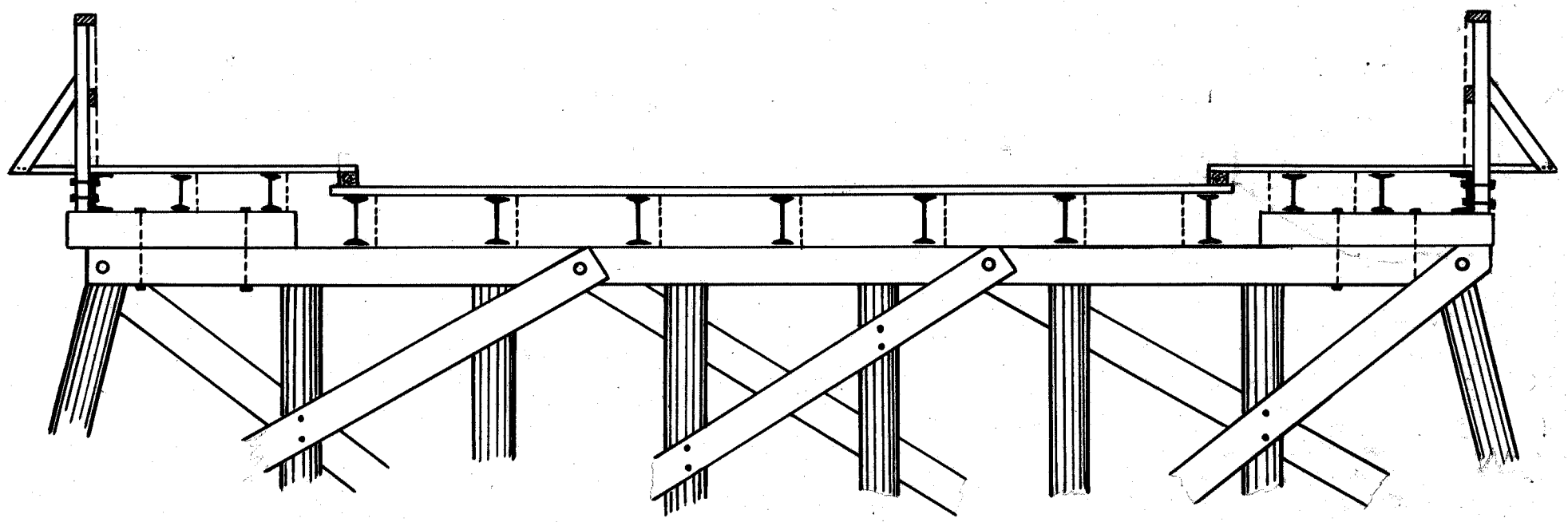


CITY ENGINEERS OFFICE
DETROIT MICH.
JULY 15-16

File BWay-

WINDSOR

STATUTE MILES.

SCALE OF FEET

Windsor & Tecumseh (Mec. Ry.)

INTERNATIONAL BOUNDARY

Belle Isle

Belle Isle Park

Detroit Yacht Club

Detroit Rowing Club

Detroit Boat Clubs

Hudson Motor Co.

Chalmers Motor Co.

Water Works

Swan Is.

Ferry Dock

Walker's Distillery

Brush Hotel

Detroit Motor Boat Club

Woods Hotel

Wolf Dock

Island Dock

Coast Guard Station

Water Works Crib Lt.

Harbor Lines Established by Secretary of War Sept 23 1892

Detroit River

Lake St. Clair

Trenton Channel

Fox Creek

Conner's Creek

Hog Island Reach

Grosse Pointe

Belle Isle Lt.

Reed Spar 6

Red Spar 2

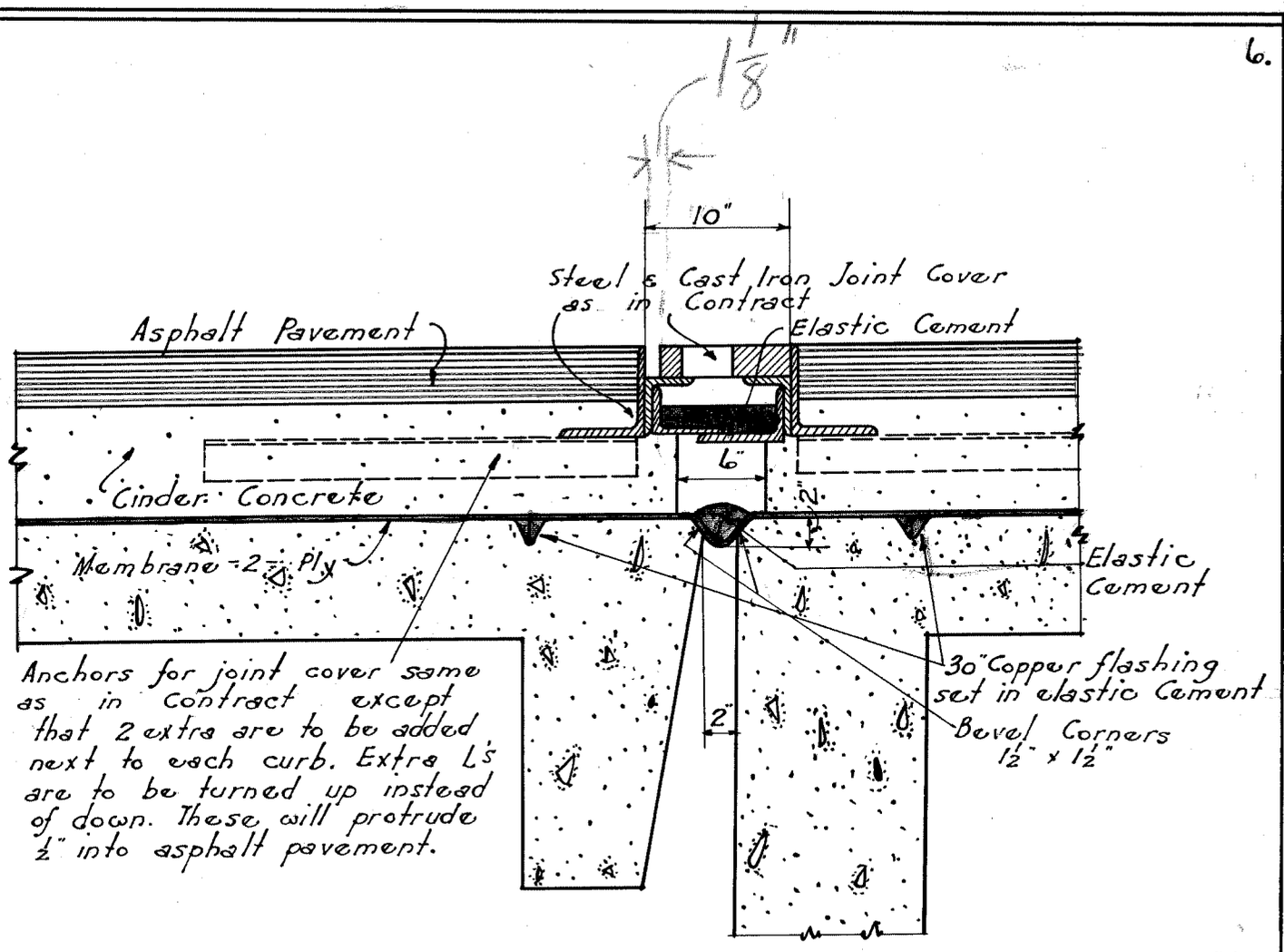
Red Spar 4

Rear Lt. Front Lt. Range

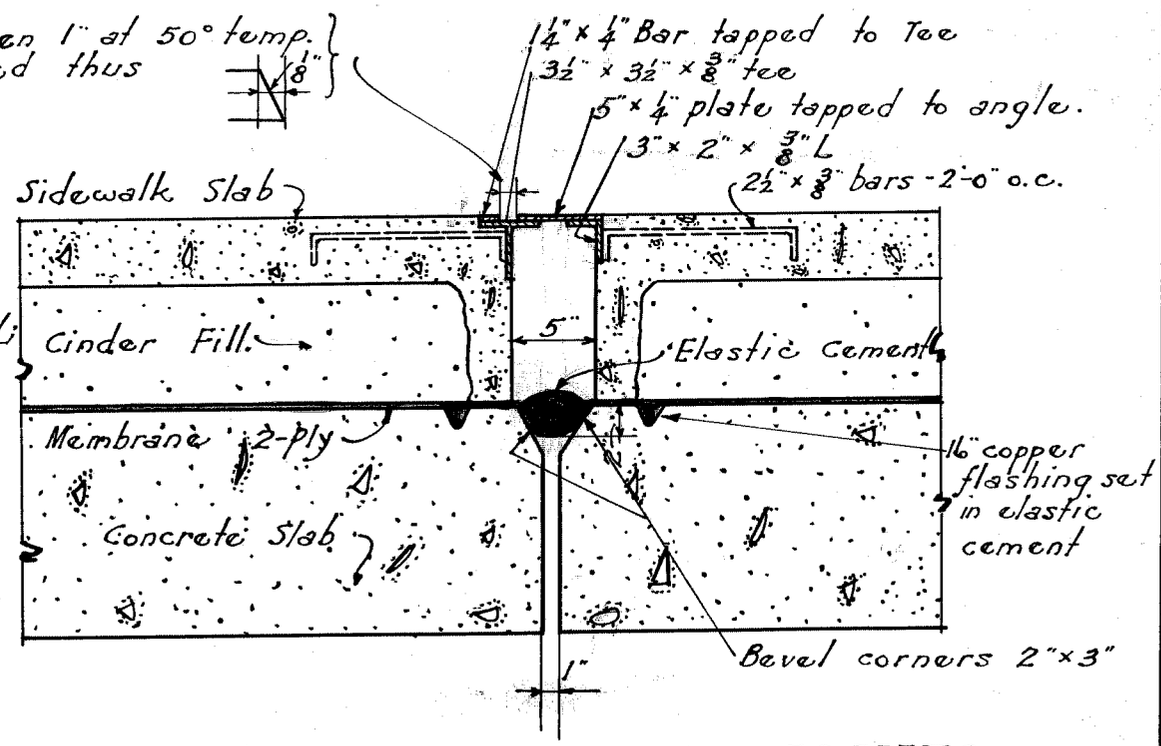
Windsor

Detroit

T. 1 S. R. 12 E.



PROPOSED DETAIL AT ROADWAY EXPANSION JOINTS



PROPOSED DETAIL AT SIDEWALK EXPANSION JOINTS

- PROPOSED DETAILS AT EXPANSION JOINTS -
- BELLE ISLE BRIDGE -
Joint Clearances shown for mean (50°) temperature.

TRIM to Belle Isle

File BW 201-3

PLAN OF

DOUBLE ROLLING LIFT

FOR

TEMPORARY BRIDGE

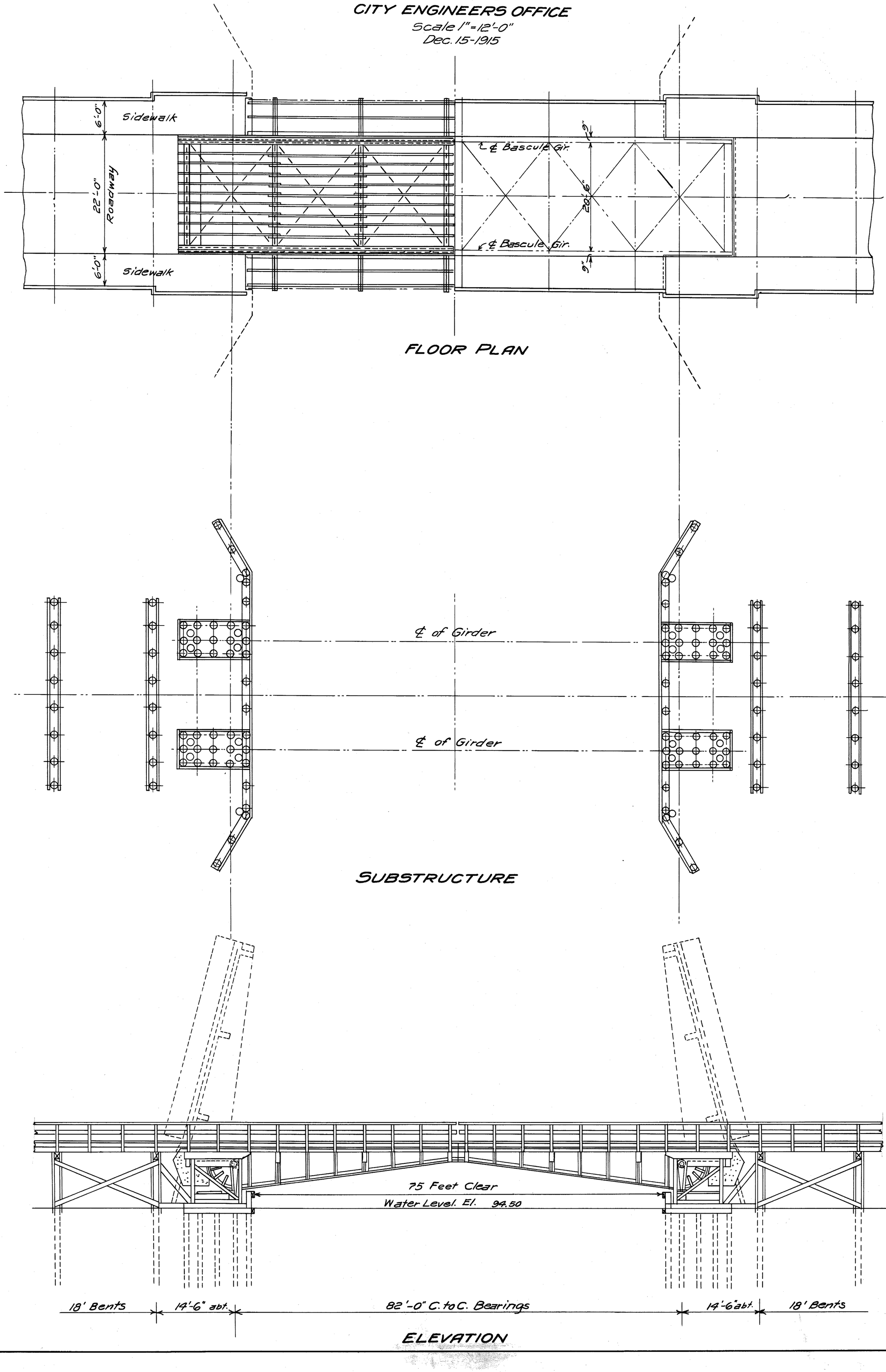
TO

BELLE ISLE

CITY ENGINEERS OFFICE

Scale 1"=12'-0"

Dec. 15-1915

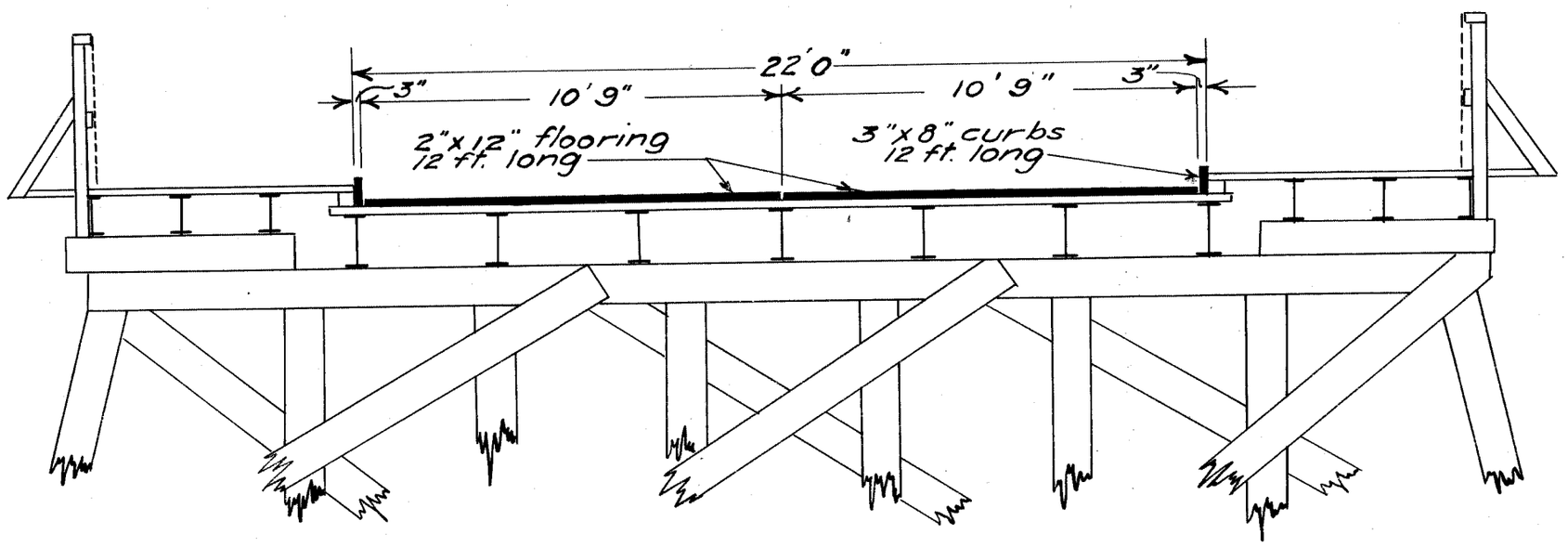


FLOOR PLAN

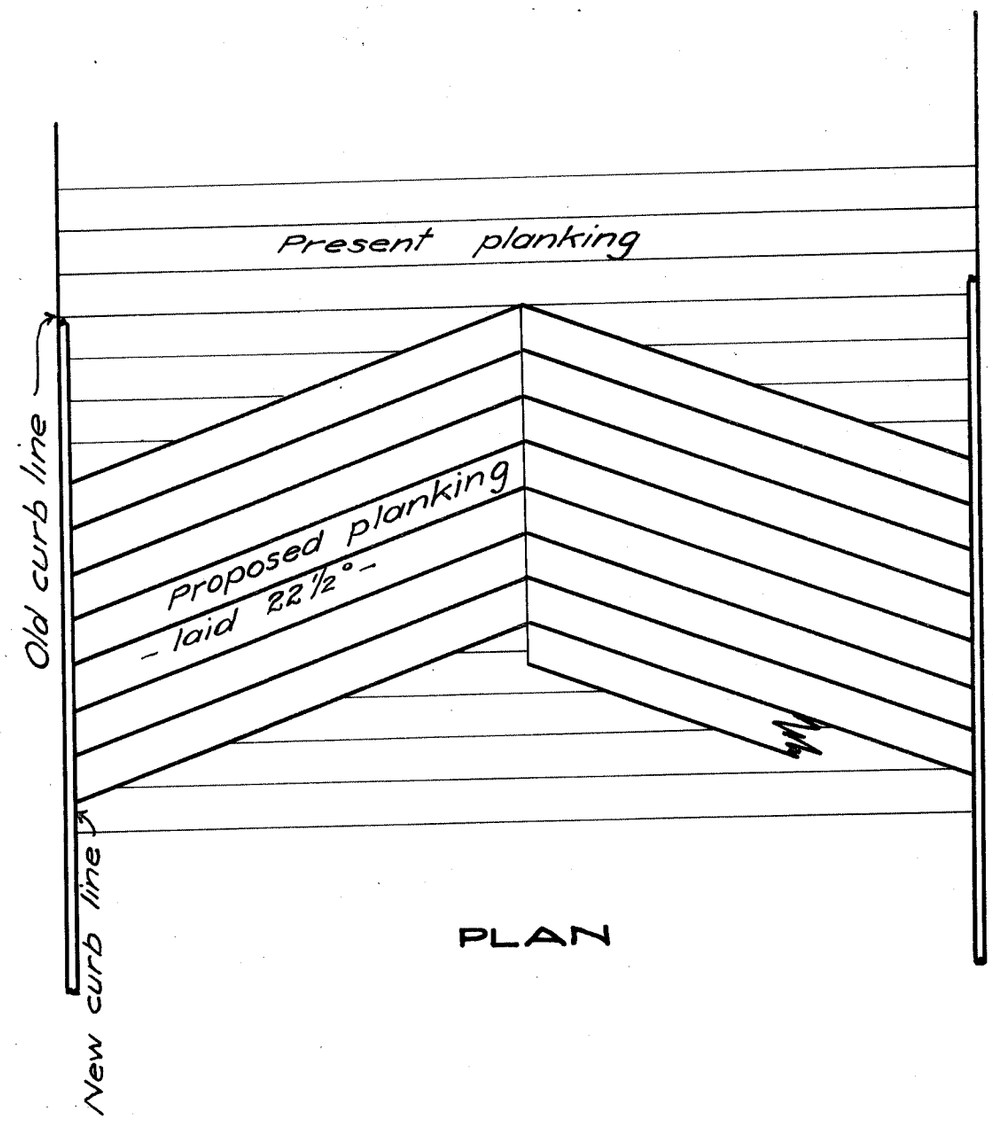
SUBSTRUCTURE

ELEVATION

File 8W201-4



CROSS SECTION



PLAN

SKETCH SHOWING EXTRA PLANK FLOORING FOR BELLE ISLE BRIDGE —

City Engineer's Office
Nov. 9-1916.
Scale 1"=4'

File BW 201-5

File BW201-6

LOCATION MAP
OF PROPOSED
BELLE ISLE BRIDGE

DETROIT

BELLE ISLE

RIVER

Harbor Line

Fill

Approx 2120'

50'

75'

℄ Property Line

Center Line of E. Jefferson Ave.

Center Line at East Grand Boulevard

200'

℄ Property Line

90°

138.8'

3°

90°

2.5'

Axis of Proposed Bridge

2195.5'

℄ of Abutment

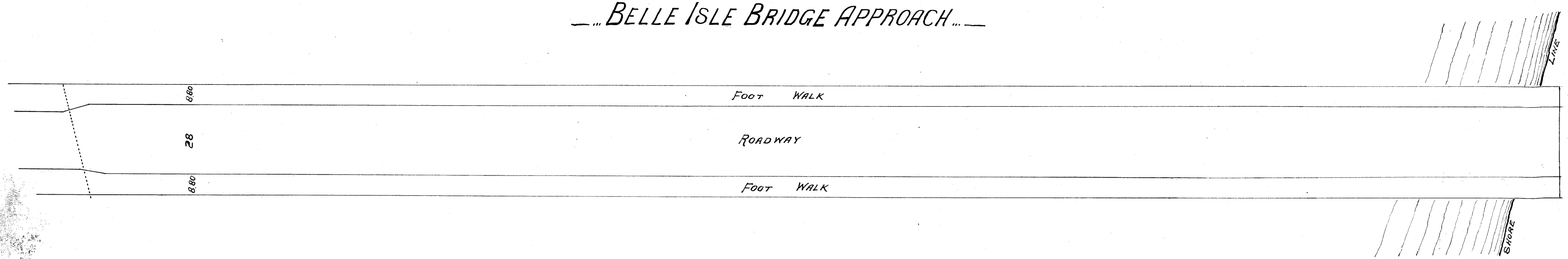
Harbor Line

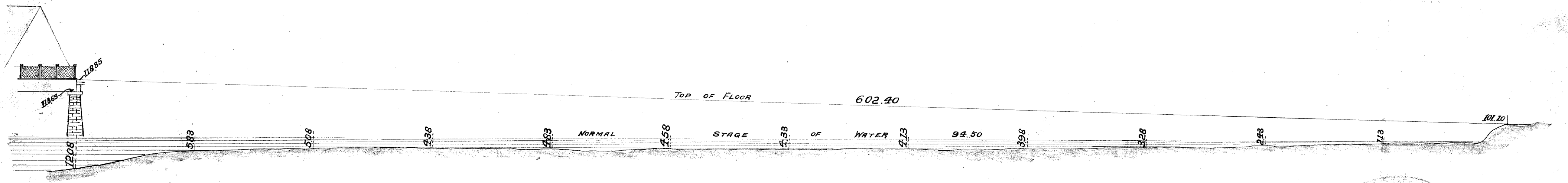
℄ of Abutment

Line

N

BELLE ISLE BRIDGE APPROACH





File BW 201-7

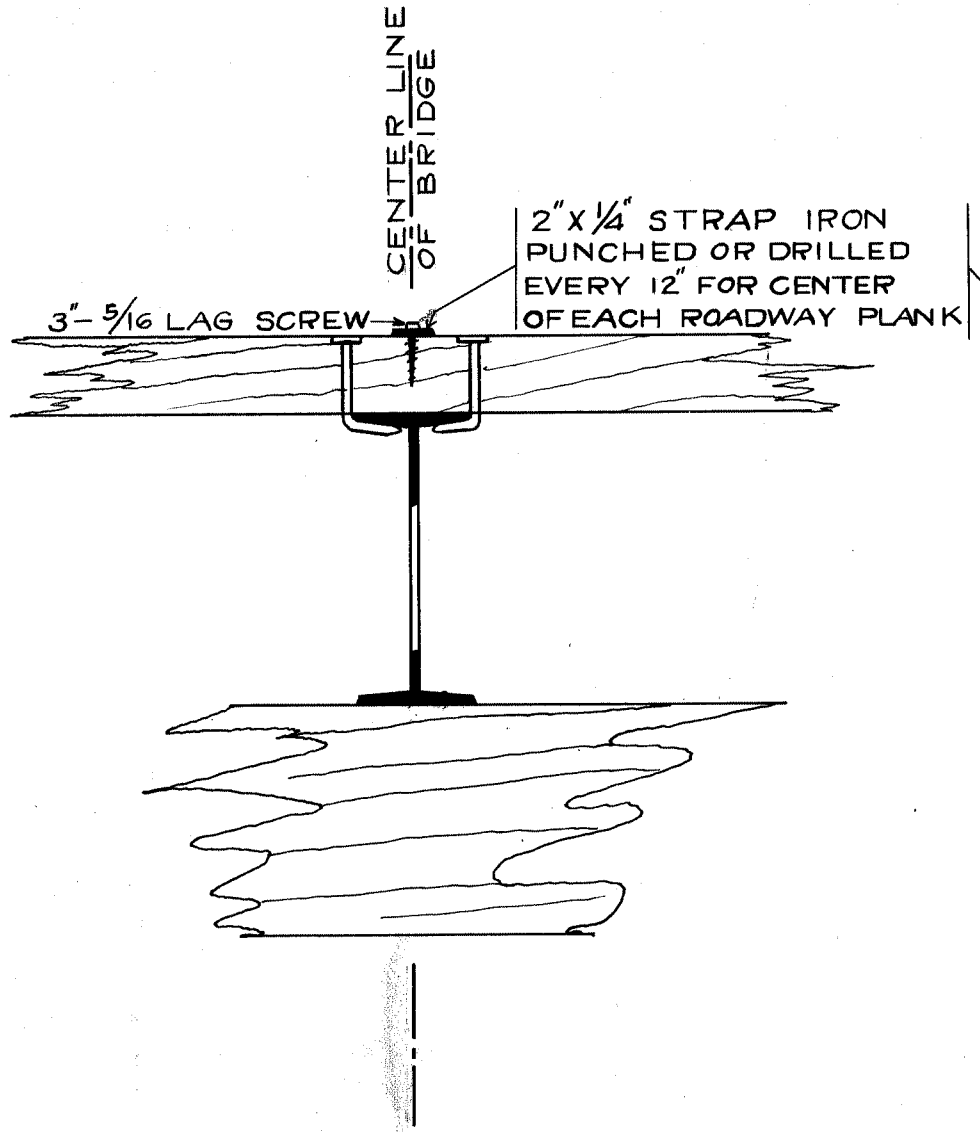
PRESENT AND PROPOSED BRIDGE
— OF —
TO BELLE ISLE
SHOWING TYPE OF STRUCTURES

SCALE, 1 INCH = 100 FEET.
MARCH 2, 1908.

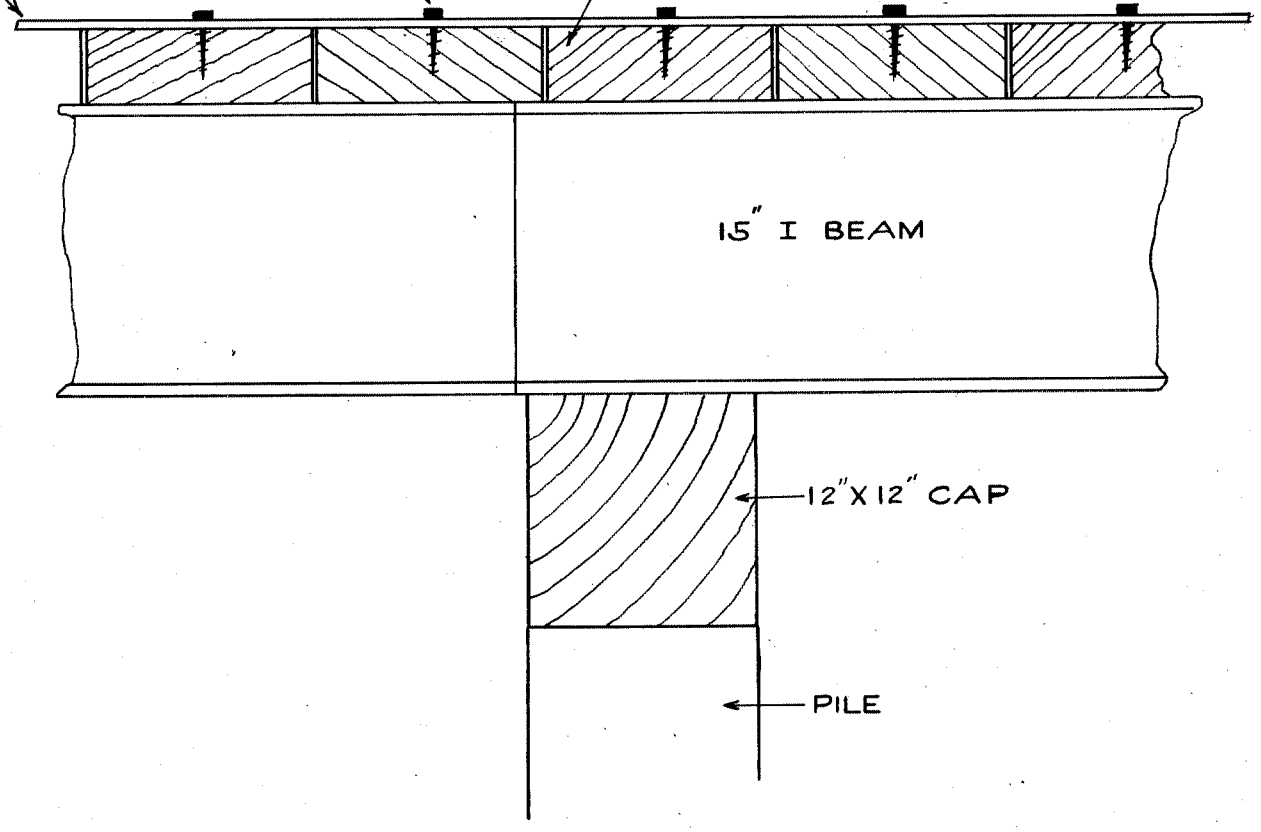
R. H. McCORMICK, CITY ENGINEER. 1908.

File BW 2048

H. O. HANFORD, DEL. 1908. W. J. WALLACE. TR. 1915.



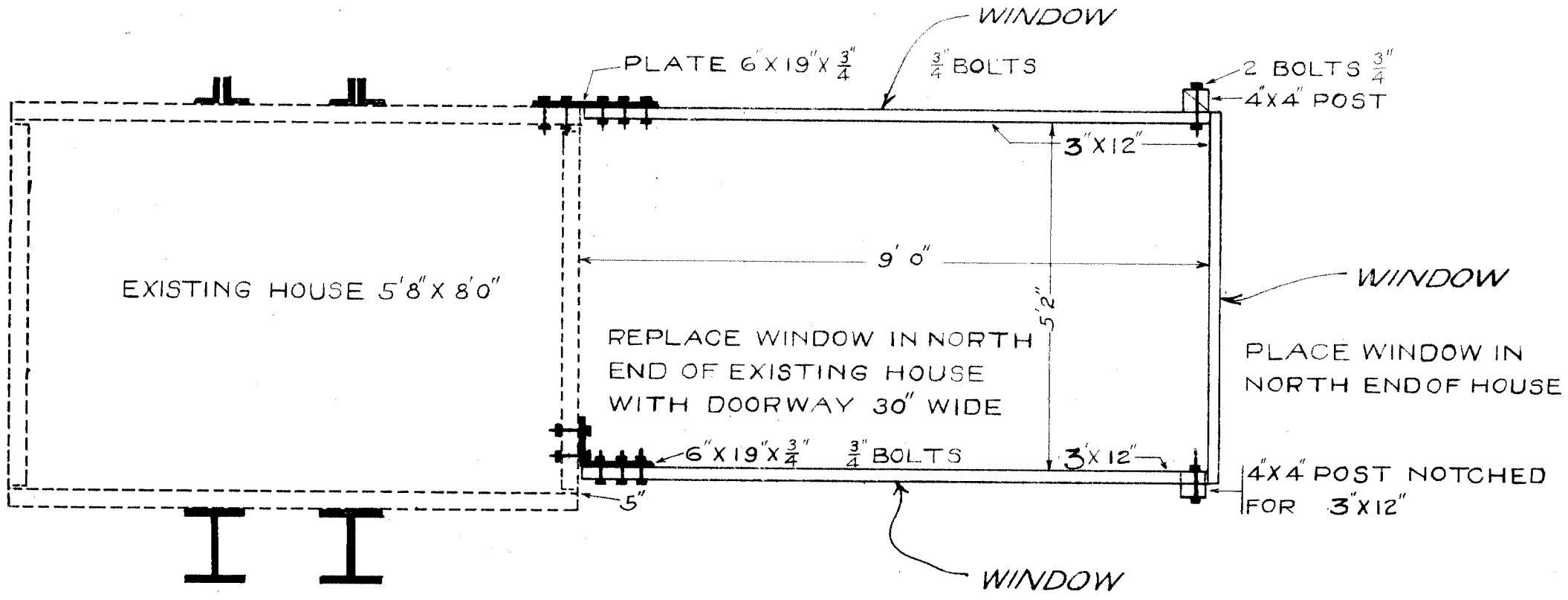
CROSS SECTION
SCALE 1"=10'



LONGITUDINAL SECTION
SCALE 1"=10'

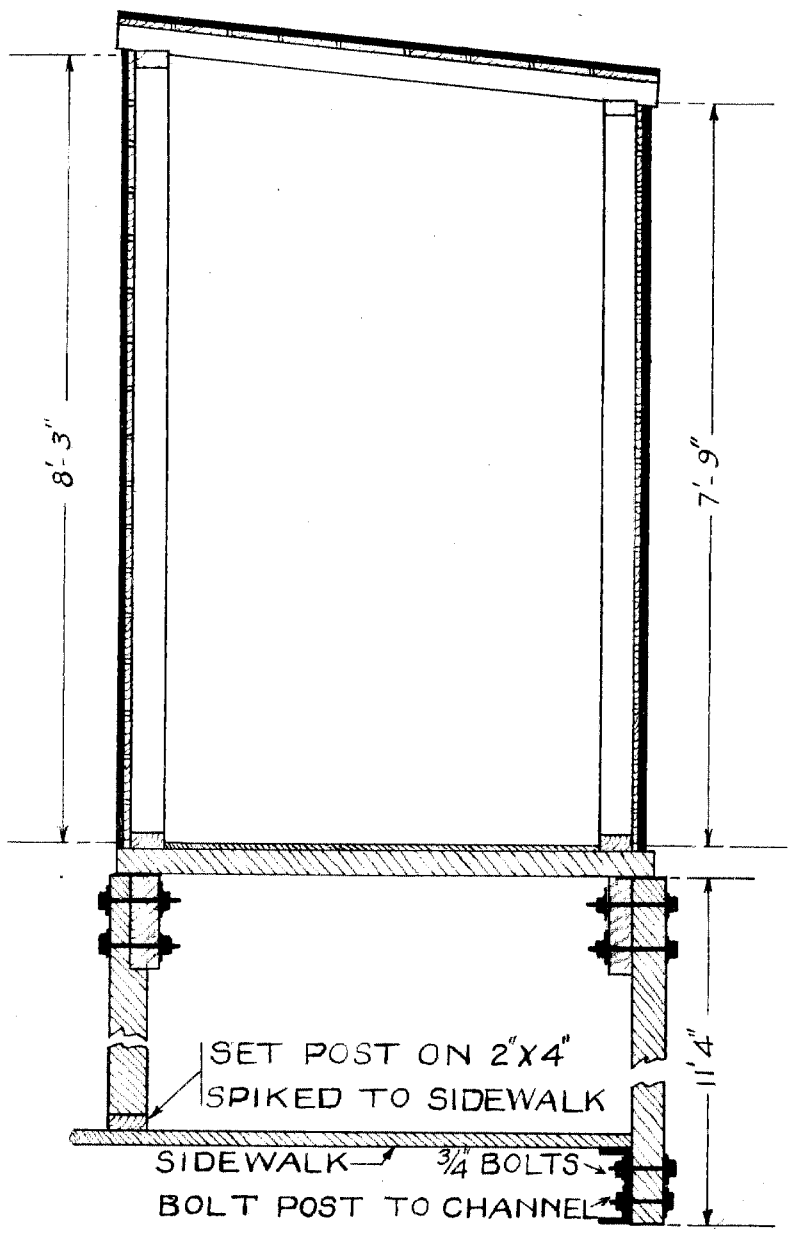
SKETCH SHOWING STRAP IRON ROADWAY TIE ON TEMPORARY TIMBER BELLE ISLE BRIDGE
CITY ENGR'S OFFICE SEPT 1916

File BW201-9

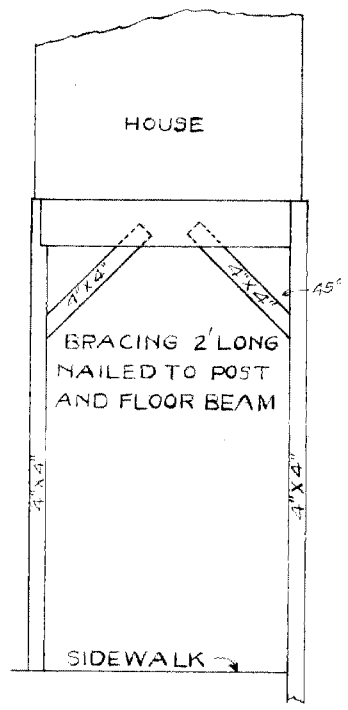


PLAN OF FLOOR BEAMS
SCALE 1"=2'

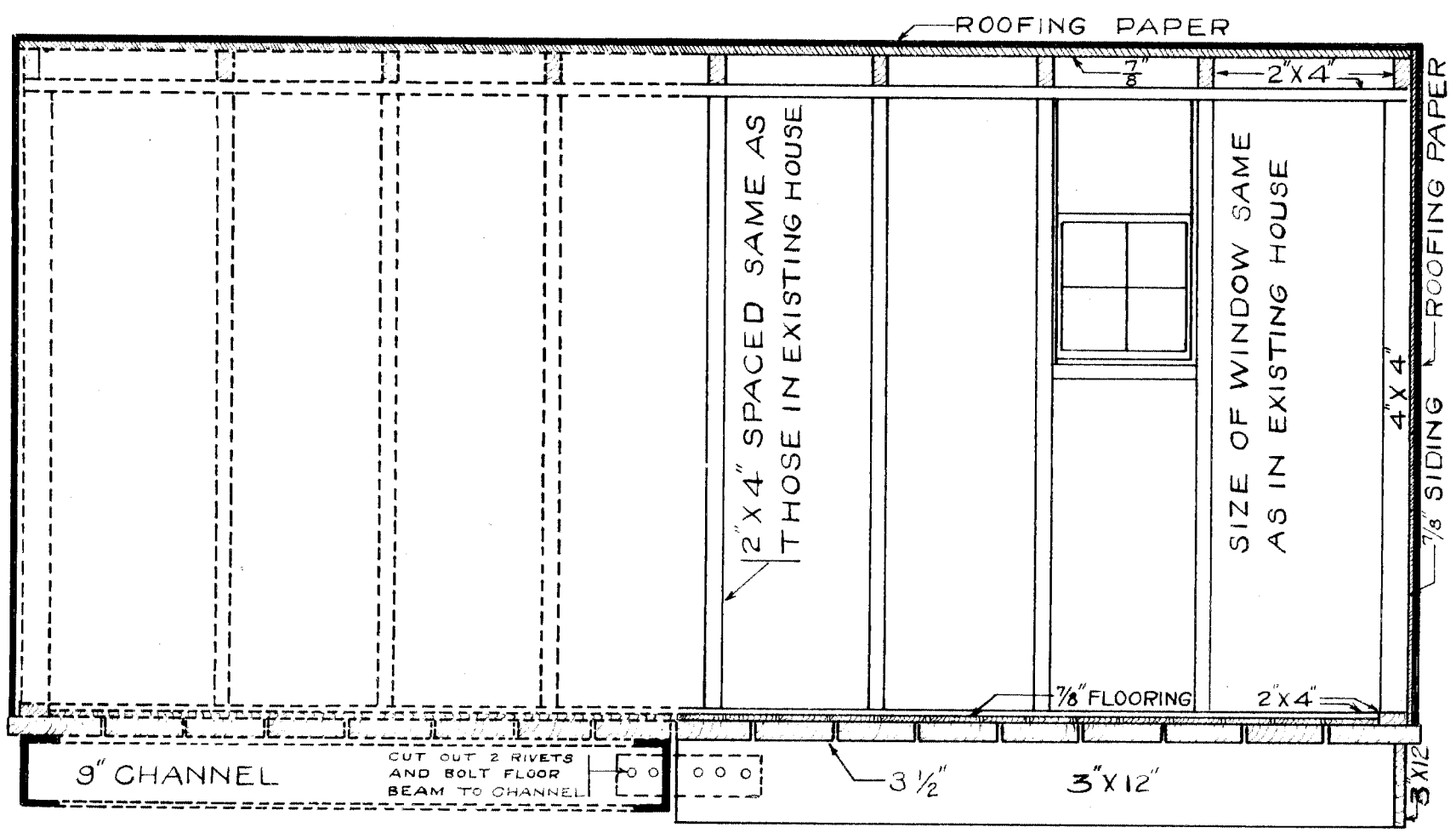
NOTE
WASHERS TO BE USED WHERE NEEDED



CROSS SECTION THRU END POSTS
SCALE 1"=2'

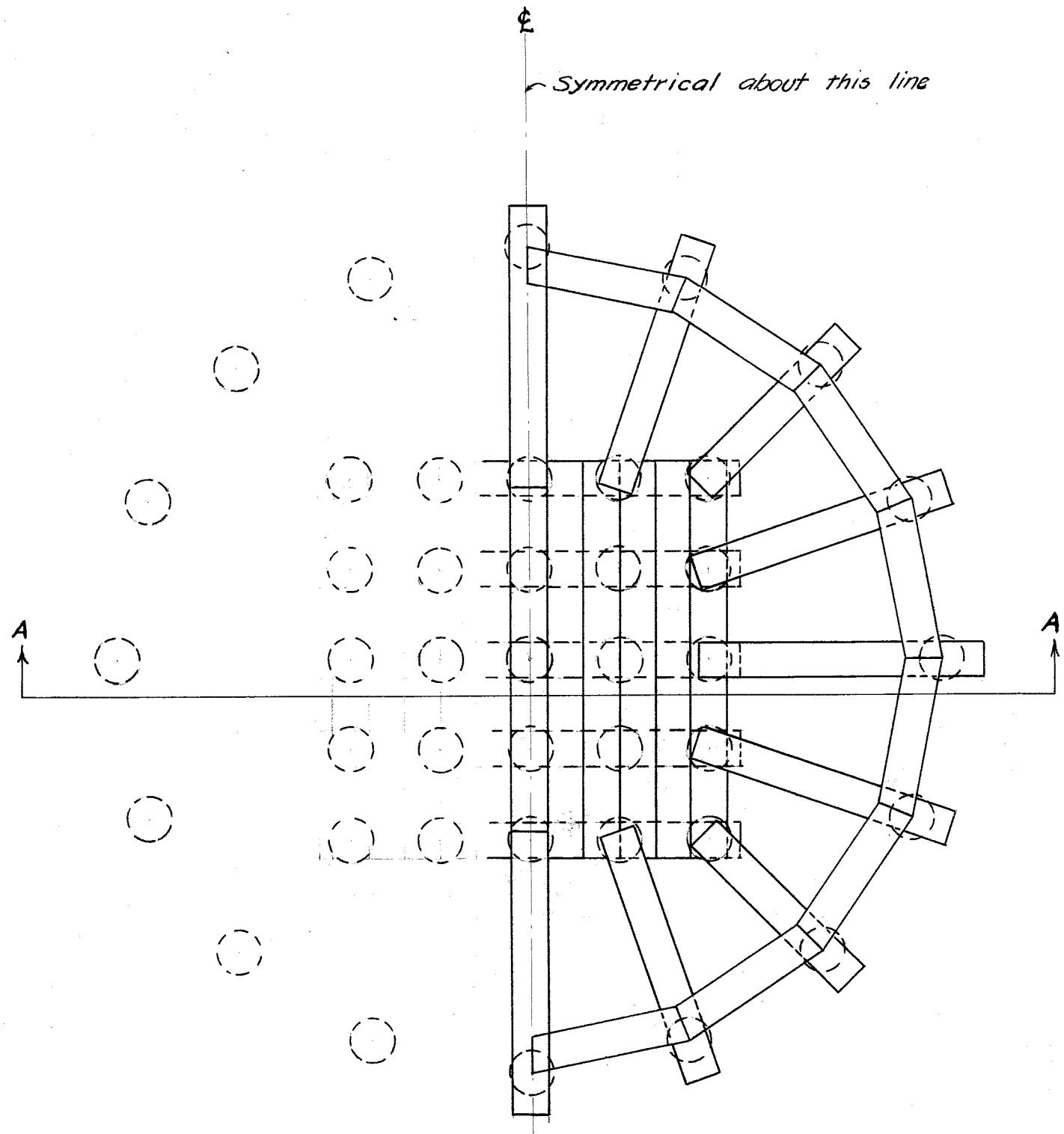


BRACING FOR END POSTS
SCALE 1"=4'

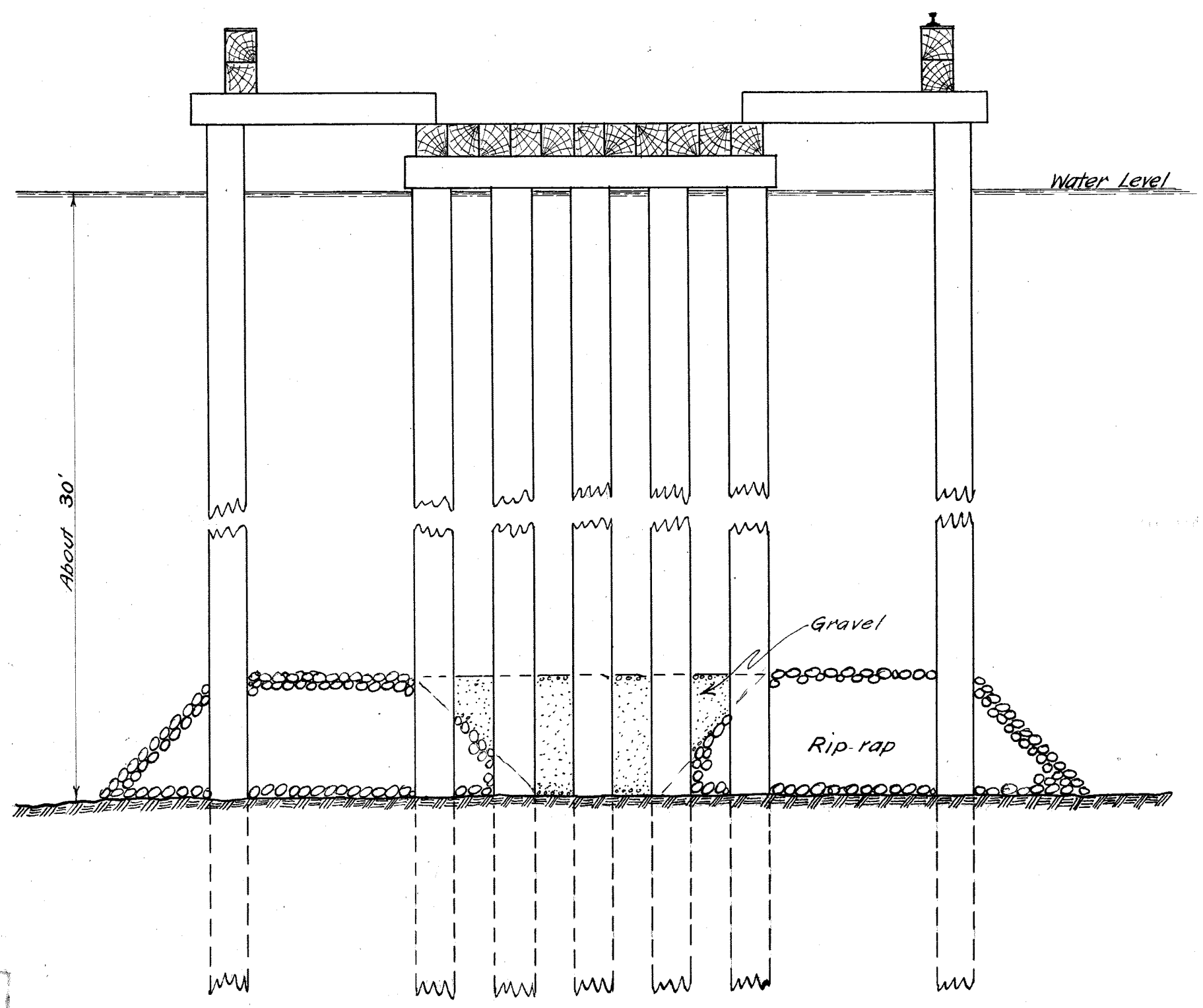


LONGITUDINAL SECTION THRU ℄
SCALE 1"=2'

PROPOSED ADDITION TO OPERATOR'S HOUSE BELLE ISLE BRIDGE



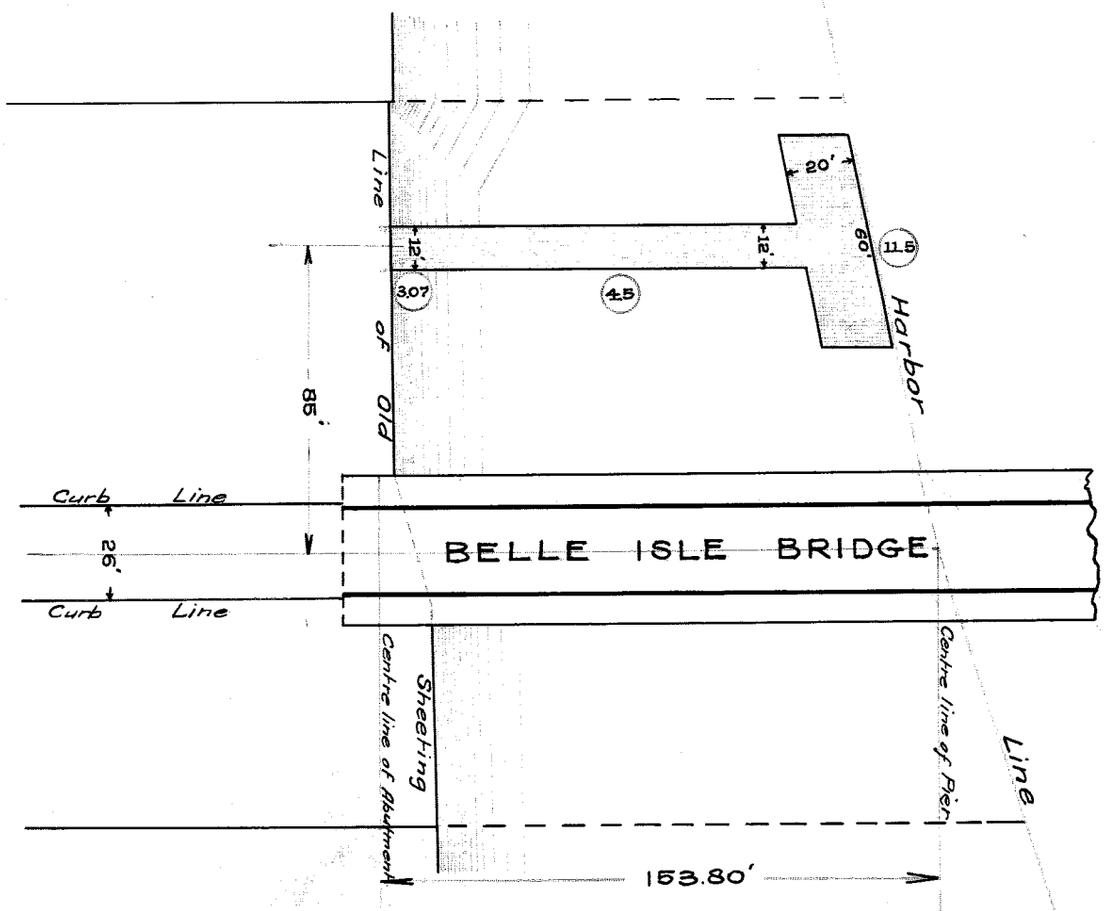
PLAN



SECTION A-A

BILL OF MATERIAL
80 Cu. Yd. Rip-Rap - Sizes 6 in. to 2 ft.
20 " " Bank Run Gravel

PIVOT PIER
TEMPORARY BELLE ISLE BRIDGE
SHOWING RIP-RAP TO BE PLACED
Scale $\frac{1}{4}$" = 1'-0"
March 22, 1918.



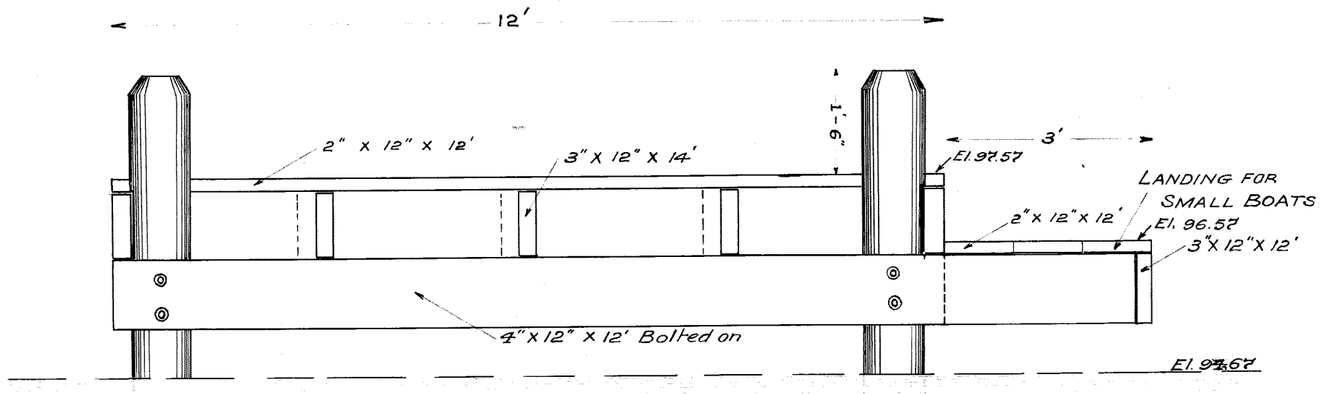
PLAN

Scale, one inch = 50 Feet.

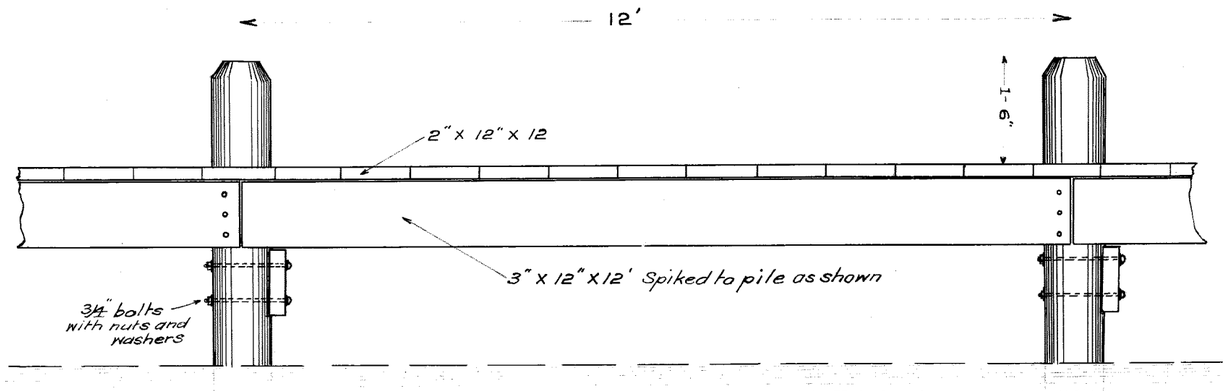
BELLE ISLE BRIDGE
BOAT DOCK

1906

File BW 201-12



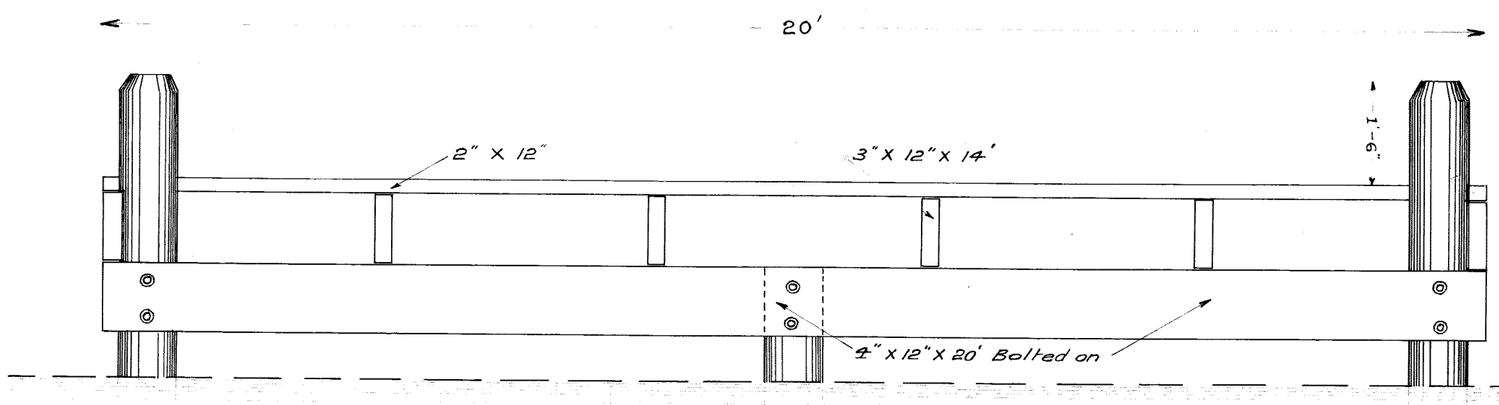
SECTION
Scale, ½" = One foot



LONGITUDINAL SECTION
Scale, ½" = One Foot

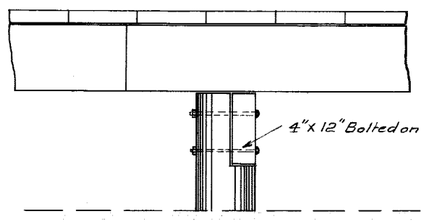
PLAN OF PROPOSED DOCK FOR SMALL BOATS AT BELLE ISLE BRIDGE

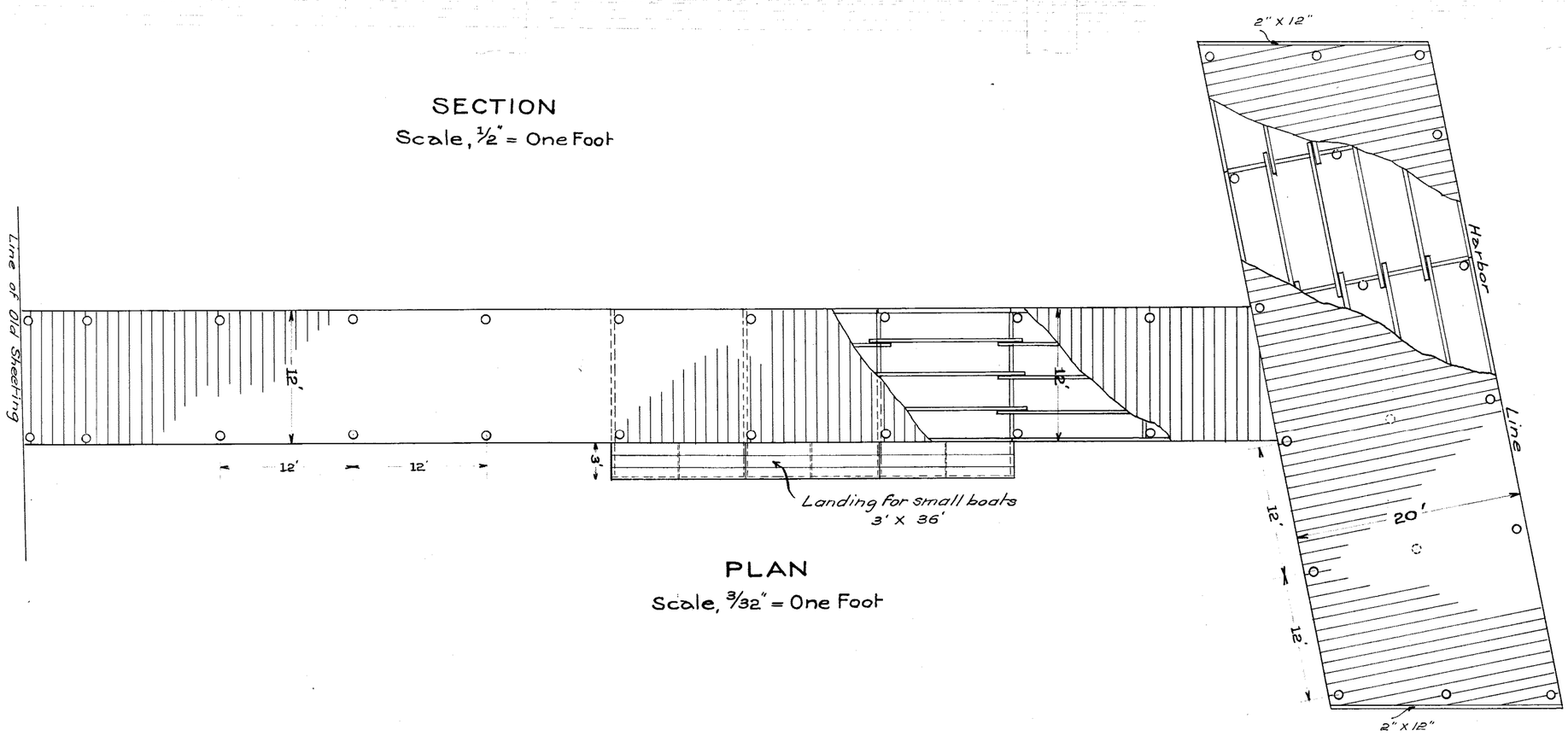
BILL OF TIMBER				
6 Pieces	4" x 12" x 12'		18 Piles	27' } White Oak
4 "	4" x 12" x 15'		10 "	24' } White Oak
4 "	4" x 12" x 20'		10 "	18' } White Oak
2 "	4" x 12" x 22'			
50 "	3" x 12" x 14'			
18 "	3" x 12" x 14'			
6 "	3" x 12" x 16'	White Pine Dressed		
6 "	3" x 12" x 12'			
3 "	3" x 12" x 3'			
3 "	3" x 12" x 14'			
2 "	2" x 12" x 22"			
112' x 12' x 2" Plank				
9' x 14' x 2" "				
60' x 20 x 2" "				



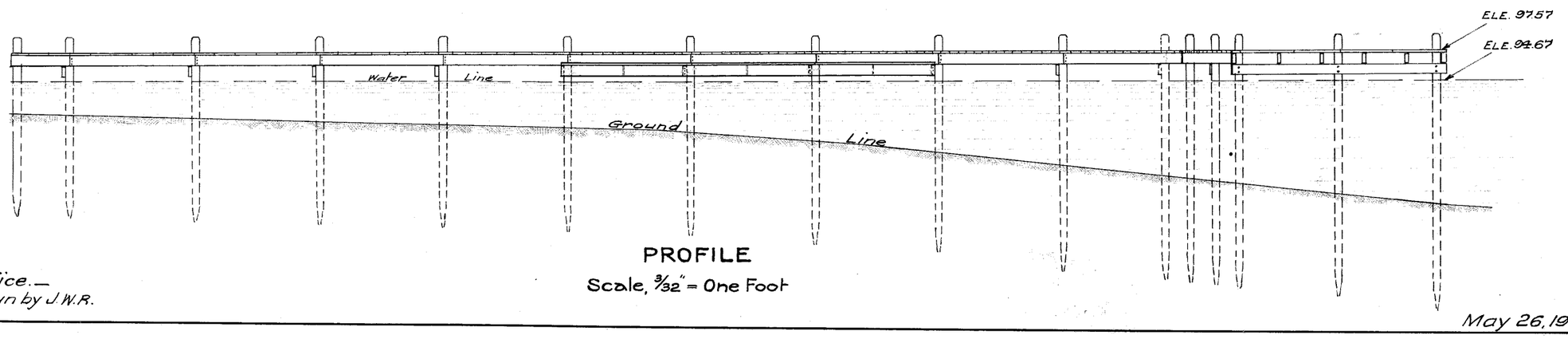
SECTION
Scale, ½" = One Foot

DETAIL OF CENTRE PILE





PLAN
Scale, 3/32" = One Foot



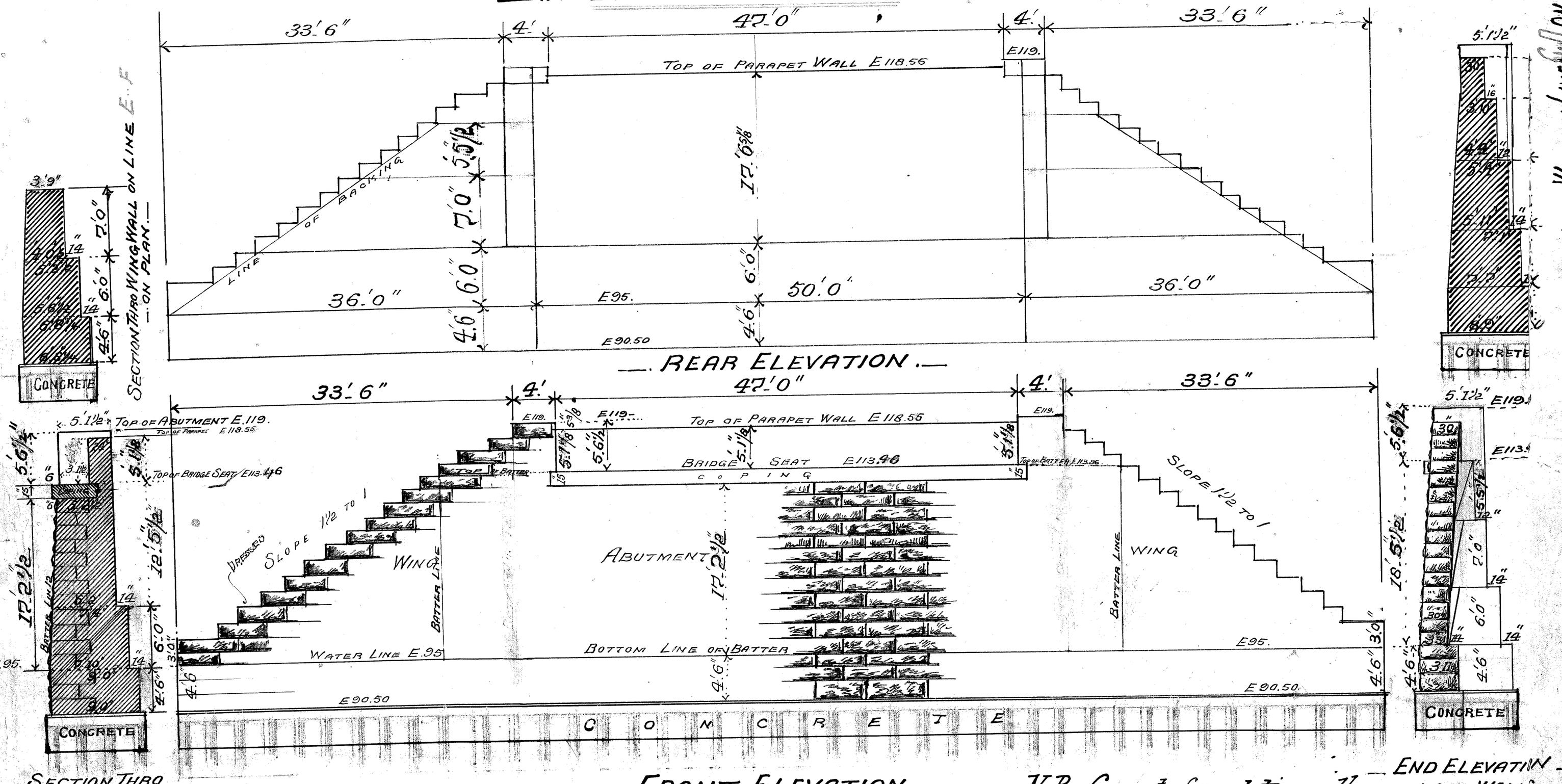
PROFILE
Scale, 3/32" = One Foot

City Engineer's Office.—
Drawn by J.W.R.

May 26, 1906.—

File B W201-13

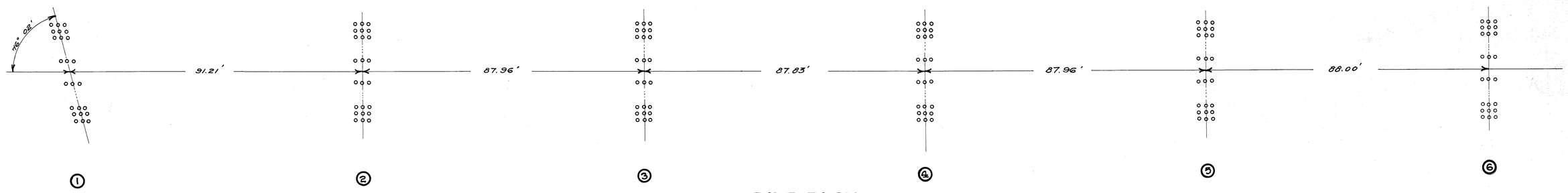
"PLAN OF"
"NORTH ABUTMENT AND WING WALLS"
"BELLE ISLE BRIDGE"



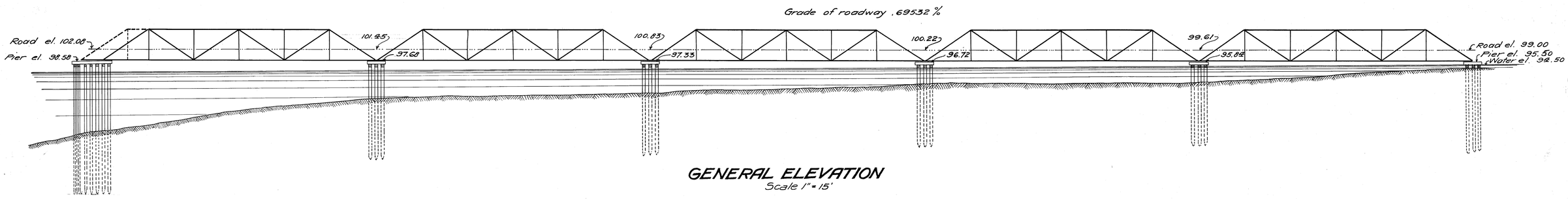
N.B. Concrete foundation will be done by City

Scale; One Inch = 8 Feet

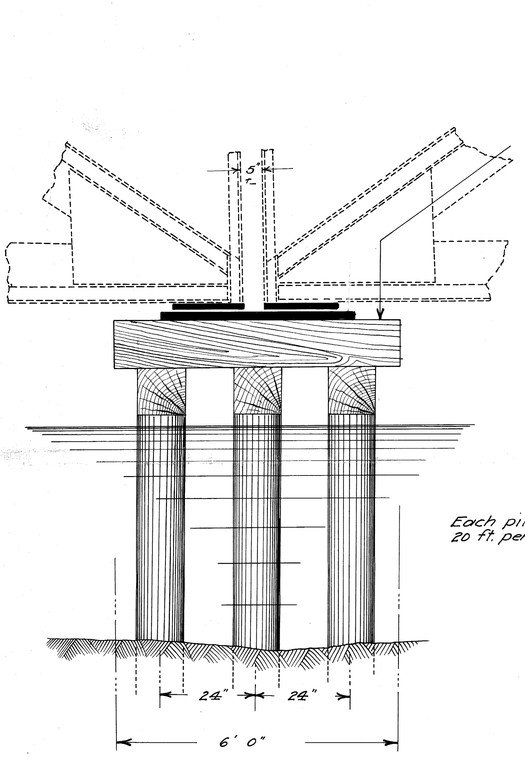
CITY ENGINEER'S OFFICE



PILE PLAN
Scale 1" = 15'

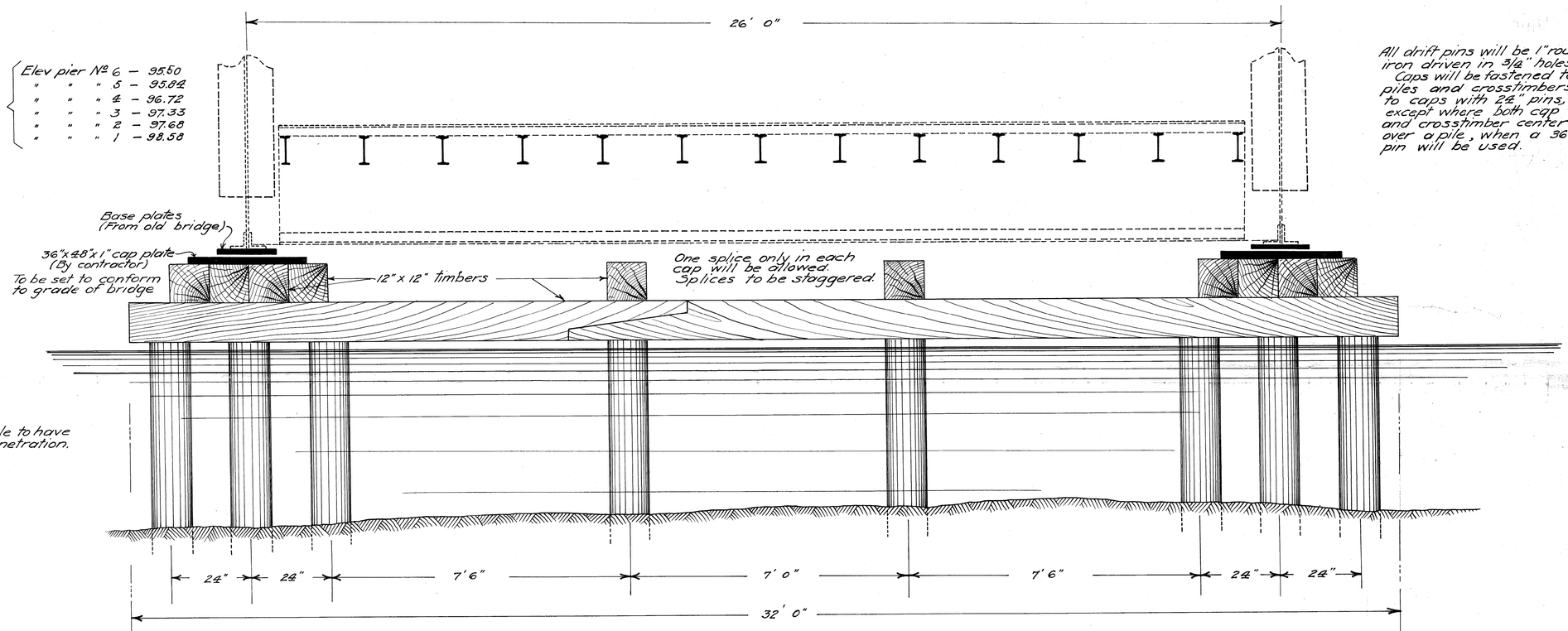


GENERAL ELEVATION
Scale 1" = 15'

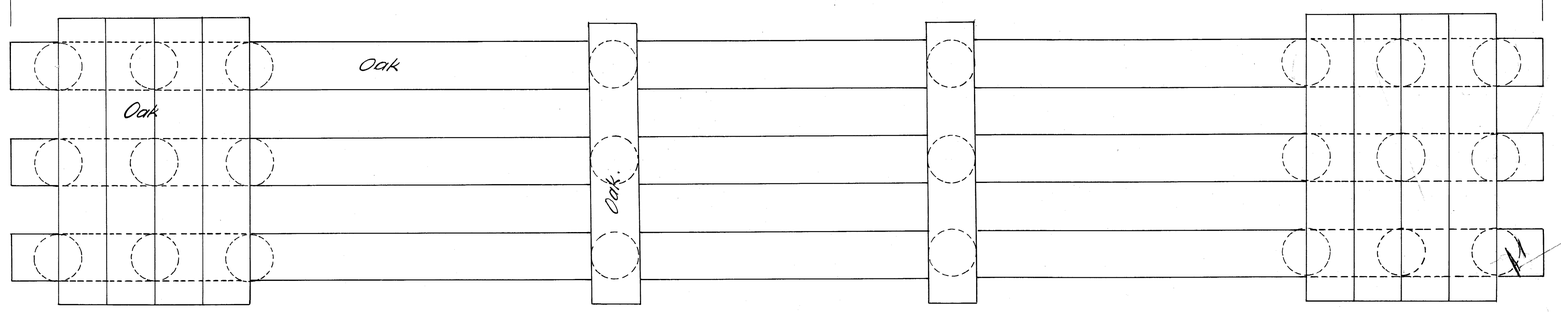


END ELEVATION OF PIER

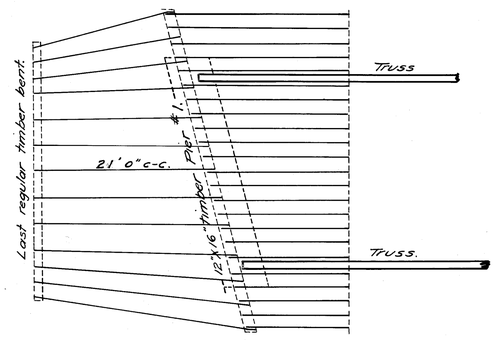
Elev pier № 6 — 95.50
" " " 5 — 95.88
" " " 4 — 96.72
" " " 3 — 97.33
" " " 2 — 97.68
" " " 1 — 98.58



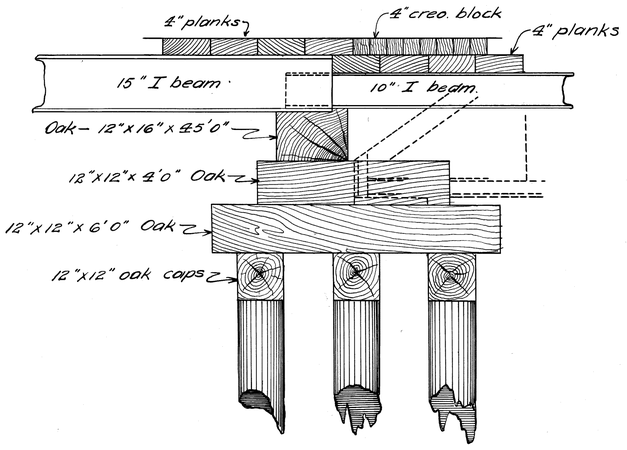
ELEVATION OF PIER



PLAN OF PIER
Scale 1½" = 1'



SKETCH SHOWING
general arrangement of floor stringers and supports at the junction of the timber section of bridge with the steel pony truss spans from the old bridge. Angle at junction is 76°02' and the distance from center to center of supports is 21'-0" on ℄ of bridge.



SECTION OF PIER № 1
Scale 1½" = 1'

DETAIL PLAN
OF
WOODEN PIERS FOR STEEL PONY TRUSSES
IN
TEMPORARY BRIDGE TO BELLE ISLE
175 FEET WEST OF OLD BRIDGE

Scales Indicated

CITY ENGINEERS OFFICE
Jan. 26-1916.

File BW201-15

PLAN OF

TEMPORARY WOODEN BRIDGE

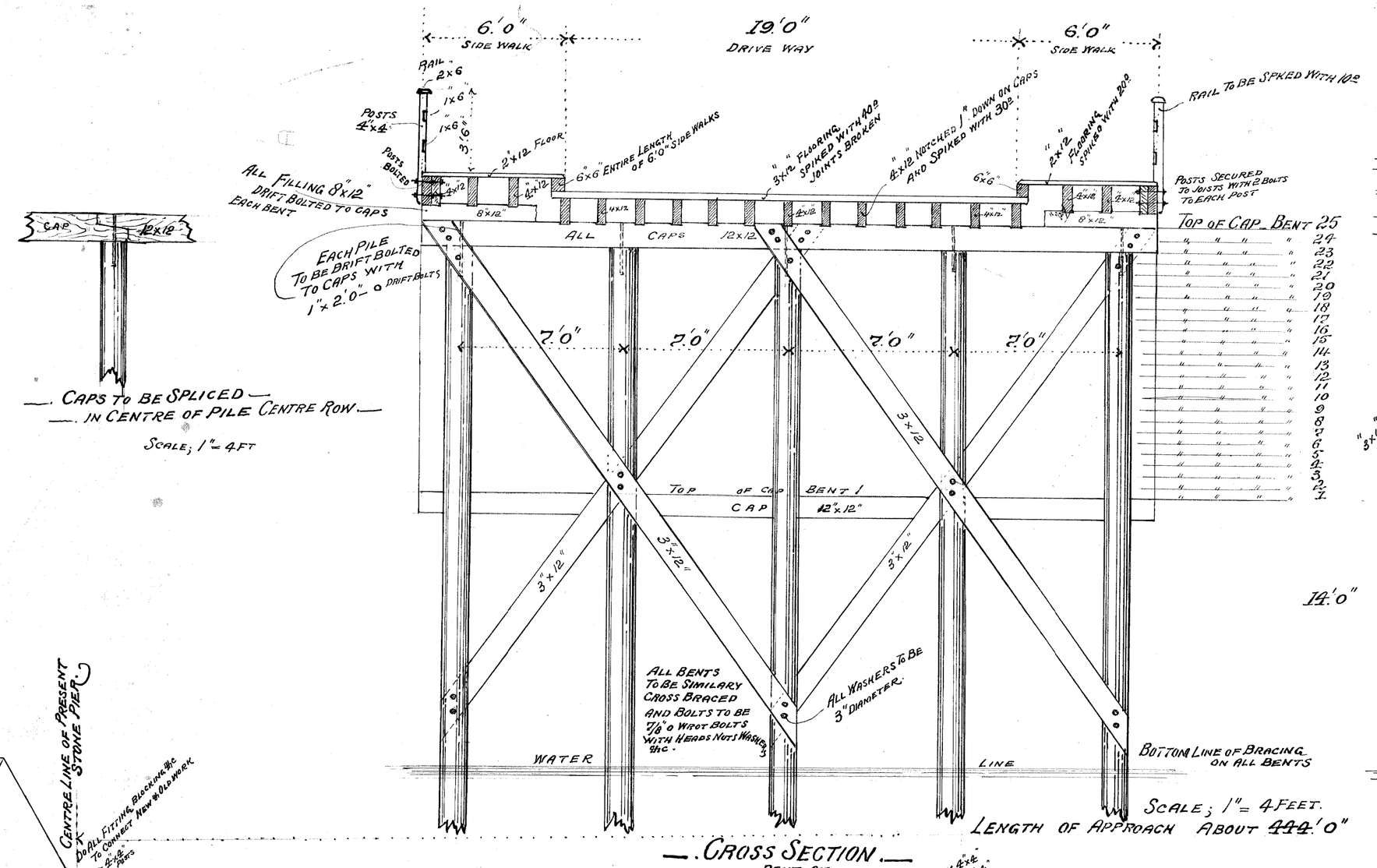
TO

BELLE ISLE

CITY ENGINEERS OFFICE
DEC. 15 - 1915
Scales Indicated

File BW20f16

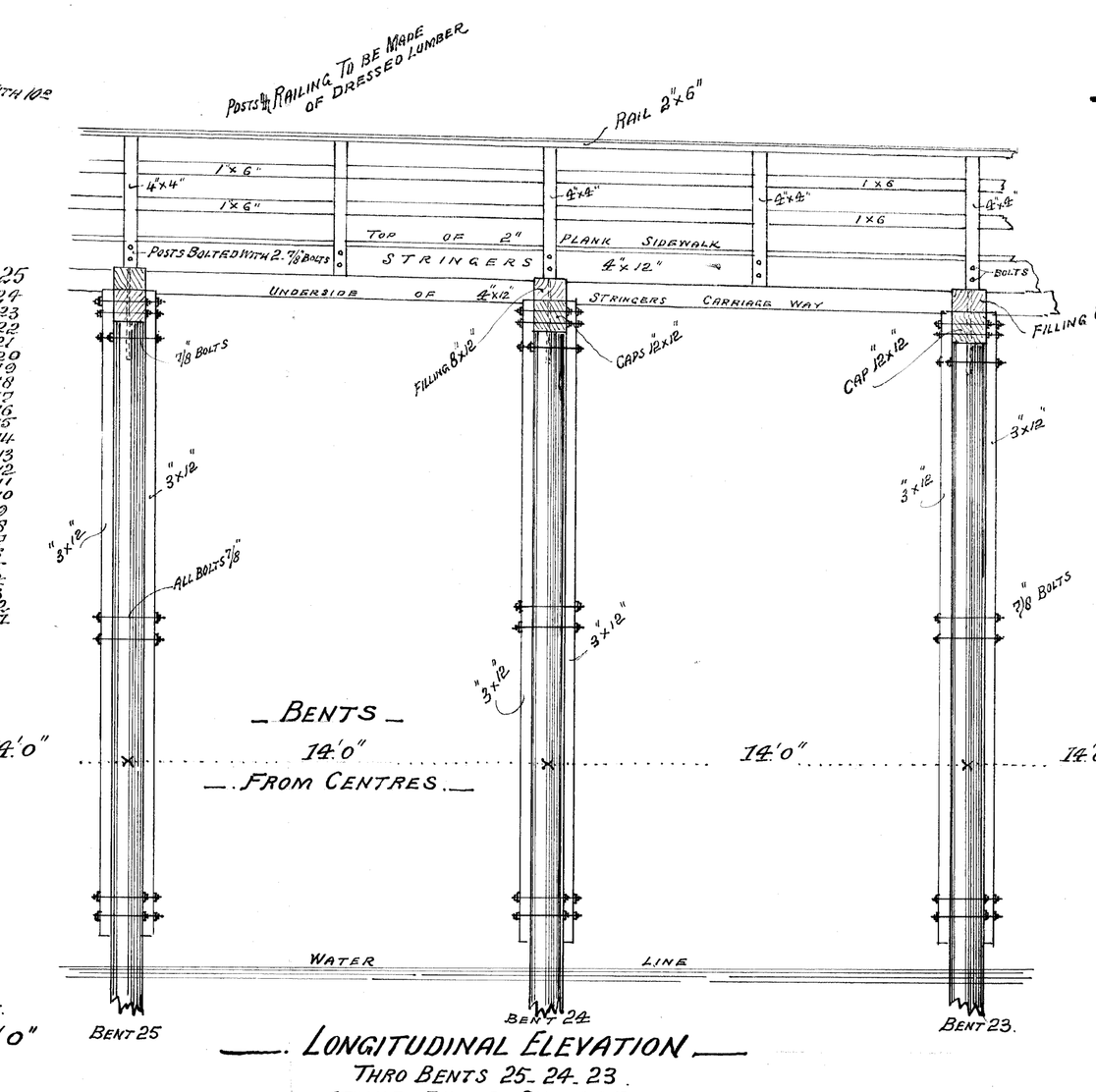
Plan of Timber Approach
to
South End of
Belle Isle Bridge



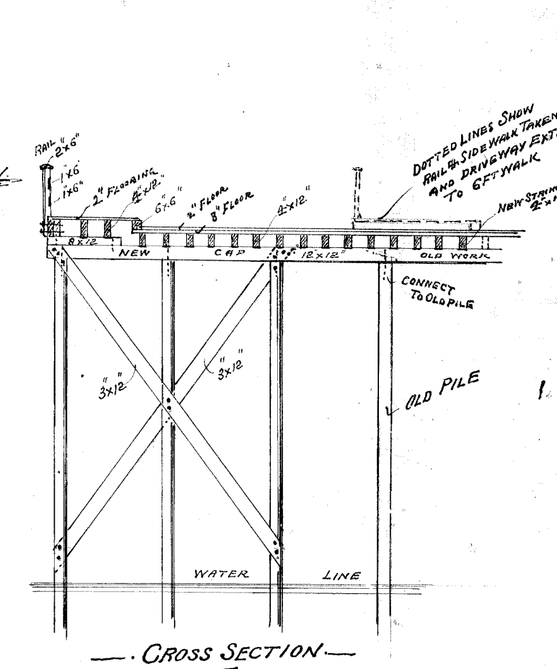
— Caps to be Spliced —
— in Centre of Pile Centre Row —
Scale; 1"= 4Ft

— Cross Section —
Bent-25

Length of Approach about 444'0"



— Longitudinal Elevation —
Thro Bents 25. 24. 23
Other Bents Similar



— Cross Section —
Thro
Bent 27 Scale; 1"= 8Ft.

General Specification

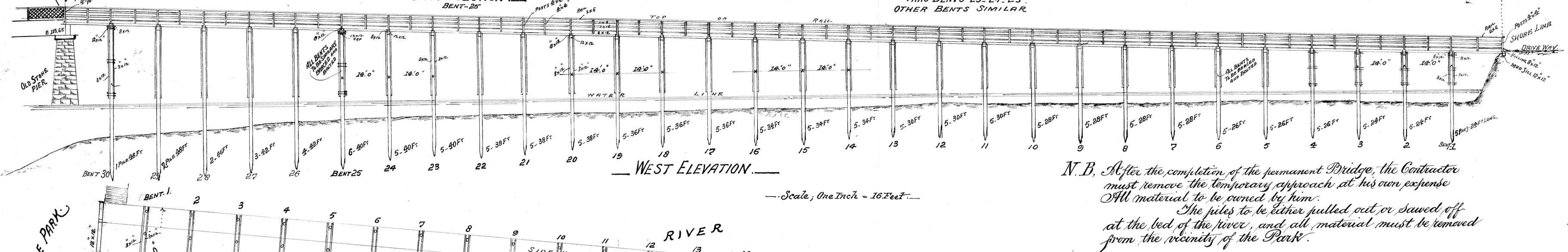
Piles may be of Elm Oak or Norway - They must be Sound and Straight not less than twelve (12) inches in diameter at the butt when sawed off and not less than eight (8) inches diameter at their points, and to be of the lengths stipulated on plan

All timber or timber used may be of Norway pine Hemlock Elm or Spruce it must be of sound quality free from Sap Rotten Knots Wain or Shakes, or any indication of decay

Where the new work leaves the old work the sidewalk of old work must be removed and additional joists and flooring provided to make a substantial connection of the new with the old work

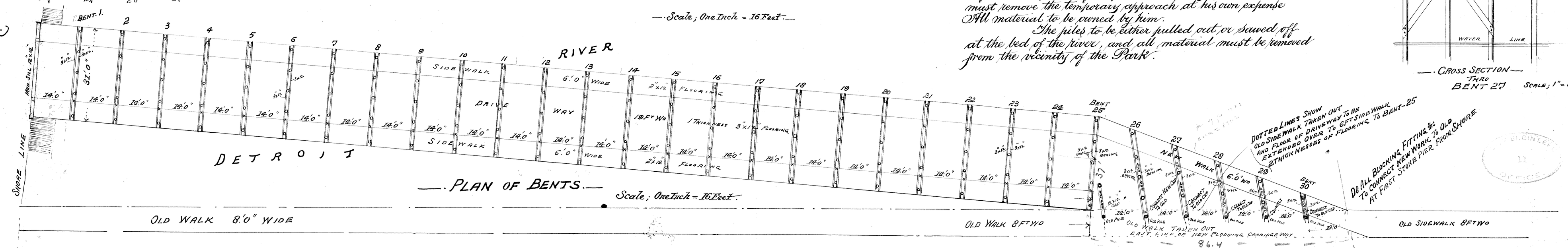
The Contractor to furnish and put in place all lumber timber screw bolts and washers, drift bolts, Spikes and all material necessary to complete the work according to the Plan

The work must be done in a workmanlike manner and strictly according to the Plan and to the Satisfaction of the Board of Public Works



— West Elevation —

Scale; One Inch = 16 Feet



— Plan of Bents —
Scale; One Inch = 16 Feet.

— 444'0" about from Shore Line to Centre Line of Stone Pier. —

N.B. After the completion of the permanent Bridge, the Contractor must remove the temporary approach at his own expense All material to be owned by him.

The piles to be either pulled out or sawed off at the bed of the river, and all material must be removed from the vicinity of the Park.

H. D. Ludden.
City Engineer
3.15.92.

File BW201-17

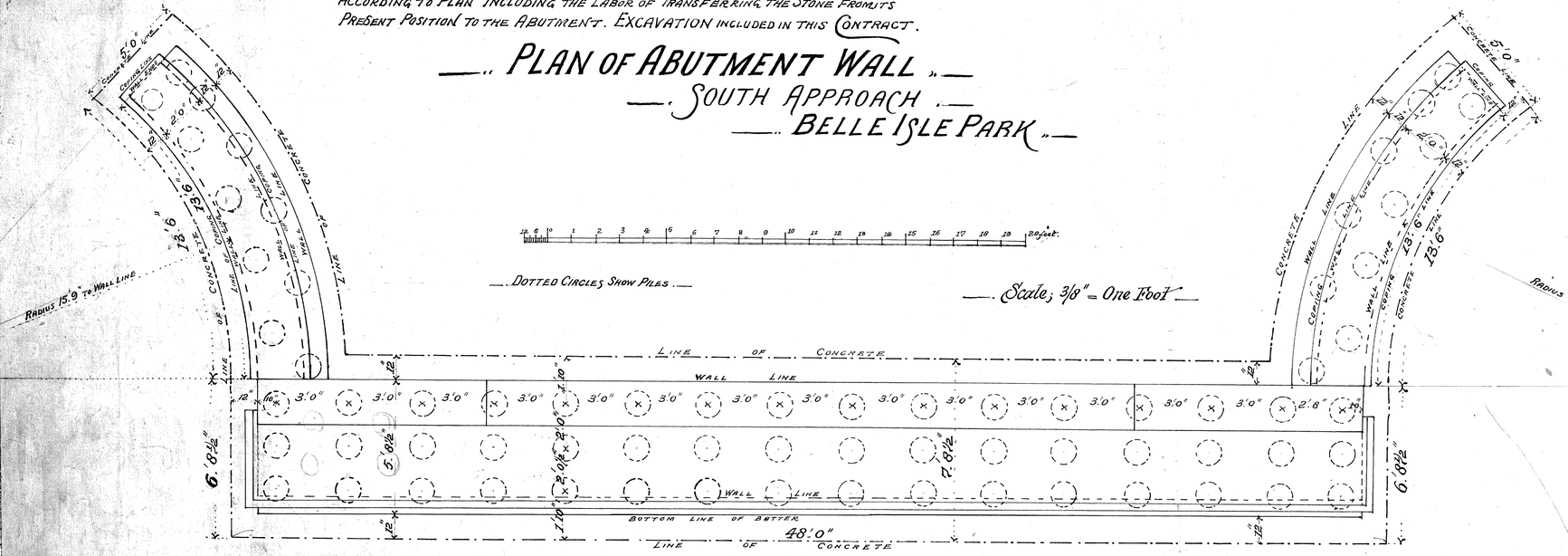
SHEET 4

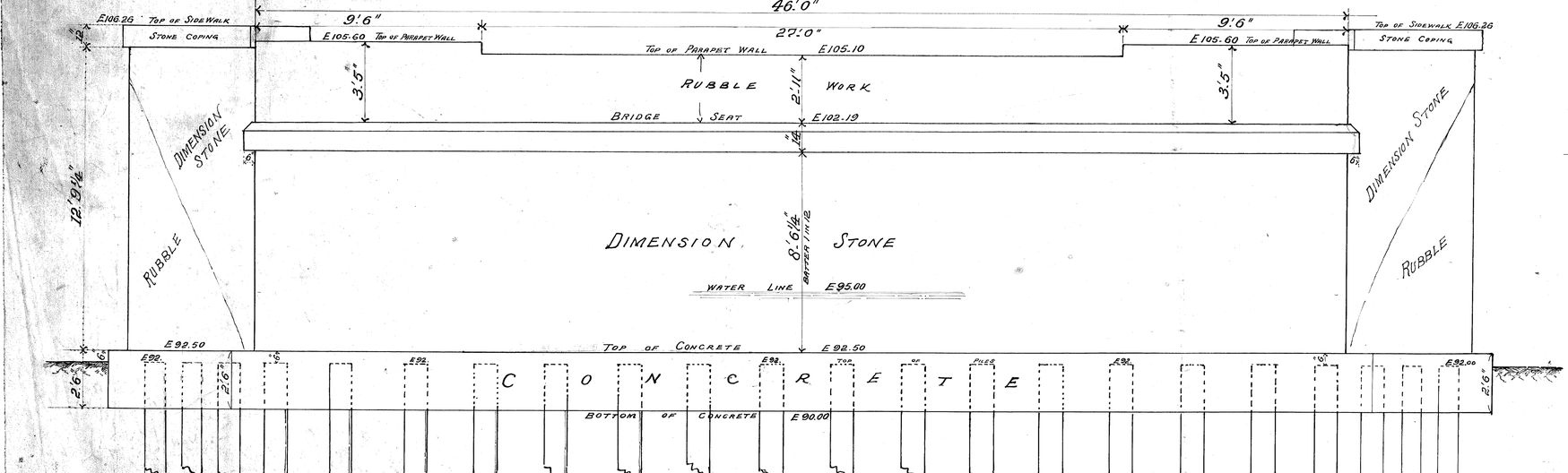
N.B. THE CITY WILL FURNISH ALL MATERIALS FOR THE MASONRY AND CONCRETE OF THE ABUTMENT. DELIVERED ON THE BANK AT BELLE ISLE PARK. THE CONTRACTOR WILL BID ON THE LABOR ONLY, OF CONSTRUCTING THE ABUTMENT ACCORDING TO PLAN INCLUDING THE LABOR OF TRANSFERRING THE STONE FROM ITS PRESENT POSITION TO THE ABUTMENT. EXCAVATION INCLUDED IN THIS CONTRACT.

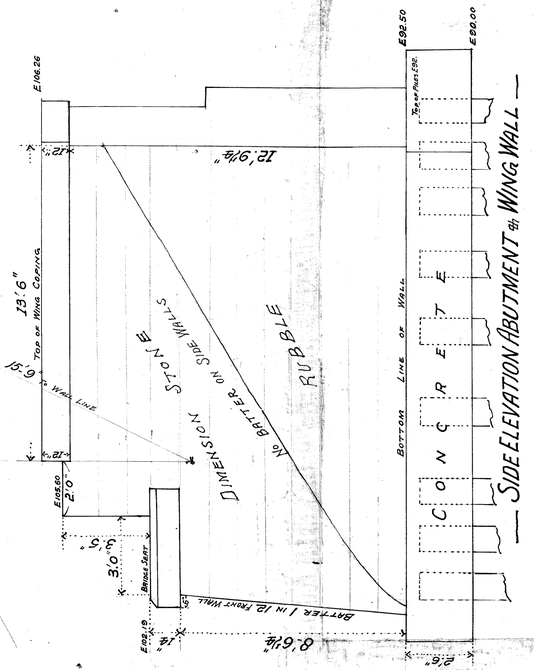
PLAN OF ABUTMENT WALL
SOUTH APPROACH
BELLE ISLE PARK

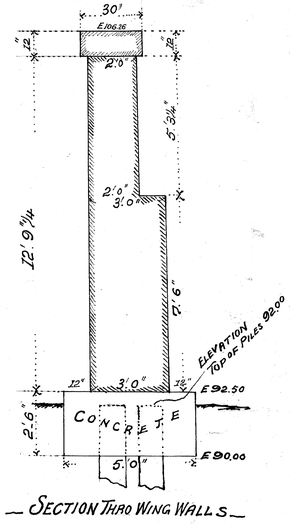
Scale, 3/8" = One Foot

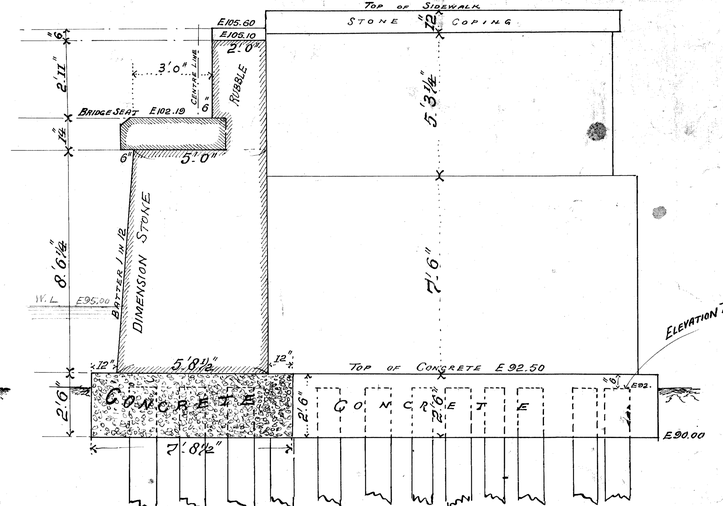
DOTTED CIRCLES SHOW PILES.





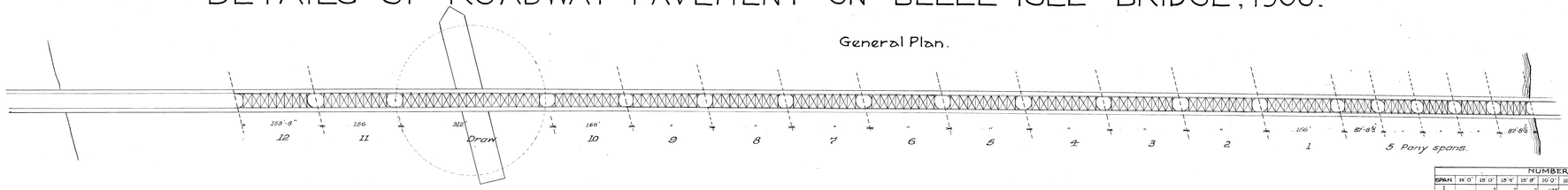






DETAILS OF ROADWAY PAVEMENT ON BELLE ISLE BRIDGE, 1906.

General Plan.



APPROXIMATE BILL OF TIMBERS.

FOR EITHER CREOSOTED BLOCKS OR CEDAR BLOCKS.

Nailing pieces
12⅞ x 4" x 2180' x 2 (DRESS TO 3⅞/16) 2190 B.M.

4" Planking
Island Approach
496' x 24'-0" x 4/12 (DRESS 3⅞) 42154 B.M.
Bridge proper
2190' x 25'-0" x 4/12 (DRESS 3⅞) 219000 B.M.
Total 263154 B.M.

Guard Rail
Island Approach
8"x6"x446' x 2" (DRESS TO 7⅝ x 5¾) 1338 B.M.
Bridge proper
8"x8"x220'x2" (DRESS TO 7⅝ x 7⅝) 11680 B.M.
Total 13018 B.M.

Paving Blocks
Island Approach
336 x 23'6" x 3½" 36,684± B.M.
Bridge proper treated as above 116225 B.M.
Total 212878 B.M.
or
Total Area of Pav. Sq. yds = 4761

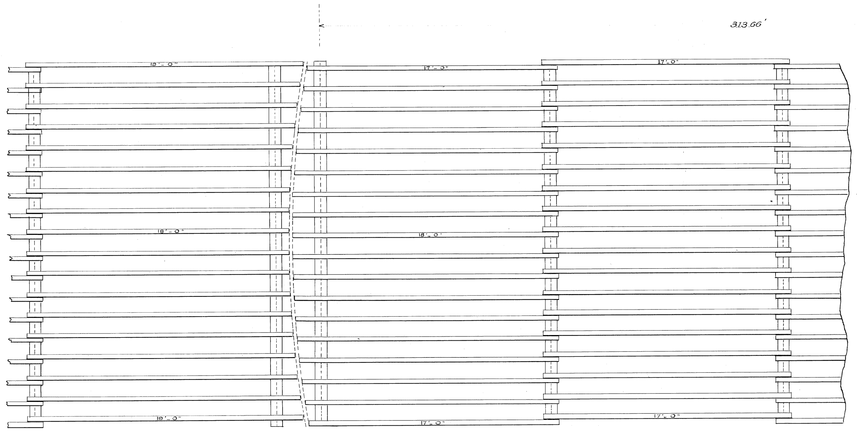
Scuppers.
220 Copper Scuppers.

Revised to include Cedar Blocks.
Dec 28 - 1905

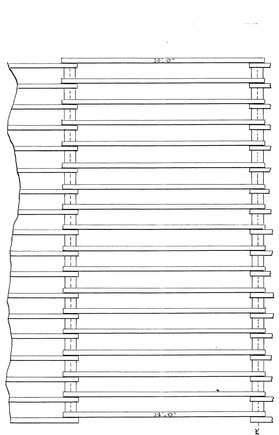
NUMBER & LENGTH OF JOIST.

SPAN	14'-0"	15'-0"	15'-8"	16'-0"	16'-4"	16'-8"	17'-0"	17'-4"	17'-8"	18'-0"	18'-4"	18'-8"	19'-0"	19'-4"	19'-8"	20'-0"	20'-4"	20'-8"	21'-0"
1		2	2	2	146	2	2	2	2	2	2	2	2	2	2	2	2	2	
2		2	2	2	146	2	2	2	2	2	2	2	2	2	2	2	2	2	
3		2	2	2	146	2	2	2	2	2	2	2	2	2	2	2	2	2	
4		2	2	2	146	2	2	2	2	2	2	2	2	2	2	2	2	2	
5		2	2	2	146	2	2	2	2	2	2	2	2	2	2	2	2	2	
6		2	2	2	146	2	2	2	2	2	2	2	2	2	2	2	2	2	
7		2	2	2	146	2	2	2	2	2	2	2	2	2	2	2	2	2	
8		2	2	2	146	2	2	2	2	2	2	2	2	2	2	2	2	2	
9		2	2	2	146	2	2	2	2	2	2	2	2	2	2	2	2	2	
10		1	1	1	146	1	1	1	1	1	1	1	1	1	1	1	1	1	
DRAW	36						288			36									
11		1	1	1	146	1	1	1	1	1	1	1	1	1	1	1	1	1	18
12		1	1	1	163	1	1	1	1	1	1	1	1	1	1	1	1	1	
TOTAL PIECES	36	21	21	21	1767	21	21	309	21	21	57	21	21	39	21	21	21	21	18
TOTAL B.M.	2016	1200	1208	1229	13268	1312	1407	21812	1478	1691	4104	1542	1575	2905	1624	1680	1680	1708	1745	1548

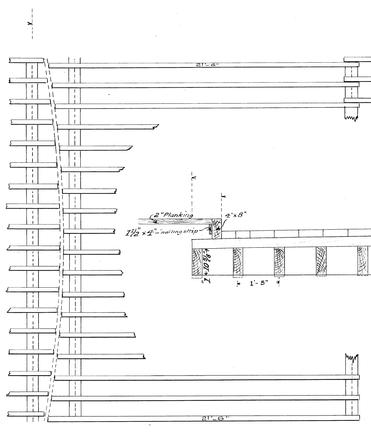
2520 Total pieces
~~2700~~ Total pieces
165856. - B.M.



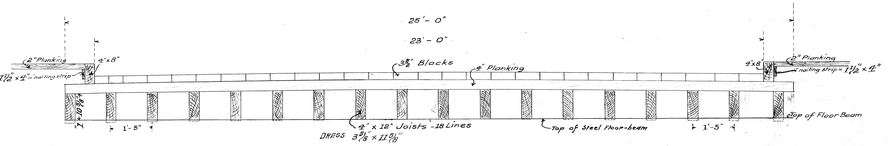
Secⁿ Span 10.



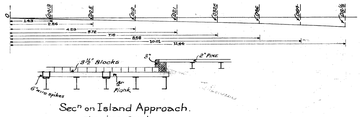
Secⁿ of Draw Span.



Secⁿ Span 11.

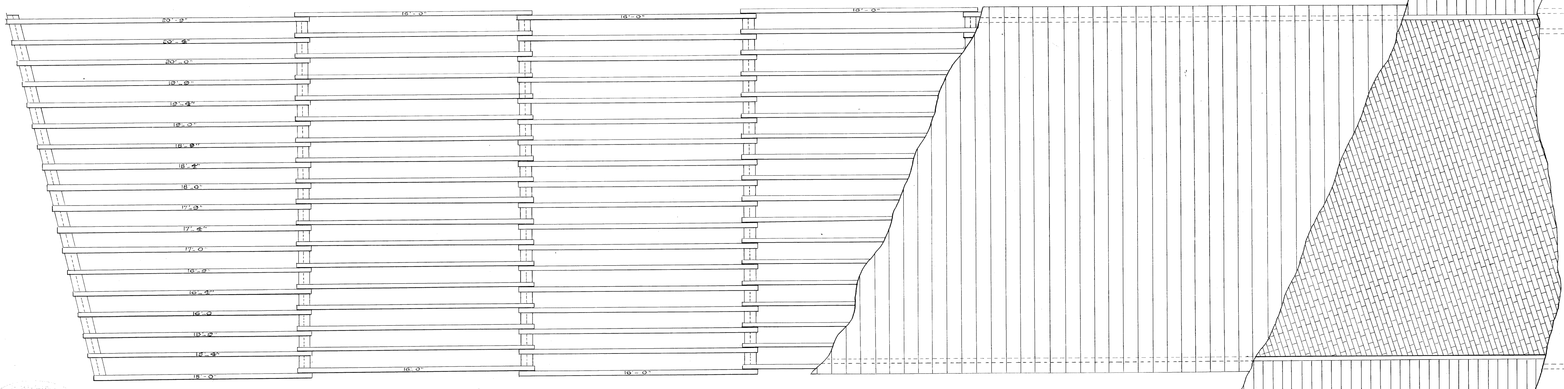


Section of Roadway
Scale 1" = 2 Ft.

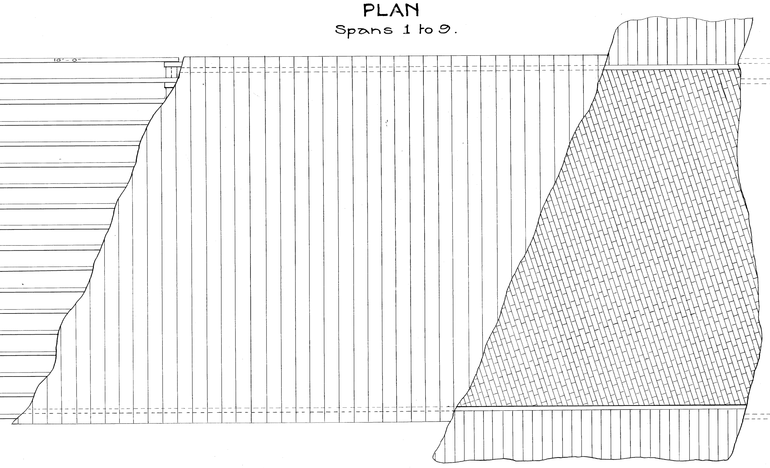


Secⁿ on Island Approach showing Curb.

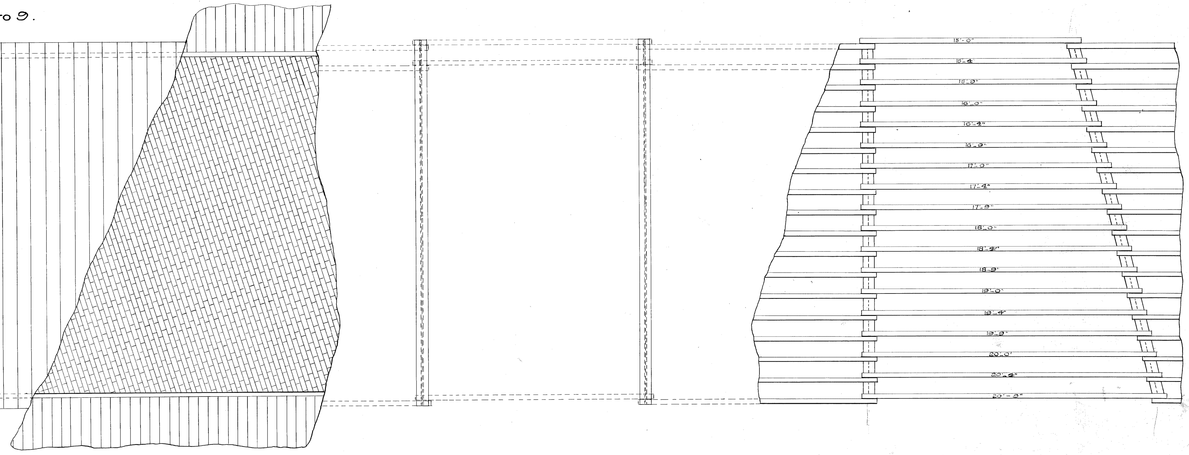
PLAN
Spans 1 to 9.



Section showing Joist.



Section showing Planking.



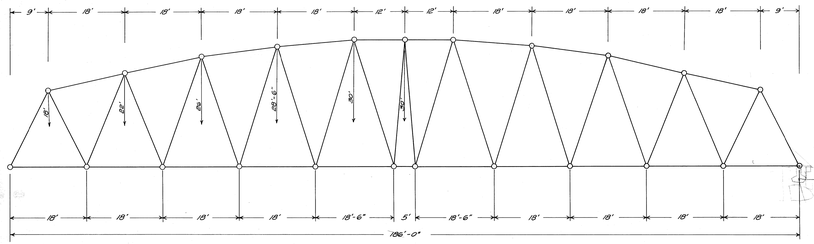
Section showing Pavement & Sidewalks.

Section showing Foor Beams.

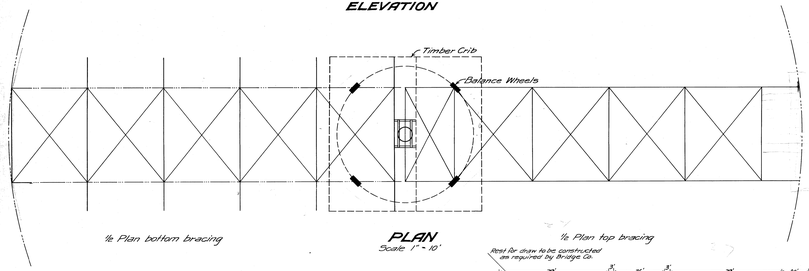
Scale, 1" = 4 feet.

D. 11

File BW201-19



ELEVATION



½ Plan bottom bracing

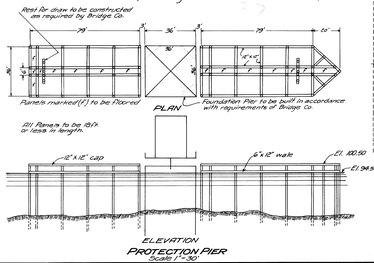
PLAN
Scale 1" = 10'

½ Plan top bracing

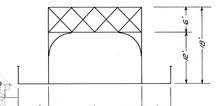
Material - Open hearth steel

Design for { live load of 100 lbs. per sq. ft. over roadway and walks, or 15 ton road roller - 50% impact.
Wind pressure 250 lbs. per lin. ft. of span.

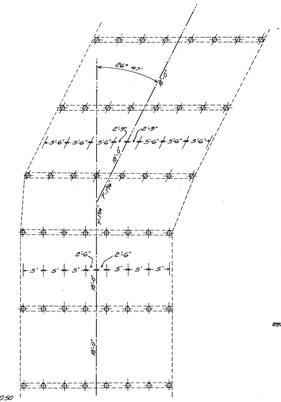
Unit stress tension 16,000 lbs. per sq. in.
compression 16,000 lbs. - 70 l/r
Center bearing, balance wheels and all gears to be steel castings.



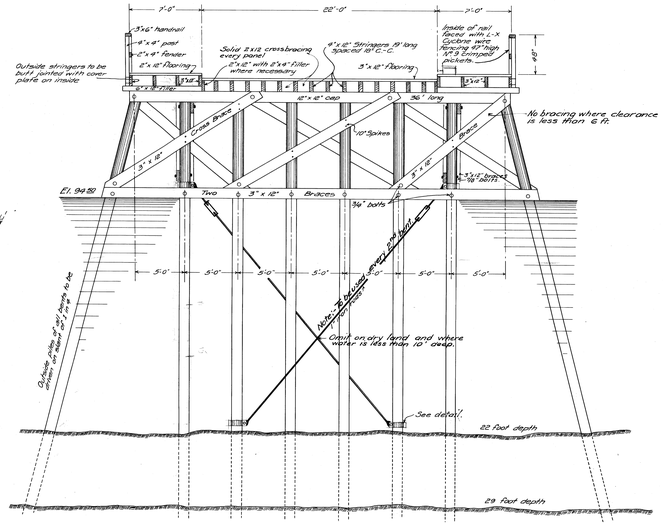
PROTECTION PIER
Scale 1"-30'



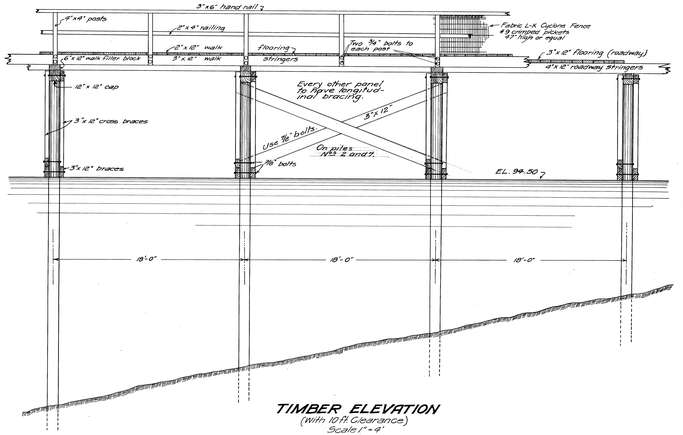
PORTAL BRACING



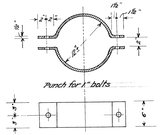
DETAIL OF
BENTS AT ANGLES
Scale 1"-10'



TIMBER SECTION
(With 10 ft. Clearance)
Scale 1"-4'



TIMBER ELEVATION
(With 10 ft. Clearance)
Scale 1"-4'



PILE COLLAR
SCALE 1" = 10".

PLAN OF
TEMPORARY WOODEN BRIDGE
TO
BELLE ISLE

CITY ENGINEERS OFFICE
Dec. 15-1915
Scales Indicated.

File BW201-20