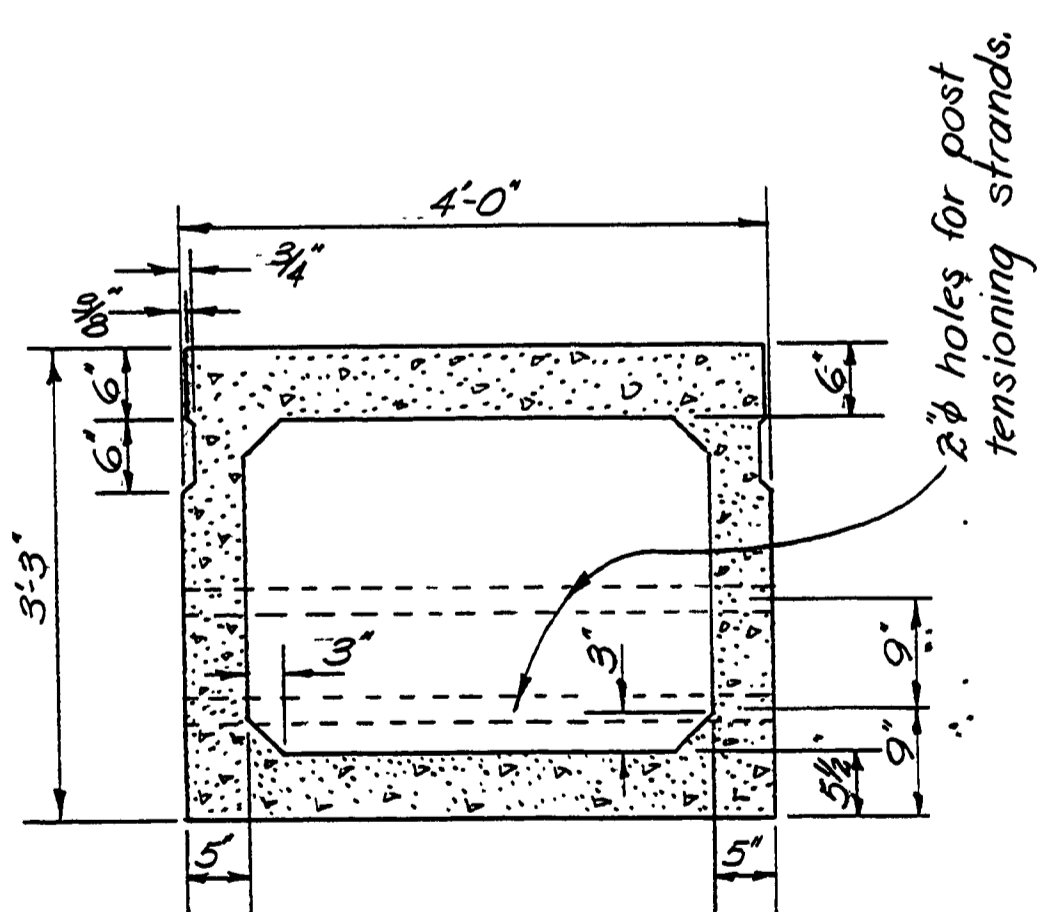
ELEVATION

REINFORCING LAYOUT

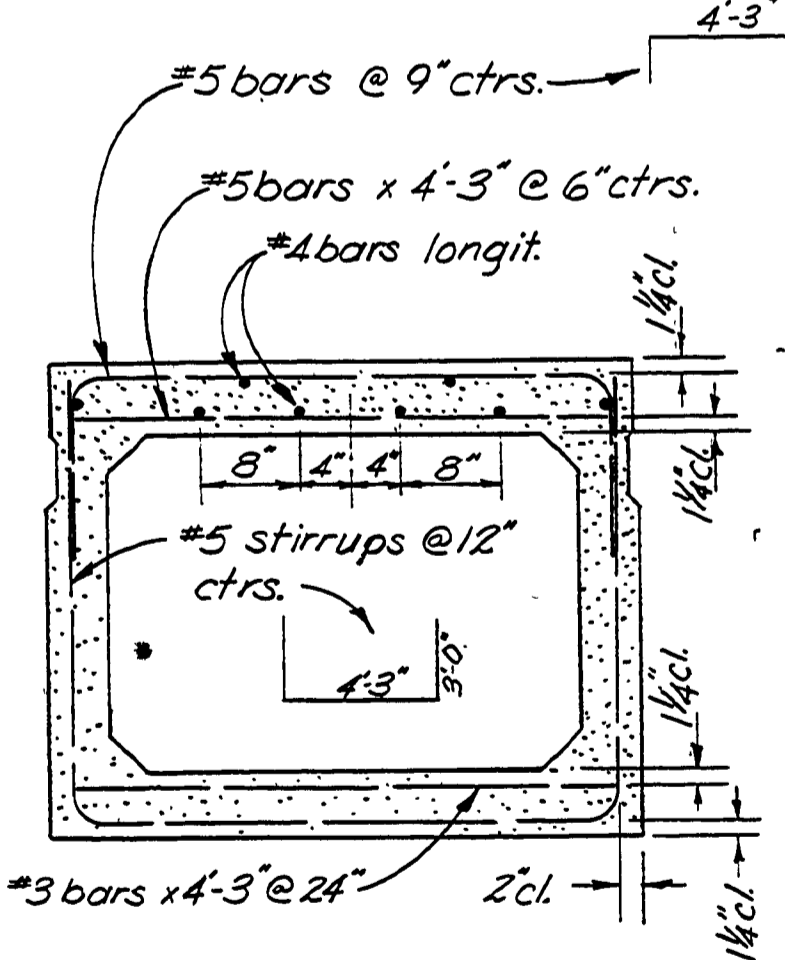
TABLE - CURB BAR LOCATION FOR EXTERIOR BEAMS

BEAM	DISTANCE	Distance Measured Along $\epsilon$ from Bent #2					
		10'	20'	30'	40'	50'	60'
LEFT SIDE	$a_1$	0.5'	0.5'	0.5'	0.5'	0.5'	0.5'
RIGHT SIDE	$b_1$	2.13'	2.35'	2.45'	2.40'	2.30'	2.05'
	$a_2$	1.15'	1.15'	1.05'	0.80'	0.45'	0.45'
	$b_2$	0.95'	0.95'	1.10'	1.35'	1.65'	2.10'

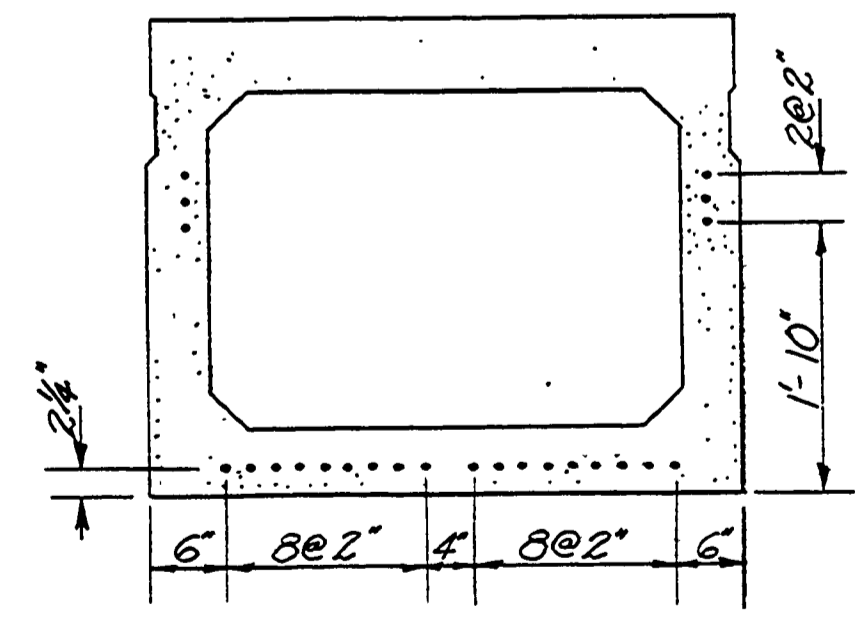
PARTIAL PLAN OF BEAM



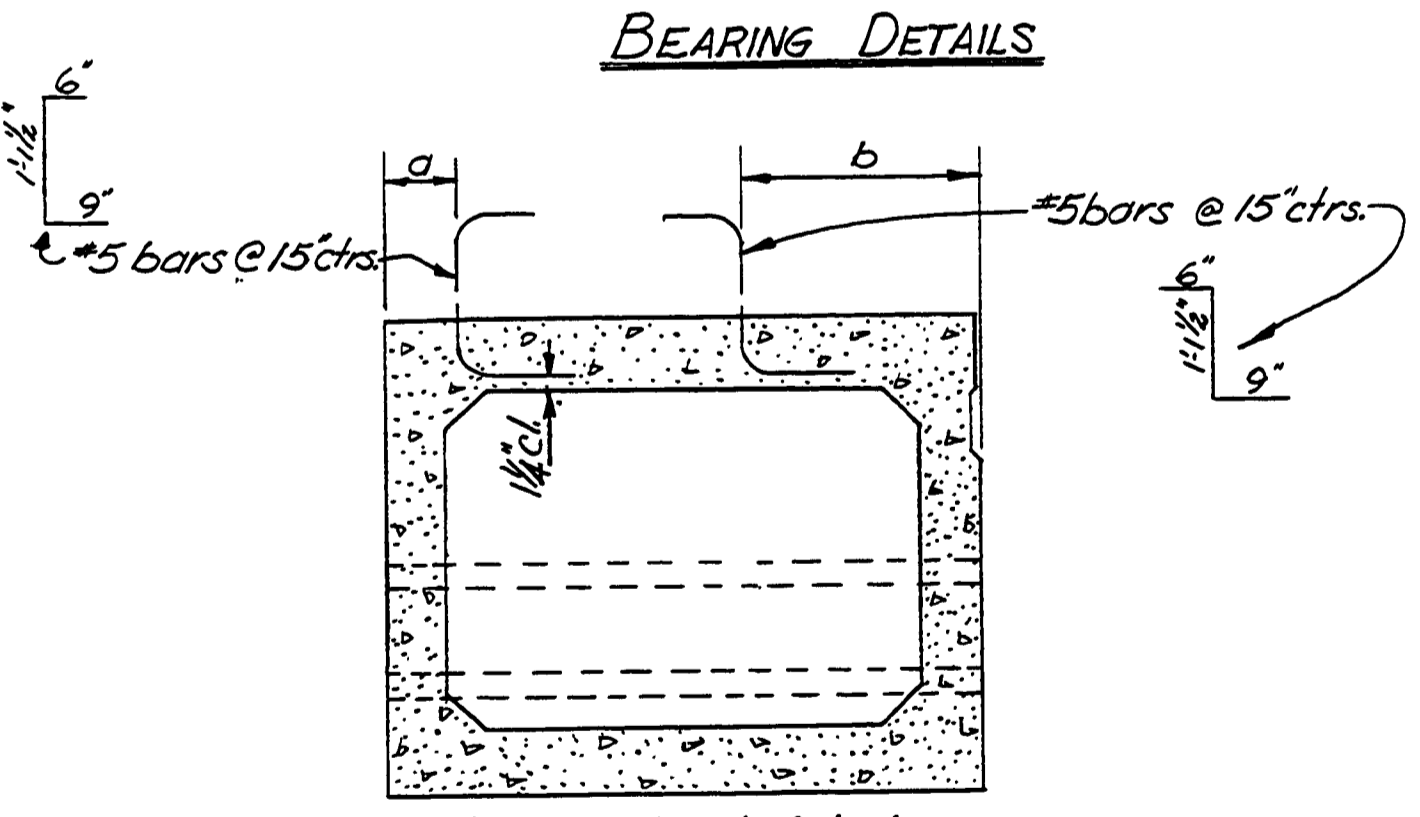
INTERIOR BEAM



REINFORCING PATTERN

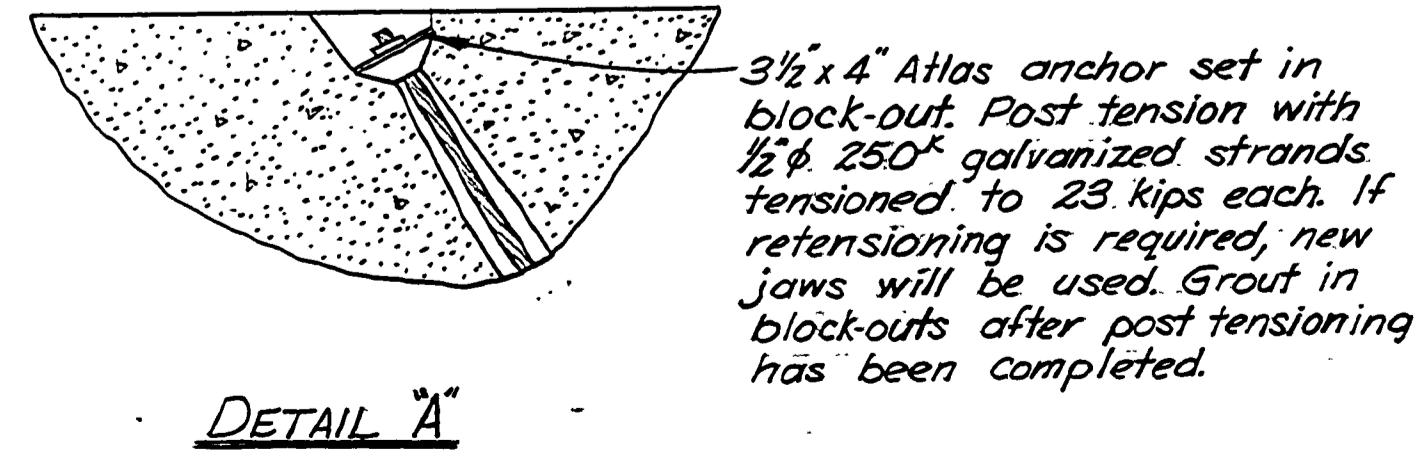


STRAND PATTERN  
24 Strands



EXTERIOR BEAM

TYPICAL SECTIONS



DETAIL A

GENERAL NOTES:

All concrete shall be Class A-A and shall have a strength as shown in the table.  
 All prestressing strands shall be 1/2" diameter 7 wire strands with a minimum ultimate strength of 41,300 lbs.  
 Grout in the shear keys and dowel holes shall be of the expanding or non-shrinking type. Proportions of the mix to be approved by the Engineer.  
 The beams shall be maintained in an upright position at all times. They shall be lifted by means of lifting bars securely anchored in the end block as approved by the Engineer.

CONSTRUCTION SEQUENCE:

1. The box beams shall be placed from left to right.
2. After all the box beams are in place, they shall be post tensioned transversely as shown.
3. After the post tensioning is complete, the dowel holes shall be drilled, cleaned and the dowels placed in accordance with the specified end condition.
4. The longitudinal shear keys shall be grouted.

INITIAL TENSION PER STRAND	28.91 kips	UPWARD DEFLECTION DUE TO PRESTRESS AT TRANSFER	7/8"
CONCRETE STRENGTH AT TRANSFER	4000 psi	DOWNWARD DEFLECTION DUE TO BM D.L. AT TRANSFER	1/2"
CONCRETE STRENGTH IN 28 DAYS	5000 psi	TOTAL UPWARD DEFLECTION IN 3 MONTHS (WITHOUT WS)	1/8"
WEIGHT OF BEAM	646 kips	BM SHORTENING TWO WEEKS AFTER TRANSFER.	

**OREGON BRIDGE ENGINEERING COMPANY**  
 CONSULTING ENGINEERS EUGENE, OREGON

DEL RIO OVERCROSSING  
 OF THE S.P.R.R. FOR  
 DOUGLAS COUNTY, OREGON

PRESTRESSED BOX BEAMS

DRN. C.A.C.	DATE 10-1-68	PROJECT NO. 8-3	DWG NO.
CKD	DATE	FILE NO. 333	5 OF 8