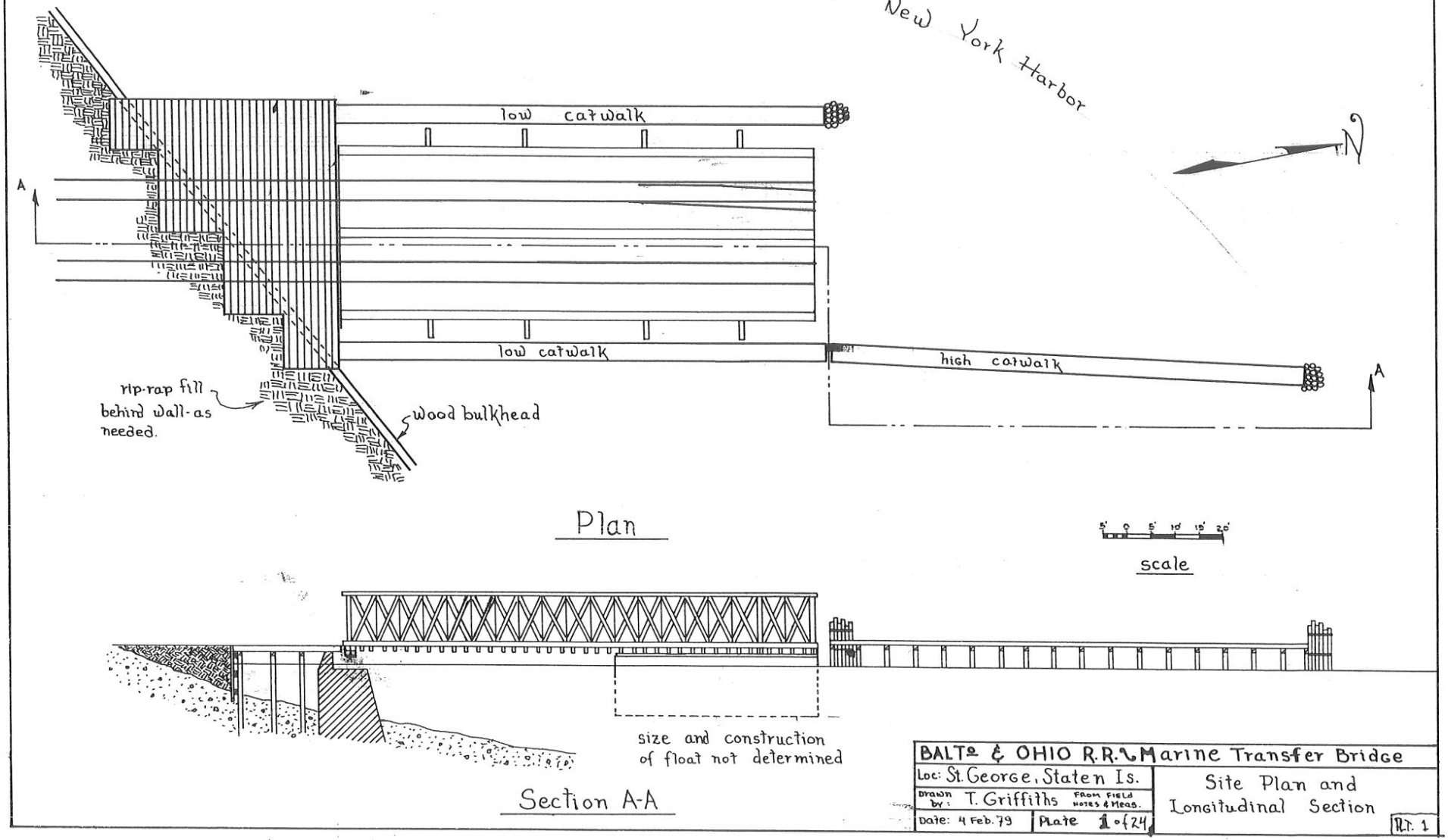
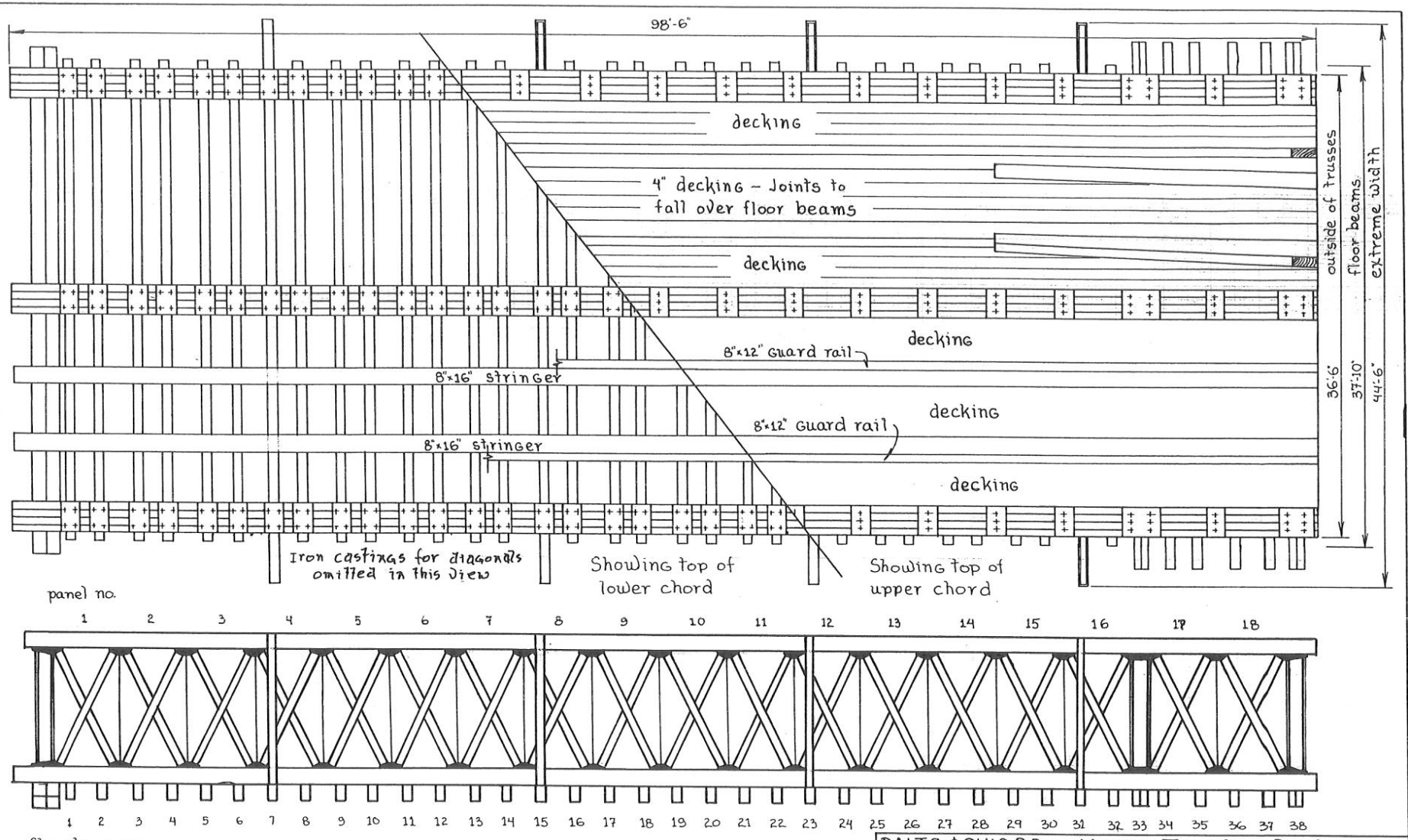
Baltimore and Ohio R.R. Marine Transfer Bridge at St. George, New York

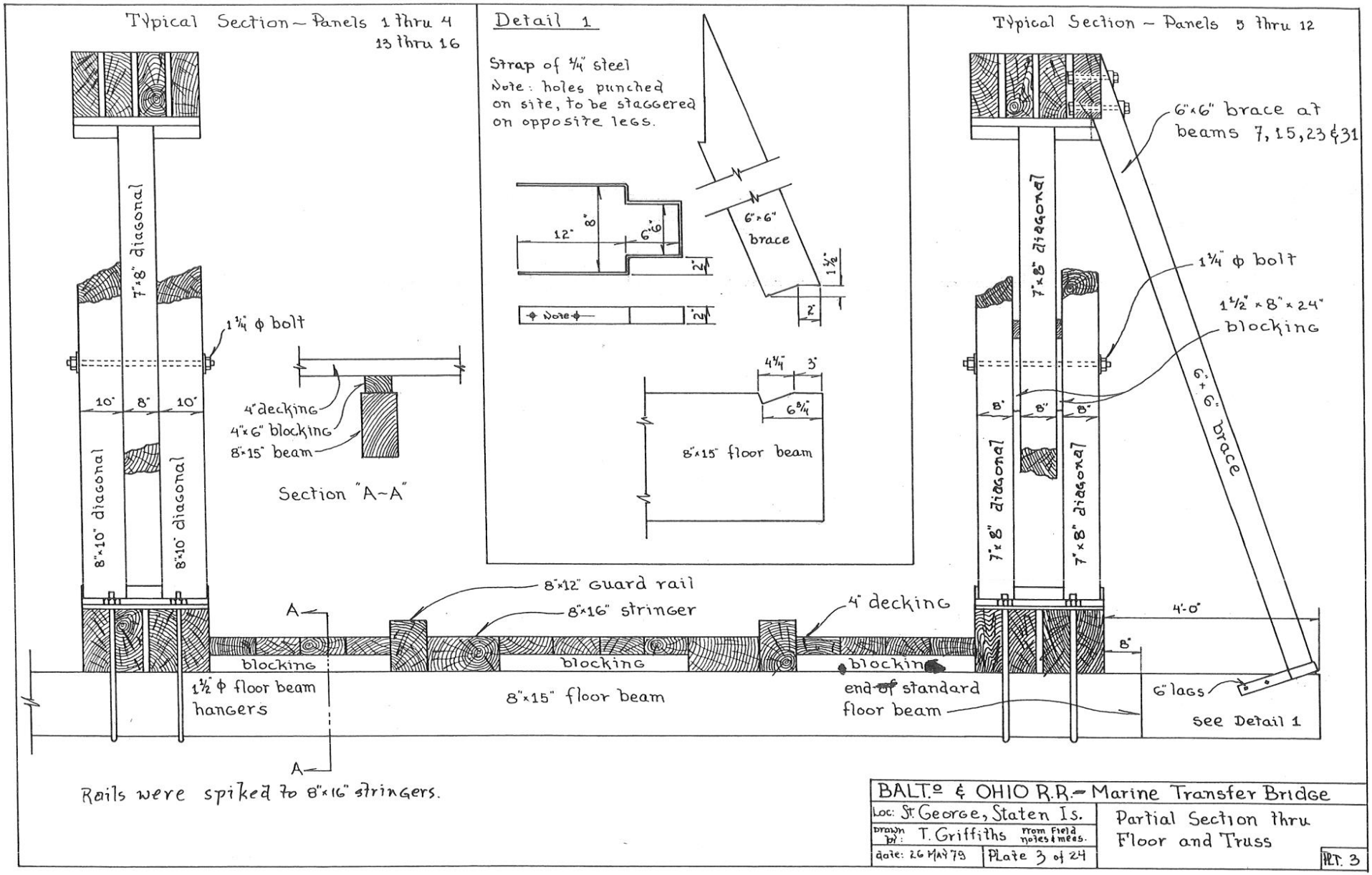
Index To Plates



BALTo & OHIO R.R. Marine Transfer Bridge		
Loc: St. George, Staten Is.		Site Plan and Longitudinal Section
Drawn by: T. Griffiths	From Field Notes & Meas.	
Date: 4 Feb. 79	Plate 1 of 24	Pl. 1

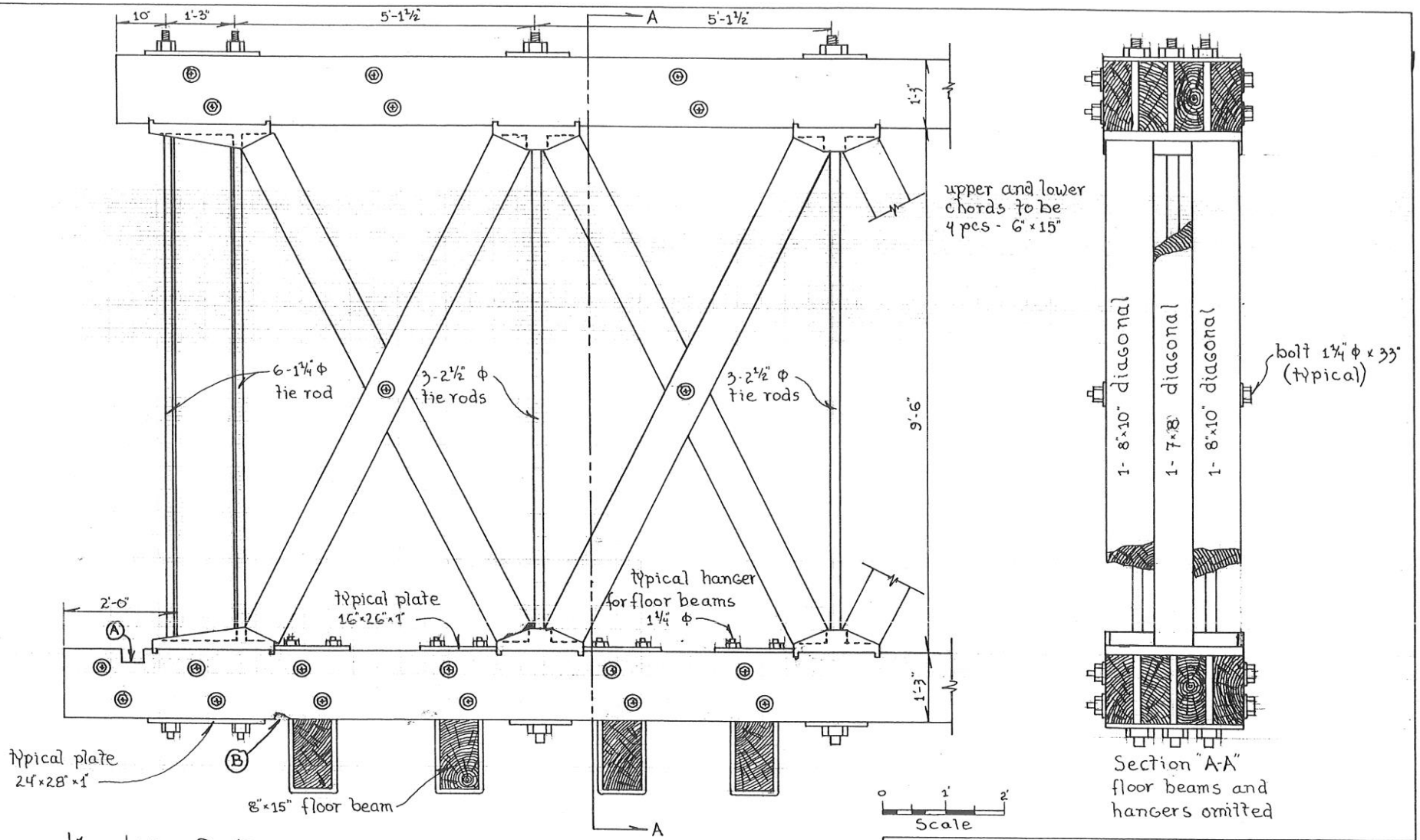


BALT.° & OHIO R.R. Marine Transfer Bridge		
Loc: St. George, Staten Is.		Side Elevation and Plan
drawn by: T. Griffiths	From Field notes & meas.	
date: 11 Feb 79	Plate 2 of 24	Pt. 2



BALT.º & OHIO R.R. – Marine Transfer Bridge	
Loc: St. George, Staten Is.	Partial Section thru Floor and Truss
drawn by: T. Griffiths from Field notes & mees.	
date: 26 MAY 79	Plate 3 of 24

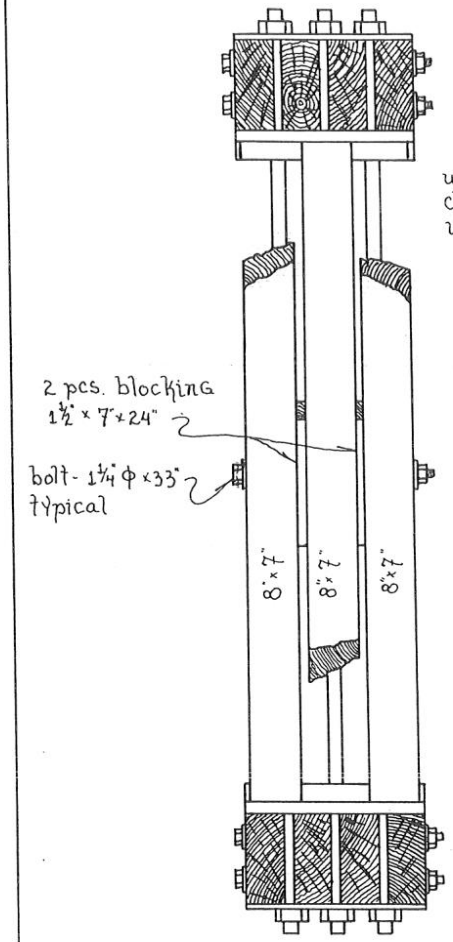
PLT. 3



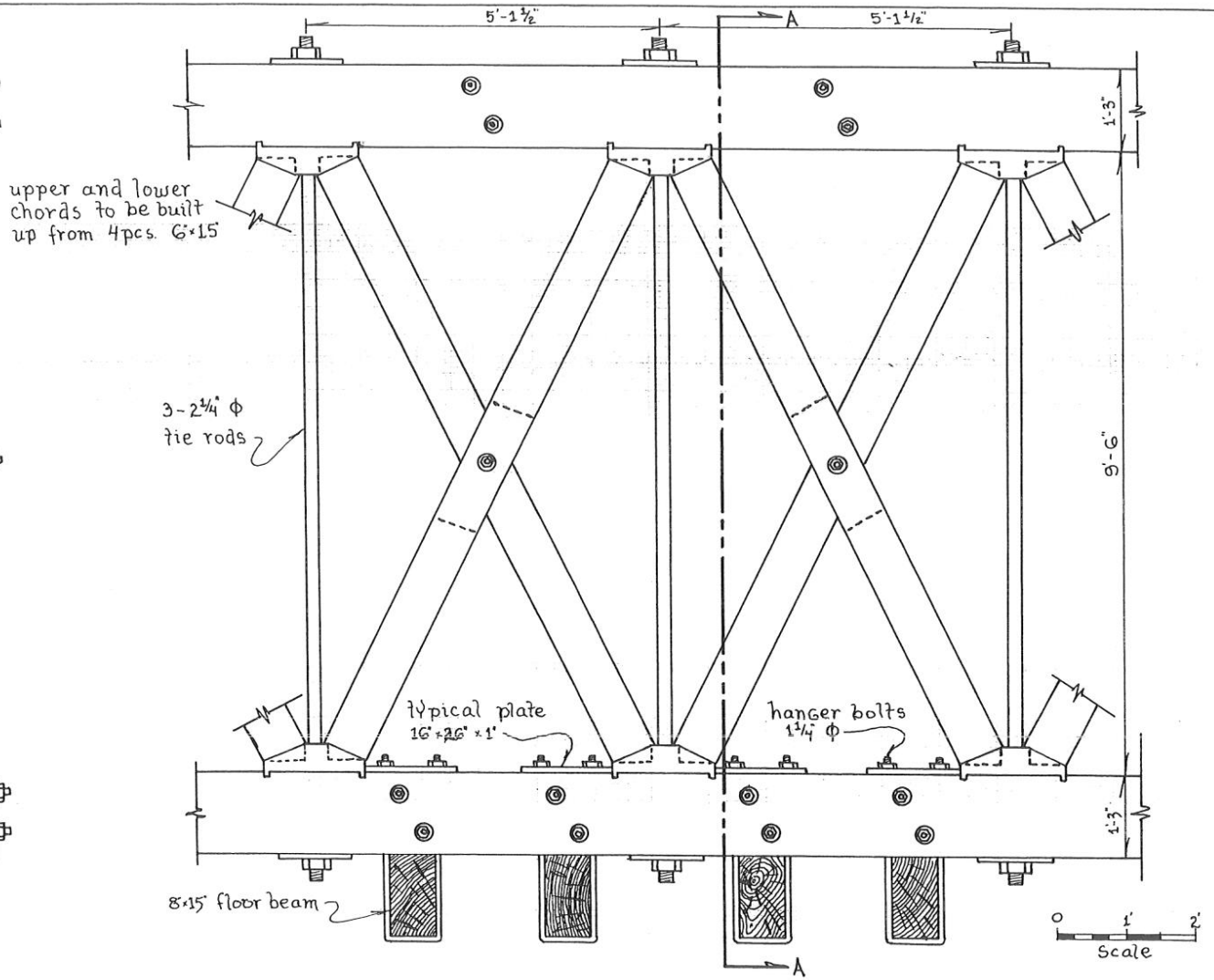
Note: Notches (A) + (B) used in connecting Bridge to Main Bearing - See plate 10

BALTº & OHIO R.R. ~ Marine Transfer Bridge		
Loc: St. George, Staten Is.		Elevation and Section Panels 1 & 2
Drawn by: T. Griffiths	From Field Notes & Meas.	
Date: 1 June 79	Pt 4 of 24	

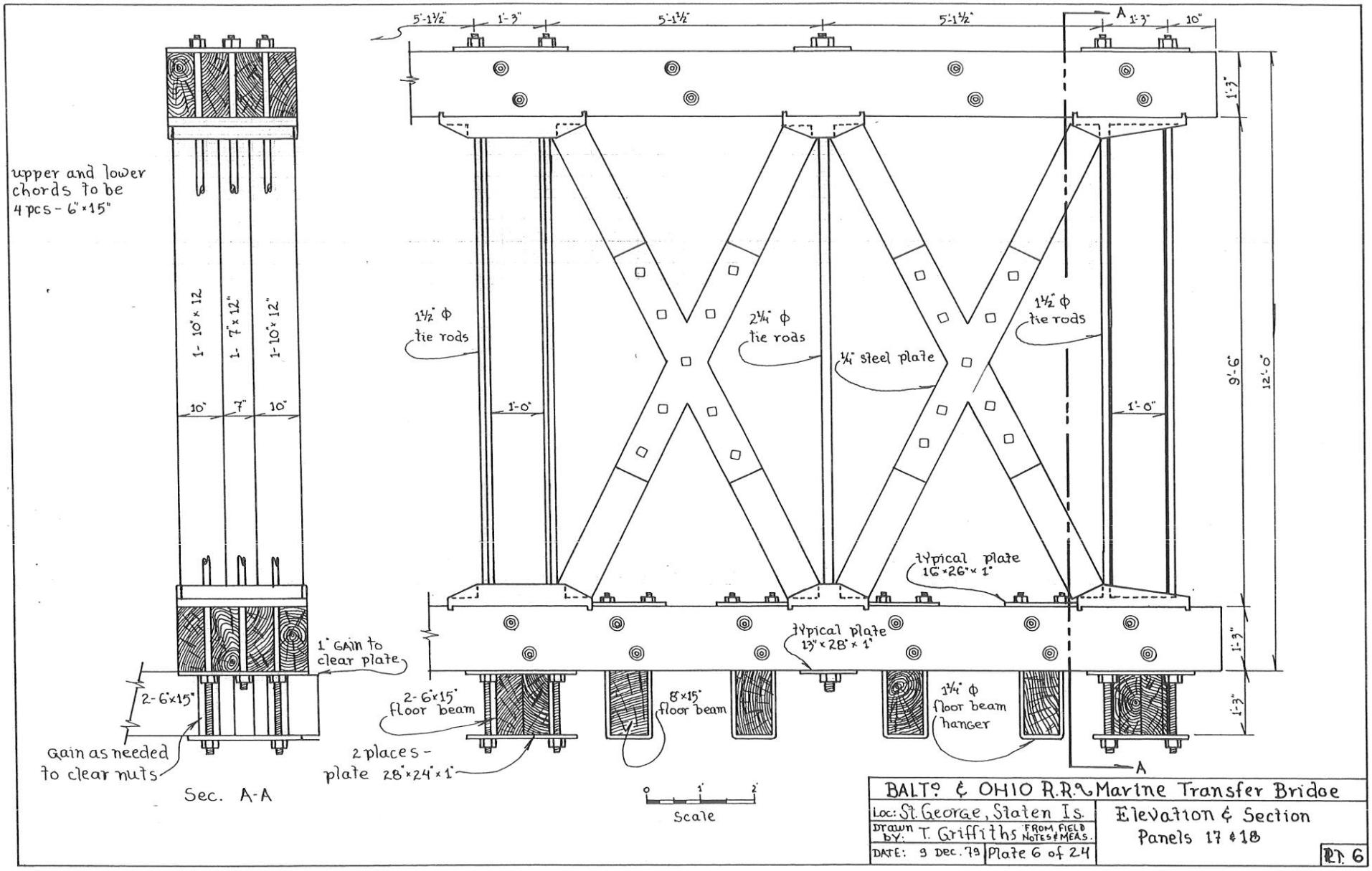
PT. 4



Section A-A
floor beams and
hangers omitted
see sheets 7 & 10



BALT° & OHIO R.R. Marine Transfer Bridge		
Loc: St. George, Staten Is.		Elevation and Section Panels 8 & 9
DRAWN BY: T. Griffiths FROM FIELD NOTES & MEAS.		
DATE: 2 DEC 79	Plate 5 of 24	Pl. 5



BALT° & OHIO R.R. Marine Transfer Bridge

Loc: St. George, Staten Is.

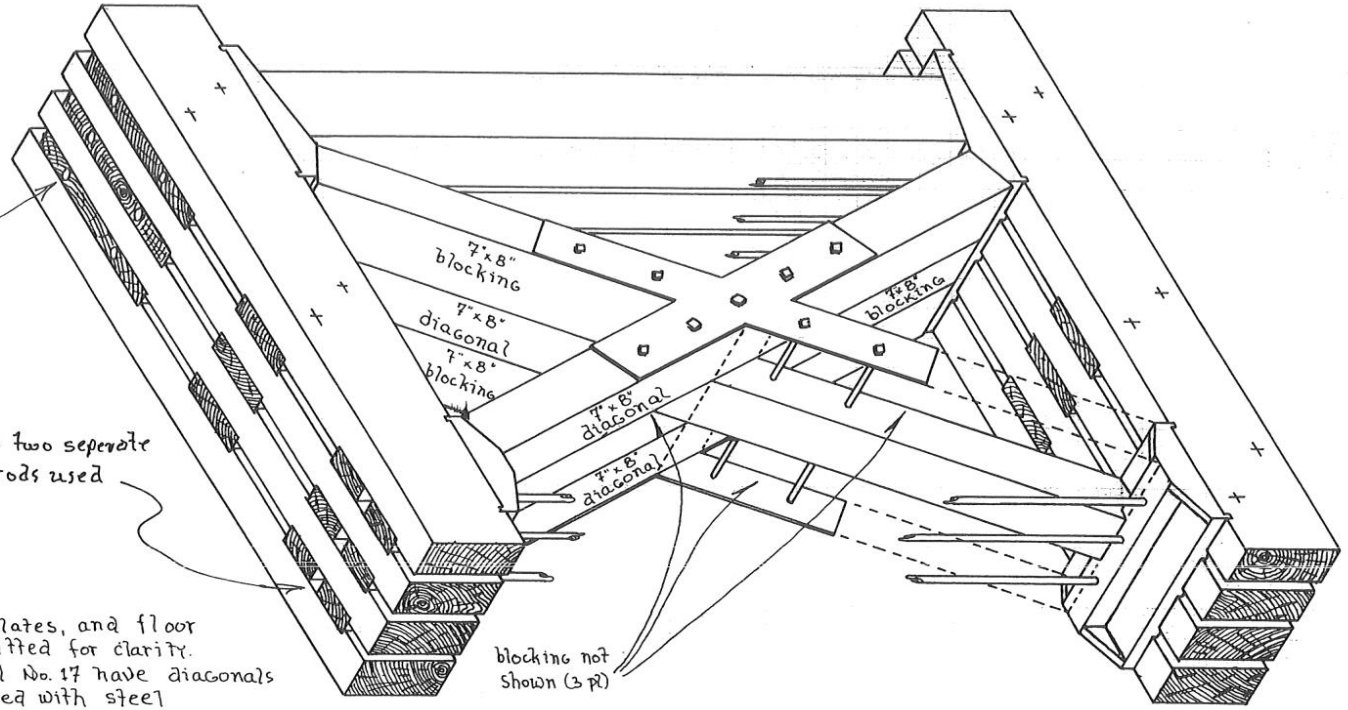
Drawn by: T. Griffiths from field notes & meas.

Date: 9 Dec. 79

Plate 6 of 24

Elevation & Section Panels 17 & 18

PT. 6

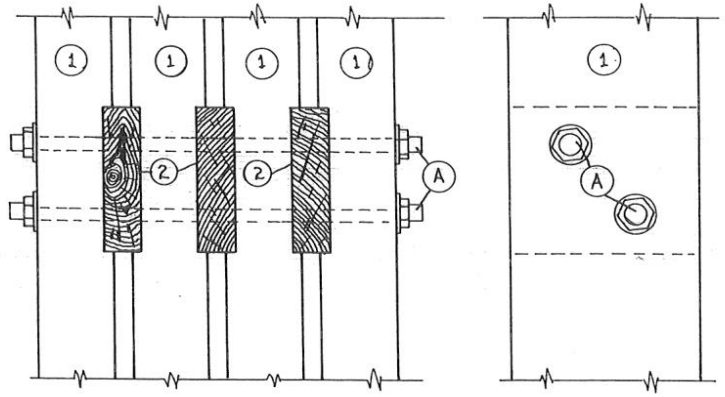


Notes:

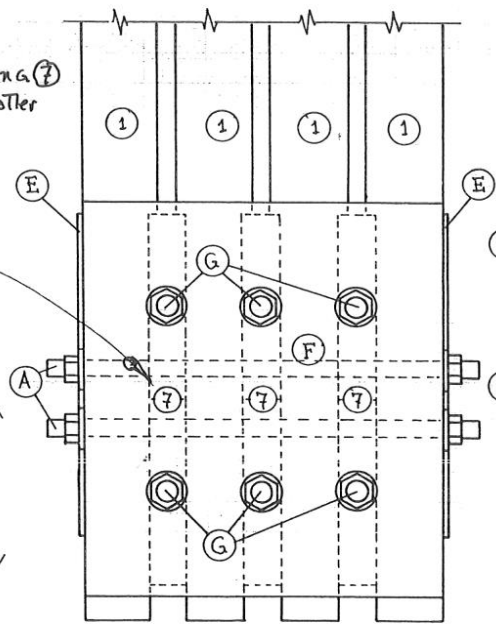
1. Bolts, truss rod end plates, and floor beam hangers omitted for clarity.
2. This panel and panel No. 17 have diagonals doubled and covered with steel reinforcing plates, bolted thru in 9 places with 1⅛" ϕ bolts.
3. All chord blocking material to be 3" stuff let into chord members ¾".
4. Packing (blocking) material is drilled where 1¼" rods are used, and in two pieces where 2⅛" tie rods are used.

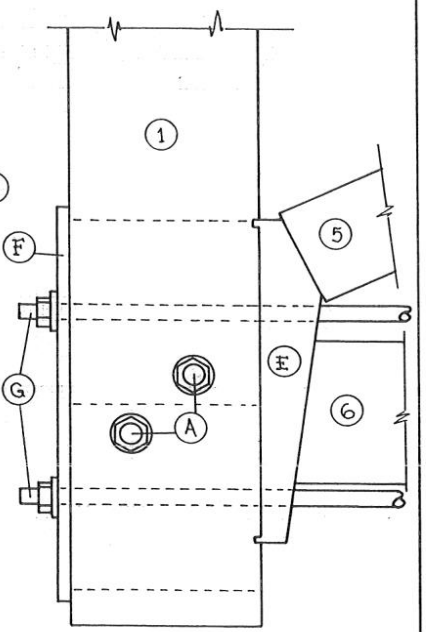
BALTº & OHIO R.R. Marine Transfer Bridge		
Loc: St. George, Staten Is.		Isometric - Panel 18
DRAWN BY: T. Griffiths	FROM FIELD NOTES & MEAS.	
DATE: 13 Jan 80	Plate 7 of 24	Pl. 7

Key to Wood Parts		Key to Iron Parts	
1	chord member 6"×15"	A	bolt - 1¼" × 33"
2	blocking 3"×12"×15"	B	tie rod - 2½" × 13'8" (Typ.)
3	blocking 3"×7½"×15"	C	plate - 1" × 20" × 28½"
4	diagonal 7"×8"	D	cast iron pillow block style "C"
5	diagonal 8"×10"	E	cast iron pillow block style "A"
6	vertical 10"×12"	F	plate - 1" × 33" × 28½"
7	blocking 3"×31"×15"	G	tie rod - 1½" × 13'8" (Typ.)



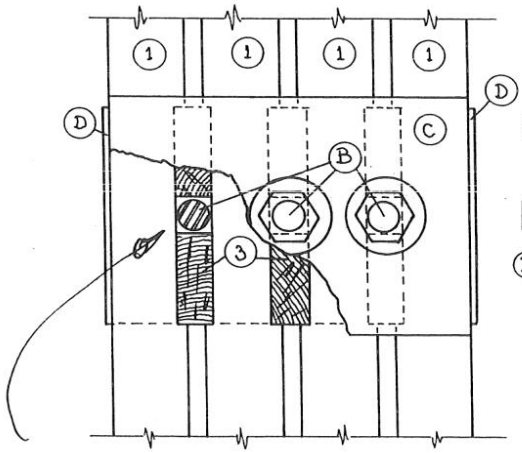
Note: Blocking (7) bored for smaller tie rods.

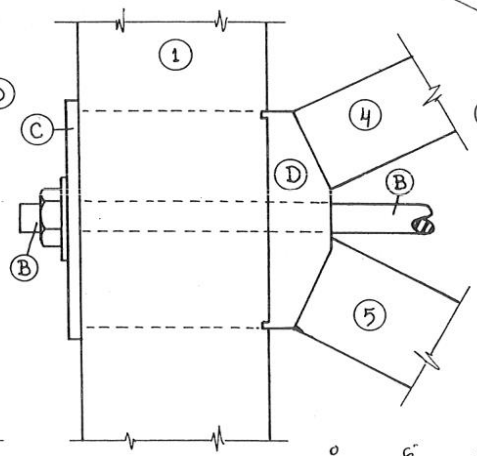




Plan

Elev.





Note: Blocking in two pieces for heavier tie rods

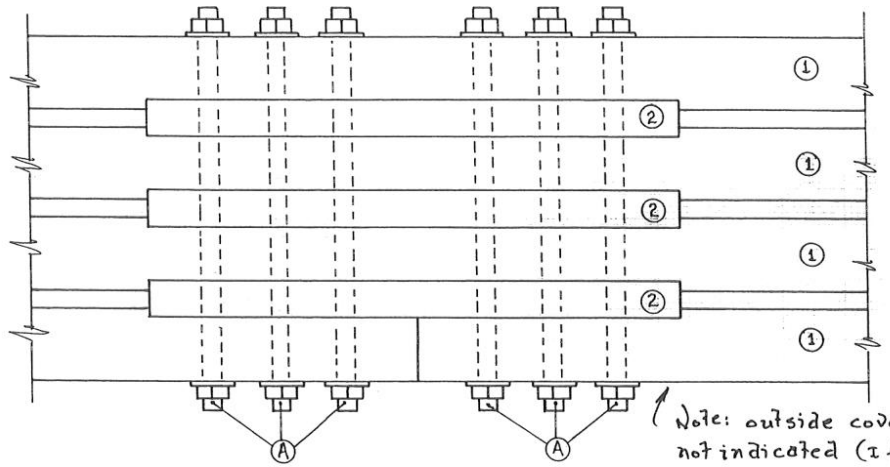
Plan

Elev.

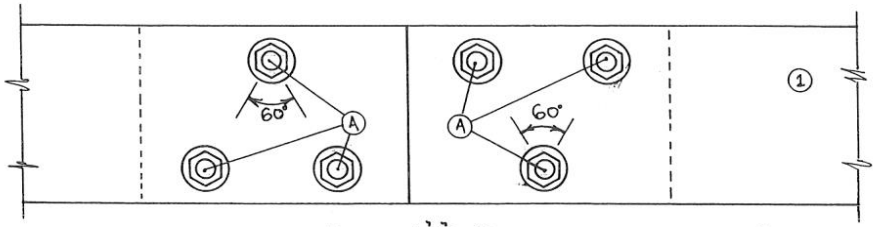
0 6" 1' 2'

Scale

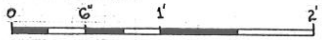
BALT° & OHIO R.R. Marine Transfer Bridge		
Loc: St. George, Staten Is.		Upper Chord Details
DRAWN BY: T. Griffiths FROM FIELD NOTES & MEAS.		
DATE: 14 Jan. 80	Plate 8 of 24	Pl. 8



Note: outside cover plates not indicated (I forgot them!)



Key to Parts	
1	6 × 15" × (?) chord member
2	3" × 15" × 42" packing block
A	bolt - 1¼" × 33"



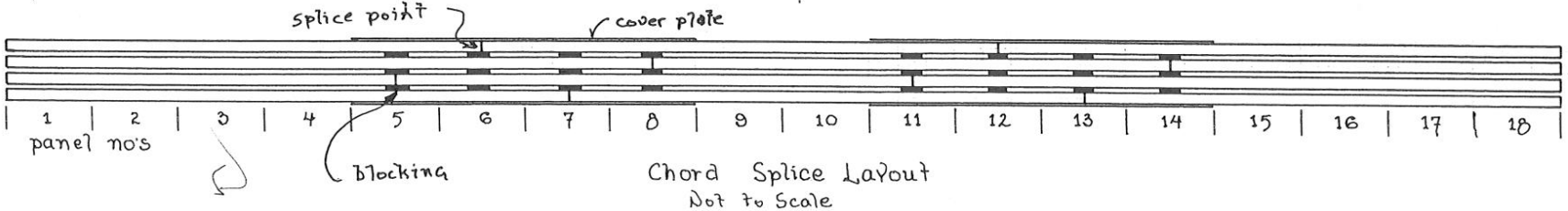
Scale for Splice Detail

See plate 11 for bottom chord splice details.

Splices shown for lower chord. Flip plan end-for-end to get splice plan for upper chords.

Lower chords only: ½ × 15" cover plate to extend over only those panels with splices.

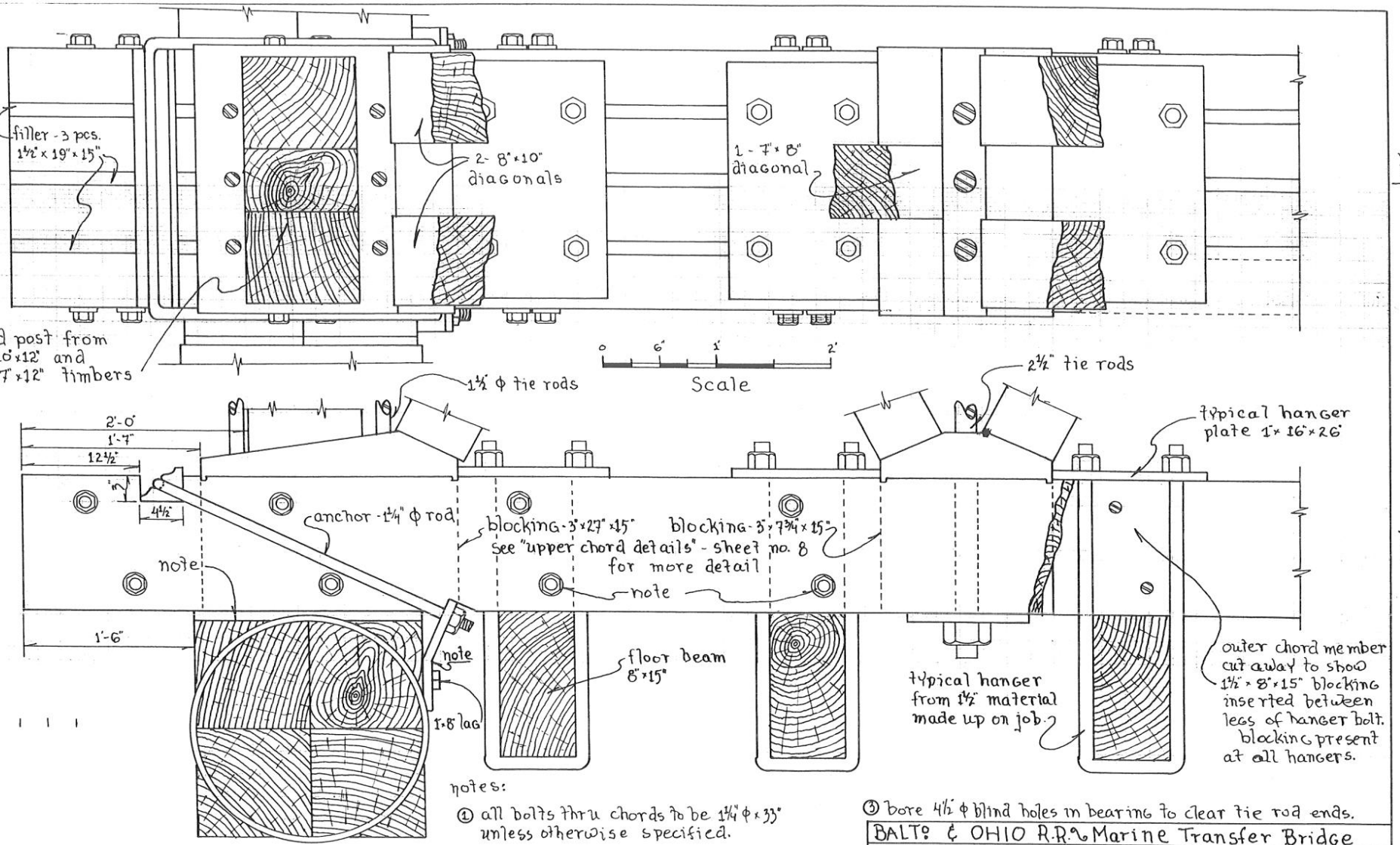
(?) chord members vary in length, up to 42'0". Overall length of completed chords for each truss is 98'-6"



Chord Splice Layout
Not to Scale

(See Plate 11 for details)

BALT° & OHIO R.R. Marine Transfer Bridge		
Loc: St George, Staten Is.		Upper Chord Splice and Splice Layout
DRAWN BY: T. Griffiths FROM FIELD NOTES & MEAS.		
DATE: 19 Jan 80	Plate 9 of 24	Pr 9



notes:

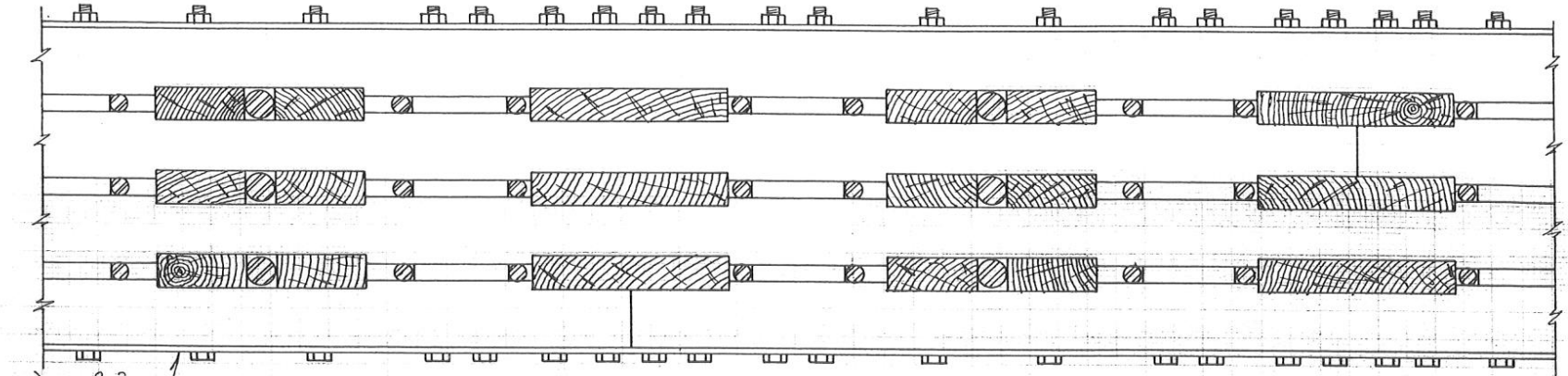
① all bolts thru chords to be 1¼" ϕ x 33" unless otherwise specified.

② truss anchor plate 1" x 13" x 36" bolted to main bearing with 1" x 8" lags. see sheet 13 for detail.

③ bore 4½" ϕ blind holes in bearing to clear tie rod ends.

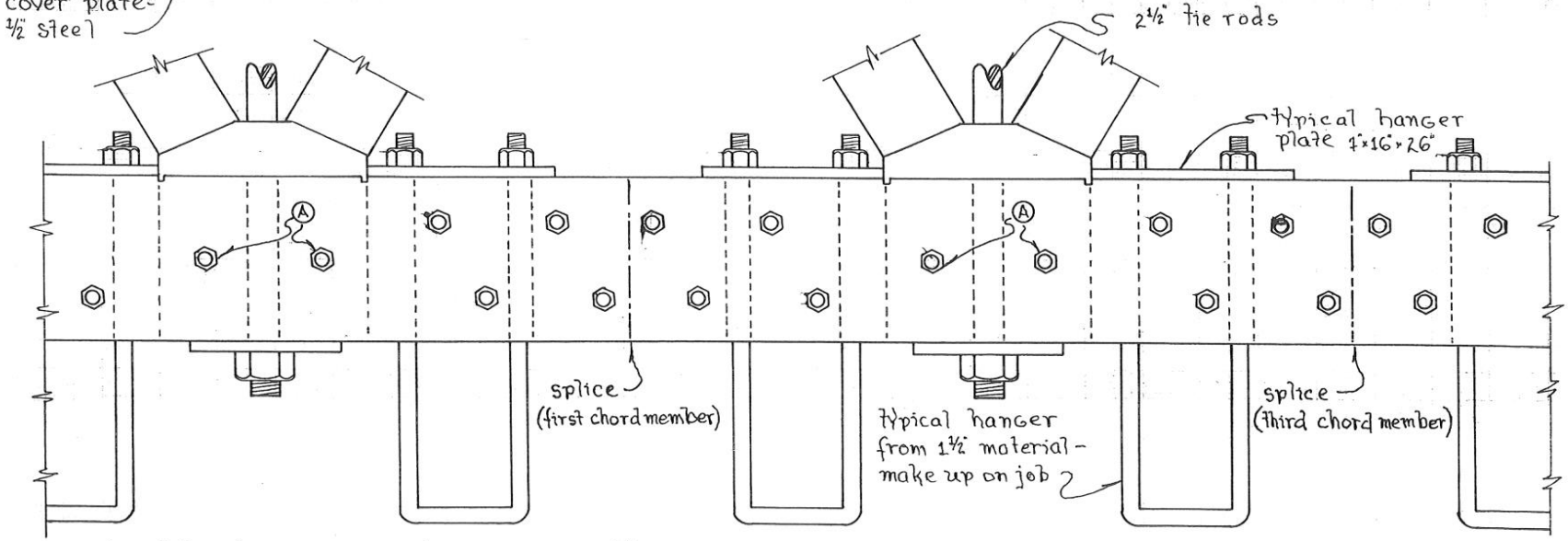
BALT° & OHIO R.R. Co. Marine Transfer Bridge	
Loc: St. George, Staten Is.	Truss Lower Chord Bearing End Details
DRAWN BY: T. Griffiths FROM FIELD NOTES & MEAS.	
DATE: 9 Feb 80	Plate 10 of 24

Pl. 10



Plan

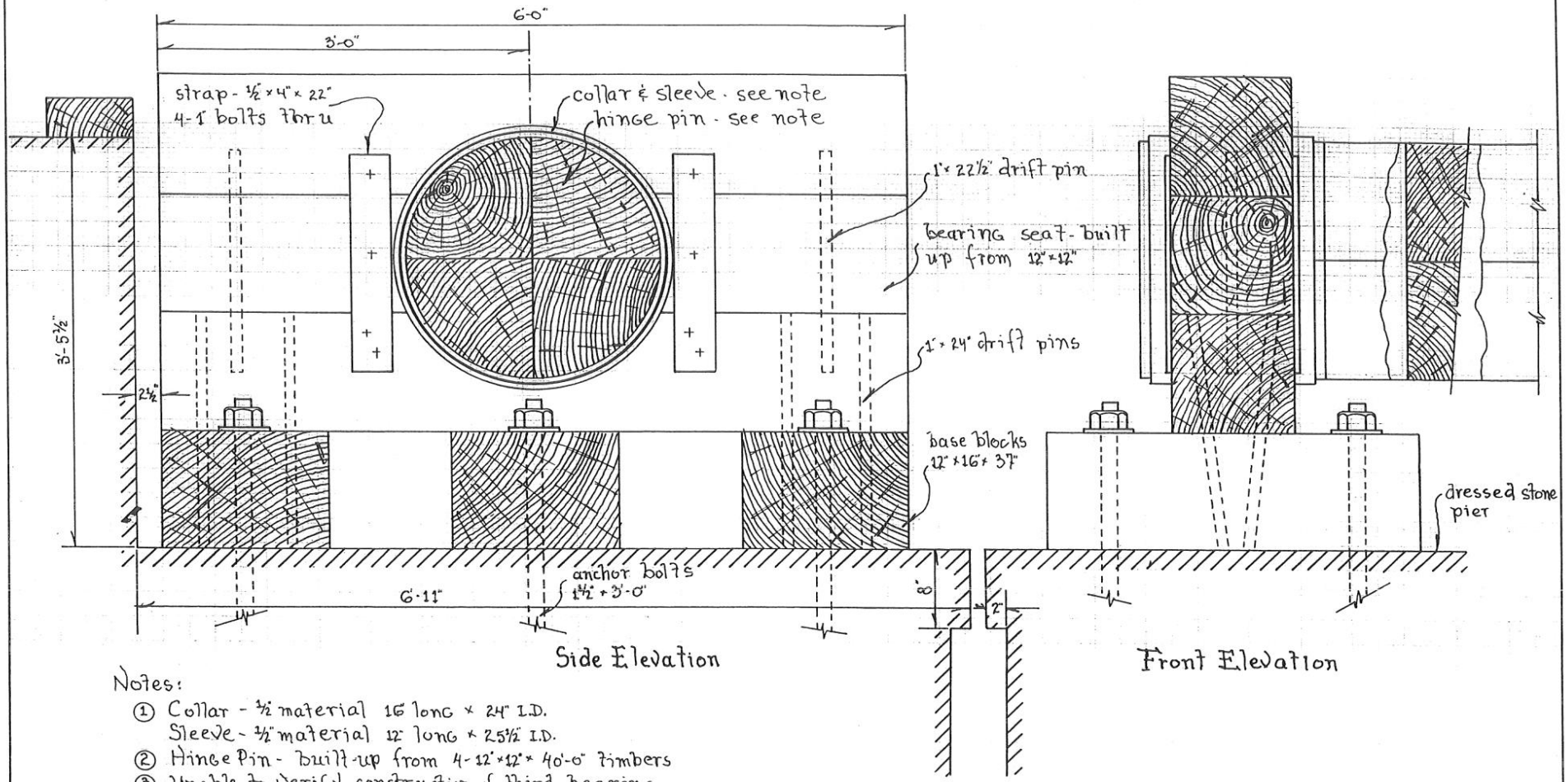
cover plate - ½" steel



Elev.

Notes:
① cover plates from panel 9 to panel 14 only.
② diagonal seat castings, hanger plates omitted from plan view.
③ all bolts thru chords to be 1¼"×33" unless otherwise specified.
④ bolts Ⓐ only used where cover plates present.
⑤ see plate 9 for chord splice lay out.

BALTº & OHIO R.R.º Marine Transfer Bridge		
Loc: St. George, Staten Is.		Truss Lower Chord Details
DRAWN BY: T. Griffiths FROM FIELD NOTES & MEAS.		
DATE: 11 Mar 80	Plate 11 of 24	Pl. 11



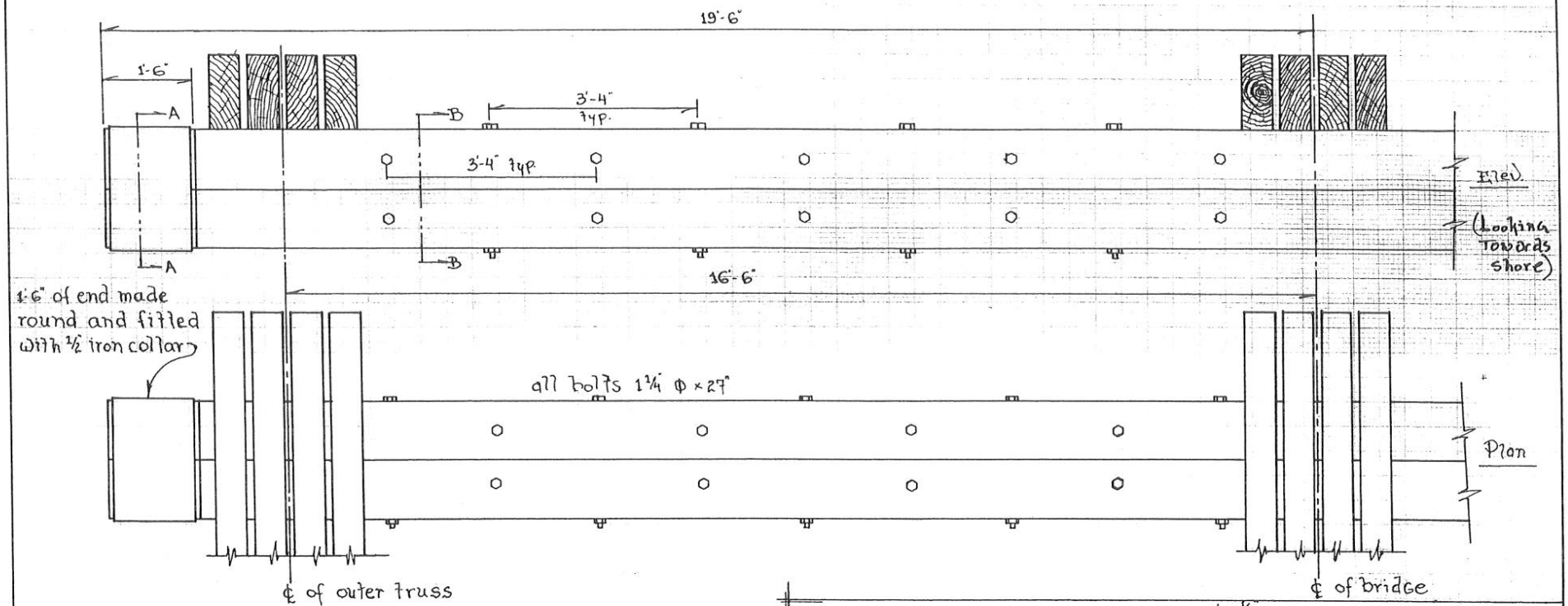
Notes:

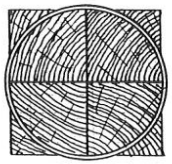
① Collar - ½" material 16" long × 24" I.D.
Sleeve - ½" material 12" long × 25½" I.D.

② Hinge Pin - built-up from 4-12" × 12" × 40'-0" timbers

③ Unable to verify construction of third bearing under center truss.

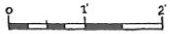
BALT° & OHIO R.R. Marine Transfer Bridge		
Loc: St. George, Staten Is.		Main Bearing Seat
DRAWN BY: T. Griffiths FROM FIELD NOTES & MEAS.		
DATE: 15 MAR 80	Plate 12 of 24	HAER 12



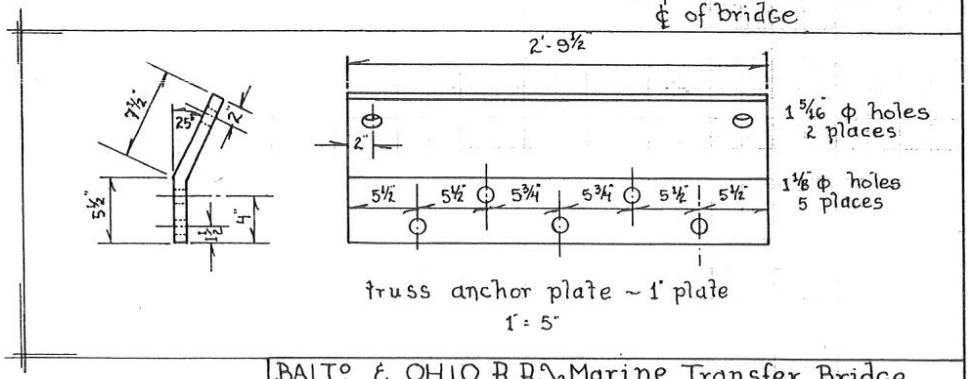


Section "A-A"

Section "B-B"



Scale



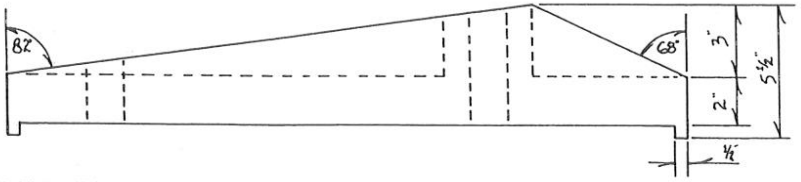
truss anchor plate ~ 1" plate

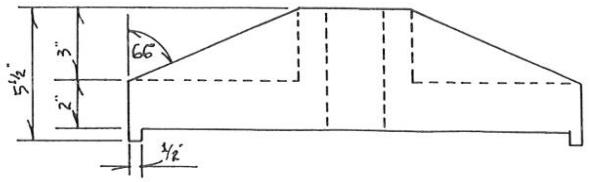
1" = 5"

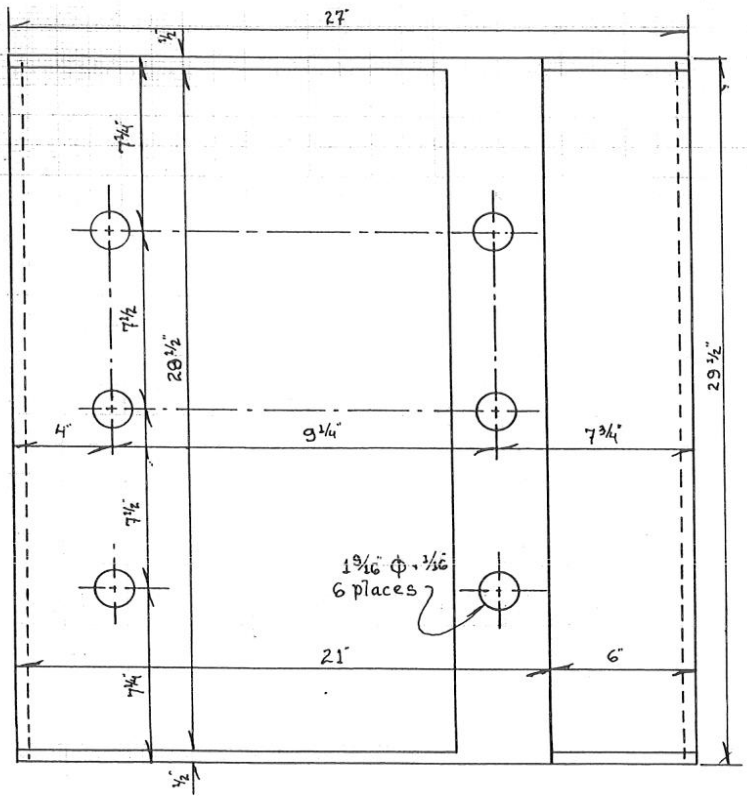
Note: Details of Bearing & Bearing seat under center truss unknown.

BALT° & OHIO R.R. Marine Transfer Bridge	
Loc: St George, Staten Is.	Main Bearing details
DRAWN BY: T. Griffiths FROM FIELD NOTES & MEAS.	
DATE: 25 Oct. 81	Plate 13 of 24

#13





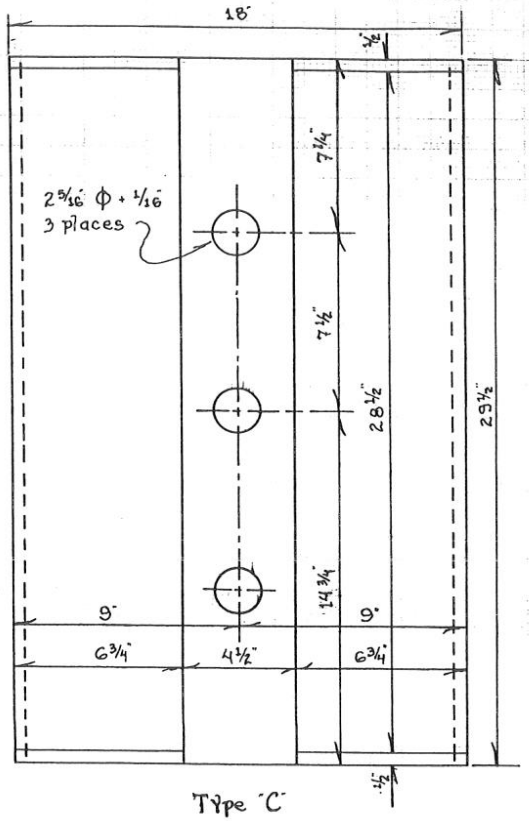


Type "A"

Notes:

1: Pillow blocks to be cast iron. Foundry to add 1/16 per foot for shrinkage.

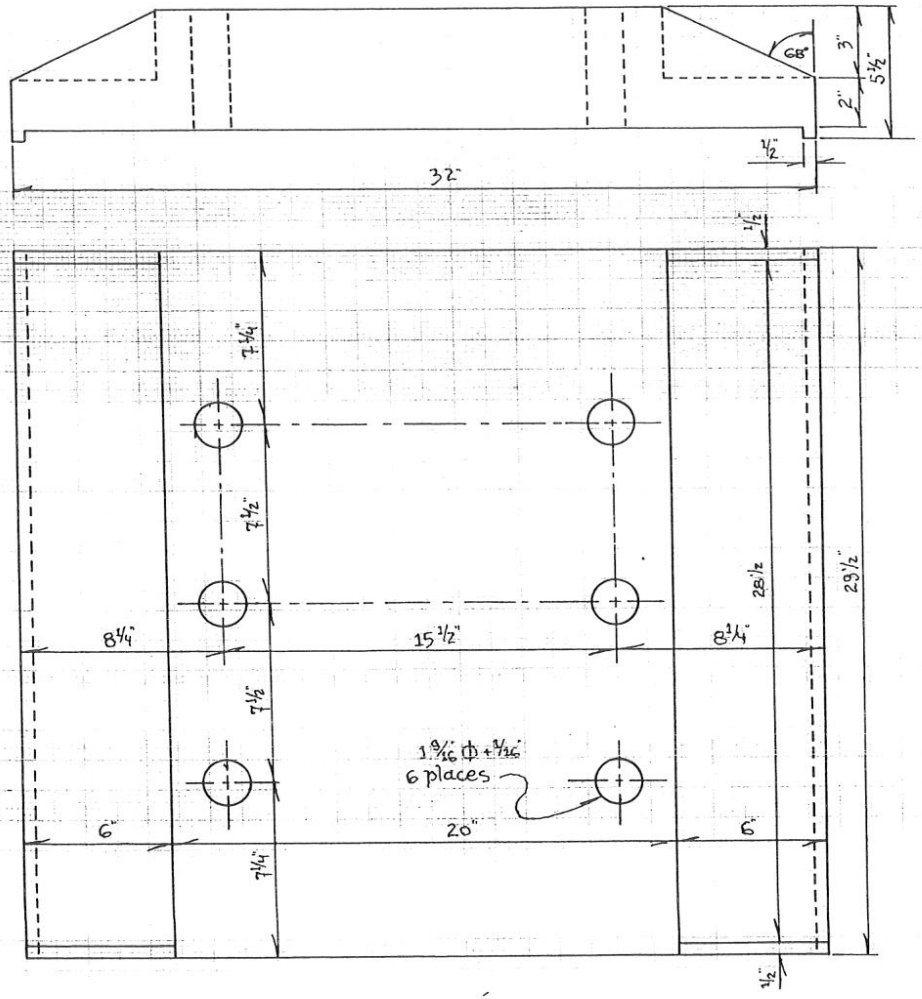
2: For schedule see plate 15



Type "C"

BALTº & OHIO R.R. ~ Marine Transfer Bridge		
Loc: St. George, Staten Is.		Pillow Blocks Types "A" + "C"
DRAWN BY: T. Griffiths FROM FIELD NOTES & MEAS.		
DATE: 26 Oct. 81	Plate 14 of 24	

BR. 14



Type "B"

0 6"

Scale

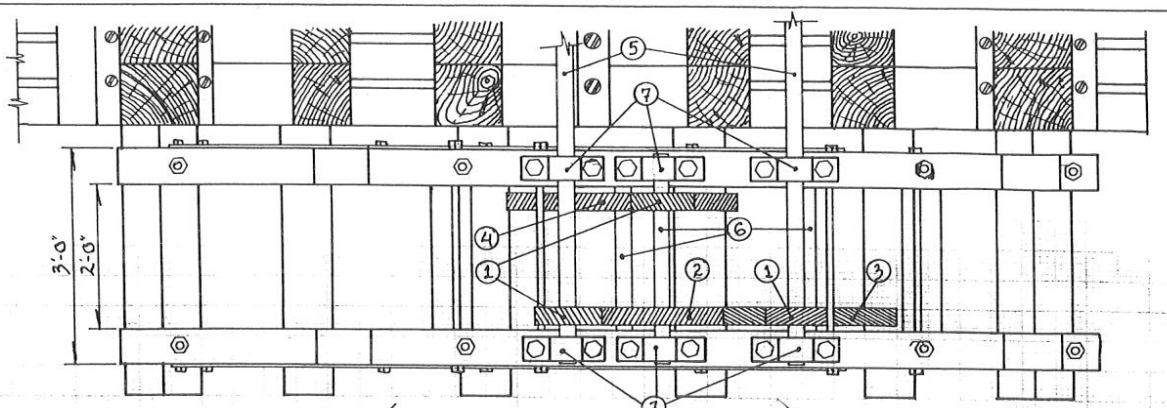
Cast Iron Pillow Block Schedule			
Type	no. per Truss	no. for bridge	Where used
A	4	12	end posts
B	2	6	post between panels 16 & 17
C	32	96	between all panels except between 16 & 17

BALT° & OHIO R.R. Marine Transfer Bridge		
Loc: St. George, Staten Is.		Pillow Blocks Type B
DRAWN BY: T. Griffiths FROM FIELD NOTES & MEAS.		
DATE: 26 Oct. 81	Plate 15 of 24	Pl. 15

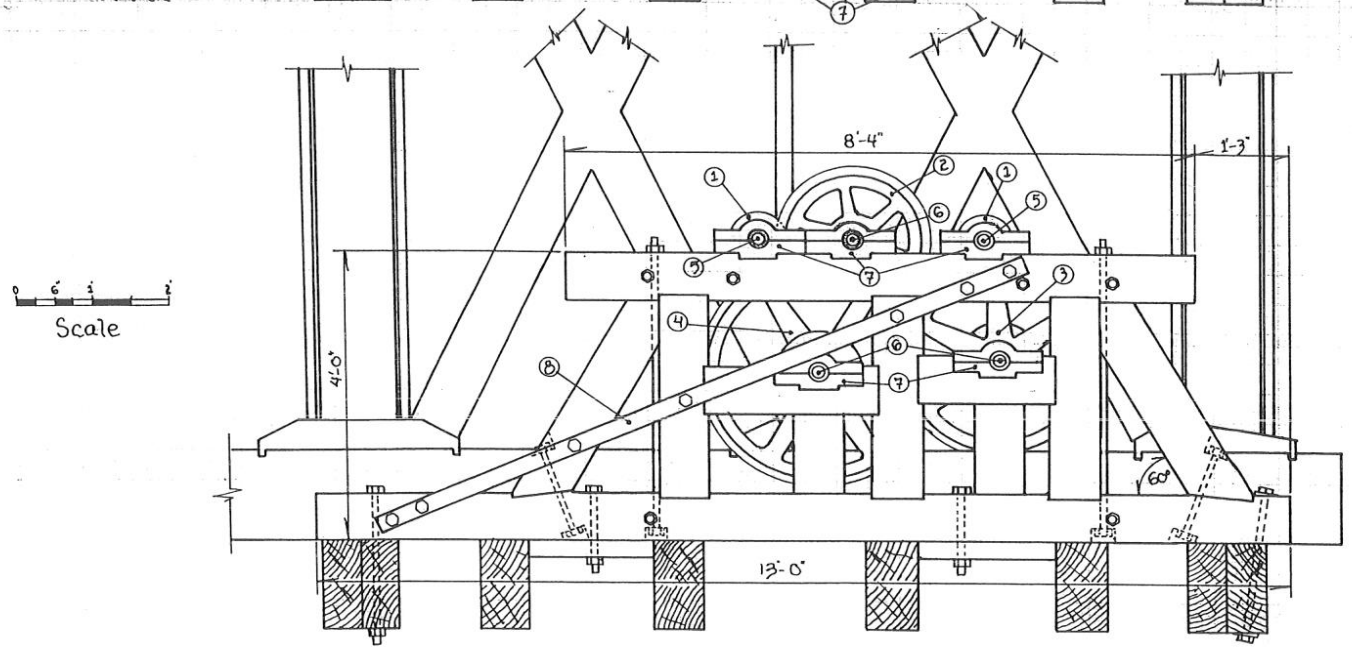
Notes :

1 all timber framing to be white oak, 6"×8", and creosote treated.
2 ratchets and pawls for locking drums shown seperately on sheet 17.
3 all bolts and tie rods to be 1⅛" ϕ.
4 right winch shown, left winch to be a mirror image of this one.

Pl	Description	
1	Gear	11" dia × 3" face × teeth
2	Gear	24" dia × 3" face × teeth
3	Gear	32" dia × 3" face × teeth
4	Gear	38" dia × 3" face × teeth
5	2½ ϕ ×	Shaft - to drive wheels
6	2½ ϕ × 29"	Gear shafts
7	shaft bearings	
8	½" × 3" × 9'-5"	steel brace
9	1"	ratchet release shaft
10	locking pawl	
11	release dog	
12	ratchet - 12 teeth	
13	outer ratchet pawl arm	
14	pawl arm brace	
15	inner ratchet pawl arm	
16	pawl arm brace	
17	spacing collar	
18	5"×6" blocking	
19	3"×5" braces	
20	special shaft bearing	
21	wheel - 70" dia.	
22	wheel - 66" dia	
23	pawl release lever bracket	
24	pawl release lever	
25	release lever hook	
26	take up drum	



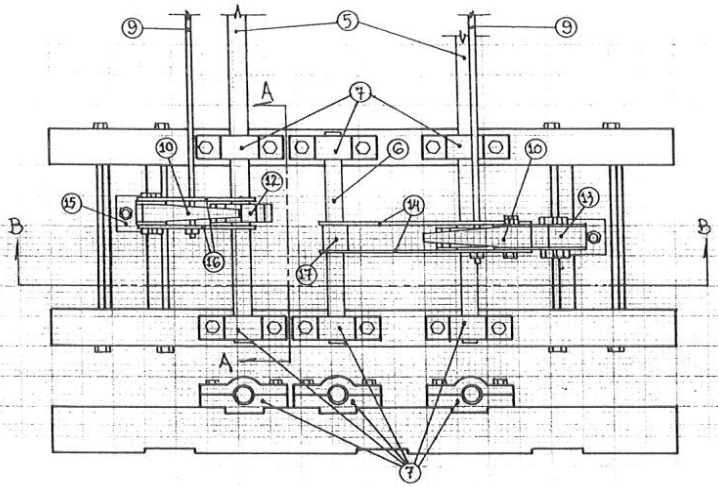
Plan

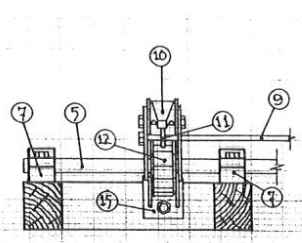


Outboard Elevation
see notes 2 & 4

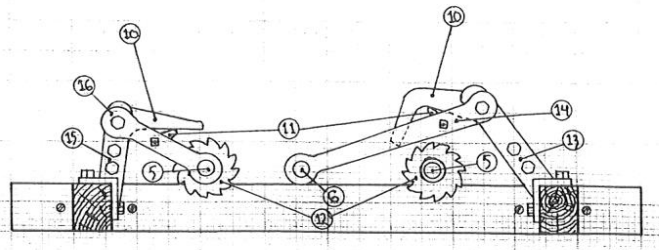
Scale

BALTº & OHIO R.R. Marine Transfer Bridge
Loc: St. George, Staten Is.
Mooring Winch
DRAWN BY: T. Griffiths FROM FIELD NOTES & MEAS.
DATE: 21 JAN 80
Plate 16 of 24
Pl. 16

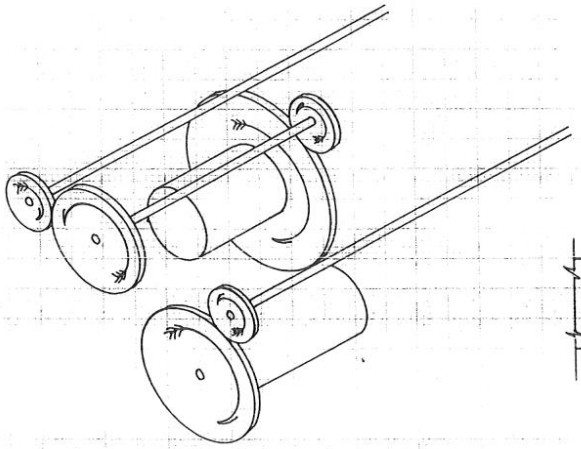




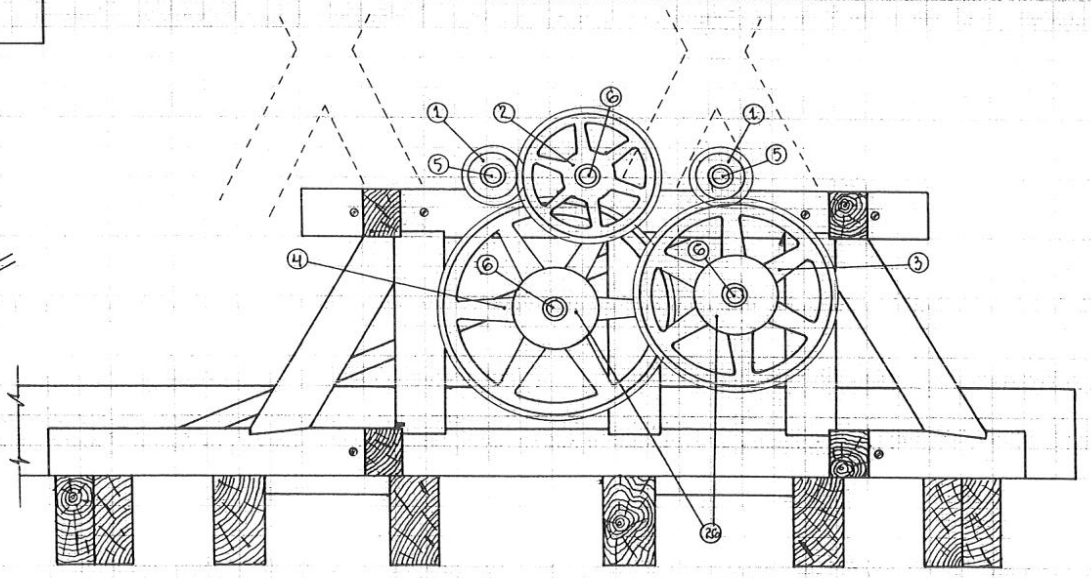
Section A-A



Section B-B

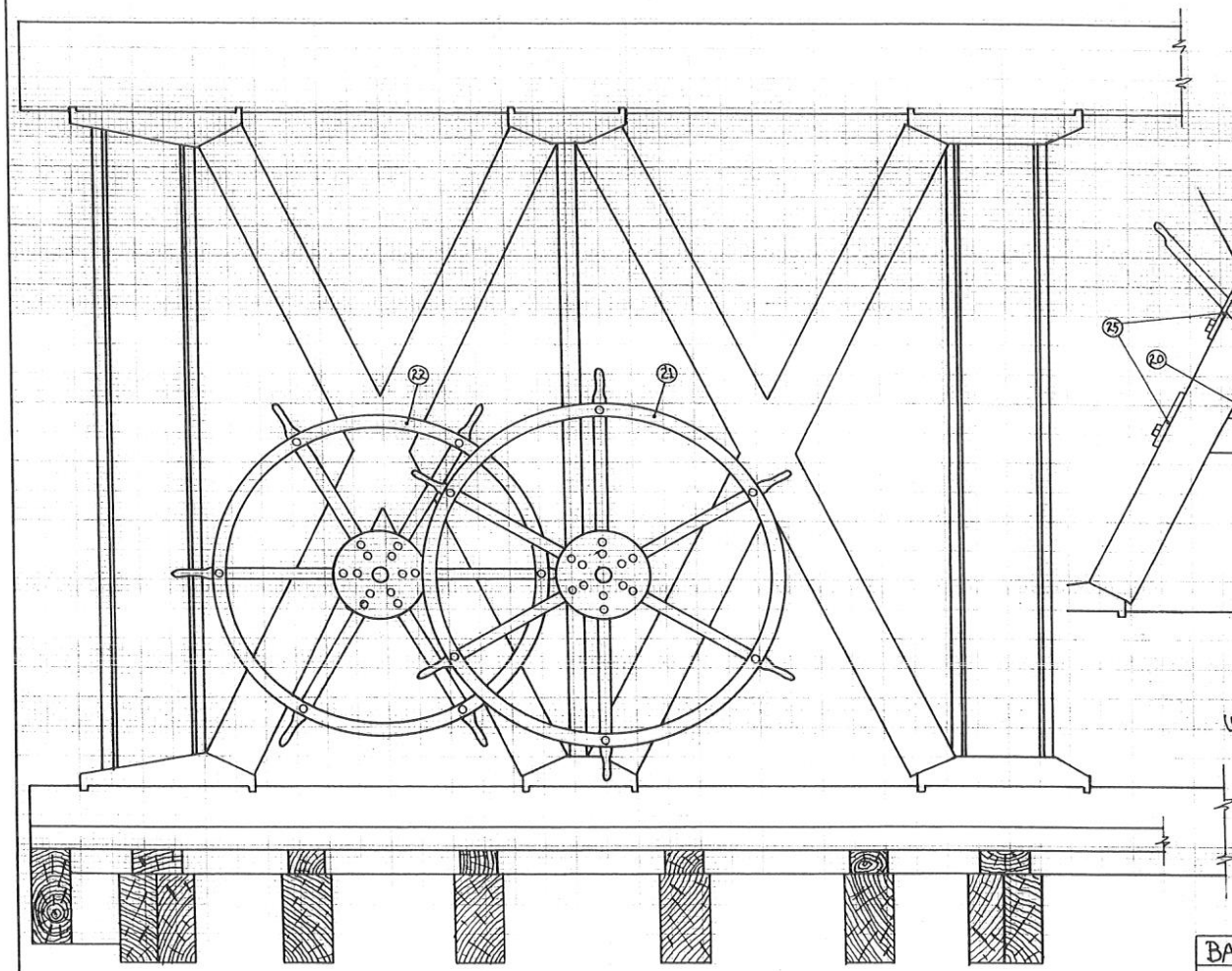


Schematic Showing
Gear Rotation

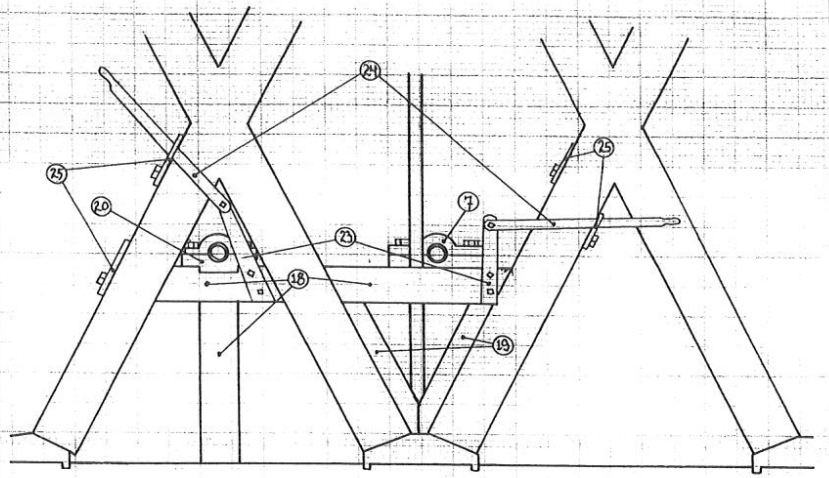


Longitudinal Section

BALTº & OHIO R.R.ᵞ Marine Transfer Bridge		
Loc: St. George, Staten Is.		Mooring Winch details
DRAWN BY: T. Griffiths	FROM FIELD NOTES & MEAS.	
DATE: 1 Feb 80	Plate 17 of 24	Pl. 17



Inboard Elevation

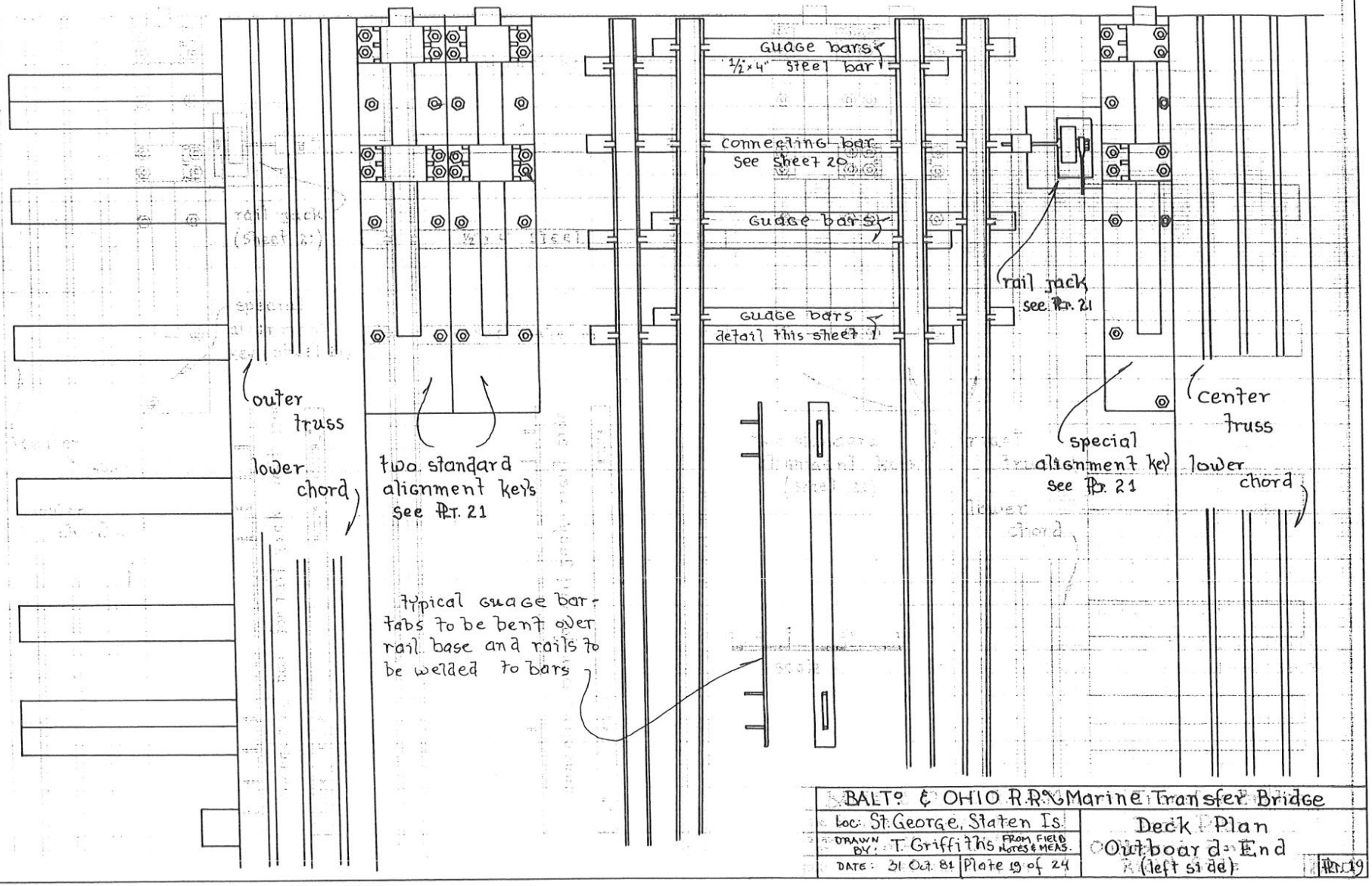


Inboard Elevation
Wheels ommited to show detail

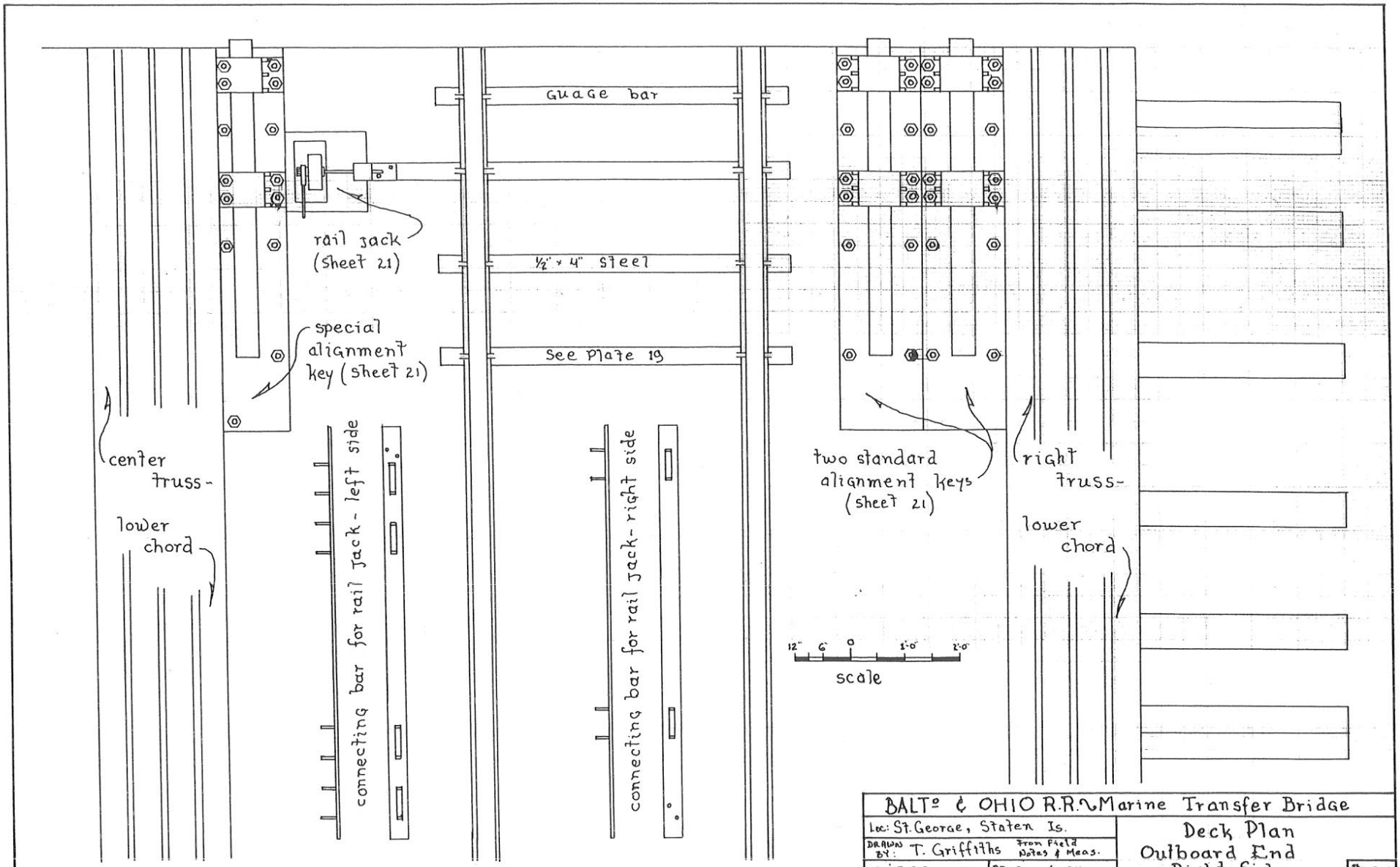
Scale

BALTº & OHIO R.R. Marine Transfer Bridge	
Loc: St. George, Staten Is.	Mooring Winch Details
DRAWN BY: T. Griffiths FROM FIELD NOTES & MEAS.	
DATE: 3 Feb 80	Plate 18 of 24

PLT. 18



BALTº & OHIO R.R.º Marine Transfer Bridge		
Loc: St George, Staten Is.		Deck Plan Outboard End (left side)
DRAWN BY: T. Griffiths FROM FIELD NOTES & MEAS.		
DATE: 31 Oct. 81	Plate 19 of 24	Pt. 19

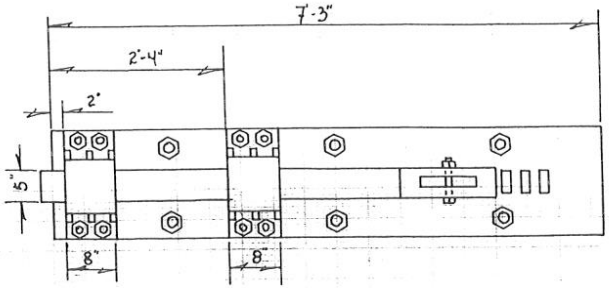


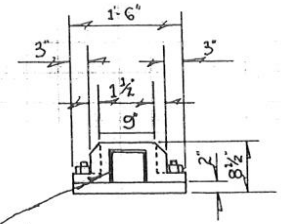
BALTº & OHIO R.R.~Marine Transfer Bridge

Loc: St. George, Staten Is.		Deck Plan Outboard End Right Side
DRAWN BY: T. Griffiths	From Field Notes & Meas.	
Date: 7 July 1984	Pl 20 of 24	Pl. 20

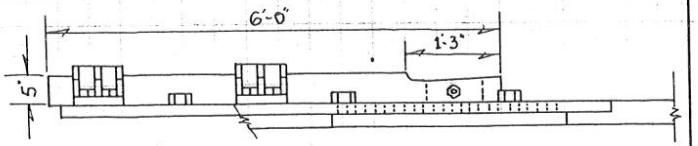
Standard Keys

Note: four of this style needed, two hard by each outside truss.





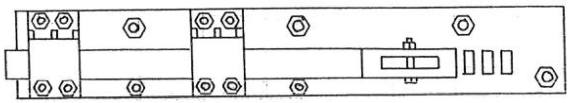
Note: keyway to measure 5¼" sq.

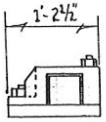


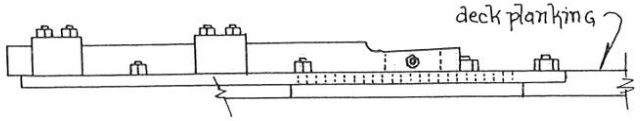
Note: 12 slots, 1½" × 4" - spaced 3' c. to c. for oak locking wedges. deck beneath slots to be cut away to clear wedges.

Special Keys

Note: two of this style needed (one left hand and one right hand), one each side of center truss.

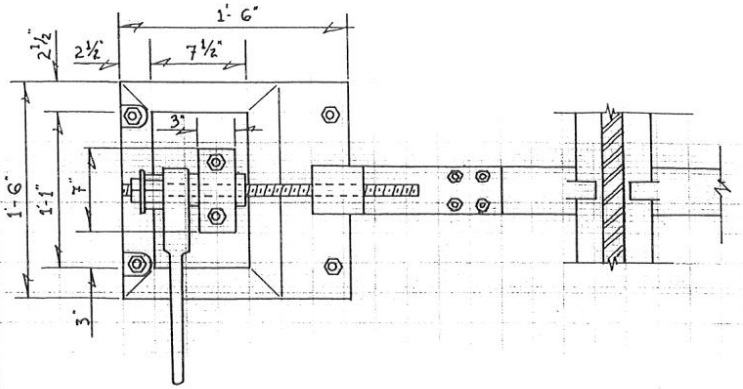


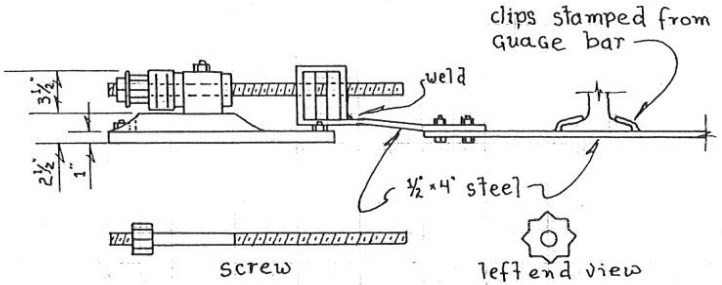




Float Alignment Keys

12" 6" 0 1'
Scale



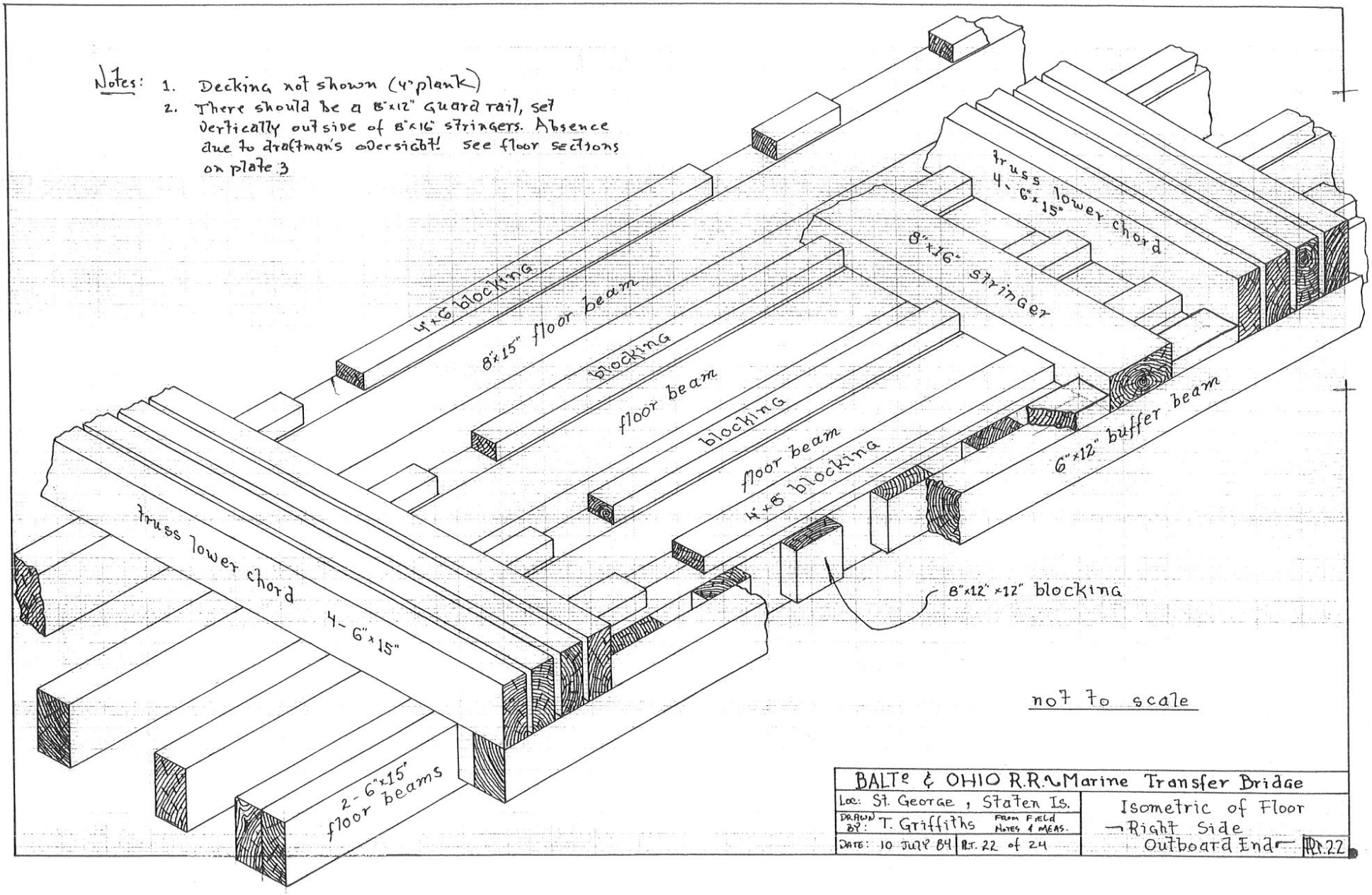


Note: operating handle engages gear to turn screw in either direction. handle slides off gear to right to freewheel back to opposite side

Alignment Jack for Rails

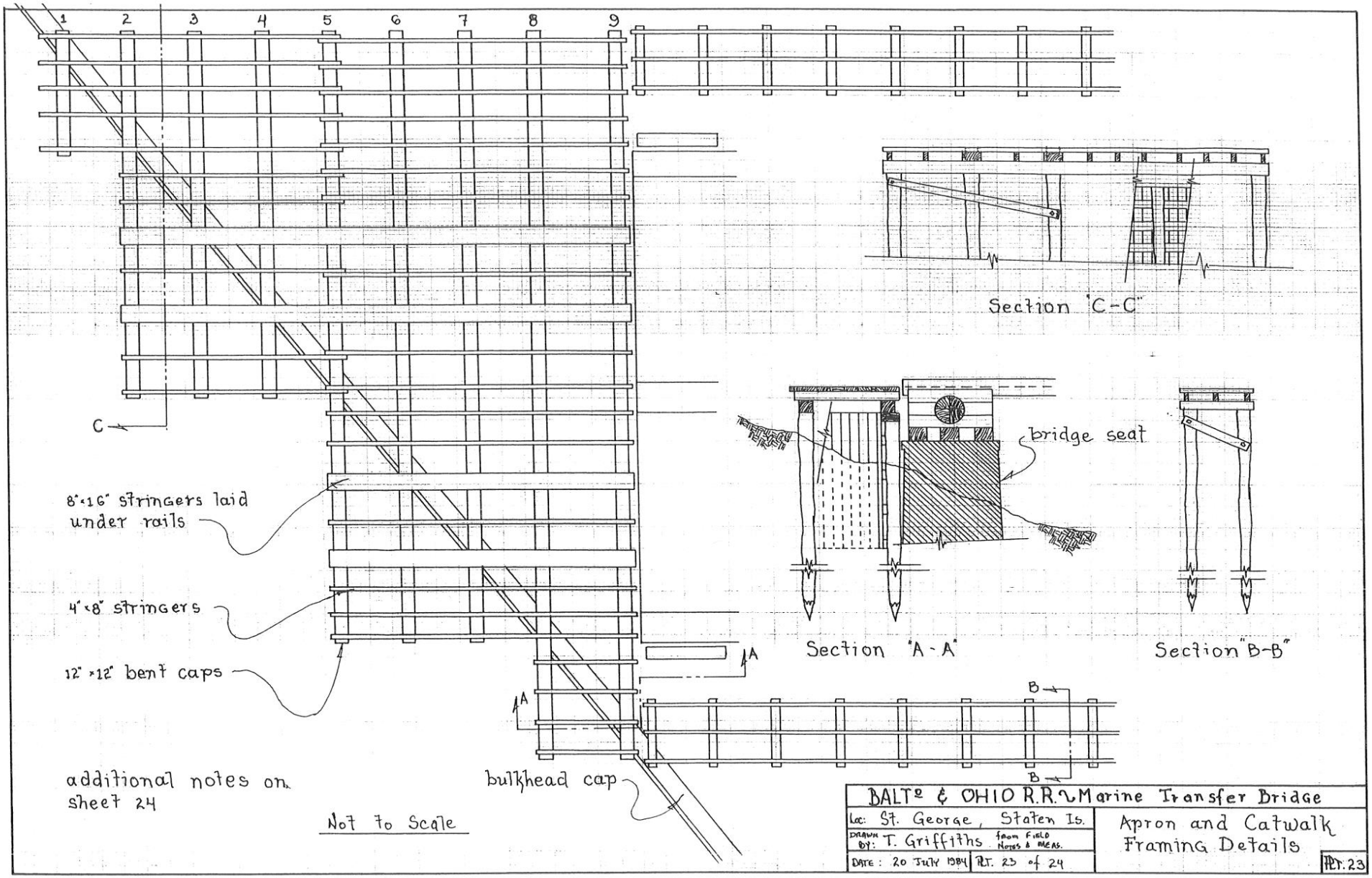
Loc: B&O R.R. Marine Transfer Bridge	
Loc: St. George, Staten Is.	Car Float Alignment Keys Rail Alignment Jacks
DRAWN BY: T. Griffiths FROM FIELD NOTES & MEAS.	
DATE: 8 JULY 84 | PT. 21 of 24	Pt.21

Notes:
1. Decking not shown (4" plank)
2. There should be a 8"x12" guard rail, set vertically outside of 8"x16" stringers. Absence due to draftman's oversight! See floor sections on plate 3



not to scale

BALTe & OHIO R.R. Marine Transfer Bridge		
Loc: St. George, Staten Is.		Isometric of Floor — Right Side Outboard End — Pl. 22
DRAWN BY: T. Griffiths	From Field Notes & Meas.	
DATE: 10 July 84	Pl. 22 of 24	



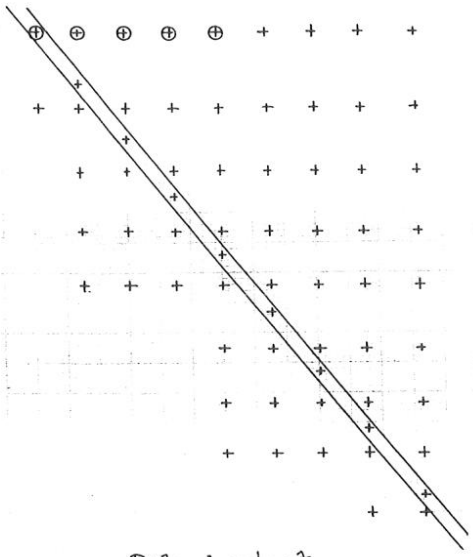
additional notes on sheet 24

Not to Scale

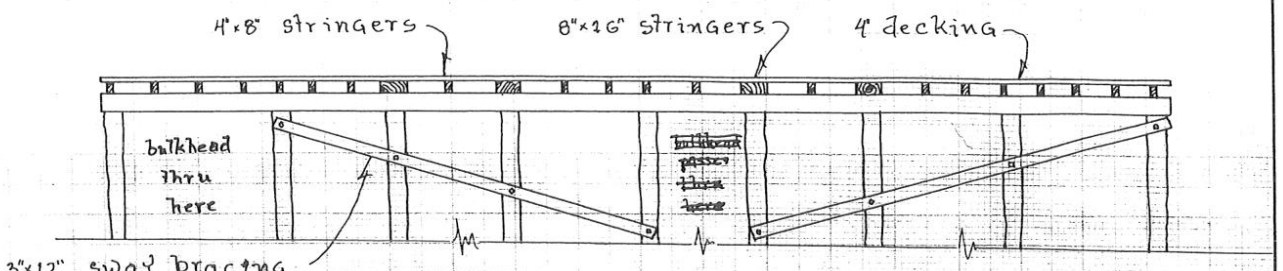
BALT° & OHIO R.R. ~ Marine Transfer Bridge	
Loc: St. George, Staten Is.	Apron and Catwalk Framing Details
DRAWN BY: T. Griffiths from Field Notes & Meas.	
DATE: 20 July 1984	PLT. 23 of 24

PLT. 23

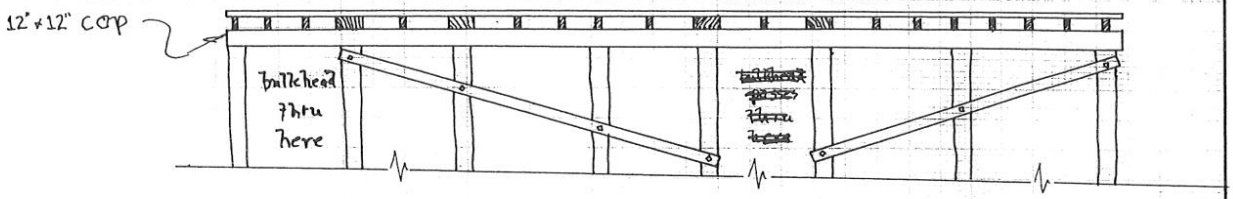
All Elevations on this Sheet Looking towards Shore



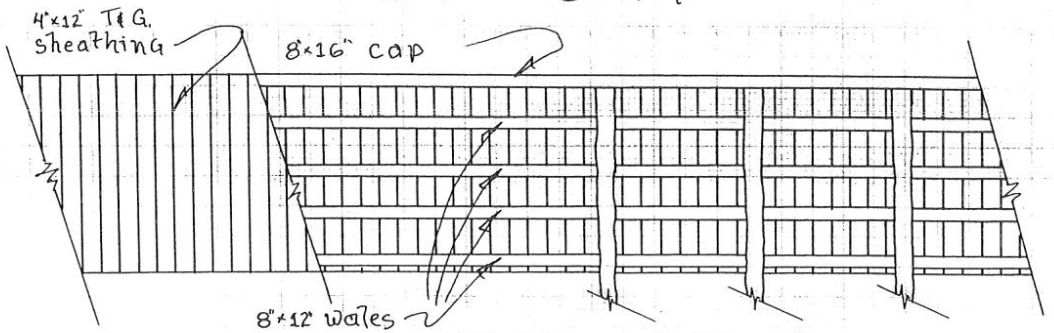
Pile Layout
(half scale)



Elevation - Bent 9



Elevation - Bent 7



Elevation - Bulkhead

Notes:

1. All piles to be min. 12" dia. at butt and min 5" dia at point before sharpening.
2. Sway bracing to contact three or four piles, and, if needed, to be placed one piece on each side of bulkhead.
3. 8"×16" stringers to be continious over apron.
4. 4"×8" stringers may be broken at bent 5 if longer stock not at hand.
5. Apron decking joints to be made over a stringer, but not over 8"×16" stringers.
6. After all bents are complete, the area behind the bulkhead to be solidly filled with broken rock, then stringers and decking placed.

0 3' 6'
scale

BALTº & OHIO R.R. — Marine Transfer Bridge		
Loc: St. George, Staten Is.		Apron and bulkhead Framing Details
DRAWN BY: T. Griffiths	from Field Notes & Meas.	
DATE: 26 JULY 1984	PLATE 24 of 24	PL. 24