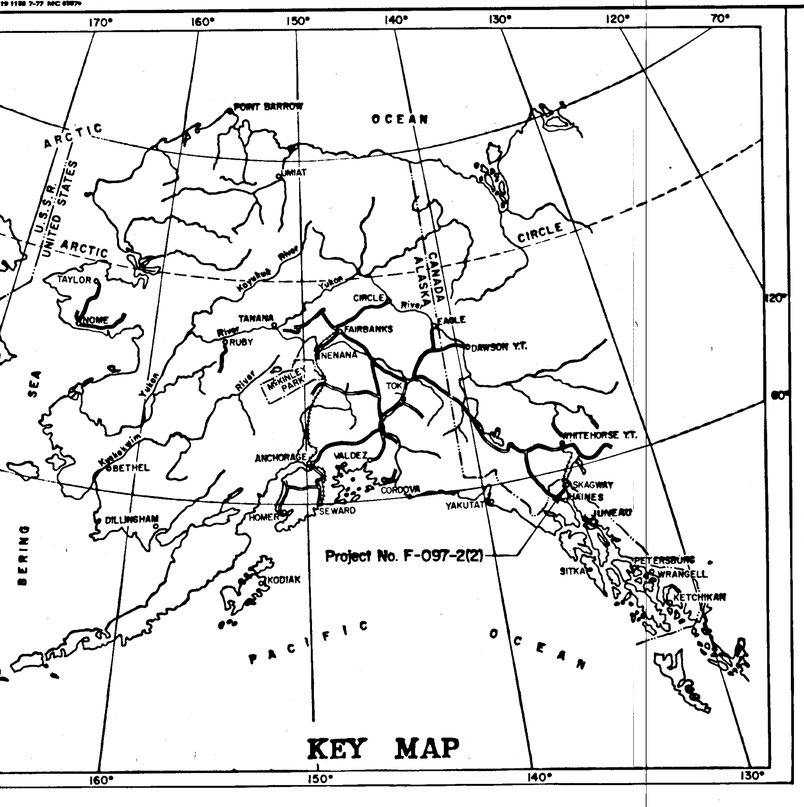
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-097-2(2)	1978	1	41

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

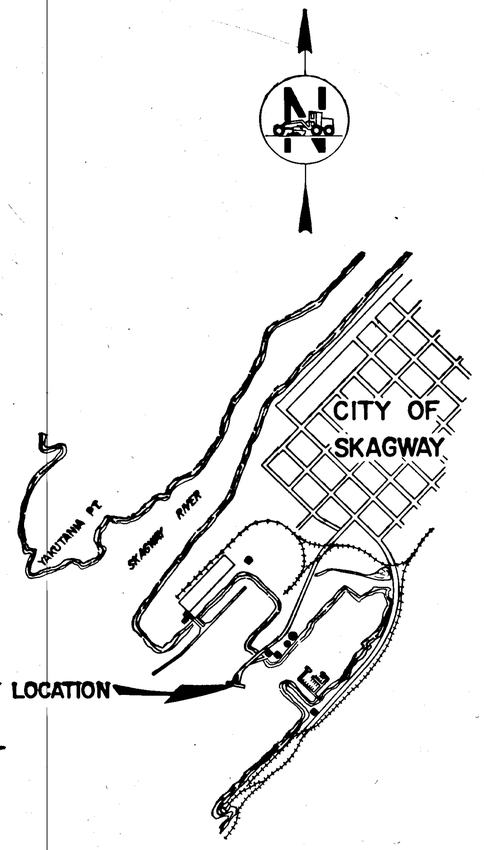
PLAN AND PROFILE
PROPOSED HIGHWAY PROJECT
F-097-2(2)
SKAGWAY FERRY TERMINAL FACILITY
AT SKAGWAY ALASKA



KEY MAP

DESIGN DESIGNATION

ADT 1978	=	25
ADT 1999	=	53
DHV 44%	=	23
D	=	90-10
T	=	13%



AS-BUILTS

Contractor - Western Marine Construction, Inc., Seattle
Subcontractors- Berg Construction Co. Inc., Juneau
W.R. Grasle, Inc. Portland
Earthmovers of Fairbanks

Project Engineer - John R. Edwards
Work Began- April 1, 1979
Work Completed- February 11, 1980

INDEX OF SHEETS

The following standard drawings apply to this project: A-1, C-00.04, C-10.02, C-11.02, F-01.21, G-04.13, G-04.31, I-20.01, L-03.11, L-23.03, L-30.01 & U-03.00.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

APPROVED
Wallace K. Wilson Date 9/4/78
SOUTHEASTERN REGION
DESIGN/CONSTRUCTION ENGINEER

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

APPROVED
R. D. Shumway Date 9/5/78
DIRECTOR-HIGHWAY DESIGN & CONSTRUCTION

ESTIMATE OF QUANTITIES

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-097-2(2)	1978	2	41

ITEM NO.	ITEM	PAY UNIT	Estimated Quantity	UNIT	TOTAL
	Furnishing and Maintaining Engineering Facilities	L. S.			All Req'd
110(1)	Mobilization	L. S.			All Req'd
111(1)	Temporary Erosion and Pollution Control	C. S.			All Req'd
114(1)	Construction Engineering by the Contractor	L. S.			All Req'd
115(1)	Traffic Maintenance	L. S.			All Req'd
115(2)	Vessel Traffic Maintenance *EWO No. 3*	L. S.			All Req'd
202(1)	Removal of Structures and Obstructions	L. S.			All Req'd
203(3A)	Unclassified Excavation *C.O. No. 2*	L. S.	67,050	C.Y.	All Req'd
301(4)	Crushed Aggregate Base Course, Grading	L.S	540	C.Y.	All Req'd
401(5)	Hot Asphalt Pavement, Class I * *EWO No. 13*	L.S.	4,848	S.Y. @ 2" Depth	All Req'd
403(2)	MC-30 Liquid Asphalt for Prime Coat *EWO No. 13*	L.S.	4,848	S.Y. @ 0.25 gal./S.Y.	All Req'd
501(1)	Class "A" Concrete	L. S.			All Req'd
502(1)	Furnish and Install Prestressed Concrete Floating Dock	L. S.			All Req'd
502(2)	Furnish and Install Anchor System, Complete	L. S.			All Req'd
503(1)	Reinforcing Steel	L. S.			All Req'd
504(1)	Structural Steel, Furnished, Fabricated and Erected	L. S.			All Req'd
504(3)	Transfer Ramp and Operating Equipment	L. S.			All Req'd
505(2)	Treated Timber Piles, Furnished and Driven *C.O. No. 3*	L.F.			~~1,645~~ 2240
505(3)	Structual Steel Piles, Furnished and Driven (HP 12x74)	L.F.			~~436~~ 443
505(11A)	Furnished 24" x 0.375" Pipe Piles	L.F.			655
505(11B)	Furnished 24" x 0.500" Pipe Piles	L.F.			240
505(11C)	Furnished 10' Dia. Cylinder Pipe Pile	L.F.			62
505(12)	Dolphin Pipe Piles Driven (24" Dia.) *C.O. No. 1 & EWO No. 7*	Each			~~17~~ 14
505(13)	10' Dia. Cylinder Pipe Pile Placed	L. S.			All Req'd.
508(1)	Dolphin "C"	L. S.			All Req'd
508(2)	Dolphin "R"	L. S.			All Req'd
508(3)	Dolphin "A"	L. S.			All Req'd
508(4)	Barge Hanging Rubber Fender System	L. S.			All Req'd
508(5)	Barge Timber & Wale Fender System	L. S.			All Req'd
606(1)	Beam Type Guardrail, Type I Post	L.F.			~~342~~ 350
607(4)	Reconstructed Fence	L.F.			~~40~~ 41
608(1)	Concrete Sidewalk, 4" Depth *EWO No. 11*	S.Y.			131.8 ~~73~~
609(2)	Curb and Gutter, Standard Type *EWO No. 11*	L.F.			218 ~~165~~
611(3)	Riprap, Class IIA	L.S.	3,450	C.Y.	All Req'd
611(4)	Filter Course	L.S.	2,630	C.Y.	All Req'd
203(5A)	*Quarry Run Borrow EWO No. 2*	L.S.			All Req'd.
526(1)	12" Ductile Iron Sewer Conduit	L.F.			141 ~~126~~
628(13)	Water System, Complete	L. S.			All Req'd
630(1)	Oil Line Facilities *EWO No. 4*	L. S.			All Req'd
660(3)	Illumination System, Complete	L. S.			All Req'd
681(1)	Dock Power System, Complete *EWO No. 10*	L. S.			All Req'd
628(13A)	*Water System Modifications EWO No. 6*	L.S.			All Req'd.
701(1A)	*Concrete Abutment, City of Skagway EWO No. 8*	L.S.			All Req'd
502(2A)	*Anchor Pile Extensions EWO No. 9*	L.S.			All Req'd
	* *Item 401(5) will require approximately 35 tons of AC-5 Asphalt Cement.*				
203(1A)	*Culvert Repairs EWO No. 12*	L.S.			All Req'd
202(1A)	*Asphalt Pavement Removal EWO No. 13*	S.Y.			237
502(2B)	*Anchor System Modifications EWO No. 14*	Day			4.75
504(1A)	*Bridge Bearing Modifications EWO No. 14*	Day			0.25
509(1B)	*Modification Materials EWO No. 14*	L.S.			All Req'd.
509(1C)	*Temporary Barge, Bridge & Ramp Modifications EWO 15*	L.S.			All Req'd.
509(1D)	*Barge, Bridge & Ramp Modifications EWO No. 15*	L.S.			All Req'd.
628(13B)	*Install 6" Water Meter EWO No. 16*	L.S.			All Req'd.
680(3A)	*Electrical Conduit Modifications EWO No. 17*	L.S.			All Req'd.
504(1B)	*Trunion Wheel Repairs EWO No. 18*	L.S.			All Req'd.

1252 5-71 45998-

GENERAL NOTES

1. Alignment and elevation shown on these plans are subject to minor revision.
2. All salvaged material shall be stockpiled in the area indicated on sheet No. 6 as directed by the Engineer.

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-097-2(2)	1978	3	41

SITE PREPARATION PLANS

Indicates Removal & Disposal of Structures and Obstructions

BEGIN PROJECT
F-097-2(2)
Sta. "A" 0+00.00

Existing 16"C.I. SS

Broadway St.

"L" 10+43.61 Bk. =
"A" 0+00.00 Ahd.

55 24" D.I.

Existing R/W

Existing R/W

1½" Elec.

Existing Revetment

¾" Tel.

Edge of Existing Pavement

Existing Timber Retaining Wall

12" A.C. SS Outfall

6" C.I.

S 49°16'51" W

2" Elec.

Oil Storage Tank

Oil Storage Tank

Existing R/W

Existing Handrail

1~

2~

3~

N 2,786,250
E 2,378,000

MATCH LINE "A" 3+50

MATCH LINE 3+50

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.
ALASKA	F-097-2(2)	1978	4

SITE PREPARATION PLA

LEGEND

Indicates Removal & Disposa of Structures and Obstructi

Indicicates Removal & Salvag Existing Structures

N 2,786,000
E 2,377,750

"A" 5+65 - 85' Rt. to "A" 4+50; 220' Lt.
Remove the existing retaining wall, 4' below finished grade

Existing Handrail

"A" 3+89; 5' Rt.
Begin removal at the nearest dummy or expansion joint as directed by the engineer.

Existing R/W

12" A.C. SS Outfall

6" C.I. W

S 49° 16' 51" W

2" Elec.

Edge of Existing Pavement

Existing Office
To Remain in Place

Shed

1" Galv.

Tank

Pump Sta.

1½" Elec.

Existing Fence

6" A" Oil Line
4" Oil Line
1" Elec.
1½" Elec.

End of Existing Pavement - Begin Existing Timber Causeway

Entrance to Small Boat Harbor

Existing Timber Causeway

Existing Timber Ramp

Outer Limits of Riprap

N 2,786,250
E 2,377,250

N 2,786,000
E 2,377,500

2:1

2:1

Temporary Ferry Terminal
(See sht. no. 7 for details)

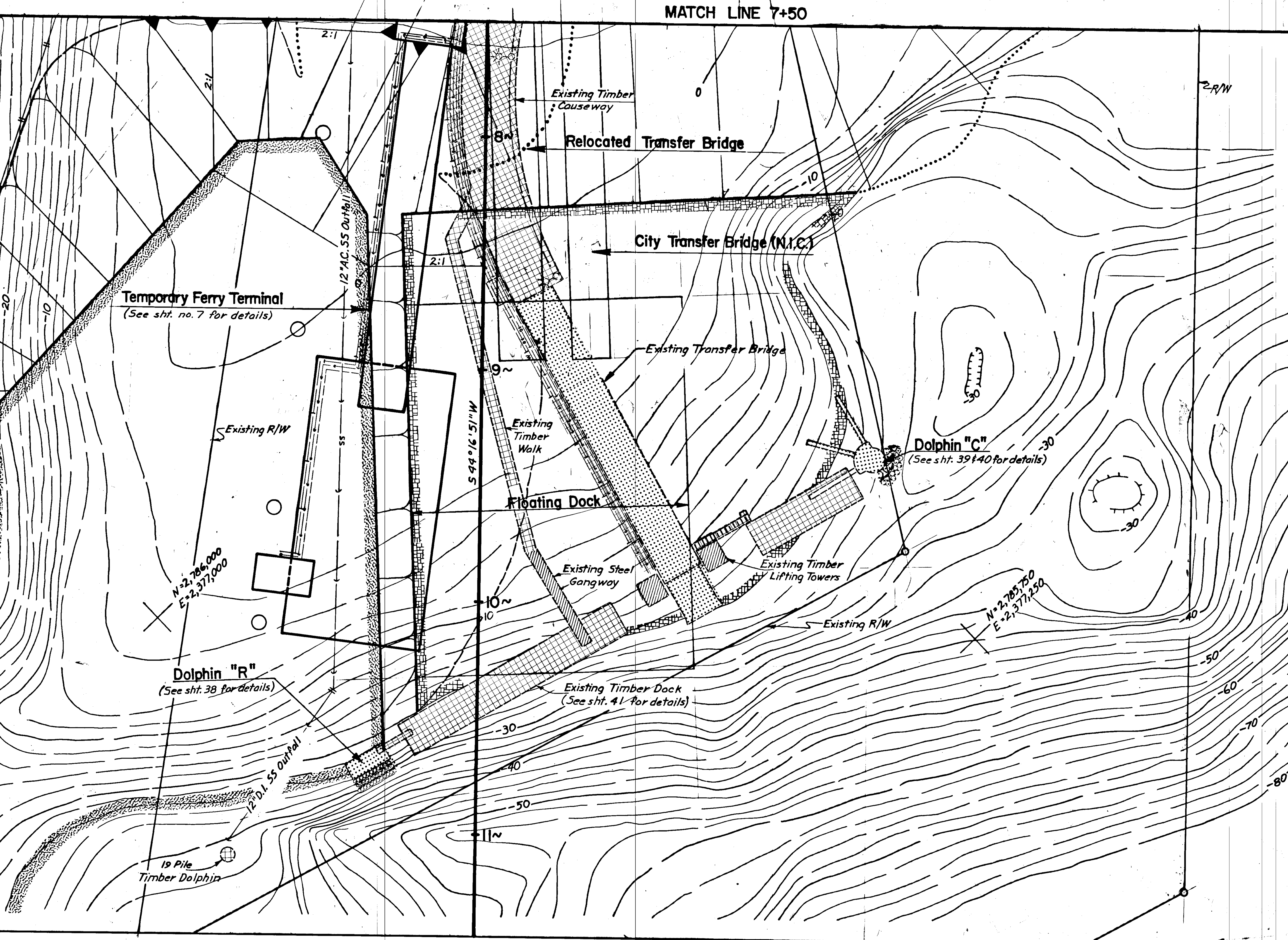
Existing R/W

R/W

MATCH LINE 7+50

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-097-2(2)	1978	5	41

SITE PREPARATION PLANS

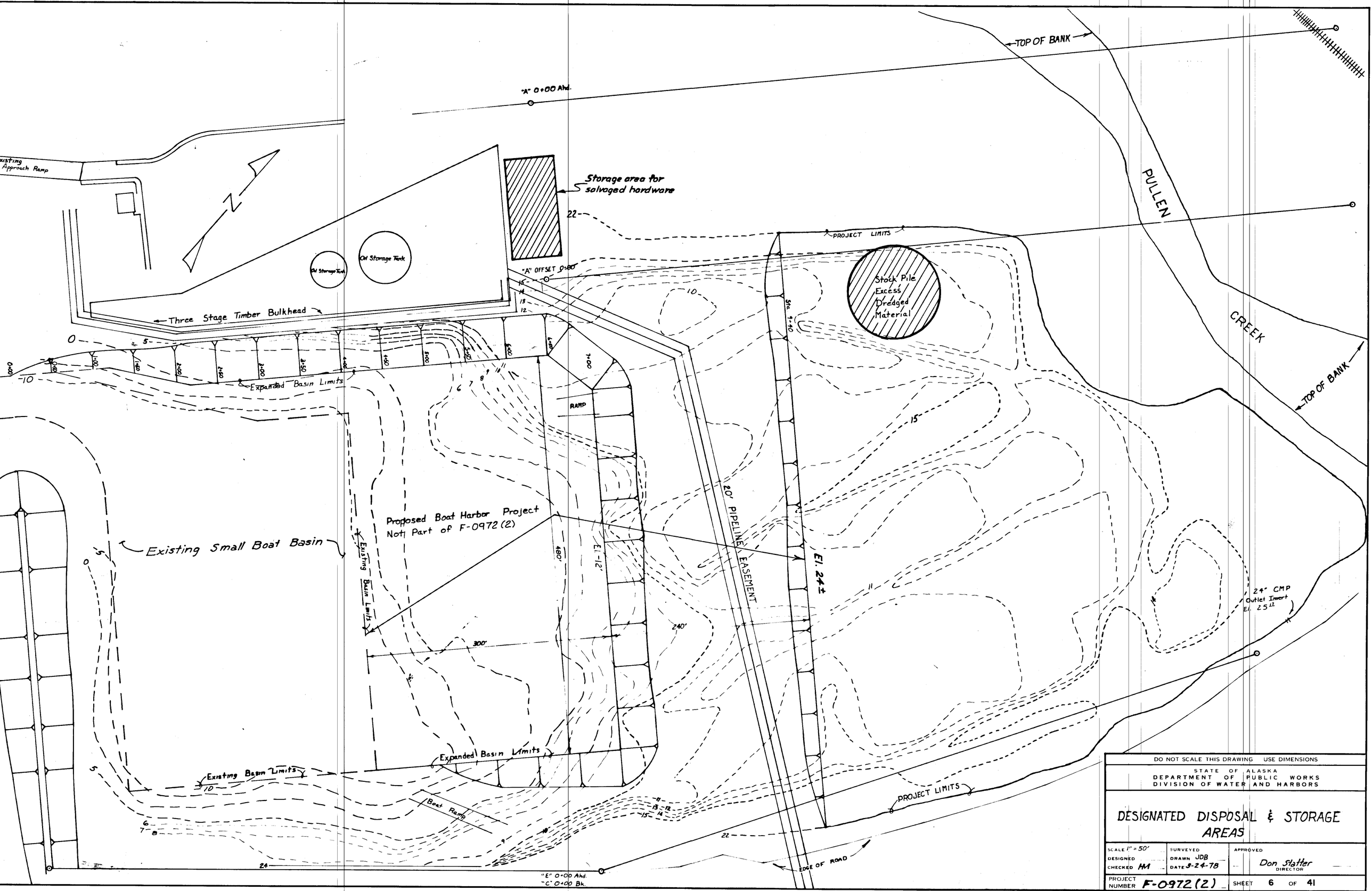


MATCH LINE 7+50
Existing Timber Causeway
Relocated Transfer Bridge
City Transfer Bridge (N.I.C.)
Temporary Ferry Terminal
(See sht. no. 7 for details)
12" AC. SS Outfall
Existing R/W
Existing Transfer Bridge
Existing Timber Walk
S 44°16'51" W
Floating Dock
Dolphin "C"
(See sht. 39 & 40 for details)
Existing Steel Gangway
Existing Timber Lifting Towers
N=2,786,000
E=2,377,000
N=2,785,750
E=2,377,250
Existing R/W
Dolphin "R"
(See sht. 38 for details)
Existing Timber Dock
(See sht. 41 for details)
12" D.I. SS Outfall
19 Pile Timber Dolphin
R/W
2:1
8~
9~
10~
11~

LEGEND

- Indicates Removal & Disposal of Structures & Obstruction
- Indicates Relocation of Existing Structures
- Indicates Removal & Salvage of Existing Structures
- Indicates -20.0' Dredge Limits
- Indicates -25.0' Dredge Limits

"A" 8+65; 7' Lt. Salvage Valves & Meters, store in area shown on sht.



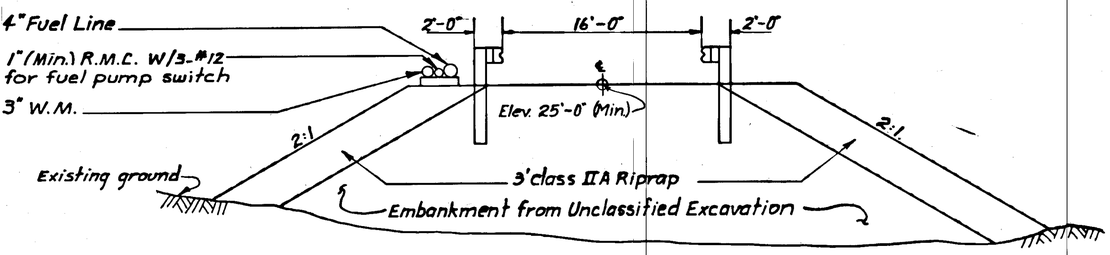
DO NOT SCALE THIS DRAWING USE DIMENSIONS

STATE OF ALASKA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF WATER AND HARBORS

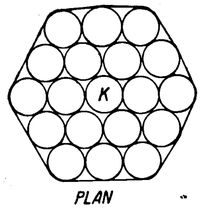
DESIGNATED DISPOSAL & STORAGE AREAS

SCALE 1" = 50'	SURVEYED	APPROVED
DESIGNED	DRAWN JDB	Don Statter DIRECTOR
CHECKED HA	DATE 9-24-78	
PROJECT NUMBER F-0972(2)	SHEET 6 OF 41	

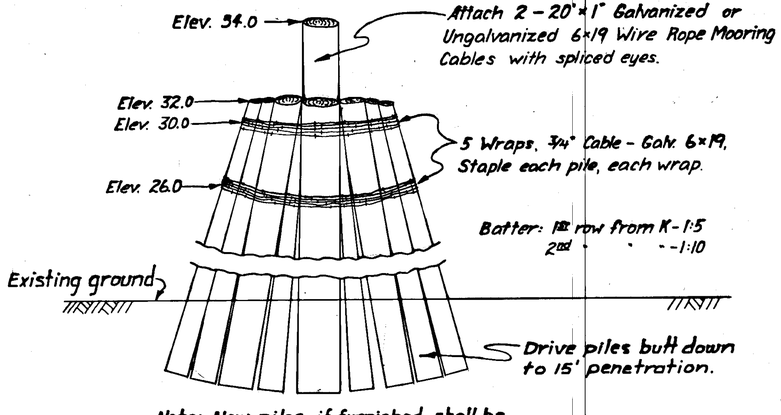
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-097-2(2)	1978	7	41



SECTION G-G



PLAN



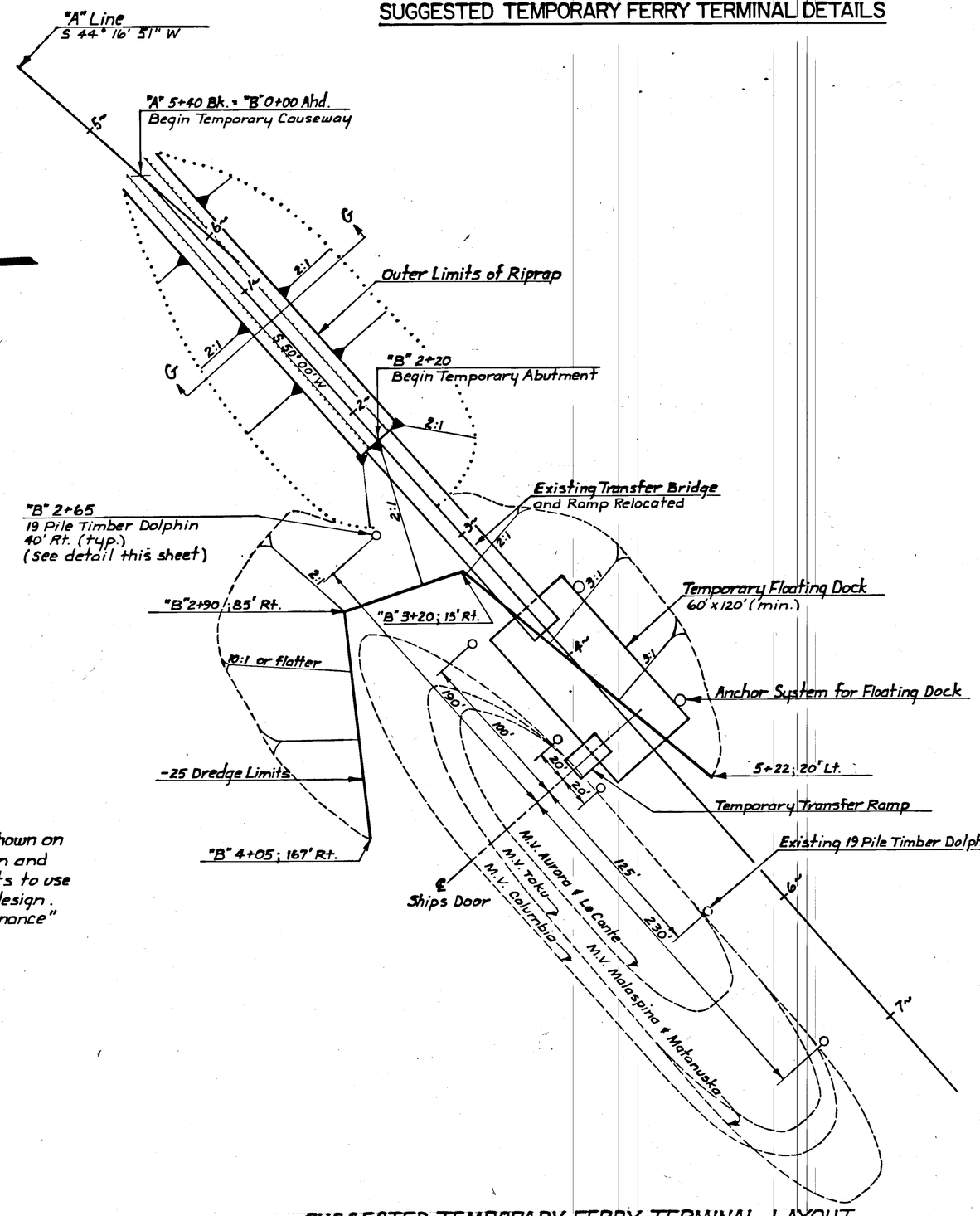
Note: New piles, if furnished, shall be a min. of 16" butt dia. Used piles shall be approved by the engineer.

Elevation

TYPICAL 19 PILE DOLPHIN

NOTE:
The temporary ferry terminal shown on the plans is a suggested location and design. If the contractor elects to use some other location and/or design. See section 115 "Traffic Maintenance" for more details.

SUGGESTED TEMPORARY FERRY TERMINAL DETAILS



SUGGESTED TEMPORARY FERRY TERMINAL LAYOUT

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-097-2(2)	1978	8	41

GENERAL LAYOUT

ORIZONTAL CONTROL:
orings for the project are based U.S.C.&G.S. Triangulation ations "Long" & "Sharp".

ERTICAL CONTROL:
tical Control was derived from S.C.&G.S. Benchmark #12. A andard disk stamped "No. 12 1970" t on the southeast corner of e Soapy Smith monument S.C.&G.S. El. 26.07 M.L.L.W.

Earthwork Equation:
Embankment = (Excavation − Waste) x Grading Factor + Borrow

Embankment = 39,600 C.Y. All from Unclassified Excavation (Includes 1,620 C.Y. of Selected Material)
Excavation = 67,050 C.Y. (Includes no Waste).
All excess excavation material shall be stockpiled in the area shown on sheet no. 6. The exact quanity to be stockpiled will depend on factors such as shrinkage and method of handling.

Existing 16" SS

BEGIN PROJECT F-097-2(2)
Sta. "A" 0+00.00

Broadway St.

"L" 10.43.61 Bk. = "A" 0+00.00 Ahd.

Tapered to Match Monolithic S.W.

"A" 0+03; 11' Rt.
Match Existing Sidewalk

"A" 0+31; 0' Rt. 15' Radius

S 52° D.I.

"L" 11+00; 32' Lt. to "A" 7+30; 63' Rt.
Existing 12" A.C. Sanitary Sewer to remain in place

20
10
0
-10

A — A

1~
2~
3~

6" C.I.
S 49° 16' 51" W
12" A.C. SS Outfall
6" D.I.

"A" 2+20; 0' Rt.
Match Existing Sidewalk

6" Water Meter

Existing R/W

1½" Elec.

Existing Revetment

¾" Tel.

2" Elec. Abandoned

Oil Storage Tank

Oil Storage Tank

Edge of Existing Pavement

Existing Timber Retaining Wall

Existing R/W

10
0

SECTION A-A
"A" 0+03 to "A" 2+20

"A" Line
5'
2'
Distance Varies
Match edge of Existing Pavement
2:1
Finished Profile
Remove Existing Pavement as directed by the engineer
Standard Type Curb & Gutter
4" Concrete Sidewalk
Embankment (From Unclassified Excavation)

TYPICAL CURB & SIDEWALK JOINT DETAILS

½" Expansion Joints
~~Cold-poured liquid polymer~~ joint sealer or AC-5 asphalt cement
F F
Dummy Joint
F
F
¼" to ½"
½"
See Standard Drawing I-20.01 for curb & gutter details
Premolded Joint Filler
Section F-F

NOTES

1. *Premolded expansion joint filler & ~~liquid polymer joint sealer~~ (see specs.) or AC-5 asphalt cement shall be considered incidental to pay item 608(1) "Concrete Sidewalk" and no seperate payment shall be made therefore.*
2. *Curb & Gutter expansion joints shall be placed at the beginning and end of the sidewalk and at the angle joint . Thereafter they shall be placed at intervals of 30' except where shorter sections are needed for closure.*
3. *Sidewalk expansion joints shall be opposite expansion joints in ajoining curb & gutter. Dummy joints shall be equally spaced between expansion joints and the spacing shall not exceed 5'.*

MATCH LINE "A" 3+50

MATCH LINE "A" 3+50

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-097-2(2)	1978	9	41

GENERAL LAYOUT

"L" 11+00; 32' Lt. to "A" 7+30; 63' Rt. Existing 12" A.C. Sanitary Sewer to remain in place

"A" 7+30; 63' Rt. to "A" 11+00; 105' Rt. Abandon existing 12" A.C. in place

Existing R/W

Edge of Existing Pavement

Existing Timber Retaining Wall

"A" 4+47; 225' Lt.

Begin Riprap and filter course "A" 4+50 Lt.

Rock keyed on Left side. See detail "B" on sheet 12.

"A" 4+75; 175' Lt. to 216' Lt. Relocate 40 L.F. of existing fence

"A" 4+86; 200' Lt. to "A" 7+39; 50' Lt. Install 342 L.F. of Beam Type Guardrail, Type I Post.

Tank

Pump Sta.

"A" 4+75; 175' Lt.

"A" 4+75; 216' Lt.

"A" 4+86; 200' Lt.

2" Elec.

6" C.I.

12" A.C.S.S. Outfall

-20 -10 0 10 20

4~

5~

6~

7~

S 49° 16' 51" W

Existing Office
To Remain In Place

Existing R/W

"A" 5+82; 192' Lt.

"A" 5+82; 177' Lt.
Δ = 13° 30'; R = 15'

Water Main
(See sht. no. 13 for details)

Illumination
(See sht. no. 16 for details)

Electrical Conduit
(See sht. no. 14 & 15 for details)

Paving Limits
(See sht. no. 12 for details)

"A" 6+78; 192' Lt.

"A" 6+72; 177' Lt. P.I.
Δ = 47° - R = 15' (Shop Formed)

Relocated Oil & Elect. Lines
(See sht. no. 13 for details)

"A" 7+33; 133' Lt.

"A" 7+20; 126' Lt. P.I.
Δ = 40° - R = 15'
(Shop Formed)

"A" 7+40; 10' Lt.
Begin Transfer Bridge Abutment
(See sht. no. 17-20 for details)

1-6" Oil Line Buried
Electrical Conduit Buried

"A" 7+38; 65' Lt.
Δ = 90° - R = 15' (Shop Formed)

"A" 5+38; 88' Rt.

"A" 6+54; 87' Rt.

"A" 7+40; 11' Rt.

Begin Riprap Toe and Filter Course "A" 6+00 Rt.

Rock not keyed on right side. See detail "A" on sheet 12.

N 2,786,250
E 2,377,250

2½:1

2:1

Sewer Outfall
See Sheet 12 for details

Entrance to Small Boat Harbor

B

See sht. no. 12 for section

℄ R/W

10 0 10 20

MATCH LINE "A" 7+50

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.
ALASKA	F-097-2(2)	1978	10

GENERAL LAYOUT

MATCH LINE "A" 7+50

Sewer Outfall
(See sht. no.12 for details)

"A" 7+50; 150 Rt.
End Riprap

"A" 8+05; 107' Rt.

"A" 8+02; 73' Rt.

"A" 8+33; 51' Rt.

"A" 8+33; 36' Rt.

"A" 8+22; 160' Lt.

10:1 or flatter

135°

120°

150°

12" D.I. SS

1½:1

2:1

2:1

3:1

3:1

3:1

8~

9~

10~

11~

Relocated Transfer Bridge
(See sht. no. 17-20 for details)

City Transfer Bridge (N.I.C.)

Use Riprap Detail
"A" to Here

Use Riprap Detail
"B" to Here

Existing R/W

R/W

N=2,785,750
E=2,377,500

"A" 9+23; 214' Rt.

"A" 7+30; 63' Rt. to "A" 11+00; 105' Rt.
Abandon existing 12" A.C. in place

Existing R/W

N=2,786,000
E=2,377,000

12" A.C. SS Outfall

12" A.C. SS Outfall

"A" 10+66; 38' Rt.

"A" 10+46; 25' Rt.

Floating Dock
(See sht. nos. 21-31 for details)

Transfer Ramp
(See sht. nos. 33-35 for details)

Dolphins "R", "A" & "C"
(See sht. no. 36-41 for Details,
See sht. no. 11 for locations)

-30

-40

-50

-60

-70

LEGEND

Indicates -20.0' Dredge Limits

Indicates -25.0' Dredge Limits

Rev 4-28-78 Eliminate Mooring Dolphin, Add Dolphin "A"

Rev. 3-31-78 Separate transfer bridges & dock areas

DO NOT SCALE THIS DRAWING – USE DIMENSIONS

STATE OF ALASKA

[redacted]

DIVISION OF [redacted] HARBORS

MARINE FACILITIES PLAN LAYOUT

SCALE 1" = 20'
DESIGNED HM.
CHECKED

SURVEYED
DRAWN HM
DATE 3-14-78

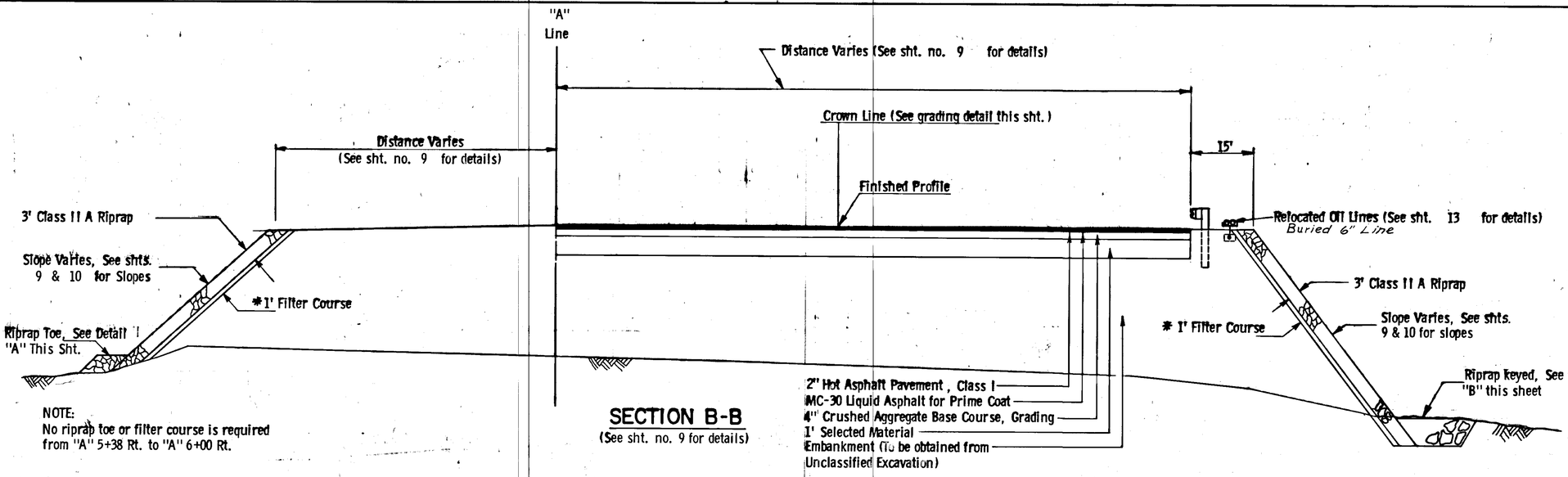
APPROVED
Don Statter
DIRECTOR

PROJECT NUMBER F-0972(2)

H-1

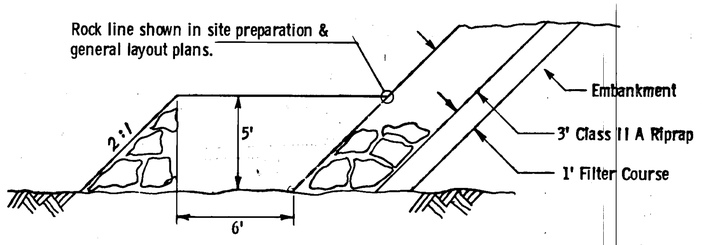
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-097-2(2)	1978	12	41

MISCELLANEOUS DETAILS

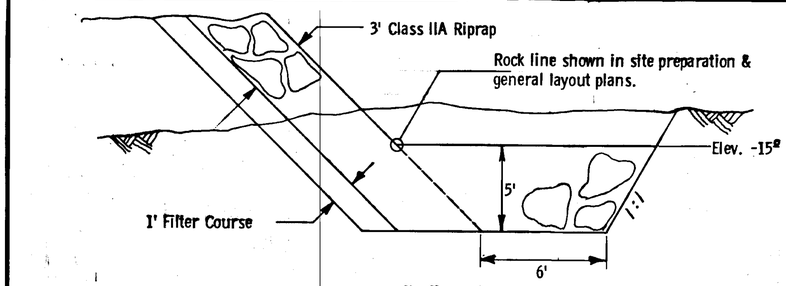


NOTE:
No riprap toe or filter course is required from "A" 5+38 Rt. to "A" 6+00 Rt.

SECTION B-B
(See sht. no. 9 for details)



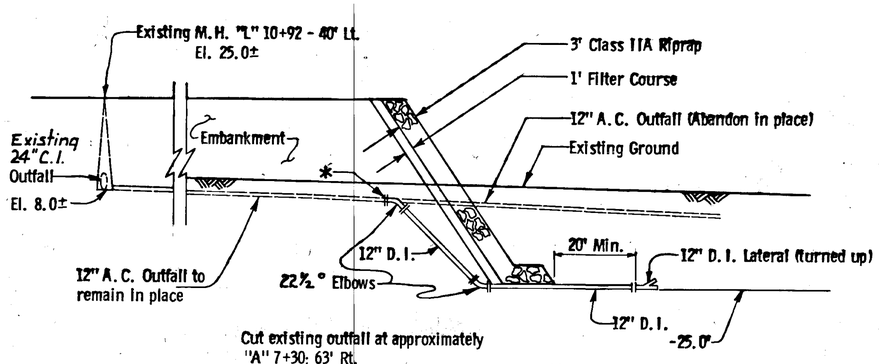
RIPRAP TOE DETAIL "A"



RIPRAP DETAIL "B" (KEYED)

NOTES

1. Any complete closure of the 24" or 12" outfall lines shall be a maximum of four hours; two hours each side of the recorded low tide.
2. Before beginning any work on the 12" D.I. outfall the contractor shall plug the existing 12" A.C. outfall at the existing manhole ("L" 10+92-40' Lt.) and use the existing 24" outfall for a temporary outfall.
3. Before putting the existing 12" outfall back in operation the contractor shall rework the floor of the existing manhole so that the majority of the sewage will flow out of the 12" outfall as directed by the engineer. This work shall be considered incidental to pay item 626(1) 12" Sewer Conduit and no seperate payment shall be made.

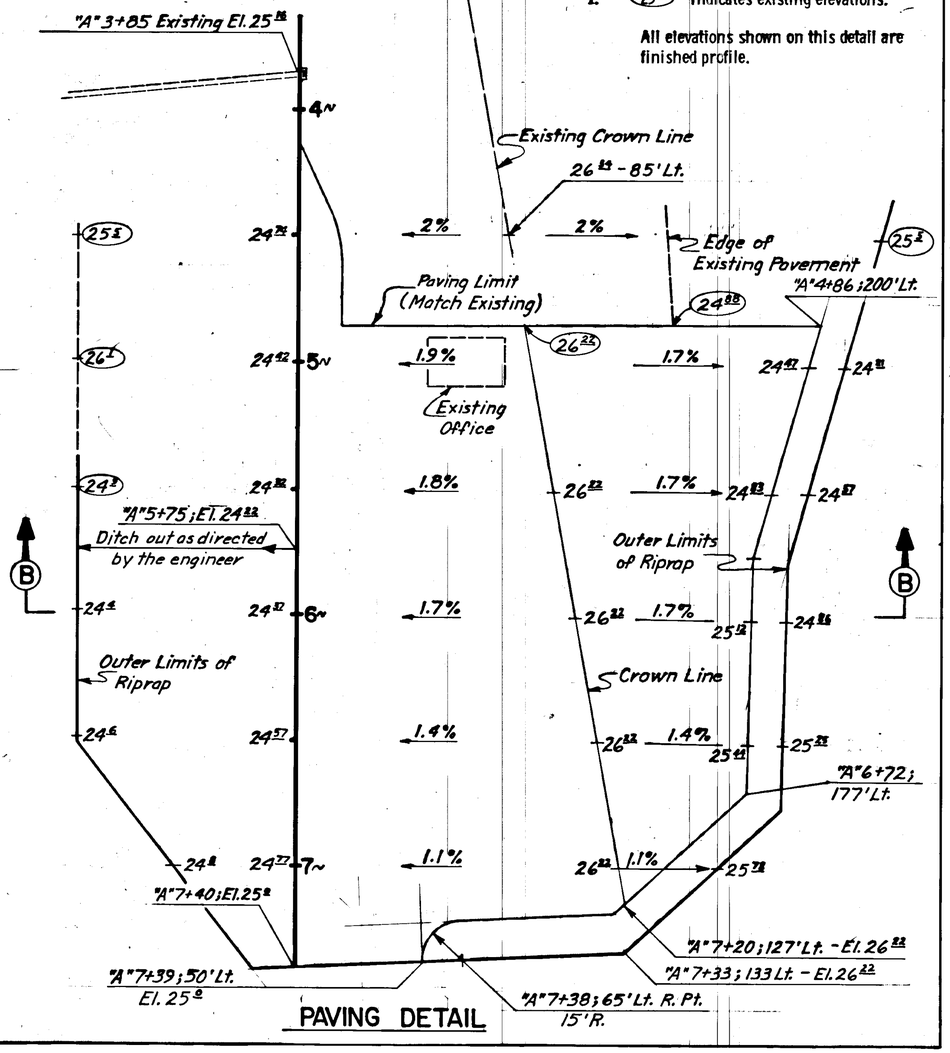


SEWER OUTFALL DETAIL
(See General Layout sht. no. 9&10 for Plan View)

NOTES

1. 25^{16} Indicates existing elevations.

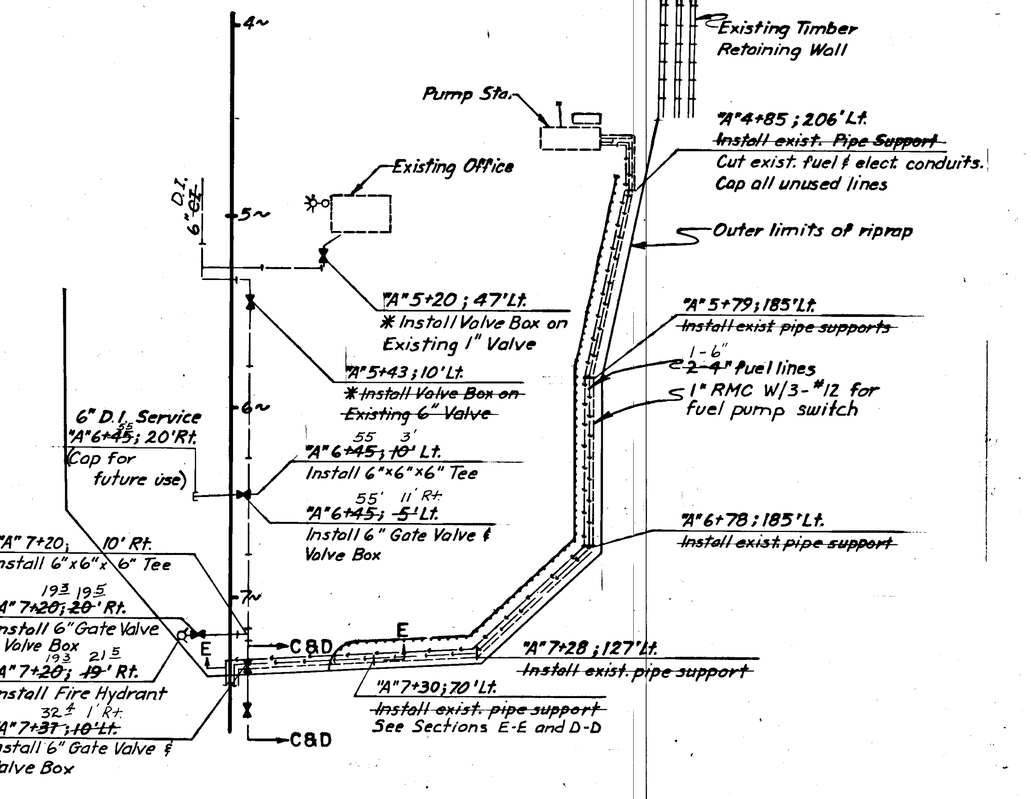
All elevations shown on this detail are finished profile.



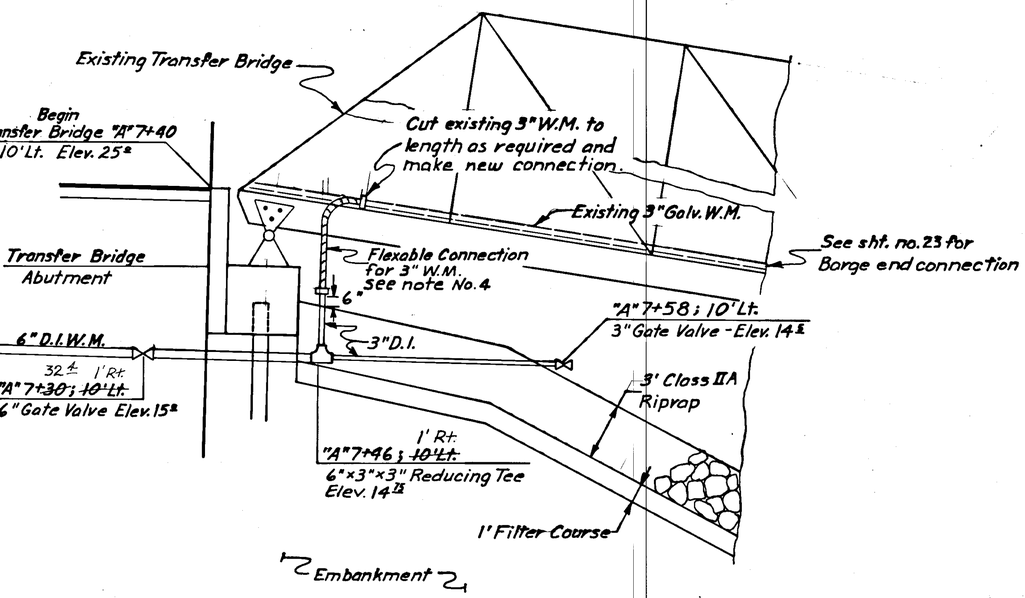
PAVING DETAIL

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-097-2(2)	1978	13	41

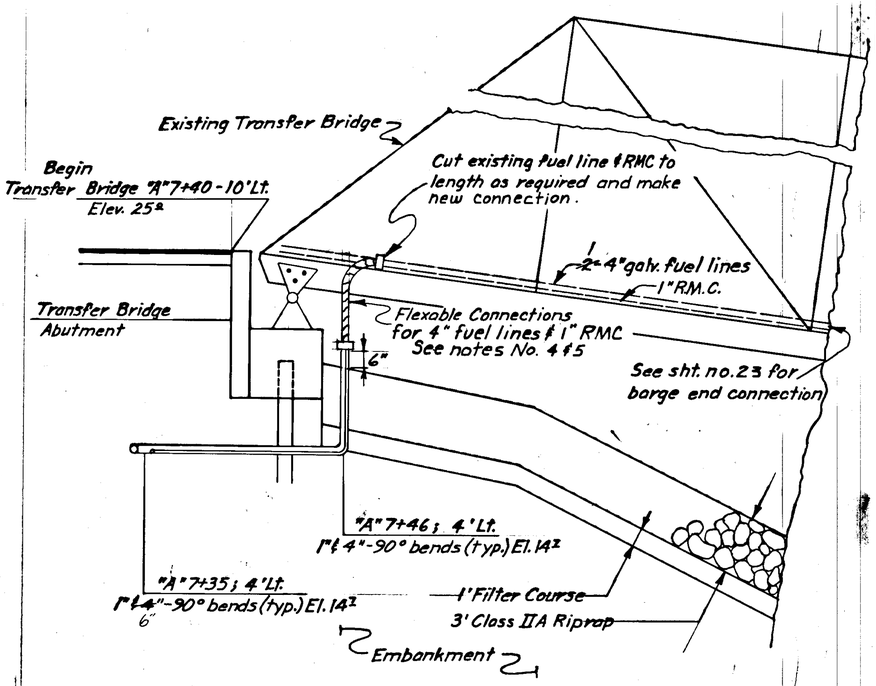
MISCELLANEOUS DETAILS



PLAN VIEW



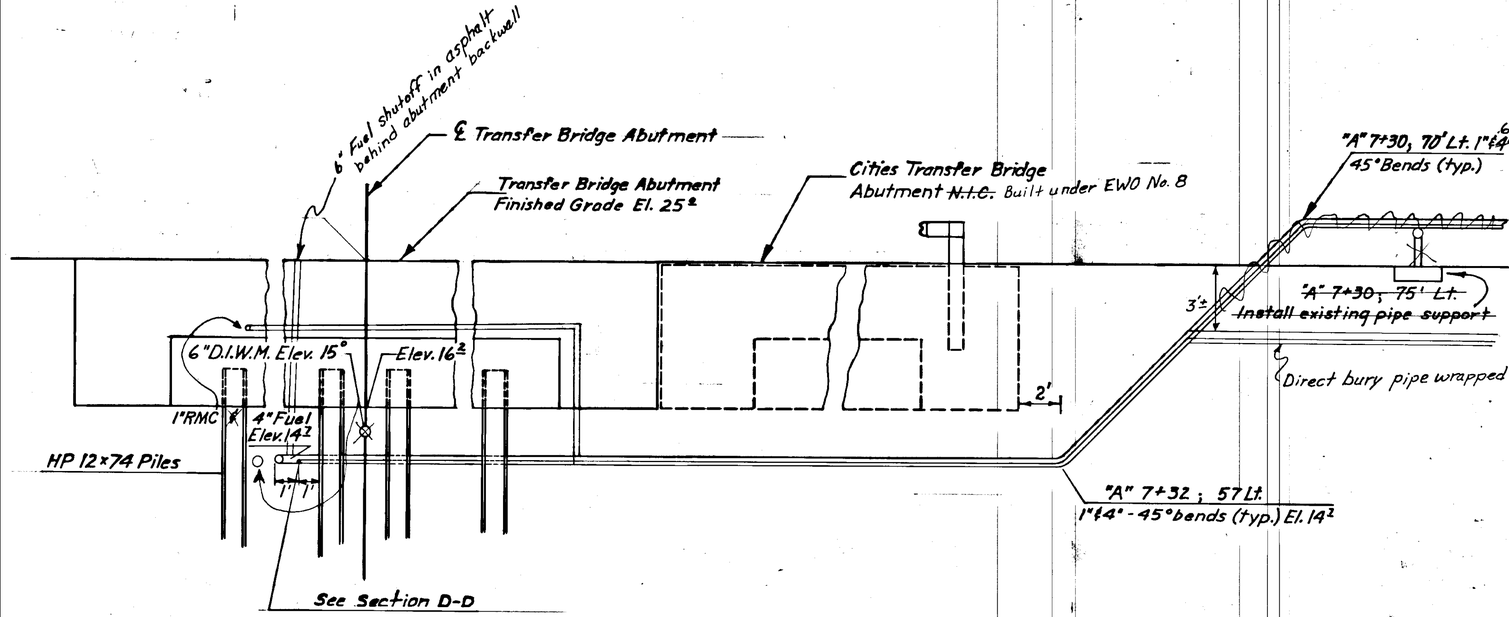
SECTION C-C



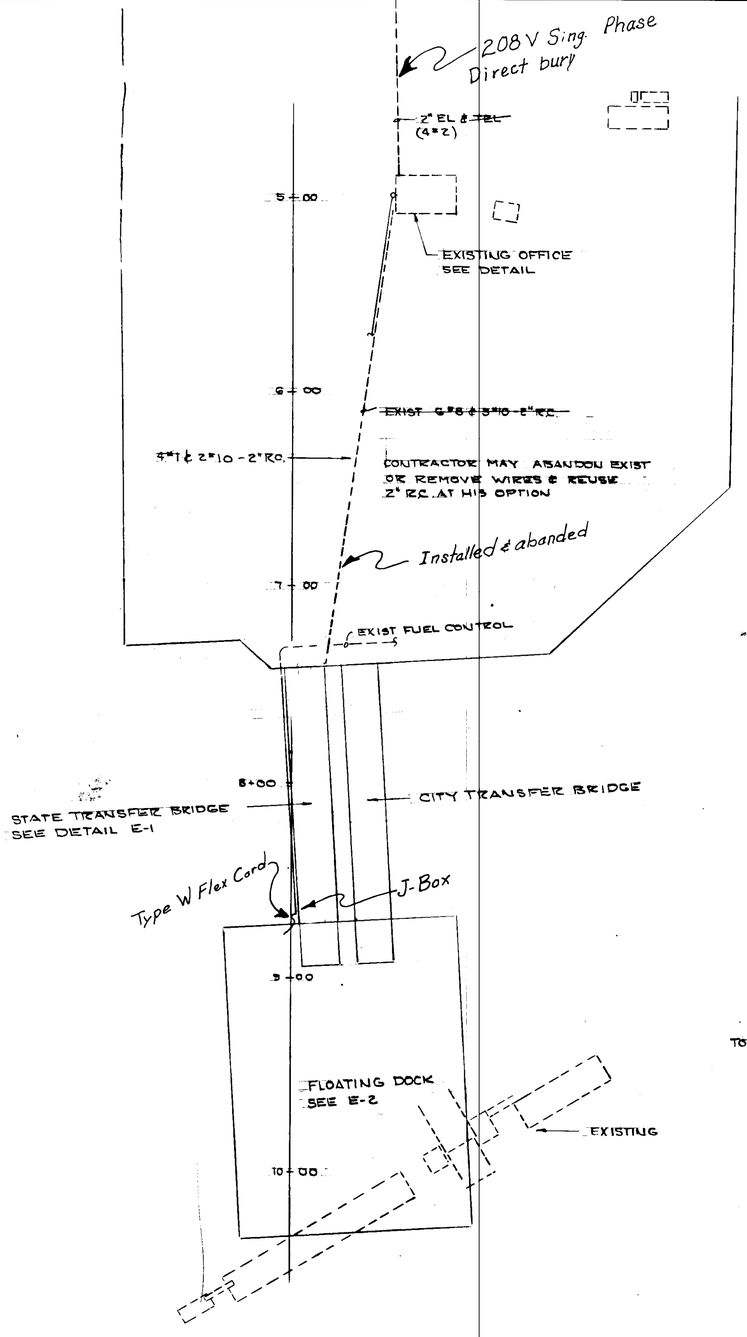
SECTION D-D

NOTES

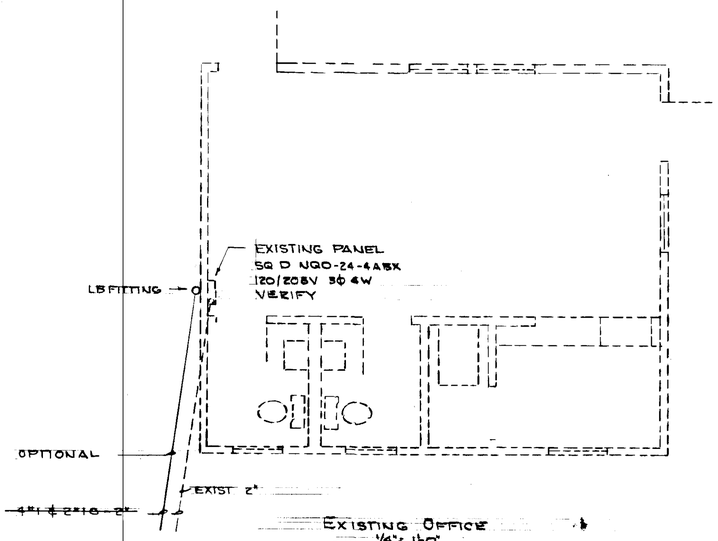
1. The location of utilities shown on these plans are approximate and shall be verified by the contractor prior to starting construction.
2. All valve boxes shall be Mueller catalogue no. H-10360 or equal.
3. Depth of conduit bedding shall be 6" below the bottom of and 6" above the top of the conduit.
4. Flexable connections for the 3" water main and the 4" fuel lines will each require approximately 16 L.F. of rubber hose with bronze male hose nipples - I.P.T. to N.S.T. - and bronze pin lug female hose couplings at each end. The rubber hoses used in the above installations shall have the following minimum P.S.I. ratings : 3" - 75 P.S.I., 4" - 200 P.S.I.
5. Flexable connection for the 1" R.M.C. shall be watertight in accordance with the N.E.C.



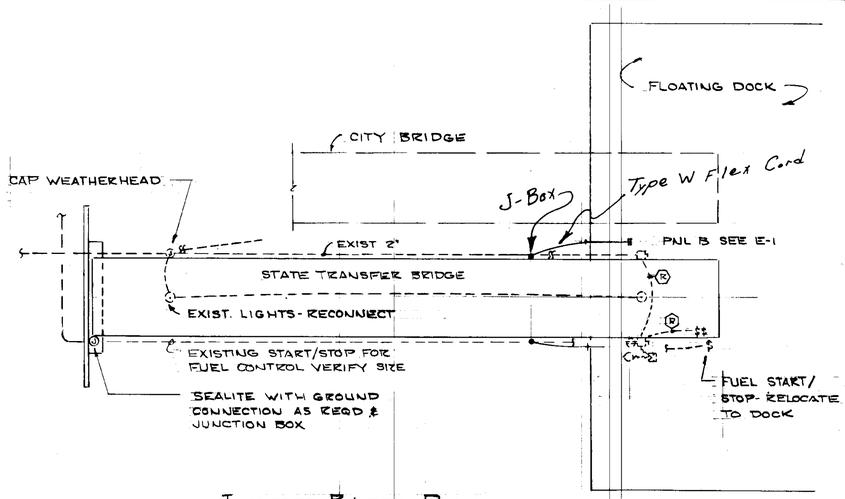
SECTION E-E



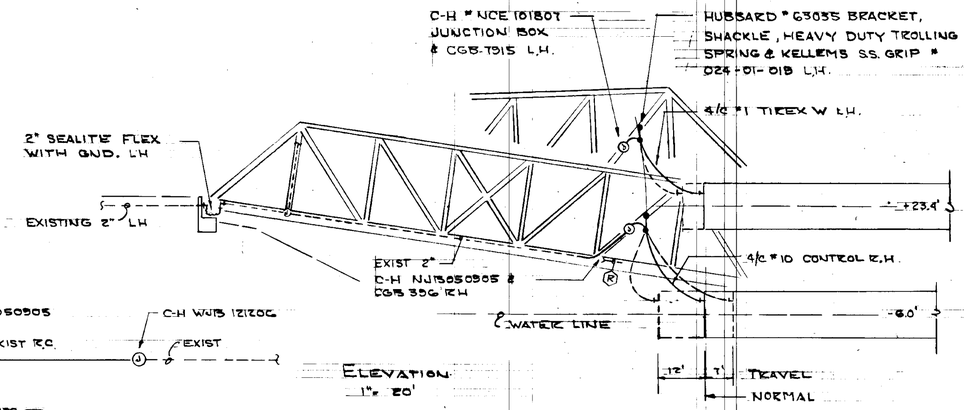
SITE PLAN
1" = 40'



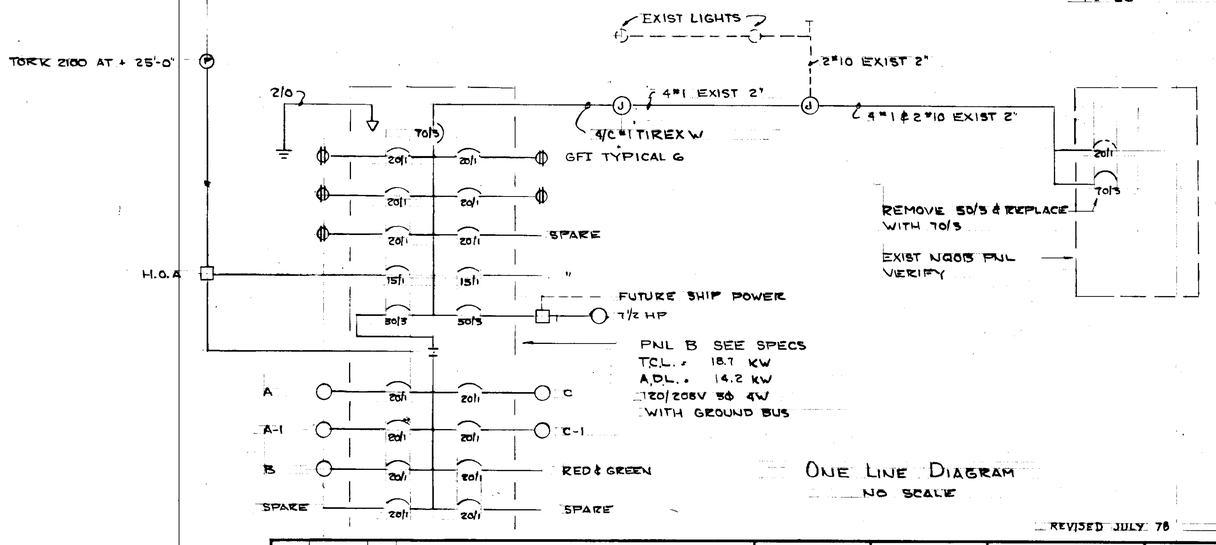
EXISTING OFFICE
1/4" = 1'-0"



TRANSFER BRIDGE PLAN
1" = 20'



ELEVATION
1" = 20'



ONE LINE DIAGRAM
NO SCALE

REVISED JULY 78

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-097-2(2)	1978	14	41

REV.	DATE	BY	REVISION

FIELD BOOKS	
DESIGN	
STAKING	
AS-BUILT	
SCALE HOR. AS SHOWN VER.	
DESIGNED LPL	
DRAWN LPL	
CHECKED	
DATE 8/1/78	
GRID	
JOB NO. 7502.0	

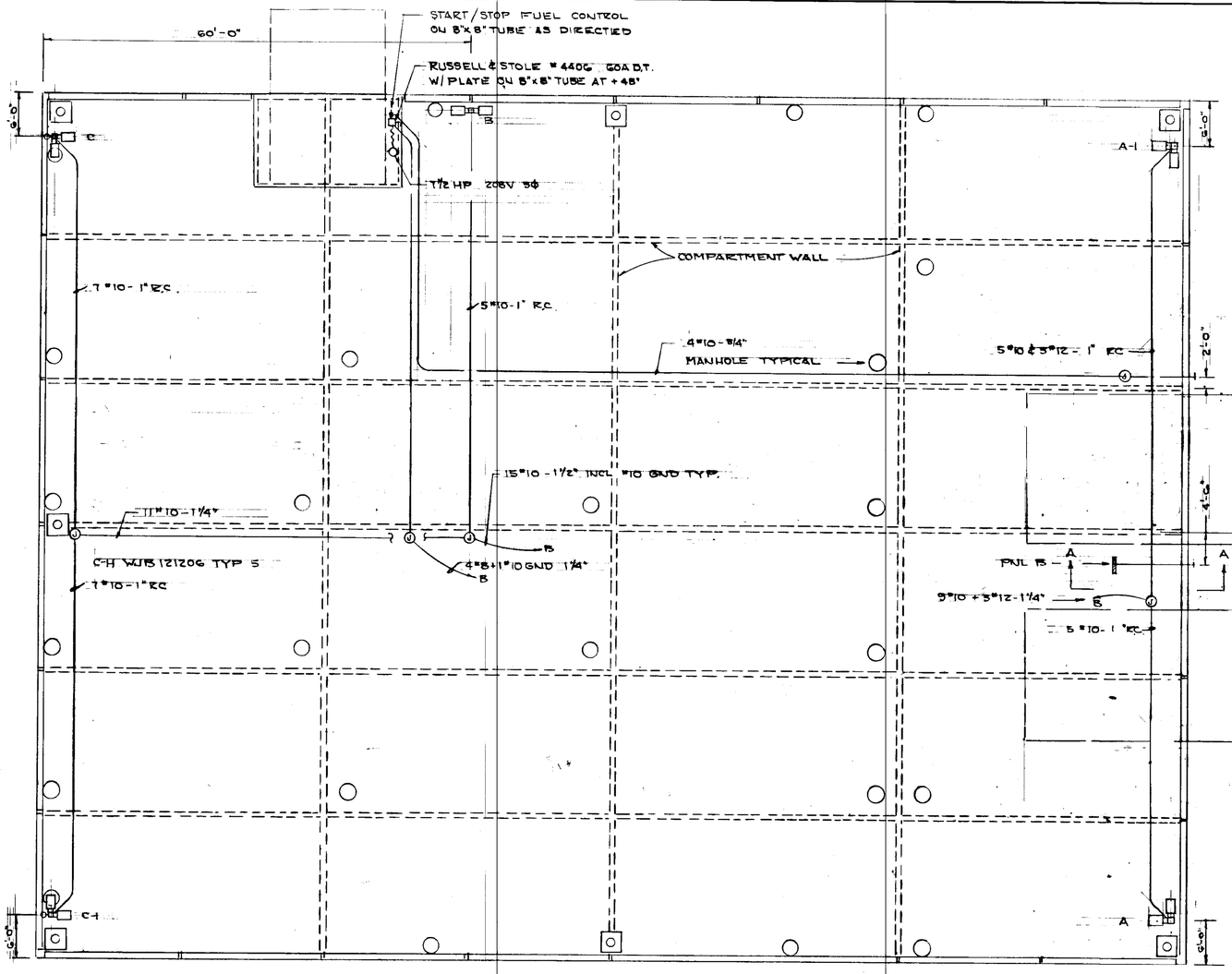
TRYCK NYMAN & HAYES
ENGINEERS / PLANNERS / SURVEYORS

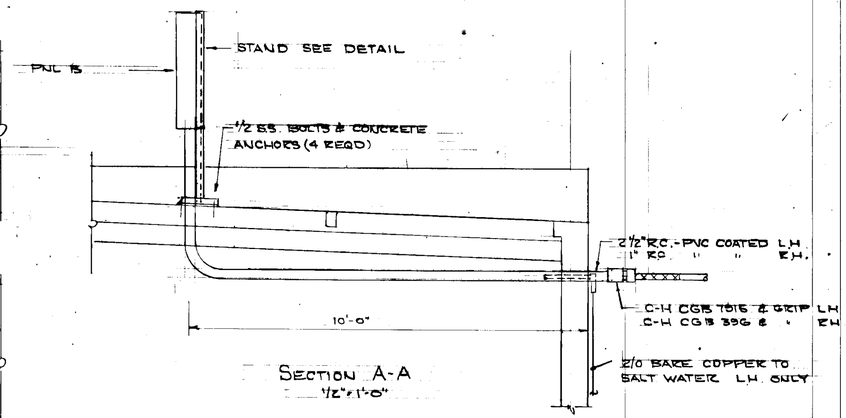
BARGE FACILITY
TRANSFER BRIDGE ELECTRICAL

SKAGWAY ALASKA

SHEET E-1 OF 2

FILE NO. 7502.0



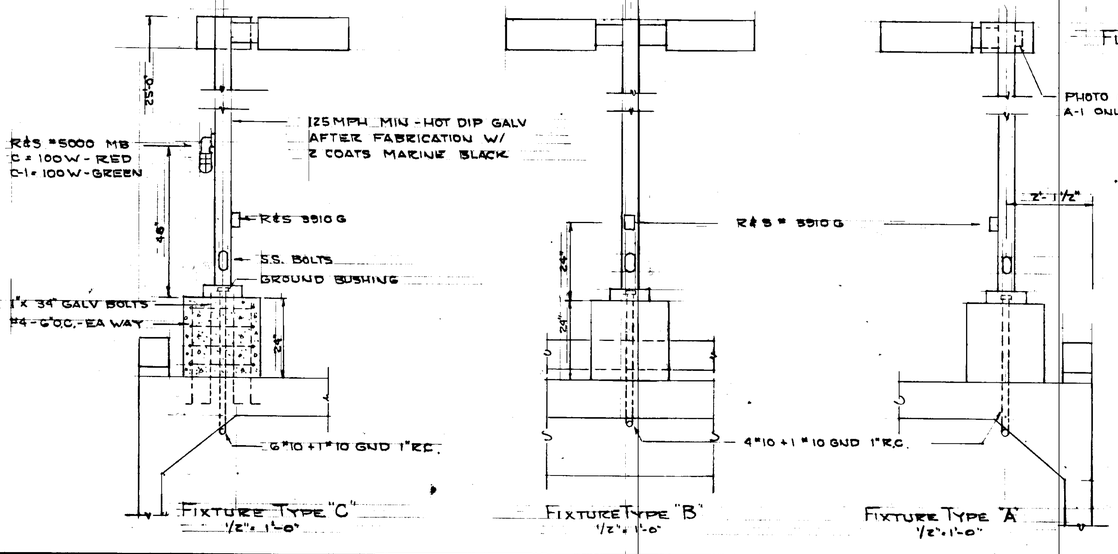


SECTION A-A
½"=1'-0"

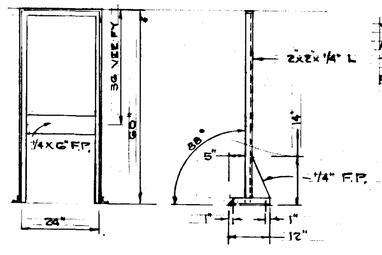
FIXTURE SCHEDULE			
TYPE	MFG.	W	REMARKS
A	McPHILBEN 17BG4-2DI-25SNL5032	2-250 HPS	SEE DETAIL W/RECP
A-1	" " " " "	"	" " " & PHOTO ELEC
B	" 17BG4-2D-25SNL5032	"	" " "
C	" 17BG4-2DI-25SNL5032	"	" " " & RED LIGHT
C-1	" " " " "	"	" " " & GREEN "

SYMBOLS

- EXISTING LIGHT FIXTURE
- " MOTOR
- " DISCONNECT
- " MAGNETIC STARTER
- " START/STOP CONTROL
- " JUNCTION
- NEW "
- PHOTO ELECTRIC
- EXISTING WIRING & CONDUIT
- NEW " & "
- CONTINUES
- DISCONNECT
- REMOVE



FLOATING DOCK PLAN
1"=10'



VERIFY DIMENSION FOR EQUIP.
ALL BOLT HOLES 9/16". ALL WELDING
PER D1/10. HOT DIP GALV AFTER FABRICATION

PANEL STAND
½"=1'-0"

Shop Drawings on file @
Division of Harbor Design & Construction

REVISED JULY 78

REV.	DATE	BY	REVISION

FIELD BOOKS	
DESIGN	
STAKING	
AS-BUILT	
SCALE HOR. AS SHOWN VER.	
DESIGNED	LPL
DRAWN	LPL
CHECKED	
DATE	8/1/78
GRID	
JOB NO.	7502.2

TRYCK NYMAN & HAYES
ENGINEERS/PLANNERS/SURVEYORS

BARGE FACILITY
BARGE ELECTRICAL DETAILS
SKAGWAY ALASKA

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-097-2(2)	1978	15	41

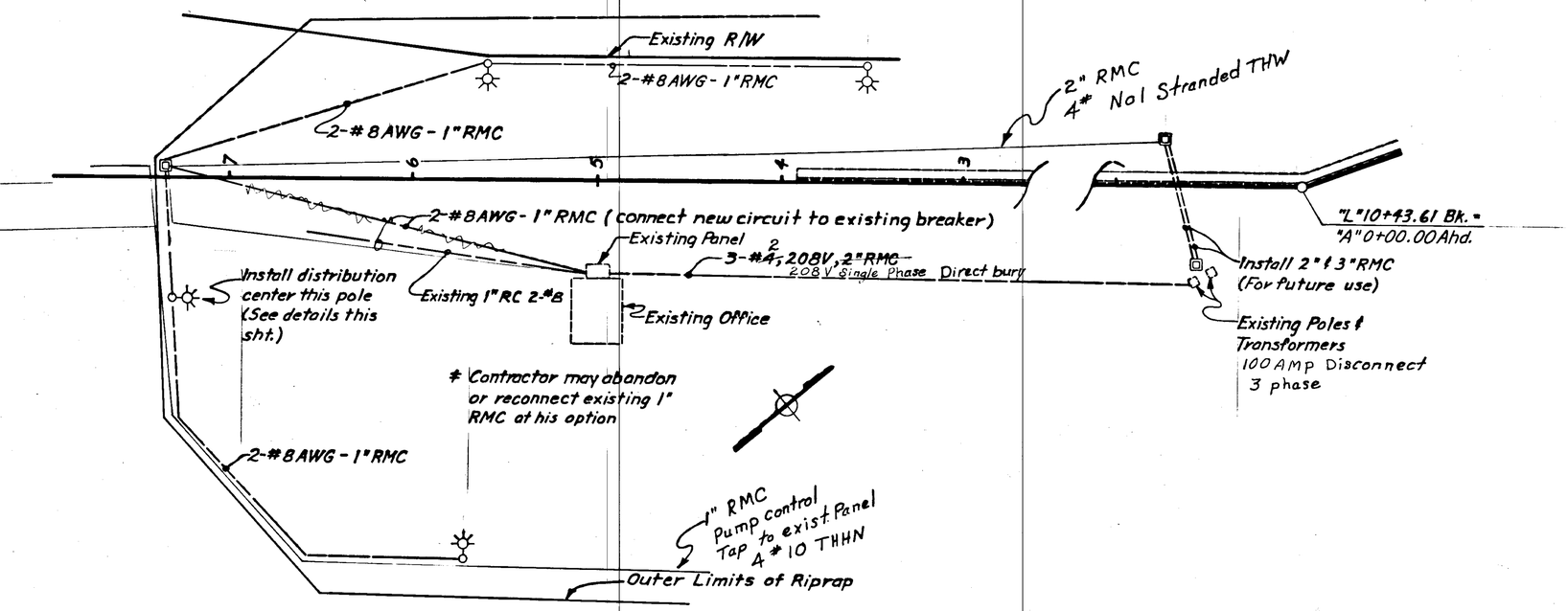
SHEET E-2 OF 2

FILE NO. 7502.0

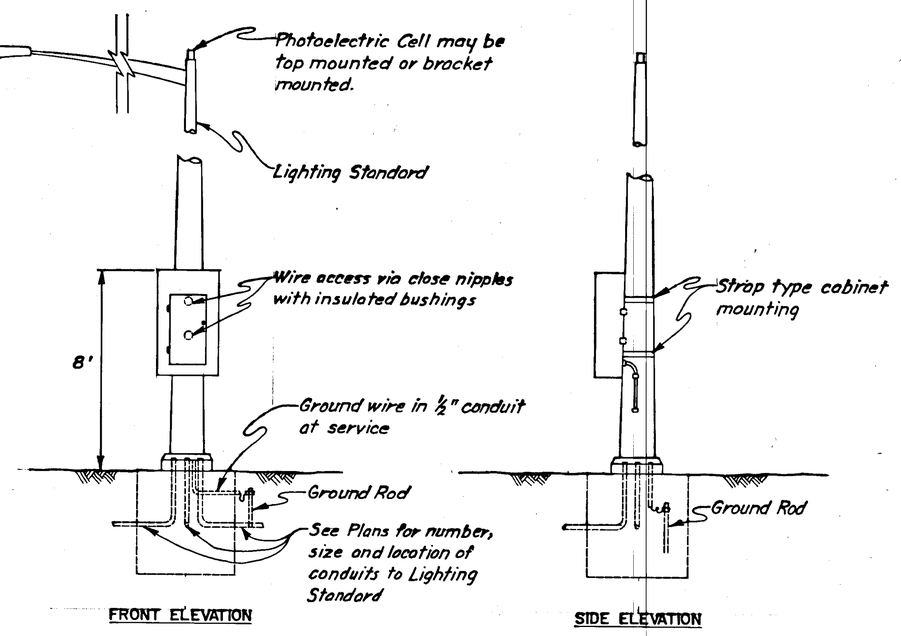
STATE OF ALASKA 49TH
Leonard P. Lowell No. 553-E
REGISTERED PROFESSIONAL ENGINEER

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-097-2(2)	1978	16	41

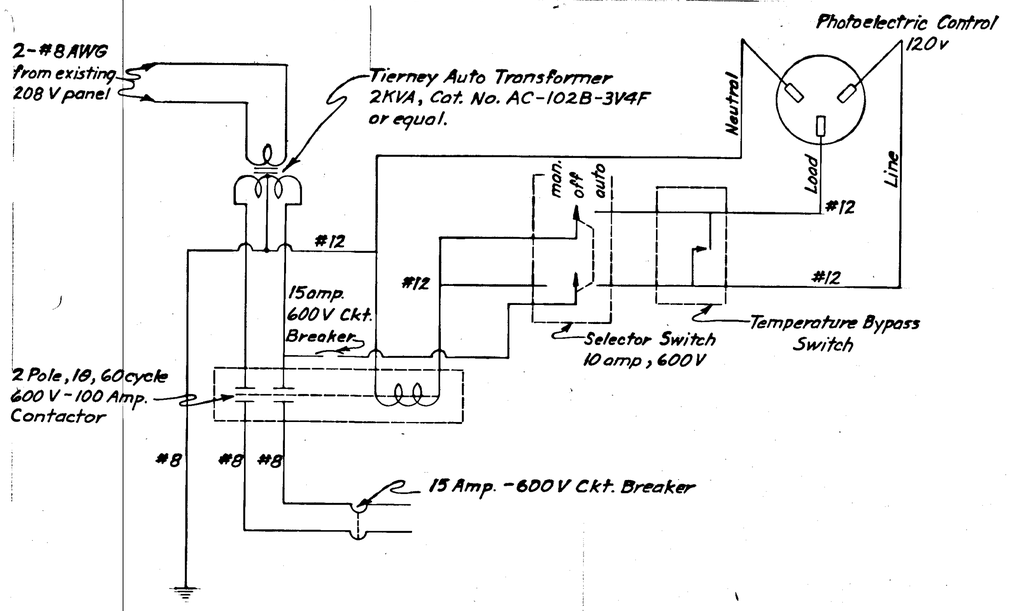
ILLUMINATION DETAILS



PLAN VIEW



DISTRIBUTION CENTER ON METAL POLE



120V-240V SCHEMATIC DIAGRAM

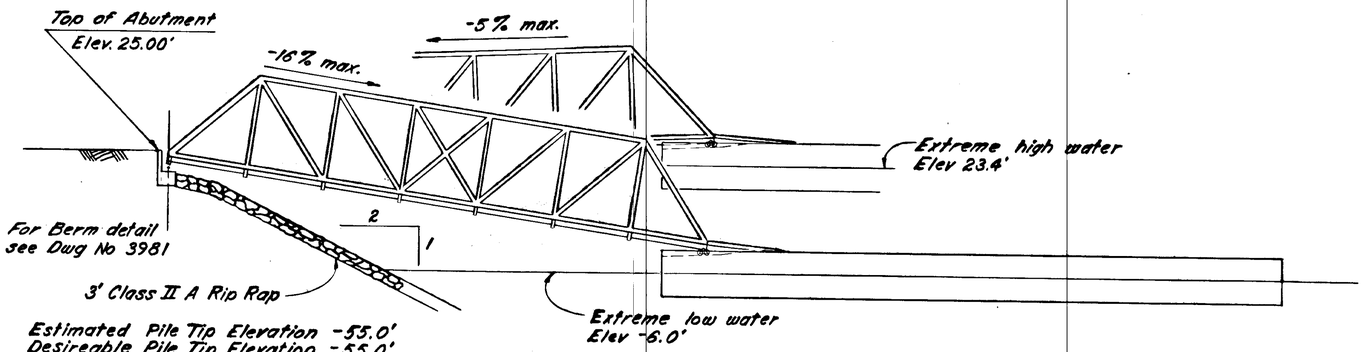
GENERAL ILLUMINATION NOTES

1. Locations given are approximate only and are subject to minor field revisions by the engineer.
2. All luminaires will be mounted 35' above staging area surface.
3. All mast arms shall be 6' long.
4. All luminaires shall be 240V-250W, medium distribution, semi-cut off type II High Pressure Sodium.
5. Footings for luminaire poles shall be cast-in-drilled holes, type II, See Standard Drawing L-30.01 for more details.
6. All luminaire poles shall be furnished with flange bases.
7. All junction boxes will be type II, see Standard Drawing L-23.03 for more details.

ILLUMINATION TABLE

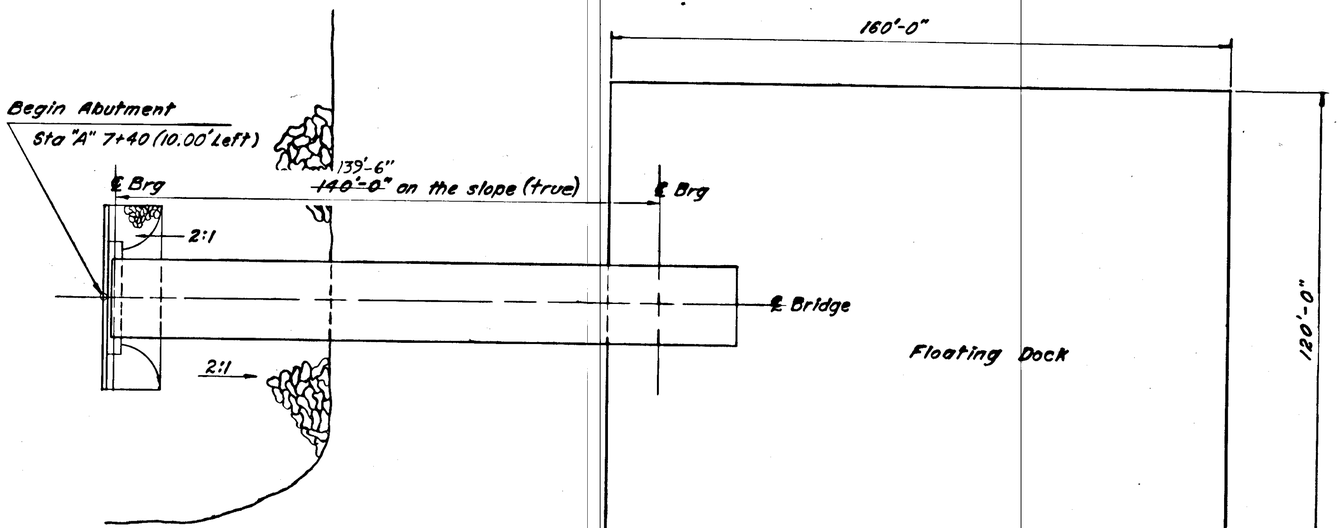
STATION	OFFSET		ITEM	REMARKS
	Lt.	Rt.		
"A" 0+58	58'		J-Box	For Future Use
"A" 0+75		25'	J-Box	For Future Use
"A" 3+50		63'	Pole	
"A" 5+60	185'		Pole	
"A" 5+70		63'	Pole	
"A" 7+27	65'		Pole	
"A" 7+35		7'	J-Box	

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-097-2(2)	1978	17	41



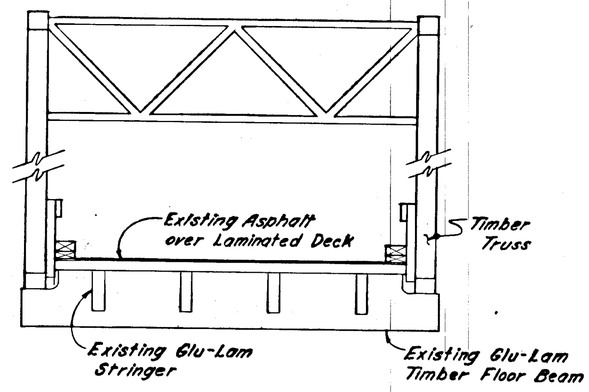
ELEVATION

10 0 20 40
Feet



PLAN

10 0 20 40
Feet



TYPICAL SECTION - EXISTING BRIDGE

10 0 40 80
Feet

TOTAL ESTIMATED QUANTITIES

ITEM	PAY UNIT	SUBSTR.	SUPERSTR.	TOTAL
Removal of Structures & Obstructions	Lump Sum	———	———	All Req'd
Class "A" Concrete	C.Y.	29.1	———	29.1
Reinforced Steel	Lbs.	2420	———	2420
* Structural Steel furnished, fabricated & erected	Lbs.	3090	3180	6270
Structural Steel Piles furnished & driven	L.F.	436	———	436
Relocation of Structures	Lump Sum	———	———	All Req'd

* Does not include the weight of wheels and axles

GENERAL NOTES:

1. **Specifications:**
   - Design: AASHTO Standard Specifications for Highway Bridges, 1977 Edition
   - Construction: State of Alaska Standard Specifications for Highway Construction, 1972, with Supplemental Specifications, 1975 and Special Provisions.
   - Design Live Load: HS 20-44

   Design Unit Stresses:
   - Structural Steel: Tension and extreme fiber bending stress 20,000psi(A36) and 27,000psi(A572)
   - Reinforced Concrete: f'_c = 3000 psi, fy= 60,000 psi, n=10

   Structural Materials:
   - Structural Steel: All structural steel shall be A36 unless noted otherwise.
   - Concrete: All cast-in-place concrete shall be Class "A."
   - Reinforcing Steel: All reinforcing steel shall conform to ASTM 615 Grade 60

   Steel Piles:
   - Design Load: 40 Tons
   - Type: HP 12 X 74

2. When the dock is in its neutral position the face of the dock will be 127' horizontal from the centerline of abutment bearings.

INDEX

The following Standard Drawing applies to this Bridge: F-01.20

SKAGWAY TRANSFER BRIDGE

ROUTE NO. F-97

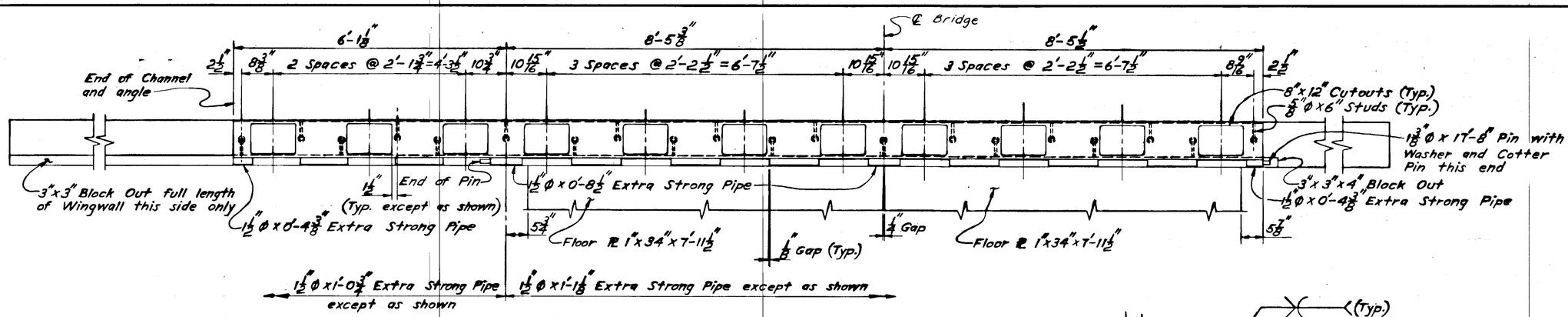
GENERAL LAYOUT

State of Alaska
DEPARTMENT OF TRANSPORTATION and PUBLIC FACILITIES
Juneau, Alaska

Date 8-17-78
Approved [signature]

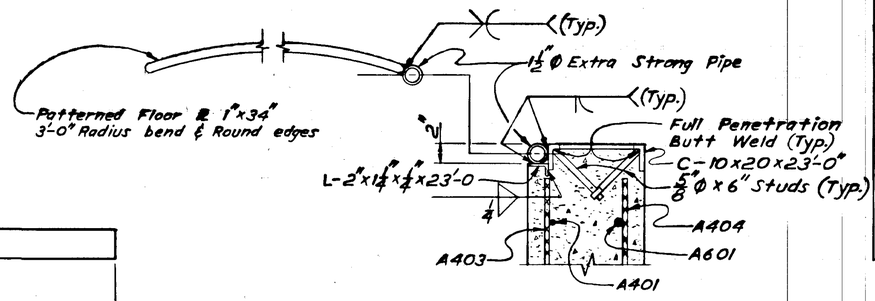
BRIDGE NO. 805
DWNG. NO. 3980

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-097-2(2)	1978	18	41



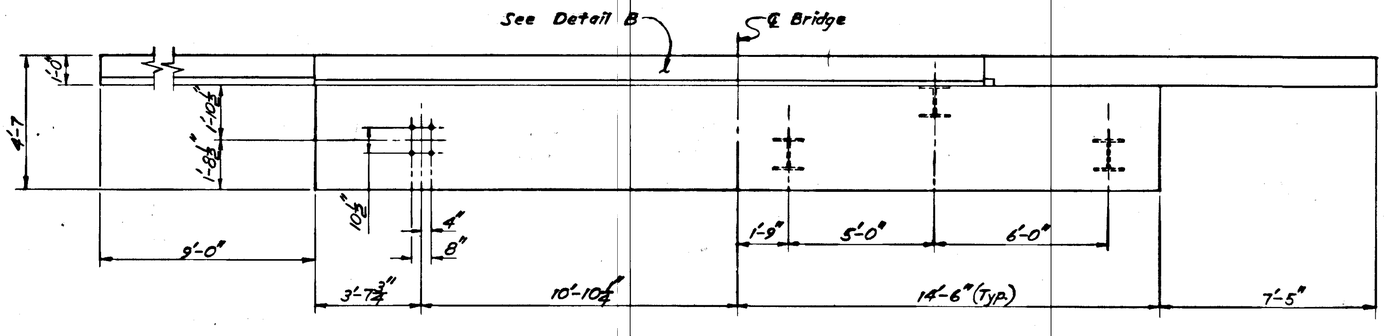
DETAIL B

12 6 0 1 2 3 4
Inches Feet



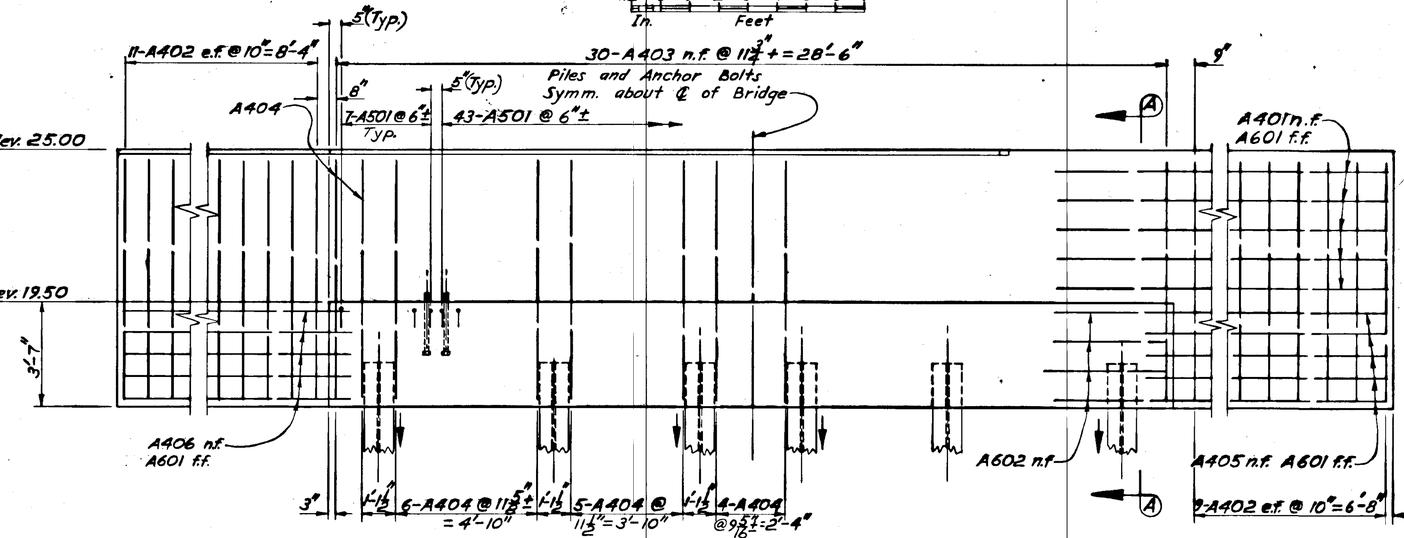
DETAIL C

12 6 0 1 2
Inches Feet



PLAN

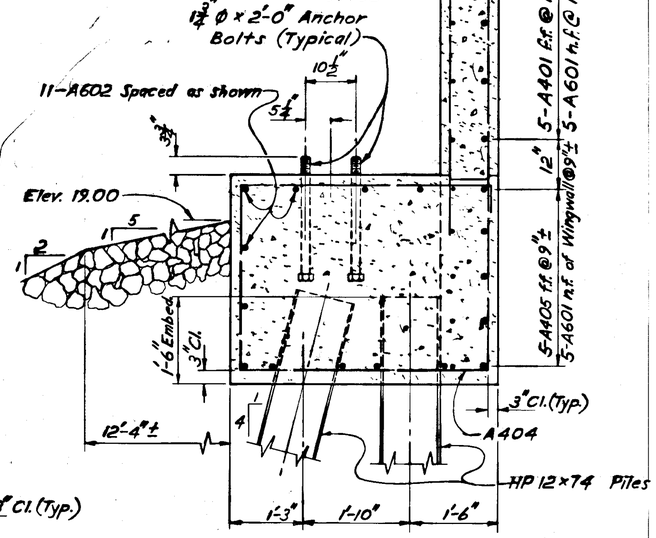
12 0 1 2 3 4 5 6 7
In. Feet



ELEVATION

12 0 1 2 3 4 5 6 7
In. Feet

Arrow denotes battered Piles 1:4

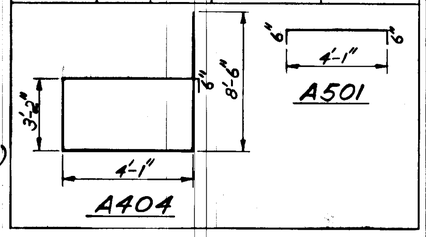


SECTION A-A

12 6 0 1 2 3 4
Inches Feet

ABUTMENT REINFORCING STEEL

MARK	SIZE	NO.	LENGTH	TYPE
A401	4	5	45'-0"	——
A402	4	40	8'-6"	——
A403	4	30	6'-3"	——
A404	4	30	20'-4"	Bent
A405	4	5	8'-6"	——
A406	4	5	10'-0"	——
A501	5	57	5'-1"	Bent
A601	6	10	45'-0"	——
A602	6	11	28'-6"	——



SKAGWAY TRANSFER BRIDGE

ROUTE NO. F-97

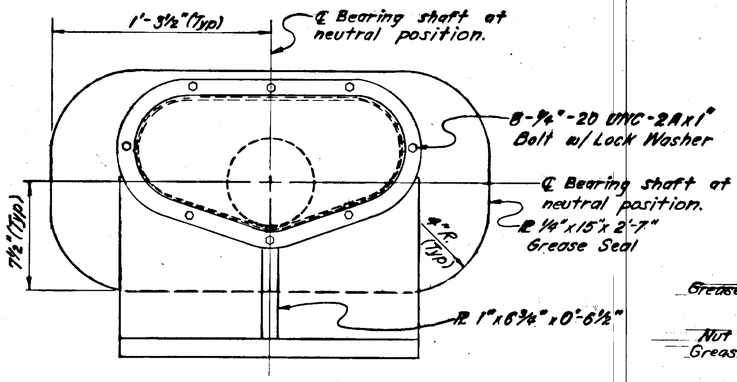
ABUTMENT

State of Alaska
DEPARTMENT OF TRANSPORTATION and PUBLIC FACILITIES
Juneau, Alaska

Date 8-17-78
Approved

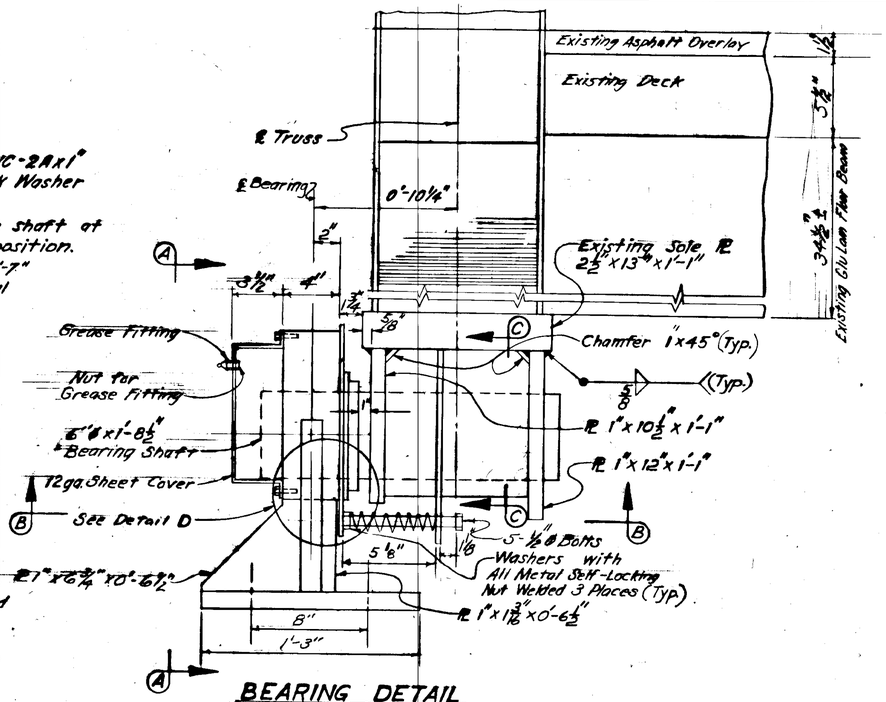
BRIDGE NO. 805
DWNG. NO. 3981

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-097-2(2)	1978	19	41



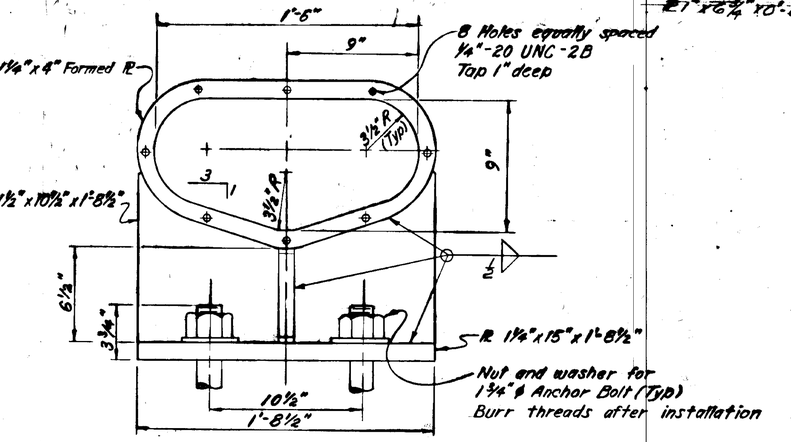
SECTION A-A

1 0 5 10
Inches



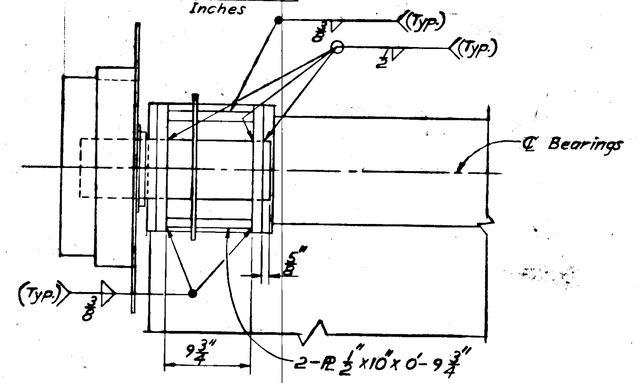
BEARING DETAIL

1 0 5 10
Inches



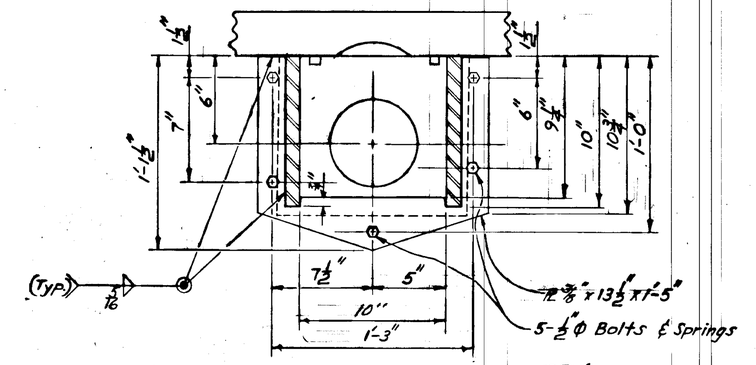
BEARING HOUSING DETAIL

1 0 5 10
Inches



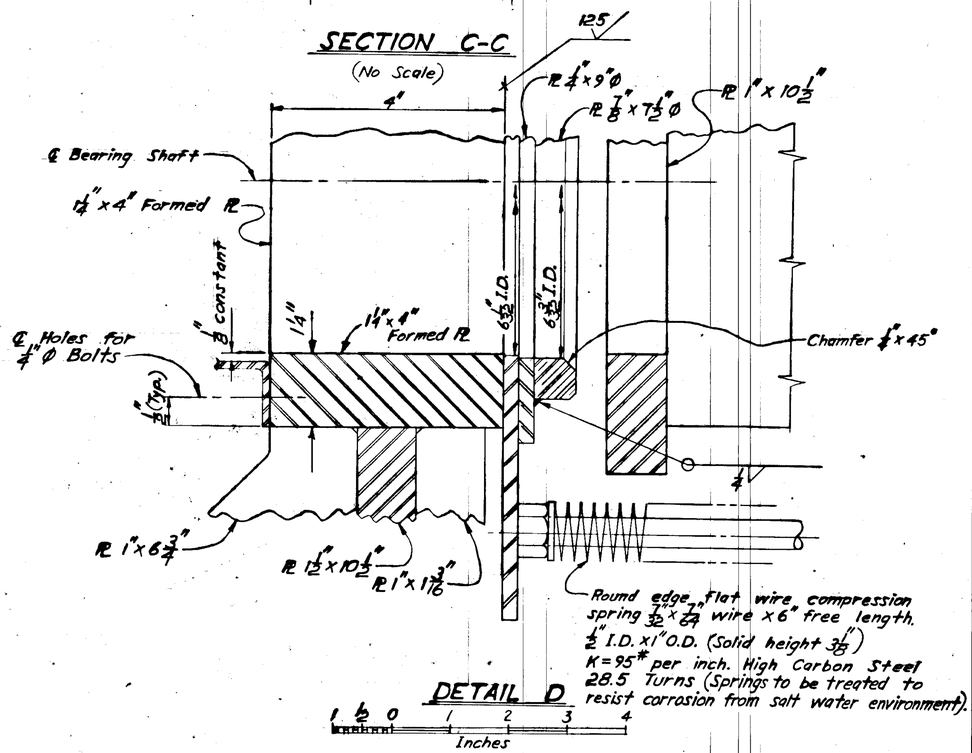
SECTION B-B

1 0 5 10 15
Inches



SECTION C-C

(No Scale)



DETAIL D

1 ½ 0 1 2 3 4
Inches

Bearings Modified by EWO No. 14

SKAGWAY TRANSFER BRIDGE

ROUTE NO. F-97

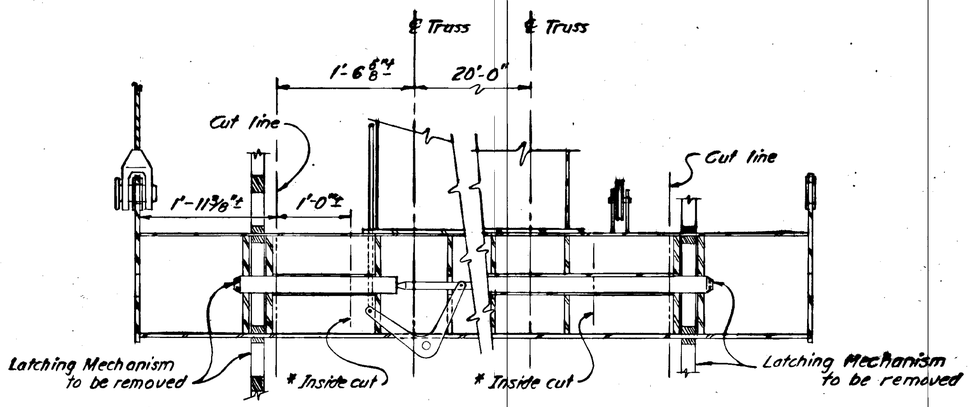
ABUTMENT BEARINGS

State of Alaska
DEPARTMENT OF TRANSPORTATION and PUBLIC FACILITIES
Juneau, Alaska

Date 8-17-78
Approved [signature]

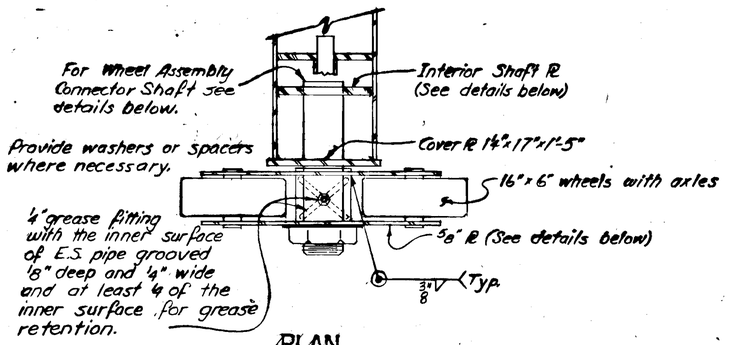
BRIDGE NO. 805
DWNG. NO. 3982

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	F-097-2 (2)	1978	20	41

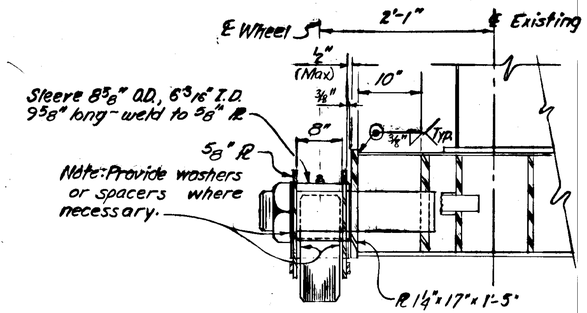


* Inside cut to be adjusted to allow proper fit for new shaft.

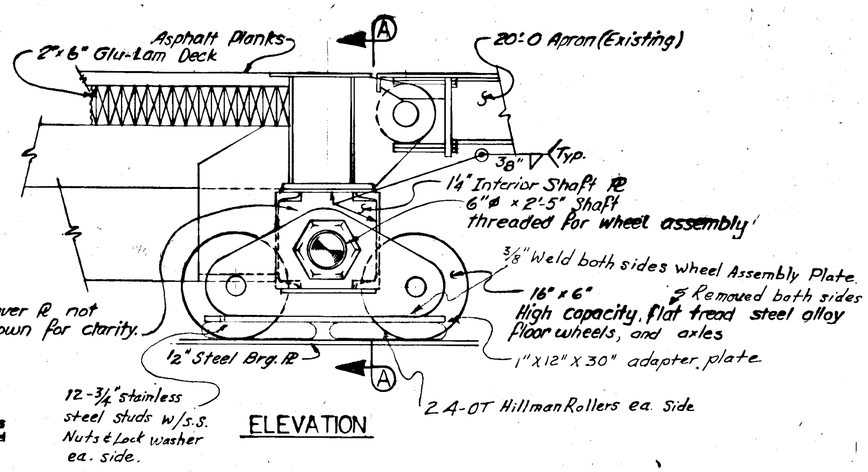
EXISTING LIFTING BEAM



PLAN

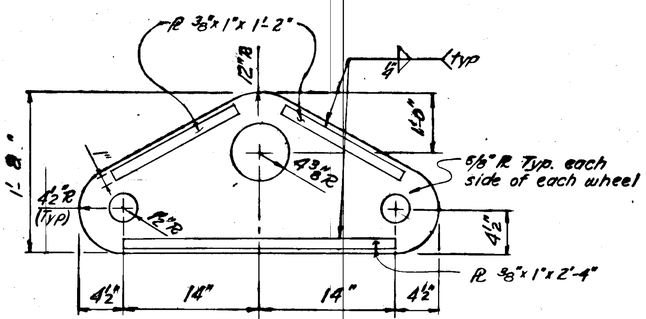


SECTION A◇A

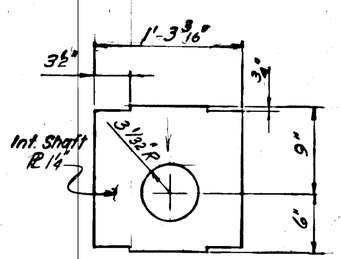


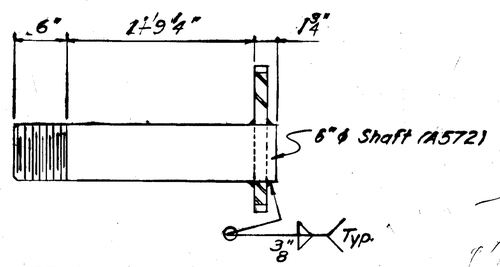
ELEVATION

6"x16" Floor wheels replaced by 2 4-0T Hillman rollers ea. side. All other details remain same.



WHEEL ASSEMBLY PLATE (4-req'd)
No Scale





INTERIOR SHAFT R & SHAFT

12 6 0 1 2 3
Inches Feet

12 6 0 1 2
Inches Feet

SKAGWAY TRANSFER BRIDGE

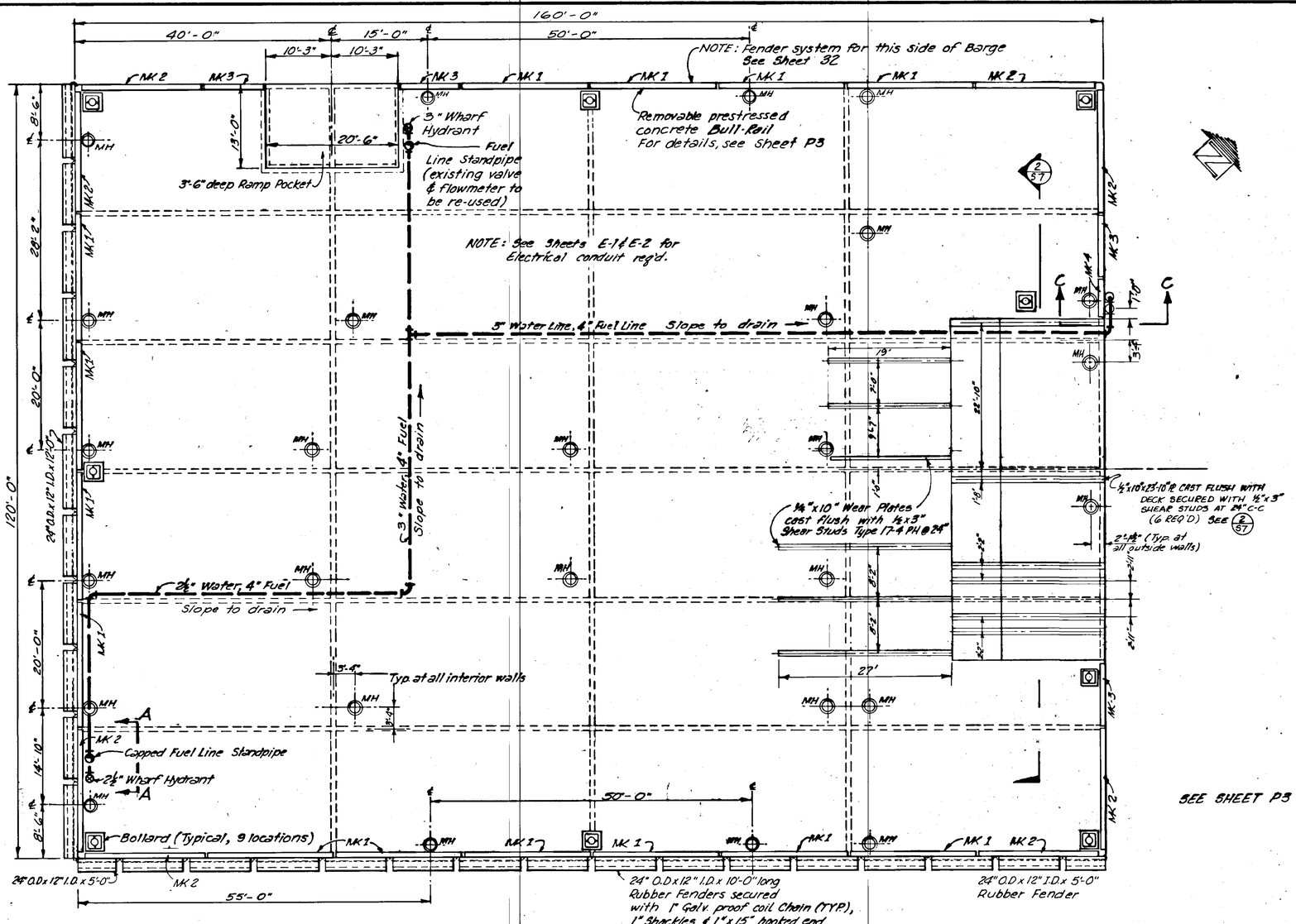
ROUTE NO. F-97

DOCK BEARINGS

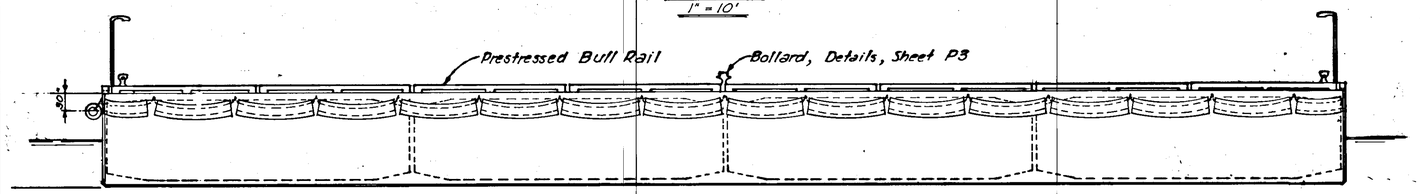
State of Alaska
DEPARTMENT OF TRANSPORTATION and PUBLIC FACILITIES
Juneau, Alaska

Date 8-17-78
Approved [signature]

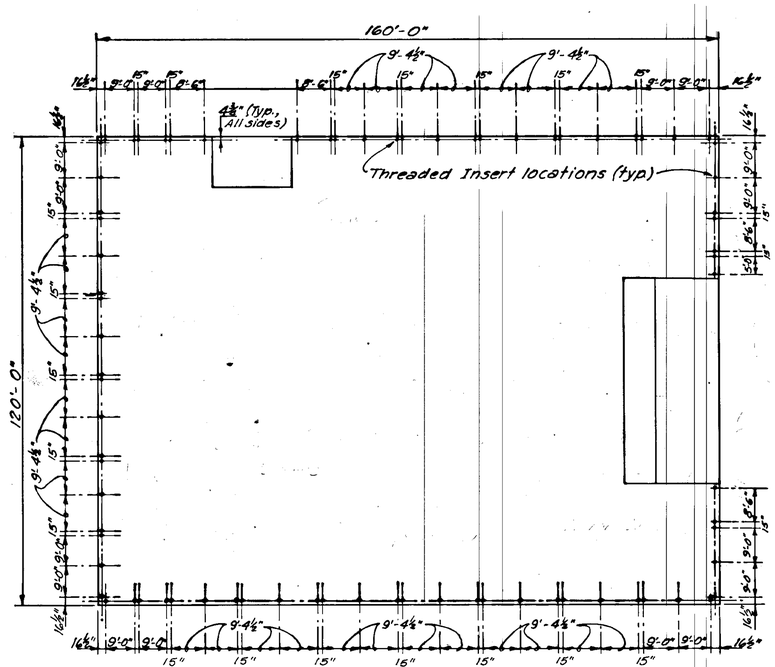
BRIDGE NO. 805
DWNG. NO. 3983



PLAN
1" = 10'



ELEVATION
1" = 10'



BULL-RAIL ATTACHMENT LAYOUT
1" = 20'

SEE SHEET P3 FOR DETAILS

See Shop Drawings From Concrete Tech. & L.B. Foster On file @ Division of Harbor Design & Construction. Covers next 13 pages

STATE OF ALASKA 49TH
No. 1616-E
JUNE 24, 1967
PROFESSIONAL ENGINEER

REV.	DATE	BY	REVISION

FIELD BOOKS
DESIGN
STAKING
AS-BUILT
SCALE HOR. AS SHOWN VER.

DESIGNED DSM
DRAWN JT
CHECKED RMH
DATE 7/20/78
GRID
JOB NO. 7502.0

TRYCK NYMAN & HAYES
ENGINEERS / PLANNERS / SURVEYORS
JUNEAU ALASKA

BARGE FACILITY
BARGE DETAILS
SKAGWAY ALASKA

SHEET P1 OF 3
FILE NO. 7502.0

REV.	DATE	BY	REVISION	FIELD BOOKS	
				DESIGN	DESIGNED DSM
				STAKING	DRAWN JT
				AS-BUILT	CHECKED RMH
				SCALE	DATE 7/20/78
				HOR. VER. AS SHOWN	GRID
					JOB NO. 7502.0

TRYCK NYMAN & HAYES
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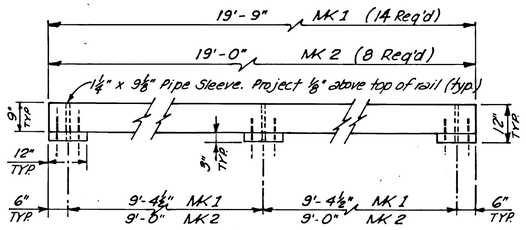
JUNEAU, ALASKA

BARGE FACILITY
ANCHOR LAYOUT

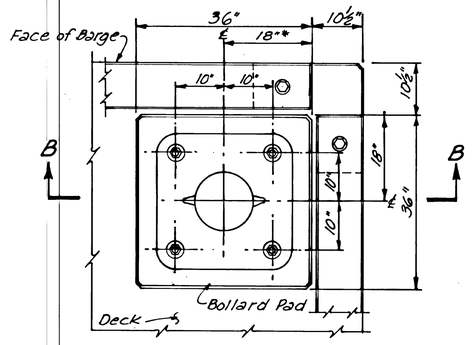
SKAGWAY ALASKA

SHEET P2 1 OF 3
FILE NO. 7502.0



BULL-RAIL DETAILS

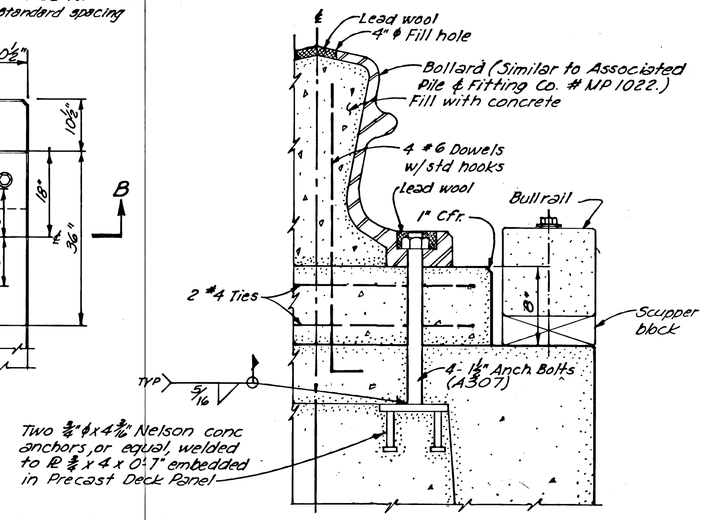
½" = 1'-0"



PLAN

¾" = 1'-0"

See S2 for locations

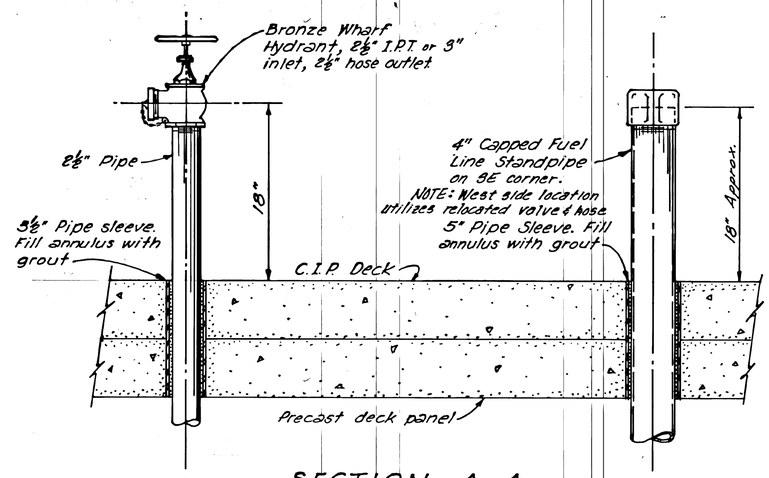


SECTION B-B

BOLLARD & PAD SYMMETRICAL ABOUT ℄

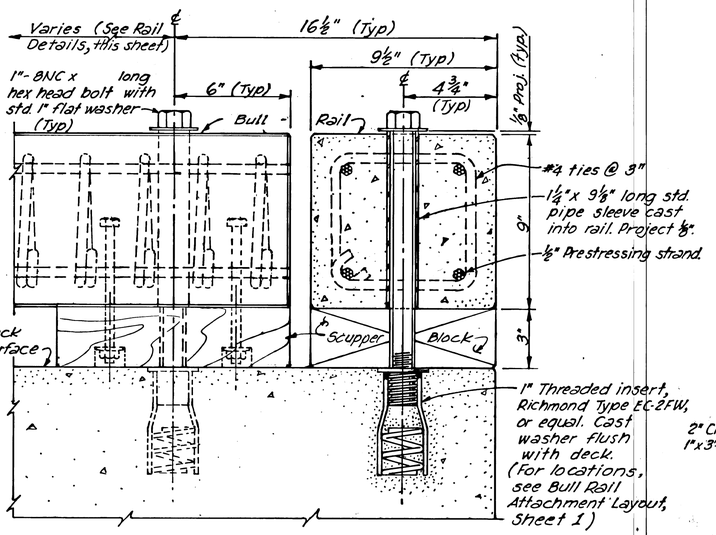
1½" = 1'-0"

(1/P3) BOLLARD DETAILS



SECTION A-A

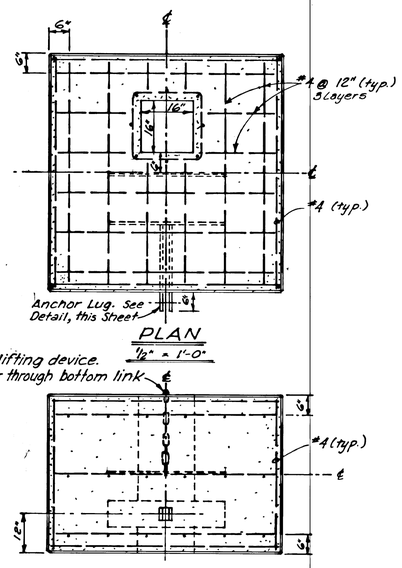
1½" = 1'-0"



BULL RAIL DETAILS
SECTION AT BARGE CORNER

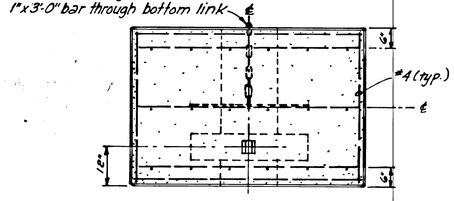
BOLLARD NOT SHOWN

3" = 1'-0"



PLAN

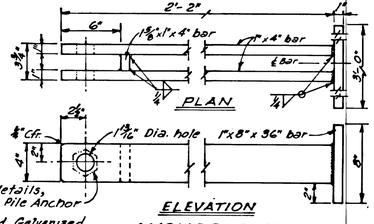
½" = 1'-0"



ELEVATION

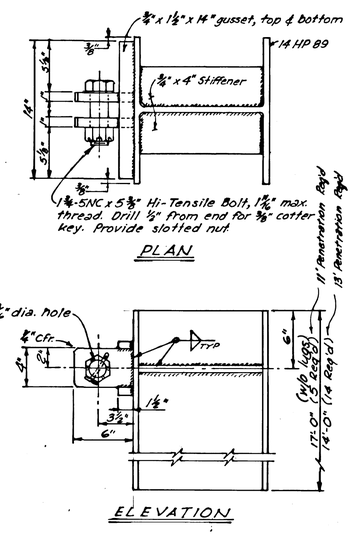
½" = 1'-0"

NOTE: Anchor dimensions may vary to accommodate available forms, as approved, but must be nominal 240 cu. ft. minimum, with maximum ht. of 5'.



ELEVATION
ANCHOR LUG

1½" = 1'-0"



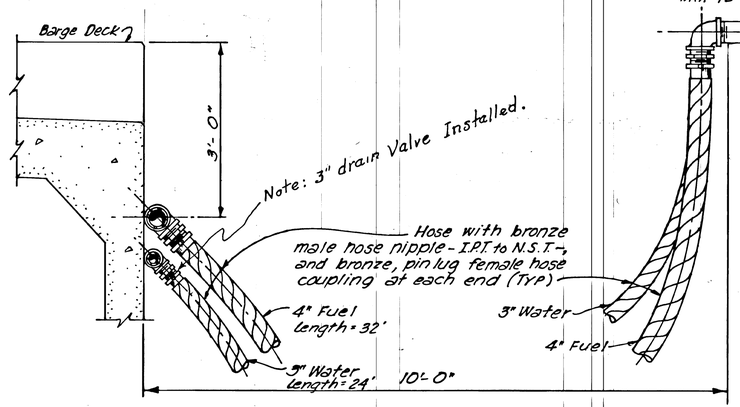
PLAN

ELEVATION

STAKE PILE DETAILS

1½" = 1'-0"

ANCHOR DETAILS



SECTION C-C

¾" = 1'-0"

Building & Ramp added EWO No. 15

NOTE:

1. Attach fuel line to an existing plugged 4" flow valve located on side of transfer bridge, which is approx. 13' from end of bridge. Provide Heavy Duty shock cord attachment for fuel hose approx. 22' from end of bridge.
2. Remove existing flow valve & hose assembly on bridge and relocate on dock as shown. Relocate fuel meter to Ferry Ramp also.
3. Existing waterline on bridge terminates in a gate valve approx. 6' from end of bridge. Cut line back to approx. 22' and reattach gate valve with elbow to side of bridge and connect new hose.

STATE OF ALASKA 49TH Raoul L. Miller No. 1616-E JUNE 24, 1967 PROFESSIONAL ENGINEER

REV.	DATE	BY	REVISION

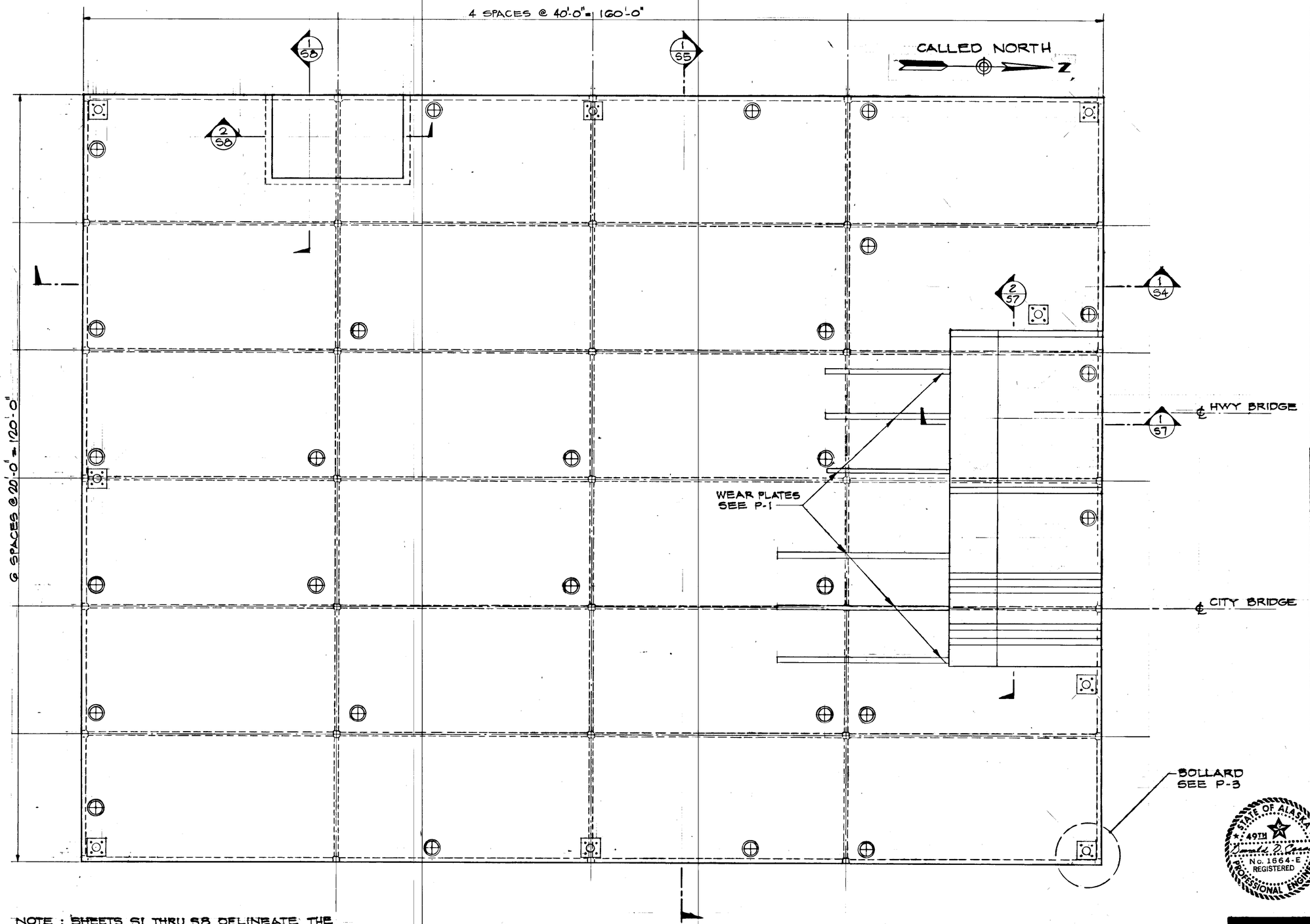
FIELD BOOKS	
DESIGN	
STAKING	
AS-BUILT	
SCALE HOR. / VER.	AS SHOWN
DESIGNED	OSM
DRAWN	JT
CHECKED	RMH
DATE	7/20/78
GRID	
JOB NO.	7502.0

TRYCK NYMAN & HAYES
ENGINEERS/PLANNERS/SURVEYORS
JUNEAU, ALASKA

BARGE FACILITY
MISCELLANEOUS DETAILS
SKAGWAY ALASKA

SHEET P3 1 OF 3 1

FILE NO. 7502.0



NOTE : SHEETS S1 THRU S8 DELINEATE THE STRUCTURAL FRAMING FOR THE BARGE AND MUST BE CO-ORDINATED WITH THE REQUIREMENTS OF OTHER SHEETS IN THIS SET OF PLANS.

(1/S1) SURFACE FEATURES PLAN
1/8" = 1'-0"

GENERAL NOTES

I. DESIGN CONDITIONS

A. WAVE: HEIGHT = 8 FT.
LENGTH = HULL LENGTH IN DIRECTION OF WAVE.

B. DECK LOADS: SEE BELOW

C. PLATING BELOW DECK: HYDROSTATIC PRESSURE WITH WATERLINE AT DECK LEVEL.

II. DECK LOADS:

A. 800 PSF UNIFORM LOAD.

B. 2000 PSF CRANE OUTRIGGER ON 8 FT. X 8 FT. MAT.

C. HS20 AASHTO TRUCK OVERLOADED 33 PERCENT.

D. 195 KIP FORKLIFT AXLE LOAD. FORKLIFT 18 FT. - 6 IN. WHEEL BASE; 8 FT. TREAD TO CENTERLINE OF DUAL TIRES; EACH SET OF DUAL TIRES 40 IN. WIDE.

E. 160 KIP GROSS LOAD ON TRACKED EQUIPMENT. TRACK PRESSURE = 1500 PSF.

F. BRIDGE D.L. (TOTAL REACTION): HWY = 85k
CITY = 80k

III. LOAD COMBINATIONS

A. WAVE + II C, II D, OR II E.

B. STILLWATER:

1. 200 PSF ON 10 FT. X 8 FT. DECK AREA.
2. 450 PSF ON 4800 SF OF CONTIGUOUS DECK AREA.
3. 50k ON BOLLARD.

IV. HAWSE PIPE

A. 30 KIP LOAD AT 2:1 SCOPE.

V. DESIGN CRITERIA

A. ACI 318-71 ULTIMATE STRENGTH DESIGN.

B. HULL GIRDER:

1. LOAD FACTOR = 1.3 FOR DESIGN WAVE.
2. MEMBRANE STRESSES = ZERO TENSION.

C. PLATING:

1. PRESTRESSED SECTIONS: 0.45 f'_c COMPRESSION, $5\sqrt{f'_c}$ TENSION.
2. DECK: 1.4 D. L. + 1.7 L. L.
3. EXTERIOR AND INTERIOR BULKHEADS: 1.3 L. L.
4. KEEL: 1.4 (D. L. + L. L.)

VI. CONCRETE COVER

A. OUTSIDE SURFACES - 2 IN. EXCEPT DECK - 2 1/2"

B. INTERIOR SURFACES - 1 IN.

VII. CONCRETE

A. ALL CONCRETE EXCEPT PRECAST INTERIOR BULKHEADS.

1. NORMAL WEIGHT. EXCEPT PRECAST DECK SLABS MAX. WT. = 135 PCF.
2. COMPRESSIVE STRENGTH, f'_c, AT PRESTRESS TRANSFER = 3400 PSI.
3. COMPRESSIVE STRENGTH, f'_c, AT 28 DAYS = 6000 PSI.

B. PRECAST INTERIOR BULKHEADS.

1. LIGHT WEIGHT = 120 PCF.
2. COMPRESSIVE STRENGTH, f'_c, AT 28 DAYS = 5000 PSI.

VIII. REINFORCEMENT

A. DEFORMED BARS - ASTM A615, GRADE 60.

B. WELDED WIRE FABRIC - ASTM A185.

IX. PRESTRESSING

A. SEVEN-WIRE, STRESS-RELIEVED STRAND - ASTM A416 (f_{pu} = 270 KSI).

B. FINAL STRESS AFTER ALL LOSSES EQUAL TO 0.6 f_{pu}.

C. GROUTING PER SPECIFICATIONS.

STATE OF ALASKA 49TH — No. 1664-E REGISTERED PROFESSIONAL ENGINEER

ABAM
ABAM ENGINEERS INCORPORATED
CONSULTING ENGINEERS
1127 PORT OF TACOMA ROAD TACOMA, WASH.
(206) 383-3091

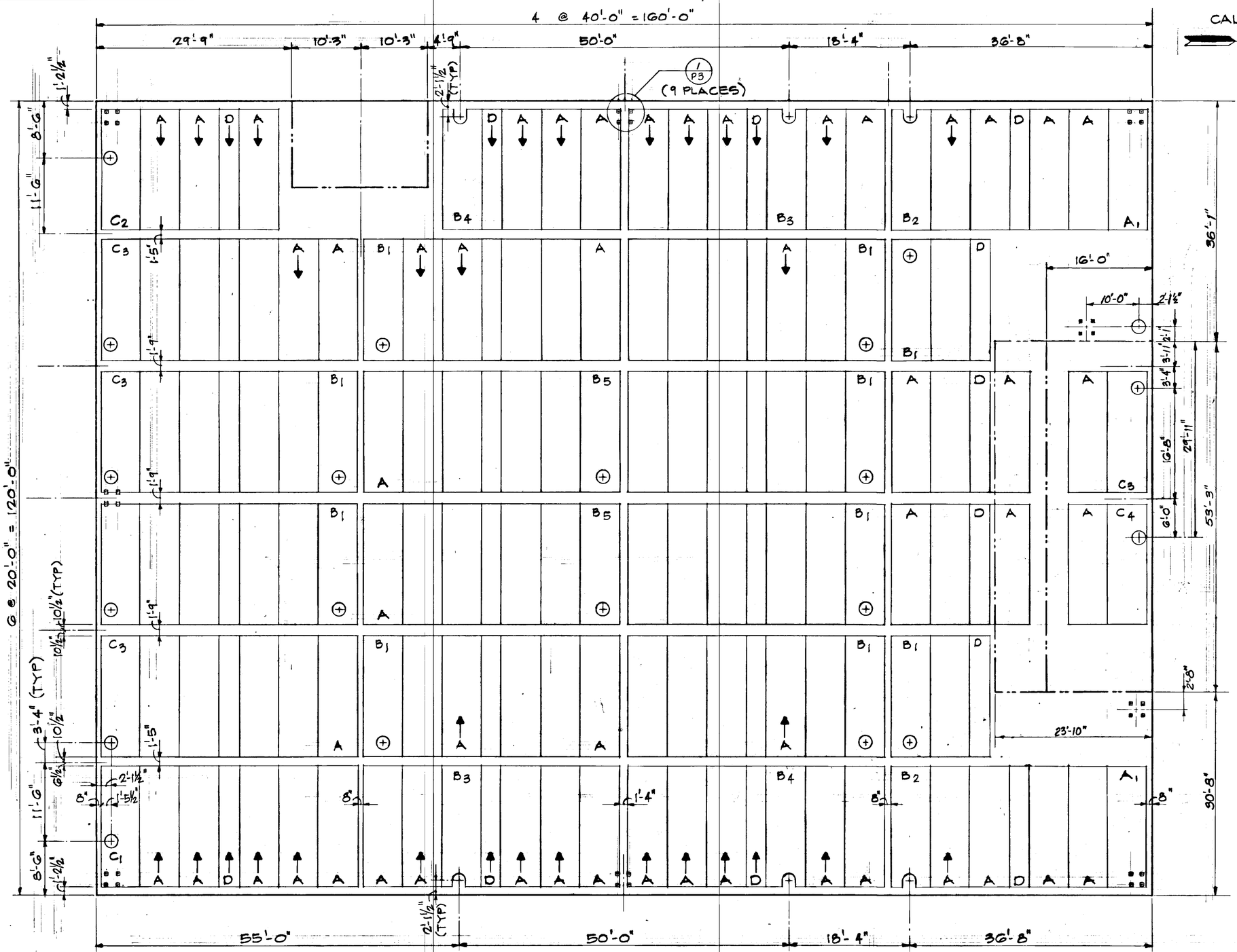
REV.	DATE	BY	REVISION

FIELD BOOKS
DESIGN
STAKING
AS-BUILT
SCALE HOR. AS NOTED VER.
DESIGNED JRS/WW
DRAWN R.MOHN
CHECKED DDM
DATE JULY 18, '78
GRID
JOB NO. 7502.0

TRYCK NYMAN & HAYES
ENGINEERS/PLANNERS/SURVEYORS

BARGE FACILITY
SURFACE FEATURES PLAN AND GENERAL NOTES

SHEET S1 OF 8
FILE NO.



NOTE: TYPICAL PANELS A-D DETAILED ON SHEET 36.

1/S2 DECK FRAMING PLAN
1/8" = 1'-0"

STATE OF ALASKA
49TH
Donald B. Cassell
No. 1664-E
REGISTERED
PROFESSIONAL ENGINEER

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CONSULTING ENGINEERS
1127 PORT OF TACOMA ROAD TACOMA, WASH
(206) 383-3091

REV.	DATE	BY	REVISION

FIELD BOOKS	DESIGNED JRS/WW
DESIGN	DRAWN R. MOHN
STAKING	CHECKED DDM
AS-BUILT	DATE JULY 18, '78
SCALE HOR. AS NOTED VER.	GRID
	JOB NO. 7502.0

TRYCK NYMAN & HAYES
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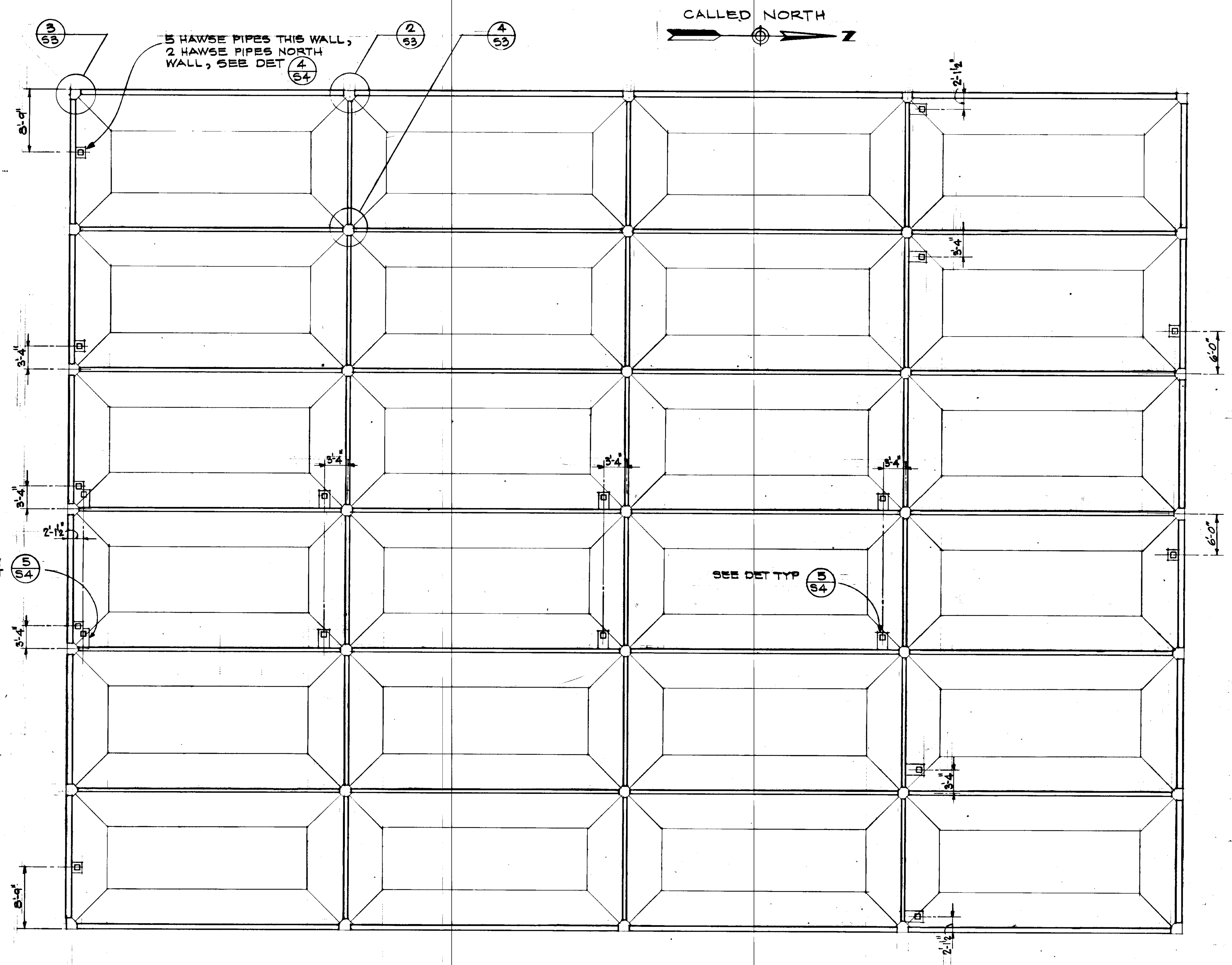
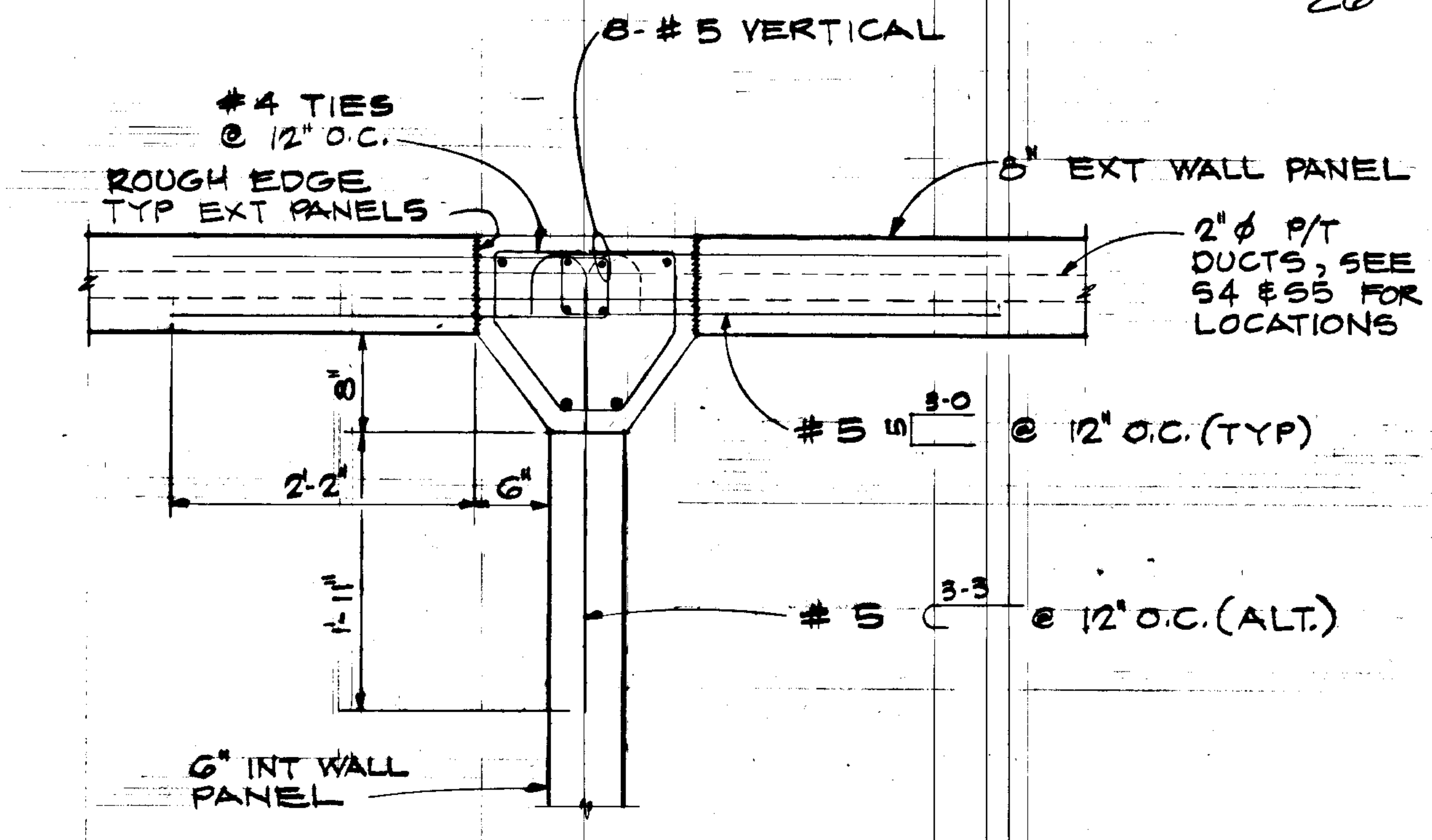
BARGE FACILITY
DECK FRAMING PLAN AND DETAILS

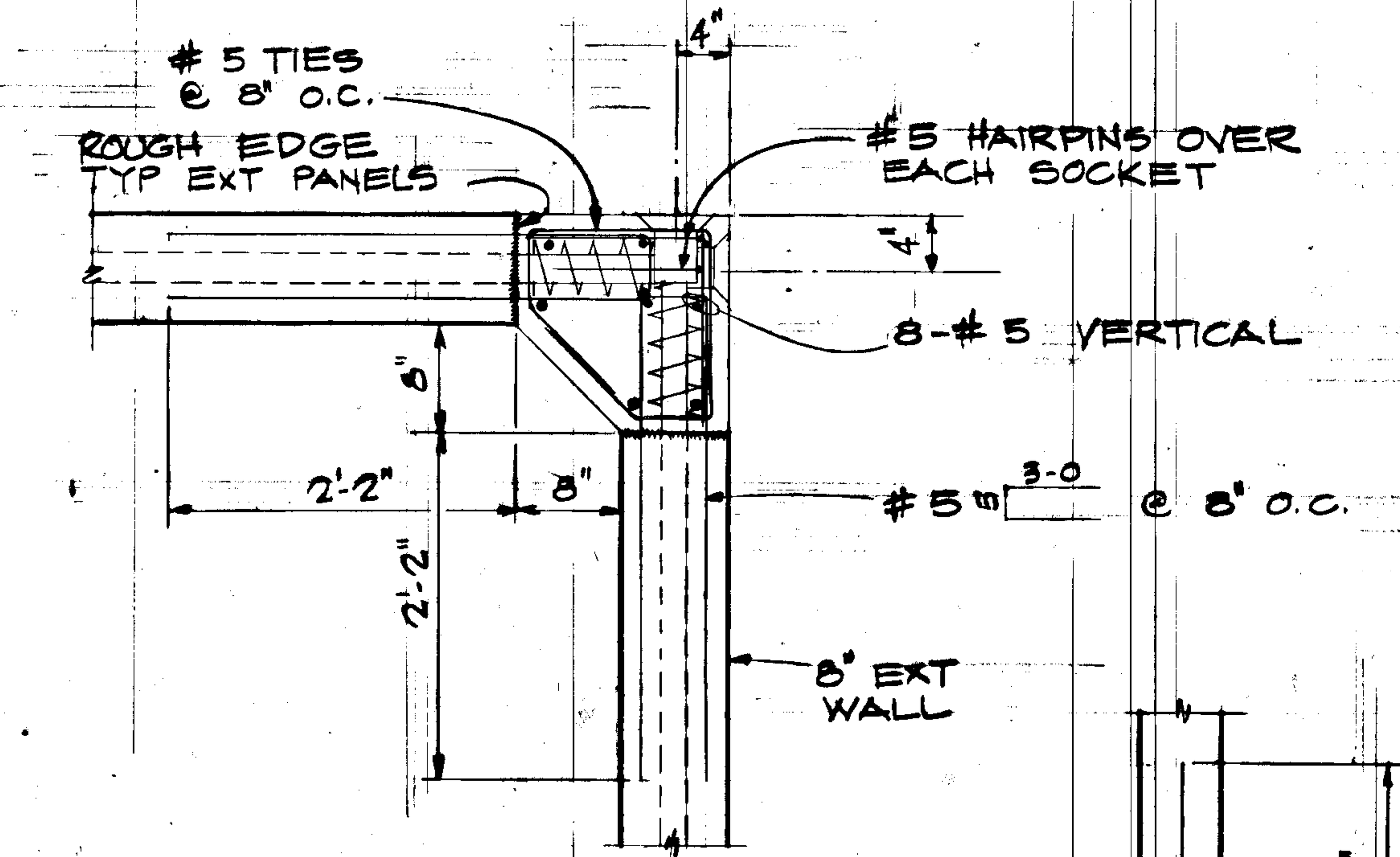
SHEET 52 OF 8
FILE NO.



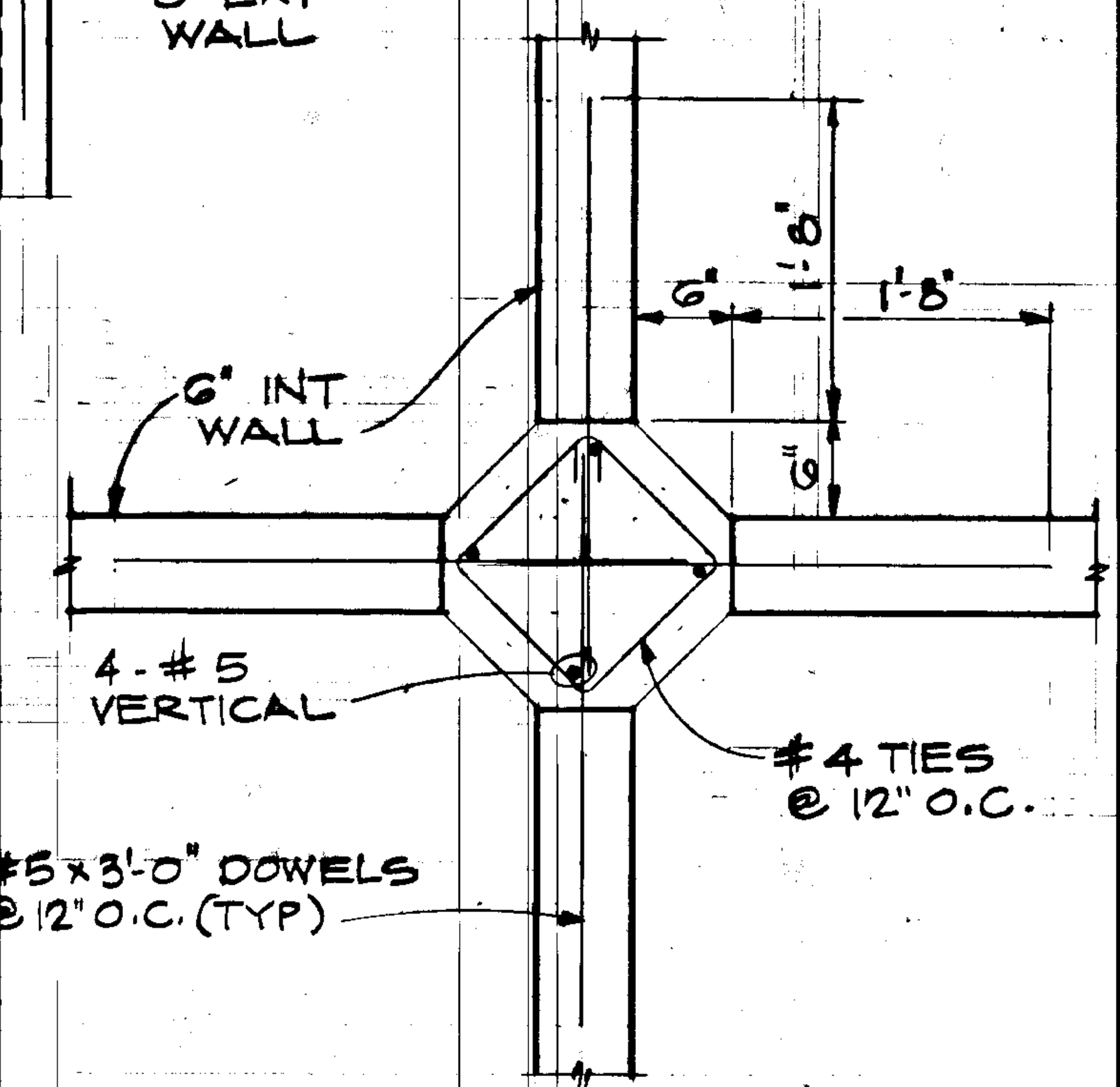
1 / S3 FLOOR PLAN & WALL LAYOUT
1/8" = 1'-0"



2 / S3 TYPICAL WALL PANEL CONNECTION
1" = 1'-0"



3 / S3 TYPICAL CORNER CONNECTION
1" = 1'-0"



STATE OF ALASKA 49TH Donald N. Conrad No. 1664-E REGISTERED PROFESSIONAL ENGINEER

4 / S3 TYPICAL INTERIOR CONNECTION
1" = 1'-0"

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REV.	DATE	BY	REVISION	FIELD BOOKS		
				DESIGN	DESIGNED JRS/WW	
				STAKING	DRAWN R. MOHN	
				AS-BUILT	CHECKED DDM	
				SCALE HOR. VER. AS NOTED	DATE JULY 18, '78	
					GRID	
					JOB NO. 7502.0	

TRYCK NYMAN & HAYES
ENGINEERS / PLANNERS / SURVEYORS

BARGE FACILITY
FLOOR PLAN, WALL LAYOUT, AND DETAILS

SHEET S3 of 8
FILE NO.

NOTE: THE HAIRPINS & BARS ADJACENT TO ALL ANCHORAGES WITHIN 3" OF EXTERIOR SURFACE SHALL BE EPOXY COATED.

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27 PORT OF TACOMA ROAD TACOMA WASH
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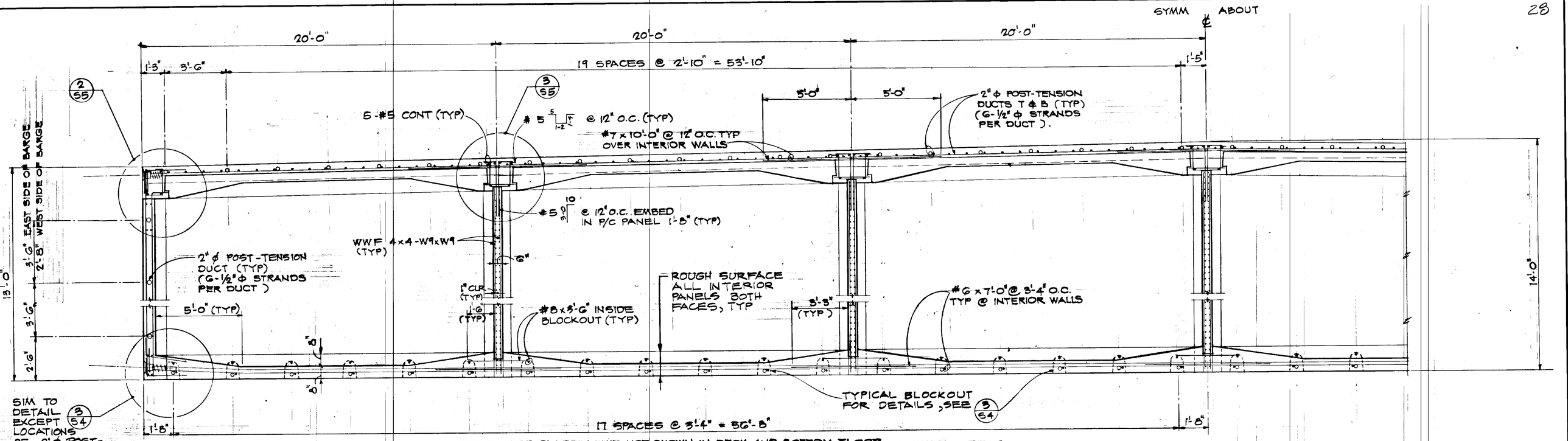
REV.	DATE	BY	REVISION	FIELD BOOKS	
				DESIGN	DESIGNED JRS/WW
				STAKING	DRAWN R. MOHN
				AS-BUILT	CHECKED DDM
				SCALE	DATE JULY 18, '78
				HOR. VER. AS NOTED	GRID
					JOB NO. 7502.0

TRYCK NYMAN & HAYES
ENGINEERS / PLANNERS / SURVEYORS

BARGE FACILITY
TYPICAL LONGITUDINAL SECTION & DETAILS

SHEET S4 of 8

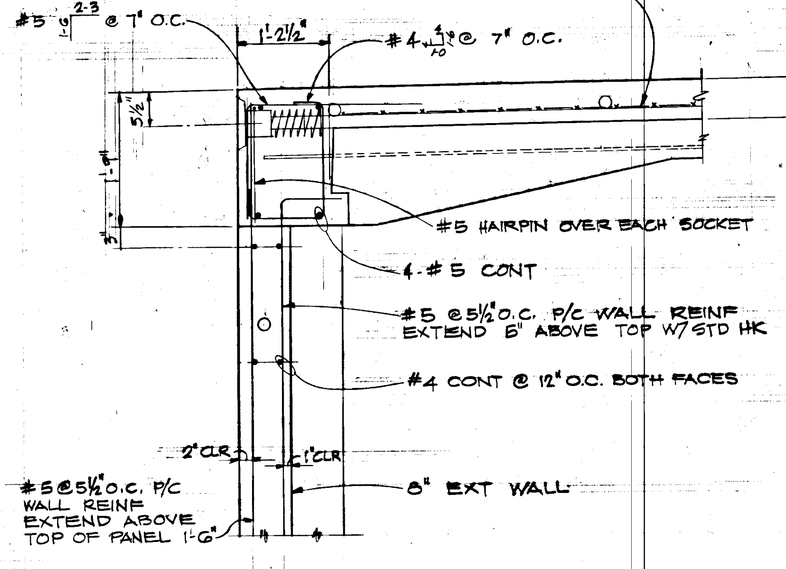
FILE NO.



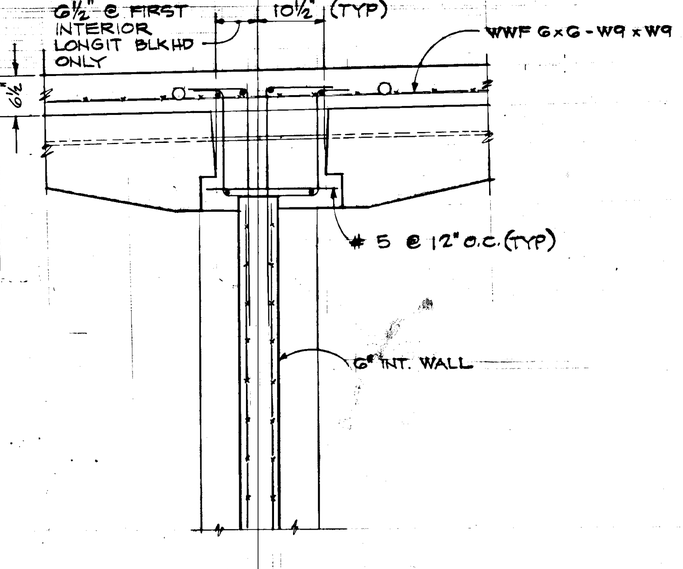
NOTE: BARS & HAIRPINS ADJACENT TO ALL ANCHORAGES WITHIN 3" OF EXTERIOR SURFACES SHALL BE EPOXY COATED.

NOTE: FOR CLARITY, WWF NOT SHOWN IN DECK AND BOTTOM FLOOR.

1/55 TYPICAL TRANSVERSE SECTION
3/8" = 1'-0"



2/55 DETAIL
1" = 1'-0"



3/55 DETAIL
1" = 1'-0"

STATE OF ALASKA — 49TH — No. 1664-E REGISTERED PROFESSIONAL ENGINEER

ABAM
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CONSULTING ENGINEERS
1127 PORT OF TACOMA ROAD TACOMA, WASH
206) 383-3091

REV.	DATE	BY	REVISION

FIELD BOOKS	DESIGNED JRS/WW
DESIGN	DRAWN R.MOHN
STAKING	CHECKED DDM
AS-BUILT	DATE JULY 18,'78
SCALE HOR. AS NOTED VER.	GRID
	JOB NO. 7502.0

TRYCK NYMAN & HAYES
ENGINEERS/PLANNERS/SURVEYORS

BARGE FACILITY TYPICAL TRANSVERSE SECTION & DETAILS

SHEET 55/8
FILE NO.

NOTES:

1. TOP SURFACE AND ENDS OF ALL PANELS TO HAVE ROUGH SURFACE. SPLAY STRANDS EXTENDING FROM ENDS.
2. FOR LOCATIONS OF BOLLARD ANCHORS TO BE CAST INTO DECK PANELS SEE DRAWINGS S-2 AND P-3.

ABAM
ABAM ENGINEERS INCORPORATED
CONSULTING ENGINEERS
1127 PORT OF TACOMA ROAD TACOMA WASH (206) 383-3091

REV.	DATE	BY	REVISION

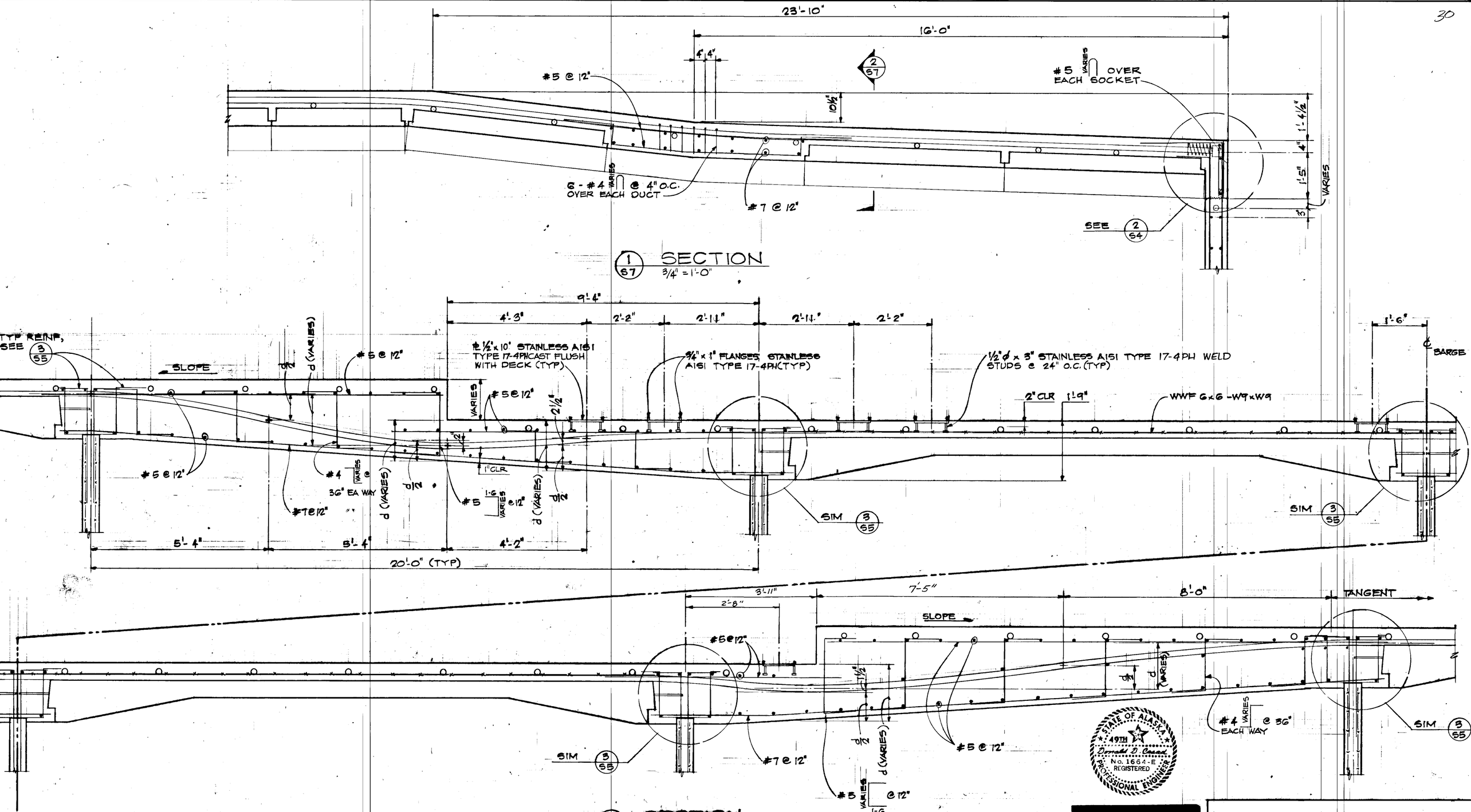
FIELD BOOKS; DESIGN; STAKING; AS-BUILT; SCALE HOR. VER. AS NOTED

DESIGNED JRS/WW; DRAWN R. MOHN; CHECKED DDM; DATE JULY 18, '78; GRID; JOB NO. 7502.0

TRYCK NYMAN & HAYES — ENGINEERS / PLANNERS / SURVEYORS

BARGE FACILITY
DECK PANEL DETAILS

SHEET S6 OF 8
FILE NO.



1/S7 SECTION
3/4" = 1'-0"

2/S7 SECTION
3/4" = 1'-0"

STATE OF ALASKA 49TH
Donald D. Cook
No. 1664-E REGISTERED
PROFESSIONAL ENGINEER

ABAM
ABAM ENGINEERS INCORPORATED
CONSULTING ENGINEERS
1127 PORT OF TACOMA ROAD TACOMA, WASH
(206) 383 3091

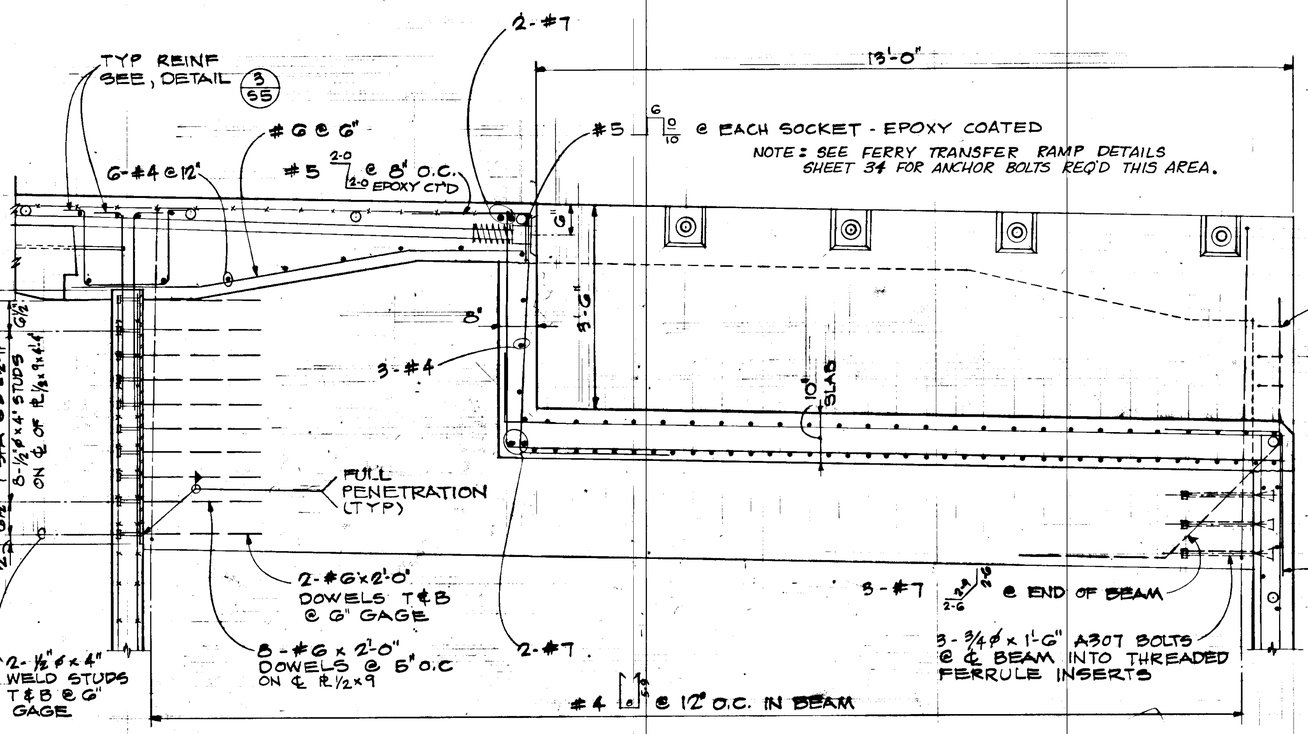
REV.	DATE	BY	REVISION

FIELD BOOKS	DESIGNED WW
DESIGN	DRAWN R. MOHN
STAKING	CHECKED DDM
AS-BUILT	DATE JULY 18, '78
SCALE HOR. AS NOTED VER.	GRID
	JOB NO. 7502.0

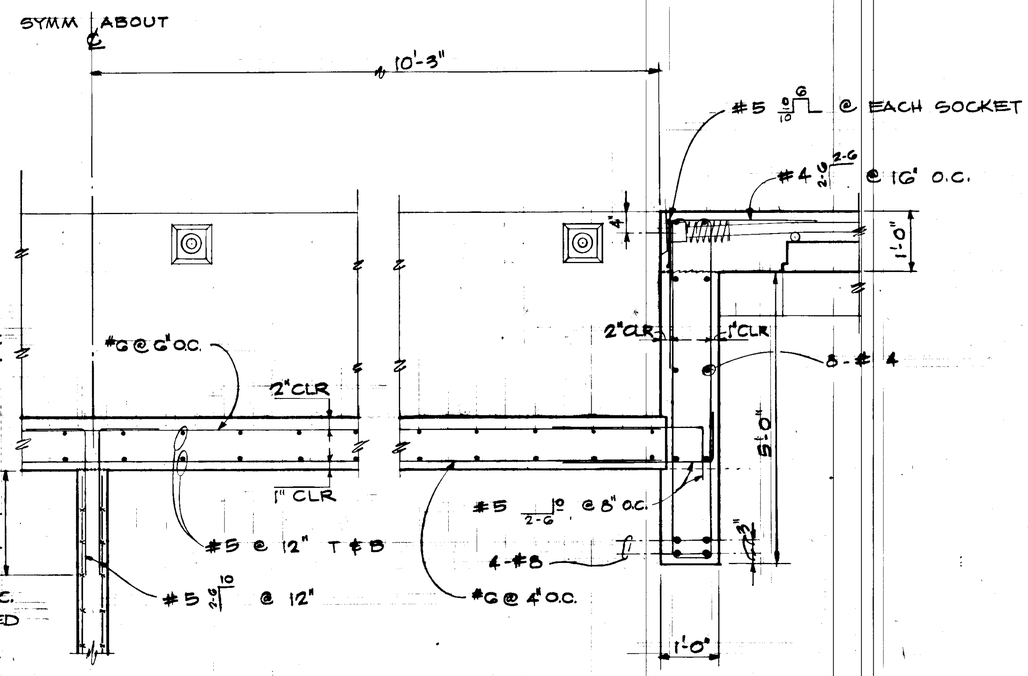
TRYCK NYMAN & HAYES
ENGINEERS / PLANNERS / SURVEYORS
JUNEAU, ALASKA

BARGE FACILITY
TRANSFER BRIDGE
DECK SLOT SECTIONS

SHEET 57 OF 8
FILE NO.



(1/58) SECTION
3/4" = 1'-0"



(2/58) SECTION
3/4" = 1'-0"

STATE OF ALASKA 19TH Donald D. Evans No. 1664-E REGISTERED PROFESSIONAL ENGINEER

ABAM
ABAM ENGINEERS INCORPORATED
CONSULTING ENGINEERS
1127 PORT OF TACOMA ROAD TACOMA, Wash
206) 383 3091

REV.	DATE	BY	REVISION

FIELD BOOKS
DESIGN
STAKING
AS-BUILT
SCALE HOR. AS NOTED VER.
DESIGNED JRS
DRAWN R. MOHN
CHECKED DDM
DATE JULY 18, 78
GRID
JOB NO. 7502.0

TRYCK NYMAN & HAYES
ENGINEERS/PLANNERS/SURVEYORS
Juneau, ALASKA

BARGE FACILITY
TRANSFER RAMP
DECK SLOT SECTIONS

SHEET 58 OF 85
FILE NO.


DOCK
24"OD, 12"ID cylindrical rubber fender secured w/ 1" chain, see details sht. 21.
℄ Transfer Ramp
℄ Cylindrical Fender
℄ Cylindrical Fender
PLAN
SCALE 1/8" = 1'-0"
Section E-E
4"ϕ extra strong pipe hawser rail.
10x10 Timber
L 6"x6"x1/2"x6"
3/4"ϕ x 12" bolt Drill 7/8"ϕ hole, typical
SECTION E-E
1 1/2" = 1'-0"
W12x79
18"OD, 9"ID cylindrical fender
Fender retainer, see details this sheet.
1"ϕ x 4" bolt w/ 3" thread
W8x48
SECTIONAL ELEV. D-D
1" = 1'-0"
℄ 40' fender system, symmetrical about
℄ 30' fender system, symmetrical about
10x10 Fender Timber
1 1/16"ϕ hole (typ.)
Note: Cap ends on hawser rail.
Top of Barge
W12x79
WT8x48
W8x48
11/16 x 24" x 18" ℘
Secure timber fenders w/ 1"ϕ x 9" econ. head bolts, 1 bolt per contact. Counterbore timbers 2" deep.
W10x60
ELEVATION
1/2" = 1'-0"
W12x79 cont. waler
18"OD, 9"ID x 2'-0" long cylindrical bumper, Goodyear or equal.
WT8x48 cut as req'd to fit.
11/16" x 24" x 18" ℘
Note: See bumper connection details Sec. D-D.
W8x48, waler to be continuous
Face of barge
W10x60
See connection details this sheet.
SECTIONAL ELEV. A-A
1 1/2" = 1'-0"
Note: All welds shown are typical.
SECTIONAL ELEV. B-B
1 1/2" = 1'-0"
See chain to barge conn. details, sht. 21.
Eyebolt (1")
Face of barge
Buoy Chain
Fender retainer
W8x48
PLAN
Note: Top waler & timbers not shown for purpose of clarity.
Note: Provide 3 links of 7/8" buoy chain between 2-7/8" safety anchor chain shackles. Shackles shall have thin hex hd. bolt w/ nut and cotter pin. Inside length 16 1/8". Contractor may substitute hardware approved by the engineer, however, the length of completed assembly shall achieve a snug fit (±3/8") between barge face and fender.
RETAINING CHAINS
(9 req'd)
1/2" = 1'-0"
GRAPHIC SCALES
full thickness (typ.)
No radius last 1/2" of plate
Radius 4 1/2"
SECTION A-A
℄ Symmetrical About
ELEVATION
Retainer to be fabricated from 1" plate.
1 1/8"ϕ hole (typ.). Drill same size hole in flange of W8x48
PLAN
FENDER RETAINER
3" = 1'-0"
2 1/2"ϕ x 1'-0" extra strong pipe
3/4" x 8" x 1'-1 1/2" ℘
Face of barge
2"ϕ x 2'-0" thru-rod threaded 5" each end w/ nut & washer
W10x60
W8x48
3/4" ℘ gussets
PLAN
Barge walls
3/4" x 8" x 1'-1 1/2" ℘
1"ϕ x 9" bolts, complete thread, in threaded inserts. Drill holes in plate 1/16" oversize.
3/4" Hinge Plate, see details this sheet.
SECTION ELEV. C-C
HINGE PLATE
1 1/2" = 1'-0"
FENDER SYSTEM TO BARGE CONNECTION
1" = 1'-0"

DO NOT SCALE THIS DRAWING – USE DIMENSIONS

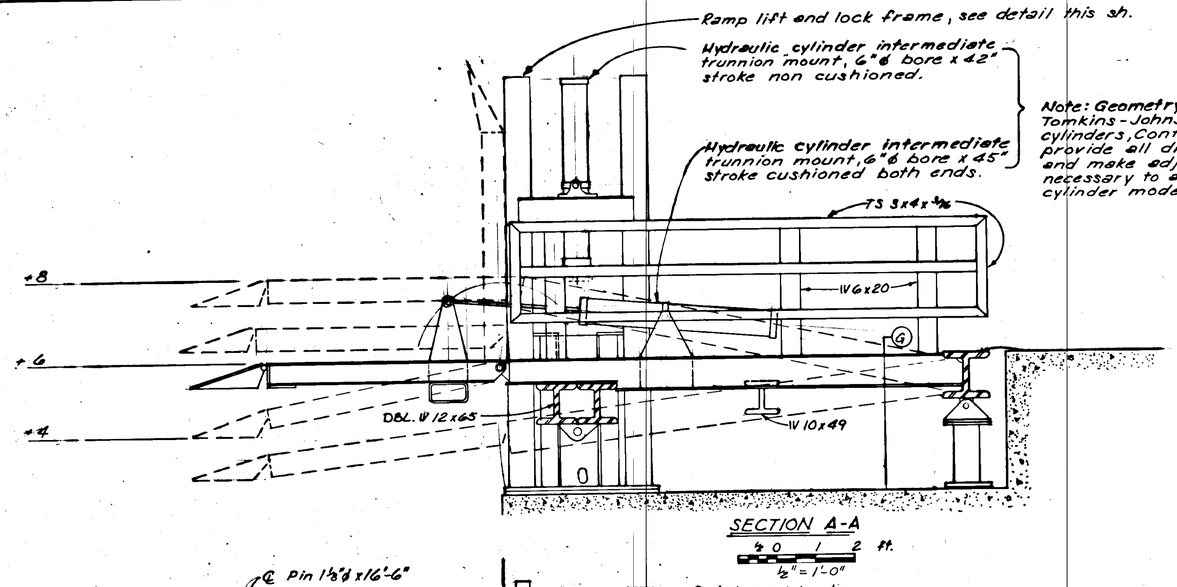
STATE OF ALASKA

DIVISION OF [redacted] HARBORS

FENDER SYSTEM
FERRY TERMINAL

SCALE As noted	SURVEYED	APPROVED
DESIGNED JAL	DRAWN JAL	Don Statter DIRECTOR
CHECKED	DATE 2/21/78	
PROJECT NUMBER F-0972(2)		SHEET 32 OF 41

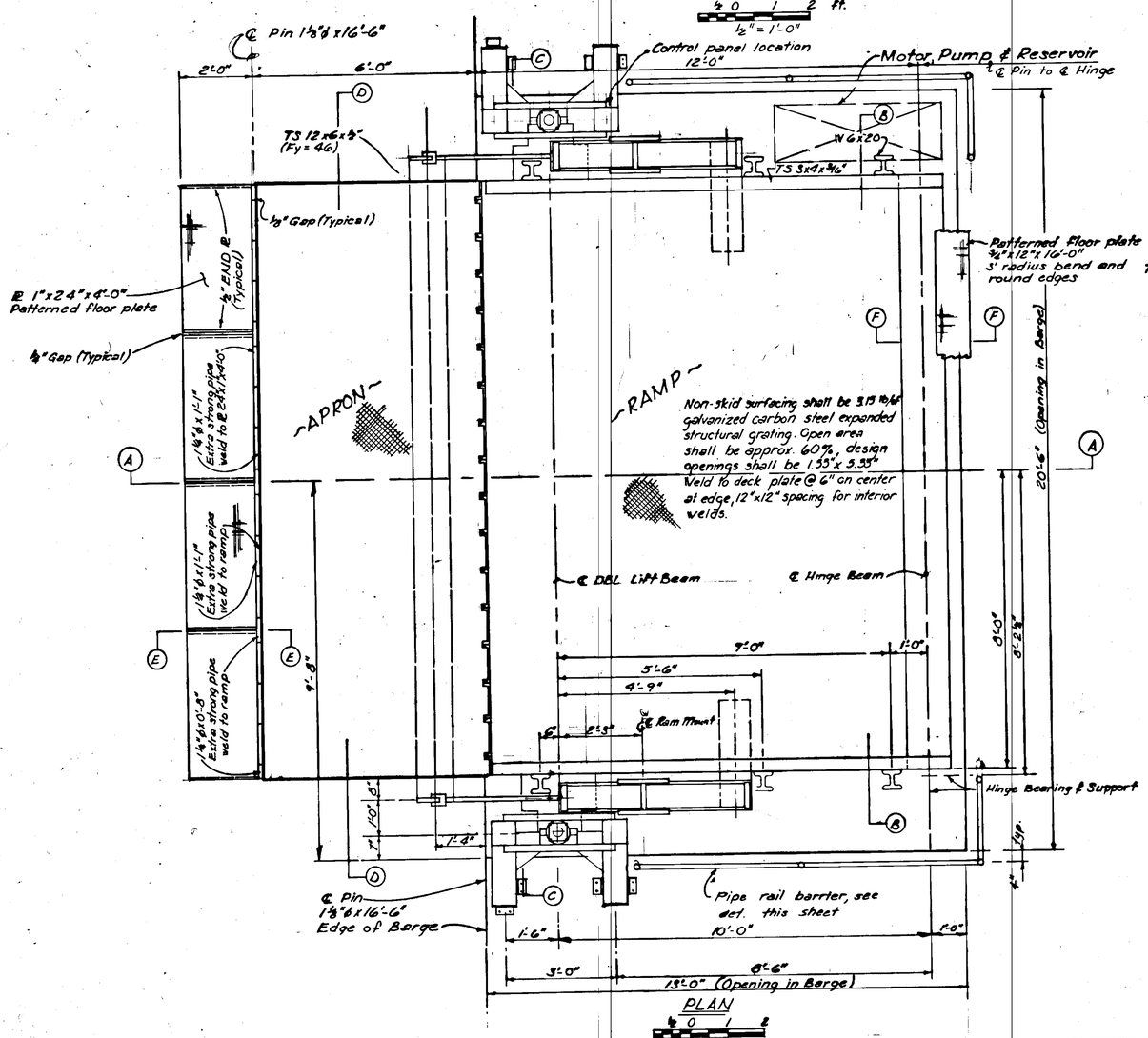
H-4



SECTION A-A

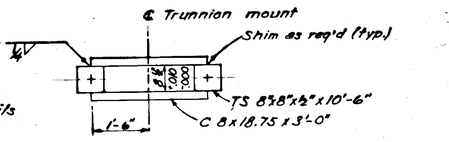
0 1 2 ft.

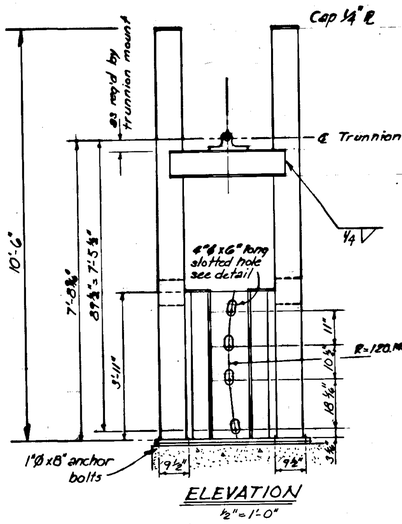
1/2" = 1'-0"



PLAN

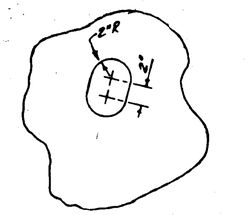
0 1 2





ELEVATION

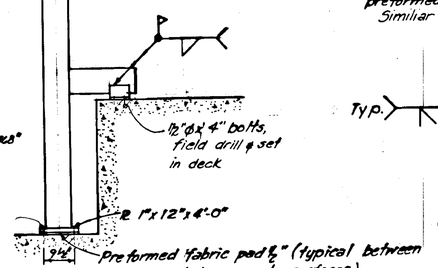
1/2" = 1'-0"

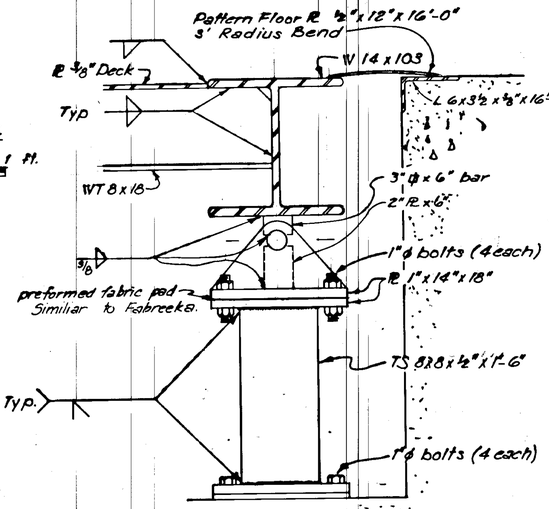


SLOTTED HOLE DETAIL

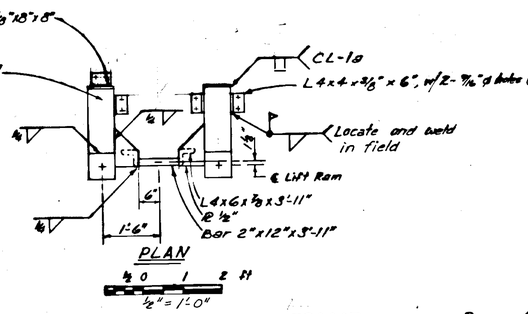
1 1/2 0 1 ft.

1 1/2" = 1'-0"





SECTION E-F



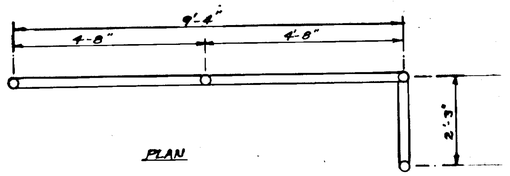
PLAN

0 1 2 ft.

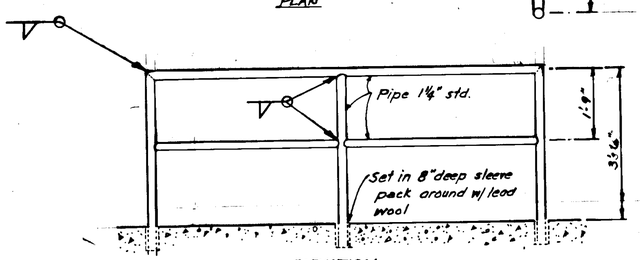
1/2" = 1'-0"

RAMP LIFT and LOCK FRAME

Ramp, Apron, Hanger Modifications per EWO No. 15



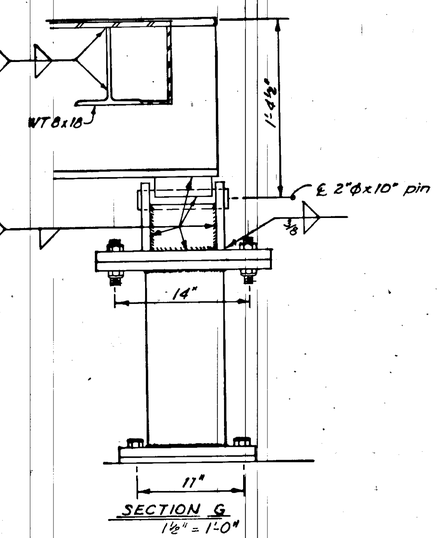
PLAN



ELEVATION

Pipe Rail Barrier

not to scale



SECTION G

1 1/2" = 1'-0"

Design Loads: Maximum single axel 32,000 lbs
Impact: 30%
Spacing: 6'-0" center to center of axels

Approximate weight (less motor, pump and fluid reservoir) 26,000 lbs

DO NOT SCALE THIS DRAWING — USE DIMENSIONS

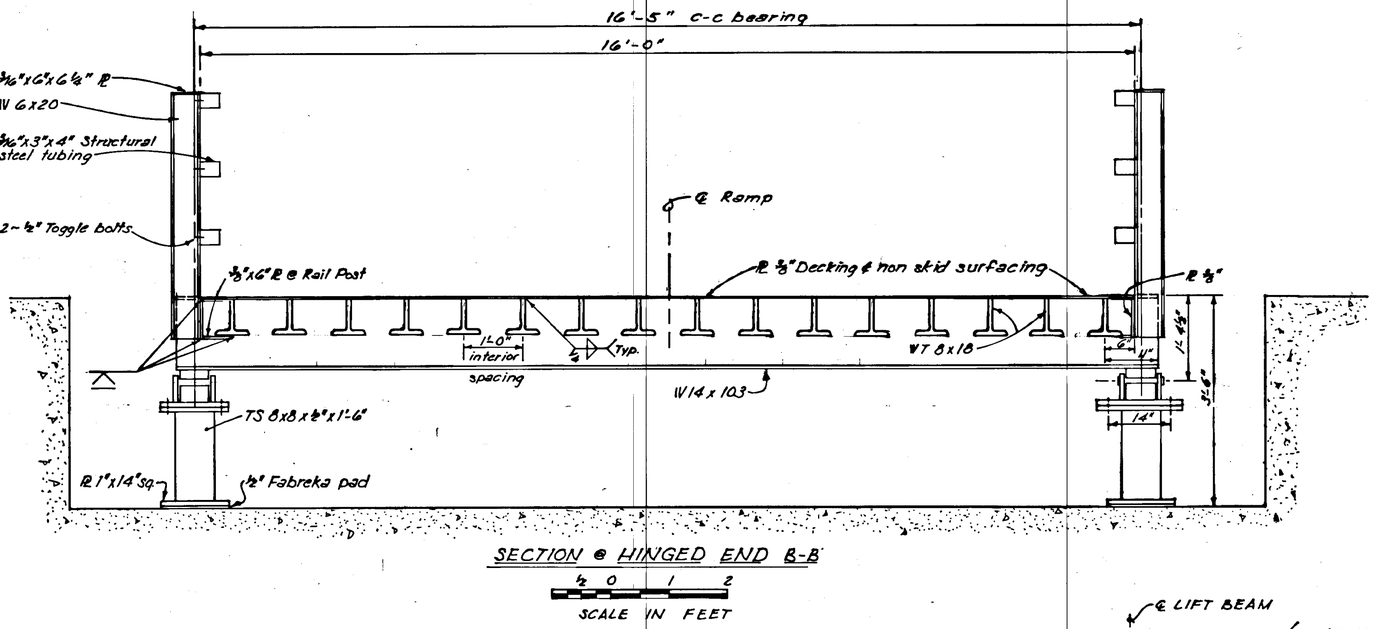
STATE OF ALASKA

DIVISION OF [redacted] HARBORS

SKAGWAY FERRY TERMINAL
TRANSFER RAMP & DETAILS

SCALE As Noted	SURVEYED	APPROVED
DESIGNED HM	DRAWN GRF	Don Statler DIRECTOR
CHECKED RPB	DATE FEB. 1978	
PROJECT NUMBER F-0972(2)	SHEET 33 OF 41	

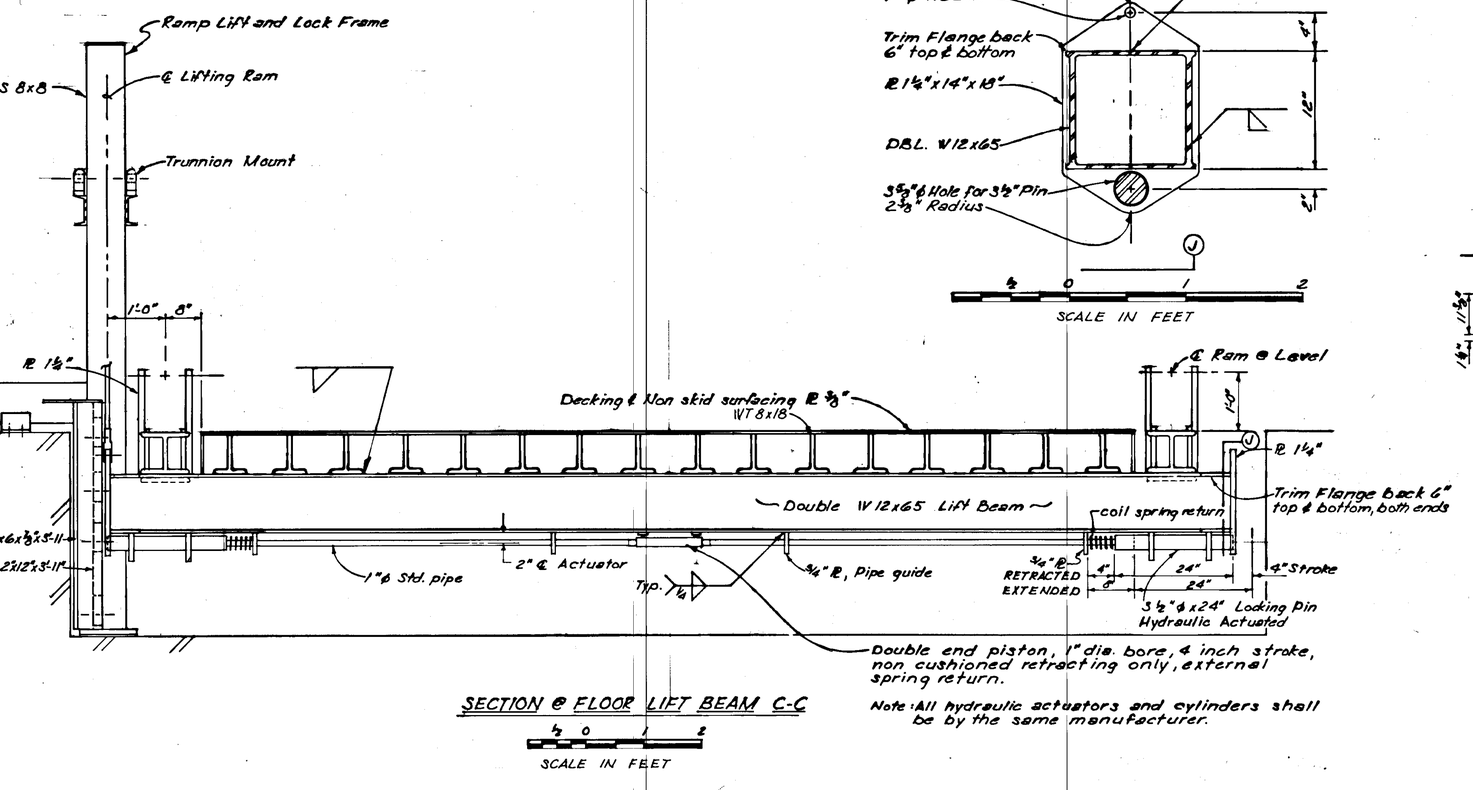
H-5



SECTION @ HINGED END B-B

½ 0 1 2

SCALE IN FEET

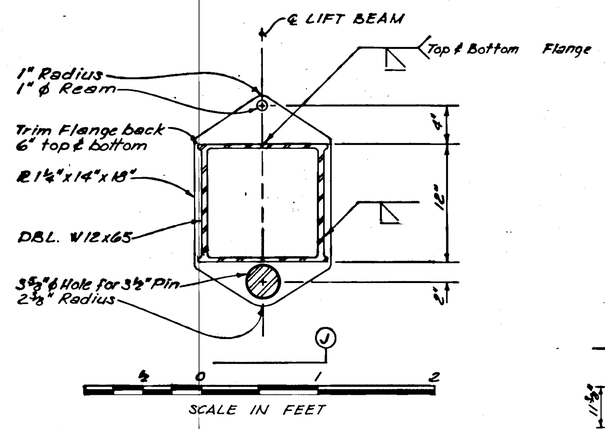


Note: All hydraulic actuators and cylinders shall be by the same manufacturer.

SECTION @ FLOOR LIFT BEAM C-C

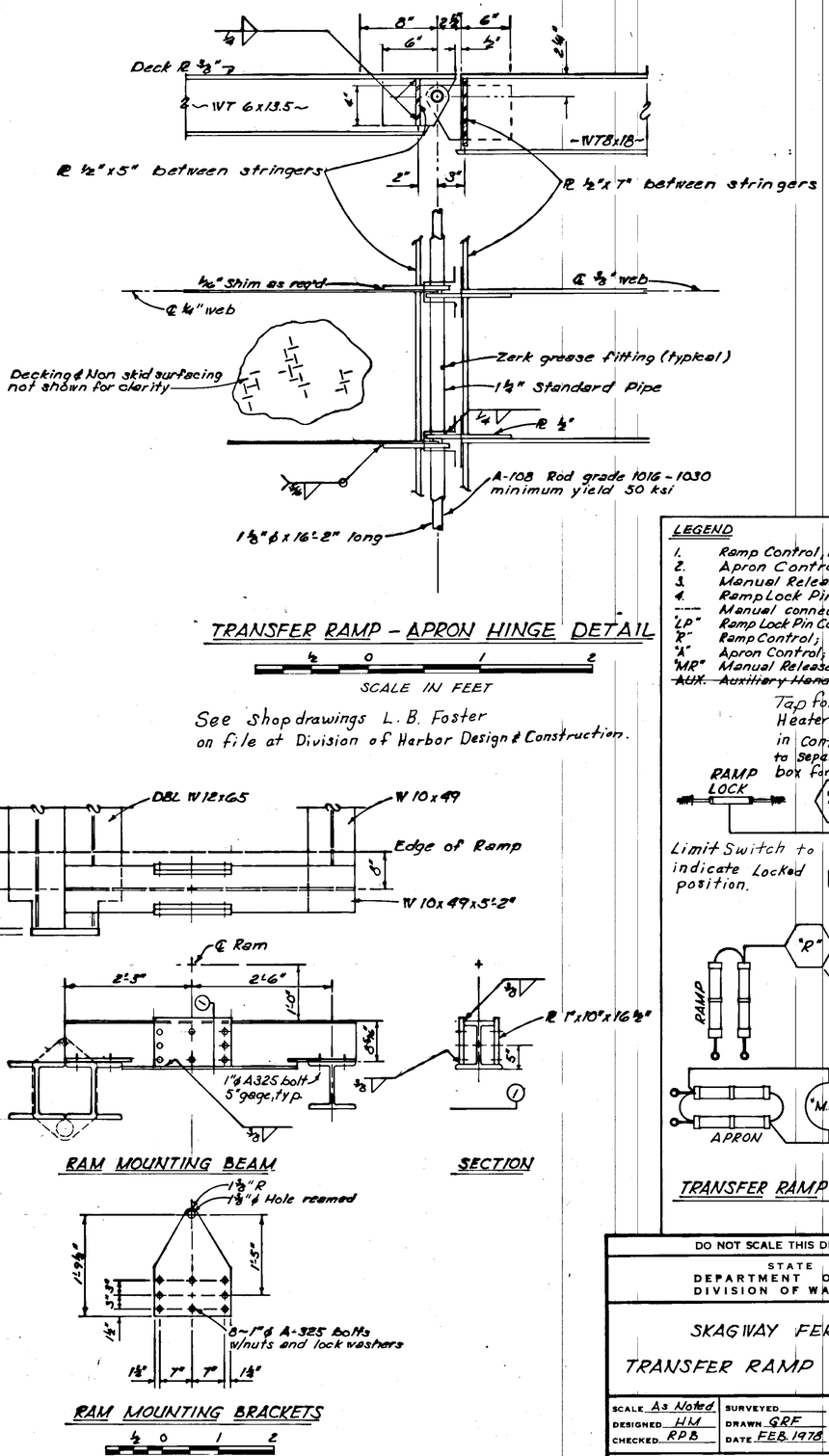
½ 0 1 2

SCALE IN FEET



½ 0 1 2

SCALE IN FEET



TRANSFER RAMP - APRON HINGE DETAIL

½ 0 1 2

SCALE IN FEET

See Shop drawings L. B. Foster on file at Division of Harbor Design & Construction.

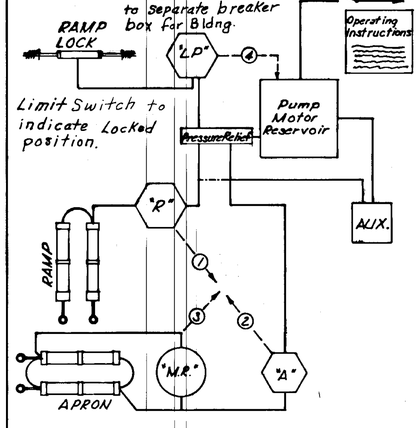
RAM MOUNTING BEAM

SECTION

RAM MOUNTING BRACKETS

½ 0 1 2

SCALE IN FEET



TRANSFER RAMP OPERATING SCHEMATIC

LEGEND

1. Ramp Control, return to reservoir
2. Apron Control, return to reservoir
3. Manual Release Valve, return to reservoir
4. Ramp Lock Pin Control, return to reservoir
---- Manual connection to auxiliary hand pump
"LP" Ramp Lock Pin Control, W/spring return
"R" Ramp Control; up-down
"A" Apron Control; up-down
"MR" Manual Release Valve; 3-way
~~AUX. Auxiliary Hand Pump Connection~~

DO NOT SCALE THIS DRAWING – USE DIMENSIONS

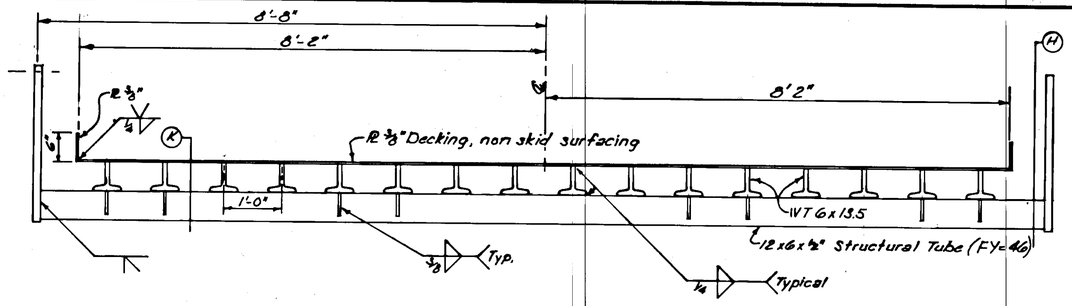
STATE OF ALASKA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF WATER AND HARBORS

SKAGWAY FERRY TERMINAL

TRANSFER RAMP SECTIONS & DETAILS

SCALE As Noted	SURVEYED	APPROVED
DESIGNED HM	DRAWN GRF	Don Statter
CHECKED RPB	DATE FEB. 1978	DIRECTOR
PROJECT NUMBER F0972 (2)	SHEET 34 OF 41	

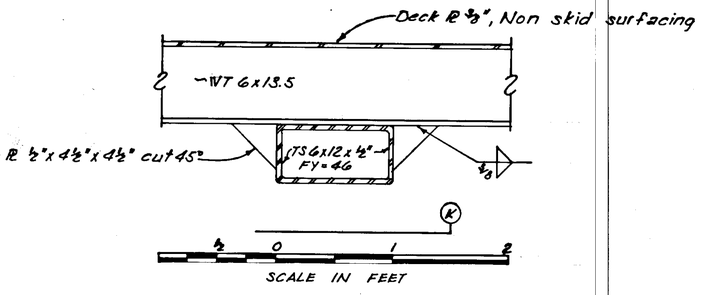
H-6



SECTION of APRON D-D

½ 0 1 2

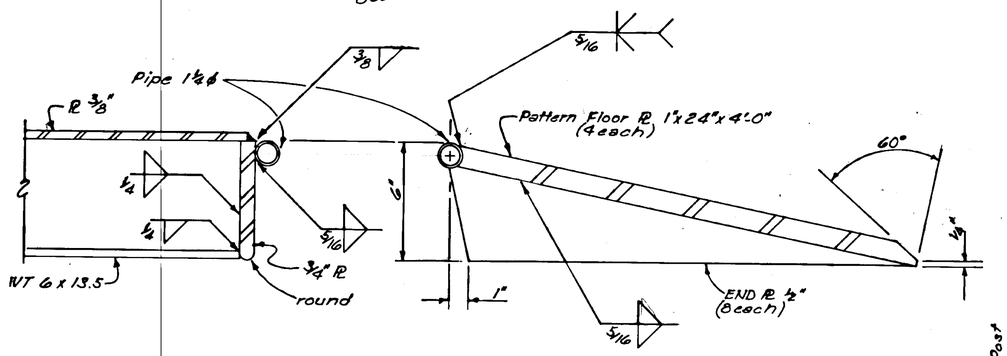
SCALE IN FEET



½ 0 1 2

SCALE IN FEET

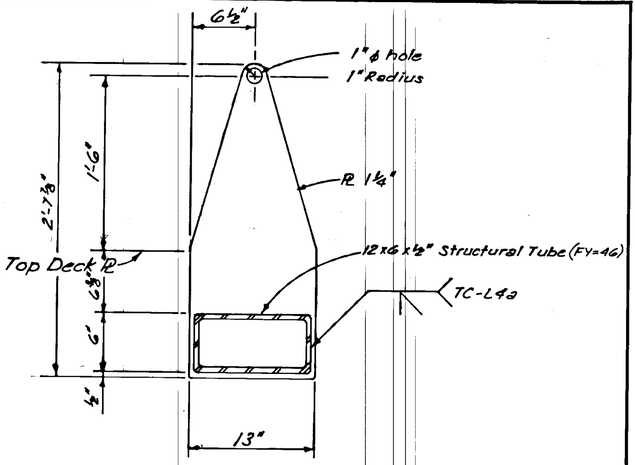
See L.B. Foster shop Drawings



SECTION E-E

½ 0 1

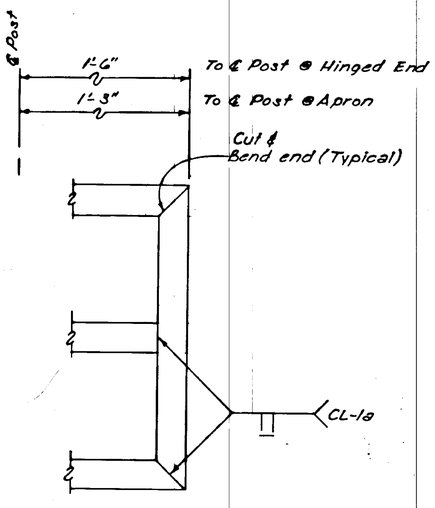
SCALE IN FEET

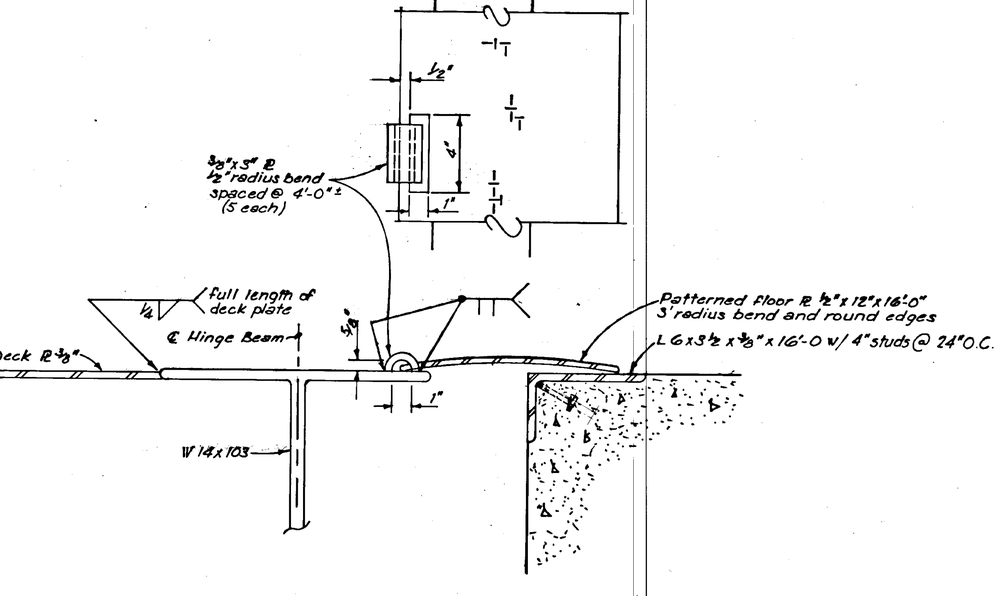


SECTION H

½ 0 1 2

SCALE IN FEET

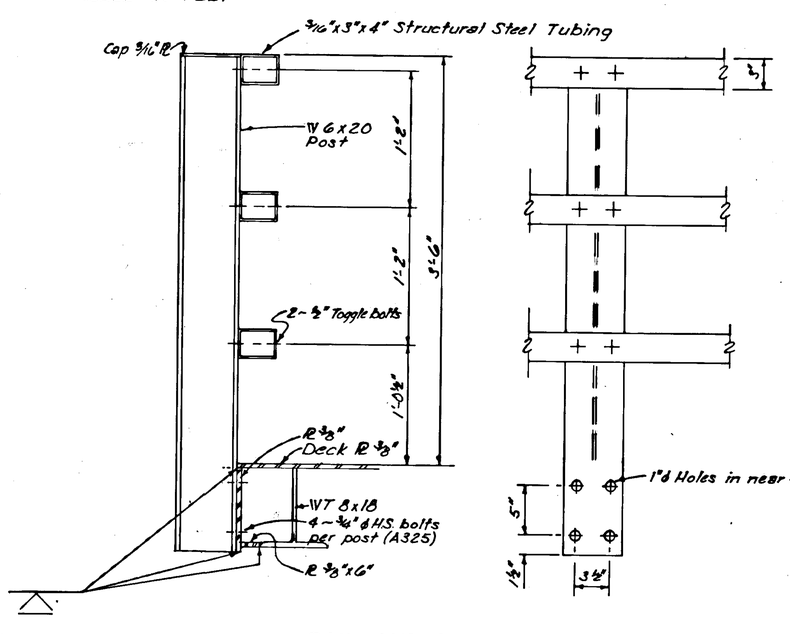




PARTIAL SECTION F-F @ COVER PL

½ 0 1

SCALE IN FEET



RAIL AND POST DETAILS

½ 0 1 2

SCALE IN FEET

DO NOT SCALE THIS DRAWING – USE DIMENSIONS

STATE OF ALASKA

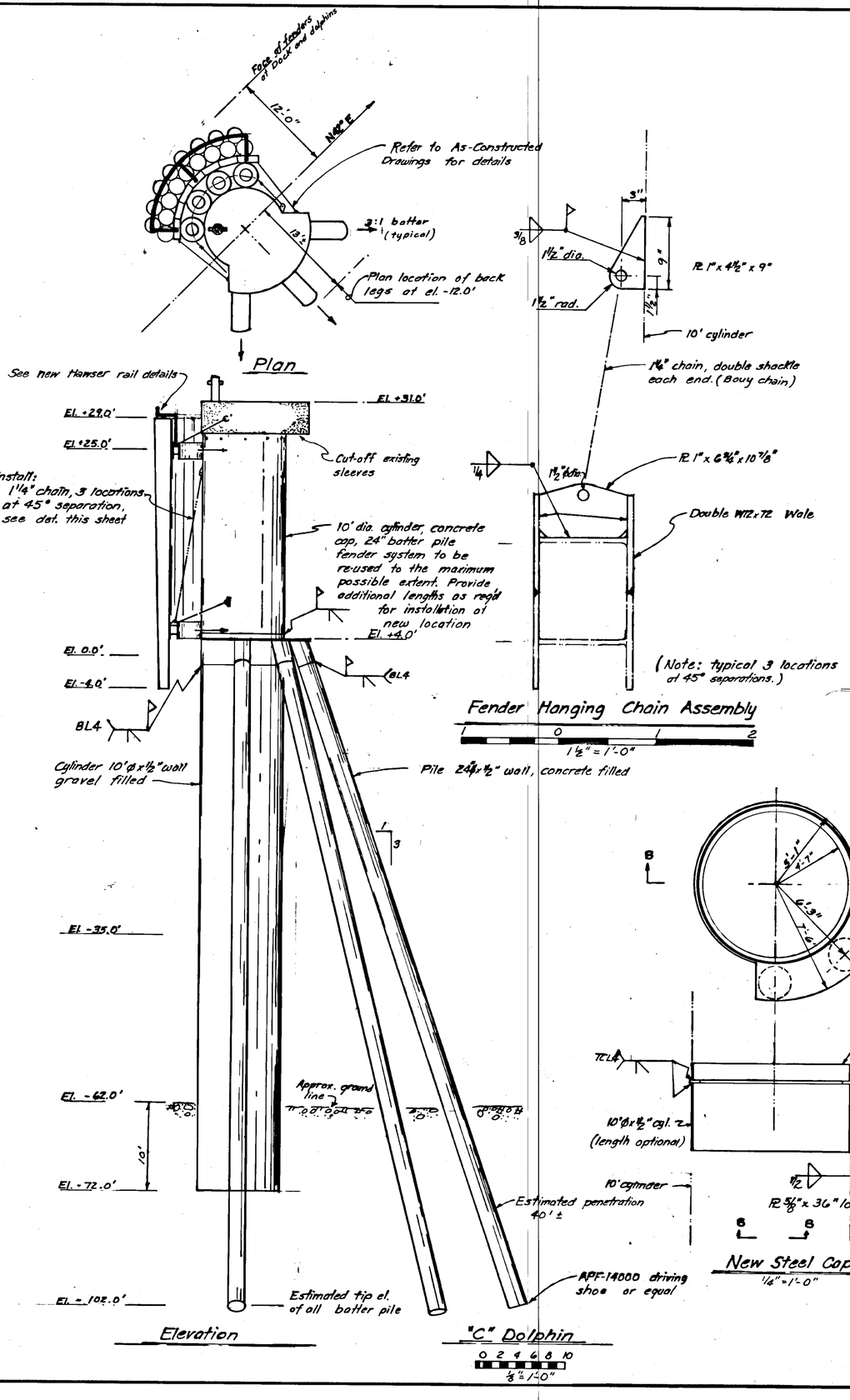
DIVISION OF [redacted] HARBORS

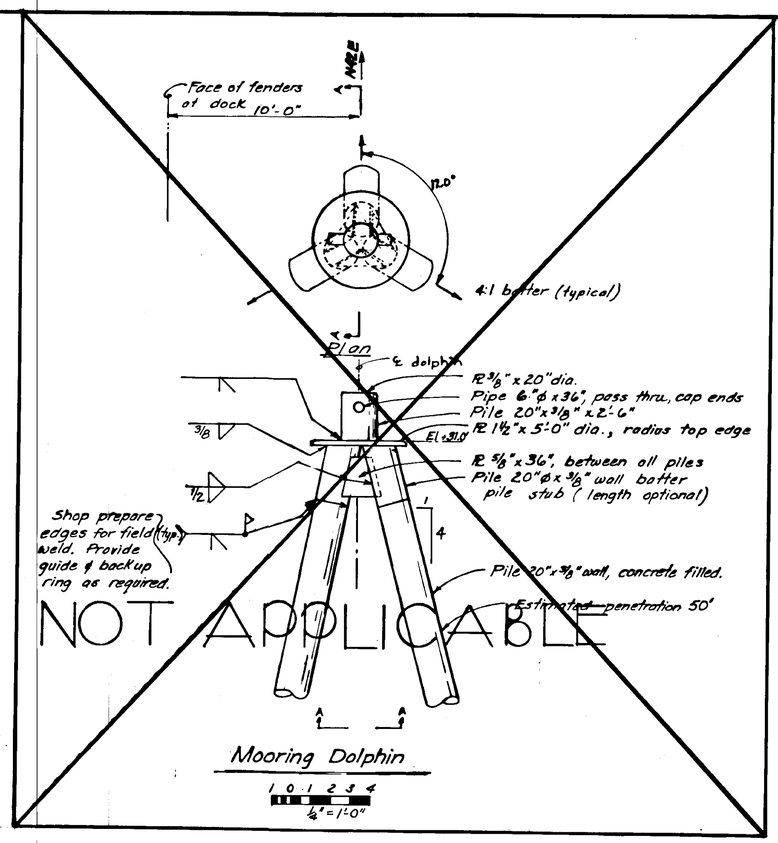
SKAGWAY FERRY TERMINAL

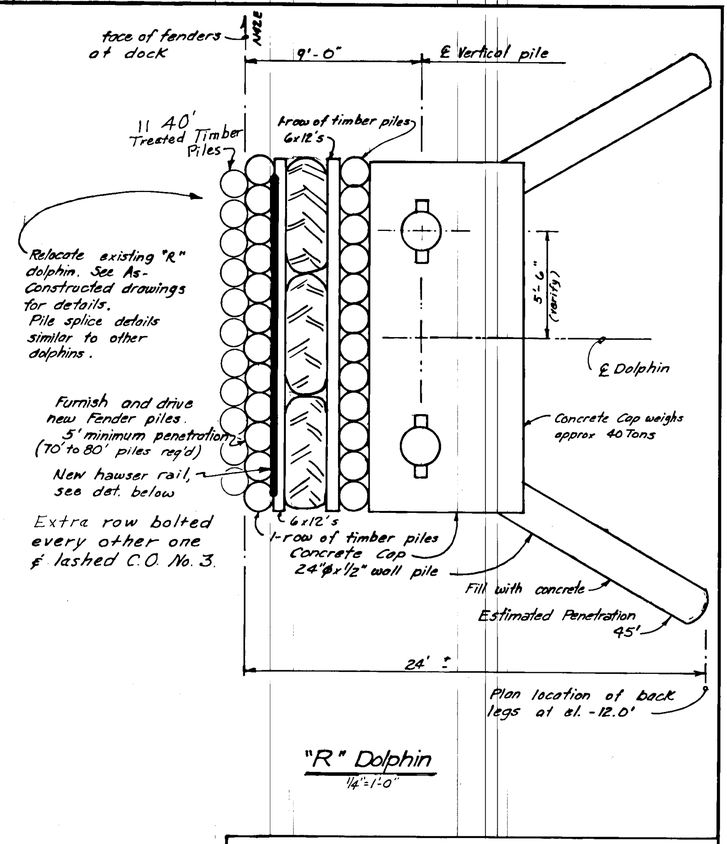
APRON SECTION & DETAILS

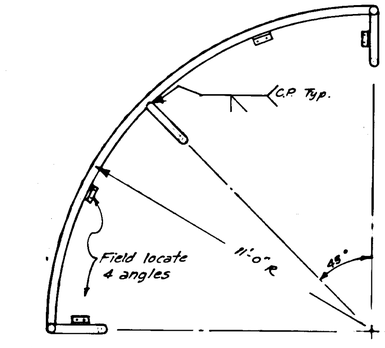
SCALE As Noted	SURVEYED	APPROVED
DESIGNED HM	DRAWN GRF	Don Statter
CHECKED RPB	DATE MAR. 1978	DIRECTOR
PROJECT NUMBER F0972 (2)	SHEET 35 OF 41	

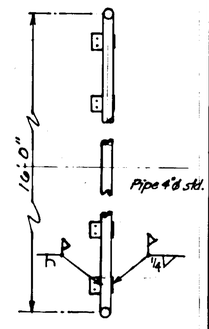
H-7

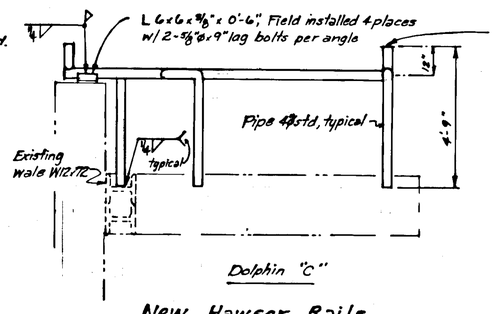




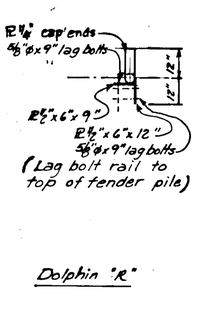








Dolphin "C"



Dolphin "R"

New Hawser Rails

3/8" = 1'-0"

scale in feet

8 4 3 2 0 1

General Notes:

1. All Piles 24"ø dia. or less shall be fitted with APF-14000 drive shoes or equal
2. Welding of large diameter cylinder may be accomplished from inside, or prior to placement
3. Welding size based on E70XX electrode
4. Alternate field splice methods maybe submitted for approval.
5. Dolphins "C" and "R" are Relocated and modified as indicated on this sheet. Construction shall be as indicated on Respective As-Constructed Drawings
6. All batter pile shall be driven thru-a template to insure good fit-up. and pile alignment as designed.
7. All pile splice field welds NDT test per schedule in specs.

Design Data: Dolphin	"C"	"R"
Kinetic Energy :	60 ft-Kips	30 ft Kips
Dolphin Reaction:	100 kips	100 Kips
Ballard Load :	30 Kips	30 Kips
Vertical Pile Loads:	370 tons	110 tons
Batter Pile Loads:	150 tons	180 tons

Material Stress f_y = 36 ksi
f'_c = 3000 psi

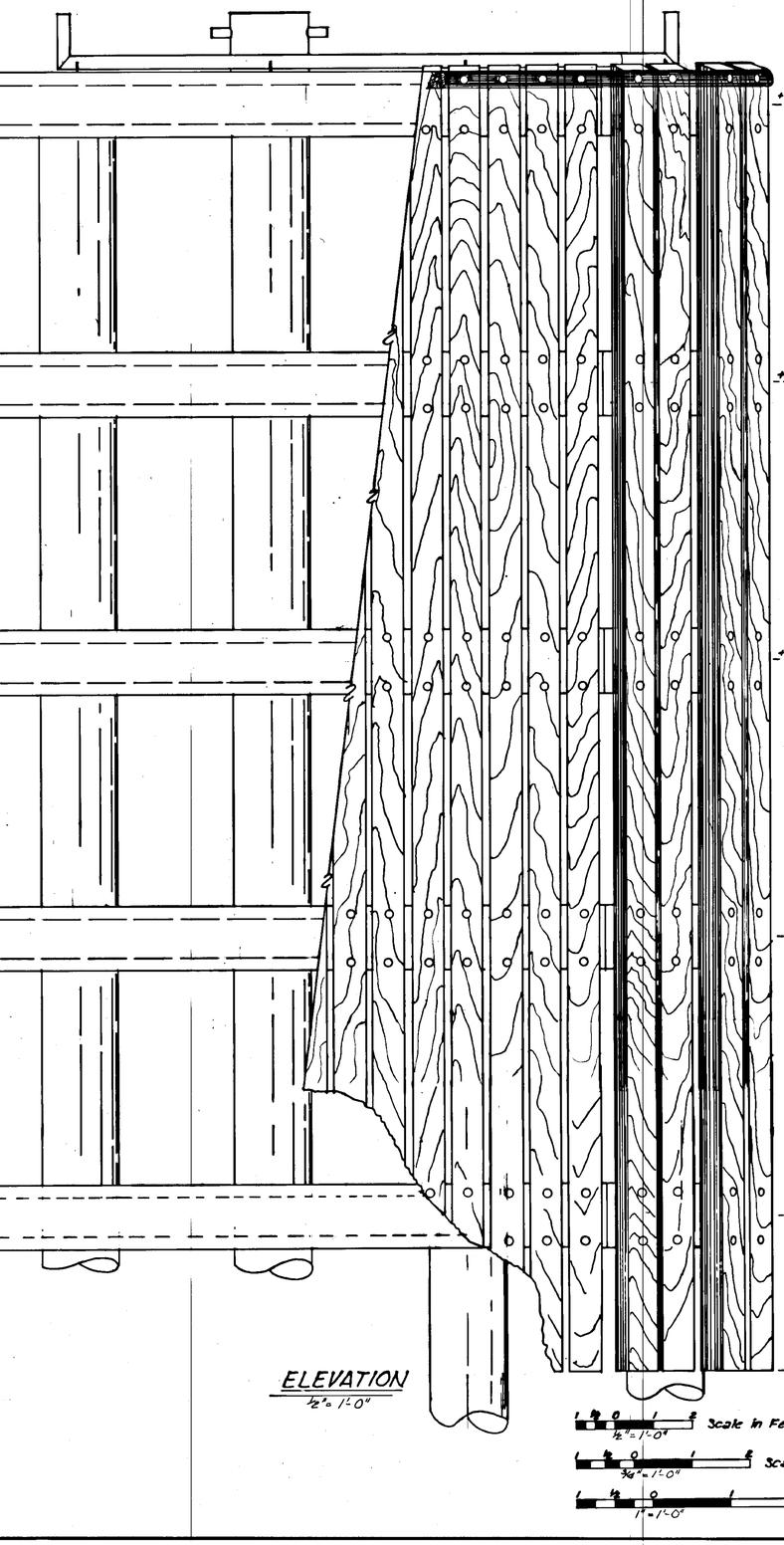
DO NOT SCALE THIS DRAWING — USE DIMENSIONS

STATE OF ALASKA
DIVISION OF HARBORS

Skagway Ferry Terminal — Skagway Alaska

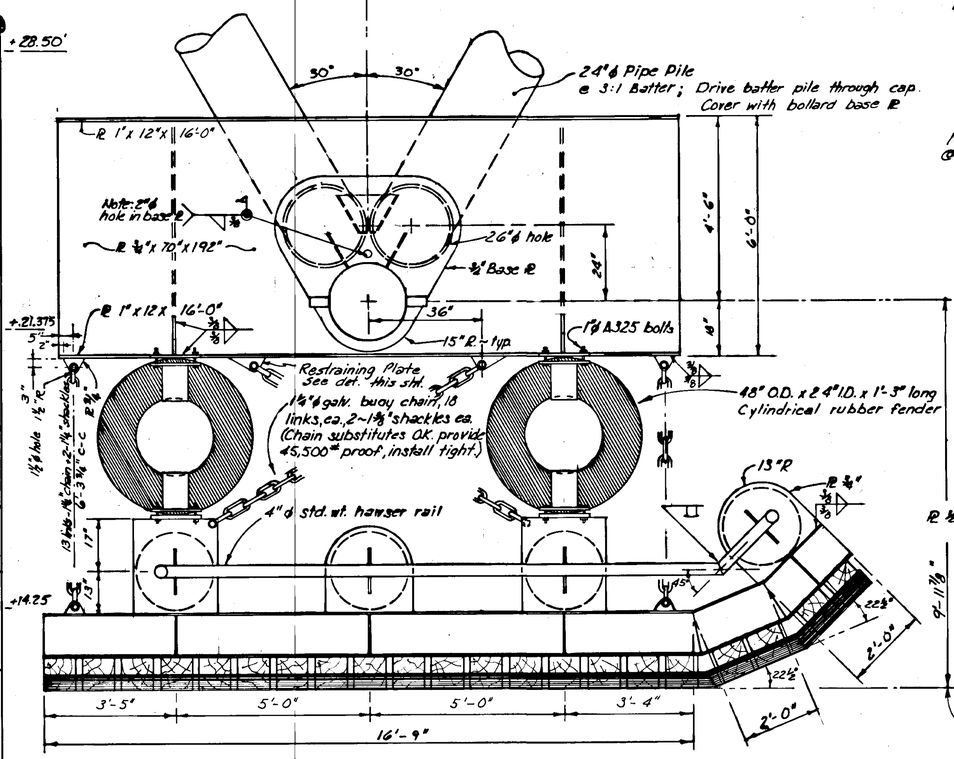
Dolphin "C" & "R" Details

SCALE As Noted	SURVEYED	APPROVED
DESIGNED HM. PE	DRAWN HM.	Don Stoffer
CHECKED	DATE 2-17-78	DIRECTOR
PROJECT NUMBER F-0972(2)	SHEET 36 OF 41	

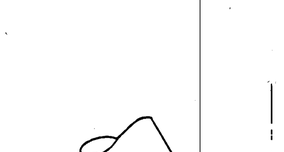


ELEVATION
1/2"= 1'-0"

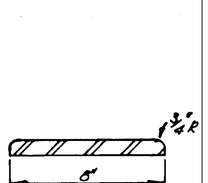
Scale in Feet
1/2"=1'-0"
Scale in Feet
3/4"=1'-0"
Scale in Feet
1"=1'-0"



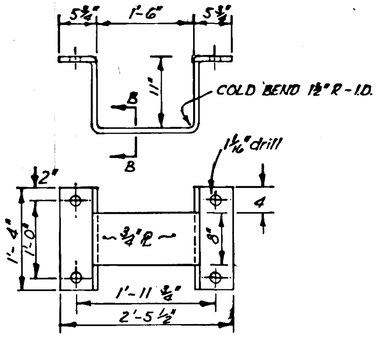
PLAN
1/2"= 1'-0"



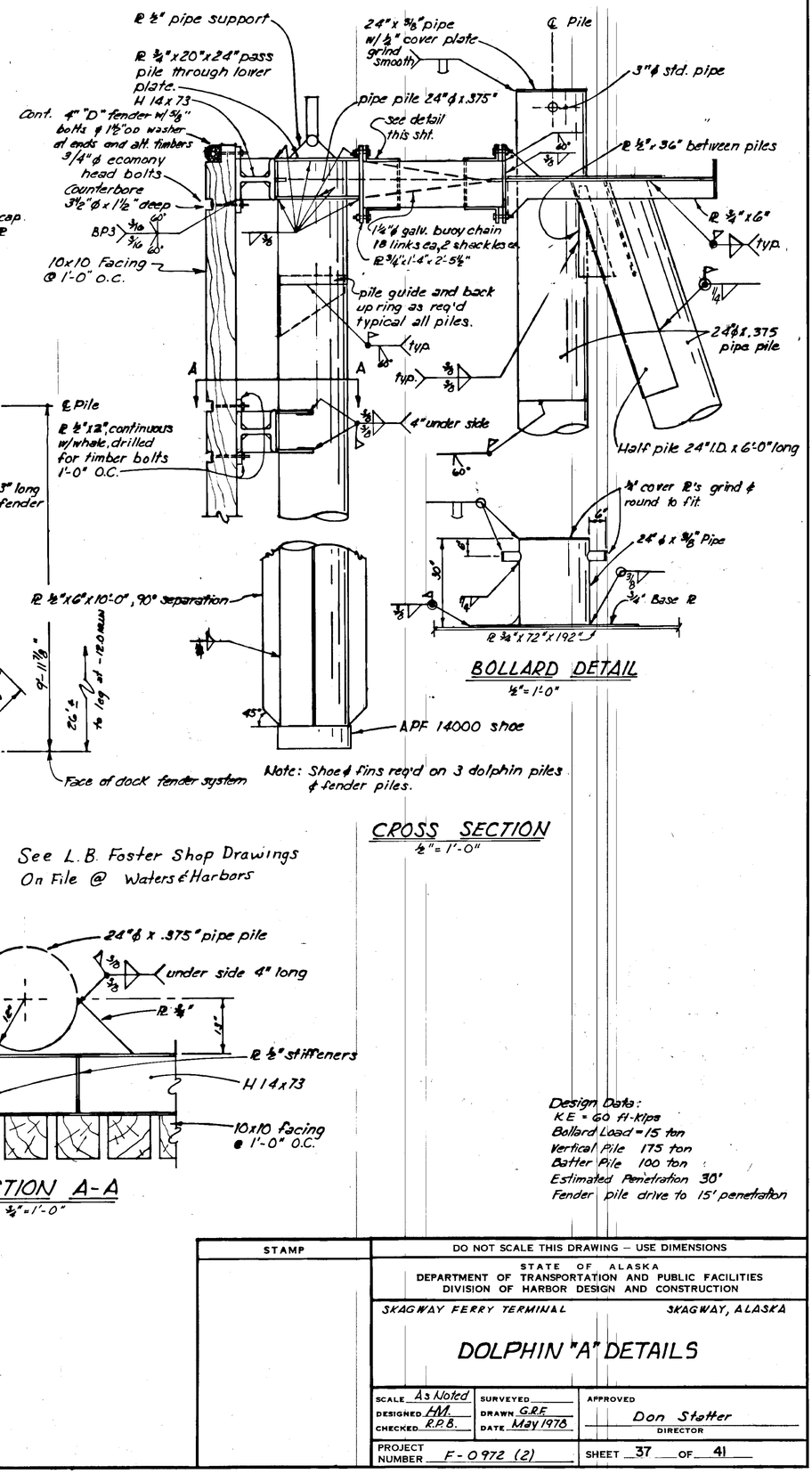
CHAIN RESTRAINING PLATE
N.T.S.



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



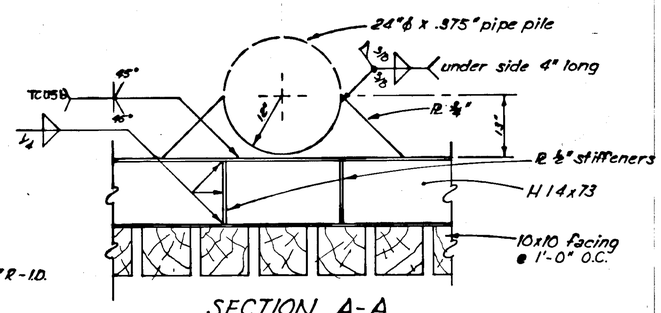
FENDER RETAINING BAR
1" = 1'-0"



BOLLARD DETAIL
1/2"= 1'-0"

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

See L.B. Foster Shop Drawings On File @ Waters & Harbors



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

Design Data:
KE = 60 ft-kips
Bollard Load = 15 ton
Vertical Pile 175 ton
Batter Pile 100 ton
Estimated Penetration 30'
Fender pile drive to 15' penetration

STAMP

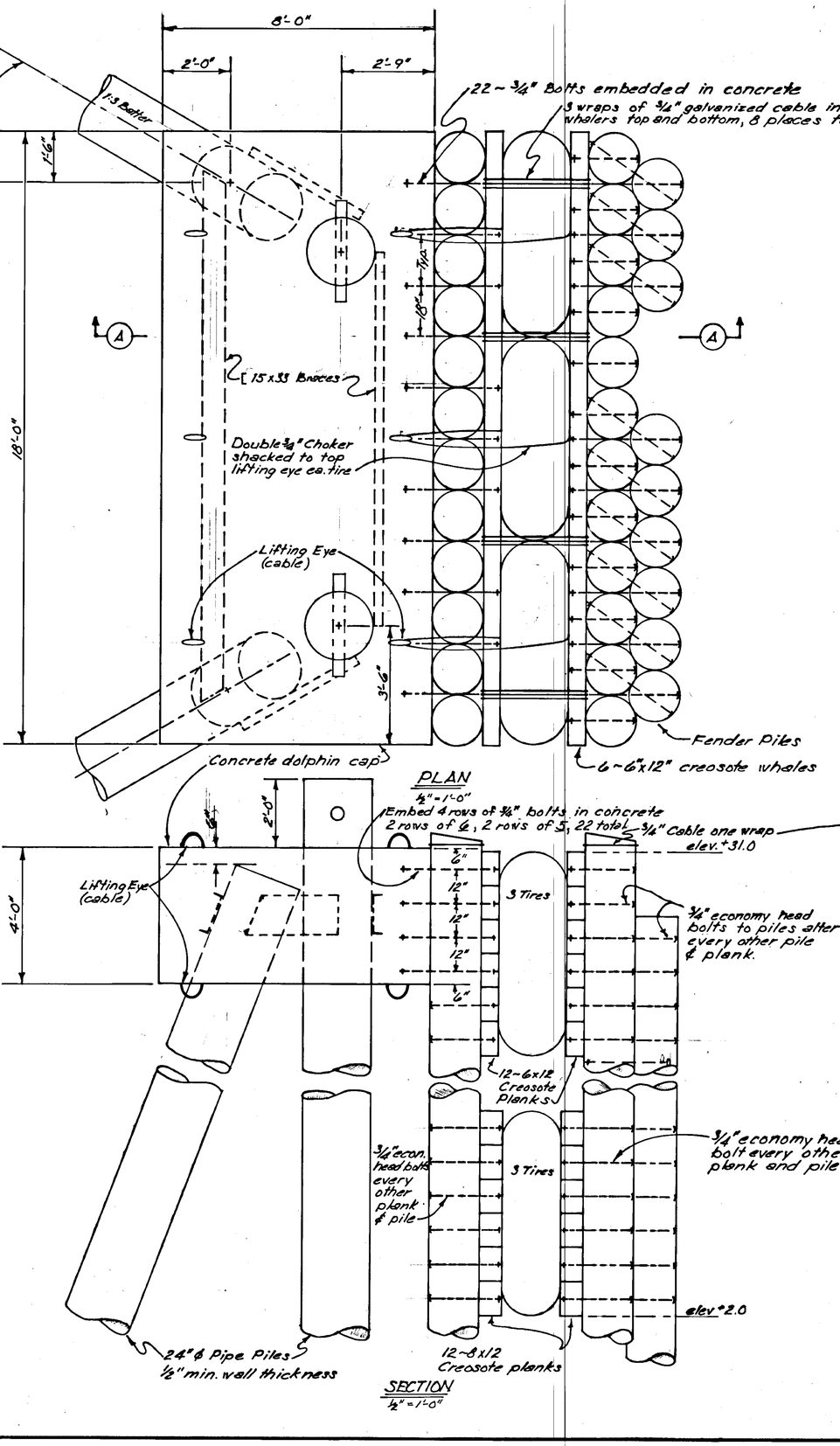
DO NOT SCALE THIS DRAWING — USE DIMENSIONS

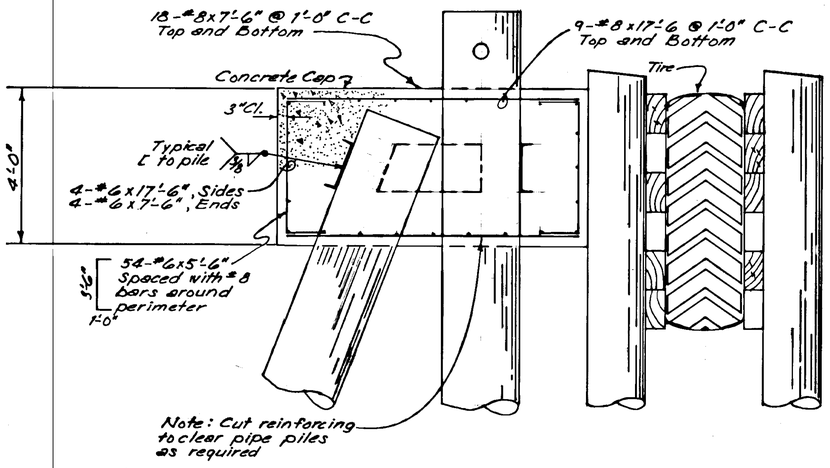
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
DIVISION OF HARBOR DESIGN AND CONSTRUCTION

SKAGWAY FERRY TERMINAL — SKAGWAY, ALASKA

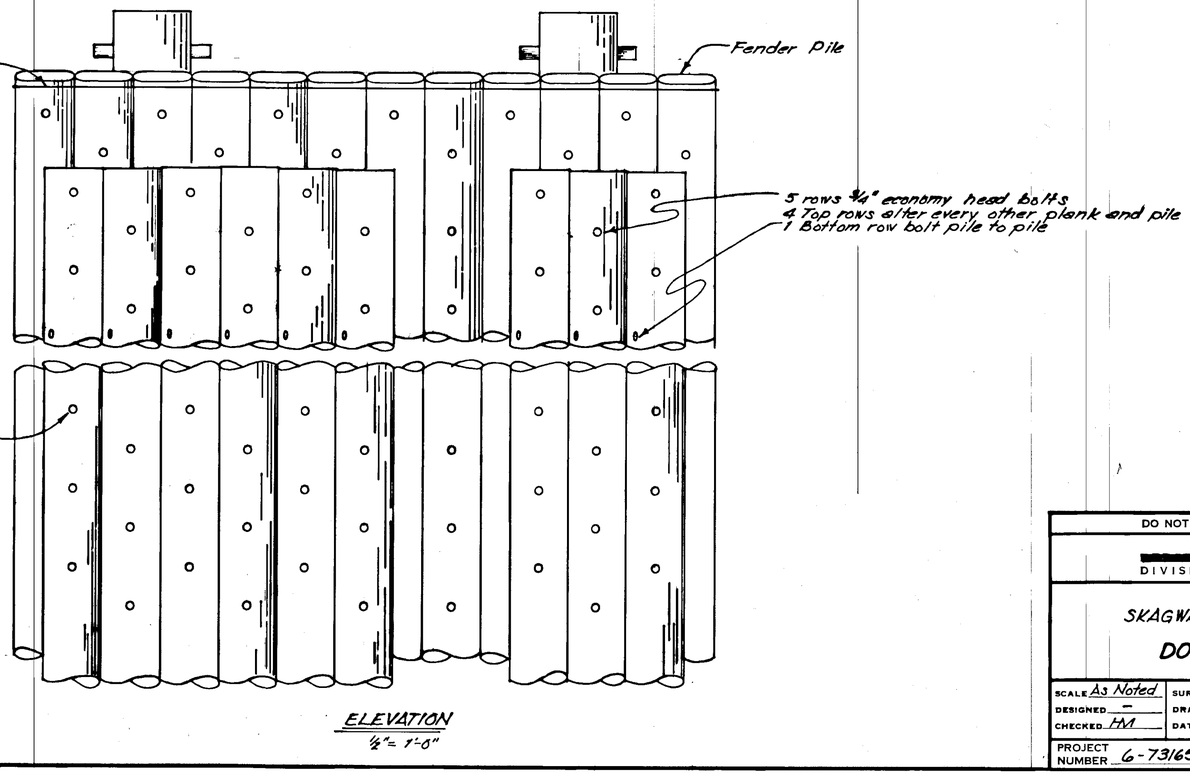
DOLPHIN "A" DETAILS

SCALE As Noted	SURVEYED	APPROVED
DESIGNED H.M.	DRAWN G.R.F.	Don Statter
CHECKED R.P.B.	DATE May 1978	DIRECTOR
PROJECT NUMBER F-0972 (2)	SHEET 37 OF 41	





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



ELEVATION
1/2" = 1'-0"

As Constructed

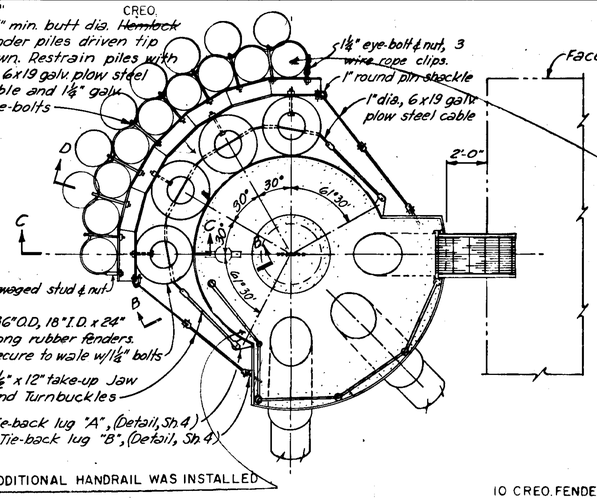
DO NOT SCALE THIS DRAWING – USE DIMENSIONS

STATE OF ALASKA
DIVISION OF HARBORS

SKAGWAY FERRY TERMINAL

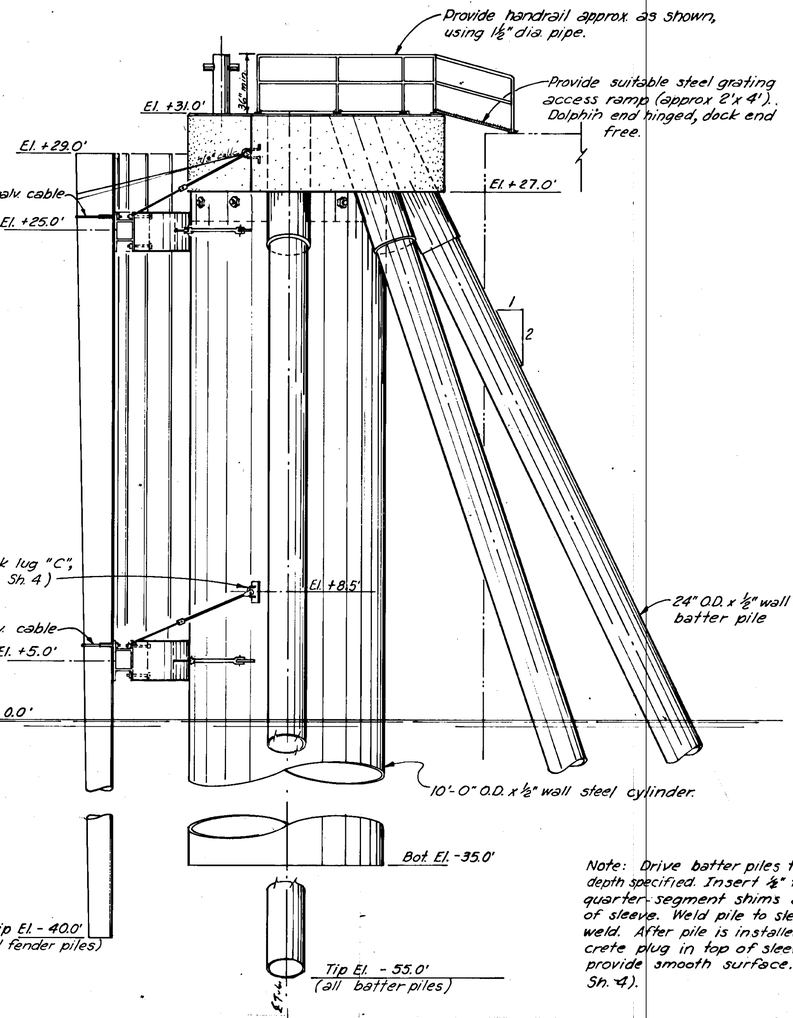
DOLPHIN "R" DETAILS

SCALE As Noted	SURVEYED	APPROVED
DESIGNED –	DRAWN G.R.F.	Don Statter
CHECKED HM	DATE 1-78	DIRECTOR
PROJECT NUMBER 6-73165		SHEET 38 OF 41



PLAN

10 CREO FENDERS WERE DRIVEN & 8 NATIVE PILE TO THE TURNING DOLPHIN

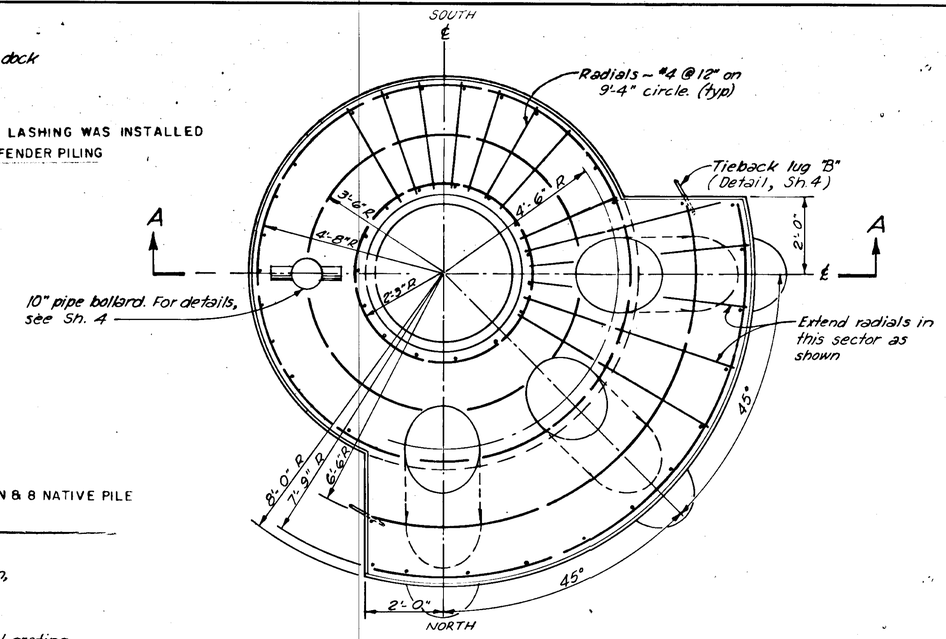


ELEVATION

DOLPHIN DETAILS

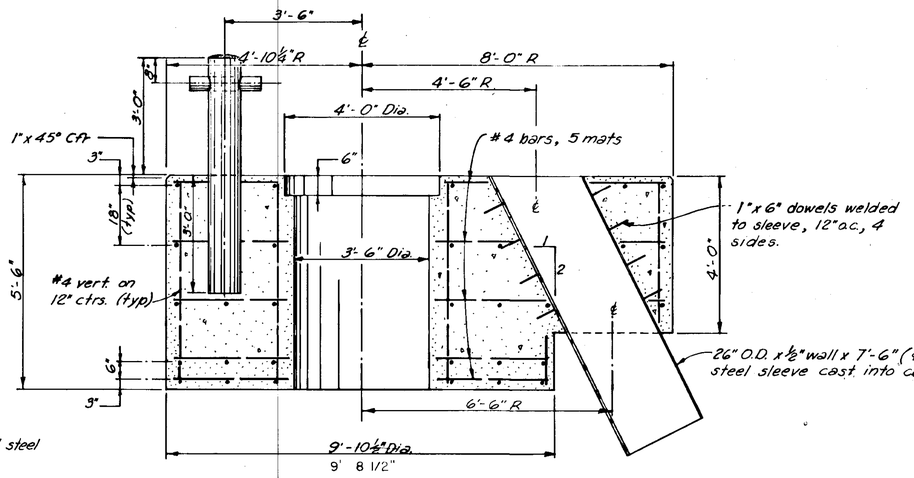
¼" = 1'-0"

Note: Drive batter piles thru sleeves to depth specified. Insert ½" thick x 12" long quarter-segment shims at lower end of sleeve. Weld pile to sleeve with cont. weld. After pile is installed, cast concrete plug in top of sleeve to seal and provide smooth surface. (See Detail, Sh. 4).



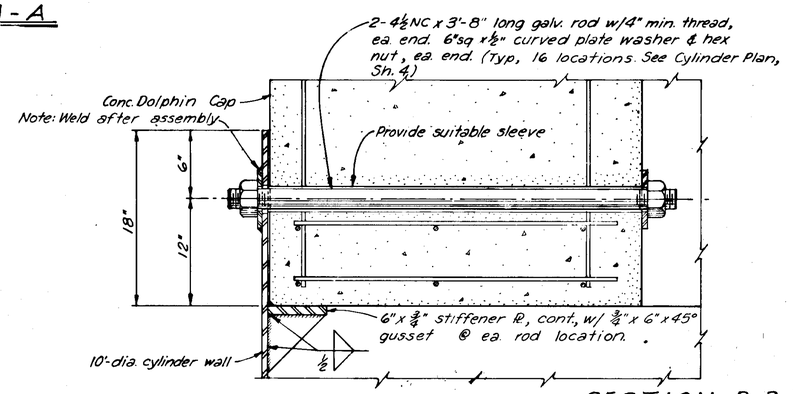
DOLPHIN CAP - PLAN

½" = 1'-0"



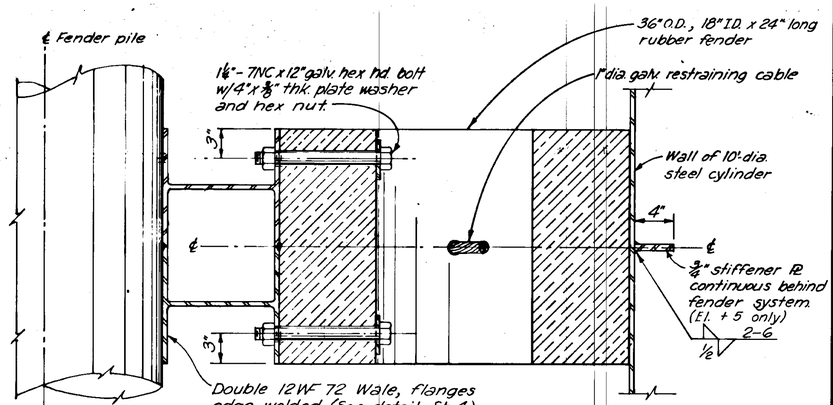
SECTION A-A

½" = 1'-0"



SECTION B-B

1½" = 1'-0"

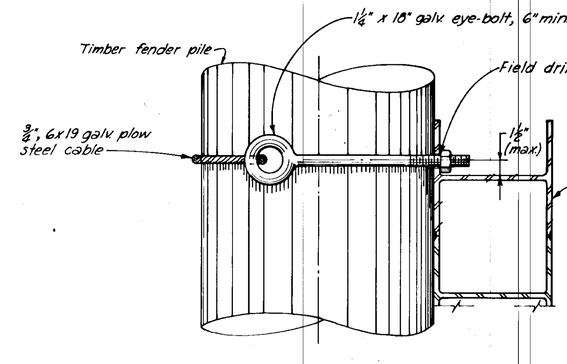


SECTION C-C

1½" = 1'-0"

(TYPICAL @ EL. +5.0' & +25.0')

EXCEPT AS NOTED



SECTIONAL DETAIL "D"

1½" = 1'-0"

As Constructed

DO NOT SCALE THIS DRAWING -- USE DIMENSIONS

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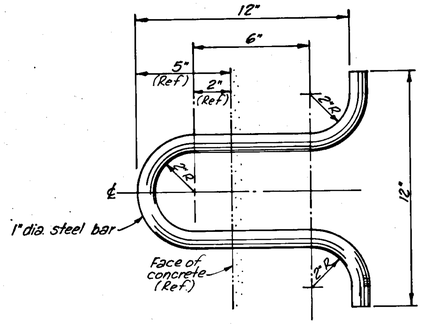
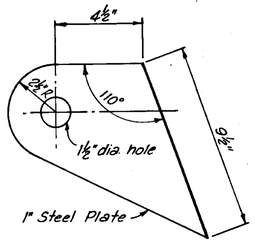
DOLPHIN "C" DETAILS

SCALE As shown	SURVEYED ~	APPROVED
DESIGNED DM-DB-JT	DRAWN JET	Don Statter
CHECKED DSM	DATE 12-20-73	DIRECTOR
PROJECT NUMBER 6-73165	SHEET 39 OF 41	

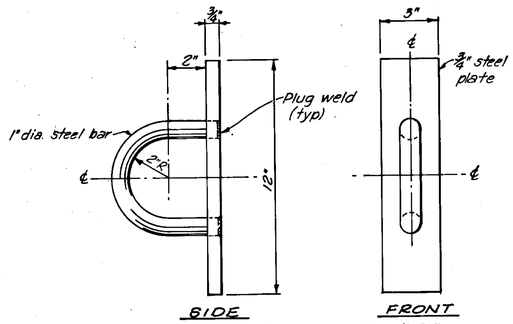
H-9



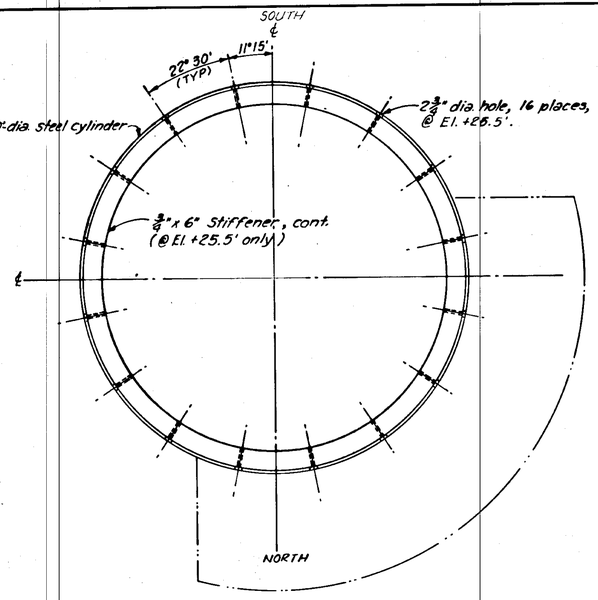
TIEBACK LUG "A"
3" = 1'-0"
2 REQ'D



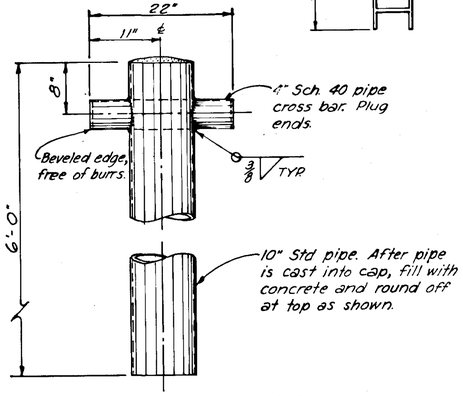
TIEBACK LUG "B"
3" = 1'-0"
4 REQ'D



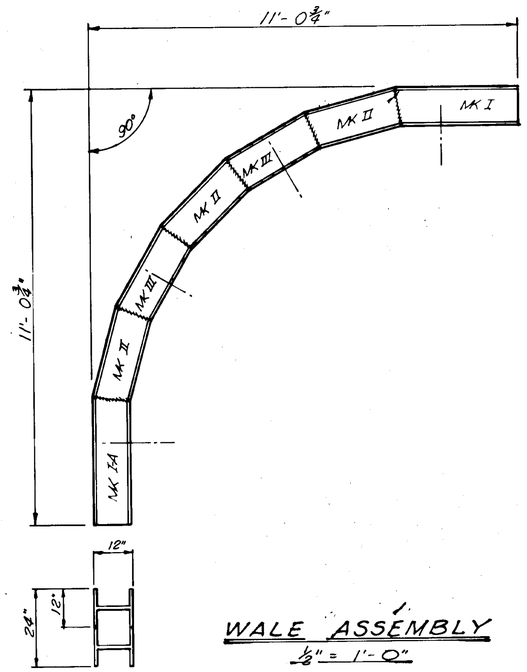
TIEBACK LUG "C"
3" = 1'-0"
2 REQ'D



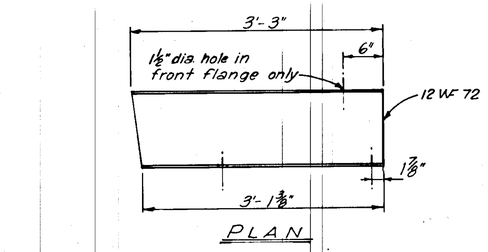
10'-DIA. CYLINDER - PLAN
½" = 1'-0"



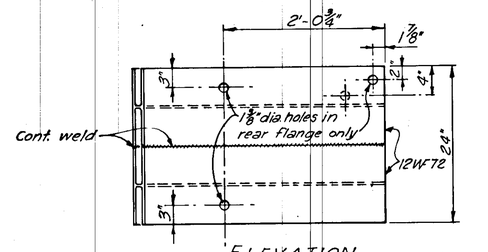
BOLLARD DETAIL
SH. 3 FOR LOCATION
1" = 1'-0"



WALE ASSEMBLY
½" = 1'-0"
(2 ASSEMBLIES REQ'D)

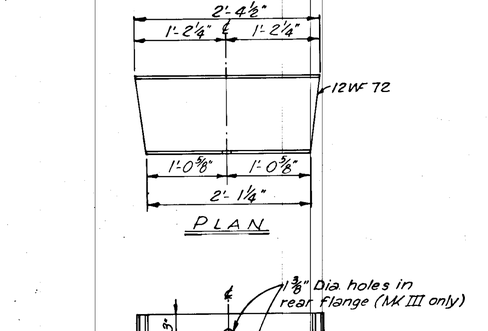


PLAN

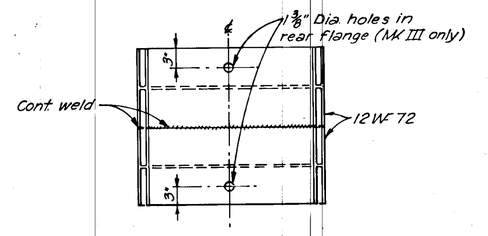


ELEVATION

MK I AS SHOWN, MK I-A OPP. HAND



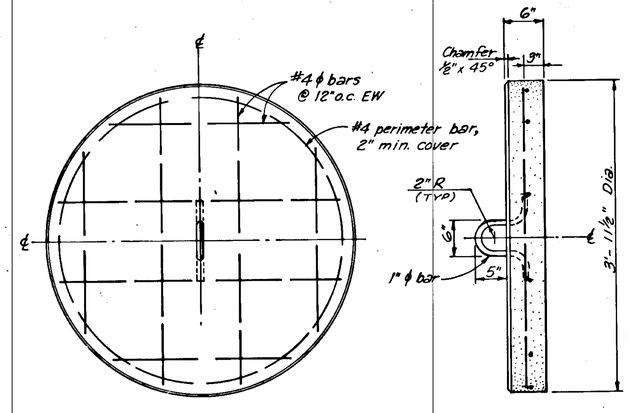
PLAN



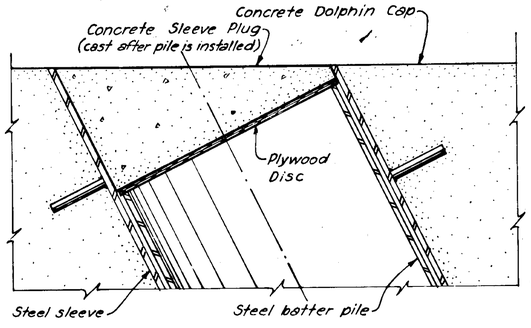
ELEVATION

MK II AND MK III

WALE SEGMENT DETAILS
1" = 1'-0"



DOLPHIN CAP PLUG
1" = 1'-0"



SLEEVE PLUG DETAIL
SUGGESTED METHOD
1½" = 1'-0"

As Constructed

DO NOT SCALE THIS DRAWING – USE DIMENSIONS

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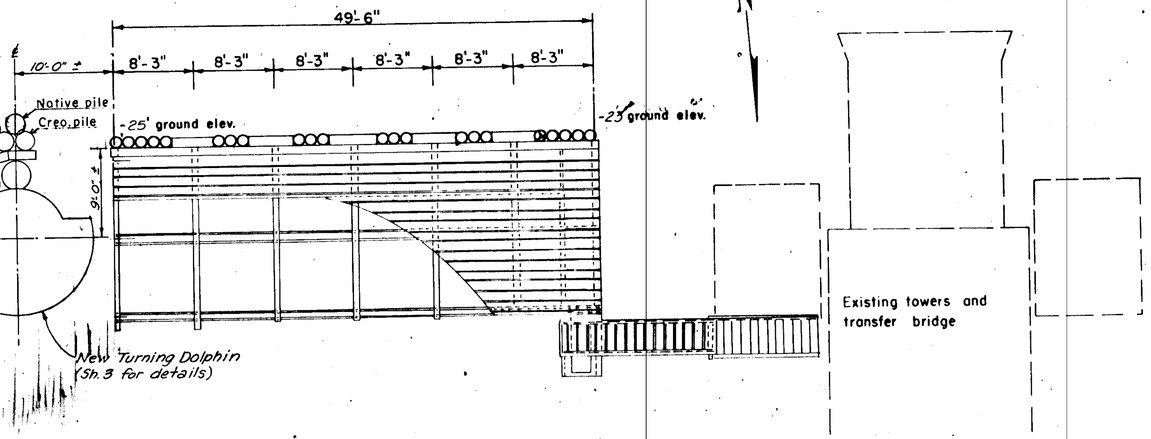
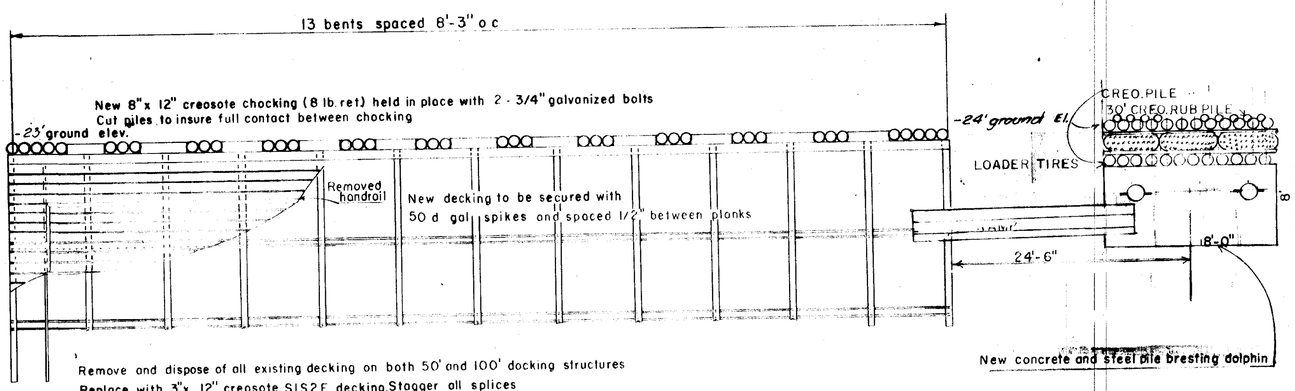
DOLPHIN "C"

SCALE As shown	SURVEYED	APPROVED
DESIGNED DSM/JT	DRAWN JET	Don Statte
CHECKED DSM	DATE 12-20-73	DIRECTOR
PROJECT NUMBER 6-73165	SHEET 40 OF 41	

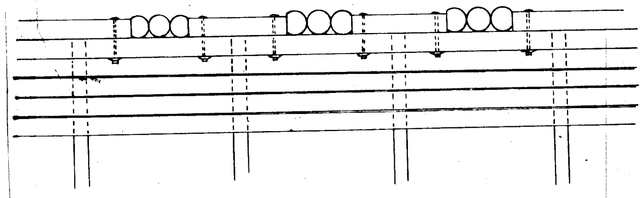
H-9



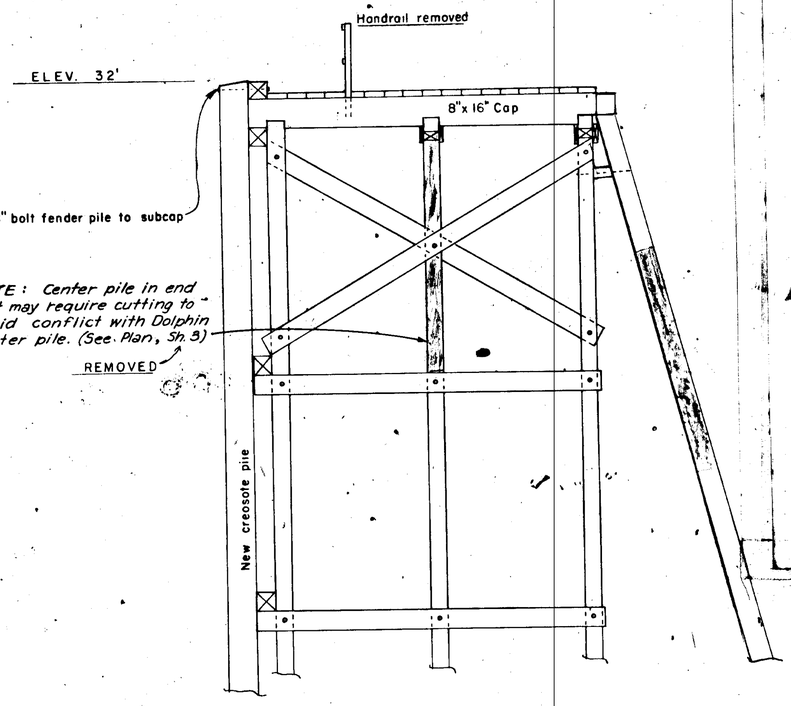


Remove and dispose of all existing decking on both 50' and 100' docking structures
Replace with 3"x 12" creosote S.I.S.2.E. decking. Stagger all splices
Remove and dispose of approx. 30 native fender piles and associated chocking
Replace with 6 class A creosote treated piles (12 lb. ret.)
Piles to be driven to 10' penetration or refusal
Piles to be driven tip down

PLAN
SCALE 1/8" = 1'-0"



CHOCKING DETAIL
SCALE 1/4" = 1'-0"



TYPICAL EXISTING BENT
SCALE 1/4" = 1'-0"

As Constructed
9/30/74

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DIVISION OF WATER AND HARBORS

TURNING DOLPHIN LOCATION · DOCK RECONSTRUCTION

SCALE As shown	SURVEYED —	APPROVED
DESIGNED —	DRAWN JET	Don Statter
CHECKED DSM	DATE 12-20-73	DIRECTOR
PROJECT NUMBER 6-73165	SHEET 41 OF 41	