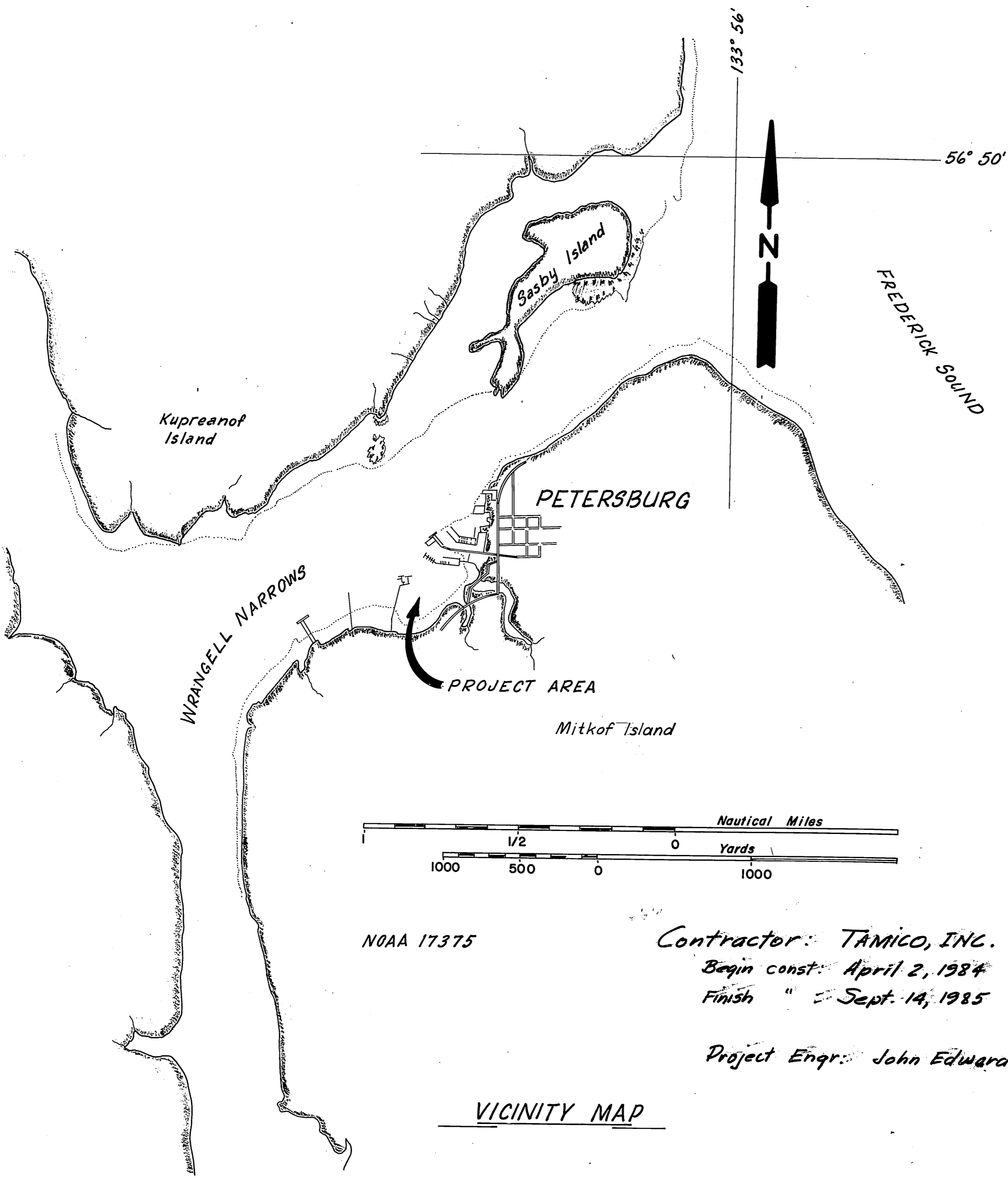
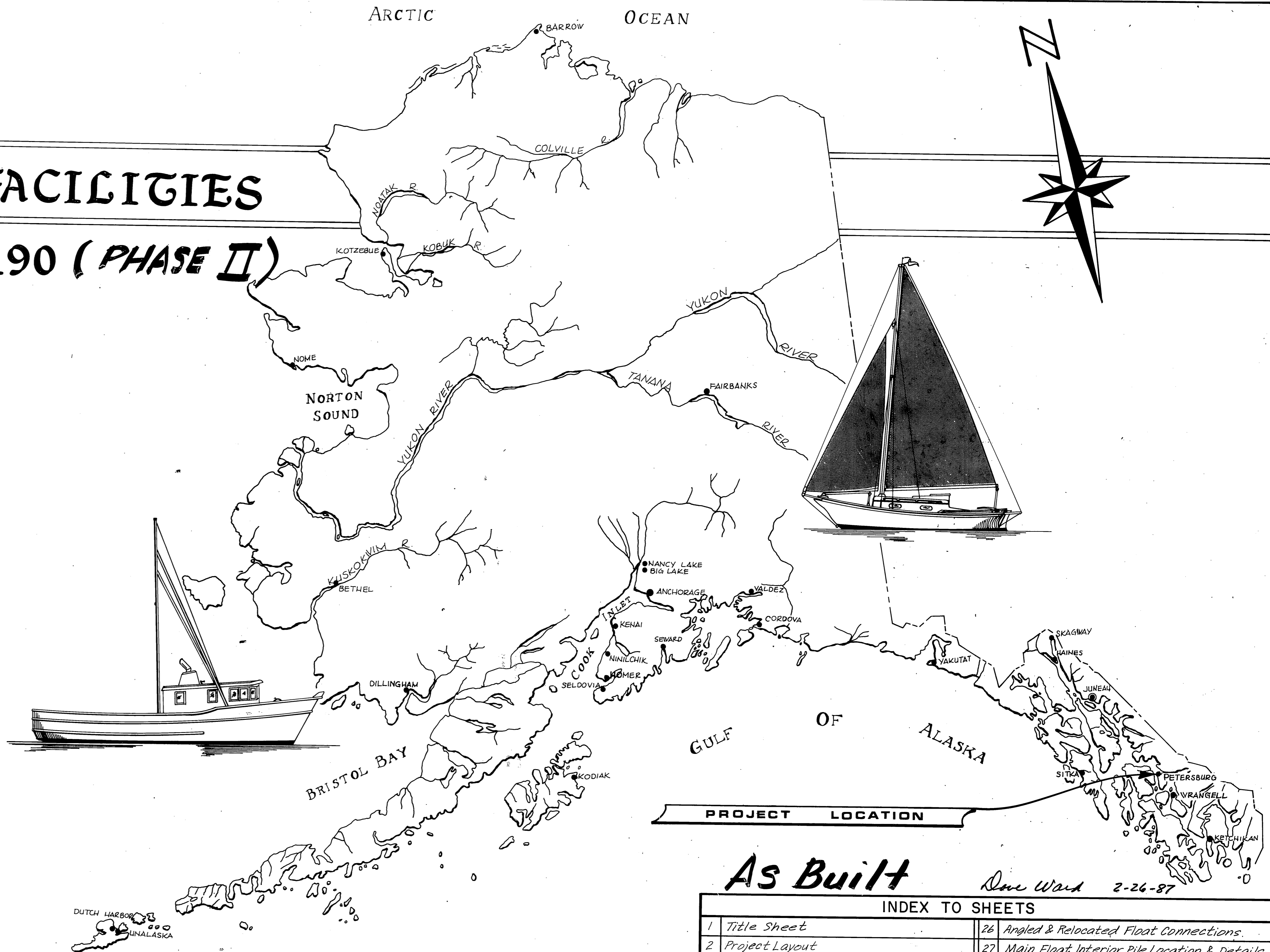


PETERSBURG HARBOR FACILITIES

PROJECT NO. K78190 & K33190 (PHASE II)



Contractor: **TAMICO, INC.**
 Begin const: April 2, 1984
 Finish " " Sept. 14, 1985
 Project Engr.: John Edwards - Dave Ward



WORK SUMMARY

This project will consist of the following principal items of work:

1. Constructing a 16'x76' Prestressed Concrete Approach.
2. Constructing one, 7'-5" x 65'-0" Steel Gangway.
3. Constructing approximately 39,216 sq. ft. of Concrete Floats.
4. Relocating, Repairing, 4, existing Stall Floats and Removing associated Piling.
5. Constructing approximately 2400 sq. ft. of Timber Float.
6. Furnishing and Driving 144 steel piles for Approach, Concrete Floats, Timber Float and Dolphins.
7. Constructing a Dry Fire Line System.
8. Constructing an Electrical Power and Lighting System.

As Built Done Work 2-24-87

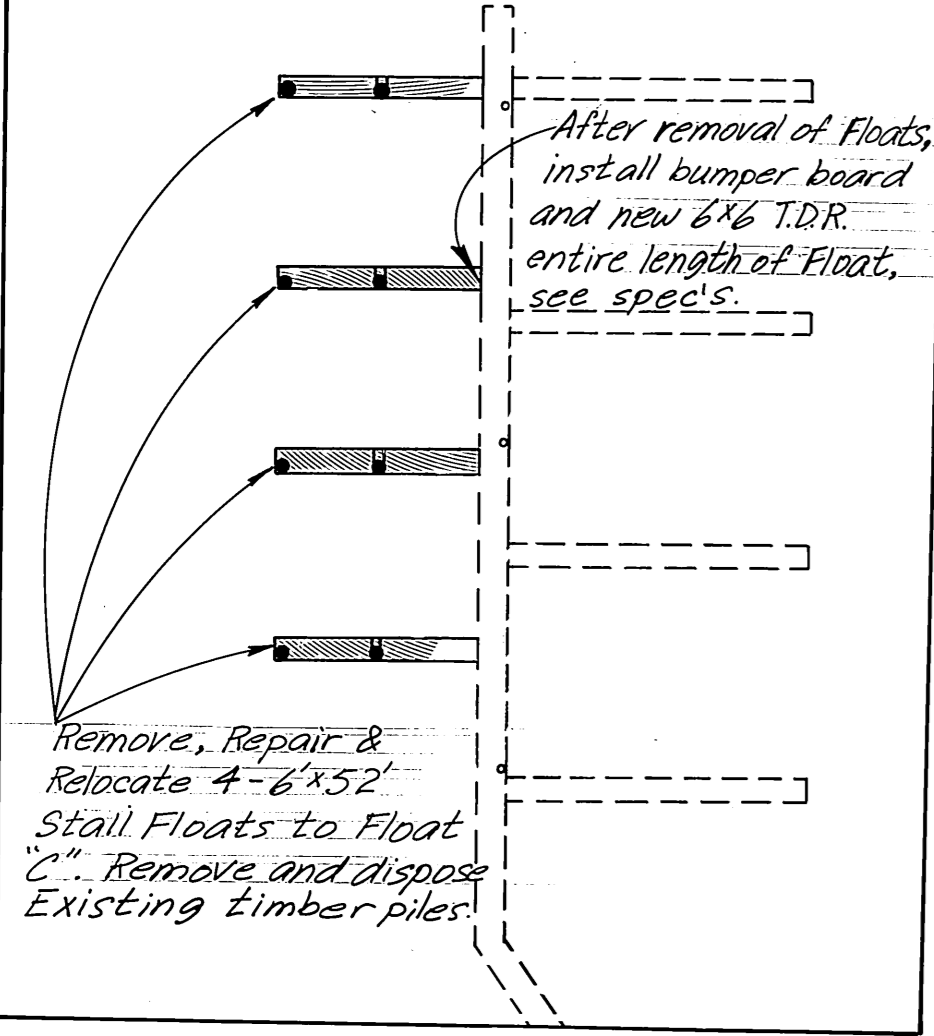
INDEX TO SHEETS	
1 Title Sheet	26 Angled & Relocated Float Connections.
2 Project Layout	27 Main Float Interior Pile Location & Details
3 Approach Layout	28 Pile Collar Details
4/5 Approach Details	29 16' Timber Special Use Float
6/7 Covered Steel Gangway	30 Dolphins.
8 Main & Finger Float Unit Layout By Type	31 Upland Water System Layout & Details
9 Float Layout A, B & E	32 Water Main & Hydrant Thrust Blocks
10 Float Layout C & E	33 Dry Fire Line Layout
11 Float Layout D, E & F	34 Standpipe To Float Details
12 Gangway Float	35 Finger Float Service Details
13 Typical 8'x8' and 8'x10' Float Units	36 Hydrant & Valve Details
14 Typical 8'x12' Float Unit	37 Expansion/Contraction Assembly
15/16 Utility Trench Intersections Float E & F	38 Dry Fire Line Misc. Details
17 Utility Trench Intersections Float A,B,C & D	39 Utility Details & Fire Extinguisher Cabinet
18/19 Typical Stall Float Units	40 Lighting Plan
20 3'x30' Stall Float	41 Power Plan
21 Gangway Float Connection Details	42-45 Electrical Details
22 Float Connection & Misc. Details	46 Electrical Diagram
23 Float E & F Connection Details	
24 8'x12' Special End Unit and Connection	
25 Typical Stall Float Connection	

STATE OF ALASKA

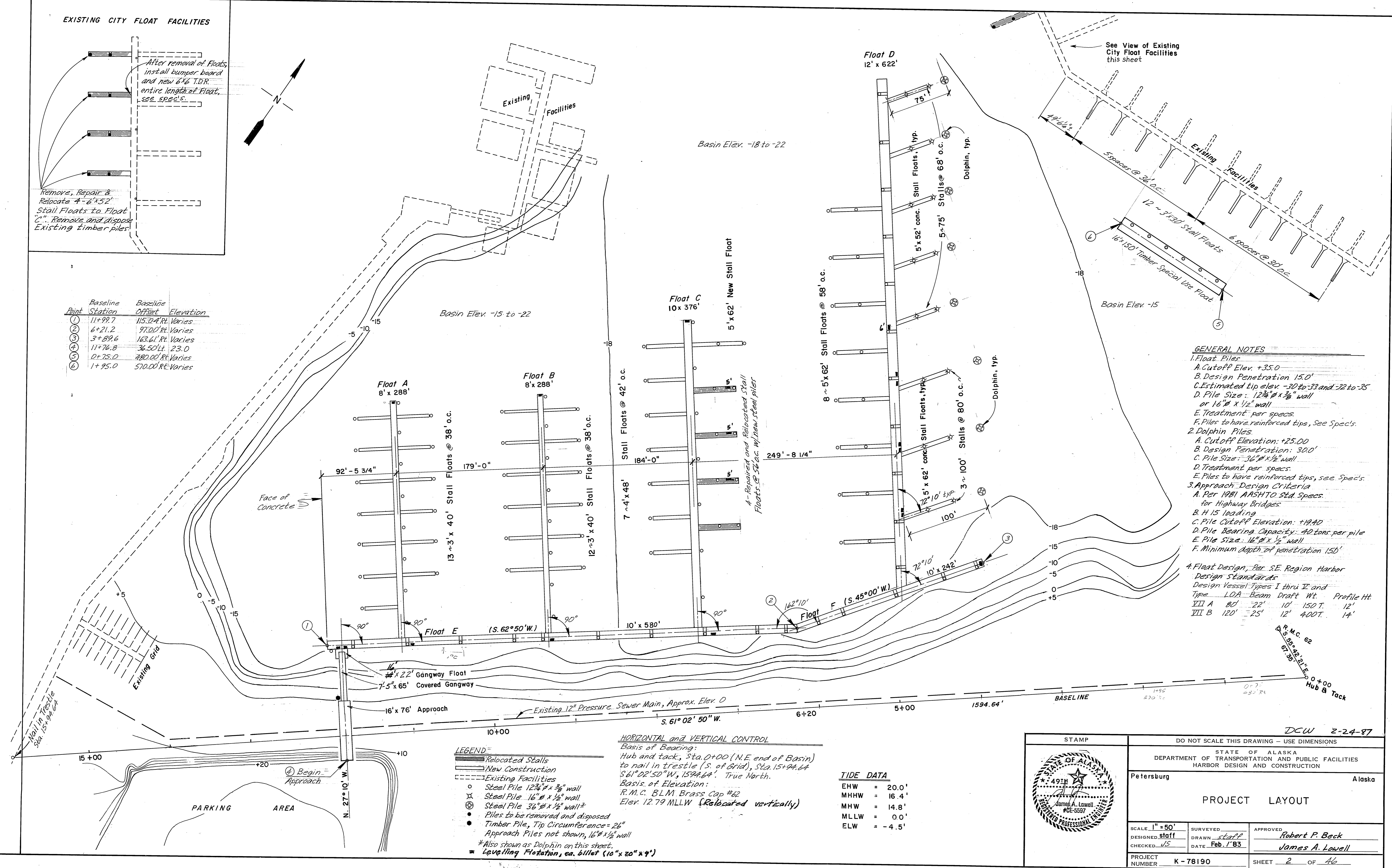
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
S.E. REGION
HARBOR DESIGN & CONSTRUCTION

APPROVED
Charles S. Edwards 6-14-83
 DIRECTOR S.E. D. & C. DATE
 RECOMMEND FOR APPROVAL *Harold P. ...* 6/14/83
 CHIEF S.E. HARBOR D. & C. DATE
 SHEET 1 OF 46

EXISTING CITY FLOAT FACILITIES



Point	Station	Baseline Offset	Elevation
1	11+99.7	115.00 Rt. Varies	
2	6+21.2	97.00 Rt. Varies	
3	3+89.6	163.61 Rt. Varies	
4	11+76.8	36.50 Lt. 23.0	
5	0+75.0	780.00 Rt. Varies	
6	1+95.0	570.00 Rt. Varies	



- GENERAL NOTES**
- Float Piles
 - A. Cutoff Elev. +35.0
 - B. Design Penetration 15.0'
 - C. Estimated tip elev. -30 to -33 and -22 to -25
 - D. Pile Size: 12 3/4" x 3/8" wall or 16" x 1/2" wall
 - E. Treatment per specs.
 - F. Piles to have reinforced tips, See Specs.
 - Dolphin Piles
 - A. Cutoff Elevation: +25.00
 - B. Design Penetration: 30.0'
 - C. Pile Size: 36" x 1/8" wall
 - D. Treatment per specs.
 - E. Piles to have reinforced tips, see Specs.
 - Approach Design Criteria
 - A. Per 1981 AASHTO Std. Specs. for Highway Bridges
 - B. H 15 loading
 - C. Pile Cutoff Elevation: +19.40
 - D. Pile Bearing Capacity: 40 tons per pile
 - E. Pile Size: 16" x 1/2" wall
 - F. Minimum depth of penetration 150'
 - Float Design, Per S.E. Region Harbor Design Standards
 - Design Vessel Types I thru IV and Type VII
 - LOA - Beam Draft Wt. Profile Ht.
 - VII A 80' 22' 10' 150 T. 12'
 - VII B 120' 25' 12' 400 T. 14'

- LEGEND**
- Relocated Stalls
 - New Construction
 - Existing Facilities
 - Steel Pile 12 3/4" x 3/8" wall
 - Steel Pile 16" x 1/2" wall
 - Steel Pile 36" x 1/8" wall*
 - Piles to be removed and disposed
 - Timber Pile, Tip Circumference = 26"
 - Approach Piles not shown, 16" x 1/2" wall
 - *Also shown as Dolphin on this sheet.
 - Levelling Flotation, ea. billet (10" x 20" x 9")

HORIZONTAL and VERTICAL CONTROL
 Basis of Bearing:
 Hub and tack, Sta. 0+00 (N.E. end of Basin) to nail in trestle (S. of Grid), Sta. 15+94.64 S 61° 02' 50" W, 1594.64'. True North.
 Basis of Elevation:
 R.M.C. BLM. Brass Cap #62
 Elev. 12.79 MLLW (Relocated vertically)

TIDE DATA

EHW	= 20.0'
MHHW	= 16.4'
MHW	= 14.8'
MLLW	= 0.0'
ELW	= -4.5'

STAMP

DO NOT SCALE THIS DRAWING - USE DIMENSIONS

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
 HARBOR DESIGN AND CONSTRUCTION

Petersburg Alaska

PROJECT LAYOUT

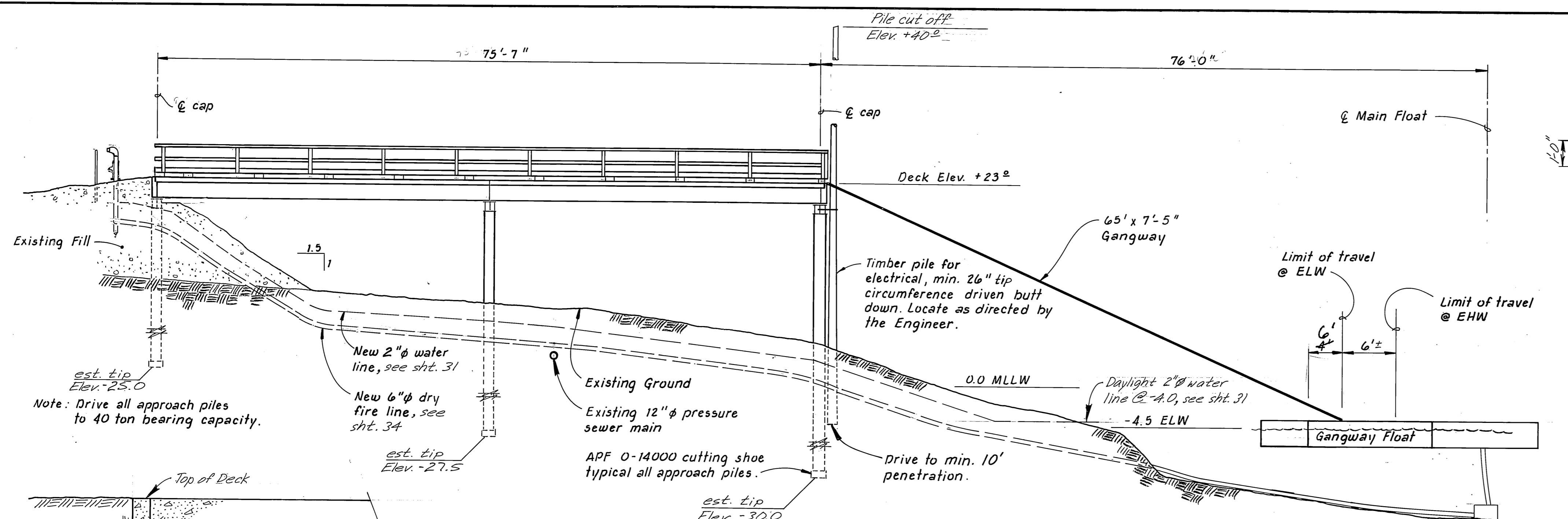
DCW 2-24-87

SCALE: 1" = 50'
 DESIGNED staff
 CHECKED JS
 DATE Feb. 1'83

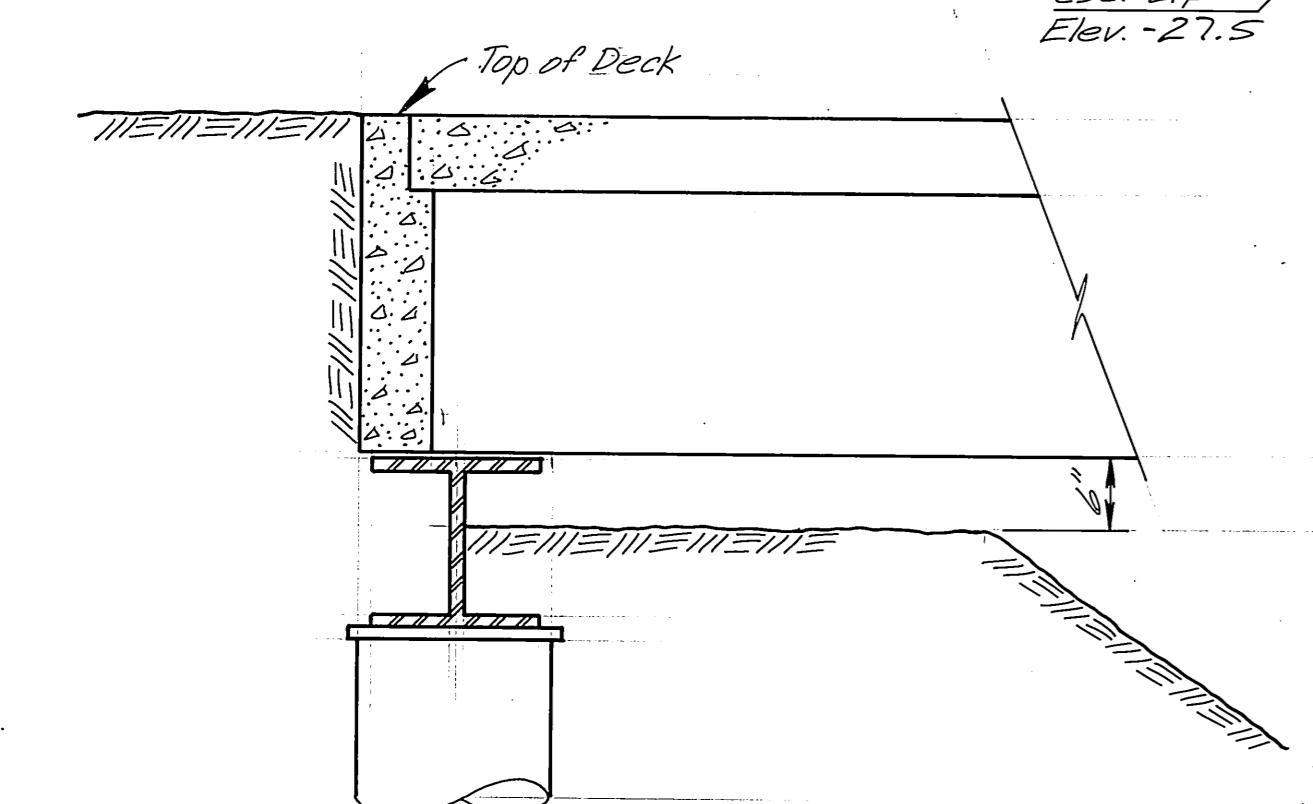
APPROVED
 Robert P. Beck
 James A. Lowell

PROJECT NUMBER K-78190
 SHEET 2 OF 46

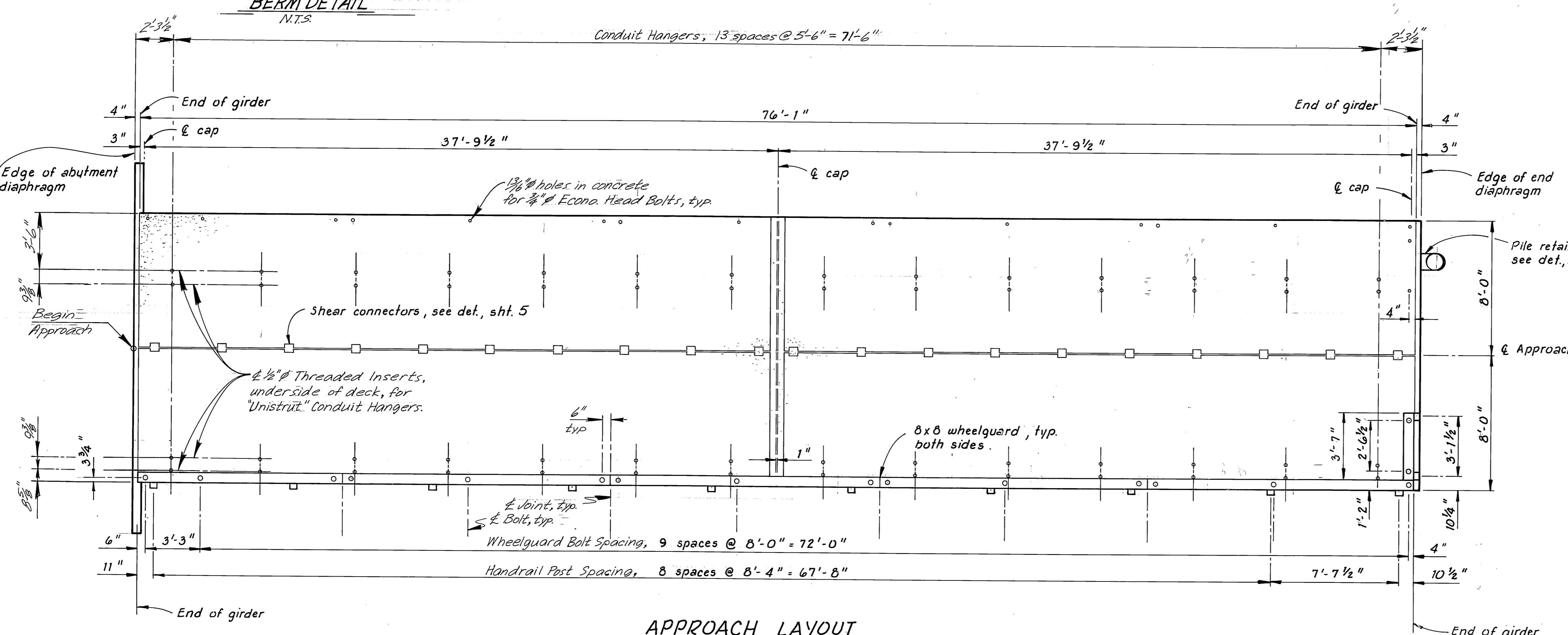
SOUTH HARBOR



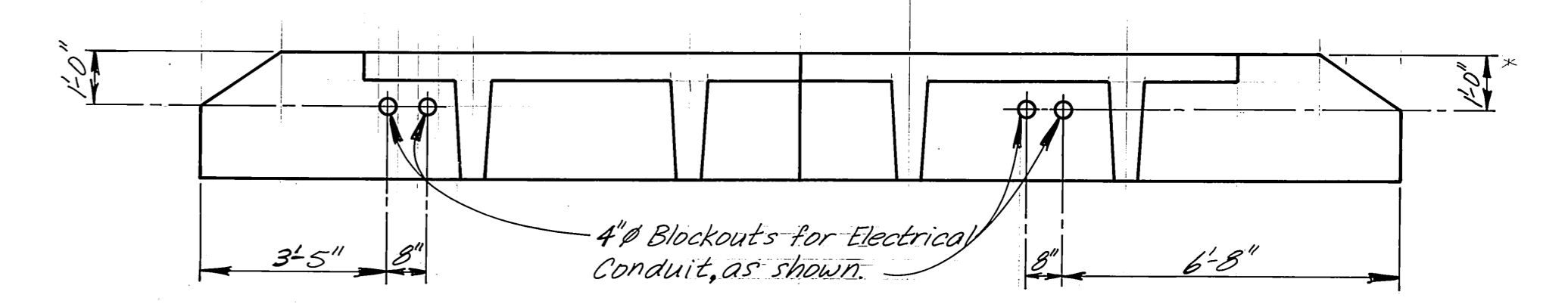
APPROACH ELEVATION
1/8" = 1'-0"



BERM DETAIL
N.T.S.

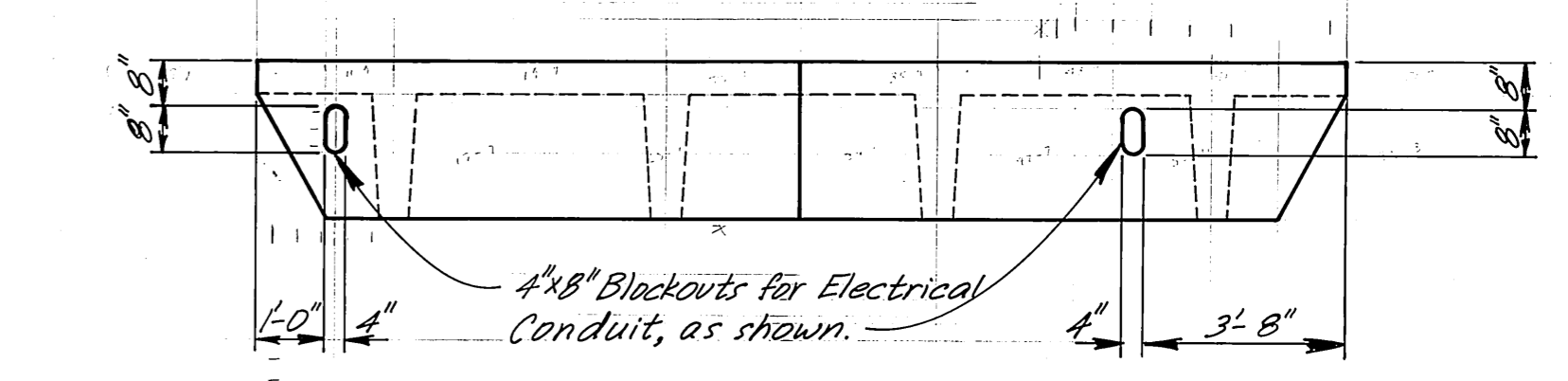


APPROACH LAYOUT
1/4" = 1'-0"

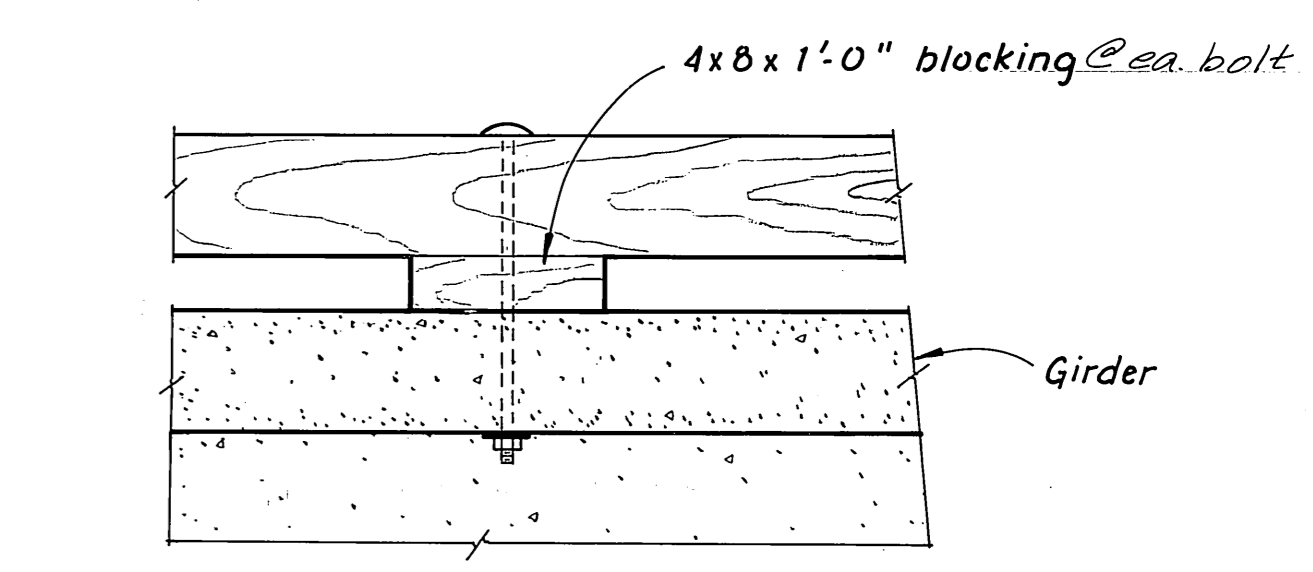


ABUTMENT DIAPHRAGM

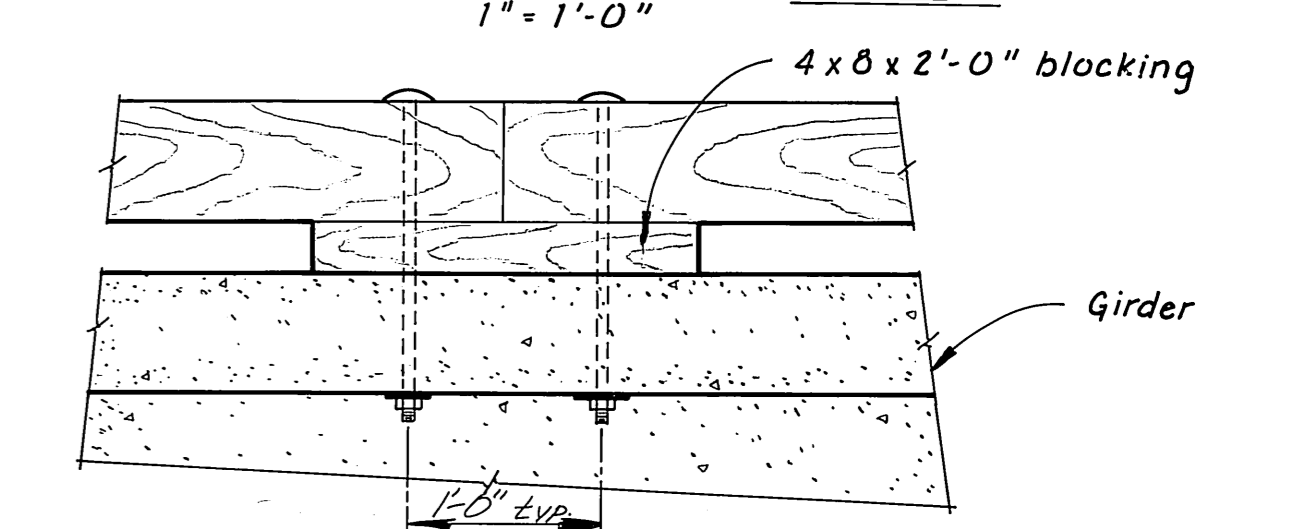
Note: Adjust reinforcing as req'd. to clear blockouts.



END DIAPHRAGM DIAPHRAGM BLOCKOUT
3/8" = 1'-0"

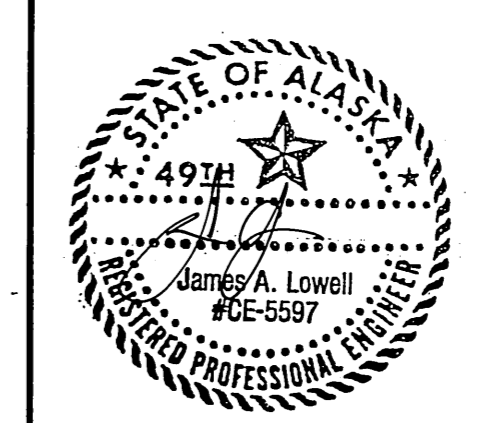


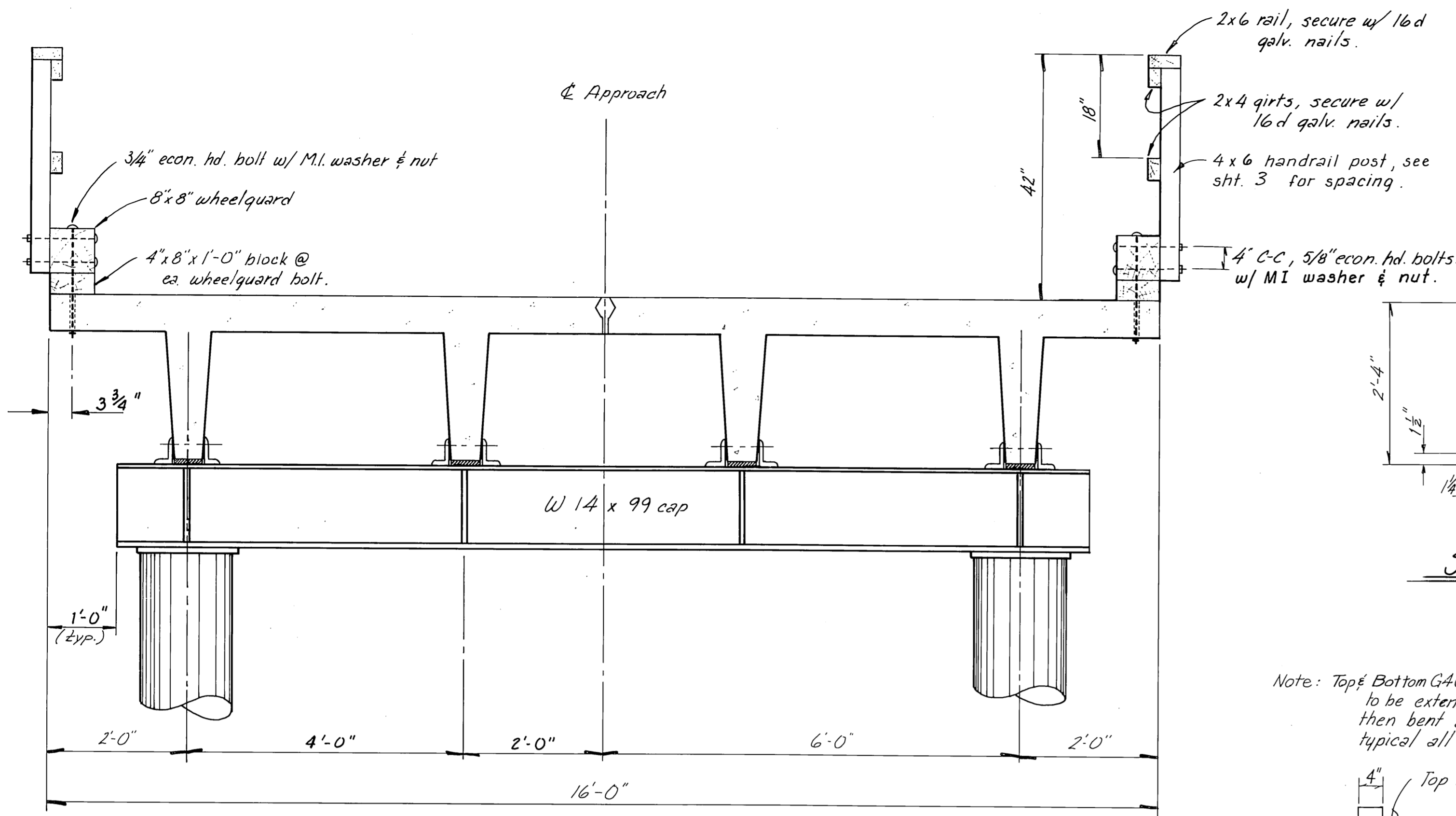
TYPICAL BLOCKING DETAIL
1" = 1'-0"



TYPICAL BUTT JOINT DETAIL
1" = 1'-0"

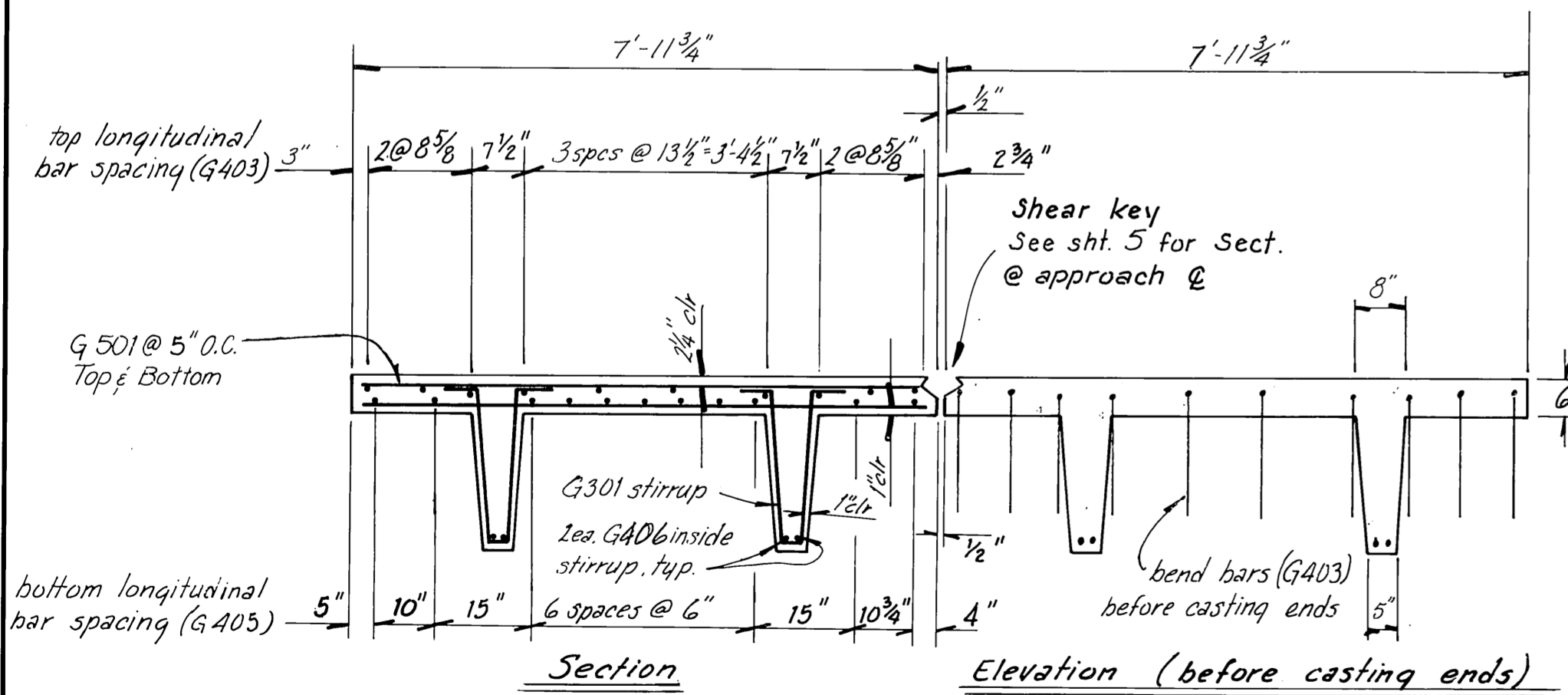
DCW 2-24-87	
DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES HARBOR DESIGN AND CONSTRUCTION	
Petersburg	Alaska
APPROACH LAYOUT	
SCALE: As Noted	SURVEYED: _____
DESIGNED: BS	DRAWN: 75
CHECKED: JS	DATE: 4-83
PROJECT NUMBER: K-78190	SHEET: 3 OF 46



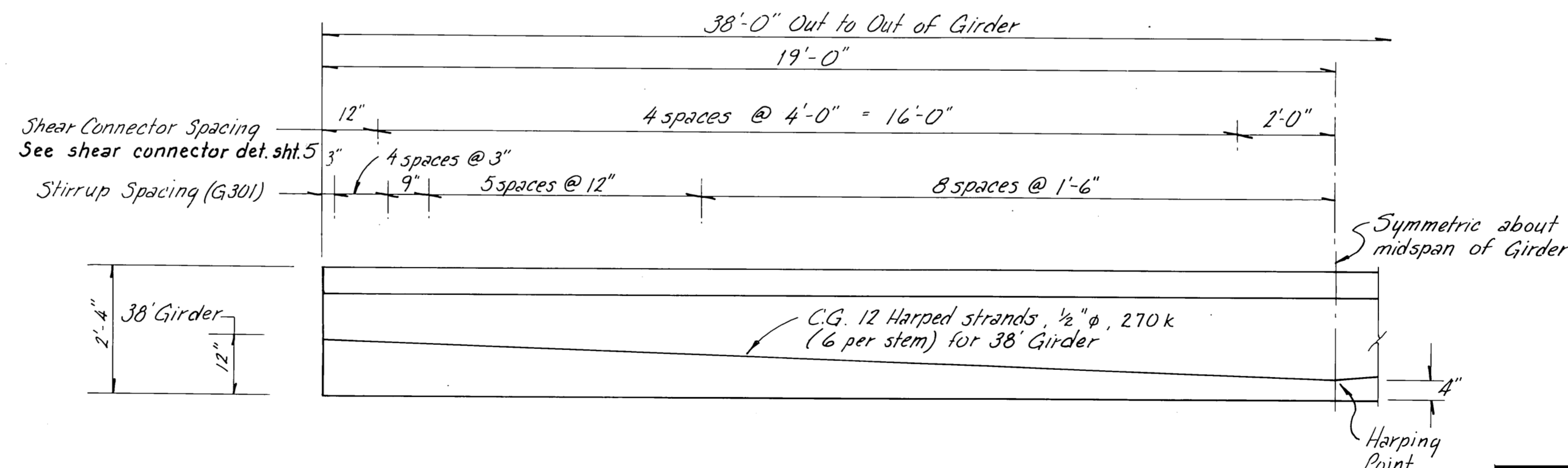


TYPICAL APPROACH SECTION
3/4" = 1'-0"

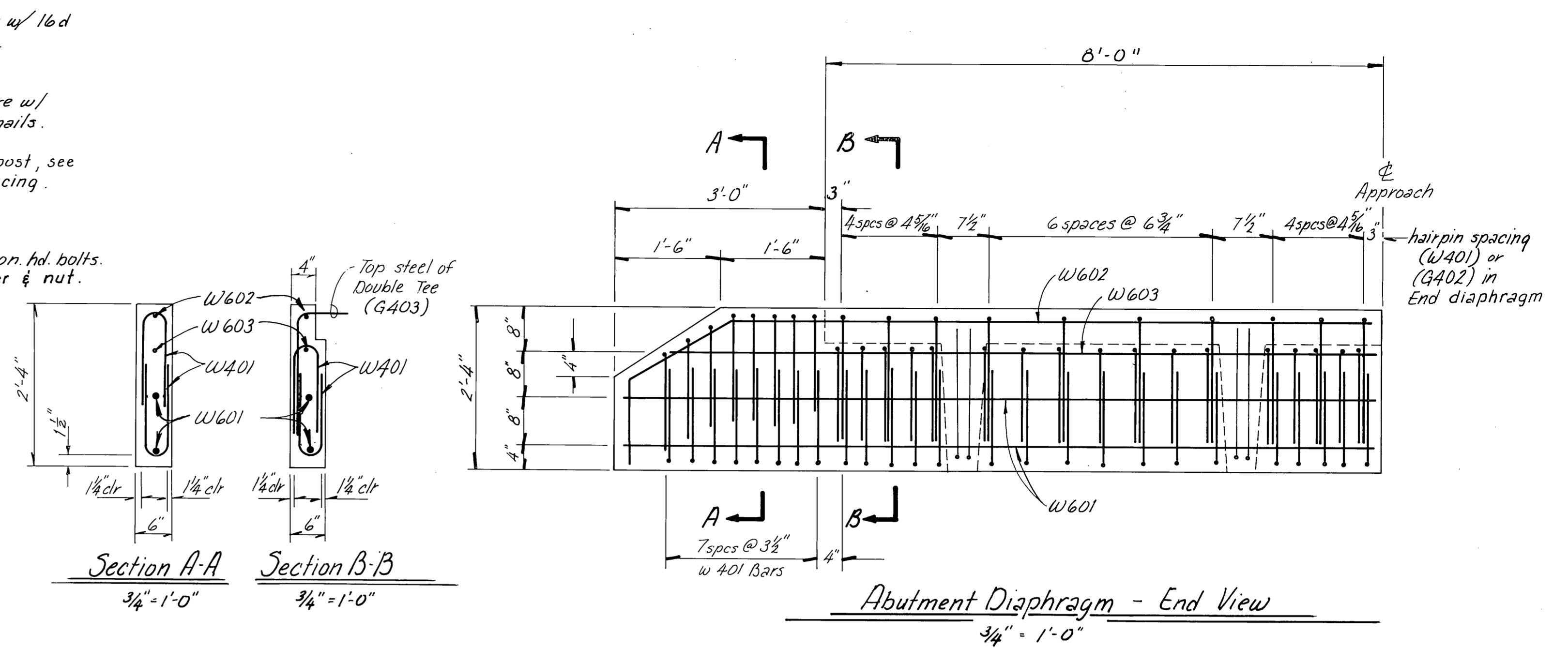
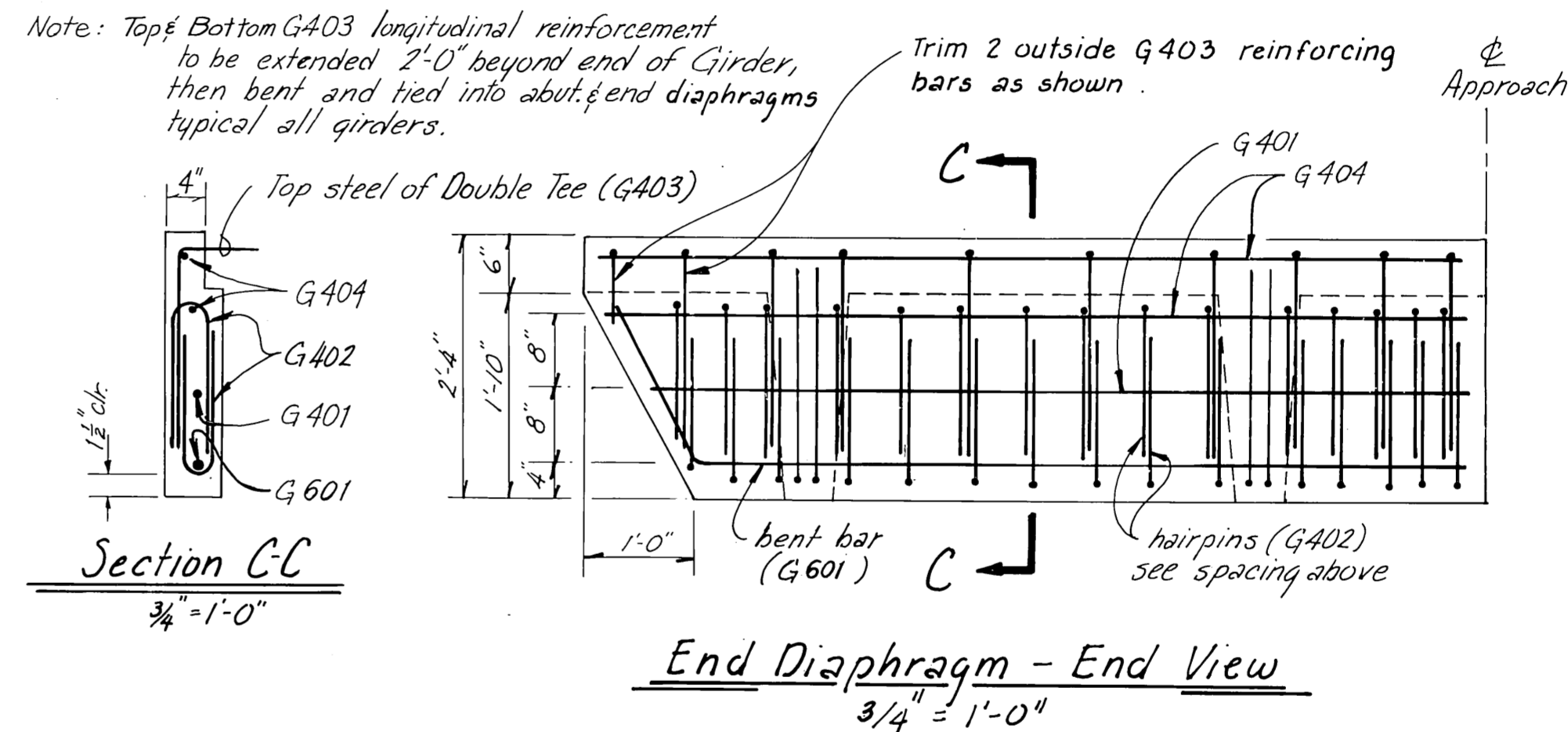
f'_c @ 28 days = 6000 psi.
 f'_c @ strand release = 4500 psi
 Jacking stress = 189 ksi
 After losses = 154 ksi
 Strand 1/2" ϕ , 270 ksi
 Approx. girder wt. = 35.3 kips.
 (w/o Diaphragms)



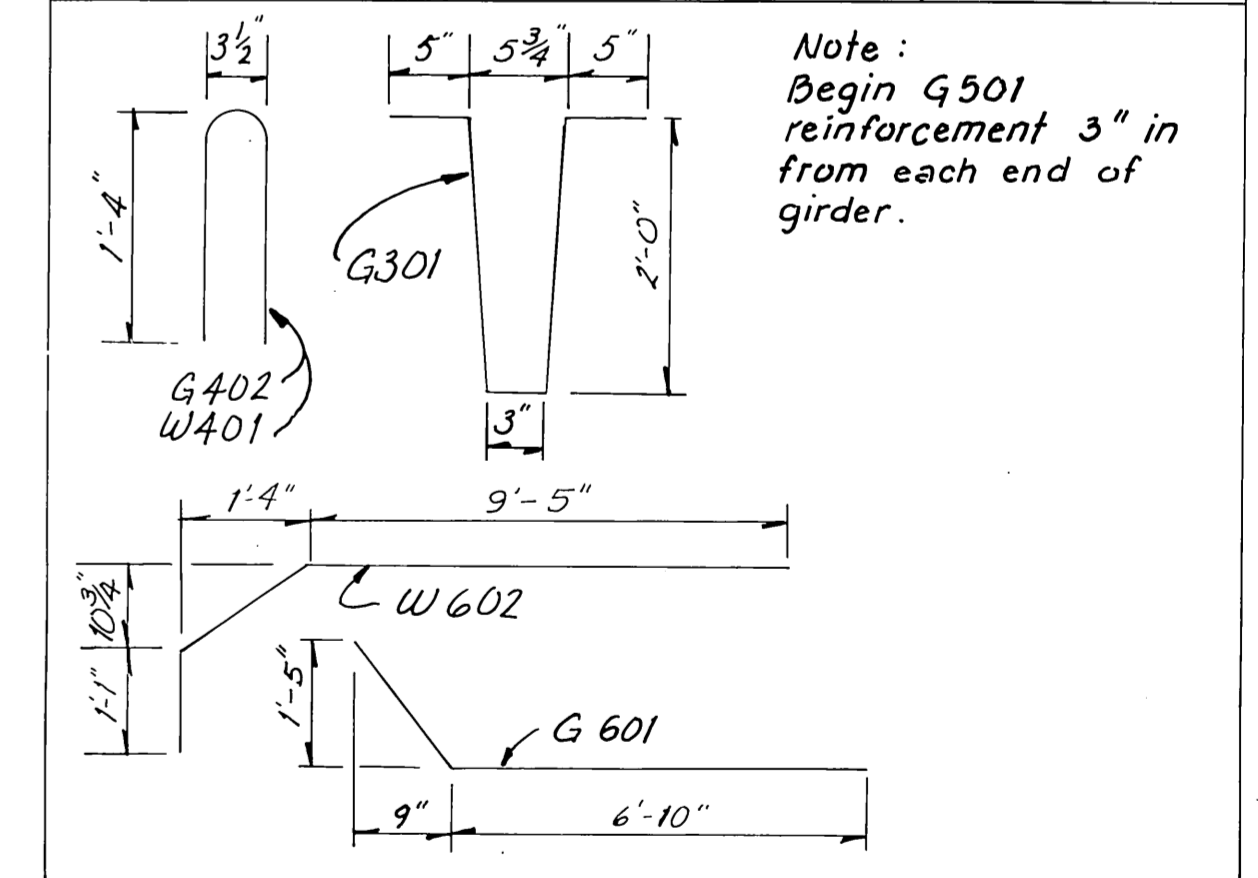
Girder Section
1/2" = 1'-0"



Girder Elevation
1/2" = 1'-0"



REINFORCING STEEL - ONE GIRDER				
Mark	Size	No.	Length	Type
G301	3	74	5'-3"	Bent
G405	4	11	37'-8"	
G401	4	1	7'-2"	
G402	4	30	2'-10"	Bent
G403	4	10	39'-10"	Bent
G404	4	2	7'-7"	
G501	5	182	7'-7"	
G601	6	1	9'-0"	Bent
W401	4	50	2'-10"	Bent
W601	6	2	10'-8"	
W602	6	1	12'-1"	Bent
W603	6	1	10'-1"	
G406	4	4	37'-6"	



- ① Girders with end diaphragms only.
- ② Girders with abutment diaphragm only.

STAMP

DO NOT SCALE THIS DRAWING - USE DIMENSIONS

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
 HARBOR DESIGN AND CONSTRUCTION

Petersburg Alaska

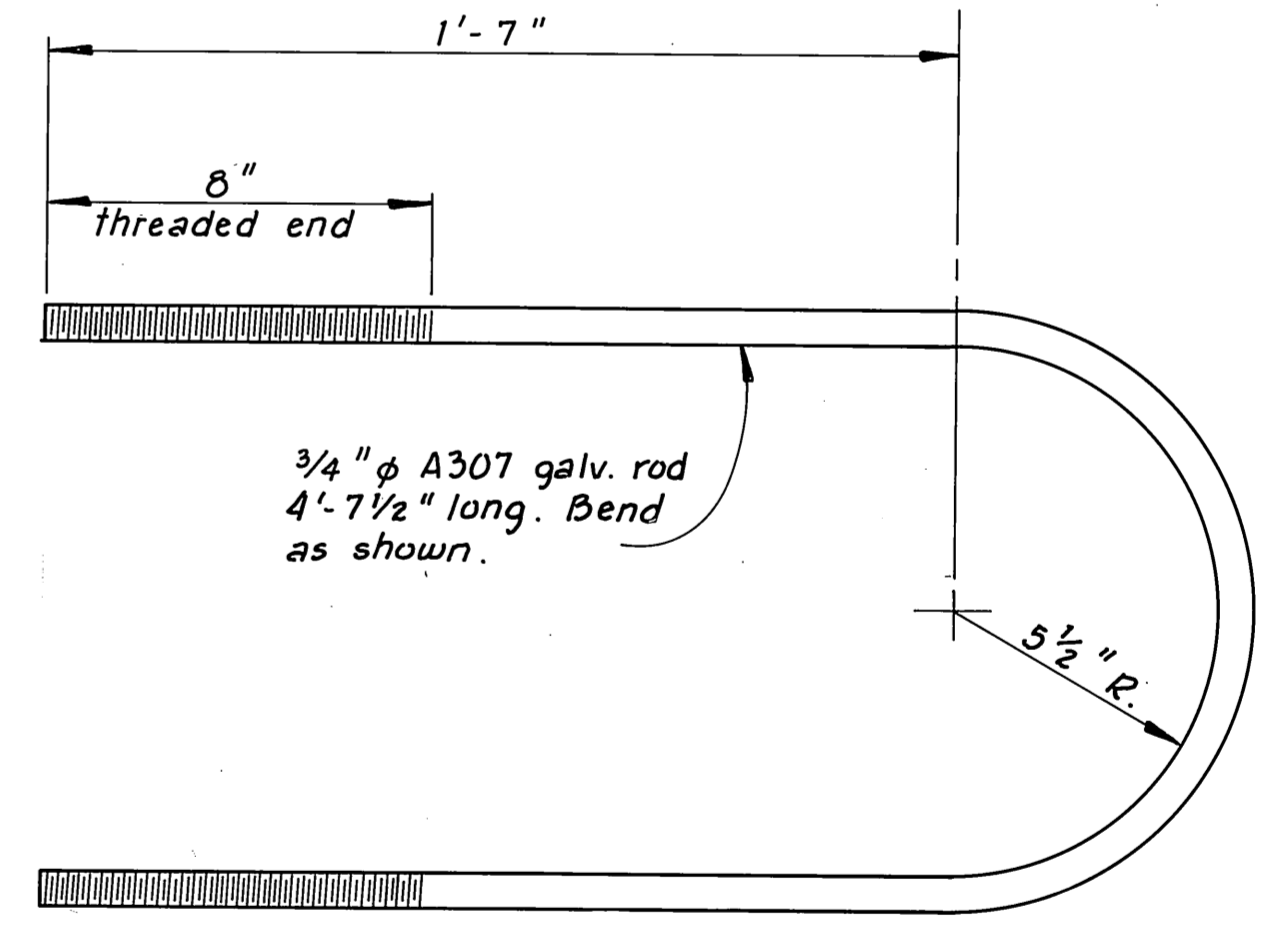
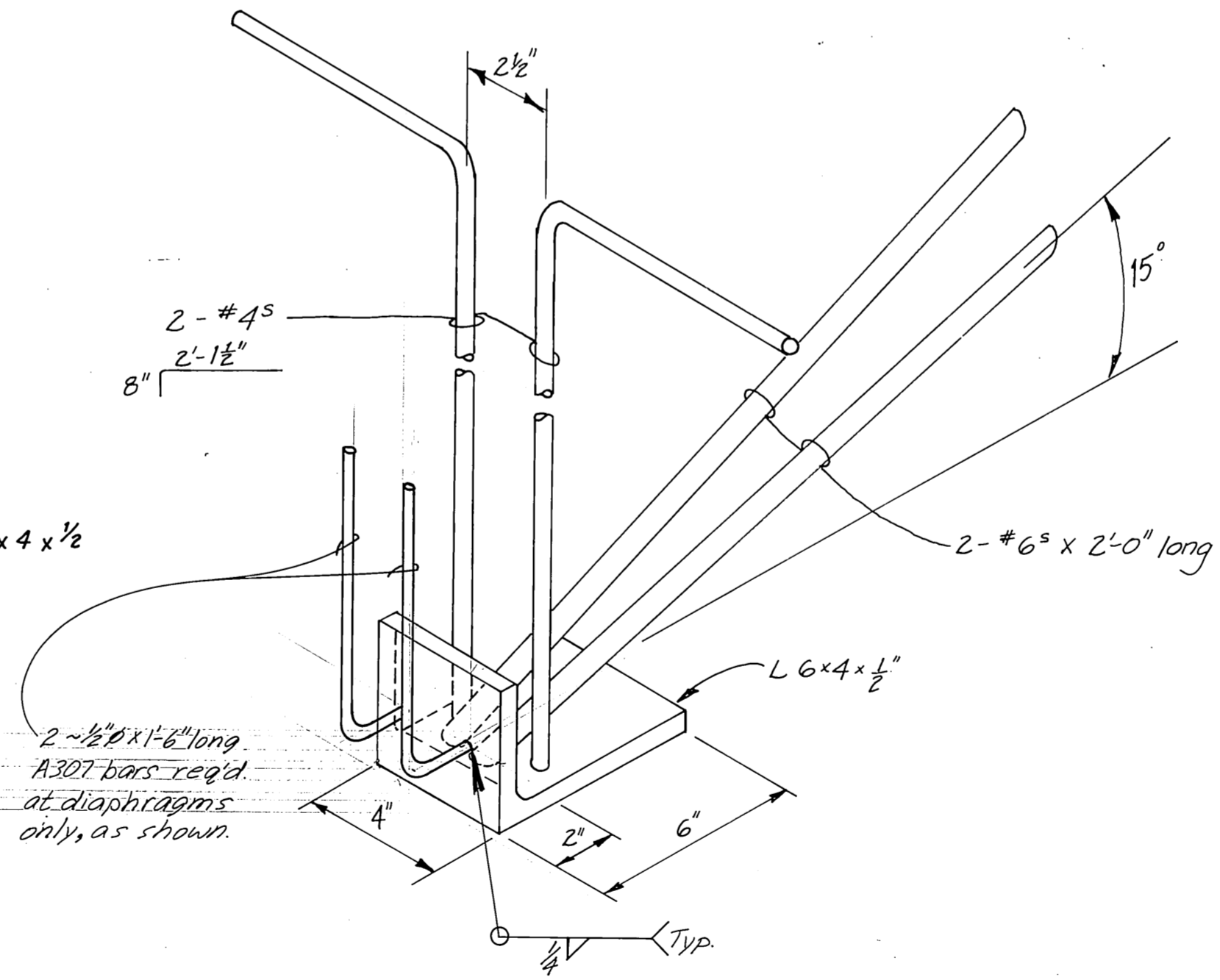
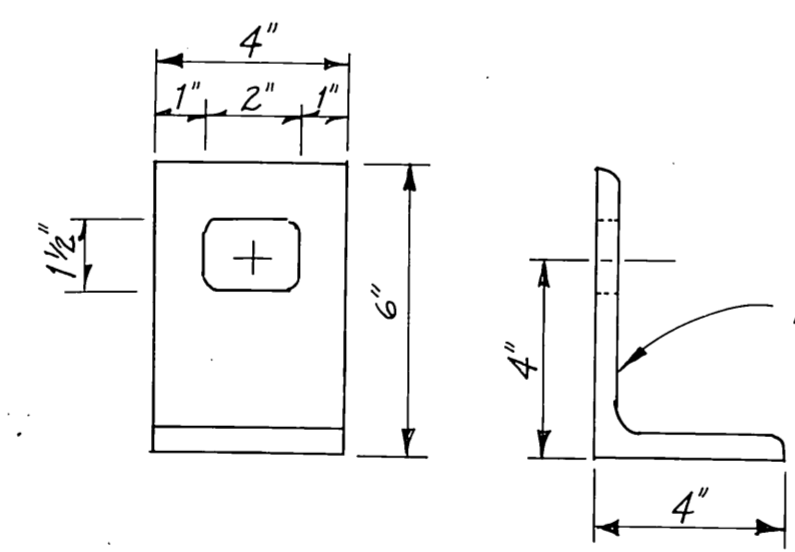
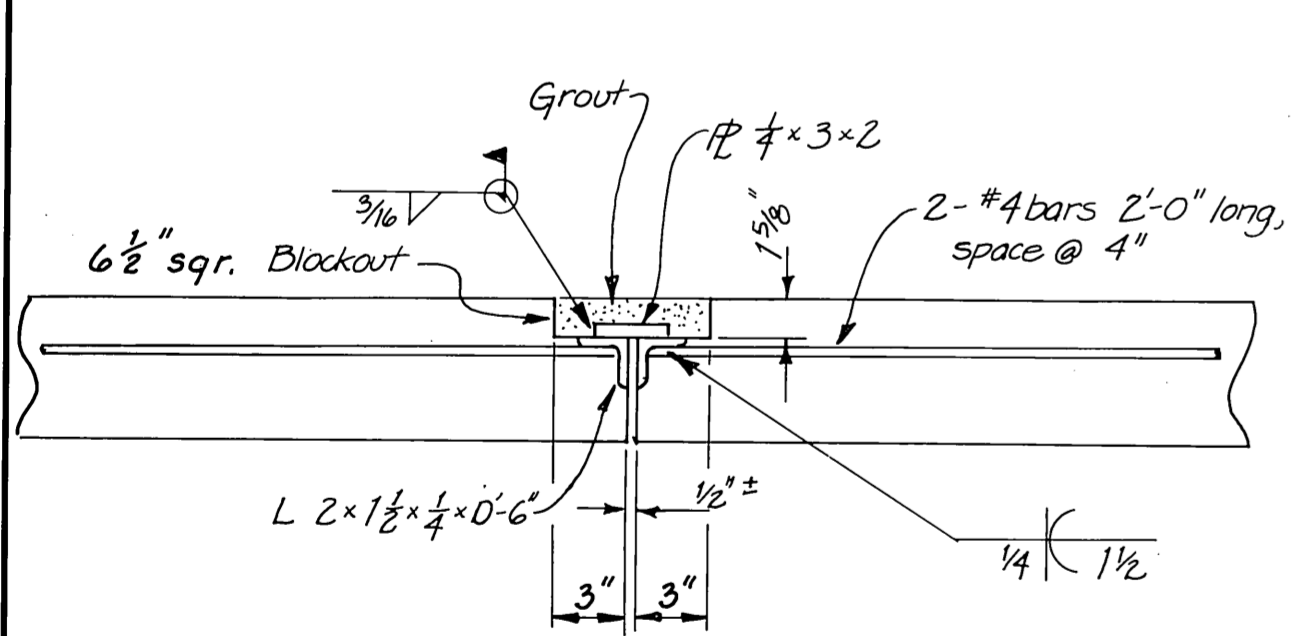
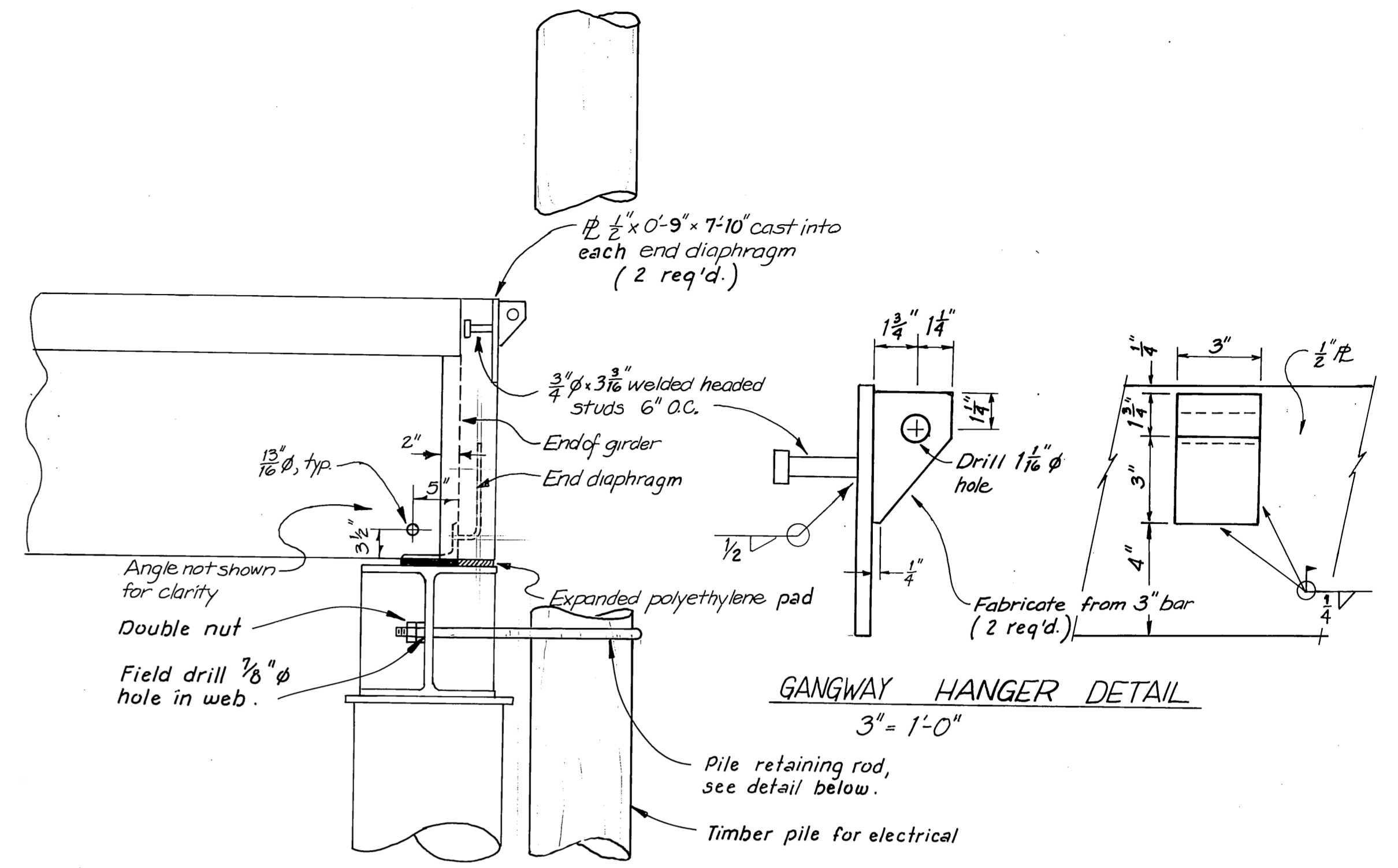
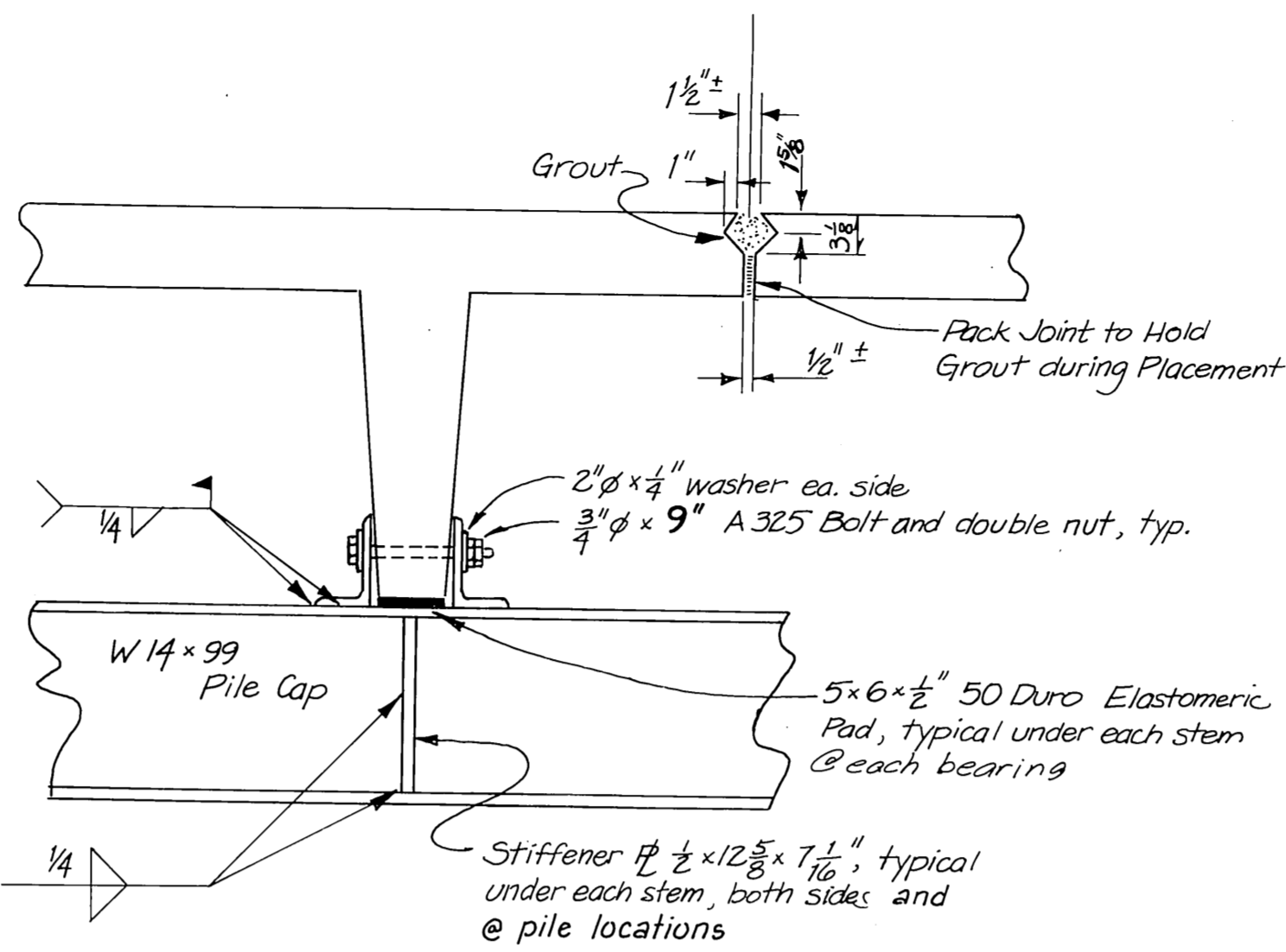
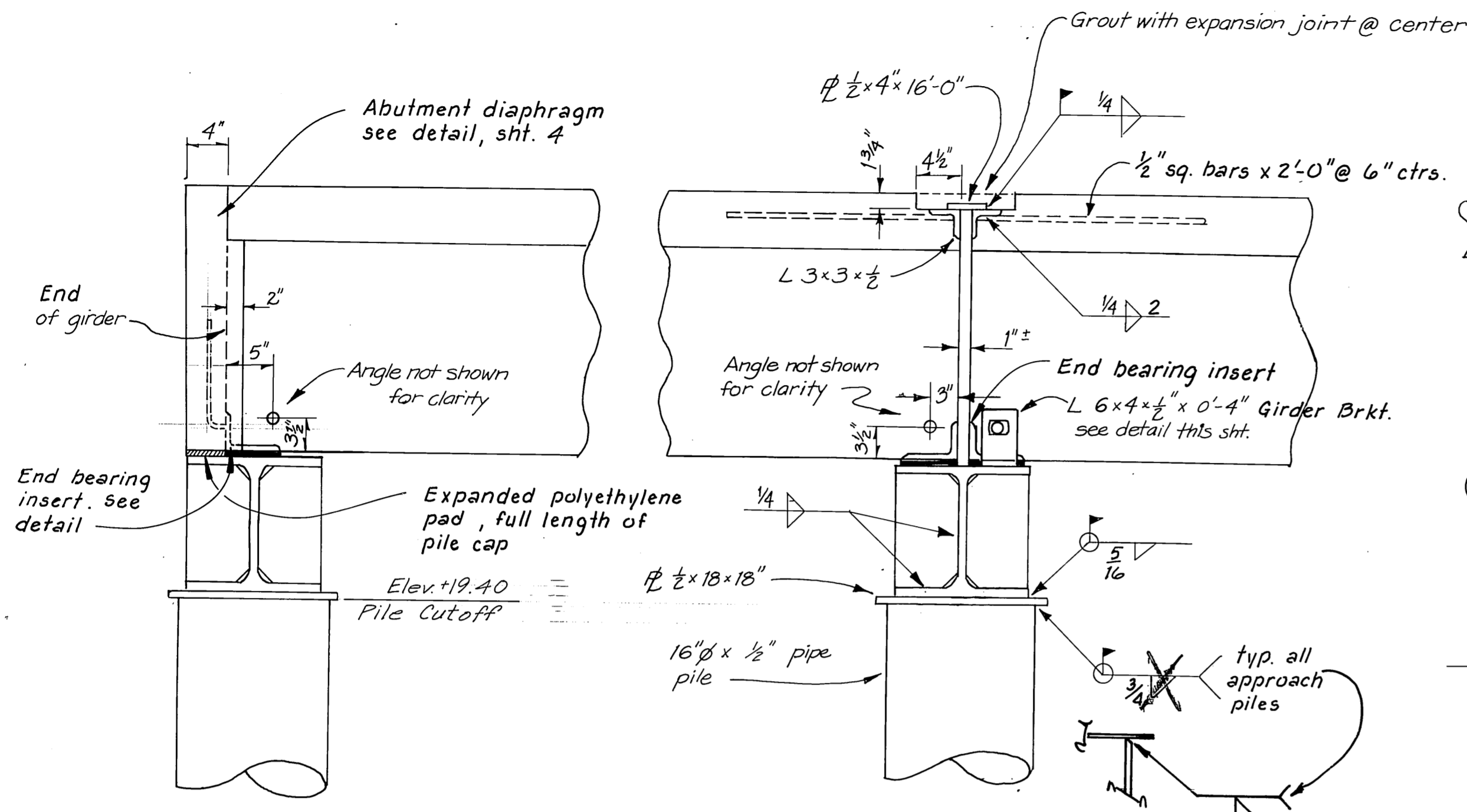
APPROACH DETAILS
 SHT. A

SCALE *As Shown* SURVEYED *DS/WmN* APPROVED _____
 DESIGNED *DS* DRAWN *DS/WmN*
 CHECKED *JS* DATE *4-83*

PROJECT NUMBER *K-78190* SHEET *4* OF *46*

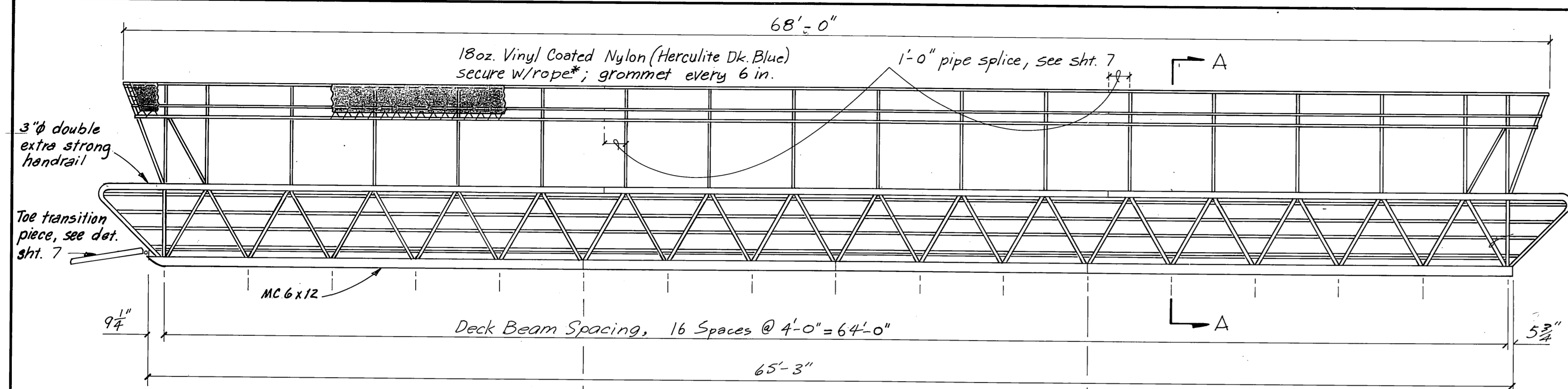
DCW 2-24-87

STATE OF ALASKA
 49th
 JAMES A. LOWELL
 LICENSE 5587
 REGISTERED PROFESSIONAL ENGINEER

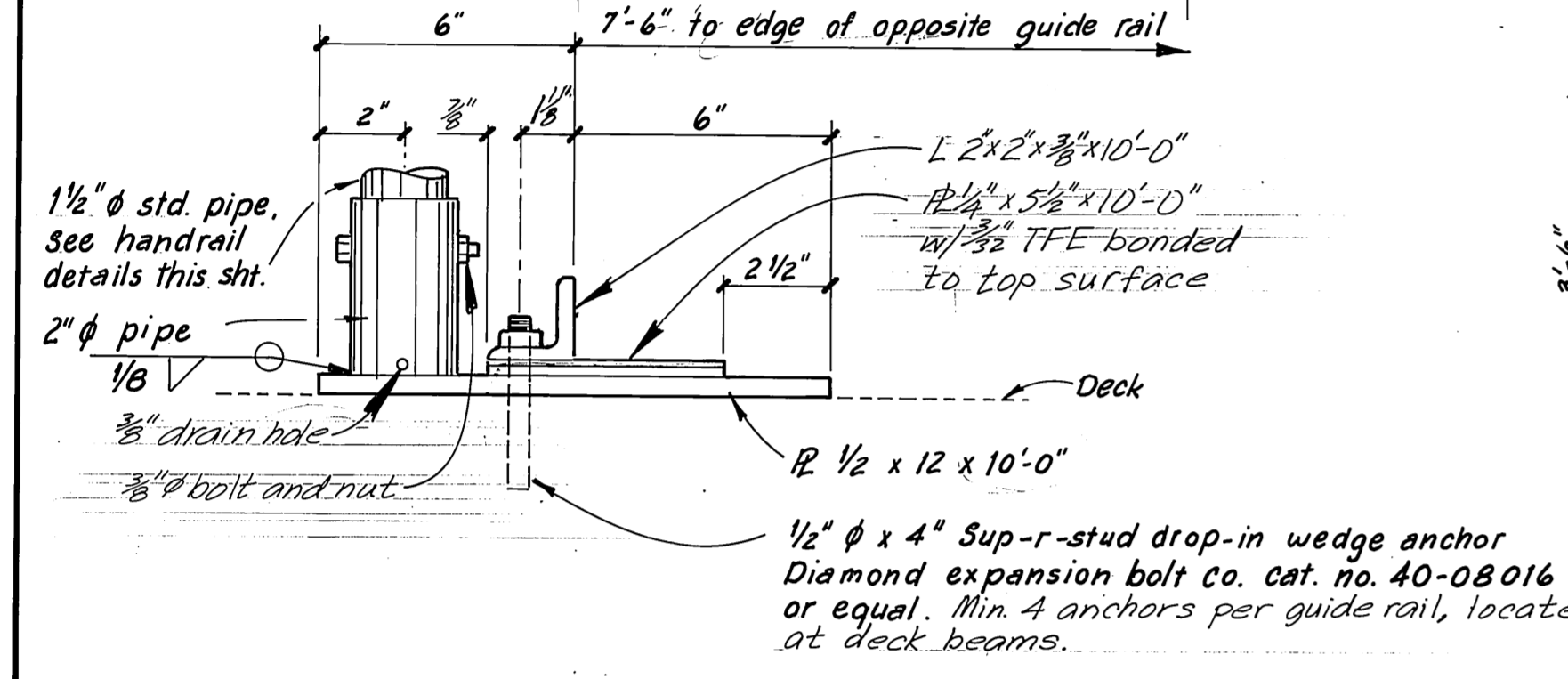


DCW 2-24-87

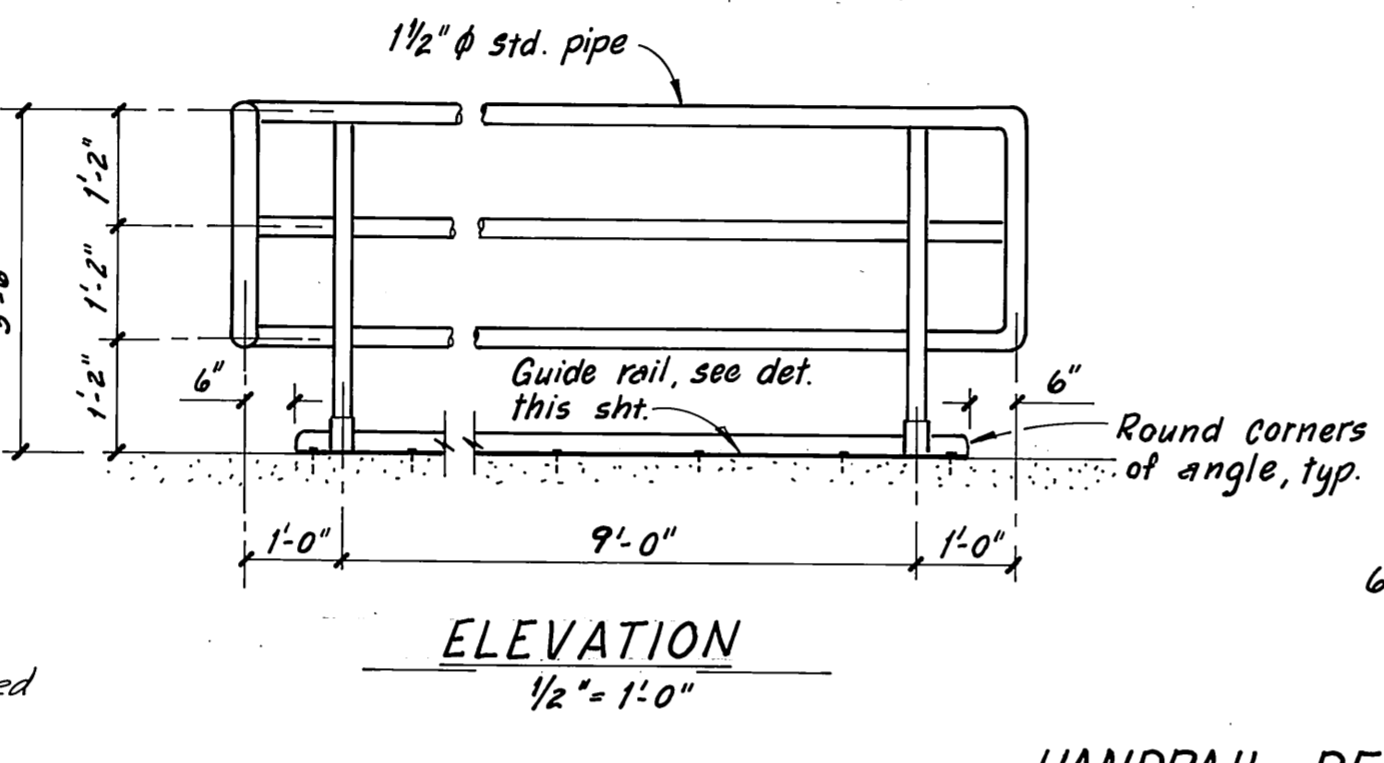
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	STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES HARBOR DESIGN AND CONSTRUCTION	
	Petersburg	Alaska
APPROACH DETAILS SHT. B		
SCALE: As Noted	SURVEYED:	APPROVED:
DESIGNED: BS	DRAWN: BS/TJ	
CHECKED: JS	DATE: 4-83	
PROJECT NUMBER: K-70190	SHEET 5 OF 16	



GANGWAY ELEVATION
1/4" = 1'-0"

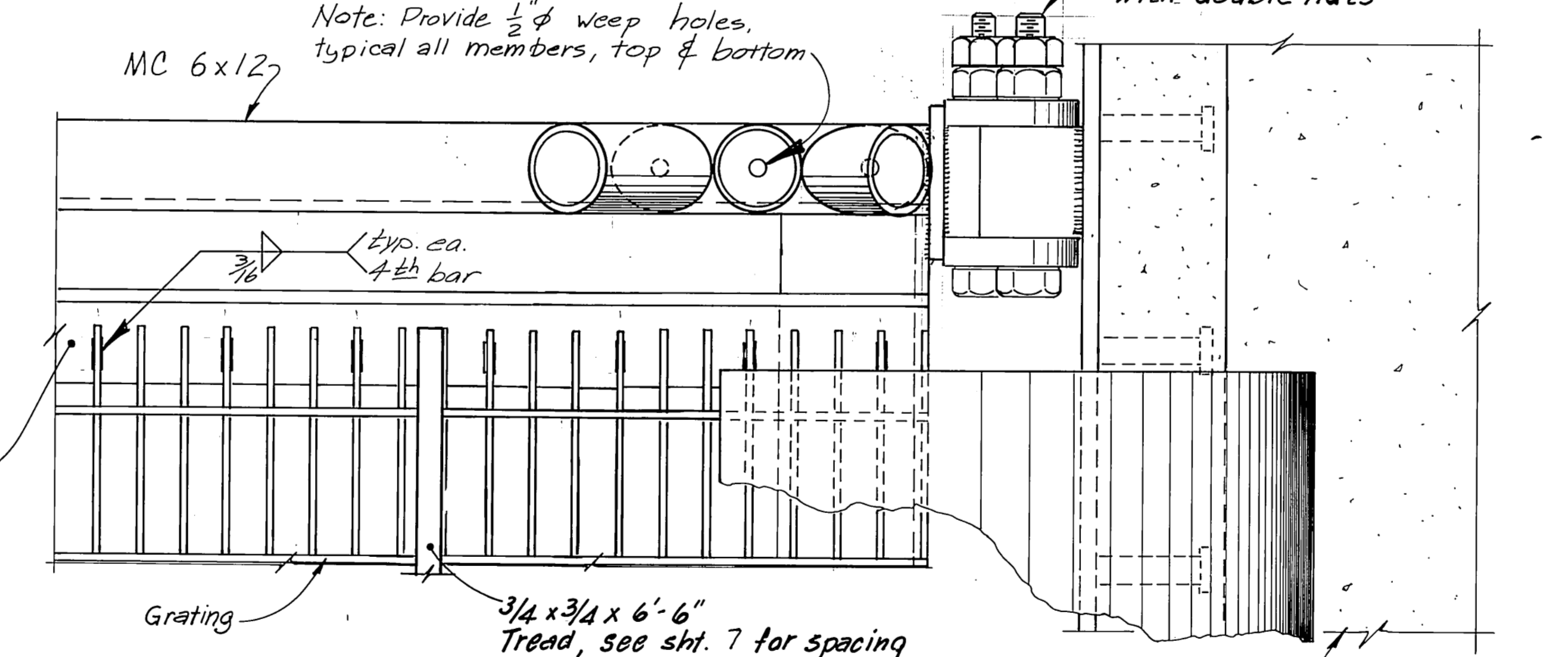


GUIDE RAIL DETAIL
3" = 1'-0"

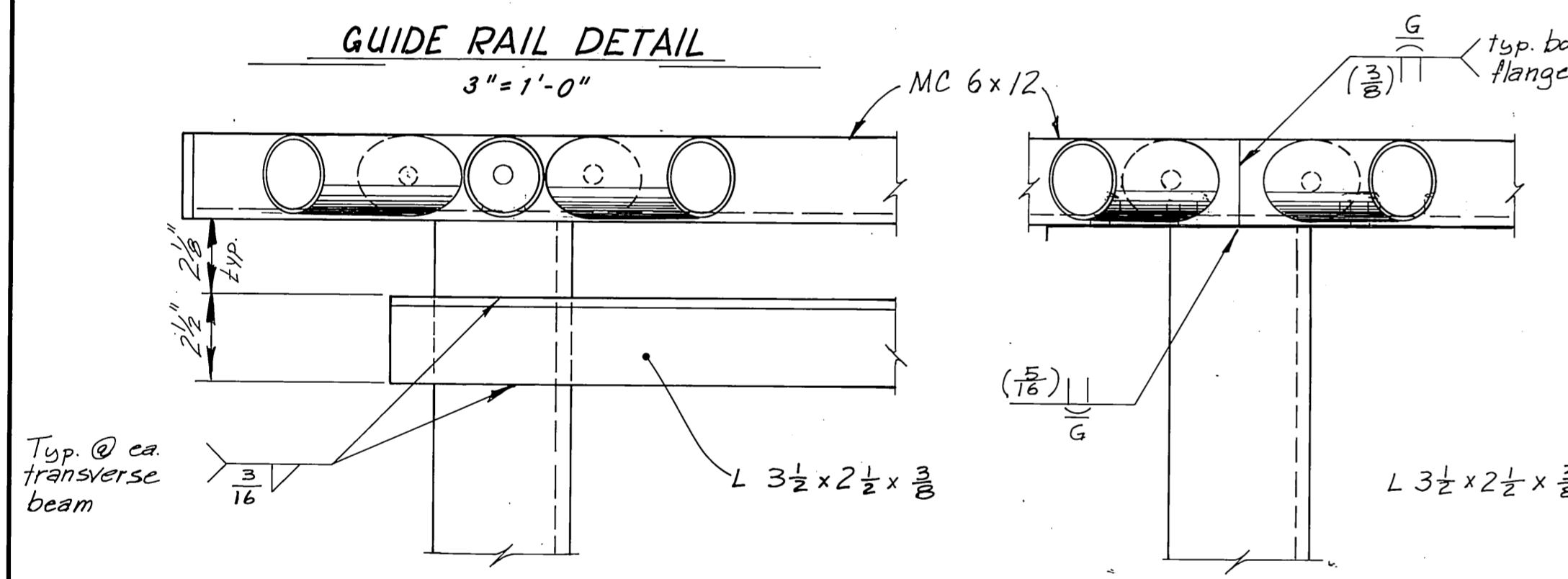


ELEVATION
1/2" = 1'-0"

HANDRAIL DETAILS

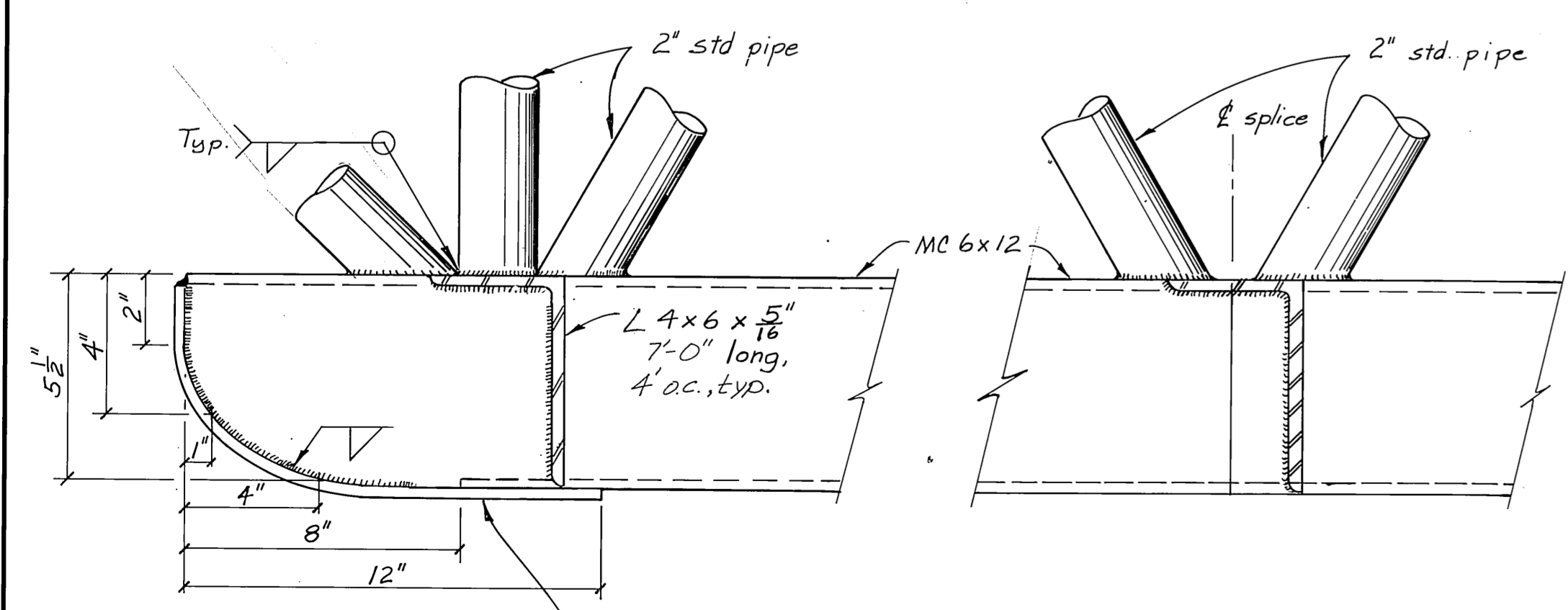


GANGWAY HEAD DETAILS
3" = 1'-0"



GANGWAY TOE
3" = 1'-0"

STRINGER SPLICE
3" = 1'-0"

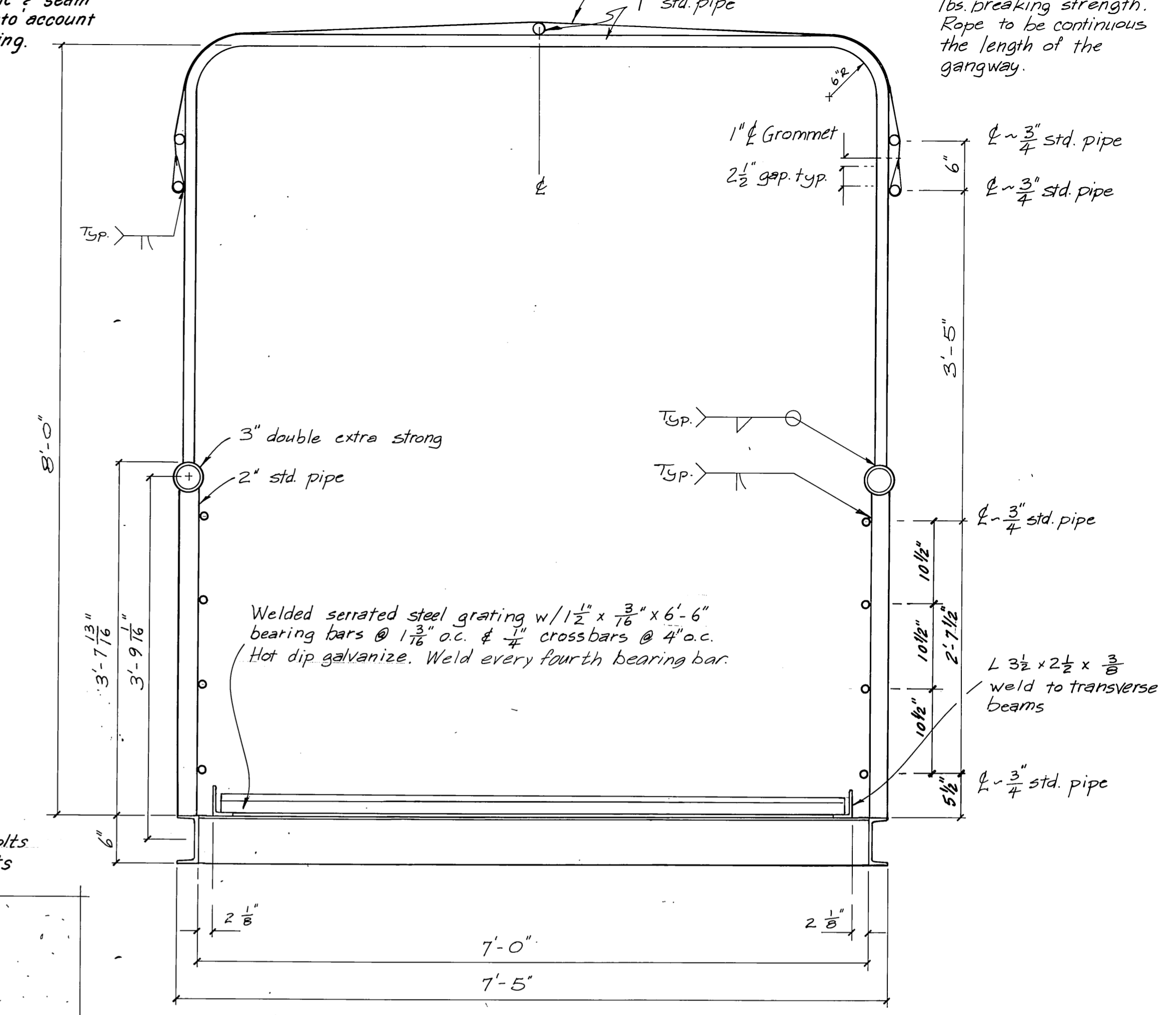


SECTIONAL ELEVATIONS
3" = 1'-0"

Note: Cover fabricator shall take fabric & seam stretch into account when sizing.

18oz. Vinyl Coated Nylon (Herculite Dk. Blue) secure w/ rope*; grommet every 6".

* Rope 1/4" dacron braided, white, 1650 lbs. breaking strength. Rope to be continuous the length of the gangway.

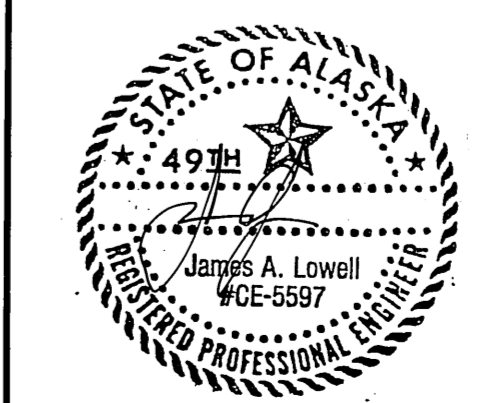


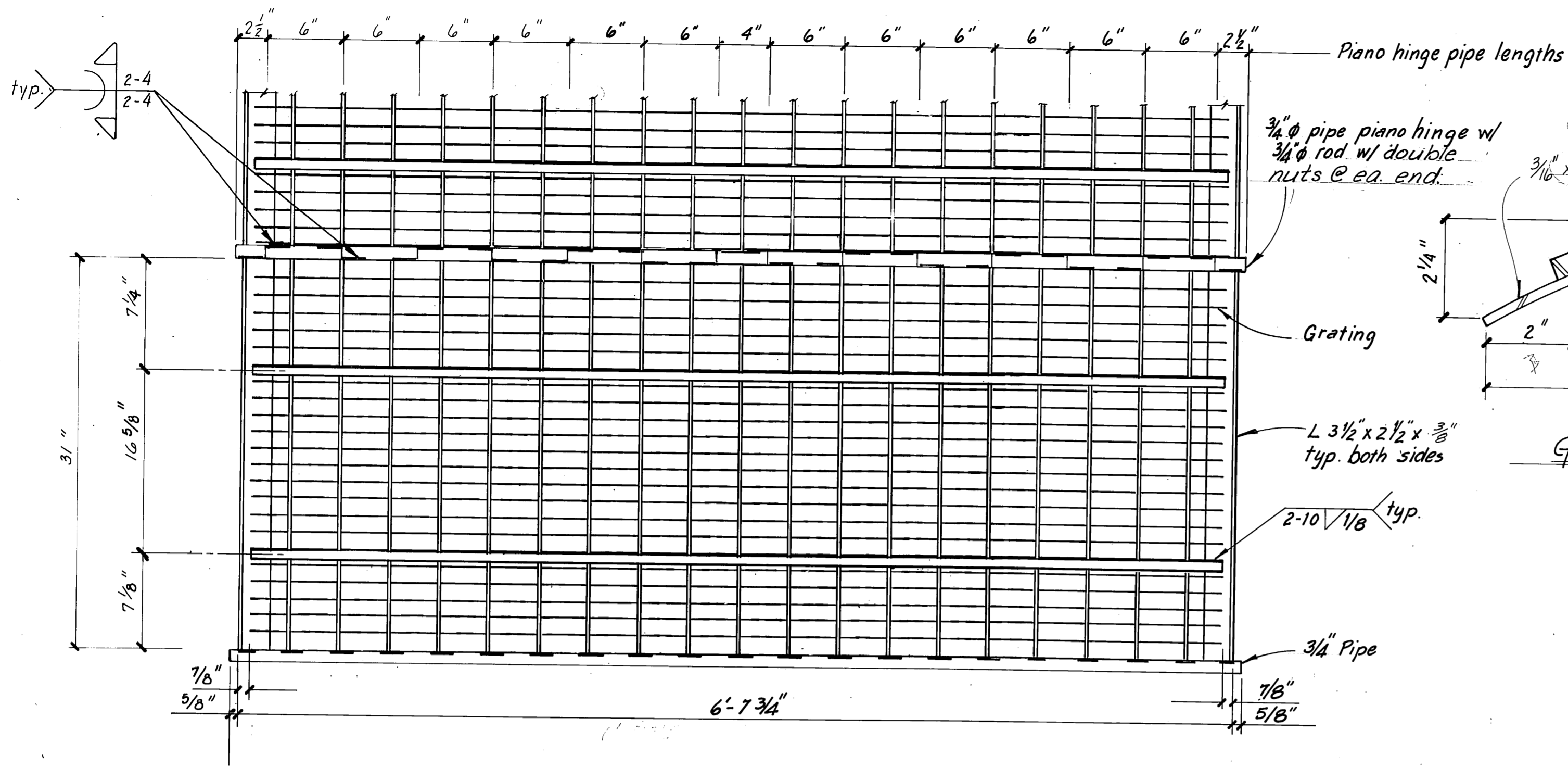
SECTION A-A
1" = 1'-0"

NOTES

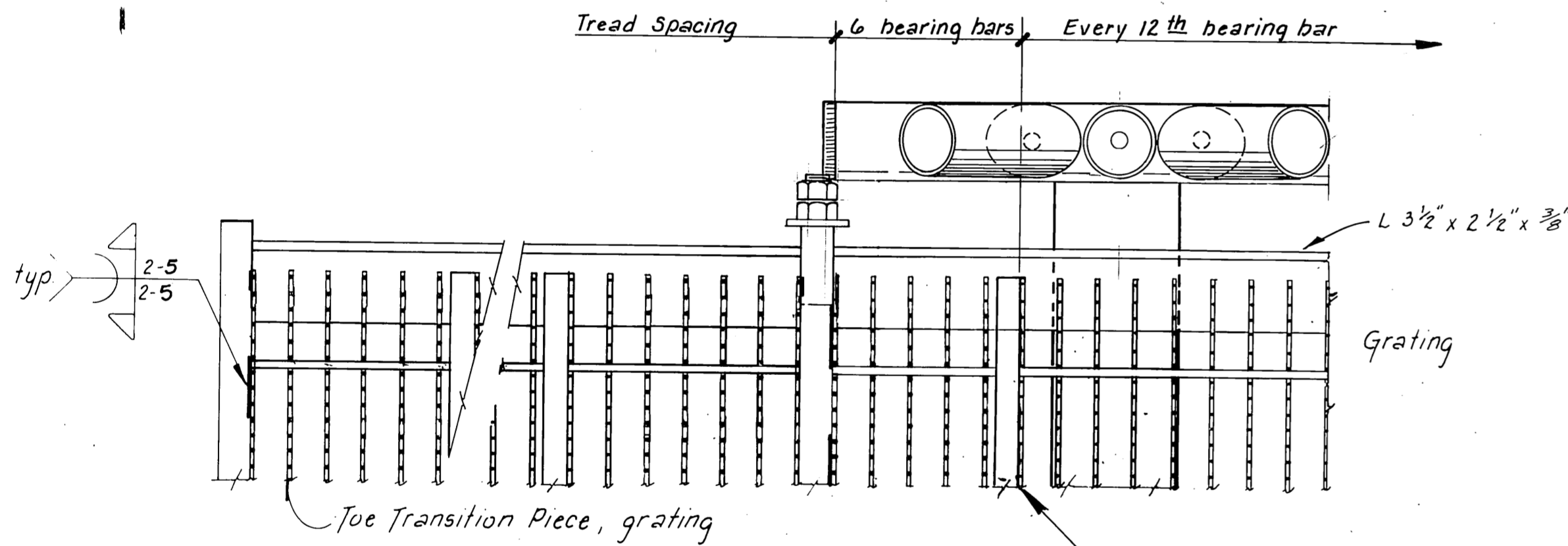
1. Design live load 85psf. Snow Load 20psf.
2. All seamless pipe shall conform to ASTM A-53, Grade B or ASTM A-500 and shall be galvanized.
3. All shapes & plates shall conform to ASTM A-36 and shall be galvanized.
4. Ship assembled except cover may be shipped separately.
5. Approx. Gangway Weight = 14,000#

DCW 2-24-87		
DO NOT SCALE THIS DRAWING - USE DIMENSIONS		
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES HARBOR DESIGN AND CONSTRUCTION		
Petersburg	Alaska	
7'-5" x 65'-0" COVERED STEEL GANGWAY		
SHEET A		
SCALE <i>As Noted</i>	SURVEYED _____	APPROVED _____
DESIGNED <i>stapf</i>	DRAWN <i>DB</i>	
CHECKED <i>JDB</i>	DATE <i>2-83</i>	
PROJECT NUMBER <i>K7B190</i>	SHEET <i>6</i> OF <i>46</i>	

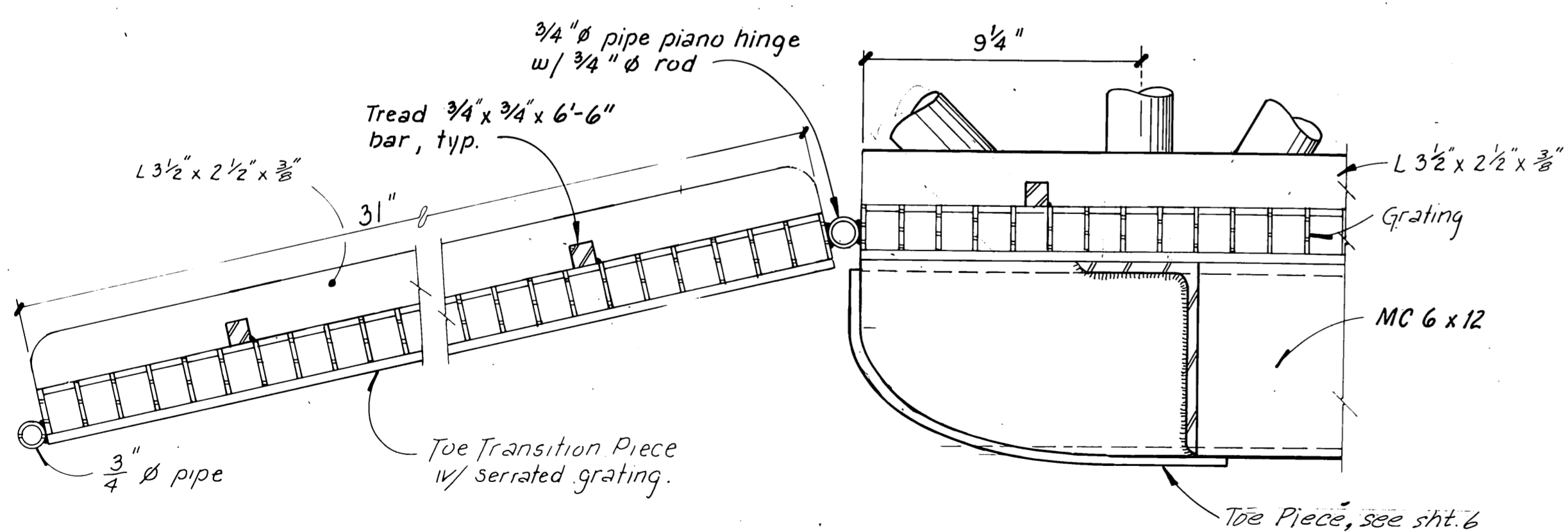




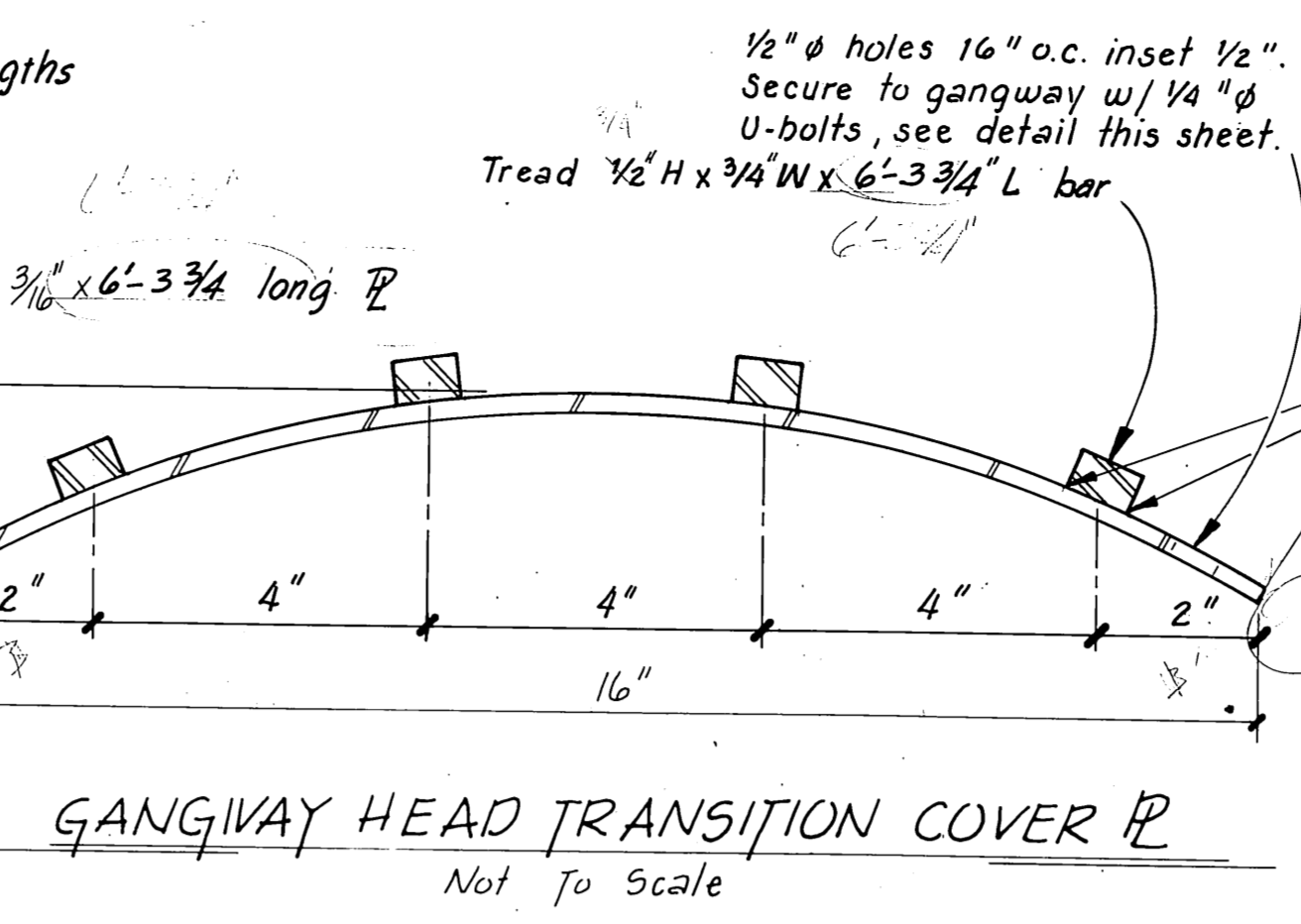
TOE TRANSITION PIECE PLAN
1 1/2" = 1'-0"



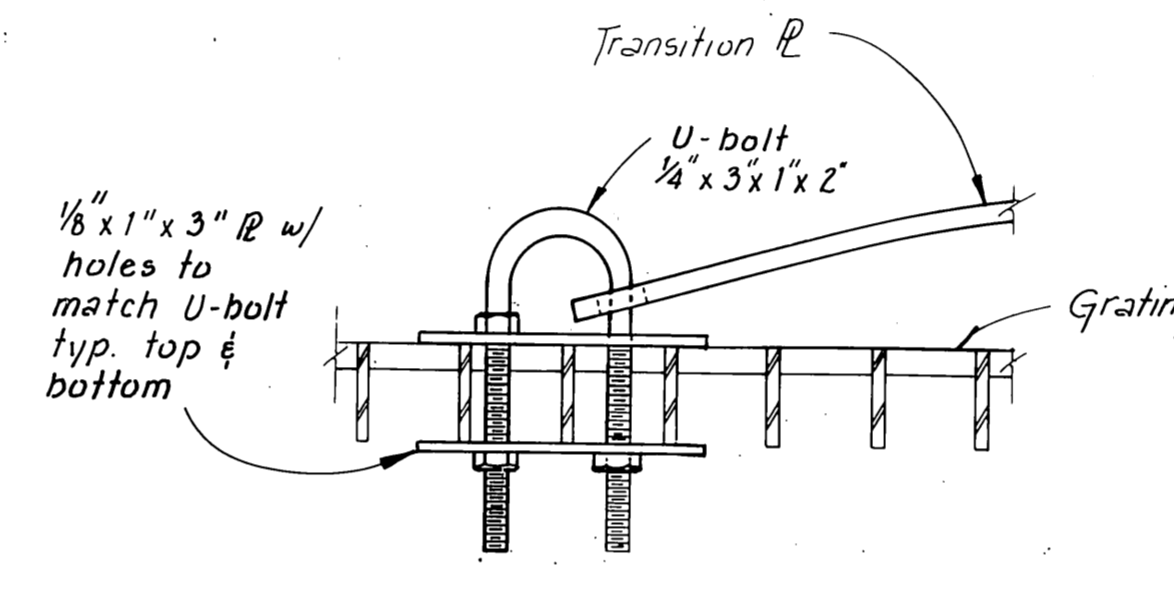
PLAN
3" = 1'-0"



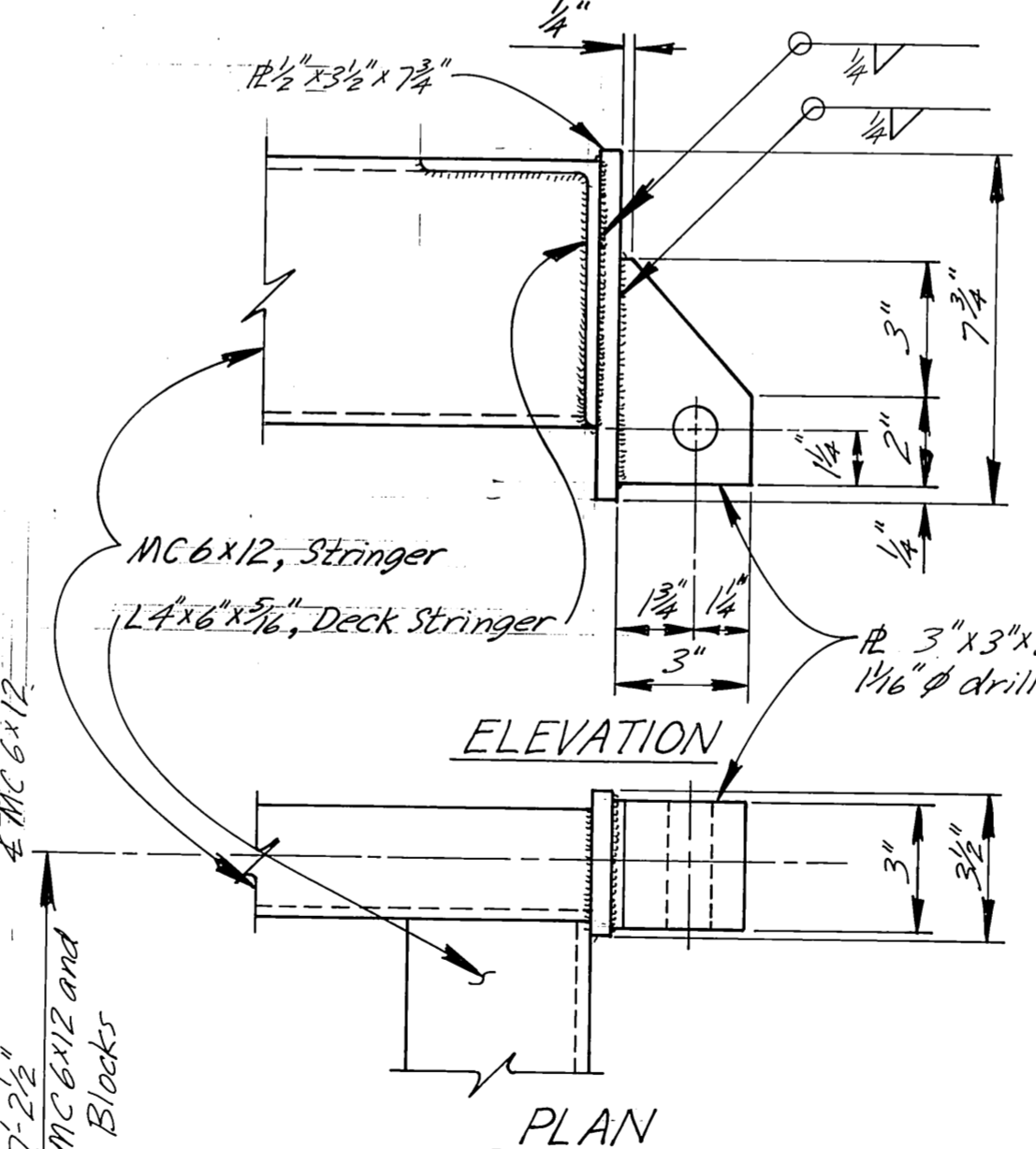
SECTIONAL ELEVATION
3" = 1'-0"



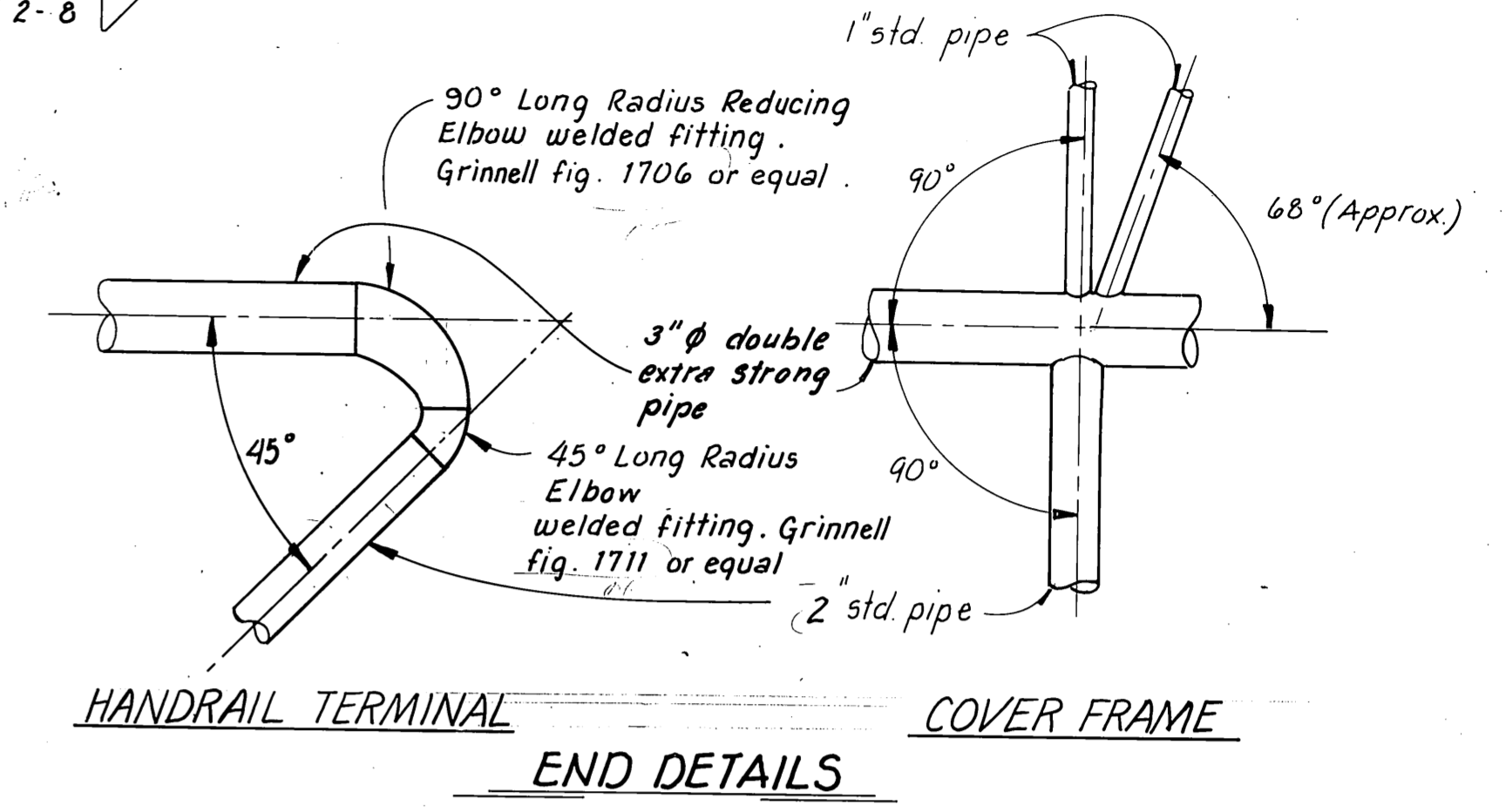
GANGWAY HEAD TRANSITION COVER PL
Not To Scale



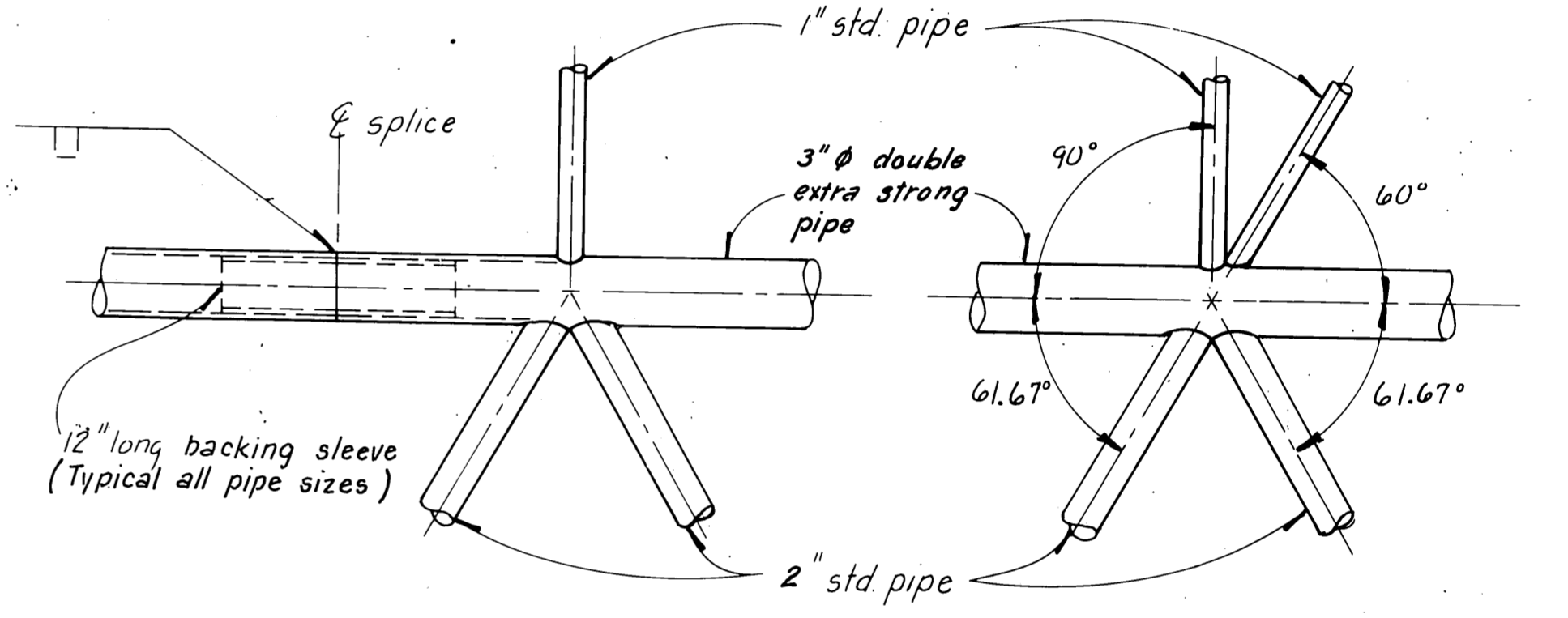
TRANSITION PL CONNECTION
1/2" = 1'



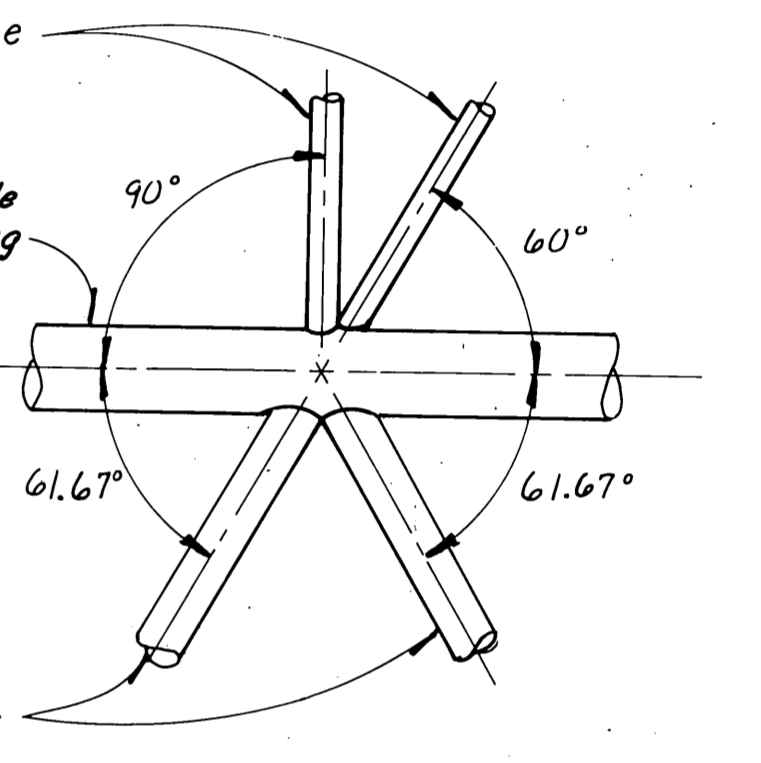
GANGWAY HINGE CONNECTOR
3" = 1'-0"



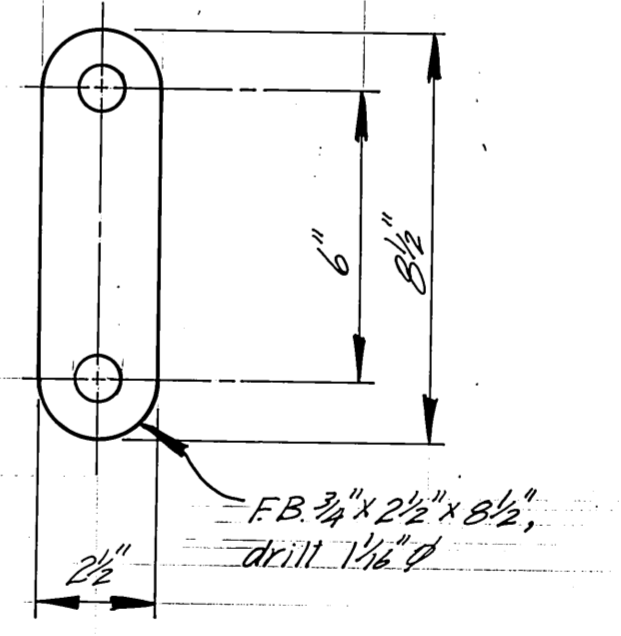
HANDRAIL TERMINAL END DETAILS



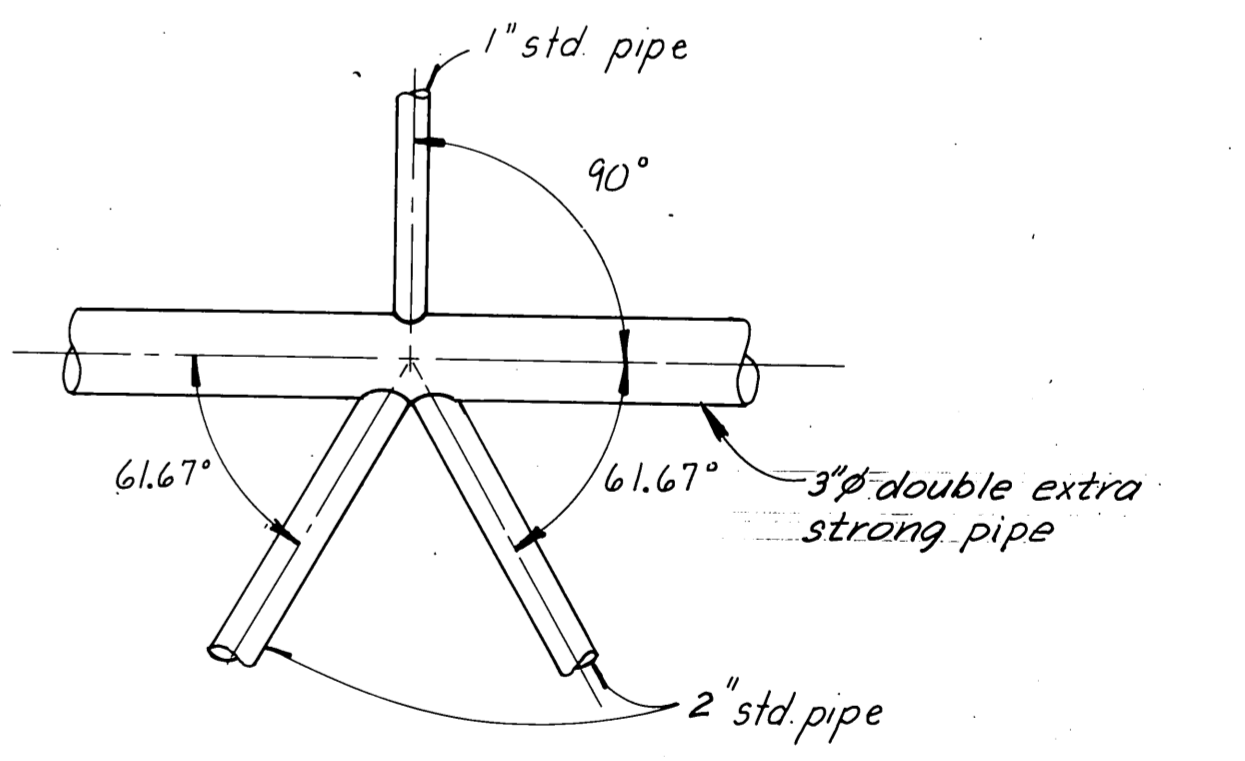
PIPE SPLICE DETAIL



BRACE DETAIL



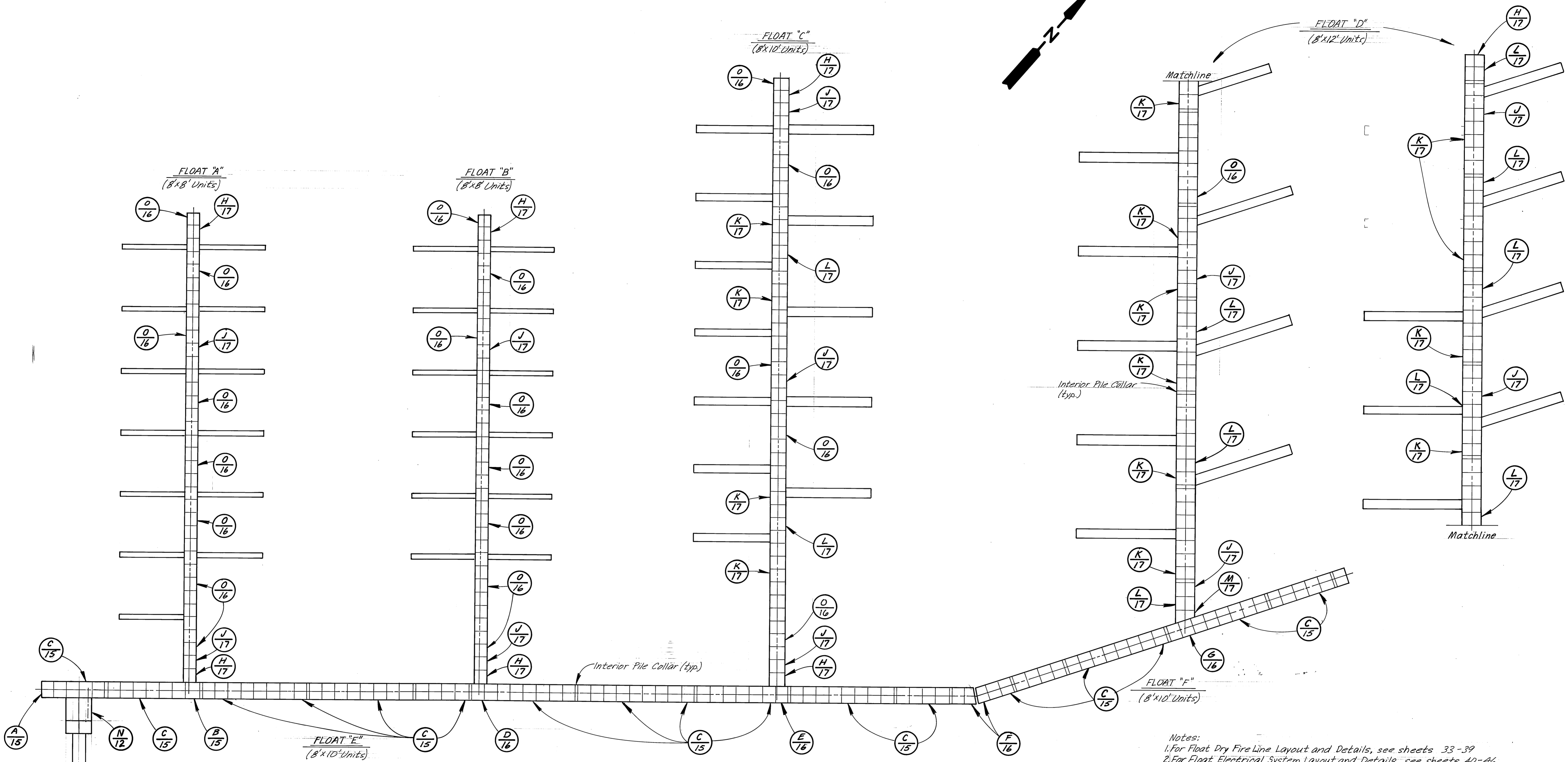
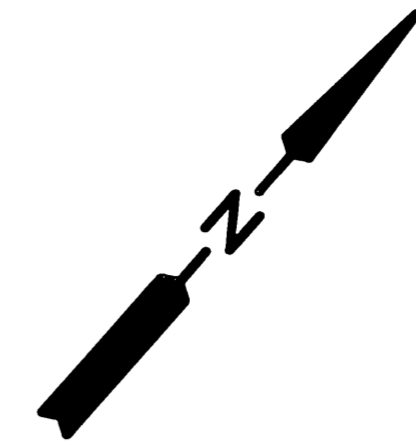
HINGE LINK
(As reqd.)



TYPICAL
HANDRAIL DETAILS
1 1/2" = 1'-0"

STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
		STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES HARBOR DESIGN AND CONSTRUCTION	
		Petersburg	Alaska
7'-5" x 65'-0" COVERED STEEL GANGWAY SHEET B			
SCALE As Shown	SURVEYED	APPROVED	
DESIGNED HRM/JDB	DRAWN JTM/TS	DATE	
CHECKED JS	DATE 2-83		
PROJECT NUMBER K78190	SHEET 7 OF 46		

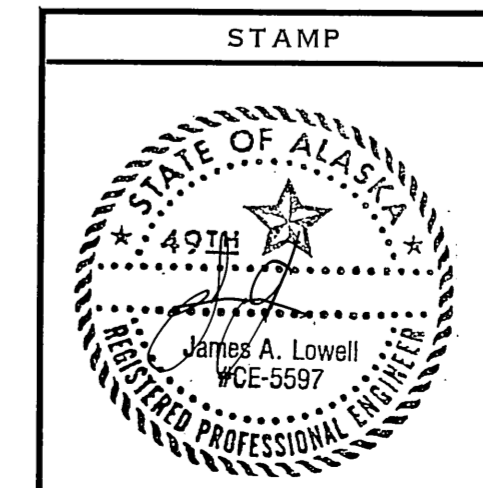
DCW 2-24-87



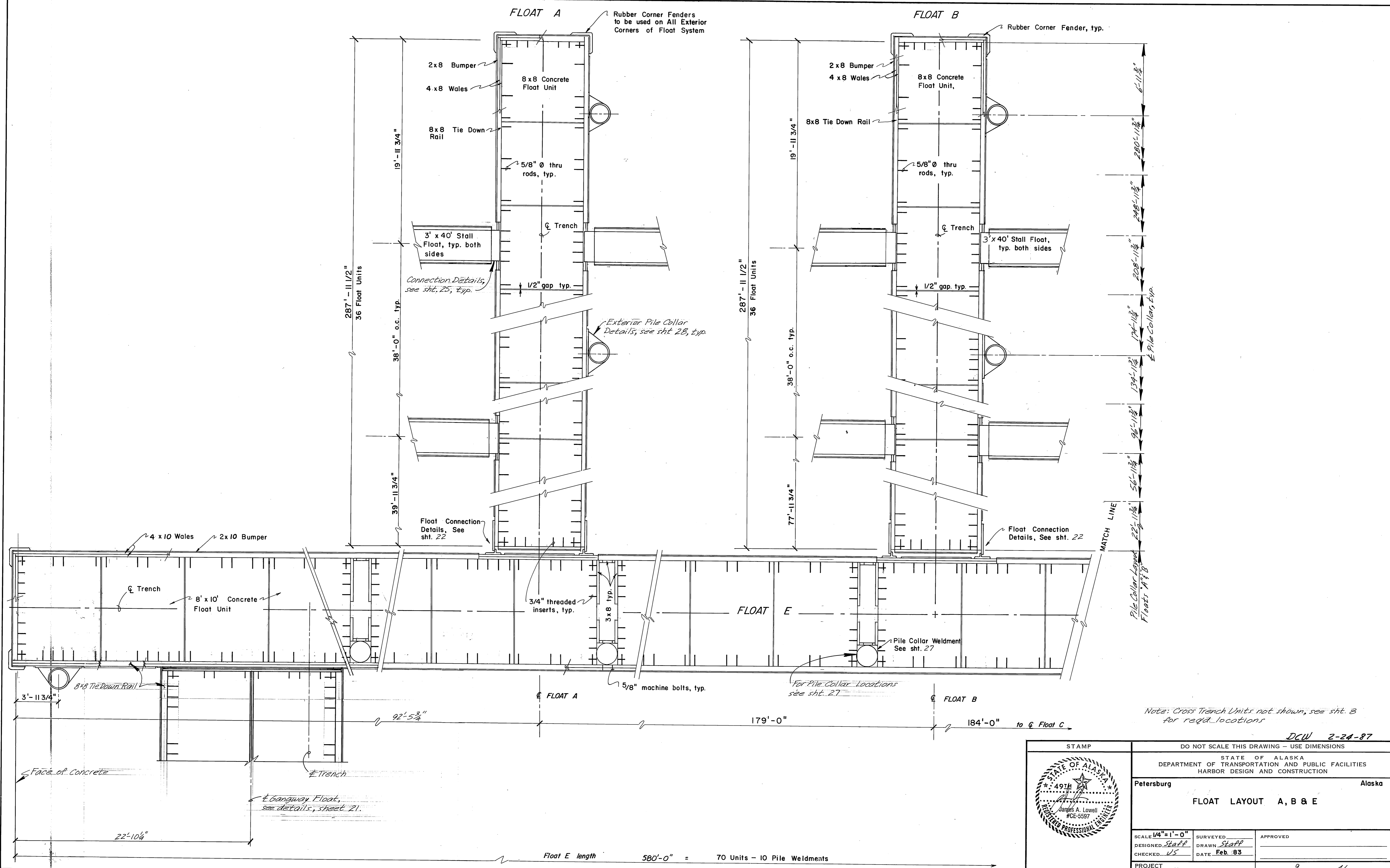
Notes:
 1. For Float Dry Fire Line Layout and Details, see sheets 33-39
 2. For Float Electrical System Layout and Details, see sheets 40-46
 3. For Stall Float dimensions see General Layout and sheets 18 & 19

DETAIL	DESCRIPTION
A	Dry Fire Line - Submarine to Float w/ Exp./Cont. Assembly
B	Float "A" to "E" Intersection w/ Fire Line Tee, Exp./Cont. Assembly and Transformer
C	Electrical Cross Trench for Float "E" and "F", Exp./Cont. Assembly, as req'd.
D	Float "B" to "E" Intersection w/ Fire Line Tee, Exp./Cont. Assembly and Transformer
E	Float "C" to "E" Intersection w/ Fire Line Tee, Exp./Cont. Assembly and Transformer
F	Float "E" to "F" Intersection w/ Fire Line Hydrant at end of Float "E" and Exp./Cont. Assembly Float "F"
G	Float "D" to "E" Intersection w/ Fire Line Tee, Exp./Cont. Assembly
H	Finger Float Fire Line Valve Cross Trench
J	Finger Float Fire Line Tee w/ Hydrant on Northeast side
K	Finger Float Electrical w/ Meterbase on Southwest side and Transformer as req'd.
L	Finger Float w/ Meterbase on Northeast side, Exp./Cont. Assembly and Transformer as req'd.
M	Finger Float "D" to Float "F" w/ Fire Line Valve Cross Trench
N	Trenched Gangway Float
O	Finger Float w/ Meterbase ea. side and Exp./Cont. Assembly as req'd.

LEGEND	
	Detail
	Sheet Number
	Float "E" and "F" Units w/ 1'-6" wide x 9" deep trench down $\frac{1}{2}$ of Unit except \odot Detailed Units
	Float "A" thru "D" Units w/ 1'-6" wide x 8 1/2" deep trench down $\frac{1}{2}$ of Unit except \odot Detailed Units



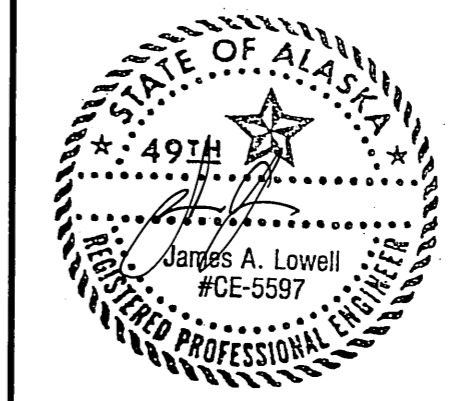
DCW 2-24-87		
DO NOT SCALE THIS DRAWING - USE DIMENSIONS		
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES HARBOR DESIGN AND CONSTRUCTION		
Petersburg Alaska		Alaska
MAIN & FINGER FLOAT UNIT LAYOUT BY TYPE		
SCALE: As Noted	SURVEYED: _____	APPROVED: _____
DESIGNED: JAL/VJS	DRAWN: DB/LVB	
CHECKED: VS/LVB	DATE: 4/83	
PROJECT NUMBER: K78190	SHEET 8 OF 46	



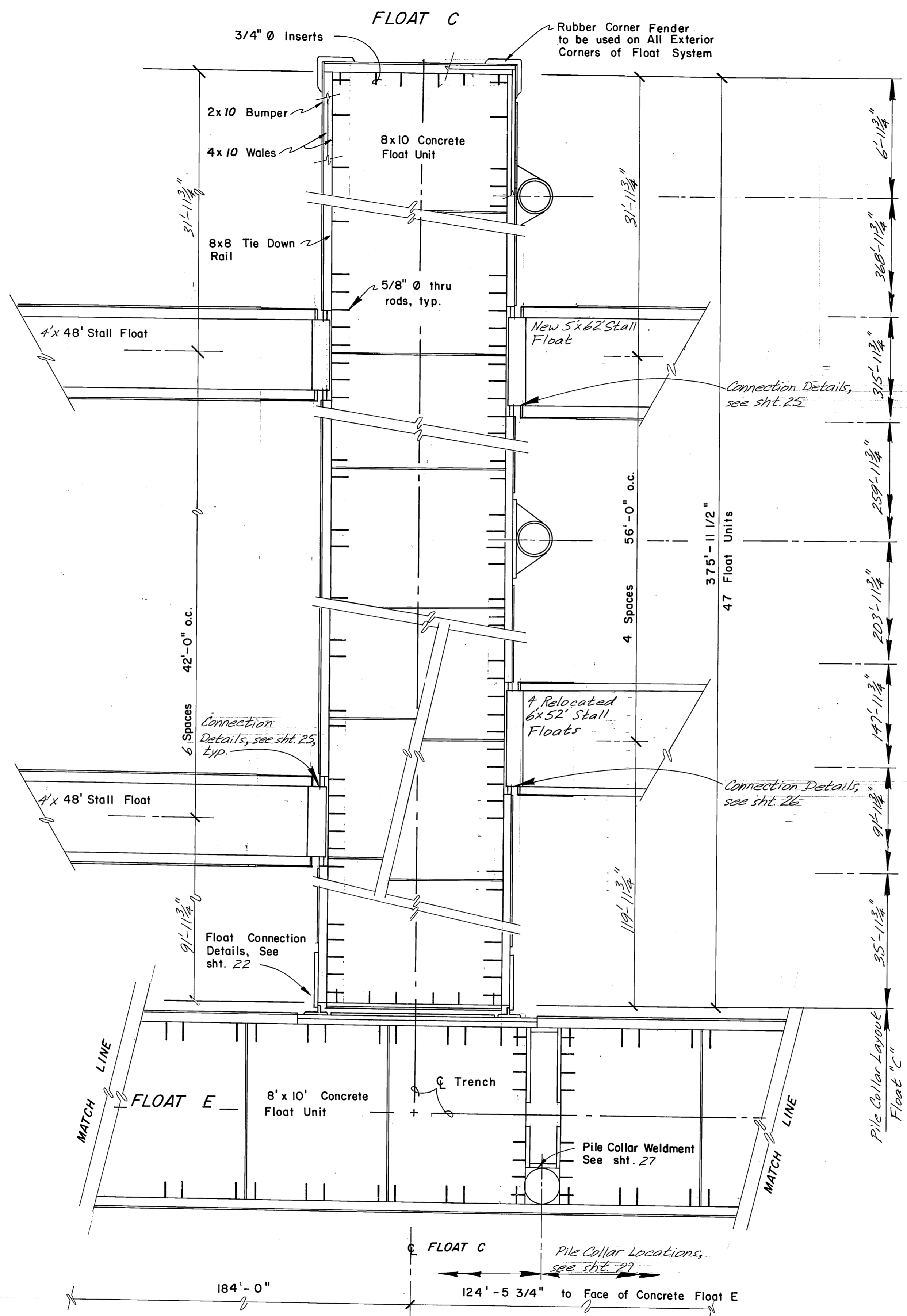
Note: Cross Trench Units not shown, see sht. 8 for reqd. locations

DCW 2-24-87

STAMP		
DO NOT SCALE THIS DRAWING - USE DIMENSIONS		
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES HARBOR DESIGN AND CONSTRUCTION		
Petersburg		Alaska
FLOAT LAYOUT A, B & E		
SCALE 1/4" = 1'-0"	SURVEYED	APPROVED
DESIGNED <i>Staff</i>	DRAWN <i>Staff</i>	
CHECKED <i>VS</i>	DATE Feb. 83	
PROJECT NUMBER K-78190	SHEET 9 OF 46	

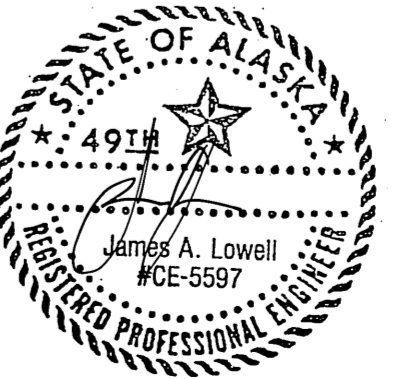


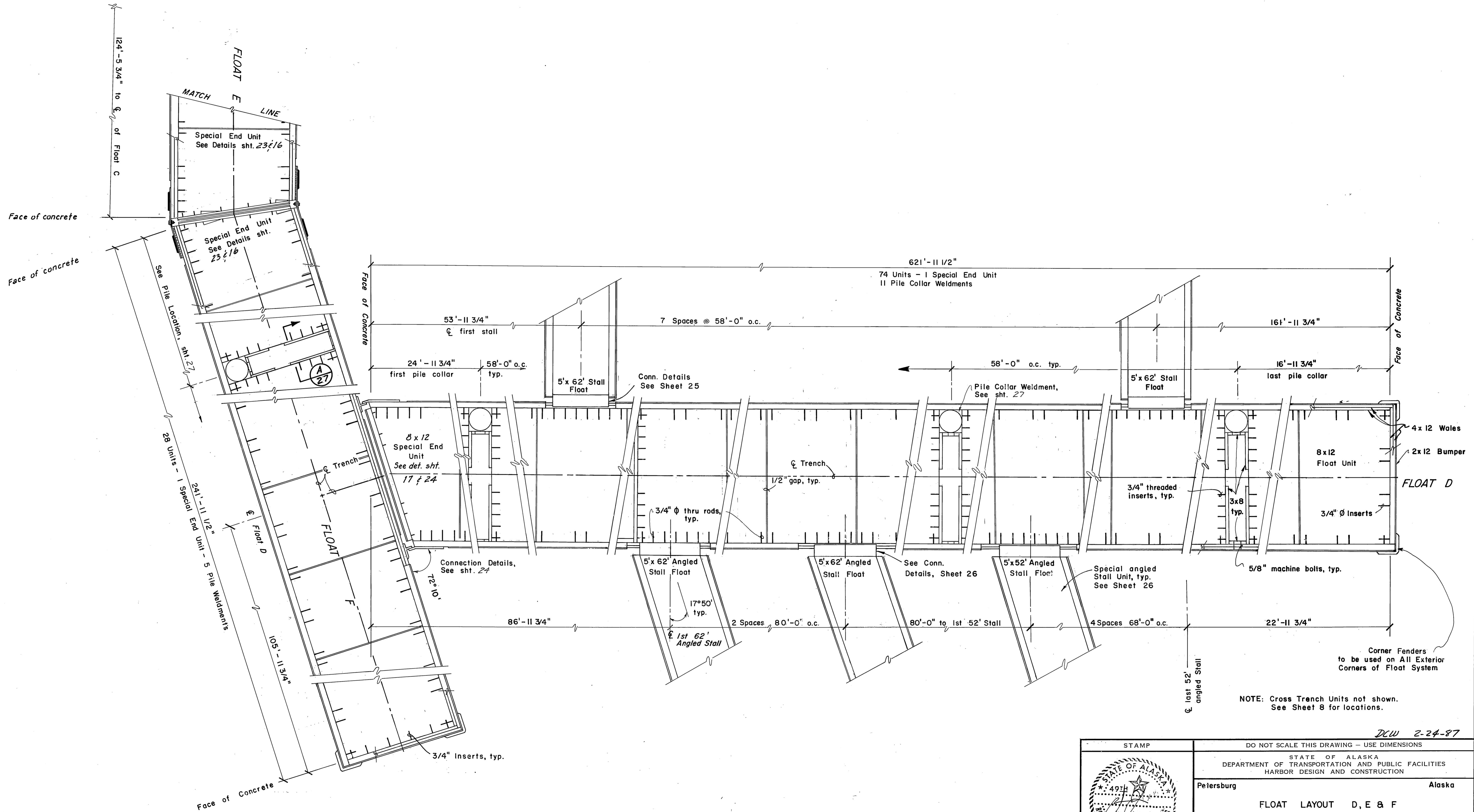
Float E length 580'-0" = 70 Units - 10 Pile Weldments



Note: Cross Trench Float Units not shown, see sheet 8, for regd. locations.

DCW 2-24-87

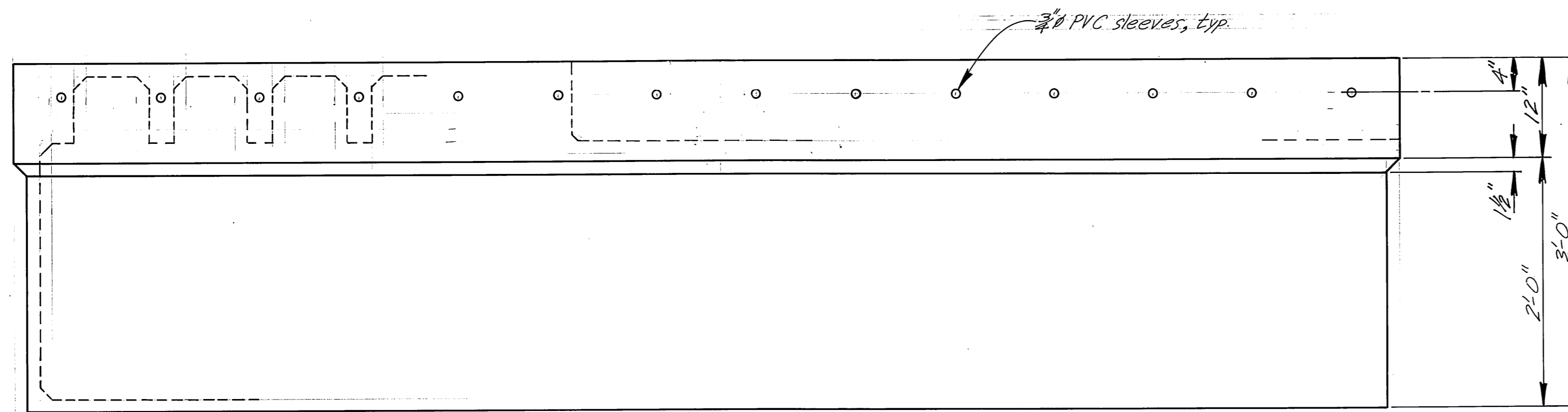
STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
		STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES HARBOR DESIGN AND CONSTRUCTION	
		Petersburg	Alaska
FLOAT LAYOUT C & E			
SCALE 1/4" = 1'-0"	SURVEYED	APPROVED	
DESIGNED Staff	DRAWN Staff		
CHECKED US	DATE Feb. 83		
PROJECT NUMBER	K-78190	SHEET 10 OF 46	



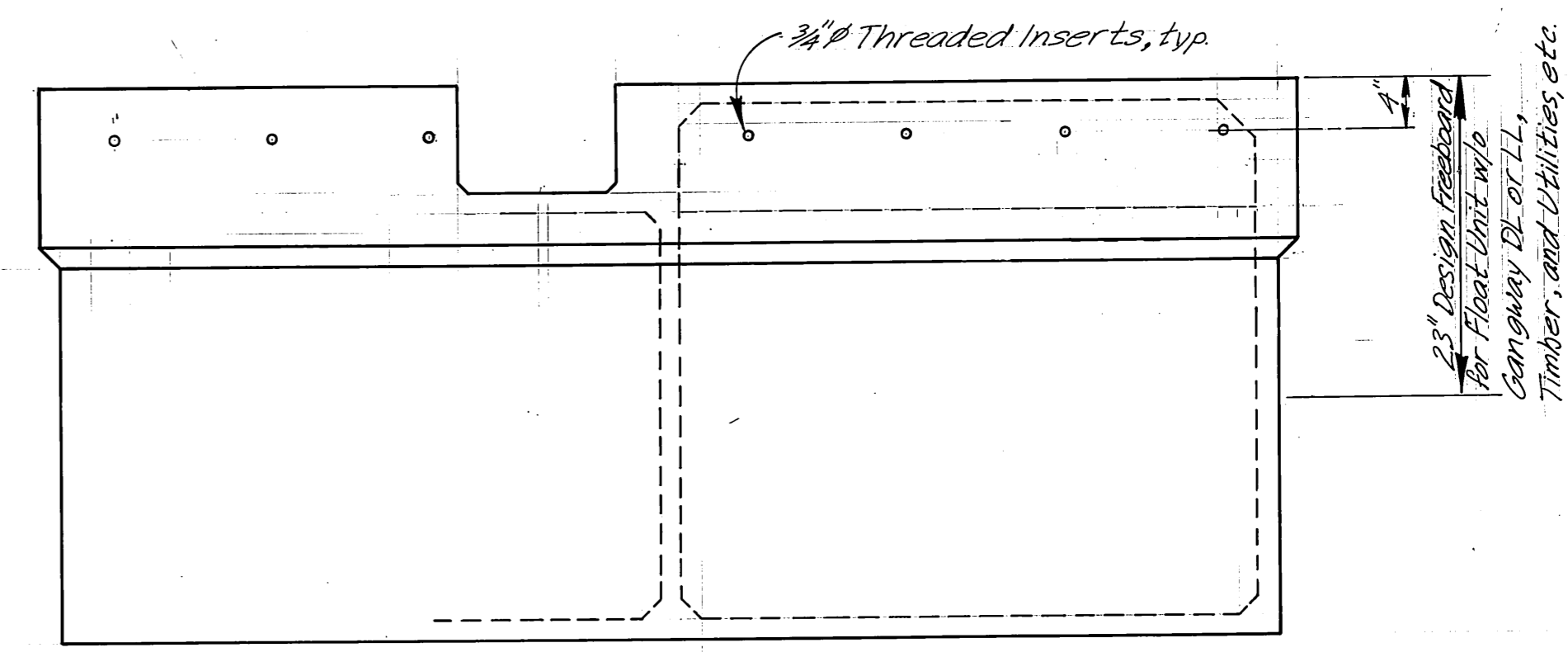
NOTE: Cross Trench Units not shown. See Sheet 8 for locations.

DCW 2-24-87

STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
		STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES HARBOR DESIGN AND CONSTRUCTION	
		Petersburg	Alaska
FLOAT LAYOUT D, E & F			
SCALE 1/4" = 1'-0"	SURVEYED	APPROVED	
DESIGNED <i>Staff</i>	DRAWN <i>Staff</i>		
CHECKED <i>JS</i>	DATE Feb. 83		
PROJECT NUMBER K-78190	SHEET 11 OF 46		

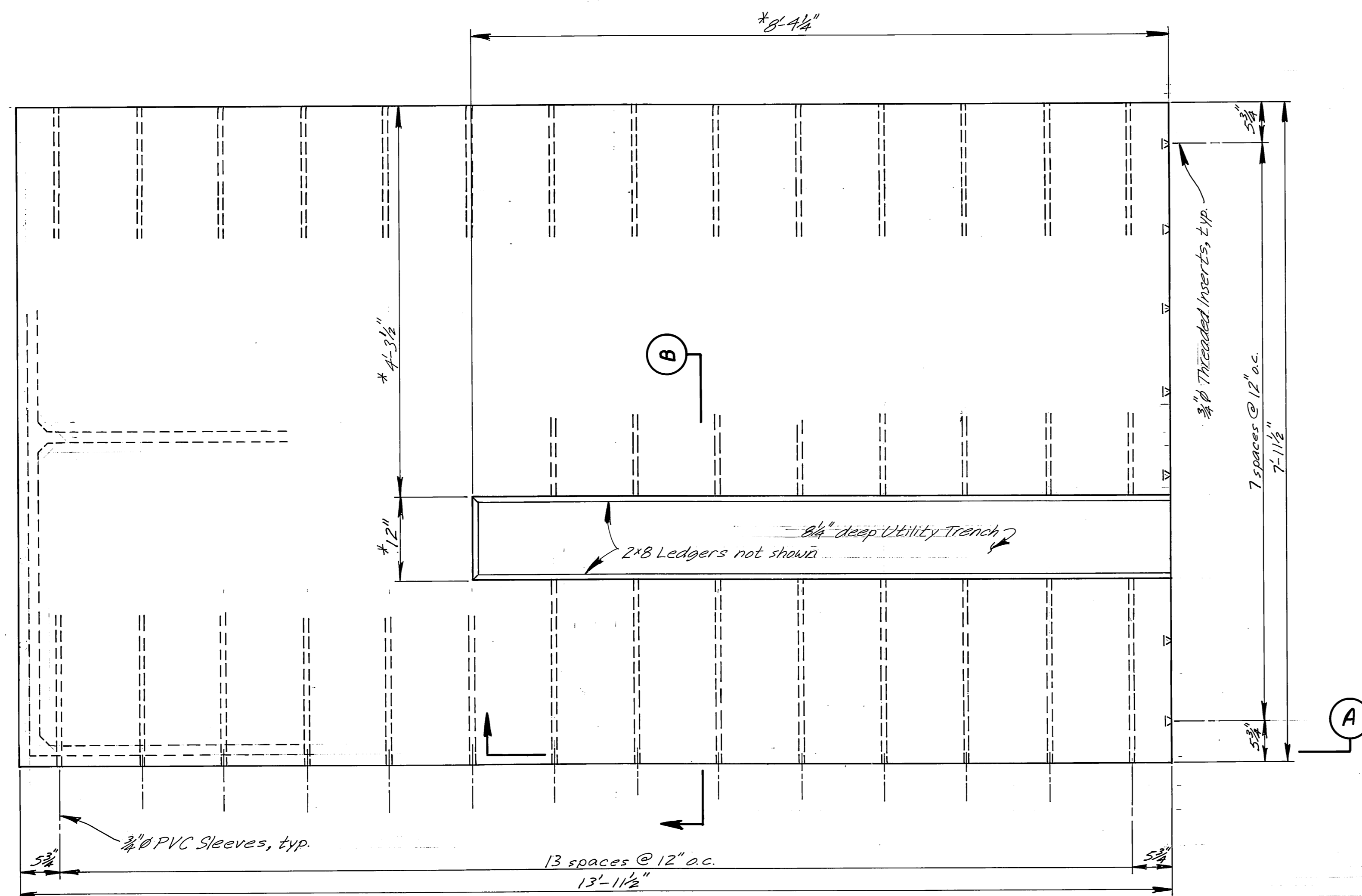


SIDE ELEVATION
1"=1'-0"



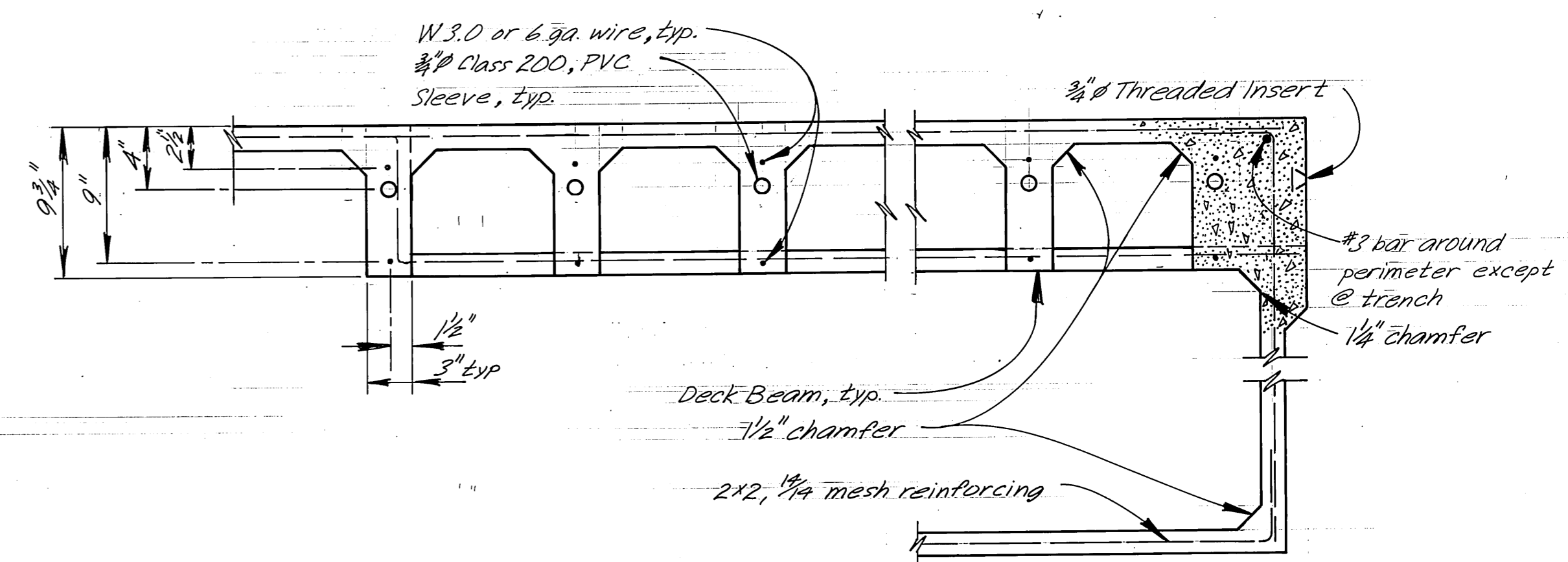
END ELEVATION
1"=1'-0"

* Two 8x14 Float Units req'd., one with utility trench, one without.

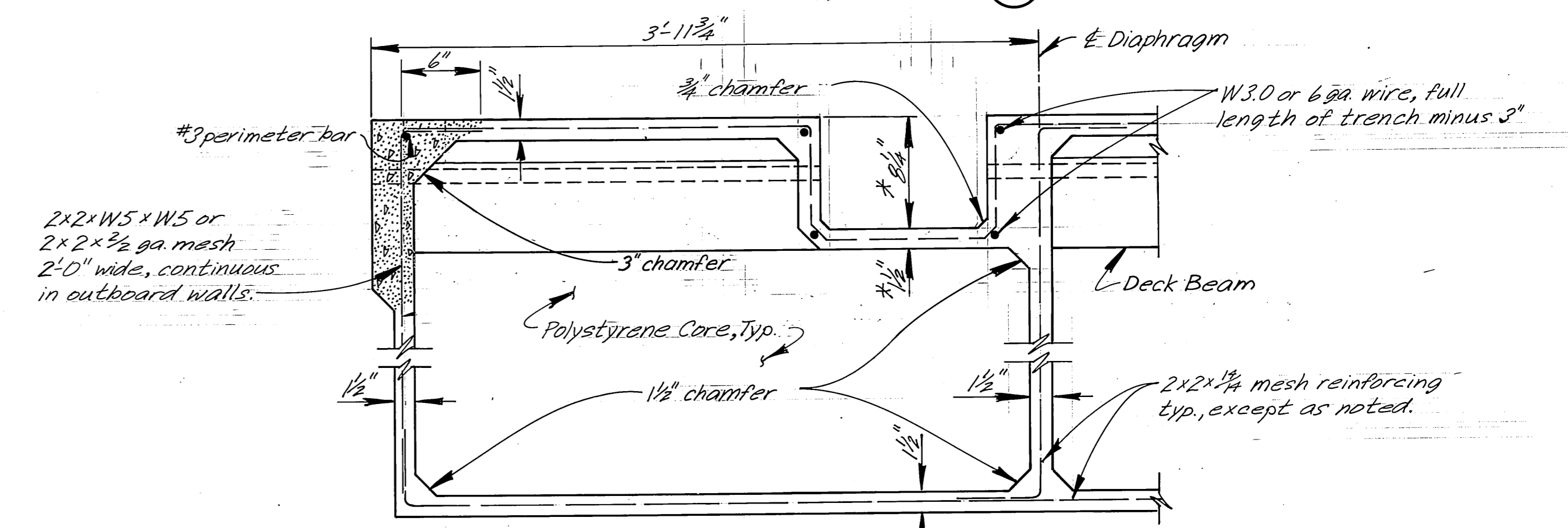


PLAN
1"=1'-0"
DETAIL N

Note: Float Unit Fabricator shall coordinate with Electrical Contractor, for Threaded Insert Locations of Distribution Panel and Post.



SECTION A
1/2"=1'-0"

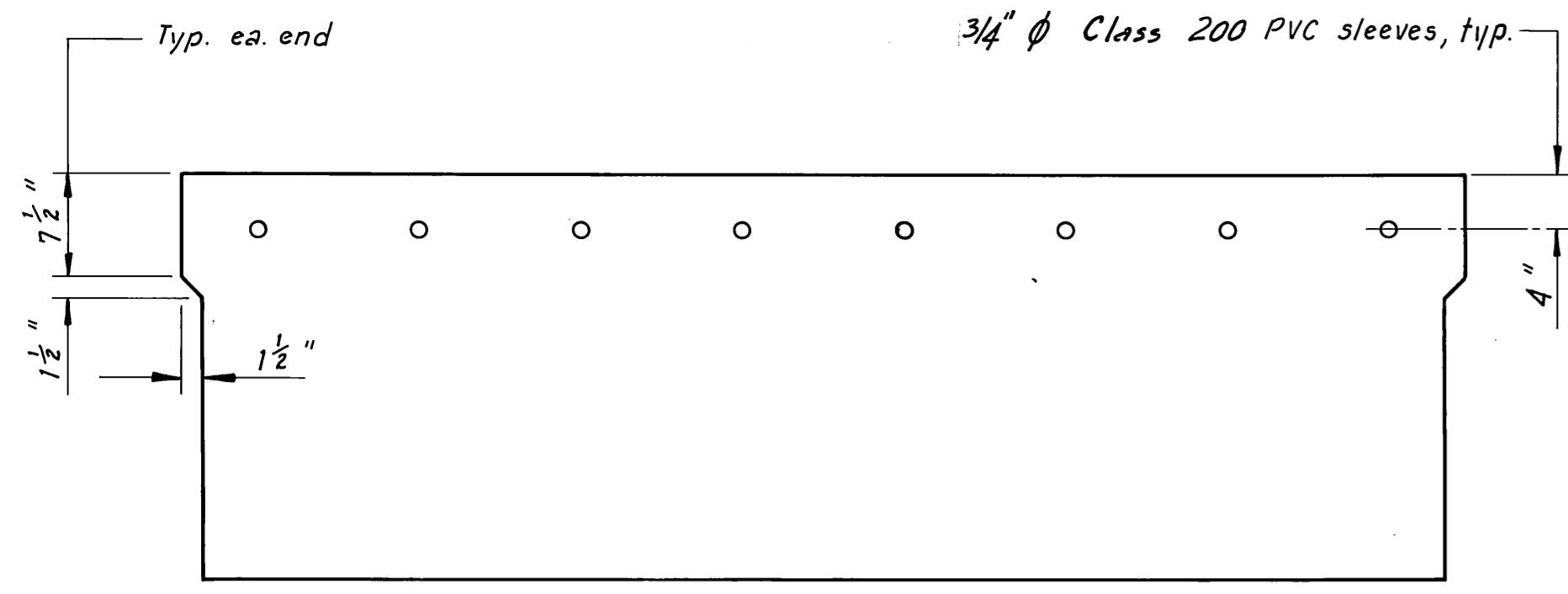


SECTION B
1/2"=1'-0"

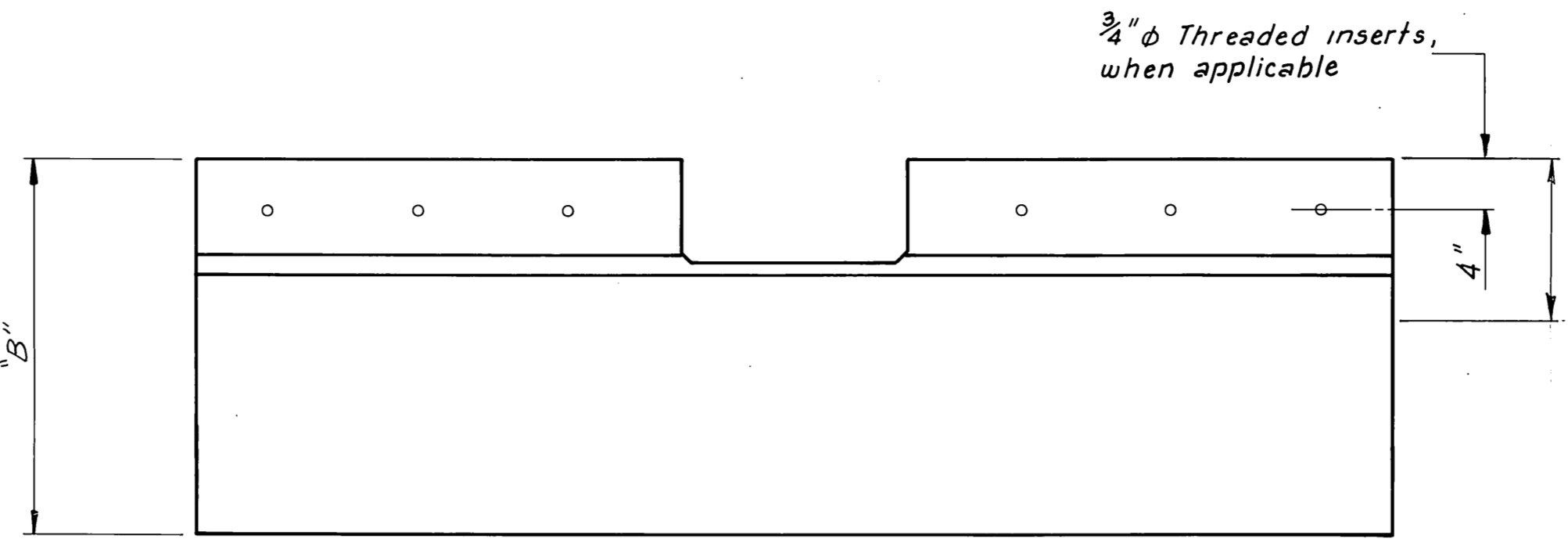
Estimated Weight = 11,240#, without trench

DCW 2-24-87

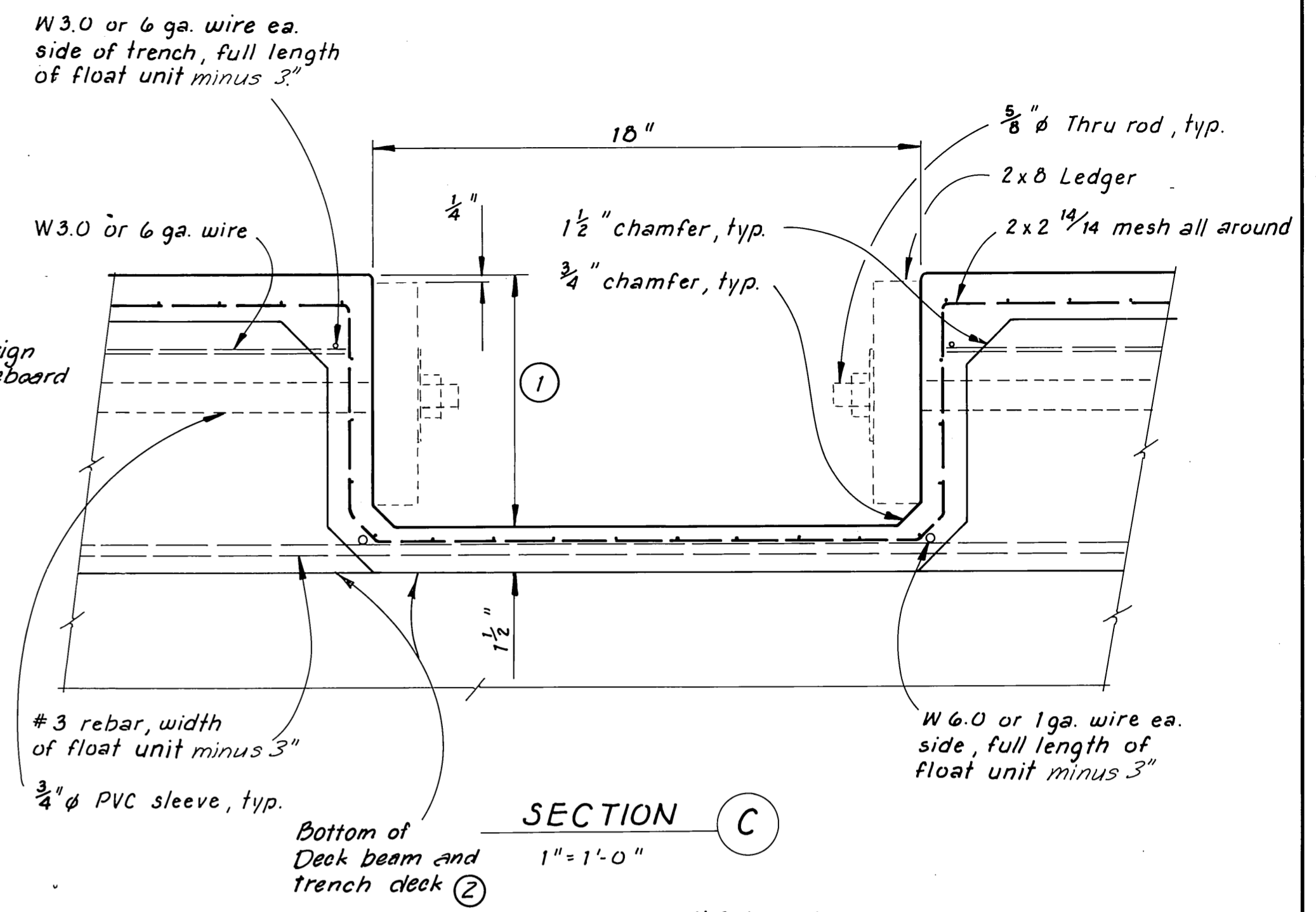
STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
		STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES HARBOR DESIGN AND CONSTRUCTION	
		Petersburg Alaska	
8x14 GANGWAY FLOAT UNIT			
SCALE: As Noted	SURVEYED:	APPROVED:	
DESIGNED: LJB	DRAWN: LJB		
CHECKED: JS	DATE: 4/83		
PROJECT NUMBER: K7819D	SHEET 12 OF 46		



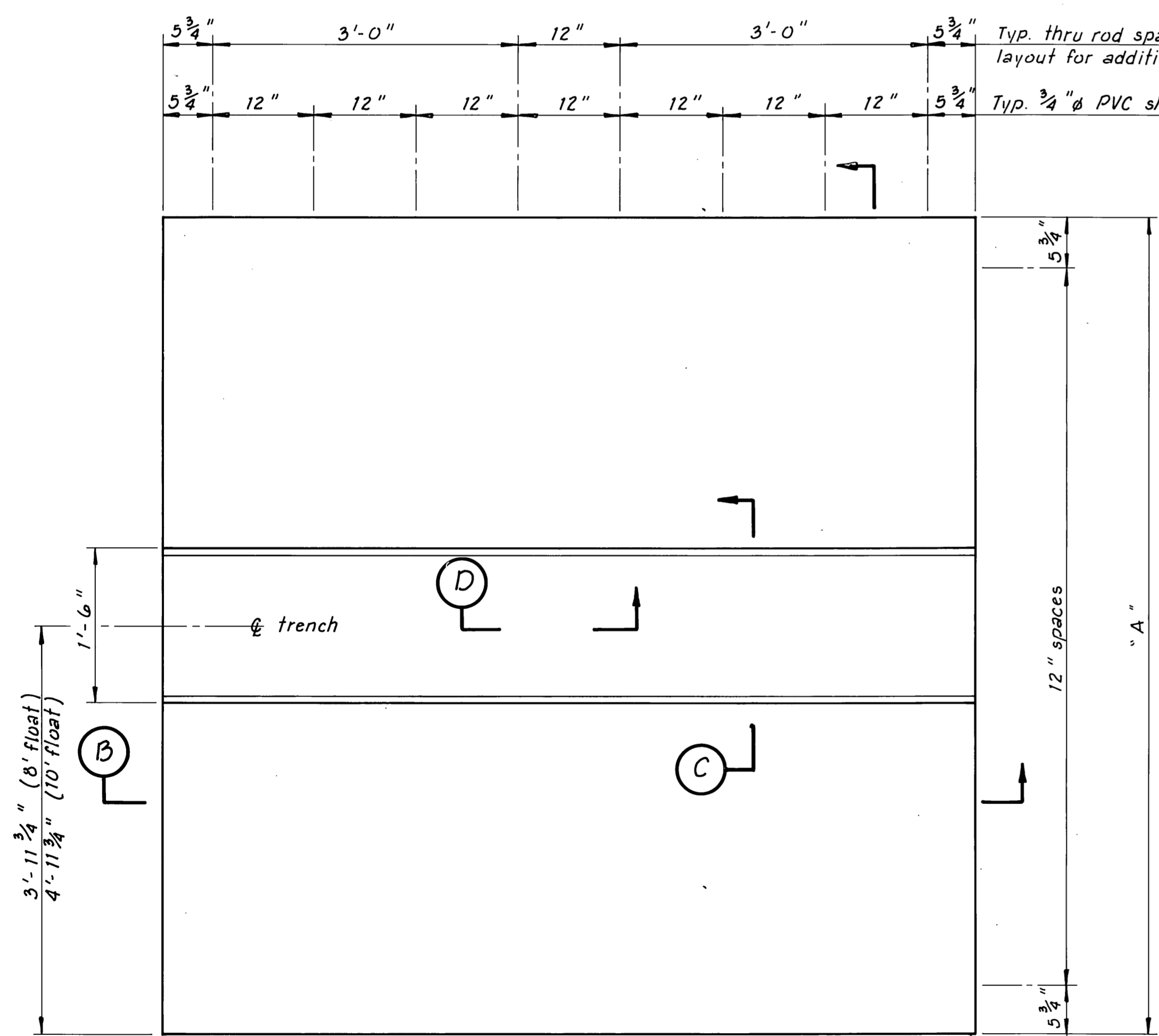
OUTBOARD ELEVATION
1" = 1'-0"



END ELEVATION
1" = 1'-0"

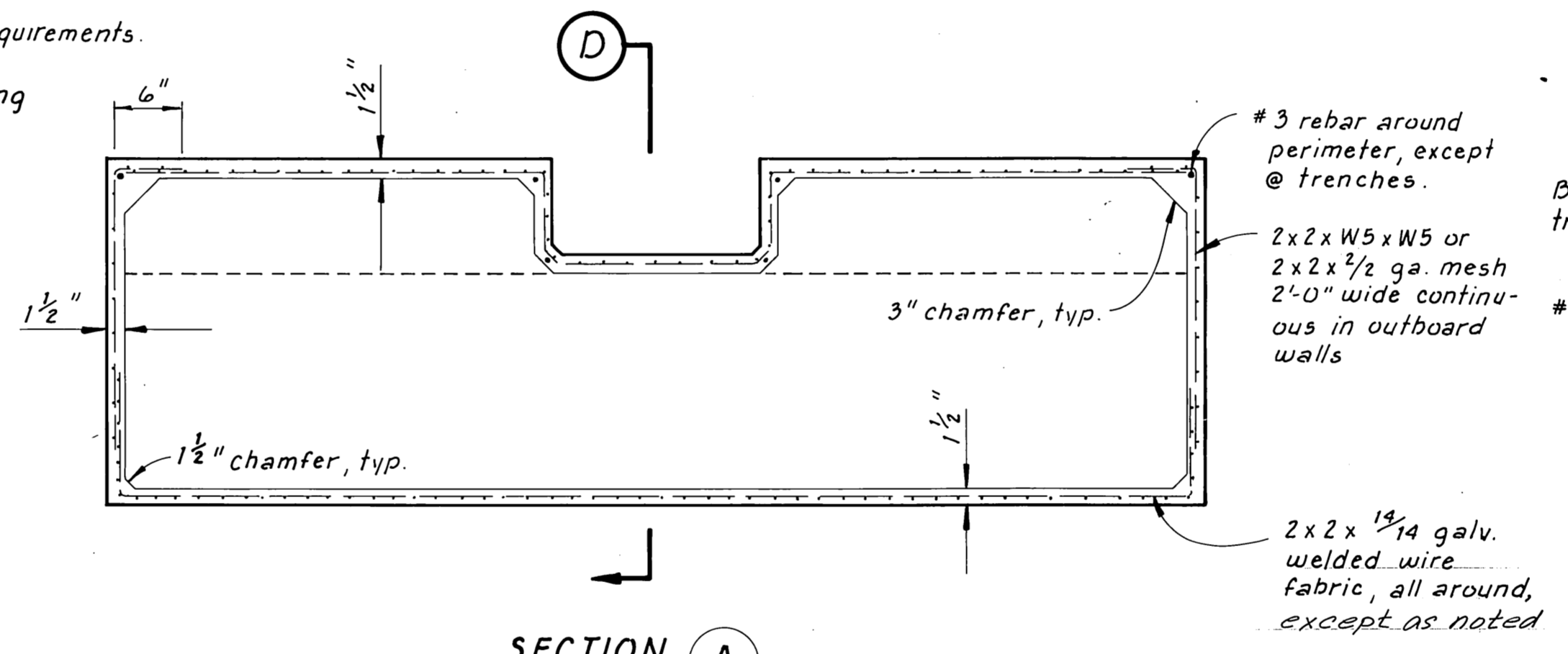


SECTION C
1" = 1'-0"

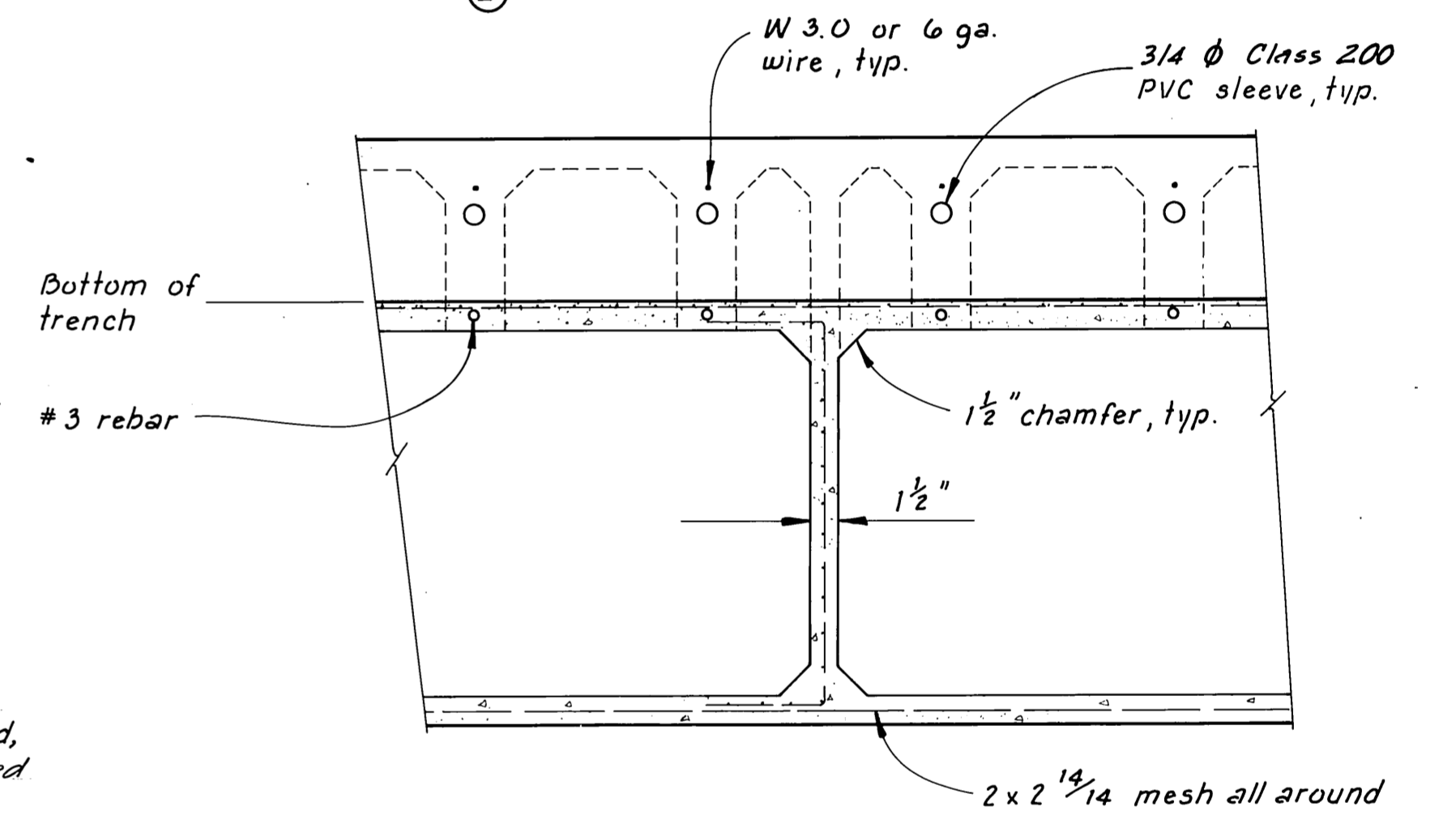


PLAN
1" = 1'-0"

3/4" Threaded insert spacing, @ End Float "F" and Interior Pile Collars for 8 x 10 Units



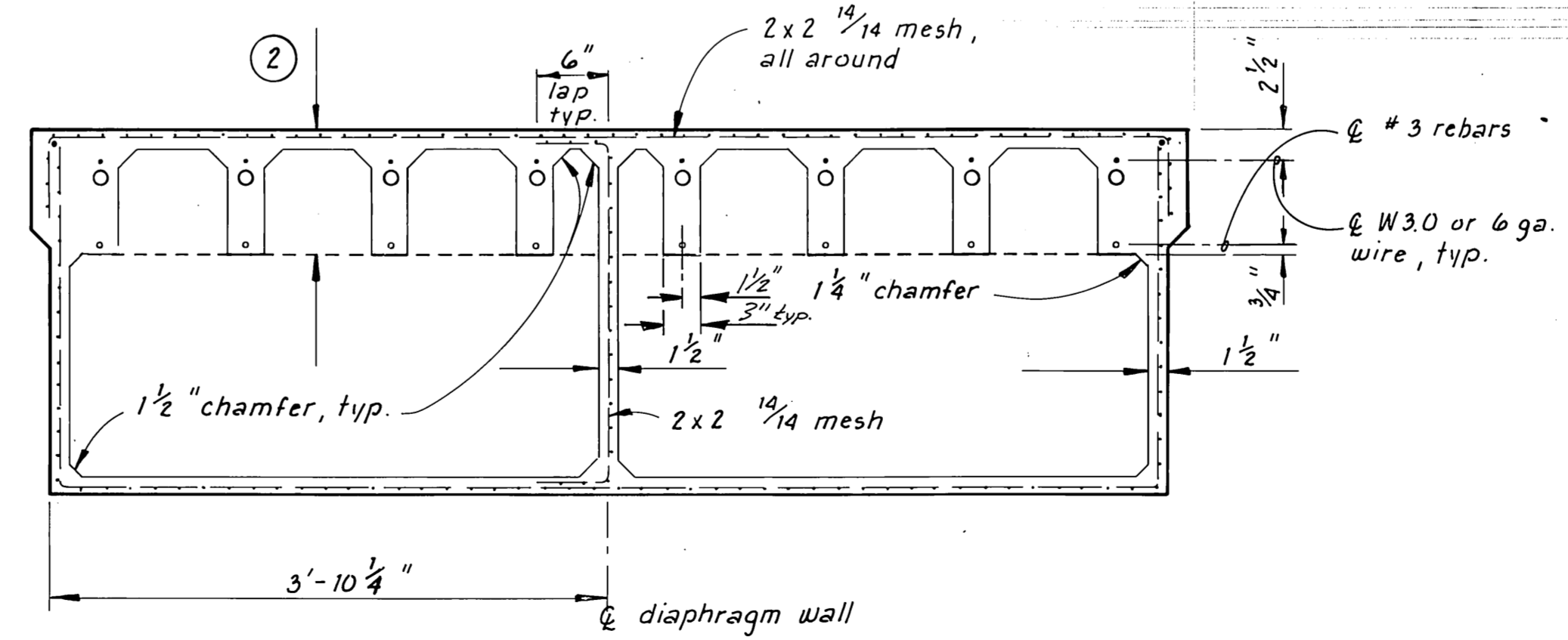
SECTION A
1" = 1'-0"



SECTION D
1 1/2" = 1'-0"

DIMENSIONS			
Nominal Float	"A"	"B"	Calc. Wt w/o timber
8x8	7'-11 1/2"	34"	6208
8x10	9'-11 1/2"	34"	7829
8x8 w/o trench	7'-11 1/2"	36"	6662

- General Notes:
- Trench depth varies, see utility trench intersection, sheets 15-17
 - Depth of deck beam varies with depth of trench. 9 3/4" typ. on 8x8 float shown.
 - All floats solidly filled w/ polystyrene as per specs.
 - Two Float Units w/o trenches req'd for Gangway Float. Use same reinforcing and deck beams as shown except 3/4" Thru Rods. Approx. Freeboard=16"



SECTION B
1" = 1'-0"

DCW 2-24-87

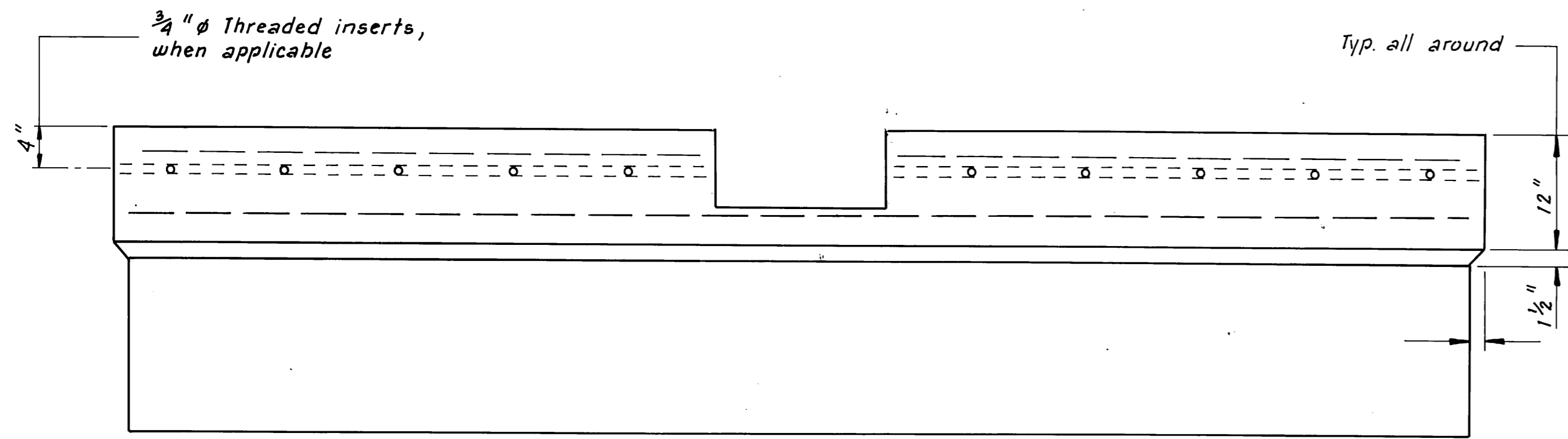
DO NOT SCALE THIS DRAWING - USE DIMENSIONS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
HARBOR DESIGN AND CONSTRUCTION

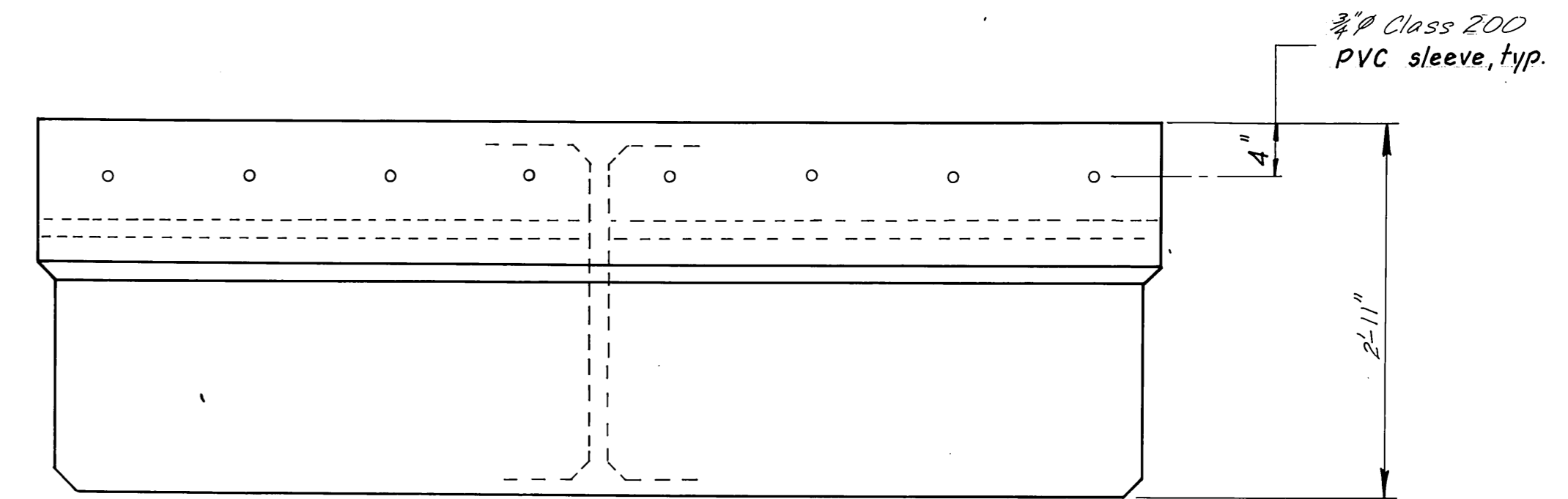
Petersburg Alaska

TYPICAL 8'x8' and 8'x10' FLOAT UNITS

SCALE As Noted	SURVEYED	APPROVED
DESIGNED Staff	DRAWN TS	
CHECKED JS	DATE 4-83	
PROJECT NUMBER K-78190	SHEET 13 OF 46	



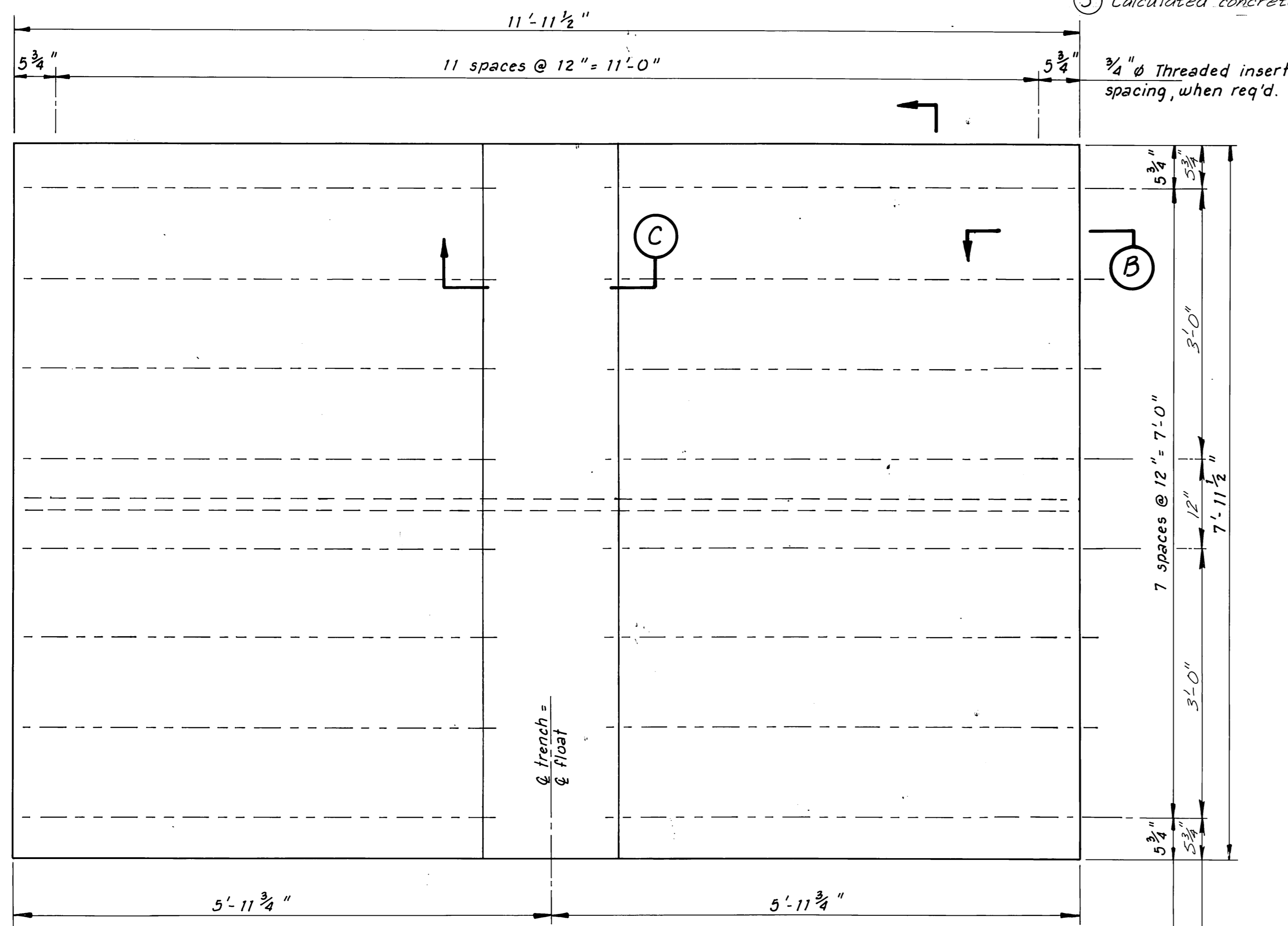
END ELEVATION
1" = 1'-0"



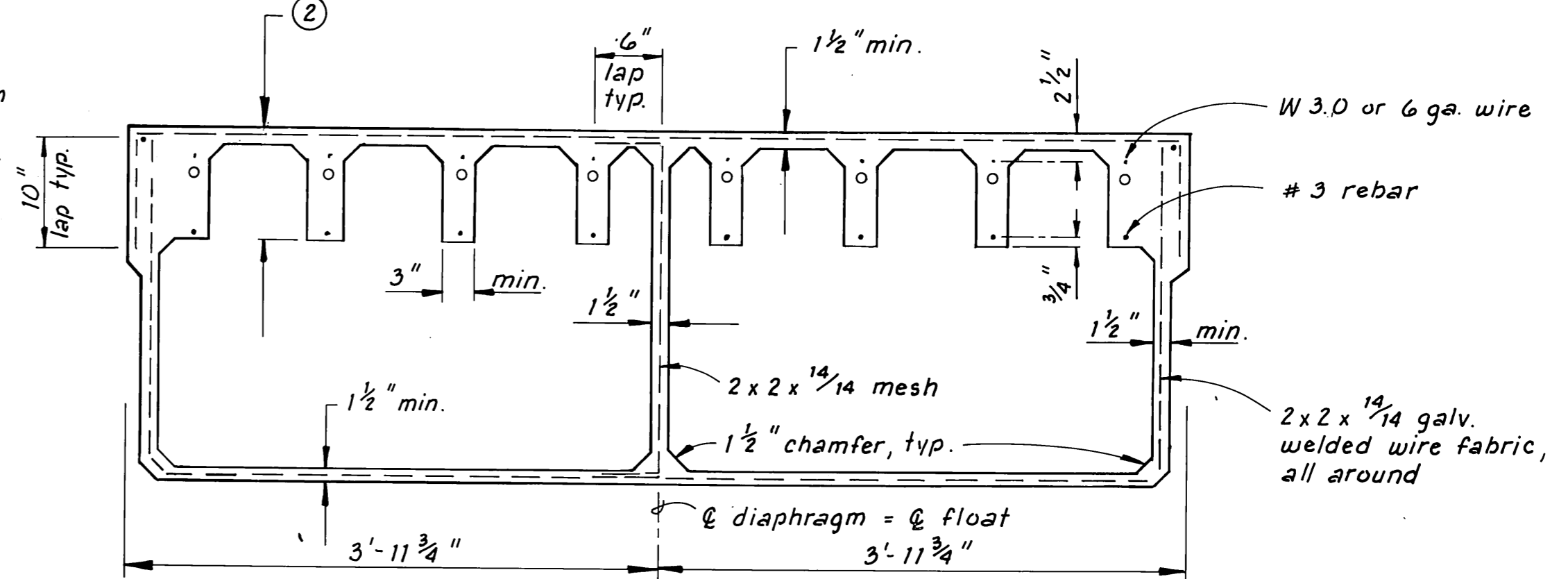
OUTBOARD ELEVATION
1" = 1'-0"

GENERAL NOTES

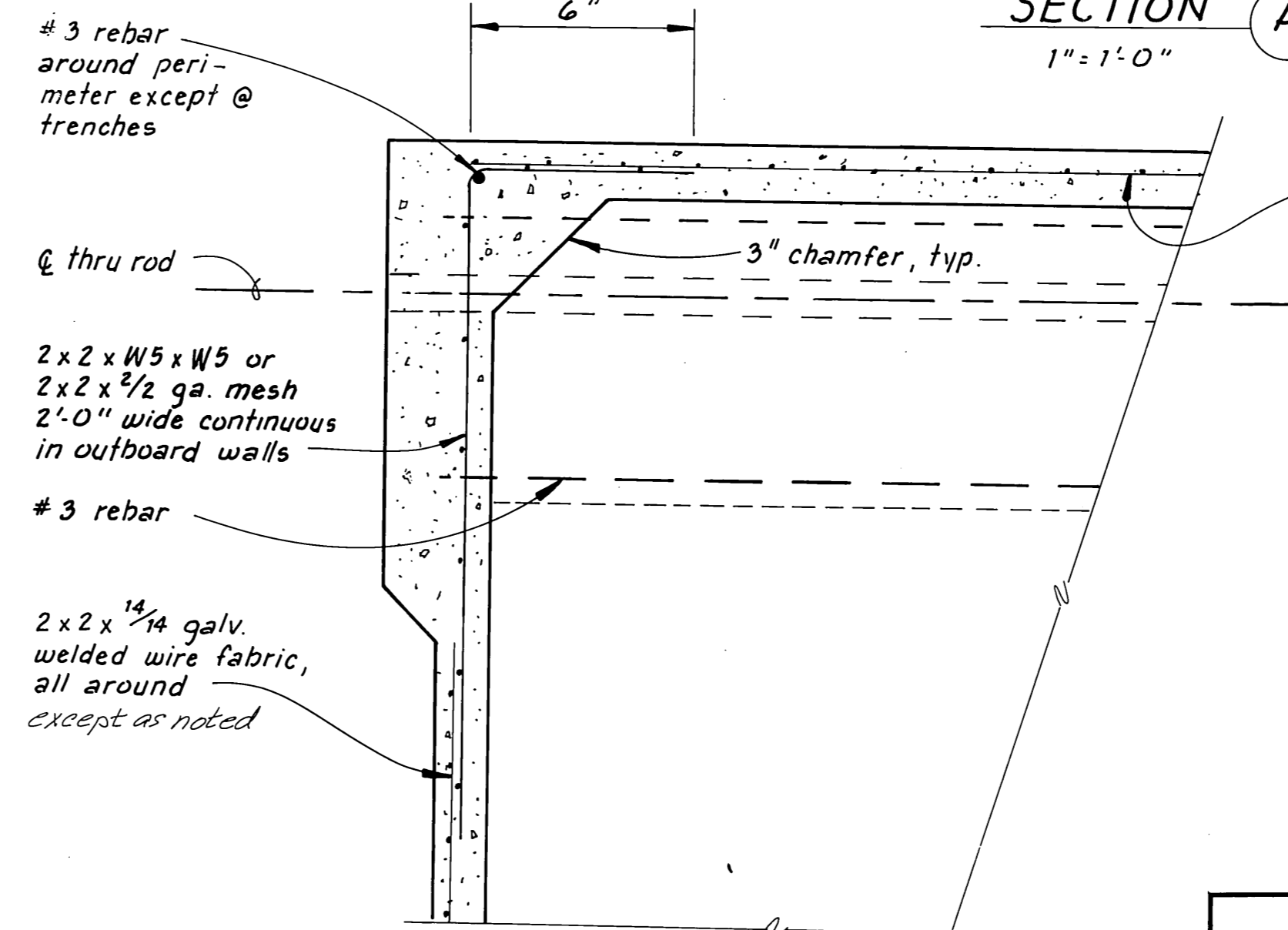
- ① Trench depth varies, see utility trench intersection details, shfs. 16 & 17.
- ② Depth of deck beam varies with depth of trench. 9 3/4" typ. on float shown.
- ③ Diaphragm to be parallel to and half way between the two center thru rods (@ ϕ of unit). Where diaphragm intersects walls, floor or deck of unit chamfers of 1 1/2" on ea. side will be req'd. Diaphragm to be reinforced w/ 2 x 2 x W14/W14 wire mesh.
- ④ All floats filled solidly w/ polystyrene as per specs.
- ⑤ Calculated concrete weight w/o timber = 9559



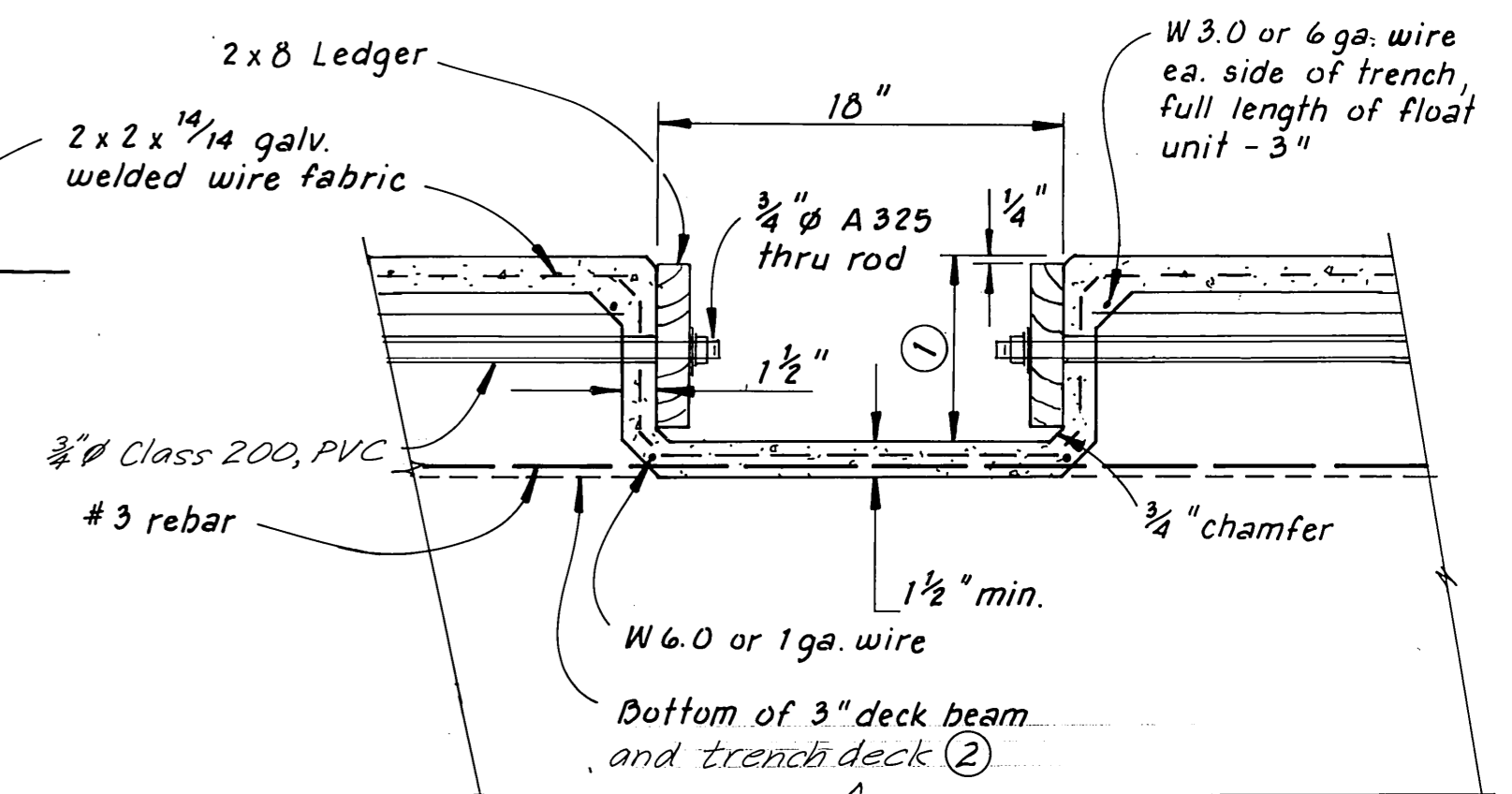
PLAN
1" = 1'-0"



SECTION A
1" = 1'-0"

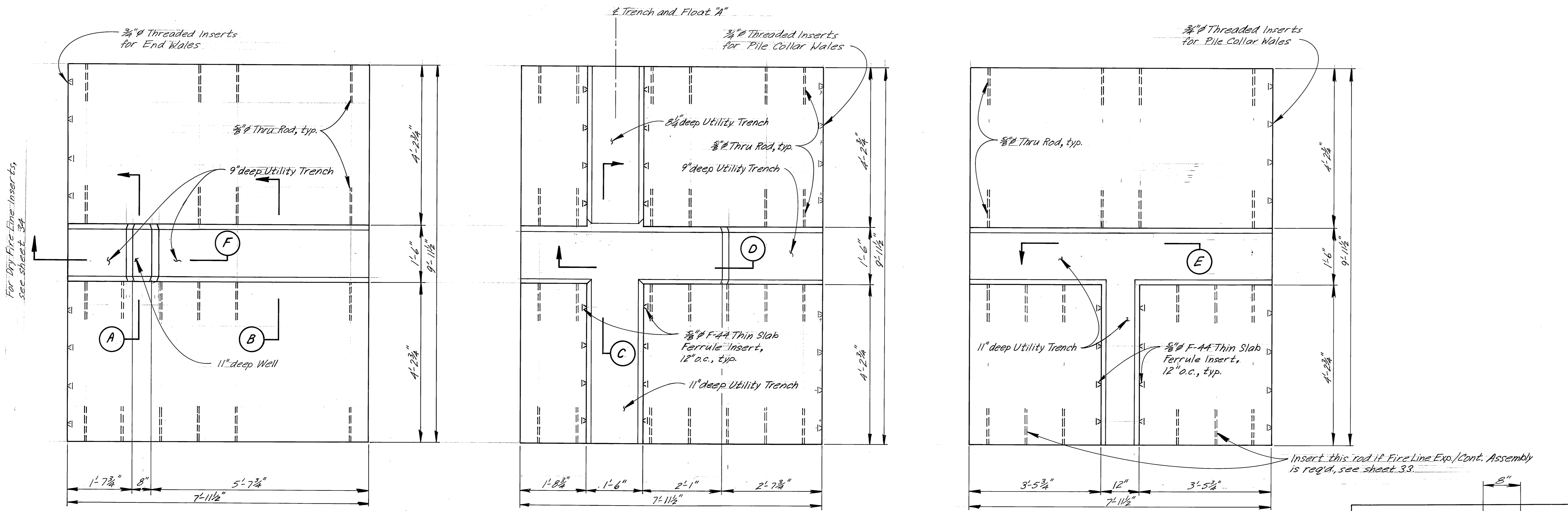


SECTION B
3" = 1'-0"

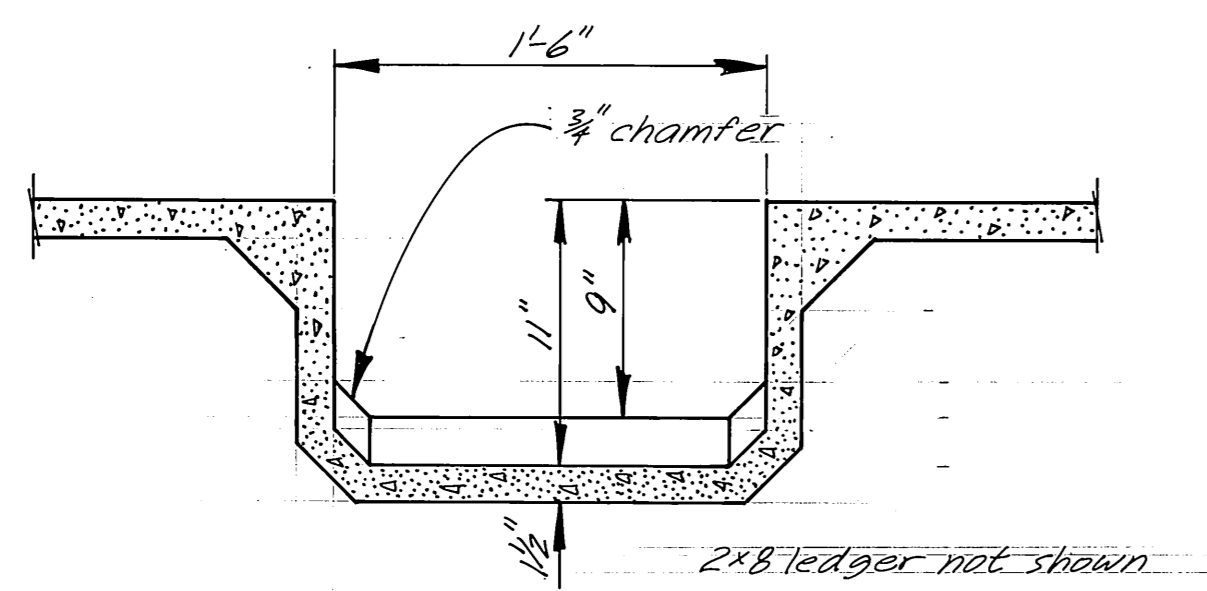


SECTION C
1 1/2" = 1'-0"

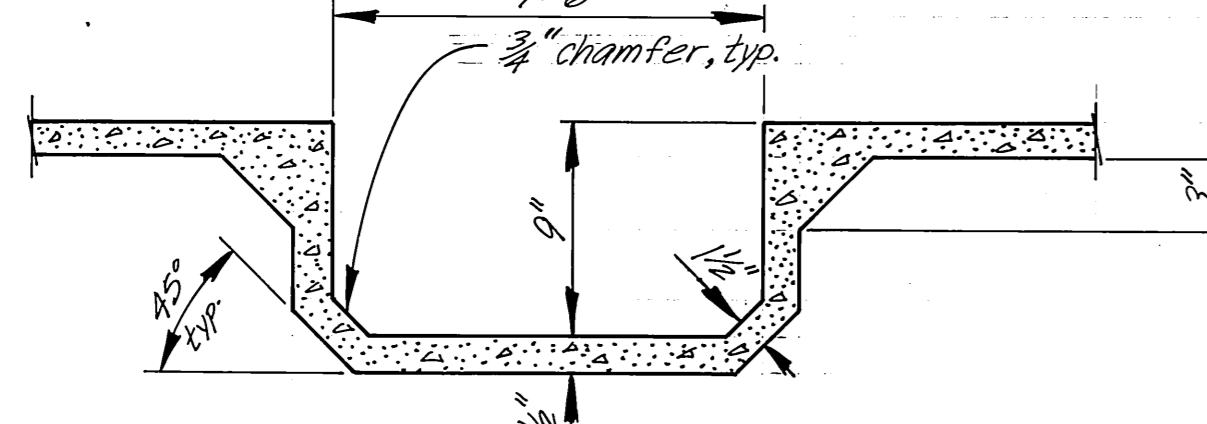
STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES HARBOR DESIGN AND CONSTRUCTION			
Petersburg		Alaska	
TYPICAL 8'x 12' FLOAT UNIT			
SCALE: As Noted	SURVEYED: <u>staff</u>	APPROVED: _____	
DESIGNED: <u>staff</u>	DRAWN: <u>RAM/DB</u>	DATE: <u>4-83</u>	
CHECKED: <u>US</u>	PROJECT NUMBER: <u>K-78190</u>		
PROJECT NUMBER: <u>K-78190</u>		SHEET <u>14</u> OF <u>46</u>	



DETAIL A
 $\frac{3}{4}'' = 1'-0''$
 (Dry Fire Line - Submarine to Float @ Begin. Float "E")

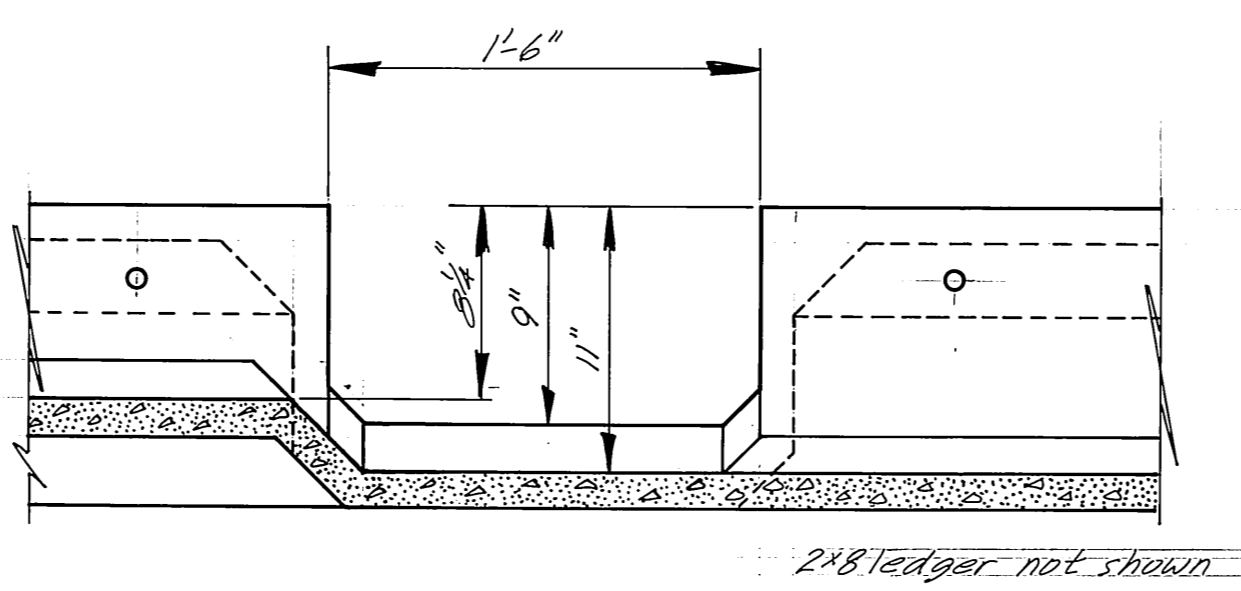


SECTION A
 $\frac{1}{2}'' = 1'-0''$

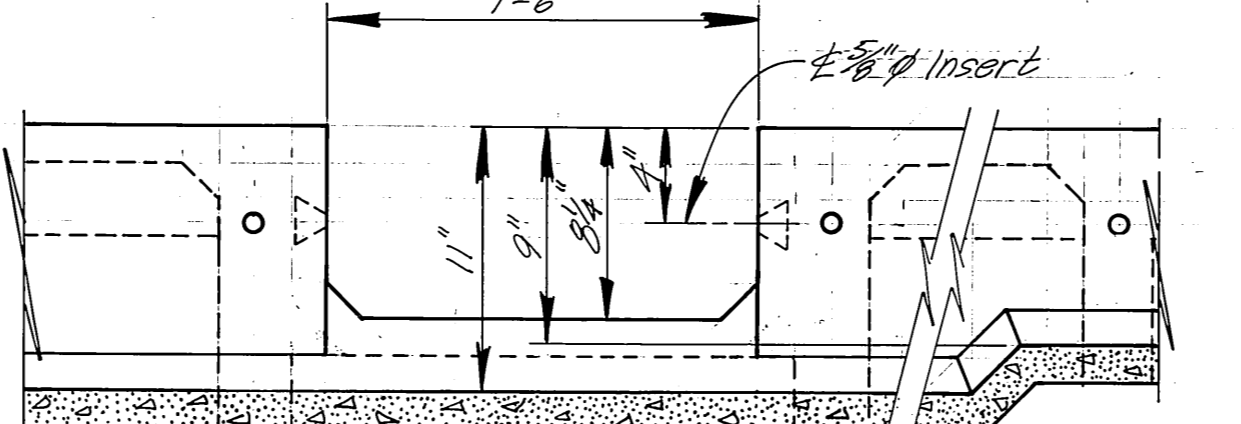


SECTION B
 $\frac{1}{2}'' = 1'-0''$

DETAIL B
 $\frac{3}{4}'' = 1'-0''$
 (Float "A" to "E" Intersection w/ Fire Line Tee and Transformer)

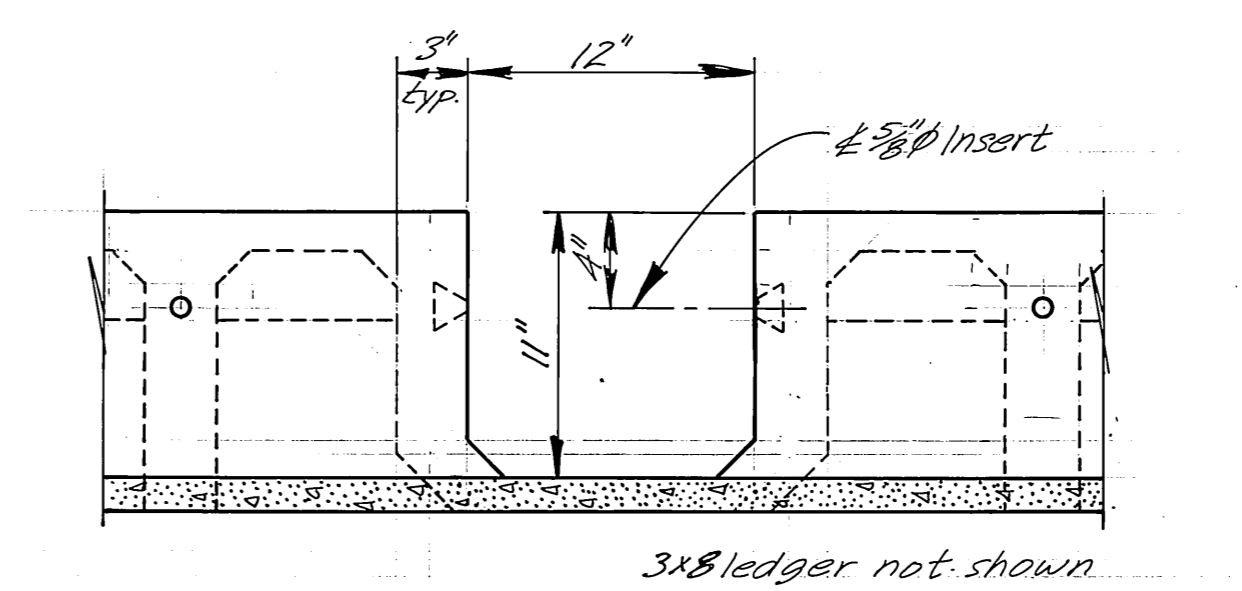


SECTION C
 $\frac{1}{2}'' = 1'-0''$

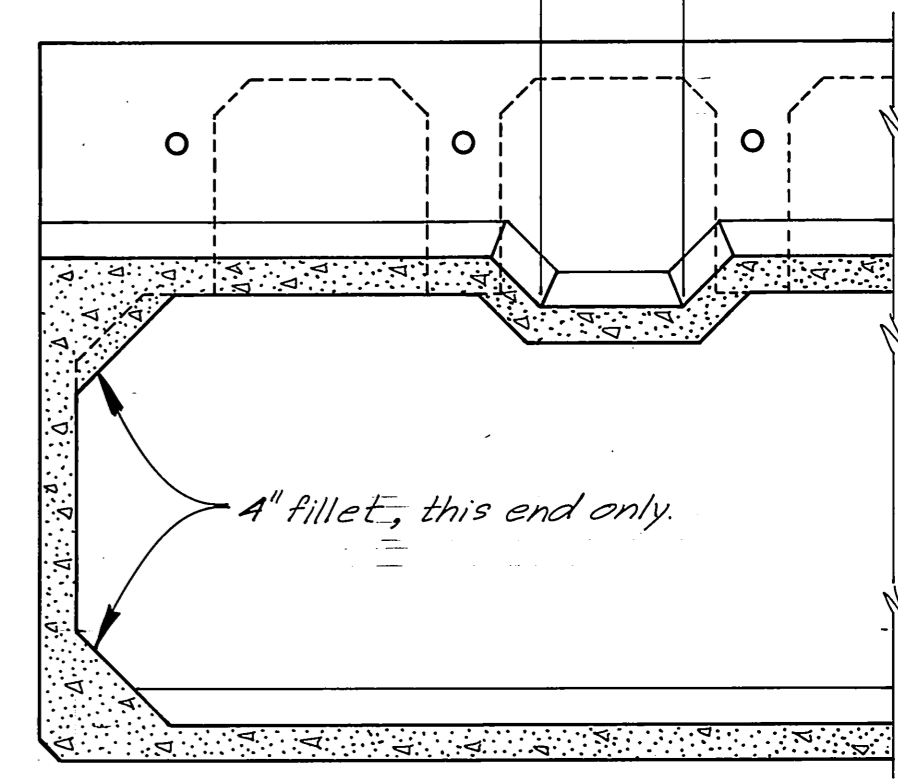


SECTION D
 $\frac{1}{2}'' = 1'-0''$

DETAIL C
 $\frac{3}{4}'' = 1'-0''$
 (Electrical Cross Trench for Floats "E" and "F")



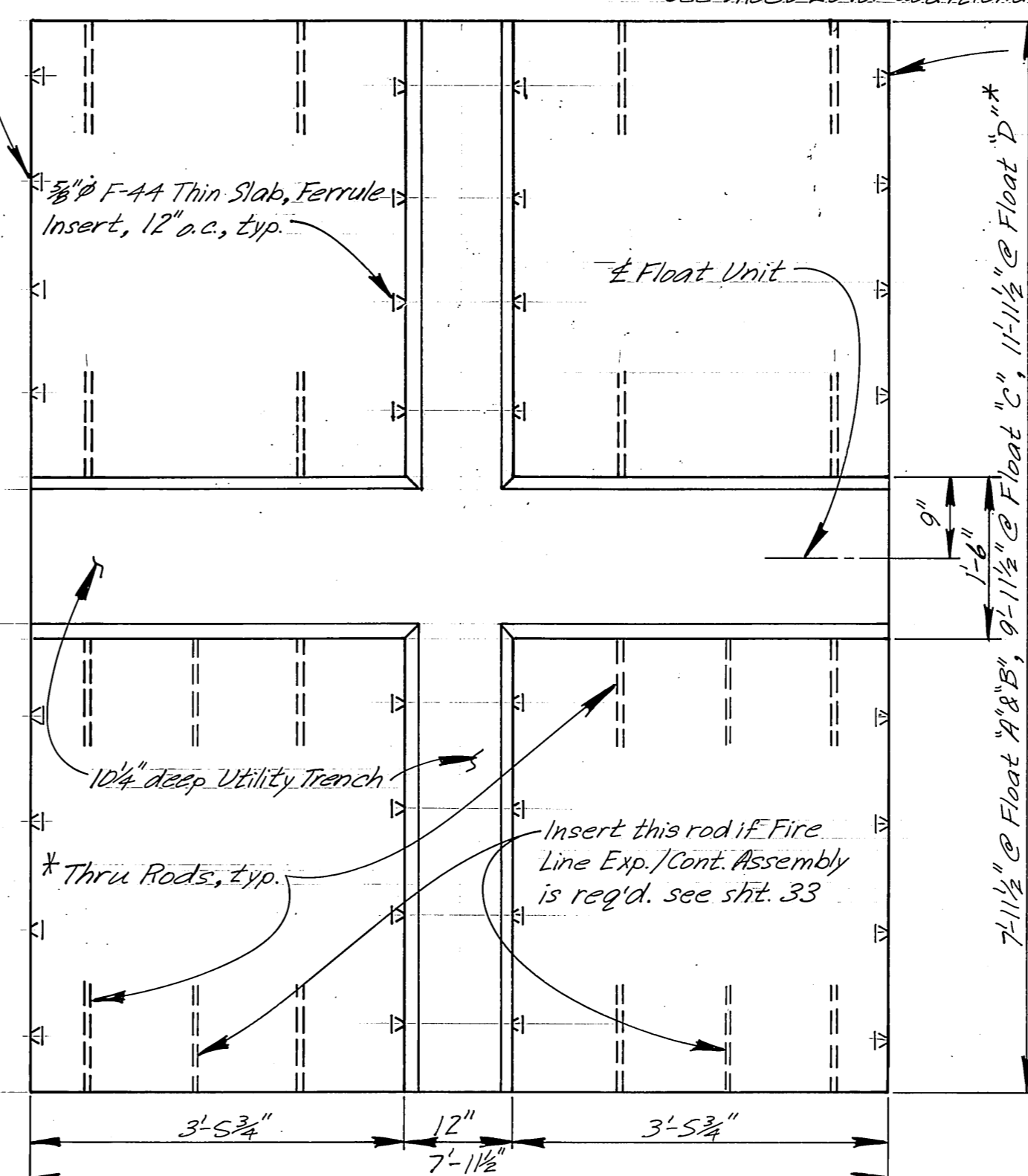
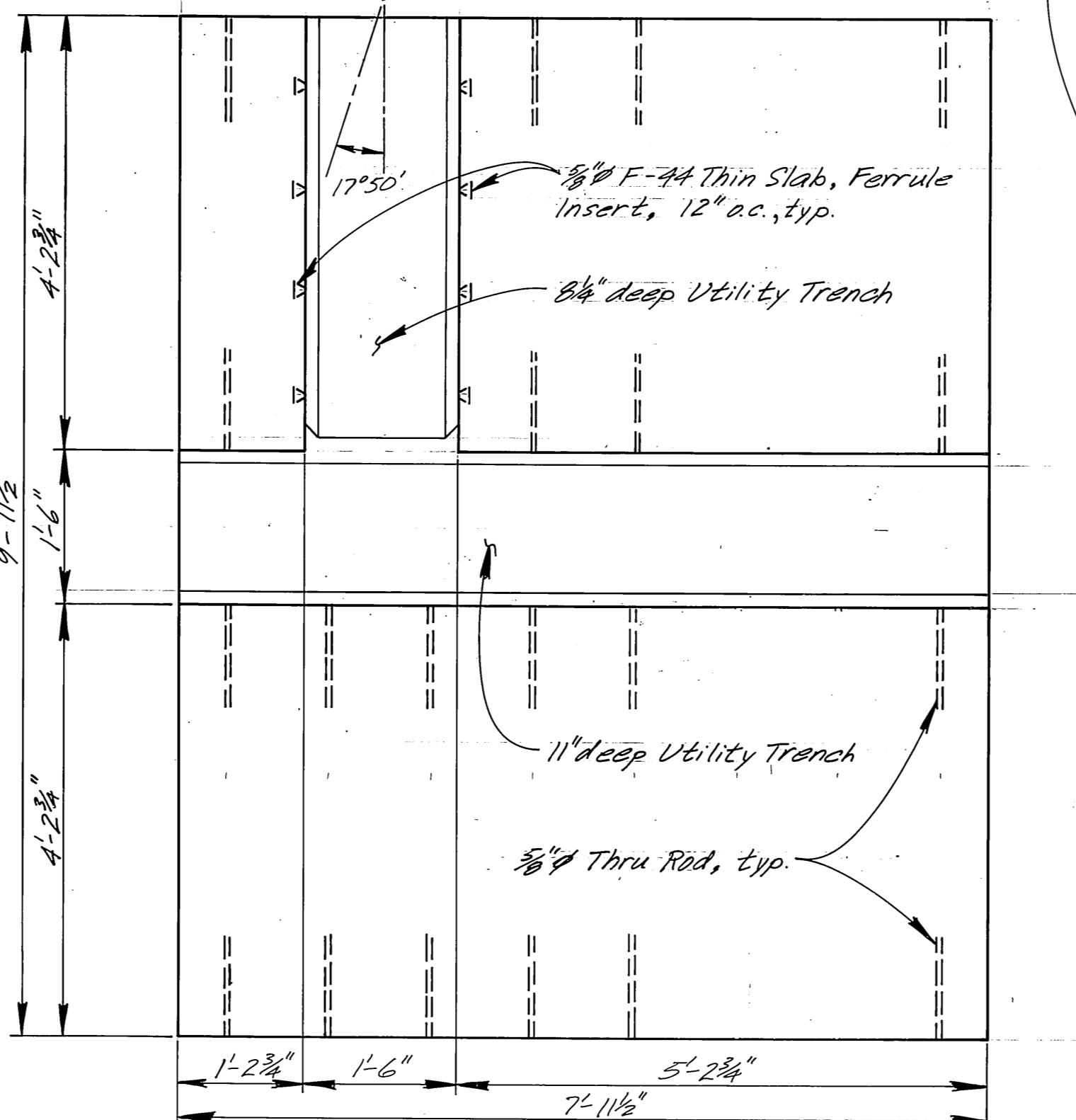
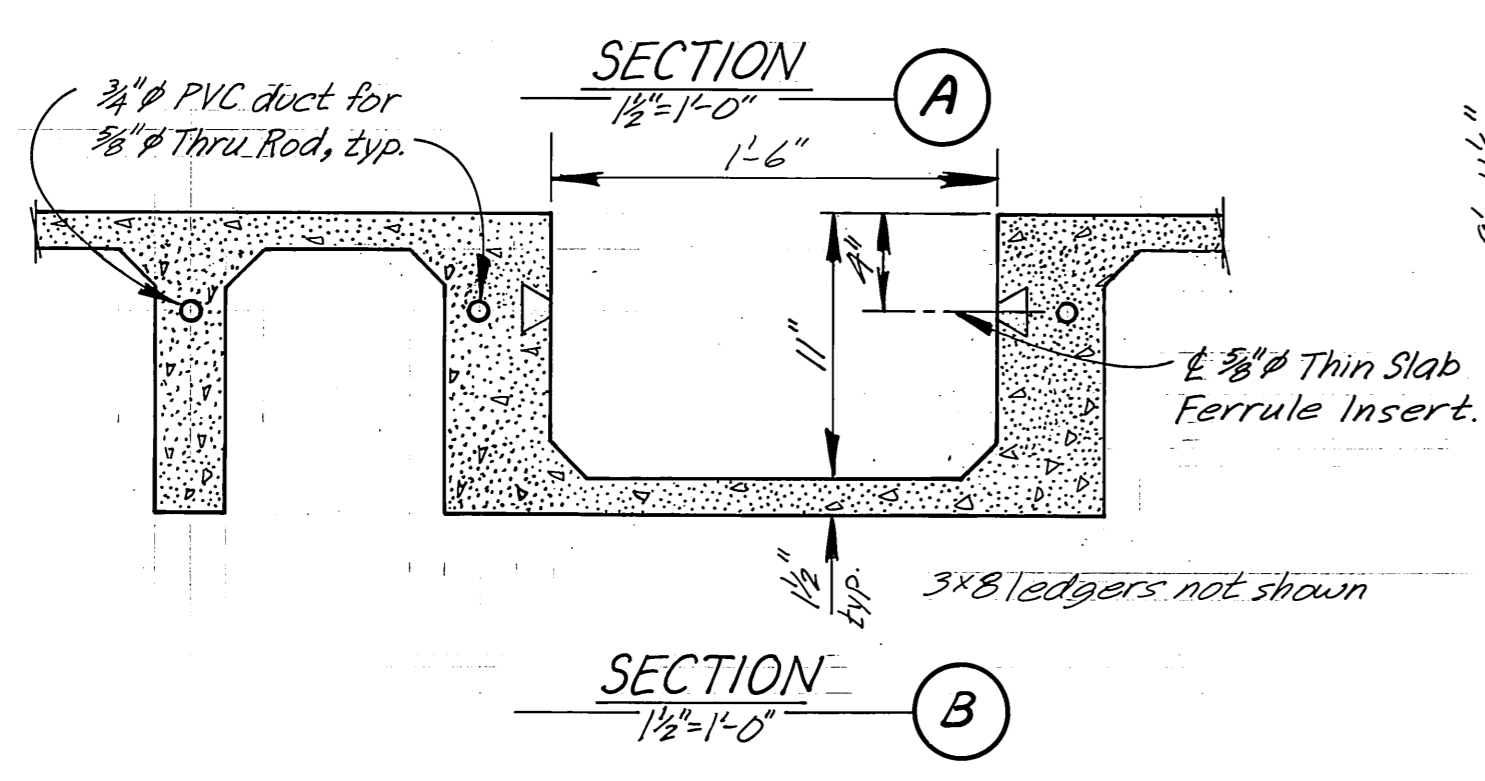
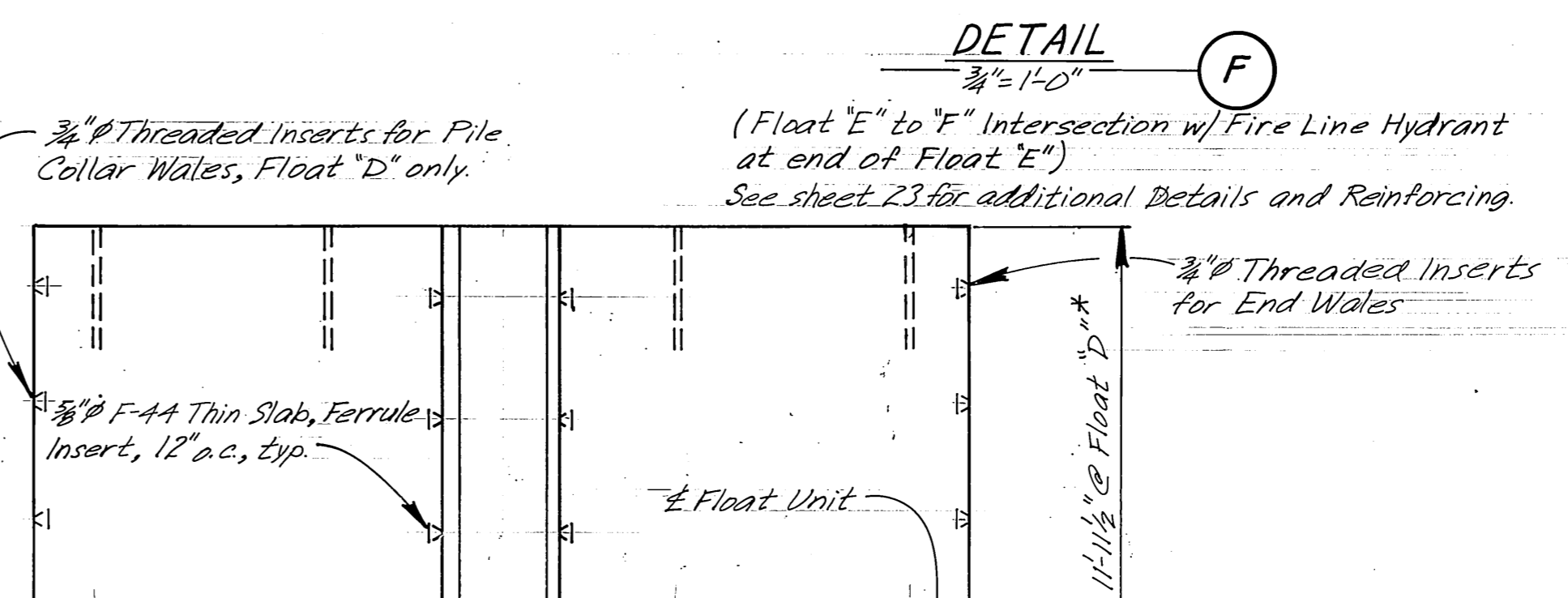
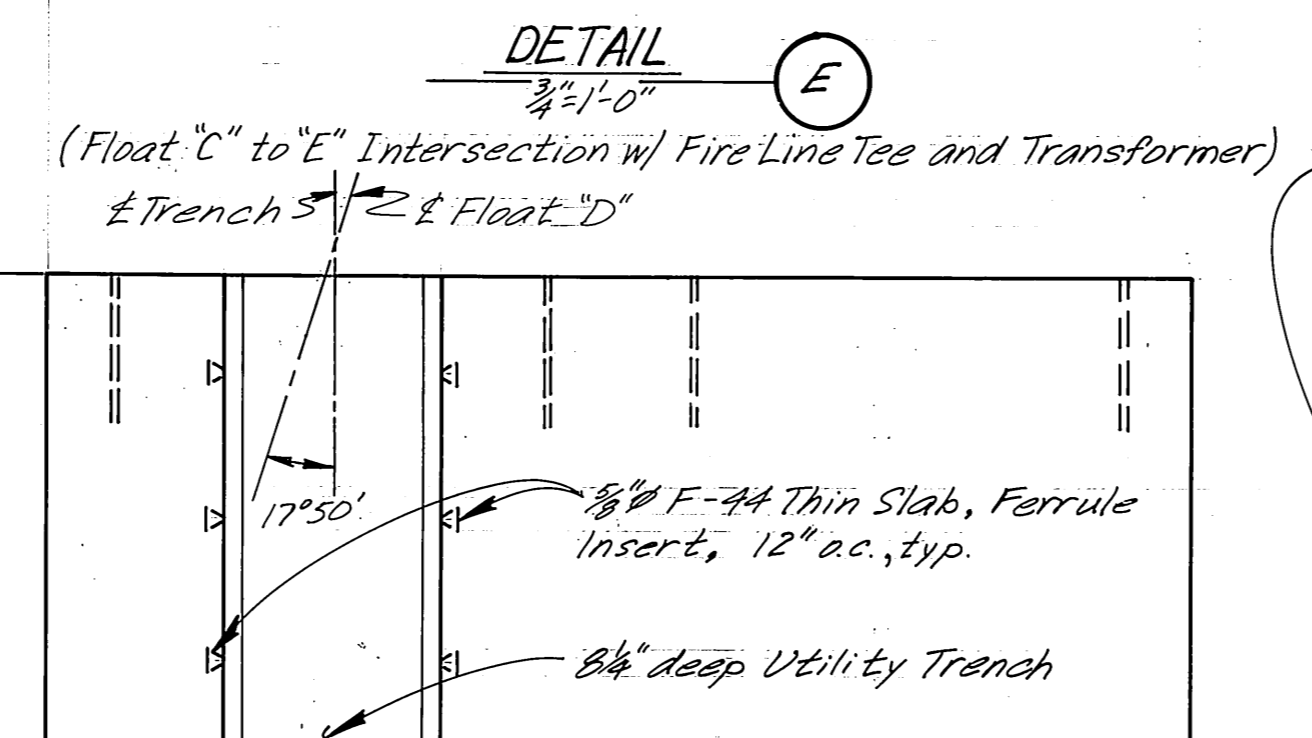
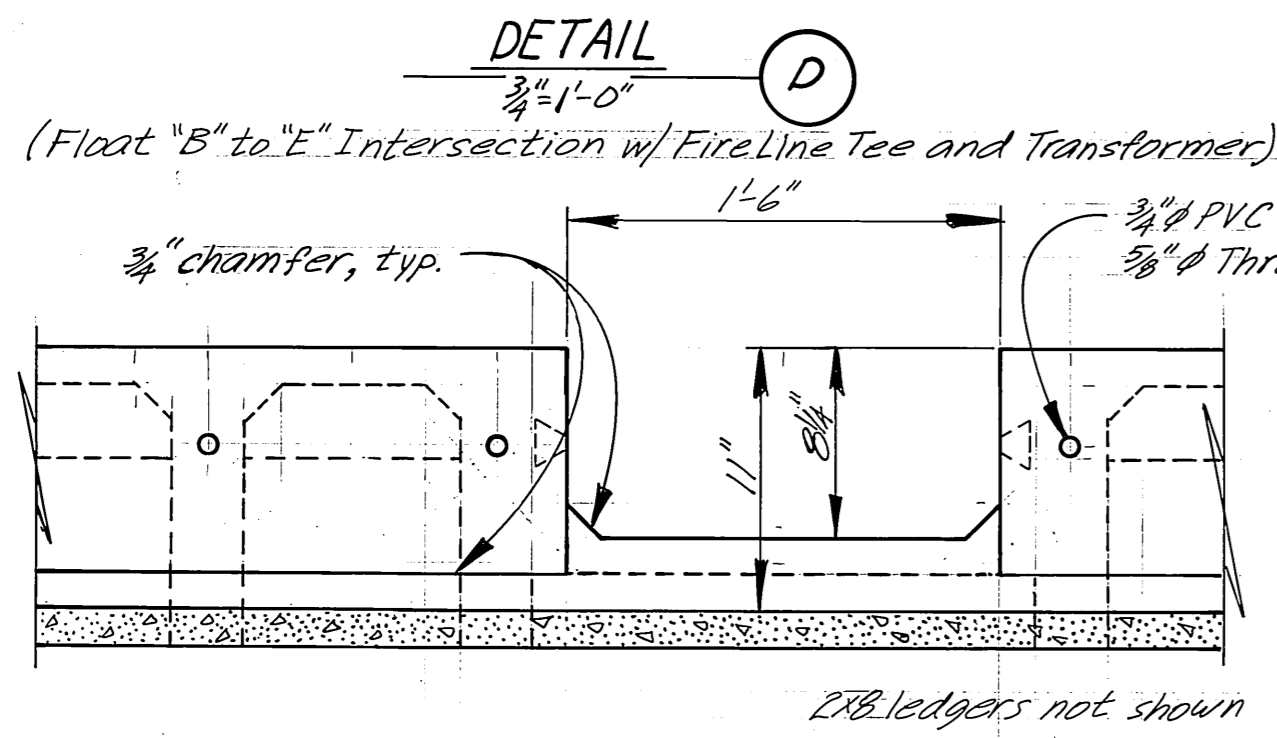
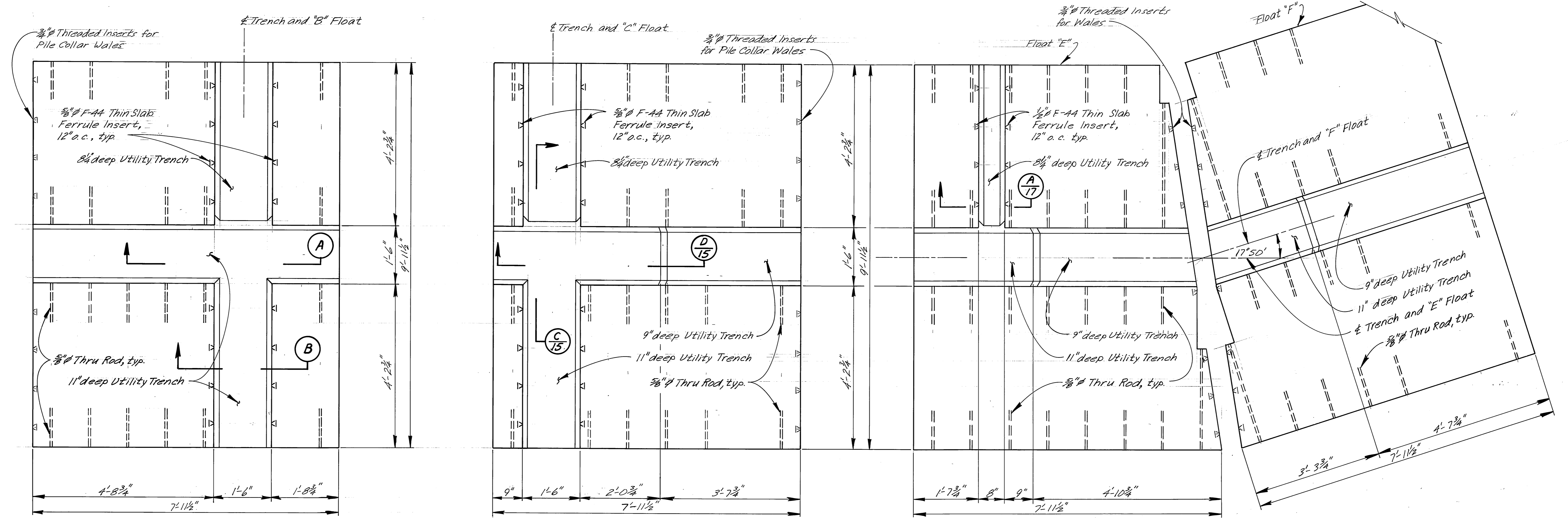
SECTION E
 $\frac{1}{2}'' = 1'-0''$



SECTION F
 $\frac{1}{2}'' = 1'-0''$

Note:
 1) See sheet 13 for additional details and reinforcing.
 2) Ledgers not shown: 2x8 ledgers in main trench and Fire Line cross trenches and 3x8 ledgers in Electrical trench

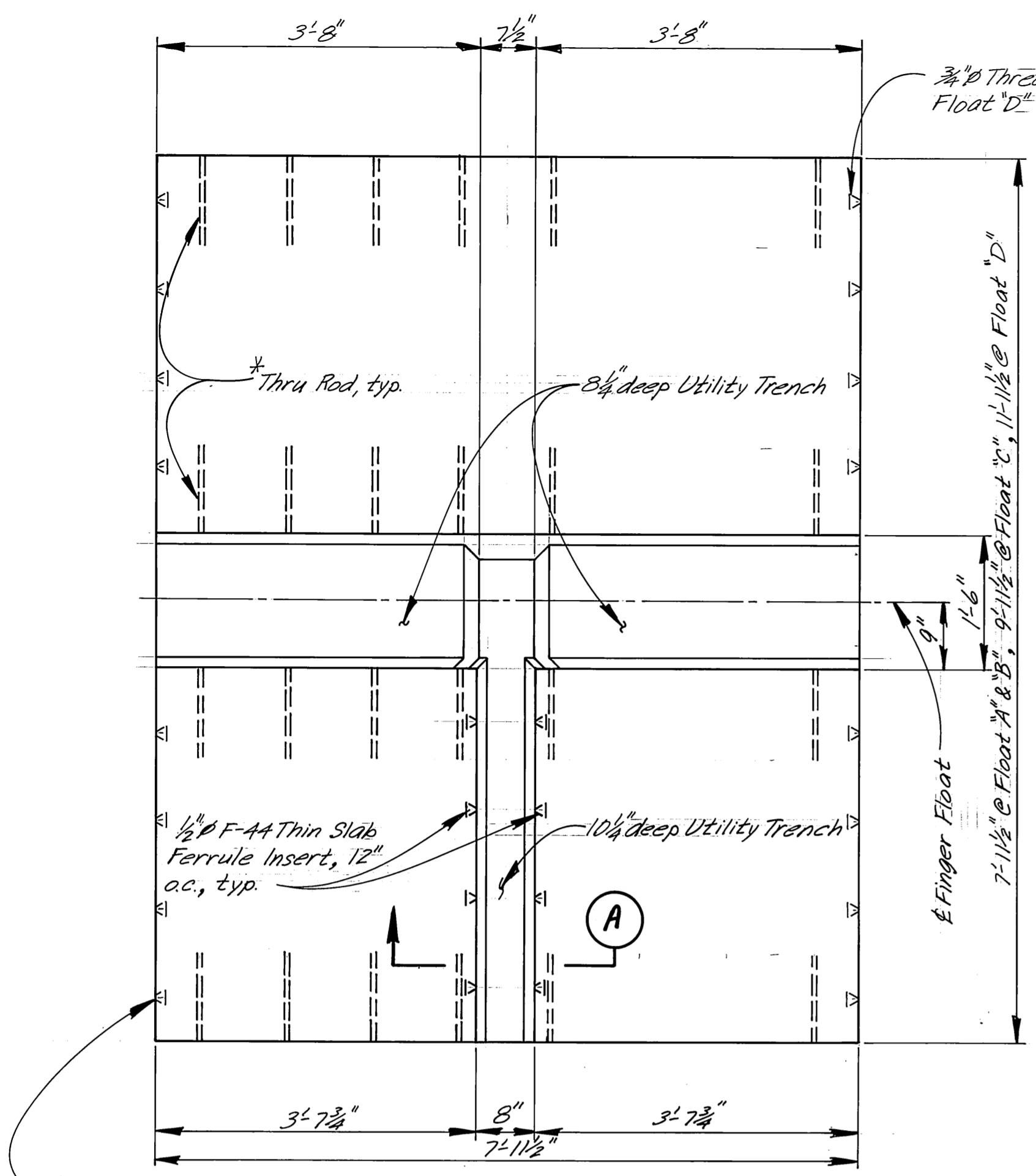
STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
		STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES HARBOR DESIGN AND CONSTRUCTION	
		Petersburg Alaska	
UTILITY TRENCH INTERSECTIONS FLOAT "E" & "F"			
SCALE: As Noted	SURVEYED: _____	APPROVED: _____	
DESIGNED: Staff	DRAWN: LJB	DATE: 3/17/83	
CHECKED: JS	PROJECT NUMBER: K78190		
SHEET: 15 OF 46			



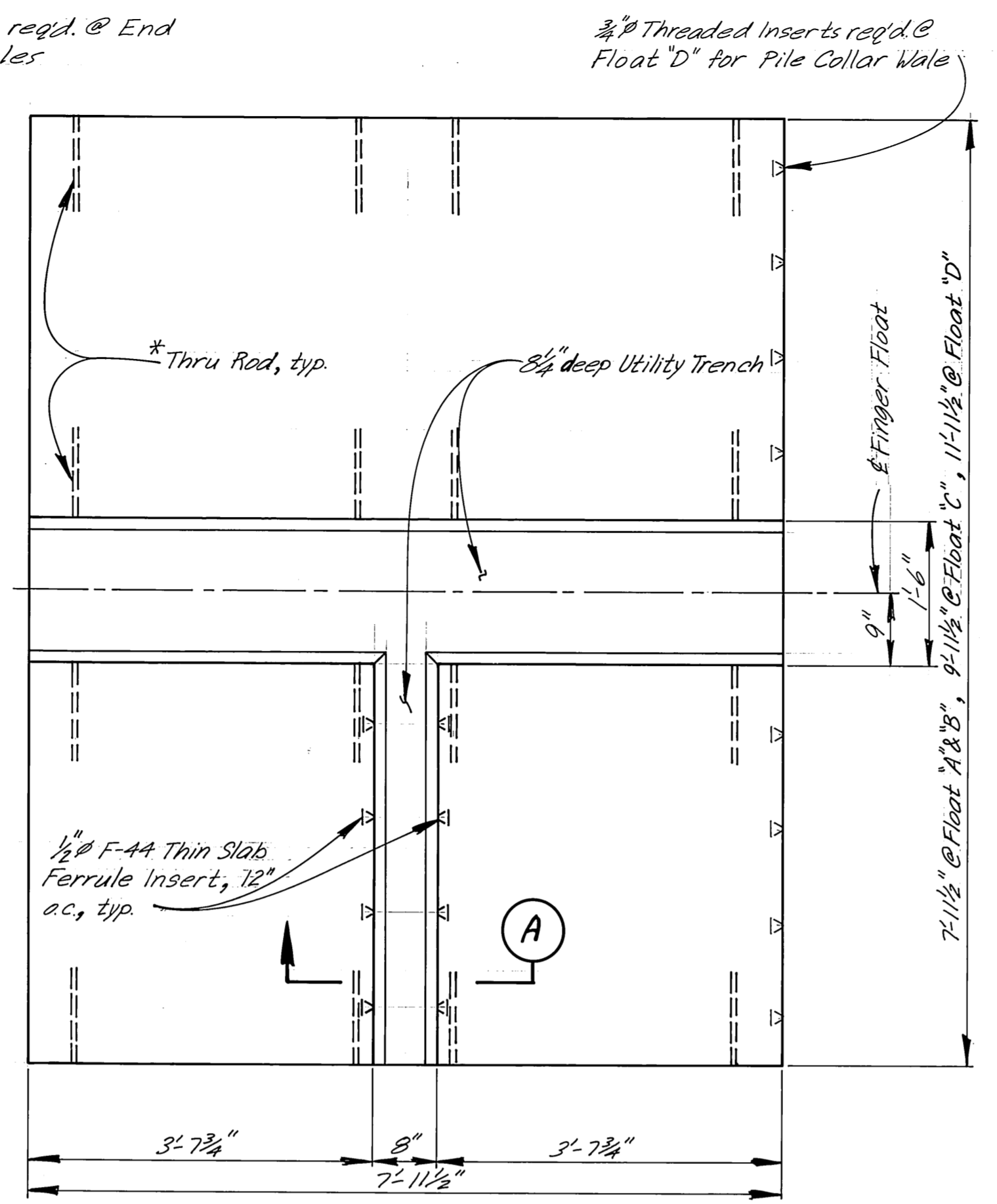
Notes:
 ① See sheet 13 for additional details and reinforcing.
 ② Ledgers not shown: 2x8 ledgers in main trench and Fire Line cross trenches. 3x8 ledgers in Electrical cross trenches.
 * 3/8" Thru Rods except Float "D", 3/4" Thru Rods.

DCW 2-24-87

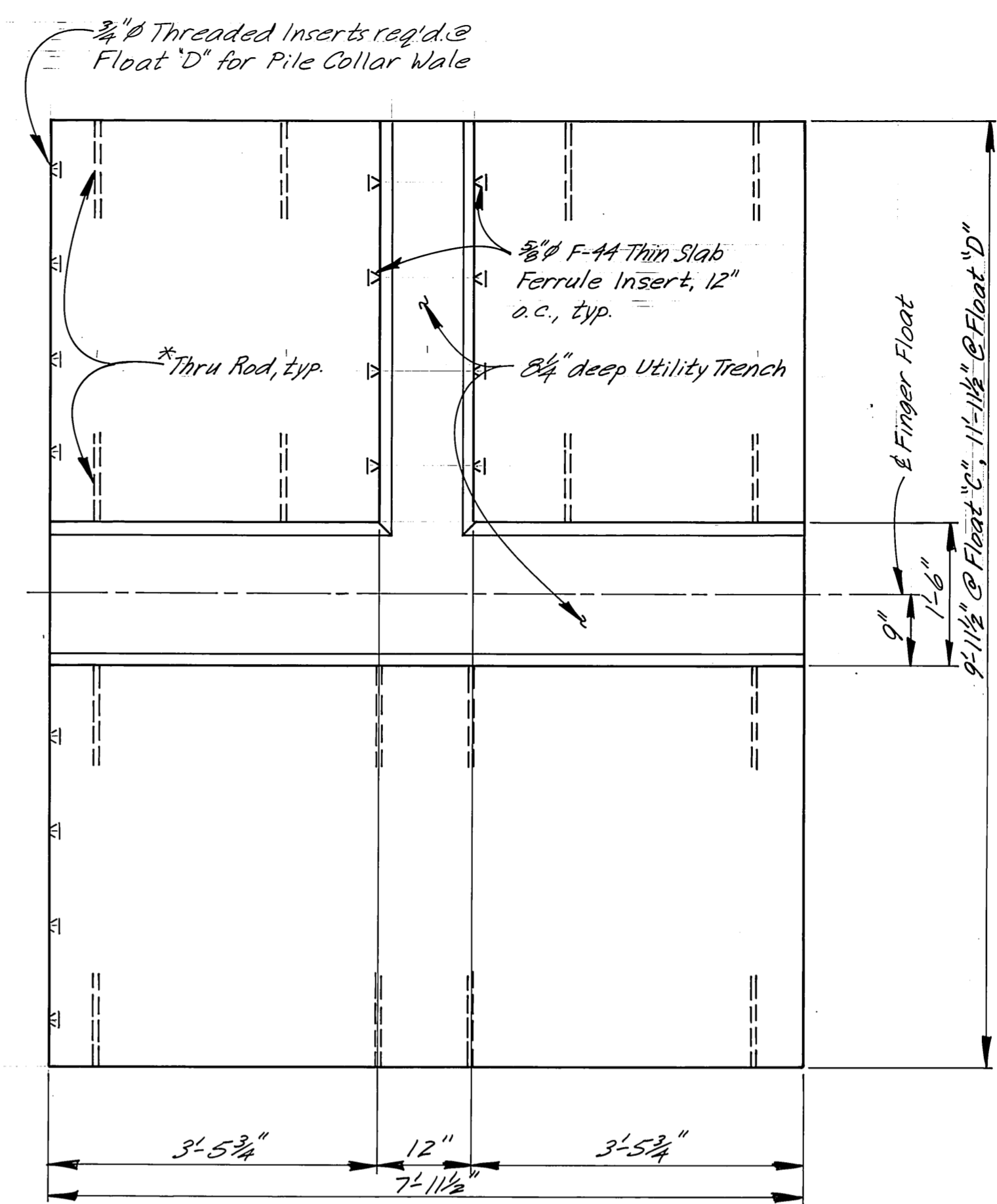
STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
		STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES HARBOR DESIGN AND CONSTRUCTION	
Petersburg		Alaska	
UTILITY TRENCH INTERSECTIONS			
FLOAT "E" & "F"			
SCALE As Noted	SURVEYED	APPROVED	
DESIGNED Staff	DRAWN LJB		
CHECKED VS	DATE 3/21/83		
PROJECT NUMBER K78190	SHEET 16 OF 46		



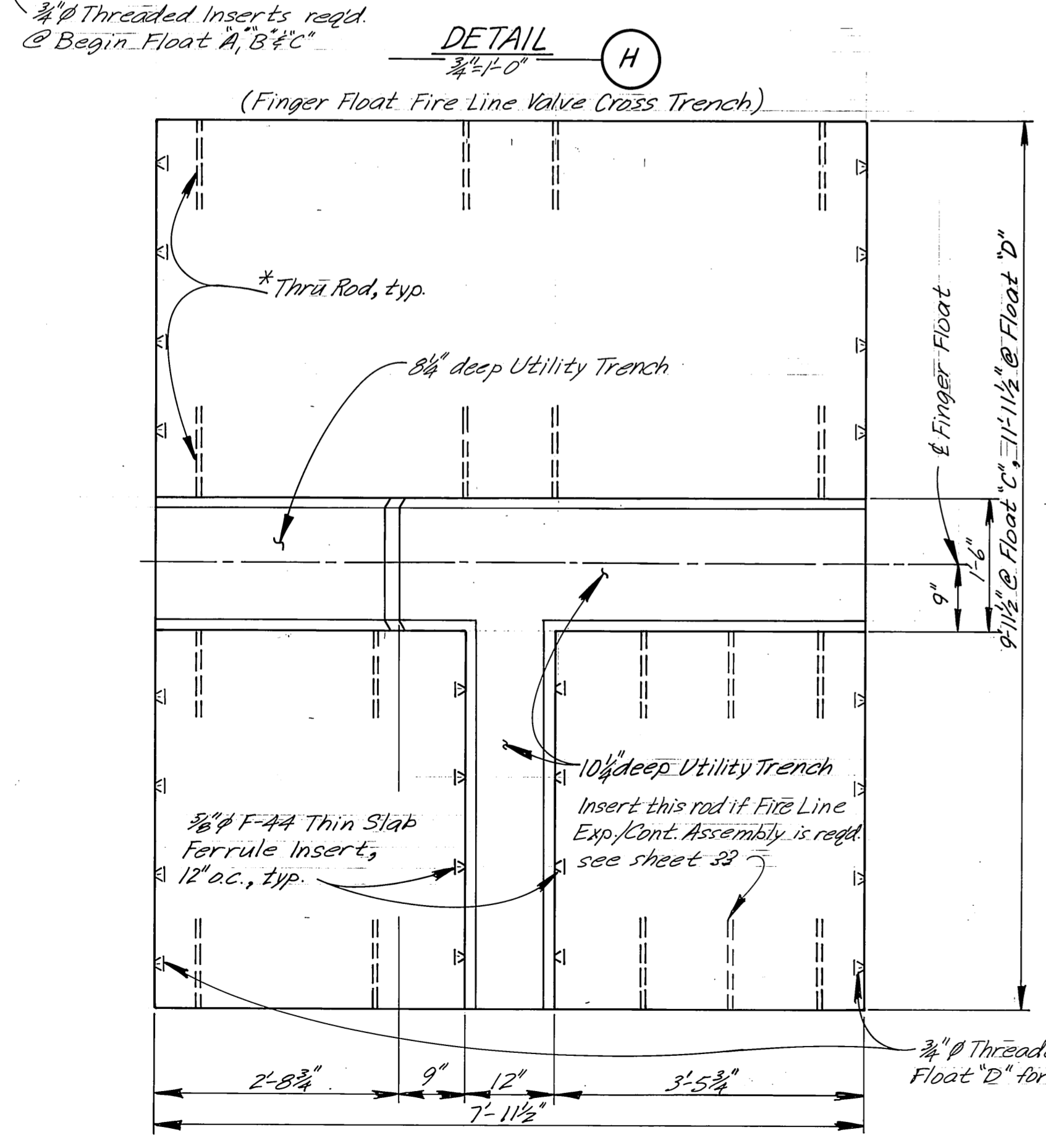
DETAIL H
3/4"=1'-0"



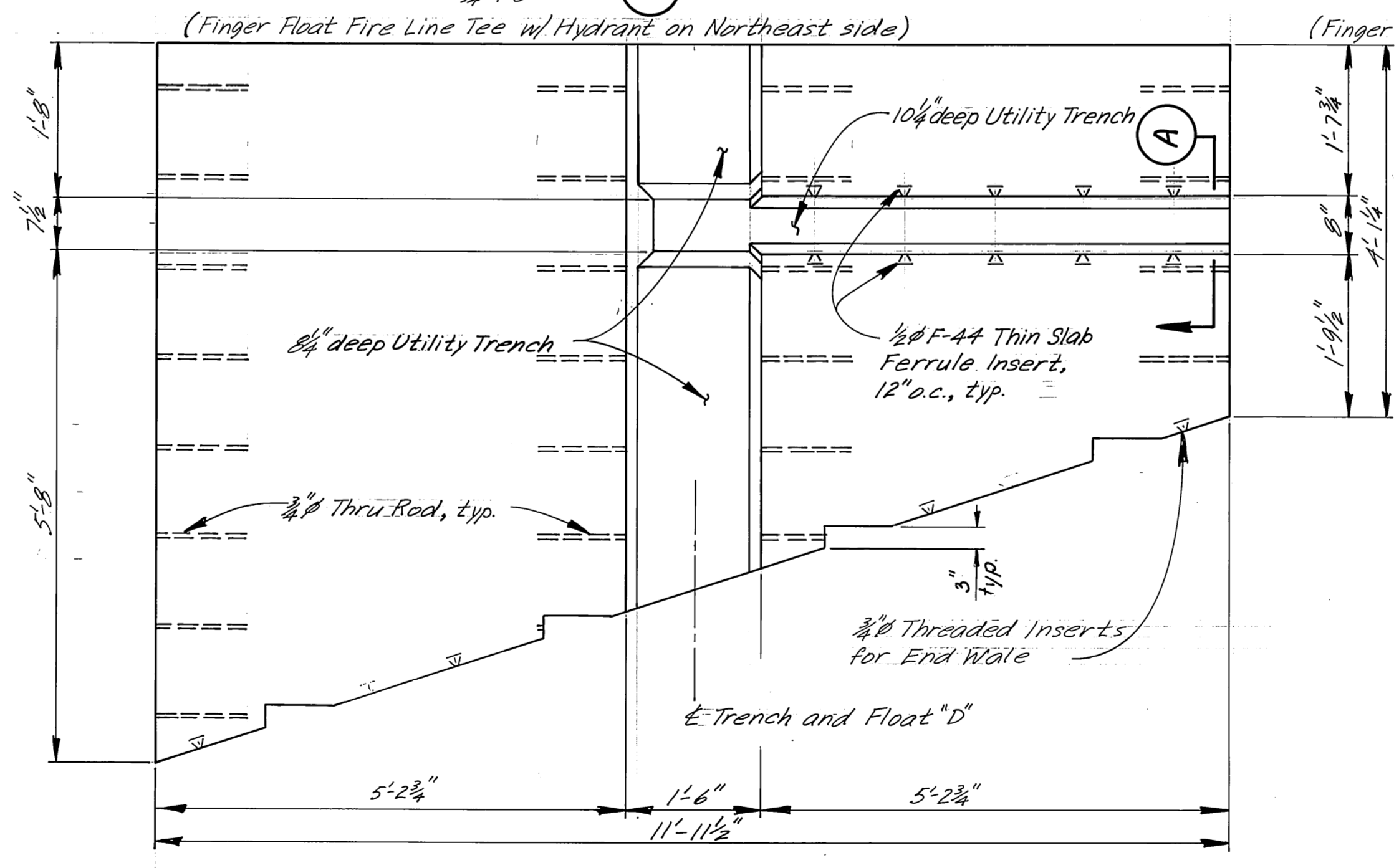
DETAIL J
3/4"=1'-0"



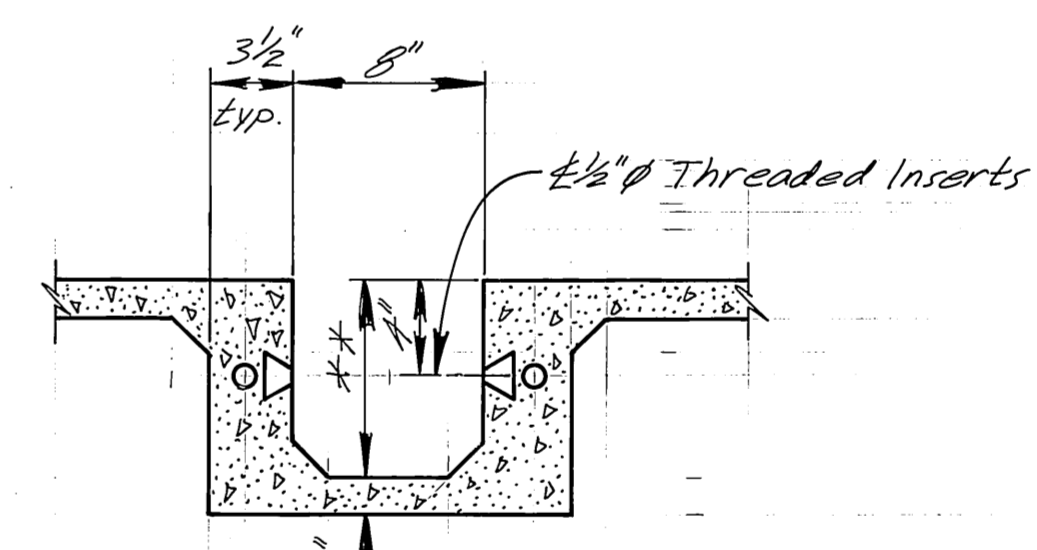
DETAIL K
3/4"=1'-0"



DETAIL L
3/4"=1'-0"



DETAIL M
3/4"=1'-0"

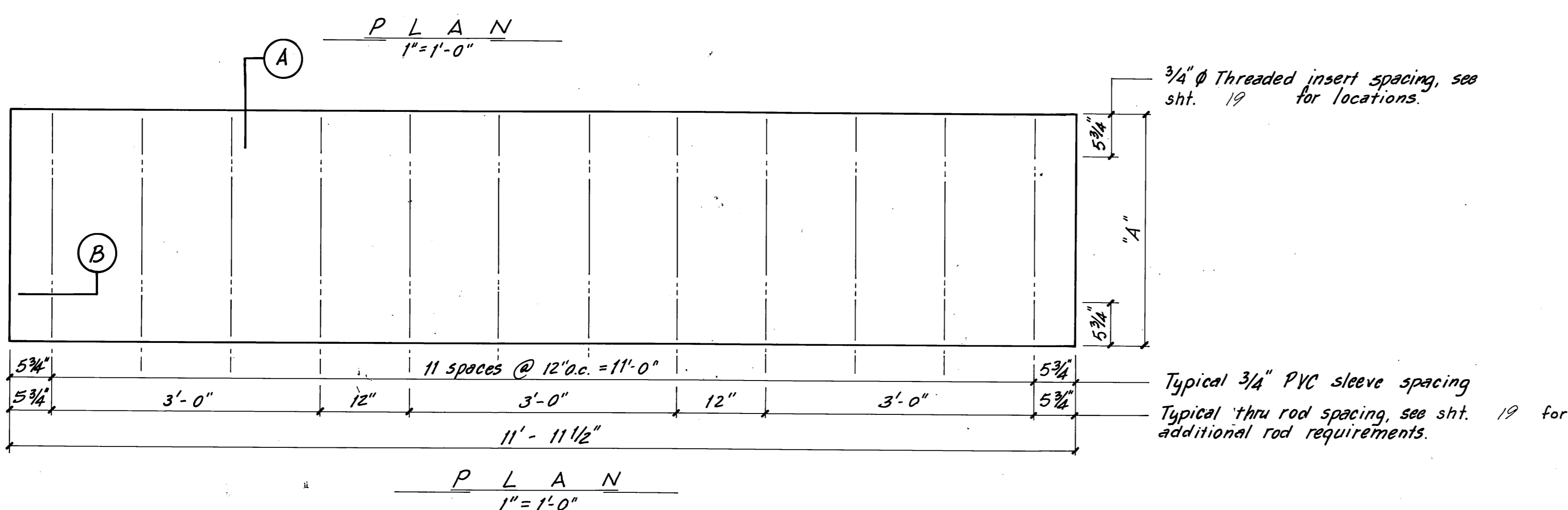
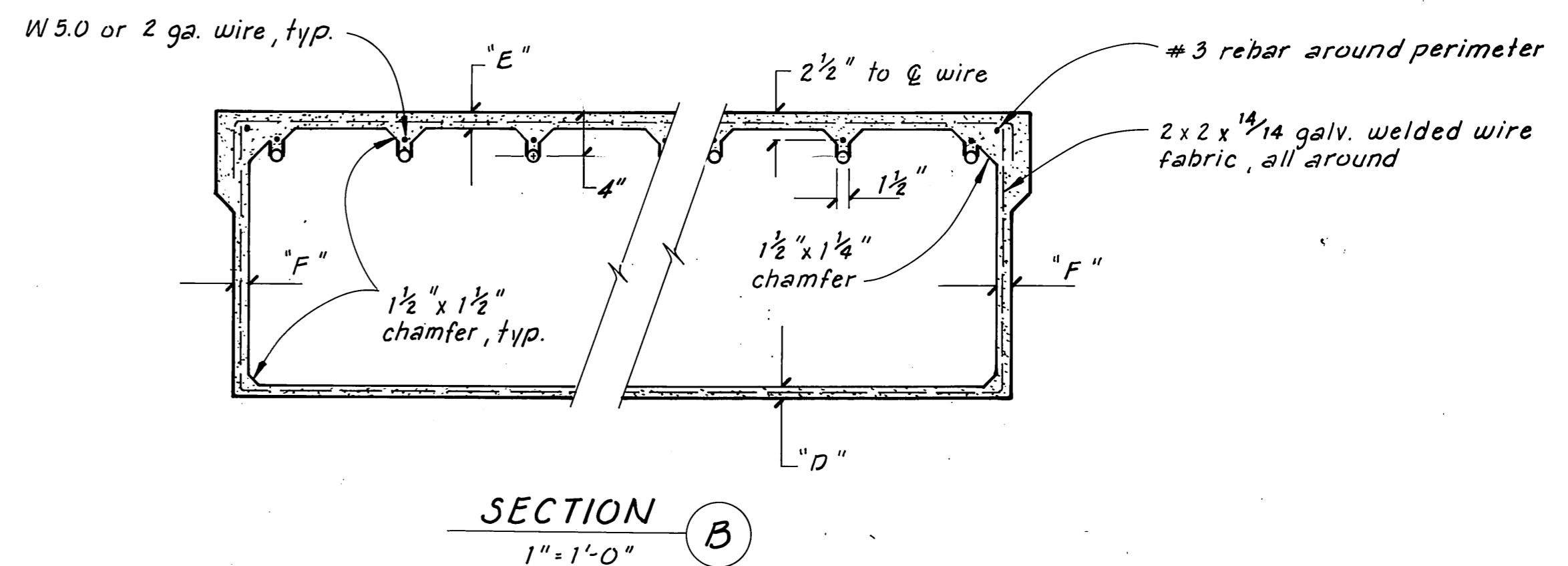
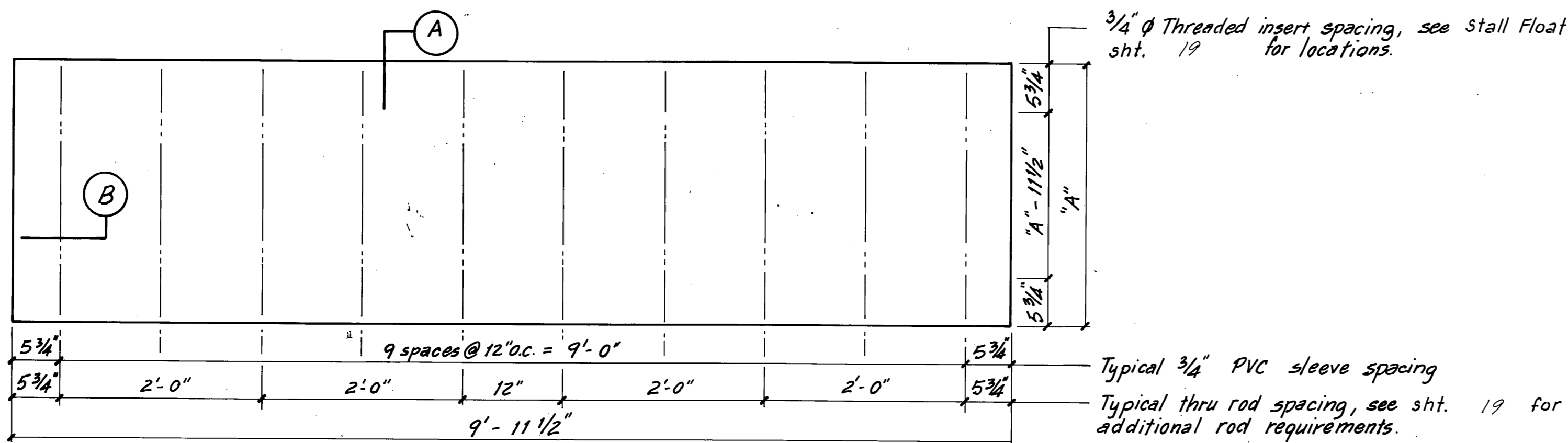
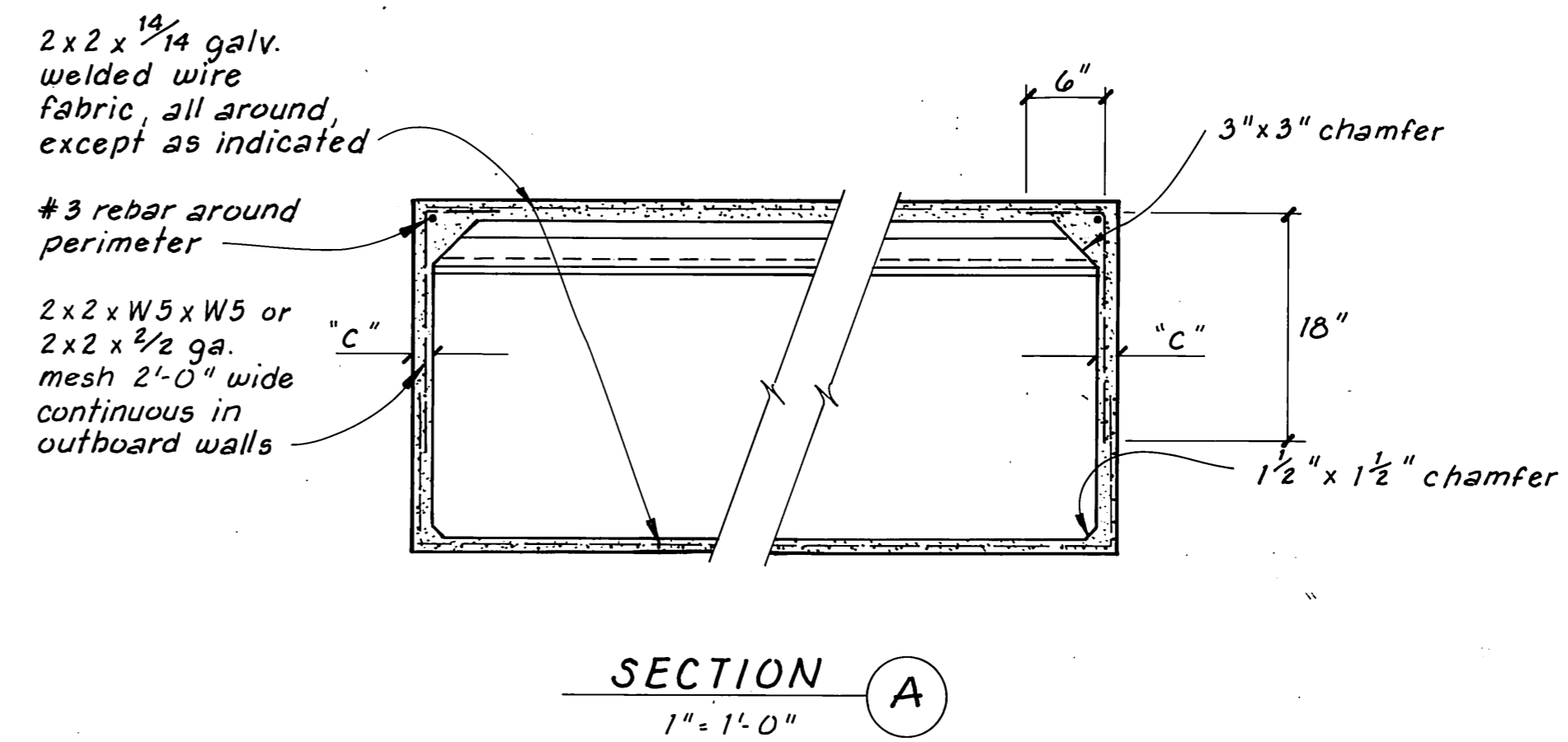
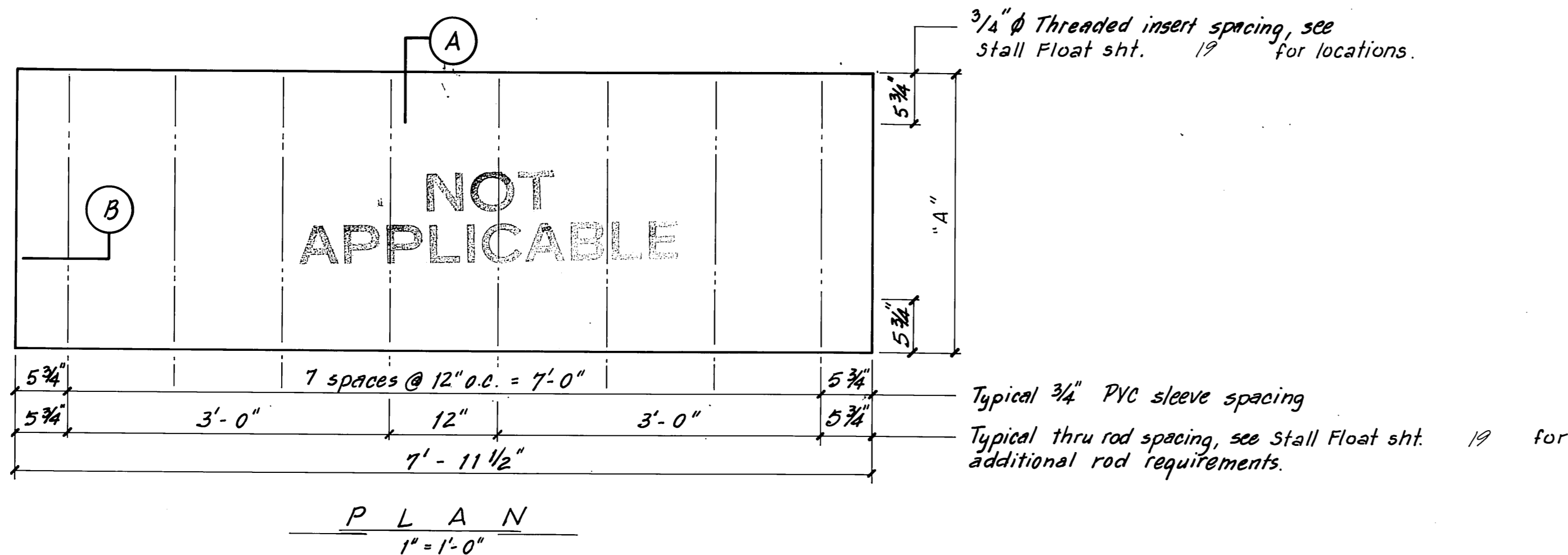
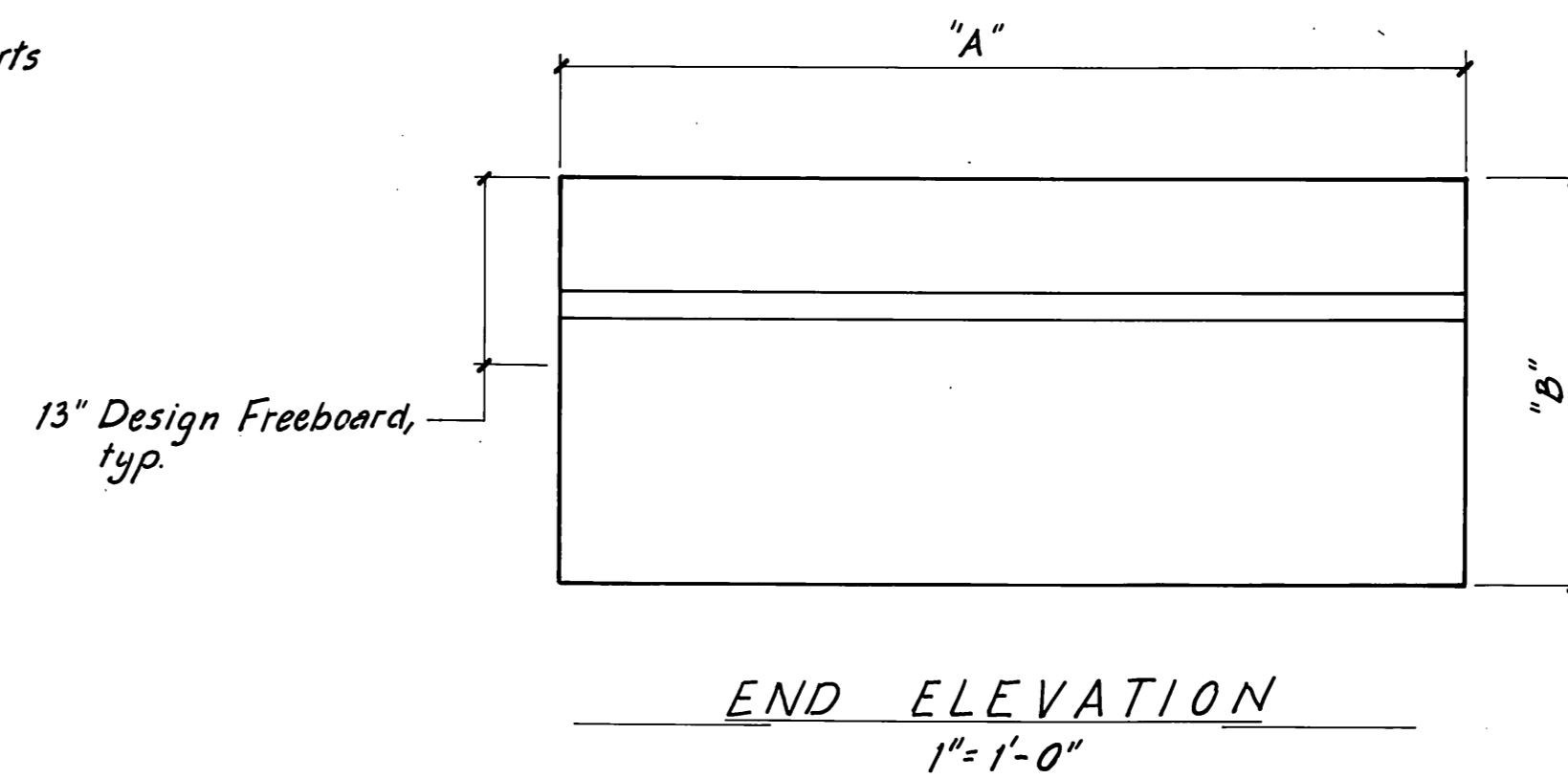
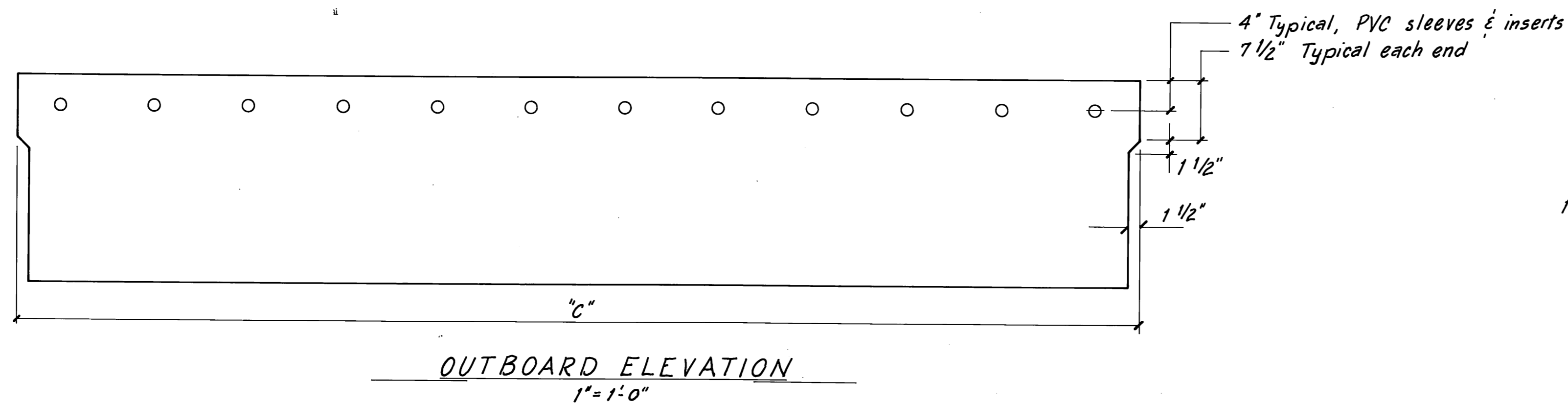


SECTION A
1/2"=1'-0"

Note:
 ① See sheets 13, 14 & 21 for additional details and reinforcing
 ② Ledgers not shown: 2x8 ledgers in main trench and Fire Line cross trenches. 3x8 ledgers in Electrical cross trenches.
 * 5/8" thru rods for Floats 'A', 'B', 'C', 3/8" thru rods for Float 'D'

DCW 2-24-87

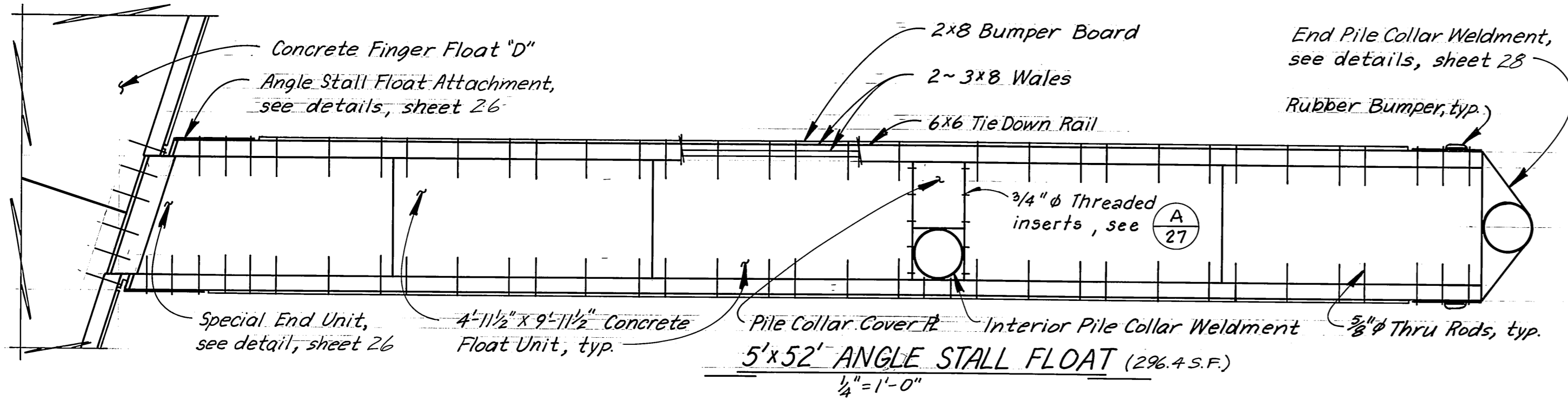
STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES HARBOR DESIGN AND CONSTRUCTION			
Petersburg		Alaska	
UTILITY TRENCH INTERSECTIONS FLOAT 'A', 'B', 'C' & 'D'			
SCALE: AS NOTED	SURVEYED:	APPROVED:	
DESIGNED: Staff	DRAWN: LJB		
CHECKED: JS	DATE: 3/22/83		
PROJECT NUMBER: K78190	SHEET 17 OF 46		



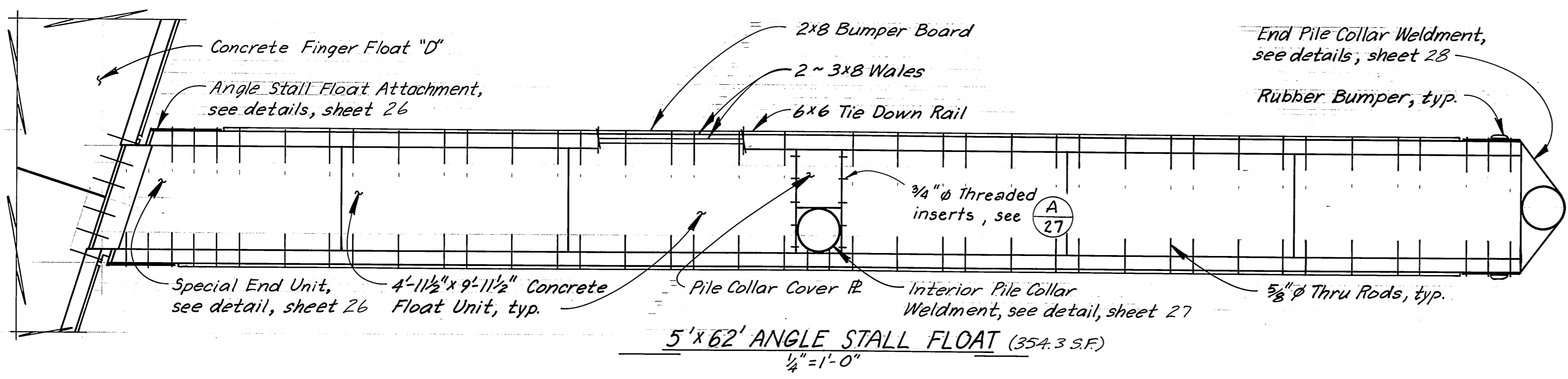
DIMENSIONS							
Nominal Float	A	B	C	D	E	F	CALC. WT. W/O TIMBER
3 x 10	2'-7"	3200"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	2128-22 23
3 x 10	2'-11 1/2"	3300"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	2482-24 77
4 x 12	3'-11 1/2"	30"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	3757-34 58
5 x 10	4'-11 1/2"	3130"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	4025-33 96
Addendum #2							

Note: All floats solidly filled w/ polystyrene as per specs.

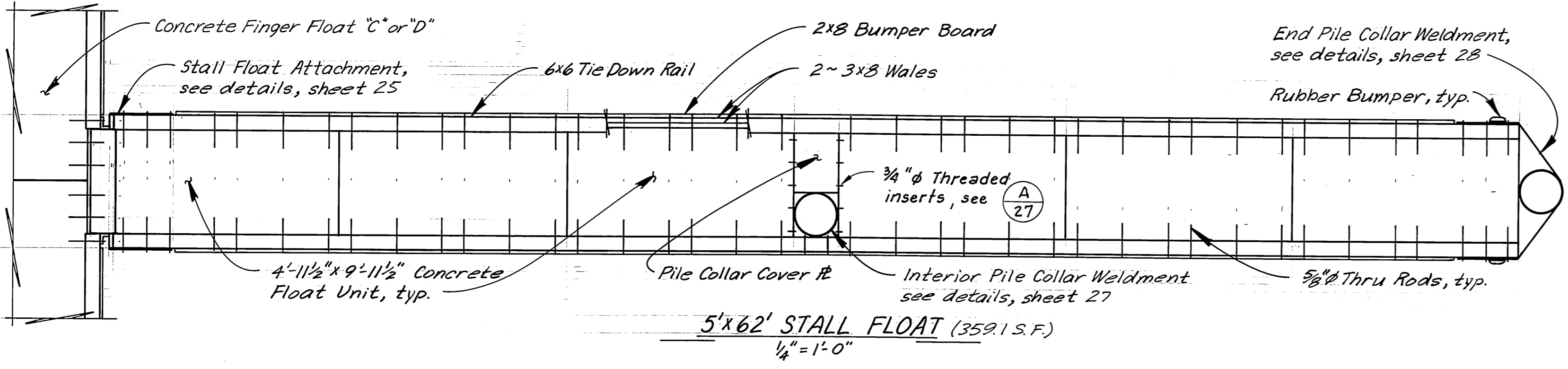
STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES HARBOR DESIGN AND CONSTRUCTION		Petersburg Alaska	
TYPICAL STALL FLOAT UNITS			
SCALE: <i>As Noted</i>	SURVEYED: _____	APPROVED: _____	
DESIGNED: <i>Staff</i>	DRAWN: <i>Staff</i>	DATE: _____	
CHECKED: <i>US</i>	DATE: _____	PROJECT NUMBER: <i>K-78190</i>	
PROJECT NUMBER: <i>K-78190</i>		SHEET: <i>18</i> OF <i>46</i>	



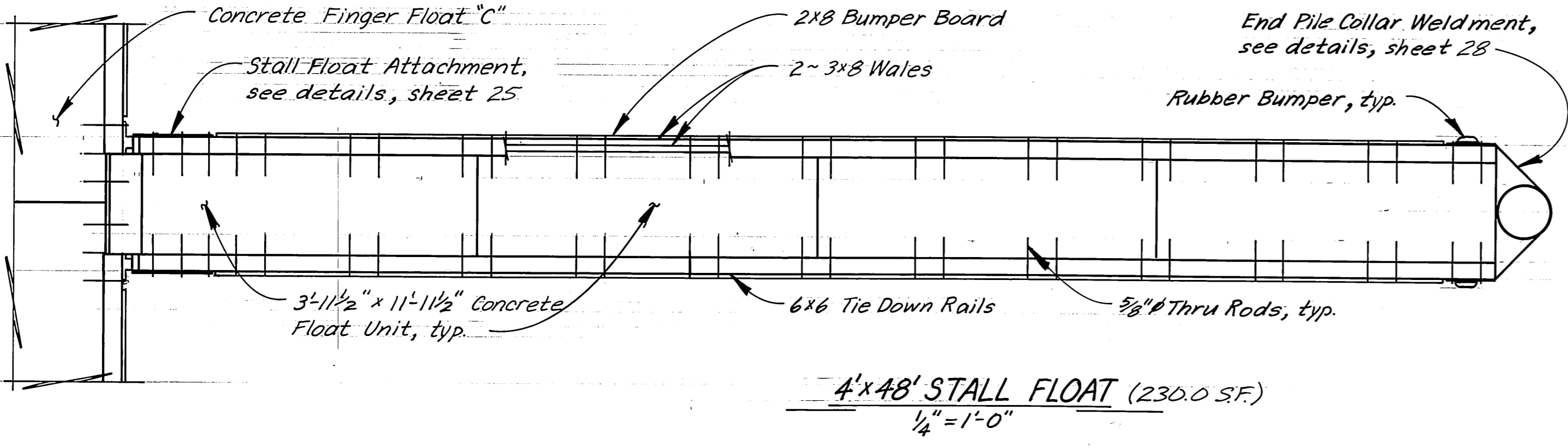
5'x52' ANGLE STALL FLOAT (296.4 S.F.)
1/4" = 1'-0"



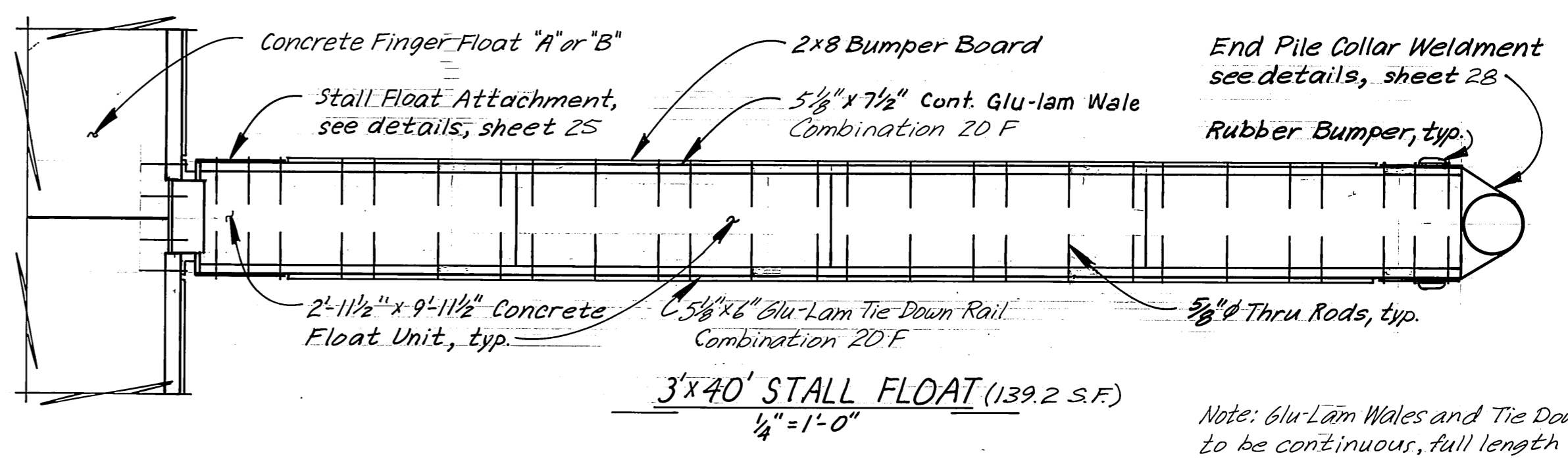
5'x62' ANGLE STALL FLOAT (354.3 S.F.)
1/4" = 1'-0"



5'x62' STALL FLOAT (359.1 S.F.)
1/4" = 1'-0"

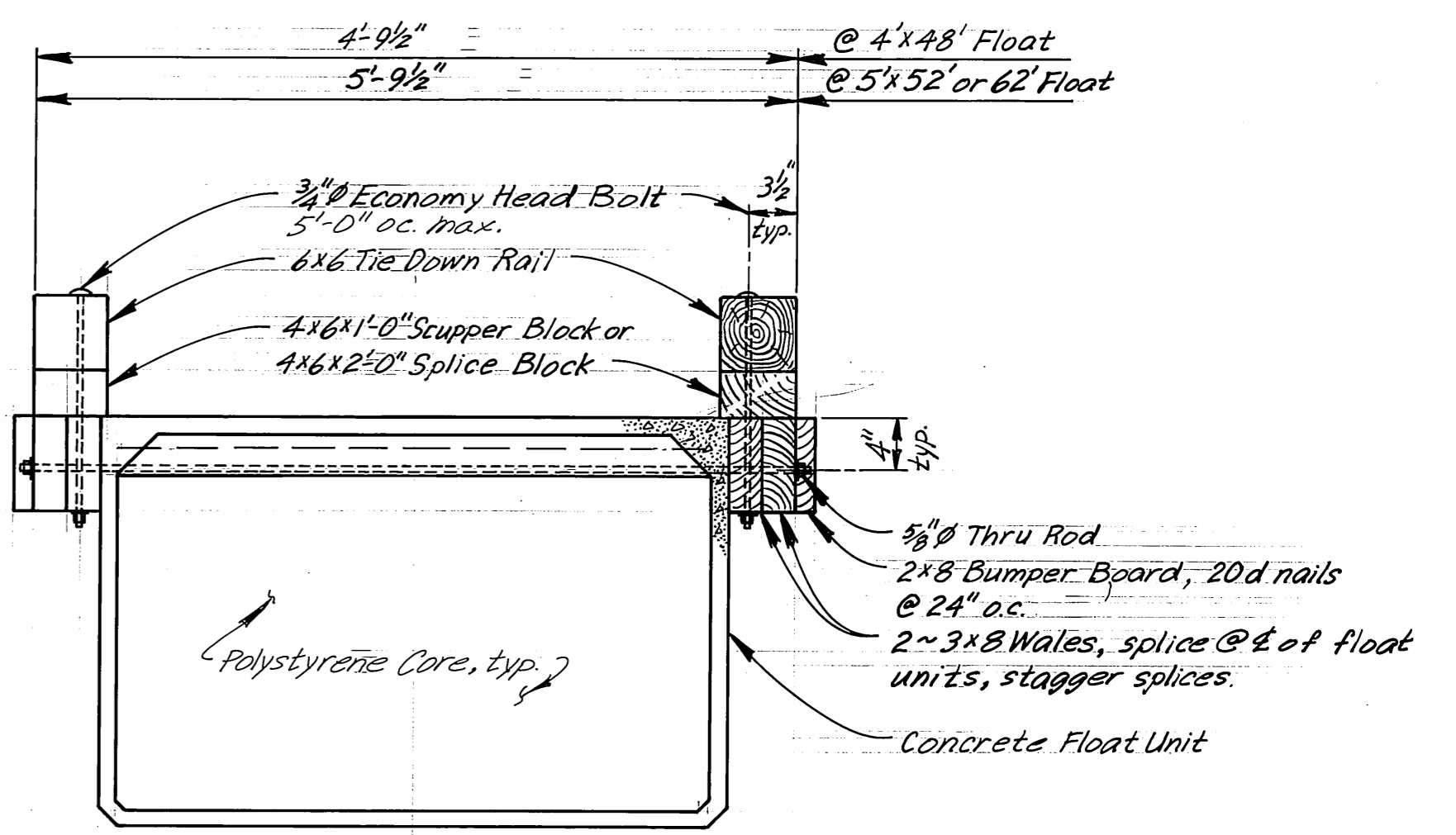


4'x48' STALL FLOAT (230.0 S.F.)
1/4" = 1'-0"

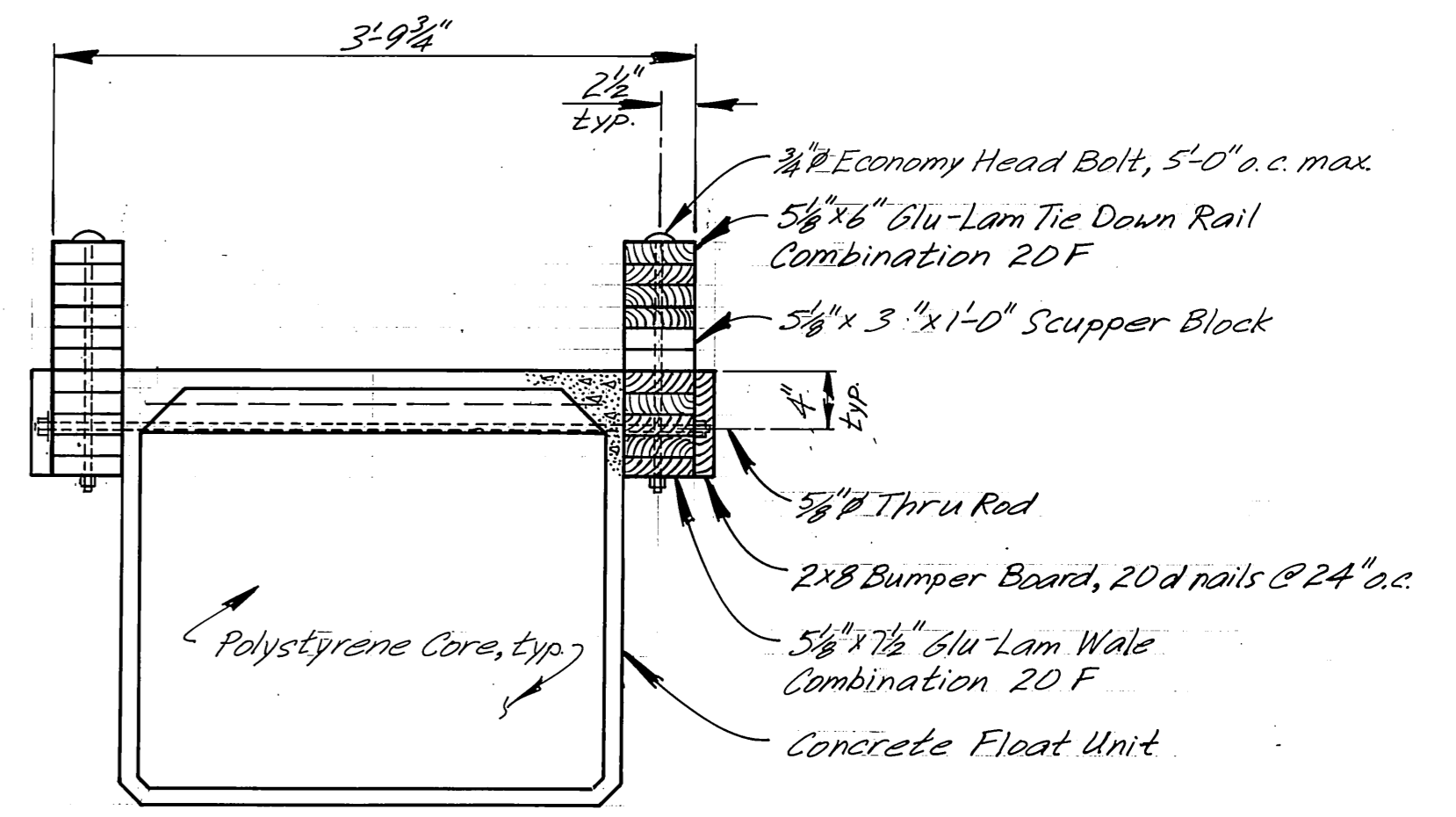


3'x40' STALL FLOAT (139.2 S.F.)
1/4" = 1'-0"

Note: Glu-Lam Wales and Tie Down Rails to be continuous, full length of float.



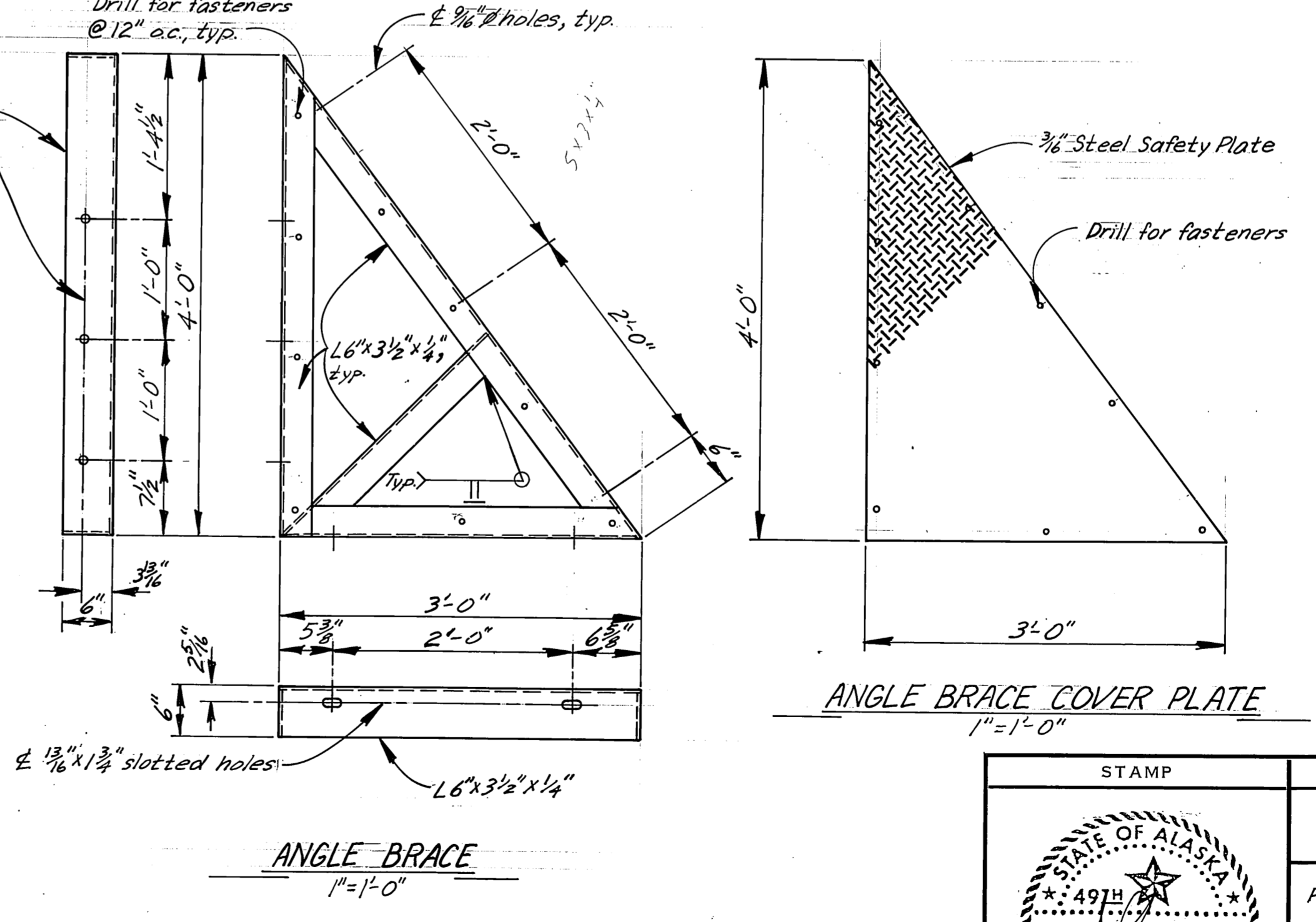
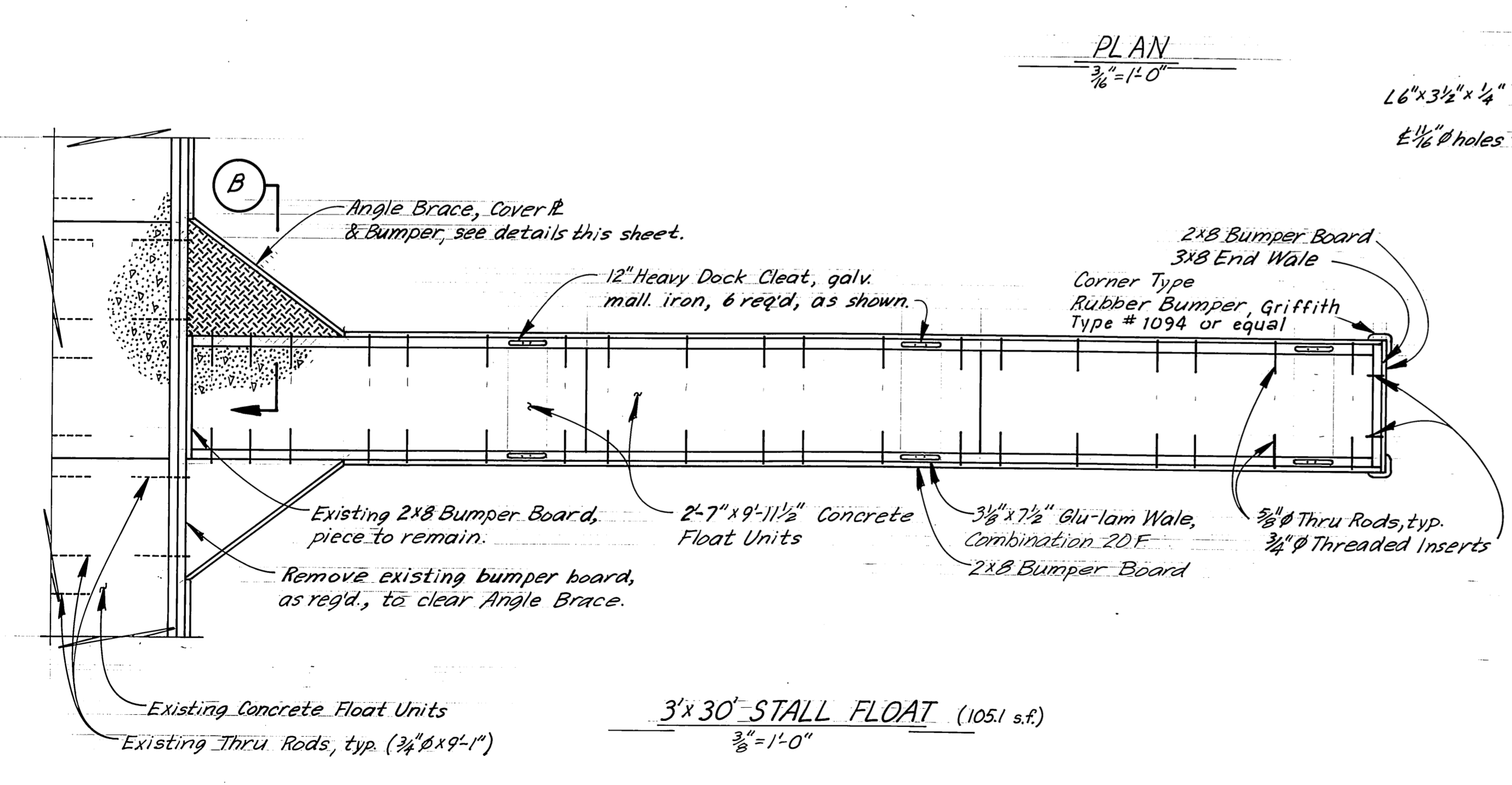
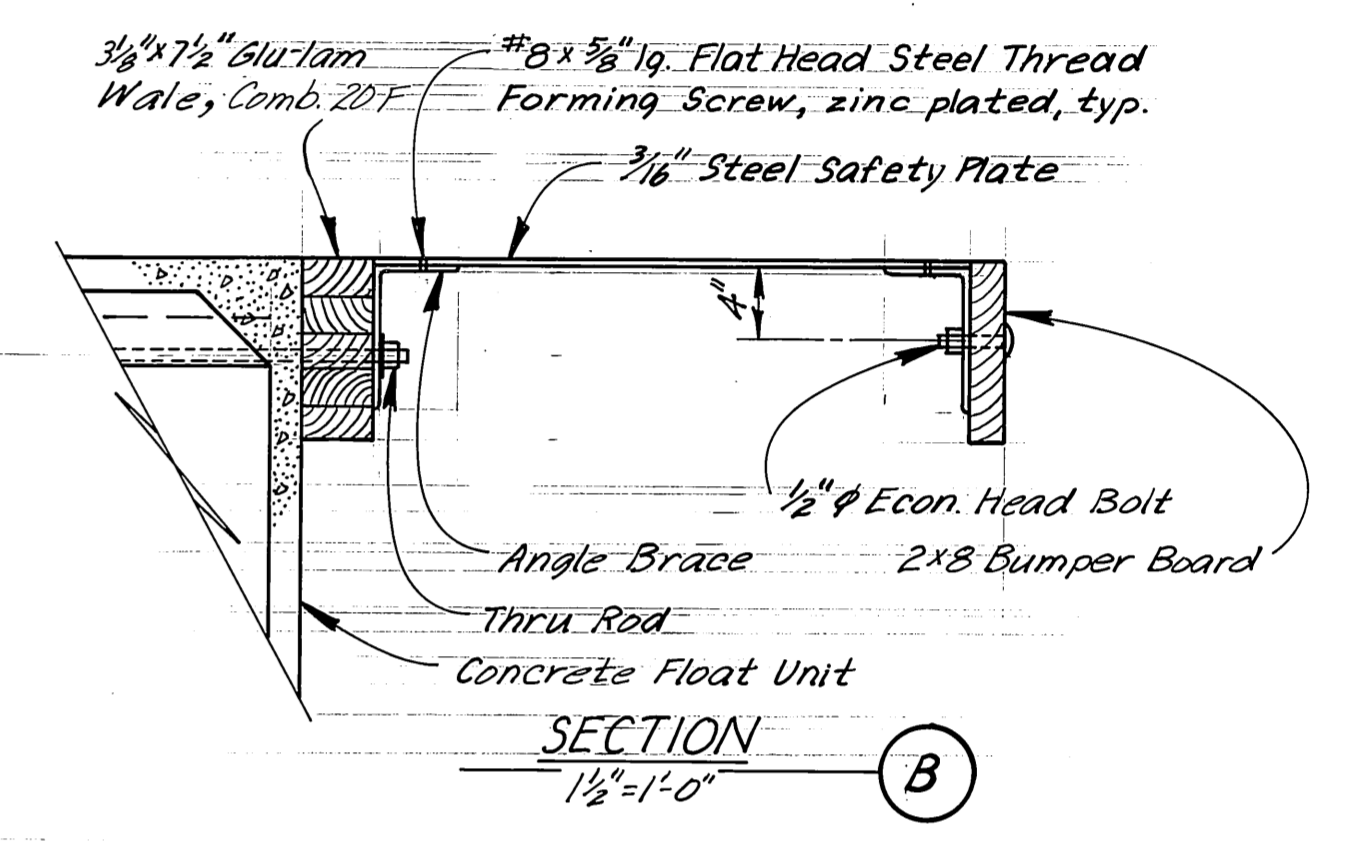
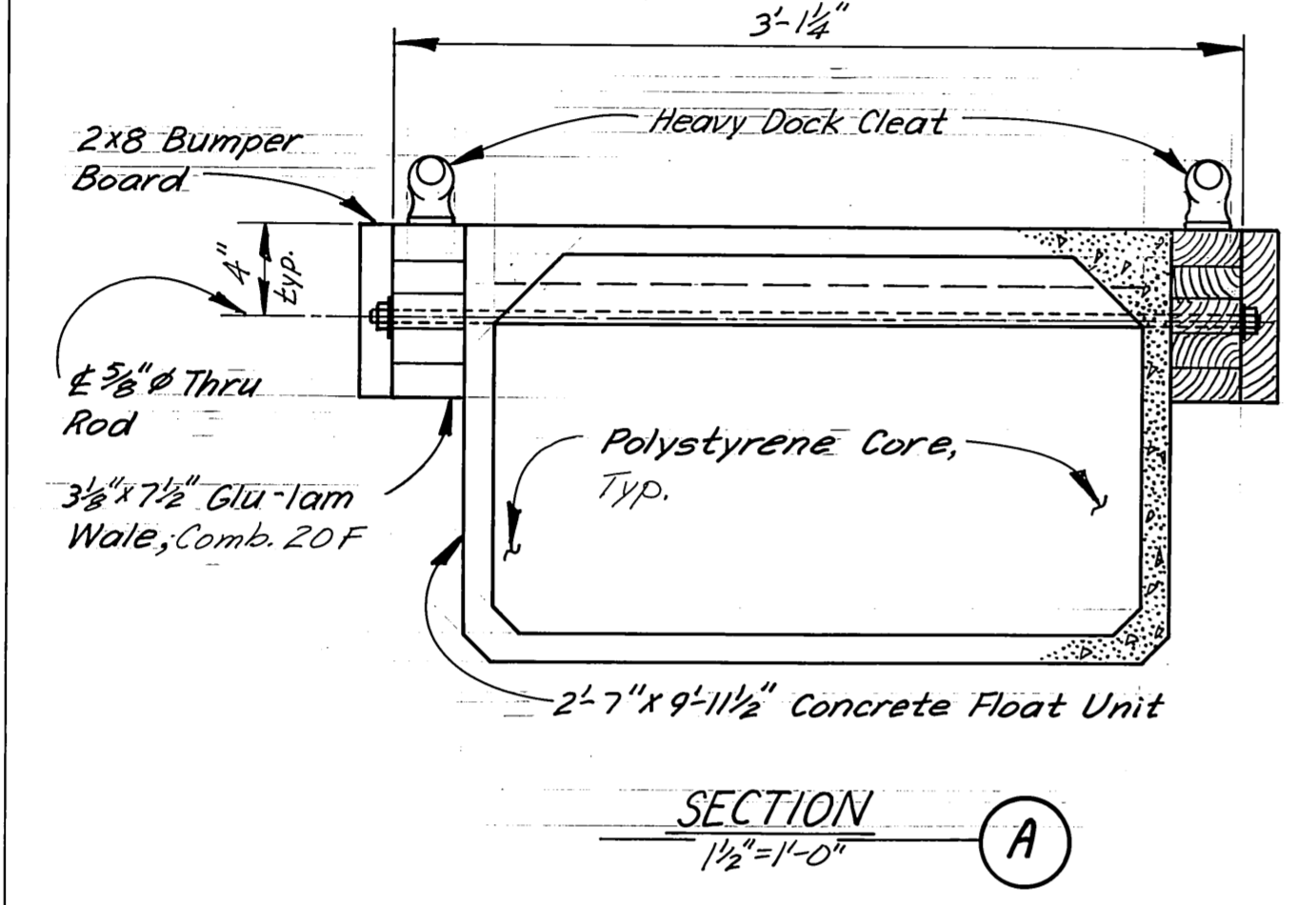
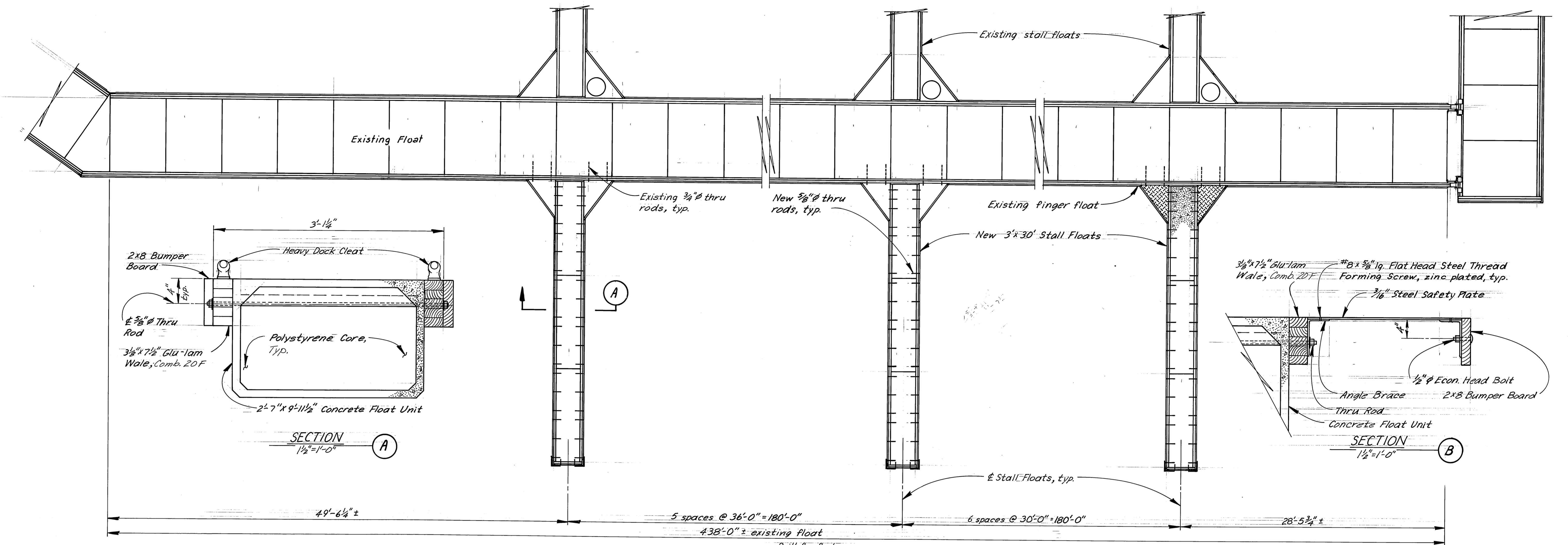
4' & 5' STALL FLOATS
1" = 1'-0"



3' STALL FLOAT
1" = 1'-0"

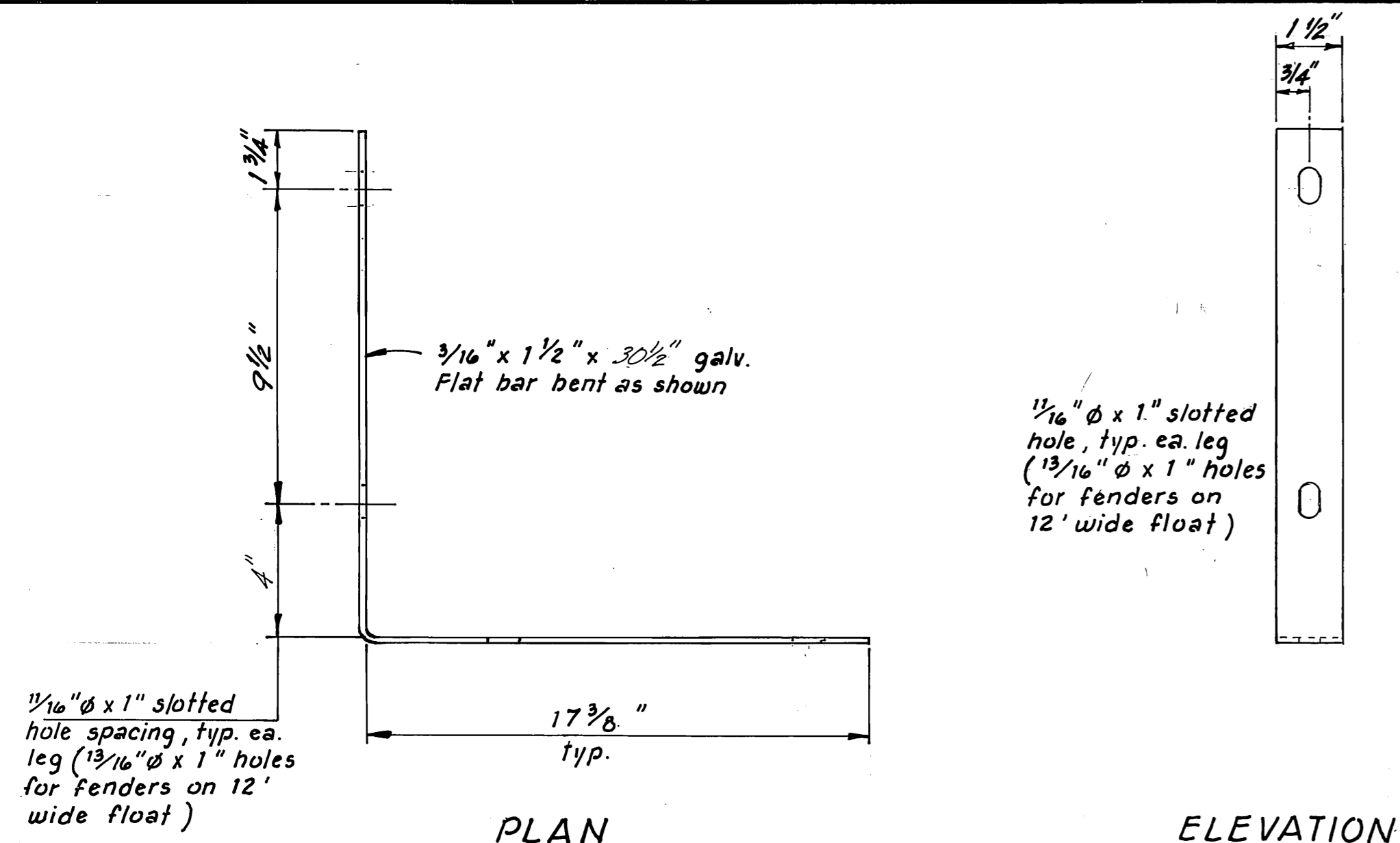
DCW 2-24-87

	DO NOT SCALE THIS DRAWING - USE DIMENSIONS		
	STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES HARBOR DESIGN AND CONSTRUCTION		
	Petersburg		Alaska
	TYPICAL STALL FLOATS		
SCALE: As Noted	SURVEYED:	APPROVED:	
DESIGNED: Staff	DRAWN: LJB		
CHECKED: JS	DATE: 3/10/83		
PROJECT NUMBER: K78190	SHEET 19 OF 46		



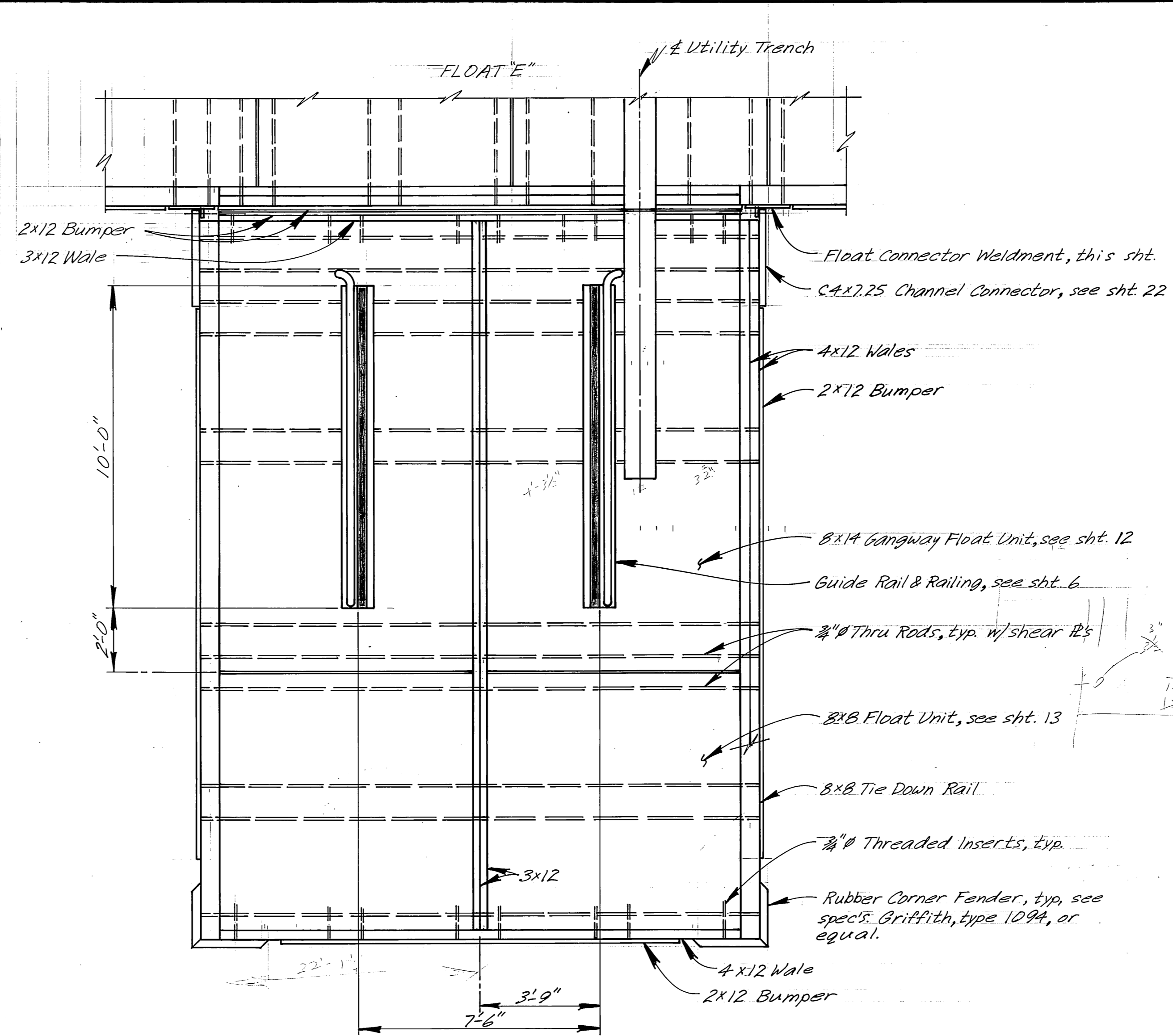
Note: Angle braces and cover plates to be fabricated for right and left sides.

STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
		STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES HARBOR DESIGN AND CONSTRUCTION	
		Petersburg	Alaska
3' x 30' STALL FLOAT			
SCALE <i>As Noted</i>	SURVEYED _____	APPROVED _____	
DESIGNED <i>Stapp</i>	DRAWN <i>LJB</i>		
CHECKED <i>LS</i>	DATE <i>3/8/83</i>		
PROJECT NUMBER <i>K78190</i>	SHEET <i>20</i> OF <i>46</i>		



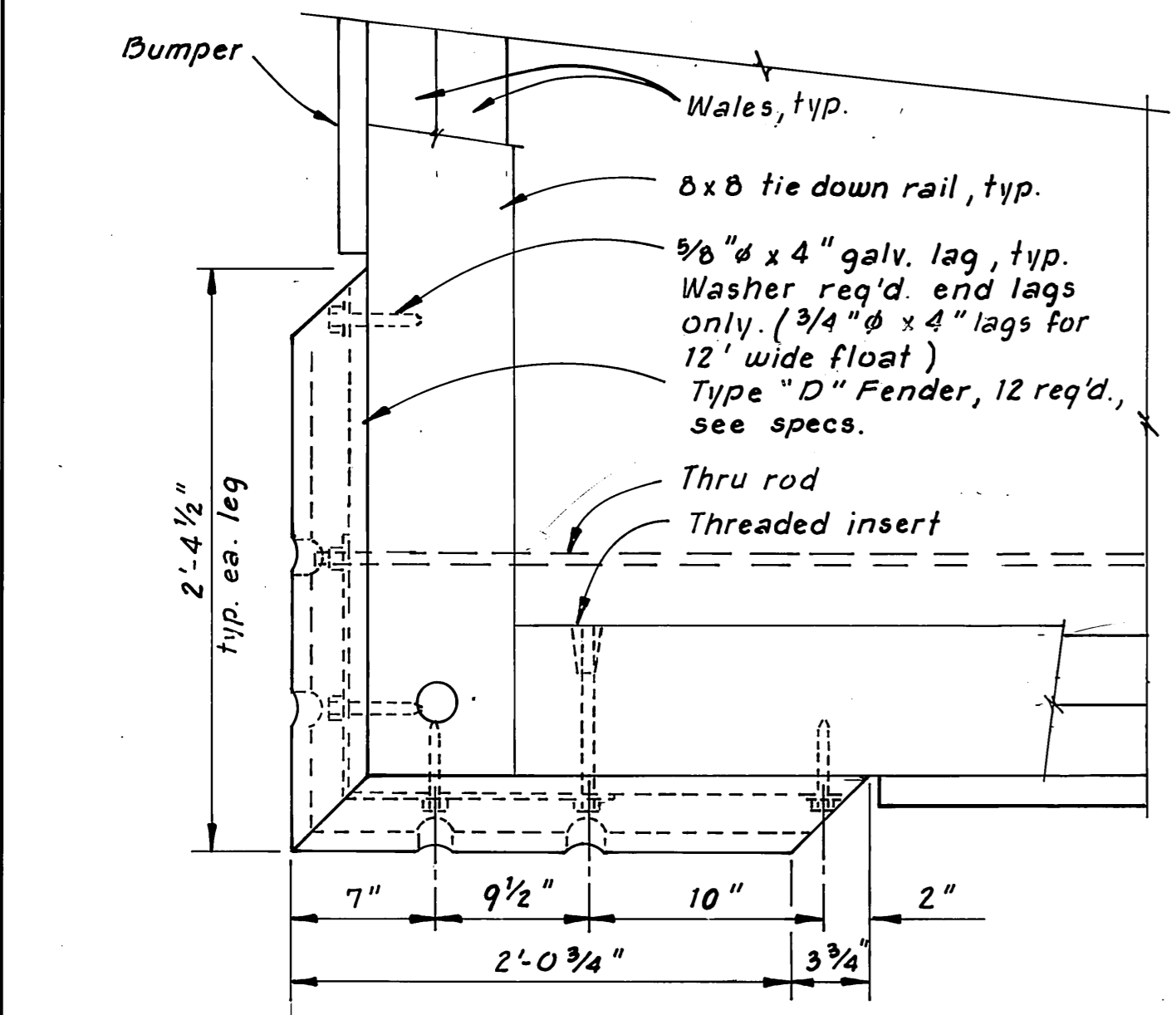
CORNER FENDER BRACKET

3" = 1'-0"

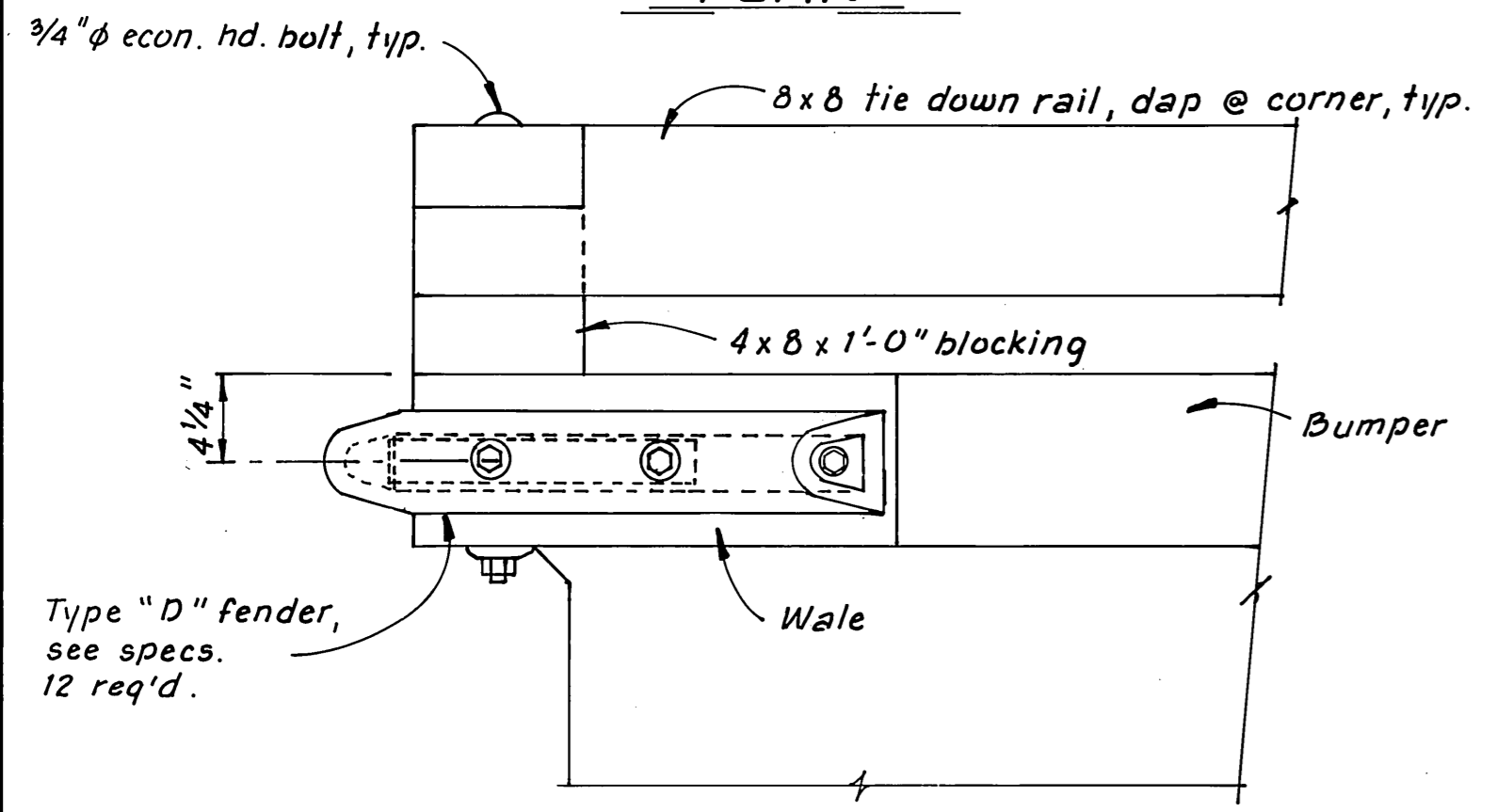


GANGWAY FLOAT TO MAIN FLOAT CONNECTION

3/8" = 1'-0"

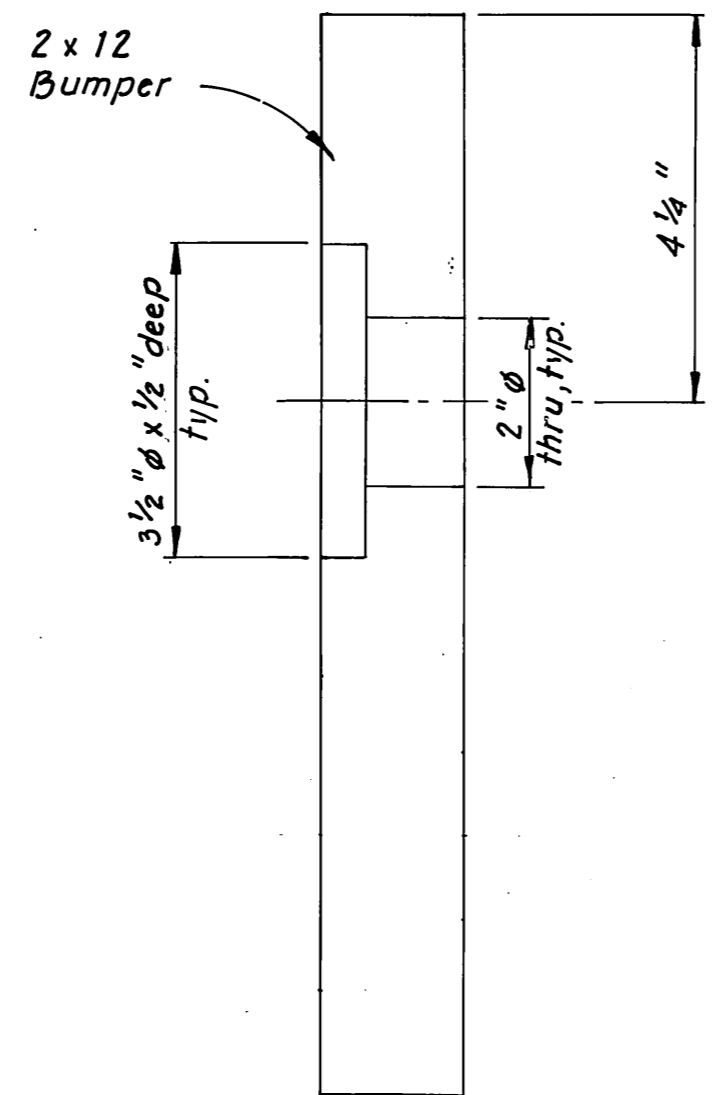


PLAN



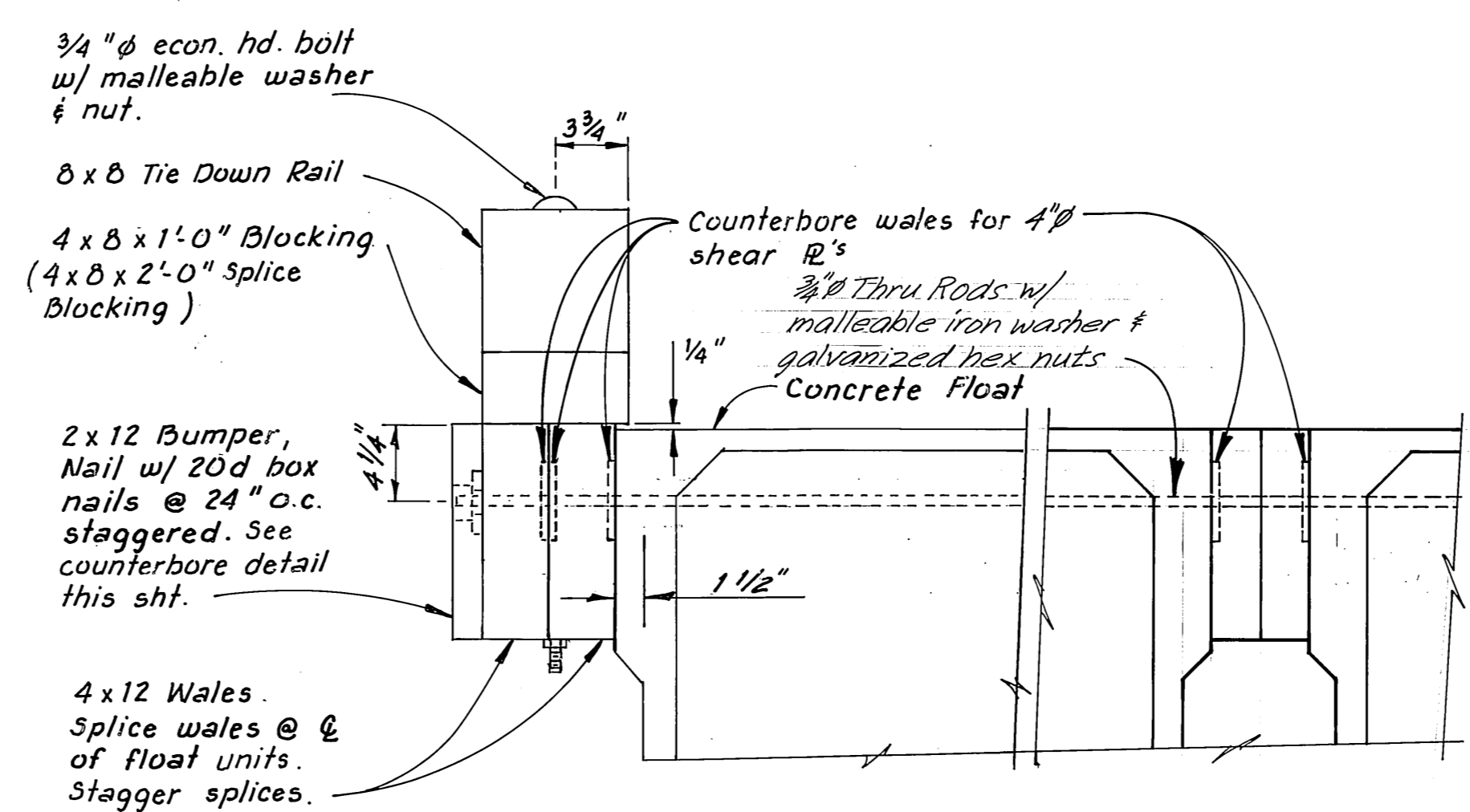
CORNER FENDER DETAILS

1 1/2" = 1'-0"



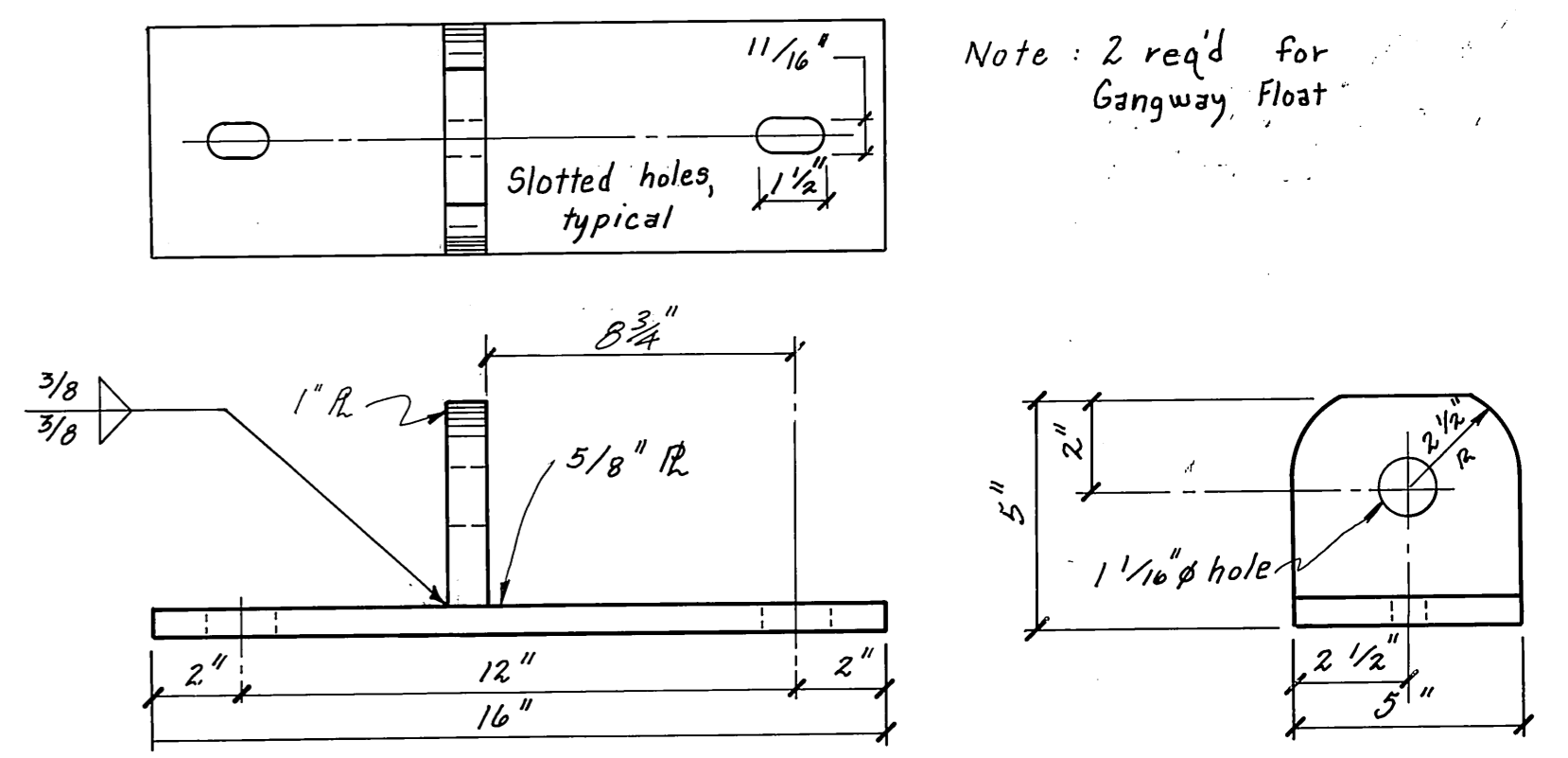
2x12 BUMPER COUNTERBORE DETAIL

6" = 1'-0"



GANGWAY & 12' FLOAT TIMBER DETAIL

1 1/2" = 1'-0"

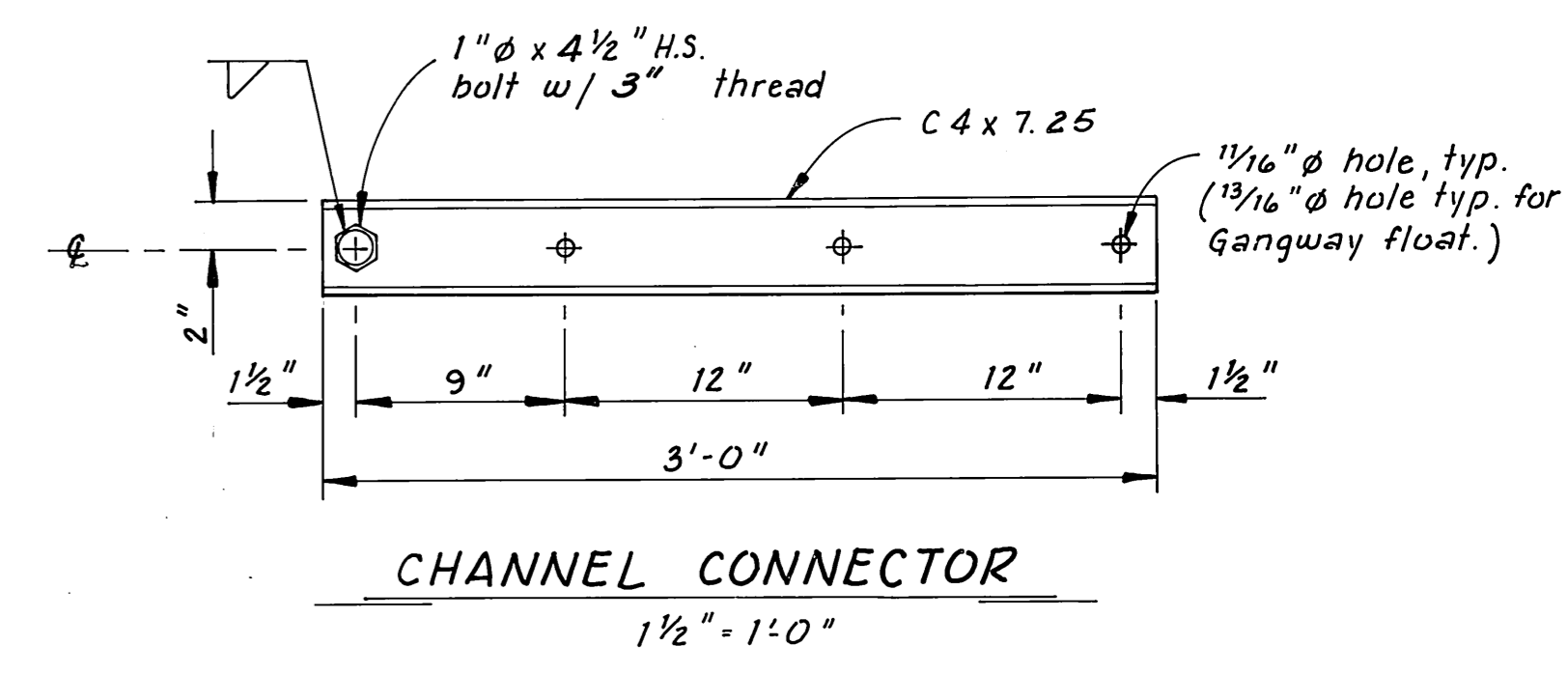
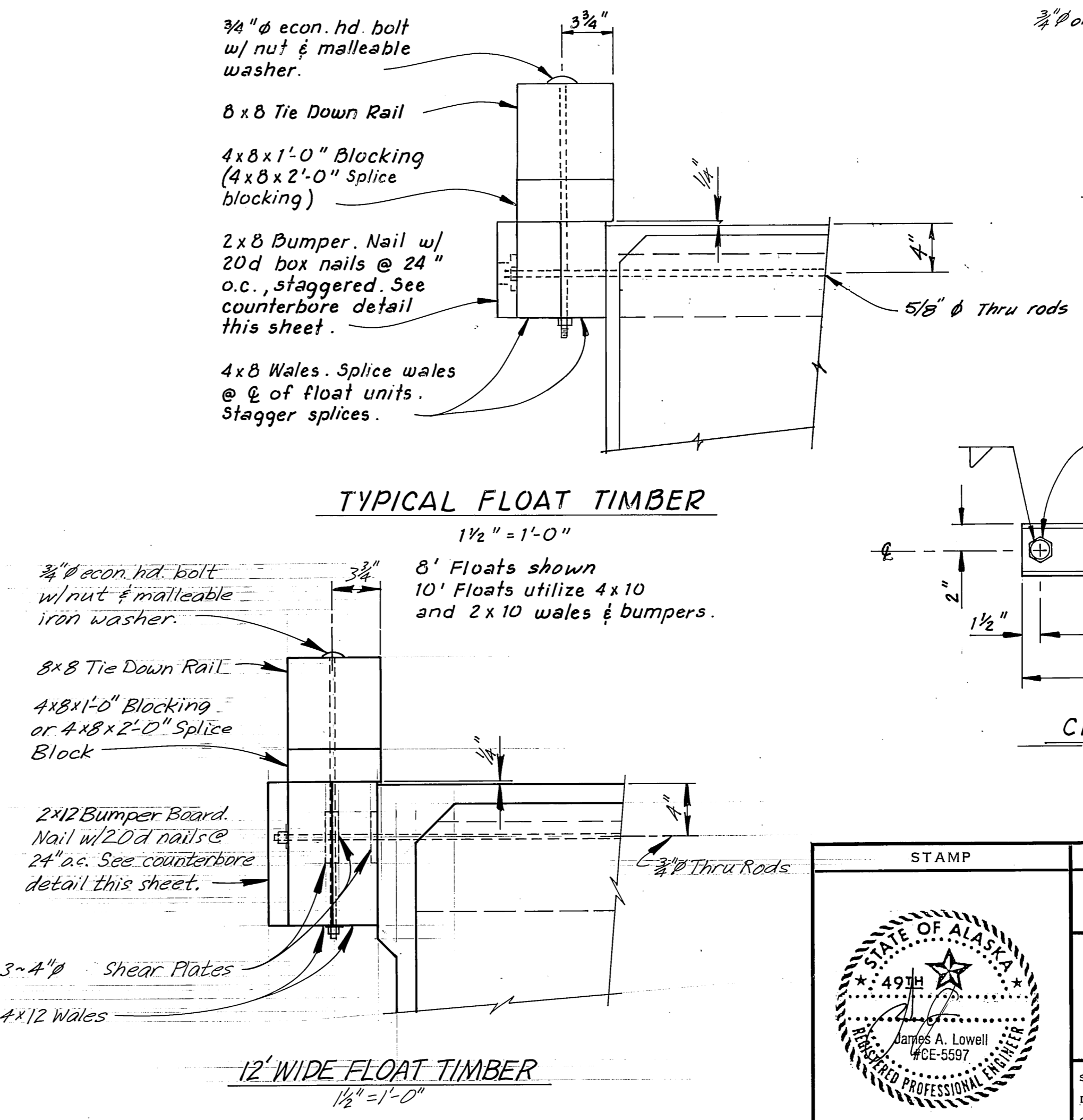
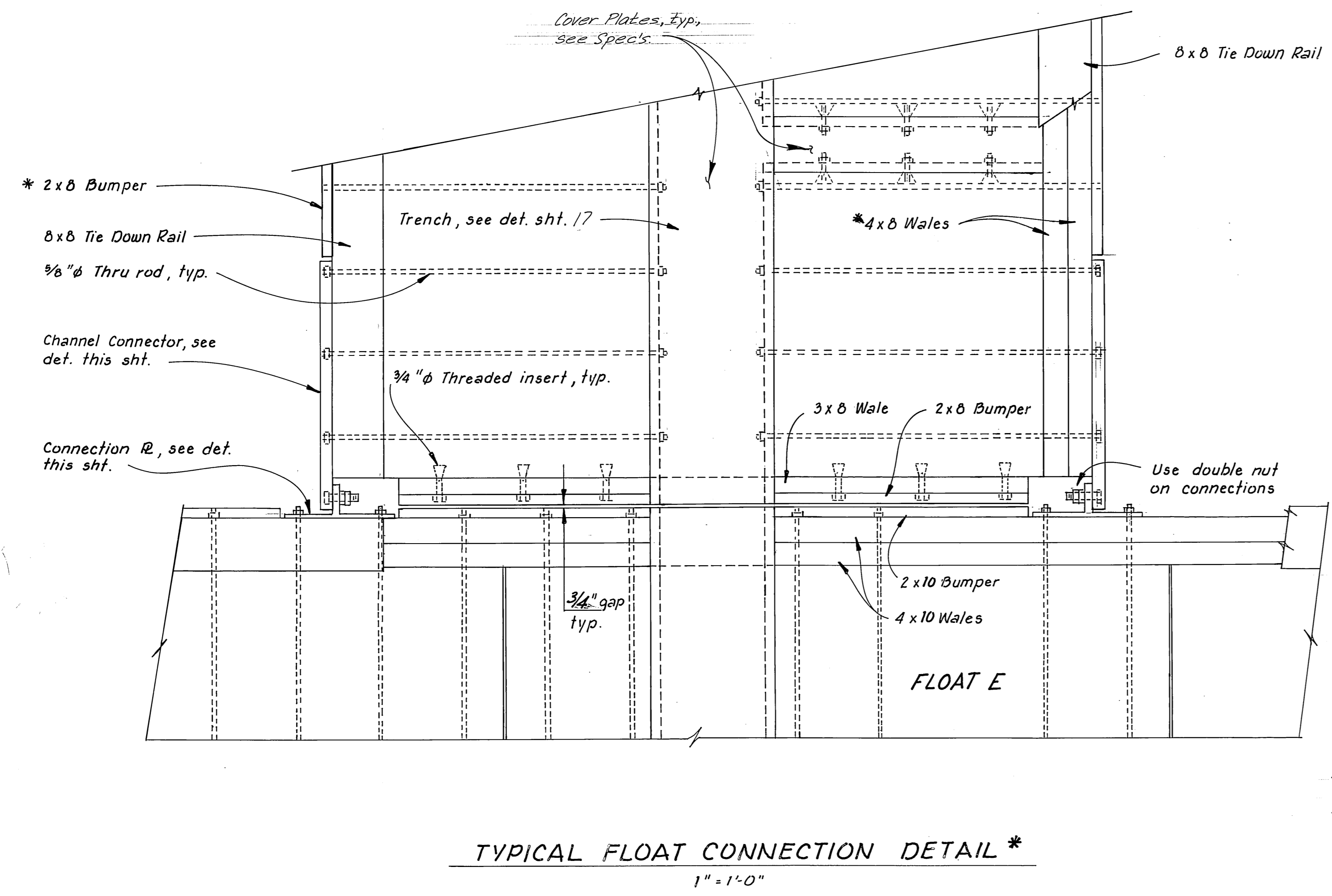
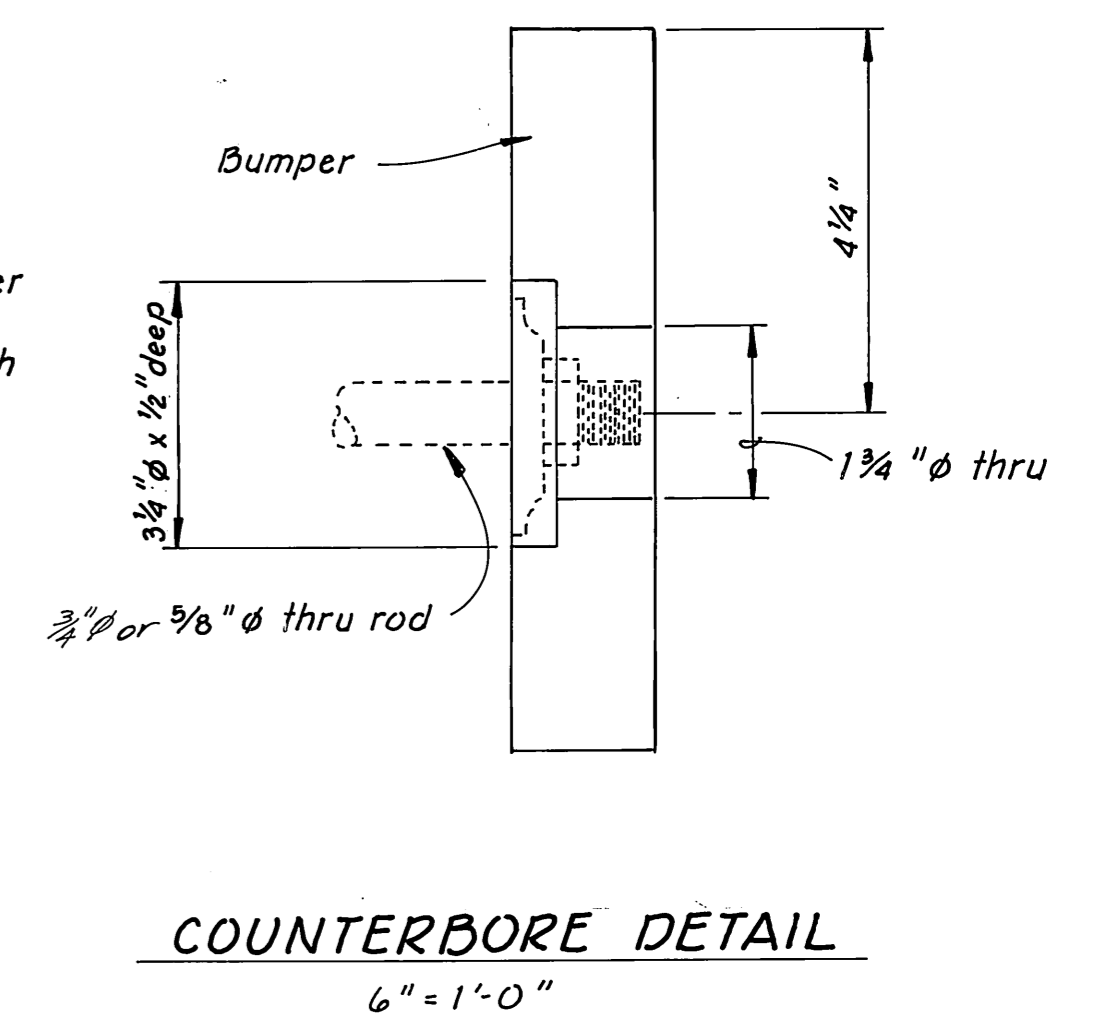
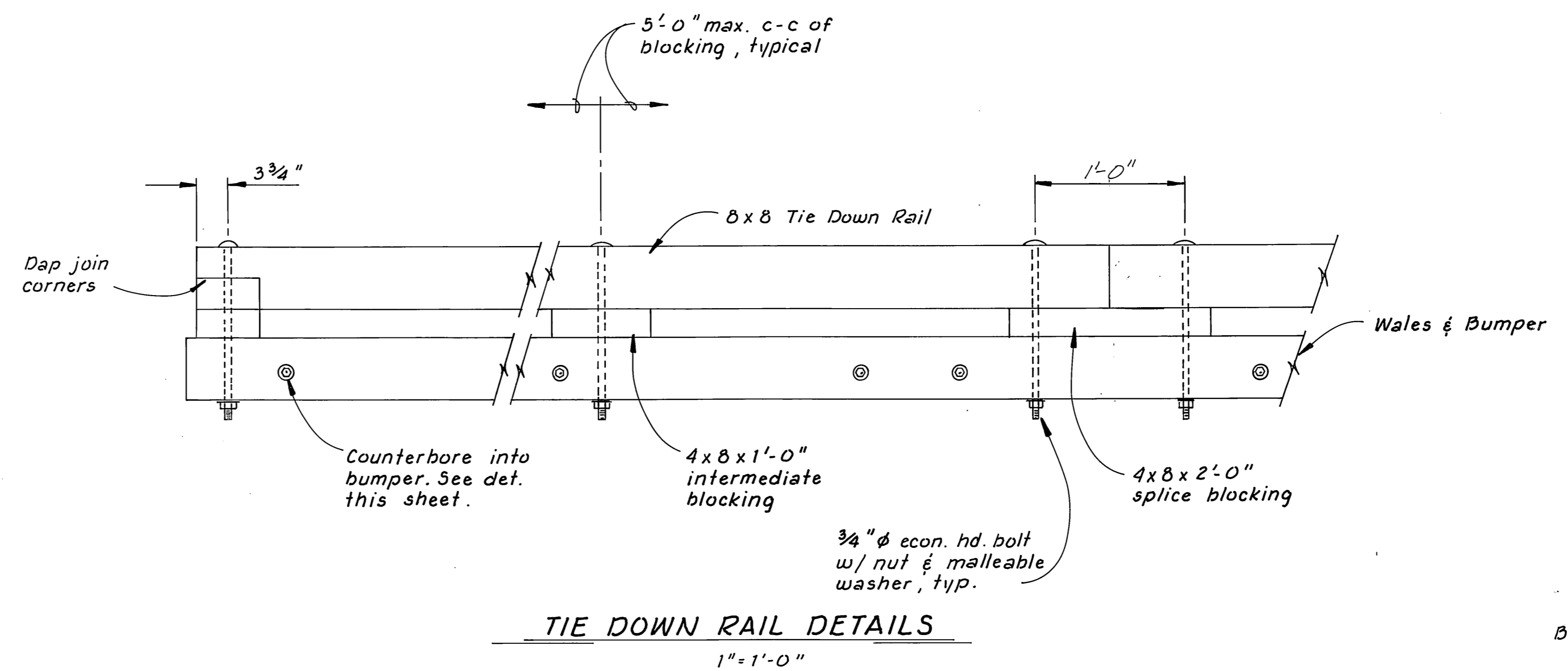
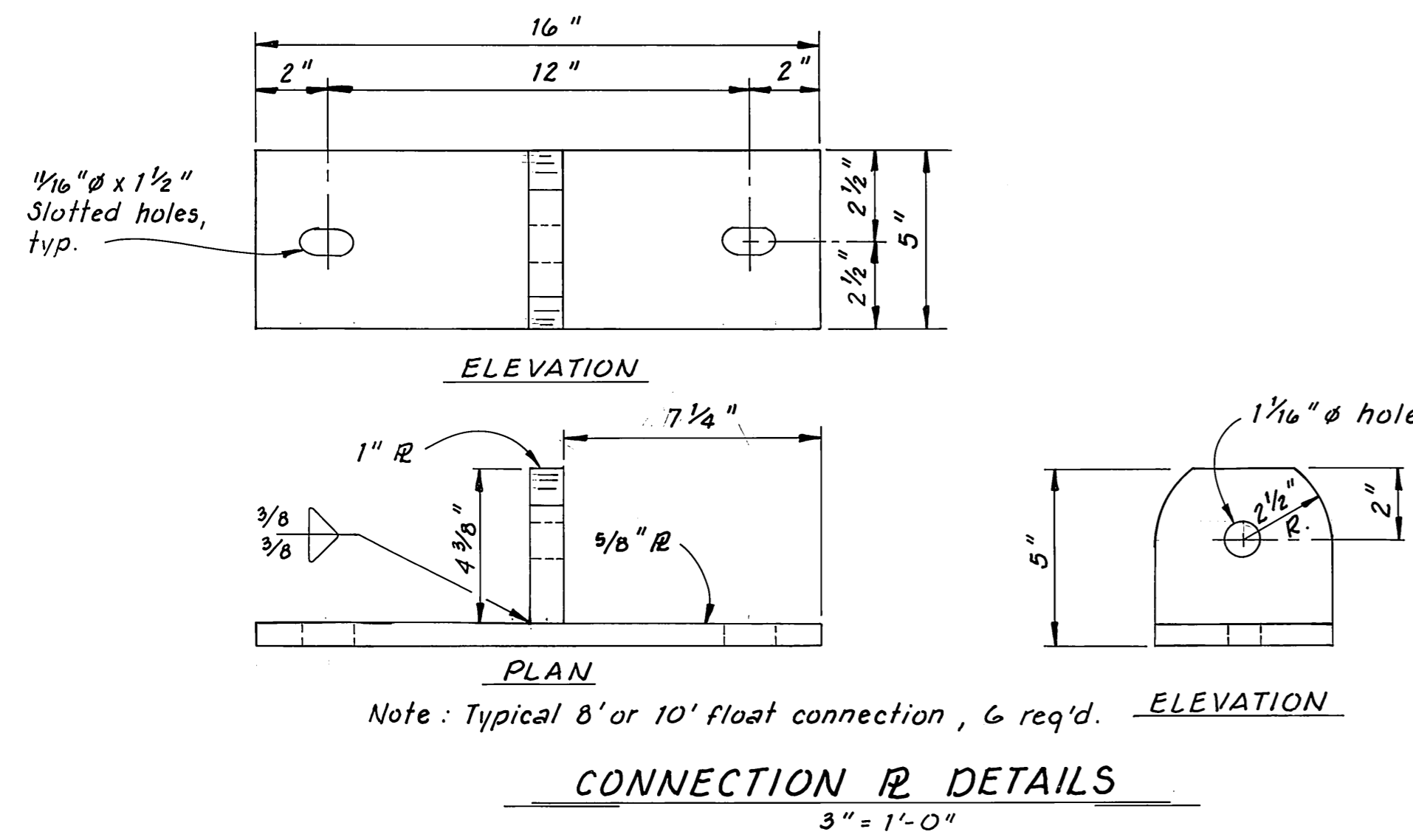


CONNECTOR WELDMENT DETAILS

3" = 1'-0"

Note: 2 req'd for Gangway Float

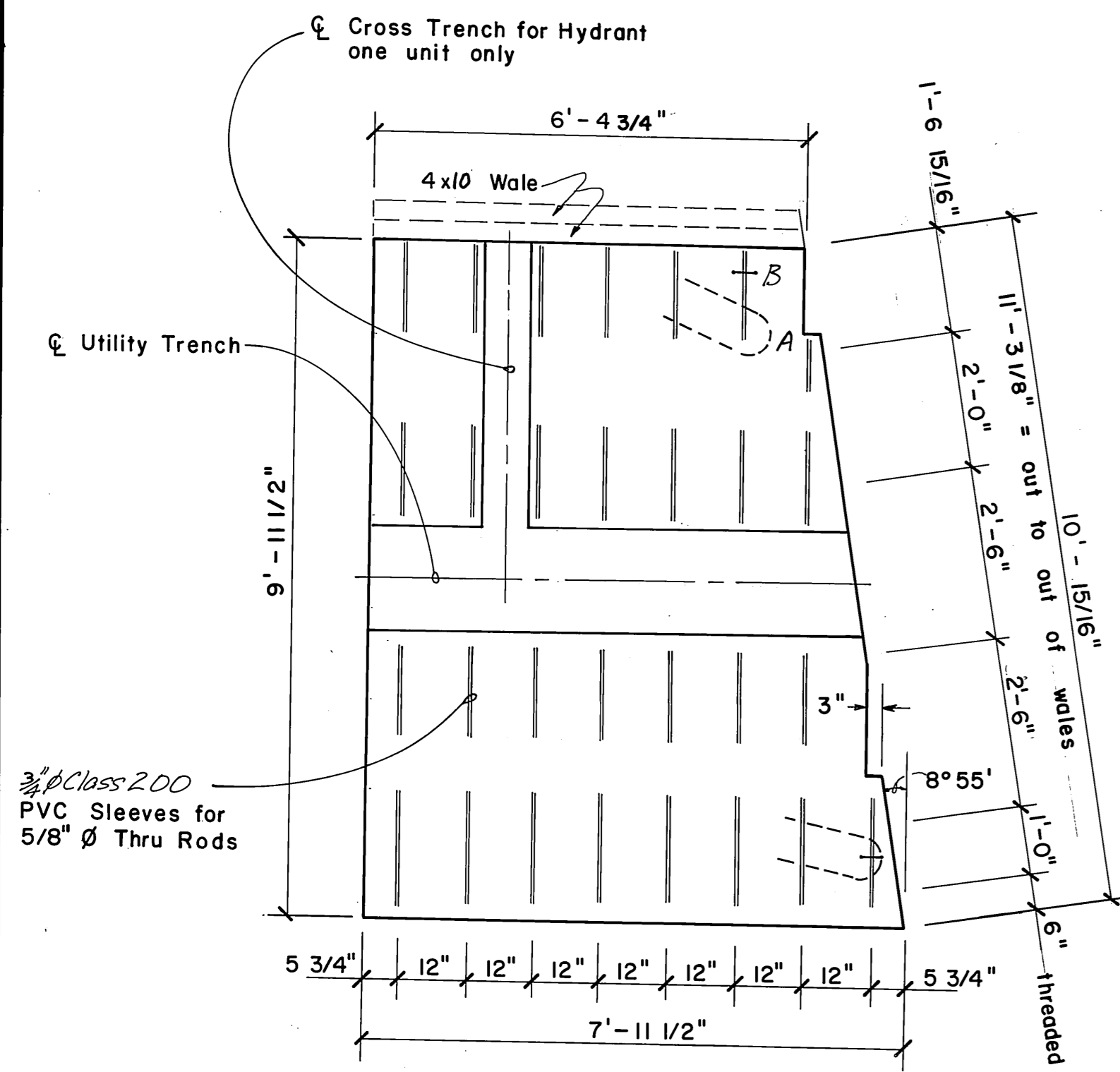
STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
		STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES HARBOR DESIGN AND CONSTRUCTION	
		Petersburg Alaska	
GANGWAY FLOAT CONNECTION DETAILS			
SCALE <i>As Noted</i>	SURVEYED	APPROVED	
DESIGNED <i>RAM</i>	DRAWN <i>TS</i>	DATE <i>3-83</i>	
CHECKED <i>VB</i>	PROJECT NUMBER <i>K-78190</i>	SHEET <i>21</i> OF <i>46</i>	



* Typical for Float A to E, Float B to E, and Float C to E. Trench location on Float E varies. Bumpers and wales on float C are all 10" deep members.

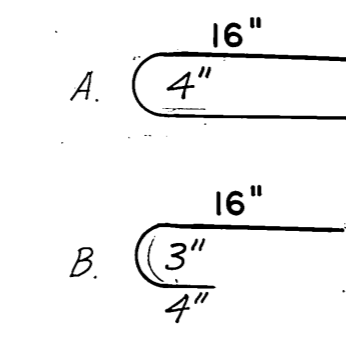
DCW 2-26-87

STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
		STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES HARBOR DESIGN AND CONSTRUCTION	
		Petersburg	Alaska
FLOAT CONNECTION & MISC. DETAILS			
SCALE <i>As Noted</i>	SURVEYED	APPROVED	
DESIGNED <i>Staff</i>	DRAWN <i>RAM</i>		
CHECKED <i>JS</i>	DATE <i>3-83</i>		
PROJECT NUMBER <i>K-78190</i>	SHEET <i>22</i> OF <i>46</i>		

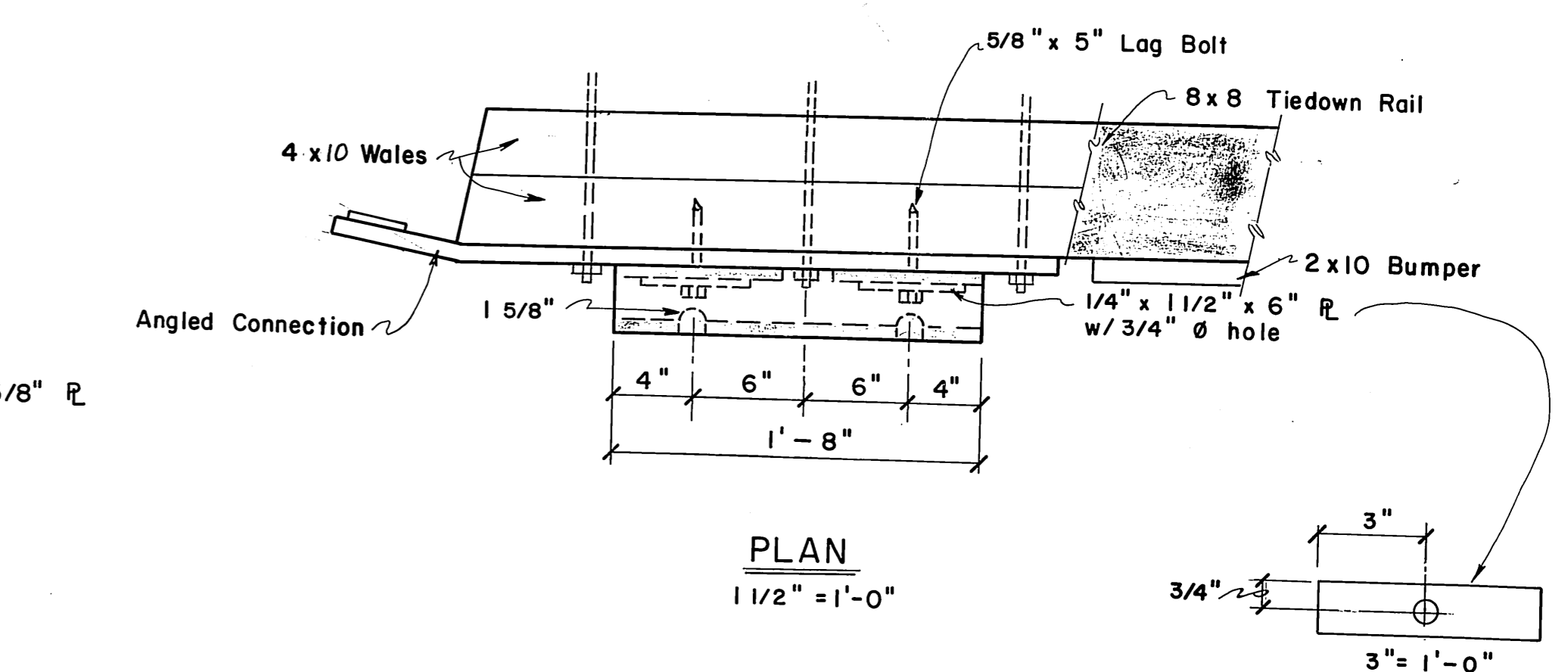
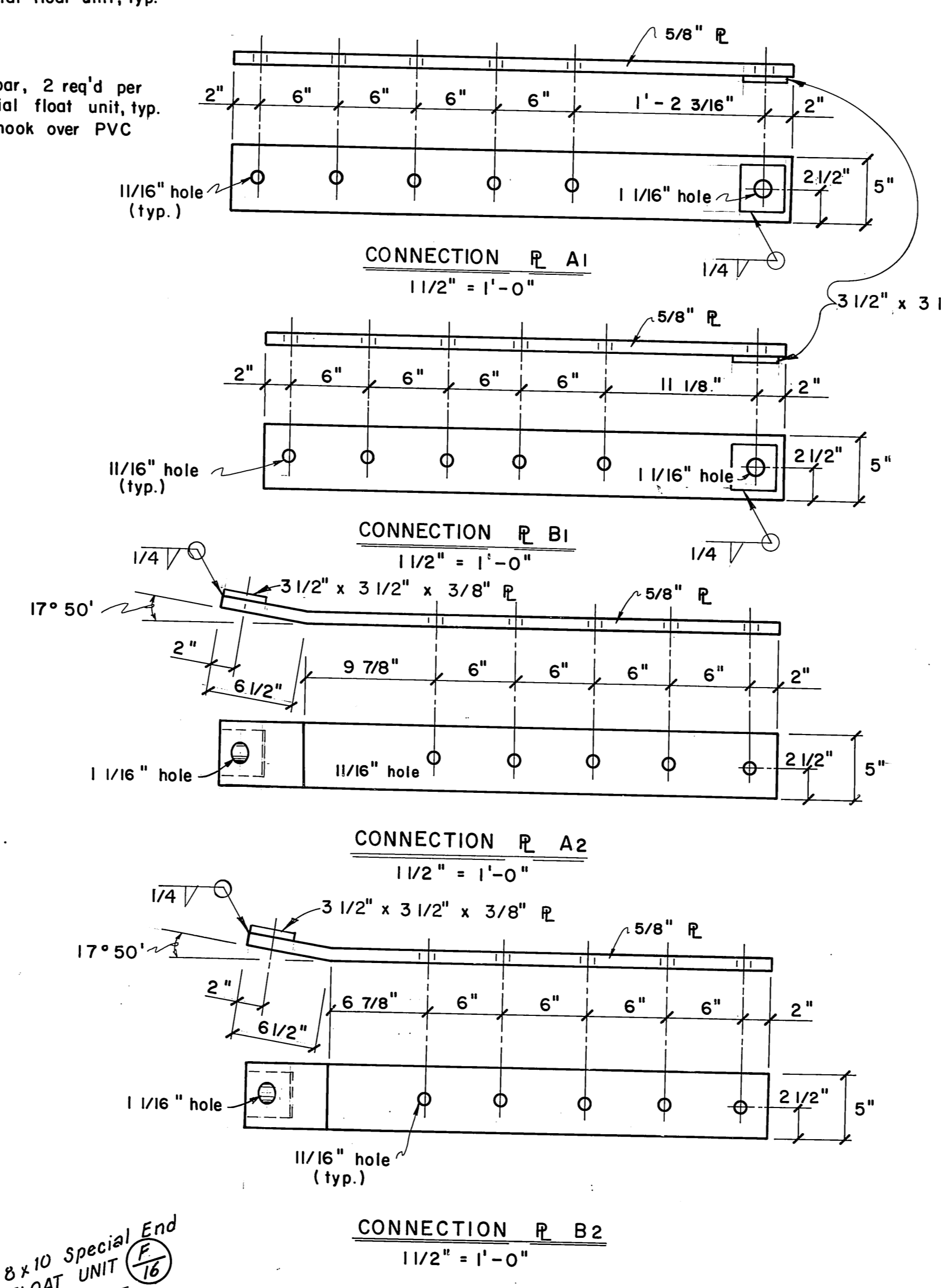


8x10 SPECIAL END UNIT (F/16)
1/2" = 1'-0"

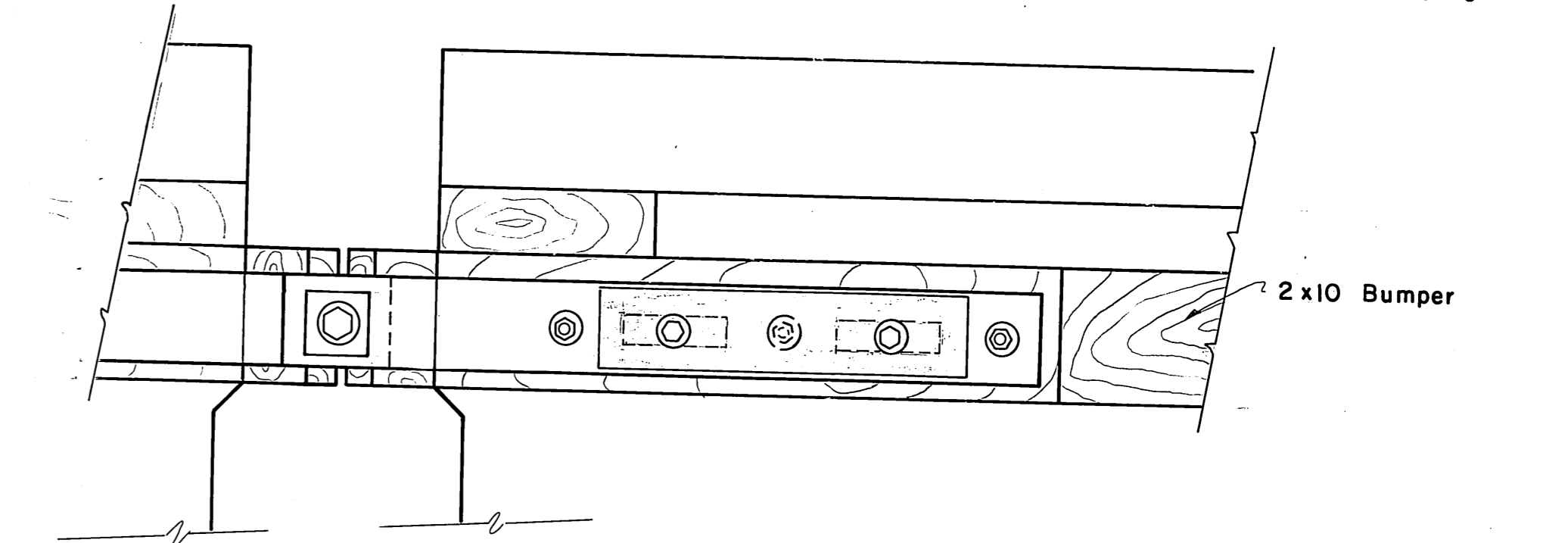
One req'd. as shown, one req'd. opp. hand
Note: See sheet 16 & 35 for details of Utility Trench and Hydrant.



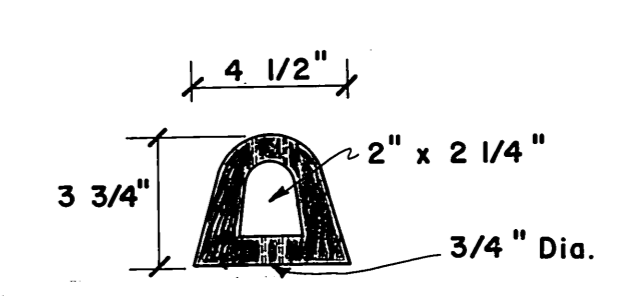
#3 rebar, 2 req'd per special float unit, typ.
#3 rebar, 2 req'd per special float unit, typ. to hook over PVC



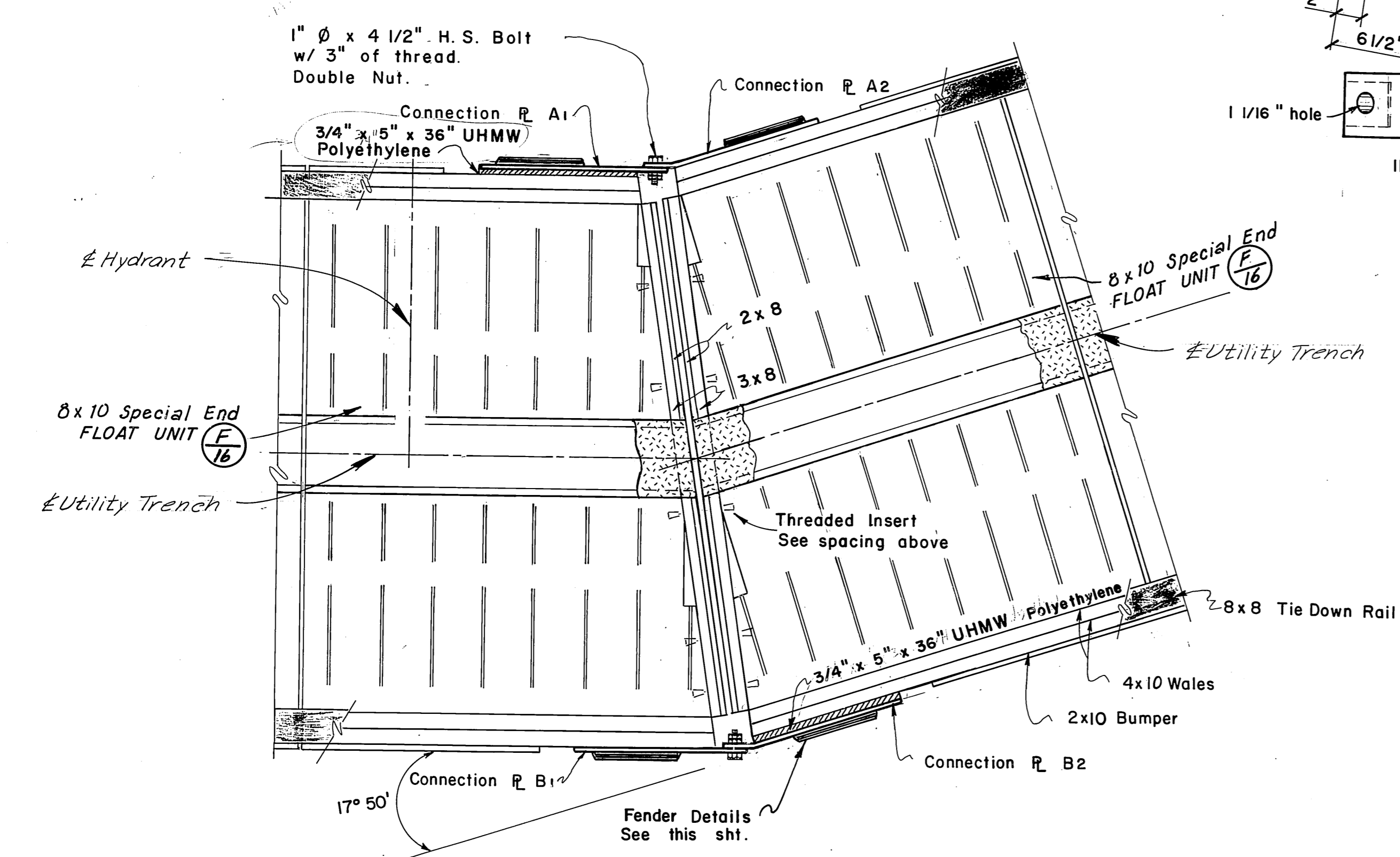
PLAN
1 1/2" = 1'-0"



FENDER DETAILS
1 1/2" = 1'-0"

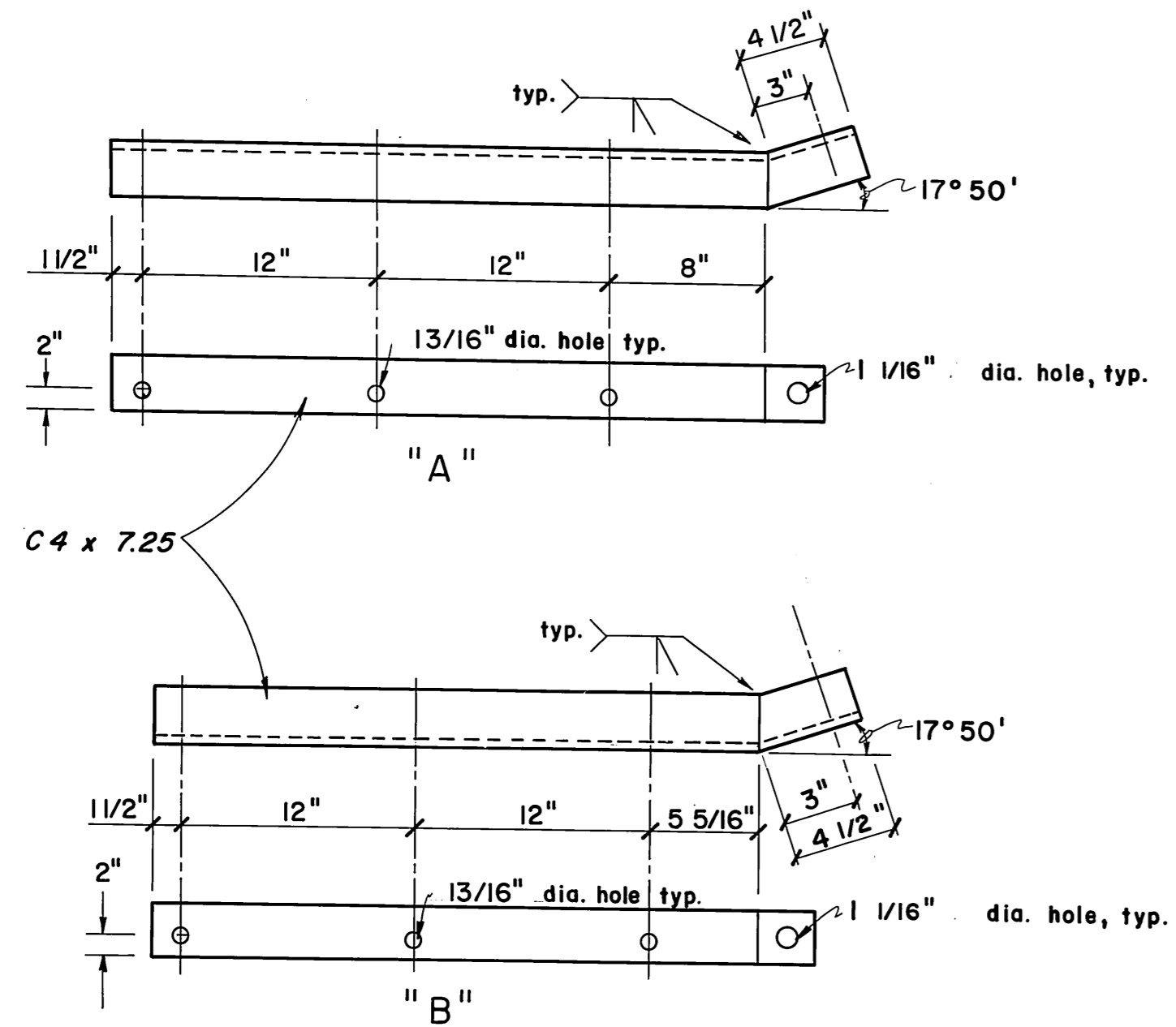


TYPE D DOCK FENDER
No Scale

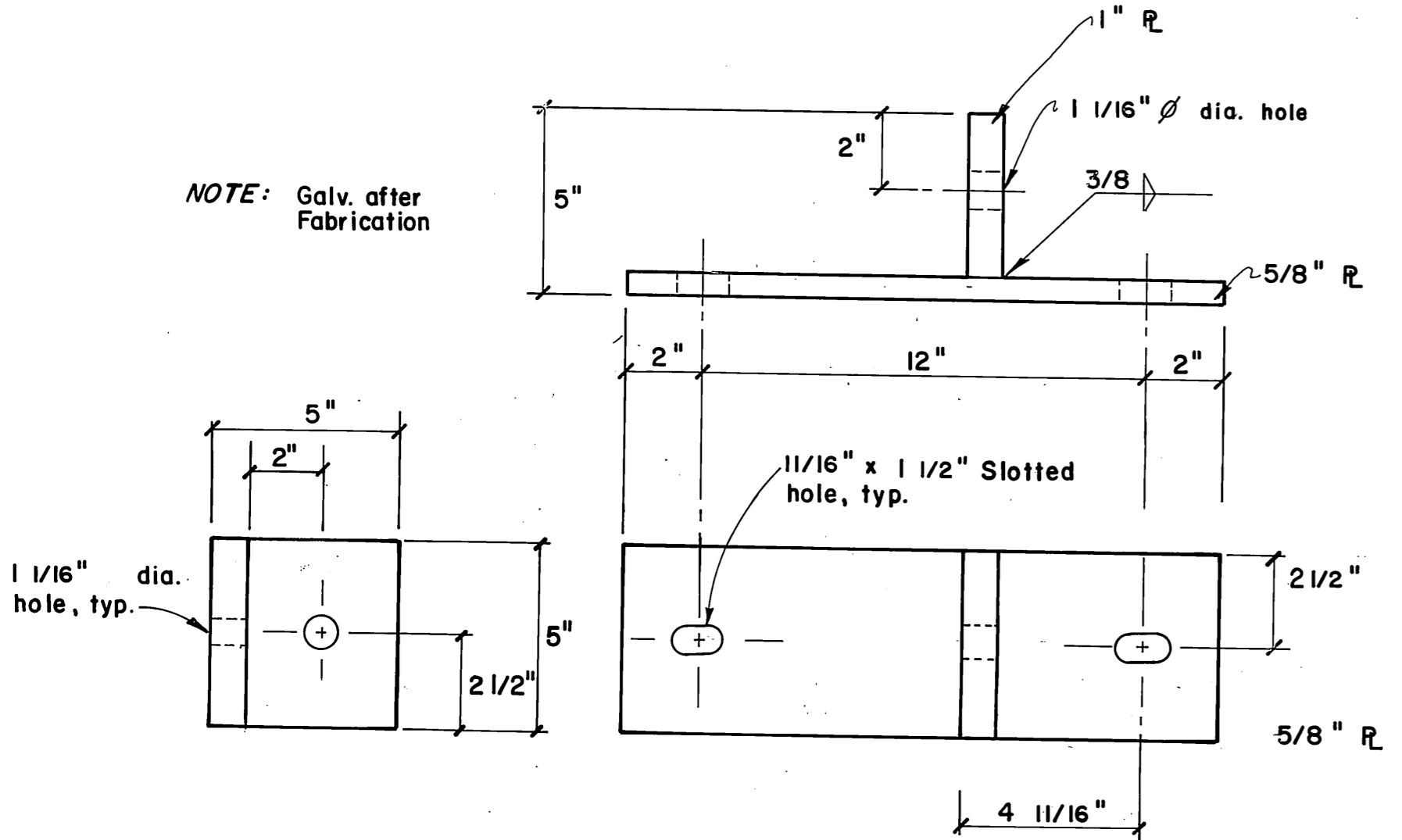


FLOAT E & F CONNECTION PLAN
1/2" = 1'-0"

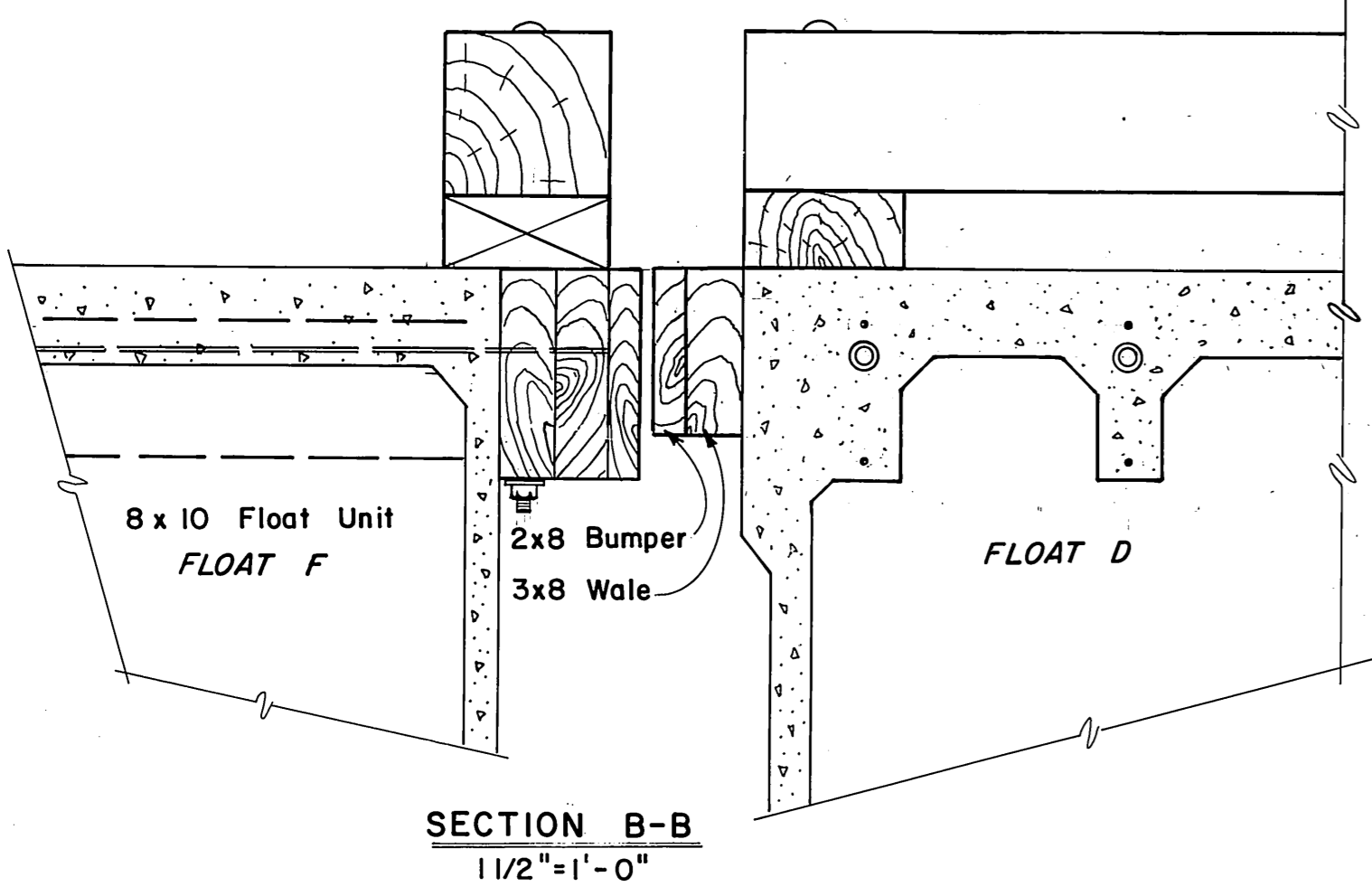
STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
		STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES HARBOR DESIGN AND CONSTRUCTION	
		Petersburg	Alaska
FLOAT E & F CONNECTION DETAILS			
SCALE: As Noted	SURVEYED: _____	APPROVED: _____	
DESIGNED: Staff	DRAWN: Staff	DATE: 5-83	
CHECKED: JS	DATE: 5-83	PROJECT NUMBER: K-78190	
PROJECT NUMBER: K-78190		SHEET: 23 OF 46	



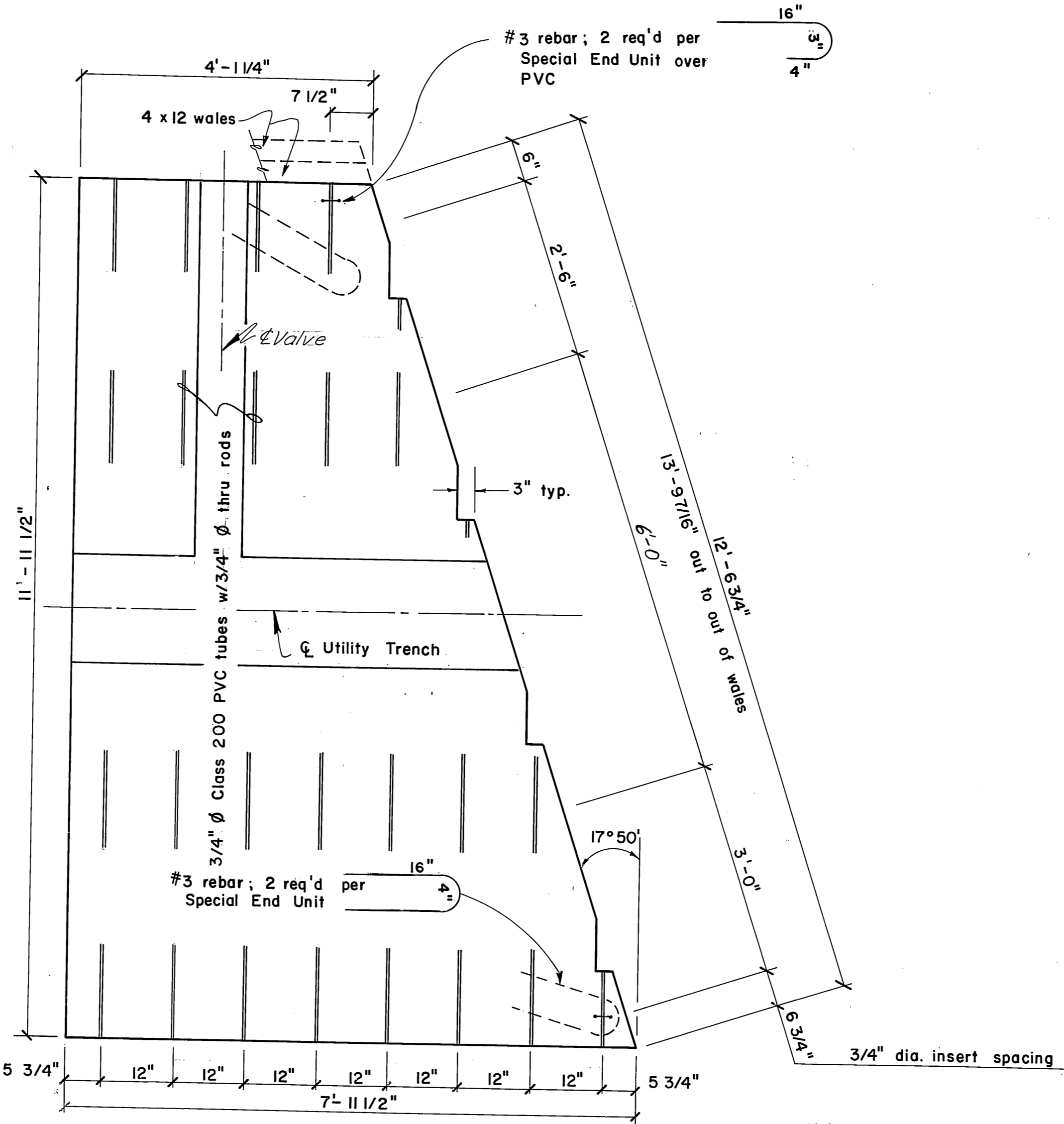
CHANNEL CONNECTION R's
no scale



CONNECTION PLATE
3" = 1'-0"

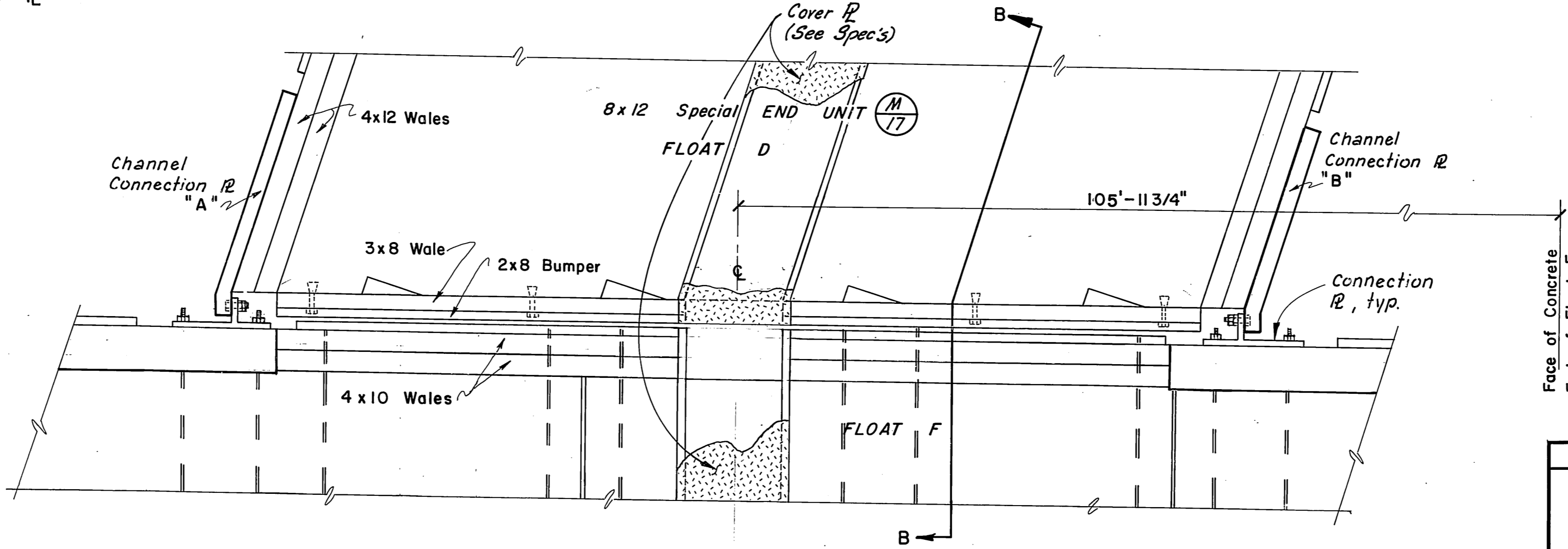


SECTION B-B
1 1/2" = 1'-0"

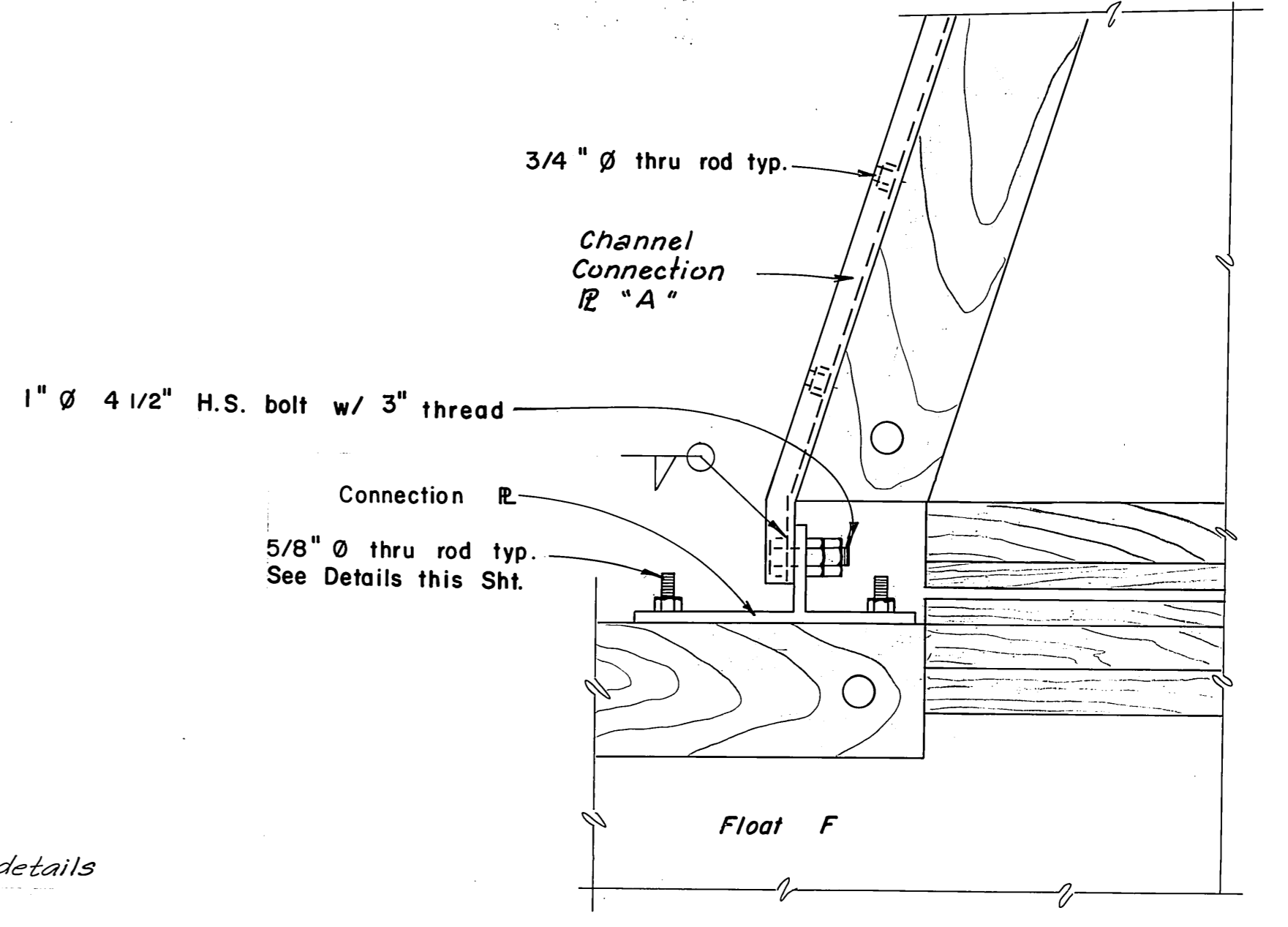


8 x 12 SPECIAL END UNIT (M 17)
3/4" = 1'-0"

Note: see sheet 17, 35 & 36 for details of Utility Trench and Valve.

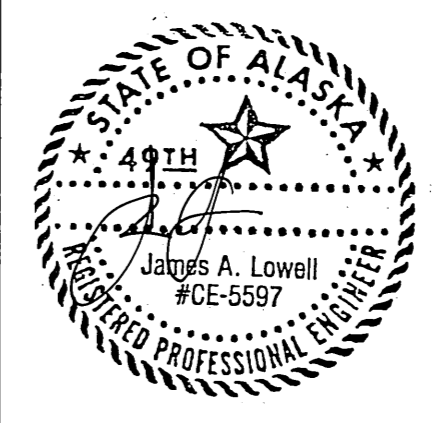


FLOAT D & FLOAT F CONNECTION DETAIL
3/4" = 1'-0"

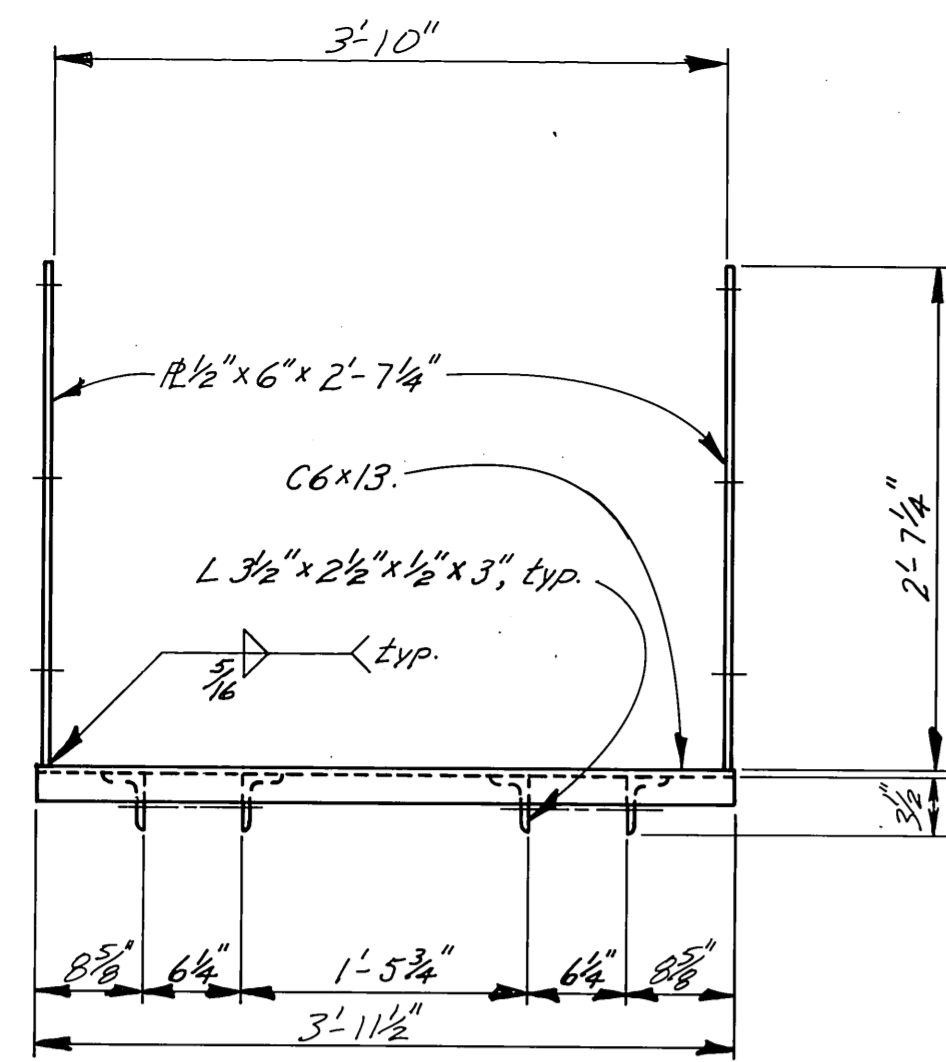


PLAN
1 1/2" = 1'-0"

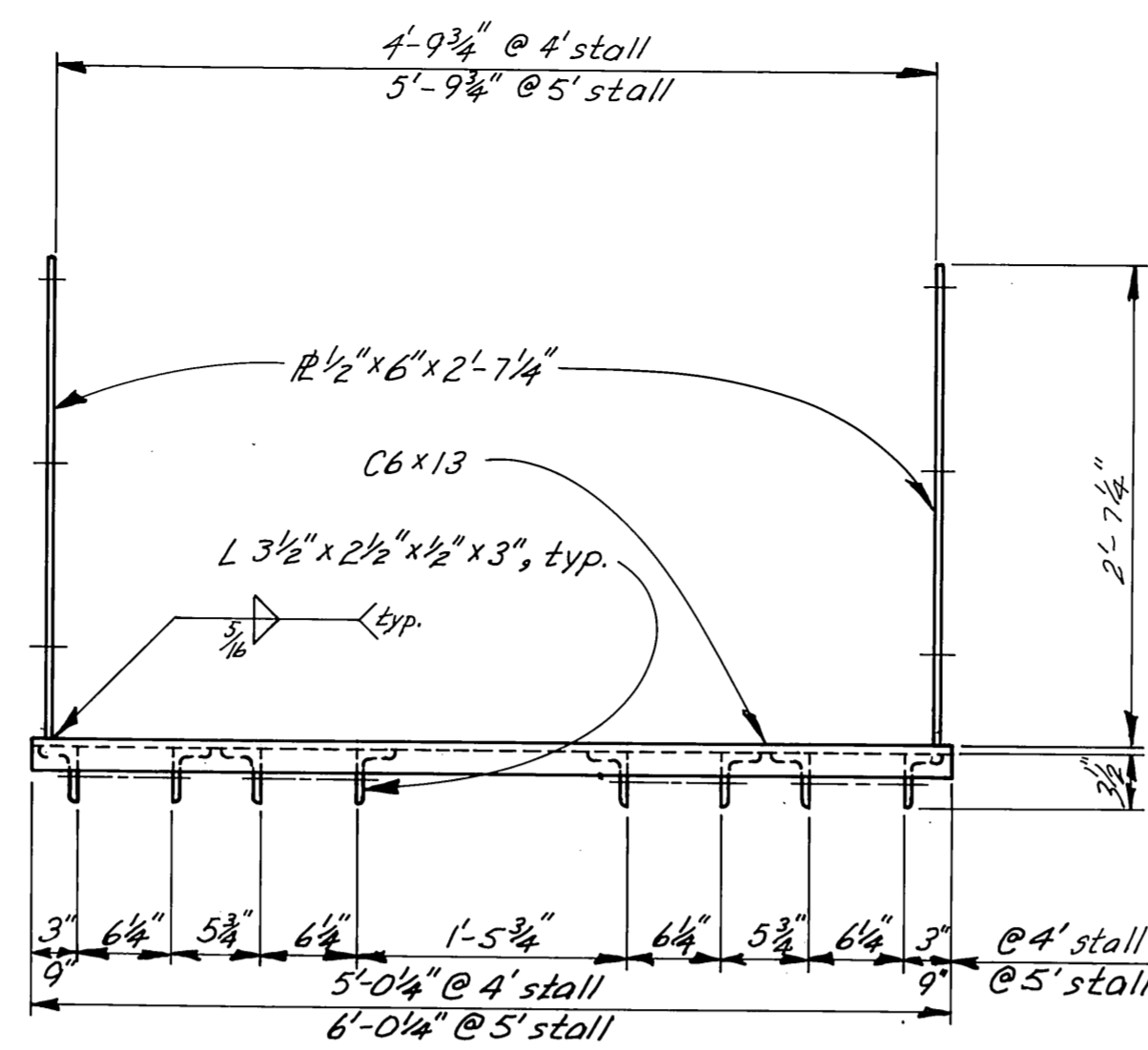
STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES HARBOR DESIGN AND CONSTRUCTION			
Petersburg		Alaska	
8 x 12 SPECIAL END UNIT, FLOAT D & FLOAT F CONNECTION DETAIL			
SCALE: As Noted	SURVEYED: Staff	APPROVED:	
DESIGNED: Staff	DRAWN: Staff		
CHECKED: JS	DATE: Feb. 83		
PROJECT NUMBER: K-78190		SHEET: 24 OF 46	



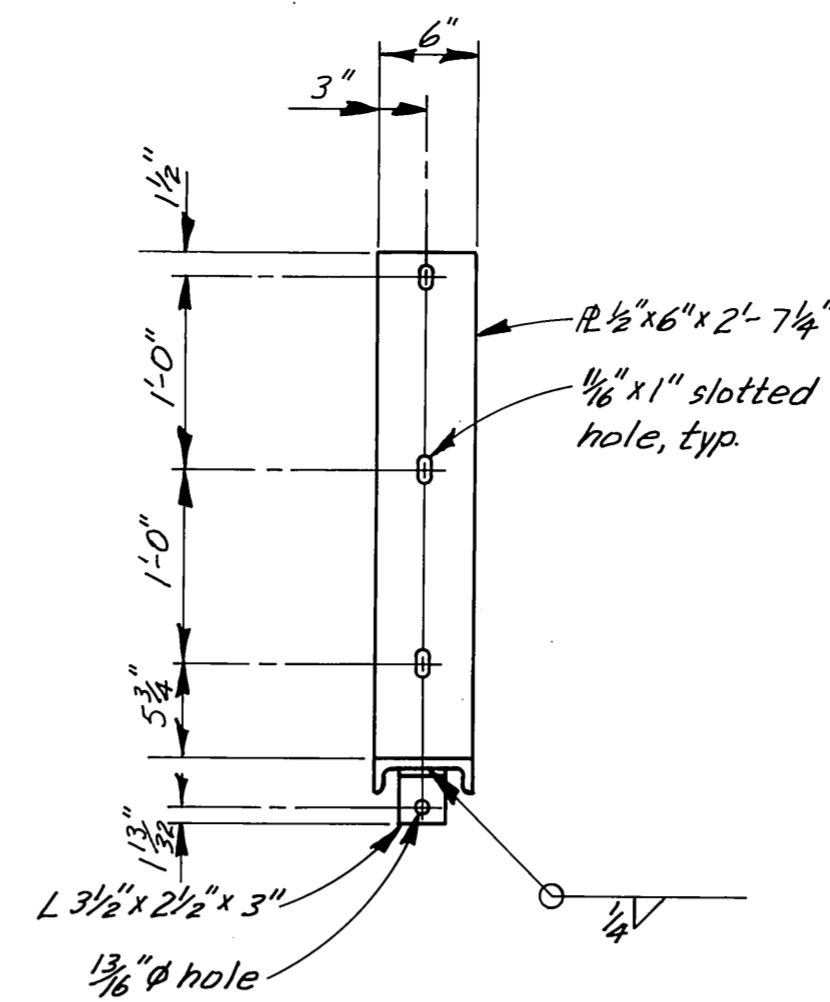
DCW 2-26-87



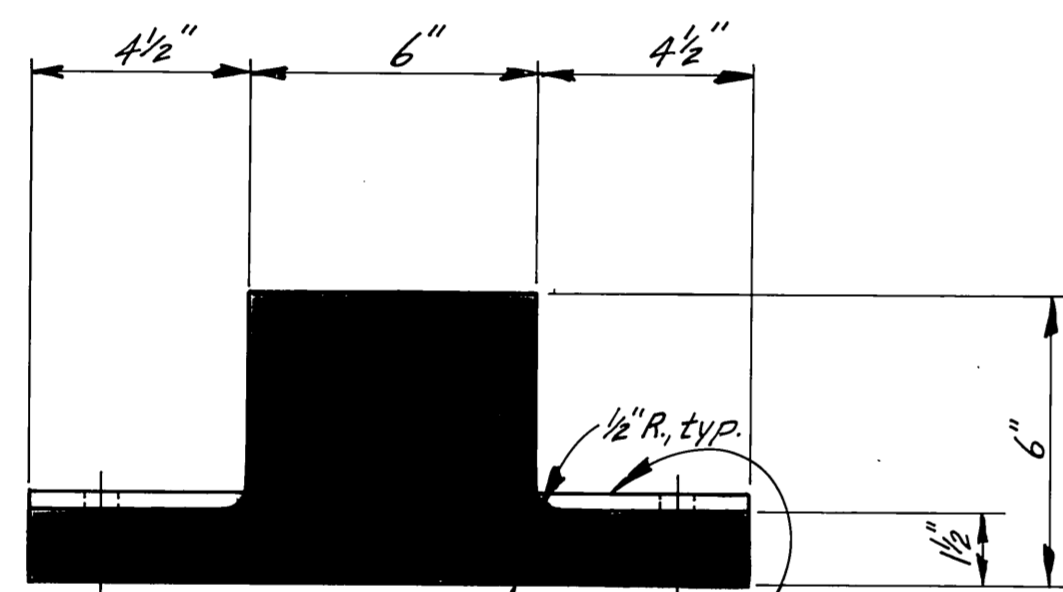
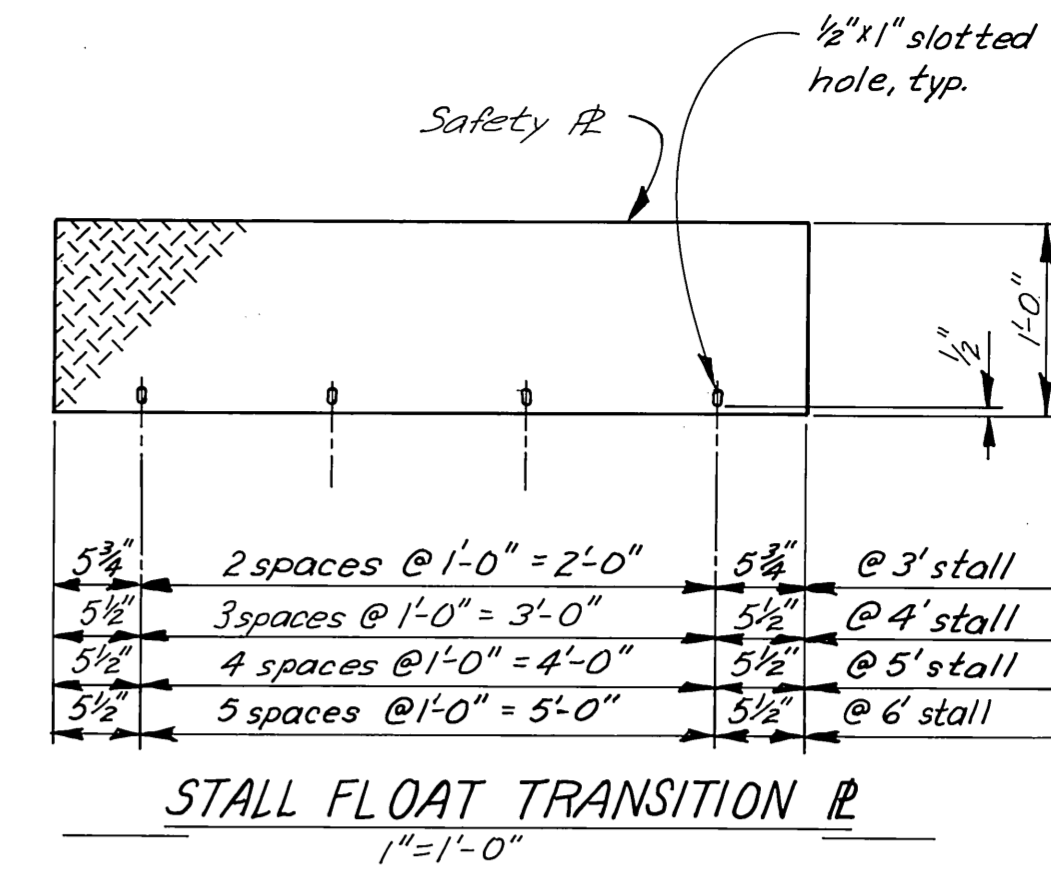
3'x40' STALL FLOAT ATTACHMENT
 1"=1'-0"



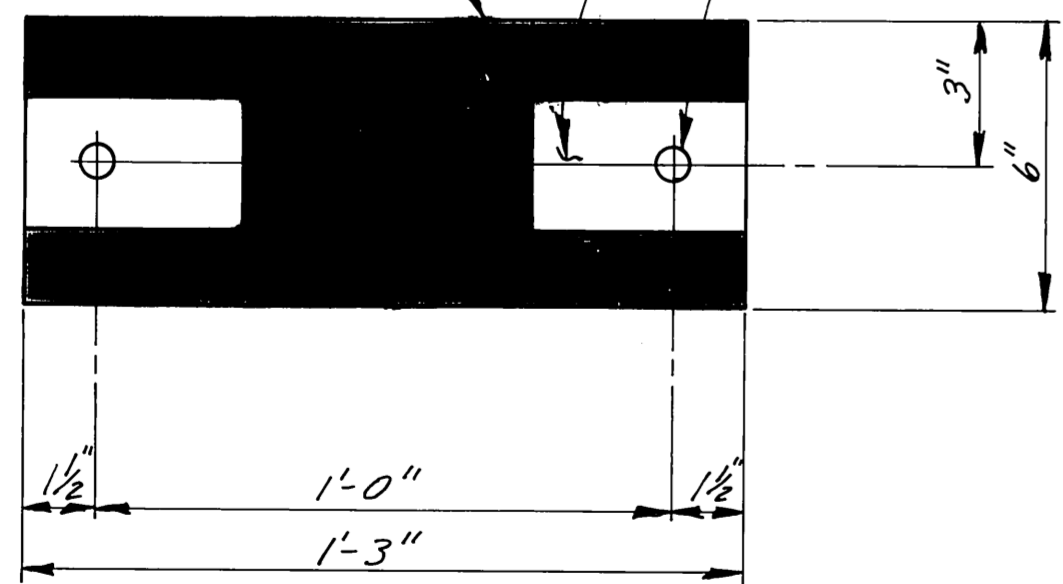
4' & 5' STALL FLOAT ATTACHMENTS
 1"=1'-0"



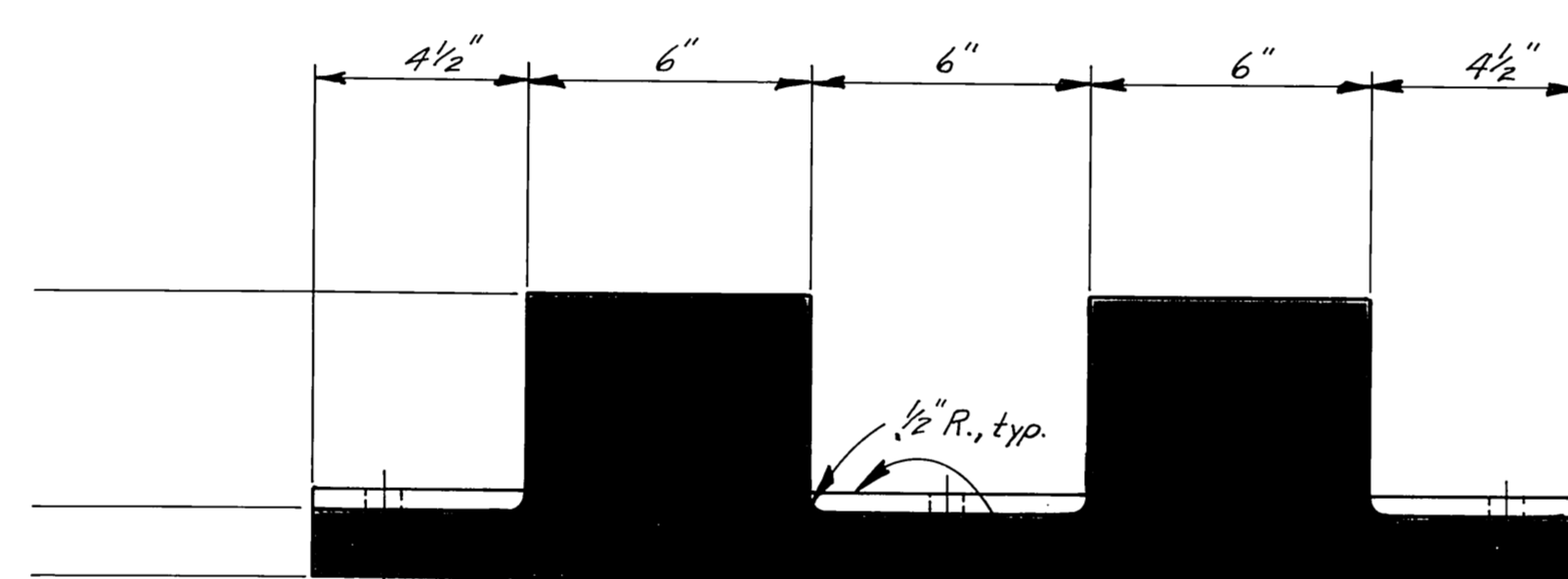
END VIEW
 1"=1'-0"



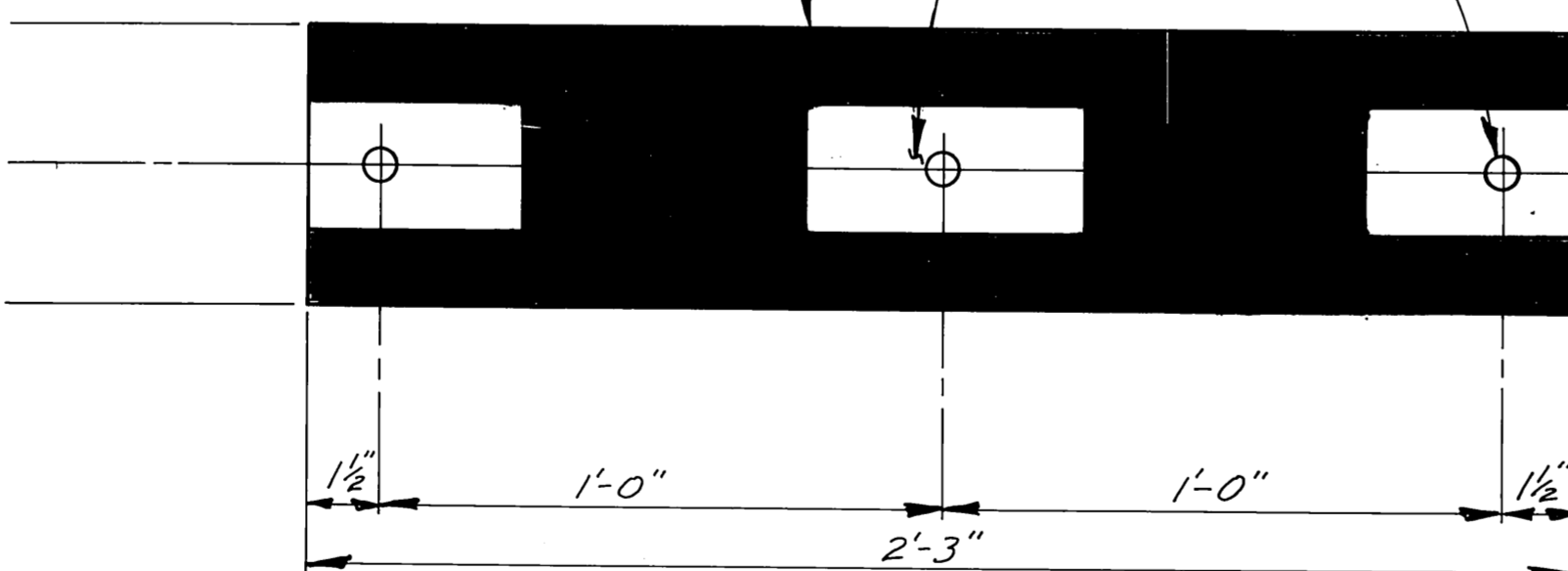
deleted 6"x6" D Fender w/ 3"x3" D bore
 deleted R 3/8" x 2 3/4" x 1-3" substituted New R (see below right)
 1/8" hole, typ.



3' STALL FLOAT

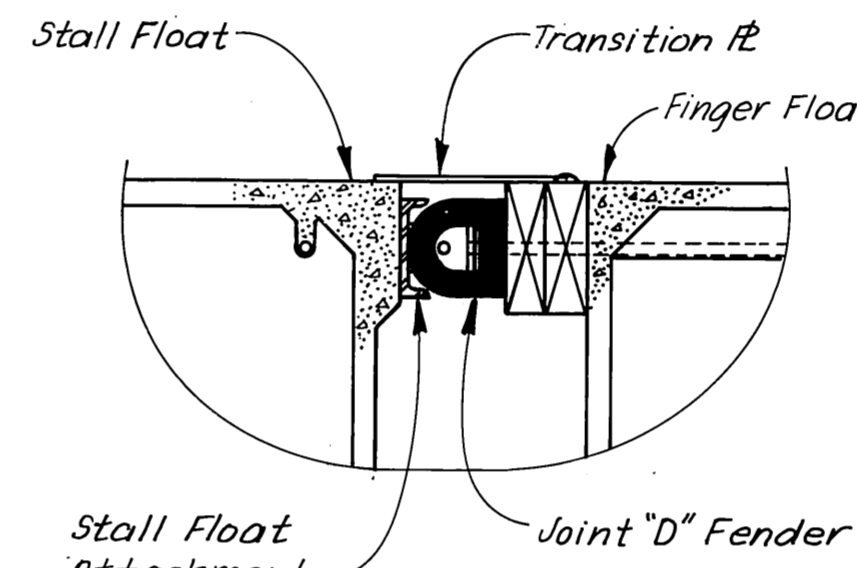


6"x6" D Fender w/ 3"x3" D bore
 R 3/8" x 2 3/4" x 2'-3"
 1/8" hole @ Float "A B & C"
 1/8" hole @ Float "D"

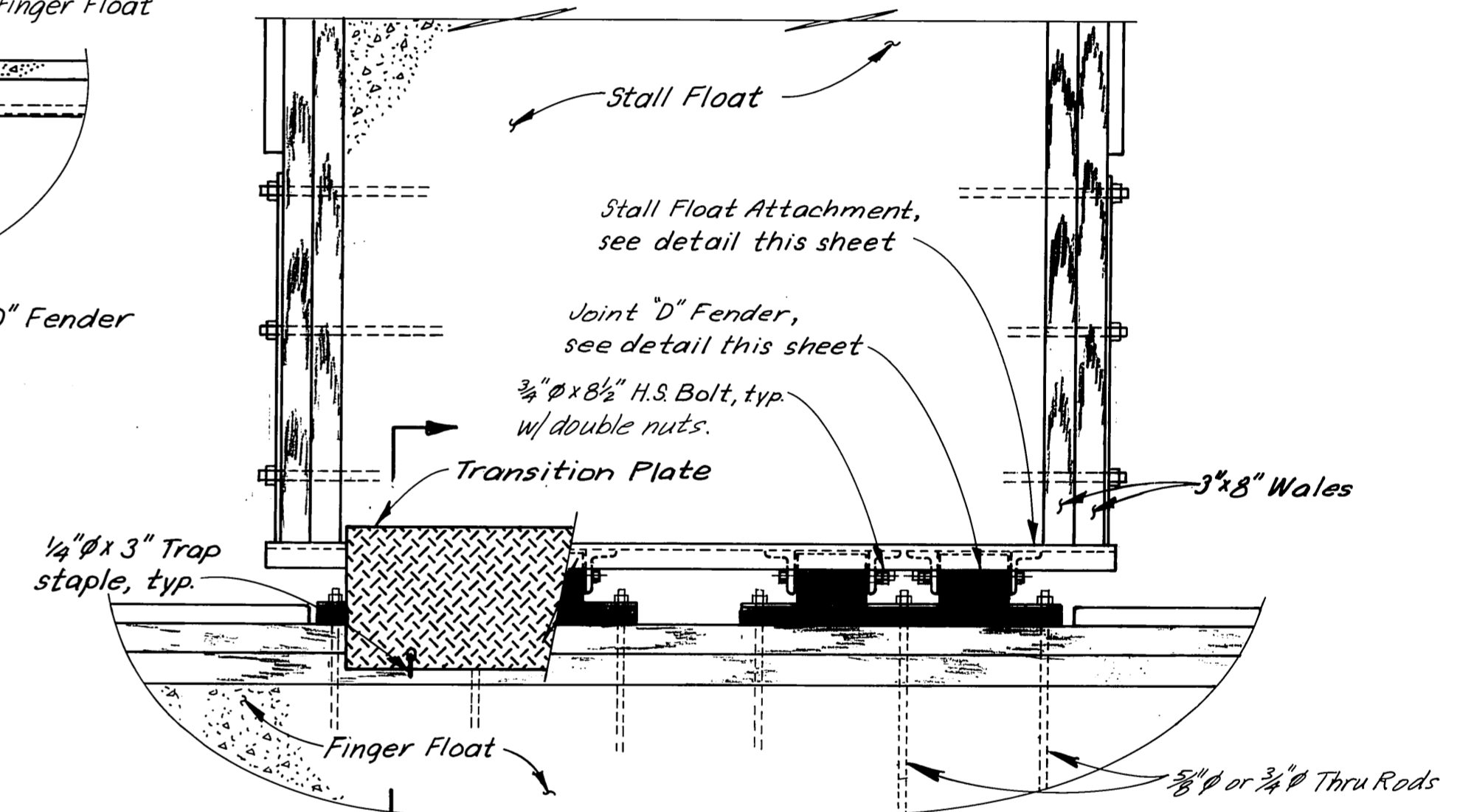


JOINT "D" FENDER
 3"=1'-0"

4', 5' & 6' STALL FLOAT

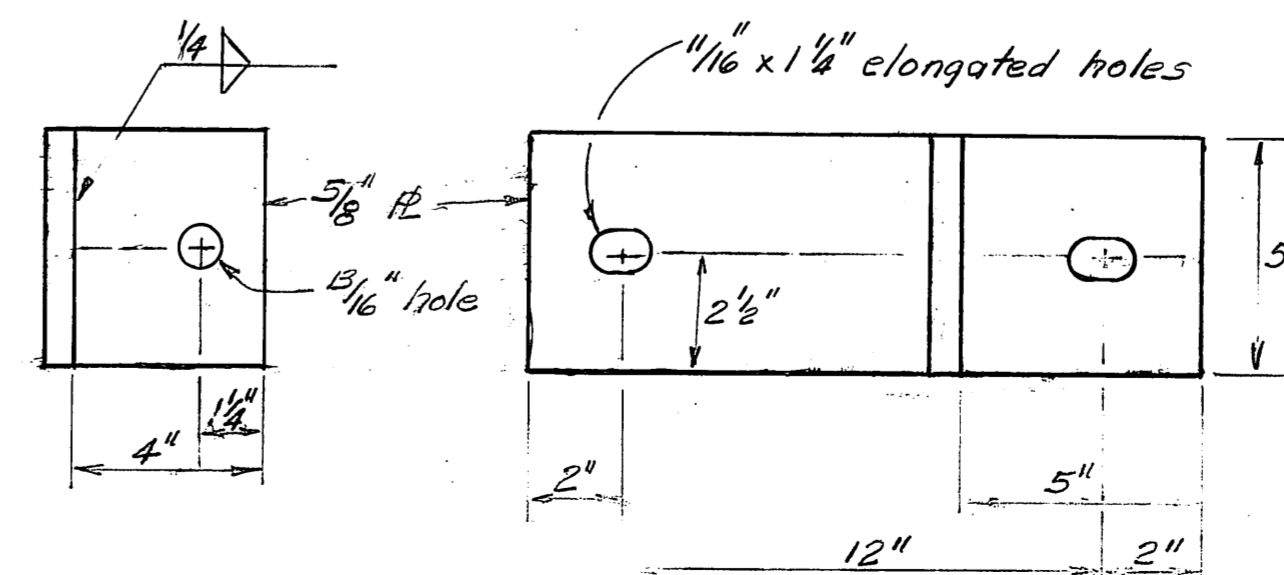


SECTION A
 1"=1'-0"



Note: 4' & 5' Stall Float Connection, shown, 3'x40' Stall Float Connection, similar.

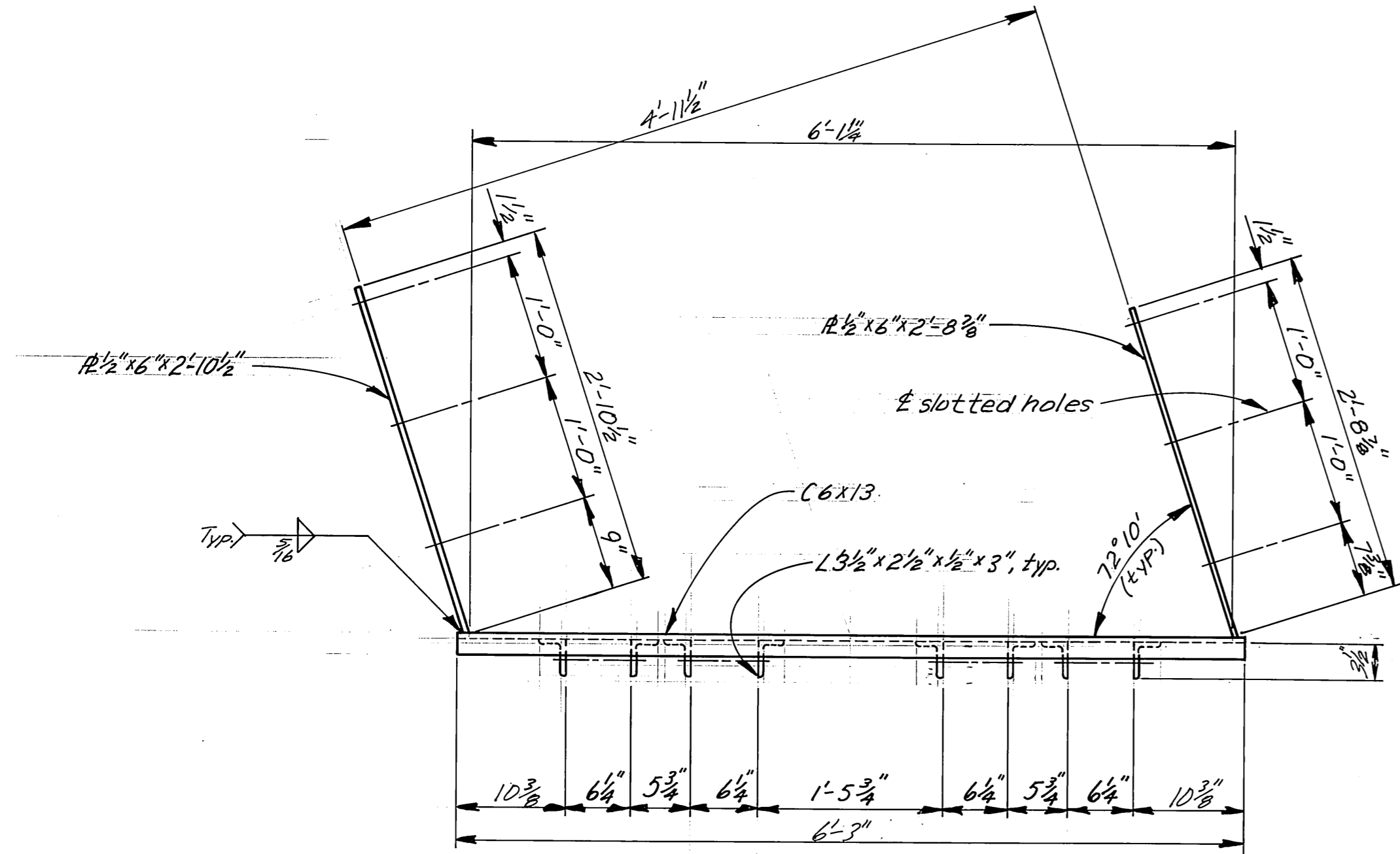
HINGED STALL FLOAT CONN. DETAIL
 1"=1'-0"



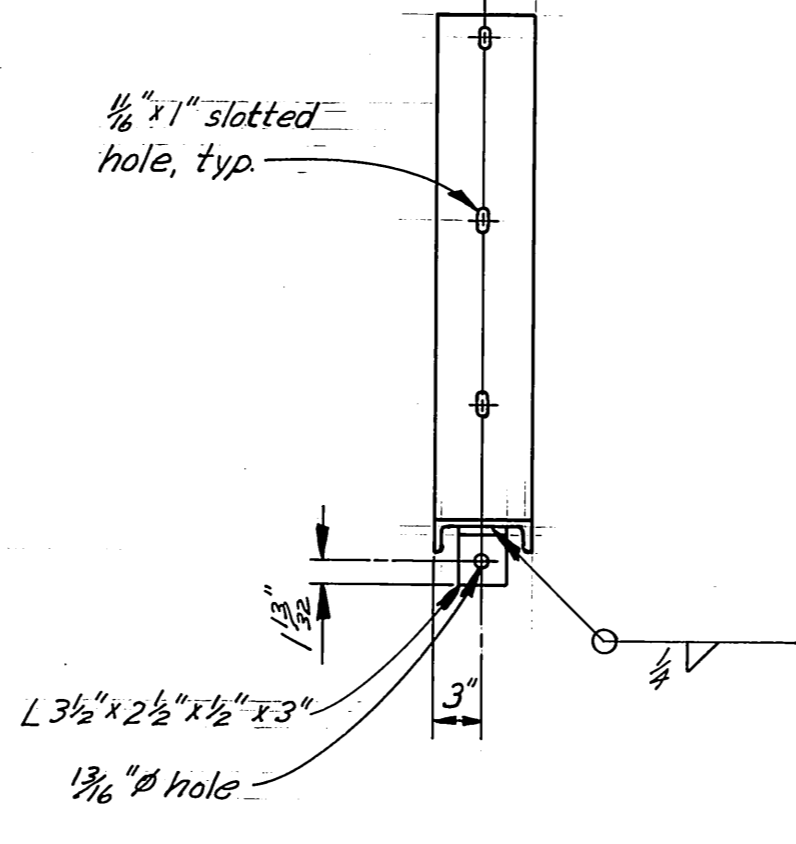
New Connection R Details - 3'x40' Float
 3"=1'-0"

DCW 2-12-87

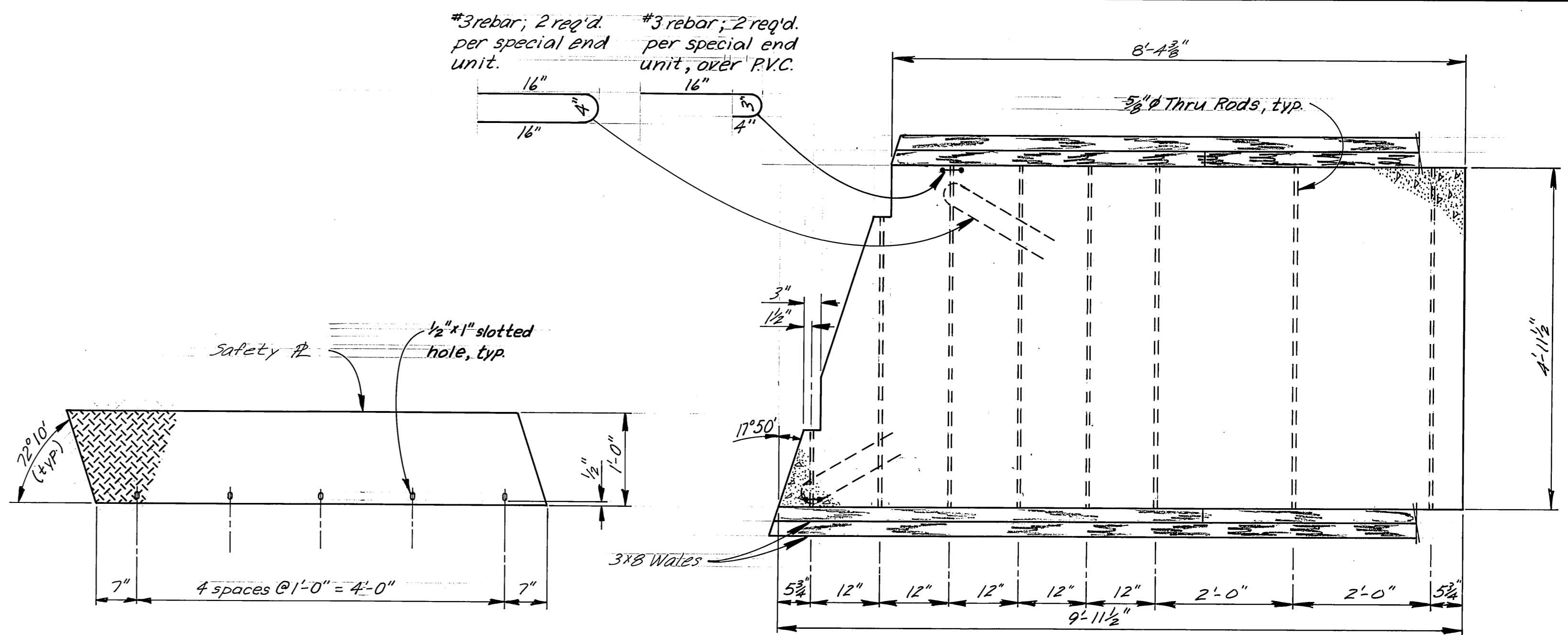
STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
		STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES HARBOR DESIGN AND CONSTRUCTION	
Petersburg		Alaska	
TYPICAL STALL FLOAT CONN.			
SCALE: As Noted	SURVEYED:	APPROVED:	
DESIGNED: Staff	DRAWN: LJB		
CHECKED: JS	DATE: 3/2/83		
PROJECT NUMBER: K78190	SHEET - 25 OF 46		



ANGLE STALL FLOAT ATTACHMENT
1" = 1'-0"

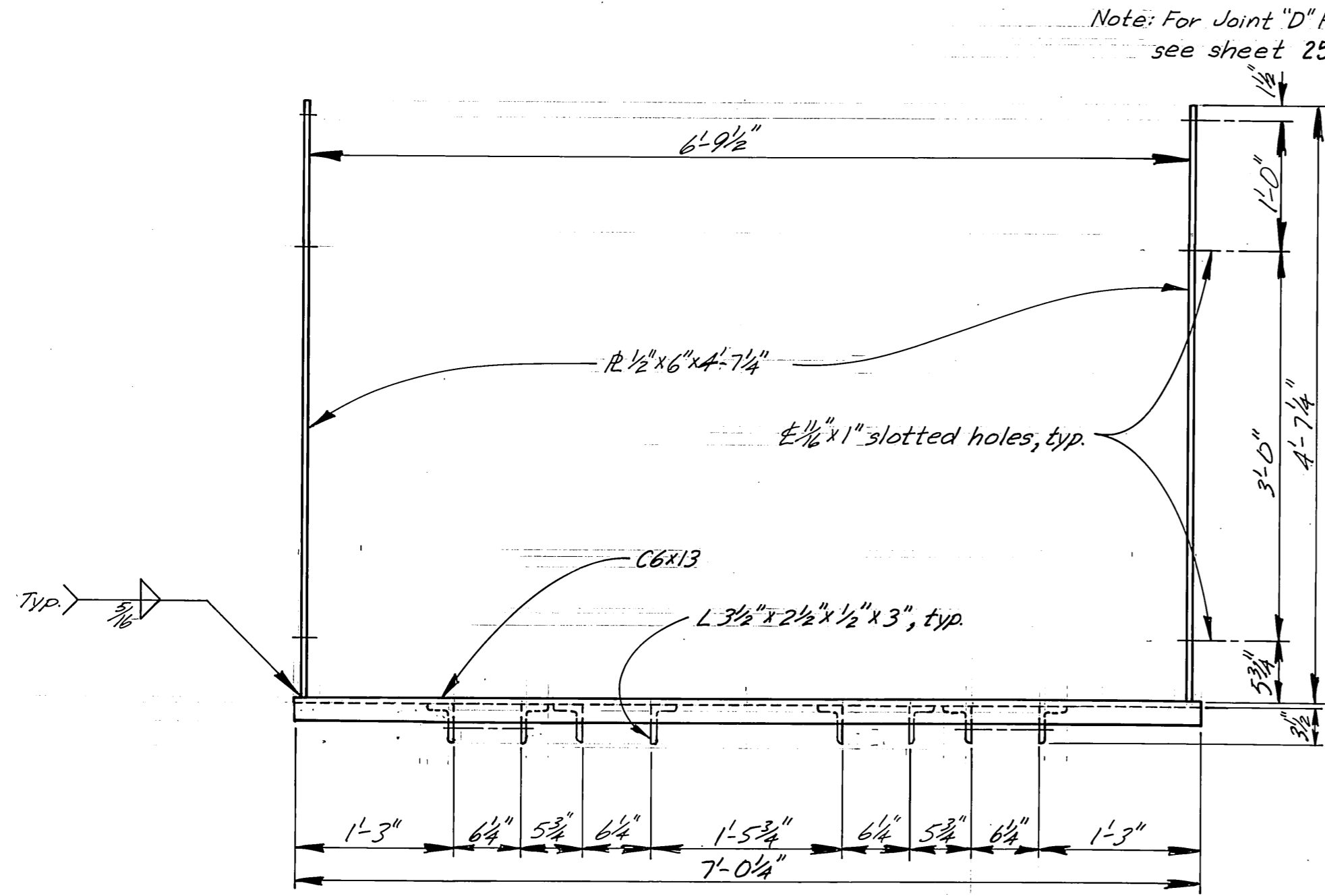


END VIEW
1" = 1'-0"

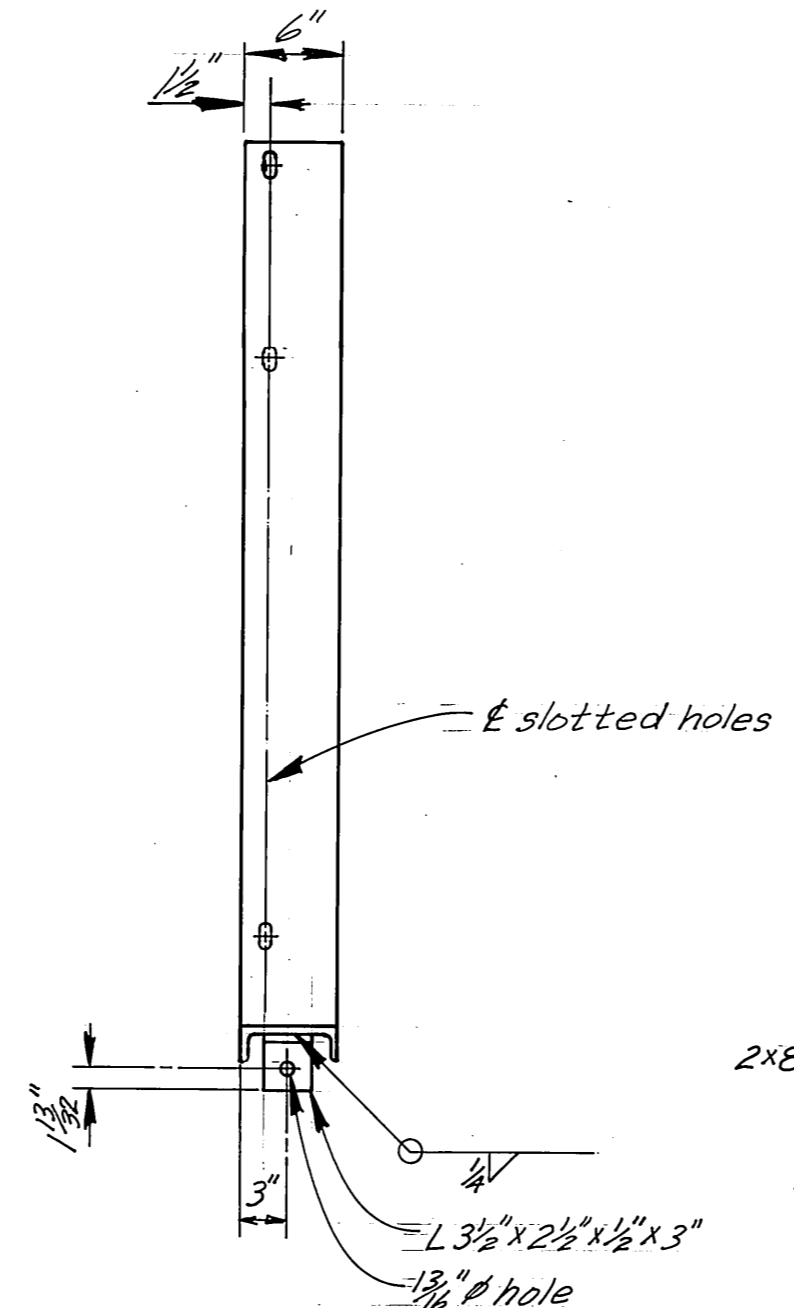


ANGLED STALL FLOAT TRANSITION R
1" = 1'-0"

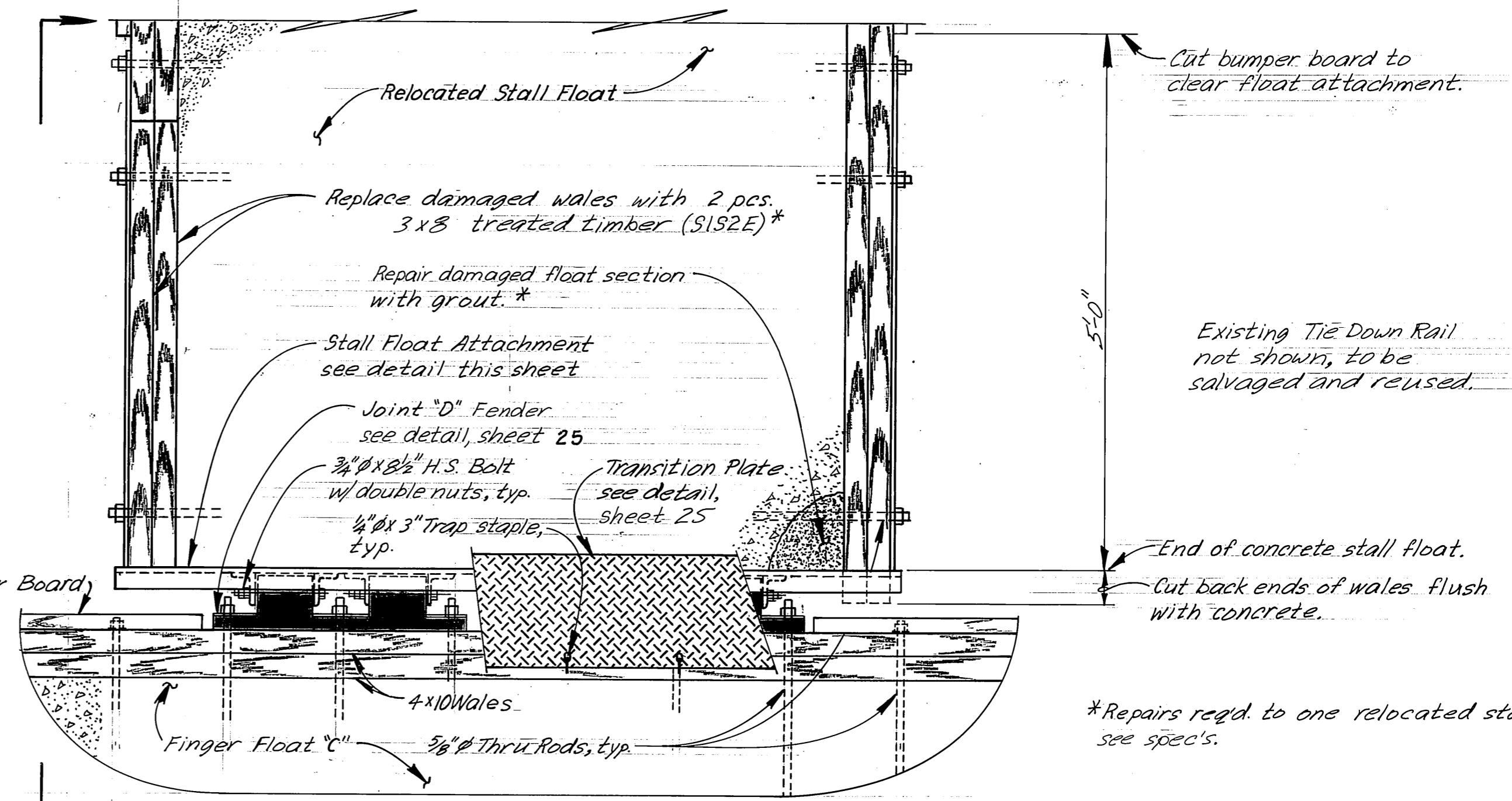
SPECIAL END UNIT, ANGLD STALL FLOAT
3/4" = 1'-0"



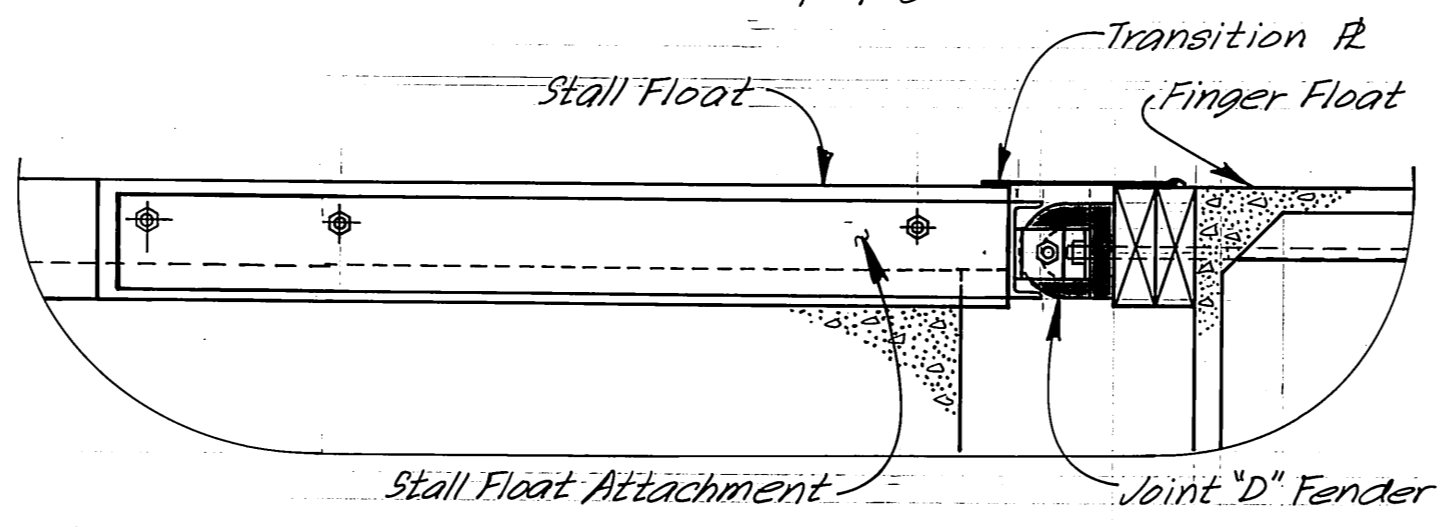
6' STALL FLOAT ATTACHMENT
1" = 1'-0"



END VIEW
1" = 1'-0"



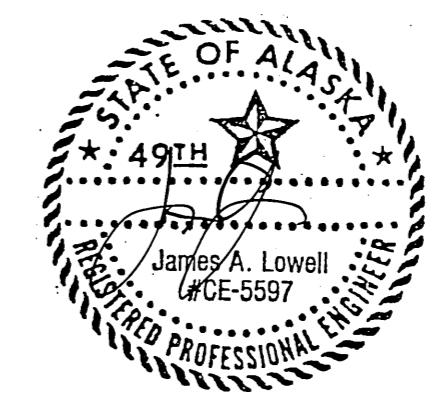
RELOCATED STALL FLOAT HINGE CONN.
1" = 1'-0"

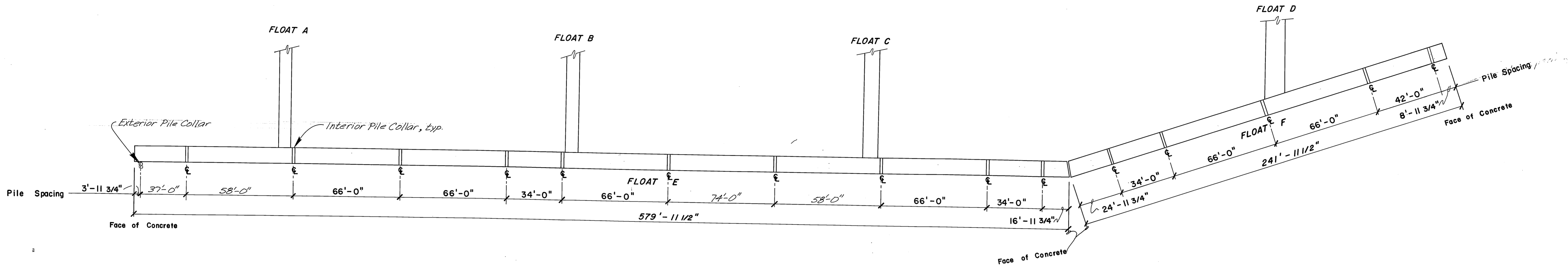


VIEW A
1" = 1'-0"

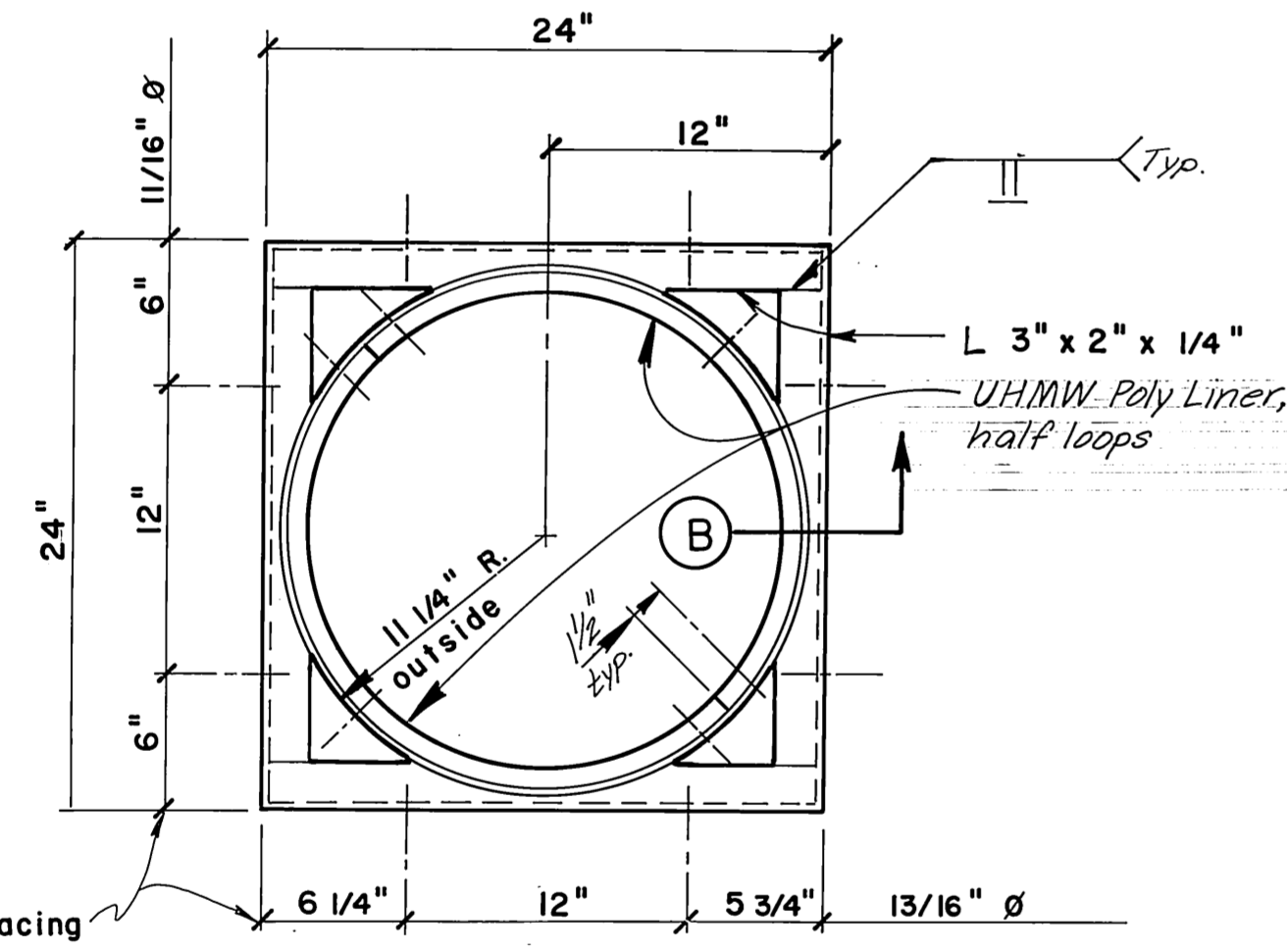
Note: For Joint "D" Fender, see sheet 25

DCW 2-18-87	
DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES HARBOR DESIGN AND CONSTRUCTION	
Petersburg	Alaska
ANGLED & RELOCATED FLOAT CONN.	
SCALE: As Noted	SURVEYED: _____
DESIGNED: Staff	DRAWN: LJB
CHECKED: US	DATE: 3/7/83
PROJECT NUMBER: K78190	SHEET: 26 OF 46

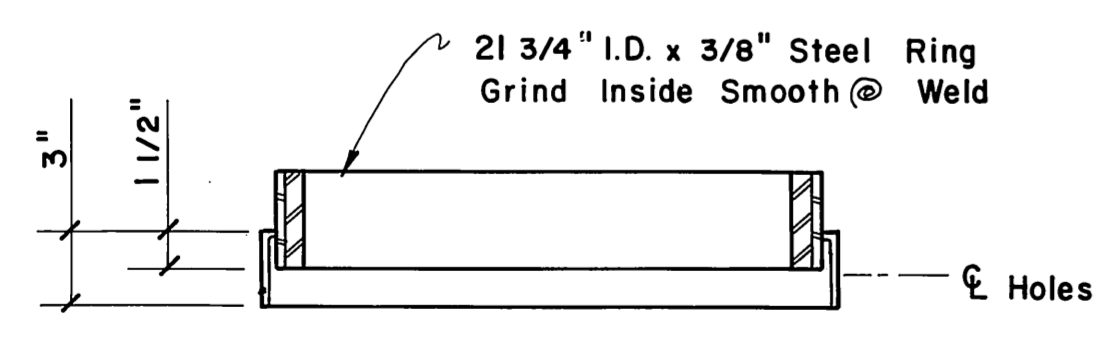




MAIN FLOAT INTERIOR PILE LOCATIONS
Scale: 1" = 30'



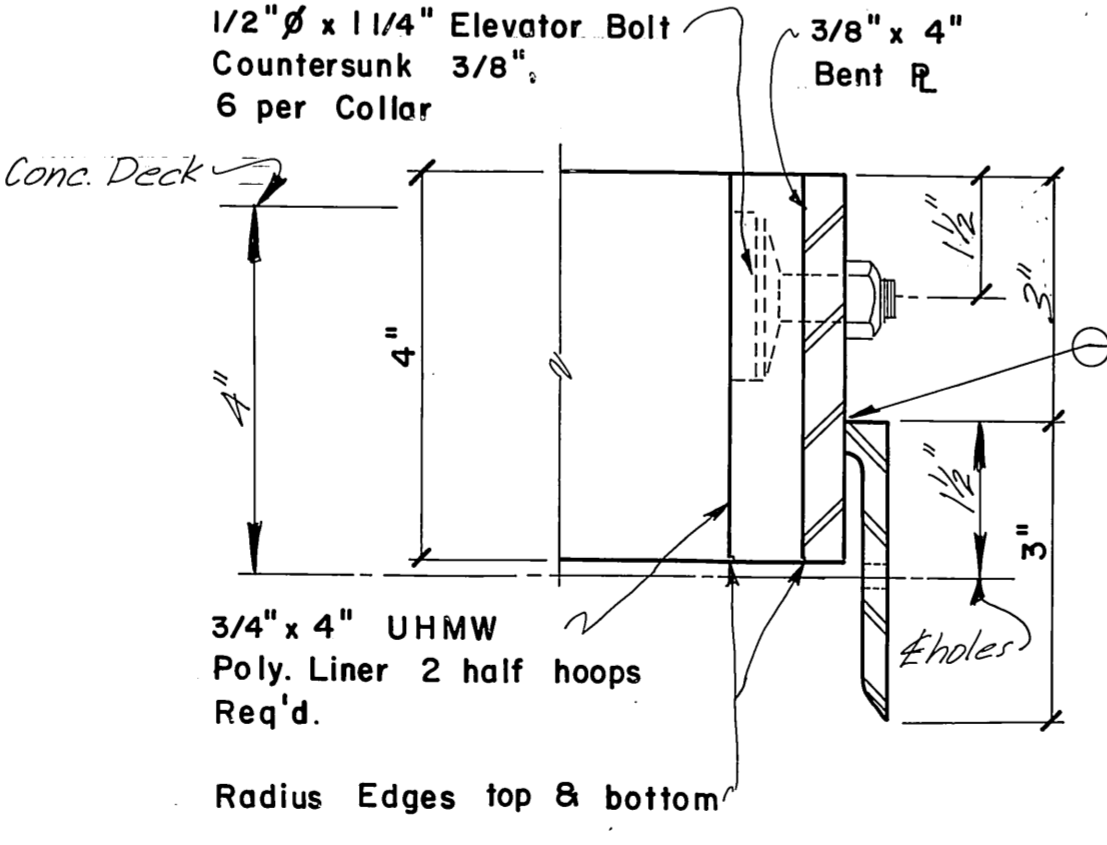
PLAN



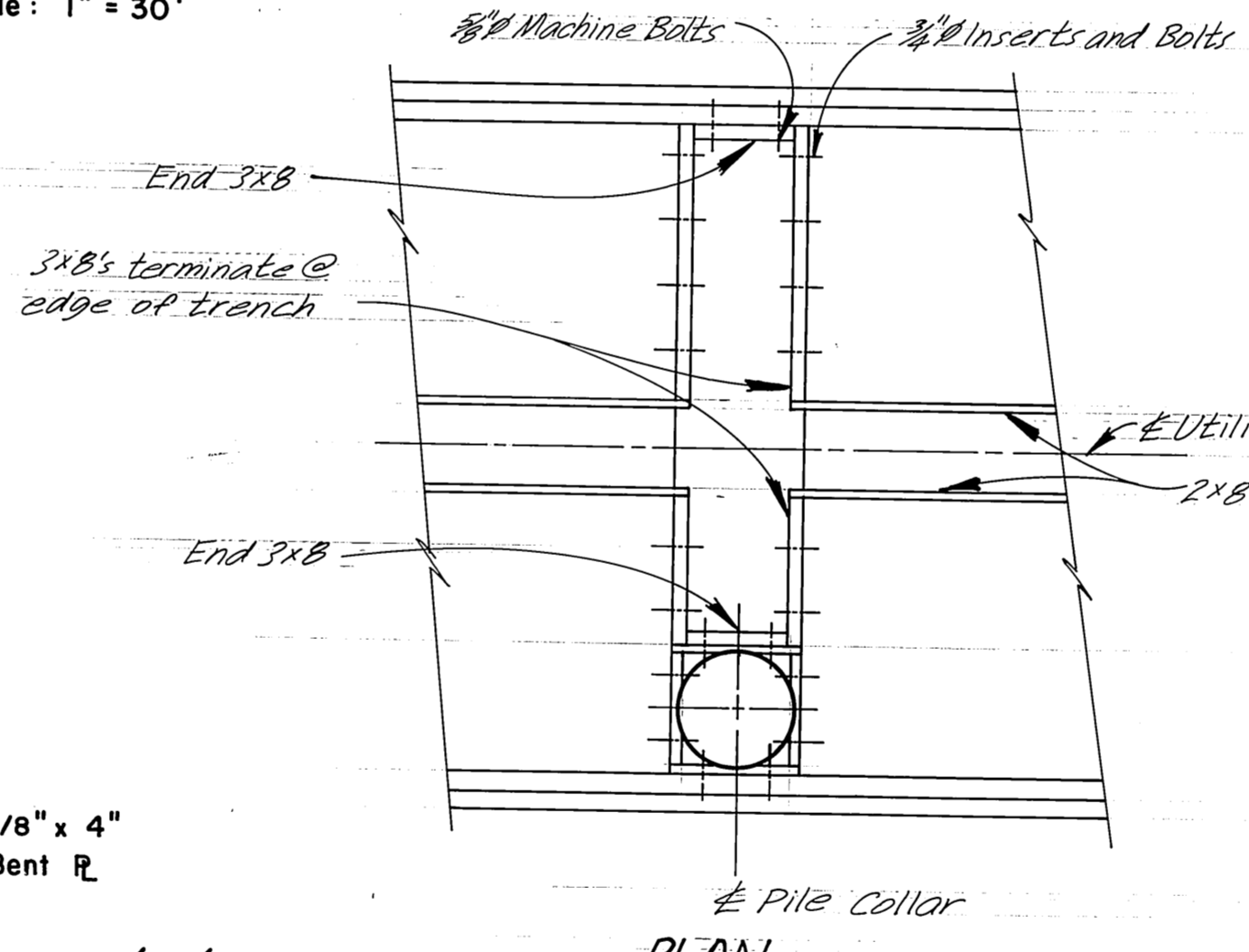
SECTION

INTERIOR PILE COLLAR WELDMENT DETAILS
1/2" = 1'-0"

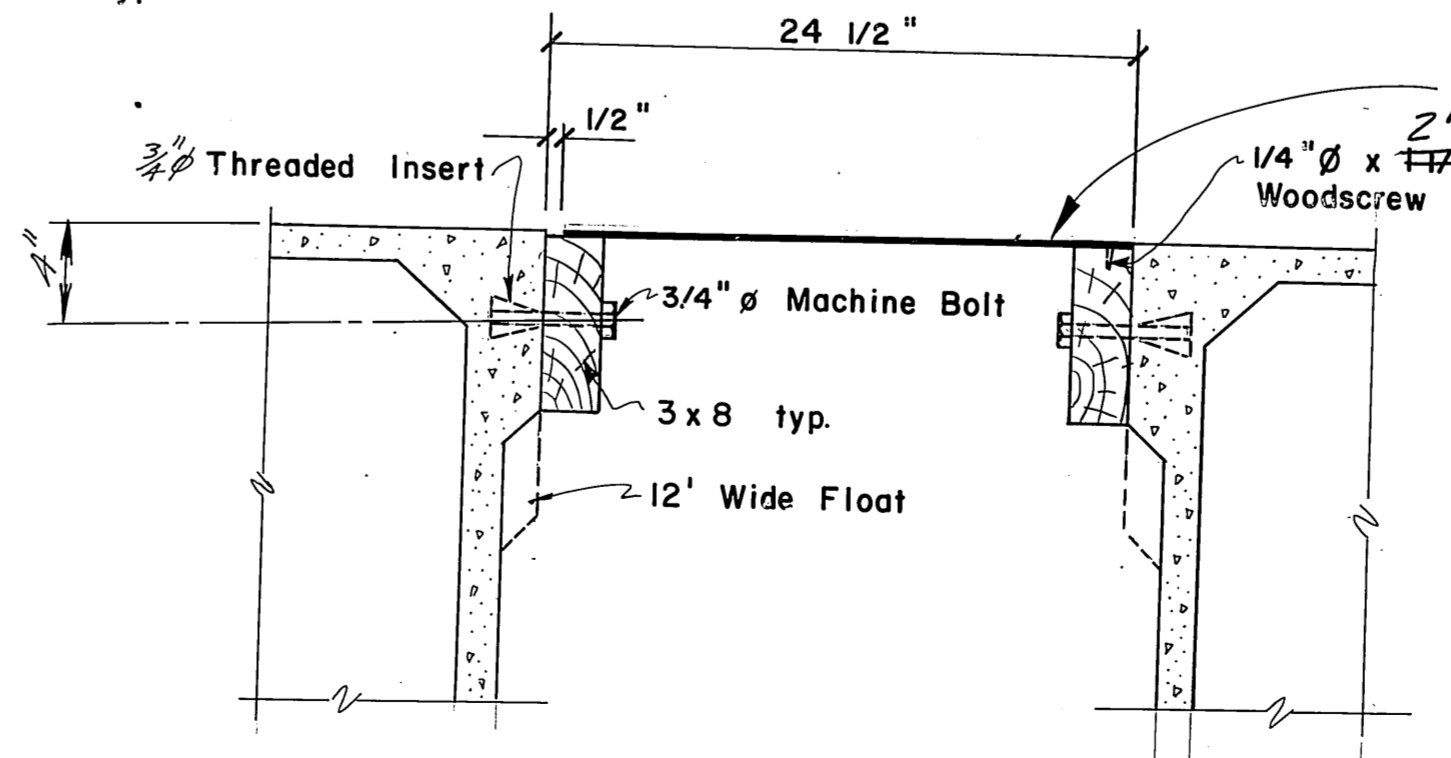
All Material Mild Steel
Hot Dip Galvanized
after Fabrication



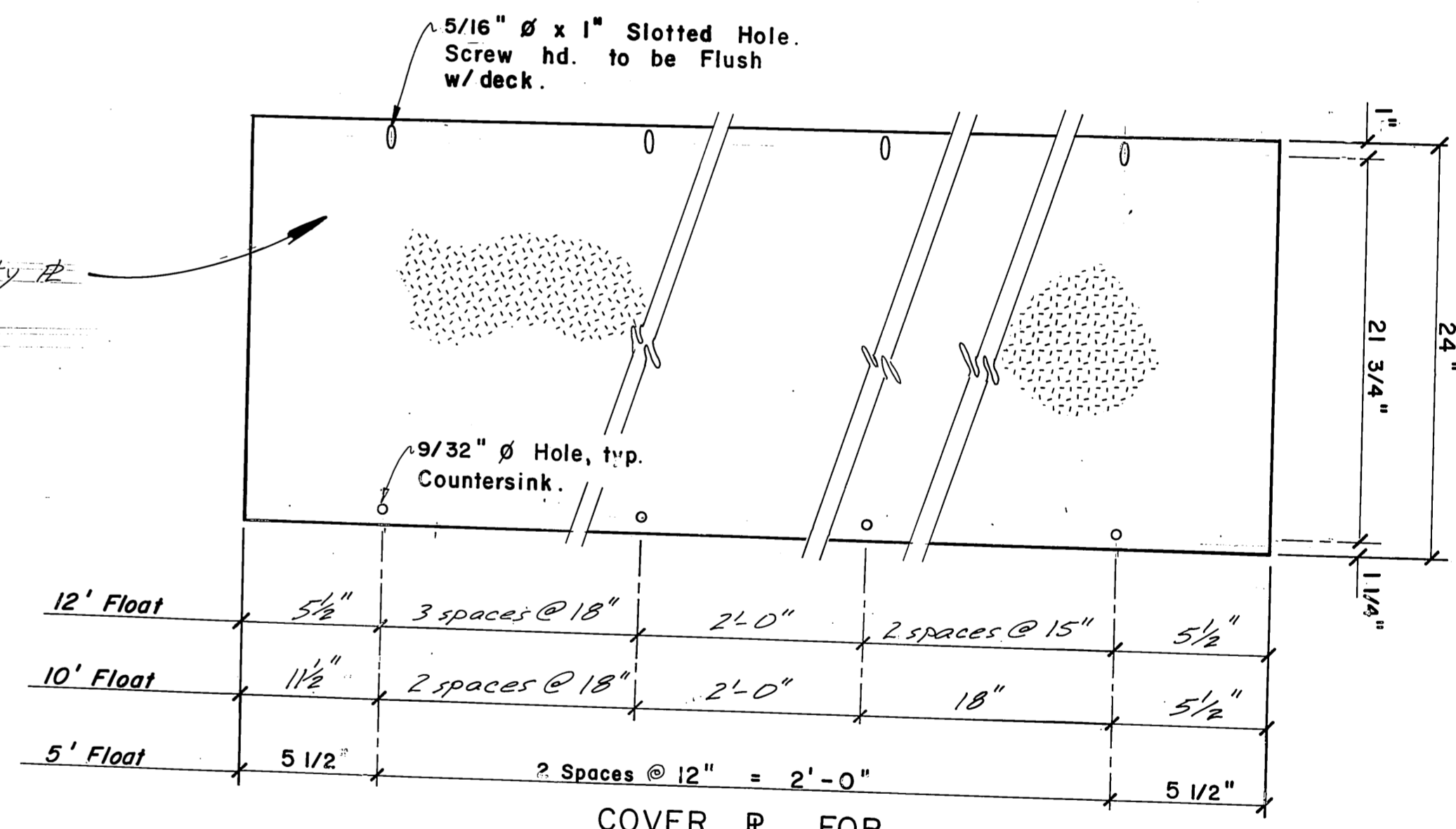
SECTION B
6" = 1'-0"



PLAN
3/8" = 1'-0"



SECTION A
1 1/2" = 1'-0"



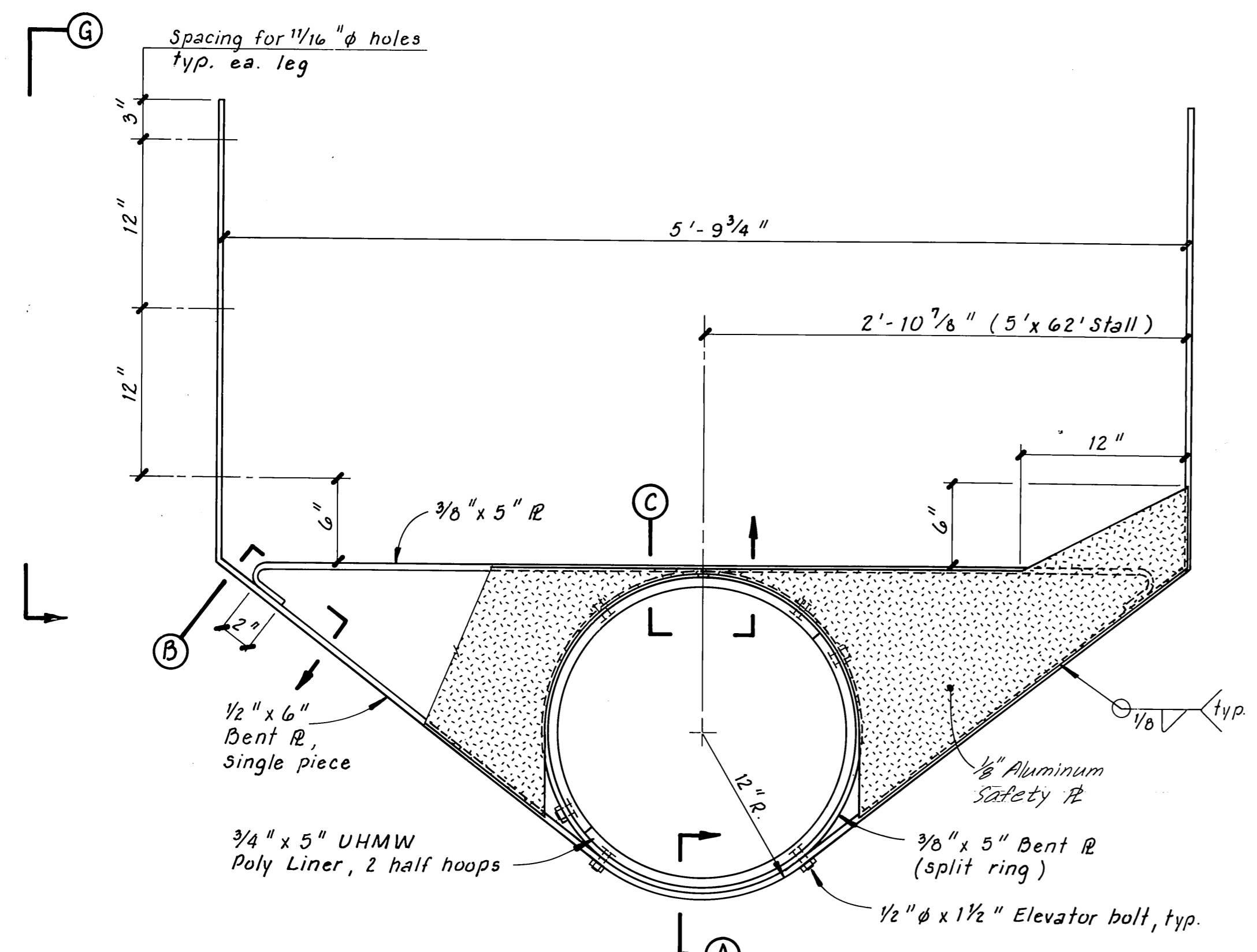
COVER R FOR INTERIOR PILE COLLAR

no scale

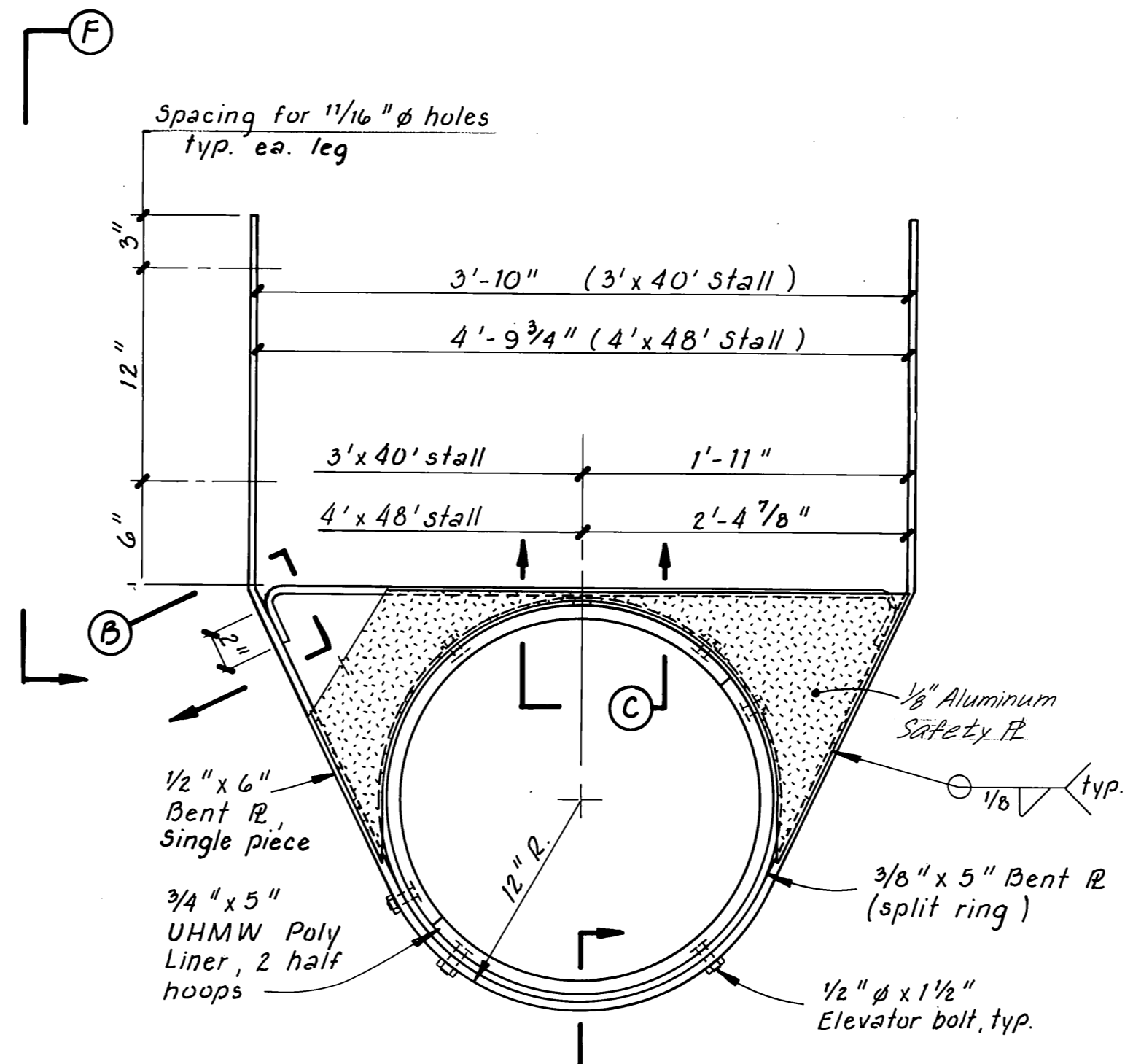
NOTE: 13/16" Ø Holes in 3x8 to be drilled so that top of R will match deck. End 3x8's to be bolted to wales & Pile Collar Weldment.

DCW 2-12-87

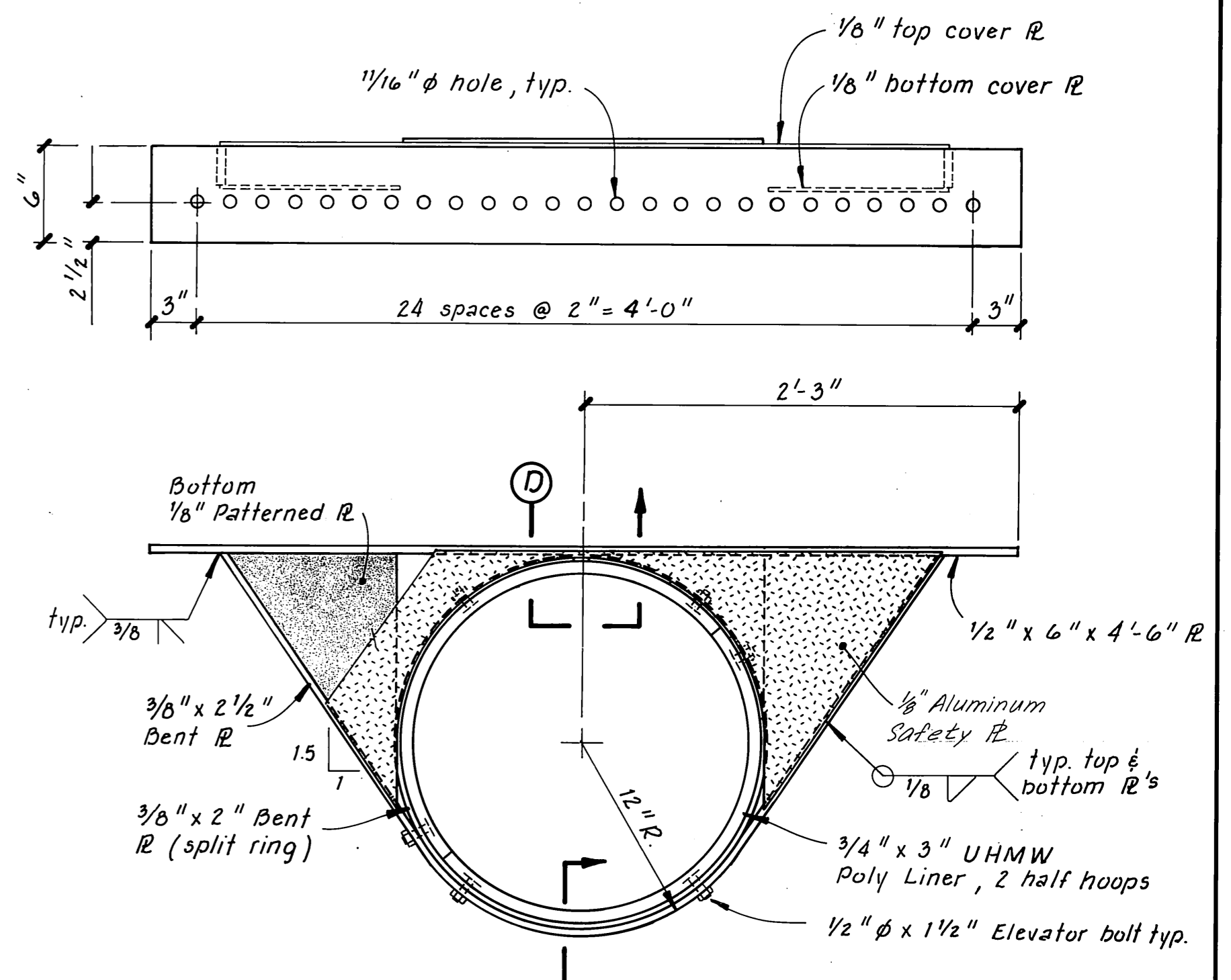
STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
		STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES HARBOR DESIGN AND CONSTRUCTION	
		PETERSBURG	ALASKA
MAIN FLOAT INTERIOR PILE LOCATION & DETAILS			
SCALE <i>as given</i>	SURVEYED	APPROVED	
DESIGNED <i>staff</i>	DRAWN <i>staff</i>		
CHECKED <i>JS</i>	DATE Feb 83		
PROJECT NUMBER	K-78190	SHEET <u>27</u> OF <u>46</u>	



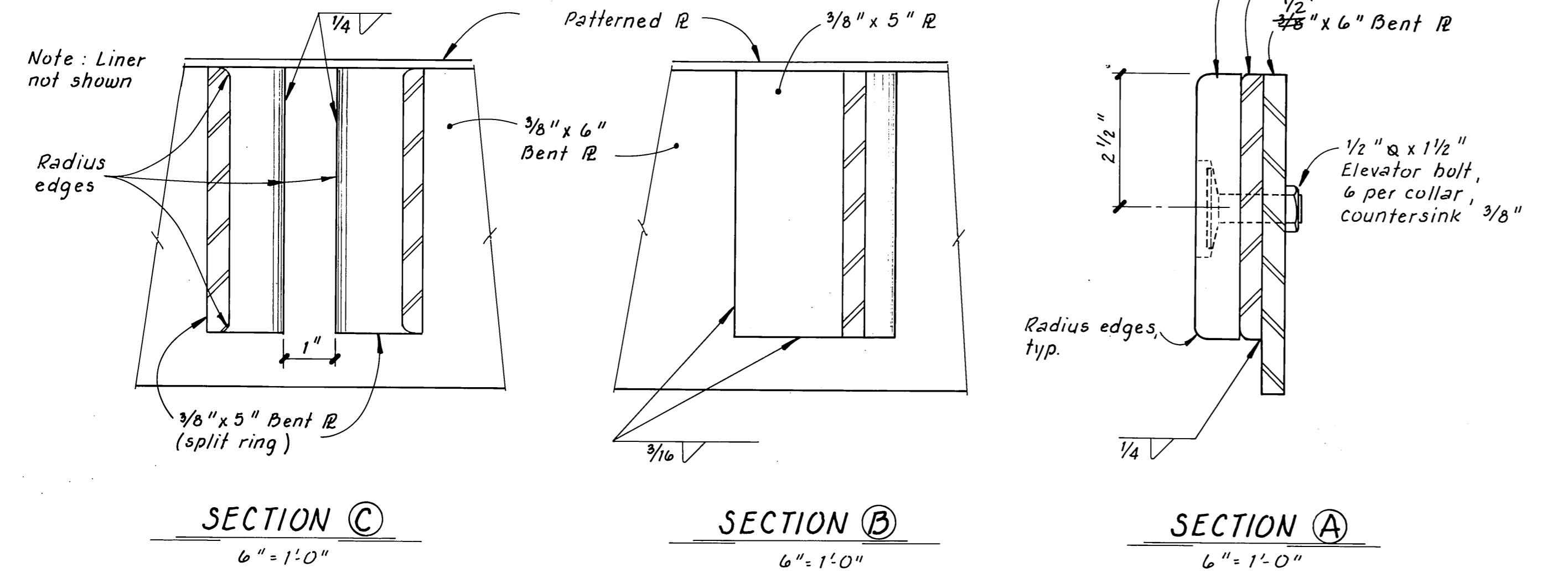
END PILE COLLAR FOR 5' WIDE FLOATS
1 1/2" = 1'-0"



END PILE COLLAR FOR 3' & 4' WIDE FLOATS
1 1/2" = 1'-0"



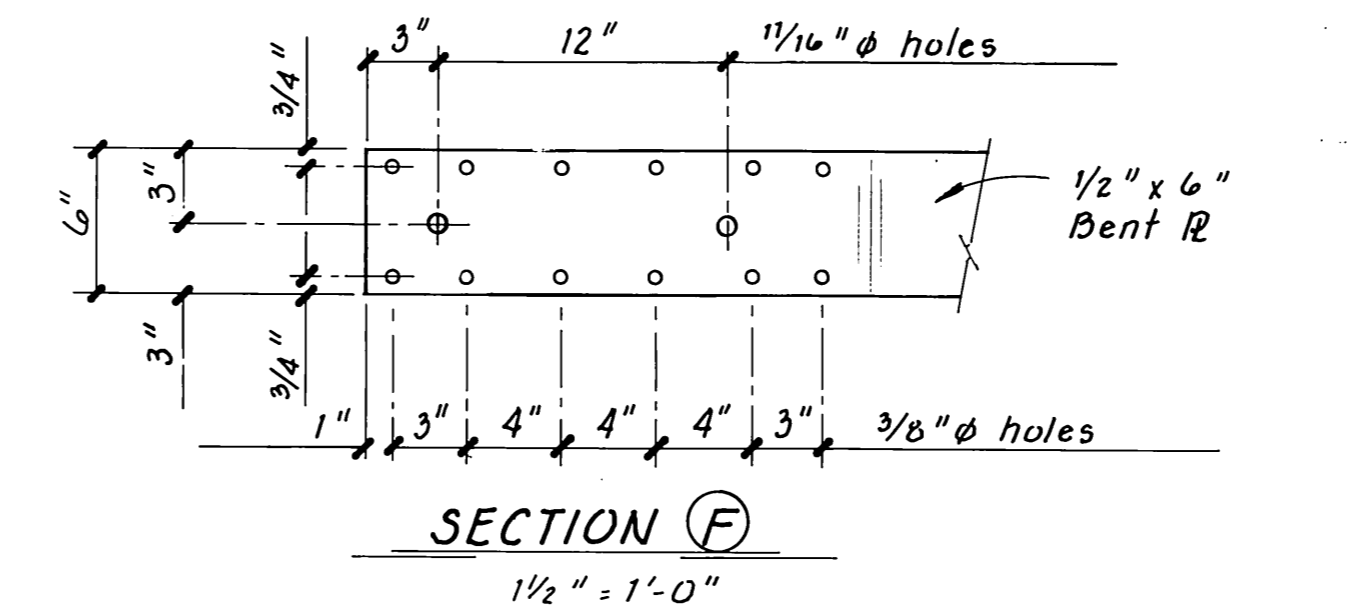
EXTERIOR PILE COLLAR
1 1/2" = 1'-0"



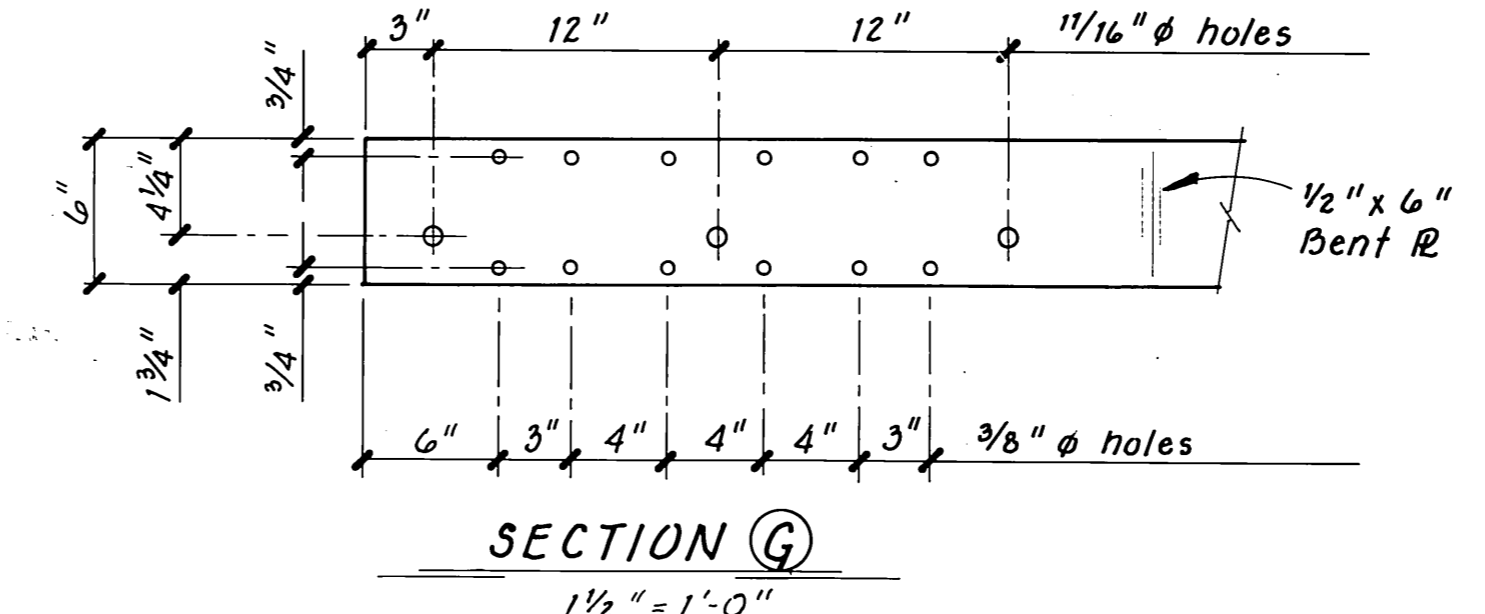
SECTION C
6" = 1'-0"

SECTION B
6" = 1'-0"

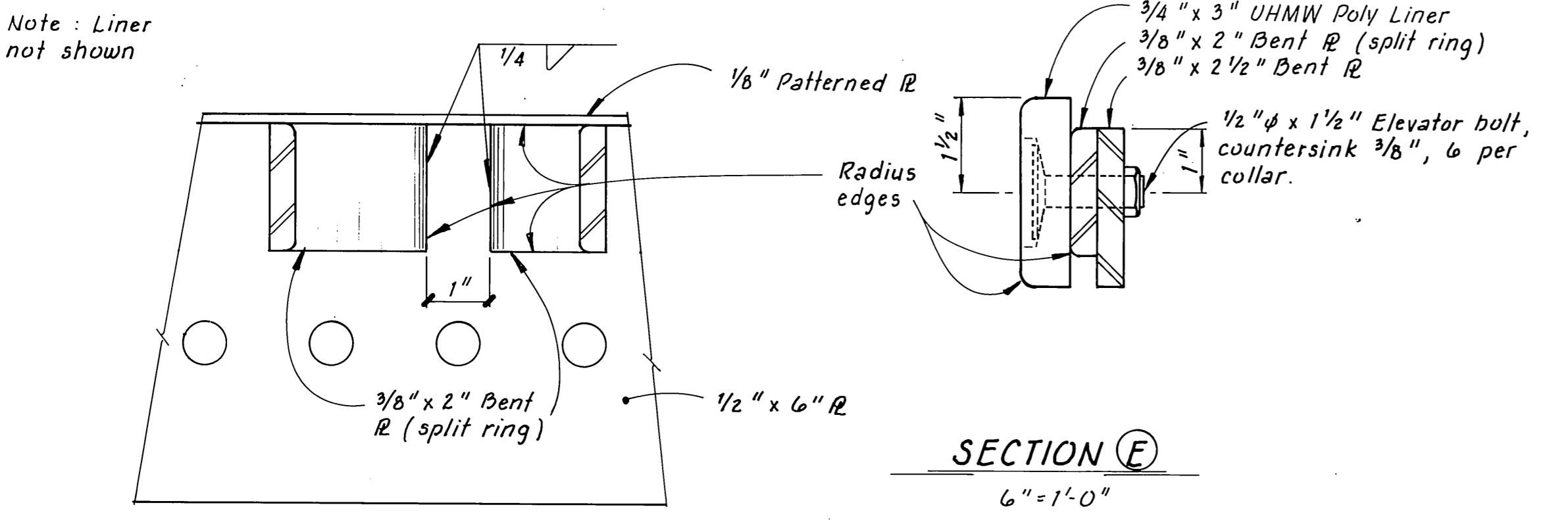
SECTION A
6" = 1'-0"



SECTION F
1 1/2" = 1'-0"

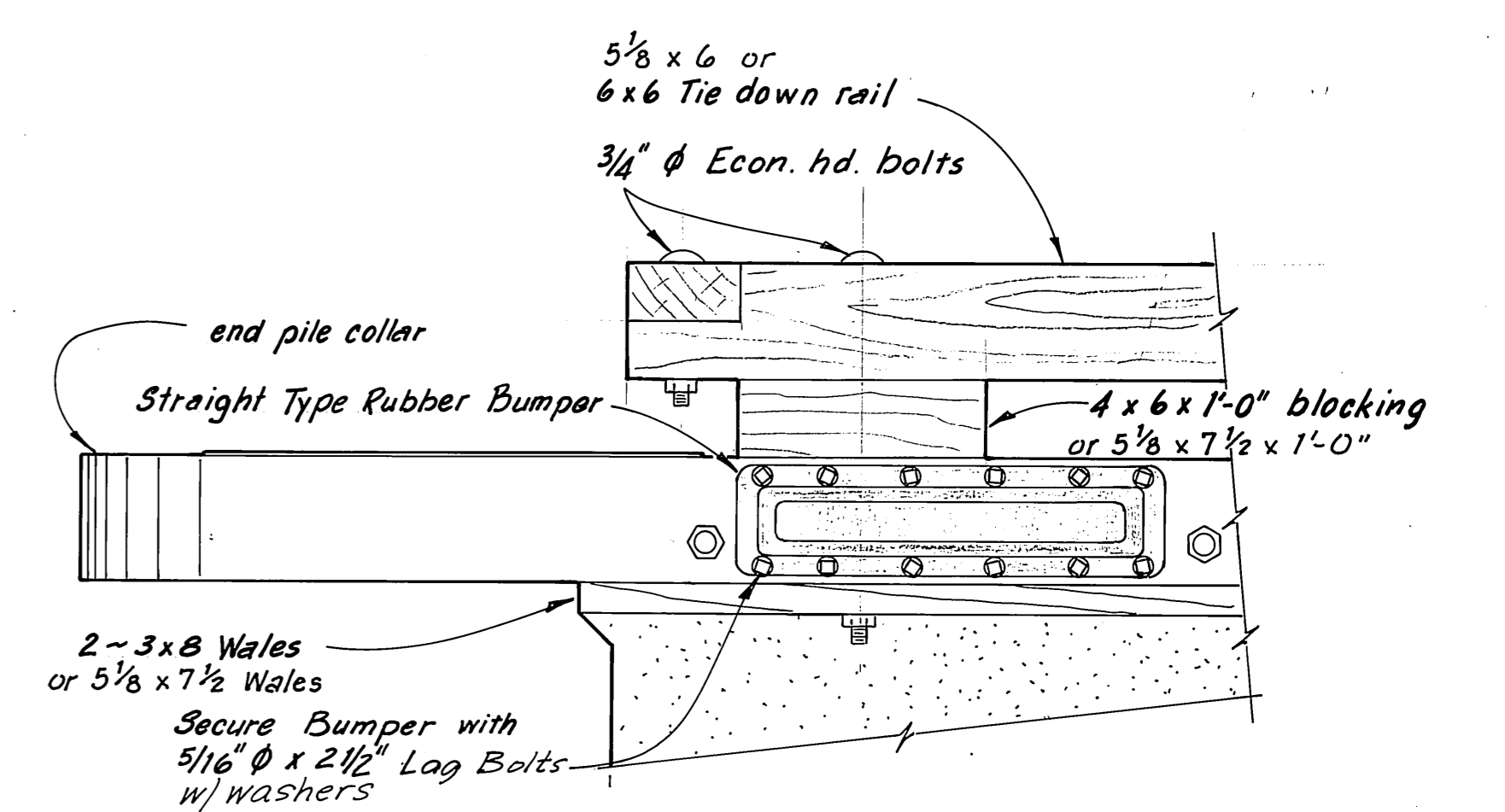


SECTION G
1 1/2" = 1'-0"



SECTION D
6" = 1'-0"

SECTION E
6" = 1'-0"

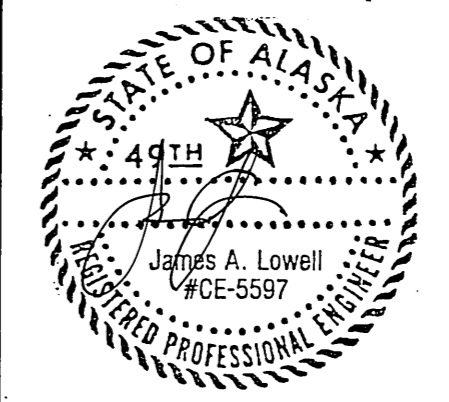


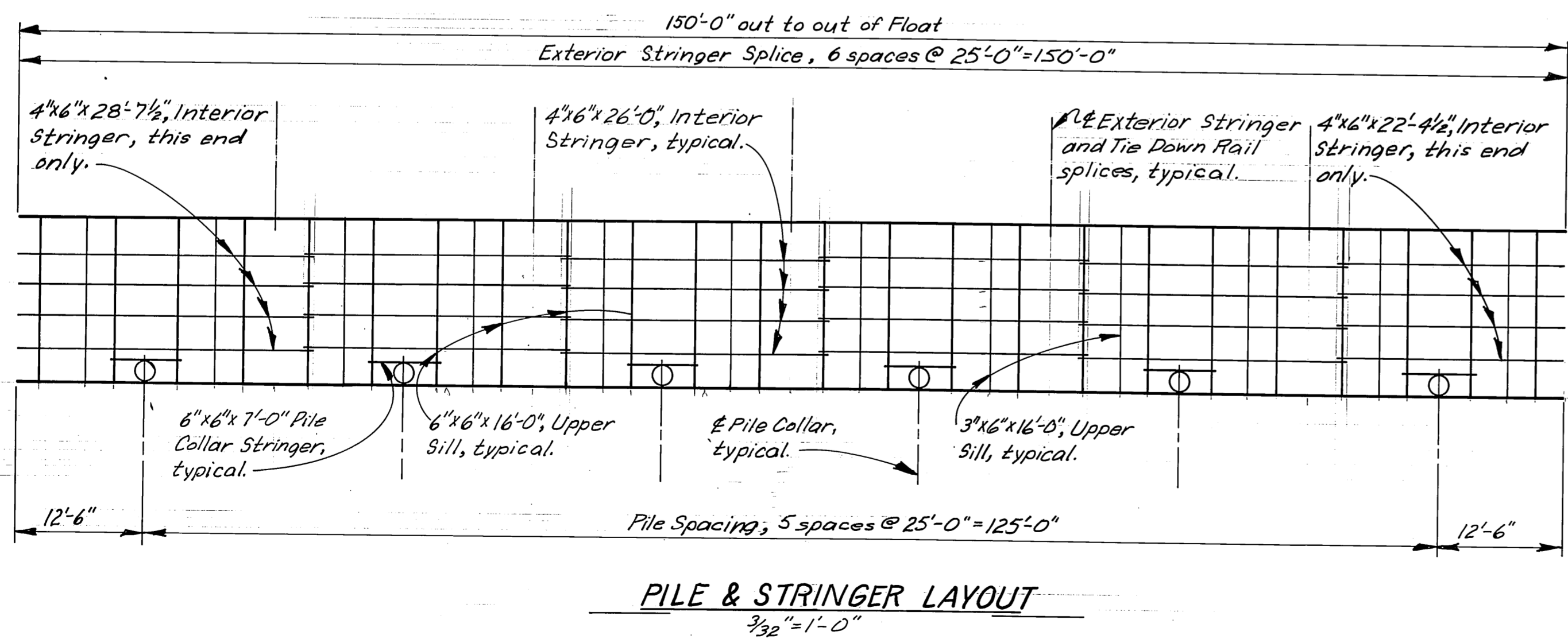
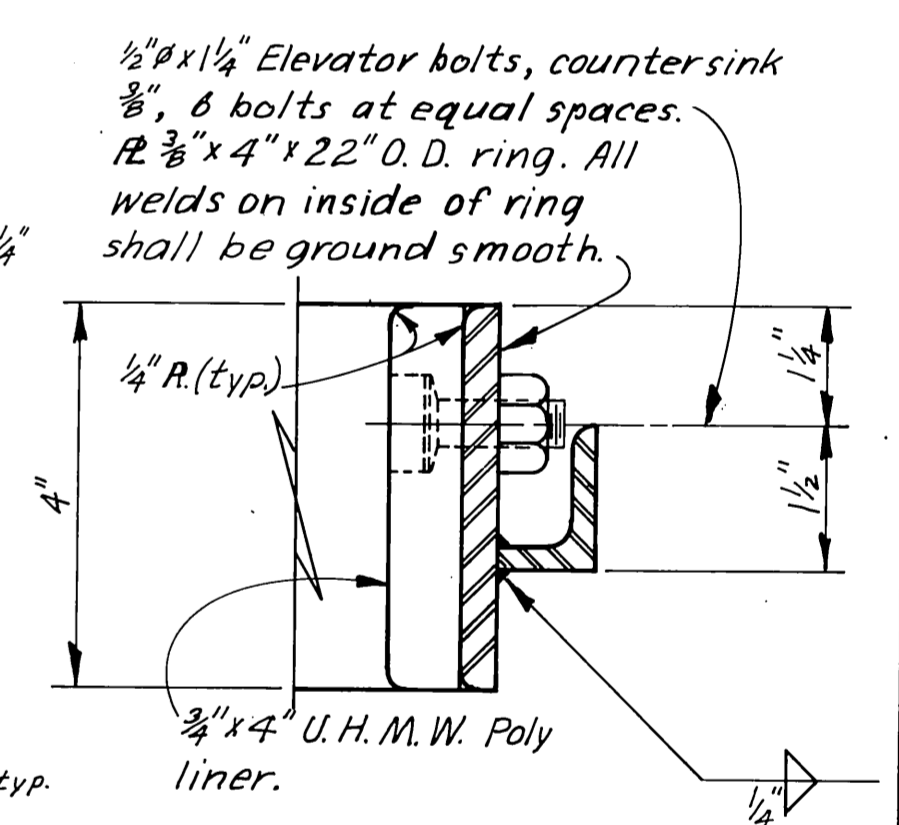
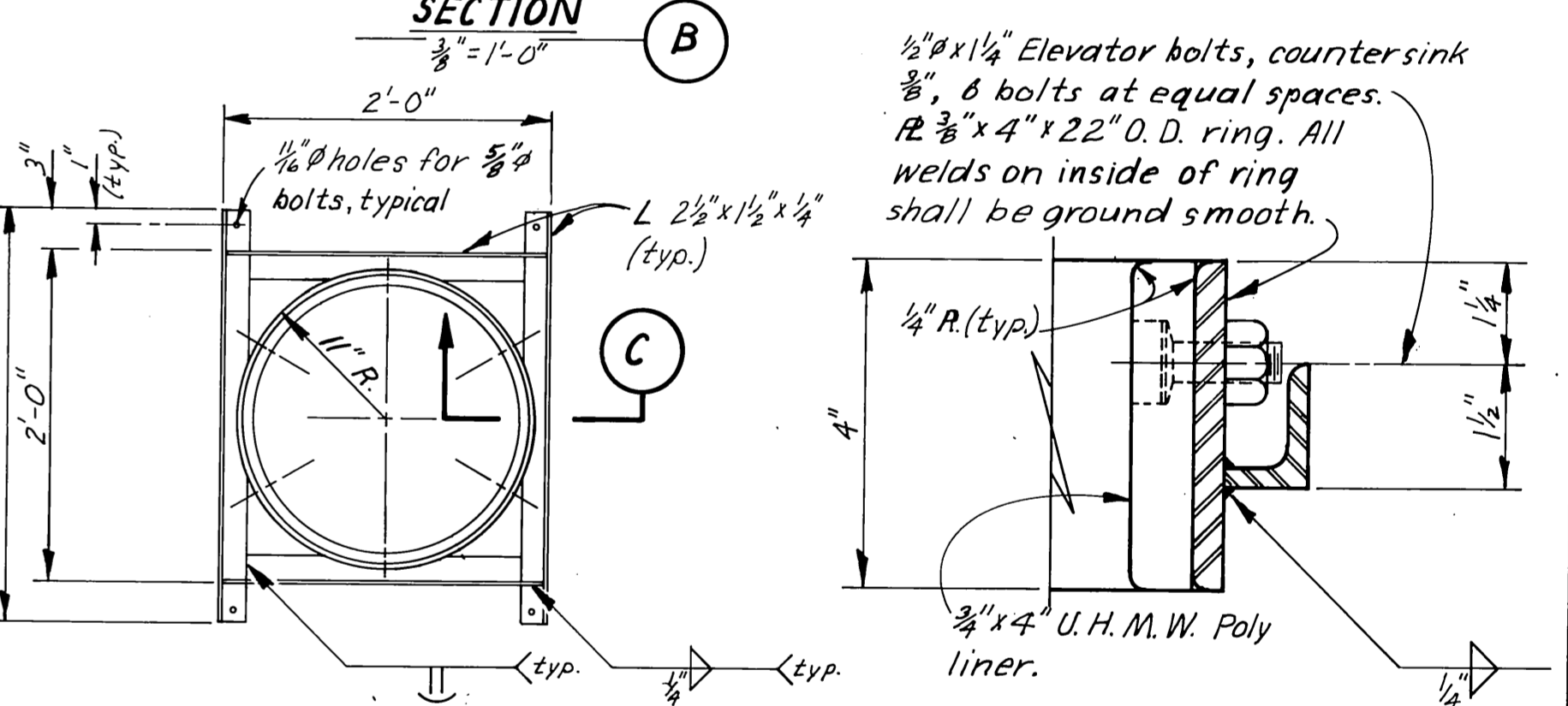
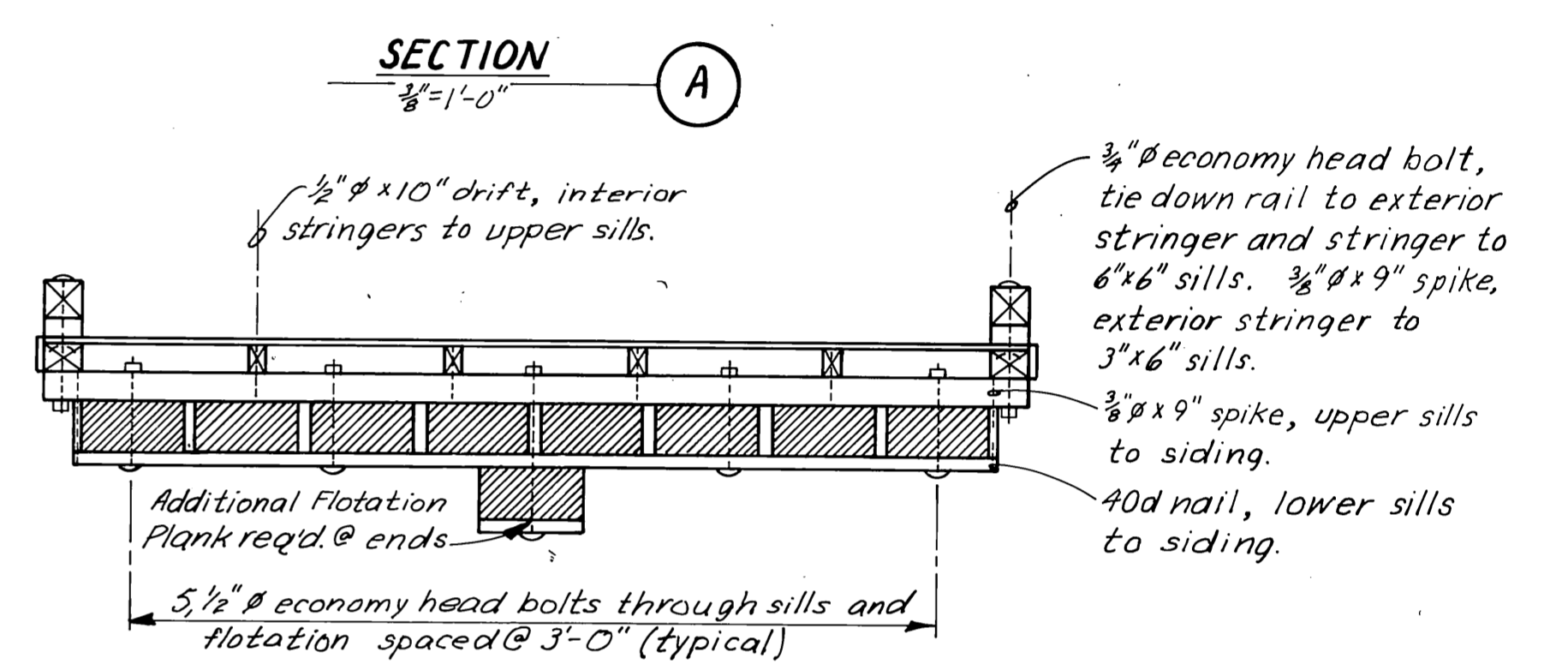
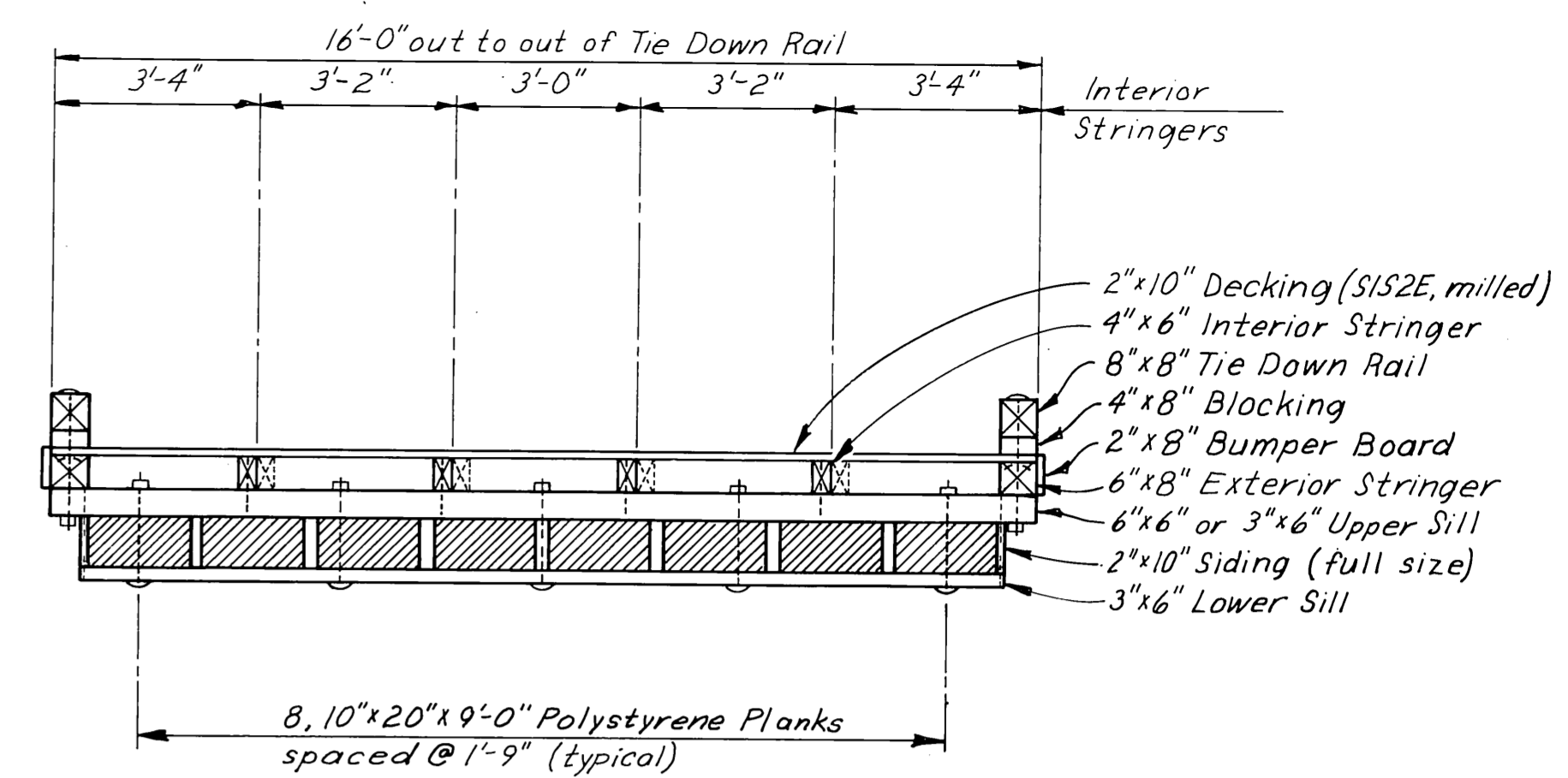
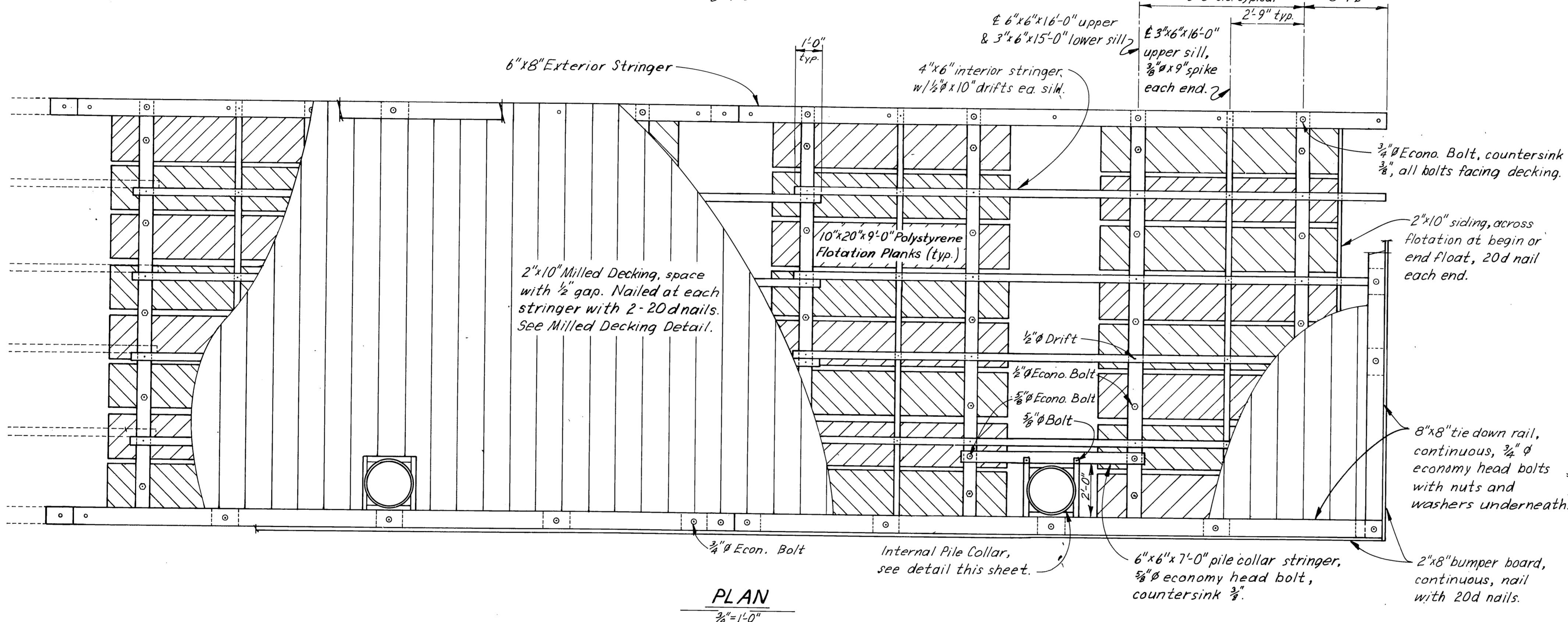
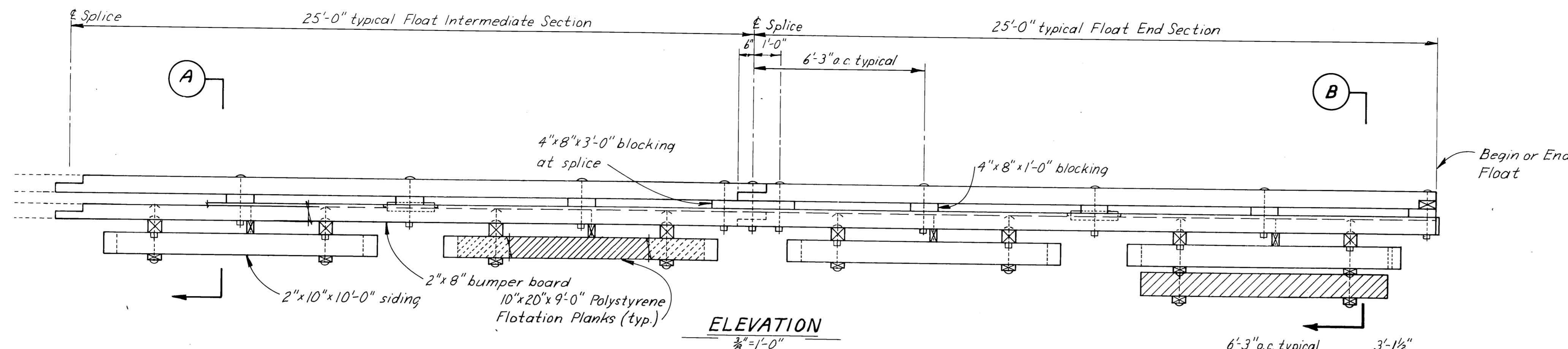
TIE DOWN RAIL & END PILE COLLAR
1 1/2" = 1'-0"

NOTE:

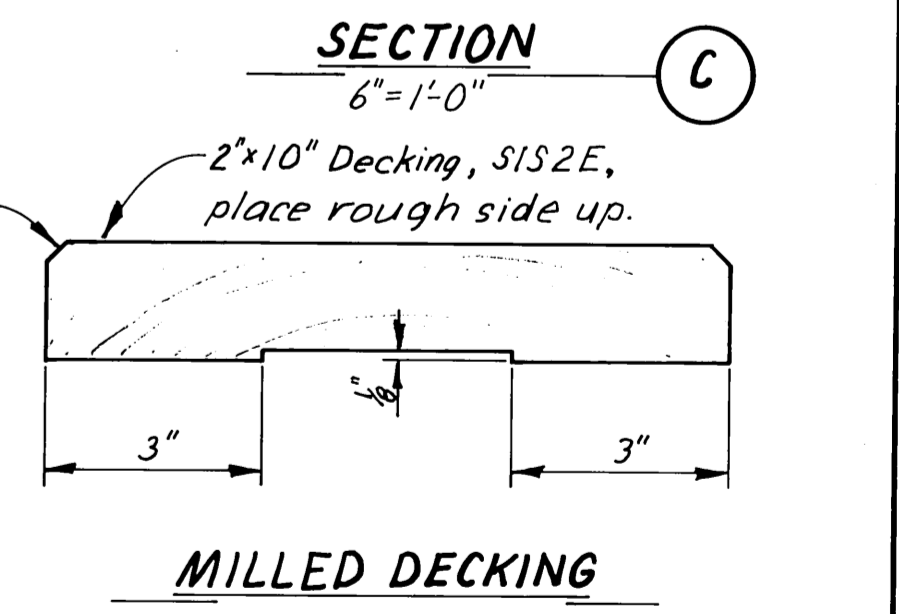
All Straight Type Rubber Bumpers - Griffith Type #1093 or equal.
UHMW Poly Liner req'd. @ steel piles only. All R's 6061-T6 Alum.

DCW 2-12-87	
DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES HARBOR DESIGN AND CONSTRUCTION	
Petersburg	Alaska
PILE COLLAR DETAILS	
SCALE: As Noted	SURVEYED: _____
DESIGNED: JS	DRAWN: 75
CHECKED: RAM	DATE: 2-83
PROJECT NUMBER: K78190	SHEET: 28 OF 46



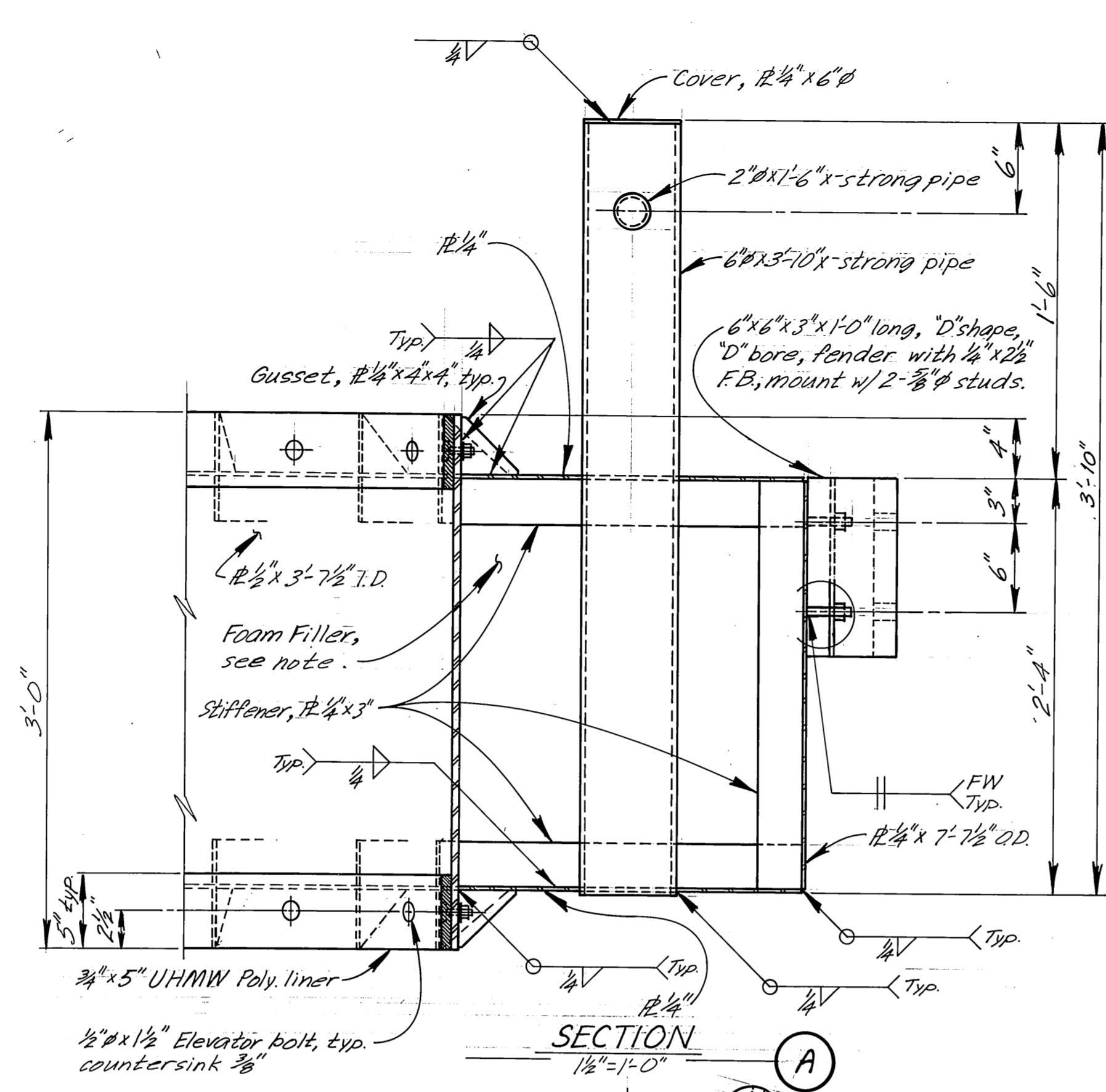
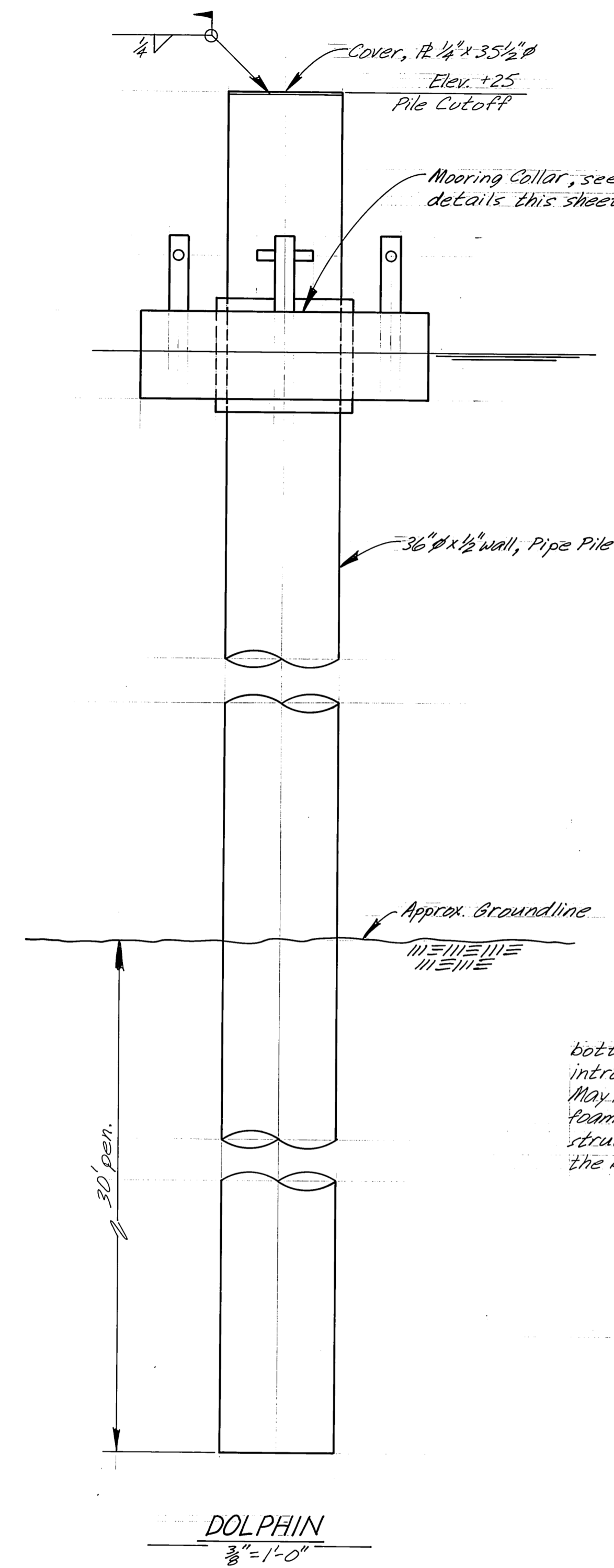


- Notes:
 1. Pile collar bolt holes may be field drilled, all others shall be drilled prior to treatment.
 2. All lumber shall be S4S, except decking shall be milled, full width of float without splices, and siding shall be full size 2" x 10", ripped to match the thickness of proposed flotation planks.

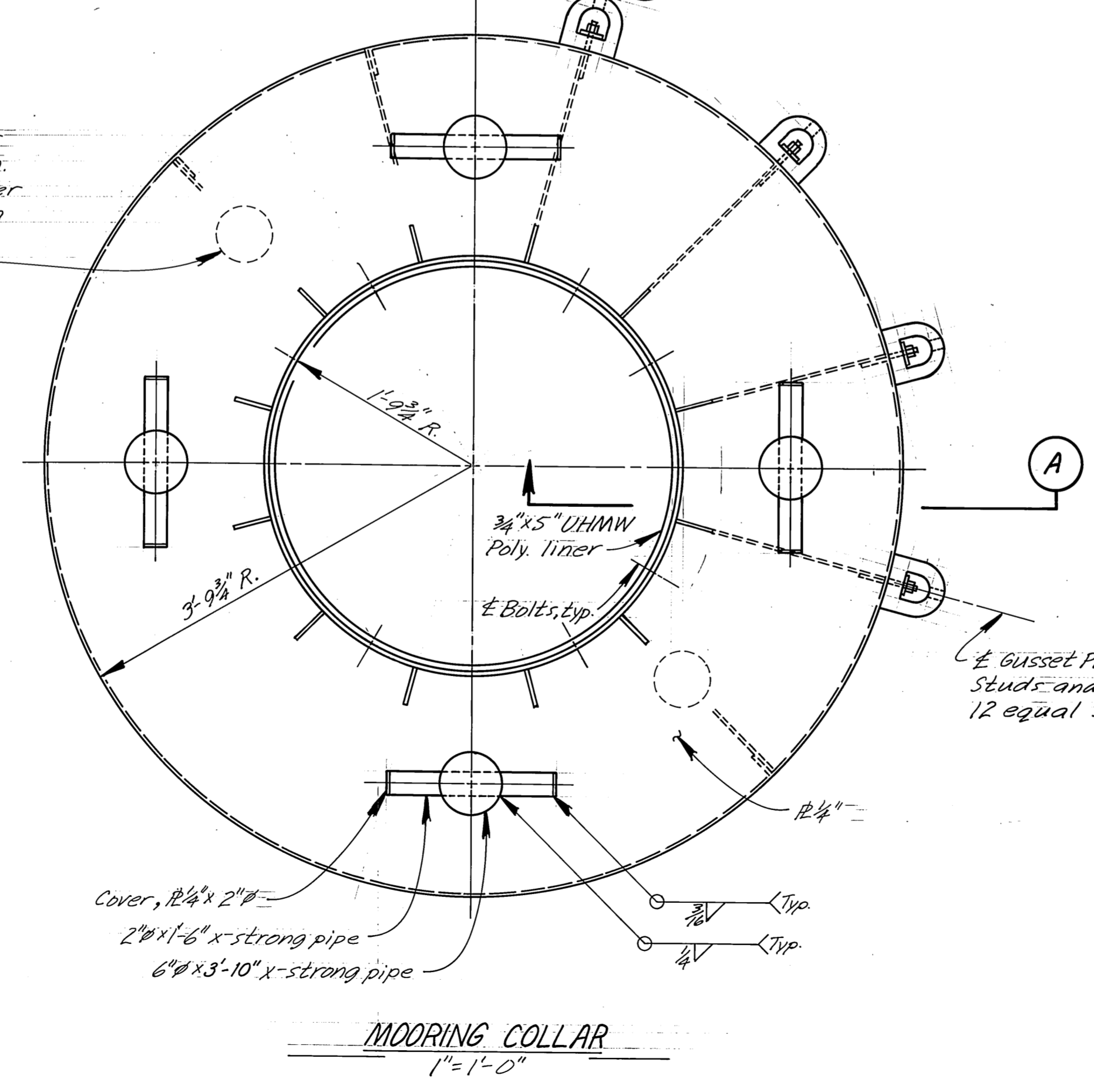


DCW 2-17-87

STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
		STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES HARBOR DESIGN AND CONSTRUCTION	
		Petersburg, Alaska	Alaska
16' TIMBER SPECIAL USE FLOAT			
SCALE: As Noted	SURVEYED:	APPROVED:	
DESIGNED: Seaff	DRAWN: LJB		
CHECKED:	DATE: 1/26/83		
PROJECT NUMBER: K78190			SHEET 29 OF 46



4ϕ hole in bottom, 2 places, for introduction of foam. May be left open after foam has set and been struck off flush with the bottom.

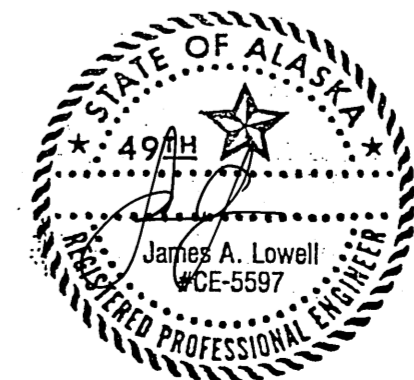


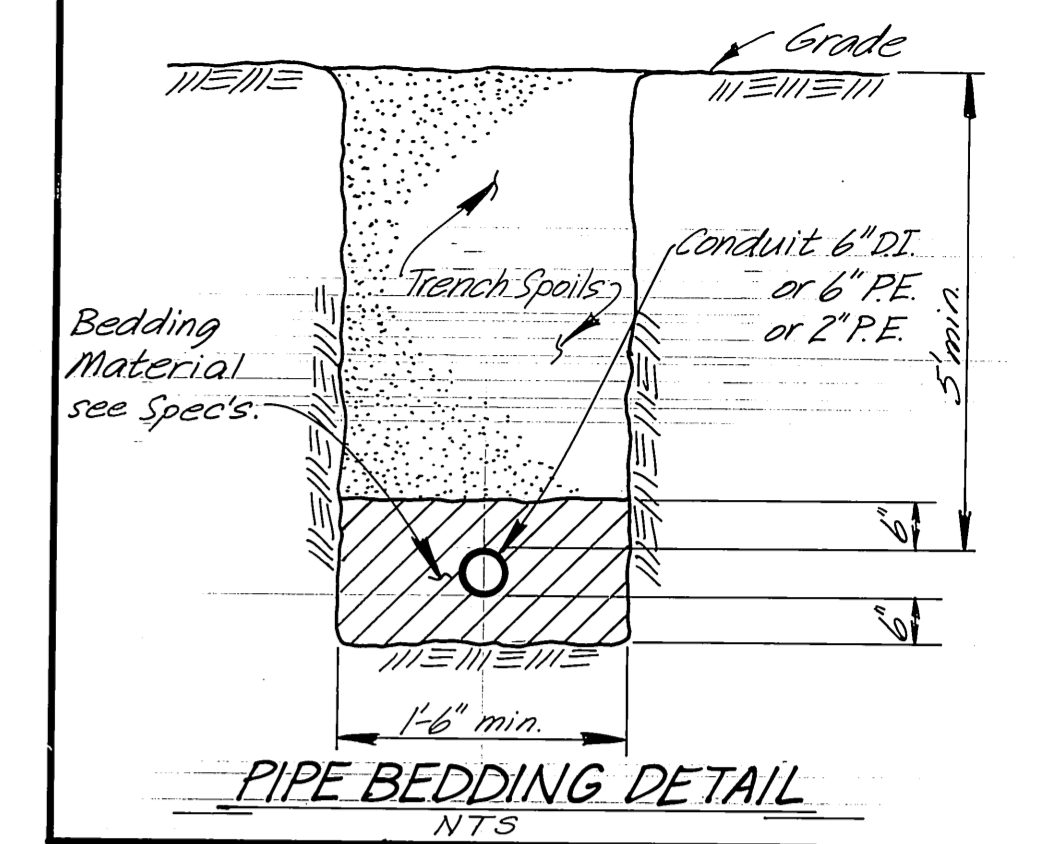
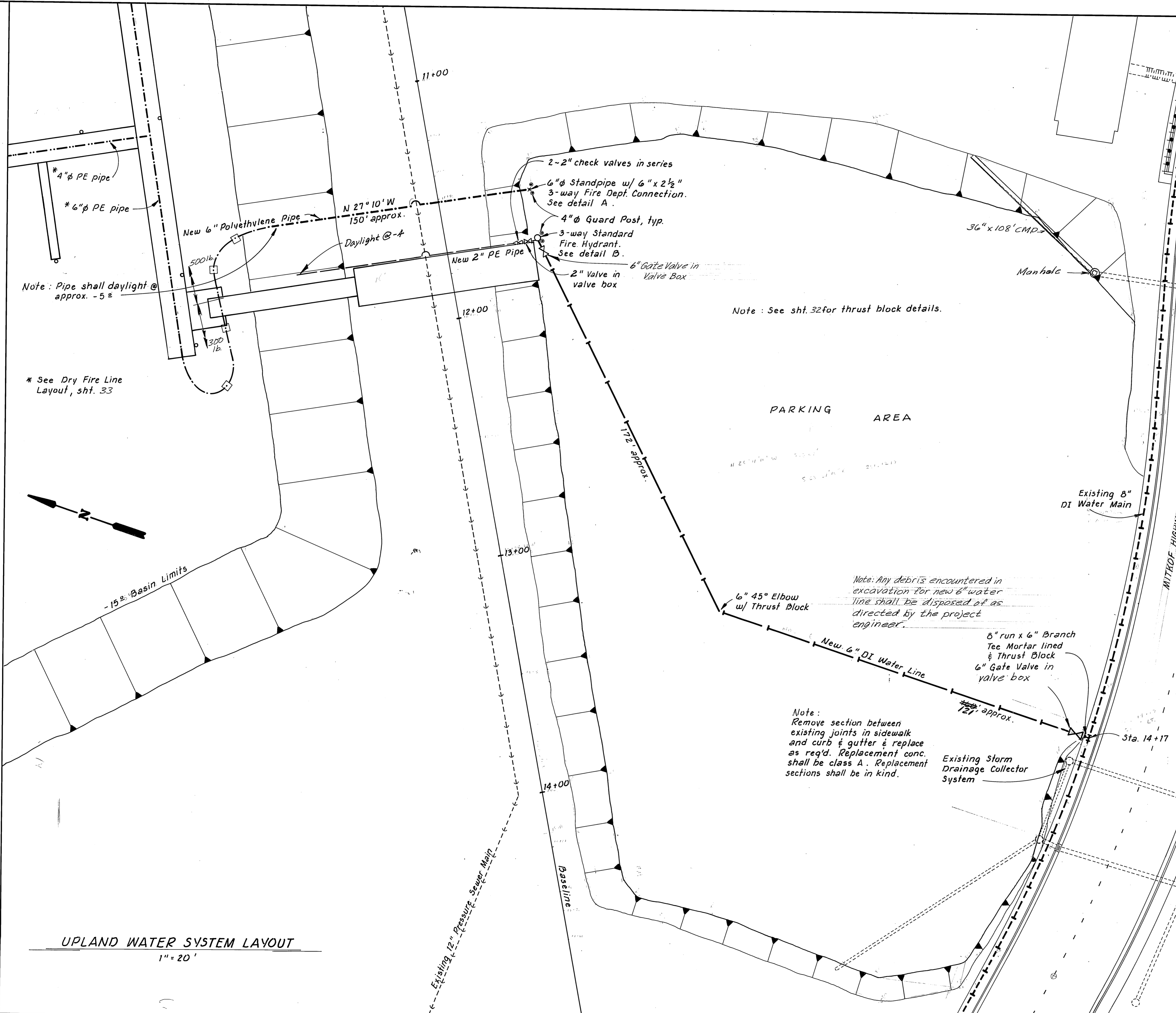
Note: After fabricating and galvanizing, completely fill mooring collar chamber with 2-component urethane foam.

Note: Mooring collars were removed and stored in M&D's yard. Non-performance.

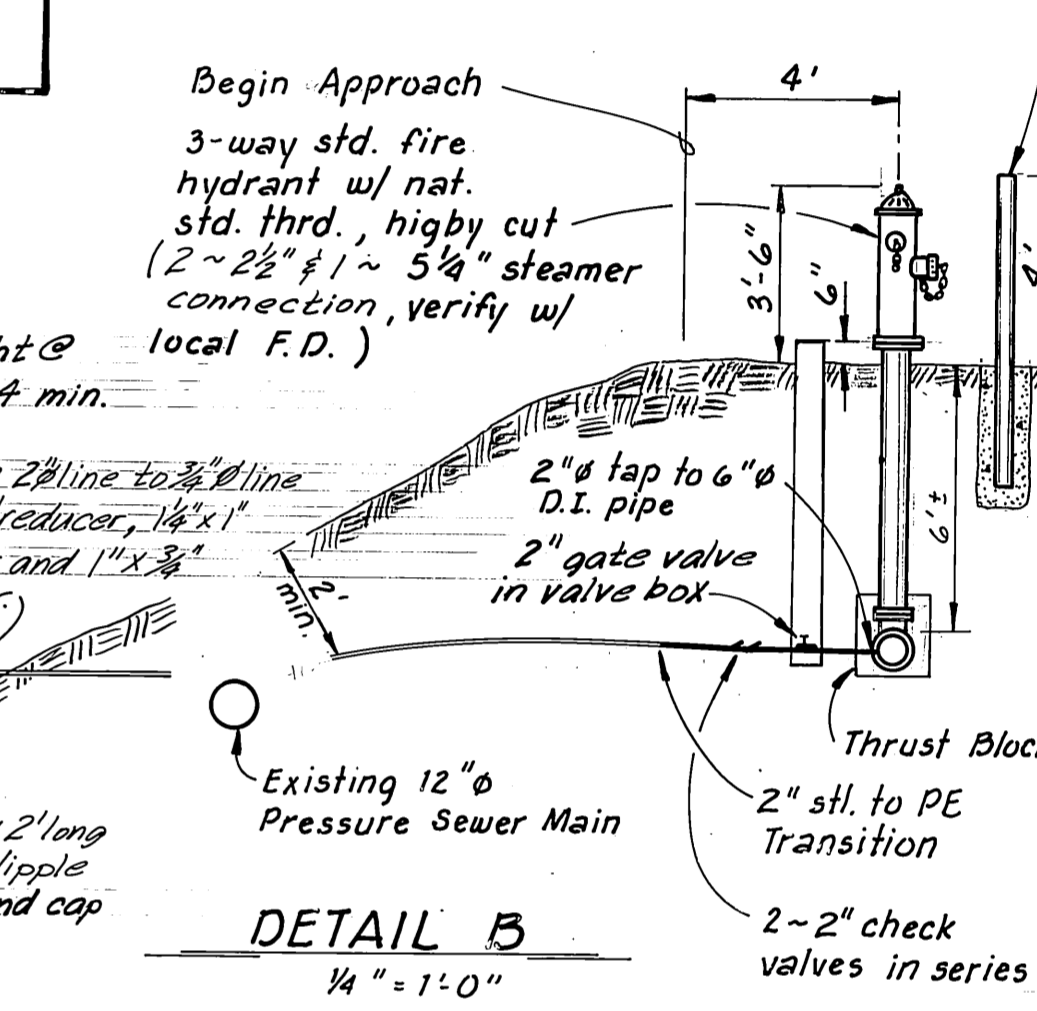
DCW 2-12-87

STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES HARBOR DESIGN AND CONSTRUCTION			
Petersburg		Alaska	
DOLPHINS			
SCALE <i>As Noted</i>	SURVEYED	APPROVED	
DESIGNED JS	DRAWN LJB		
CHECKED RAM	DATE 4/13/83		
PROJECT NUMBER K78190	SHEET 30 OF 46		

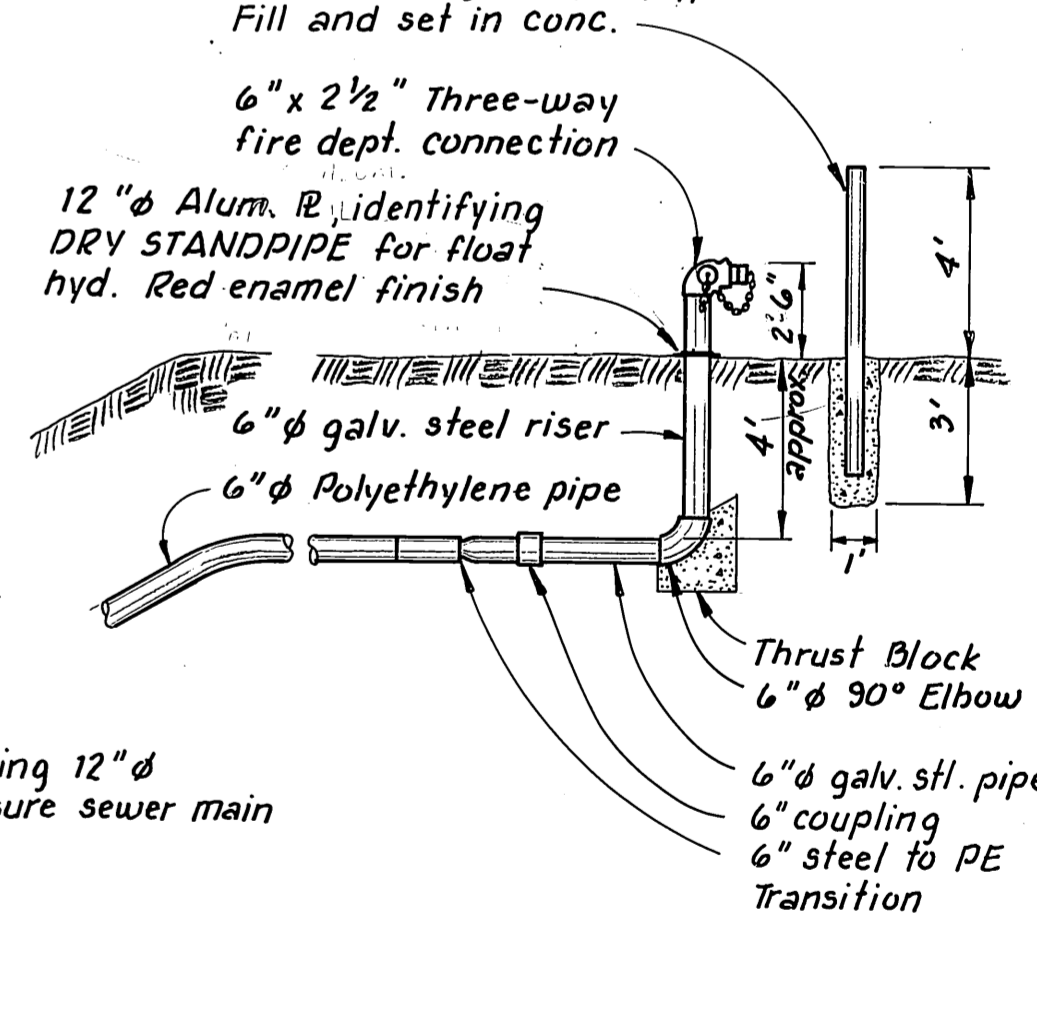




PIPE BEDDING DETAIL
NTS



DETAIL B
1/4" = 1'-0"



DETAIL A
1/4" = 1'-0"

Note: Pipe shall daylight @ approx. -5'

* See Dry Fire Line Layout, sht. 33

Note: See sht. 32 for thrust block details.

Note: Any debris encountered in excavation for new 6" water line shall be disposed of as directed by the project engineer.

Note: Remove section between existing joints in sidewalk and curb & gutter & replace as req'd. Replacement conc. shall be class A. Replacement sections shall be in kind.

UPLAND WATER SYSTEM LAYOUT
1" = 20'

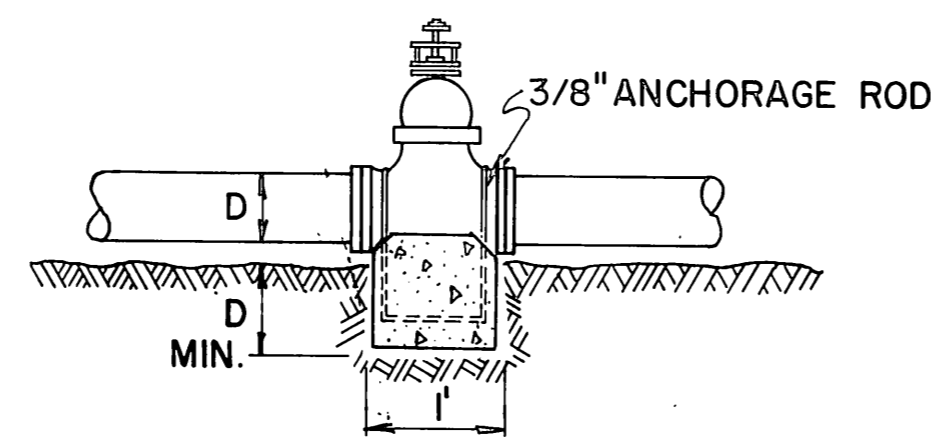
STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
		STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES HARBOR DESIGN AND CONSTRUCTION	
		Petersburg Alaska	
UPLAND WATER SYSTEM LAYOUT & DETAILS		DCW 2-13-87	
SCALE <i>As Noted</i>	SURVEYED	APPROVED	
DESIGNED <i>RAM</i>	DRAWN <i>T5</i>		
CHECKED <i>US</i>	DATE <i>3-83</i>		
PROJECT NUMBER <i>K78190</i>	SHEET <i>31</i> OF <i>46</i>		

THRUST BLOCK MINIMUM SIZE TABLE						
FOR BENDS GREATER THAN 45°, TEE BRANCHES & CROSSES						
PIPE DIAM (IN.)	WATER PRESSURE IN PIPE (P.S.I.)					
	50		150		250	
	BEARING AREA (SQ. FT.)	CONCRETE VOLUME (CU. FT.)	BEARING AREA (SQ. FT.)	CONCRETE VOLUME (CU. FT.)	BEARING AREA (SQ. FT.)	CONCRETE VOLUME (CU. FT.)
2	0.5	0.5	0.8	1.0	1.0	1.3
3	0.6	0.8	1.0	1.3	1.1	1.5
4	0.8	1.0	1.6	3.1	1.5	3.0
6	1.0	1.3	1.9	4.0	3.2	7.0
8	1.1	1.5	3.2	7.0	5.4	11.0
10	1.7	3.2	4.9	10.0	8.3	19.0
12	2.4	5.2	7.1	17.0	11.8	24.0
14	3.2	7.0	9.8	21.0	16.1	32.0
16	4.1	8.0	12.3	25.0	20.5	40.0
18	5.4	11.0	16.2	32.0	27.1	50.0
20	6.8	15.0	20.6	40.0	34.4	70.0
24	8.2	19.0	25.3	50.0	42.0	80.0

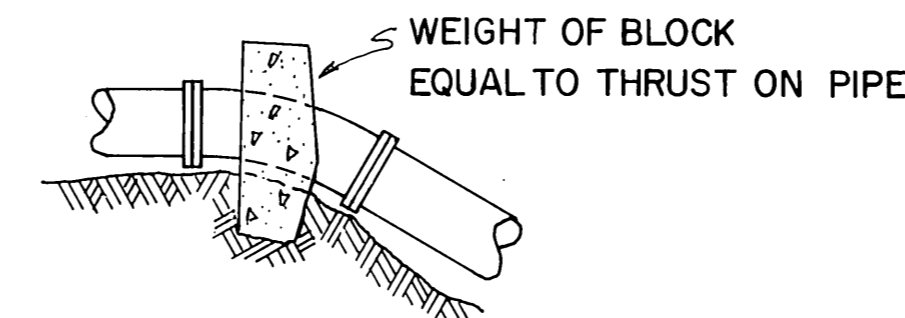
FOR BENDS 45° OR LESS						
PIPE DIAM (IN.)	BEARING AREA (SQ. FT.)	CONCRETE VOLUME (CU. FT.)	BEARING AREA (SQ. FT.)	CONCRETE VOLUME (CU. FT.)	BEARING AREA (SQ. FT.)	CONCRETE VOLUME (CU. FT.)
2	0.5	0.5	0.5	0.5	0.6	0.8
3	0.5	0.5	0.7	0.9	0.8	1.0
4	0.5	0.5	0.9	1.1	1.0	1.5
6	0.6	0.8	1.2	2.0	1.7	3.2
8	0.8	1.0	1.8	3.6	2.9	6.0
10	1.0	1.3	2.7	5.8	4.5	9.0
12	1.3	2.5	3.8	7.5	6.4	14.0
14	1.7	3.2	5.2	11.0	8.6	19.0
16	2.2	4.5	6.7	15.0	11.2	24.0
18	2.8	5.9	8.5	19.0	14.1	30.0
20	3.5	7.0	10.5	22.0	17.5	35.0
24	4.2	8.0	12.8	26.0	21.5	40.0

VALVES REQUIRING ANCHORAGE	
WORKING PRESSURE (P.S.I.)	VALVES REQUIRING ANCHORAGE
50 - 100	12 INCH AND UP
101 - 150	8 INCH AND UP
151 - 200	ALL SIZES

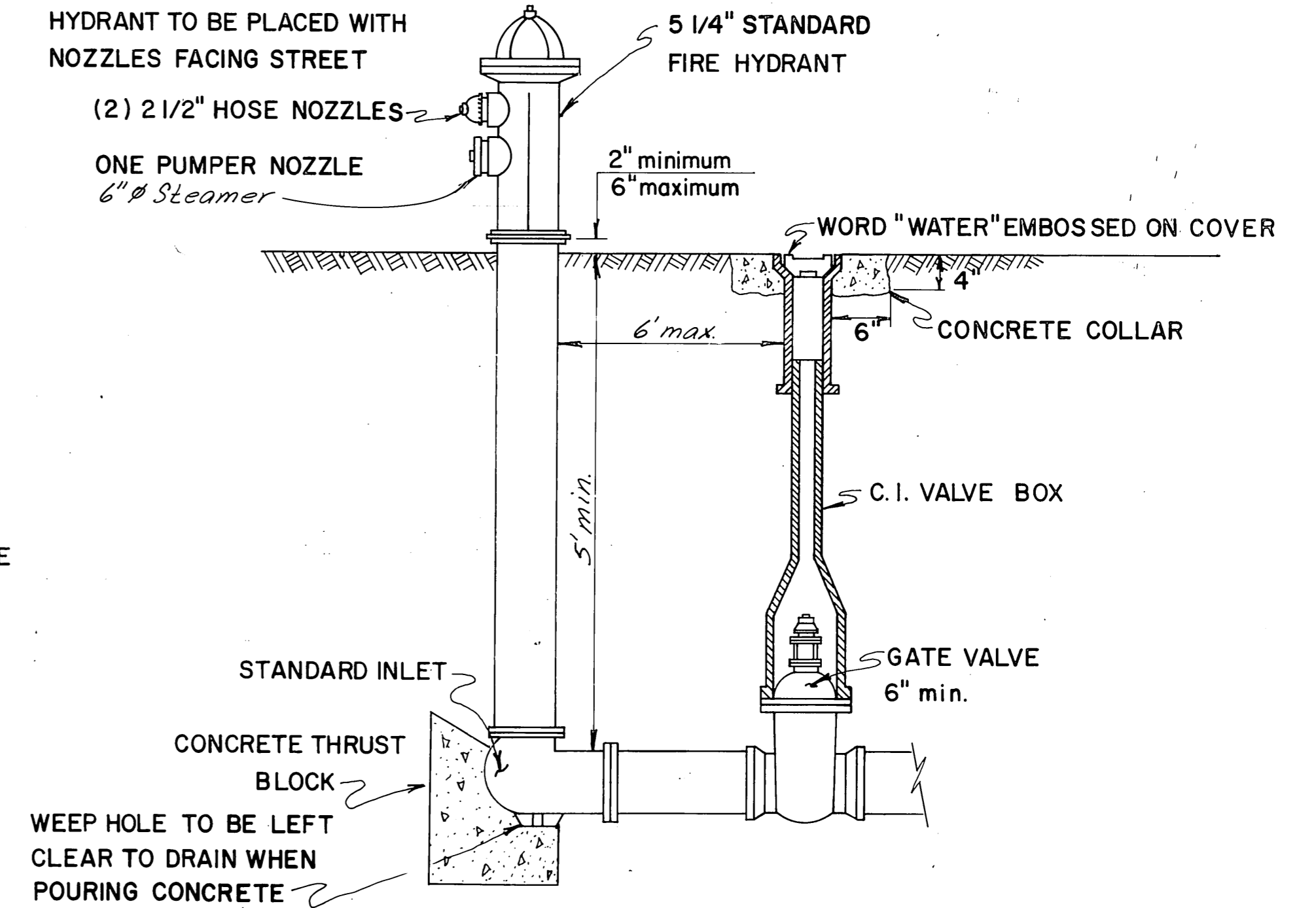
THRUST AT VERTICAL BEND PER DEGREE DEFLECTION AT 100 P.S.I. WATER PRESSURE			
PIPE SIZE	THRUST (LB.)	PIPE SIZE	THRUST (LB.)
4"	35	10"	197
6"	72	12"	278
8"	122	14"	377
		16"	486



ANCHORAGE OF VALVES



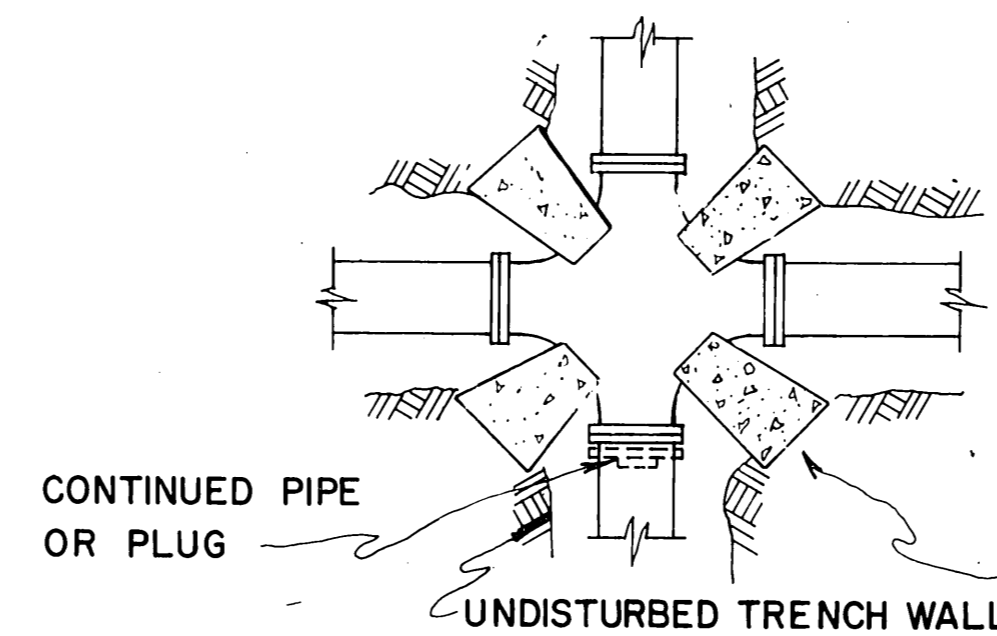
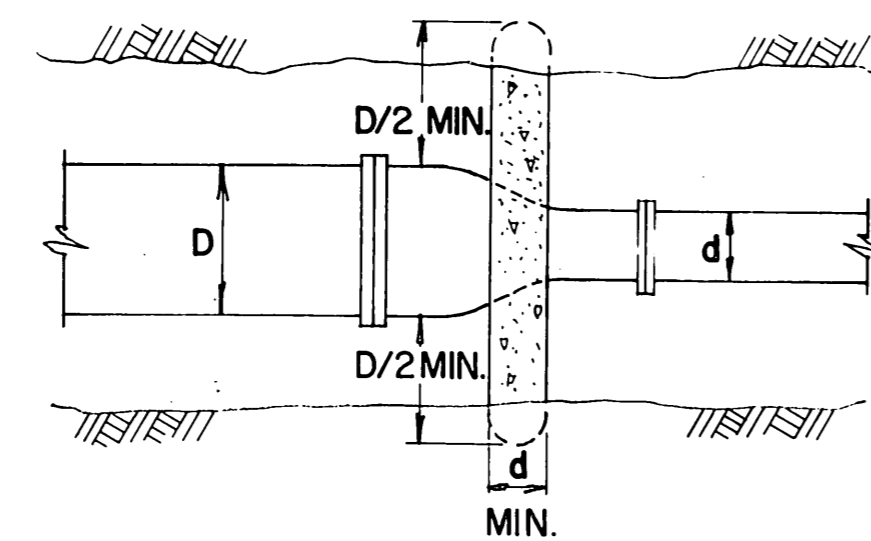
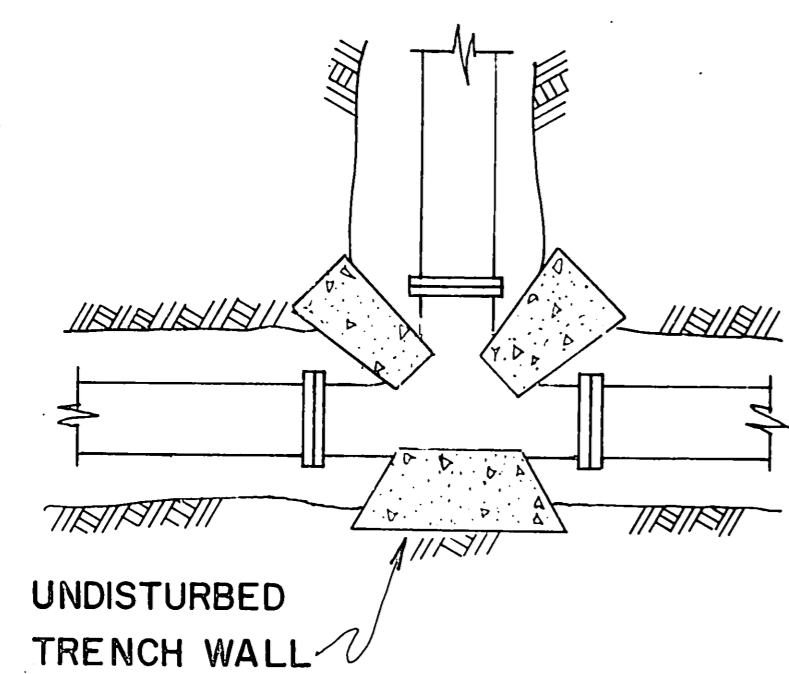
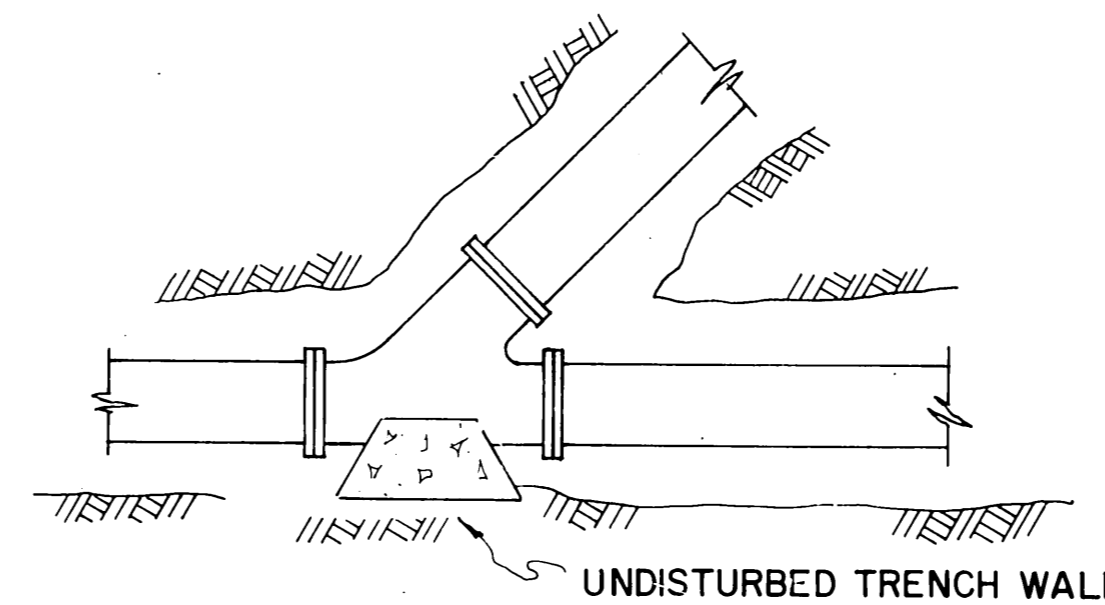
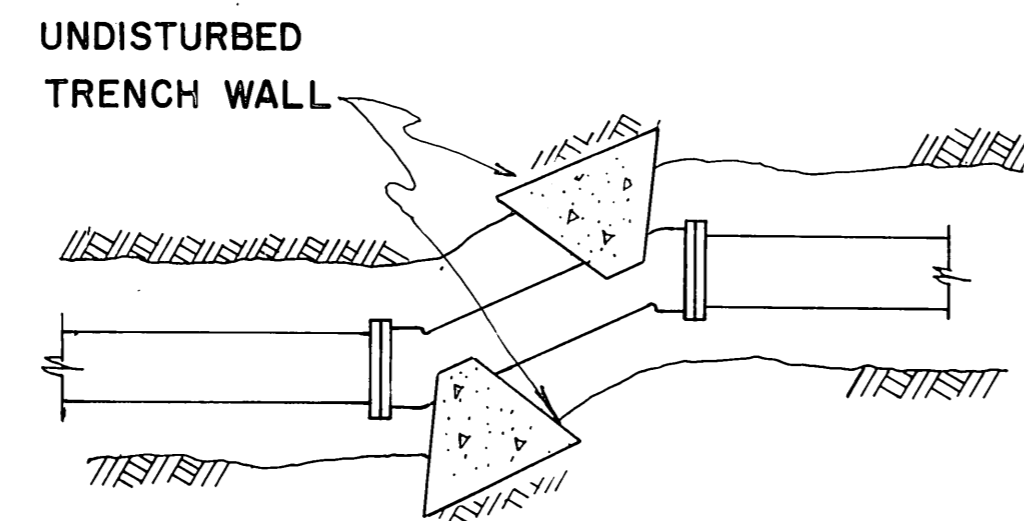
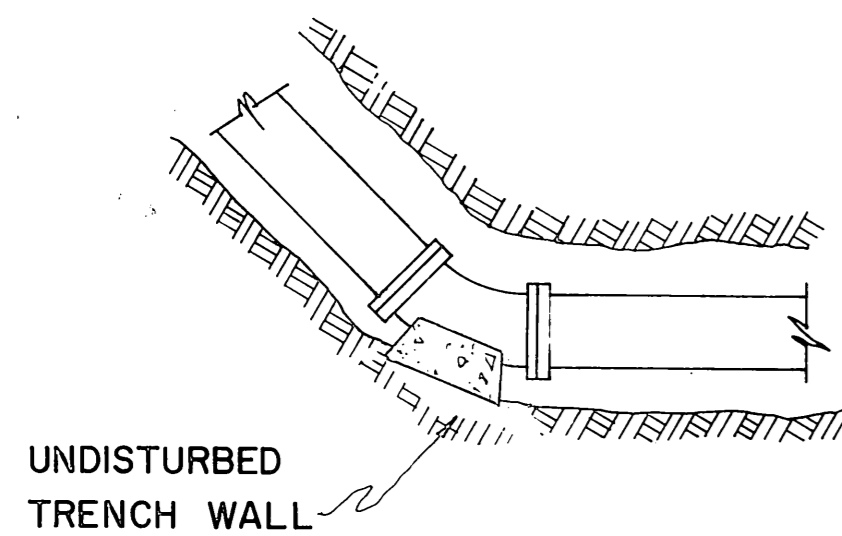
VERTICAL BENDS



STANDARD HYDRANT

NOTES

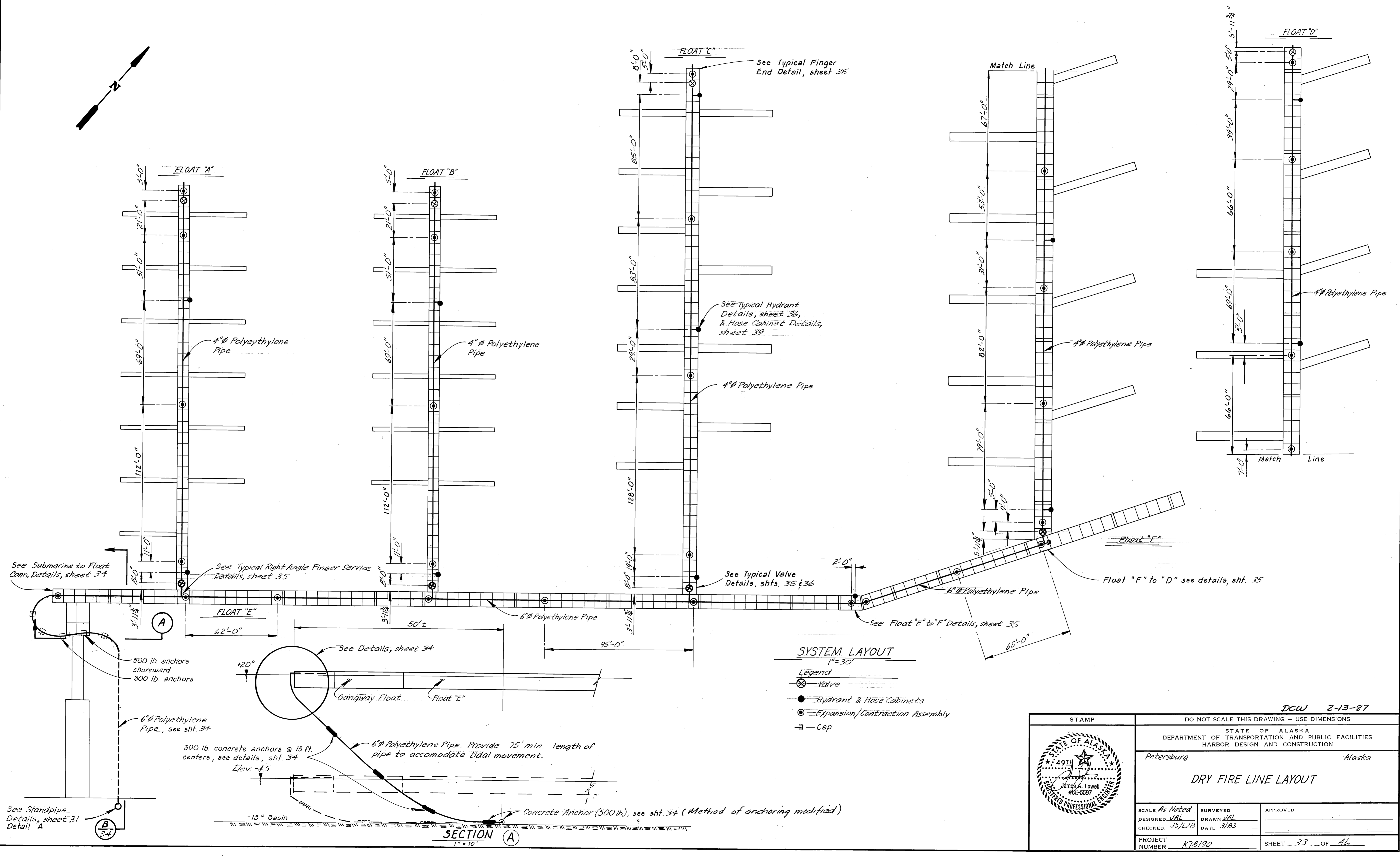
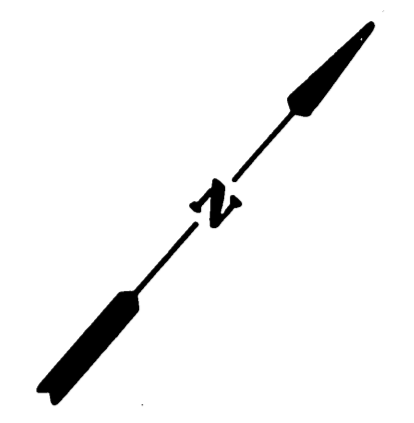
- THRUST BLOCKS ARE TO BE CONCRETE POURED IN PLACE BETWEEN THE FITTING AND UNDISTURBED TRENCH WALL.
- CONCRETE SHALL BE KEPT BEHIND BELL OF FITTING SO AS NOT TO OBSTRUCT THE JOINT.
- THRUST BLOCKS ARE REQUIRED WHENEVER PIPE-LINE CHANGES DIRECTION, CHANGES SIZE, DEAD ENDS, OR DEVELOPS THRUST AT VALVES.
- MATERIAL, BEHIND THE THRUST BLOCKS, DEEMED INADEQUATE BY THE ENGINEER SHALL BE REMOVED AND REPLACED BY A BALLAST MATERIAL, THE EXTENT AND QUALITY OF REPLACEMENT MATERIAL TO BE DETERMINED BY THE ENGINEER.
- IN IMPERVIOUS SOILS, A HOLE SHALL BE DUG BENEATH THE HYDRANT THRUST BLOCK TO A MINIMUM VOLUME OF 7 CUBIC FEET. THE HOLE SHALL BE BACKFILLED AND COMPACTED WITH A POROUS MATERIAL ACCEPTABLE TO THE ENGINEER.
- REFER TO AWWA C600-64 SECTION II FOR PLACEMENT OF HYDRANT.
- CONCRETE CLASS SHALL BE AS DIRECTED BY THE ENGINEER.



PLACEMENT OF THRUST BLOCKS

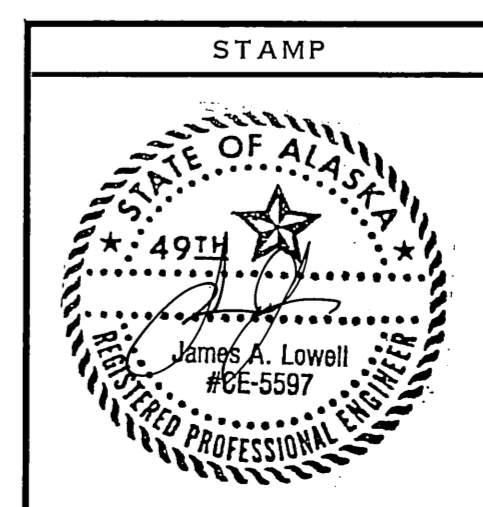
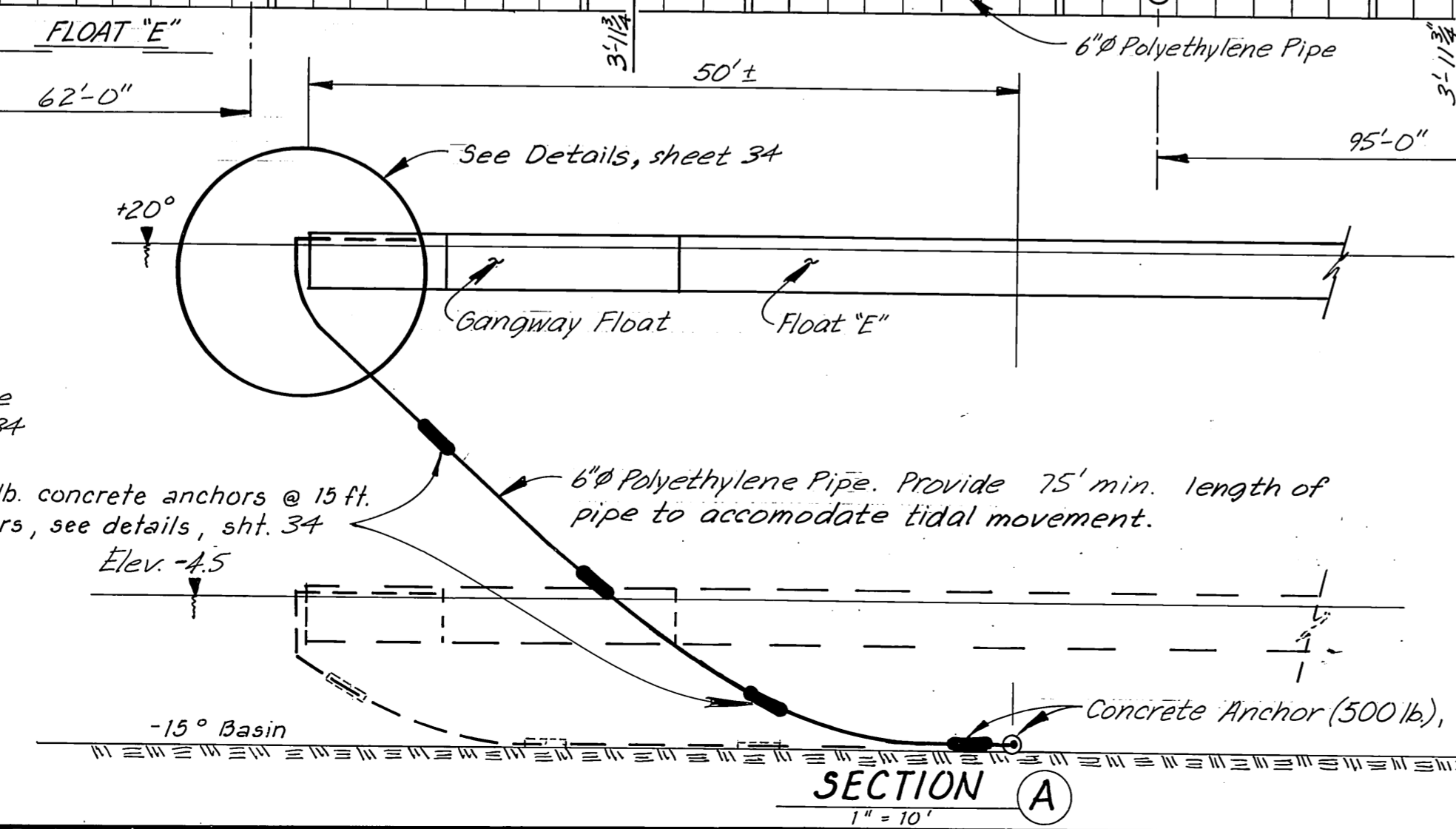
DCW 2-13-87

STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
		STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES HARBOR DESIGN AND CONSTRUCTION	
		Petersburg	Alaska
WATER MAIN & HYDRANT THRUST BLOCKS			
SCALE: None	SURVEYED: _____	APPROVED: _____	
DESIGNED: Staff	DRAWN: Staff		
CHECKED: JS	DATE: 4-83		
PROJECT NUMBER: K-78190	SHEET: 32 OF 46		

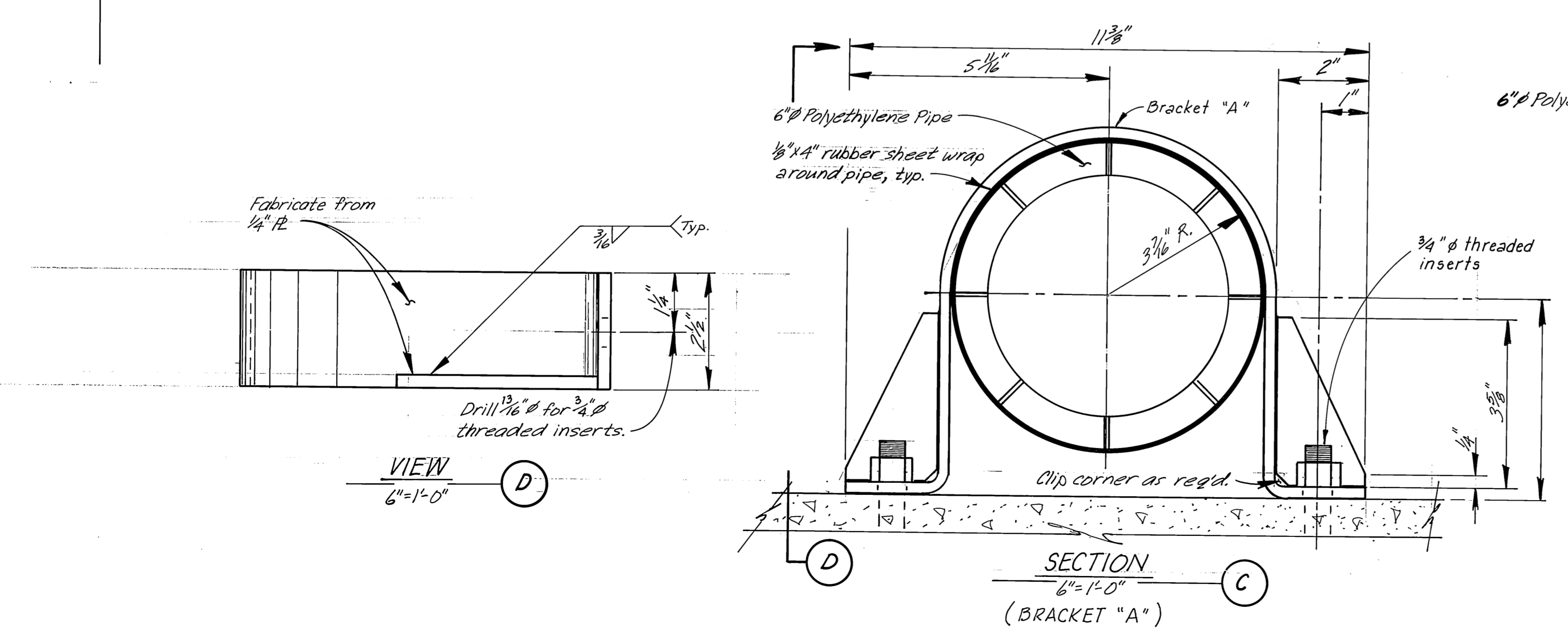
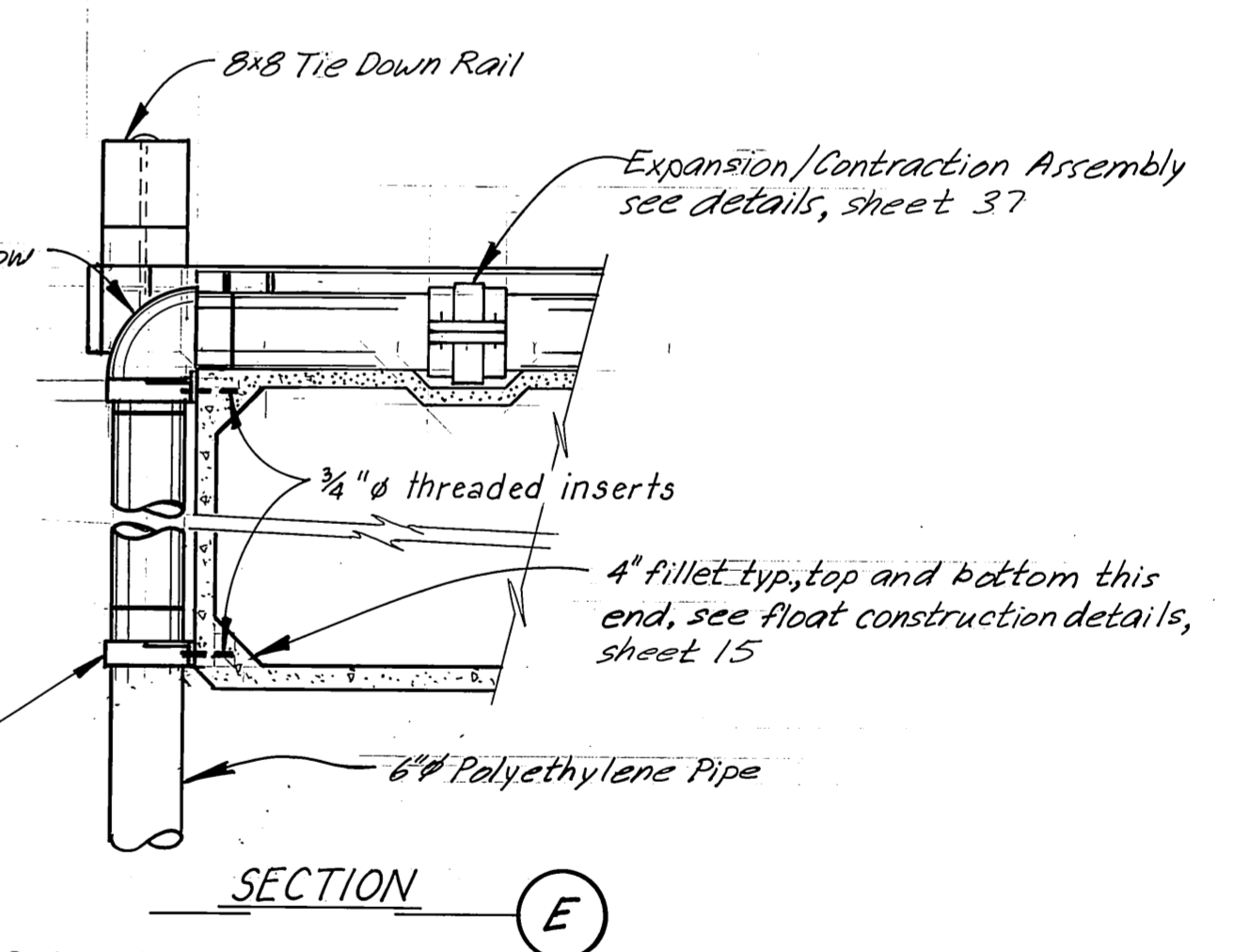
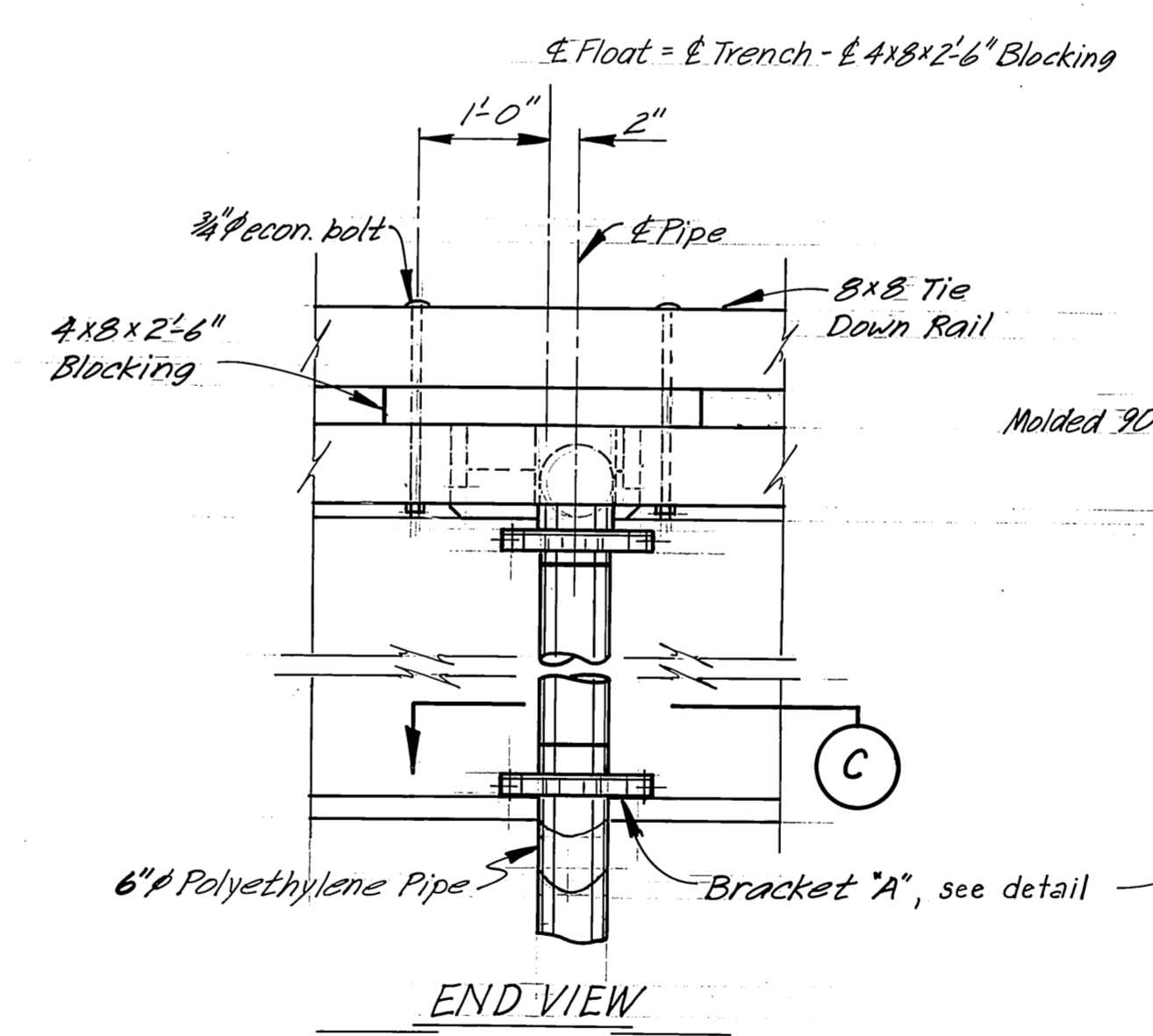
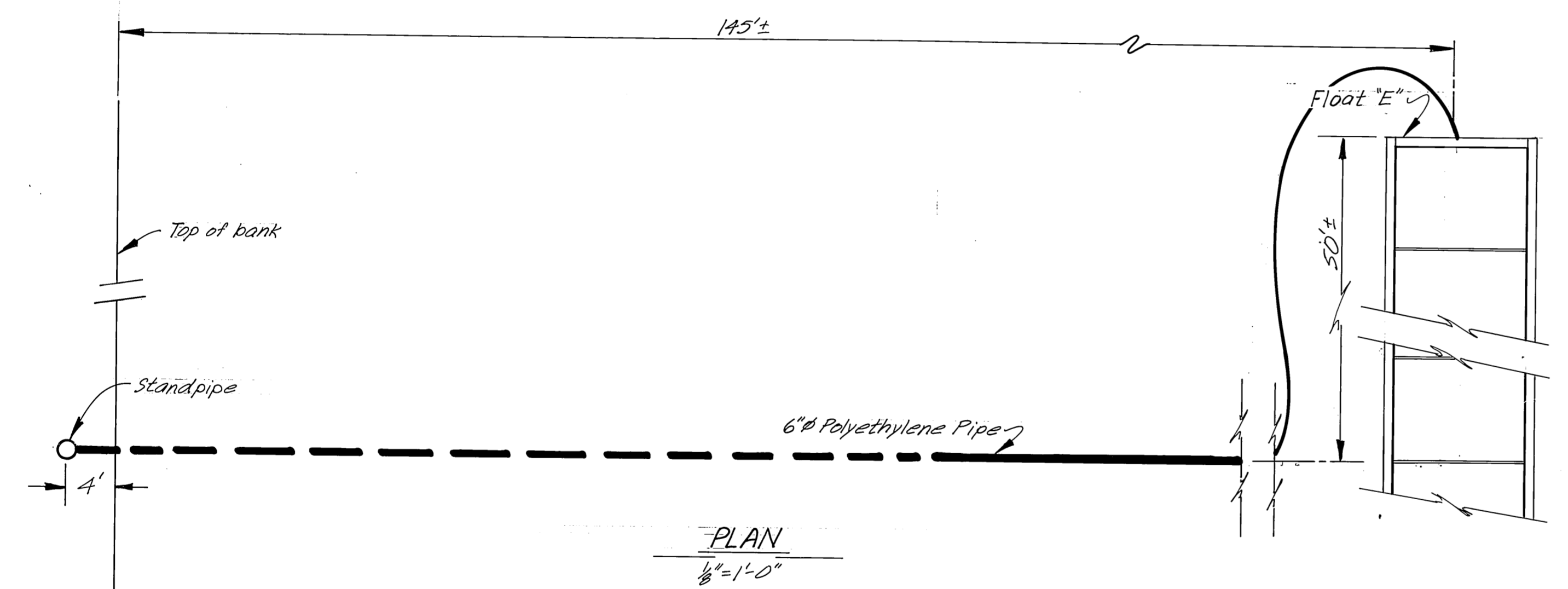
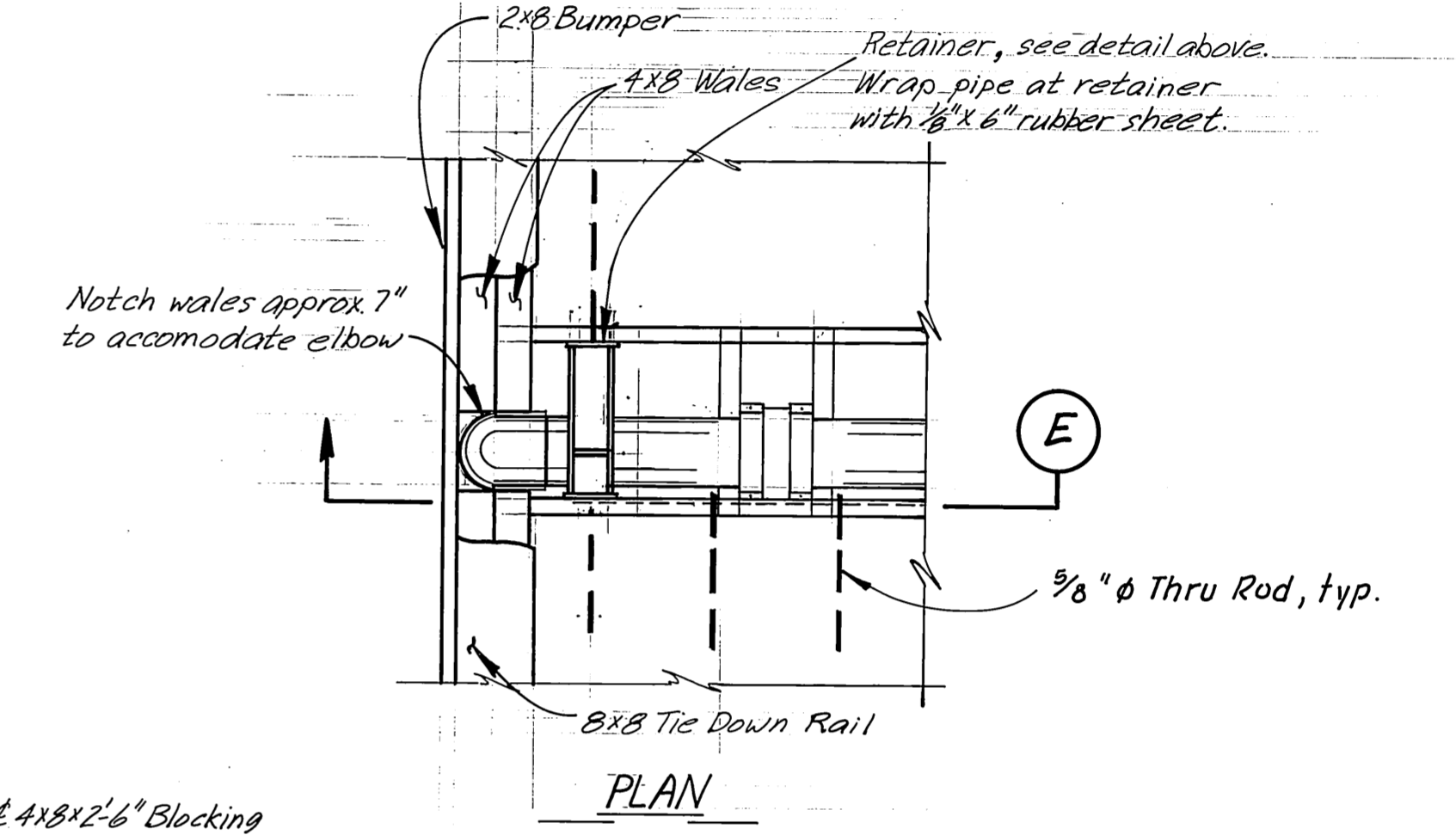
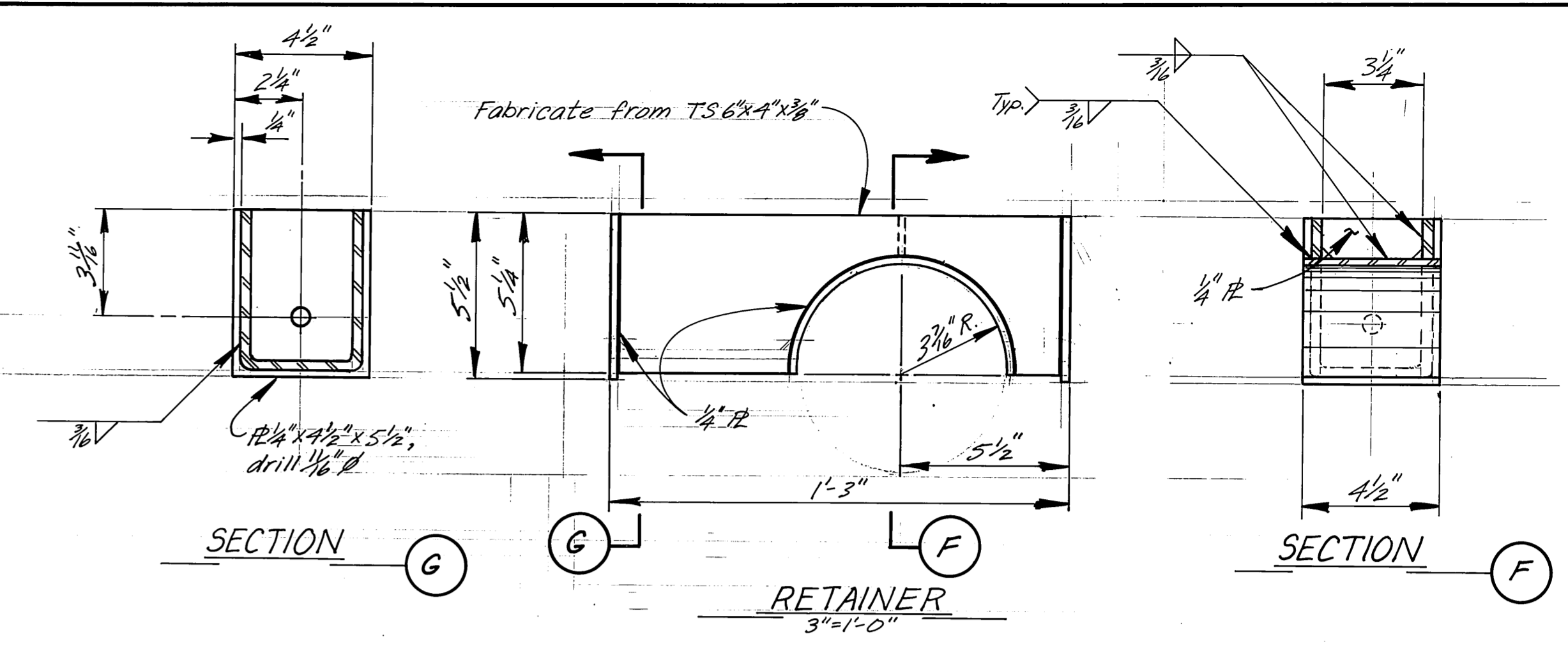
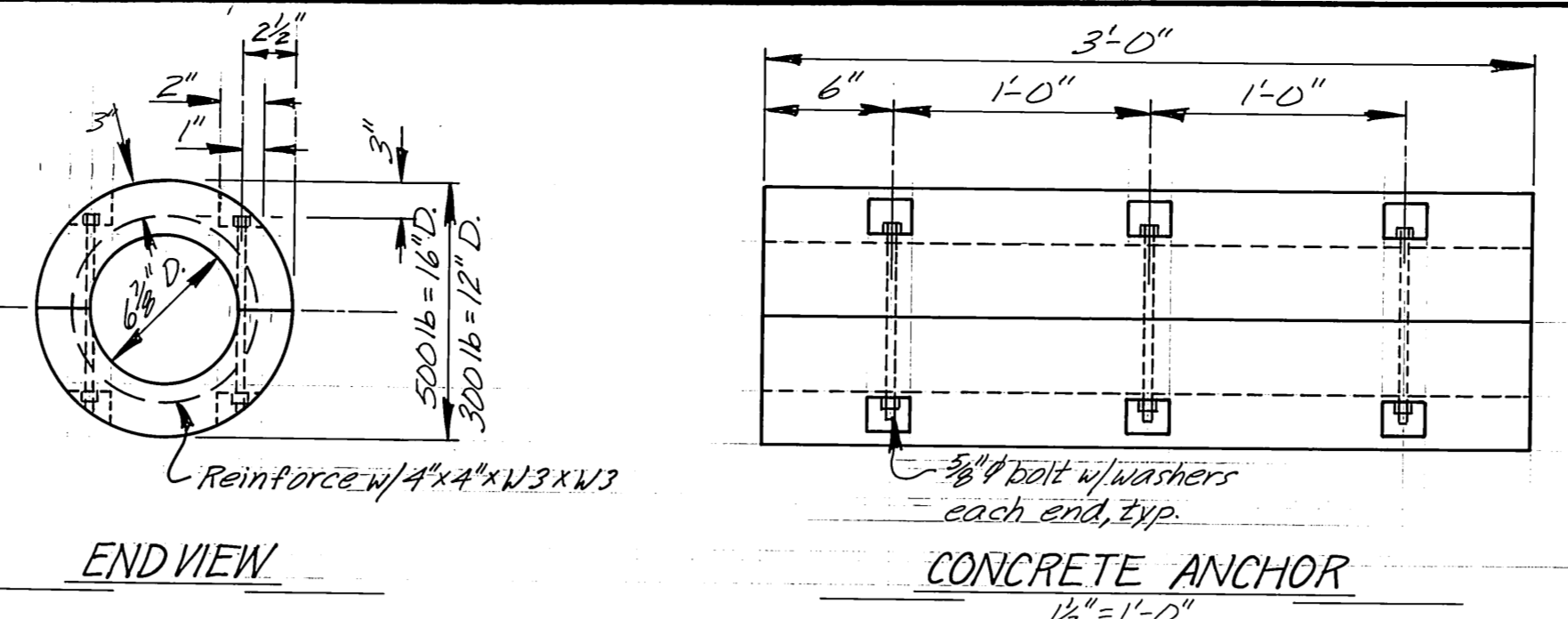
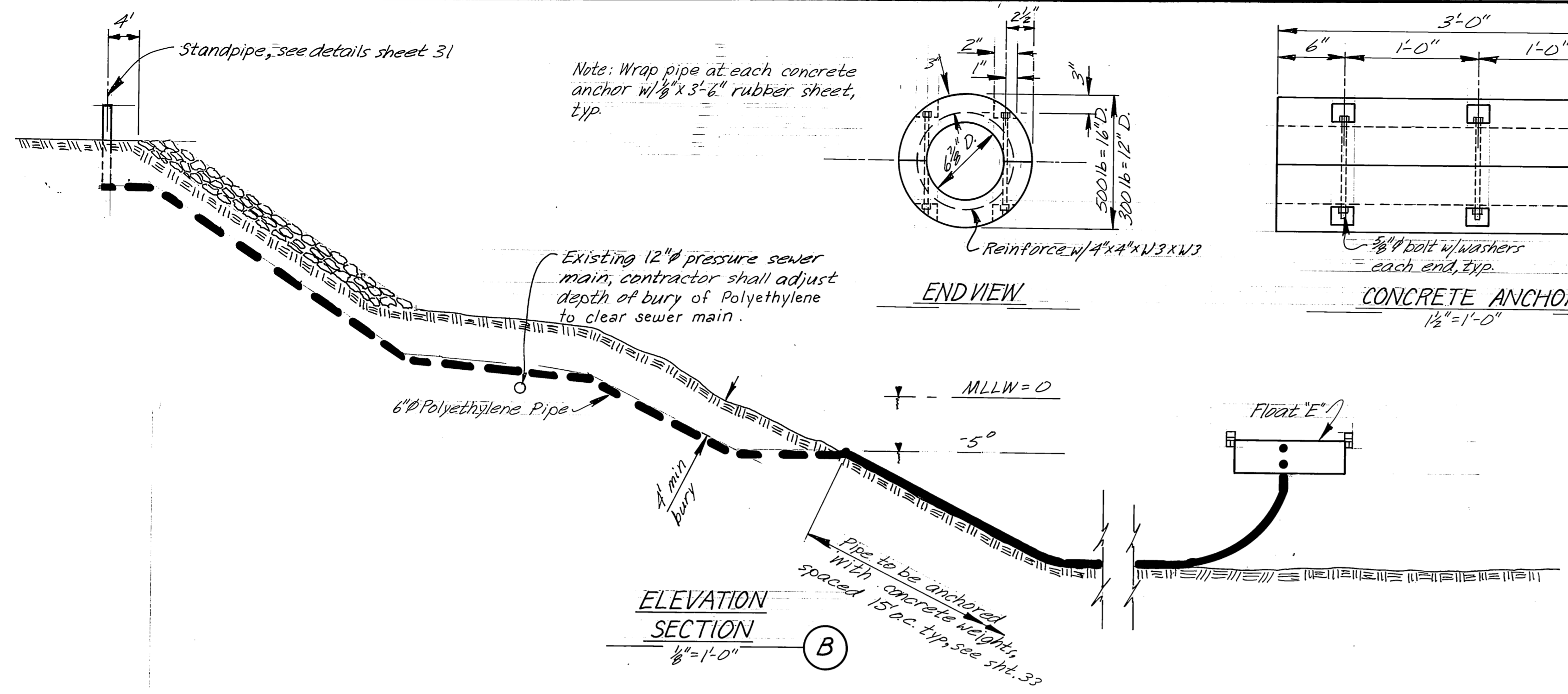


SYSTEM LAYOUT
1" = 30'

- Legend**
- ⊗ — Valve
 - — Hydrant & Hose Cabinets
 - ⊙ — Expansion/Contraction Assembly
 - — Cap

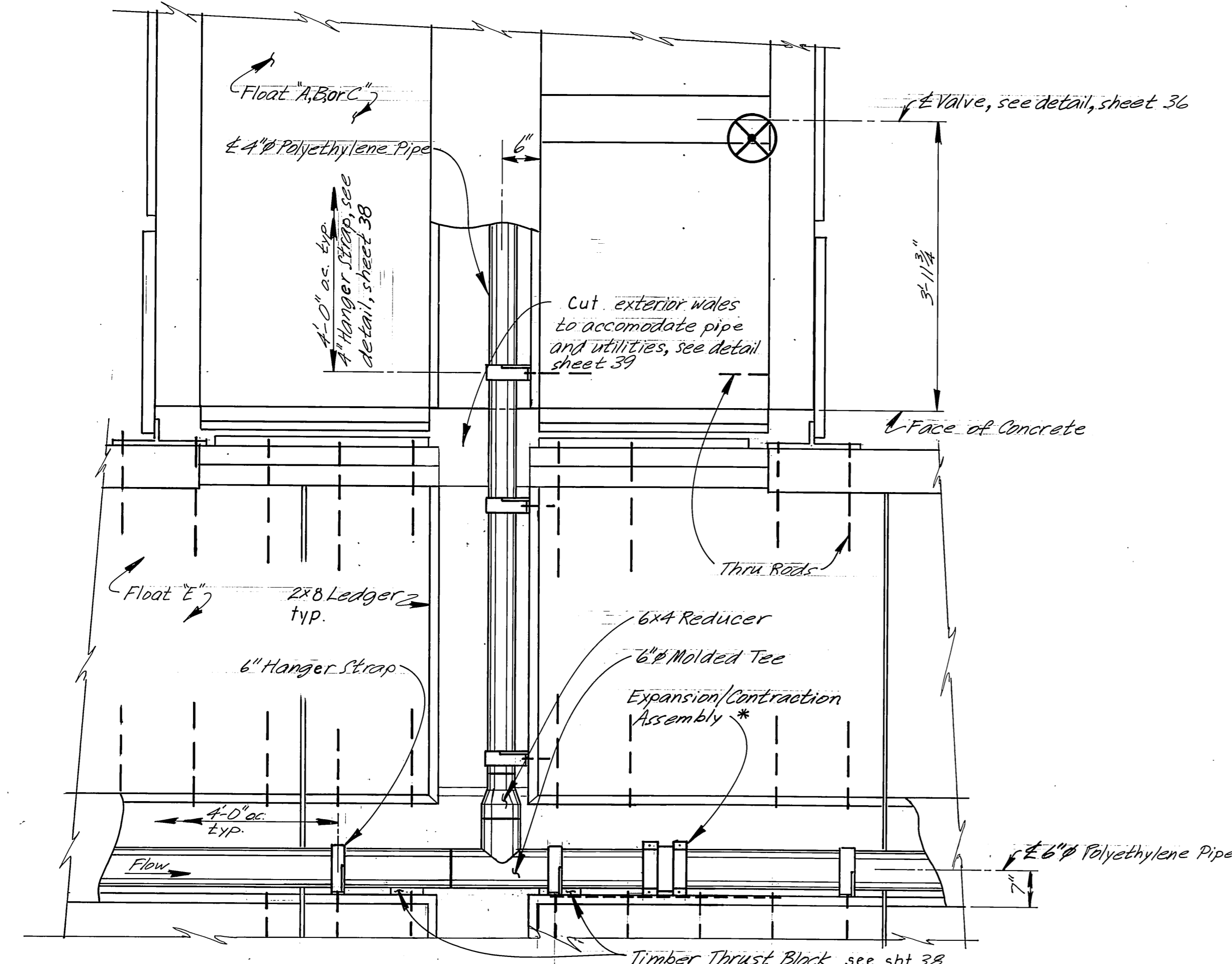


DCW 2-13-87		
DO NOT SCALE THIS DRAWING — USE DIMENSIONS		
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES HARBOR DESIGN AND CONSTRUCTION		
Petersburg		Alaska
DRY FIRE LINE LAYOUT		
SCALE: <i>As Noted</i>	SURVEYED: _____	APPROVED: _____
DESIGNED: JAL	DRAWN: JAL	
CHECKED: JS/LWB	DATE: 3/83	
PROJECT NUMBER: K78190	SHEET 33 OF 46	



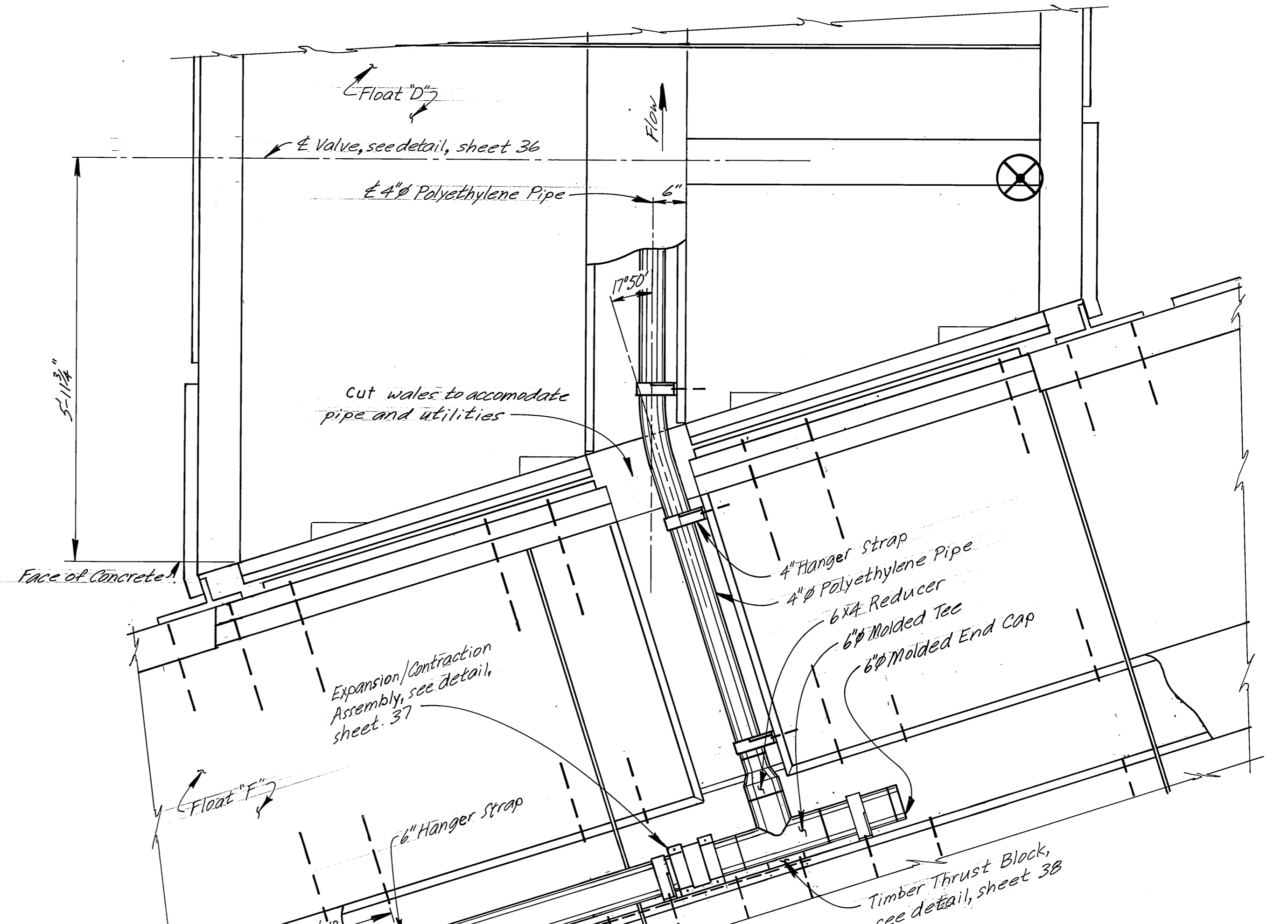
DCW 2-13-87

STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES HARBOR DESIGN AND CONSTRUCTION			
Petersburg		Alaska	
STANDPIPE TO FLOAT DETAILS			
SCALE: As Noted	SURVEYED:	APPROVED:	
DESIGNED: JAL	DRAWN: JAL/LVB	_____	
CHECKED: JS	DATE: 3/83	_____	
PROJECT NUMBER: K78190	SHEET: 34 OF 46		

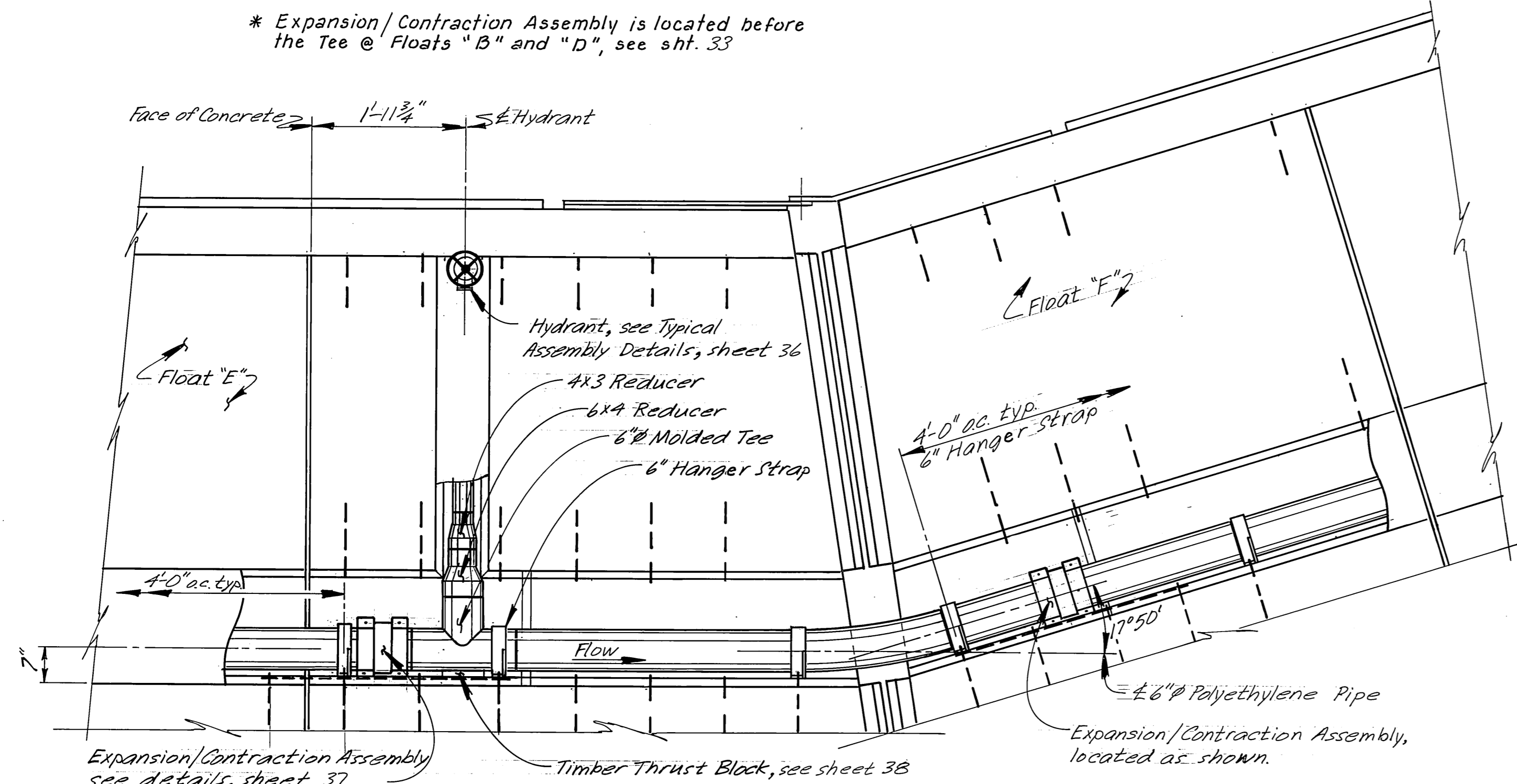


TYPICAL RIGHT ANGLE FINGER SERVICE DETAILS
(Float "A" to "E" shown)

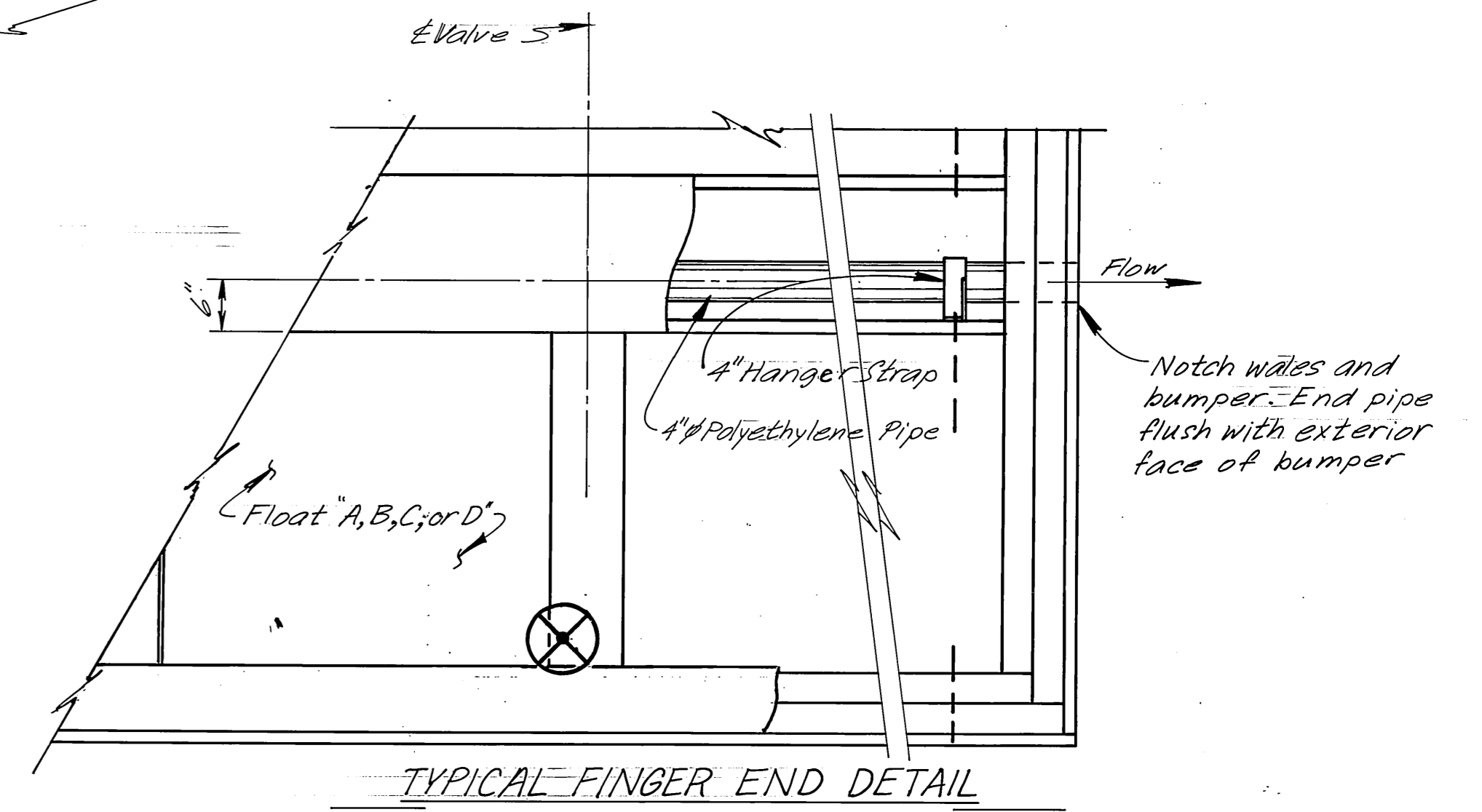
* Expansion/Contraction Assembly is located before the Tee @ Floats "B" and "D", see sht. 33



FLOAT "F" TO "D" SERVICE DETAILS



FLOAT "E" TO "F" SERVICE DETAILS

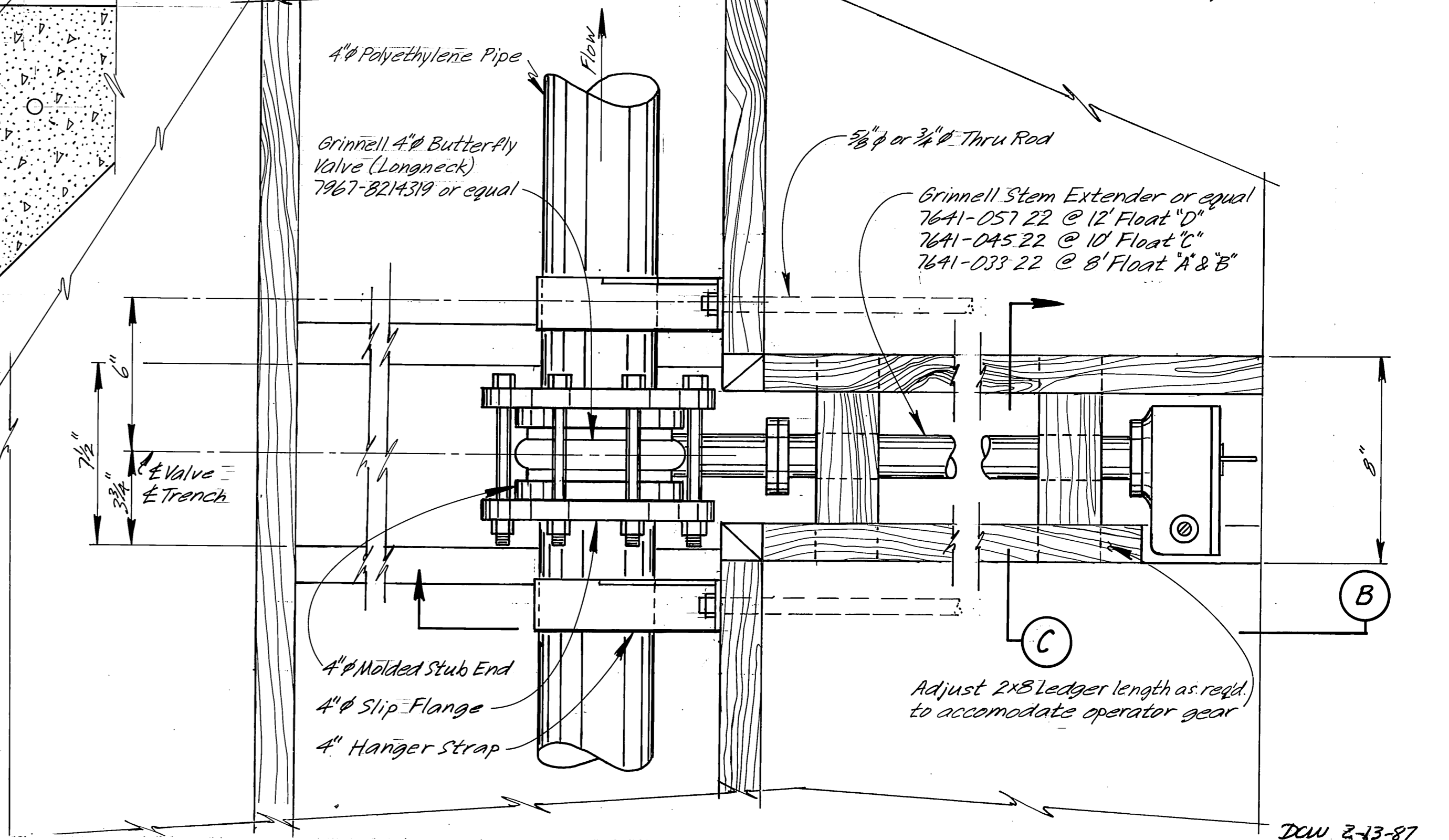
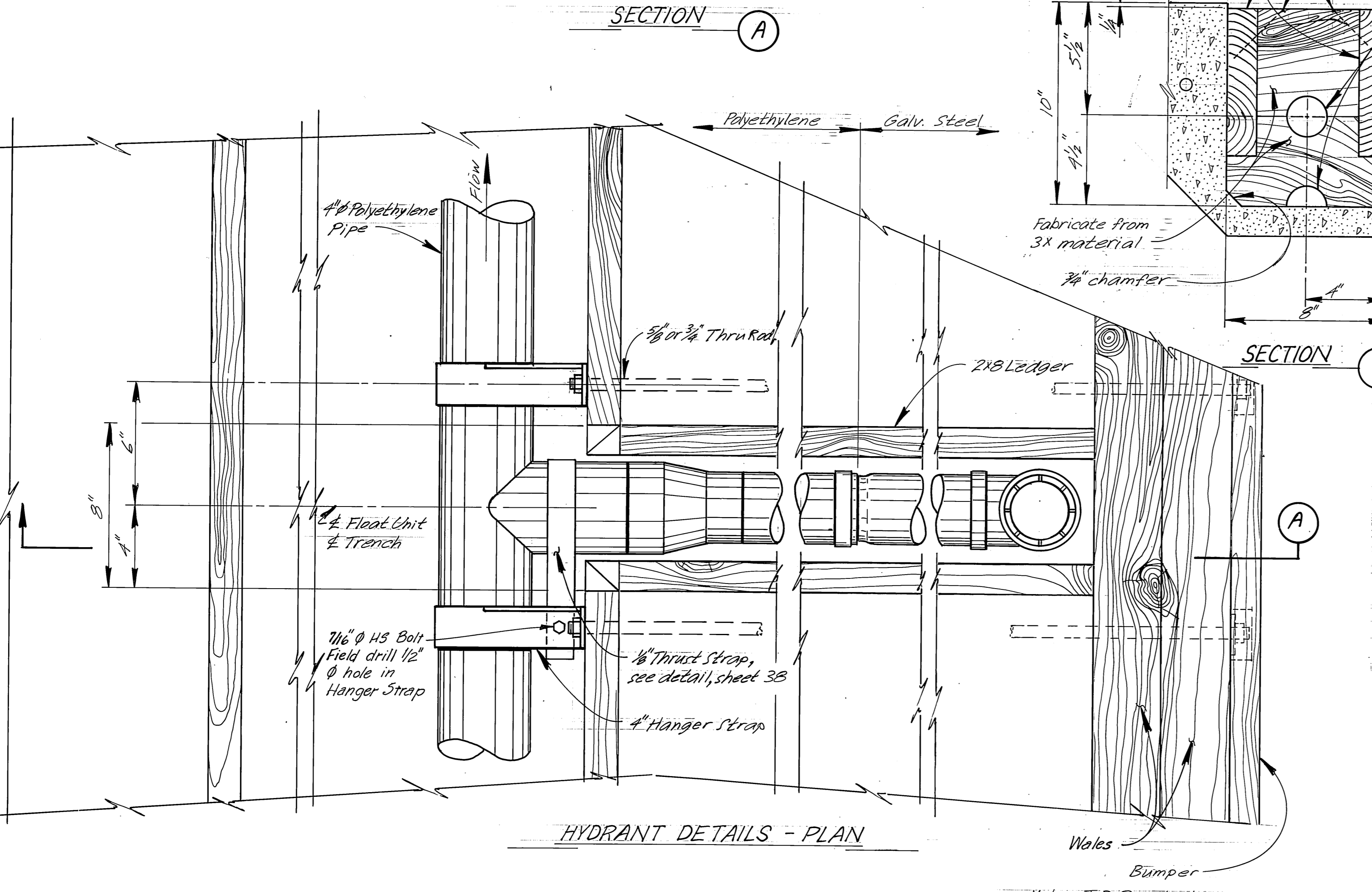
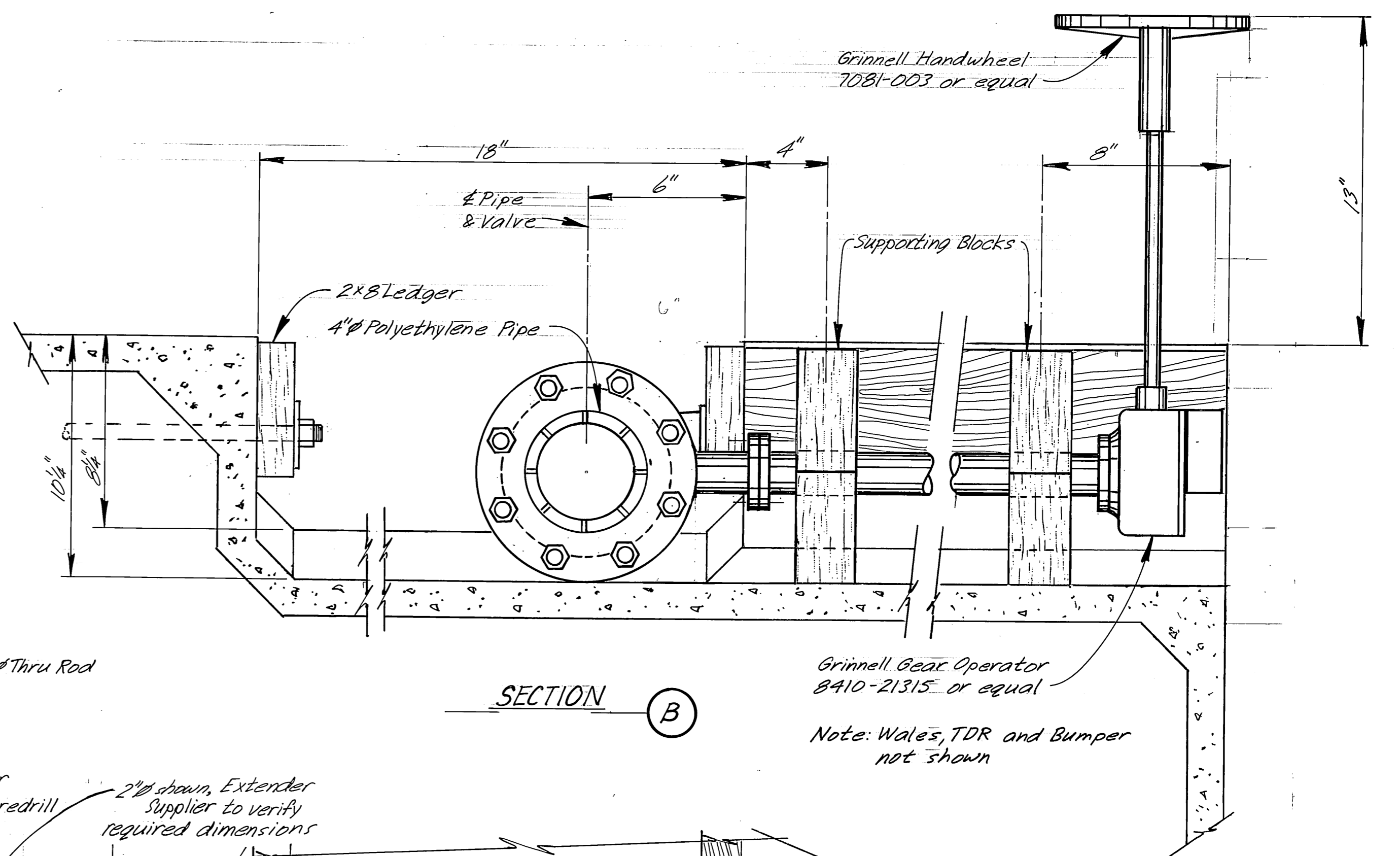
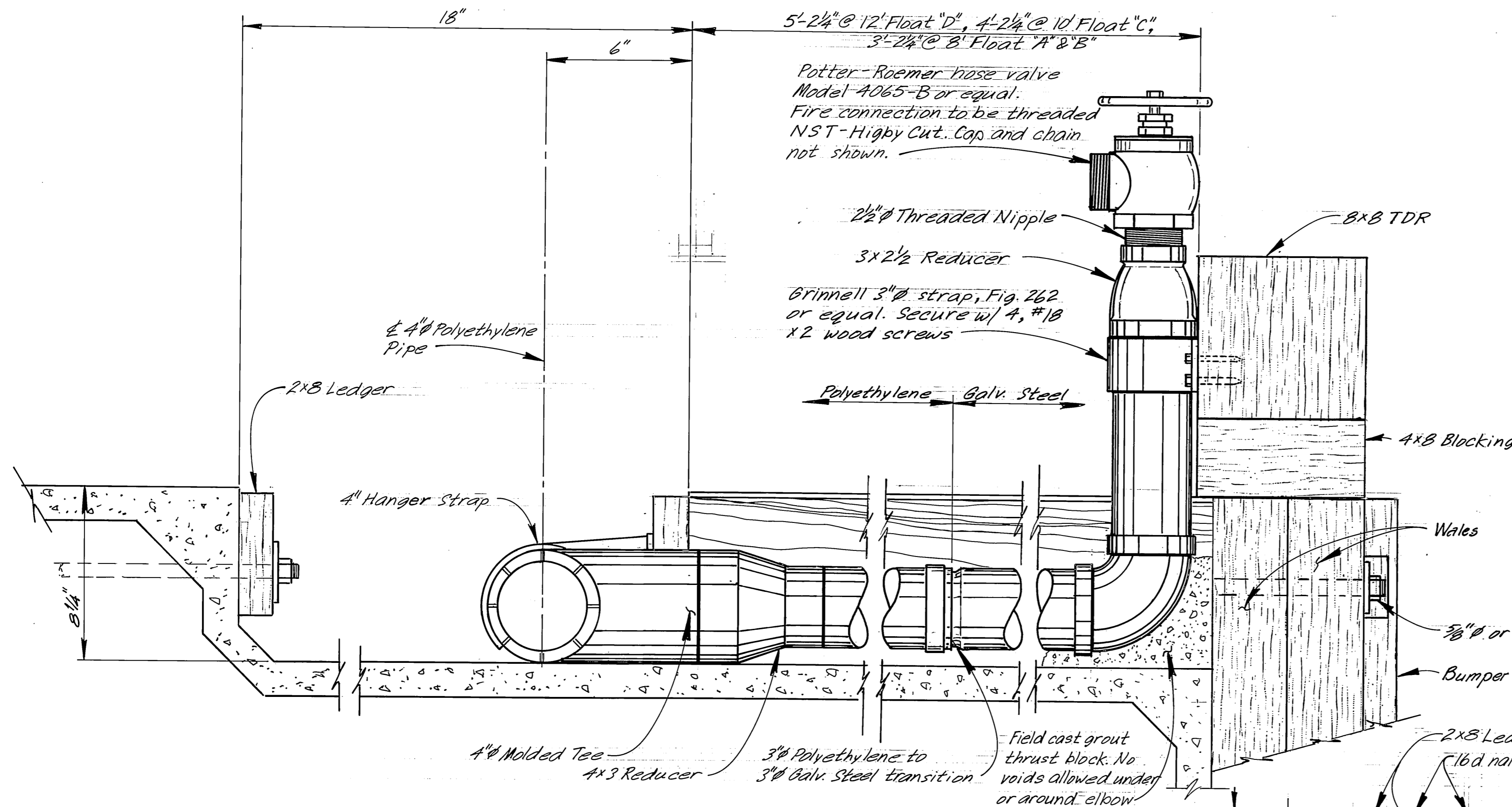


TYPICAL FINGER END DETAIL

Note: System and details shown utilize the butt fusion process. Flanged or coupled joints shall not be used, except moulded stub ends required at the valves.

STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
		STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES HARBOR DESIGN AND CONSTRUCTION	
		Petersburg Alaska	
FINGER FLOAT SERVICE DETAILS		SCALE 3/4"=1'-0"	SURVEYED
DESIGNED VAE	DRAWN JAL/LVB	CHECKED JS	DATE 3/83
PROJECT NUMBER K78190	SHEET 35 OF 46		

DCW 2-13-87

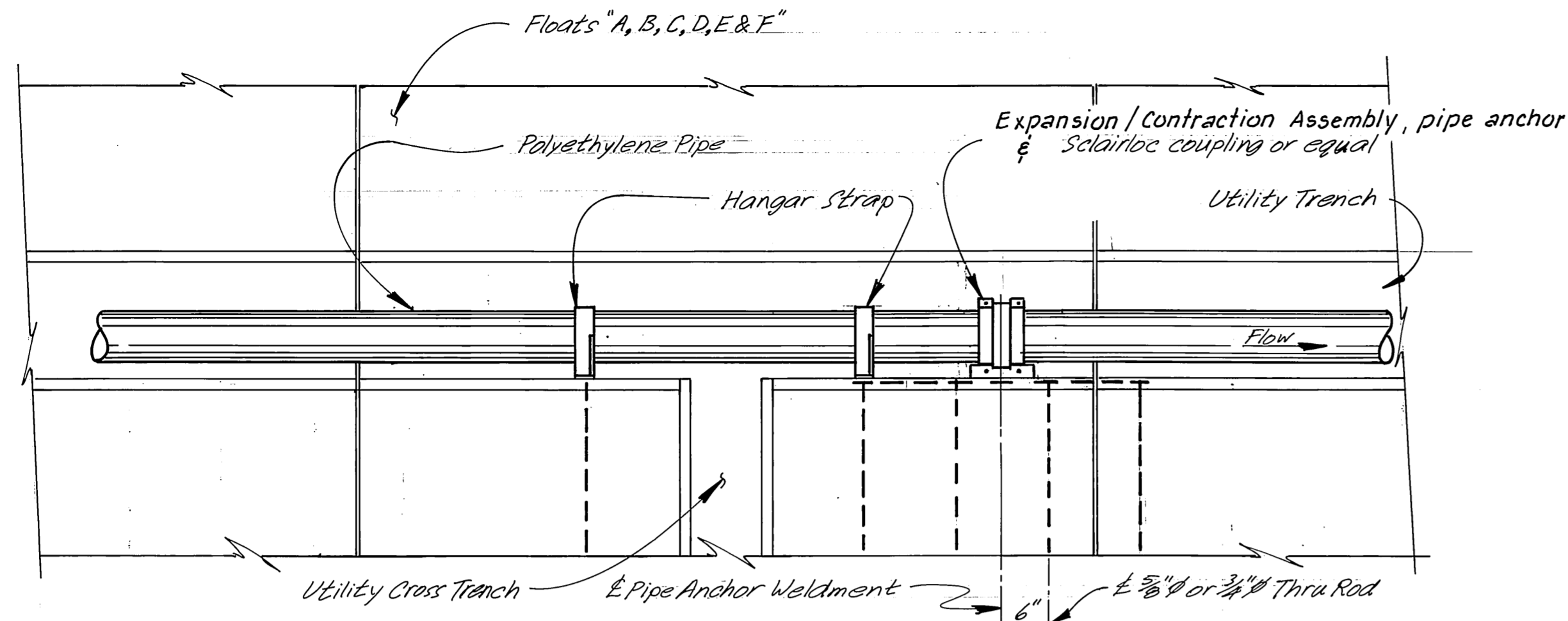


VALVE DETAILS - PLAN

Note: 4" Molder Stub End may require reaming to insure proper clearance for butterfly movement between opened and closed positions. Contractor and/or supplier shall verify.

DCW 2-13-87

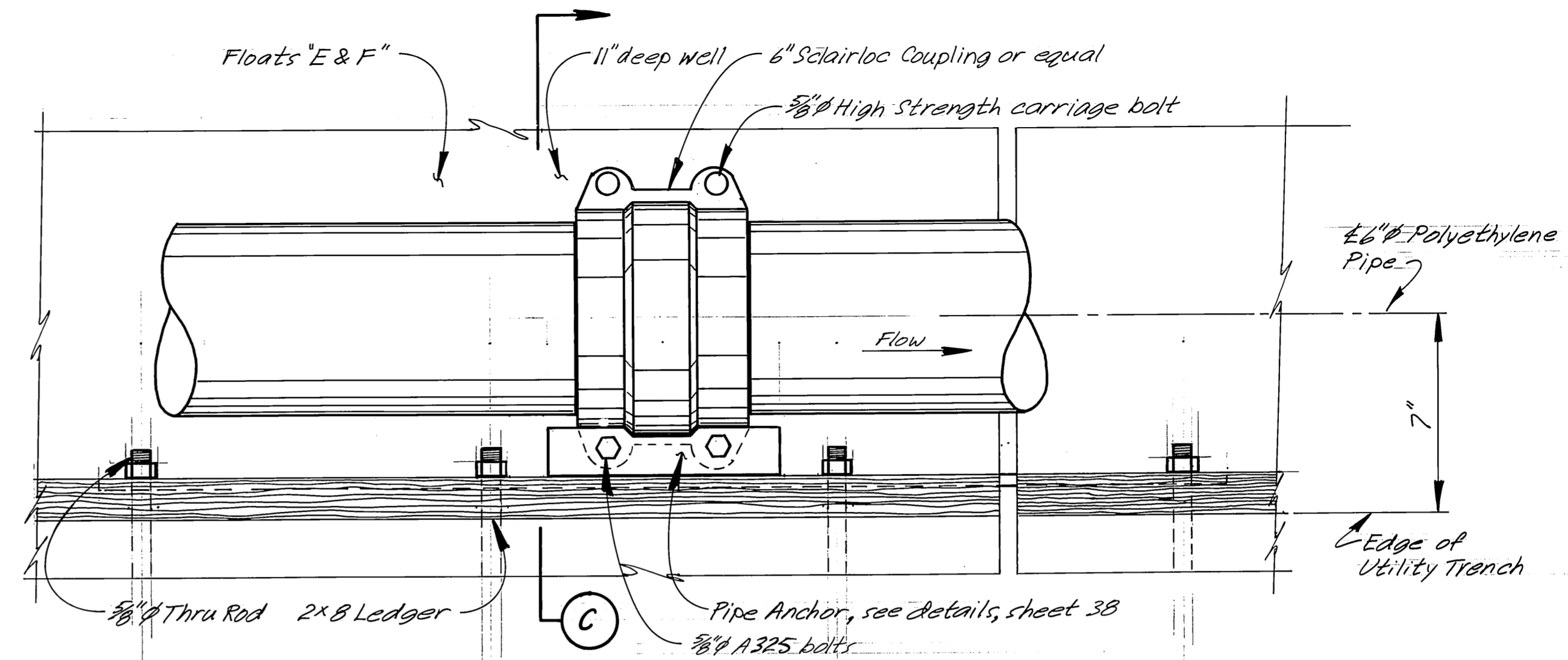
STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES HARBOR DESIGN AND CONSTRUCTION			
Petersburg		Alaska	
HYDRANT & VALVE DETAILS			
SCALE 3" = 1'-0"	SURVEYED	APPROVED	
DESIGNED VAL	DRAWN VAL/LVB		
CHECKED JS	DATE 3/83		
PROJECT NUMBER K78190	SHEET 36 OF 46		



TYPICAL EXPANSION/CONTRACTION ASSEMBLY

3"=1'-0"

(4" ϕ shown, see sht. 33 for Assembly Locations)

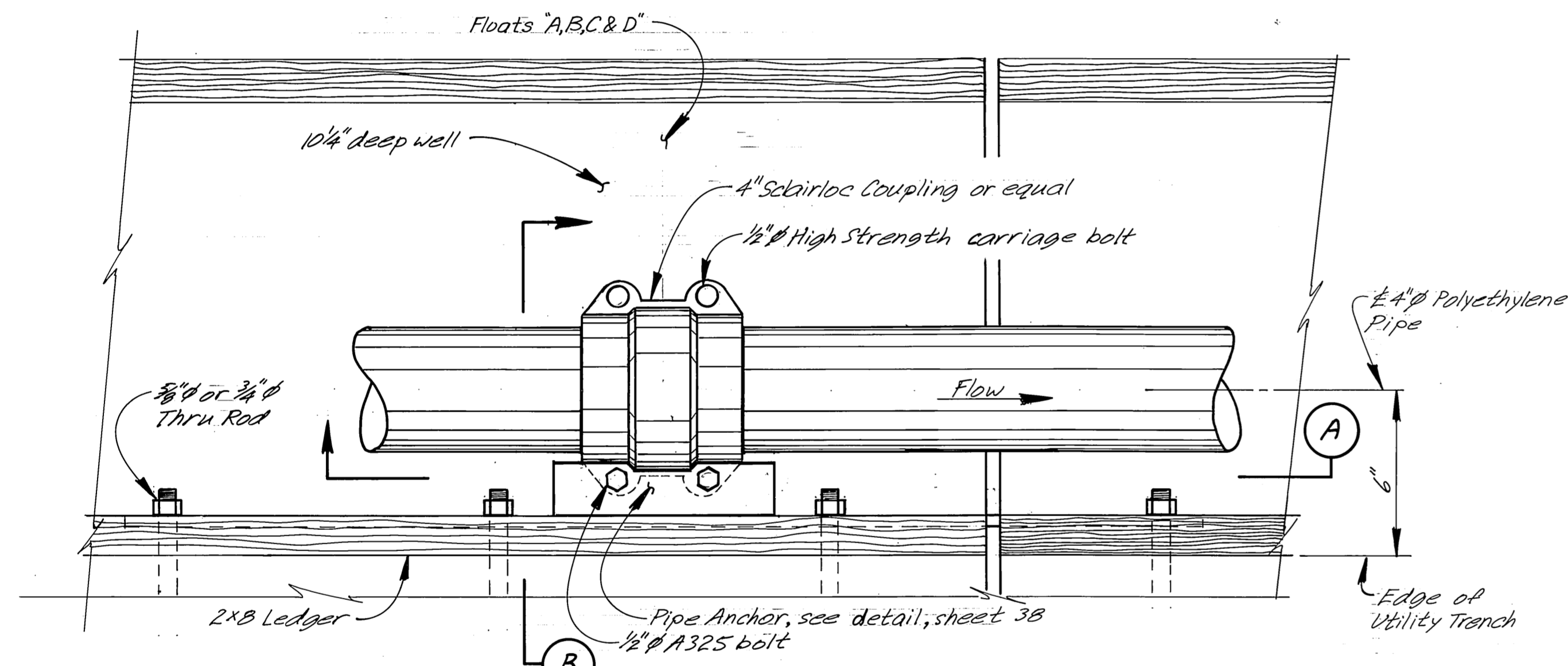


PLAN
6" ϕ ASSEMBLY DETAILS

3"=1'-0"

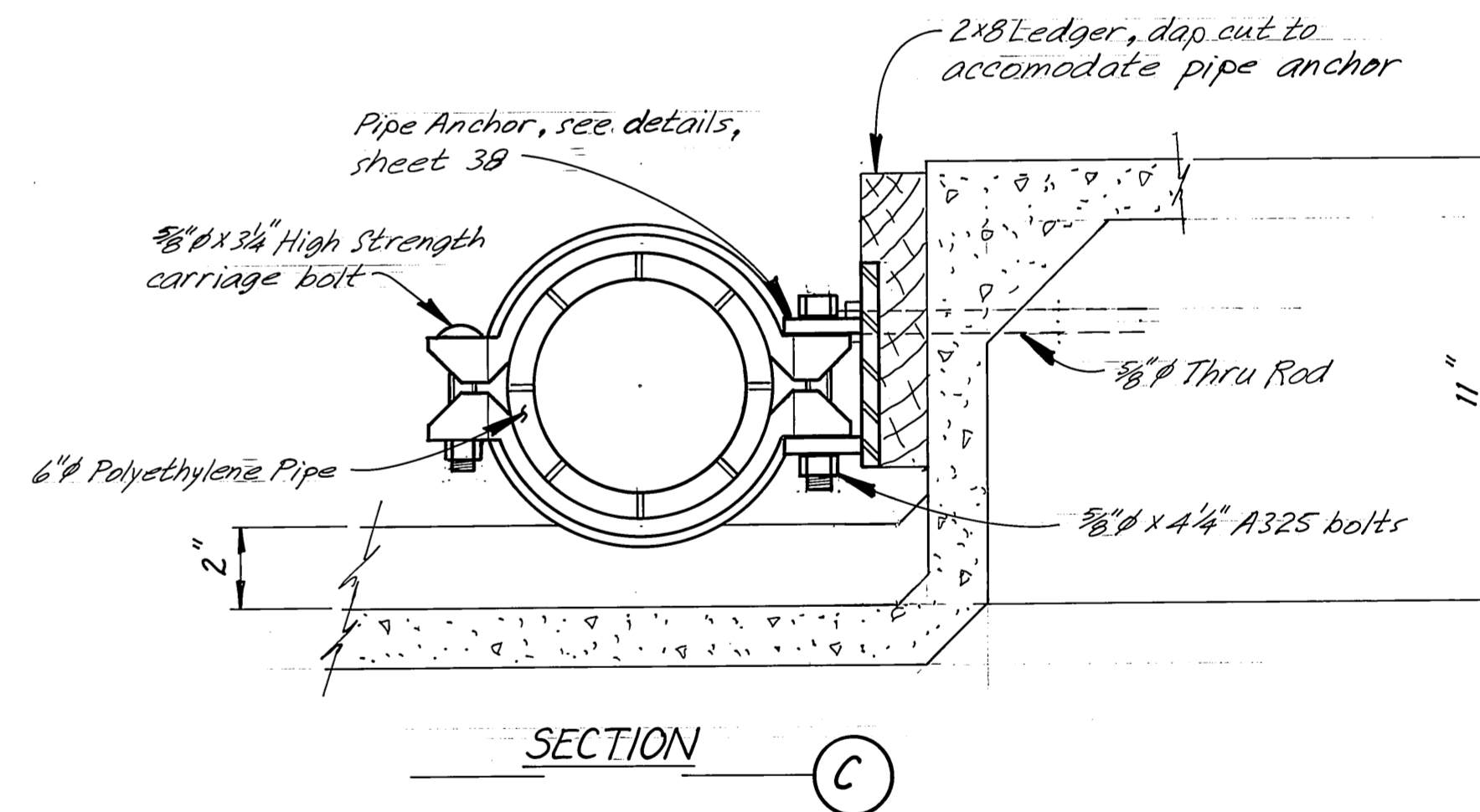
Notes:

1. Prior to fit up of coupling into pipe anchor the coupling shall be adequately seated on the pipe by tightening of the coupling bolts. Once the seating has been completed, the mounting bolts can be removed and the connection made as detailed.
2. 3/8" ϕ and 1/2" ϕ hex head mounting bolts shall be tightened to a degree adequate to insure uniform coupling tightness around pipe.



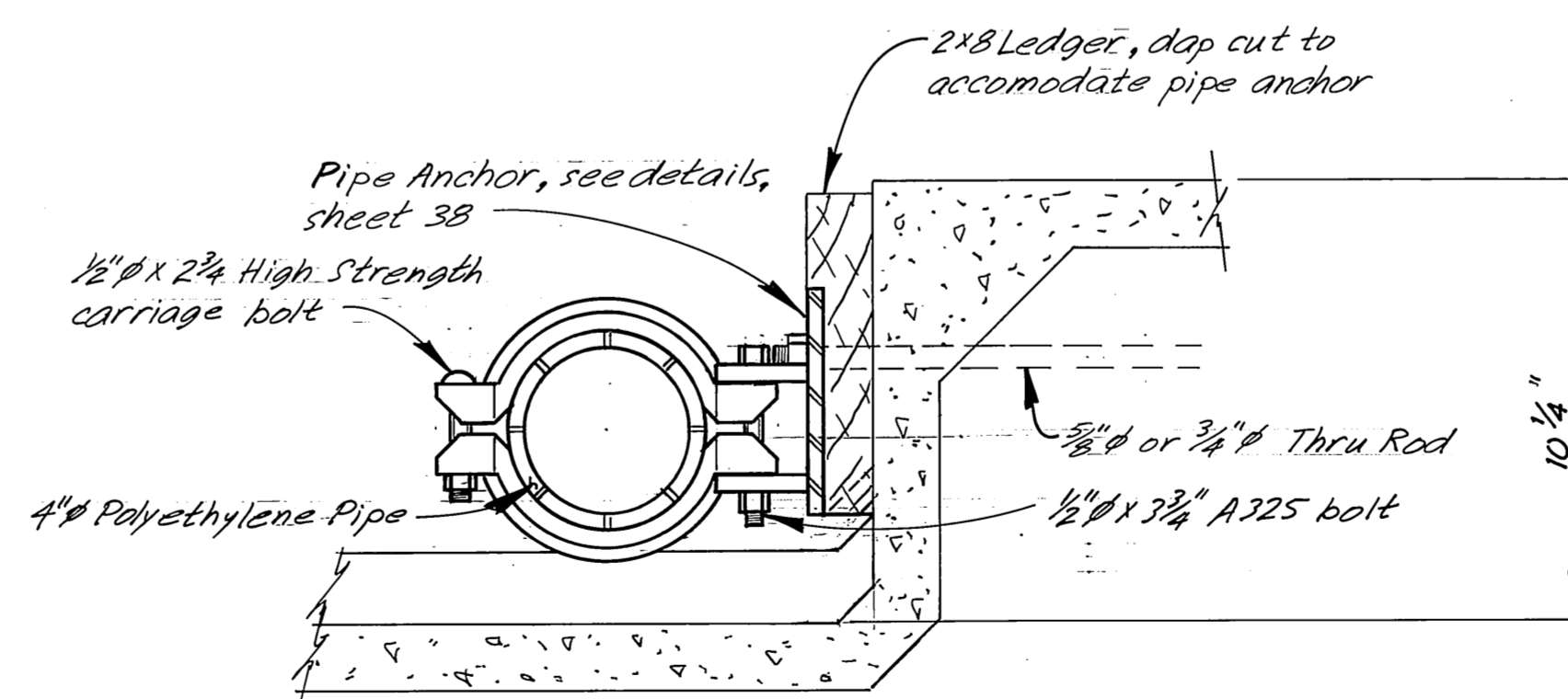
PLAN
4" ϕ ASSEMBLY DETAILS

3"=1'-0"



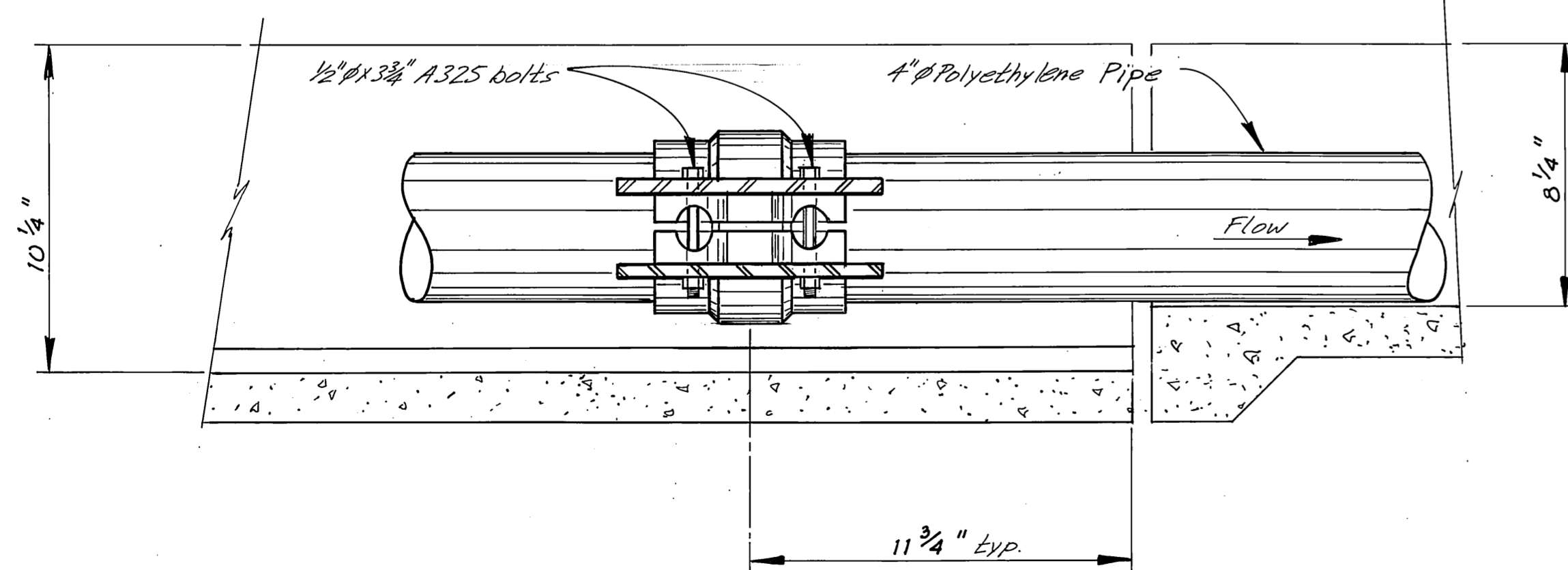
SECTION C

(C)



SECTION B

(B)

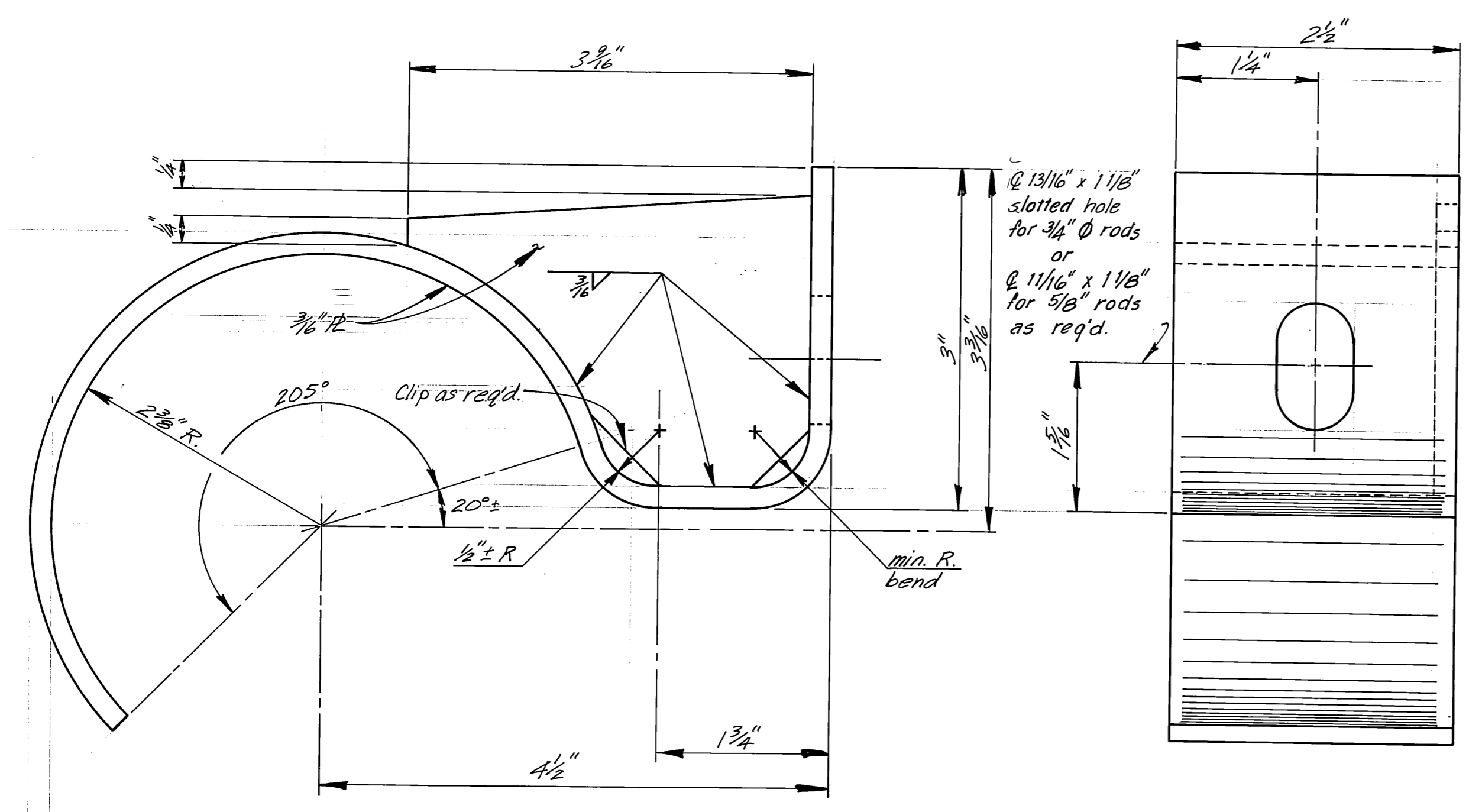


SECTION A

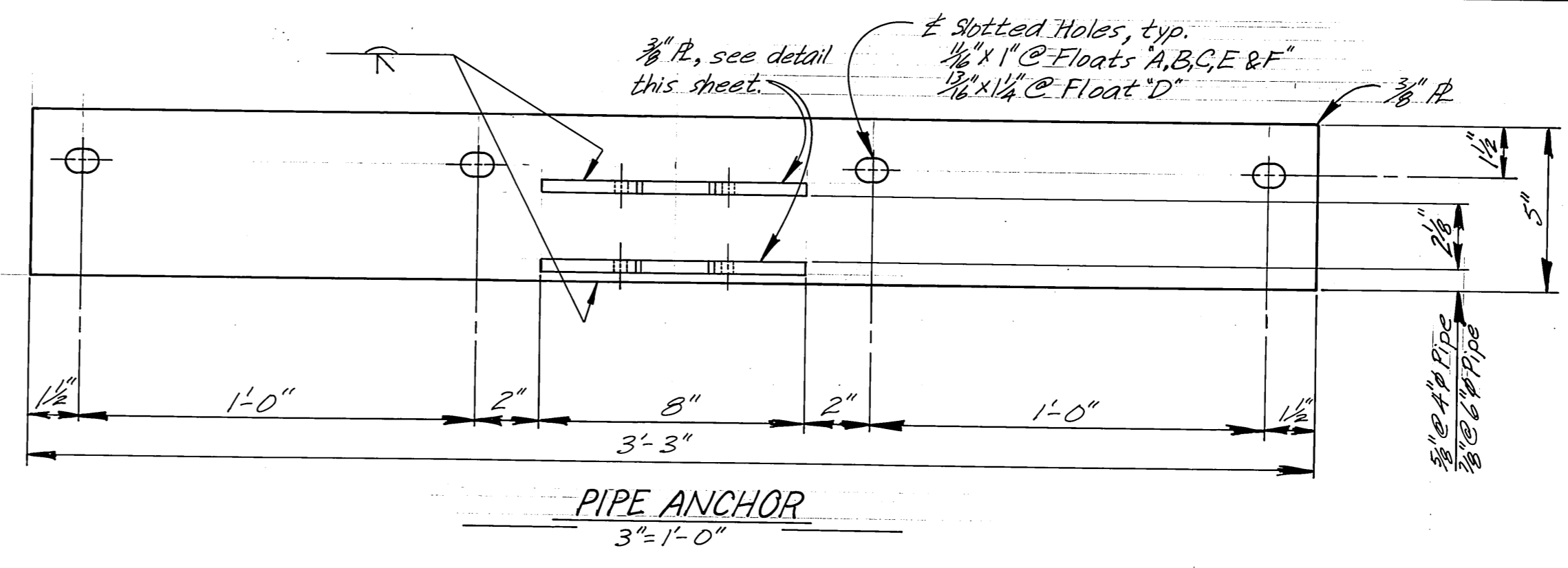
(A)

DCW 2-13-87

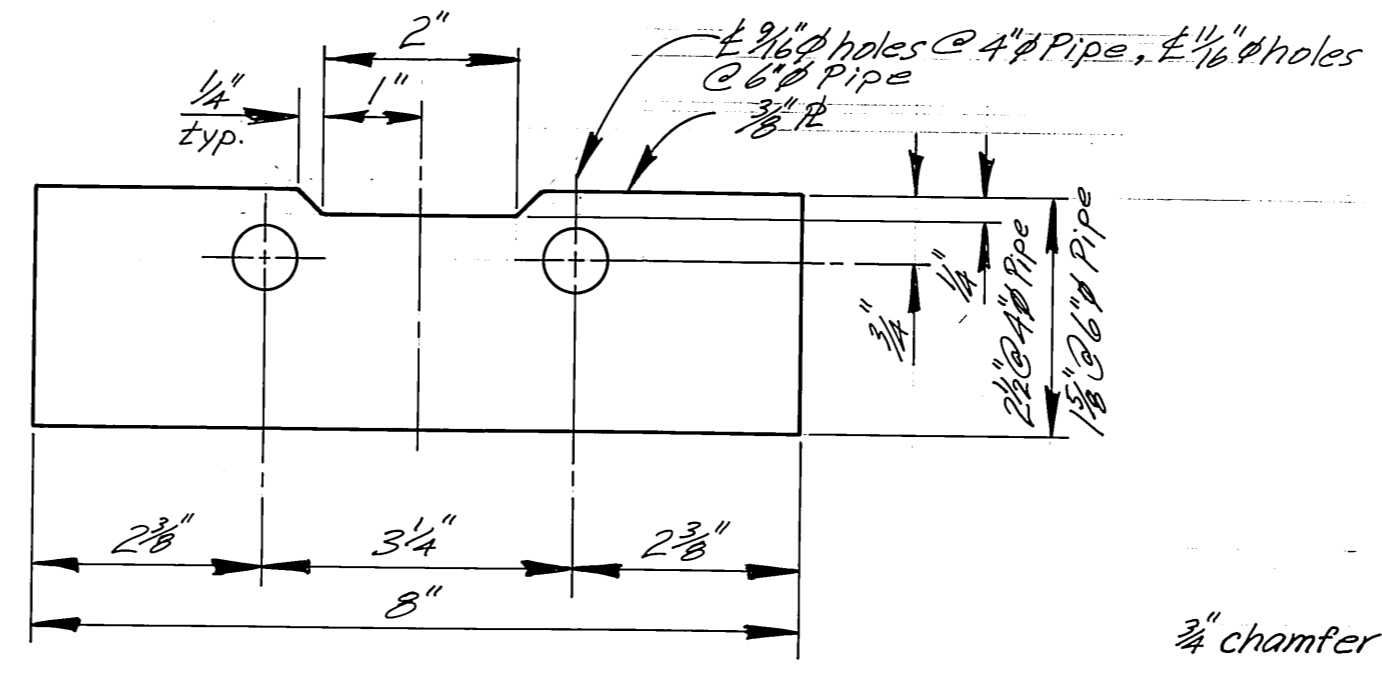
STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
		STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES HARBOR DESIGN AND CONSTRUCTION	
		Petersburg	Alaska
EXPANSION/CONTRACTION ASSEMBLIES			
SCALE <i>As Noted</i>	SURVEYED	APPROVED	
DESIGNED <i>JAL</i>	DRAWN <i>JAL/LVB</i>		
CHECKED <i>JS</i>	DATE <i>3/83</i>		
PROJECT NUMBER <i>K78190</i>	SHEET <i>37</i> OF <i>46</i>		



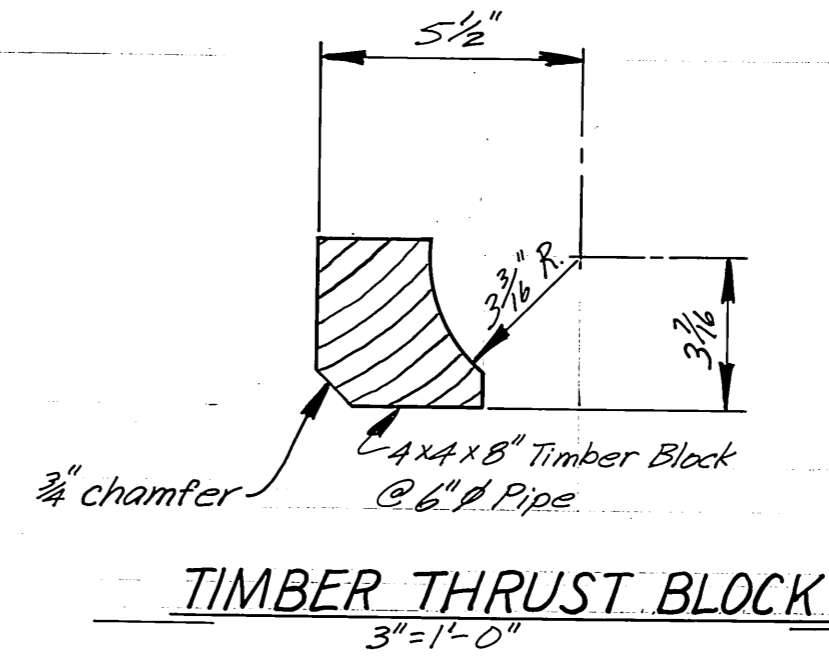
4" HANGER STRAP
Full Size



PIPE ANCHOR
3'-1'-0"

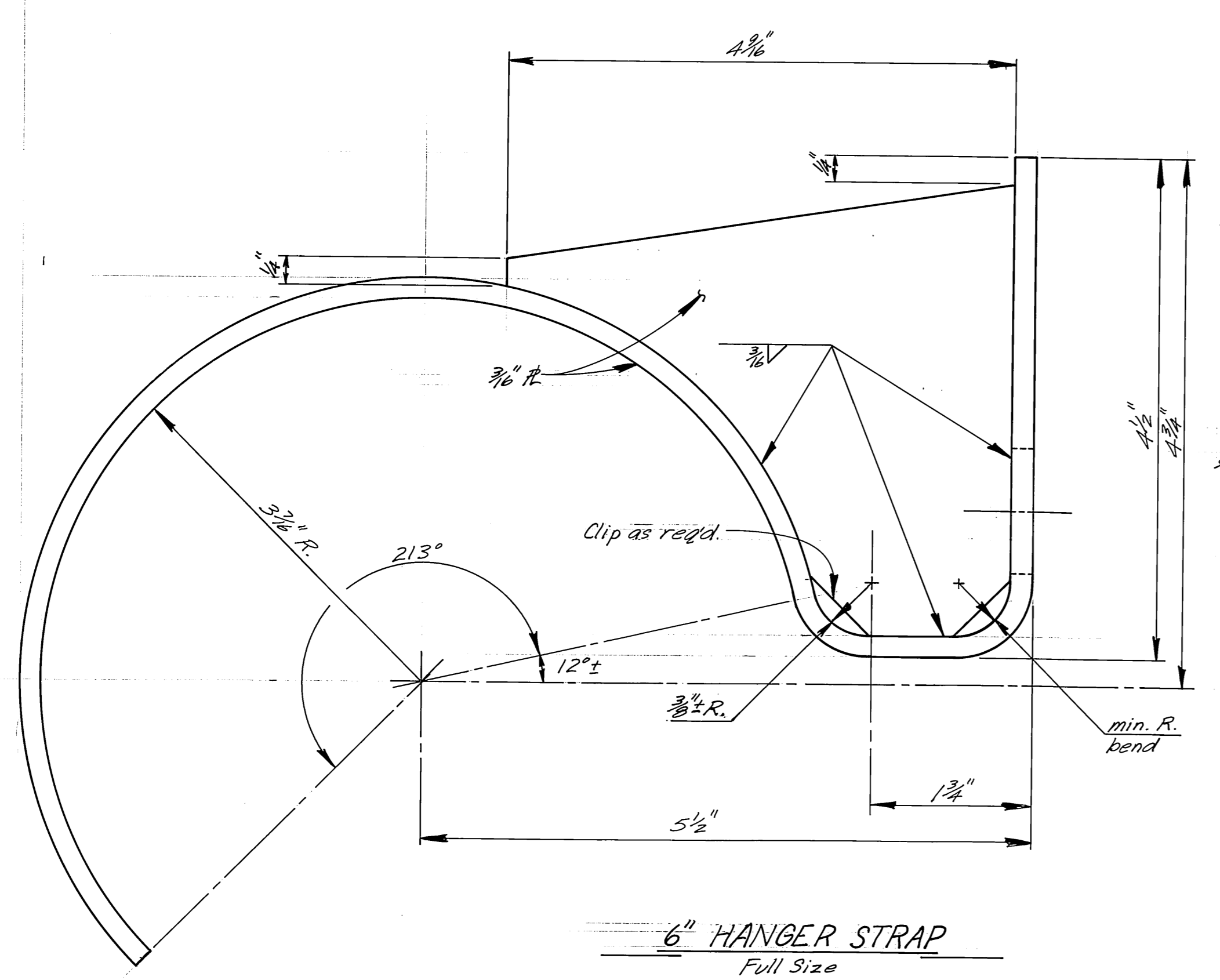


ANCHOR FL
1/2 Size

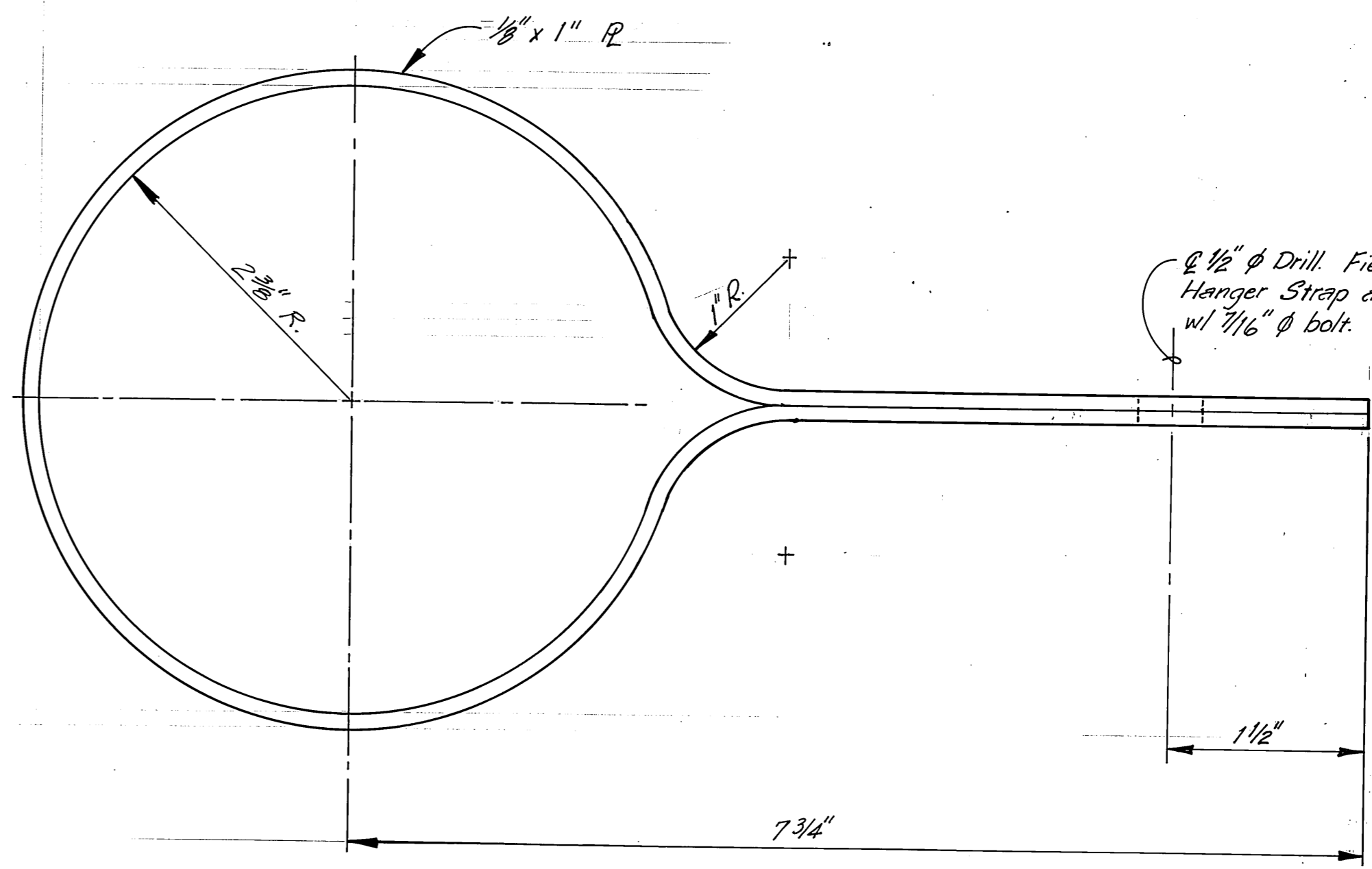
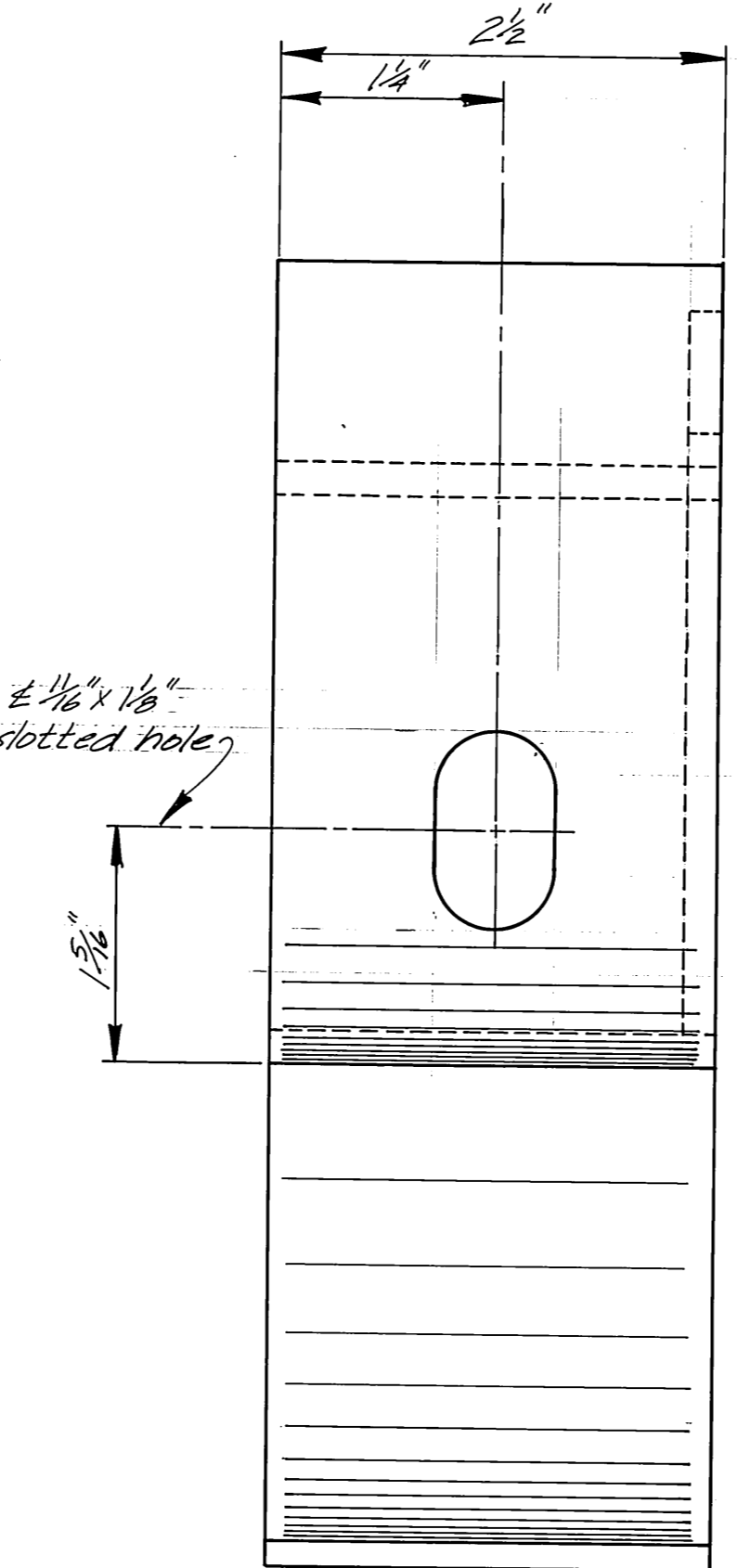


TIMBER THRUST BLOCK
3'-1'-0"

Note: Dimensions shown are approximate.
Supplier of coupling shall verify dimensions.




6" HANGER STRAP
Full Size

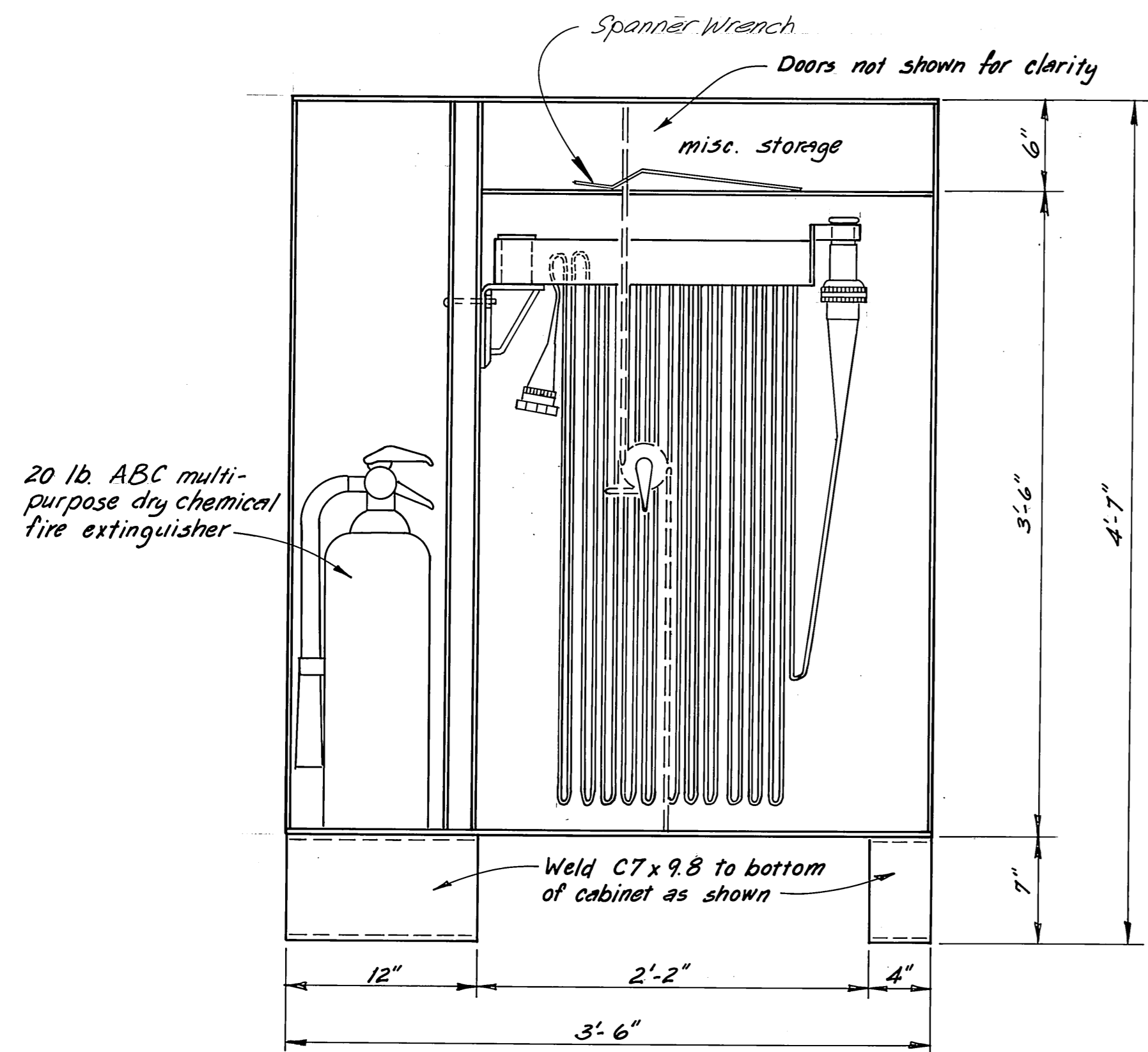
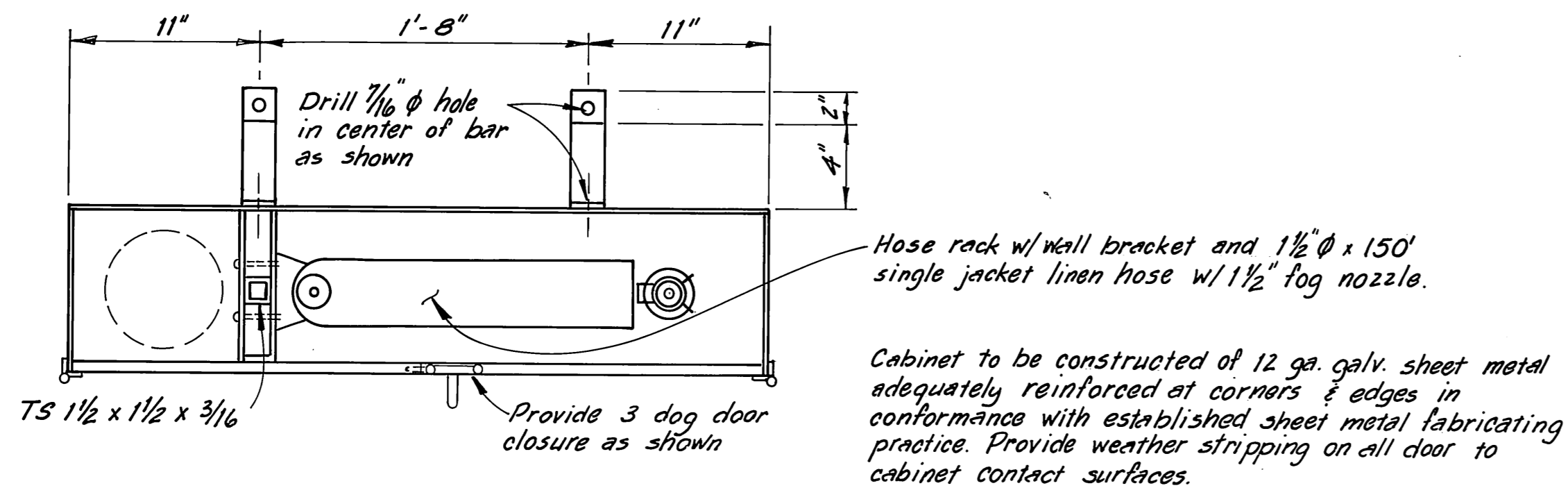


THRUST STRAP
Full Size

Note: Pipe in contact with steel straps shall be wrapped with 1/8" thick x 3" wide rubber sheathing. Extend beyond contact surface 1" in either direction.

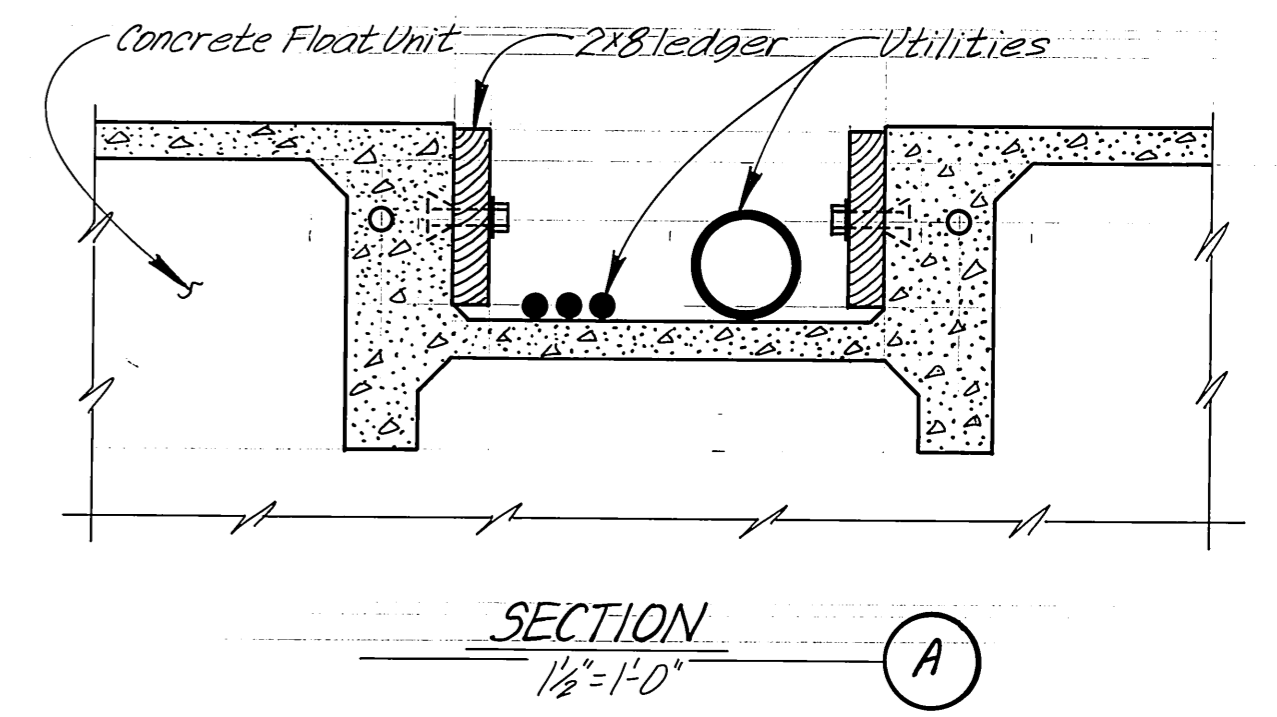
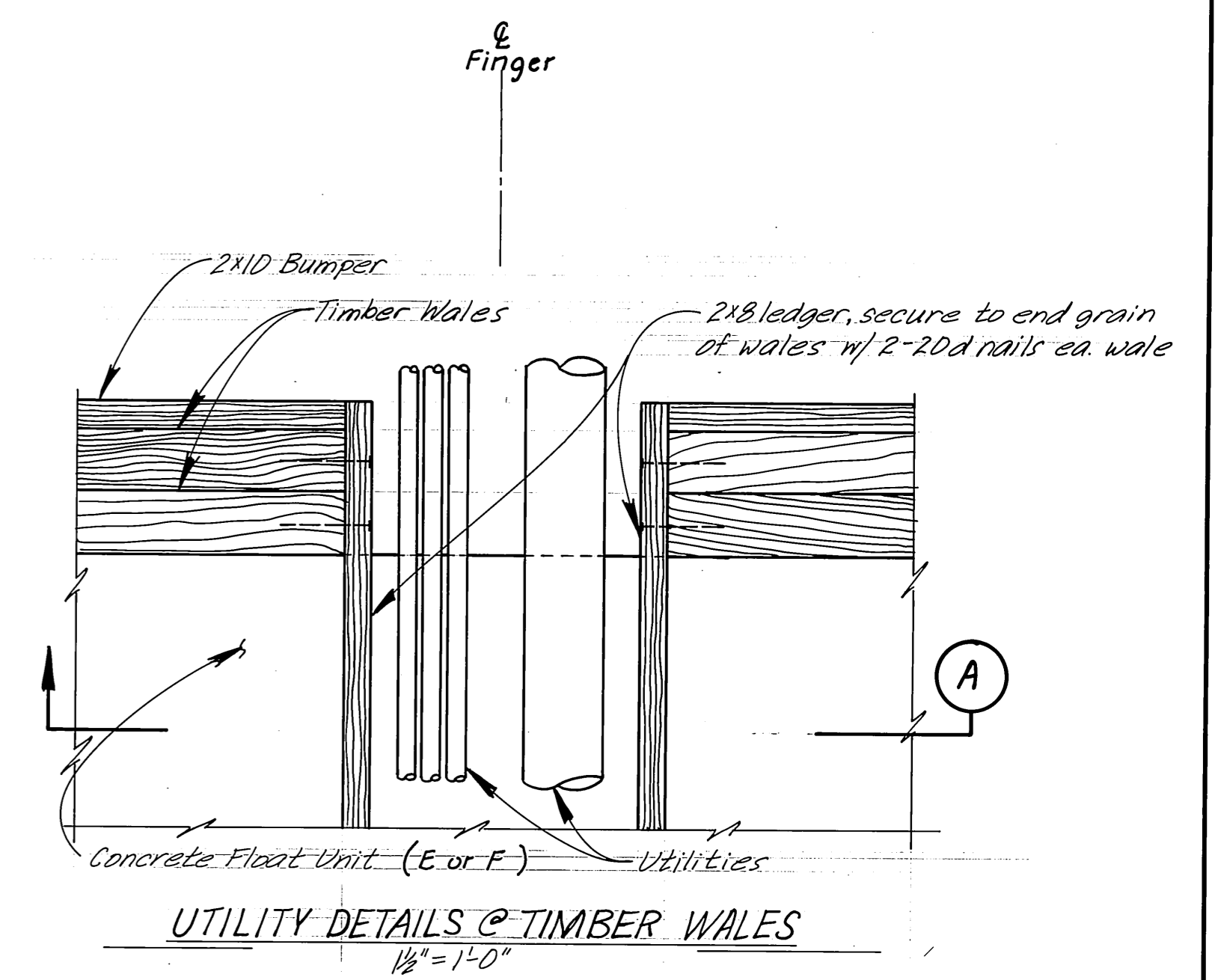
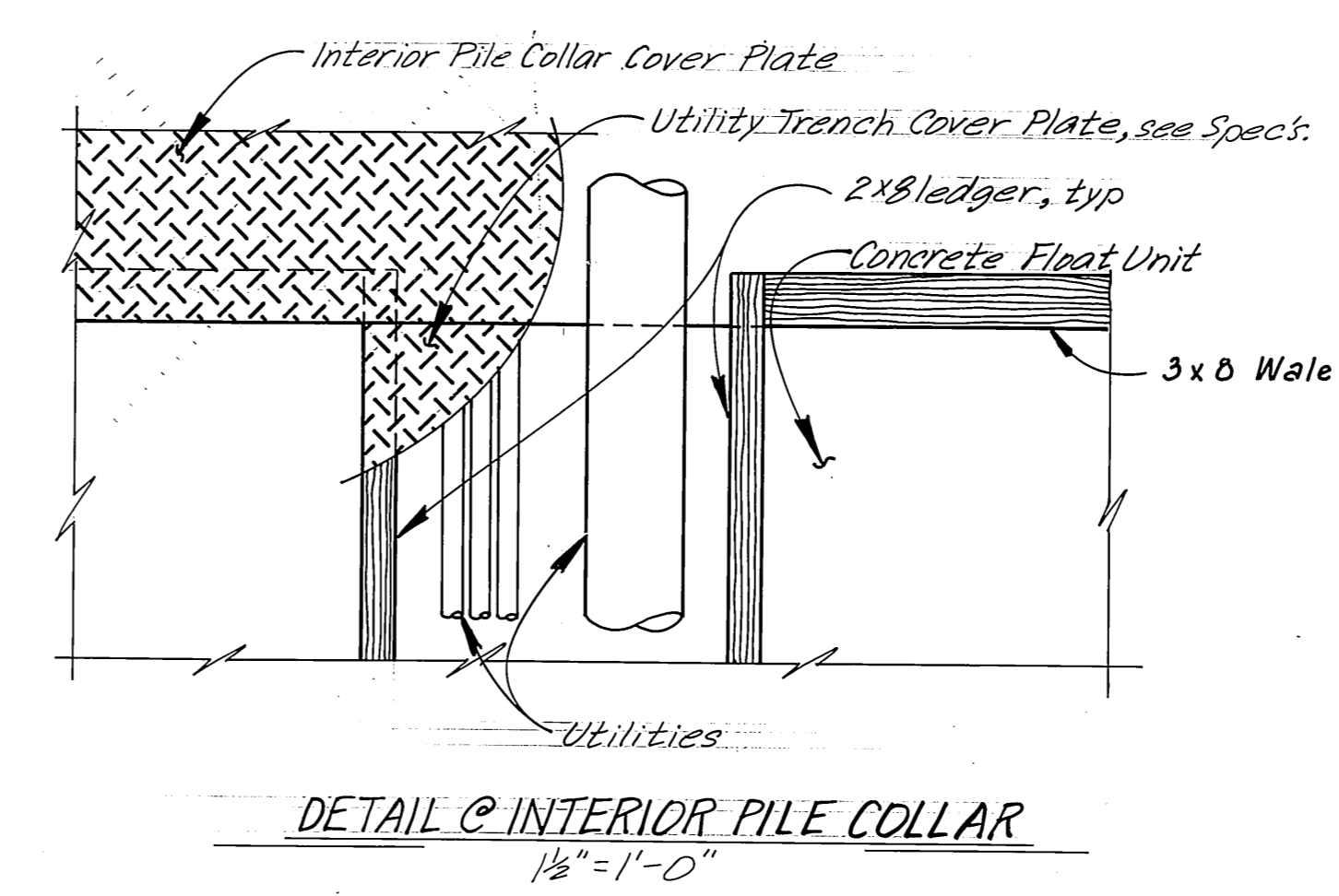
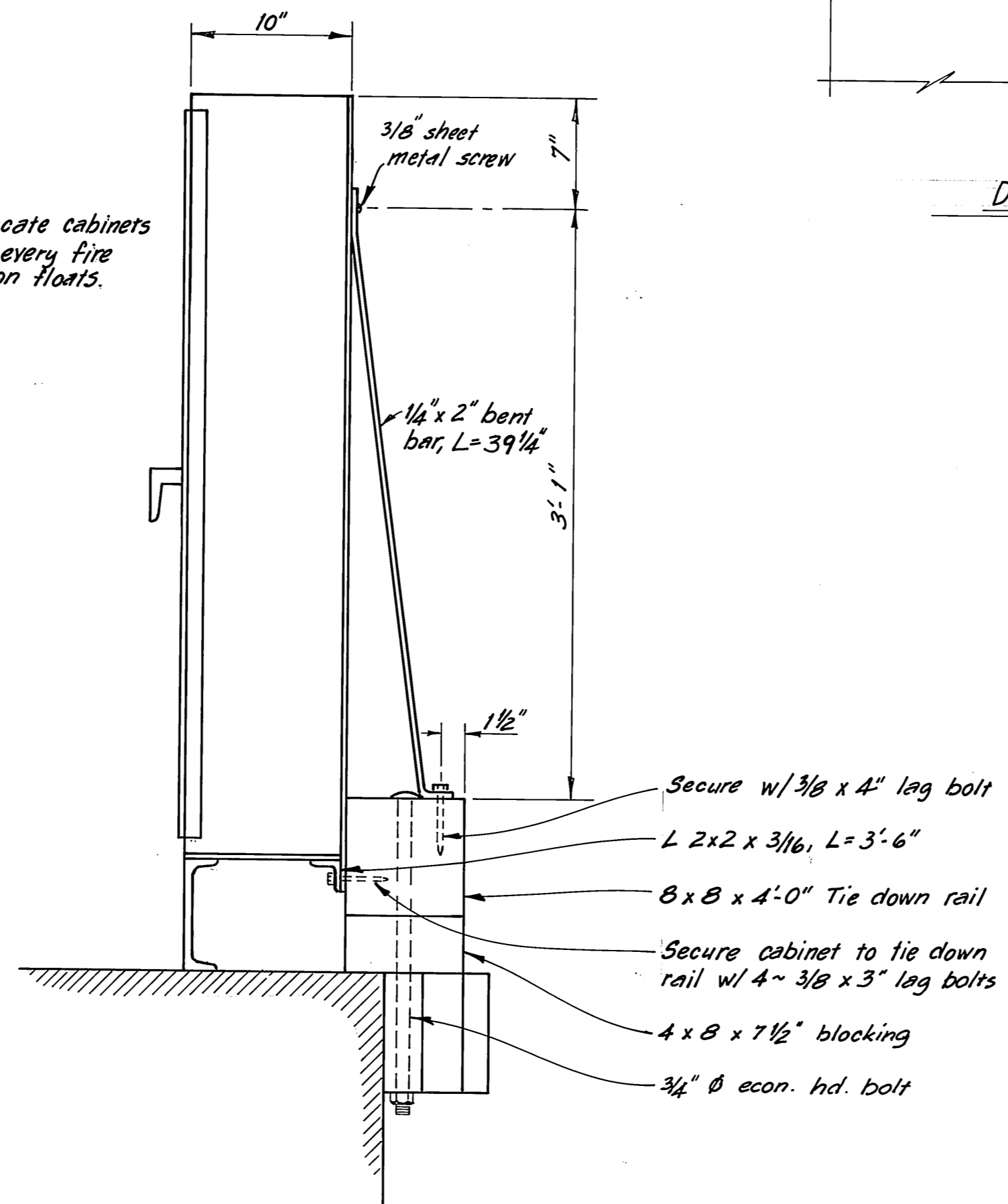
DCW 2-13-87

STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
		STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES HARBOR DESIGN AND CONSTRUCTION Petersburg Alaska	
DRY FIRE LINE MISC. DETAILS			
SCALE: <i>As Noted</i>	SURVEYED:	APPROVED:	
DESIGNED: <i>JAL</i>	DRAWN: <i>LJB</i>		
CHECKED: <i>JS</i>	DATE: <i>3/83</i>		
PROJECT NUMBER: <i>K78190</i>	SHEET <i>38</i> OF <i>46</i>		



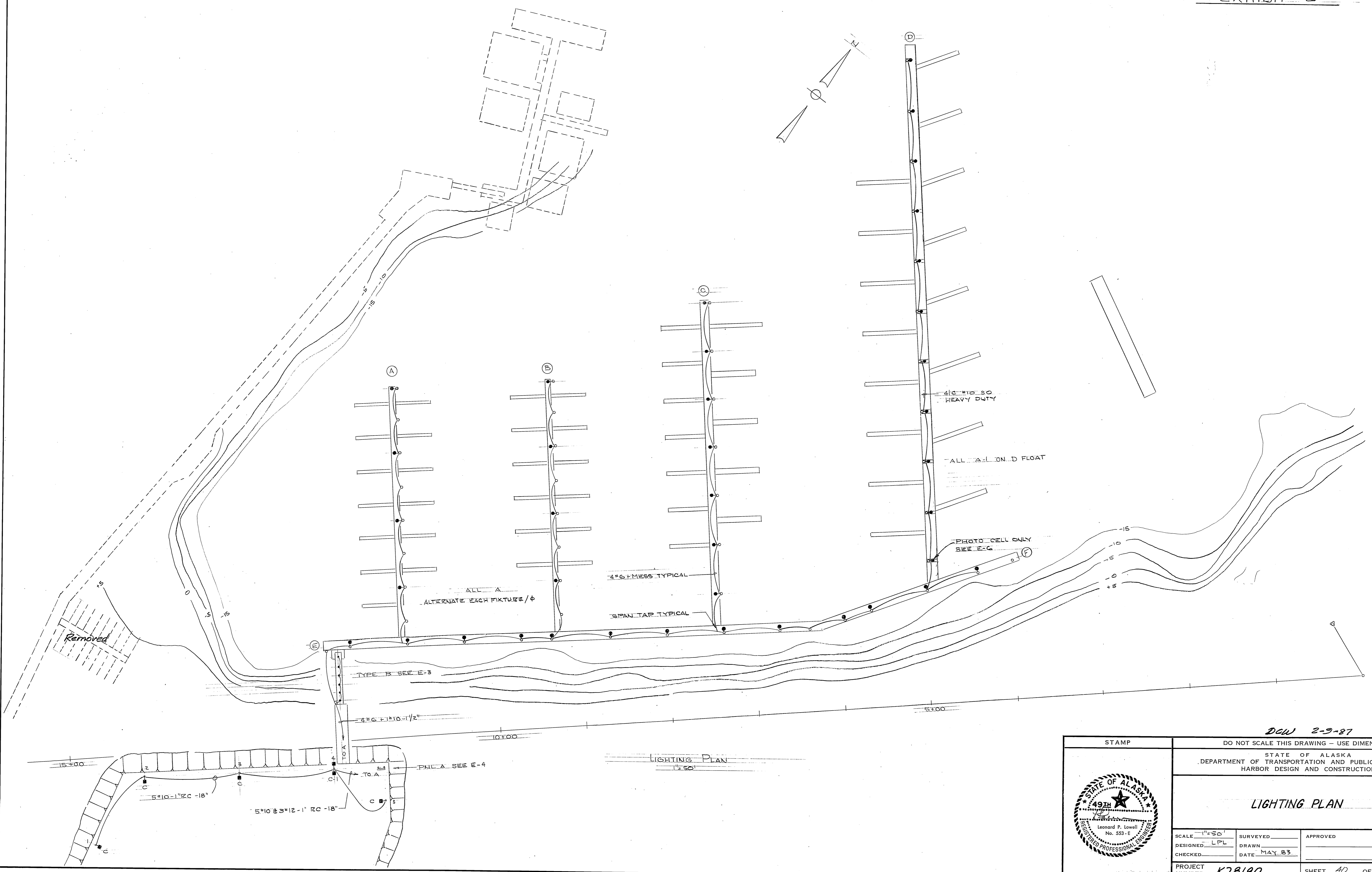
HOSE & EXTINGUISHER CABINET
1/2" = 1'-0"

Note: Locate cabinets opposite every fire hydrant on floats.



DCW 2-13-87

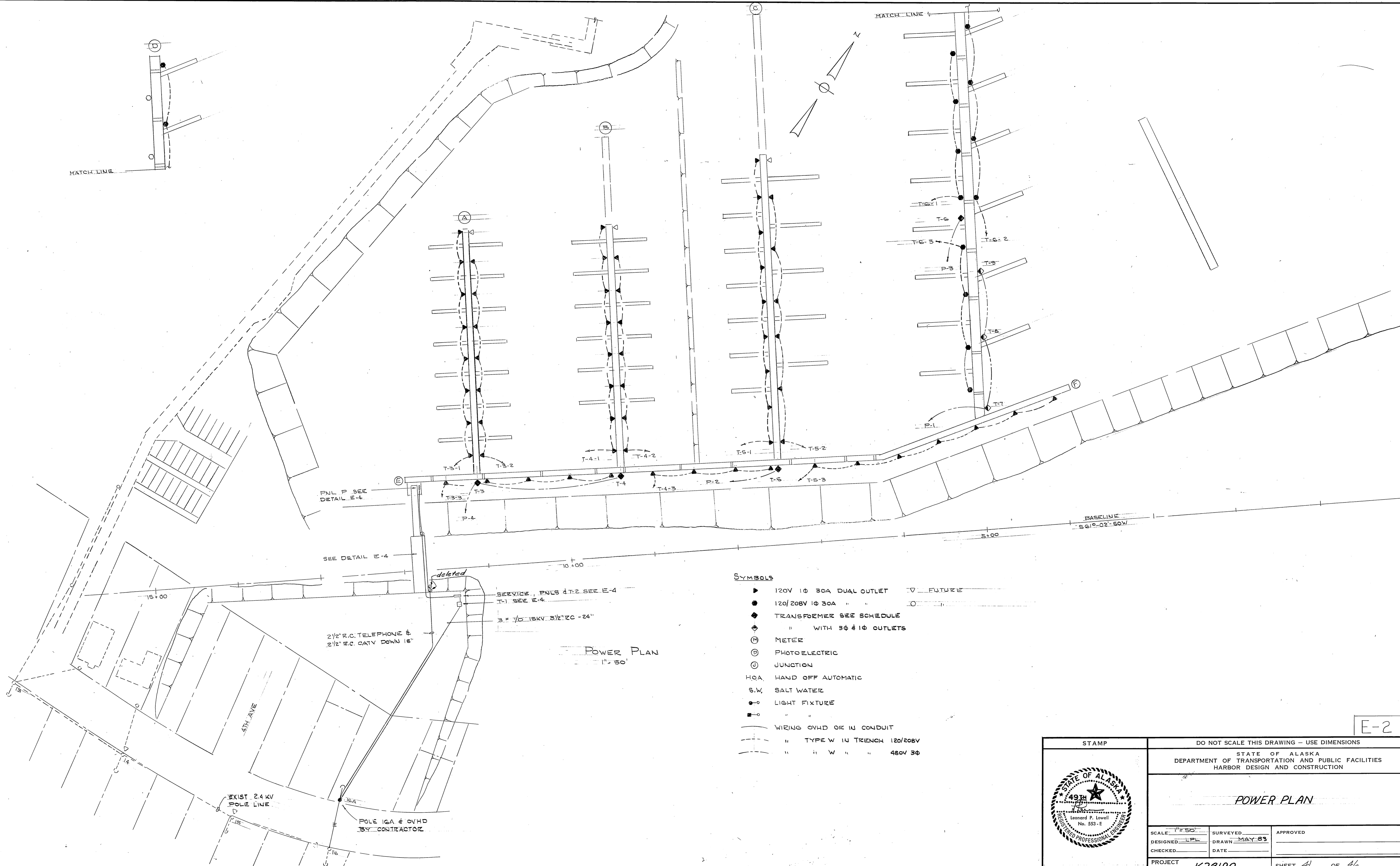
STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
		STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES HARBOR DESIGN AND CONSTRUCTION	
		Petersburg Alaska	
UTILITY DETAILS			
FIRE EXTINGUISHER CABINET			
SCALE <i>As Noted</i>	SURVEYED	APPROVED	
DESIGNED JAL/RAM	DRAWN DB		
CHECKED RAM	DATE 4-83		
PROJECT NUMBER K78190	SHEET 39 OF 46		



LIGHTING PLAN
1"=50'

DGW 2-9-87

STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
		STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES HARBOR DESIGN AND CONSTRUCTION	
		LIGHTING PLAN	
SCALE 1"=50'	SURVEYED _____	APPROVED _____	
DESIGNED LPL	DRAWN _____		
CHECKED _____	DATE MAY 83		
PROJECT NUMBER K78190	SHEET AD OF 46		

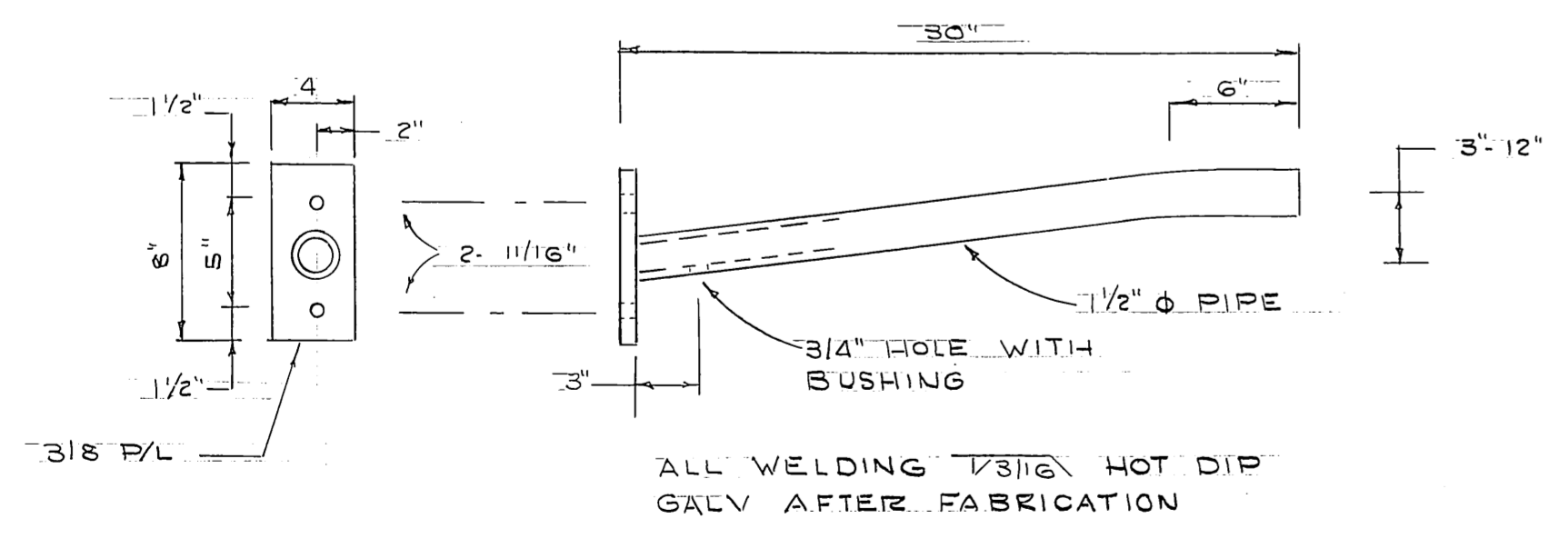
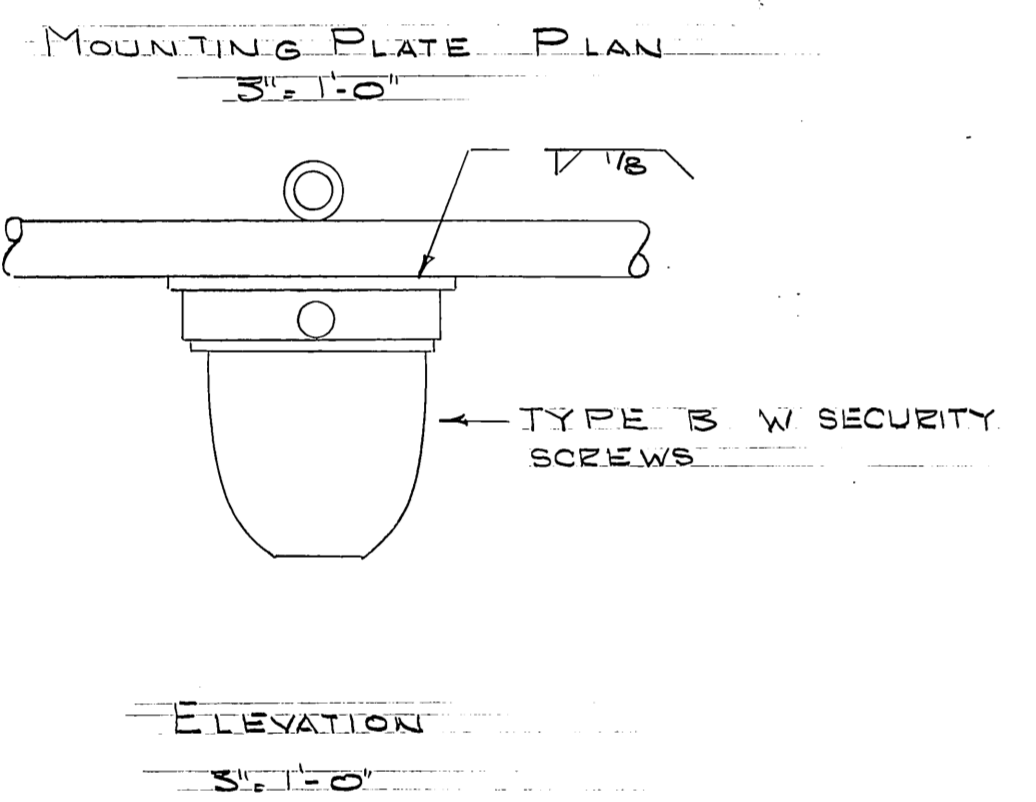
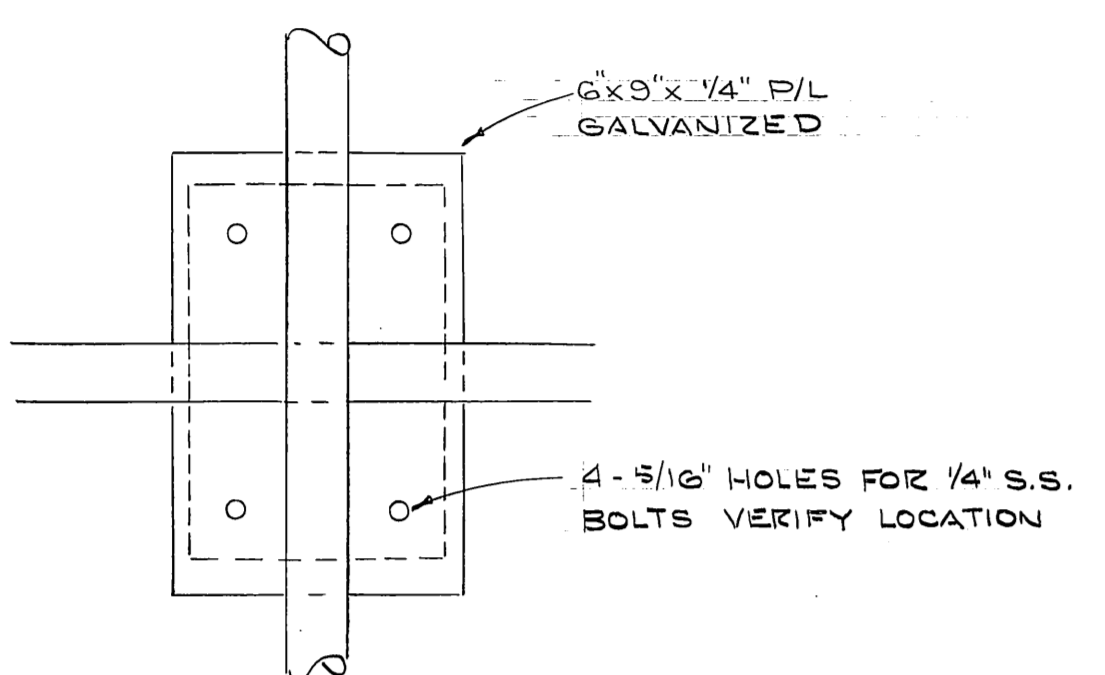
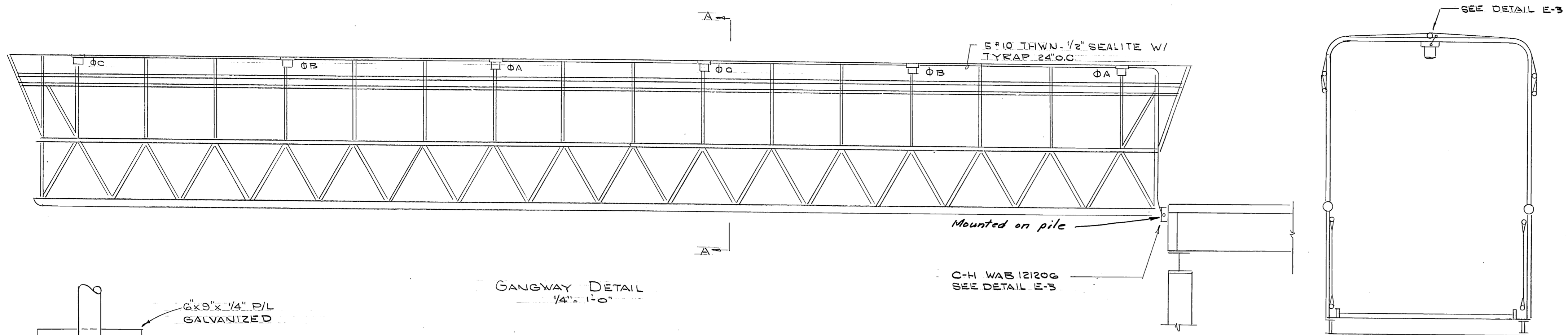


- SYMBOLS**
- ▶ 120V 1Ø 30A DUAL OUTLET
 - 120/208V 1Ø 30A " "
 - ◆ TRANSFORMER SEE SCHEDULE
 - ◆ " WITH 3Ø #1Ø OUTLETS
 - ⊕ METER
 - ⊙ PHOTOELECTRIC
 - ⊙ JUNCTION
 - HQA. HAND OFF AUTOMATIC
 - S.W. SALT WATER
 - LIGHT FIXTURE
 - WIRING OVHD OR IN CONDUIT
 - - - - - " TYPE W IN TRENCH 120/208V
 - - - - - " " W " " 480V 3Ø
 - ▽ FUTURE

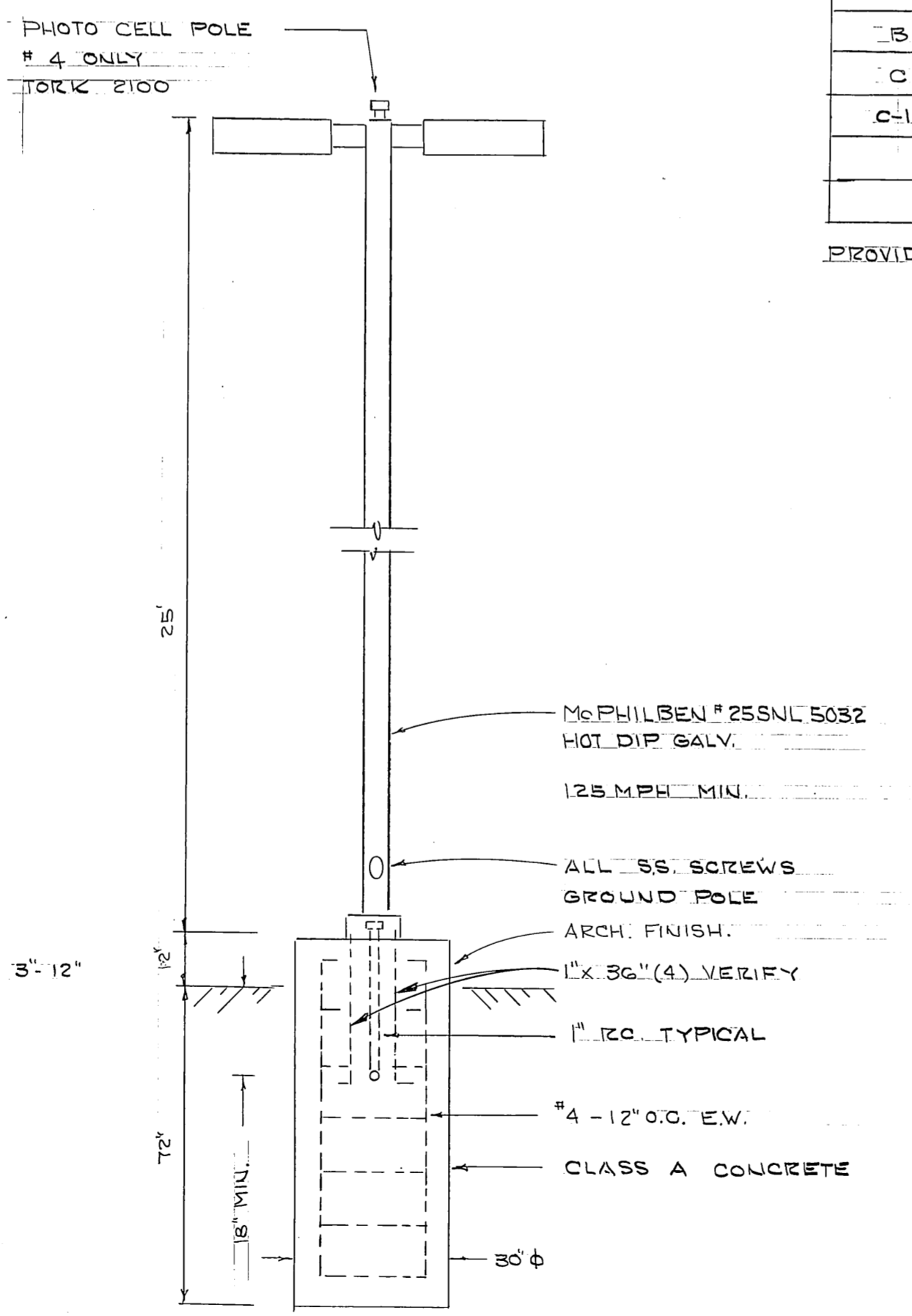
POWER PLAN
SCALE: 1" = 50'

STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES HARBOR DESIGN AND CONSTRUCTION			
POWER PLAN			
SCALE: 1" = 50'	SURVEYED: _____	APPROVED: _____	
DESIGNED: LPL	DRAWN: MAY 83	_____	
CHECKED: _____	DATE: _____	_____	
PROJECT NUMBER: K78190	SHEET 41 OF 46		

E-2



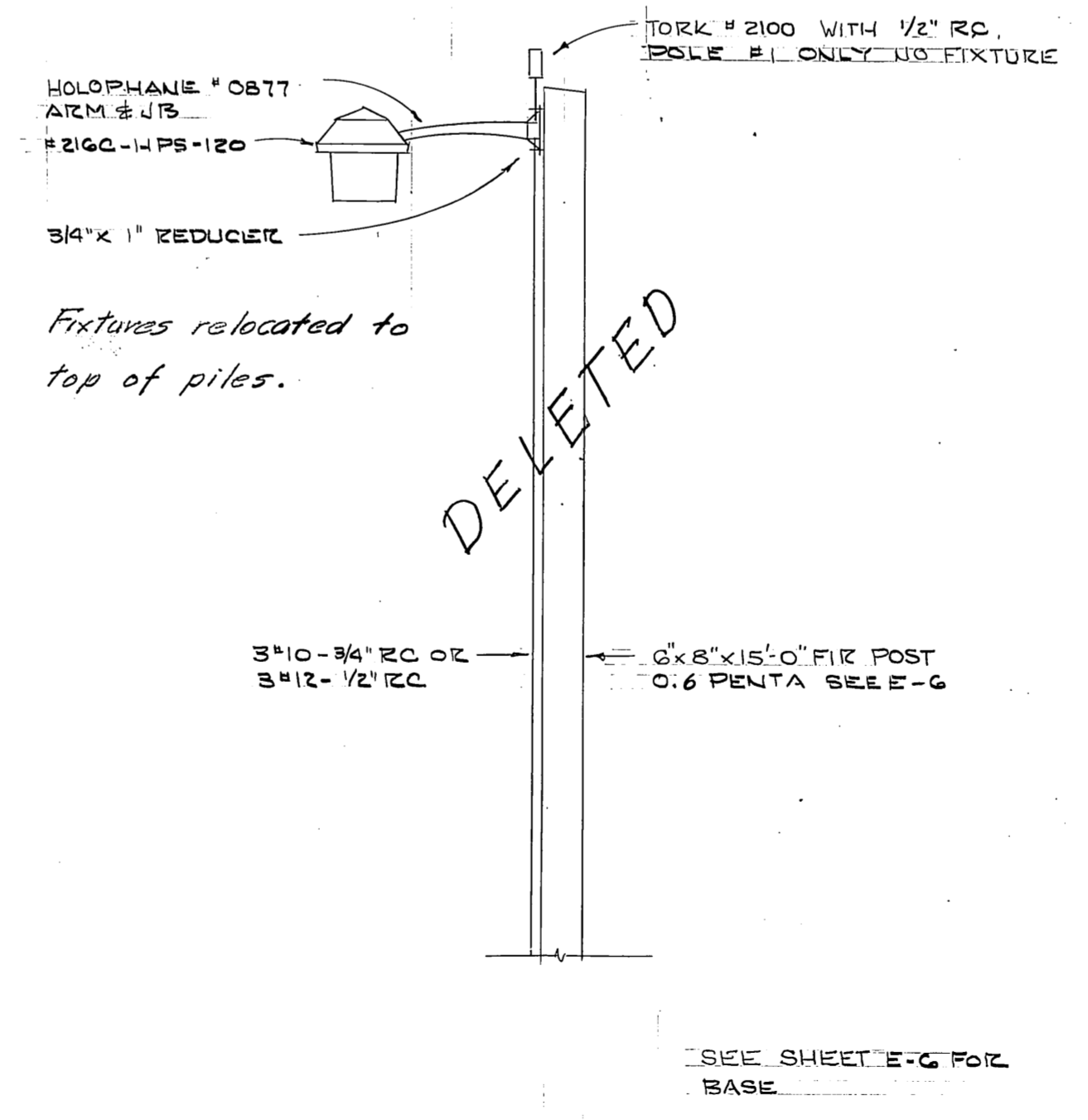
FIXTURE "A" SUPPORT
1/2" x 1'-0"



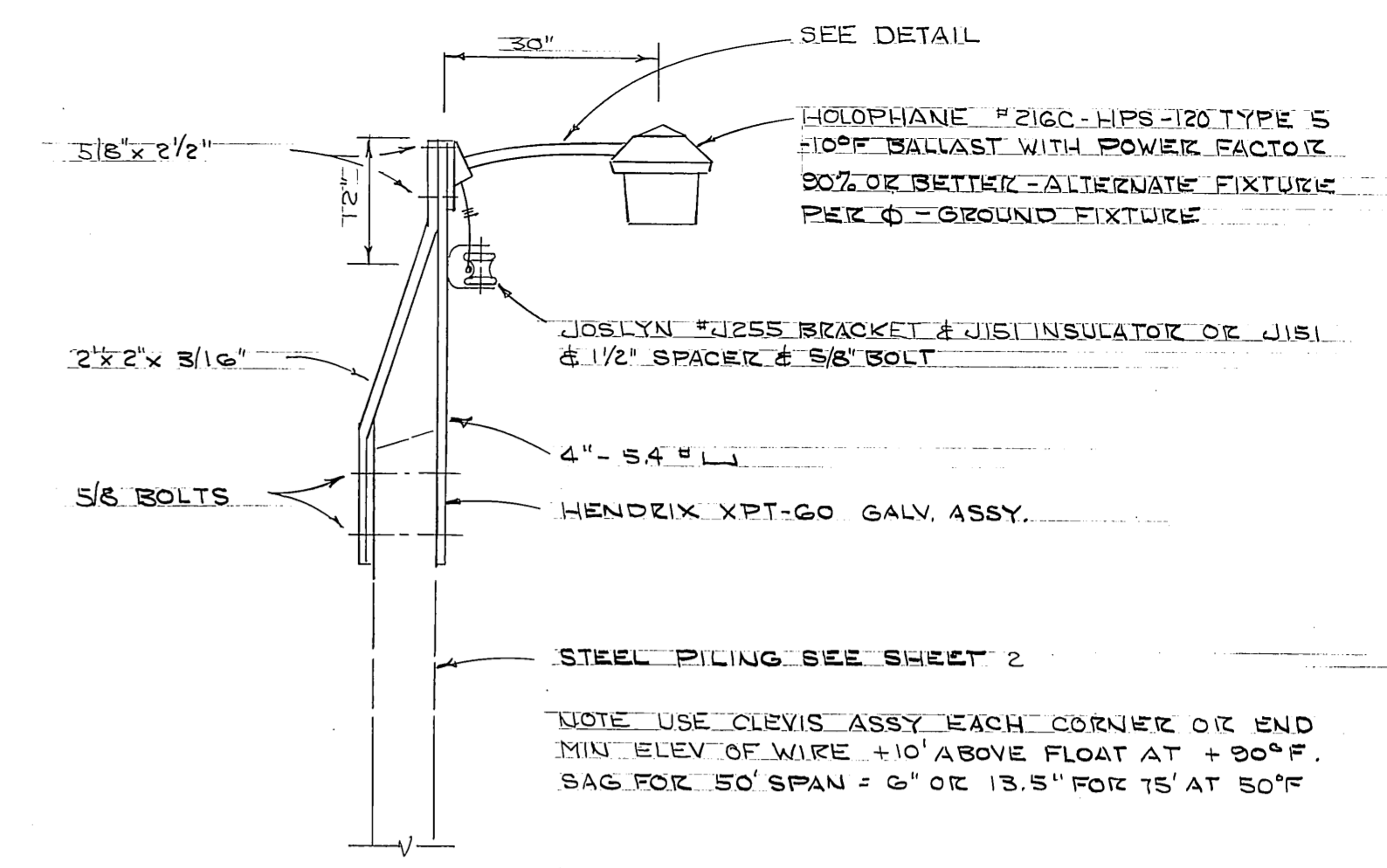
FIXTURE TYPE "C" #C-1
3/8" x 1'-0"

FIXTURE SCHEDULE				
TYPE	MFG	W	REMARKS	
A	HOLOPHANE 216C HPS-120	100 HPS	ON PILING SEE DETAIL	
A-1	" 216C HPS-120-0811	100 HPS	ON POST " "	
B	KENALL 3737-DD-3037	100	SEE DETAIL	
C	McPHILBEN 17B64-1D-120	250 HPS	" " & POLE 255NL5032	
C-1	" 17B64-2D-120	2-250HPS	" " " "	

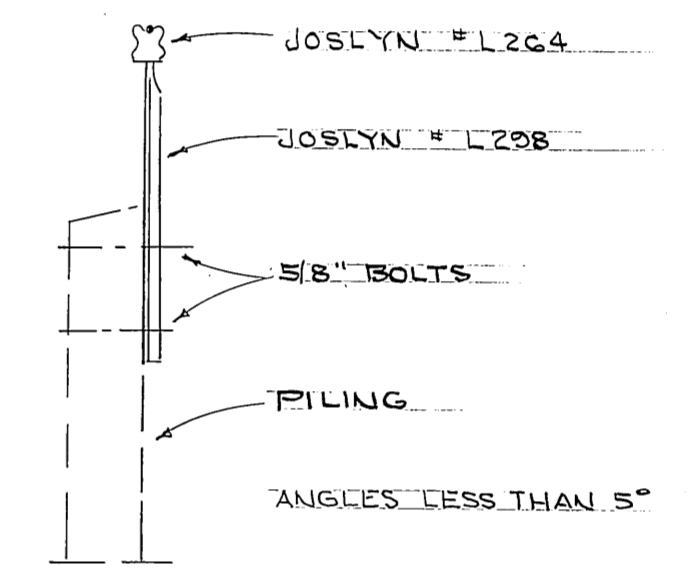
PROVIDE TWO(2) EXTRA TYPE "A" FOR SPARES



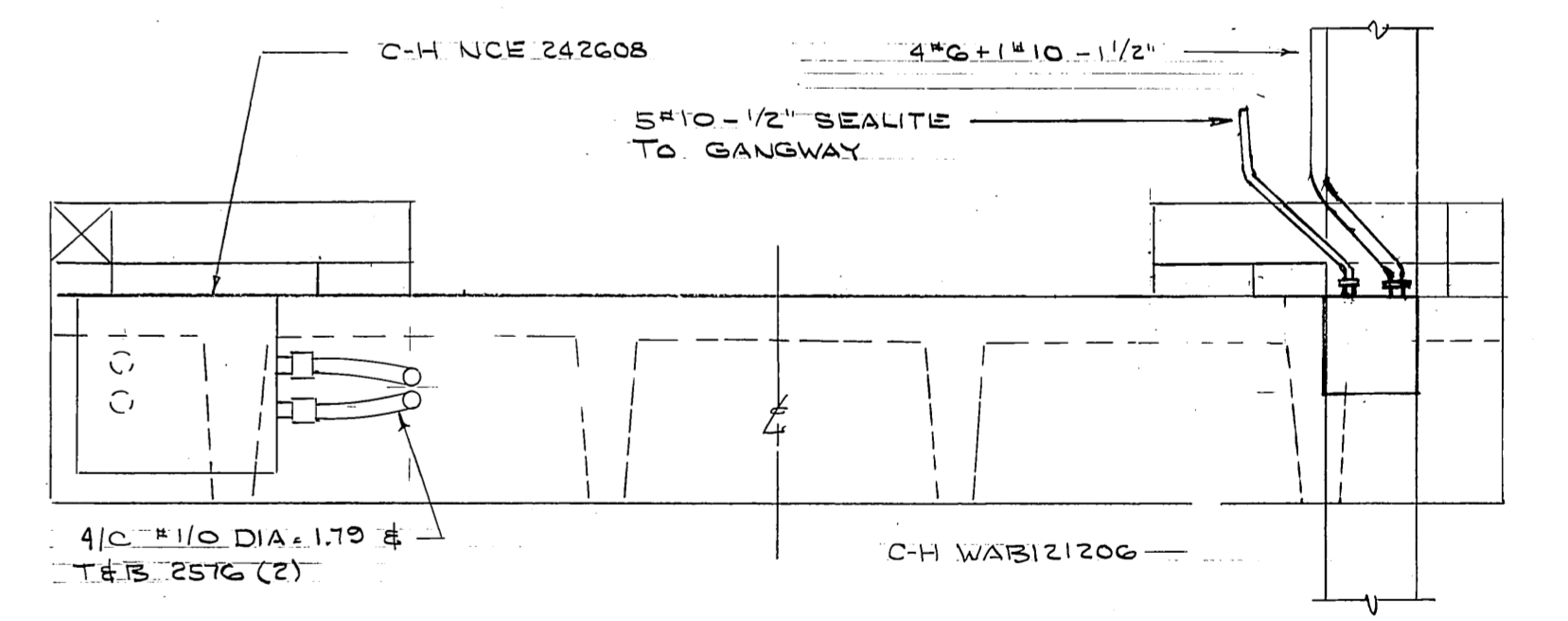
FIXTURE TYPE A-1
1/2" x 1'-0"



FIXTURE TYPE "A"
1/2" x 1'-0"



INTERMEDIATE SUPPORT
1/2" x 1'-0"



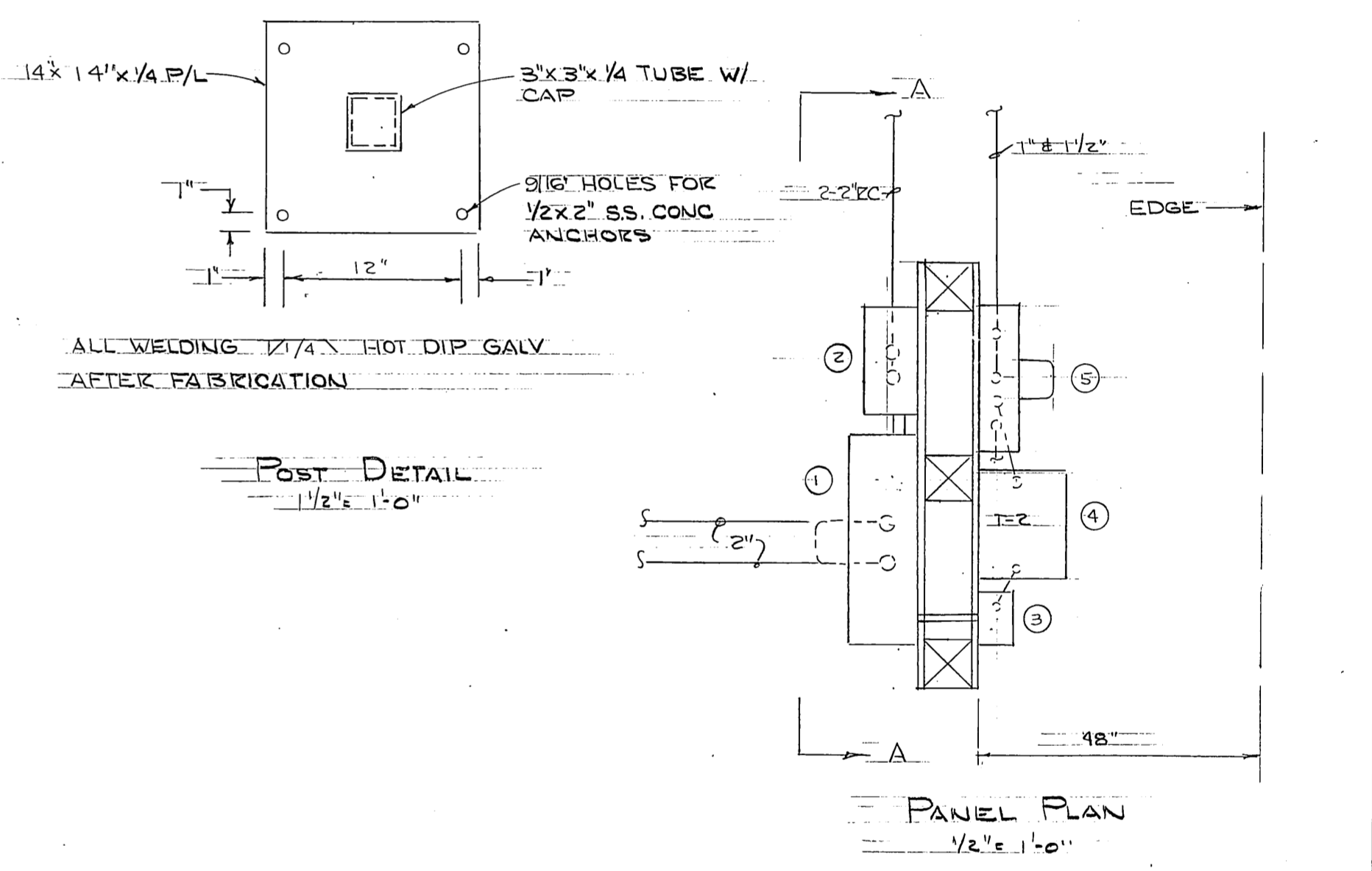
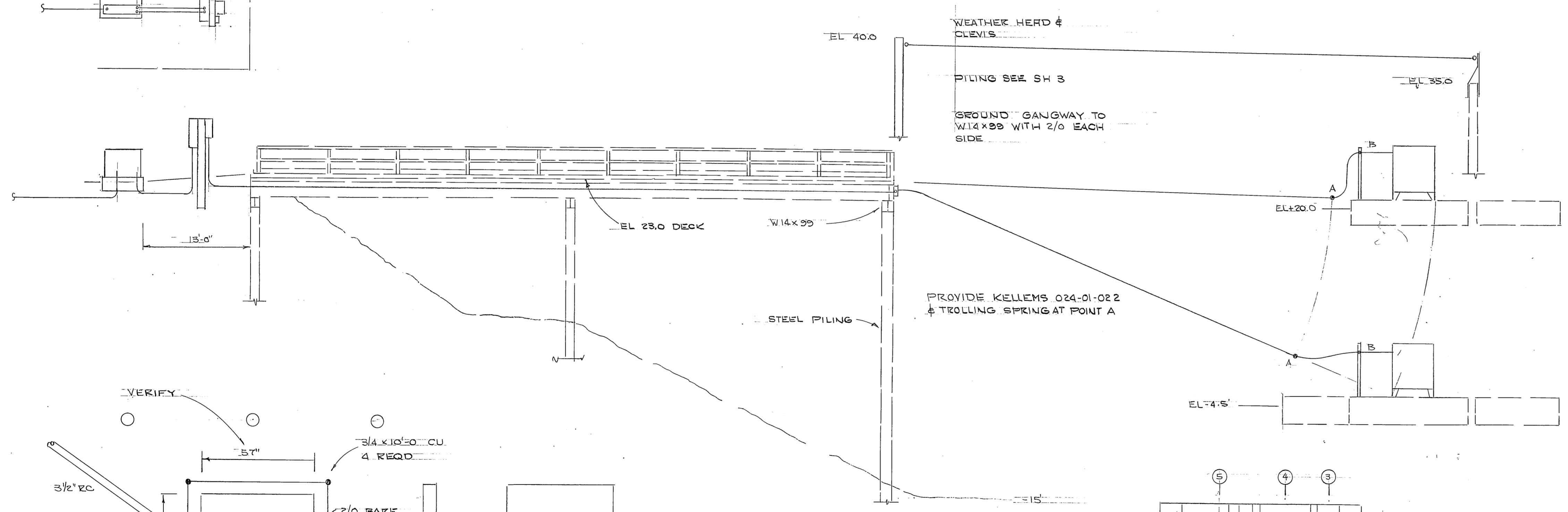
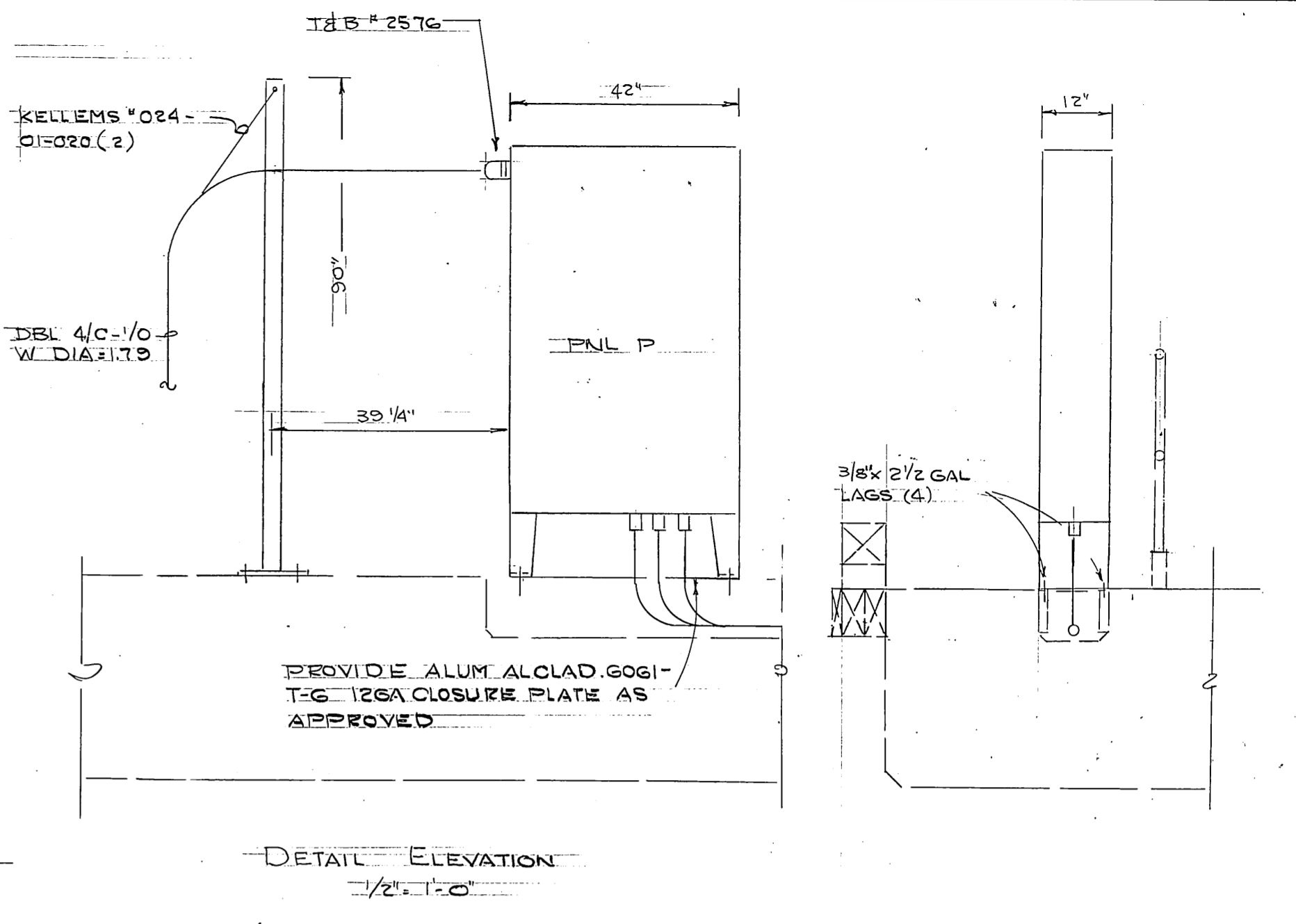
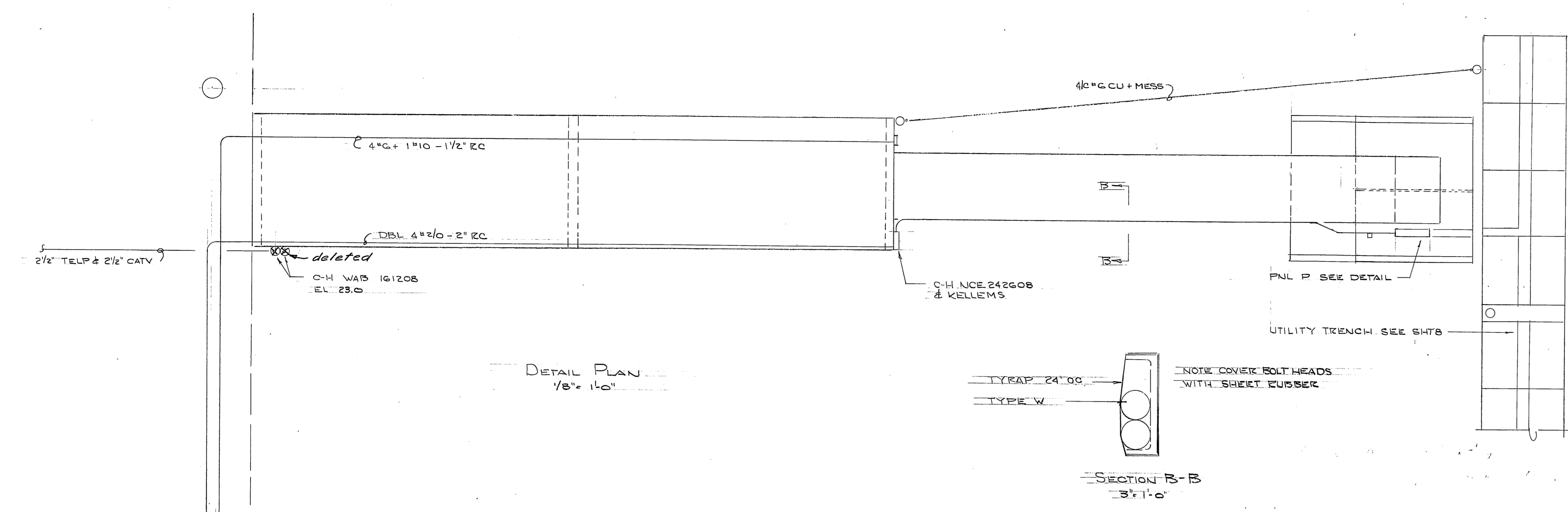
DOCK ELEVATION
1/2" x 1'-0"

DCW 2-9-87

E-3

STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
		STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES DIVISION OF HARBOR DESIGN AND CONSTRUCTION	
		ELECTRICAL DETAILS	
SCALE NOTED	SURVEYED	APPROVED	
DESIGNED LPL	DRAWN	DIRECTOR	
CHECKED	DATE MAY 83		
PROJECT NUMBER	K78190	SHEET 42 OF 46	

PETERSBURG



EQUIPMENT SCHEDULE			
NO.	ITEM	QTY	REMARKS
1	CIT CIRCLE AW U122013 #	1	W/S 400/S CT-METER BY UTILITY
2	350/3 SQD LA 400 12 JR	1	
3	30/3 SQD FA 100 RB	1	
4	15KYA 480A TO 120/208V 3Ø T-2	1	TIERNY ACBIS-STISH COT
5	PNL A SEE SPECS	1	W/OE 6SS T/JAW METER

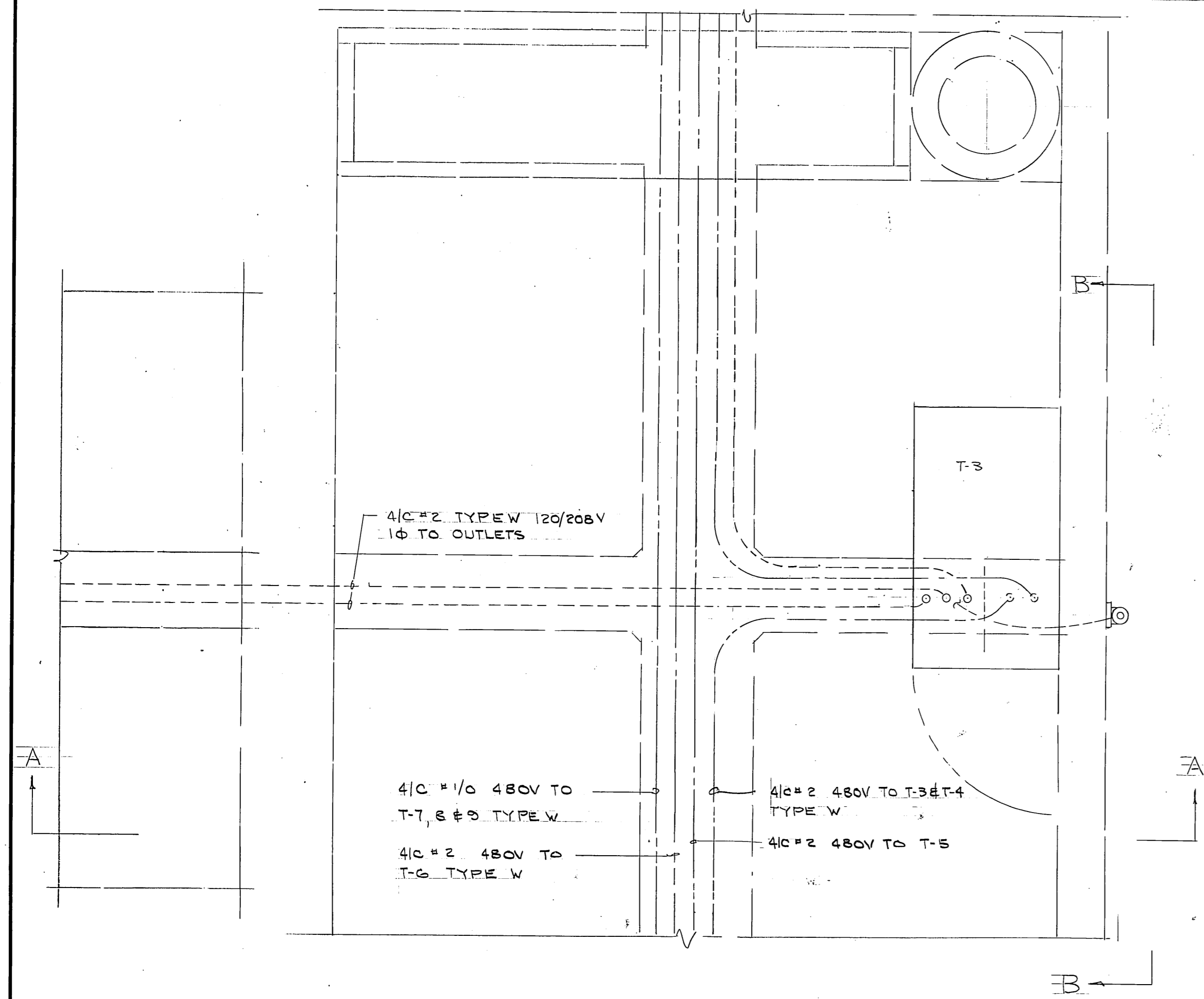
SOCKET WITH TEST & CIRCUIT CLOSING DEVICES

DCW 2-9-87

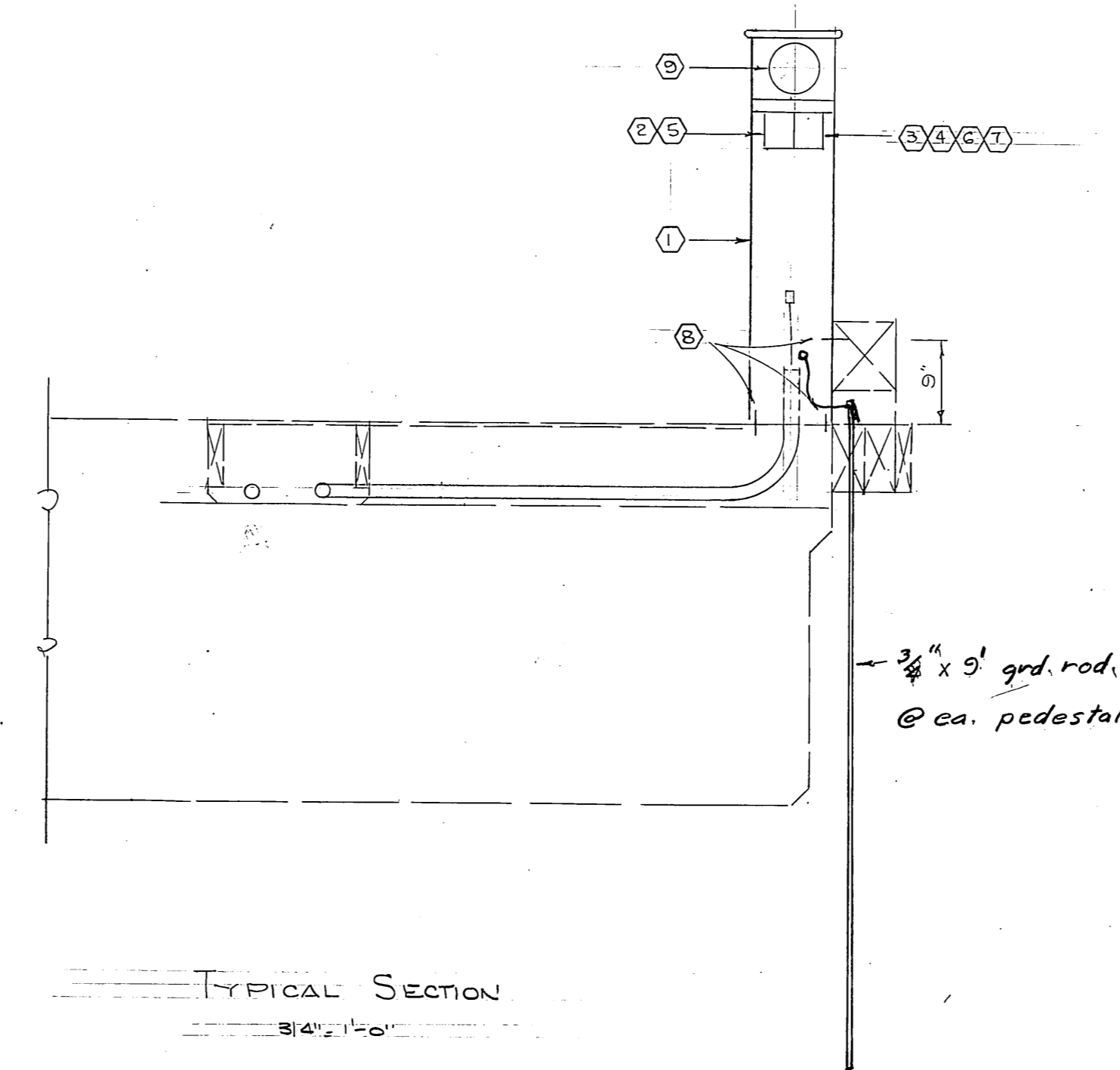
E-4

STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
		STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES HARBOR DESIGN AND CONSTRUCTION	
		ELECTRICAL DETAILS	
SCALE: NOTED	DESIGNED: LPL	SURVEYED: _____	APPROVED: _____
CHECKED: _____	DRAWN: _____	DATE: MAY 83	
PROJECT NUMBER: K78190		SHEET 43 OF 46	

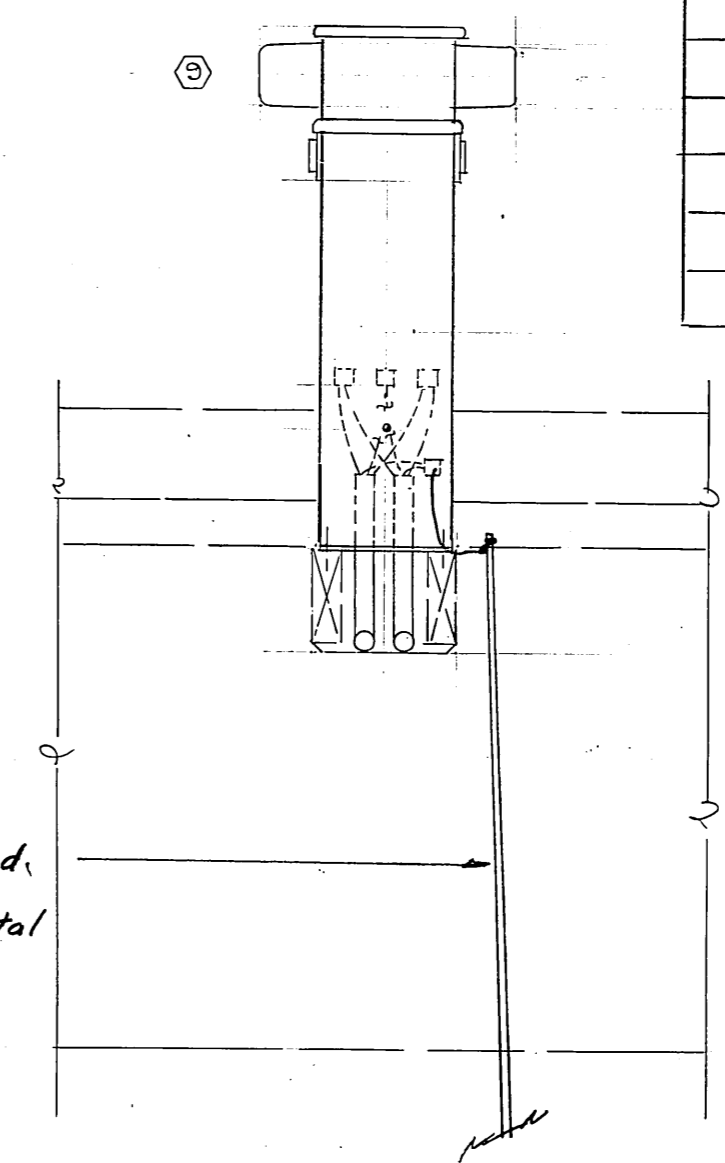
PETERSBURG.



DETAIL PLAN
3/4" = 1'-0"



TYPICAL SECTION
3/4" = 1'-0"

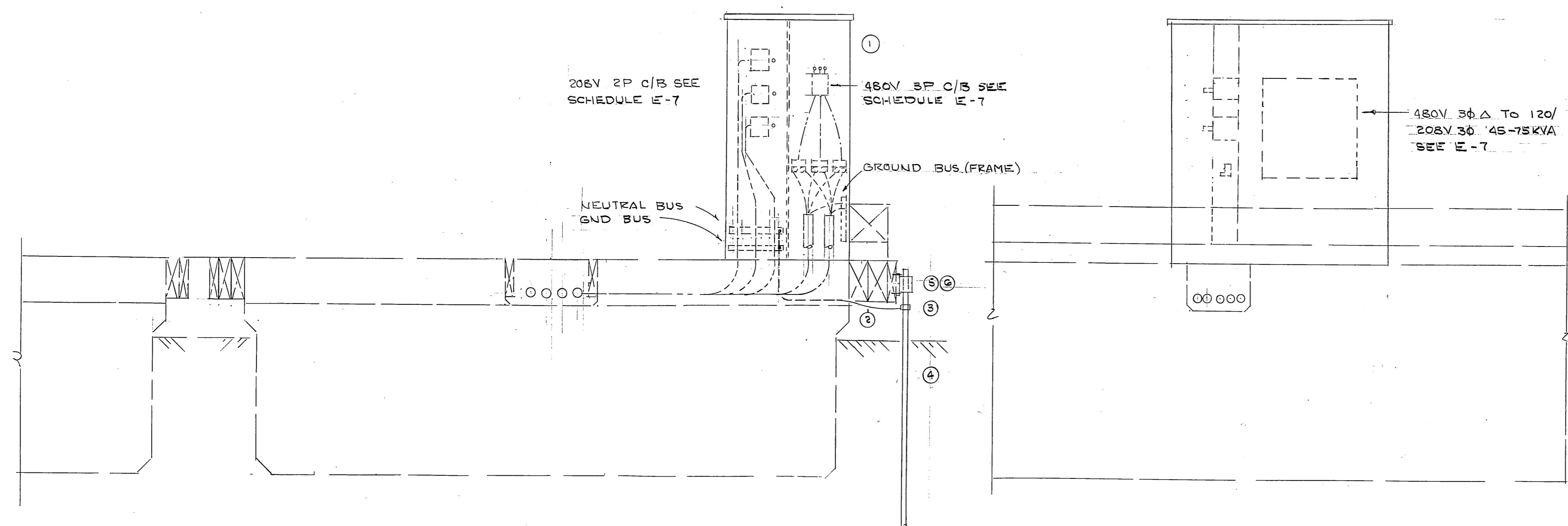


TYPICAL ELEVATION
3/4" = 1'-0"

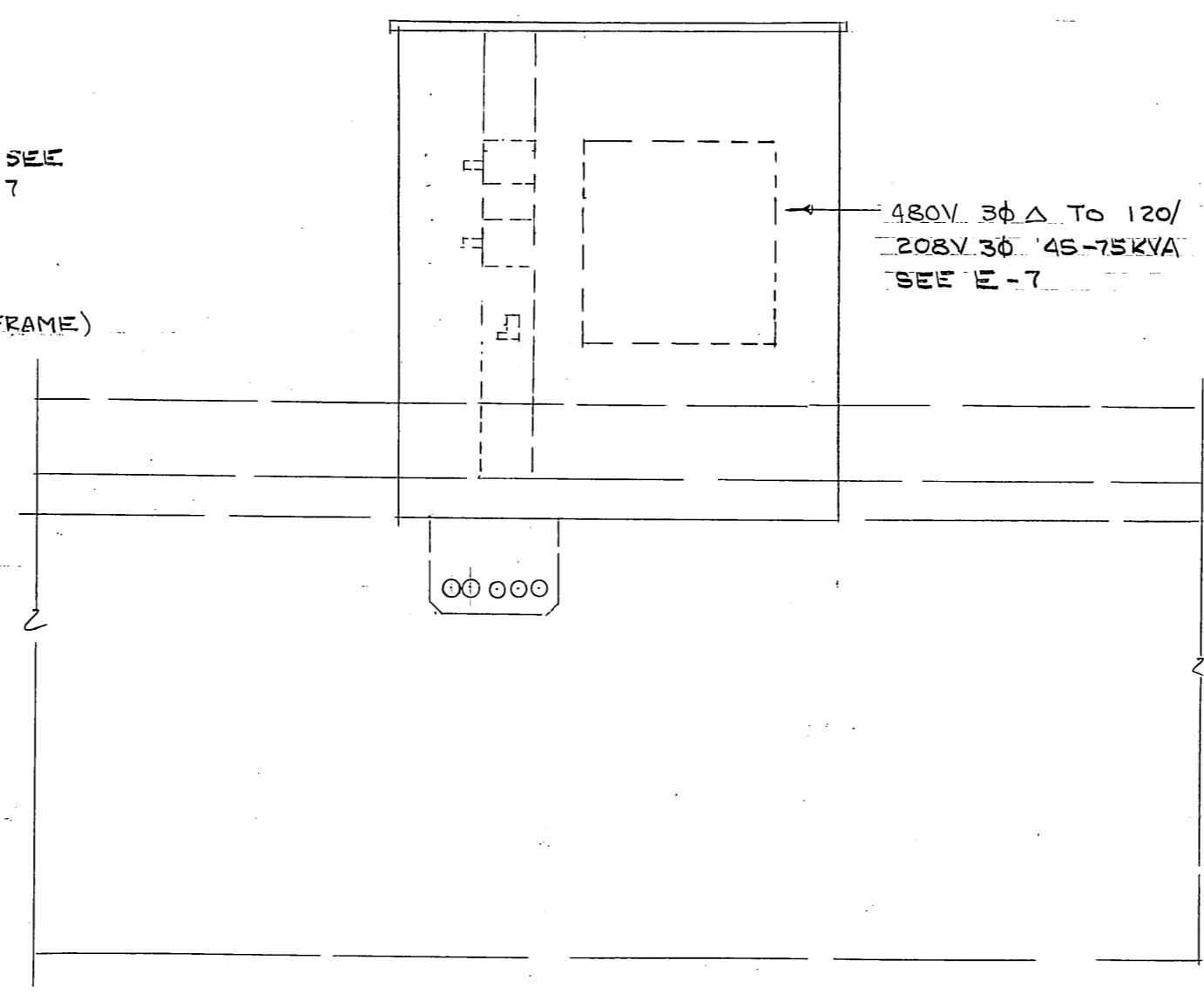
EQUIPMENT SCHEDULE				
NO.	ITEM	QTY	REMARKS	
1	POST DANIEL WOODHEAD TYPE B	1		
2	CIRCUIT BREAKER HEINEMANN 20/1	2	LOCKING COVER	
3	RECEPTACLE L15-30K	2		
4	PLUG L15-30P	2		
5	CIRCUIT BREAKER HEINEMANN 20/2	2	LOCKING COVER	
6	RECEPTACLE L14-30K	2		
7	PLUG L14-30P	2		
8	LAG SCREWS 3/8" x 2" 18-8 SS.	5		
9	METER GE V625 5J CYCO	2		

- NOTES
1. ALL NUTS, BOLTS, SCREWS, ETC TO BE STAINLESS STEEL
 2. POST TO BE FIBERGLASS FINISH COLOR MARINE BLUE
 3. LUGS INCL GROUND FOR 1/0 CU TYPE W CABLE
 4. ALL INTERNAL WIRING #10AWG STRANDED COPPER MINIMUM
 5. PROVIDE UL LABEL
 6. PROVIDE TWO (2) EXTRA TYPE V FOR SPARES

TYPE V FOR ALL FLOATS EXCEPT D



SECTION A-A
3/4" = 1'-0"



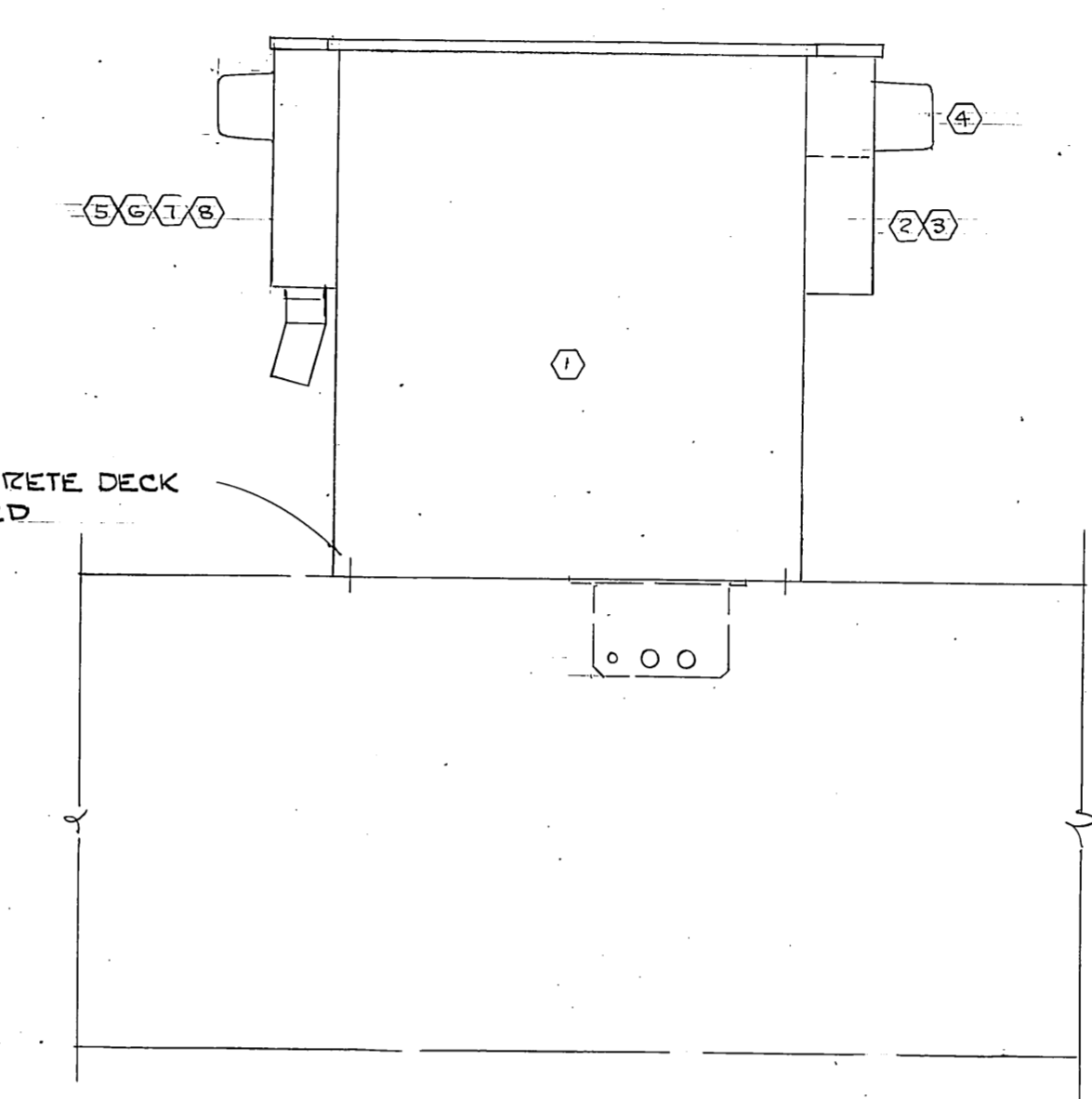
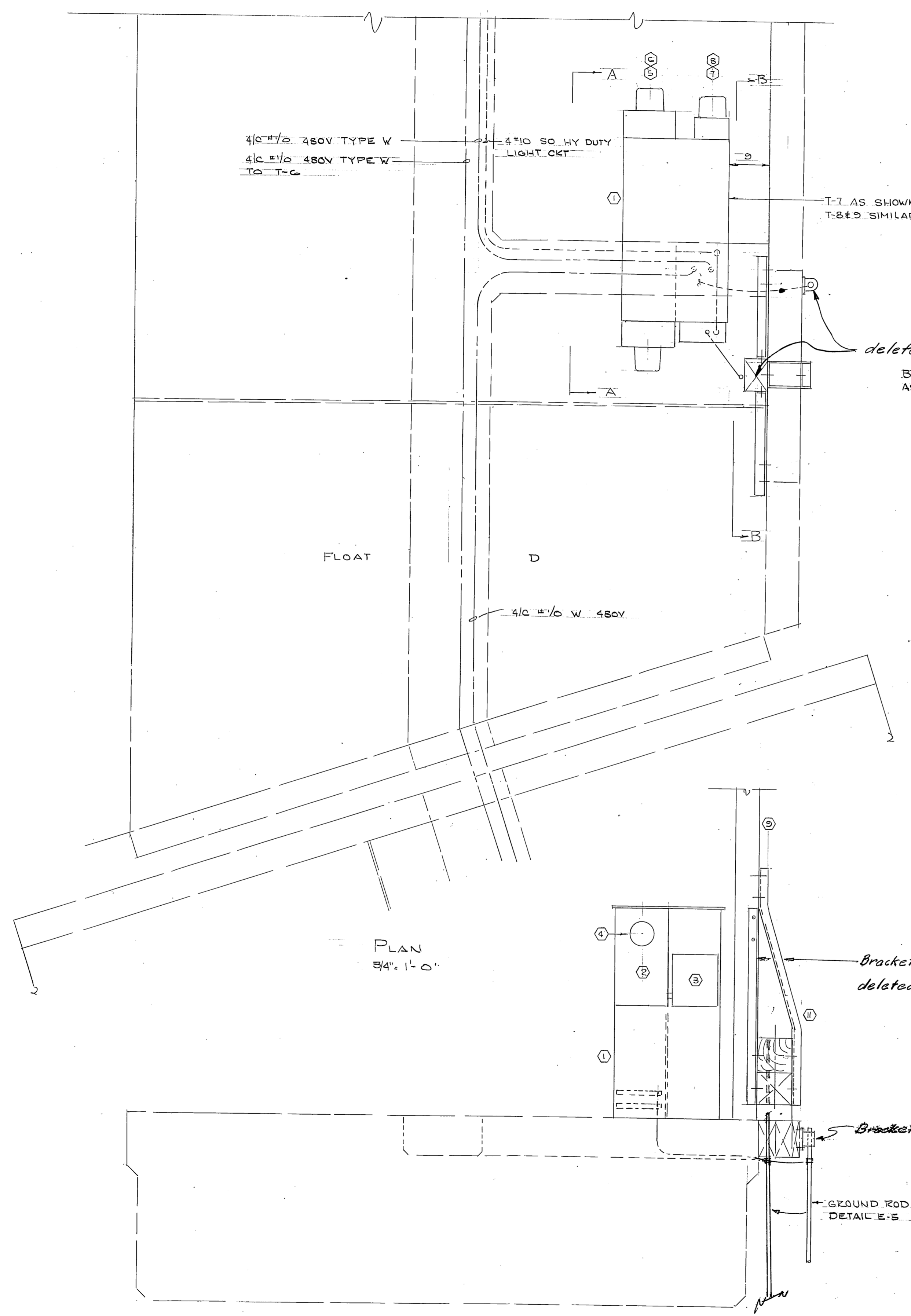
SECTION B-B
3/4" = 1'-0"

EQUIPMENT SCHEDULE			
NO.	ITEM	QTY/ASSY	REMARKS
1	TRANSFORMER 480V 3Ø TO 120/208V 3Ø	1	SEE E-7
2	GROUND WIRE #2/0 BARE		
3	GROUND CLAMP BURNDY GAR 142G	1	BRONZE
4	GROUND ROD COPPER PIPE EX. HY.	1	3/4 IPS x 9'-0"
5	GROUND ROD SUPPORT BURNDY UH4-S	1	BRONZE
6	BRONZE LAG SCREWS 1/2 x 2 1/2	4	

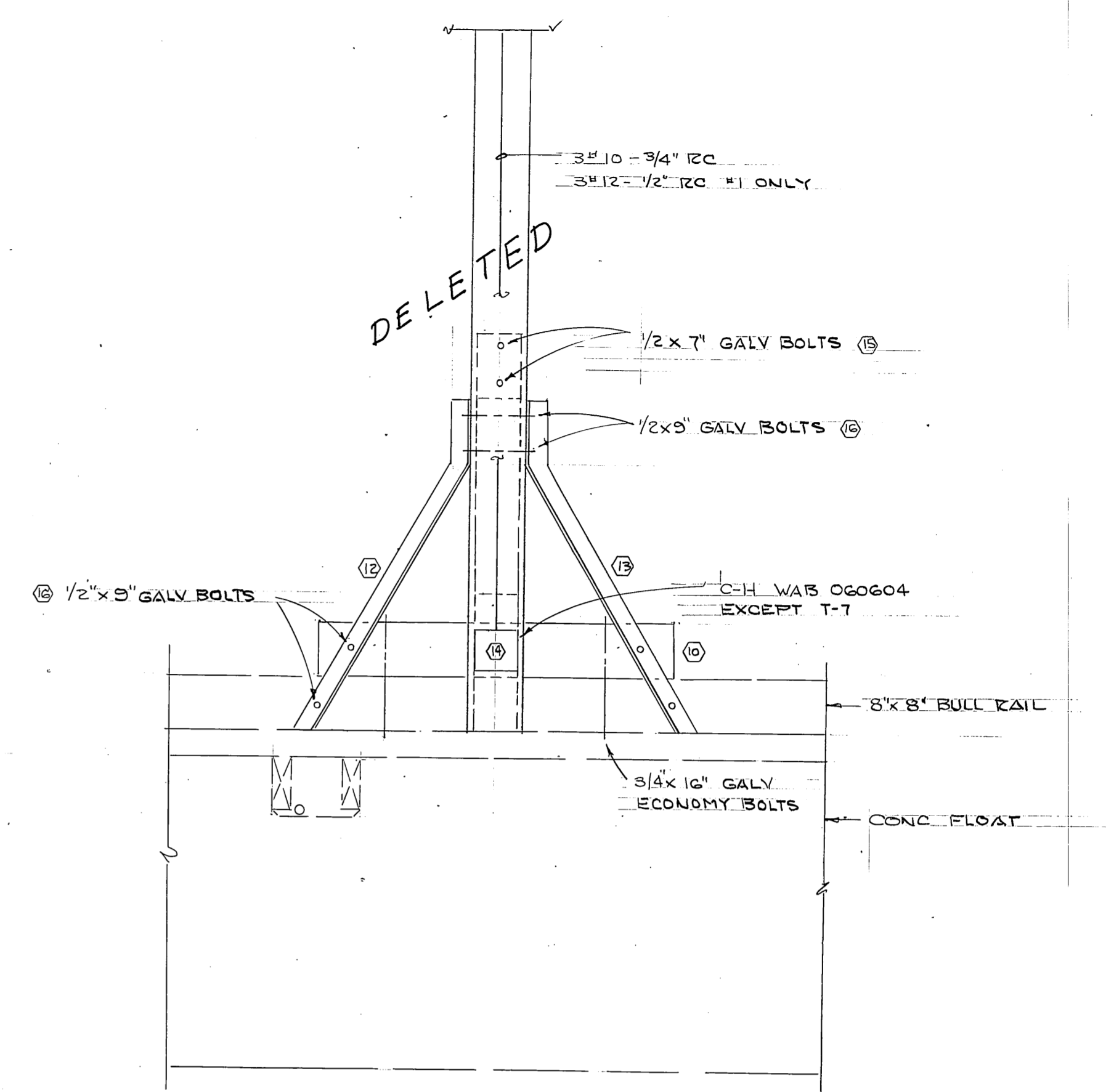
DCW 2-9-87

E-5

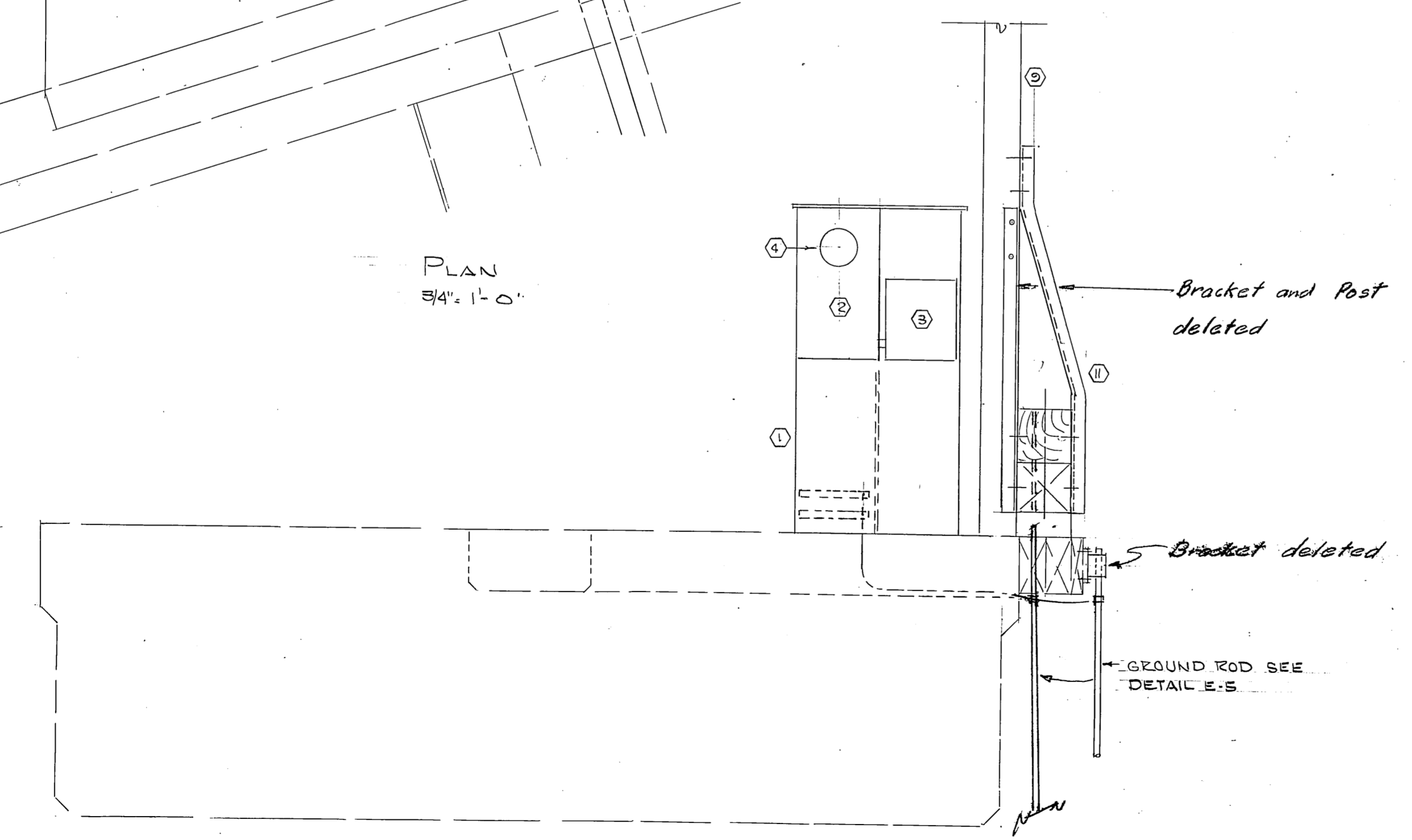
	STAMP DO NOT SCALE THIS DRAWING - USE DIMENSIONS STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES DIVISION OF HARBOR DESIGN AND CONSTRUCTION	
	ELECTRICAL DETAILS	
SCALE _____ DESIGNED _____ CHECKED _____	SURVEYED _____ DRAWN _____ DATE MAY 83	APPROVED _____ CHIEF OF DESIGN PROJECT NUMBER K78190 SHEET 44 OF 46



SECTION A-A
3/4" = 1'-0"



SECTION B-B
3/4" = 1'-0"



ELEVATION
3/4" = 1'-0"

EQUIPMENT SCHEDULE			
NO.	ITEM	QTY/ASSY	REMARKS
1	T-7, 45 KVA 480V 3Φ TO 120/208V 3Φ	1	
2	5JAW SOCKET & C/B 30/2	1	T-7 ONLY
3	CONTACTOR 30/2 SQ D SMW-31	1	T-7 " W/ HOA INSIDE
4	METER GE V625-5JAW CYCO	1	T-7 "
5	7JAW SOCKET & 100/5 C.H. AR 1041*	2	T-7 1 ONLY
6	METER GE V655 7JAW CYCO	2	" "
7	5JAW SOCKET & 30/2 CB & LS-302	2	" "
8	METER GE V625-5JAW CYCO	2	" "
9	6" x 8" x 15' FIX POST O-4 PENTA	1	SEE E-5 FOR FIXTURE
10	8" x 8" x 4'-0" BLOCK	1	
11	6" x 10.5" L 4'-9" GALV	1	
12	2 1/2 x 2 1/2" x 4'-3" BRACE LH	1	
13	2 1/2 x 2 1/2" x 4'-3" RH	1	
14	JUNCTION BOX C.H. WAS 060604	1	
15	1/2" x 7" GALV BOLTS	2	
16	1/2" x 9"	2	

ITEM 11, 12 & 13 HOT DIP GALV AFTER FABRICATION
* WITH API 10477 PLUG

DCW 2-9-87

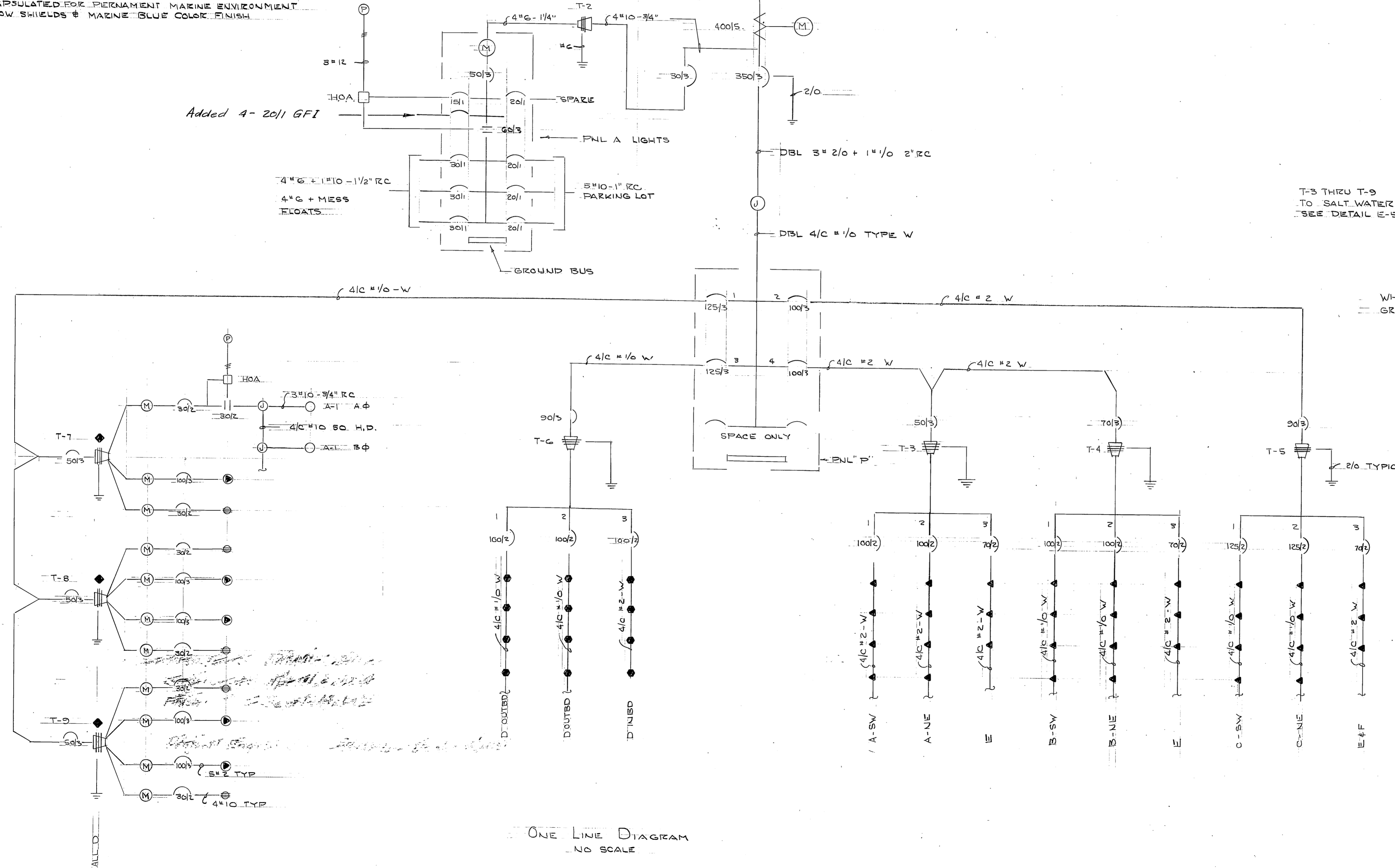
E-6

STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
		STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES DIVISION OF HARBOR DESIGN AND CONSTRUCTION	
		ELECTRICAL DETAILS	
SCALE NOTED	SURVEYED	APPROVED	
DESIGNED LPL	DRAWN	CHIEF OF DESIGN	
CHECKED	DATE MAY 83		
PROJECT NUMBER K78190	SHEET 45 OF 46		

PETERSBURG

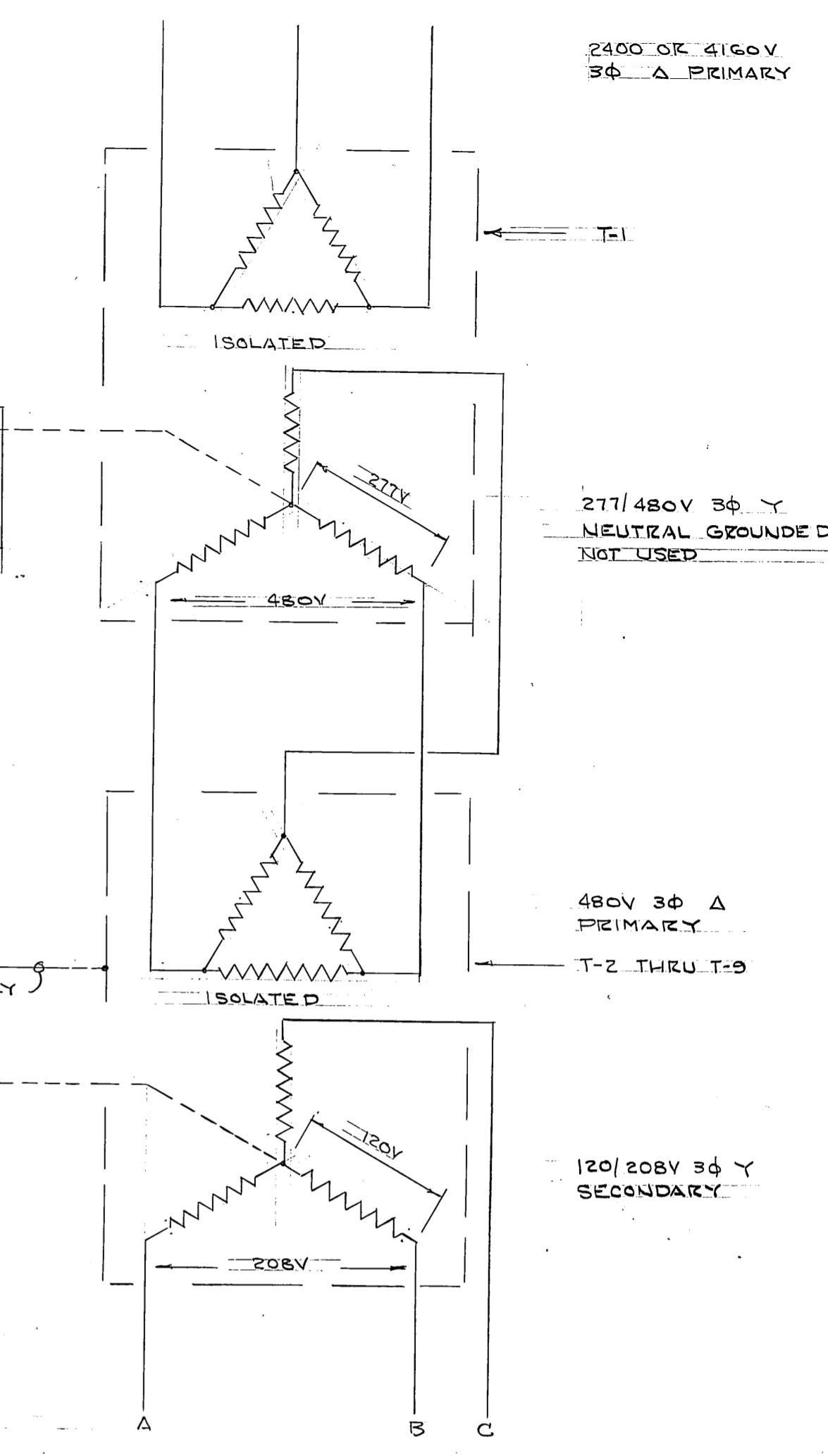
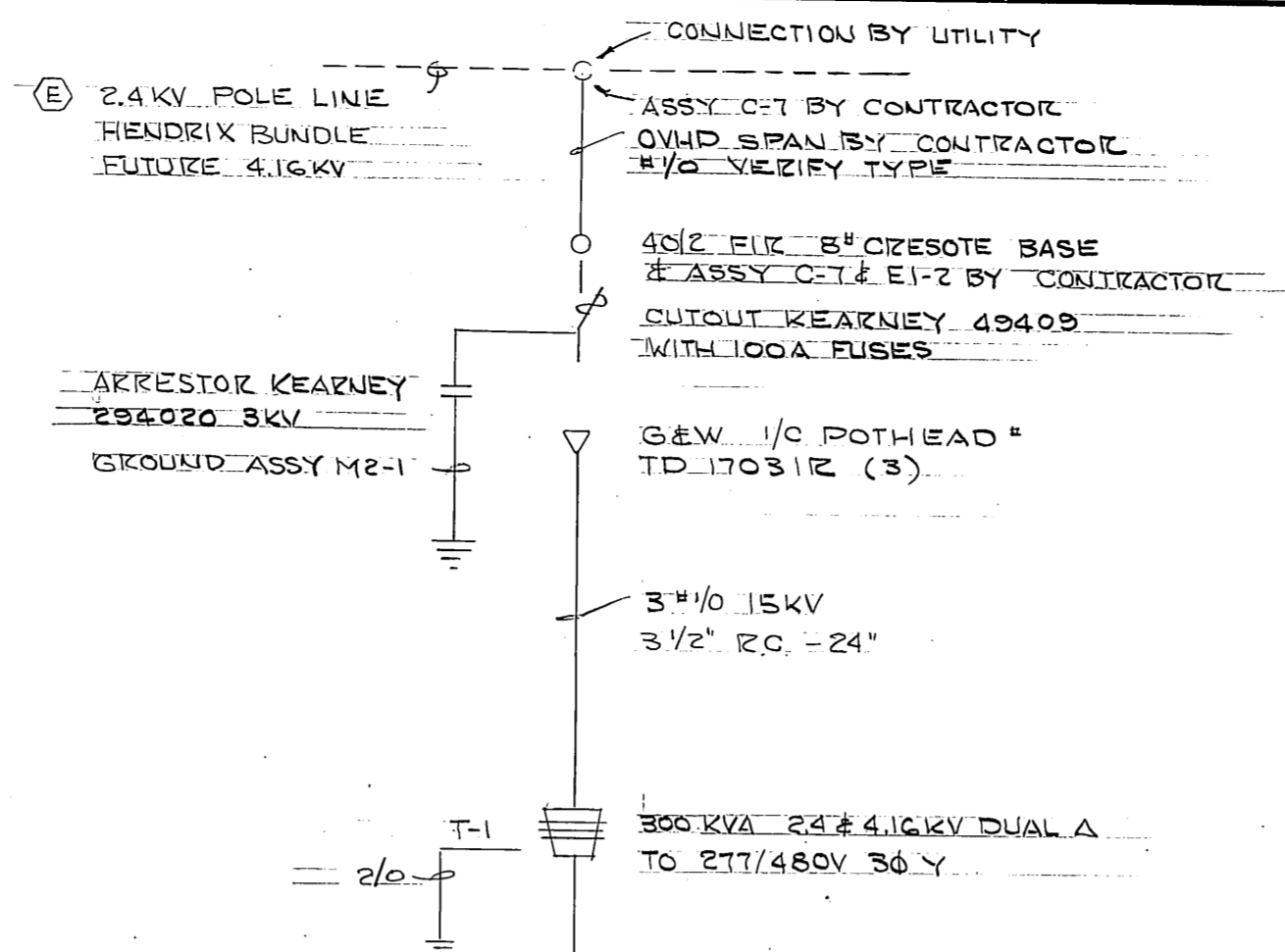
TRANSFORMER SCHEDULE									
NO	KVA	Φ	PKL	CONN	C/B	SEC	CONN	C/B	REMARKS
T-1	300	3	24/416	A	—	277/480	Y	—	DUAL VOLTAGE
T-2	15		480			120/208			
T-3	45				50/3				VARIES
T-4	60				70/3				
T-5	75				90/3				
T-6	75				90/3				
T-7	45				50/3				
T-8	45				50/3				
T-9	45				50/3				

ALL TRANSFORMERS EXCEPT T-1 TO BE COPPER WOUND & EPOXY ENCAPSULATED FOR PERMANENT MARINE ENVIRONMENT PROVIDE SNOW SHIELDS & MARINE BLUE COLOR FINISH



Added 4-20/11 GFI

ONE LINE DIAGRAM
NO SCALE



STAMP		DO NOT SCALE THIS DRAWING - USE DIMENSIONS	
		STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES HARBOR DESIGN AND CONSTRUCTION	
		ELECTRICAL DIAGRAM	
SCALE: NONE	SURVEYED: _____	APPROVED: _____	
DESIGNED: LPL	DRAWN: _____	DATE: MAY 83	
CHECKED: _____	DATE: _____	PROJECT NUMBER: K78190	
		SHEET 46 OF 46	