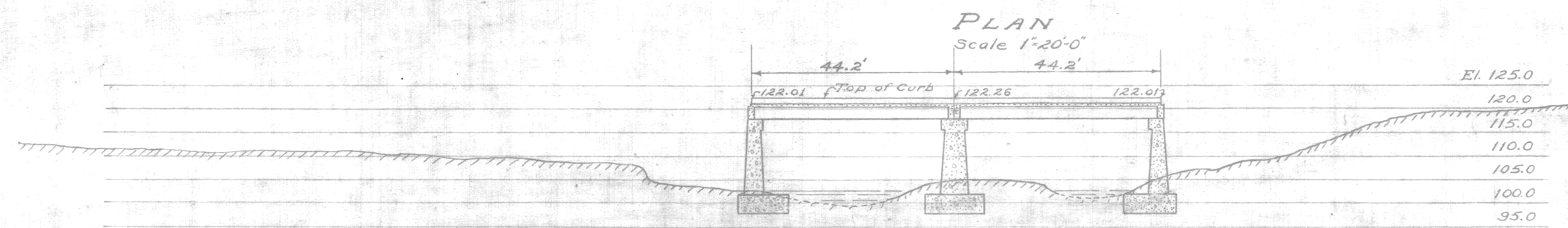


LOCATION PLAN
Scale 1"=100'-0"



PROFILE ON C OF BRIDGE
Scale 1"=20'-0"

LIST OF DRAWINGS

- Sheet #1 General Plan
- Sheet #2 Foundation & Piling Plan
- Sheet #3 Substructure Details
- Sheet #4 Deck Details
- Sheet #5 Handrailing Details
- Sheet #6 Footing Strut Details

Approved: *Perry J. Fellows*
City Engineer
Robert Smith
Commissioner of Parks and Blvd.

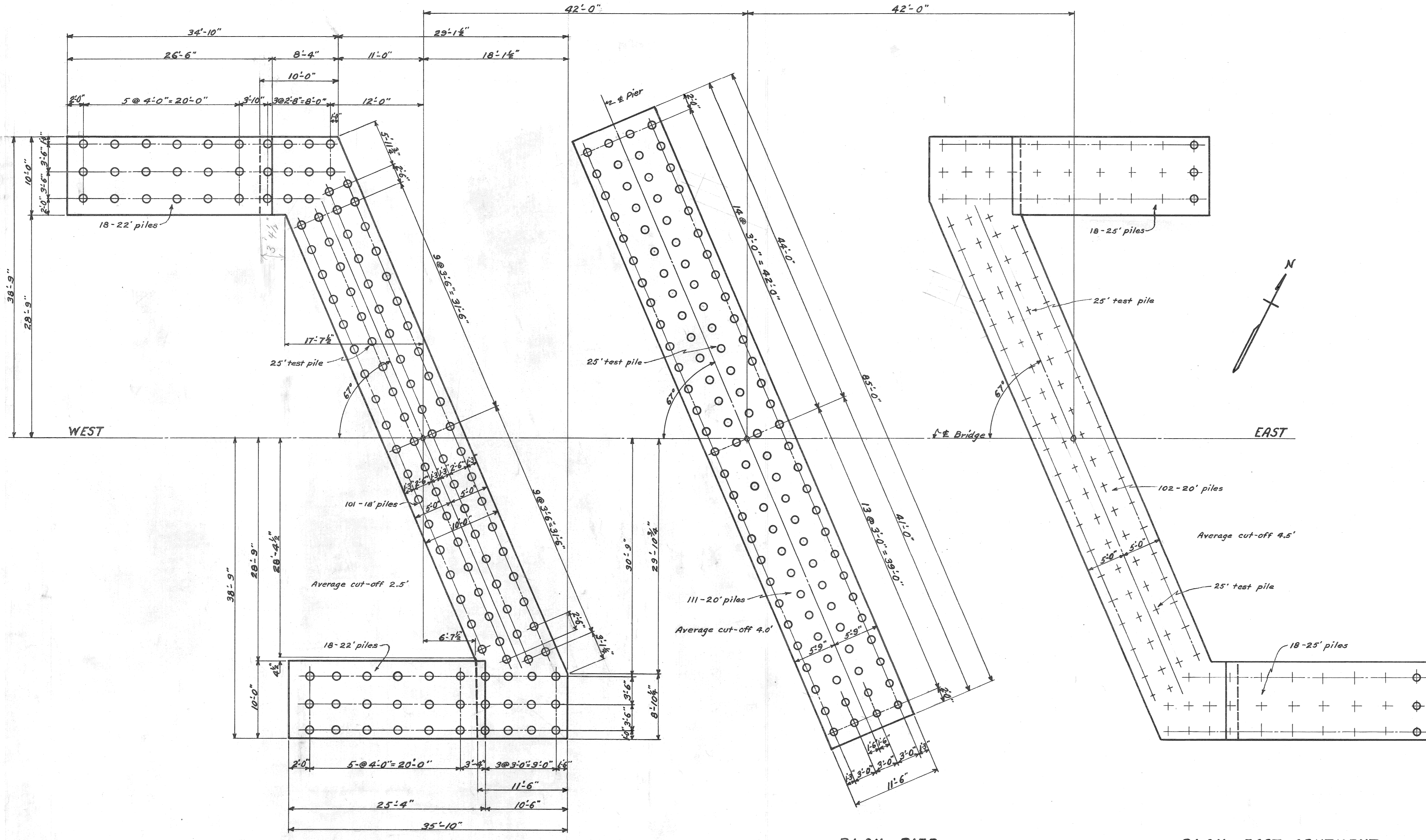
CITY OF DETROIT
DEPARTMENT OF PARKS & BOULEVARDS
OFFICE OF CITY ENGINEER

BRIDGE OVER RIVER ROUGE
(SOUTH OF BONAPARTE AVE.)
RIVER ROUGE PARK

GENERAL PLAN

SCALE: AS SHOWN
DESIGNED BY:
DRAWN BY: F.S.M.
CHECKED BY: X.B.

AUG. 10, 1929
Sheet No. 1

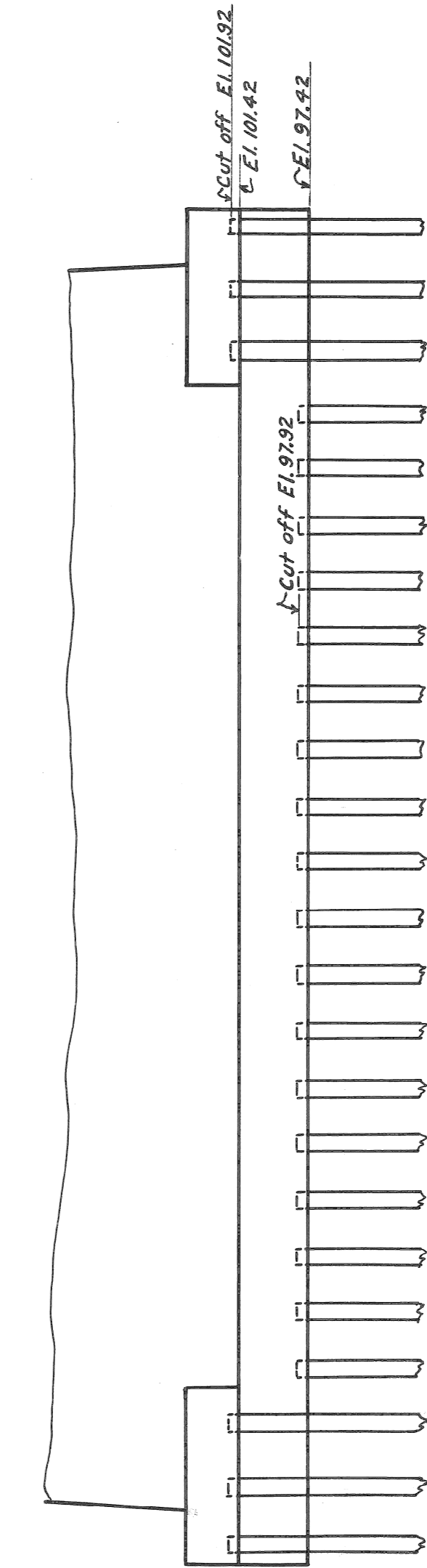


PLAN - WEST ABUTMENT

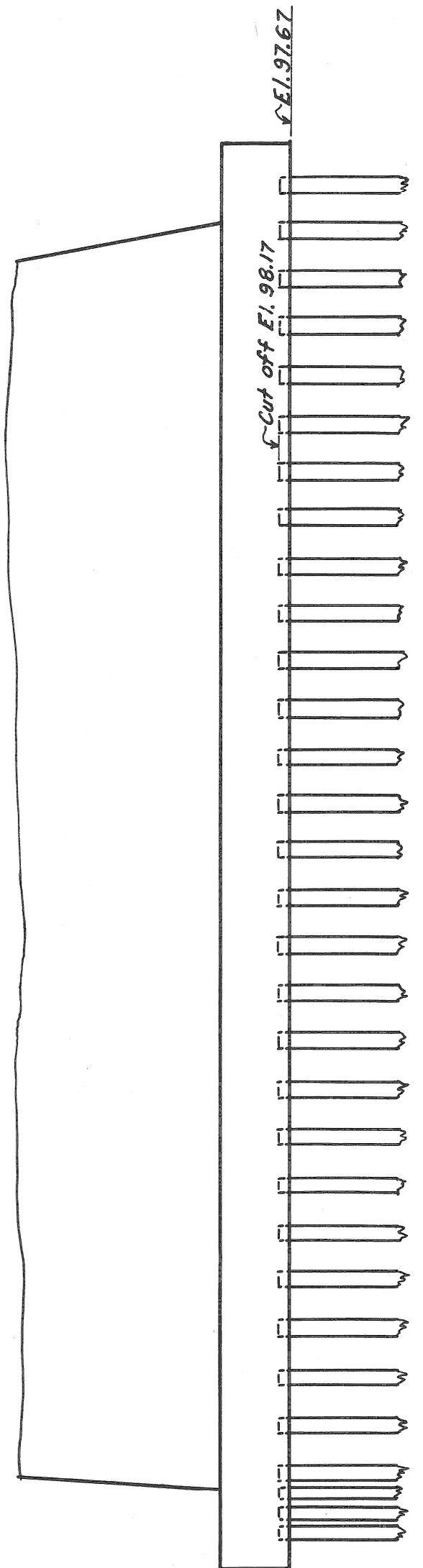
PLAN - PIER

PLAN - EAST ABUTMENT

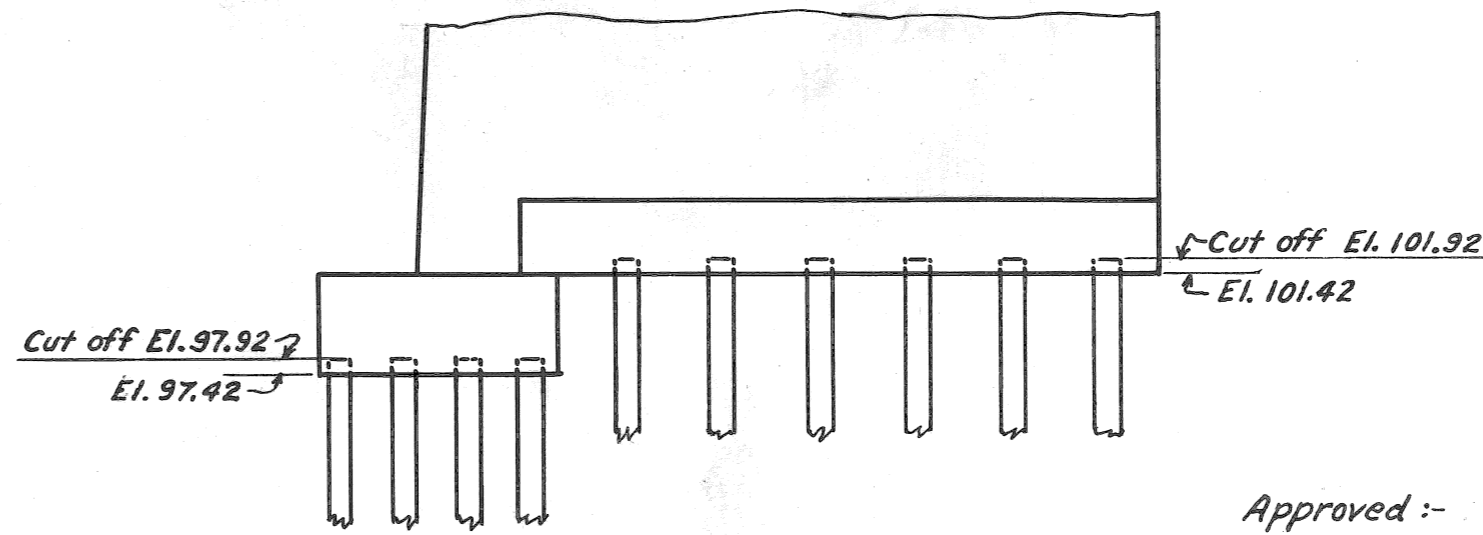
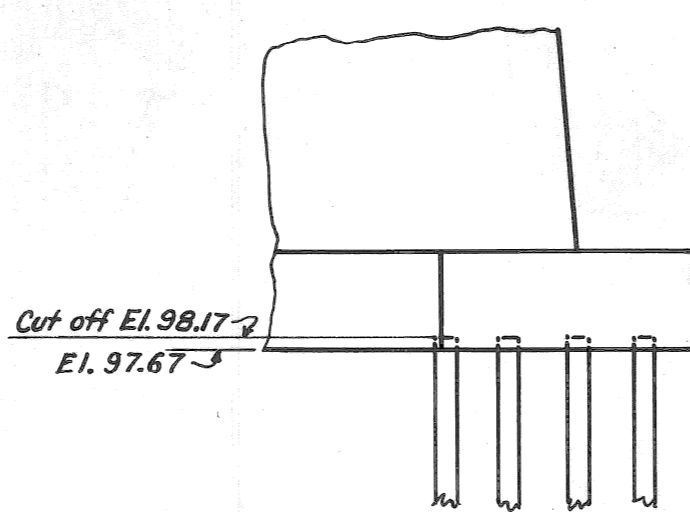
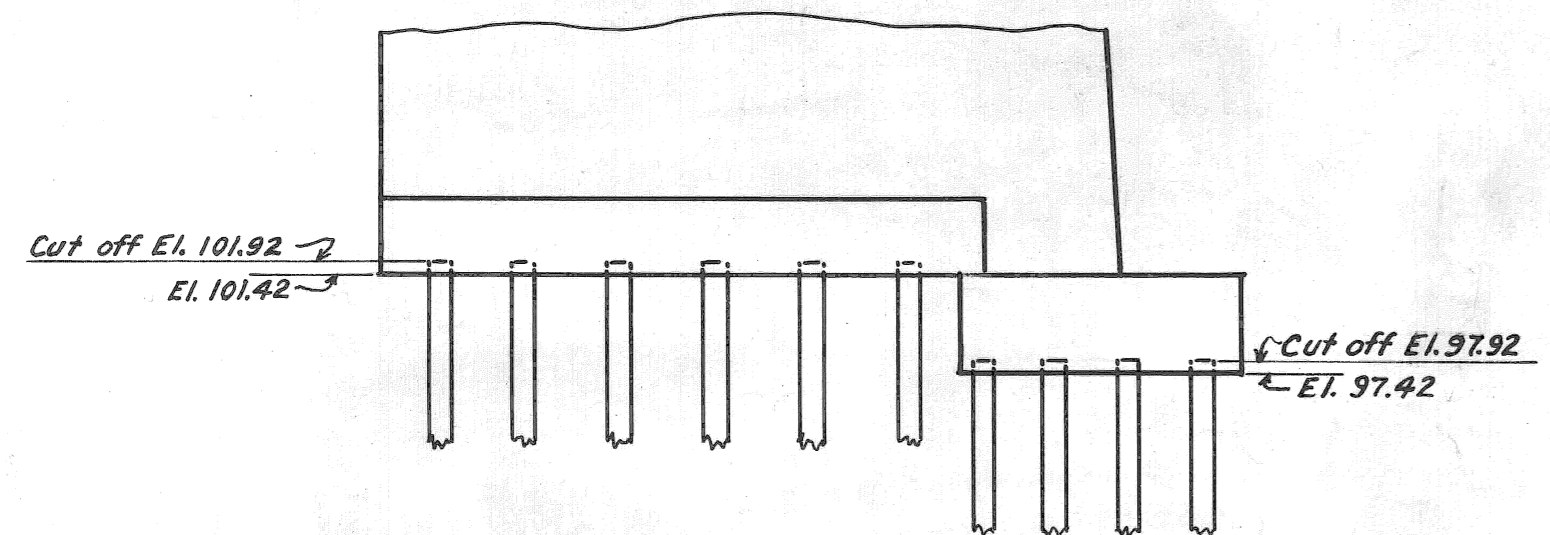
Same as West Abutment



ELEVATION ABUTMENT FOOTING



ELEVATION PIER FOOTING



FIELD NOTE
 Piles drove easily for first 8 feet. Each additional foot drove harder until they stopped at a depth of approximately 16 feet. Pile notes on plan are those taken from field.

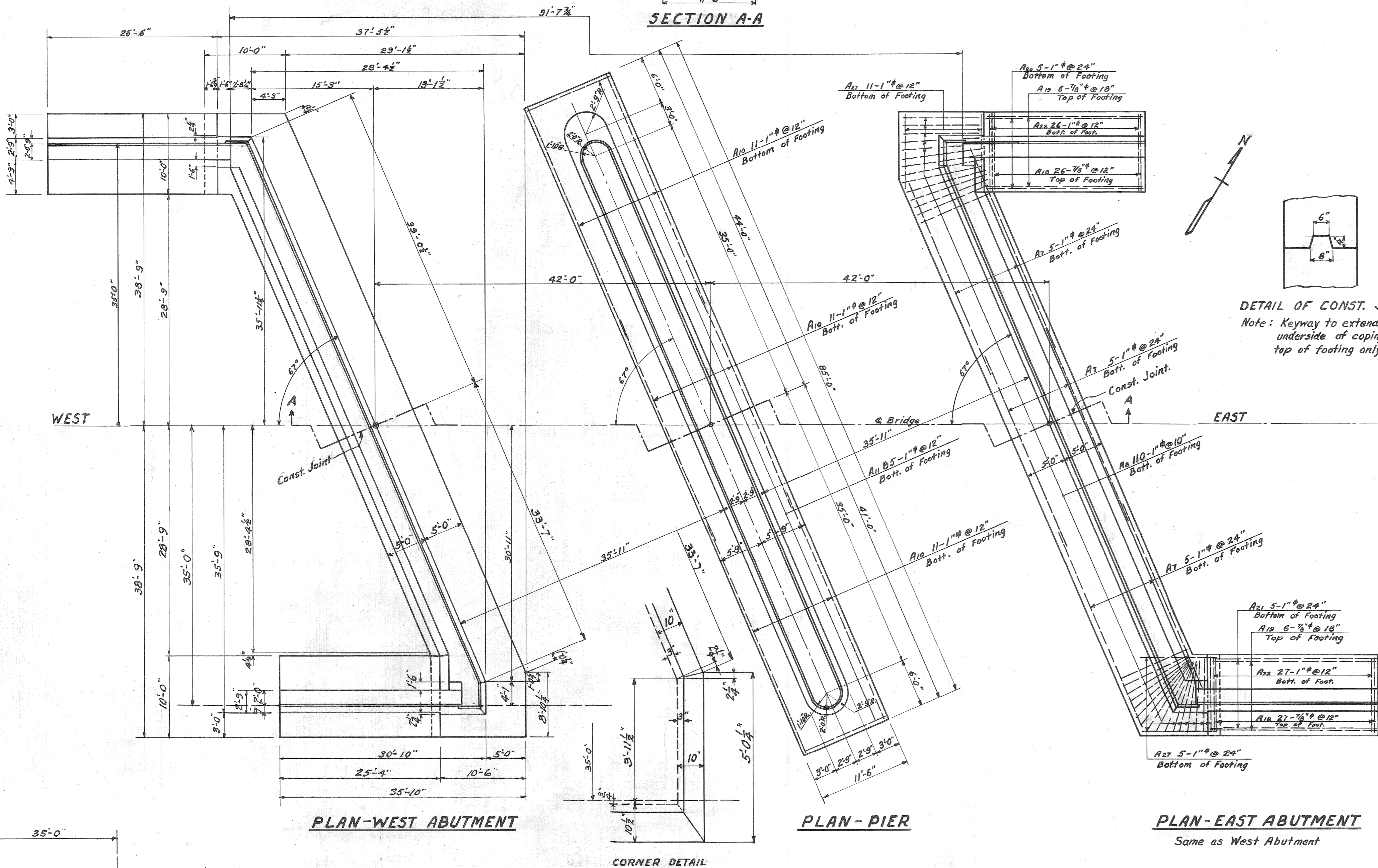
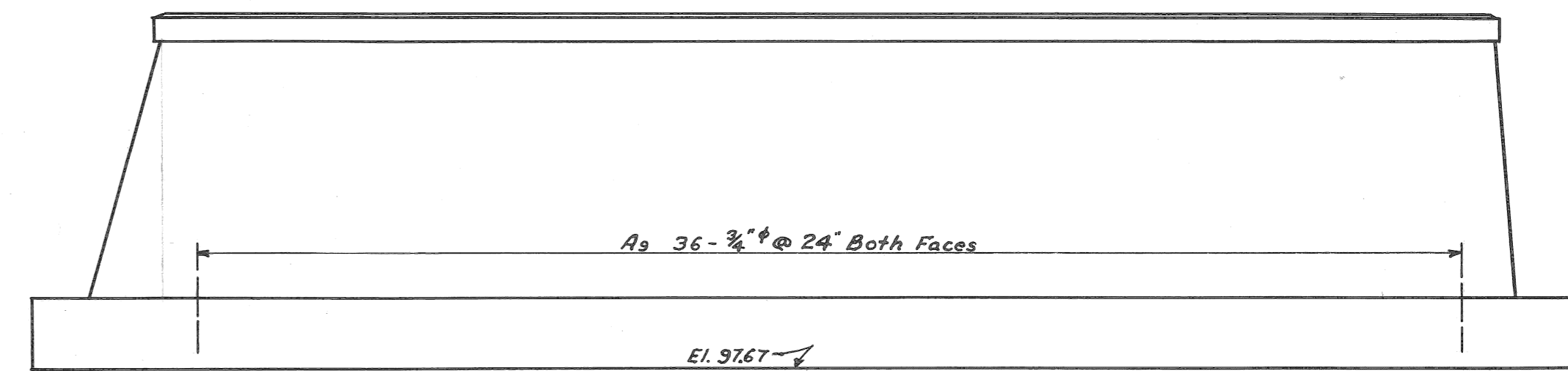
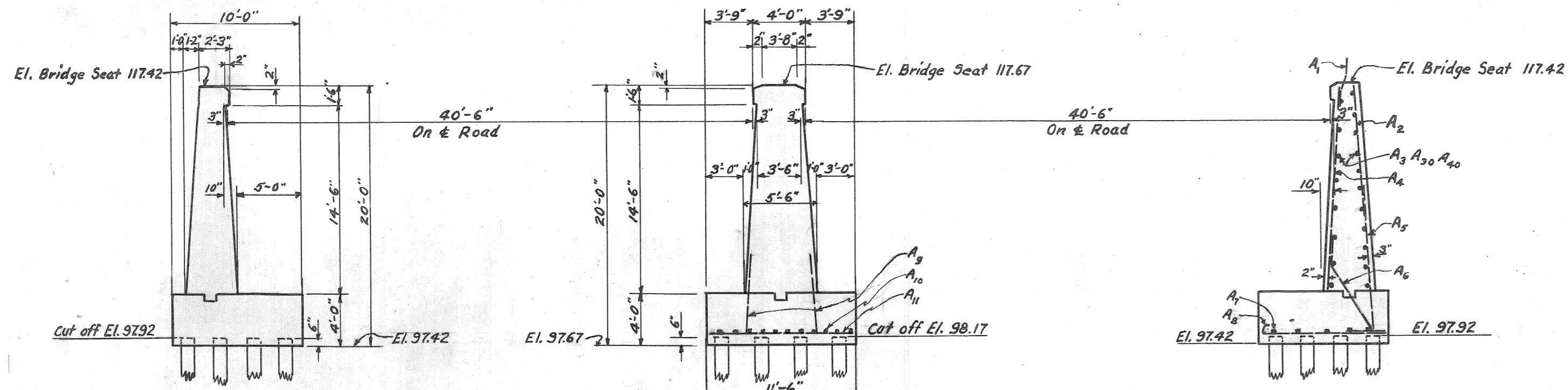
GENERAL NOTES
 Total number of piles - 384.
 All piles driven with a steam hammer. Length of piles to be determined by test piles, which shall develop a bearing capacity of 20 tons each, according to the following formula:

$$P = \frac{2wh}{s+0.1}$$
 P = safe bearing capacity in pounds.
 w = weight of steam hammer in pounds.
 h = drop of hammer in feet.
 s = average penetration per blow in inches under last blows.
 All piles to be cut off at elevation shown. Allow 3 feet for cut off.

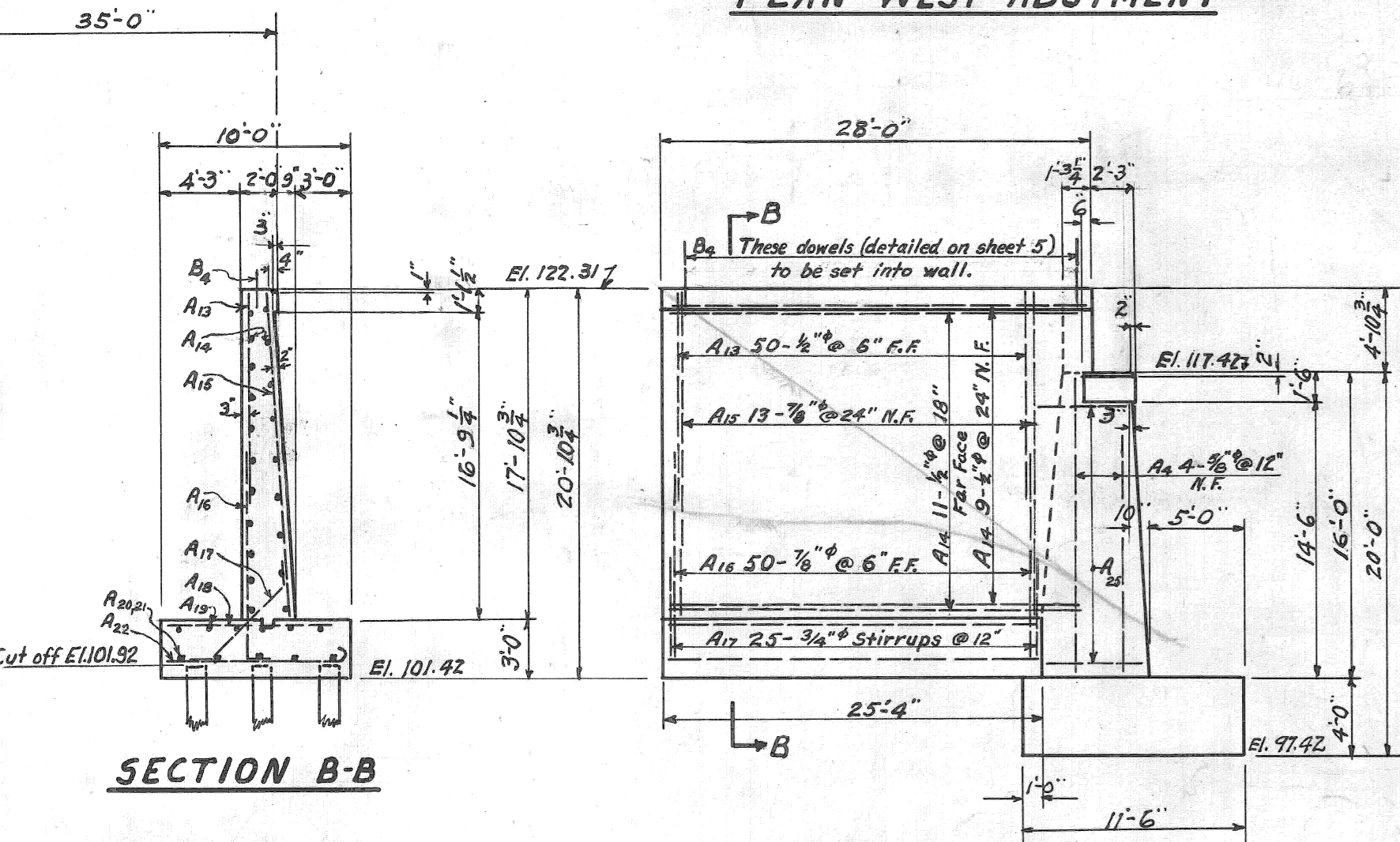
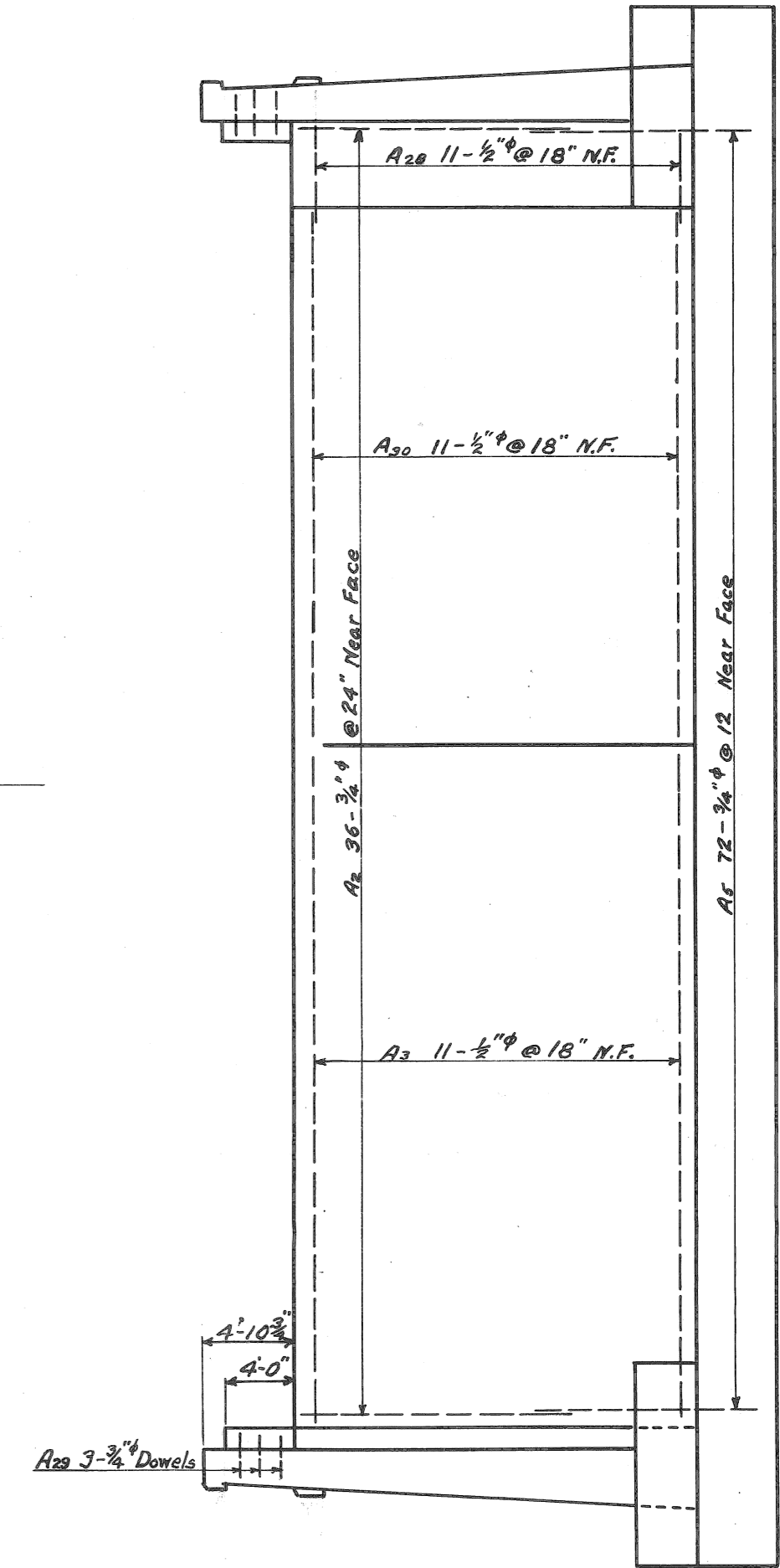
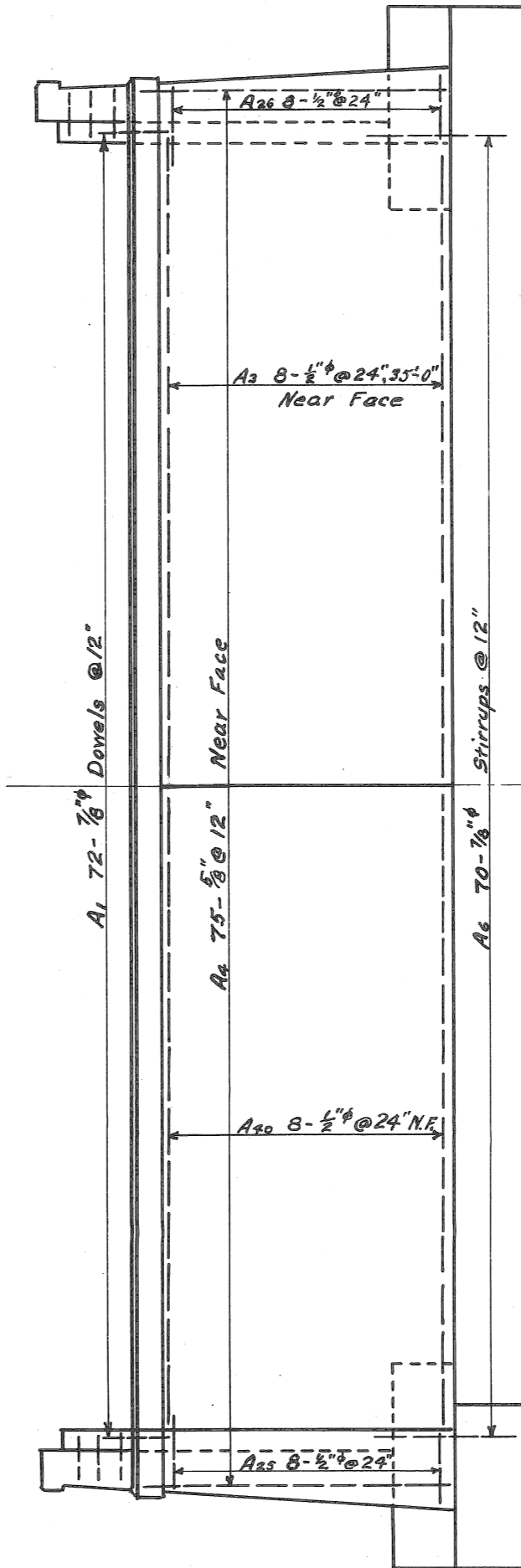
Approved: *Perry A. Parsons*
 City Engineer
W. C. ...
 Commissioner of Parks & Blvds

CITY OF DETROIT
 DEPARTMENT OF PARKS & BOULEVARDS
 OFFICE OF CITY ENGINEER
 BRIDGE OVER RIVER ROUGE
 (SOUTH OF BONAPARTE AVE.)
 RIVER ROUGE PARK
 FOUNDATION & PILING PLAN
 SCALE: 1/4" = 1'-0"
 DESIGNED BY: J.T.H.
 DRAWN BY: J.T.H.
 CHECKED BY: X.S.
 AUG. 10, 1929
 Sheet No. 2

Notes added 2-3-30.

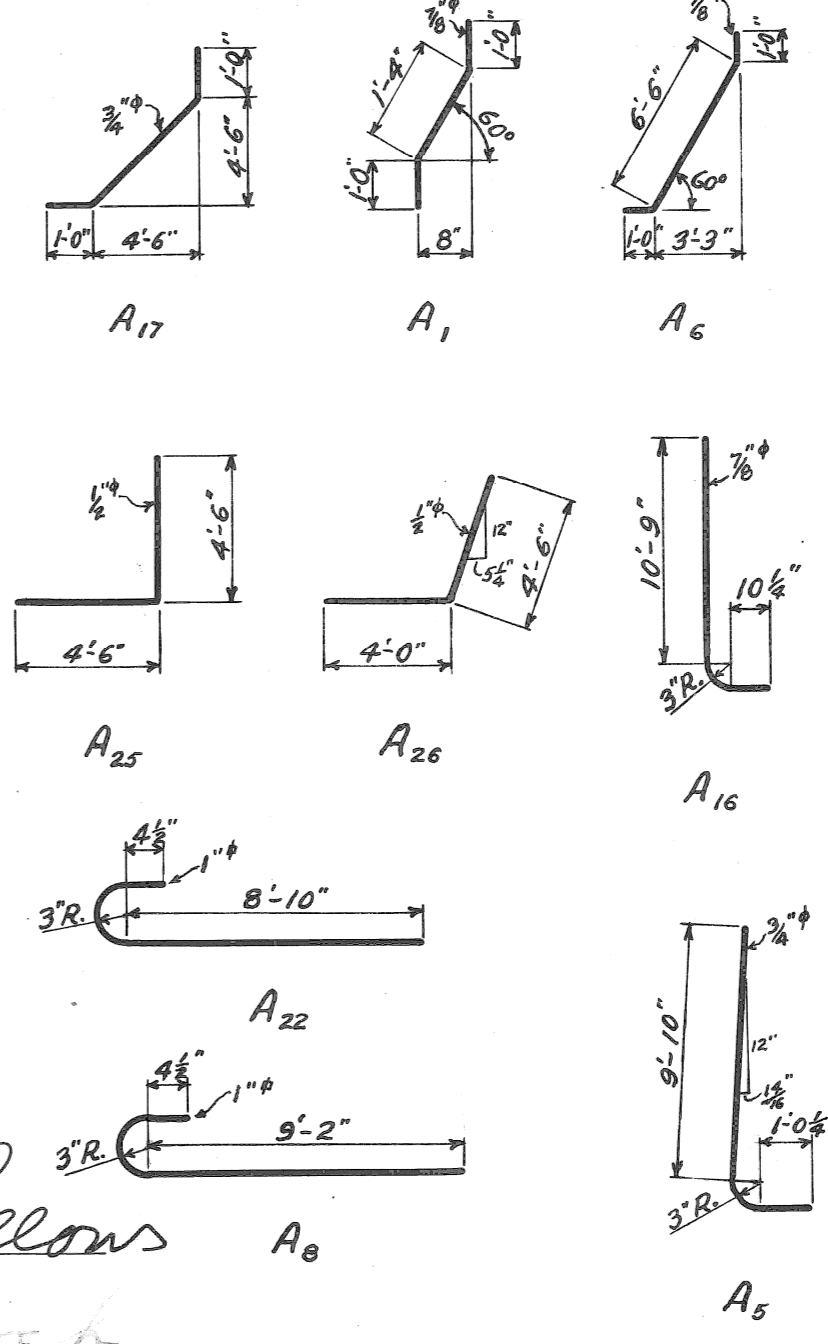


DETAIL OF CONST. JOINT
 Note: Keyway to extend from underside of coping to top of footing only.



BILL OF REINFORCING STEEL									
Mark	Number	Size	Remarks	Length	Mark	Number	Size	Remarks	Length
A5	144	3/8"	Hooked	11'-3"	A1	144	3/8"	Bent	3'-4"
A6	140	7/8"	Bent	8'-6"	A2	72	3/8"	Straight	10'-6"
A7	30	1"	Straight	27'-0"	A3	38	1/2"	"	35'-0"
A8	220	1 1/8"	"	10'-4"	A30	22	1/2"	"	28'-0"
A8T	32	1"	"	8'-6"	A40	15	1/2"	"	33'-0"
A9	72	3/8"	"	6'-0"	A4	166	4/8"	"	15'-9"
A10	33	1"	"	30'-6"	A13	200	1/2"	"	11'-6"
A11	85	1"	"	11'-0"	A14	80	1/2"	"	27'-0"
A16	200	7/8"	Hooked	12'-0"	A15	52	7/8"	"	17'-6"
A17	100	3/4"	Bent	8'-4"	A25	16	1/2"	Bent	9'-0"
A18	106	7/8"	Straight	8'-0"	A26	16	1/2"	"	8'-6"
A19	24	7/8"	"	25'-0"	A28	22	1/2"	Straight	6'-0"
A20	10	1"	"	25'-0"	A29	12	3/4"	"	3'-0"
A21	10	1"	"	25'-0"					
A22	106	1"	Hooked	10'-0"					

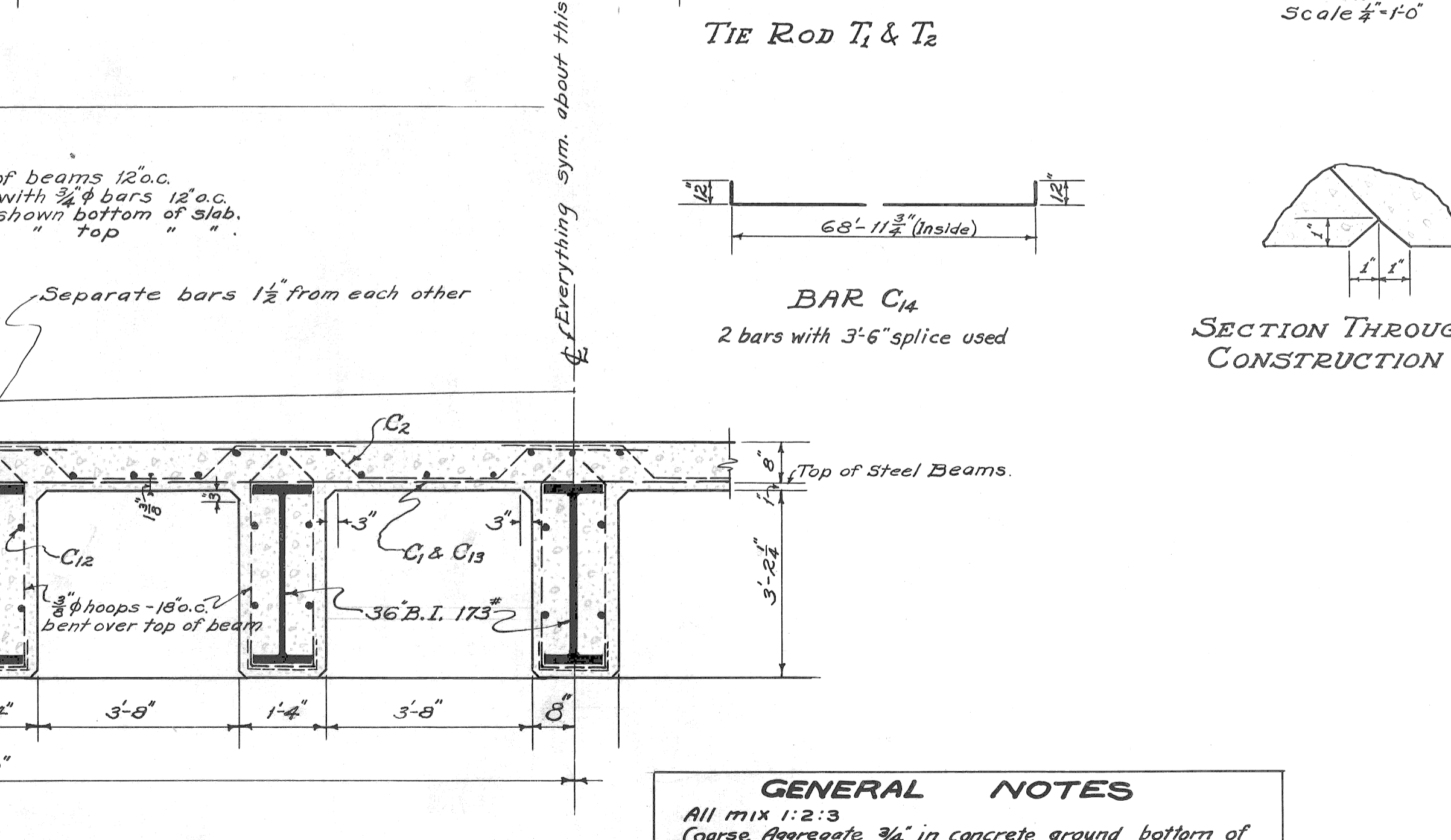
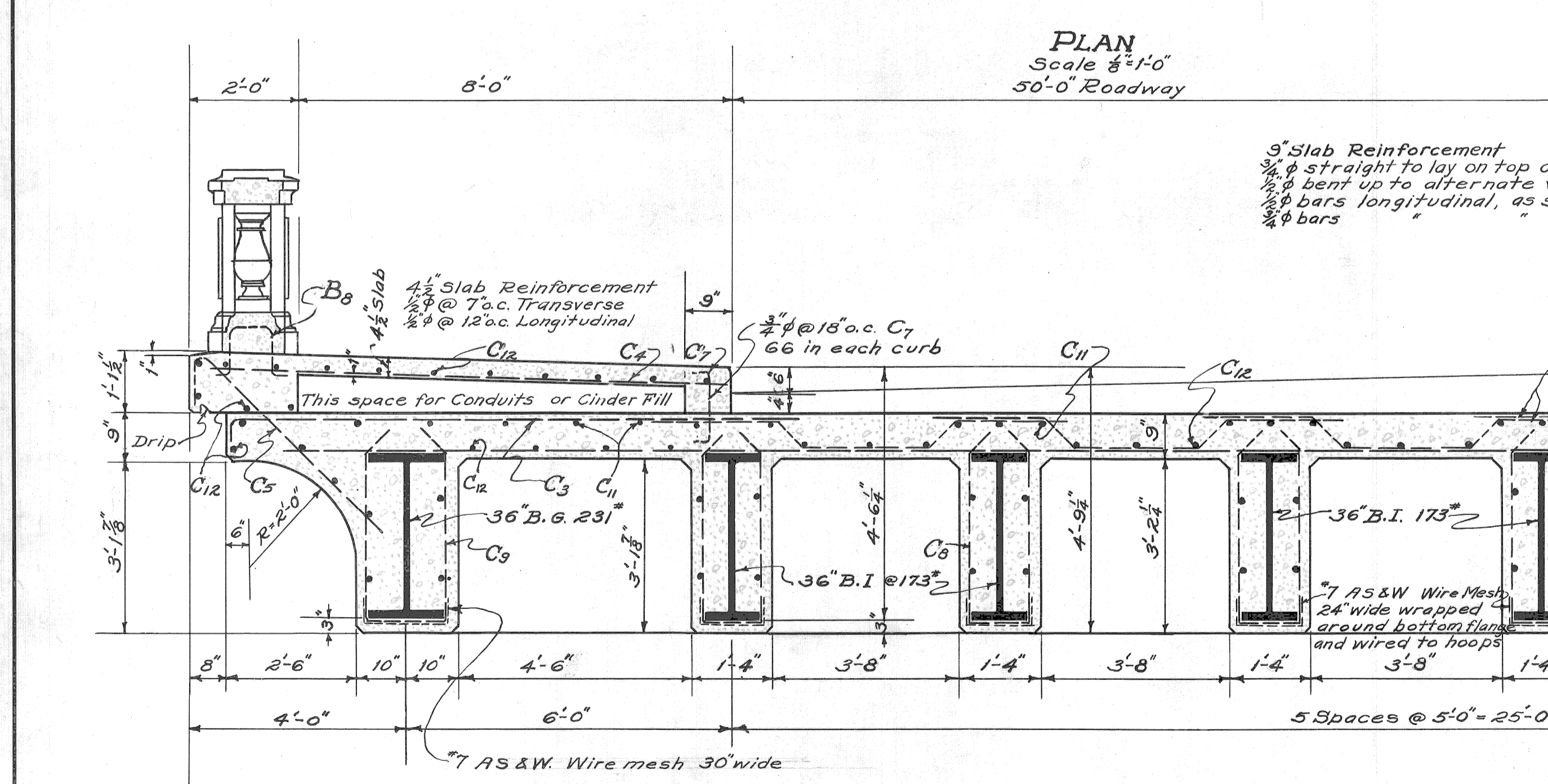
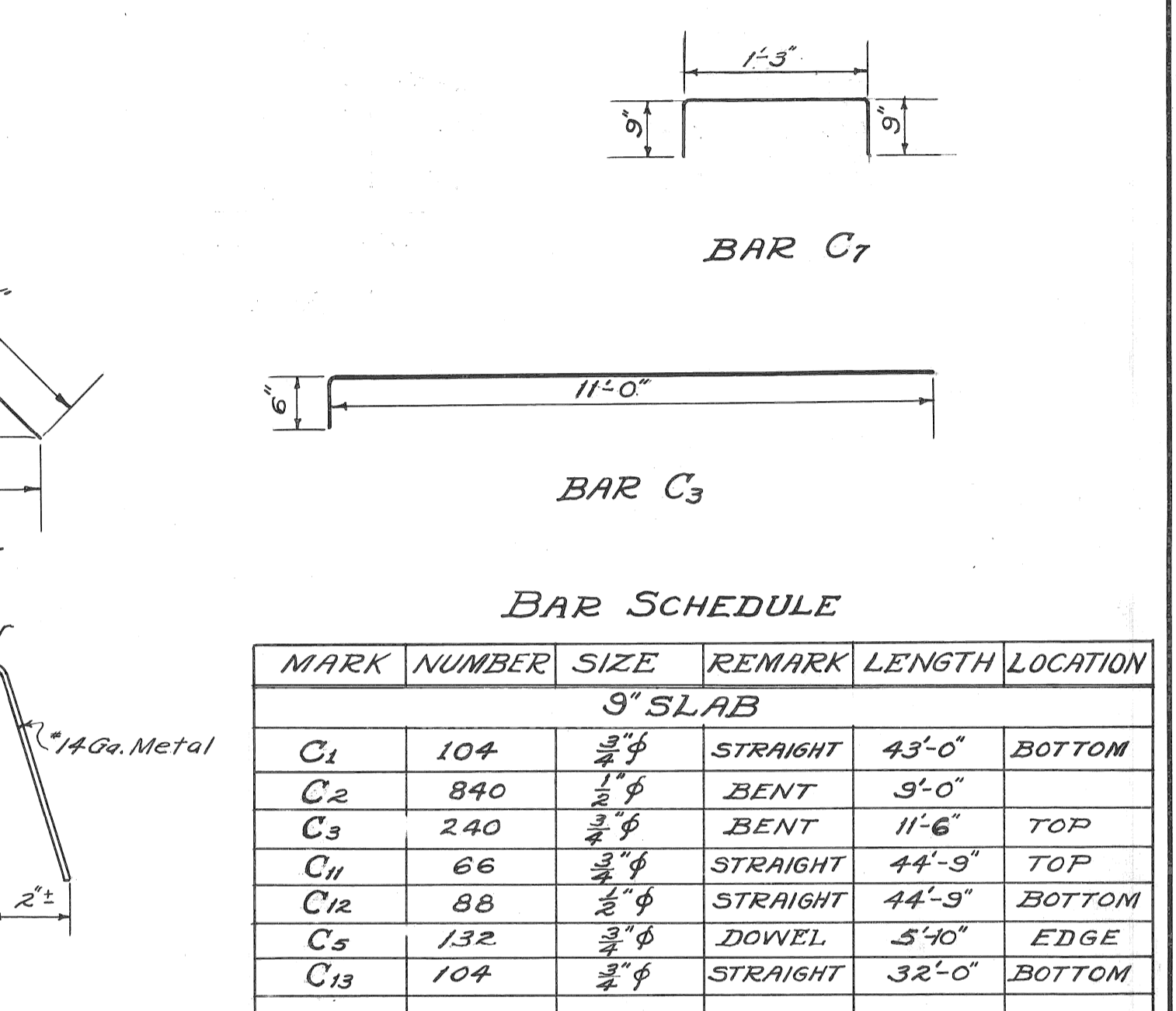
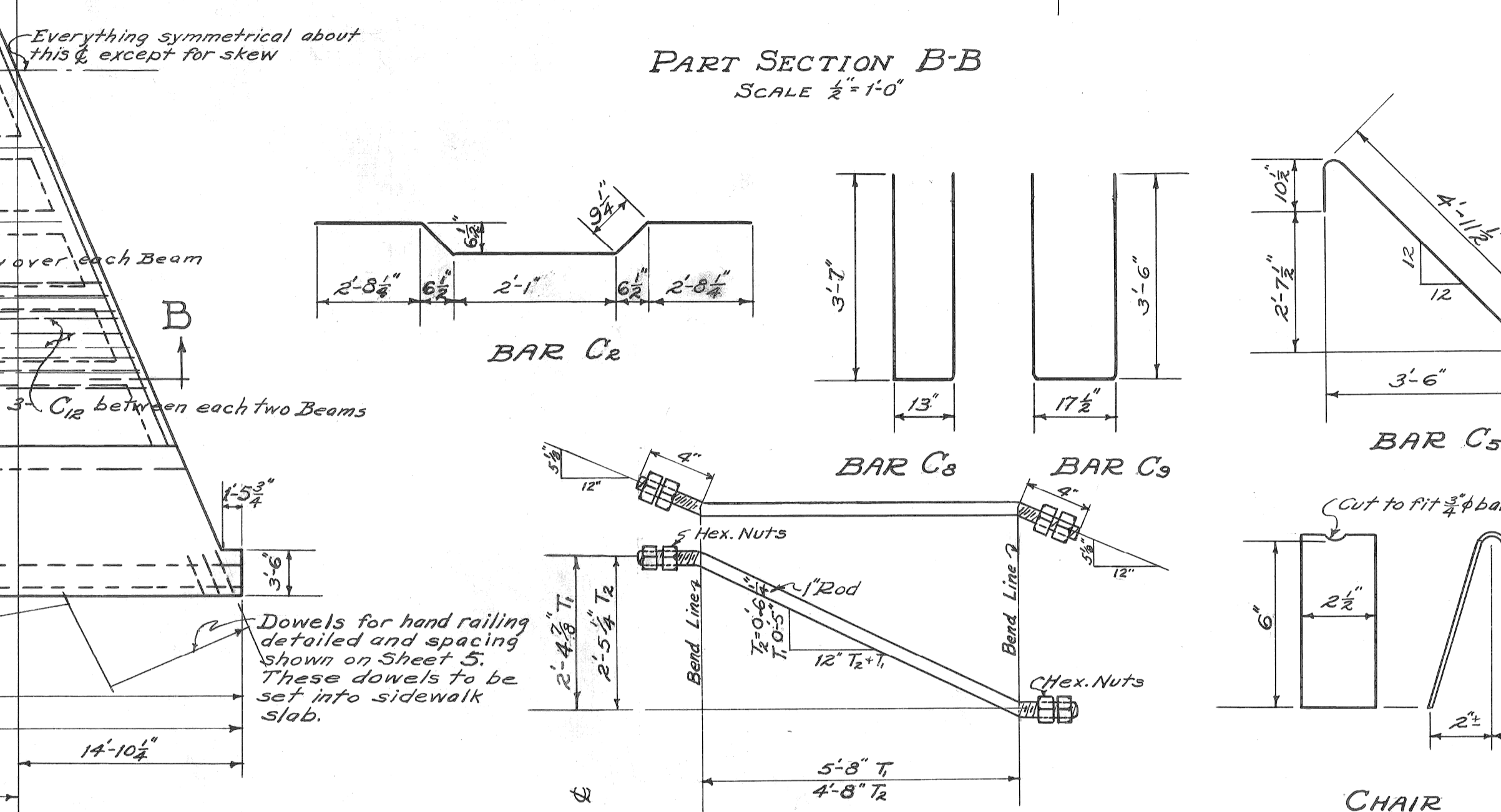
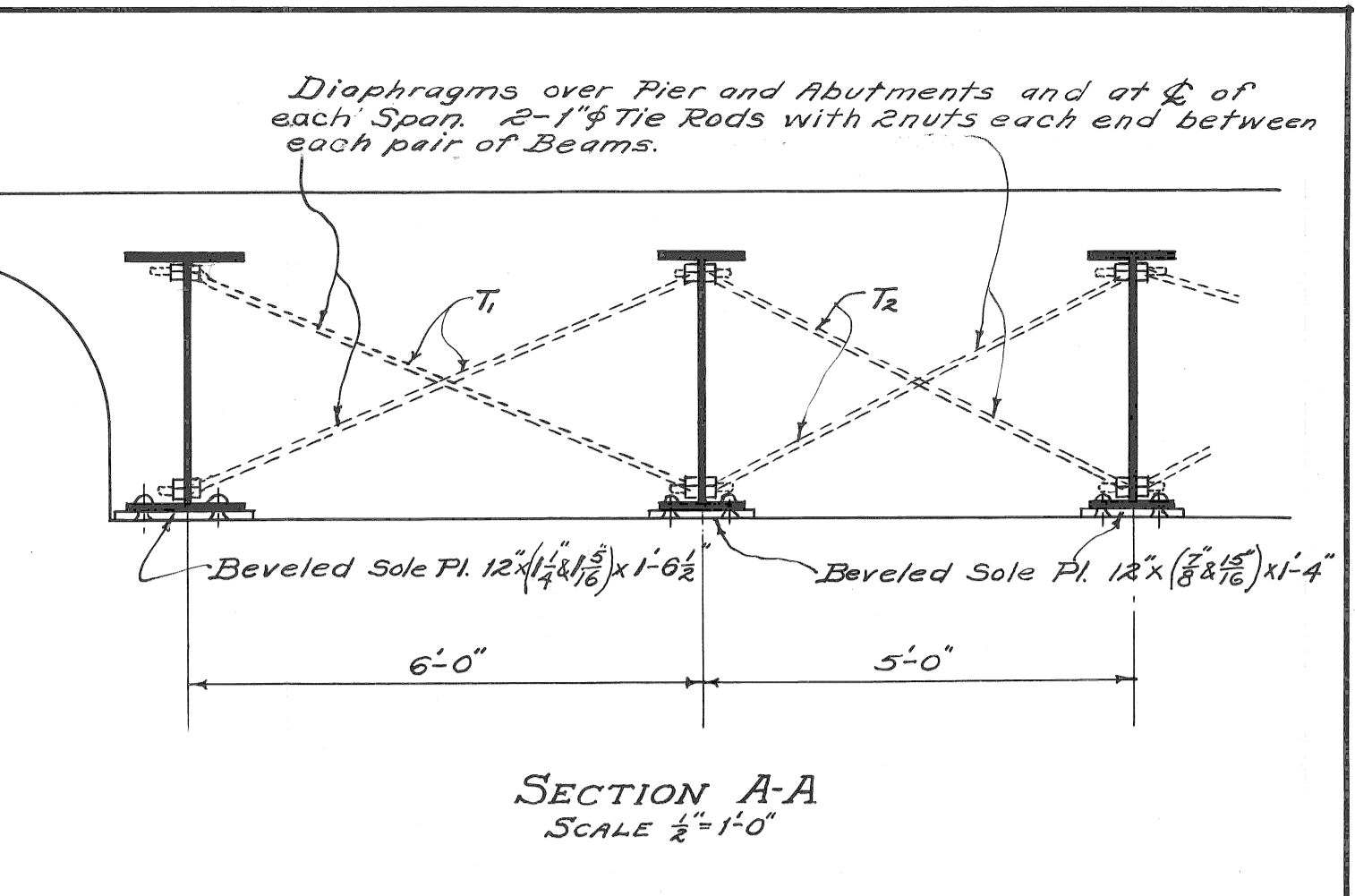
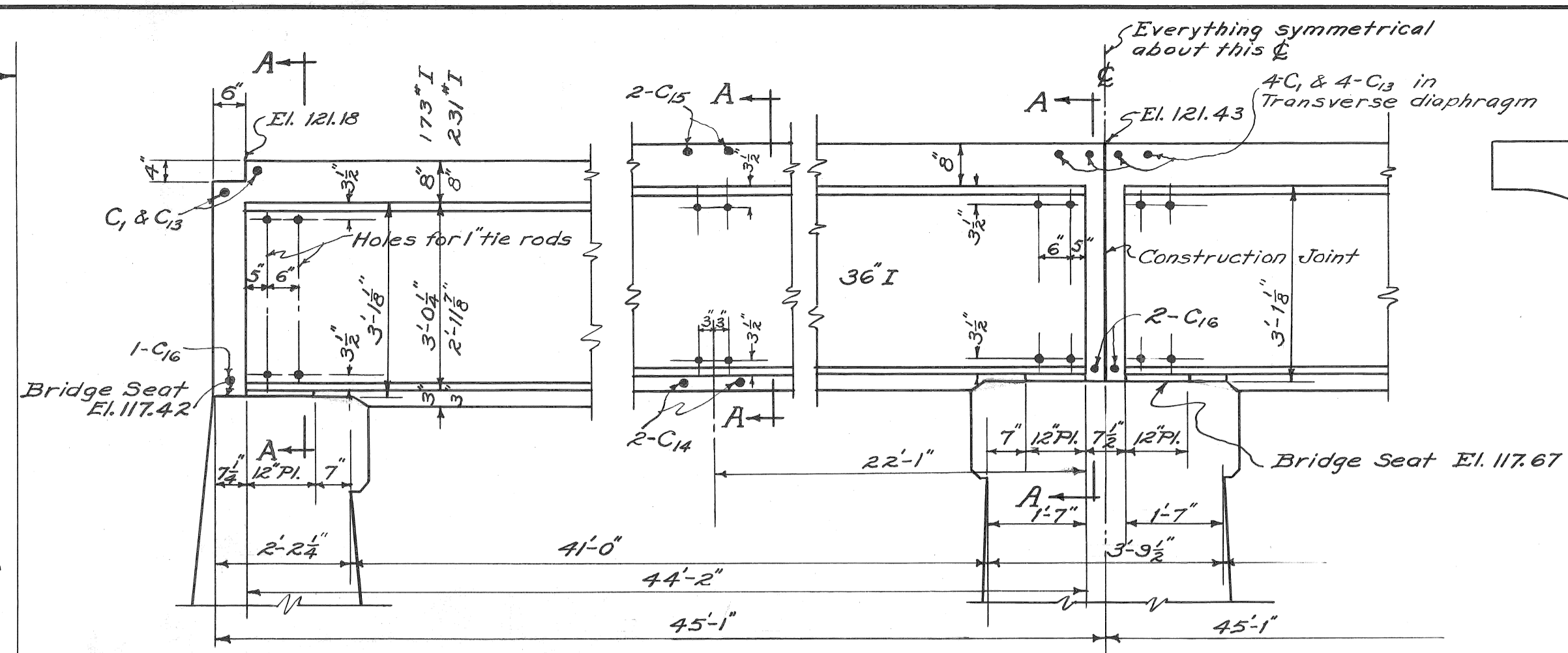
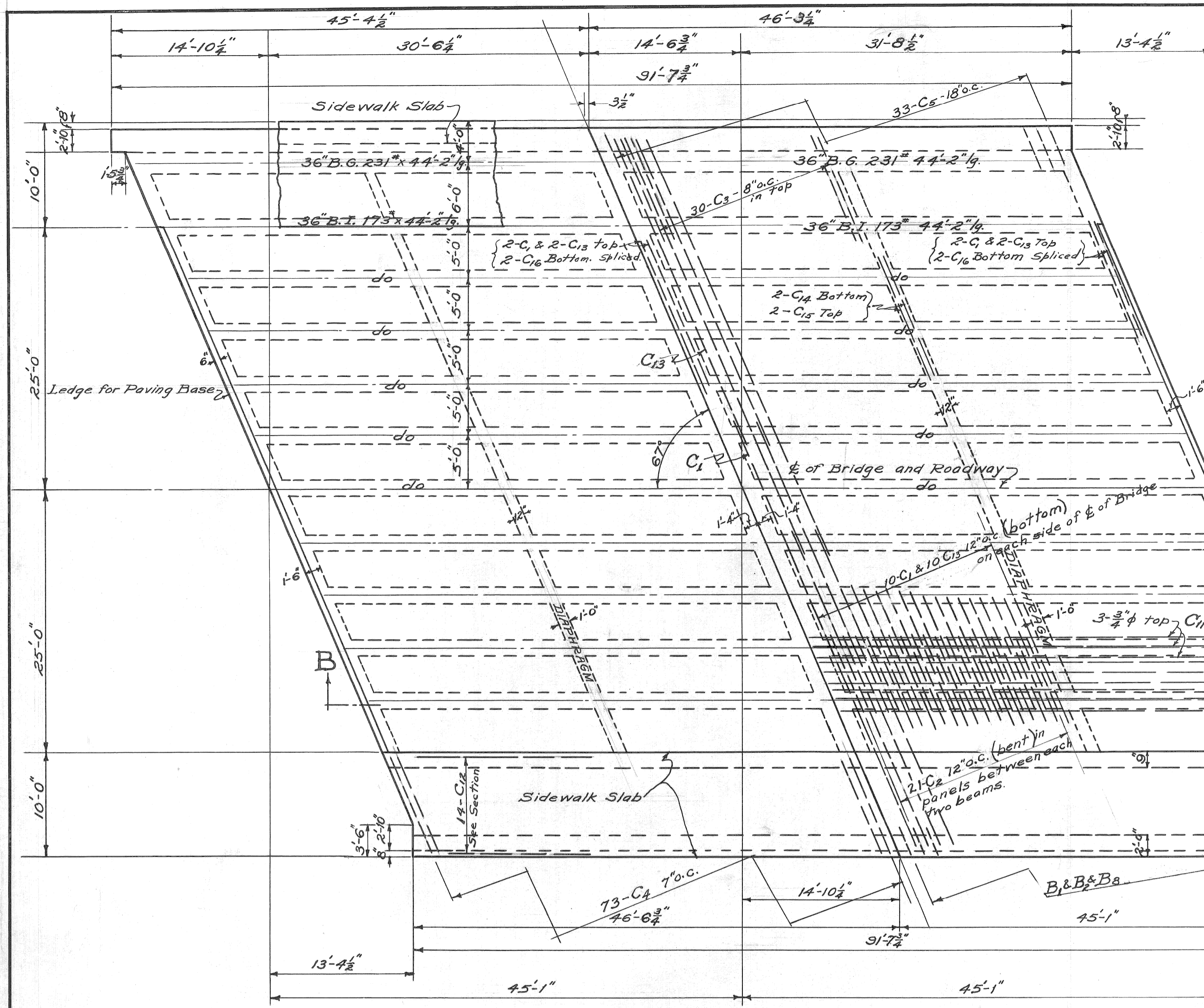
QUANTITIES		
Concrete:	Footings	Above Footings
W. Abutment	185 cu.yds.	223 cu.yds.
E. Abutment	185 "	223 "
Pier	145 "	199 "
Total	515 "	645 "
Reinforcing Steel	1160 cu.yds.	47,800*



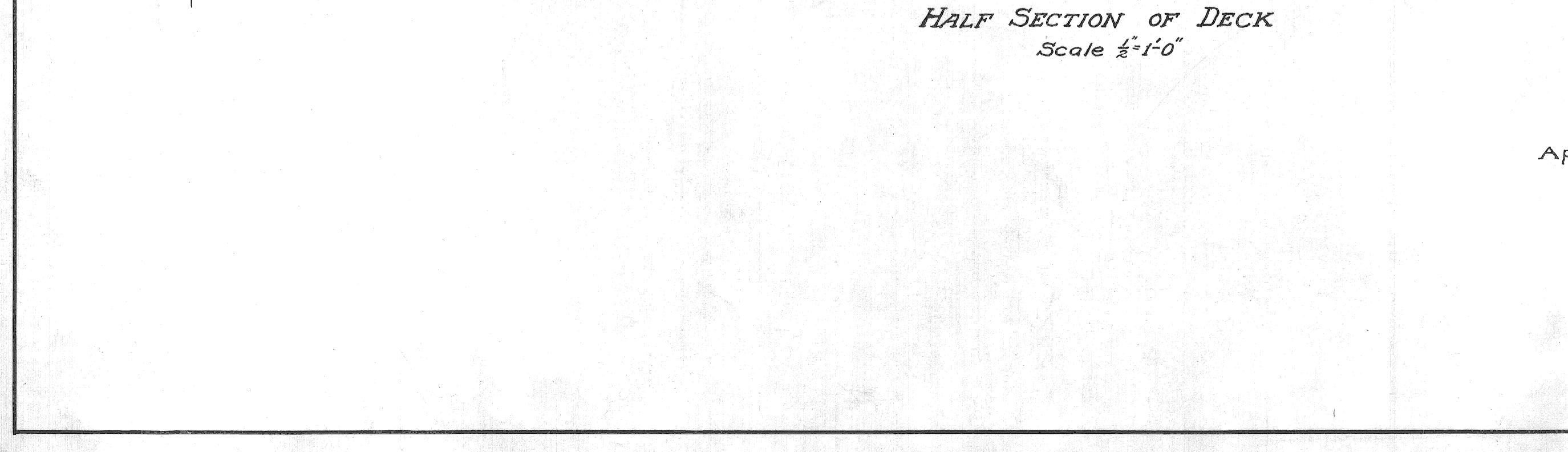
GENERAL NOTES
 Concrete mix for footings to be 1:2 1/2:4.
 Concrete mix above footings to be 1:2:3.
 All coarse aggregate 1 1/2".
 Chamfer all exposed edges 1".
 Exposed concrete surfaces to be rubbed as soon as forms are removed. No cement grout to be used on rubbed surfaces.
 All reinforcing bars securely wired at intersections and at laps. Lap all bars 40 diameters.
 Locate construction joints as shown.
 No concrete shall be placed until bars to be encased are securely fastened in place.

CITY OF DETROIT
 DEPARTMENT OF PARKS & BOULEVARDS
 OFFICE OF CITY ENGINEER
 BRIDGE OVER RIVER ROUGE
 (SOUTH OF BONAPARTE AVE.)
 RIVER ROUGE PARK
 SUBSTRUCTURE DETAILS
 SCALE: 1/8" = 1'-0"
 AUG. 10, 1929
 DESIGNED BY: J.T.K.
 DRAWN BY: J.T.H.
 CHECKED BY: R.S.
 Sheet No. 3

Approved: *[Signature]*
 City Engineer
 Commissioner of Parks & Blvs.



BAR SCHEDULE					
MARK	NUMBER	SIZE	REMARK	LENGTH	LOCATION
9" SLAB					
C ₁	104	3/8"	STRAIGHT	43'-0"	BOTTOM
C ₂	840	3/8"	BENT	9'-0"	BOTTOM
C ₃	240	3/8"	BENT	11'-6"	TOP
C ₁₁	66	3/8"	STRAIGHT	44'-9"	TOP
C ₁₂	88	3/8"	STRAIGHT	44'-9"	BOTTOM
C ₅	132	3/8"	DOWEL	5'-0"	EDGE
C ₁₃	104	3/8"	STRAIGHT	32'-0"	BOTTOM
4 1/2" SLAB					
C ₄	292	3/8"	STRAIGHT	9'-6"	BOTTOM
C ₇	132	3/8"	DOWEL	2'-9"	CURB
C ₁₂	56	1/2"	STRAIGHT	44'-9"	BOTTOM
BEAMS					
C ₈	616	3/8"	STIRRUPS	8'-3"	INTERMEDIATE BEAMS
C ₉	112	3/8"	"	8'-5"	END BEAMS
C ₁₂	109	3/8"	STRAIGHT	44'-9"	LONGITUDINAL
T ₁	24	1"	BENT	7'-0"	"
T ₂	120	1"	"	6'-1 1/2"	"
"	7 AS & W	900 lin. ft.	24" wide Wire Mesh	No allowance for waste and laps	"
"	"	165" "	30" "	"	"
"	7 Metal	420	Chairs	See detail	"
C ₁₄	4	1"	BENT	71'-0"	"
C ₁₅	4	1"	STRAIGHT	74'-0"	"
C ₁	8	3/8"	"	43'-0"	"
C ₁₃	8	3/8"	"	32'-0"	"
C ₁₆	8	3/8"	"	35'-0"	"



GENERAL NOTES
 All mix 1:2:3
 Coarse Aggregate 3/4" in concrete around bottom of steel beams. All other coarse aggregate 1 1/2"
 All exposed edges chamfered 1" unless shown otherwise.
 All exposed surfaces of concrete to be rubbed as soon as forms are removed. No cement grout to be used on exposed surfaces.
 All reinforcing bars securely wired at all intersections and laps.
 All bar laps 40 dia.
 Place all dowels for the hand railing in sidewalk slabs as shown and called for on sheet No. 5.
 Construction joints placed as shown (See details for exposed vertical joints).

Quantities
 Concrete 4.42 cu. yds.
 Reinforcing Steel 41500
 Structural Steel 106 Ton
 Cinders 29 cu. yds.

CITY OF DETROIT
 DEPARTMENT OF PARKS & BOULEVARDS
 OFFICE OF CITY ENGINEER

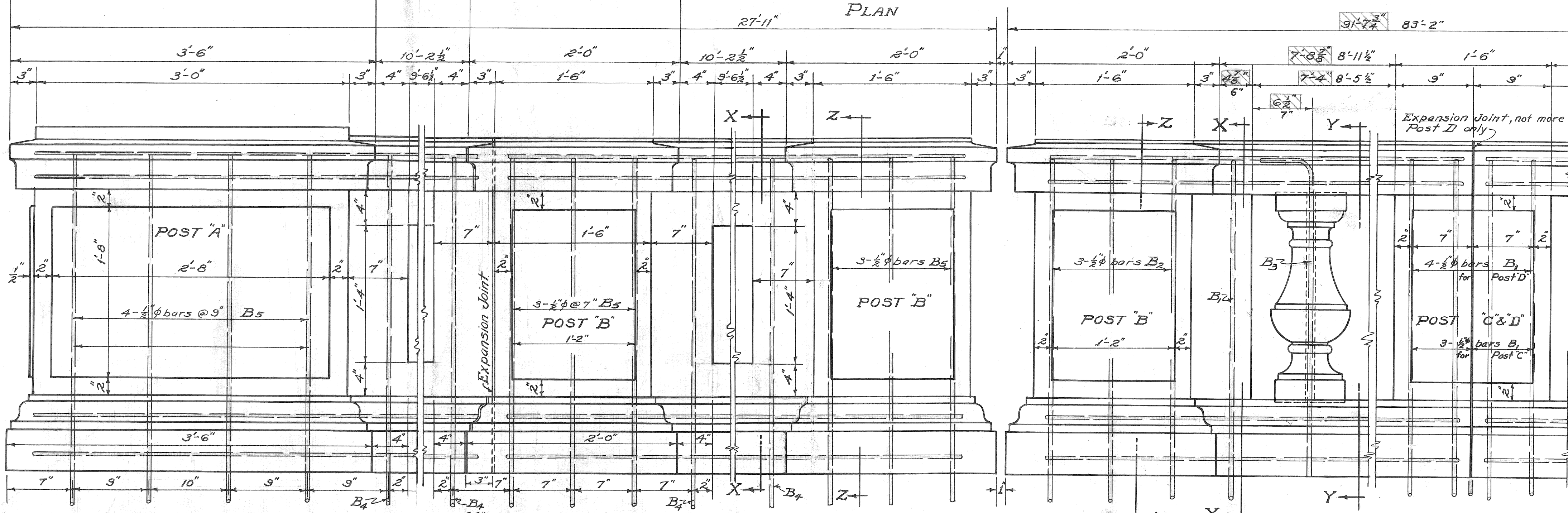
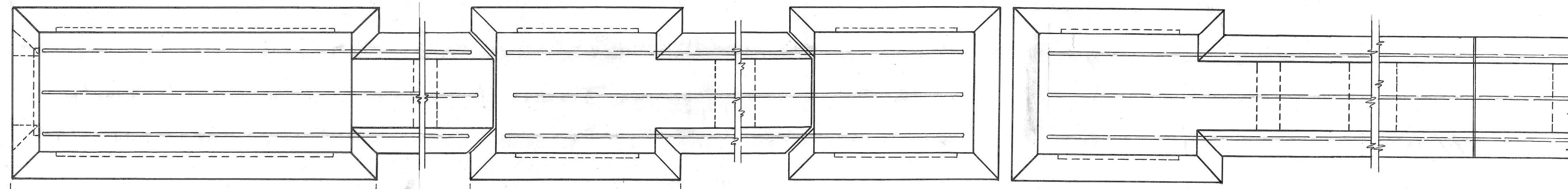
BRIDGE OVER RIVER ROUGE
 (SOUTH OF BONAPARTE AVE.)
 RIVER ROUGE PARK

DECK DETAILS
 SCALE: AS NOTED
 DESIGNED BY: R. S.
 DRAWN BY: E.S.M.
 CHECKED BY: R. S.

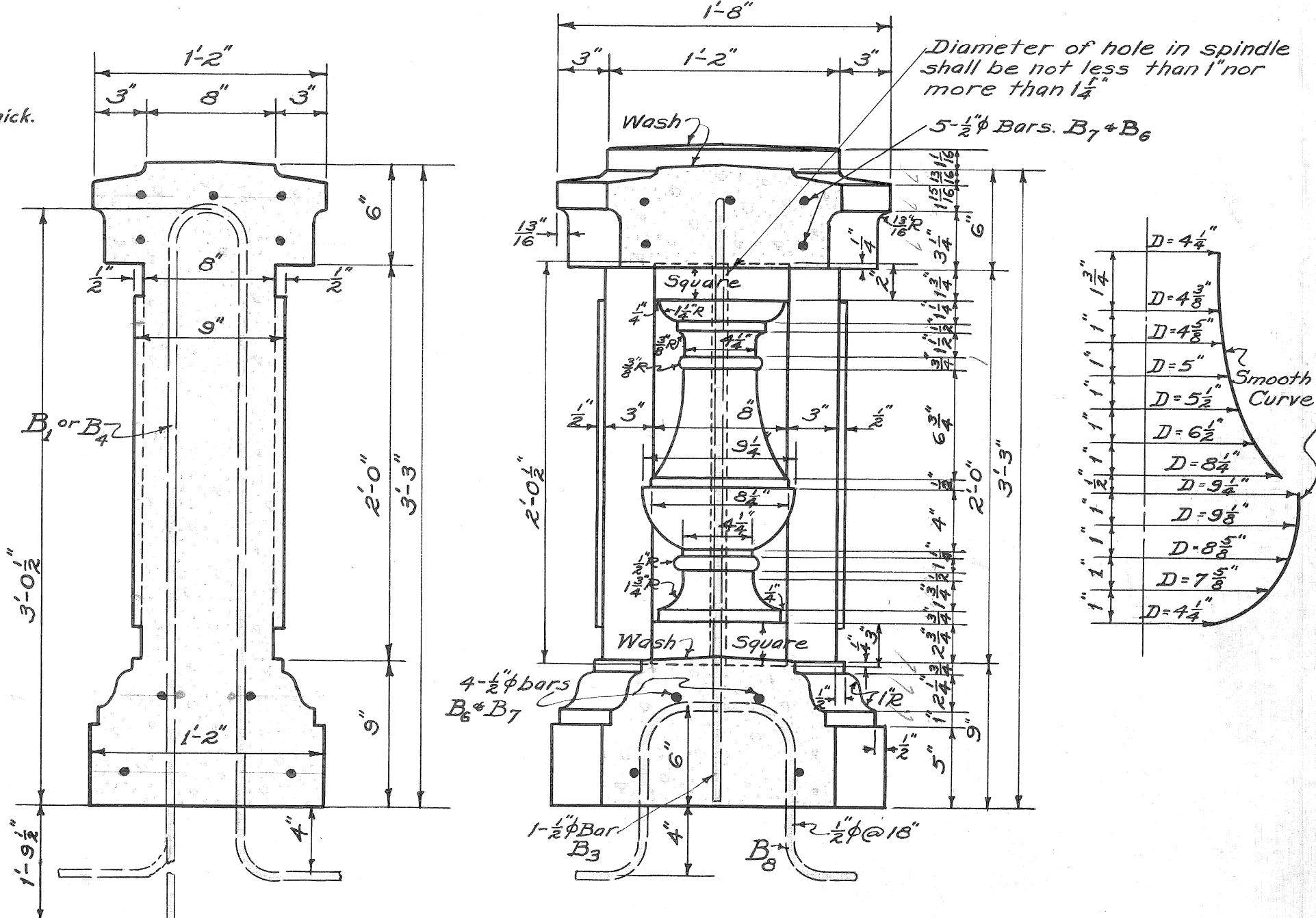
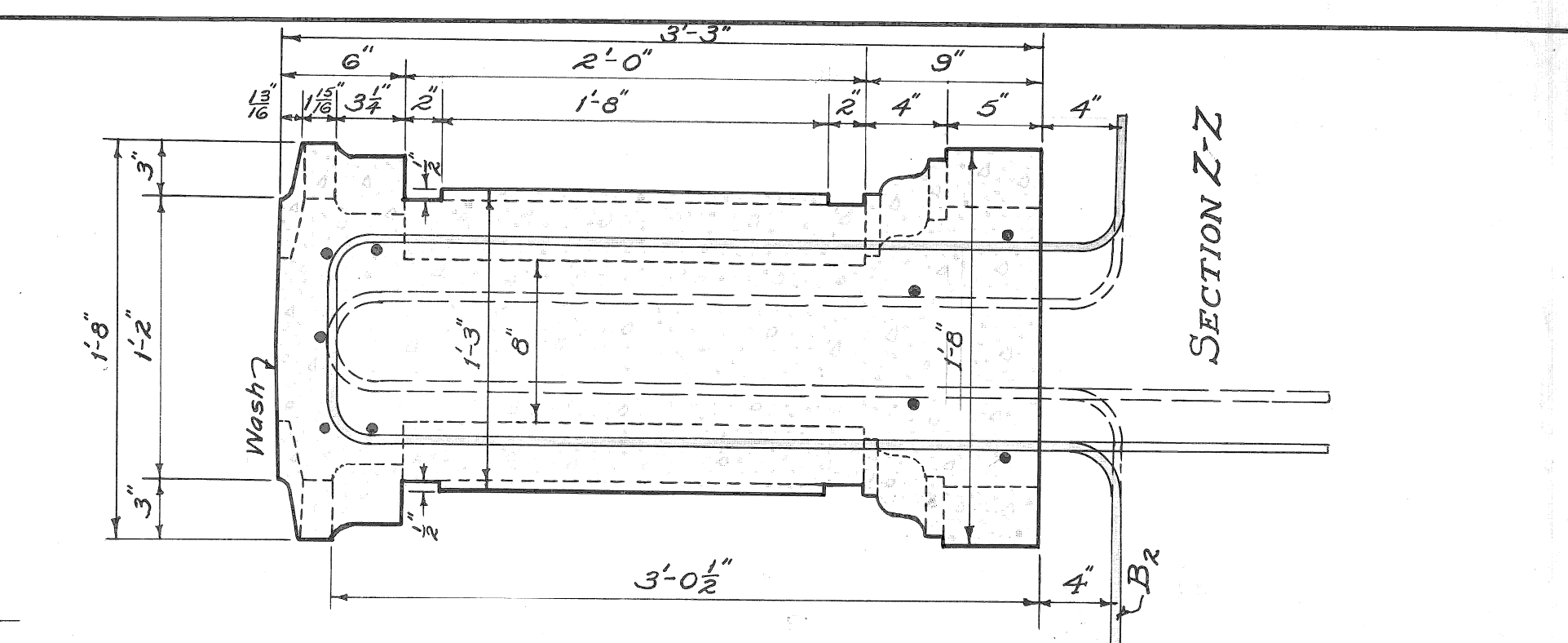
Revisions
 Tie rods T₁ & T₂, 10-8-29.
 Final revisions, 2-3-30.

Approved: *Rory J. Kelly*
 City Engineer
W. B. Bunch
 Commissioner of Parks and Blvds.

Aug. 10, 1929
 Sheet No. 4
 File BW 265-4

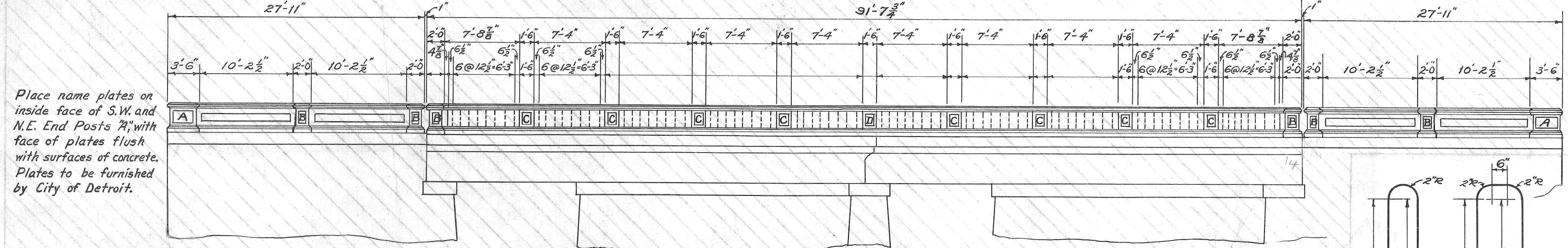


DETAIL ELEVATION OF HAND RAIL
Scale 1/2" = 1'-0"



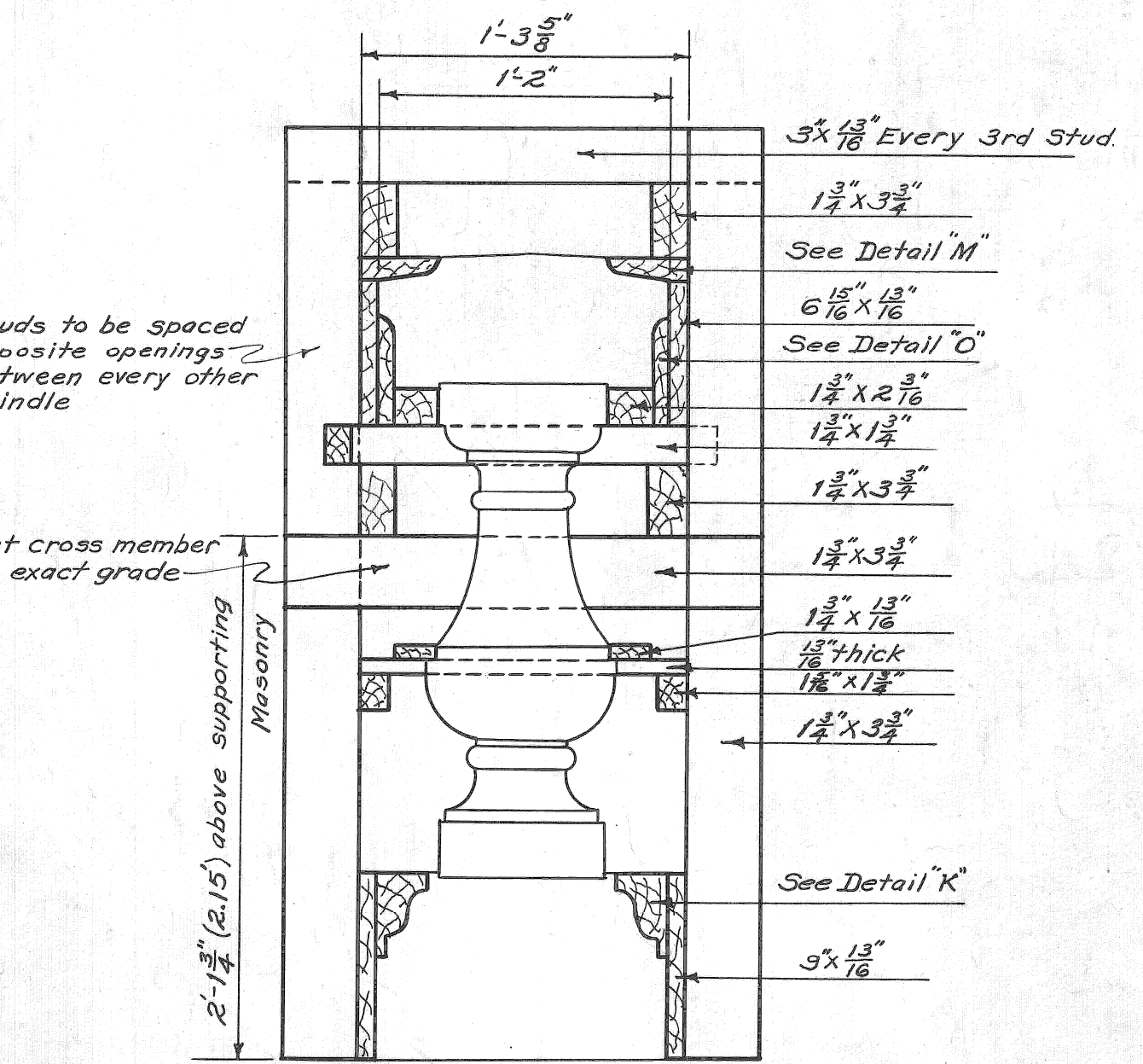
SECTION X-X

SECTION Y-Y

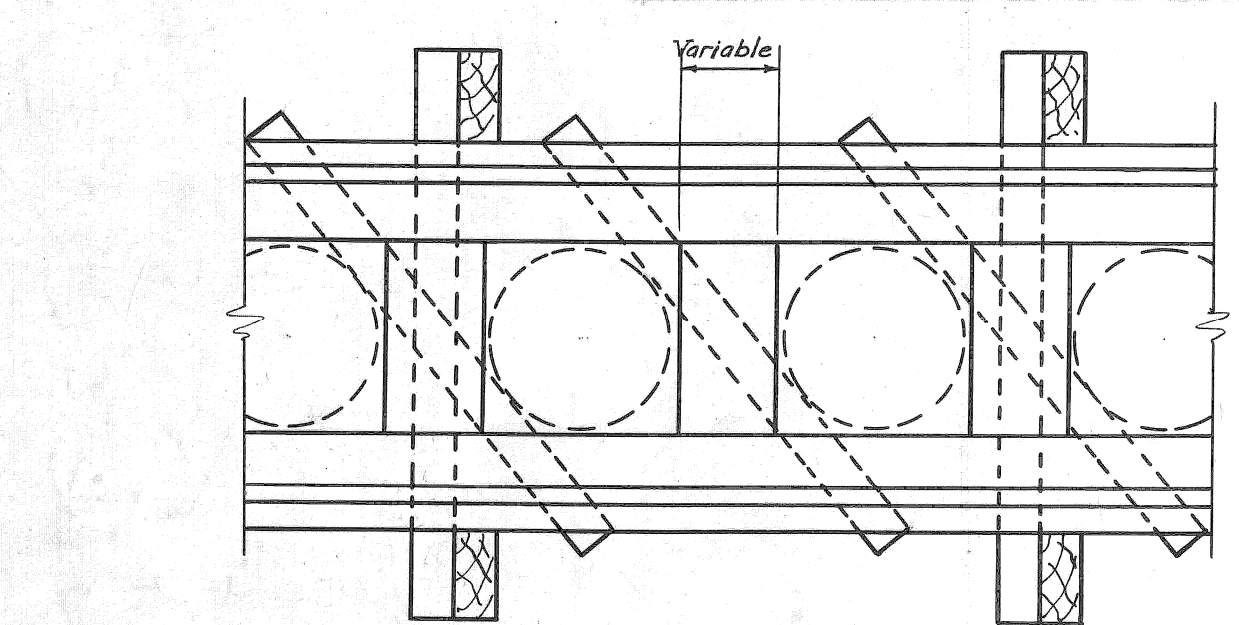


Place name plates on inside face of S.W. and N.E. End Posts A, with face of plates flush with surfaces of concrete. Plates to be furnished by City of Detroit.

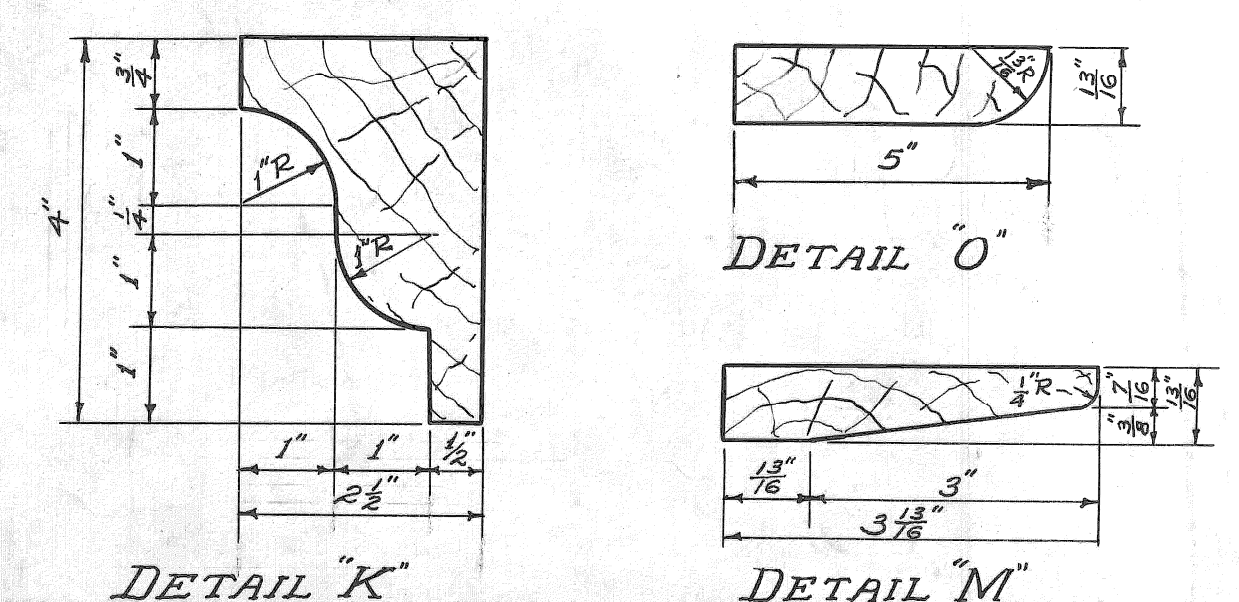
ELEVATION OF HAND RAIL
Scale 5/8" = 1'-0"



SECTION SHOWING FORMS



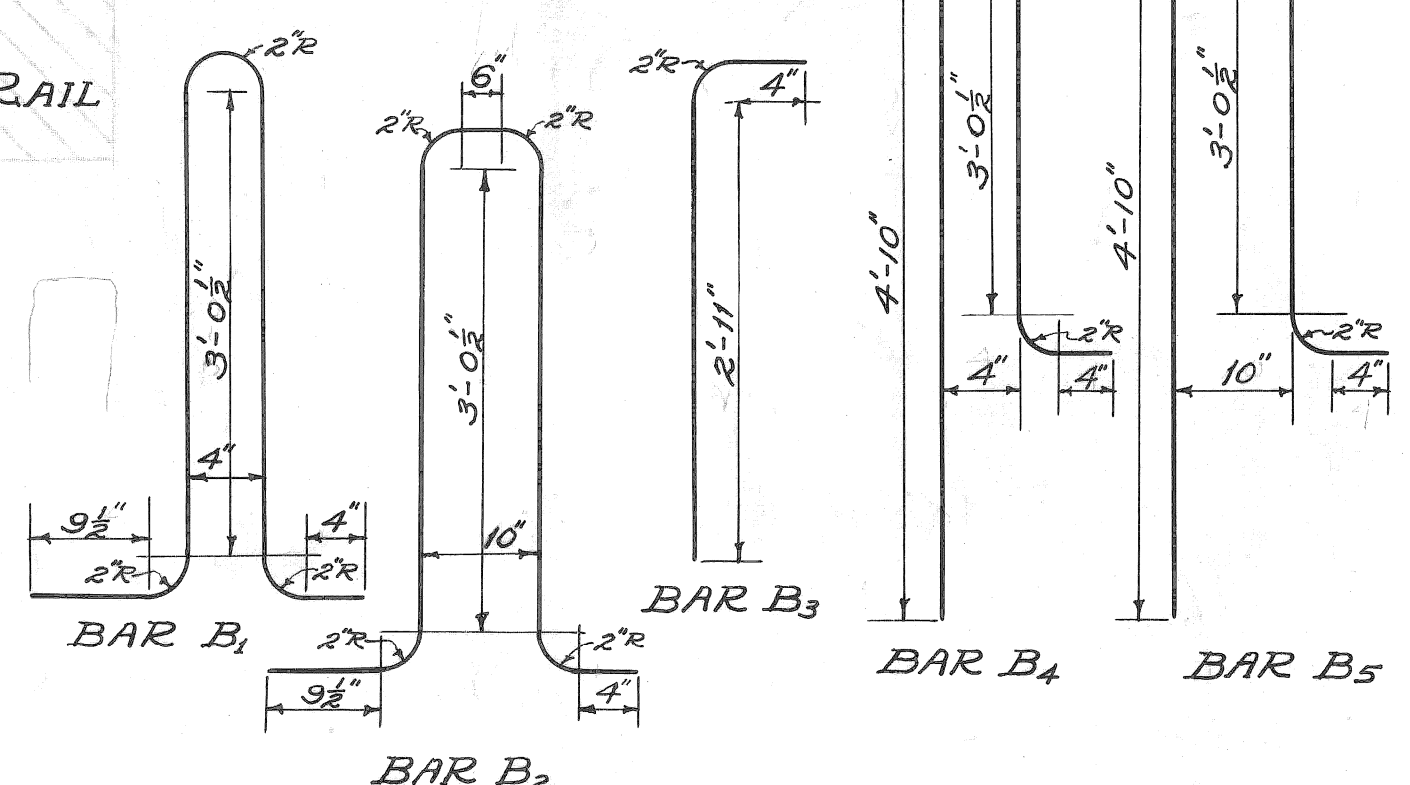
PLAN OF FORMS



DETAIL K

DETAIL L

DETAIL M



BAR SCHEDULE

BAR NO.	SIZE	LENGTH	REMARK	LOCATION
B1	76 1/2"	8'-3"	BENT	Posts C&D and near Posts B on Bridge
B2	12 1/2"	8'-9"	"	At end of Bridge
B3	140 1/2"	3'-6"	"	Spindles
B4	112 1/2"	3'-0"	"	Posts A and B of Approach
B5	40 1/2"	9'-6"	"	Posts A and B of Approach
B6	36 1/2"	27'-7"	STRAIGHT	Top end Bottom of Approach
B7	36 1/2"	46'-6"	"	" " " Bridge
B8	132 1/2"	2'-9"	BENT	Dowels in Base on Bridge

GENERAL NOTES

Concrete: All concrete for handrails to be proportioned in the ratio 1:1 1/2:2 1/2 Coarse aggregate 3/4 maximum size. Upon removal of forms, the handrails shall be finished by rubbing with carborundum bricks, and all pebbles or powder shall be removed from the surface. Dowel holes in spindles shall be filled with cement grout.

Expansion Joints: Locate expansion joints in handrail as shown. All expansion joints to be 1/2" wide and shall be filled with Vulcatex No. 3 (which shall match the concrete in color) manufactured by A.C. Horn & Co. or equal.

Forms: All contact form lumber shall be 2" or better Canadian White Pine or Canadian Spruce, finished on four sides, and free from warps and checks. Its reuse shall be subject to the approval of the Engineer. The forms shall be so braced as to insure absolute alignment and straight lines throughout.

All lines on Side Elevations of Posts which are drawn horizontally shall be parallel to grade of rail (except as noted). Sides of posts and panels also spindles shall be vertical and not perpendicular to grade of rail.

Sufficient forms for not less than one complete hand-railing shall be erected before pouring.

Note
Precast spindles are obtainable from J. Frank Norris, Rochester, N.Y.

QUANTITIES

Concrete	24.5 cu. yds.
Precast spindles	140
Reinforcing Steel	3800'

SPECIAL NOTES

Figures shown thus for use on bridge south of Bonaparte Avenue.

Other figures for use on bridge south of Plymouth Road.

Elevation of Hand Rail, Bar Schedule, and Quantities shown on Sheet No. 4.

Approved: *Carl E. Lyons*
City Engineer

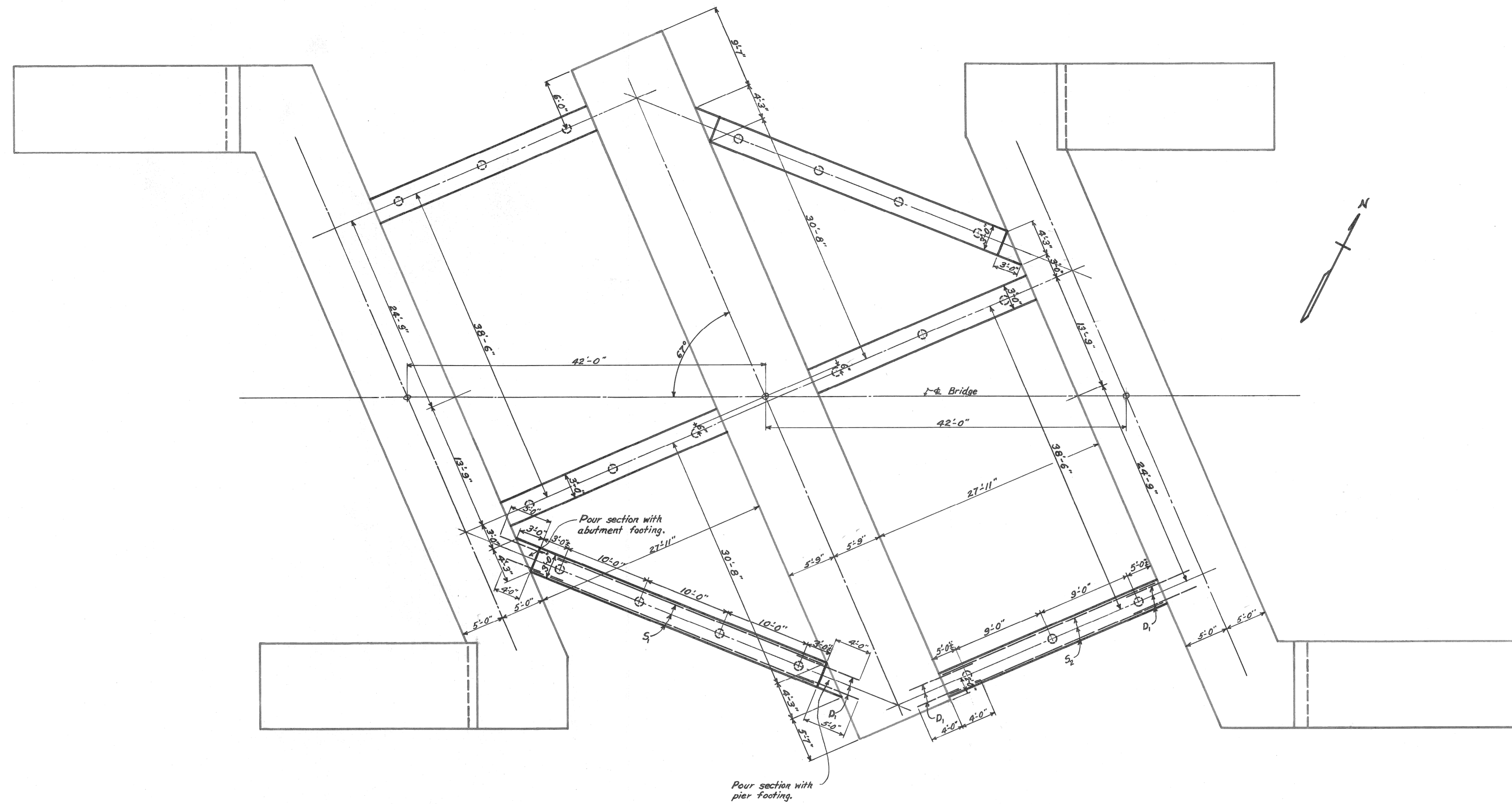
W. B. ...
Commissioner of Parks and Boulevards.

CITY OF DETROIT
DEPARTMENT OF PARKS & BOULEVARDS
OFFICE OF CITY ENGINEER

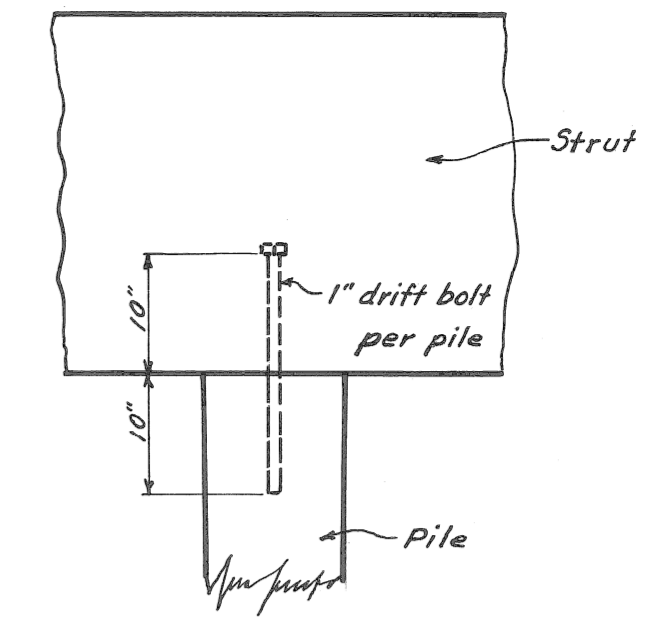
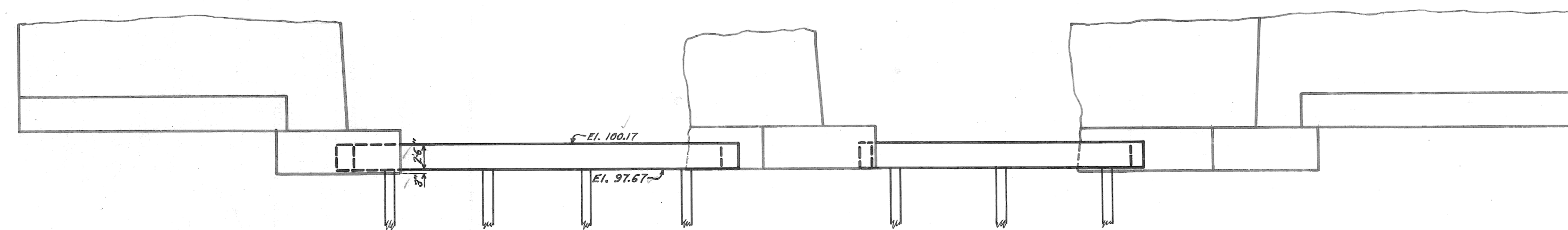
BRIDGE OVER RIVER ROUGE
(SOUTH OF BONAPARTE AVE.) (SOUTH OF PLYMOUTH ROAD)
RIVER ROUGE PARK

HAND RAILING DETAILS
SCALE: 1/2" = 1'-0"
DESIGNED BY: E.S.M.
CHECKED BY: R.V.
AUG. 10, 1929

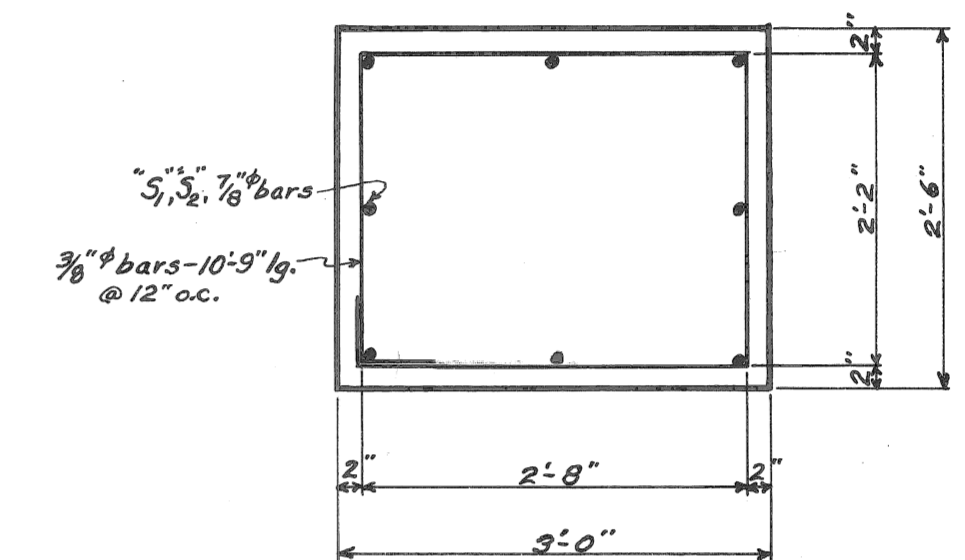
Sheet No. 5
Revised May 1930.



PLAN
Scale: $\frac{1}{8}''=1'-0''$



PILE CONNECTION
Scale: $\frac{3}{8}''=1'-0''$



STRUT CROSS-SECTION
Scale: $\frac{3}{4}''=1'-0''$

- BAR LIST**
- S₁ 16 - $\frac{7}{16}$ " bars @ 35'-9" lg. - lengthwise.
 - S₂ 32 - $\frac{7}{16}$ " bars @ 27'-9" lg. - lengthwise.
 - D₁ 96 - $\frac{7}{16}$ " bars @ 8'-0" lg. - dowels.
 - 18# - $\frac{7}{16}$ " bars @ 10'-9" lg. - ties.

- QUANTITIES**
- Reinf. Steel - 5350 lbs.
 - Concrete - 52.7 cu. yds.
 - Piles - 20
 - Drift Bolts - 20 - 1" @ 20' lg. (with sq. head)

CITY OF DETROIT
DEPARTMENT OF PARKS & BOULEVARDS
OFFICE OF CITY ENGINEER

BRIDGE OVER RIVER ROUGE
(SOUTH OF BONAPARTE AVE.)
RIVER ROUGE PARK

FOOTING STRUT DETAILS
SCALE: AS SHOWN
DESIGNED BY: J.T.K.
DRAWN BY: J.T.K.
CHECKED BY: R.S.

OCT. 7, 1929

Sheet No. 6