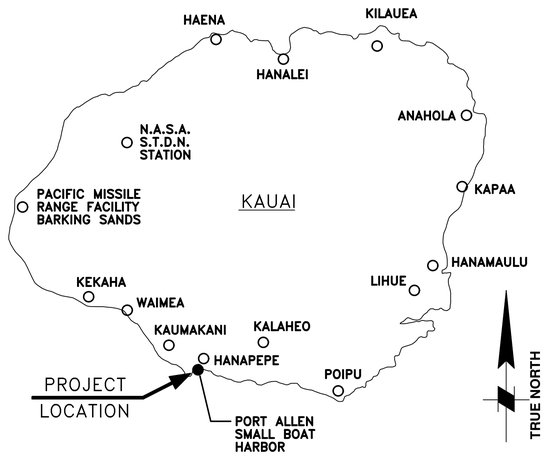


ISLAND OF KAUAI

NOT TO SCALE

STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

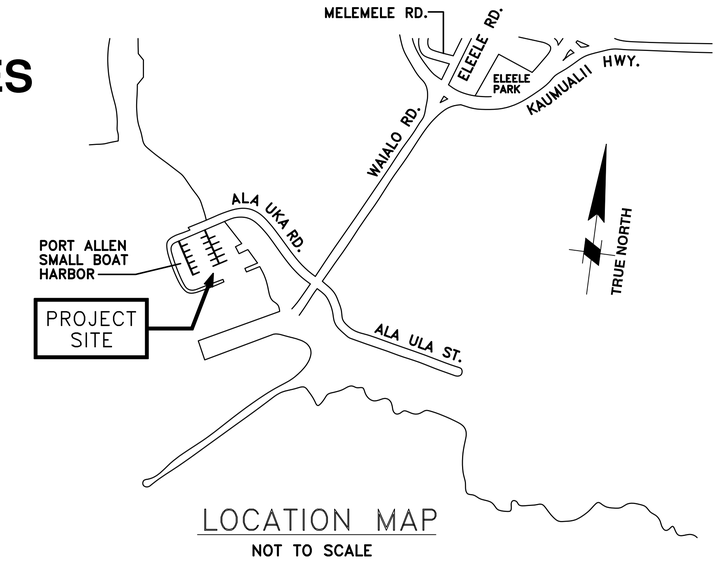
DIVISION OF BOATING AND OCEAN RECREATION

JOB NO. B94DK71A

PORT ALLEN SMALL BOAT HARBOR FLOATING DOCK IMPROVEMENTS

KAUAI, HAWAII

TAX MAP KEY: (4) 2 - 1 - 003 : 010



LOCATION MAP

NOT TO SCALE

I N D E X

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3	G-03	GENERAL NOTES - 2
4	G-04	LEGEND AND ABBREVIATIONS
5	G-05	OVERALL SITE AND SURVEY CONTROL PLAN
6	G-06	BMP PLAN
7	B-01	2014 SOIL BORING PLAN AND LOGS
8	B-02	1962 SOIL BORING PLAN AND LOGS
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10	D-02	PIER A DEMOLITION PLAN
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15	DK-02	DOCK LAYOUT - SITE PLAN
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INDEX OF DRAWINGS		
INDEX NO	SHEET NO.	SHEET TITLE
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24	S-02	DOCK A GANGWAY APPROACH DETAILS
25	S-03	DOCK B GANGWAY APPROACH DETAILS
26	S-04	GANGWAY ABUTMENT SECTION AND DETAILS
27	S-05	4X60 ADA GANGWAY SECTIONS AND DETAILS
28	S-06	4X30 GANGWAY SECTIONS AND DETAILS
29	S-07	GANGWAY ELEVATIONS
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MECHANICAL		
31	M-01	MECHANICAL NOTES
32	M-02	POTABLE WATER AND FIRE PROTECTION NOTES
33	M-03	POTABLE WATER PLAN
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37	E-01	GENERAL NOTES, ABBREVIATIONS AND SYMBOLS
38	E-02	ELECTRICAL PLAN
39	E-03	DETAILS, PANEL SCHEDULE

RFI 15/RFI 17RFI 25: Pier A confirmed will not be ADA

BID DOCUMENTS - FINAL DESIGN

JOB NO. B94DK71A PORT ALLEN SMALL BOAT HARBOR PIER IMPROVEMENTS, KAUAI, HAWAII

AS-BUILT
08/31/2018

APPROVED: **DATE:** _____

EDWARD R. UNDERWOOD
ADMINISTRATOR
DIVISION OF BOATING AND OCEAN RECREATION
DEPARTMENT OF LAND AND NATURAL RESOURCES

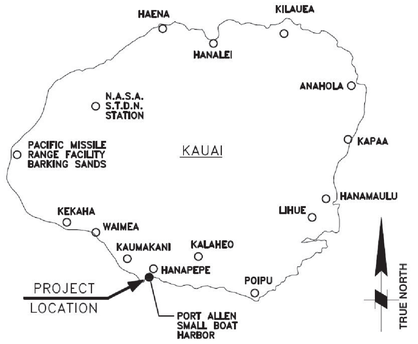
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PORT ALLEN SMALL BOAT HARBOR
FLOATING DOCK IMPROVEMENTS

KAUAI, HAWAII
TAX MAP KEY :(4)2-1-003:010

STATE OF HAWAII JOB NO. :B94DK71A
BWM JOB NO. :W17-266



ISLAND OF KAUAI
NOT TO SCALE



VICINITY MAP



LOCATION MAP

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GA-31	SECURITY GATE WLDMT. ASM. AND BRACKET
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GENERAL NOTES:

DESIGN CRITERIA

WORKMANSHIP AND MATERIALS SHALL CONFORM TO THE IBC 2015 WITH CITY AND COUNTY OF HONOLULU BUILDING CODE AMENDMENTS. HOWEVER WHERE REFERNCES IS MADE TO PERFORMANCE CONFORMING TO OTHER STANDARDS THE MORE STRINGENT SHALL APPLY.

STRUCTURAL ALUMINUM

1. FABRICATION AND ERECTION OF STRUCTURAL ALUMINUM SHALL CONFORM TO THE ALUMINUM DESIGN MANUAL 2010 EDITION.
2. ALL MATERIAL SHALL ME MARINE GRADE 6000 SERIES ALUMINUM, UNLESS OTHERWISE NOTED.
3. ALL FASTENERS SHALL BE 316SS AND SHALL CONFORM TO ASTM F593 AND F594, UNLESS OTHERWISE SPECIFIED.
4. WELDS AND WELDING PROCEDURES SHALL CONFORM TO STRUCTURAL WELDING CODE AWS D1.2 OF THE AMERICAN WELDING SOCIETY AND WELDING SHALL BE PERFORMED BY WELDERS PREQUALIFIED FOR WELDING PROCEDURES TO BE USED.
5. ALL WELDS SHALL BE CONTINUOUS 1/4" FILLET USING 4043 FILLER METAL, UNLESS OTHERWISE NOTED.
6. ALL ALUMINUM SURFACES IN CONTACT WITH CONCRETE ARE EPOXY COATED.
7. ALL MEASUREMENTS NEED TO BE FIELD VERIFIED PRIOR TO FABRICATION.

EMBEDDED ANCHORS

1. EPOXY FOR EMBEDDED ANCHORS SHALL BE HILTI HIT-RE 500 V3.
2. ALL THREADED ROD SHALL BE 316 STAINLESS STEEL.

GENERAL NOTES (CONT.):

FLOATING DOCK DESIGN BASIS

VERTICAL LOADS:
A. DEAD LOAD: ACTUAL WEIGHT OF ALL PERMANENT COMPONENTS OF THE STRUCTURE, INCLUDING PARTS TO BE PLACED ON OR ATTACHED TO THE STRUCTURE. THIS WILL INCLUDE UTILITIES, LIGHTS, DECKING, GANGWAYS, ETC.

B. UNIFORMLY DISTRIBUTED LIVE LOAD: 30 LBS. PER SQUARE FOOT.

C. CONCENTRATED LIVE LOAD: POINT LOAD 400 LBS., PLACED AT ANY LOCATION ON THE DOCK SURFACE.

HORIZONTAL LOADS:
A. *WIND SPEED:* 95 MPH ON MOORED VESSELS, 105 MPH ON DOCK WITHOUT MOORED VESSELS, OR 20 PSF MINIMUM.

B. *CURRENT:* CURRENT SPEED OF 1 MPH, OR 5 PSF MINIMUM.

C. *WAVE LOAD:* WAVE HEIGHT EQUAL TO 2.0 FEET, WAVE PERIOD EQUAL TO 3 SECONDS, OR 40 PSF ON DOCK PROFILE ABOVE AND BELOW WATER.

D. *TOTAL COMBINED LOAD:* 150 PSF MINIMUM.

E. *BERTHING:* 50 FT VESSEL, 25 LONG TONS, APPROACH VELOCITY 2.0 FT/SEC AT 10 DEGREES

LOAD COMBINATIONS:
THE FOLLOWING LIST OF LOADING COMBINATIONS WERE CONSIDERED:

A. *LOAD COMBINATION NO. 1:* DEAD LOAD ONLY. THE MINIMUM AND MAXIMUM FREEBOARD FOR THIS LOAD CASE AS STATED BELOW. FREEBOARD SHALL NOT VARY OVER THE ENTIRE FLOATING DOCK BY MORE THAN 1 INCH.

B. *LOAD COMBINATION NO. 2:* DEAD LOAD AND UNIFORMLY DISTRIBUTED LIVE LOAD. THE MINIMUM AND MAXIMUM FREEBOARD FOR THIS LOAD CASE AS STATED BELOW.

C. *LOAD COMBINATION NO. 3:* COMBINED WIND, WAVE, AND CURRENT FORCES ACTING TRANSVERSELY ON DOCK.

D. *LOAD COMBINATION NO. 4:* COMBINED WIND, WAVE, AND CURRENT FORCES ACTING LONGITUDINALLY ON DOCK.

E. *LOAD COMBINATION NO. 5:* BERTHING

FREEBOARD:
A. THE FREEBOARD OF THE FLOATING DOCK UNDER DEAD LOAD SHALL BE 20" TO 24".

B. THE FREEBOARD OF THE FLOATING DOCK UNDER DEAD LOAD PLUS LIVE LOAD SHALL BE 10" MINIMUM.

GANGWAY DESIGN BASIS

VERTICAL LOADS:
A. DEAD LOAD: ACTUAL WEIGHT OF ALL PERMANENT COMPONENTS OF THE STRUCTURE, INCLUDING PARTS TO BE PLACED ON OR ATTACHED TO THE STRUCTURE.

B. UNIFORMLY DISTRIBUTED LIVE LOAD: 100 LBS. PER SQUARE FOOT.

C. *POINT LIVE LOAD:* 400 LBS APPLIED ANYWHERE ON DECK.

HORIZONTAL LOADS:
A. *UNIFORM HANDRAIL LOAD:* 50 LBS. PER LINEAR FOOT.

B. *LATERAL WIND LOAD:* 20 PSF APPLIED TO SIDE OF GANGWAY

DESIGN CODES:
THE PIER, GANGWAY, AND FLOATING DOCK SYSTEM HAVE BEEN DESIGNED IN ACCORDANCE WITH THE FOLLOWING CODES:

- ALUMINUM DESIGN MANUAL 2010
- ASCE 7-10
- UNIFIED FACILITIES CRITERIA, UFC 4-152-07, DESIGN: SMALL CRAFT BERTHING FACILITIES, SEPTEMBER 2012.
- CALIFORNIA 2005 LAYOUT & DESIGN GUIDELINES FOR MARINA BERTHING FACILITIES
- ASCE MANUALS AND REPORTS ON ENGINEERING PRACTICE NO. 129 - MOORING OF SHIPS TO PIERS AND WHARVES
- DESIGN OF MARINE FACILITIES FOR THE BERTHING, MOORING, AND REPAIR OF VESSELS, ASCE PRESS

AS-BUILT
08/31/2018

JOSHUA M MURPHREE
LICENSED PROFESSIONAL ENGINEER
No.13750-S
Exp. 4/30/2018
This work was performed by me or under my supervision and construction of this project will be under my supervision

ORIGINAL RELEASE DATE: 1/11/2017

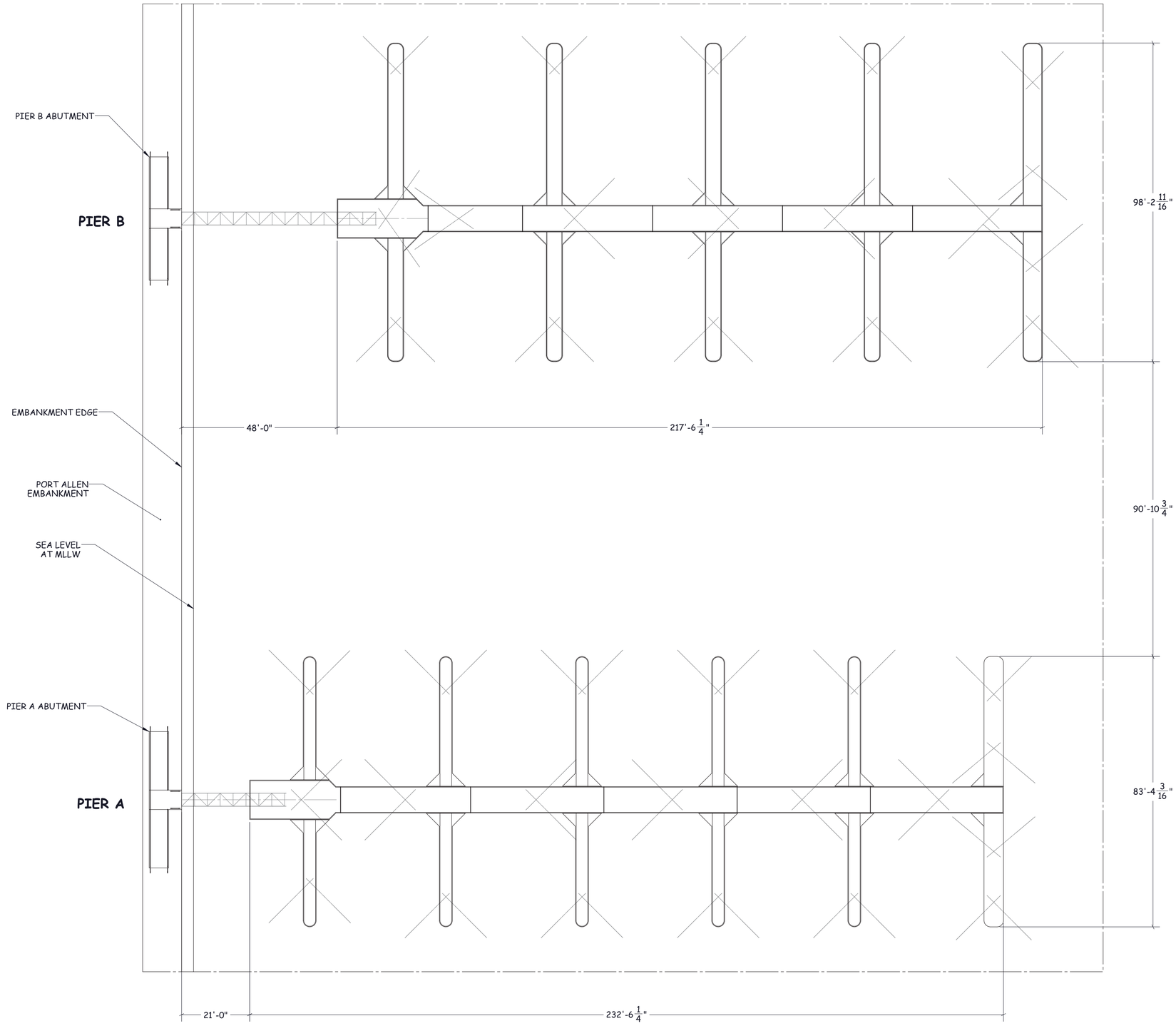
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PROJECT NAME: PORT ALLEN SMALL BOAT HARBOR FLOATING DOCK IMPROVEMENTS
BWM Job No. W17-266
DRAWING TITLE: TITLE PAGE

ENGINEER OF RECORD:
Three Creations, LLC
61-655 KAMEHAMEHA HIGHWAY
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(808) 349-4990 joshmurphree@gmail.com

DOCK AND GANGWAY MANUFACTURER:
BLUEWATER MARINE & DOCK SPECIALTIES
350 WARD AVE. SUITE 106
HONOLULU, HI 96814
OFFICE: (808) 237-4504
CELL: (808) 864-9831
INFO@BLUEWATERDOCKS.COM

SHEET: T-1
SIZE: D



PORT ALLEN PIER LAYOUT (MLLW)
SCALE 1 : 200

AS-BUILT
08/31/2018

JOSHUA M MURPHREE
LICENSED PROFESSIONAL ENGINEER
No.13750-S
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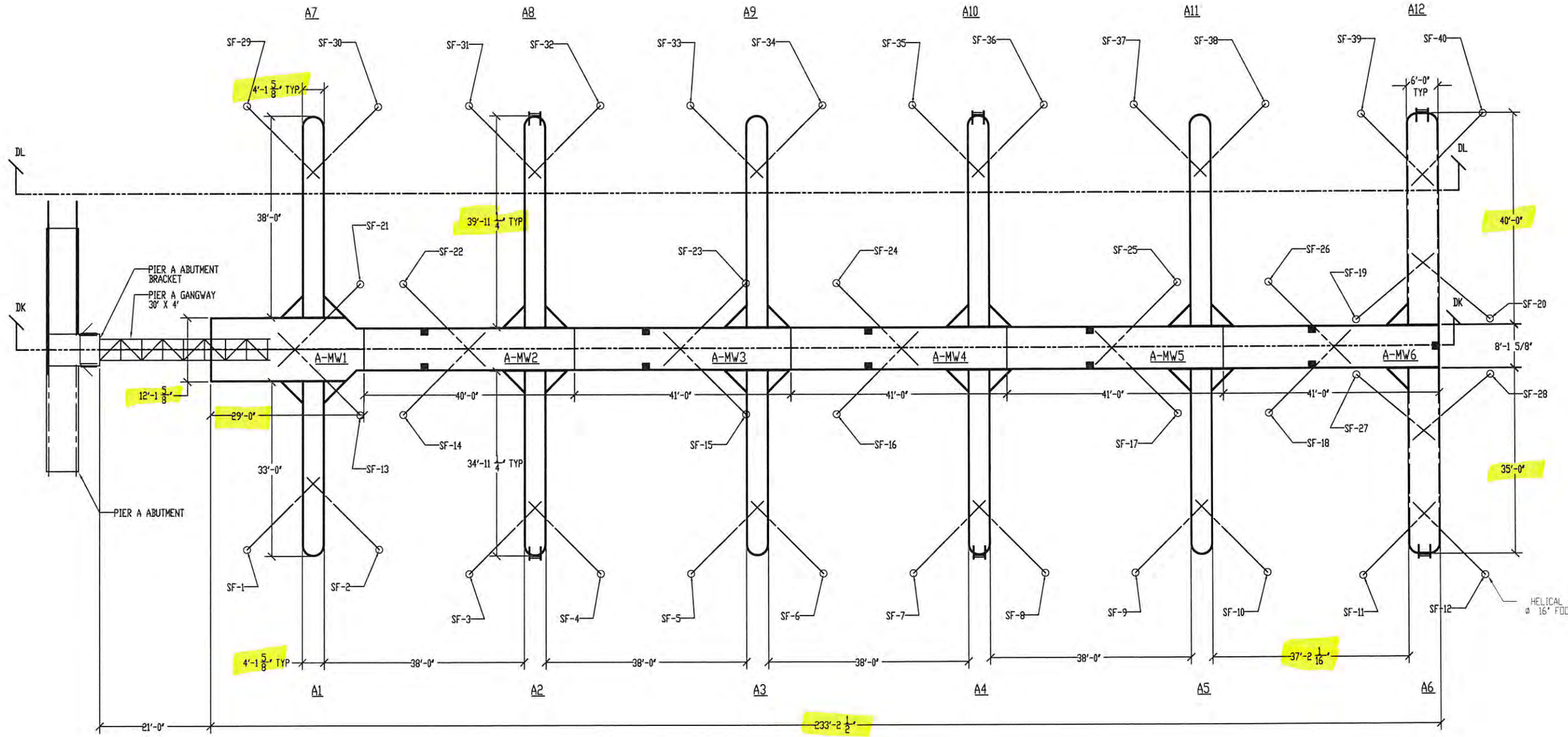
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PORT ALLEN SMALL BOAT HARBOR FLOATING DOCK IMPROVEMENTS
BWM Job No. W17-266

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PORT ALLEN PIER LAYOUT

ENGINEER OF RECORD:
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SIZE: D



PIER A
FRAME BRAKE AND SEAFLEX LAYOUT
(MLLW)
SCALE 1 : 125

AS-BUILT
08/31/2018

HONOLULU, HAWAII, U.S.A.
LICENSED PROFESSIONAL ENGINEER
No. 15737
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PROJECT NAME:
PORT ALLEN SMALL BOAT HARBOR FLOATING DOCK IMPROVEMENTS
BWM Job No. W17-266

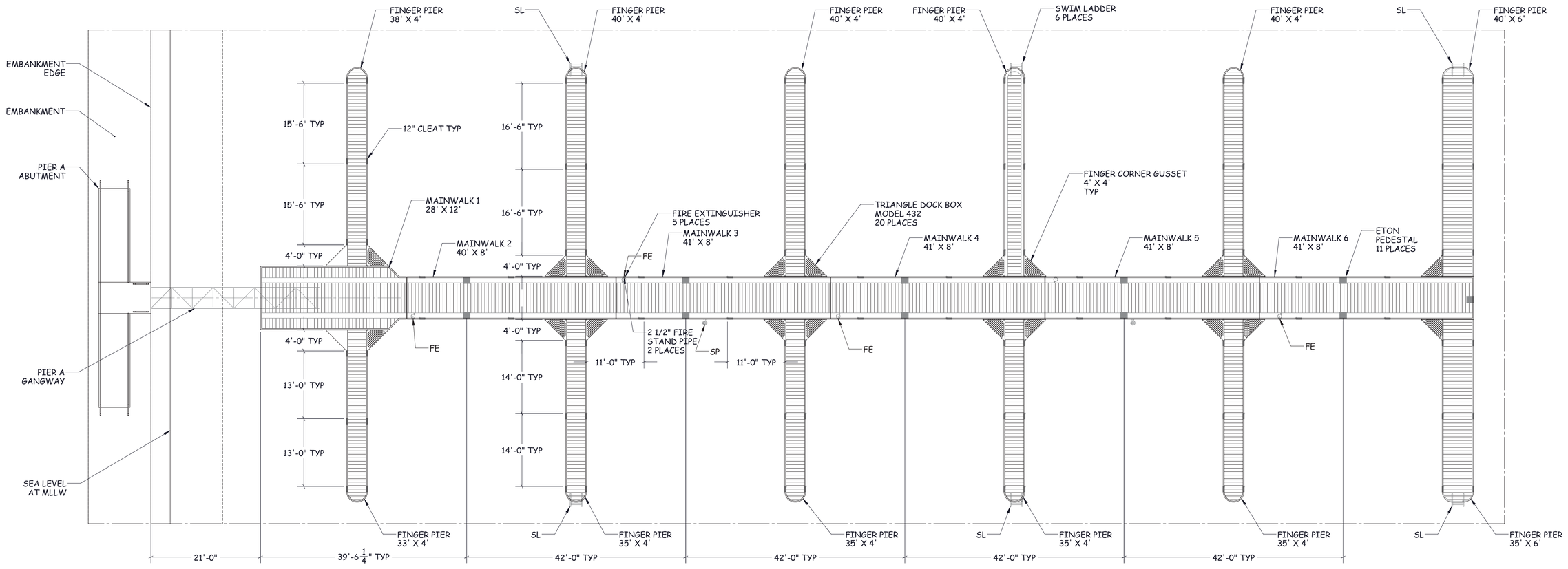
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PIER A FRAME BREAK AND SEAFLEX LAYOUT

ENGINEER OF RECORD:
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SHEET: GA-2
SIZE: D

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PIER A
COMPONENT LAYOUT
(MLLW)
SCALE 1 : 120

AS-BUILT
08/31/2018

JOSHUA M MURPHREE
LICENSED PROFESSIONAL ENGINEER
No.13750-S
STATE OF WASHINGTON
Exp. 4/30/2018
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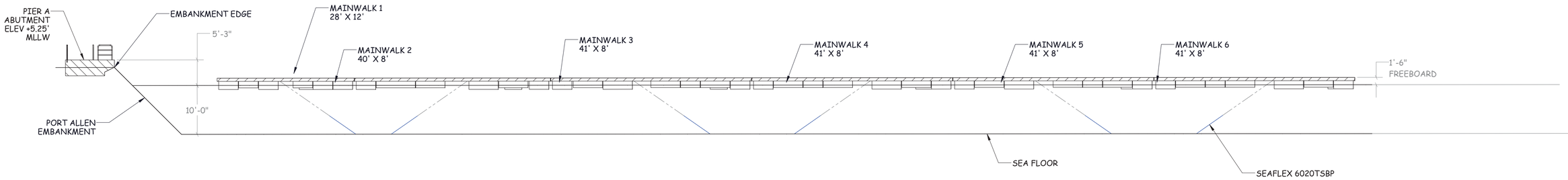
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BWM Job No. W17-266

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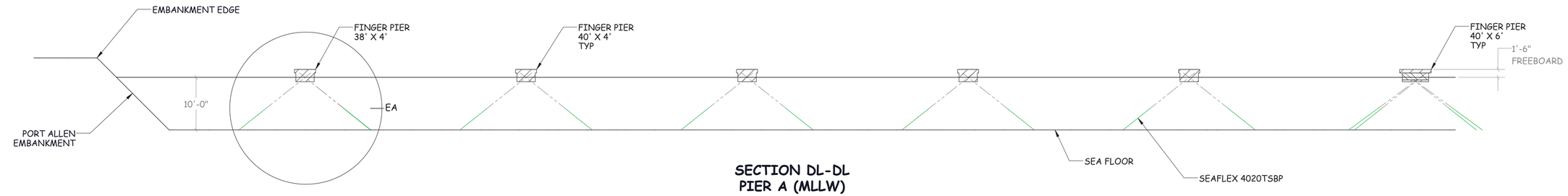
ENGINEER OF RECORD:
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DOCK AND GANGWAY MANUFACTURER:
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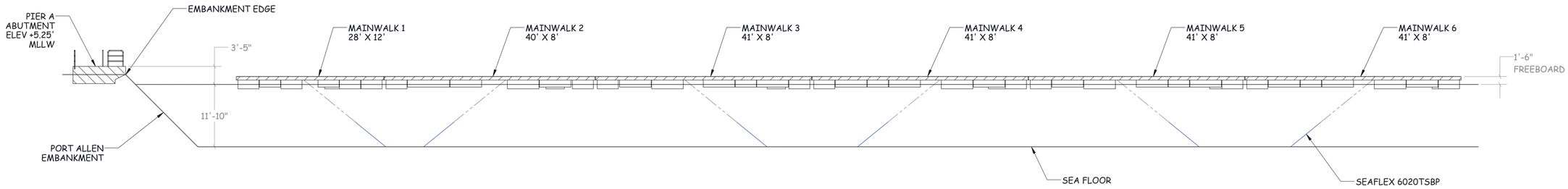
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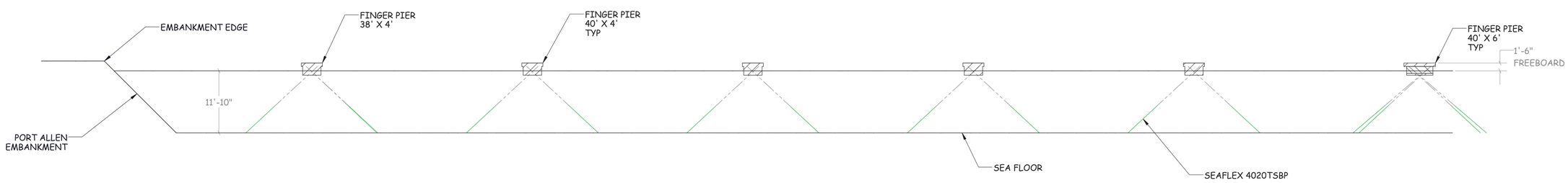
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PIER A (MLLW)
SCALE 1 : 125



SECTION DL-DL
PIER A (MLLW)
SCALE 1 : 125



SECTION DR-DR
PIER A (MHHW)
SCALE 1 : 125



SECTION DP-DP
PIER A (MHHW)
SCALE 1 : 125

AS-BUILT
08/31/2018

JOSHUA M MURPHREE
LICENSED PROFESSIONAL ENGINEER
No.13750-S
STATE OF HAWAII
Exp. 4/30/2018
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PORT ALLEN SMALL BOAT HARBOR FLOATING DOCK IMPROVEMENTS
BWM Job No. W17-266

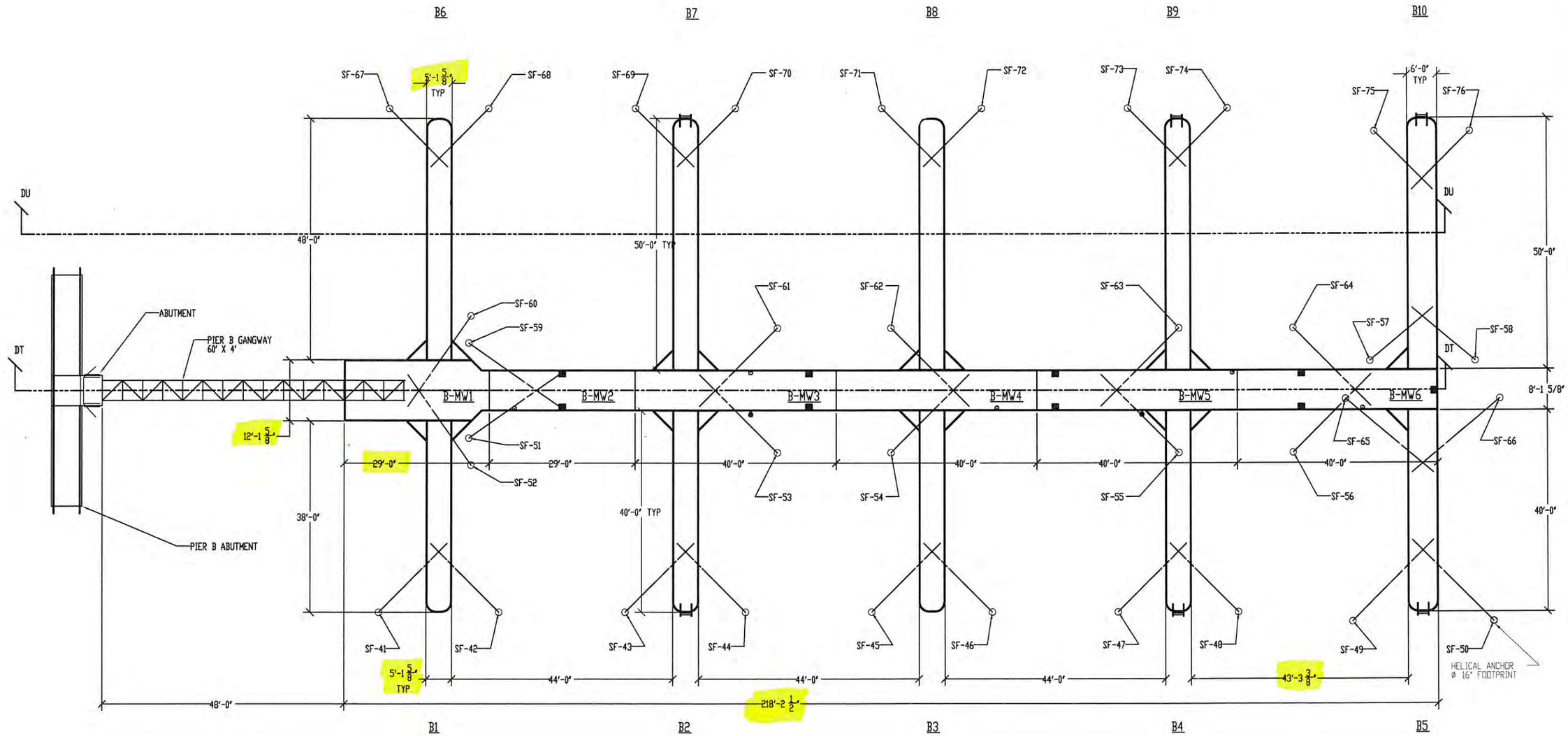
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INFO@BLUEWATERDOCKS.COM

SHEET: GA-4

SIZE: D



PIER B
FRAME BREAK AND SEAFLEX LAYOUT
(MLLW)
SCALE 1 : 125

AS-BUILT
08/31/2018

LICENSED PROFESSIONAL ENGINEER
No. 17257 - 15
HONOLULU, HI. U.S.A.
No. 17257-15
HONOLULU, HI. U.S.A.
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PORT ALLEN SMALL BOAT HARBOR FLOATING DOCK IMPROVEMENTS
BWH Job No. W17-266

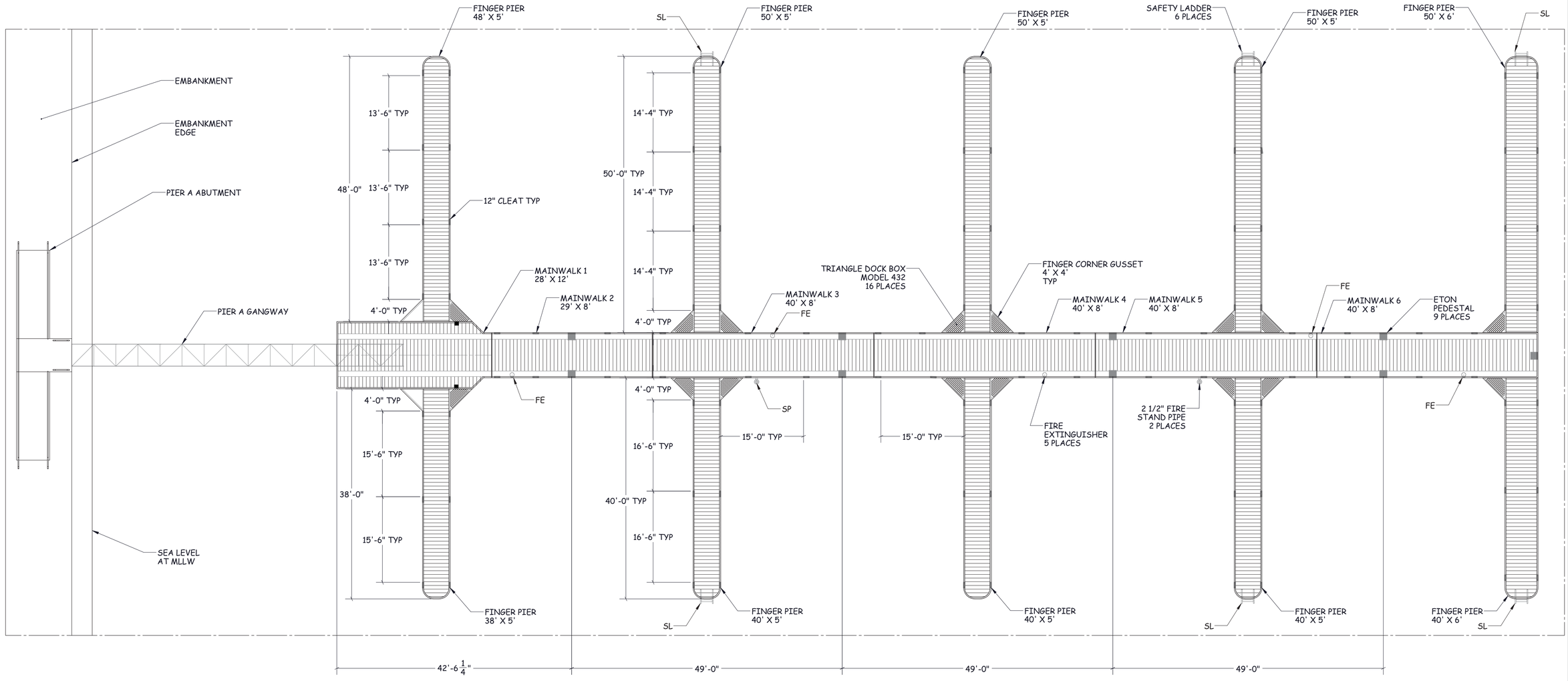
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ENGINEER OF RECORD:
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INFO@BLUEWATERDOCKS.COM

SHEET: GA-5
SIZE: D

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PIER B
COMPONENT LAYOUT
(MLLW)
SCALE 1 : 110

AS-BUILT
08/31/2018

JOSHUA M MURPHREE
LICENSED PROFESSIONAL ENGINEER
No.13750-S
STATE OF WASHINGTON
Date: 4/30/2018
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ORIGINAL RELEASE DATE: 1/11/2017

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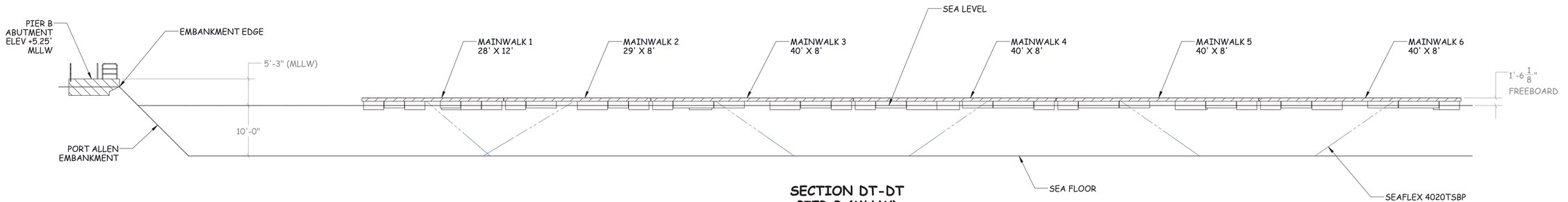
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PORT ALLEN SMALL BOAT HARBOR FLOATING DOCK IMPROVEMENTS
BWM Job No. W17-266

DRAWING TITLE: PIER B COMPONENT LAYOUT

ENGINEER OF RECORD:
Phree Creations, LLC
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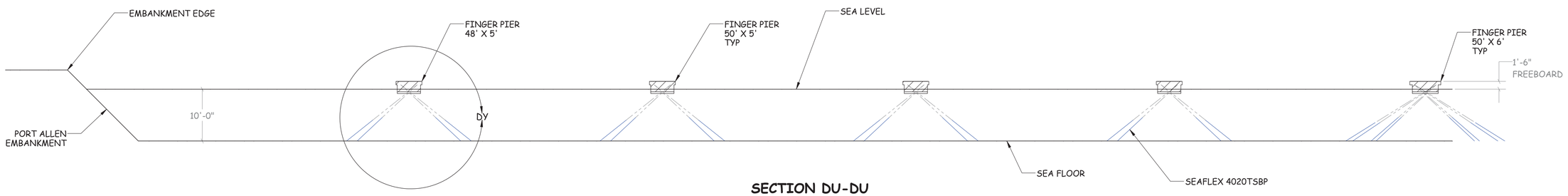
DOCK AND GANGWAY MANUFACTURER:
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SIZE: D



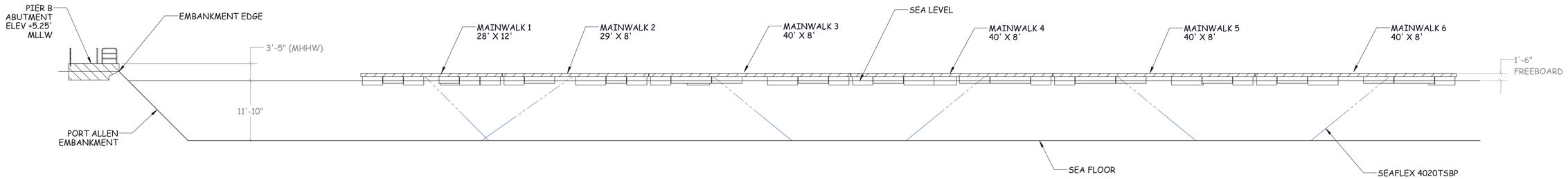
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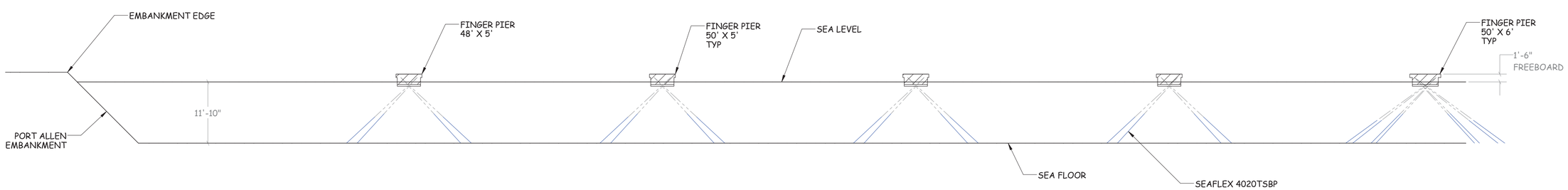
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SCALE 1 : 125



SECTION DV-DV
PIER B (MHHW)

SCALE 1 : 125



SECTION DW-DW
PIER B (MHHW)

SCALE 1 : 125

AS-BUILT
08/31/2018

JOSHUA M MURPHREE
LICENSED PROFESSIONAL ENGINEER
No.13750-S
HAWAII
Exp. 4/30/2018

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ORIGINAL RELEASE DATE: 1/11/2017

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PROJECT NAME:
PORT ALLEN SMALL BOAT HARBOR FLOATING DOCK IMPROVEMENTS
BWM Job No. W17-266

DRAWING TITLE:
PIER B SEAFLEX ELEVATIONS

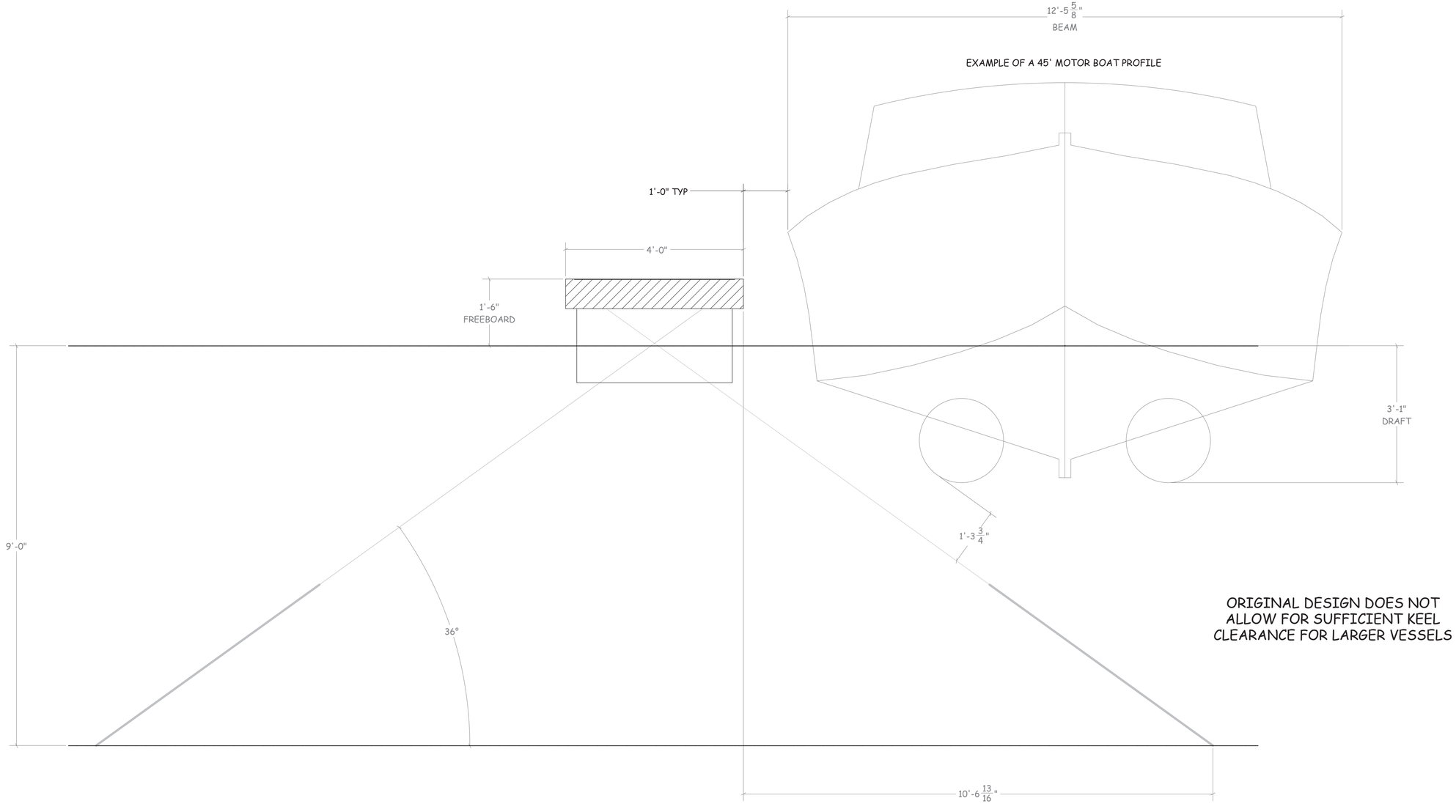
ENGINEER OF RECORD:
Phree Creations, LLC
61-655 KAMEHAMEHA HIGHWAY
HALEIWA, HI 96712
(808) 349-4990 joshmurphree@gmail.com

DOCK AND GANGWAY MANUFACTURER:
BLUEWATER MARINE & DOCK SPECIALTIES
350 WARD AVE, SUITE 106
HONOLULU, HI 96814
OFFICE: (808) 237-4504
CELL: (808) 864-9831
INFO@BLUEWATERPACIFIC.COM

SHEET: GA-7
SIZE: D

THE LENGTH OF A 2.0m SEAFLEX (4020 & 6020) TENSIONED AT 30% WITH ALL OF THE HARDWARE AND SPLICE IS CALCULATED TO BE NO LESS THAN 19'-3 5/8" BETWEEN THE DOCK CONNECTION AND THE HELIX ANCHOR POINT'

THIS MODEL BELOW SHOWS THE SEAFLEX BANDS TENSIONED AT 30% IN ORDER TO ACCEPT THE WORST CASE CONDITION FOR CLEARANCE DURING TENSIONING AT DESIGN LOW WATER (DLW) OR THE LOWEST WATER LEVEL.



ORIGINAL DESIGN DOES NOT ALLOW FOR SUFFICIENT KEEL CLEARANCE FOR LARGER VESSELS

SECTION EB-EB
(DLW)
SCALE 1 : 15

AS-BUILT
08/31/2018

JOSHUA M MURPHREE
LICENSED PROFESSIONAL ENGINEER
No.13750-S
STATE OF HAWAII
Exp. 4/30/2018
This work was performed by me or under my supervision and construction of this project will be under my supervision

ORIGINAL RELEASE DATE: 1/11/2017

NO.	REVISION DATE	BY

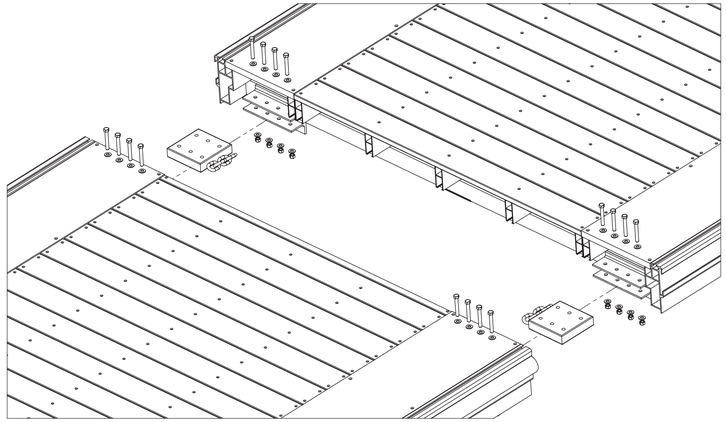
PROJECT NAME:
PORT ALLEN SMALL BOAT HARBOR FLOATING DOCK IMPROVEMENTS
BWM Job No. W17-266

DRAWING TITLE:
SEAFLEX KEEL CLEARANCE DETAIL

ENGINEER OF RECORD:
Phree Creations, LLC
61-655 KAMEHAMEHA HIGHWAY
HALEIWA, HI 96712
(808) 349-4990 joshmurphree@gmail.com

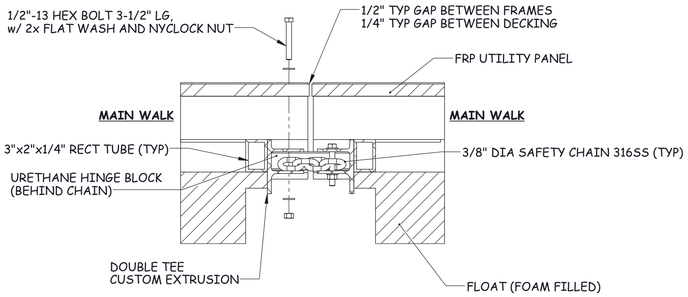
DOCK AND GANGWAY MANUFACTURER:
BLUEWATER MARINE & DOCK SPECIALTIES
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HONOLULU, HI 96814
OFFICE: (808) 237-4504
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INFO@BLUEWATERDOCKS.COM

SHEET: GA-8
SIZE: D

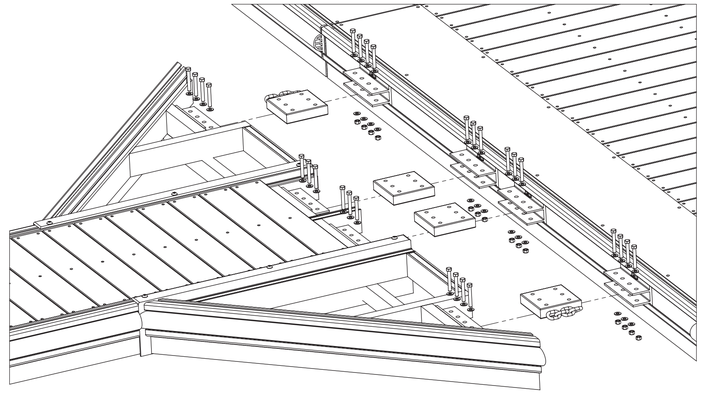


1 TYPICAL MAIN WALK TO MAIN WALK CONNECTION

SCALE: N.T.S REFERENCE SECTION A-A

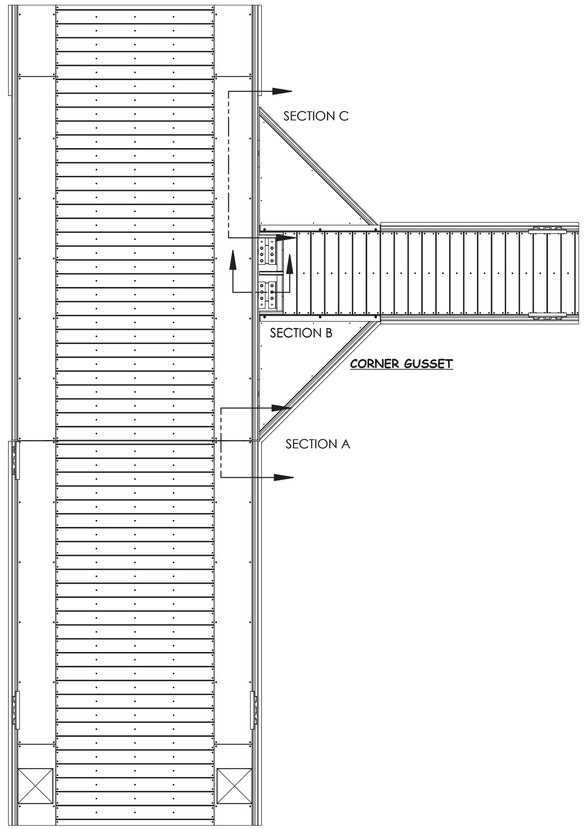


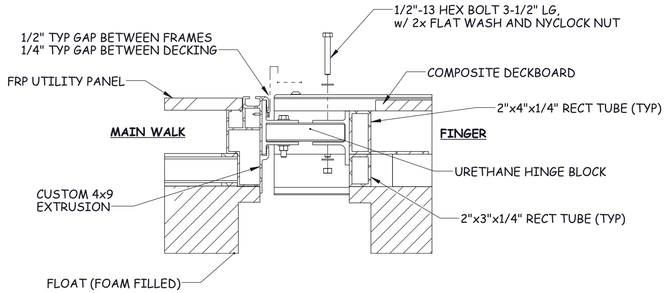
SECTION A-A: MAIN WALK TO MAIN WALK
SCALE 1 : 7



2 TYPICAL FINGER TO MAIN WALK CONNECTION

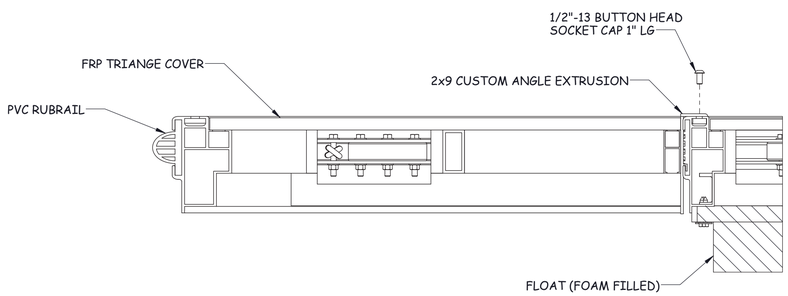
SCALE: N.T.S REFERENCE SECTION B-B



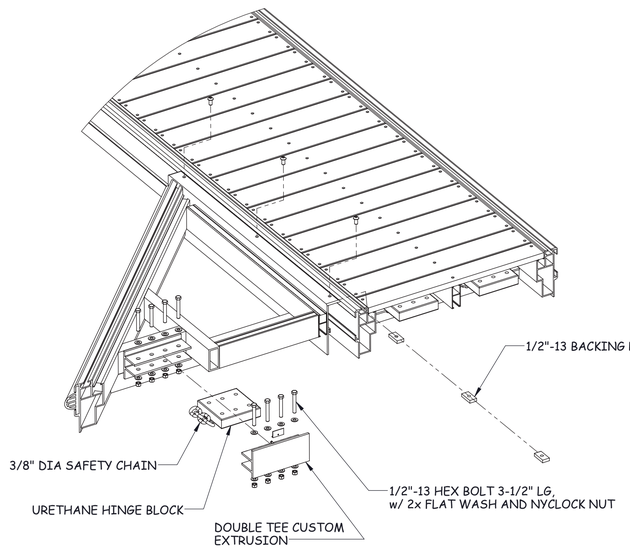


SECTION B-B: FINGER TO MAIN WALK
SCALE 1 : 7

FINGER



SECTION C-C: CORNER GUSSET TO FINGER
SCALE 1 : 7



3 TYPICAL CORNER GUSSET CONNECTION

SCALE: N.T.S REFERENCE SECTION C-C

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08/31/2018

JOSHUA M. MURPHREE
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No.13750-S
STATE OF HAWAII
Exp. 4/30/2018
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ORIGINAL RELEASE DATE: 2/8/2017

NO.	REVISION DATE	BY

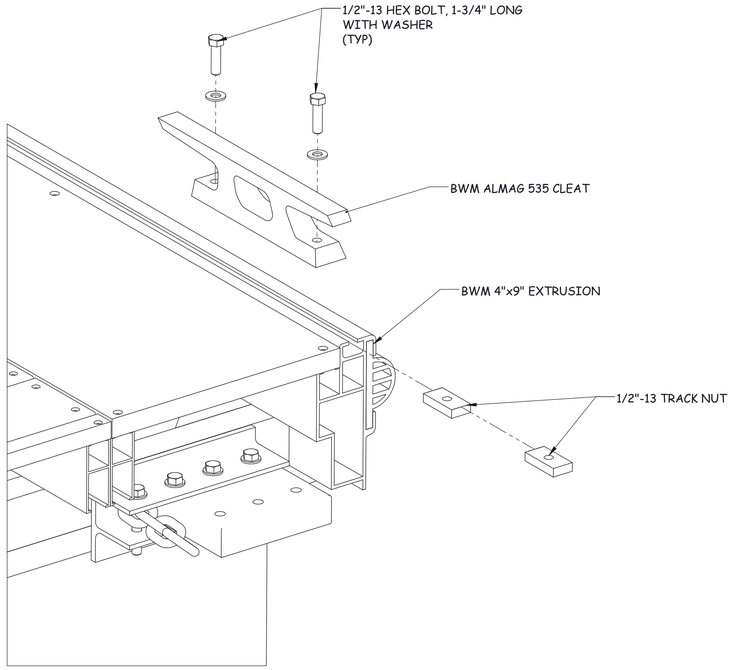
PROJECT NAME:
PORT ALLEN SMALL BOAT HARBOR FLOATING DOCK IMPROVEMENTS
BWM Job No. W17-266

DRAWING TITLE:
CONNECTION DETAILS

ENGINEER OF RECORD:
Phree Creations, LLC
61-655 KAMEHAMEHA HIGHWAY
HALEIWA, HI 96712
(808) 349-4990 joshmurphree@gmail.com

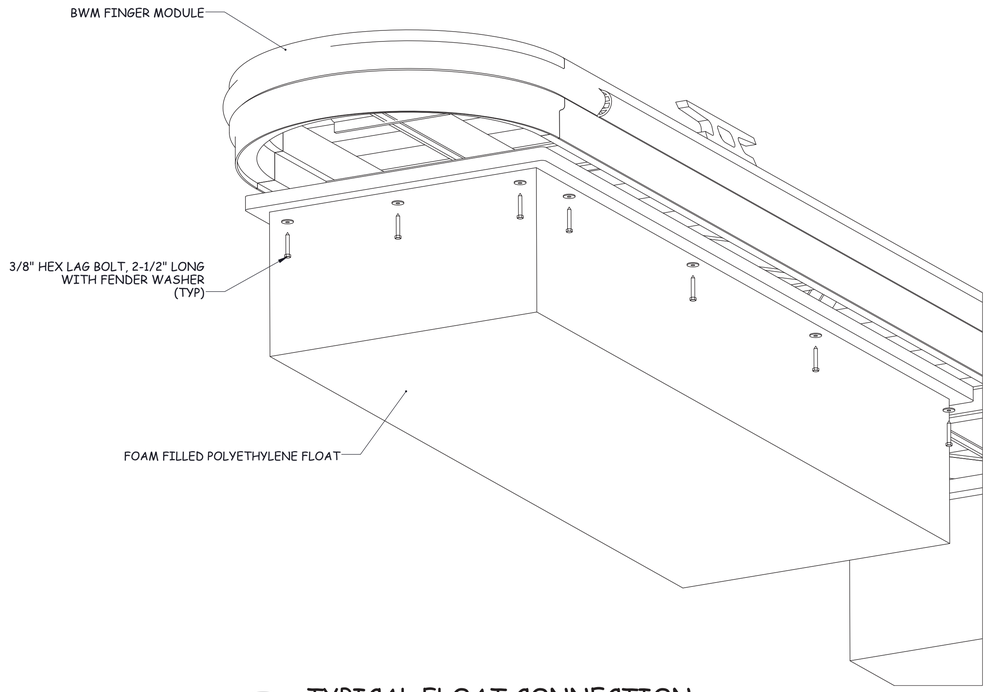
DOCK AND GANGWAY MANUFACTURER:
BLUEWATER MARINE & DOCK SPECIALTIES
350 WARD AVE, SUITE 106
HONOLULU, HI 96814
OFFICE: (808) 237-4504
CELL: (808) 864-9831
JIM@BLUEWATERDOCKS.COM

SHEET: GA-9
SIZE: D



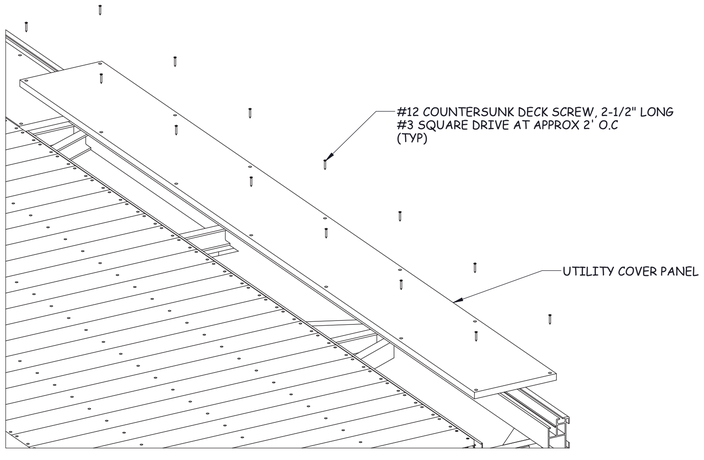
4 TYPICAL CLEAT ASSEMBLY

SCALE: N.T.S



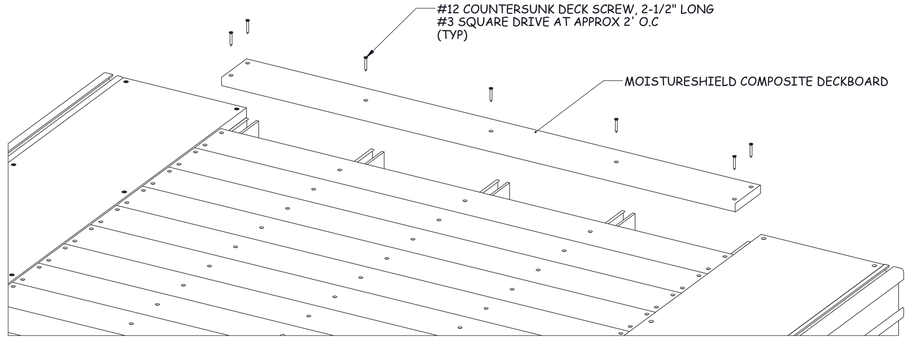
5 TYPICAL FLOAT CONNECTION

SCALE: N.T.S



6 TYPICAL UTILITY PANEL CONNECTION

SCALE: N.T.S



7 TYPICAL COMPOSITE DECKBOARD FASTENING

SCALE: N.T.S

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No.13750-S
HAWAII, U.S.A.
Exp. 4/30/2018

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ORIGINAL RELEASE DATE: 2/8/2017

NO.	REVISION DATE	BY

PROJECT NAME: PORT ALLEN SMALL BOAT HARBOR FLOATING DOCK IMPROVEMENTS

BWM Job No. W17-266

DRAWING TITLE: MISC. CONNECTION DETAILS

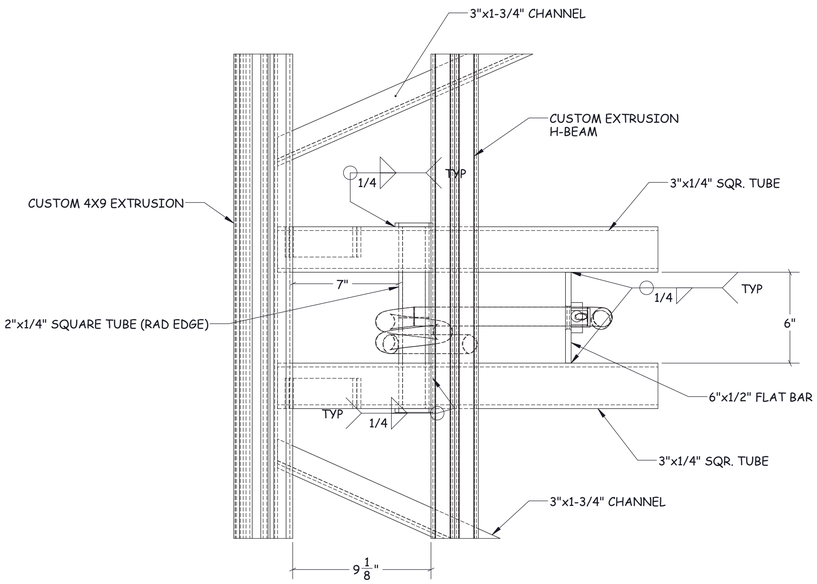
ENGINEER OF RECORD:
Phree Creations, LLC
61-655 KAMEHAMEHA HIGHWAY
HALEIWA, HI 96712
(808) 349-4990 joshmurphree@gmail.com

DOCK AND GANGWAY MANUFACTURER:
BLUEWATER MARINE & DOCK SPECIALTIES
360 WARD AVE. SUITE 106
HONOLULU, HI 96814
OFFICE: (808) 237-4504
CELL: (808) 864-9933
JIM@BLUEWATERDOCKS.COM

SHEET: GA-10

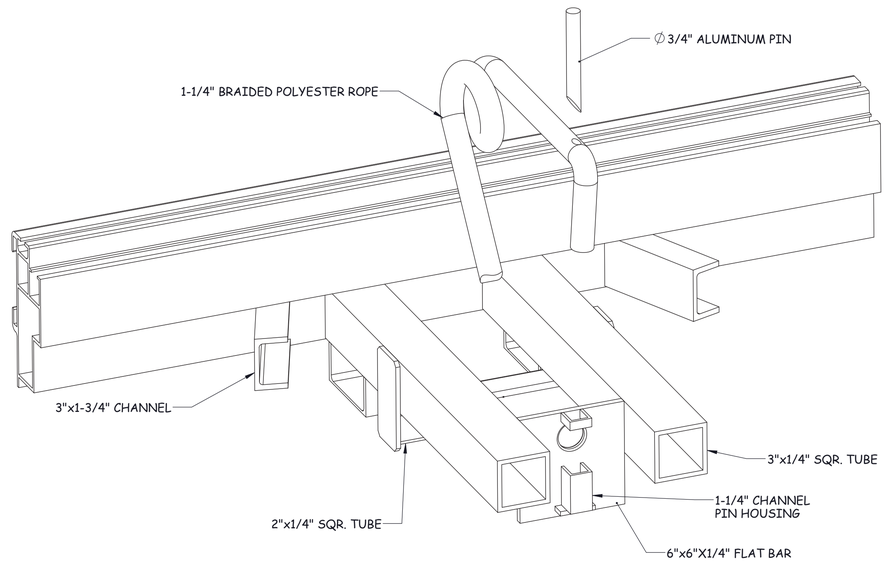
SIZE: D

AS-BUILT
08/31/2018



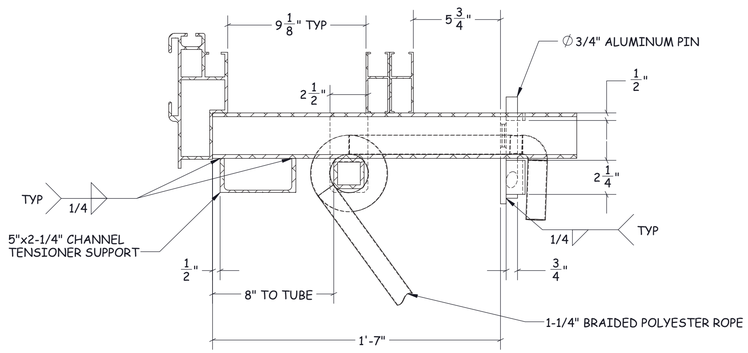
1 PLAN VIEW: TYPICAL SEAFLEX ATTACHMENT DETAILS

SCALE: N.T.S (MAINWALK SECTIONS)



2 ISOMETRIC VIEW: TYPICAL SEAFLEX ATTACHEMENT DETAILS

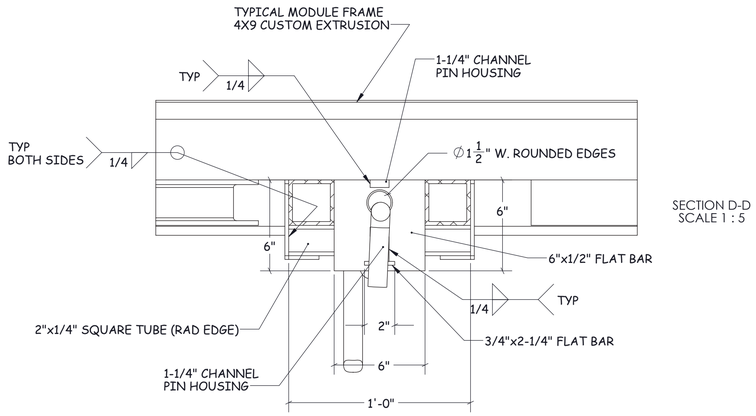
SCALE: 3" = 1'-0" (H-BEAM OMMITED FOR CLARITY)



SECTION A-A
SCALE 1 : 5

3 SIDE VIEW: TYPICAL SEAFLEX ATTACHMENT DETAILS

SCALE: N.T.S



SECTION D-D
SCALE 1 : 5

4 PLAN VIEW: TYPICAL SEAFLEX ATTACHMENT DETAILS

SCALE: N.T.S

AS-BUILT
08/31/2018

JOSHUA M. MURPHREE
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No. 13750-S
HAWAII
Exp. 4/30/2018
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ORIGINAL RELEASE DATE: 1/11/2017

NO.	REVISION DATE	BY

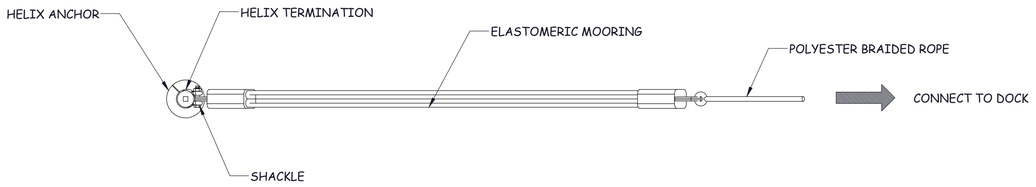
PROJECT NAME:
PORT ALLEN SMALL BOAT HARBOR FLOATING DOCK IMPROVEMENTS
BWM Job No. W17-266

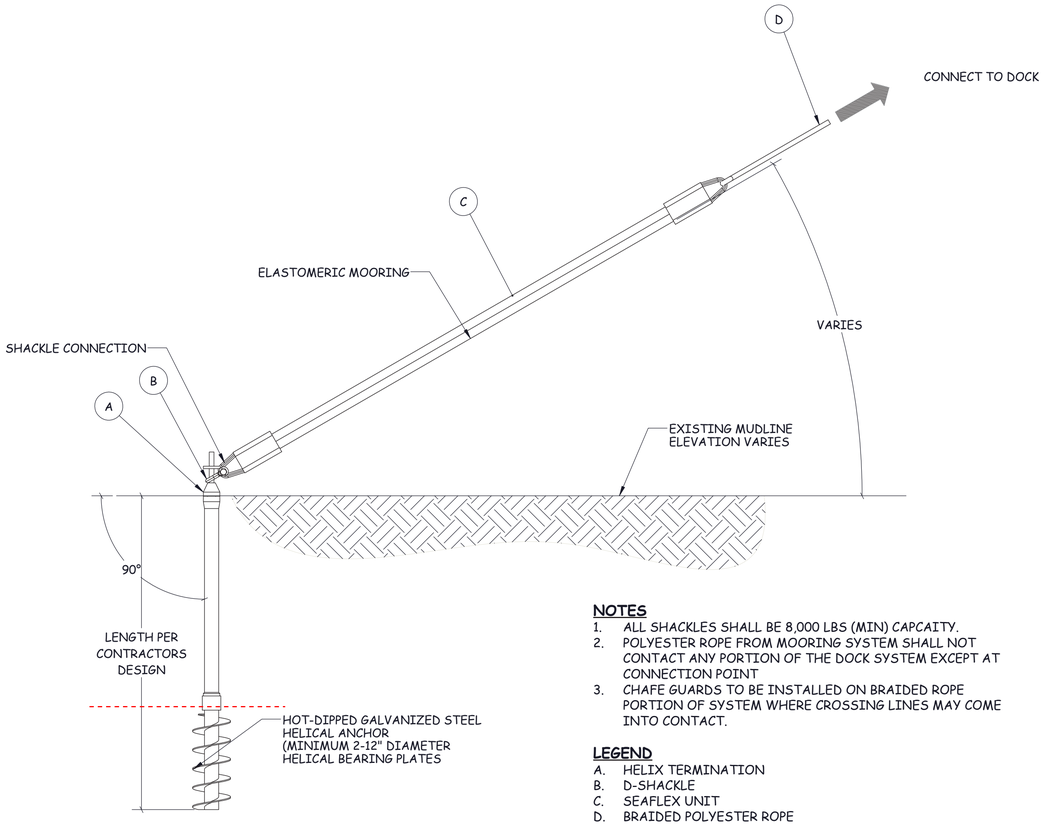
DRAWING TITLE:
SEAFLEX CONNECTION DETAIL

ENGINEER OF RECORD:
Phree Creations, LLC
61-655 KAMEHAMEHA HIGHWAY
HALEIWA, HI 96712
(808) 349-4990 joshmurphree@gmail.com

DOCK AND GANGWAY MANUFACTURER:
BLUEWATER MARINE & DOCK SPECIALTIES
350 WARD AVE. SUITE 106
HONOLULU, HI 96814
OFFICE: (808) 237-4504
CELL: (808) 864-9831
INFO@BLUEWATERDOCKS.COM

SHEET: GA-11
SIZE: D





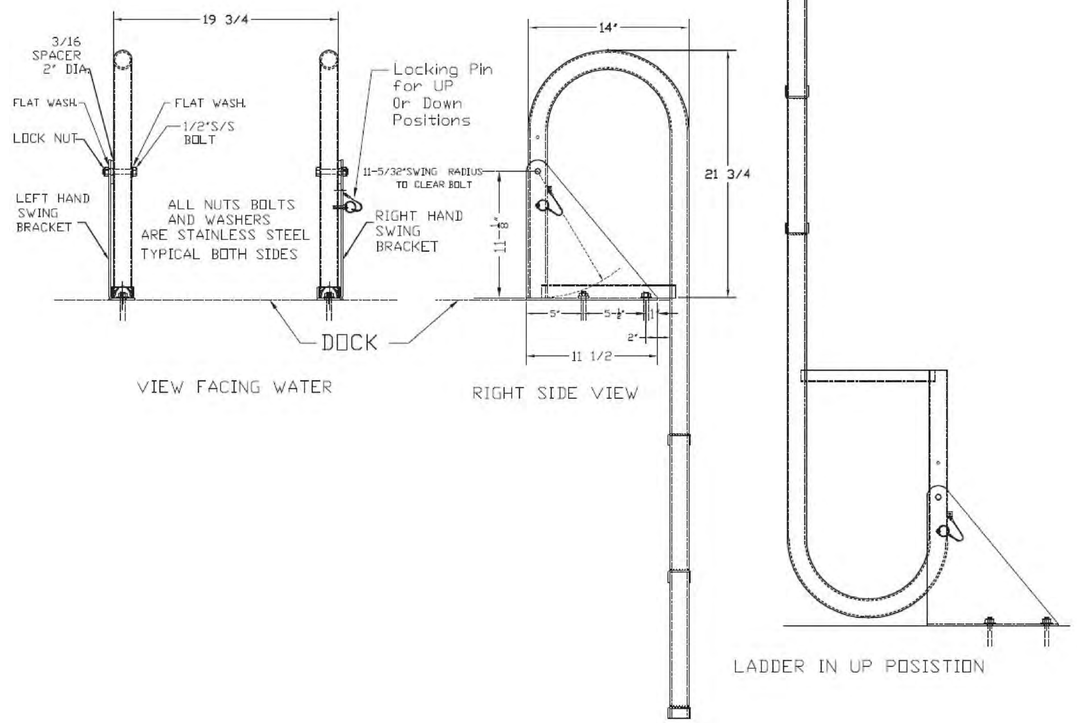
NOTES

1. ALL SHACKLES SHALL BE 8,000 LBS (MIN) CAPCAITY.
2. POLYESTER ROPE FROM MOORING SYSTEM SHALL NOT CONTACT ANY PORTION OF THE DOCK SYSTEM EXCEPT AT CONNECTION POINT
3. CHAFE GUARDS TO BE INSTALLED ON BRAIDED ROPE PORTION OF SYSTEM WHERE CROSSING LINES MAY COME INTO CONTACT.

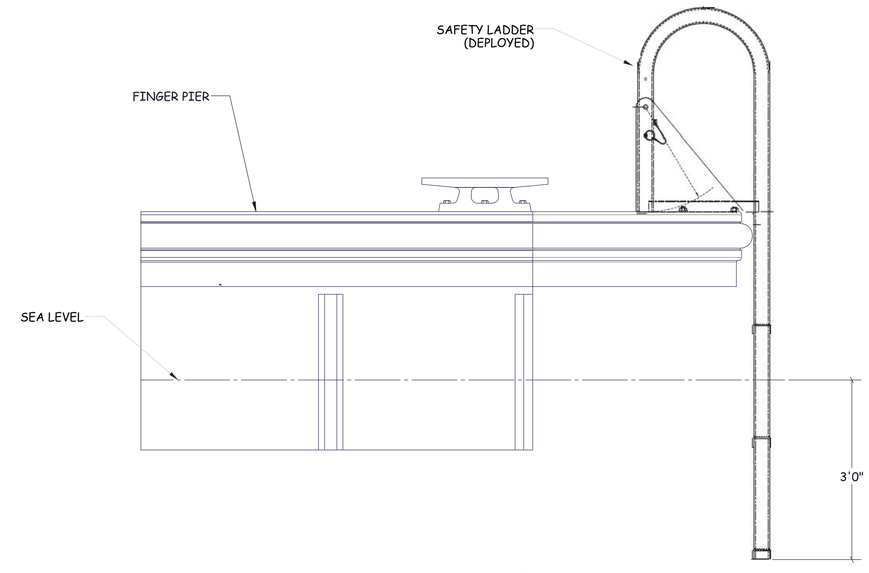
LEGEND

A. HELIX TERMINATION
B. D-SHACKLE
C. SEAFLEX UNIT
D. BRAIDED POLYESTER ROPE

ELASTOMERIC MOORING AND HELIX ANCHOR
SCALE 1 : 16



SAFETY LADDER DETAIL
SCALE 1 : 16



SAFETY LADDER DETAIL
INSTALLATION DETAIL
SCALE 1 : 16

AS-BUILT
08/31/2018

JOSHUA M MURPHREE
LICENSED PROFESSIONAL ENGINEER
No.13750-S
Exp. 4/30/2018
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NO.	REVISION DATE	BY

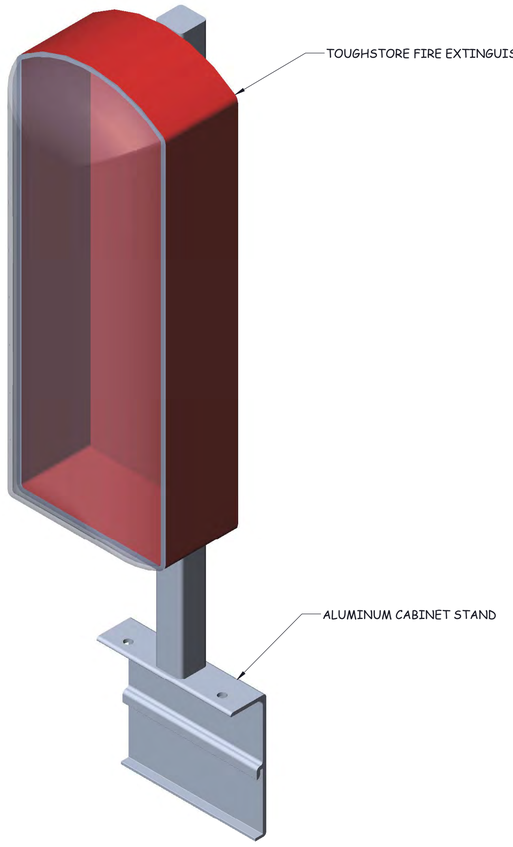
PROJECT NAME:
PORT ALLEN SMALL BOAT HARBOR FLOATING DOCK IMPROVEMENTS
BWM Job No. W17-266

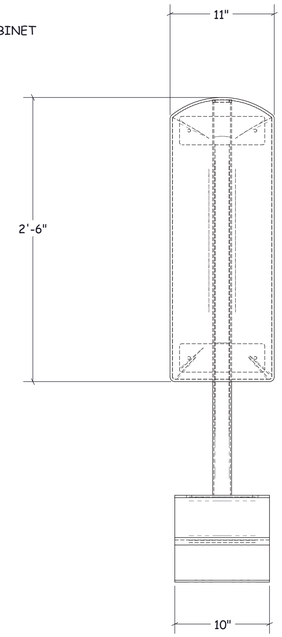
DRAWING TITLE:
HELICAL ANCHOR AND LADDER DETAILS

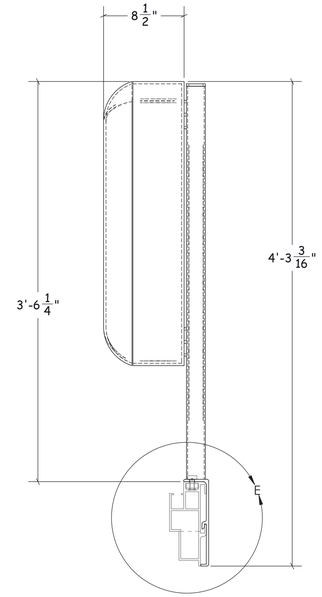
ENGINEER OF RECORD:
Phree Creations, LLC
61-655 KAMEHAMEHA HIGHWAY
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(808) 349-4990 joshmurphree@gmail.com

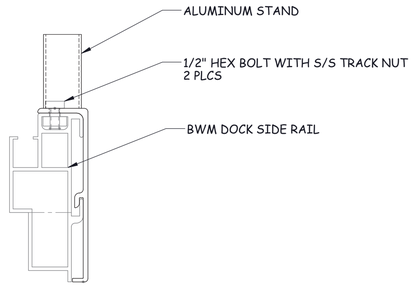
DOCK AND GANGWAY MANUFACTURER:
BLUEWATER MARINE & DOCK SPECIALTIES
350 WARD AVE. SUITE 106
HONOLULU, HI 96814
OFFICE: (808) 237-4504
CELL: (808) 864-9833
INFO@BLUEWATERDOCKS.COM

SHEET: GA-12
SIZE: D

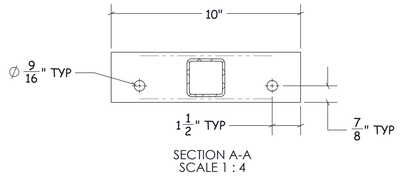




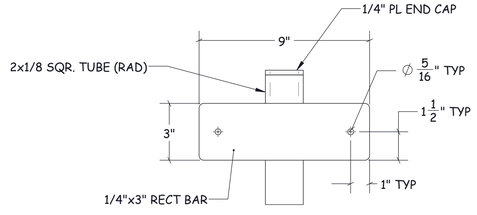




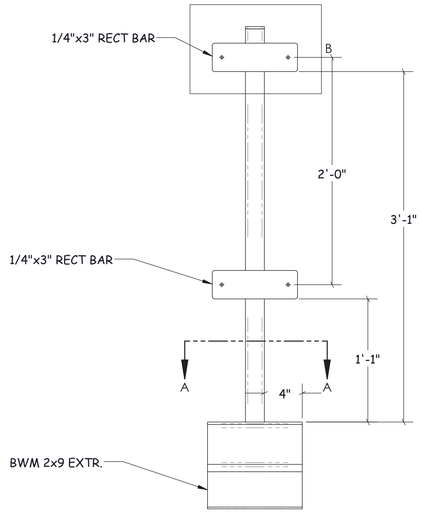
CONNECTION DETAIL DETAIL E
SCALE 1 : 4

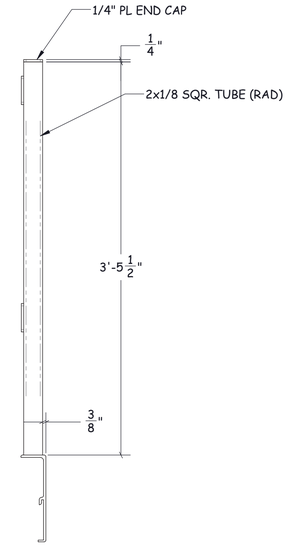


SECTION A-A
SCALE 1 : 4



DETAIL B
SCALE 1 : 4





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08/31/2018

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No.13750-S
STATE OF HAWAII
Exp. 4/30/2018
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ORIGINAL RELEASE DATE: 1/11/2017

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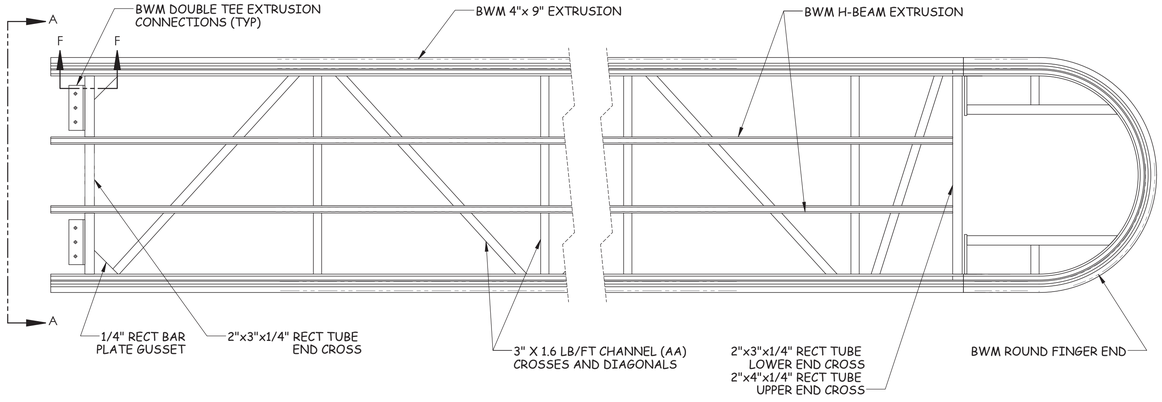
PROJECT NAME:
PORT ALLEN SMALL BOAT HARBOR FLOATING DOCK IMPROVEMENTS
BWM Job No. W17-266

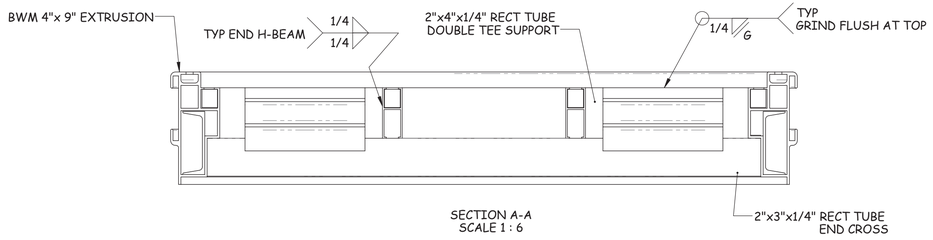
DRAWING TITLE:
FIRE EXTINGUISHER STAND

ENGINEER OF RECORD:
Phree Creations, LLC
61-655 KAMEHAMEHA HIGHWAY
HALEIWA, HI 96712
(808) 349-4990 joshmurphree@gmail.com

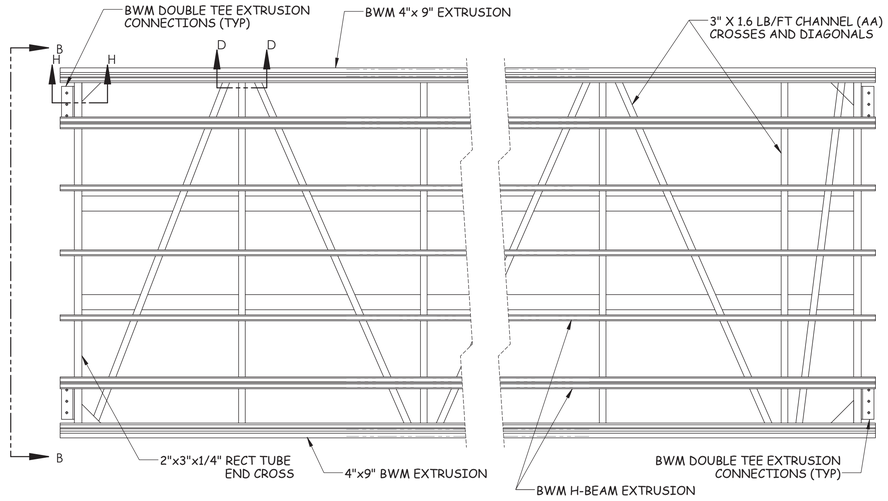
DOCK AND GANGWAY MANUFACTURER:
380 WARD AVE. SUITE 106
HONOLULU, HI 96814
OFFICE: (808) 237-4304
CELL: (808) 864-9833
INFO@BLUEWATERDOCKS.COM
BLUEWATER
MARINE & DOCK SPECIALTIES

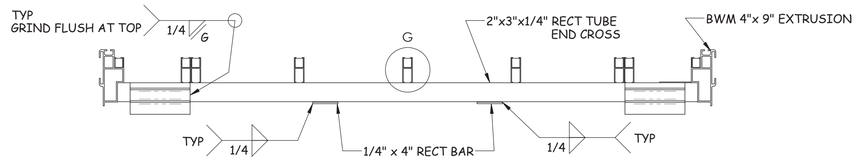
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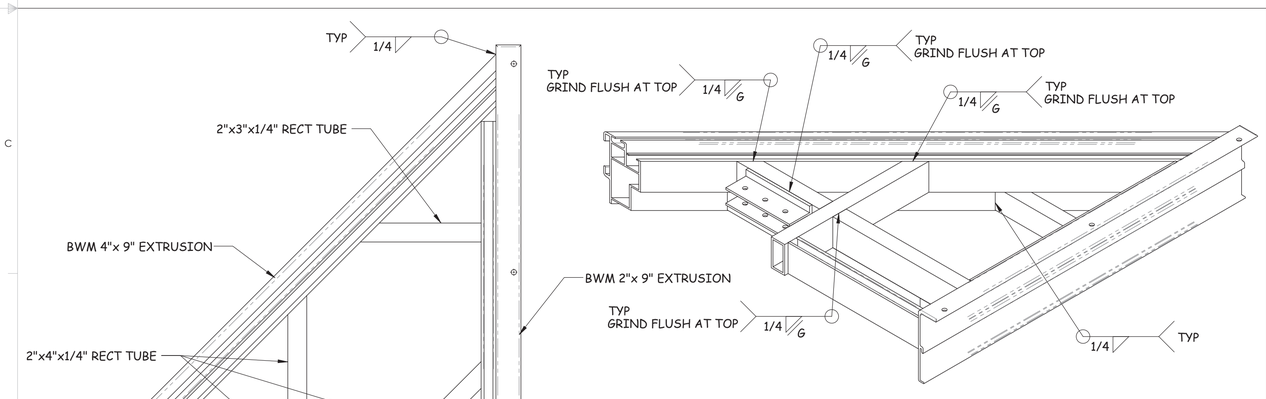


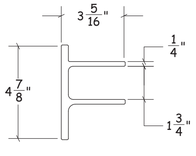
SECTION A-A
SCALE 1 : 6



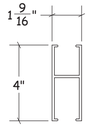


SECTION B-B
SCALE 1 : 12

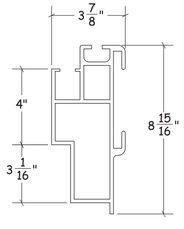




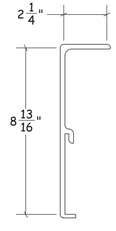
BWM DOUBLE TEE CROSS SECTION VIEW
MATERIAL: 6005-T5 AL



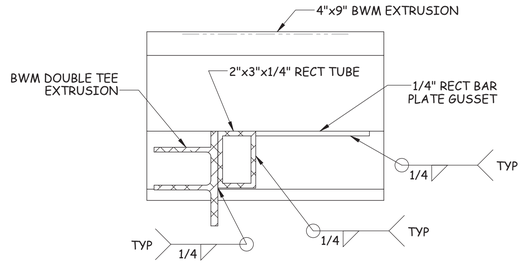
BWM H-BEAM CROSS SECTION VIEW
MATERIAL: 6005-T5 AL



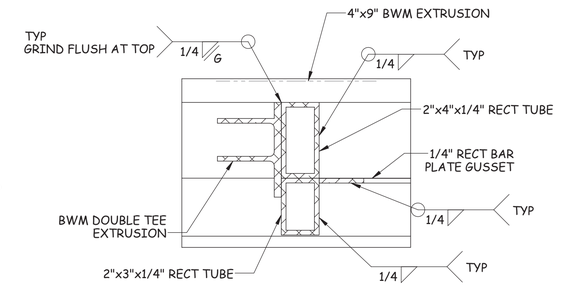
BWM 4"x9" EXTRUSION CROSS SECTION VIEW
MATERIAL: 6005-T5 AL



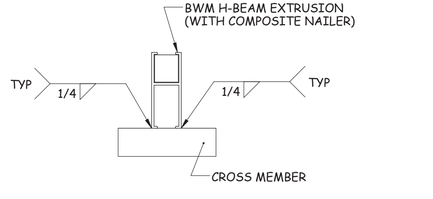
BWM 2"x9" EXTRUSION CROSS SECTION VIEW
MATERIAL: 6005-T5 AL



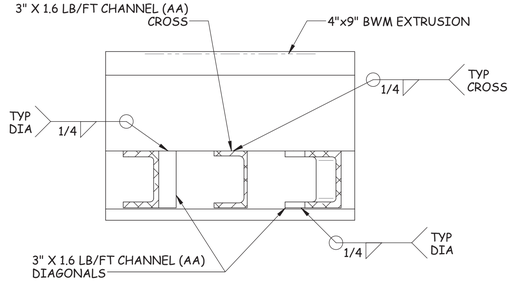
TYPICAL MAINWALK CONNECTION WELDING
SECTION H-H
SCALE 1 : 4



TYPICAL FINGER CONNECTION
SECTION F-F
SCALE 1 : 4



TYPICAL H-BEAM WELDING
DETAIL G
SCALE 1 : 4



TYPICAL CROSS AND DIAGONAL MEMBER WELDING
SECTION D-D
SCALE 1 : 4

ALL MATERIAL: 6000 SERIES MARINE GRADE ALUMINUM UNLESS OTHERWISE SPECIFIED
WELD FILLER METAL ER4043 UNLESS OTHERWISE SPECIFIED

AS-BUILT
08/31/2018

JOSHUA M MURPHREE
LICENSED PROFESSIONAL ENGINEER
No.13750-S
Exp. 4/30/2018
This work was performed by me or under my supervision and construction of this project will be under my supervision

ORIGINAL RELEASE DATE: 1/11/2017

NO.	REVISION DATE	BY

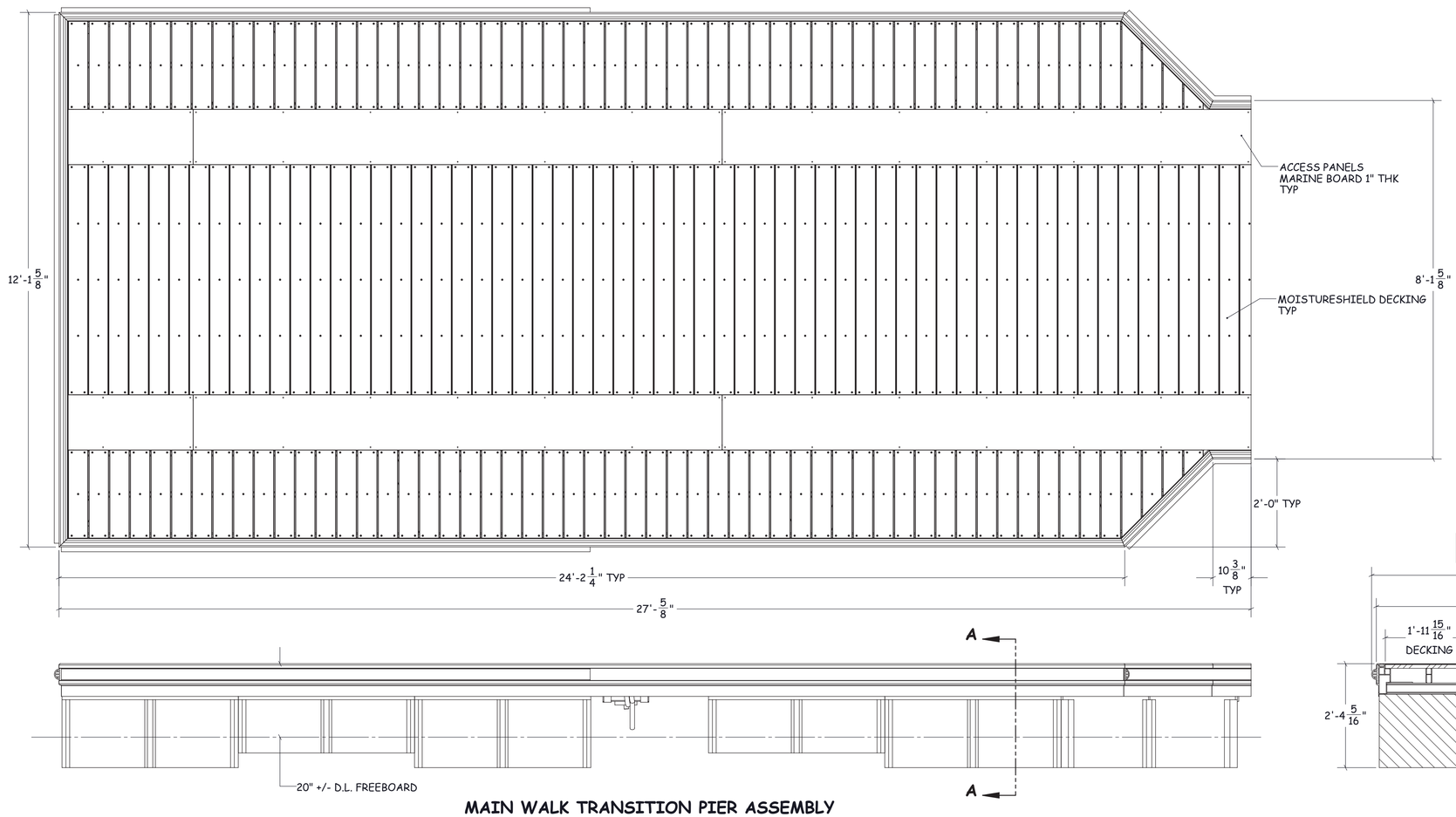
PROJECT NAME:
PORT ALLEN SMALL BOAT HARBOR FLOATING DOCK IMPROVEMENTS
BWM Job No. W17-266

DRAWING TITLE: FRAME WELDING DETAILS

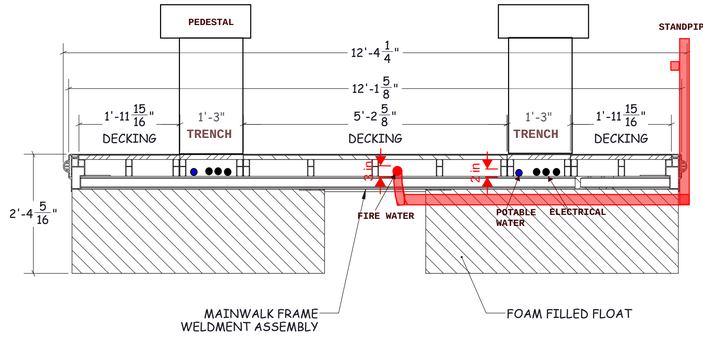
ENGINEER OF RECORD:
Phree Creations, LLC
61-655 KAMEHAMEHA HIGHWAY
HALEIWA, HI 96712
(808) 349-4990 joshmurphree@gmail.com

DOCK AND GANGWAY MANUFACTURER:
BLUEWATER MARINE & DOCK SPECIALTIES
360 WARD AVE. STE 106
HONOLULU, HI 96814
OFFICE: (808) 237-4504
INFO@BLUEWATERDOCKS.COM

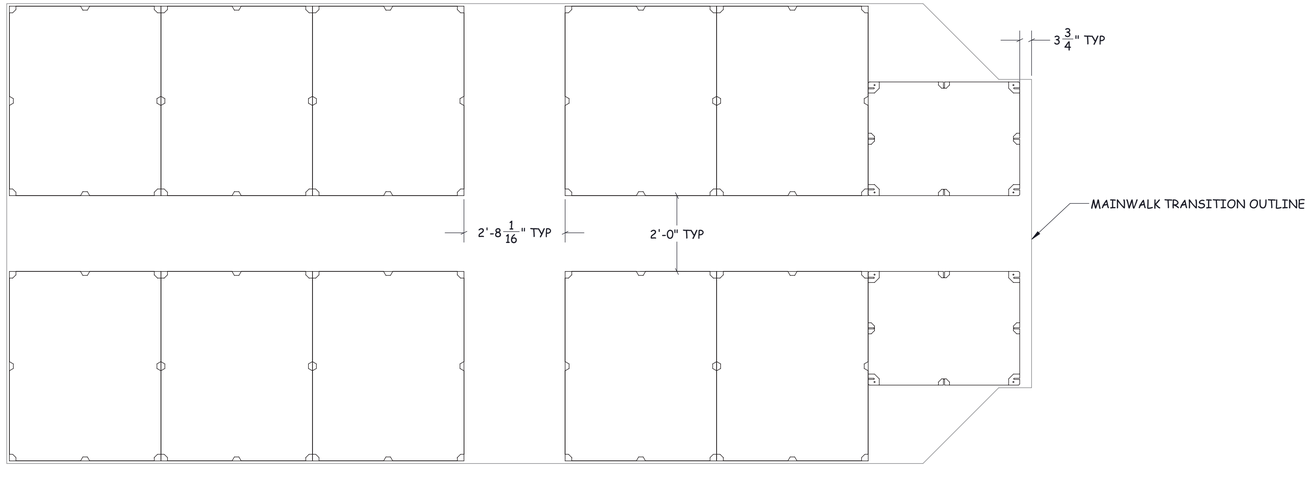
SHEET: GA-14
SIZE: D



MAIN WALK TRANSITION PIER ASSEMBLY
FRONT VIEW
SCALE 1 : 18



SECTION A-A
SCALE 1 : 18



MAINWALK TRANSITION FLOAT LAYOUT
SCALE 1 : 24

AS-BUILT
08/31/2018

JOSHUA M MURPHREE
LICENSED PROFESSIONAL ENGINEER
No.13750-S
STATE OF HAWAII
Exp. 4/30/2018
This work was performed by me or under my supervision and construction of this project will be under my supervision

ORIGINAL RELEASE DATE: 1/11/2017

NO.	REVISION DATE	BY

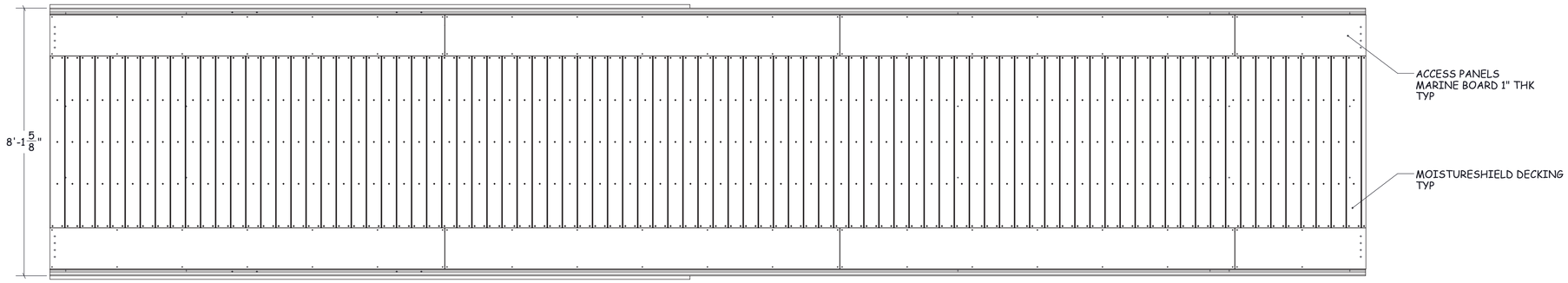
PROJECT NAME:
PORT ALLEN SMALL BOAT HARBOR FLOATING DOCK IMPROVEMENTS
BWM Job No. W17-266

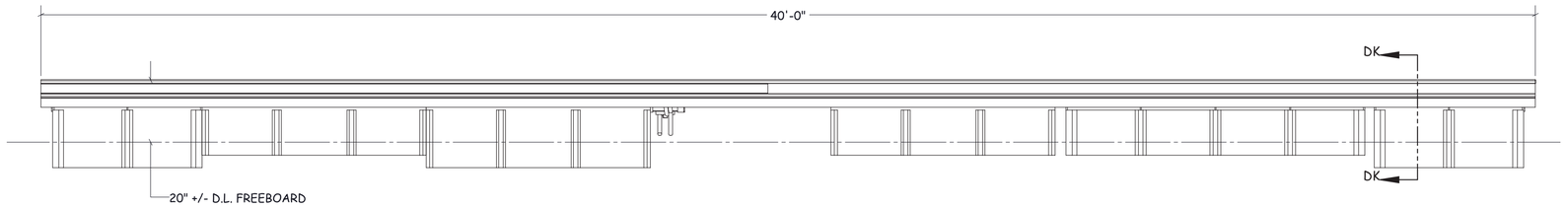
DRAWING TITLE:
MAINWALK TRANSITION PIER ASSEMBLY

ENGINEER OF RECORD:
Phree Creations, LLC
61-655 KAMEHAMEHA HIGHWAY
HALEIWA, HI 96712
(808) 349-4990 joshmurphree@gmail.com

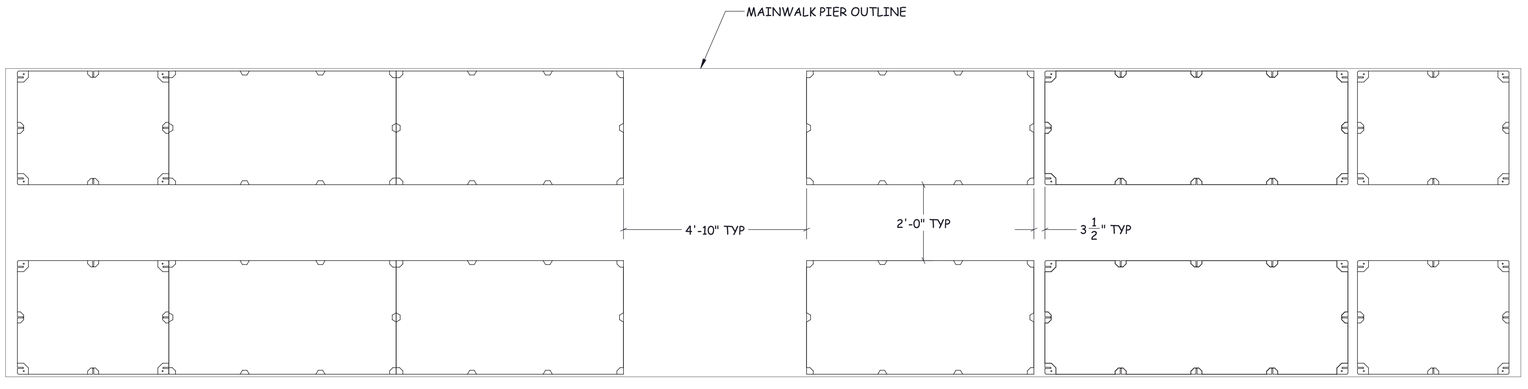
DOCK AND GANGWAY MANUFACTURER:
BLUEWATER MARINE & DOCK SPECIALTIES
350 WARD AVE. SUITE 106
HONOLULU, HI 96814
OFFICE: (808) 237-4504
CELL: (808) 864-9831
INFO@BLUEWATERDOCKS.COM

SHEET: GA-15
SIZE: D

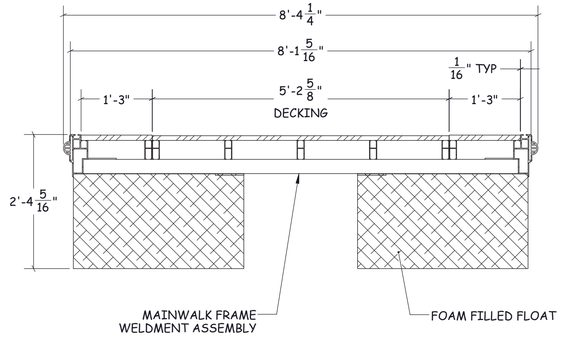




MAINWALK PIER ASSEMBLY
FRONT VIEW
SIMILAR FOR ALL MAINWALKS
SCALE 1 : 24



MAINWALK FLOAT LAYOUT
SIMILAR FOR ALL MAINWALKS
SCALE 1 : 24



SECTION DK-DK
SCALE 1 : 16

AS-BUILT
08/31/2018

JOSHUA M MURPHREE
LICENSED PROFESSIONAL ENGINEER
No.13750-S
DATE
Exp. 4/30/2018
This work was performed by me or under my supervision and construction of this project will be under my supervision

ORIGINAL RELEASE DATE: 1/11/2017

NO.	REVISION DATE	BY

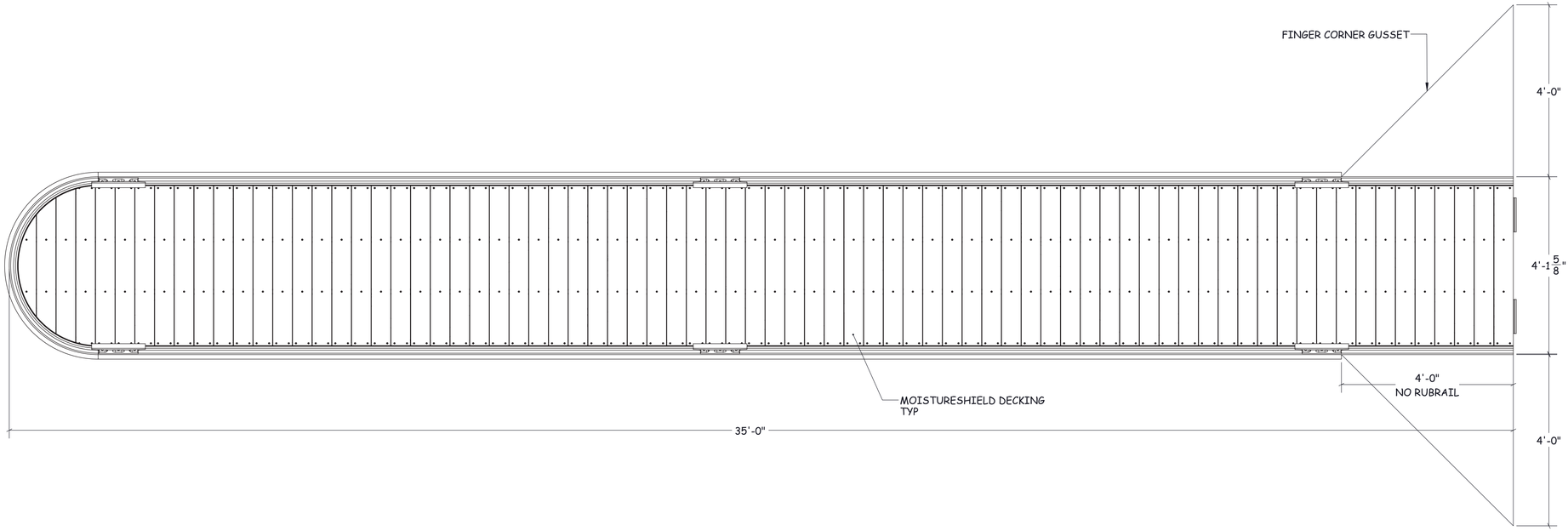
PROJECT NAME:
PORT ALLEN SMALL BOAT HARBOR FLOATING DOCK IMPROVEMENTS
BWM Job No. W17-266

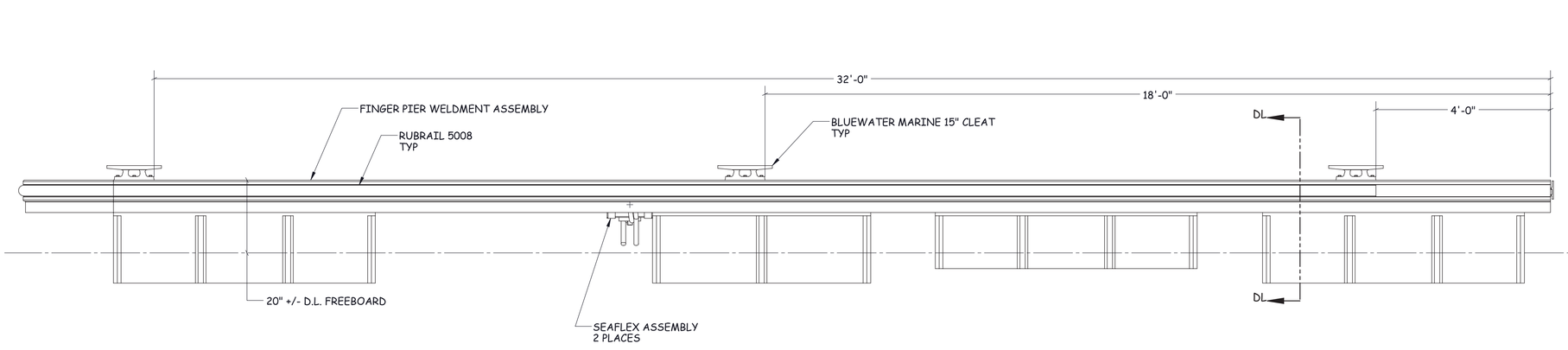
DRAWING TITLE:
MAINWALK PIER ASSEMBLY

ENGINEER OF RECORD:
Phree Creations, LLC
61-655 KAMEHAMEHA HIGHWAY
HALEIWA, HI 96712
(808) 349-4990 joshmurphree@gmail.com

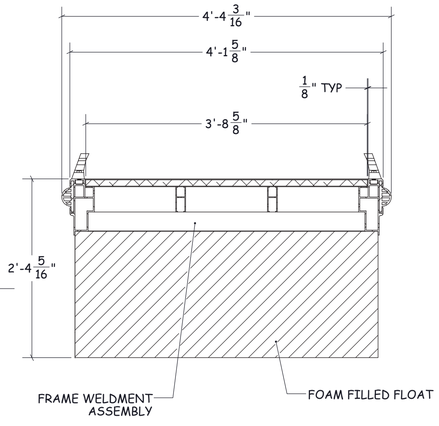
DOCK AND GANGWAY MANUFACTURER:
BLUEWATER
MARINE & DOCK SPECIALTIES
380 WARD AVE. SUITE 106
HONOLULU, HI 96814
OFFICE: (808) 237-4304
CELL: (808) 864-9831
INFO@BLUEWATERDOCKS.COM

SHEET: GA-16
SIZE: D

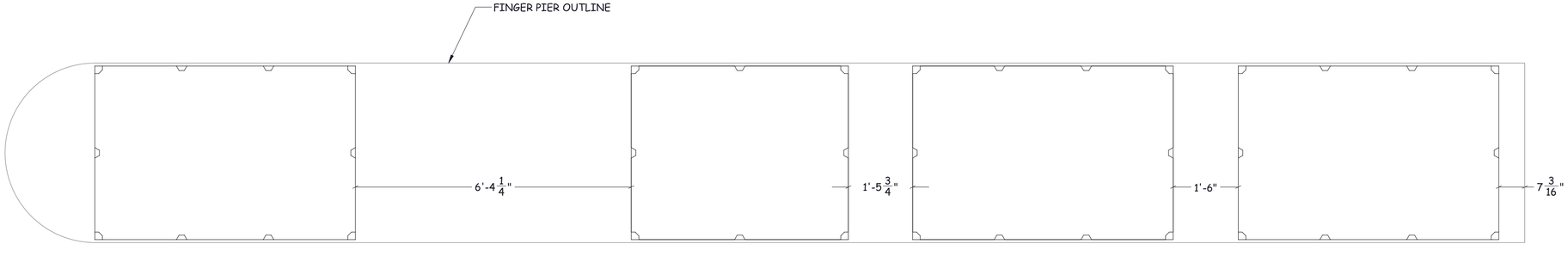




FINGER PIER ASSEMBLY
FRONT VIEW
TYPICAL FOR ALL FINGER PIERS
SCALE 1 : 18



SECTION DL-DL
SCALE 1 : 12



SCALE 1 : 18

AS-BUILT
08/31/2018

JOSHUA M MURPHREE
LICENSED PROFESSIONAL ENGINEER
No.13750-S
STATE OF WASHINGTON
Exp. 4/30/2018
this work was performed by me or under my supervision and construction of this project will be under my supervision

ORIGINAL RELEASE DATE: 1/11/2017

NO.	REVISION DATE	BY

PORT ALLEN SMALL BOAT HARBOR FLOATING DOCK IMPROVEMENTS

PROJECT NAME: **BWM Job No. W17-266**

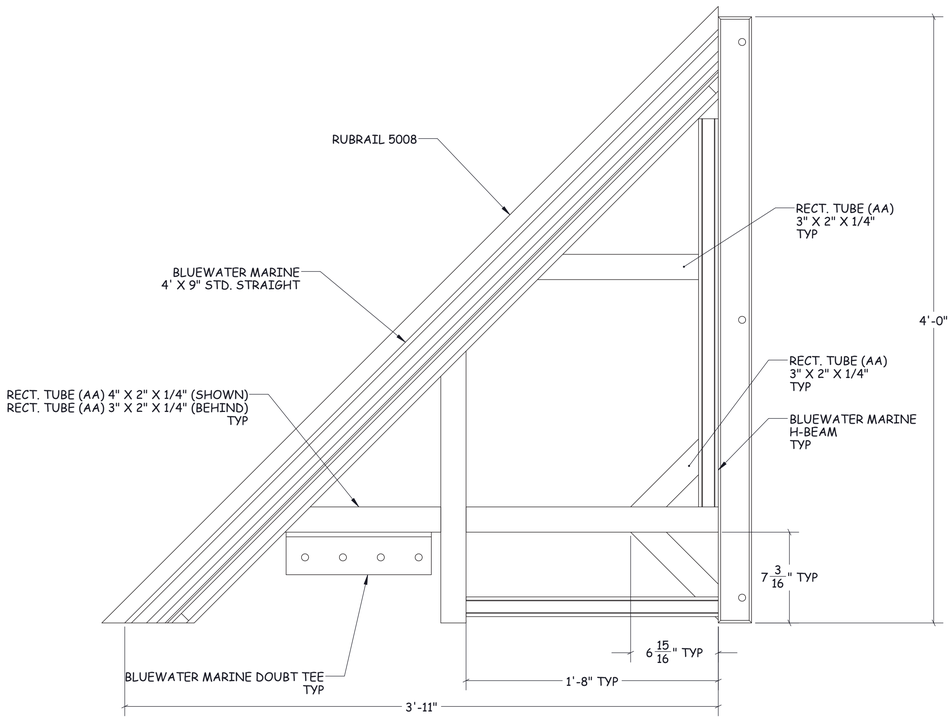
DRAWING TITLE: FINGER PIER ASSEMBLY

ENGINEER OF RECORD:
Phree Creations, LLC
61-655 KAMEHAMEHA HIGHWAY
HALEIWA, HI 96712
(808) 349-4990 joshmurphree@gmail.com

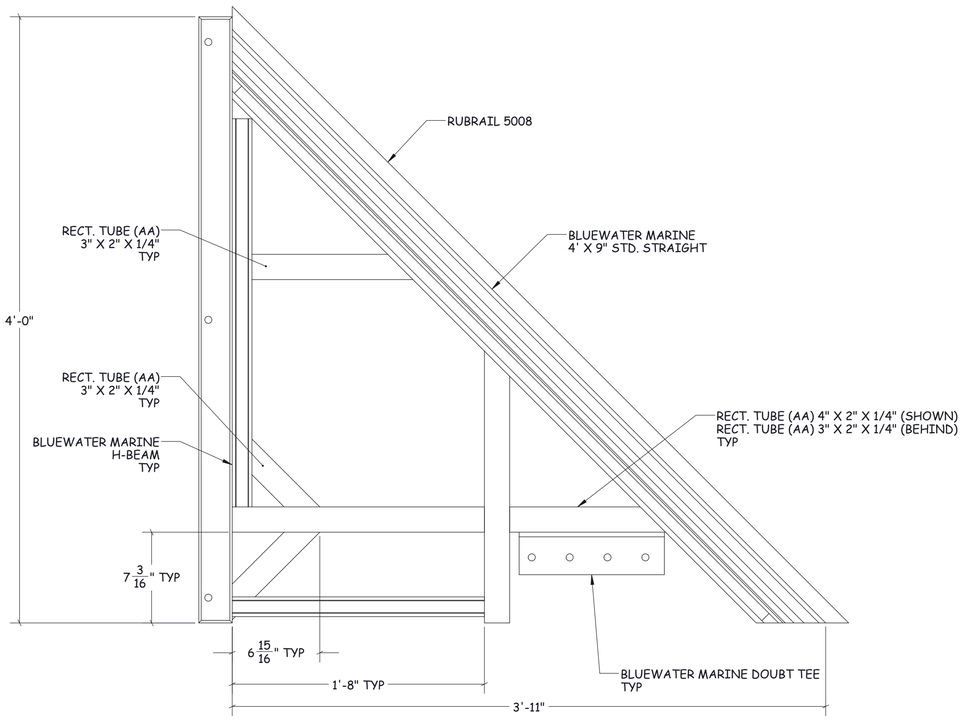
DOCK AND GANGWAY MANUFACTURER:
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350 WARD AVE. SUITE 106
HONOLULU, HI 96814
OFFICE: (808) 237-4504
CELL: (808) 864-9833
INFO@BLUEWATERDOCKS.COM

SHEET: GA-17

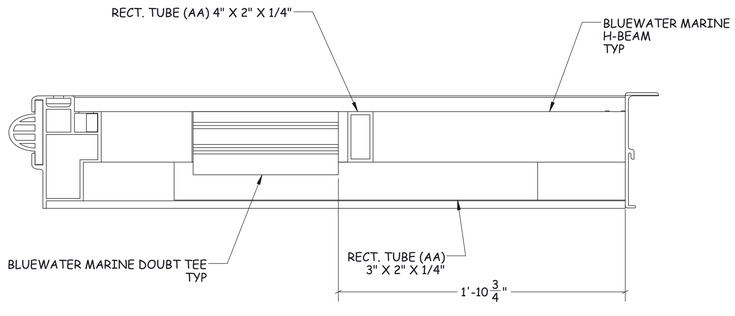
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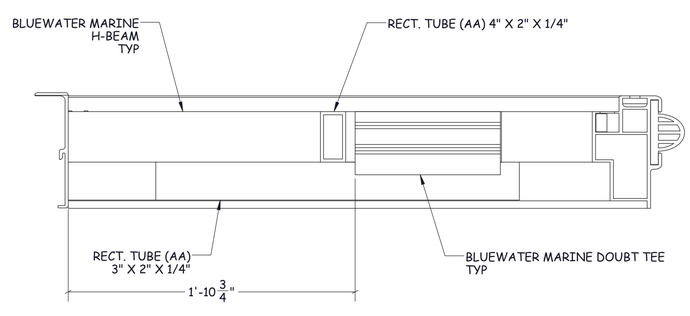


FINGER CORNER GUSSET
RIGHT HAND
SCALE 1 : 6



FINGER CORNER GUSSET
LEFT HAND





AS-BUILT
08/31/2018

JOSHUA M MURPHREE
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STATE OF WASHINGTON
Exp. 4/30/2018
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ORIGINAL RELEASE DATE: 1/11/2017

NO.	REVISION DATE	BY

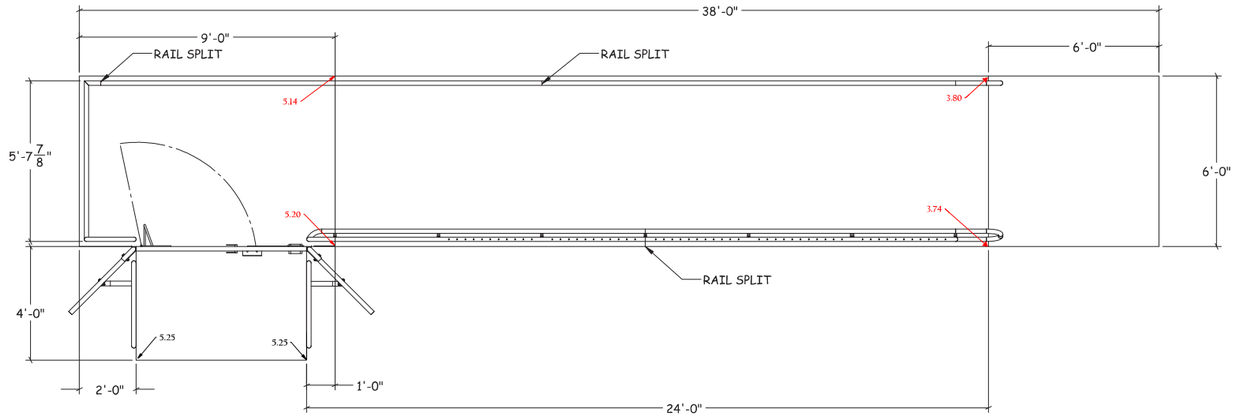
PROJECT NAME:
PORT ALLEN SMALL BOAT HARBOR FLOATING DOCK IMPROVEMENTS
BWM Job No. W17-266

DRAWING TITLE:
FINGER CORNER GUSSET ASSEMBLY

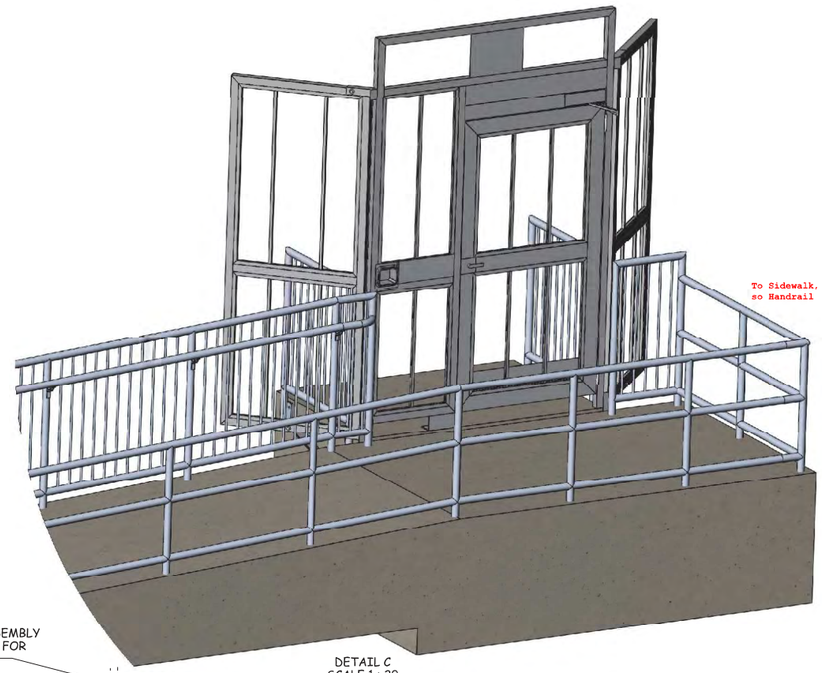
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HALEIWA, HI 96712
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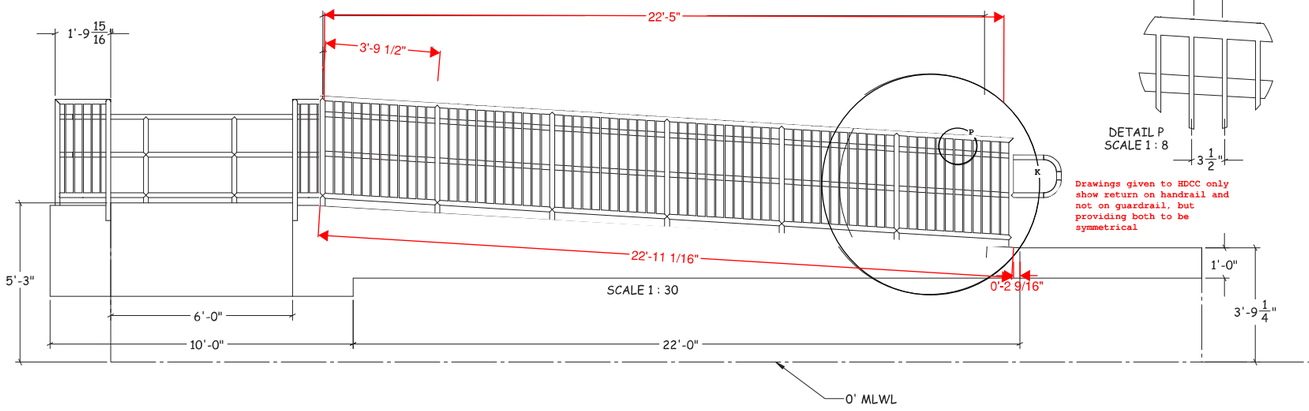
SHEET: GA-18
SIZE: D



RFI 25: NOT ADA RAMP



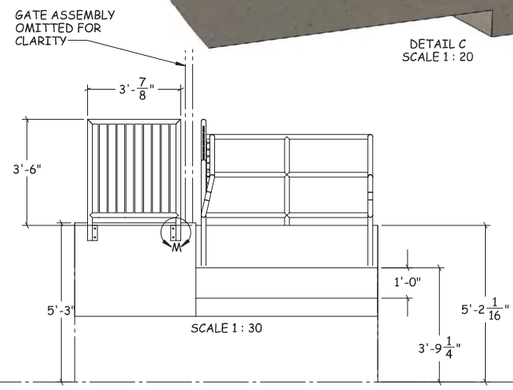
DETAIL C
SCALE 1 : 20



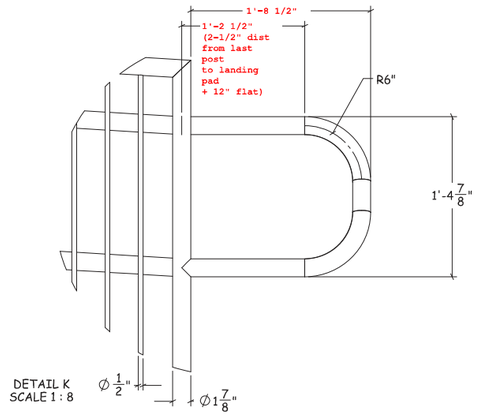
SCALE 1 : 30

DETAIL P
SCALE 1 : 8

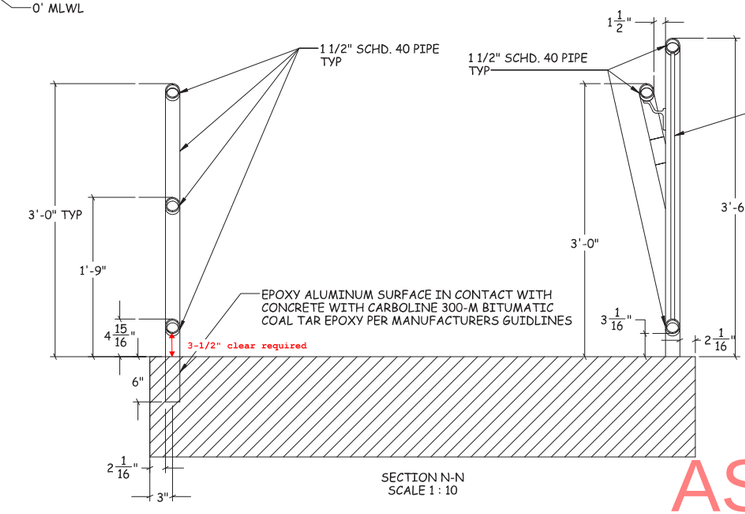
Drawings given to HDCC only show return on handrail and not on guardrail, but providing both to be symmetrical



SCALE 1 : 30

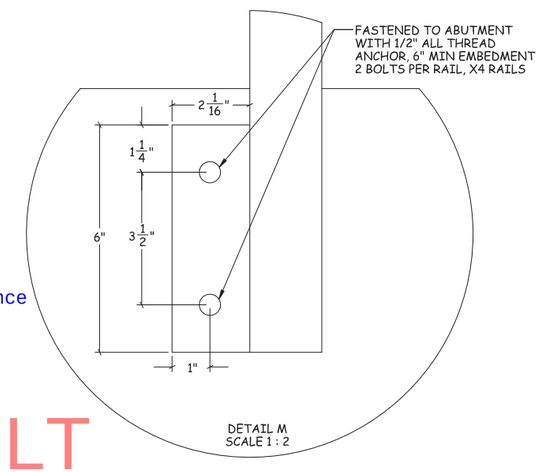


DETAIL K
SCALE 1 : 8



SECTION N-N
SCALE 1 : 10

3-1/2" clearance required on guardrail



DETAIL M
SCALE 1 : 2

AS-BUILT
08/31/2018

ORIGINAL RELEASE DATE: 7/11/18

NO.	REVISION DATE	BY
6	7/11/18	D.K

DRAWING NOT TO SCALE

	INITIALS	DATE
DRAWN	M.M	4/10/17
CHECKED	B.E	4/10/17
ENGINEER		

PROJECT NAME: PORT ALLEN SMALL BOAT HARBOR FLOATING DOCK IMPROVEMENTS
BWM JOB W17-266

DRAWING TITLE: ABUTMENT A GENERAL ARRANGEMENT

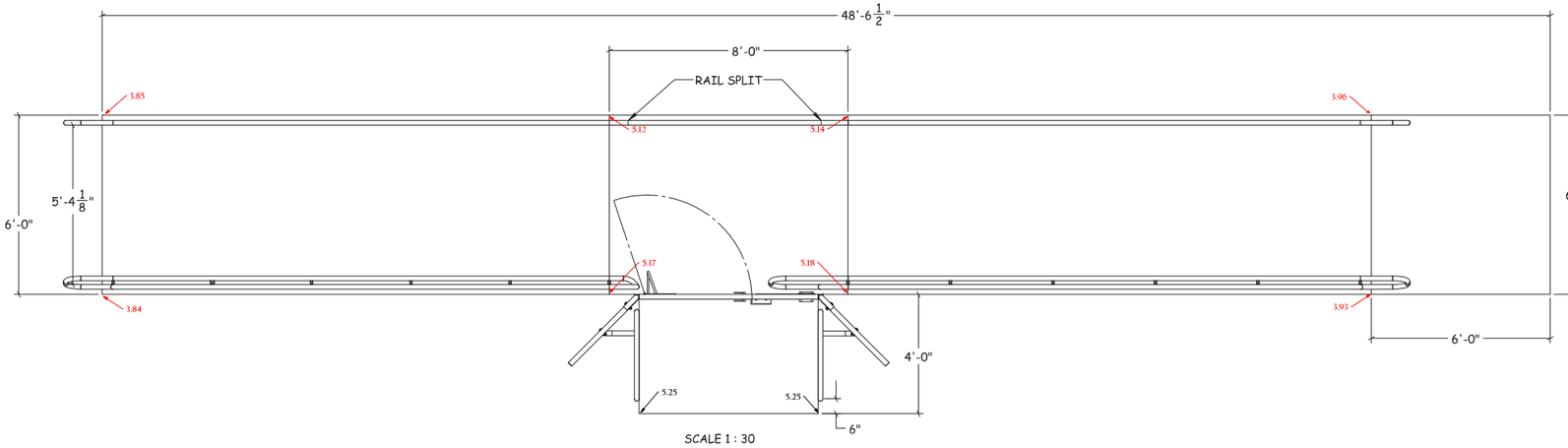
ENGINEER OF RECORD:

DRAWN BY: BLUEWATER MARINE & DOCK SPECIALTIES

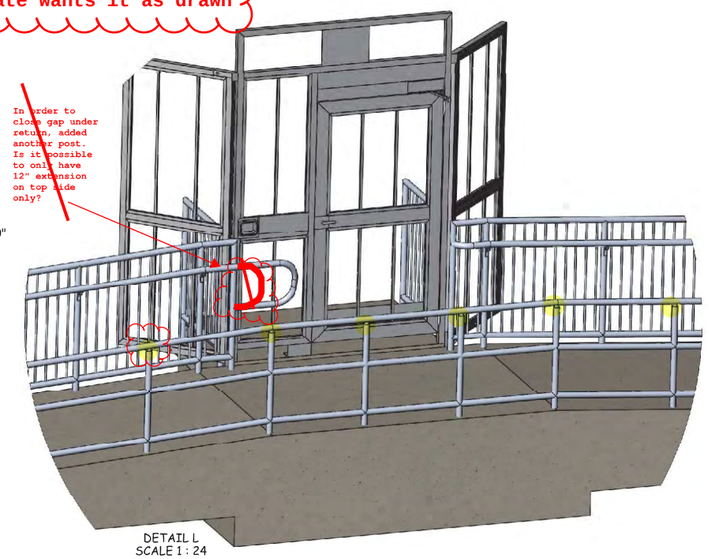
SHEET: R-1

SIZE: D

Submittal 6AR5: State wants it as drawn



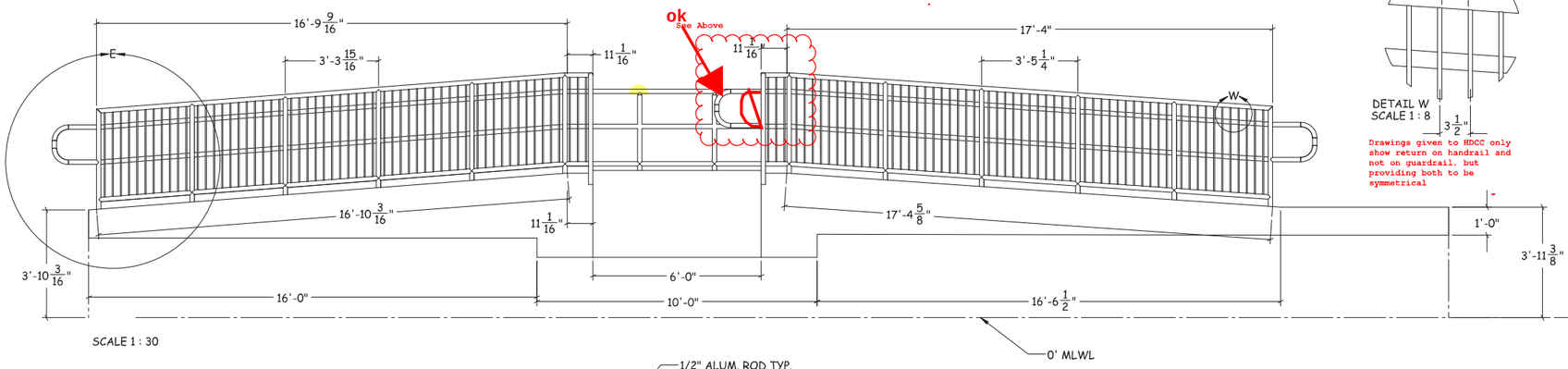
SCALE 1 : 30



DETAIL L
SCALE 1 : 24

RFI 25: NOT ADA RAMP

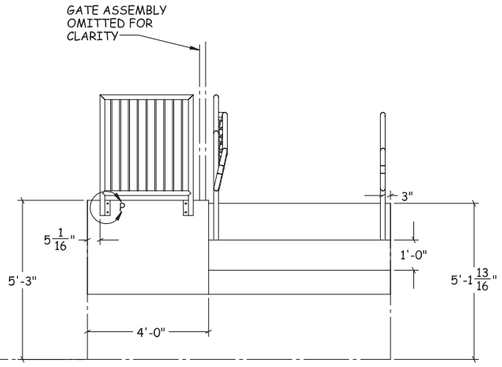
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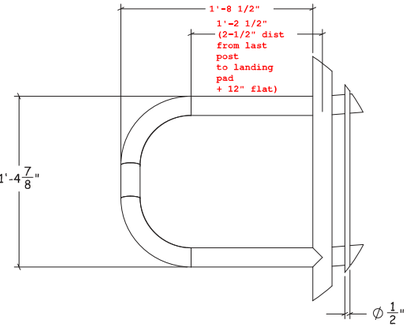
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DETAIL W
SCALE 1 : 8

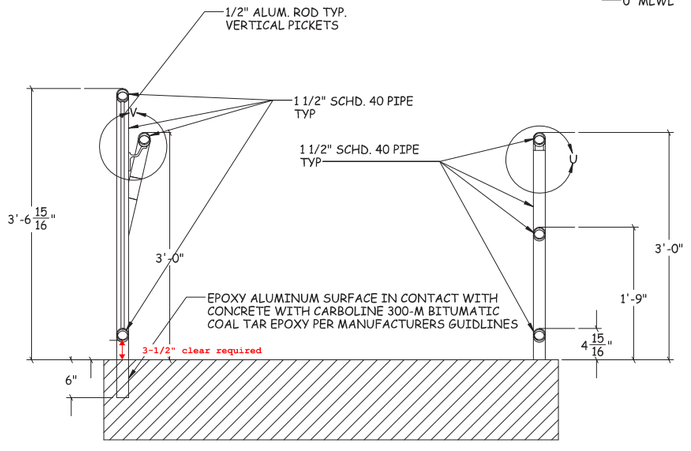
Drawings given to HDCC only show return on handrail and not on guardrail, but providing both to be symmetrical



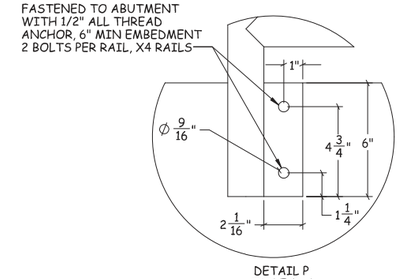
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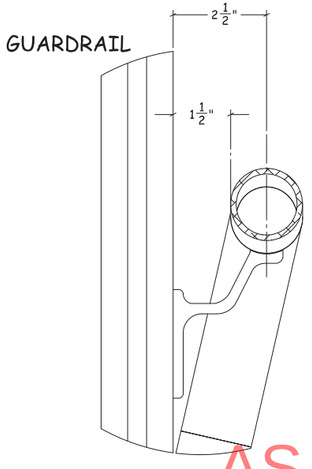
DETAIL M
SCALE 2 : 15



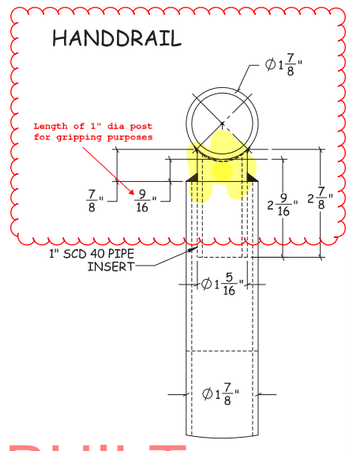
SECTION F-F
SCALE 1 : 12



DETAIL P
SCALE 1 : 4



DETAIL V
SCALE 1 : 2



DETAIL U
SCALE 1 : 2

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08/31/2018

JOB W17-266 SUBMITTAL DWGS v6 7/11/18

NO.	REVISION DATE	BY
6	7/11/18	D.K

ORIGINAL RELEASE DATE: 7/11/18

DRAWING NOT TO SCALE

	INITIALS	DATE
DRAWN	M.M	4/10/17
CHECKED	B.E	4/10/17
ENGINEER		

PROJECT NAME: PORT ALLEN SMALL BOAT HARBOR FLOATING DOCK IMPROVEMENTS
BWM JOB W17-266

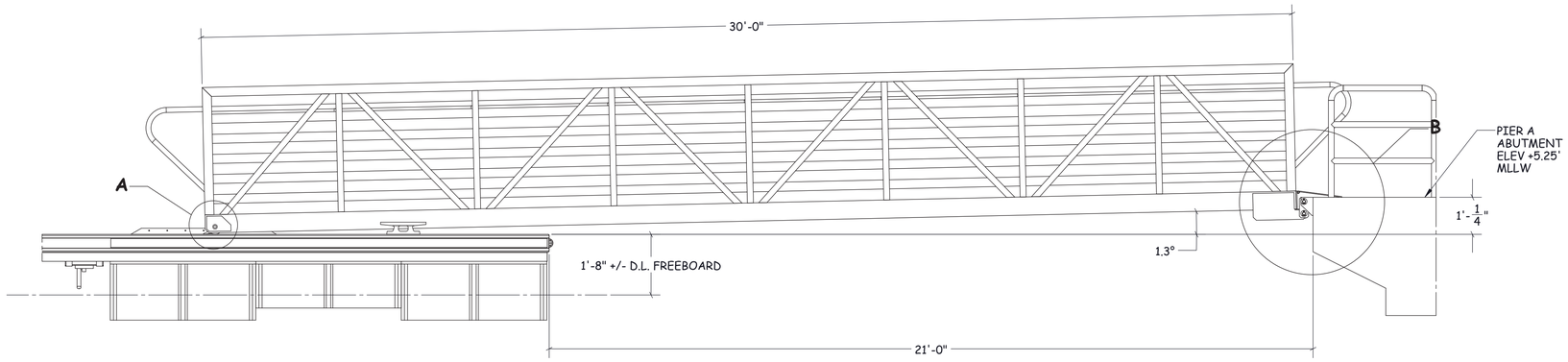
DRAWING TITLE: ABUTMENT B GENERAL ARRANGEMENT

ENGINEER OF RECORD:

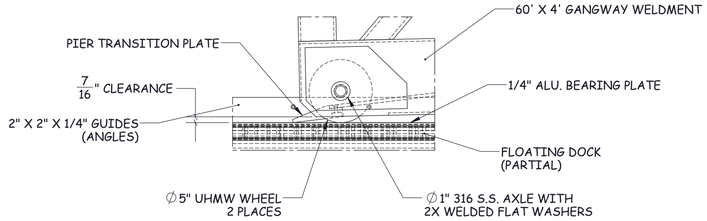
DRAWN BY: BLUEWATER MARINE & DOCK SPECIALTIES

SHEET: R-2

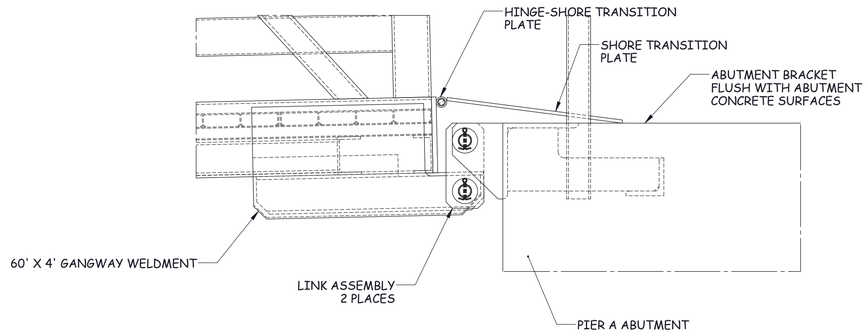
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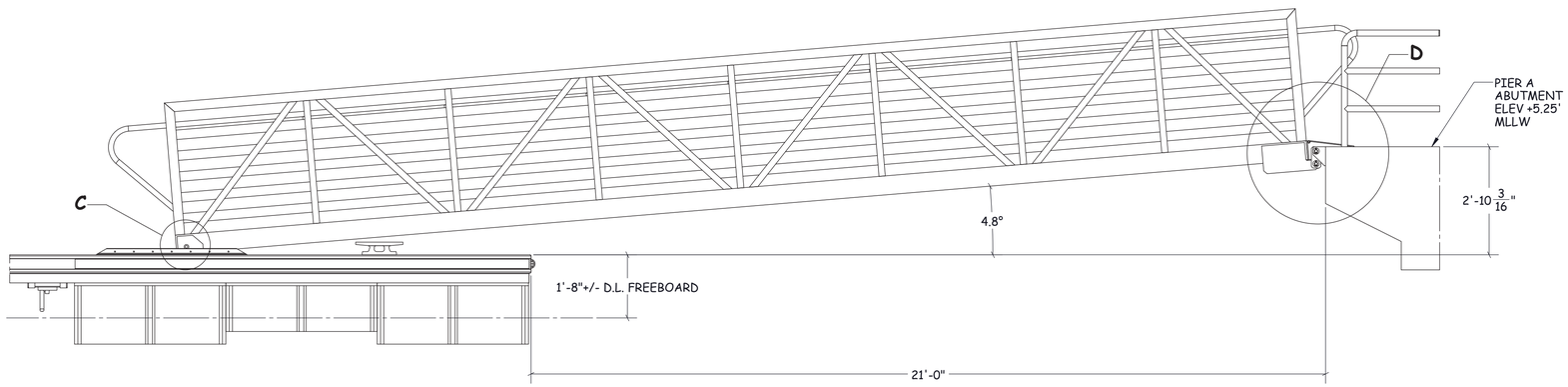
PORT ALLEN PIER A
MHHW
SCALE 1 : 24



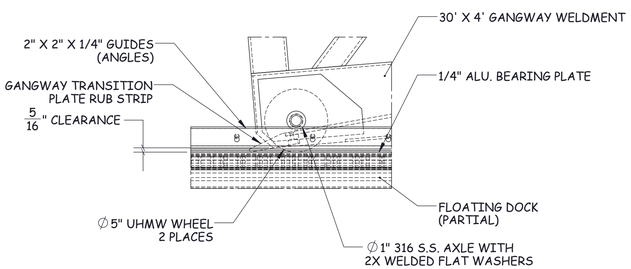
DETAIL A
SCALE 1 : 6



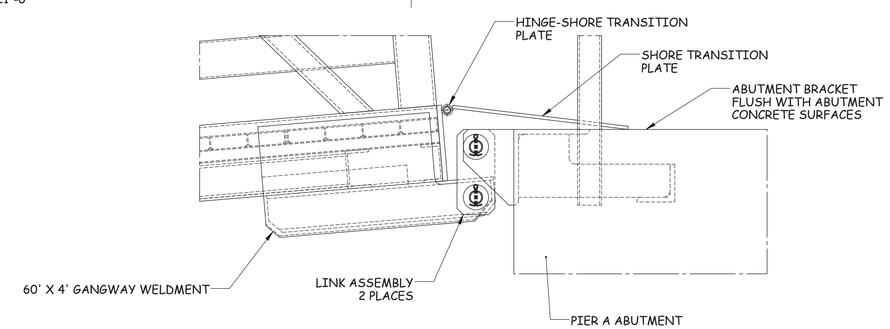
DETAIL B
SCALE 1 : 6



PORT ALLEN PIER A
MLLW
SCALE 1 : 24



DETAIL C
SCALE 1 : 6



DETAIL D
SCALE 1 : 6

AS-BUILT
08/31/2018

JOSHUA M MURPHREE
LICENSED PROFESSIONAL ENGINEER
No.13750-S
Exp. 4/30/2018
This work was performed by me or under my supervision and construction of this project will be under my supervision

ORIGINAL RELEASE DATE: 1/11/2017

NO.	REVISION DATE	BY

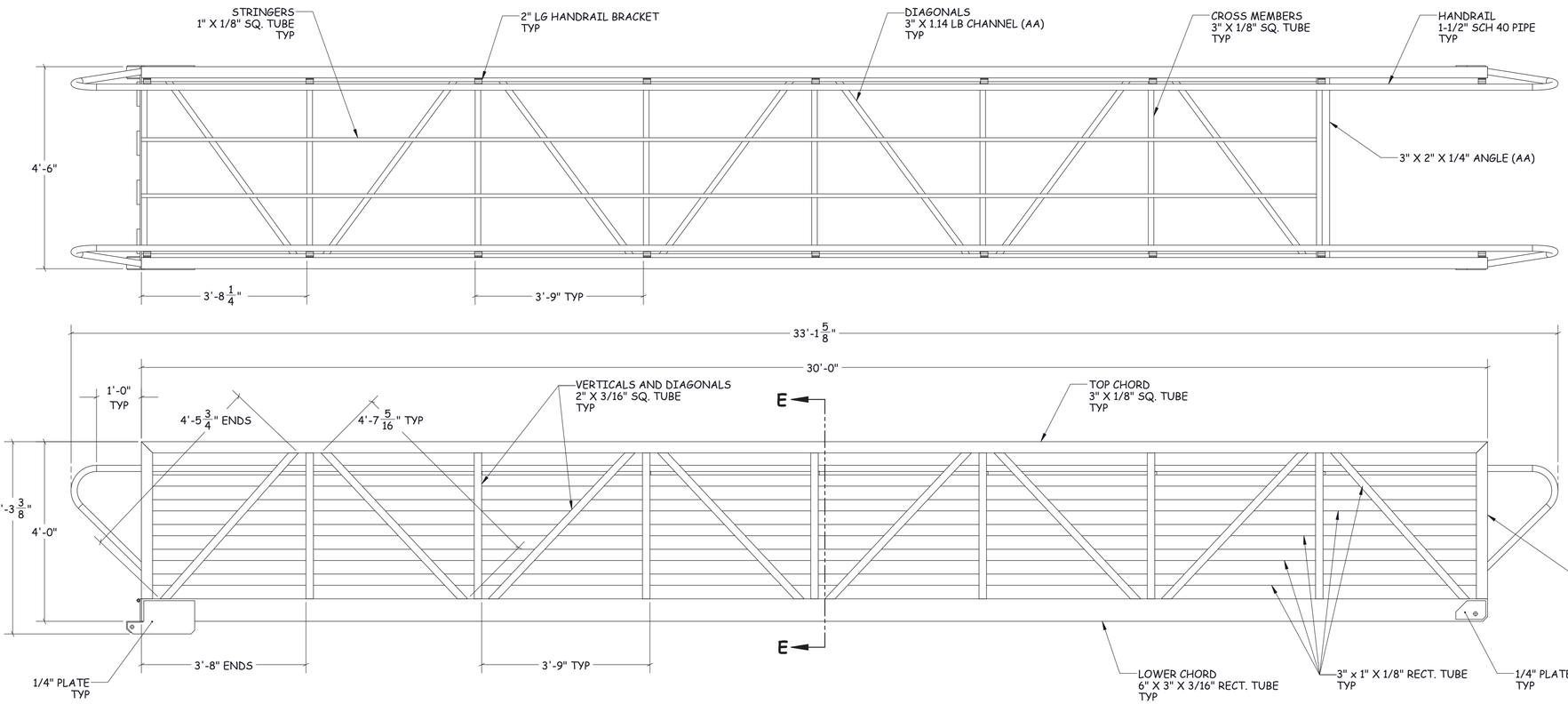
PROJECT NAME:
PORT ALLEN SMALL BOAT HARBOR FLOATING DOCK IMPROVEMENTS
BWM Job No. W17-266

DRAWING TITLE:
PIER A GANGWAY DETAILS

ENGINEER OF RECORD:
Phree Creations, LLC
61-655 KAMEHAMEHA HIGHWAY
HALEIWA, HI 96712
(808) 349-4990 joshmurphree@gmail.com

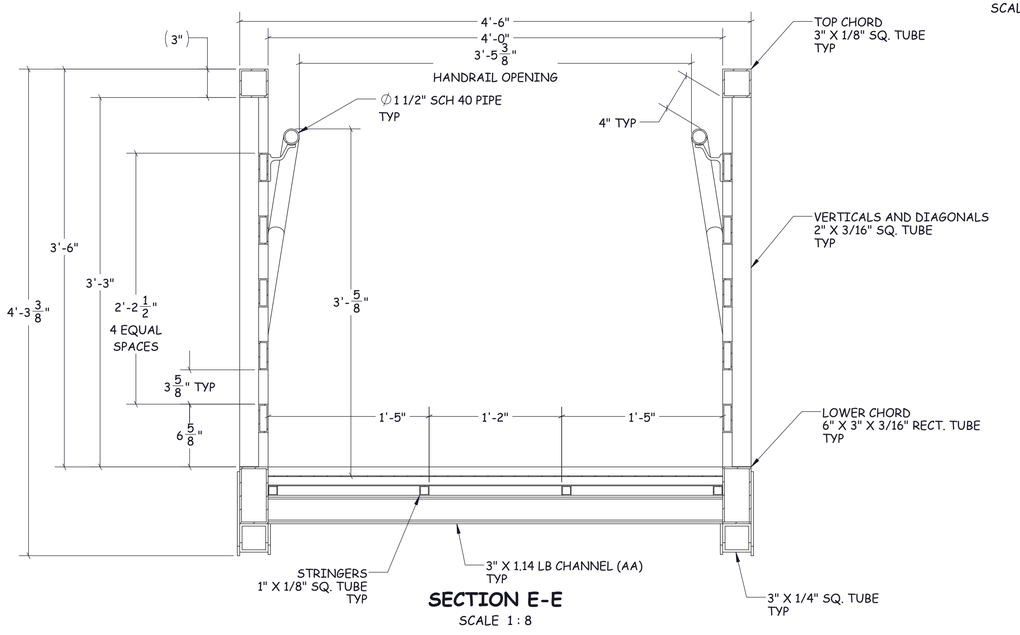
DOCK AND GANGWAY MANUFACTURER:
BLUEWATER MARINE & DOCK SPECIALTIES
350 WARD AVE, SUITE 106
HONOLULU, HI 96814
OFFICE: (808) 237-4504
CELL: (808) 864-9831
INFO@BLUEWATERDOCKS.COM

SHEET: GA-22
SIZE: D



30' X 4' GANGWAY

SCALE 1 : 18



SECTION E-E

SCALE 1 : 8

AS-BUILT
08/31/2018

JOSHUA M MURPHREE
LICENSED PROFESSIONAL ENGINEER
No. 13750-S
Date: 4/30/2018
This work was performed by me or under my supervision and construction of this project will be under my supervision

ORIGINAL RELEASE DATE: 1/11/2017

NO.	REVISION DATE	BY

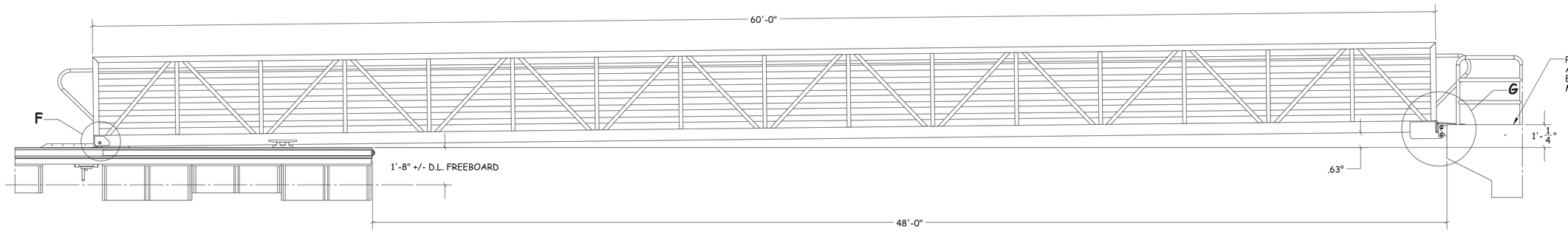
PROJECT NAME:
PORT ALLEN SMALL BOAT HARBOR FLOATING DOCK IMPROVEMENTS
BWM Job No. W17-266

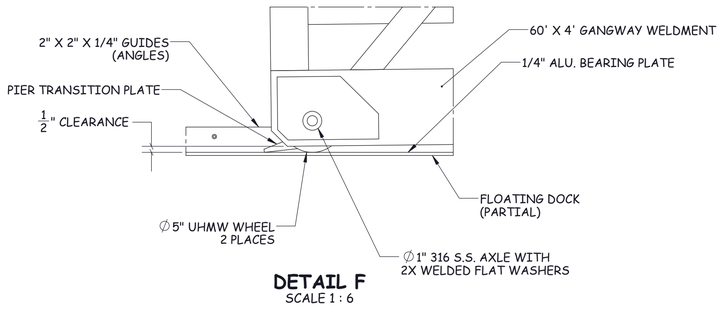
DRAWING TITLE:
30' X 4' GANGWAY

ENGINEER OF RECORD:
Phree Creations, LLC
61-655 KAMEHAMEHA HIGHWAY
HALEIWA, HI 96712
(808) 349-4990 joshmurphree@gmail.com

DOCK AND GANGWAY MANUFACTURER:
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HONOLULU, HI 96814
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CELL: (808) 864-9831
INFO@BLUEWATERPACIFIC.COM

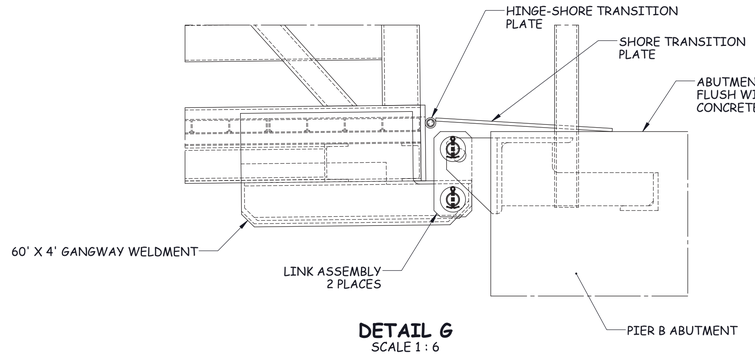
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SIZE: D



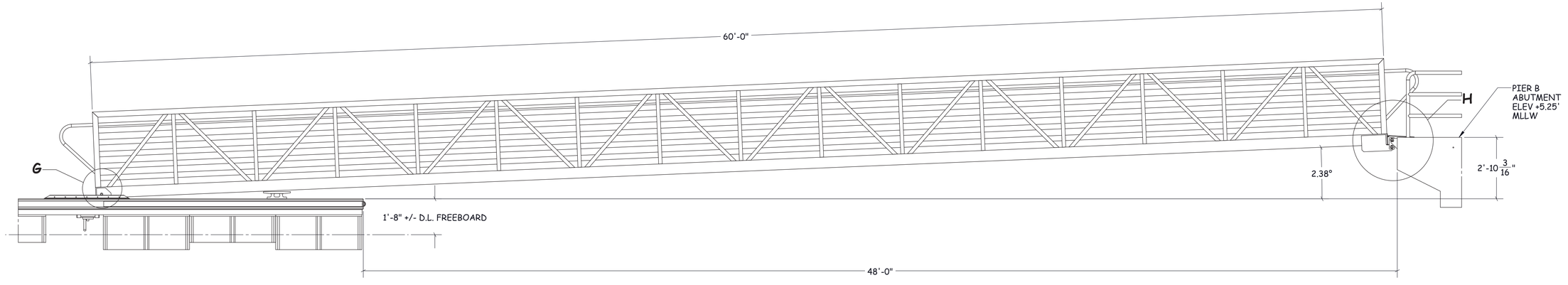


DETAIL F
SCALE 1 : 6

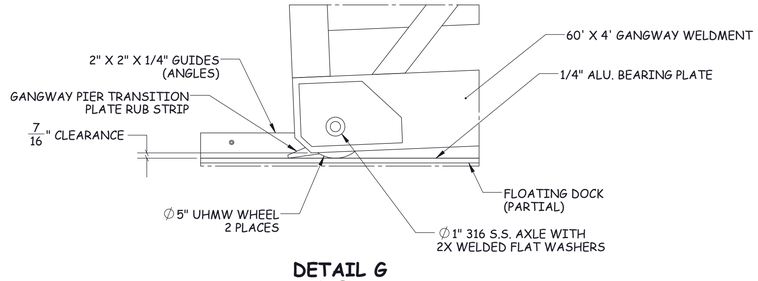
PORT ALLEN PIER B
MHHW
SCALE 1 : 30



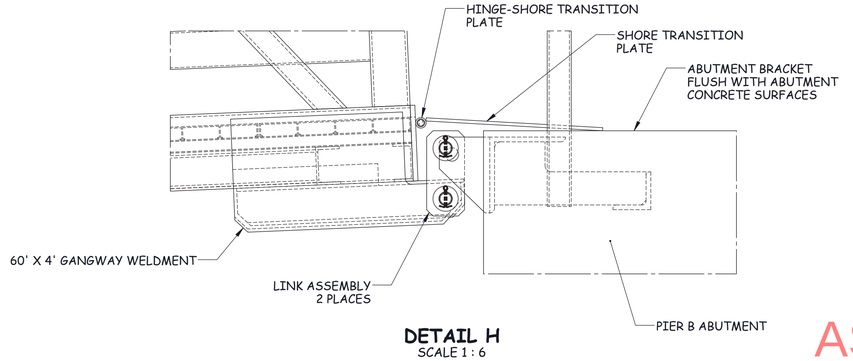
DETAIL G
SCALE 1 : 6



PORT ALLEN PIER B
MLLW
SCALE 1 : 30



DETAIL G
SCALE 1 : 6



DETAIL H
SCALE 1 : 6

AS-BUILT
08/31/2018

JOSHUA M MURPHREE
LICENSED PROFESSIONAL ENGINEER
No.13750-S
Exp. 4/30/2018
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ORIGINAL RELEASE DATE: 1/11/2017

NO.	REVISION DATE	BY

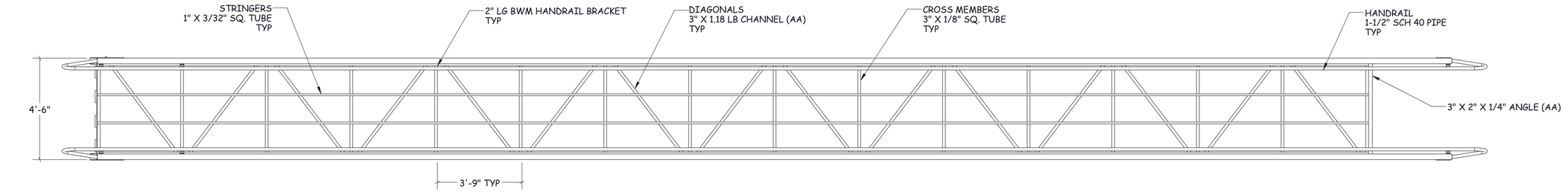
PROJECT NAME:
PORT ALLEN SMALL BOAT HARBOR FLOATING DOCK IMPROVEMENTS
BWM Job No. W17-266

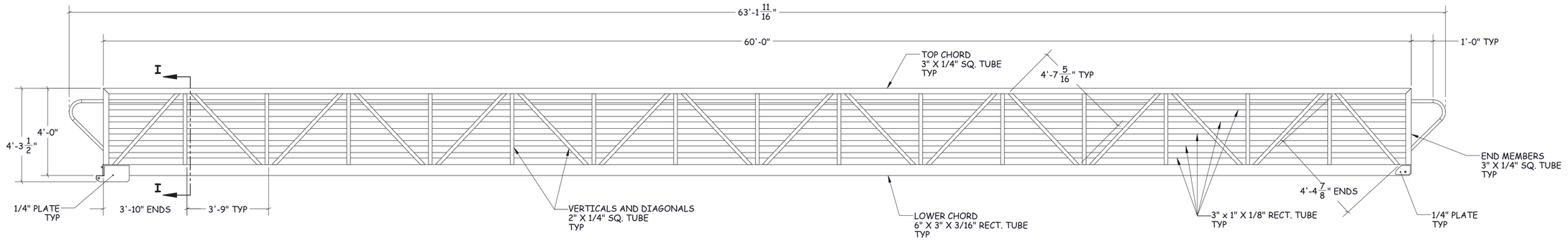
DRAWING TITLE:
PIER B GANGWAY DETAILS

ENGINEER OF RECORD:
Phree Creations, LLC
61-655 KAMEHAMEHA HIGHWAY
HALEIWA, HI 96712
(808) 349-4990 joshmurphree@gmail.com

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350 WARD AVE. SUITE 106
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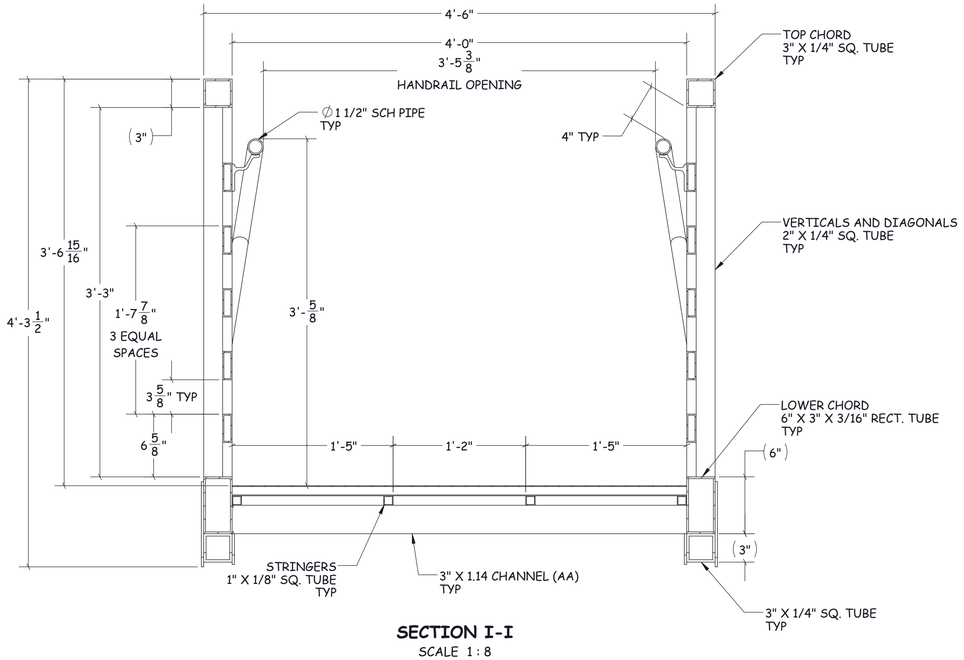
SHEET: GA-24
SIZE: D





60' X 4' GANGWAY

SCALE 1 : 30



SECTION I-I

SCALE 1 : 8

AS-BUILT
08/31/2018

JOSHUA M MURPHREE
LICENSED PROFESSIONAL ENGINEER
No.13750-S
Exp. 4/30/2018
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ENGINEER OF RECORD:
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HALEIWA, HI 96712
(808) 349-4990 joshmurphree@gmail.com

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HONOLULU, HI 96814
OFFICE: (808) 237-4504
CELL: (808) 864-9831
INFO@BLUEWATERDOCKS.COM

ORIGINAL RELEASE DATE: 1/11/2017

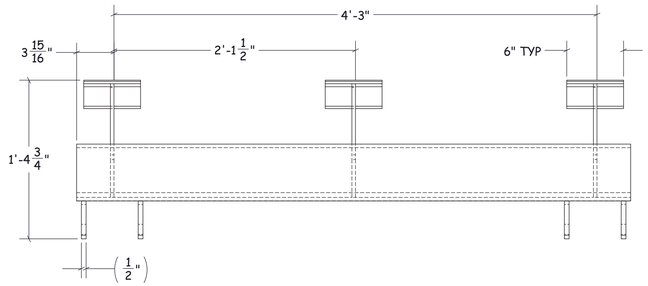
NO.	REVISION DATE	BY

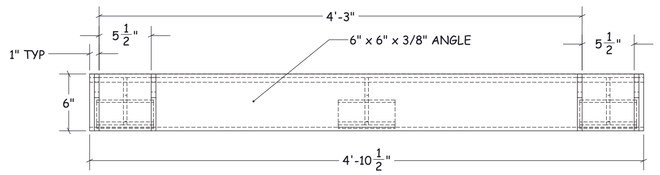
PROJECT NAME:
PORT ALLEN SMALL BOAT HARBOR FLOATING DOCK IMPROVEMENTS
BWM Job No. W17-266

DRAWING TITLE:
60' X 4' GANGWAY

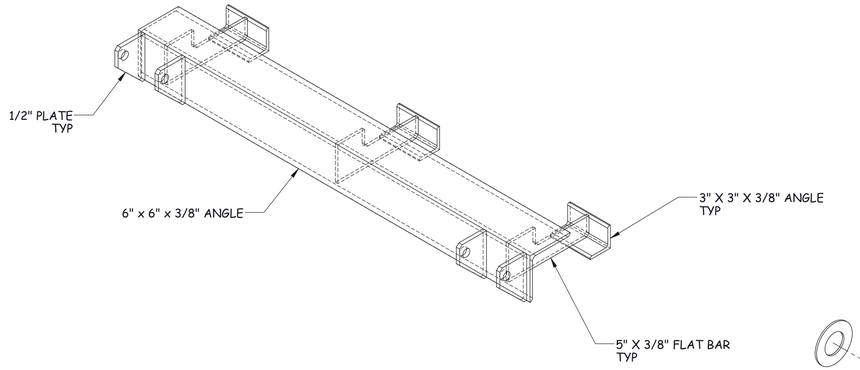
SHEET: GA-25

SIZE: D

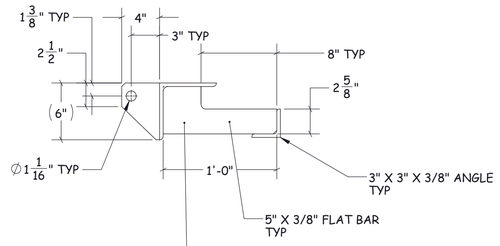




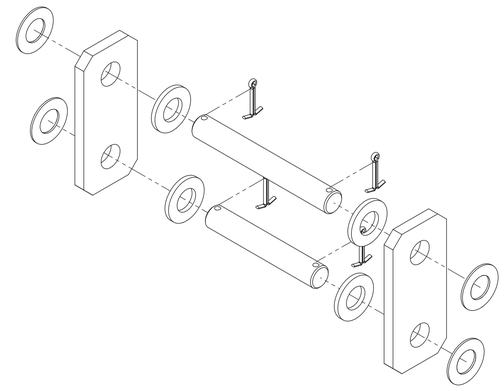
ABUTMENT BRACKET
SCALE 1:8



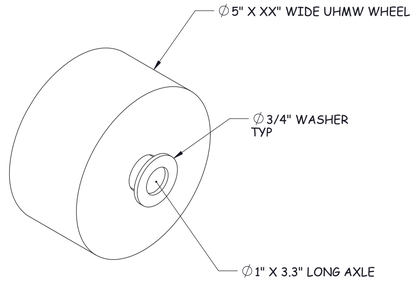
ABUTMENT BRACKET ISOMETRIC VIEW



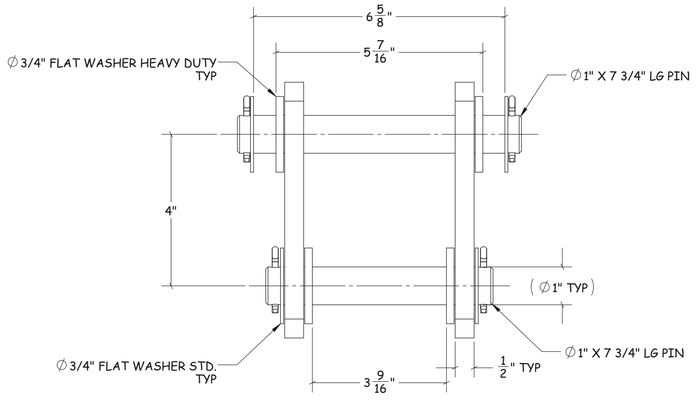
COAT ALL INNER SURFACES OF BRACKET IN CONTACT WITH CONRETE WITH BITUMASTIC 300M COAL TAR EPOXY PRIOR TO EMBEDMENT INTO CONCETE ABUTMENT.



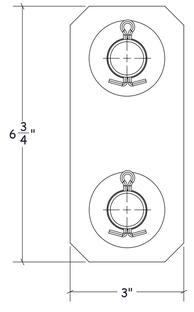
LINK ASSEMBLY EXPLODED VIEW



GANGWAY WHEEL ASSEMBLY
SCALE 1 : 2



LINK ASSEMBLY
SCALE 1 : 2



AS-BUILT
08/31/2018

JOSHUA M MURPHREE
LICENSED PROFESSIONAL ENGINEER
No.13750-S
exp. 4/30/2018
this work was performed by me or under my supervision and construction of this project will be under my supervision

ORIGINAL RELEASE DATE: 1/11/2017

NO.	REVISION DATE	BY

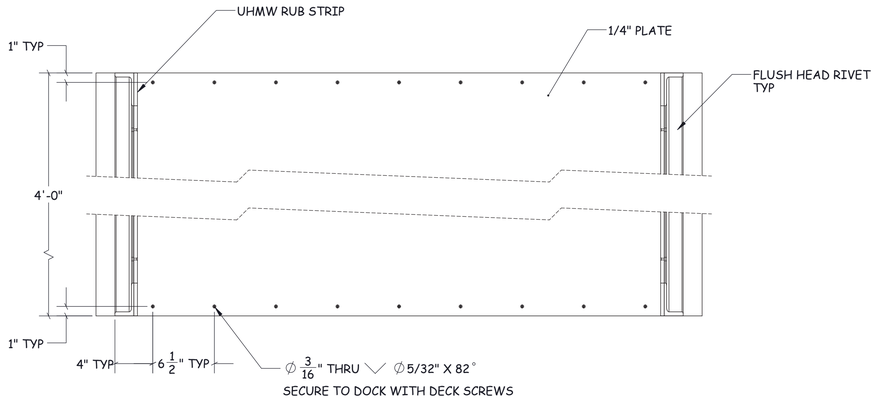
PROJECT NAME:
PORT ALLEN SMALL BOAT HARBOR FLOATING DOCK IMPROVEMENTS
BWM Job No. W17-266

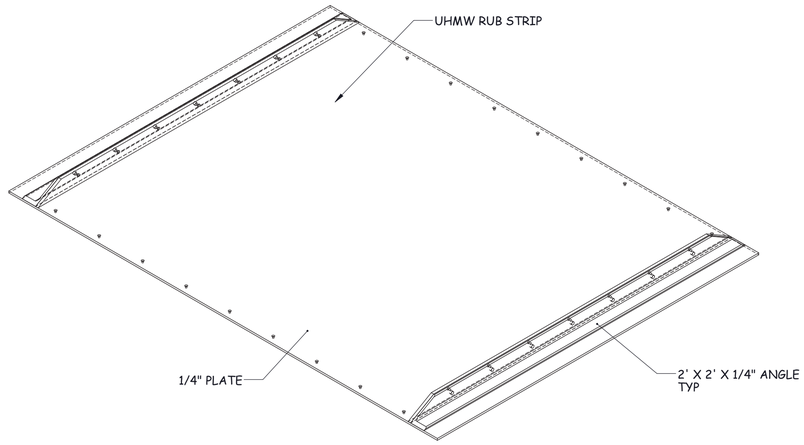
DRAWING TITLE:
ABUTMENT BRACKET, GANGWAY WHEEL ASM., & LINK ASM.

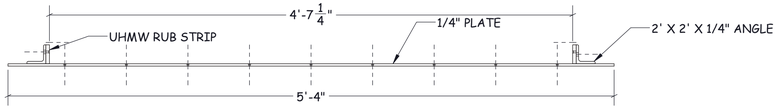
ENGINEER OF RECORD:
Phree Creations, LLC
61-655 KAMEHAMEHA HIGHWAY
HALEIWA, HI 96712
(808) 349-4990 joshmurphree@gmail.com

DOCK AND GANGWAY MANUFACTURER:
350 WARD AVE, SUITE 106
HONOLULU, HI 96814
OFFICE: (808) 237-4504
CELL: (808) 864-9831
INFO@BLUEWATERPACIFIC.COM
BLUEWATER MARINE & DOCK SPECIALTIES

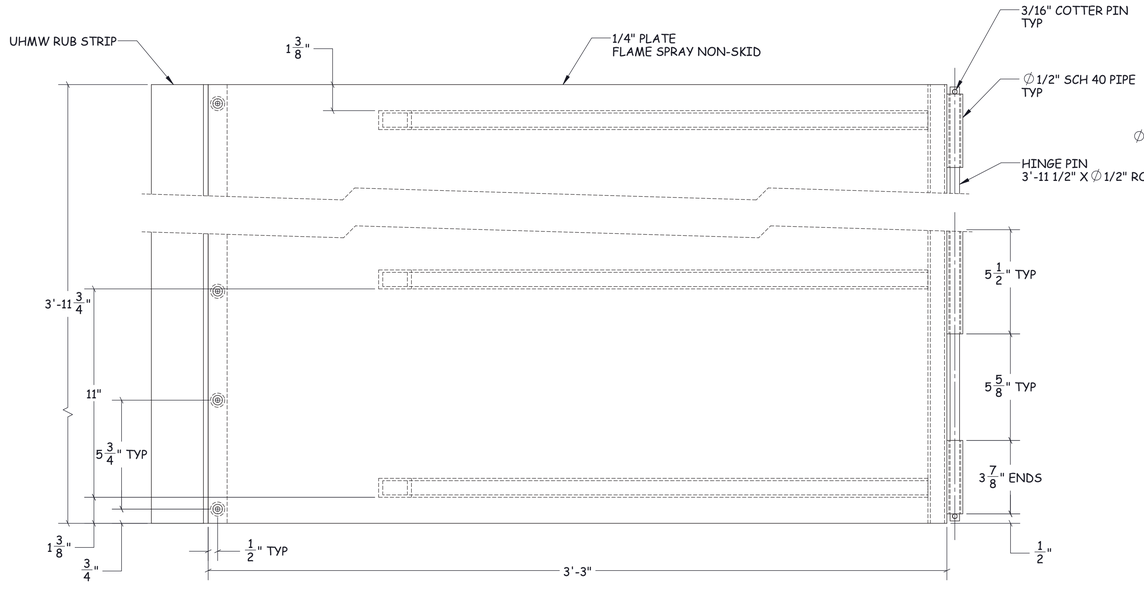
SHEET: GA-26
SIZE: D

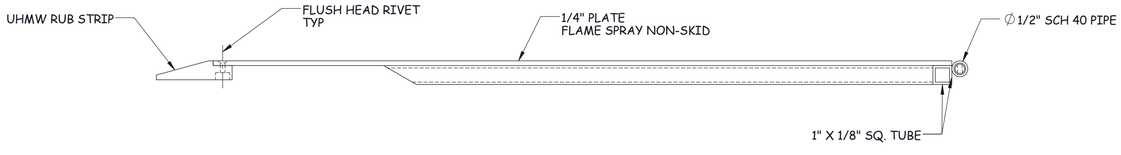




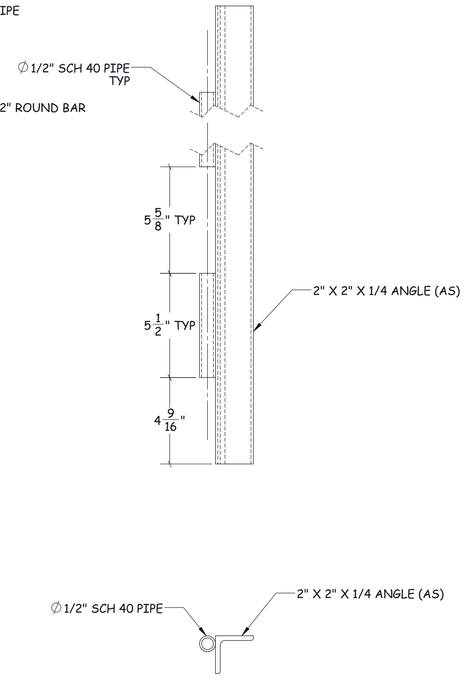


BEARING PLATE ASSEMBLY
SCALE 1:8

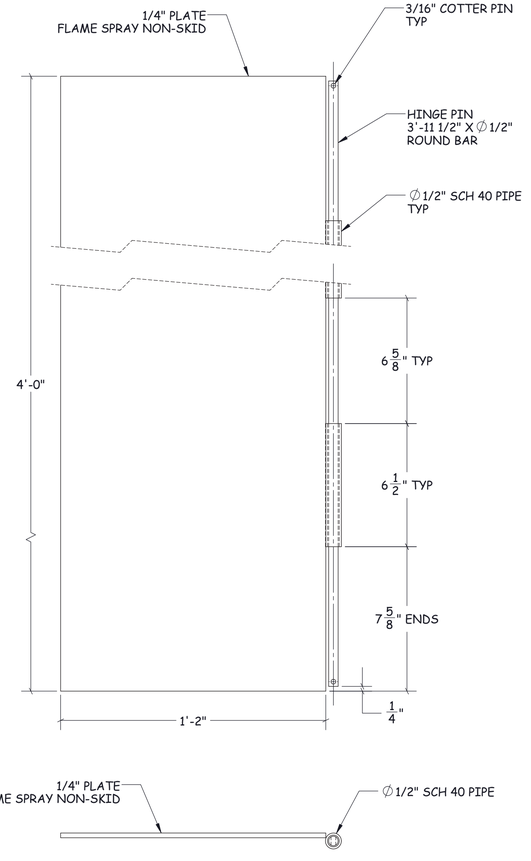




PIER TRANSITION PLATE WELDMENT ASSEMBLY
SCALE 1 : 4



PIER TRANSITION ANGLE WELDMENT ASSEMBLY
SCALE 1 : 4



SHORE TRANSITION PLATE WELDMENT ASSEMBLY
SCALE 1 : 4

AS-BUILT
08/31/2018

JOSHUA M MURPHREE
LICENSED PROFESSIONAL ENGINEER
No.13750-S
No. 4/30/2018
The work was performed by me or under my supervision and construction of this project will be under my supervision

ORIGINAL RELEASE DATE: 1/11/2017

NO.	REVISION DATE	BY

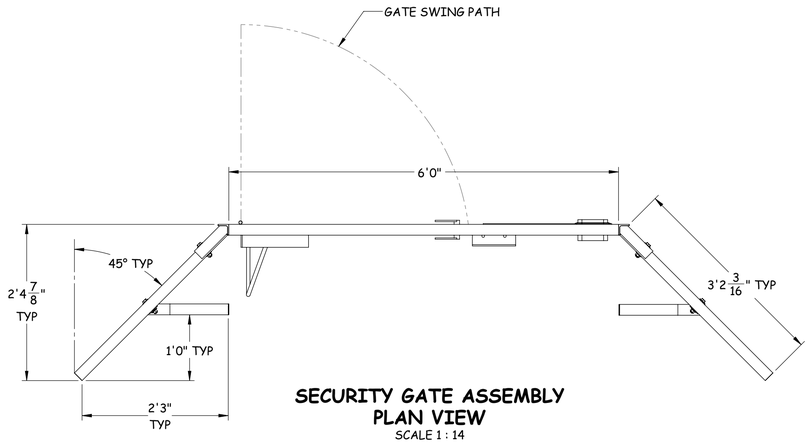
PROJECT NAME:
PORT ALLEN SMALL BOAT HARBOR FLOATING DOCK IMPROVEMENTS
BWM Job No. W17-266

DRAWING TITLE: SHORE & PIER TRANSITION PLATE ASM.

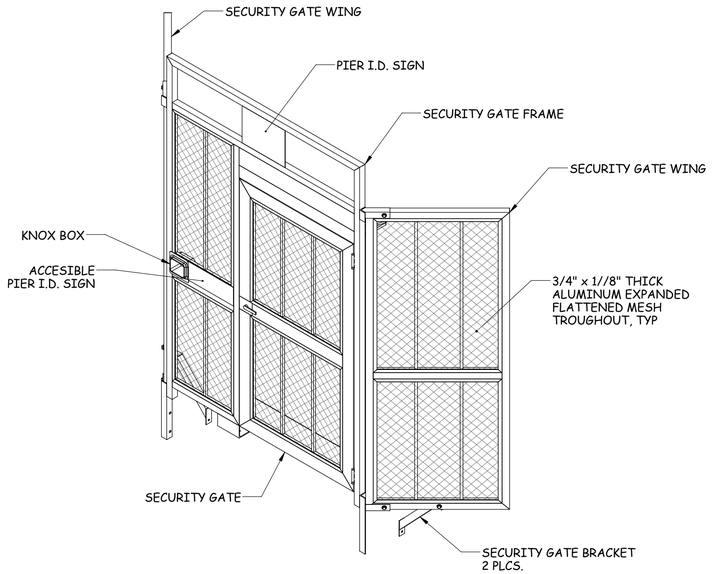
ENGINEER OF RECORD:
Phree Creations, LLC
61-655 KAMEHAMEHA HIGHWAY
HALEIWA, HI 96712
(808) 349-4990 joshmurphree@gmail.com

DOCK AND GANGWAY MANUFACTURER:
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350 WARD AVE, SUITE 106
HONOLULU, HI 96814
OFFICE: (808) 237-4504
CELL: (808) 864-9831
INFO@BLUEWATERDOCKS.COM

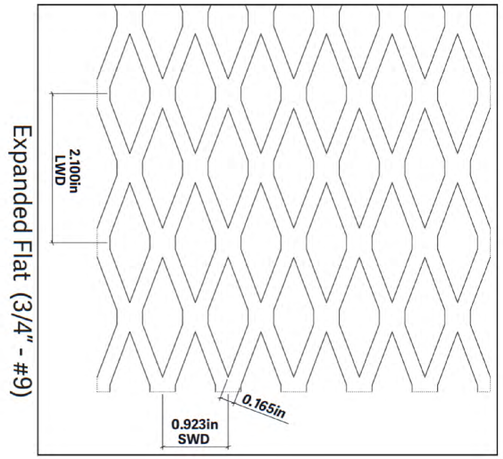
SHEET: GA-27
SIZE: D



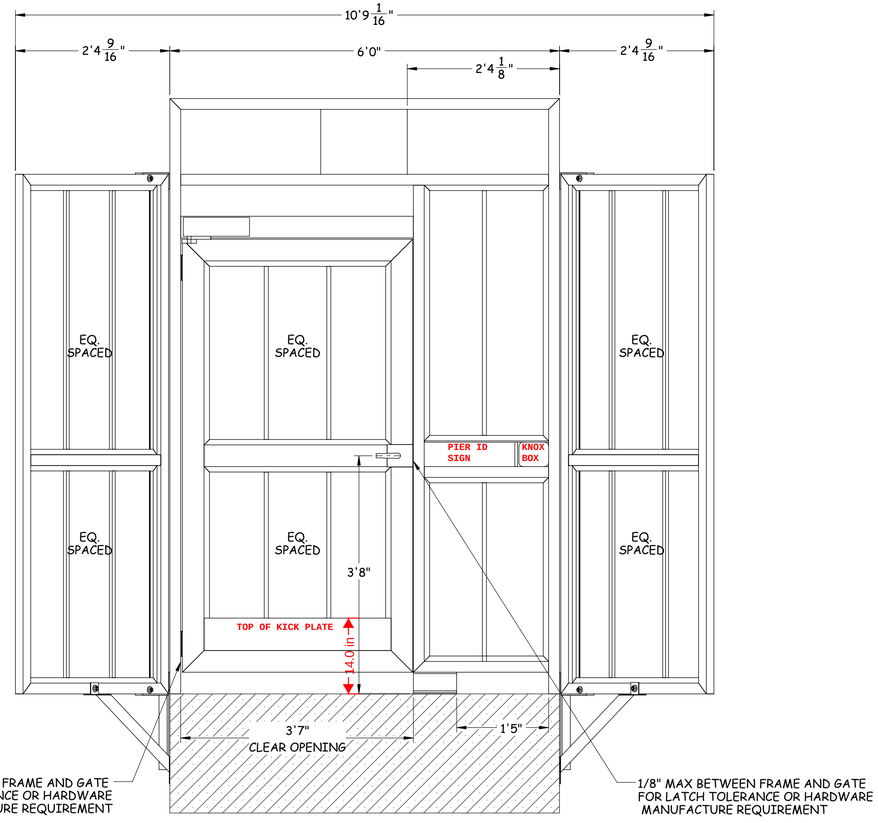
SECURITY GATE ASSEMBLY
PLAN VIEW
SCALE 1 : 14



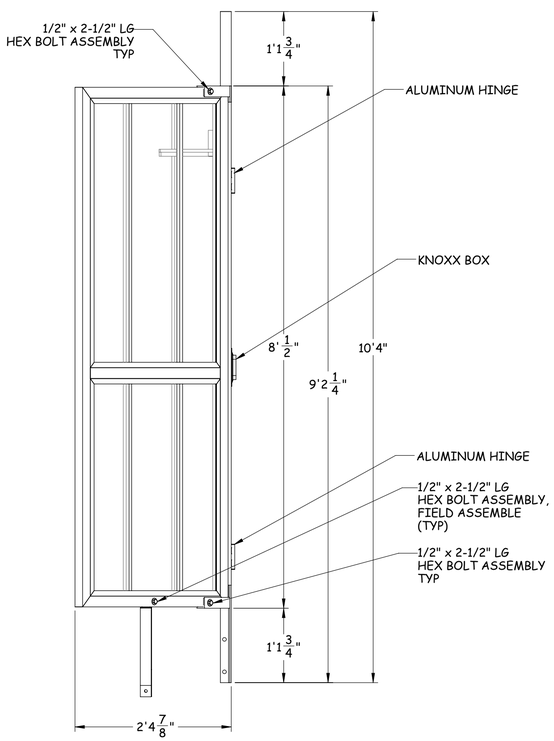
SECURITY GATE ASSEMBLY
ISO VIEW
SCALE 1 : 20



EXPANDED METAL MESH
SCALE NTS



SECURITY GATE ASSEMBLY
ELEVATION VIEW
SCALE 1 : 14



SECURITY GATE ASSEMBLY
SIDE ELEVATION VIEW
SCALE 1 : 14

GATE DESIGN BASIS:

VERTICAL LOADS:
1. DEAD LOAD: ACTUAL WEIGHT OF ALL FRAMING AND PERMANENT COMPONENTS OF THE STRUCTURES.

HORIZONTAL LOADS:
1. UNIFORM LOAD: 50 PLF APPLIED AT A HEIGHT OF 4'
2. POINT LOAD: 200 LBS. APPLIED AT ANY POINT

DESIGN CODES:
THE SECURITY GATE SYSTEM HAS BEEN DESIGNED IN ACCORDANCE WITH THE FOLLOWING CODE:

1. ALUMINUM DESIGN MANUAL 2010
2. ASCE 7-10
3. 2006 INTERNATIONAL BUILDING CODE

STRUCTRUAL ALUMINUM:
1. FABRICATION AND ERECTION OF STRUCTURAL ALUMINUM SHALL CONFORM TO THE ALUMINUM DESIGN MANUAL 2010 EDITION.
2. ALL MATERIAL SHALL BE 316SS AND SHALL BE MARINE GRADE 6000 SERIES ALUMINUM UNLESS OTHERWISE SPECIFIED.
3. ALL FASTENERS SHALL BE 316SS AND SHALL CONFROM TO ASTM F-593 AND F594, UNLESS OTHERWISE SPECIFIED.
4. WELDS AND WELDING PROCEDURES SHALL CONFROM TO STRUCTURAL WELDING CODE AWS D1.2 OF THE AMERICAN WELDING SOCIETY AND WELDING SHALL BE PERFORMED BY WELDERS PREQUALIFIED FOR WELDING PROCEDURES TO BE USED
5. ALL WELDS SHALL BE CONTINUOUS 1/4" FILLET USING 4043 FILLER METAL, UNLESS OTHERWISE NOTED.
6. ALL ALUMINUM SURFACES IN CONTACT WITH CONCRETE SHALL BE EPOXY COATED.
7. ALL MEASUREMENTS SHALL BE FIELD VERIFIED PRIOR TO FABRICATION.

EMBEDDED ANCHORS:
1. EPOXY FOR EMBEDDED ANCHORS SHALL BE HILTI HIT-RE 500 V3.
2. ALL THREADED ROD SHALL BE 316 STAINLESS STEEL.

AS-BUILT
08/31/2018

JOSHUA M MURPHREE
LICENSED PROFESSIONAL ENGINEER
No.13750 - S
STATE OF HAWAII

ORIGINAL RELEASE DATE: 2/13/17

NO.	REVISION DATE	BY
3	2/23/18	T.M

DRAWING NOT TO SCALE

	INITIALS	DATE
DRAWN	M.M	2/13/17
CHECKED	B.E	2/13/17
ENGINEER	J.M	2/13/17

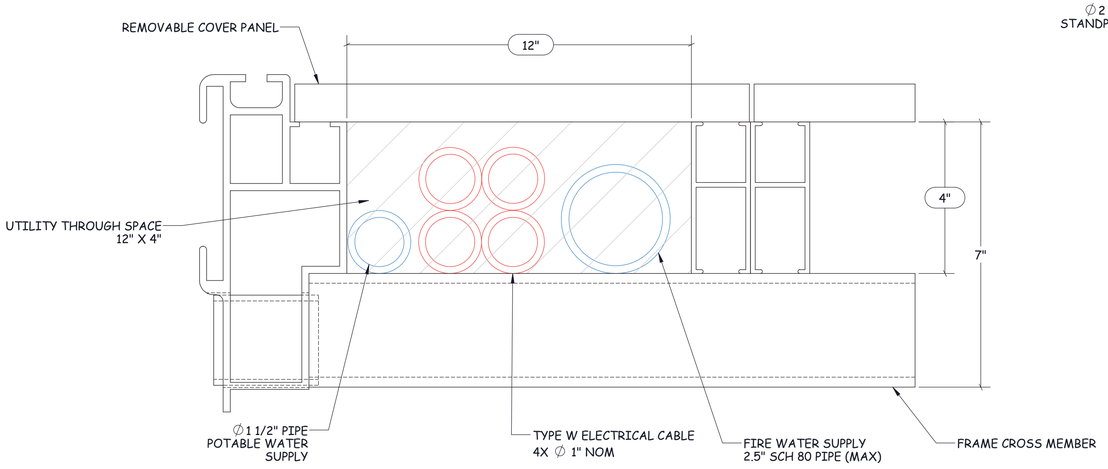
PROJECT NAME:
PORT ALLEN SMALL BOAT HARBOR FLOATING DOCK IMPROVEMENTS
BWM JOB W17-266

DRAWING TITLE:
SECURITY GATE ASSEMBLY

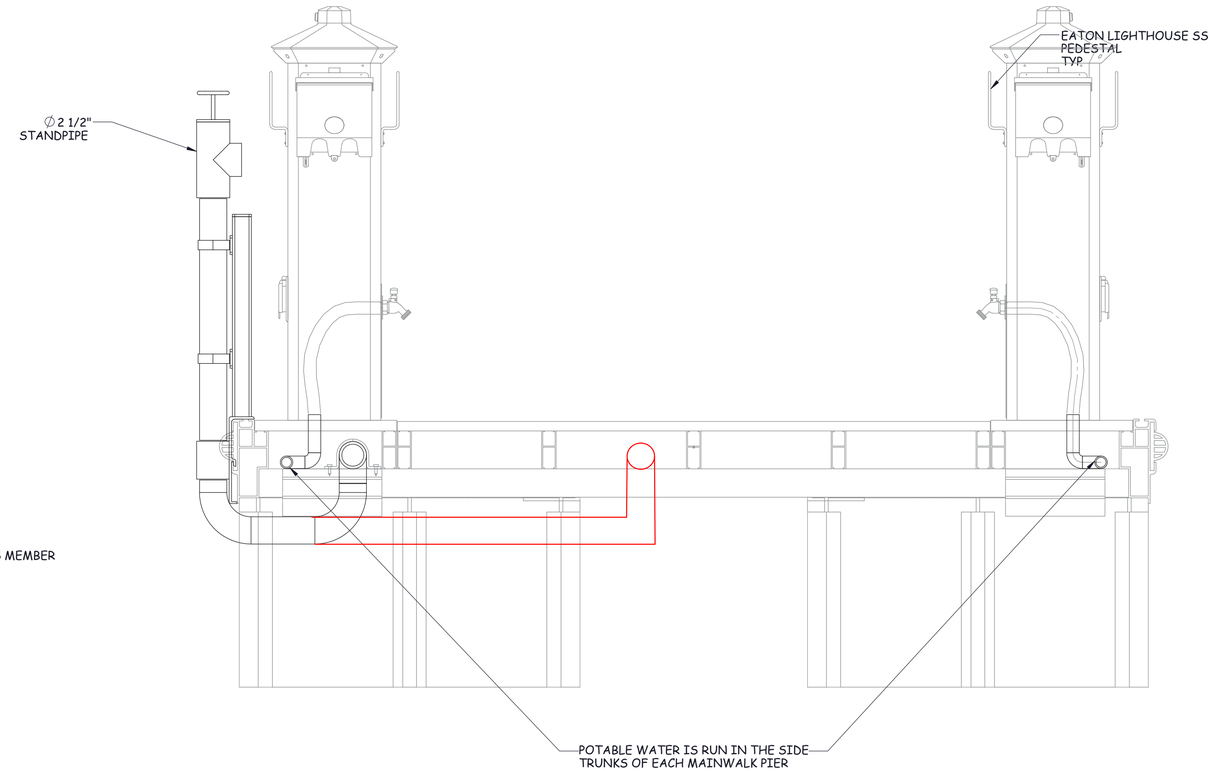
ENGINEER OF RECORD:
Phree Creations, LLC
61-655 Kamehameha Hwy
Haleiwa, HI 96712
(808) 349-4990
joshmurphree@gmail.com

DRAWN BY:
BLUEWATER
MARINE & DOCK SPECIALTIES
350 Ward Ave, Ste 106. Honolulu, HI 96814
(PH) (808) 237-4504 (E) info@bluewaterdocks.com

SHEET: S-1
SIZE: D



ELECTRICAL AND MECHANICAL LINES IN TROUGH DETAIL
(TYPICAL FOR ALL MAINWALK PIERS LEFT AND RIGHT SIDES ARE IDENTICAL)
SCALE 1 : 2



FIRE AND POTABLE WATER ROUTING
(TYP FOR ALL MANIWALK PIERS)
SCALE 1 : 8

AS-BUILT
08/31/2018

JOSHUA M MURPHREE
LICENSED PROFESSIONAL ENGINEER
No.13750-S
HAWAII
Exp. 4/30/2018
This work was performed by me or under my supervision and construction of this project will be under my supervision

ORIGINAL RELEASE DATE: 1/11/2017

NO.	REVISION DATE	BY

PROJECT NAME:
PORT ALLEN SMALL BOAT HARBOR FLOATING DOCK IMPROVEMENTS
BWM Job No. W17-266

DRAWING TITLE:
ELECTRICAL, FIRE AND POTABLE WATER ROUTING

ENGINEER OF RECORD:
Phree Creations, LLC
61-655 KAMEHAMEHA HIGHWAY
HALEIWA, HI 96712
(808) 349-4990 joshmurphree@gmail.com

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CELL: (808) 864-0931
INFO@BLUEWATERDOCKS.COM
BLUEWATER
MARINE & DOCK SPECIALTIES

SHEET: GA-32
SIZE: D

GENERAL NOTES

1. GENERAL NOTES ARE NOT INTENDED TO REPLACE THE CONTRACT DOCUMENTS. SEE CONTRACT DOCUMENTS FOR REQUIREMENTS IN ADDITION TO THESE GENERAL NOTES. THE CONTRACT DOCUMENTS SHALL CONSIST OF THE COMPLETE PROJECT GENERAL SPECIFICATIONS AND WORKING DRAWINGS INCLUDING BUT NOT LIMITED TO GENERAL PROVISIONS, SPECIAL PROVISIONS, DIVISION 1 REQUIREMENTS, PROPOSAL, DLNR INTERIM GENERAL CONDITIONS, AND ANY RELEVANT ADDENDA ITEMS. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.

2. THE WORKING DRAWINGS ARE NOT NECESSARILY COMPLETE IN EVERY DETAIL. THE CONTRACTOR SHALL PROVIDE ALL EQUIPMENT, MATERIAL, SERVICES, LABOR, ETC. FOR A COMPLETE INSTALLATION INCLUDING WORK REASONABLY INFERRED FROM THE CONTRACT DOCUMENTS AS BEING NECESSARY TO PRODUCE THE INTENDED RESULTS, WHETHER SHOWN OR NOT ON THE DRAWINGS.

3. THE CONTRACTOR SHALL VISIT THE SITE AND VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS BEFORE STARTING WORK. DO NOT SCALE PROJECT DRAWINGS. REPORT ANY DISCREPANCIES IN THE DRAWINGS AND/OR SPECIFICATIONS TO THE ENGINEER FOR CLARIFICATIONS OR ADJUSTMENTS PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL NOT BEGIN DEMOLITION/CONSTRUCTION IN ANY AREA UNTIL THE DISCREPANCY HAS BEEN RESOLVED.

4. SHOULD THERE BE A CONFLICT BETWEEN THESE GENERAL NOTES, WORKING DRAWINGS, AND/OR SPECIFICATIONS, THE MOST RESTRICTIVE INTERPRETATION SHALL PREVAIL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING FROM THE ENGINEER ANY CLARIFICATION OR INTERPRETATION OF THE GENERAL NOTES, WORKING DRAWINGS, AND/OR SPECIFICATIONS IN WRITING AND IN ADVANCE OF THE BEGINNING OF DEMOLITION/CONSTRUCTION. NUMERICAL DIMENSIONS AND ELEVATIONS SHOWN SHALL SUPERCEDE ANY DISCREPANCY IN THE SCALING ON THE DRAWINGS.

5. ALL FEDERAL, STATE, AND LOCAL SAFETY AND ENVIRONMENTAL PROTECTION STANDARDS, LAWS, AND REGULATIONS ARE TO BE STRICTLY FOLLOWED. METHODS OF DEMOLITION/CONSTRUCTION AND INSTALLATION OF MATERIAL IS THE CONTRACTOR'S RESPONSIBILITY.

6. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL DEMOLITION, GRADING AND/OR BUILDING PERMITS.

7. THE CONTRACTOR SHALL COORDINATE WITH ALL TRADES BEFORE STARTING WORK.

8. THE CONTRACTOR SHALL KEEP ACCURATE RECORDS OF ANY CHANGES MADE TO THE DRAWINGS ON A SEPARATE SET OF PLANS PROVIDED BY THE ENGINEER. THESE ANNOTATED DRAWINGS SHALL BE RETURNED TO THE ENGINEER PRIOR TO APPROVAL OF THE FINAL PAYMENT APPLICATION.

9. UNLESS OTHERWISE NOTED, THE CONTRACTOR SHALL, ON A DAILY BASIS, REMOVE FROM THE SITE ANY DEBRIS RESULTING FROM DEMOLITION/CONSTRUCTION. DISPOSAL OF MATERIALS IS THE RESPONSIBILITY OF THE CONTRACTOR. ALL MATERIALS TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE NOTED, AND SHALL BE DISPOSED OF AS SPECIFIED. ALL DEBRIS SHALL BE PROPERLY DISPOSED OF IN A PERMITTED LANDFILL. THE CONTRACTOR SHALL KEEP RECORDS OF ALL MATERIALS REMOVED FROM THE SITE, INCLUDING DESCRIPTION, QUANTITIES, AND DISPOSAL LOCATION.

10. ANY DEBRIS THAT FALLS INTO THE HARBOR WATER SHALL BE REMOVED AT THE CONTRACTOR'S EXPENSE.

11. EXISTING CONSTRUCTION, INCLUDING UTILITIES AND OTHER MISCELLANEOUS ITEMS WHICH ARE TO REMAIN, SHALL REMAIN UNDISTURBED AND BE PROTECTED.

12. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING, AT HIS OWN EXPENSE, ANY AND ALL DAMAGES THAT MAY OCCUR OUTSIDE AND WITHIN THE LIMITS OF THIS PROJECT AS A RESULT OF DEMOLITION/CONSTRUCTION.

13. THE CONTRACTOR SHALL PROTECT ADJACENT STRUCTURES, UTILITIES, PEDESTRIANS, VEHICULAR, AND MARINA TRAFFIC FROM POTENTIAL DAMAGE DUE TO CONTRACTOR'S OPERATIONS.

14. THE CONTRACTOR SHALL PLACE CONSTRUCTION DEBRIS CONTROL DEVICES, TURBIDITY CURTAINS, BOOMS, TARPAULINS, FLOATS, STAGING, AND OTHER DEVICES AS NECESSARY TO PREVENT CONSTRUCTION DEBRIS FROM ENTERING THE WATER AND AIRBORNE MATERIALS FROM LEAVING THE SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANUP OF ANY MATERIALS DEPOSITED OUTSIDE THE WORK AREA.

15. BUILDINGS, SURFACE, AND SUBSURFACE IMPROVEMENTS ON AND ADJACENT TO THE PROJECT SITE ARE NOT NECESSARILY SHOWN HEREON.

16. THE OWNER SHALL HAVE THE SOLE AUTHORITY TO DESIGNATE AND/OR LIMIT AREAS OF CONSTRUCTION, STAGING, ACCESS, AND STORAGE.

17. THE LOCATIONS OF KNOWN EXISTING UNDERGROUND UTILITIES SHOWN IN THE DRAWINGS ARE APPROXIMATE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE EXACT LOCATION OF ALL EXISTING UNDERGROUND UTILITIES BEFORE COMMENCING ANY WORK. THE CONTRACTOR IS RESPONSIBLE FOR THE COST OF DAMAGES THAT OCCUR AS A RESULT OF A FAILURE TO EXACTLY LOCATE AND PROTECT ALL UTILITIES INTENDED TO REMAIN.

18. THE CONTRACTOR SHALL STAKEOUT ALL BASELINES OF CONSTRUCTION, THE LOCATION OF ALL NEW CONSTRUCTION, AND VERIFY ALL SETBACKS, OFFSETS, AND CLEARANCES PRIOR TO THE START OF WORK.

19. PRIOR TO BEGINNING UTILITY CONSTRUCTION, THE CONTRACTOR SHALL TEST PIT AND SURVEY ALL TIE-IN POINTS TO CONFIRM LOCATIONS.

GENERAL NOTES (CONTINUED)

20. UTILITY LINES ARE NOT INDICATED ON STRUCTURAL DRAWINGS. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR THE LOCATION, PROFILE AND DETAILS. THE CONTRACTOR SHALL COORDINATE UTILITY LINES WITH FOUNDATIONS AND STRUCTURAL ELEMENTS AS SHOWN ON STRUCTURAL DRAWINGS. ANY INTERFERENCE BETWEEN STRUCTURAL ELEMENTS AND UTILITY LINES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING FURTHER WITH THE CONSTRUCTION.

21. ALL ELEVATIONS ARE REFERENCED TO MEAN LOWER LOW WATER (M.L.L.W.) AS ELEVATION +0.00.

22. THE CONTRACTOR SHALL NOT OVERLOAD EXISTING STRUCTURES DURING DEMOLITION/CONSTRUCTION. OPERATION OF ANY EQUIPMENT OR STORAGE OF MATERIALS WHICH WOULD RESULT IN OVERLOAD WILL NOT BE PERMITTED. CRANE OUTRIGGERS AND OTHER SUCH CONCENTRATED LOADS SHALL BE PROVIDED WITH CRIBBING TO PROPERLY DISTRIBUTE THE LOAD. SAFETY OF PERSONNEL, REQUIRED EQUIPMENT, CONDITION, AND SUITABILITY OF THE EXISTING STRUCTURE TO SUPPORT MATERIAL AND EQUIPMENT LOADS IS THE CONTRACTOR'S RESPONSIBILITY.

23. CONSTRUCTION LOADS GREATER THEN 50% OF THE DESIGN LOADS FOR ANY NEW PORTION OF THE STRUCTURE SHALL NOT BE IMPOSED UNTIL THE CONCRETE CYLINDER STRENGTH FOR THOSE MEMBERS AND CONNECTING POURS HAVE REACHED THE 28 DAY CONCRETE STRENGTH.

24. THE OWNER MAKES NO REPRESENTATIONS ABOUT SUBSURFACE CONDITIONS THAT MAY BE ENCOUNTERED WITHIN THE LIMITS OF THE PROJECT.

25. SEE SHEETS B-01 AND B-02 FOR GEOTECHNICAL DATA.

26. THE FOLLOWING DATA IS PROVIDED REGARDING TIDAL INFORMATION. TIDAL INFORMATION WAS OBTAINED FROM THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA), NATIONAL OCEAN SERVICE (NOS) STATION 1611347 (HANAPEPE BAY, HI). ELEVATIONS ARE IN FEET AND REFERENCED ON THE 1983-2001 EPOCH.

SURGE	(STORM SURGE WATER LEVEL)	+5.81'
MAXIMUM	(DESIGN HIGH WATER)	+3.67'
HAT	(HIGHEST ASTRONOMICAL TIDE)	+2.77'
MHHW	(MEAN HIGHER HIGH WATER)	+1.84'
MHW	(MEAN HIGH WATER)	+1.44'
MLW	(MEAN LOW WATER)	+0.19'
MLLW	(MEAN LOWER LOW WATER)	+0.00'
LAT	(LOWEST ASTRONOMICAL TIDE)	-0.65'
MINIMUM	(DESIGN LOW WATER)	-0.98'

27. TIDAL DATA IS NOT GUARANTEED TO REPRESENT CONDITIONS WHICH MAY OCCUR DURING CONSTRUCTION. ACTUAL WATER LEVELS WILL VARY FROM LEVELS INDICATED. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN ESTIMATES OF WATER LEVELS WHICH MAY OCCUR DURING CONSTRUCTION. VARIATION OF TIDAL LEVELS FROM THOSE INDICATED OR CONTRACTOR'S ESTIMATION OF TIDAL LEVELS SHALL NOT BE CONSIDERED AS A CLAIM FOR ADDITIONAL COMPENSATION OR DELAY OF WORK.

28. THE CONTRACTOR SHALL PROVIDE REASONABLE ACCESS IN THE IMMEDIATE VICINITY OF THE PROJECT SITE AT ALL TIMES TO PEDESTRIAN TRAFFIC.

29. THE BOATING FACILITY SHALL REMAIN OPEN DURING THE CONSTRUCTION PERIOD. THE CONTRACTOR SHALL INSTALL ADEQUATE TEMPORARY BARRICADES AND WARNING SIGNS TO PROTECT THE PUBLIC DURING THE CONSTRUCTION PERIOD. PROVIDE AND MAINTAIN A SAFE PEDESTRIAN ACCESS FROM THE PARKING AREA AND TO THE BOATING FACILITY THROUGHOUT THE CONSTRUCTION PERIOD.

30. THE CONTRACTOR SHALL NOT BLOCK THE HARBOR ENTRANCE.

31. THE CONTRACTOR SHALL DETAIL, FURNISH, AND INSTALL ALL MEMBERS, CONNECTIONS, AND ACCESSORIES NOT SHOWN BUT WHICH ARE REQUIRED TO COMPLETE THE WORK AND SHALL SUBMIT THEM TO THE ENGINEER FOR APPROVAL. COST OF THESE MEMBERS, CONNECTIONS, AND ACCESSORIES SHALL BE INCLUDED IN THE CONTRACTOR'S BID PRICE. THE CONTRACTOR SHALL PERFORM THIS WORK IN ACCORDANCE WITH THE APPLICABLE SECTIONS IN THE INTERNATIONAL BUILDING CODE, IBC 2006.

32. EXISTING BATHYMETRIC DATA SHOWN ON THESE PLANS IS BASED ON HYDROGRAPHIC SURVEY PERFORMED BY SEA ENGINEERING, INC. COMPLETED APRIL 23, 2015, AND IS PROVIDED FOR INFORMATION ONLY. BATHYMETRY IS REFERENCED TO MLLW VERTICAL DATUM.

33. ITEMS IDENTIFIED AS "EXIST" OR "NIC" ARE BY OTHERS AND ARE SHOWN FOR REFERENCE ONLY.

34. THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL KEEP THE PROJECT AREA ANE SURROUNDING AREA FREE FROM DUST NUISANCE. THE WORK SHALL BE IN CONFORMANCE WITH THE AIR POLLUTION CONTROL STANDARDS CONTAINED IN THE HAWAII ADMINISTRATIVE RULES (HAR), TITLE 11, CHAPTER 60.1, "AIR POLLUTION CONTROL".

35. DEBRIS GENERATED SHALL BE DISPOSED OF OFF-SITE BY THE CONTRACTOR AT HIS EXPENSE.

36. THE CONTRACTOR SHALL OBSERVE AND COMPLY WITH ALL FEDERAL, STATE, AND LOCAL LAWS REQUIRED FOR THE PROTECTION OF PUBLIC HEALTH AND SAFETY AND ENVIRONMENT QUALITY.

37. THE CONTRACTOR SHALL NOTIFY ALL AGENCIES TO VERIFY THE ACTUAL LOCATION OF ALL UTILITIES IN THE PROJECT AREA PRIOR TO CONSTRUCTION.

38. ALL CONNECTIONS AND CONSTRUCTION CONDITIONS NOT SPECIFICALLY SHOWN SHALL BE DETAILED BY THE CONTRACTOR AND SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL. DETAILS SHALL COMPLY WITH THE DRAWINGS AND SPECIFICATIONS, CONFORM TO THE CURRENT CONSTRUCTION PRACTICES, AND MEET ALL REQUIREMENTS OF THE LATEST APPLICABLE BUILDING CODES.

GENERAL NOTES (CONTINUED)

39. SHOP DRAWINGS REQUIRED BY THE SPECIFICATIONS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.

40. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFORMANCE WITH THE APPLICABLE PROVISIONS OF THE WATER QUALITY AND WATER POLLUTION CONTROL STANDARDS CONTAINED IN HAWAII ADMINISTRATIVE RULES, TITLE 11, CHAPTER 54, "WATER QUALITY STANDARDS", AND TITLE 11, CHAPTER 55, "WATER POLLUTION CONTROL", AS WELL AS THE REVISED ORDINANCES OF THE COUNTY OF KAUAI, AS AMENDED. BEST MANAGEMENT PRACTICES SHALL BE EMPLOYED AT ALL TIMES DURING CONSTRUCTION.

41. PURSUANT TO CHAPTER 6E, HRS, IN THE EVENT ANY ARTIFACTS OR HUMAN REMAINS ARE UNCOVERED DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL IMMEDIATELY SUSPEND WORK AND NOTIFY THE KAUAI POLICE DEPARTMENT, THE STATE DEPARTMENT OF LAND AND NATURAL RESOURCES - HISTORIC PRESERVATION DIVISION (692-8015).

PERFORMANCE DESIGN SUBMITTALS

1. PERFORMANCE SPECIFICATIONS HAVE BEEN PROVIDED IN THESE PLANS FOR THE ITEMS INDICATED BELOW. THE CONTRACTOR SHALL SUBMIT PLANS AND CALCULATIONS PREPARED AND STAMPED BY A LICENSED ENGINEER IN THE STATE OF HAWAII, FOR EACH RESPECTIVE DISCIPLINE, PRIOR TO FINAL PROJECT ACCEPTANCE.

   A. FLOATING DOCK SYSTEM: INCLUDING ELASTOMERIC MOORINGS AND HELICAL ANCHORS.

   B. ALUMINUM GANGWAYS, SECURITY GATES, AND RAILINGS.

1

DESIGN CODES & REFERENCES

ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE FOLLOWING CODES AND REFERENCES.

A. IBC-2006 (INTERNATIONAL BUILDING CODE)

B. ASCE 7-10 (AMERICAN SOCIETY OF CIVIL ENGINEERS, MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES)

C. ACI 318-11 (AMERICAN CONCRETE INSTITUTE, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY)

D. PCI-DESIGN HANDBOOK, 7TH ED. (PRECAST/PRESTRESSED CONCRETE INSTITUTE-RECOMMENDED PRACTICE FOR DESIGN, MANUFACTURE AND INSTALLATION OF PRESTRESSED ELEMENTS)

E. AISC 360-10 (AMERICAN INSTITUTE OF STEEL CONSTRUCTION, SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS)

F. AISC 303-10 (AMERICAN INSTITUTE OF STEEL CONSTRUCTION, CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES)

G. AWS-D1.1 2010 (AMERICAN WELDING SOCIETY, STRUCTURAL WELDING CODE - STEEL)

H. AWS-D1.2 2010 (AMERICAN WELDING SOCIETY, STRUCTURAL WELDING CODE - ALUMINUM)

I. NDS-2012 (NATIONAL DESIGN SPECIFICATIONS, WOOD CONSTRUCTION)

J. ADM-1 2010 (ALUMINUM DESIGN MANUAL, SPECIFICATIONS FOR ALUMINUM STRUCTURES)

K. ASCE-50,2000 PLANNING AND DESIGN GUIDELINES FOR SMALL CRAFT HARBORS (AMERICAN SOCIETY OF CIVIL ENGINEERS)

L. MARINAS AND SMALL CRAFT HARBORS, 2ND EDITION, 2000, TOBIASSON.

M. UFC-4-152-07 DESIGN: SMALL CRAFT BERTHING FACILITIES (UNIFIED FACILITIES CRITERIA)

N. RCSC SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A 325 OR ASTM A 490 - 2009 (RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS)

ADD 1: Only floating docks, gangways, elastic mooring, and helical anchors need to be signed and sealed by Hawaii registered Structural Engineer.

Construct Ramps and abutments in accordance with plans and specifications

4/12/18 email: State confirms that design responsibility for railing resides with State.

Also, while not specifically mentioned in Addendum that gates are also responsibility of contractor, because bid drawings had notes about gates, contractor understood to design gates. However, no notes about railings, therefore using addendum, which said only floating docks, gangways, elastic mooring, and helical anchors, did not design railings.

Because mentioned here though on Revised stamped Drawings, using as directive and will provide design

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
1	1	Revised Drawings 3/16/18			

MICHAEL J. MC CARTHY
LICENSED PROFESSIONAL ENGINEER
NO. 11476
HAWAII U.S.A.

LICENSE EXPIRATION DATE: 4/30/2018

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Michael J. McCarthy

AS-BUILT
08/31/2018

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF BOATING AND OCEAN RECREATION

PORT ALLEN SMALL BOAT HARBOR
PIERS A & B REPLACEMENT
KAUAI, HI

GENERAL NOTES - 1

DESIGNED:	TM	SUBMITTED:	MAY 20, 2016
DRAWN:	KL	DATE:	MAY 20, 2016
CHECKED:	JH	SCALE:	AS NOTED

APPROVED: _____ DATE _____
CHIEF ENGINEER

DRAWING NO. G-02

3/1/2018 2:52:42 PM Q:\LB\8848 - DOBOR_Port Allen Piers A,B\CADD_Active_SheetSet\G-02.dwg

BEST MANAGEMENT PRACTICES (BMP)

1. ALL PERSON WORKING AT THE SITE SHOULD OBTAIN, READ, AND UNDERSTAND THE COUNTY OF KAUAI BEST MANAGEMENT PRACTICES STANDARDS FOR THE TYPE(S) OF CONSTRUCTION BEING DONE.

2. STOCKPILES OF SOIL, DEMOLITION DEBRIS, CEMENT, SAND, TOPSOIL, ETC. MUST BE COVERED WITH WATERPROOF MATERIALS, OR BERMED TO PREVENT BEING WASHED OFF SITE.

3. FUELS, OILS, PAINTS, SOLVENTS, AND OTHER LIQUID MATERIALS MUST BE INSIDE BERMED AREAS. SPILLS MUST NOT BE WASHED TO THE STREET, STORM CATCH BASINS, OR HARBOR.

4. WASTED CONCRETE MUST NOT BE WASHED INTO THE STREET, STORM CATCH BASING, OR HARBOR. ALL DUST AND SLURRY FROM CONCRETE CUTTING MUST BE REMOVED WITH A WET–DRY VACUUM OR EQUIVALENT.

5. TRASH AND OTHER CONSTRUCTION SOLID WASTES MUST BE PLACED IN A COVERED TRASH RECEPTACLE.

6. ERODED SOILS FROM DISTURBED SURFACES MUST BE CONTAINED USING BERMS, SILT FENCES, SETTLING BASINS, OR GOOD EROSION MANAGEMENT PRACTICES SUCH AS SEEDING.

7. WASH WATER FROM CLEANING CONSTRUCTION VEHICLES AND EQUIPMENT MUST BE KEPT ON–SITE WITHIN A CONTAINMENT AREA.

8. PROVIDE FULL DEPTH SILT CURTAIN ALL AROUND IN WATER WORK AREA.

THE FOLLOWING BEST MANAGEMENT PRACTICES SHALL BE USED TO PROPERLY ISOLATE AND AT A MINIMUM, CONFINE CONSTRUCTION ACTIVITIES AND TO CONTAIN AND PREVENT POTENTIAL POLLUTANT(S) FROM ADVERSELY IMPACTING THE WATERS OF THE HARBOR:

1. THE CONTRACTOR SHALL ABIDE BY ALL APPLICABLE FEDERAL, STATE, AND LOCAL ENVIRONMENTAL PROTECTION STANDARDS, LAWS, AND REGULATIONS, INCLUDING THE BEST MANAGEMENT PRACTICES PLANS UTILIZING ARMY CORPS OF ENGINEERS NATIONWIDE PERMITS, AND HAWAII ADMINISTRATIVE RULES, TITLE 11 DEPARTMENT OF HEALTH, CHAPTER 55, "WATER POLLUTION CONTROL".

2. TO THE EXTENT PRACTICABLE, WORK IN THE AQUATIC ENVIRONMENT MUST BE SCHEDULED TO AVOID CORAL SPAWNING AND RECRUITMENT PERIODS AND SEA TURTLE NESTING AND HATCHING PERIODS. COORDINATE WITH U.S. FISH AND WILDLIFE SERVICE TO IDENTIFY THESE TIME PERIODS.

3. THE CONTRACTOR SHALL PROVIDE PROTECTIVE MEASURES TO CAPTURE ALL DEBRIS FROM DEMOLITION AND CONSTRUCTION ACTIVITIES, AND ENSURE THAT PETROLEUM PRODUCTS OR OTHER DELETERIOUS MATERIALS ARE NOT ALLOWED TO ENTER THE WATER.

4. THE CONTRACTOR SHALL TAKE MEASURES TO PREVENT SEDIMENT RUNOFF FROM AREAS DISTURBED BY CONSTRUCTION ACTIVITIES TO ENTER THE WATER.

5. THE CONTRACTOR SHALL USE WATER DEPTH SILT CURTAINS TO ENCLOSE THE WORK AREA TO CONTROL TURBIDITY AND REDUCE THE ANTICIPATED EFFECTS OF SUSPENSION OF DISTURBED SEDIMENTS DURING THE FOLLOWING IN–WATER WORK:

   a. DEMOLITION AND REMOVAL OF EXISTING CONCRETE MAIN PIERS, FINGER PIERS AND MOORING PILES FOR PIER A AND B.

   b. DEMOLITION AND REMOVAL OF EXISTING CONCRETE APPROACH RAMP FOR PIER A AND PIER B.

   c. CONSTRUCTION OF GANGWAY CONCRETE PAD AND APPROACH RAMP FOR NEW FLOATING DOCK A AND DOCK B.

6. THE CONTRACTOR WILL CAPTURE AND DISPOSE OF ALL NEWLY GENERATED WASTES ABOVE WATER. SOLID WASTES SHALL BE PICKED UP AND PLACED IN CONTAINERS THAT ARE REGULARLY EMPTIED. SITE CONTAMINATION SHALL BE CLEANED UP AT THE END OF EACH WORKING DAY TO PREVENT DEBRIS FROM ENTERING THE WATER.

7. NO CONTAMINATION OF ADJACENT WATERS OF THE UNITED STATES, INCLUDING SPECIAL AQUATIC SITES, SHALL RESULT FROM PROJECT–RELATED ACTIVITIES. SPECIAL ATTENTION MUST BE PAID TO FOULING ON BARGES, VESSELS, AND EQUIPMENT TO MINIMIZE TRANSPORT AND POTENTIAL SPREAD OF AQUATIC NON–NATIVE SPECIES.

8. THE CONTRACTOR SHALL ENSURE ALL TIRES OF CONSTRUCTION VEHICLES ARE CLEANSED OFF SO THAT DIRT OR DEBRIS IS NOT TRACKED OFF THE CONSTRUCTION SITE. WASHING OFF TIRES WITH WATER WILL NOT BE ACCEPTED UNLESS THE WASH RUNOFF IS CONTAINED AND DOES NOT ENTER STATE WATER.

9. ALL PROJECT RELATED MATERIALS AND EQUIPMENT TO BE PLACED IN ANY AQUATIC ENVIRONMENT SHALL BE INSPECTED AND CLEANED OF POLLUTANTS, ORGANIC WATER, AND INVASIVE SPECIES PRIOR TO USE IN ANY AQUATIC ENVIRONMENT.

10. PROJECT RELATED MATERIALS SHALL NOT BE STOCKPILED IN THE AQUATIC ENVIRONMENT OR IN CLOSE PROXIMITY SUCH THAT MATERIALS COULD BE CARRIED INTO WATERS BY WIND, RAIN, OR HIGH SURF.

11. FUELING OF PROJECT–RELATED VEHICLES AND EQUIPMENT SHALL TAKE PLACE AWAY FROM THE WATER AND A CONTINGENCY PLAN TO CONTROL PETROLEUM PRODUCTS ACCIDENTALLY SPILLED DURING PROJECT ACTIVITIES SHALL BE DEVELOPED. ABSORBENT PADS AND CONTAINMENT BOOMS SHALL BE STORED TO FACILITATE THE CLEAN–UP OF ACCINDENTAL PETROLEUM, RELEASES.

    a. OIL OR OTHER HAZARDOUS SUBSTANCES SHALL BE PREVENTED FROM ENTERING THE GROUND, DRAINAGE AREA, OR LOCAL BODIES OF WATER. ALL TEMPORARY FUEL OIL OR PETROLEUM STORAGE TANKS SHALL BE CONTAINED TO PREVENT ACCIDENTAL RELEASE. FUELING AND LUBRICATION OF EQUIPMENT AND VEHICLES SHALL BE CONDUCTED IN A MANNER TO PROTECT AGAINST LEAKS OR SPILLS, LUBRICANTS AND EXCESS OIL SHALL BE DISPOSED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE OR LOCAL REGULATIONS.

    b. ALL EQUIPMENT SHALL BE INSPECTED DAILY FOR LEAKS, ANY LEAKS SHALL BE CORRECTED BEFORE THE EQUIPMENT IS USED.

    c. ONE SPILL KIT EACH SHALL BE KEPT ON BOARD THE WORK BARGE AND THE LANDSIDE STAGING AREA IN CASE OF ACCIDENTAL RELEASE OF ANY PETROLEUM PRODUCTS.

    d. ALL MAJOR SPILLS SHALL BE REPORTED TO THE NATIONALS RESPONSE CENTER (PHONE: 808–522–8264), STATE DEPARTMENT OF HEALTH HAZARD EVALUATION AND EMERGENCY RESPONSE OFFICE (PHONE: 808–586–4249).

12. FRESH CONCRETE SHALL BE PREVENTED FROM ENTERING THE WATER DURING ALL CONCRETING WORK. FRESH CONCRETE SHALL NOT BE DISPERSED THROUGH THE WATER, BUT SHALL BE PLACED BY PUMPING, DISPLACING THE WATER IN THE FORM. DISPLACED WATER AND WASTED CONCRETE SHALL BE COLLECTED ON SHORE AND PROPERLY DISPOSED OFFSITE. FORM WORK SHALL BE SEALED AGAINST CONCRETE LEAKAGE.

13. TO MINIMIZE TURBIDITY IN THE AQUATIC ENVIRONMENT, ANY UNDERWATER FILLS USED IN THE PROJECT SHOULD BE PROTECTED FROM EROSION WITH SUITABLE MATERIAL (SUCH AS PRECAST CONCRETE ARMOR OR MAT UNITS) AS SOON AFTER PLACEMENT AS PRACTICAL.

14. THE CONTRACTOR SHALL SUBMIT A SITE–SPECIFIC BEST MANAGEMENT PRACTICES PLAN (BMPP) TO THE ENGINEER BEFORE IN–WATER ACTIVITIES BEGIN. THE NAME AND CONTACT INFORMATION OF THE CONTRACTOR'S POINT OF CONTACT (POC) FOR ALL IN–WATER ACTIVITIES SHALL BE PROVIDED IN THE BMPP. THE POC SHALL ENSURE THAT DAILY VISUAL INSPECTION OF THE CONSTRUCTION SITE AND ITS SURROUNDING AREAS ARE CONDUCTED TO VERIFY THE THE PERMITTED ACTIVITIES DO NOT RESULT IN UNCONTROLLED ADVERSE ENVIRONMENTAL IMPACTS AND THAT WHERE ENVIRONMENTAL HARM OCCURS IT IS MINIMIZED TO THE MAXIMUM EXTENT PRACTICABLE. VISUAL INSPECTIONS SHALL BE DOCUMENTED WITH PHOTOGRAPHS AND WRITTEN DESCRIPTIONS, IF NECESSARY. THE BMPP SHALL INCLUDE THE FOLLOWING MEASURES:

    a. IN–WATER ACTIVITIES SHALL EMPLOY, AS PRACTICAL AND FEASIBLE AS POSSIBLE, SOUND ATTENUATION MEASURES WHICH SHALL MINIMIZE THE INTENSITY AND DURATION OF PERCUSSION IMPACTS THROUGH THE AQUATIC ENVIRONMENT.

    b. MECHANIZED EQUIPMENT AND CONSTRUCTION MATERIALS SHALL BE CLEAN, DECONTAMINATED AND FREE OF DELETERIOUS SUBSTANCES, INCLUDING TOXIC CHEMICALS AND CLAY–COATED MATERIAL.

    c. AN OIL SPILL RESPONSE PLAN (OSRP) IN WHICH DETAILED PROCEDURES FOR MANAGING THE ACCIDENTAL RELEASE OF PETROLEUM PRODUCTS TO THE AQUATIC ENVIRONMENT DURING REMOVAL AND INSTALLATION OF PIER STRUCTURES. NO CONTAMINATION OF THE MARINE ENVIRONMENT SHALL RESULT FROM THE PERMITTED ACTIVITIES. PARTICULAR CARE IN ACCORDANCE WITH THE SITE–SPECIFIC BMPP MUST BE TAKEN TO ENSURE THAT NO PETROLEUM PRODUCTS, TRASH OR OTHER DEBRIS ENTER NEAR SHORE WATERS. WHEN SUCH MATERIALS IS FOUND WITHIN THE OPERATING AREA, THE CONTRACTOR SHALL COLLECT AND DISPOSE THIS MATERIAL AT A CONSTRUCTION AND DEMOLITION LANDFILL.

    d. PROTOCOL AND OPERATION MEASURES FOR THE AVOIDANCE AND PROTECTION OF GREEN SEA TURTLES AND LOGGERHEAD TURTLES AND OTHER PROTECTED SPECIES IN ACTIVE, MECHANIZED EQUIPMENT AND BOAT AREAS OF OPERATION SHALL INCORPORATE THE FOLLOWING SITE–SPECIFIC AVOIDANCE AND MITIGATION MEASURES:

        1. SURVEYS SHALL BE MADE PRIOR TO THE START OF WORK EACH DAY, AND PERIODICALLY DURING THE DAY, INCLUDING PRIOR TO RESUMPTION OF WORK FOLLOWING ANY BREAK OF MORE THAN ONE HOUR TO ENSURE THAT NO PROTECTED SPECIES ARE IN THE PROJECT AREAS (TYPICALLY WITHIN 50 YARDS OF THE WORK ACTIVITY).

        2. ALL IN–WATER WORK SHALL BE POSTPONED OR HALTED WHEN ESA–LISTED MARINE SPECIES ARE PRESENT, AND WILL ONLY BEGIN OR RESUME AFTER THE ANIMALS HAVE VOLUNTARILY DEPARTED THE AREA. IN CASE OF SESSILE SPECIES, A CONVERSION PLAN SHALL BE DEVELOPED AND APPROVED BETWEEN THE REGULATORY BRANCH, U.S. ARMY CORPS OF ENGINEERS (PHONE: 808–835–4303) AND U.S. FISH AND WILDLIFE SERVICE–PACIFIC ISLANDS FISH AND WILDLIFE OFFICE (PIFWO) (PHONE: 808–792–9400) AND/OR NATIONAL MARINE FISHERIES SERVICE PACIFIC ISLANDS REGIONAL OFFICE (PIRO) (PHONE: 808–944–2200).

        3. IF ANY LISTED SPECIES ENTER THE AREA DURING CONSTRUCTION ACTIVITIES, ACTIVITIES SHALL CEASE UNTIL THE ANIMALS VOLUNTARILY DEPART THE AREA.

        4. IF AN ON–SITE PROTECTED SPECIES DOES NOT DEPART THE AREA ON ITS OWN FOR THREE (3) OR MORE DAYS, CONTACT PIFWO FOR TECHNICAL ASSISTANCE AND GUIDANCE.

        5. ALL ONSITE PROJECT PERSONNEL SHALL BE APPRISED OF THE STATUS OF ANY LISTED SPECIES POTENTIALLY PRESENT IN THE PROJECT AREA AND THE PROTECTIONS AFFORDED TO THOSE UNDER FEDERAL LAW. THE POC SHALL BE FAMILIAR WITH LAWS AND REGULATIONS GOVERNING LISTED SPECIES IN HAWAII, AND SHALL ENSURE THAT PROTOCOLS TO AVOID THE POTENTIAL FOR CONTACT OR HARASSMENT WITH ESA SPECIES OF RECORD ARE FOLLOWED DURING ALL PERIODS OF IN WATER WORK.

        6. THE CONTRACTOR SHALL DESIGNATE HIS OWN PERSONNEL(S) TO SURVEY THE AREA THE AREA ADJACENT TO THE PROPOSED ACTION FOR PROTECTED SPECIES. THE CONTRACTOR SHALL ALSO HAVE IN HIS POSSESSION AT THE JOB SITE A HANDOUT FROM THE U.S. FISH AND WILDLIFE SERVICE–PACIFIC ISLANDS FISH AND WILDLIFE OFFICE, WITH PHOTOGRAPHS OF PROTECTED SPECIES THAT MAY ENTER THE CONSTRUCTION SITE TO ASSIST WITH THE IDENTIFICATION OF THE PROTECTED SPECIES.

        7. RECORDS OF OBSERVATIONS OF GREEN SEA TURTLES IN THE PROJECT AREAS FOR THE DURATION OF ALL IN–WATER ACTIVITIES SHALL BE MAINTAINED AND SUBMITTED AT THE CLOSE OF IN–WATER ACTIVITIES.

        8. WHEN PILOTING VESSELS, VESSELS OPERATIONS SHALL ALTER THE COURSE TO REMAIN AT LEAST 100 YARDS FROM WHALES, AND AT LEAST 50 YARDS FROM OTHER MARINE MAMMALS AND SEA TURTLES.

        9. REDUCE VESSEL SPEED TO 10 KNOTS OR LESS WHEN PILOTING VESSELS IN THE PROXIMITY OF MARINE ANIMALS AND TURTLES. IF PRACTICAL, REDUCE VESSEL SPEED TO 5 KNOTS OR LESS IN AREAS OF KNOWN OR SUSPECTED SEA TURTLE ACTIVITY.

        10. IF APPROACHED BY MARINE MAMMALS OR SEA TURTLE, PUT THE ENGINE IN NEUTRAL AND ALLOW THE ANIMAL TO PASS.

        11. MARINE MAMMALS AND SEA TURTLES SHALL NOT BE ENCIRCLED OR TRAPPED BETWEEN MULTIPLE VESSELS AND THE SHORE.

        12. DO NOT ATTEMPT TO FEED, TOUCH, RIDE OR OTHERWISE INTENTIONALLY INTERACT WITH ANY ESA LISTED MARINE SPECIES.

        13. ANY INTERACTION OR INCIDENTAL TAKE (TAKE IS DEFINED AS KILLING) OF PROTECTED SPECIES MUST BE IMMEDIATELY REPORTED TO THE REGULATORY BRANCH, U.S. ARMY CORPS OF ENGINEERS. ADDITIONALLY, PURSUANT TO THE ESA, ANY TAKE OF PROTECTED SPECIES MUST BE REPORTED TO THE U.S. FISH AND WILDLIFE OFFICE OF LAW IN KAUAI (PHONE: 808–826–6641). ANY INCIDENTAL TAKE OF MARINE MAMMALS MUST BE REPORTED IMMEDIATELY TO THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION'S (NOAA) 24–HOUR HOTLINE (PHONE: 1–888–256–9840). INFORMATION REPORTED MUST INCLUDE NAME AND PHONE NUMBER OF A POINT CONTACT, LOCATION OF INCIDENT, AND THE NATURE OF THE TAKE AND/OR INJURY.

ADD 1: ~~Contractor will be required to complete landside work, excluding the construction of the concrete walkway and gangway platform and to have the engineered floating dock system, elastic mooring, and helical anchors delivered to the project site before demolition work can proceed.~~ A and B will be vacated prior to start of demolition work

ADD 1: Contractor will be allowed the entire parking area adjacent to site for staging and laydown area. Erect necessary barricades and/or fencing to prevent access to storage, staging, and work areas.

ADD 1:Mechanical, structural, and electrical drawings are not stamped. In accordance with specifications, only floating docks and gangways, elastic mooring system, and helical anchors need to be signed and sealed by Hawaii Registered Structural Engineer by contractor. Construct mechanical, electrical, ramps and abutments in accordance with plans and specifications.

ADD 1:Contractor will be allowed to use the boat ramp and loading dock, however the ramp shall remain open to the public. Contractor will be responsible to install barricades and other measures to ensure ramp can be safely used by the public. Contractor will also need to design and maintain Best Management practices to ensure no discharge into water. Ramp to be open to be public was confirmed at 10/10/17 pre-construction meeting

ADD 1:As-built drawings are not available. Contractor is responsible to conduct field measurements of concrete members, steel beams, steel brackets, wood decking, pile caps, and appurtenances

ADD 1:As-built drawings of replacement sections are not available. Contractor is responsible to conduct field measurementsof concrete members, steel beams, steel brackets, wood decking, pile caps, and appurtenances.

RFI 19, Contract Provisions- Landside Work: Proposal to start landside work by comfort station prior to start of Pier A and B demolition is acceptable. Also acceptable to commence Pier A and B demolition concurrently with the landside work adjacent to the piers provided it does not affect the overall project schedule boaters will only need to vacate their slips for a max of 6 months.

RFI 20, Contract Provisions- Dock Delivery: In-water demolition and helical anchor installation may be done concurrently with fabrication of floating dock system provided there are no delays in the project schedule

AS-BUILT
08/31/2018

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

MICHAEL J. MC CARTHY
LICENSED PROFESSIONAL ENGINEER NO. 11476
HAWAII U.S.A.

LICENSE EXPIRATION DATE: 4/30/2018

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Michael J. McCarthy

CHIEF ENGINEER

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF BOATING AND OCEAN RECREATION

PORT ALLEN SMALL BOAT HARBOR
PIERS A & B REPLACEMENT
KAUAI, HI

GENERAL NOTES – 2

DESIGNED:	TM	SUBMITTED:	MAY 20, 2016
DRAWN:	KL	DATE:	MAY 20, 2016
CHECKED:	JH	SCALE:	AS NOTED

APPROVED: _____ DATE _____

DRAWING NO. G-03

JOB NO. B94DK71A

SHEET NO. 3 OF 39 SHEETS

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ABBREVIATIONS

AC	ASPHALT CONCRETE
ADA	AMERICANS WITH DISABILITIES ACT
ALUM	ALUMINUM
APWA	AMERICAN PUBLIC WORKS ASSOCIATION
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
BC	BEGINNING OF CURVE
BLDG	BUILDING
BMP	BEST MANAGEMENT PRACTICE
BTM	BOTTOM
CAB	CRUSHED AGGREGATE BASE
CB	CATCH BASIN
CF	CURB FACE
CL	CENTERLINE
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCT OR CONSTRUCTION
CONT	CONTINUOUS
CF	CURBFACE, CUBIC FEET
CY	CUBIC YARDS
DEG, ø	DEGREE
DIA	DIAMETER
DLNR	DEPARTMENT OF LAND AND NATURAL RESOURCES
DOBOR	DIVISION OF BOATING AND OCEAN RECREATION
DWG	DRAWING
EA	EACH
EC	END OF CURVE
EHT	EXTREME HIGH TIDE
ELT	EXTREME LOW TIDE
EL, ELEV	ELEVATION
ELEC	ELECTRIC
EP	EDGE OF PAVEMENT
EPS	EXPANDABLE POLYSTYRENE
ESA	ENDANGERED SPECIES ACT
EXIST (E) EX	EXISTING
EXP	EXPIRES, EXPANSION
FDC	FIRE DEPARTMENT CONNECTION
FG	FINISH GRADE
FL	FLOWLINE
FLG	FLANGE
FOC	FACE OF CURB
FS	FINISH SURFACE
FT	FOOT
GA	GAUGE
GALV	GALVANIZED
GB	GRADE BREAK
GPM	GALLONS PER MINUTE
GV	GATE VALVE
HRS	HAWAII REVISED STATUTES
ID	INNER DIAMETER
IE	INVERT ELEVATION
IN	INCHES
JTS	JOINTS
L	LENGTH
LB	POUND
LL	LIVE LOAD
MANUF	MANUFACTURER
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
MLLW	MEAN LOWER LOW WATER
MSL	MEAN SEA LEVEL
MV	MASTER VALVE
(N)	NEW
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NO	NUMBER
NTS	NOT TO SCALE
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
PB	PULL BOX
PCC	PORTLAND CEMENT CONCRETE
PIFWO	PACIFIC ISLANDS FISH AND WILDLIFE OFFICE
PL	PLATE OR PROPERTY LINE
P.L.S.	PROFESSIONAL LAND SURVEYOR
P.O.C.	POINT OF CONNECTION, POINT OF CONTACT
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
PW	POTABLE WATER
QC	QUICK COUPLER
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
R.C.E.	REGISTERED CIVIL ENGINEER
REINF	REINFORCED
REQ'D	REQUIRED
RSP	ROCK SLOPE PROTECTION

ABBREVIATIONS

SCH	SCHEDULE
SD	STORM DRAIN
SER	STRUCTURAL ENGINEER OF RECORD
SF	SQUARE FEET
SFM	SEWER FORCE MAIN
SHT	SHEET
SPPWC	STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION
SQ	SQUARE
SS	SANITARY SEWER, STAINLESS STEEL
STD	STANDARD
STL	STEEL
SW	SIDEWALK
TC	TOP OF CURB
THK	THICK
TMH	TOP OF MANHOLE
TOV	TOP OF VAULT
TR	TOP OF REVETMENT
TSE	THICKENED SLAB EDGE
TW	TOP OF WALL
TYP	TYPICAL
U.L.	UNDERWRITERS LABORATORIES
UON	UNLESS OTHERWISE NOTED
V	VOLTS
VA	WATTS
VCP	VITRIFIED CLAY PIPE
VSFM	VACUUM SEWER FORCE MAIN
W/	WITH
W	WIDTH
WTR	WATER
WW	WET WELL
WWF	WELDED WIRE FABRIC

SYMBOL LEGEND

- RIGHT-OF-WAY LINE
- CENTERLINE
- EXIST WATER LINE (W)
- EXIST IRRIGATION LINES
- EXIST RECLAIMED WATER LINE (RW)
- EXIST SEWER LINE (SS)
- EXIST SEWER LATERAL
- EXIST OVERHEAD ELECTRICAL LINE (OE)
- EXIST STORM DRAIN
- EXIST FENCE
- EXIST BENCH MARK
- EXIST FIRE HYDRANT (FH)
- EXIST UTILITY POLE
- EXIST SPOT ELEVATION (7.6)
- EXIST MANHOLE (S)
  - S SEWER
  - SD STORM DRAIN
  - E EDISON
  - T TELEPHONE
- EXIST METER (WM)
  - WM WATER METER
  - GM GAS METER
- EXIST GATE VALVE (V)
- (XX.XX) EXISTING ELEVATION
- XX.XX PROPOSED ELEVATION
- PROPOSED DAYLIGHT LINE
- PROPOSED TOE OF SLOPE
- PROPOSED CONTOUR
- PROPOSED WATER LINE (W)
- PROPOSED SEWER LINE (SS)
- LIMITS OF WORK
- RAIL
- FENCE (X)
- WORK GATE
- DETAIL REFERENCE (DETAIL NO. 1 / G-02; SHT SHOWN ON/ SHT TAKEN FROM)
- BASELINE WORKING POINTS
- EXISTING MOORING PILE

AS-BUILT
08/31/2018

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

MICHAEL J. MC CARTHY ★ LICENSED PROFESSIONAL ENGINEER NO. 11476 ★ HAWAII U.S.A.

LICENSE EXPIRATION DATE: 4/30/2018

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Michael J. McCarthy

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF BOATING AND OCEAN RECREATION

PORT ALLEN SMALL BOAT HARBOR
PIERS A & B REPLACEMENT
KAUAI, HI

LEGEND AND ABBREVIATIONS

DESIGNED:	TM	SUBMITTED:	MAY 20, 2016
DRAWN:	KL	DATE:	MAY 20, 2016
CHECKED:	JH	SCALE:	AS NOTED

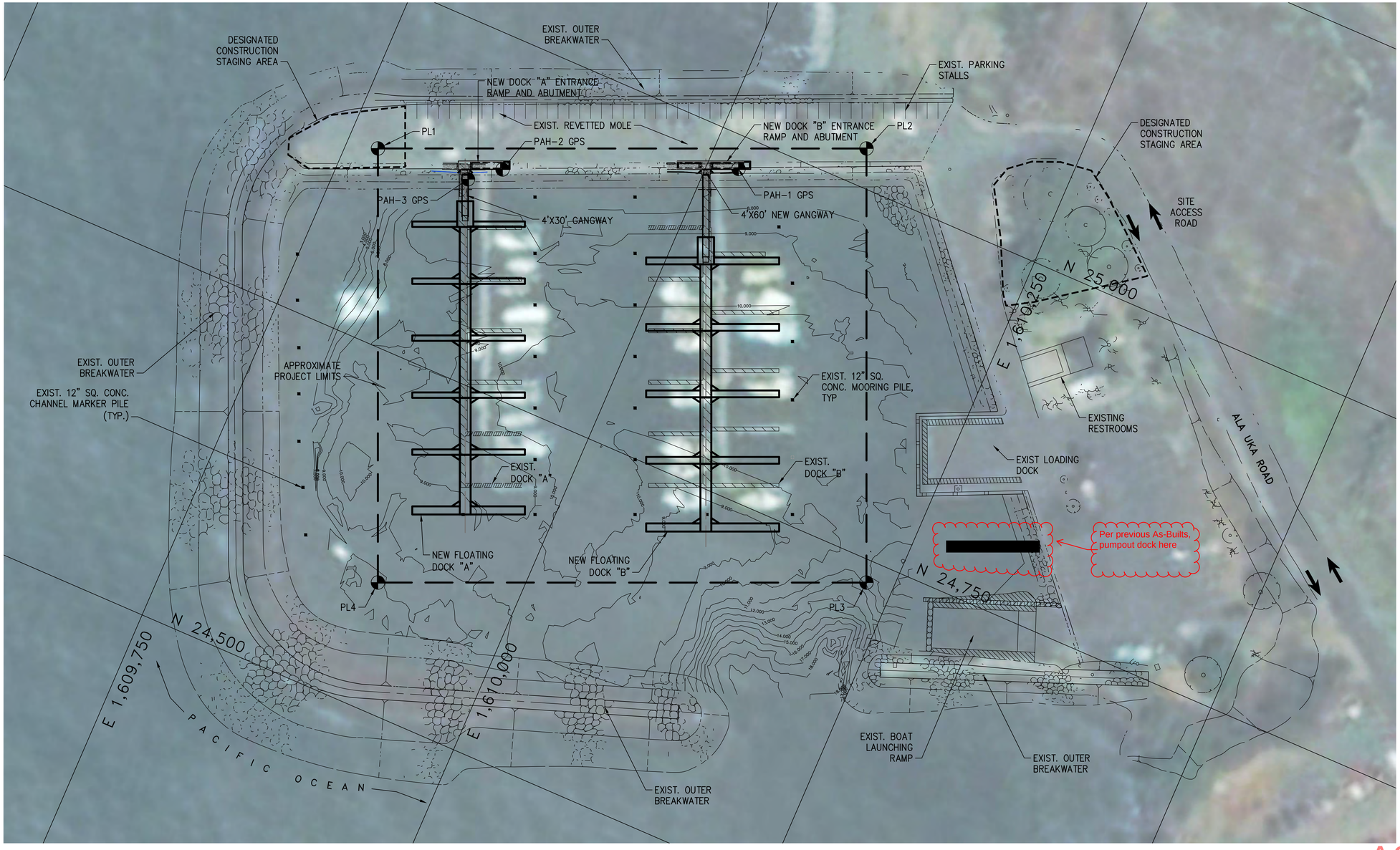
APPROVED: _____ DATE _____
CHIEF ENGINEER

DRAWING NO. **G-04**

JOB NO. B94DK71A

SHEET NO. 4 OF 39 SHEETS

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NOTES:

1. CONTRACTOR SHALL RETURN PROJECT SITE TO SIMILAR OR BETTER CONDITIONS AT PROJECT COMPLETION.
2. CONTRACTOR SHALL KEEP ALL CONSTRUCTION ACTIVITIES AND STORAGE OF ALL EQUIPMENT WITHIN THE PROJECT LIMITS AND SPECIFIED STAGING AREA.
3. DEPTHS DENOTED IN FEET (MLLW).
4. LANDSIDE ELEVATIONS DENOTED IN FEET (MLLW).

PROJECT LIMITS		
POINT	NORTHING	EASTING
PL1	24,884.62	1,609,772.80
PL2	25,027.65	1,610,103.16
PL3	24,733.99	1,610,230.30
PL4	24,590.96	1,609,899.93

40' 0' 40' 80'

SCALE: 1"=40'

DATA AVAILABLE FROM THE U.S. GEOLOGICAL SURVEY

AS-BUILT
08/31/2018

OVERALL SITE AND SURVEY CONTROL PLAN

SCALE: 1" = 40'-0"

VERTICAL CONTROL NOTES:

1. TIDAL ELEVATIONS ARE BASED ON NOAA STATION ID 1611347, HANAPEPE BAY, HI (1983-2001 EPOCH) AND IS PROVIDED FOR INFORMATION ONLY.
2. VERTICAL DATA IS BASED ON MEAN LOWER LOW WATER (MLLW) DATUM IN FEET.

HORIZONTAL CONTROL NOTES:

1. THE HORIZONTAL DATA SHOWN IS BASED ON NORTH AMERICAN DATUM OF 1983 (NAD-83)(PA11), (2010 EPOCH) HAWAII STATE PLANE COORDINATE SYSTEM (HSP), ZONE 4 IN U.S. SURVEY FEET.

HORIZONTAL CONTROL (FT.)				
CONTROL POINT DESIGNATION	VERTICAL ELEVATION (MLLW)	NORTHING	EASTING	DESCRIPTION
161 1347B	+10.78	24,201.16	1,610,551.41	3-1/2" BRASS DISK (BM)
PAH-1 GPS	+4.02	24,976.26	1,610,022.58	"y" CUT ON CONC.
PAH-2 GPS	+3.81	24,906.71	1,609,863.23	"y" CUT ON CONC.
PAH-3 GPS	+3.03	24,890.12	1,609,842.64	"y" CUT ON CONC.

Meeting 3/20/18: Per meeting, DOBOR said to use these elevations as opposed to other elevations shown to be 0.5 ft higher on other State As-Builts

LEGEND

- WORK POINT
- BENCH MARK

VERTICAL DATUM = MLLW

	FT
DESIGN HIGH WATER	EL +3.67
HIGHEST ASTRONOMICAL	EL +2.77
MEAN HIGHER HIGH WATER	EL +1.84
MEAN HIGH WATER	EL +1.44
MEAN LOW WATER	EL +0.19
MEAN LOWER LOW WATER	EL +0
LOWEST ASTRONOMICAL	EL -0.65
DESIGN LOW WATER	EL -0.98

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

MICHAEL J. MC CARTHY ★ LICENSED PROFESSIONAL ENGINEER NO. 11476 ★ HAWAII U.S.A.

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Michael J. McCarthy

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF BOATING AND OCEAN RECREATION

PORT ALLEN SMALL BOAT HARBOR
PIERS A & B REPLACEMENT
KAUAI, HI

OVERALL SITE AND SURVEY CONTROL PLAN

DESIGNED:	TM	SUBMITTED:	MAY 20, 2016
DRAWN:	KL	DATE:	MAY 20, 2016
CHECKED:	JH	SCALE:	AS NOTED

APPROVED: _____ DATE _____
CHIEF ENGINEER

DRAWING NO. G-05

JOB NO. B94DK71A

SHEET NO. 5 OF 39 SHEETS

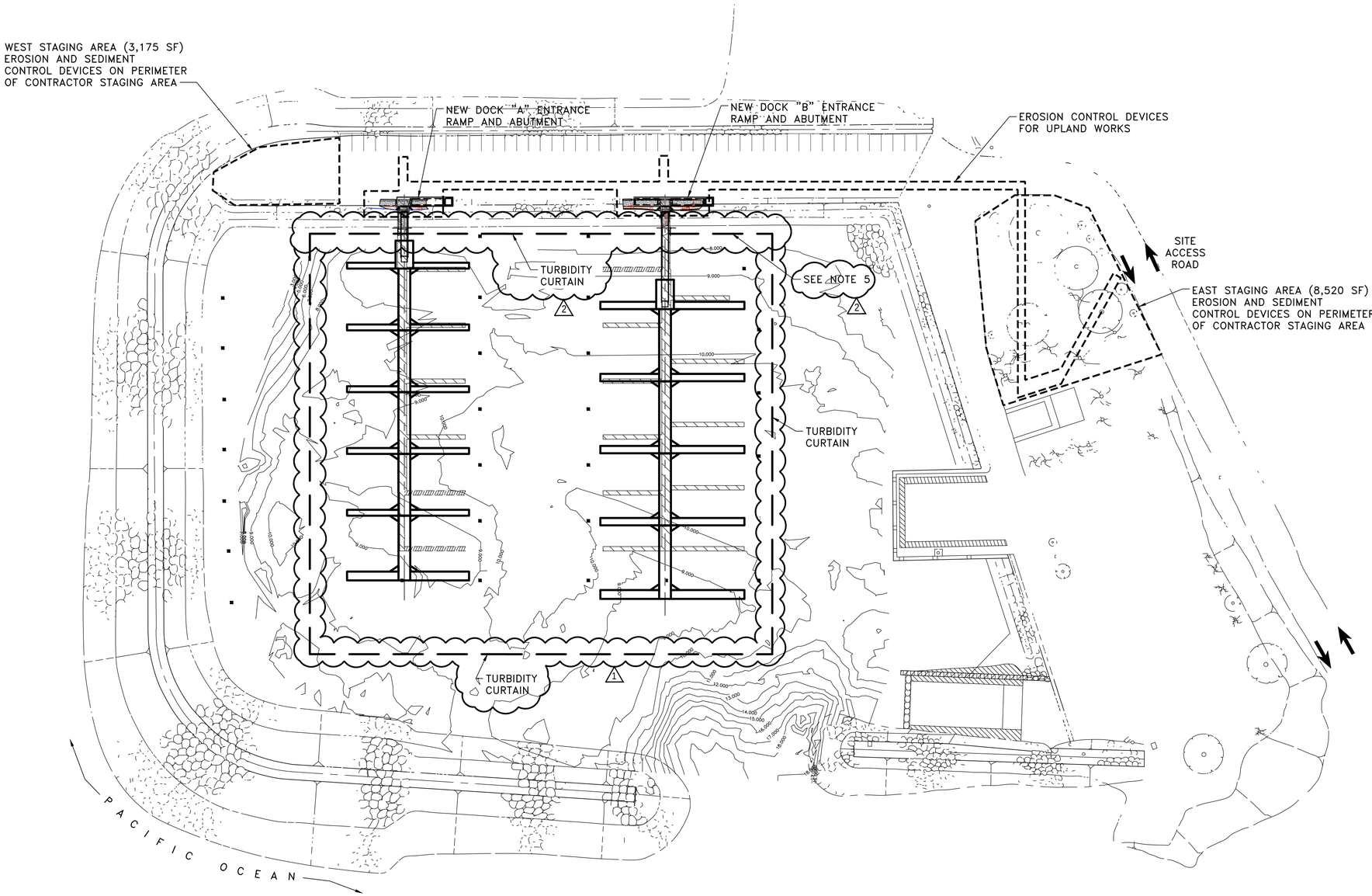
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RFI 35: Benchmark transfer as PAH-1 will be demolished during construction of abutment B



AS-BUILT

08/31/2018



OVERALL SITE BMP PLAN

SCALE: 1" = 40'-0"

NOTES:

1. SEE DRAWING G-03 FOR BMP NOTES.
2. CONTRACTOR SHALL RETURN PROJECT SITE TO SIMILAR OR BETTER CONDITIONS AT PROJECT COMPLETION.
3. CONTRACTOR SHALL KEEP ALL CONSTRUCTION ACTIVITIES AND STORAGE OF ALL EQUIPMENT WITHIN THE PROJECT LIMITS AND SPECIFIED STAGING AREA.
4. CONTRACTOR SHALL PROVIDE A FULL DEPTH TURBIDITY CURTAIN AROUND THE PERIMETER OF ACTIVE DEMOLITION AND CONSTRUCTION OPERATIONS.
5. PLACE TURBIDITY CURTAIN AT TOE OF ROCK REVETMENT AND PREVENT CONTACT WITH CORAL COLONIES ATTACHED TO THE ROCK REVETMENT. (2)

40' 0' 40' 80'

SCALE: 1"=40'

DATA AVAILABLE FROM THE U.S. GEOLOGICAL SURVEY

REVISION NO.	SYM.	DESCRIPTION	SHT./OF.	DATE	APPROVED
2	2	REVISED TURBIDITY CURTAIN		11/19/16	
1	1	REVISED TURBIDITY CURTAIN		08/31/16	

MICHAEL J. MC CARTHY
LICENSED PROFESSIONAL ENGINEER NO. 11476
HAWAII U.S.A.

LICENSE EXPIRATION DATE: 4/30/2018

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STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF BOATING AND OCEAN RECREATION

PORT ALLEN SMALL BOAT HARBOR
PIERS A & B REPLACEMENT
KAUAI, HI

BMP PLAN

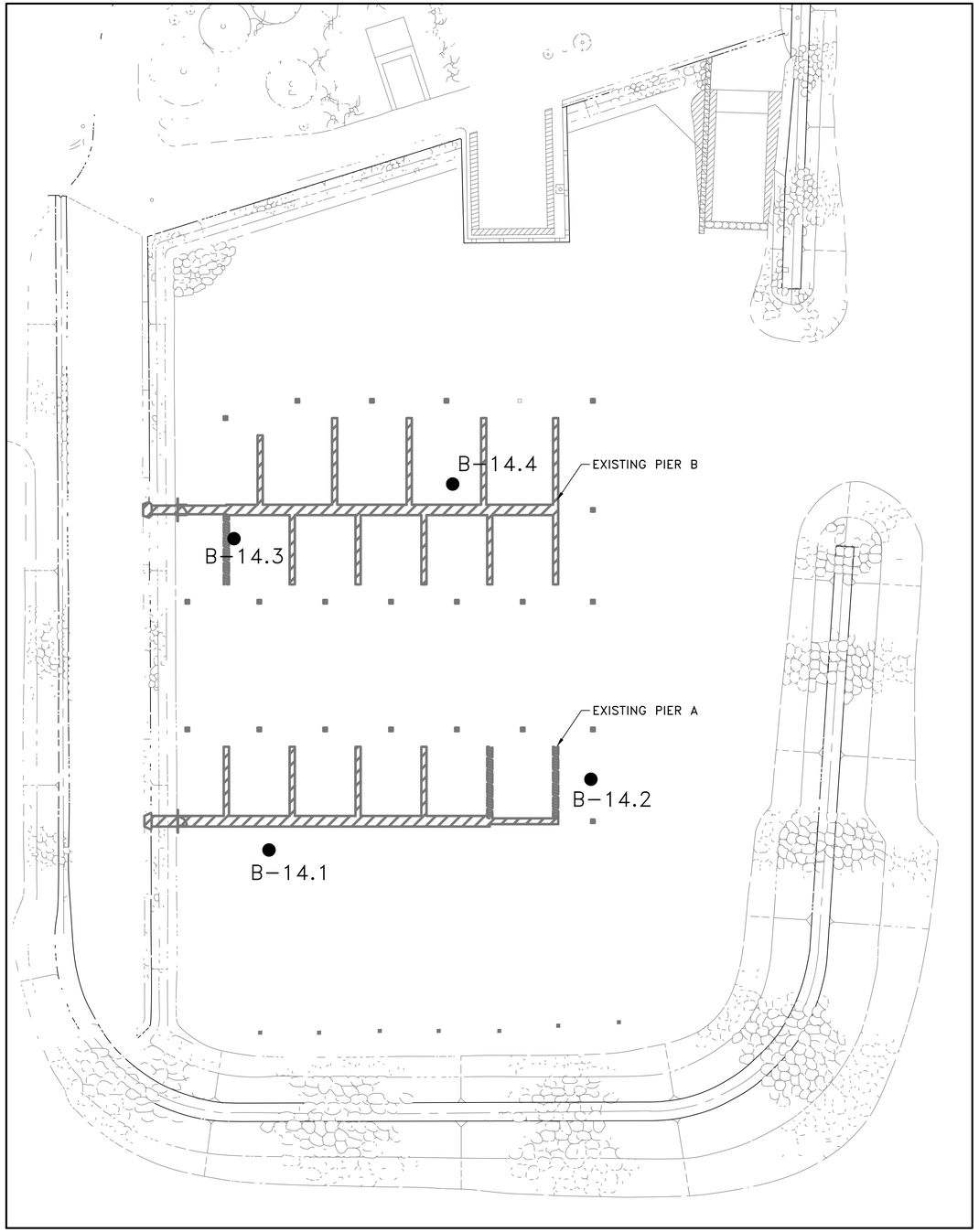
DESIGNED:	TM	SUBMITTED:	MAY 20, 2016
DRAWN:	KL	DATE:	MAY 20, 2016
CHECKED:	JH	SCALE:	AS NOTED
APPROVED:			DRAWING NO. G-06
CHIEF ENGINEER		DATE	

AS-BUILT
08/31/2018

JOB NO. B94DK71A

SHEET NO. 6 OF 39 SHEETS

3/1/2018 2:52:42 PM Q:\LB\8848 - DOBOR_Port Allen Piers A,B\CADD_Active_SheetSet\G-06.dwg



2014 SOIL BORING PLAN (FOR REFERENCE ONLY)

SCALE: 1"= 40'–0"

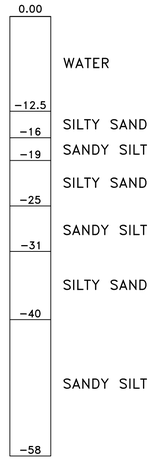
LEGEND:

B–X.X DENOTES SOIL BORING LOG FOR REFERENCE ONLY. SEE NOTES ON THIS SHEET.

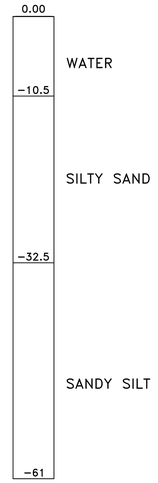
40' 0' 40' 80'

SCALE: 1''=40'

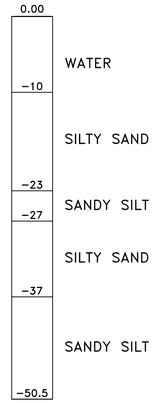
B–14.1



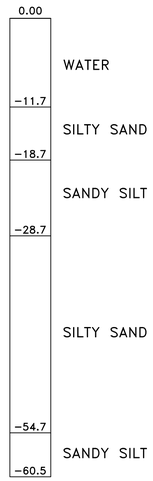
B–14.2



B–14.3



B–14.4



2014 SOIL BORING DATA

NOT TO SCALE

AS-BUILT
08/31/2018

NOTES:

1. BORINGS ON THIS SHEET ARE TAKEN FROM A GEOTECHNICAL INVESTIGATION REPORT PREPARED FOR THE STATE OF HAWAII, DOBOR, DATED FEB 26, 2014, BY HIRATA & ASSOCIATES, INC. TITLED GEOTECHNICAL INVESTIGATION : PORT ALLEN SMALL BOAT HARBOR PIER IMPROVEMENTS (W.O. 13–5579.1).
2. THE BORING LOGS ARE FOR REFERENCE ONLY. THE STATE OF HAWAII ASSUMES NO RESPONSIBILITY WITH RESPECT TO THE ACCURACY OR SUFFICIENCY OF THE BORING DATA SHOWN AND DOES NOT IMPLY THAT THE INDICATED CONDITIONS WILL BE REPRESENTATIVE OF THOSE EXISTING THROUGHOUT THE WORK.
3. THE CONTRACTOR SHALL TAKE ANY ADDITIONAL SOIL BORING LOGS AT THE CONTRACTOR'S OWN EXPENSE AND SHALL DETERMINE ANTICIPATED CRITERIA AND CONDITIONS TO USE FOR FLOATING DOCK ANCHOR SYSTEM INSTALLATION.

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

MICHAEL J. MC CARTHY ★ HAWAII U.S.A. ★
LICENSED PROFESSIONAL ENGINEER NO. 11476

LICENSE EXPIRATION DATE: 4/30/2018

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Michael J. McCarthy

CHIEF ENGINEER DATE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF BOATING AND OCEAN RECREATION

PORT ALLEN SMALL BOAT HARBOR
PIERS A & B REPLACEMENT
KAUAI, HI

2014 SOIL BORING PLAN AND LOGS

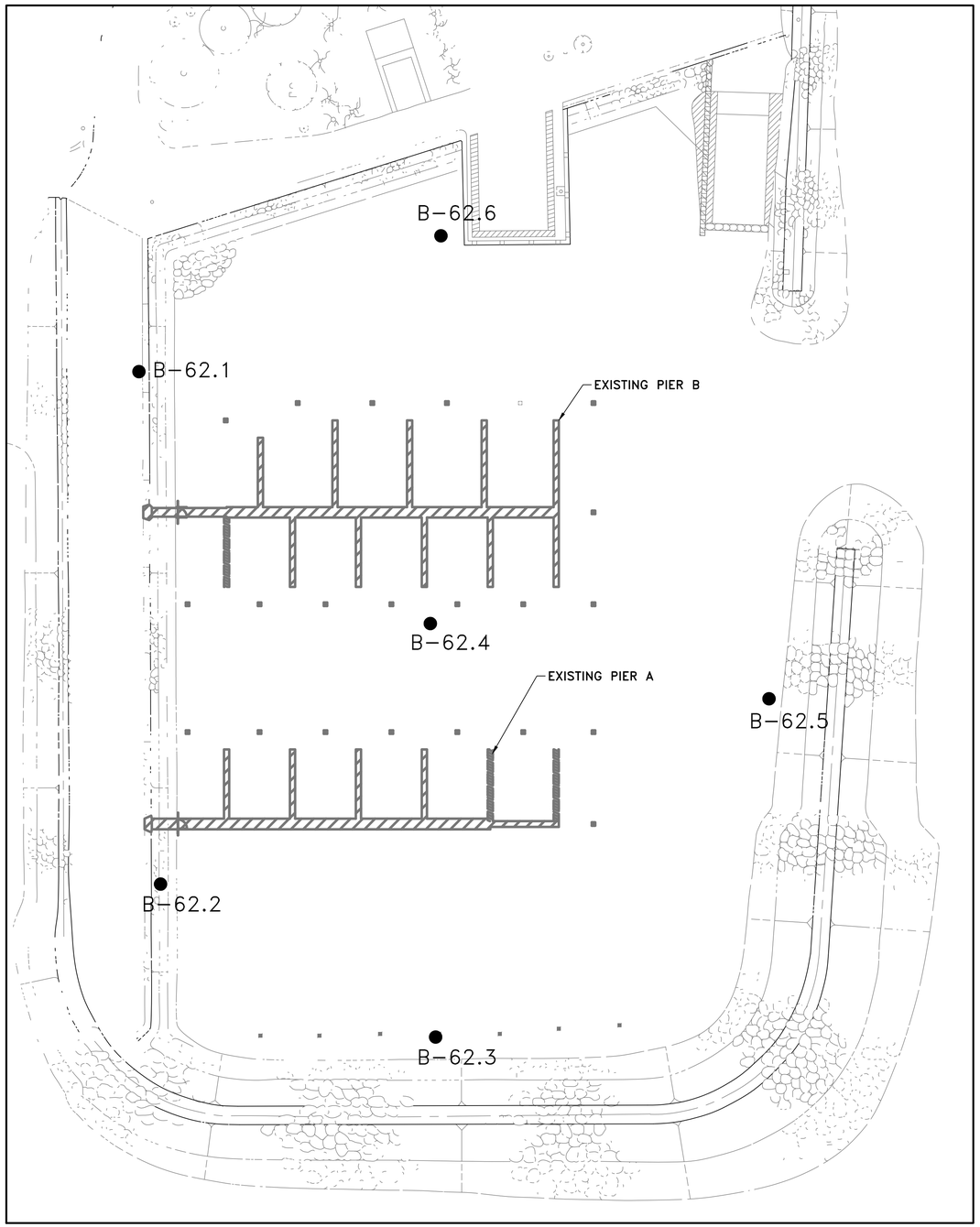
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APPROVED:			

DRAWING NO. B-01

JOB NO. B94DK71A

SHEET NO. 7 OF 39 SHEETS

6/1/2016 2:52:42 PM Q:\LB\8848 – DOBOR_Port Allen Piers A,B\CADD_Active_SheetSet\B-01.dwg



1962 SOIL BORING PLAN (FOR REFERENCE ONLY)

SCALE: 1" = 40'-0"

LEGEND:

B-1 DENOTES SOIL BORING LOG FOR REFERENCE ONLY. SEE NOTES ON THIS SHEET.

40' 0' 40' 80'

SCALE: 1"=40'

B-62.1

0.00	
-5.2	WATER
-17.7	FAIRLY HARDPACKED FINE SAND
-26.7	SOFT FINE SAND, SILT & ROTTEN WOOD
-27.8	HARDPACKED FINE SAND
-38.6	SOFT FINE SAND, SILT & ROTTEN WOOD
-57.6	TREE & FINGER CORAL VERY HARDPACKED W/ SAND & SHELL
	SOFT FINE SAND, SILT & ROTTEN WOOD

B-62.2

0.00	
-6.8	WATER
-18.0	FAIRLY HARDPACKED FINE SAND
-21.5	HARDPACKED FINE SAND & SMALL GRAVEL
-25.8	SOFT FINE SAND
-32.7	FAIRLY HARDPACKED FINE SAND, SHELL & ROTTEN WOOD
-36.0	HARDPACKED FINE SAND
-57.4	VERY SOFT FINE SAND, SHELL & ROTTEN WOOD
-75.0	SOFT BLACK CLAY

B-62.3

0.00	
-8.2	WATER
-19.3	FAIRLY HARDPACKED FINE GREY SAND
-35.4	SOFT FINE SAND, SHELL & SILT
-36.5	HARDPACKED FINE SAND
-53.1	SOFT FINE SAND, SHELL, SILT & ROTTEN WOOD
-95.7	SOFT BLACK CLAY & ROTTEN WOOD

B-62.4

0.00	
-7.0	WATER
-15.9	FAIRLY HARDPACKED FINE SAND W/ SOFT STREAKS
-25.3	SOFT FINE SAND, SILT, SHELL & ROTTEN WOOD
-26.4	HARDPACKED FINE SAND
-52.0	SOFT FINE SAND, SILT, SHELL & ROTTEN WOOD
-60.0	SOFT FINE SAND, SILT, SHELL & ROTTEN WOOD BUT CONTAINING SOFT BLACK CLAY
-66.9	HARDPACKED FINE SAND
-85.0	SOFT FINE SAND, SILT, SHELL & ROTTEN WOOD

B-62.5

0.00	
-8.6	WATER
-17.7	FAIRLY HARDPACKED FINE SAND & SHELL
-50.0	SOFT FINE SAND, SILT, SHELL & ROTTEN WOOD
-51.3	HARDPACKED FINE SAND
-85.0	SOFT FINE SAND, SILT, SHELL & ROTTEN WOOD

B-62.6

0.00	
-6.4	WATER
-19.2	FAIRLY HARDPACKED FINE SAND & SHELL
-24.6	SOFT FINE SAND, SILT, SHELL & ROTTEN WOOD
-44.8	FINGER CORAL HARDPACKED W/ SAND, SHELL & SOME GRAVEL

1962 SOIL BORING DATA

NOT TO SCALE

AS-BUILT
08/31/2018

NOTES:

BORINGS ON THIS SHEET ARE TAKEN FROM REFERENCE PLANS BY STATE OF HAWAII, HARBORS DIVISION, DEPARTMENT OF TRANSPORTATION, DATED APRIL 13, 1961 AND FEBRUARY 13, 1962, FOR JOB TITLED "IMPROVEMENTS TO SMALL BOAT HARBOR, PORT ALLEN, KAUAI, H.C. 1175A".

THE BORING LOGS ARE FOR REFERENCE ONLY. THE STATE OF HAWAII ASSUMES NO RESPONSIBILITY WITH RESPECT TO THE ACCURACY OR SUFFICIENCY OF THE BORING DATA SHOWN AND DOES NOT IMPLY THAT THE INDICATED CONDITIONS WILL BE REPRESENTATIVE OF THOSE EXISTING THROUGHOUT THE WORK.

THE CONTRACTOR SHALL TAKE ANY ADDITIONAL SOIL BORING LOGS AT THE CONTRACTOR'S OWN EXPENSE AND TO DETERMINE ANTICIPATED CRITERIA AND CONDITIONS TO USE FOR FLOATING DOCK ANCHOR SYSTEM INSTALLATION.

REVISION NO.	SYM	DESCRIPTION	SHT./OF.	DATE	APPROVED

MICHAEL J. MC CARTHY ★ LICENSED PROFESSIONAL ENGINEER NO. 11476 ★ HAWAII U.S.A.

LICENSE EXPIRATION DATE: 4/30/2018

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Michael J. McCarthy

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF BOATING AND OCEAN RECREATION

PORT ALLEN SMALL BOAT HARBOR
PIERS A & B REPLACEMENT
KAUAI, HI

1962 SOIL BORING PLAN AND LOGS

DESIGNED:	TM	SUBMITTED:	MAY 20, 2016
DRAWN:	KL	DATE:	MAY 20, 2016
CHECKED:	JH	SCALE:	AS NOTED

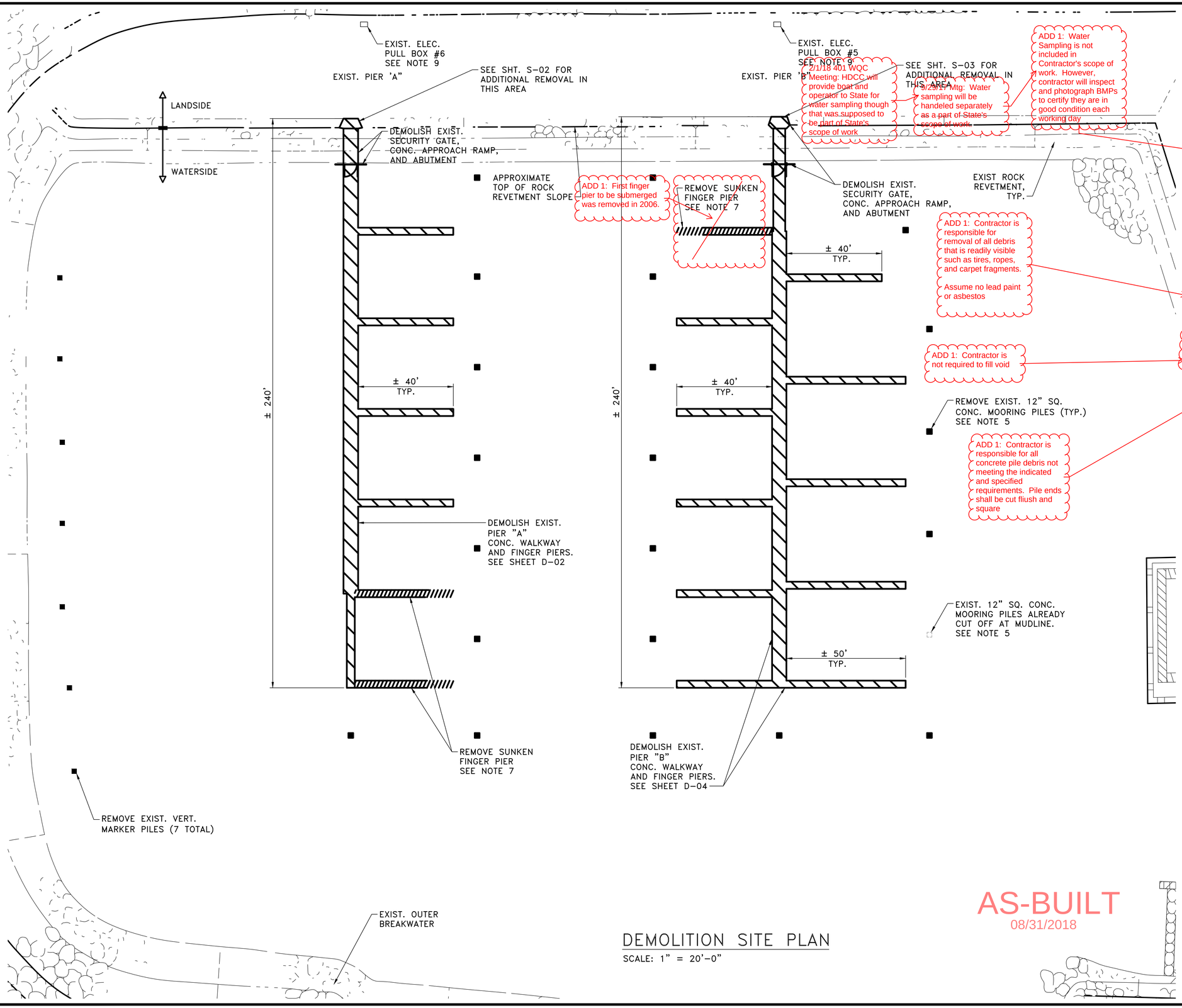
APPROVED: _____ CHIEF ENGINEER _____ DATE

DRAWING NO. B-02

JOB NO. B94DK71A

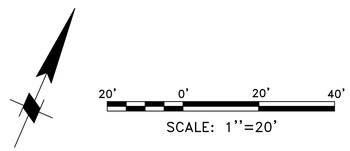
SHEET NO. 8 OF 39 SHEETS

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DEMOLITION NOTES

1. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGING THE EXISTING STRUCTURES TO REMAIN, ADJACENT IMPROVEMENTS, AND BOATS. WHEN PERFORMING THE DEMOLITION AND REMOVAL WORK THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE CAUSED BY HIS OPERATION AT NO ADDITIONAL COST TO THE OWNER.
2. THE CONTRACTOR SHALL PROVIDE A FULL DEPTH FLOATING SILT CURTAIN TO CONTAIN AND PREVENT CONSTRUCTION MATERIALS FROM INTERFERING WITH THE ADJACENT BOAT PIERS OR CHANNEL. SPECIAL PRECAUTIONS, SUCH AS FIXED AND/OR FLOATING PLATFORMS SHALL BE UTILIZED TO PREVENT ANY DEBRIS FROM DROPPING INTO THE WATER. A 2X4 AND/OR 2X2 BOARD WITH A 1 FOOT VERTICAL STRIP OF PLYWOOD (1/2" MIN) SHALL BE INSTALLED ON THE PERIMETER OF ALL WORKING PLATFORMS (FIXED OR FLOATING). DUE TO EXISTING FEATURES ON PIERS A AND B, THE CONTRACTOR SHALL REMOVE AS NECESSARY THE PERIMETER WOOD CONTAINMENT IN ORDER TO POSITION THE WORK PLATFORMS INTO THE WORK AREA. ONCE PLATFORMS ARE PROPERLY POSITIONED AND PRIOR TO DEMOLITION AND/OR CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL RE-INSTALL THE PERIMETER WOOD CONTAINMENT. THE CONTRACTOR SHALL REMOVE ALL FLOATING OR SUBMERGED CONSTRUCTION MATERIALS AND/OR DEBRIS RESULTING FROM THE DAYS WORK AT THE END OF EACH DAY.
3. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL MATERIAL NOT DESIGNATED TO BE SALVAGED TO AN APPROVED LAND DISPOSAL SITE.
4. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGING THE CORALS ON THE ROCK REVETMENT.
5. EXISTING CONCRETE MOORING AND PIER SUPPORT PILES SHALL BE CUT OFF 1' BELOW MUD LINE OR TO -11 FEET MLLW, WHICHEVER IS LOWER. ALTERNATIVELY, CONTRACTOR MAY REMOVE ENTIRE PILE.
6. THE CONTRACTOR SHALL CUT ALL PILES INTO 10 FOOT LONG SECTIONS AND STACK THEM NEATLY IN AN AREA WITHIN THE HARBOR DESIGNATED BY THE ENGINEER.
7. REMOVAL OF SUNKEN FINGER PIERS MAY REQUIRE A DIVER TO BE PRESENT TO ENSURE THE EXISTING PIER HAS BEEN COMPLETELY REMOVED. CONTRACTOR SHALL REMOVE EXISTING PIER DEBRIS FROM HARBOR BOTTOM.
8. CONTRACTOR SHALL REMOVE THE EXISTING CONCRETE PIERS, APPROACH RAMP, UTILITIES, APPURTENANCES AND DEBRIS.
9. REMOVE EXIST ELECTRICAL WIRE ONLY FROM WATERSIDE TO LANDSIDE ELECTRICAL PULL BOX. SEE "E" SHEETS.
10. REMOVE EXIST. POTABLE WATER SUPPLY FROM WATERSIDE TO LANDSIDE WATER MAIN. SEE "M" SHEETS.
11. LOCATION OF EXISTING UTILITIES, PUBLIC AND/OR PRIVATE, ARE APPROXIMATE ONLY, AND THE EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD. IT IS POSSIBLE THAT SOME EXISTING FACILITIES ARE NOT SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING ALL EXISTING UTILITIES RELEVANT TO PROJECT CONSTRUCTION LOCATED AND MARKED PRIOR TO THE BEGINNING OF CONSTRUCTION.



DEMOLITION SITE PLAN

SCALE: 1" = 20'-0"

AS-BUILT
08/31/2018

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

MICHAEL J. MC CARTHY ★ LICENSED PROFESSIONAL ENGINEER NO. 11476 ★ HAWAII U.S.A.

LICENSE EXPIRATION DATE: 4/30/2018

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Michael J. McCarthy

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF BOATING AND OCEAN RECREATION

PORT ALLEN SMALL BOAT HARBOR
PIERS A & B REPLACEMENT
KAUAI, HI

DEMOLITION SITE PLAN

DESIGNED:	TM	SUBMITTED:	MAY 20, 2016
DRAWN:	KL	DATE:	MAY 20, 2016
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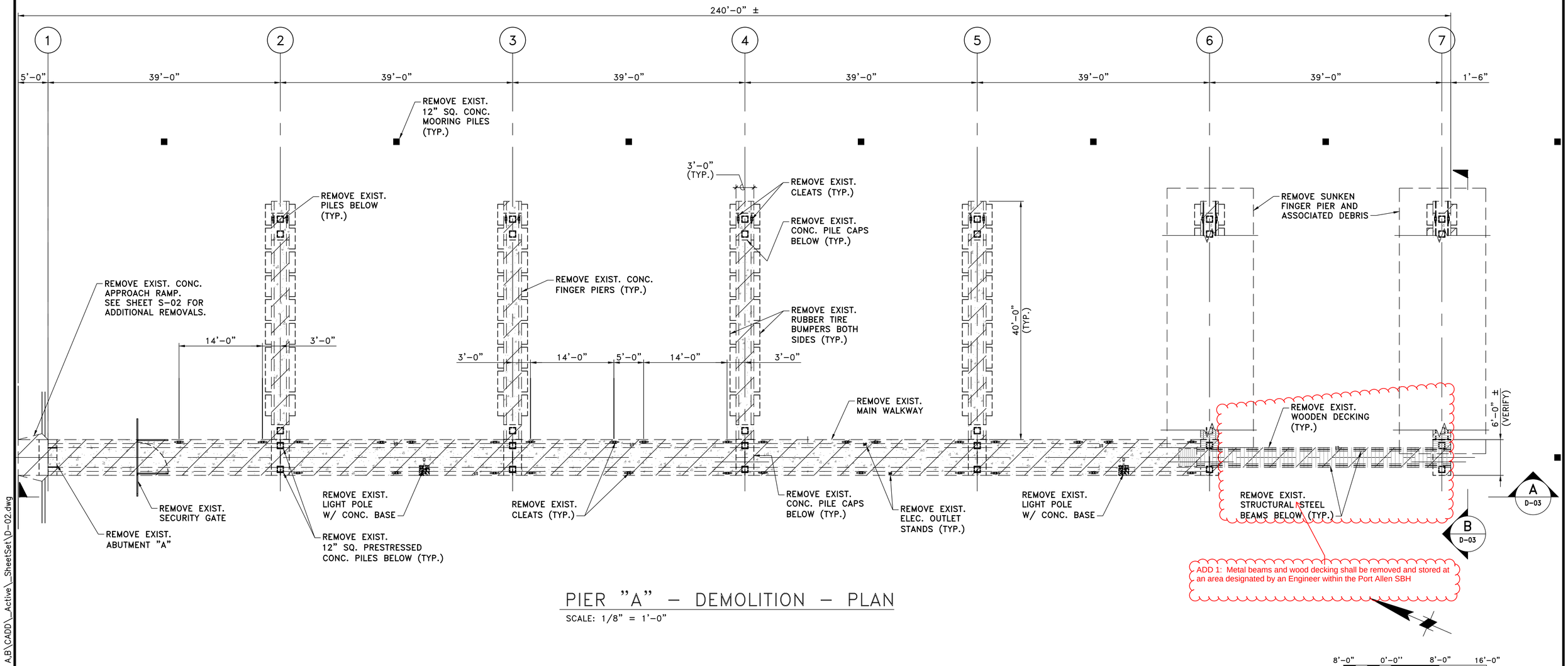
APPROVED: _____ DATE _____
CHIEF ENGINEER

DRAWING NO. **D-01**

JOB NO. B94DK71A

SHEET NO. 9 OF 39 SHEETS

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PIER "A" – DEMOLITION – PLAN

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

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

NOTES:

1. REFER TO SHEET D-01 FOR DEMOLITION NOTES.
2. REFER TO SHEET G-01 FOR GENERAL NOTES.
3. REFER TO SHEET G-02 FOR BEST MANAGEMENT PRACTICES.

LEGEND

- EXIST. CONC. PIER (TO BE DEMOLISHED)
- EXIST. 12' SQ. CONC. MOORING PILE
- EXIST. LIGHT POLE
- EXIST. PIER SUPPORT PILE
- EXIST. PEDESTAL
- EXIST. MOORING CLEAT

AS-BUILT
08/31/2018

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DIVISION OF BOATING AND OCEAN RECREATION

PORT ALLEN SMALL BOAT HARBOR
PIERS A & B REPLACEMENT
KAUAI, HI

PIER A DEMOLITION PLAN

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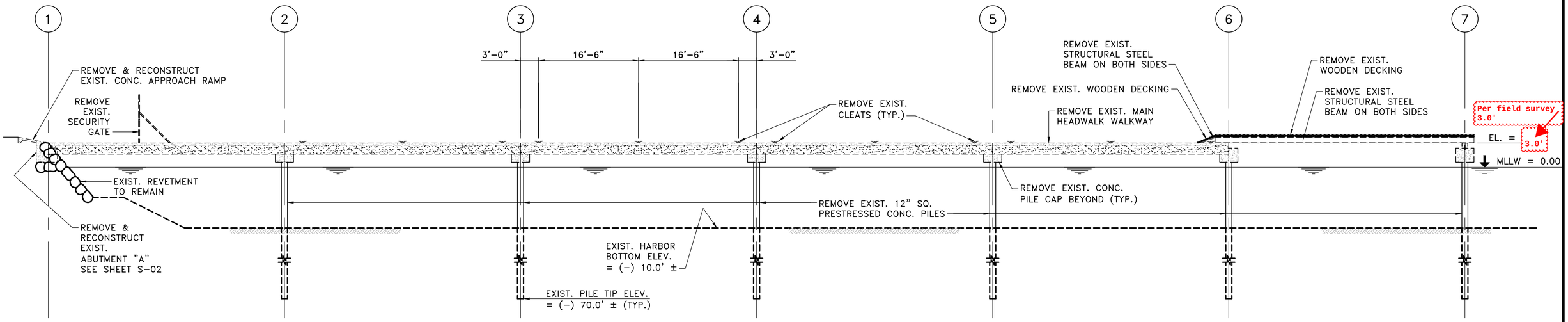
APPROVED: _____ DATE _____
CHIEF ENGINEER

DRAWING NO. **D-02**

JOB NO. B94DK71A

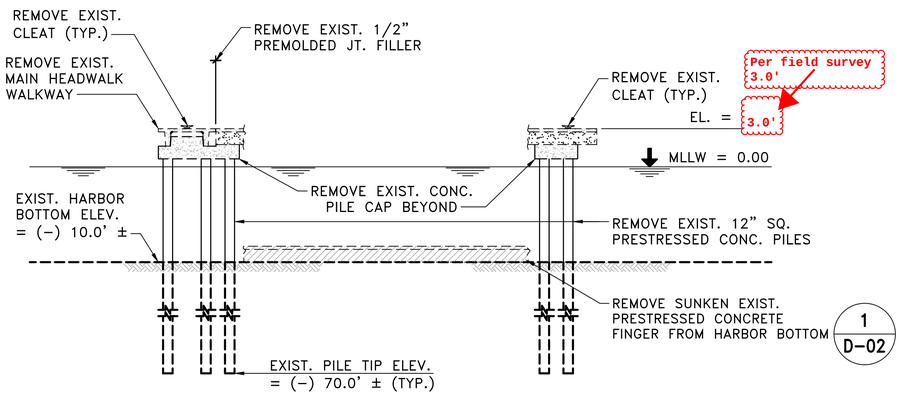
SHEET NO. 10 OF 39 SHEETS

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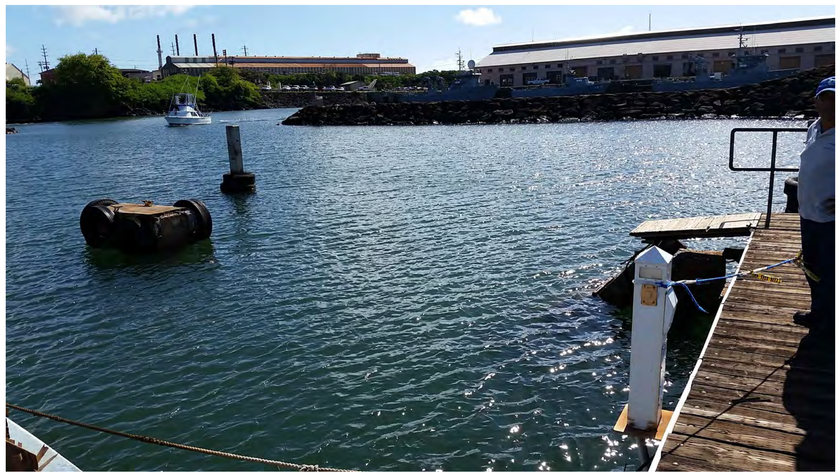
A / D-02 PIER "A" – DEMOLITION – LONGITUDINAL ELEVATION

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



B / D-02 PIER 'A" DEMOLITION – TRANSVERSE ELEVATION

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



1 / D-02 SUNKEN CONCRETE FINGER

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

MICHAEL J. MC CARTHY ★ HAWAII U.S.A. ★
LICENSED PROFESSIONAL ENGINEER NO. 11476

LICENSE EXPIRATION DATE: 4/30/2018

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Michael J. McCarthy

CHIEF ENGINEER DATE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF BOATING AND OCEAN RECREATION

PORT ALLEN SMALL BOAT HARBOR
PIERS A & B REPLACEMENT
KAUAI, HI

PIER A DEMOLITION ELEVATIONS

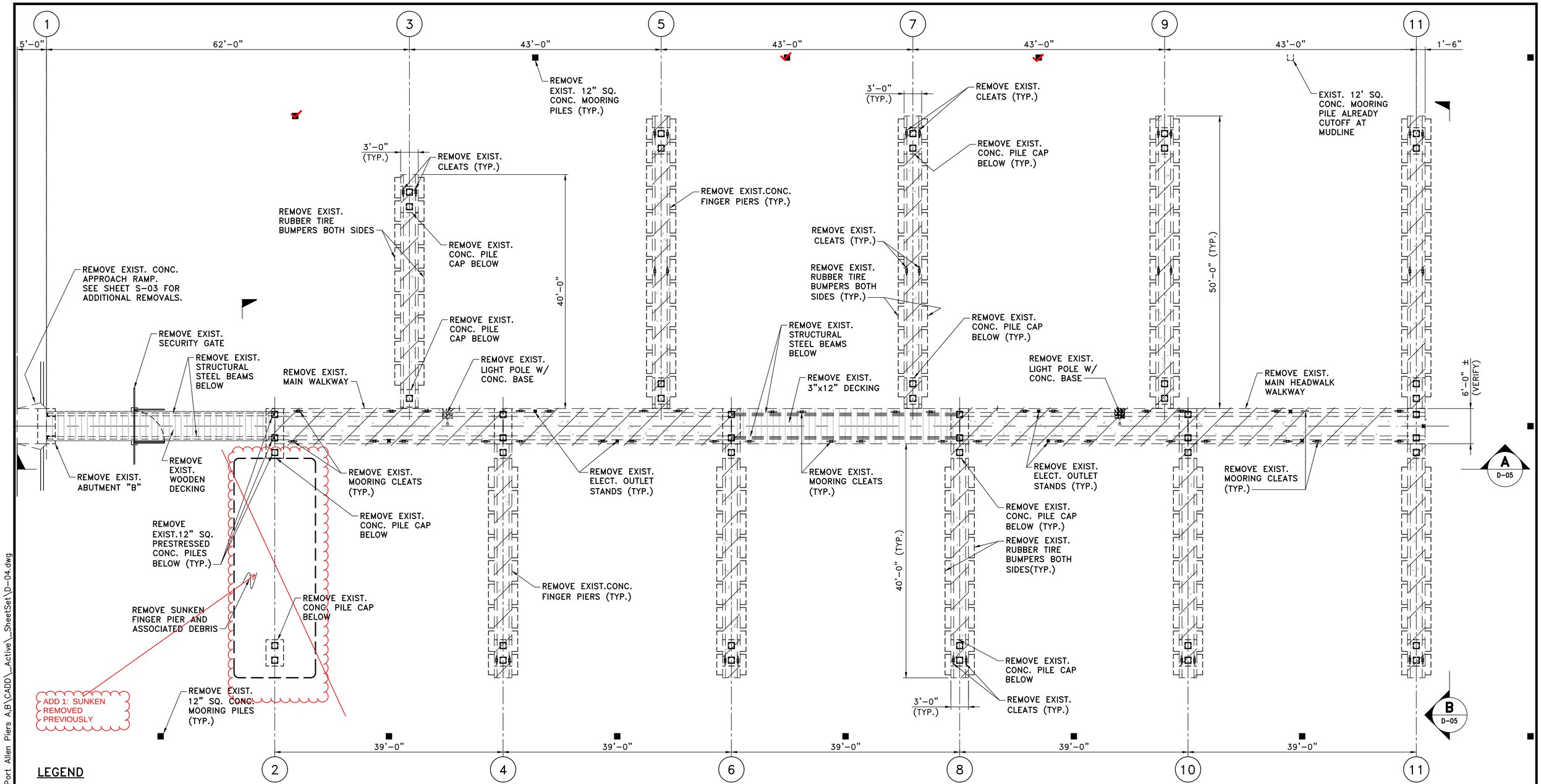
DESIGNED:	TM	SUBMITTED:	MAY 20, 2016
DRAWN:	KL	DATE:	MAY 20, 2016
CHECKED:	JH	SCALE:	AS NOTED
APPROVED:		DRAWING NO.	D-03

AS-BUILT
08/31/2018

JOB NO. B94DK71A

SHEET NO. 11 OF 39 SHEETS

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LEGEND

- EXIST. CONC. PIER (TO BE DEMOLISHED)
- EXIST. 12' SQ. CONC. MOORING PILE
- EXIST. LIGHT POLE
- EXIST. PIER SUPPORT PILE
- EXIST. PEDESTAL
- EXIST. MOORING CLEAT

NOTES:

1. REFER TO SHEET D-01 FOR DEMOLITION NOTES.
2. REFER TO SHEET G-01 FOR GENERAL NOTES.
3. REFER TO SHEET G-02 FOR BEST MANAGEMENT PRACTICES.

PIER "B" – DEMOLITION – PLAN

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

AS-BUILT
08/31/2018

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF BOATING AND OCEAN RECREATION

PORT ALLEN SMALL BOAT HARBOR
PIERS A & B REPLACEMENT
KAUAI, HI

PIER B DEMOLITION PLAN

MICHAEL J. MC CARTHY ★ LICENSED PROFESSIONAL ENGINEER NO. 11476 ★ HAWAII U.S.A.

LICENSE EXPIRATION DATE: 4/30/2018

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Michael J. McCarthy

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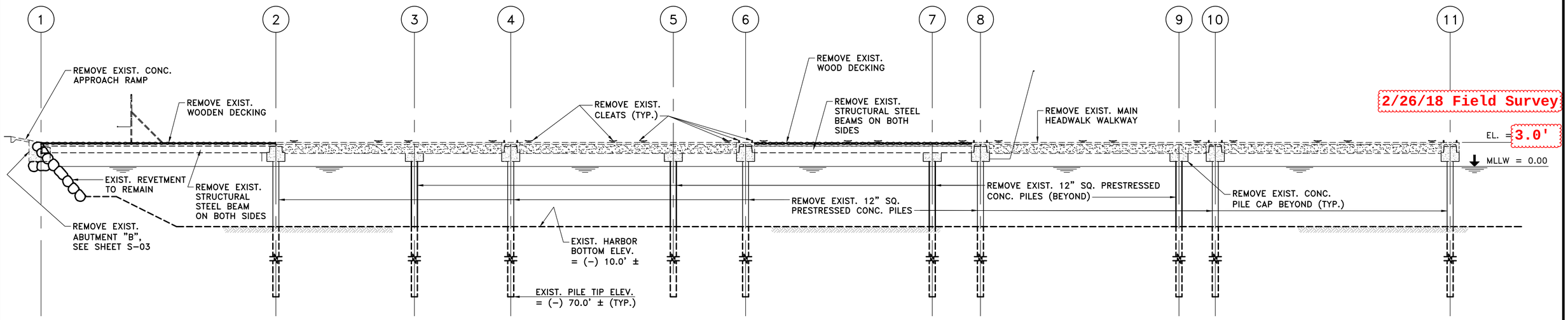
APPROVED: _____ DATE _____

DRAWING NO. **D-04**

JOB NO. B94DK71A

SHEET NO. 12 OF 39 SHEETS

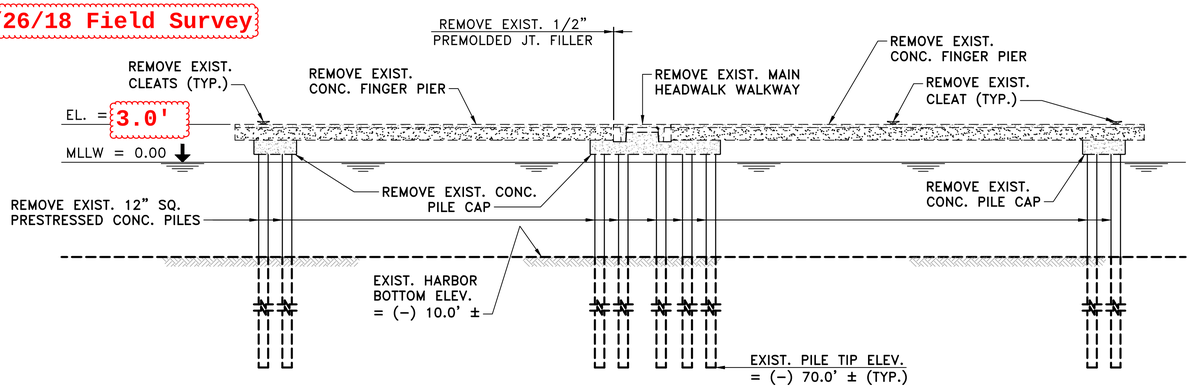
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A / D-04 PIER "B" – DEMOLITION – LONGITUDINAL ELEVATION

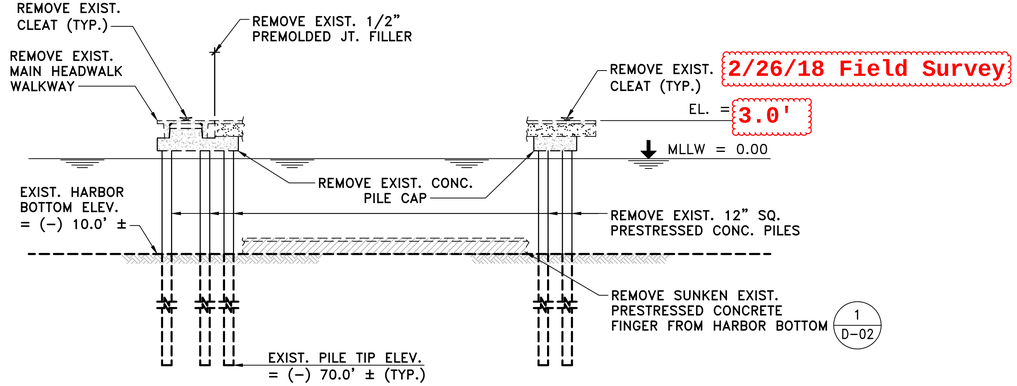
SCALE: 1/8" = 1'–0"

2/26/18 Field Survey



B / D-04 PIER "B" – DEMOLITION – TRANSVERSE ELEVATION

SCALE: 1/8" = 1'–0"



C / D-04 PIER "B" – SUNKEN PIER ELEVATION

SCALE: 1/8" = 1'–0"

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MICHAEL J. MC CARTHY ★ HAWAII U.S.A. ★
LICENSED PROFESSIONAL ENGINEER NO. 11476

LICENSE EXPIRATION DATE: 4/30/2018

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Michael J. McCarthy

CHIEF ENGINEER

DATE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF BOATING AND OCEAN RECREATION

PORT ALLEN SMALL BOAT HARBOR
PIERS A & B REPLACEMENT
KAUAI, HI

PIER B DEMOLITION ELEVATIONS

DESIGNED:	TM	SUBMITTED:	MAY 20, 2016
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08/31/2018

JOB NO. B94DK71A

SHEET NO. 13 OF 39 SHEETS

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SHOP DRAWING SUBMITTALS

1. THE CONTRACTOR SHALL ELECTRONICALLY SUBMIT SHOP DRAWINGS FOR ALUMINUM DOCK FRAMING, ELASTOMERIC MOORINGS AND HELICAL ANCHORS, MISCELLANEOUS METALS, CONNECTION HARDWARE, FLOATATION AND DECKING MATERIALS, CLEATS, ANCHOR BOLTS AND INSERTS, AND ALL OTHER PERTINENT ITEMS NECESSARY TO PROVIDE A COMPLETE TURN-KEY FLOATING DOCK SYSTEM. SHOP DRAWINGS AND THEIR ACCOMPANYING CALCULATIONS SHALL BE STAMPED BY A STRUCTURAL ENGINEER LICENSED IN THE STATE OF HAWAII, AND APPROVED BY THE OWNER'S ENGINEER PRIOR TO FABRICATION.

2. THE INFORMATION PROVIDED IN THESE PLANS AND SPECIFICATIONS ARE PERFORMANCE REQUIREMENTS FOR THE FLOATING DOCK SYSTEM AND ITS SUPPORTING ELASTOMERIC MOORINGS AND HELICAL ANCHORS. THEY INDICATE THE MINIMUM REQUIREMENTS SET BY THE STATE OF HAWAII'S DEPARTMENT OF LAND AND NATURAL RESOURCES (DLNR) FOR THIS PROJECT.

3. THE CONTRACTOR SHALL RETAIN AND PAY THE PROFESSIONAL ENGINEERING FEES FOR A STATE OF HAWAII LICENSED STRUCTURAL ENGINEER TO PREPARE THE CALCULATIONS, DETAILED PLANS, AND SPECIFICATIONS FOR THE CONSTRUCTION OF THE FLOATING DOCK SYSTEM AND IT'S MOORING SYSTEM. THE LICENSED STRUCTURAL ENGINEER RETAINED BY THE CONTRACTOR SHALL BE CONSIDERED THE STRUCTURAL ENGINEER OF RECORD (SER) FOR THESE CONSTRUCTION ITEMS.

CONSTRUCTION NOTES

1. A DIVER MUST BE IN THE WATER DURING PLACEMENT OF HELICAL ANCHORS TO DETERMINE IF THE INTENDED LOCATIONS OF THE HELICAL ANCHORS COINCIDE WITH ANY CORAL PRESENT WITHIN THE HARBOR. IF LOCATIONS COINCIDE, THE ANCHORS SHALL BE RELOCATED.

2. THE NUMBER OF ELASTOMERIC MOORINGS AND HELICAL ANCHORS SHOWN ON THE FLOATING DOCK PLANS ARE NOT AN INDICATION OF THE FINAL DESIGN FOR THE FLOATING DOCK MOORING SYSTEM. THE FINAL LAYOUT AND NUMBER OF ELASTOMERIC MOORINGS AND HELICAL ANCHORS SHALL BE DETERMINED BY THE SER. REFER TO DEIGN CRITERIA AND SOIL BORING DATA AS REFERENCED IN THESE PLANS AND SPECIFICATIONS.

DOCK DESIGN CRITERIA

1. VERTICAL DESIGN LOADS

   A. DEAD LOAD: ALUMINUM FLOATING DOCK PLUS ALL PERMANENTLY ATTACHED APPURTENANCES.

   B. UNIFORM LIVE LOAD: 50 PSF UNIFORM LIVE LOAD FOR STRUCTURAL DESIGN AND 30 PSF UNIFORM LIVE LOAD FOR FLOATATION DESIGN.

   C. CONCENTRATED LIVE LOAD: 400 LBS CONCENTRATED LOAD APPLIED AT ANYPLACE ON THE FLOATING DOCK WITHOUT OVERSTRESSING FRAME MEMBERS AND WITHOUT PITCH OR ROLL OF THE DOCK MORE THAN 4 DEGREES OR VIOLATING THE FREEBOARD REQUIREMENTS AS SPECIFIED.

   D. GANGWAY LOAD: 100 PSF UNIFORM LIVE LOAD APPLIED TO ENTIRE WALKING SURFACE OF GANGWAY PLUS GANGWAY DEAD LOAD, OF WHICH HALF WILL BE CONSIDERED TO BE APPLIED TO FLOATING DOCK STRUCTURE FOR FREEBOARD CONSIDERATIONS AND WITHOUT PITCH OR ROLL OF THE DOCK MORE THAN 4 DEGREES OR VIOLATING THE FREEBOARD REQUIREMENTS AS SPECIFIED.

2. LATERAL DESIGN LOADS

   A. ENVIRONMENTAL LOAD CRITERIA SPECIFIED ARE BASED ON ASSUMPTIONS GIVEN IN THE SITE-SPECIFIC BASIS OF DESIGN REPORT FOR PIER 200 REPLACEMENT AT HALEIWA SMALL BOAT HARBOR, PREPARED BY SEA ENGINEERING, INC. DATED MAY, 2009 (SEI JOB NO. 25151). MOFFATT AND NICHOL CANNOT GUARANTEE THE ACCURACY OF ENVIRONMENTAL LOAD DATA PRESENTED IN THESE DESIGN CRITERIA.

   B. WAVE DESIGN CRITERIA:

   100 YEAR EVENT: WAVE HEIGHT (Hs) = 1.0 FEET SUSTAINED
   WAVE HEIGHT (Hs) = 2.0 FEET FOR A PERIOD UP TO 4 HOURS
   WAVE PERIOD (Tp) = 1 TO 3 SECONDS
   MINIMUM DESIGN WAVE PRESSURE SHALL BE 40 PSF, ASSUMED TO ACT OVER THE ENTIRE HEIGHT (BOTH ABOVE WATER AND BELOW WATER PORTIONS) OF THE FLOATING DOCKS.

   Hs = SIGNIFICANT WAVE HEIGHT
   Tp = PEAK SPECTRAL PERIOD

   C. WIND LOADS: 95 MPH BASED ON 3-SECOND GUST AT ELEVATION +33 FEET ABOVE WATER PER ASCE 7-05, EXPOSURE C. MINIMUM DESIGN WIND PRESSURE SHALL BE 20 PSF, ASSUMED TO ACT OVER THE FREEBOARD OF THE FLOATING DOCKS AND WHEN VESSELS ARE MOORED TO THE FLOATING DOCKS.

   Per 3/27/18 progress meeting, does not apply. Use 105 mph as previously

   1

   130 MPH BASED ON 3-SECOND GUST AT ELEVATION +33 FEET ABOVE WATER PER ASCE 7-05, EXPOSURE C. MINIMUM DESIGN WIND PRESSURE SHALL BE 20 PSF, ASSUMED TO ACT OVER THE FREEBOARD OF THE FLOATING DOCKS WHEN VESSELS ARE NOT MOORED TO THE FLOATING DOCKS.

   D. CURRENT LOADS: CURRENT SPEED = 0.36 KNOTS
   MINIMUM DESIGN CURRENT PRESSURE SHALL BE 5 PSF, ASSUMED TO ACT OVER THE DRAFT (BELOW WATER PORTION) OF THE FLOATING DOCKS

   E. WATER SURFACE ELEVATION: DESIGN MAX: ±3.67 FT MLLW
   DESIGN MIN: -0.98 MLLW
   SURGE: ±8.0 MLLW

3. MOORING HARDWARE CAPACITY

   CLEATS. . . . . 8000 LBS AT 45 DEGREE ANGLE

4. BERTHING DESIGN LOAD: THE FLOATING DOCK AND MOORING SYSTEM SHALL BE DESIGNED TO WITHSTAND A BERTHING IMPACT FROM A VESSEL UNDER THE FOLLOWING VESSEL BERTHING CONDITIONS:

   A. LOA. . . . . 50 FT
   B. DISPLACEMENT . . . . . 25 LONG TONS
   C. APPROACH VELOCITY . . . . . 2.0 FT/SEC
   D. ANGLE OF APPROACH . . . . . .10 DEG

5. FREEBOARD REQUIREMENTS

   A. DEAD LOAD: FLOATING DOCK FREEBOARD UNDER DEAD LOAD ONLY CONDITIONS SHALL BE 20 INCHES, ±2 INCHES 1-YEAR AFTER PROJECT ACCEPTANCE BY OWNER.

   B. LIVE LOAD: FLOATING DOCK FREEBOARD UNDER DEAD + UNIFORM OR CONCENTRATED LIVE LOAD CONDITIONS SHALL BE 10 INCHES MIN, ±1 INCHES 1-YEAR AFTER PROJECT ACCEPTANCE BY OWNER.

MATERIALS (FLOATING DOCK SYSTEM)

1. ALL ALUMINUM WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALUMINUM DESIGN MANUAL 2015 UNLESS OTHERWISE NOTED.

2. MATERIALS SHALL CONFORM TO THE FOLLOWING, UNLESS OTHERWISE NOTED:

   A. FRAMING MEMBERS: (ALUMINUM)

   - 6061-T6, 6005-T5 AND 6063-T3 ALUMINUM ALLOY. . ASTM B209, B221, B303, AND B429

   B. HANDRAILS: (ALUMINUM)
   - 6061-T6, 6005-T5 AND 6063-T3 ALUMINUM ALLOY PIPE AND TUBING. . . . ASTM B429

   C. BOLTS & NUTS: (STEEL)

   - ALL STAINLESS STEEL BARS AND SHAPES. . . . . ASTM A276, TYPE 316
   - ALL STAINLESS STEEL HARDWARE . . . . . ASTM A193, A194, TYPE 316
   - ALL BOLTS SHALL BE MIN. ½" DIAMETER.

3. (AA) SPECIFICATIONS FOR ALUMINUM STRUCTURES. WELDING SHALL CONFORM TO THE AWS USING FILLER ALLOY 5356 OR 4043 FOR ALL FABRICATIONS.

4. PREQUALIFIED WELDING PROCEDURES SHALL CONFORM TO CURRENT EDITION OF ANSI/AWS D1.2 AND ANSI/AWS D1.1. ALL WELDERS SHALL BE QUALIFIED IN ACCORDANCE WITH THE REQUIREMENTS OF ANSI/AWS D1.2.

5. FLOATING DOCK ALUMINUM MEMBERS SHALL REMAIN MILL FINISH.

6. ALL STEEL HARDWARE SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A123 AND/OR A153, AS APPLICABLE, AFTER FABRICATION, UNLESS OTHERWISE NOTED.

7. FIELD TREAT DAMAGED GALVANIZED FINISH WITH TWO COATS OF HIGH ZINC DUST OXIDE PAINT, COLD GALVANIZING COMPOUNDS OR APPROVED EQUAL CONFORMING TO THE REQUIREMENTS OF ASTM A780.

8. DIRECT CONTACT BETWEEN ALUMINUM AND DISSIMILAR METALS IS NOT PERMITTED. WHERE CONNECTIONS BETWEEN ALUMINUM AND DISSIMILAR METALS ARE REQUIRED, A NEOPRENE BUSHING OR AN APPROVED COATING SHALL BE INSTALLED BETWEEN THE TWO MATERIALS PER THE MANUFACTURER'S RECOMMENDATIONS.

FLOATATION PONTOONS

1. FOAM FOR FLOATATION SHALL BE NEW, EXPANDED CLOSED CELL POLYSTYRENE FOAM, FULLY ENCAPSULATED OR ENCASED WITH A PROTECTIVE COATING/SHEATHING.

2. MATERIALS USED FOR FLOATATION SHALL CONFORM TO THE FOLLOWING, UNLESS OTHERWISE NOTED:

   A. FOAM:

   - DENSITY . . . . . .0.9 LBS/FT³, MIN
   - COMPRESSIVE STRENGTH. . . . . 15 PSI, MIN.
   - MAXIMUM WATER ABSORPTION. . . . . 2% BY VOLUME

PLASTICS, AND MISC. HARDWARE

1. DOCK SAFETY LADDER SHALL BE HMS HEAVY-DUTY ALUMINUM DOCK LADDER, ITEM NO. 07-73, 5 STEP LADDER AS MANUFACTURED BY HENDERSON MARINE OR APPROVED EQUAL.

2. CLEATS SHALL BE 12-INCH, CAST ALUMINUM, ITEM NO. 05-18 AS MANUFACTURED BY HENDERSON MARINE OR APPROVED EQUAL.

3. DECKING SHALL BE NEW HDPE WITH UV-INHIBITOR AND COMMERCIAL NON-SKID SURFACE, OR APPROVED EQUAL.

4. DOCK BOXES SHALL BE MODEL 432 AS MANUFACTURED BY DOCK BOXES UNLIMITED, OR APPROVED EQUAL.

HELICAL ANCHORS

1. HELICAL ANCHOR CENTRAL STEEL SHAFT AND BEARING PLATES SHALL BE HOT ROLLED CARBON STEEL CONFORMING TO ASTM A36 OR A572 WITH MINIMUM YIELD STRENGTH Fy= 50 KSI.

2. STEEL ANCHORS SHALL BE ZINC-COATED OR HOT-DIPPED GALVANIZED IN ACCORDANCE WTH ASTM A123 AND/OR A153, AS APPLICABLE, AFTER FABRICATION.

3. HELICAL ANCHORS SHALL BE LOAD TESTED AS SPECIFIED. REFER TO FLOATING DOCK SPEC'S FOR MORE INFO.

INSPECTIONS

1. CONTINUOUS INSPECTION SHALL BE MADE BY A REGISTERED DEPUTY INSPECTOR. THE CONTRACTOR SHALL PROVIDE WRITTEN REPORTS TO THE ENGINEER FOR THE FOLLOWING:

   A. HELICAL ANCHOR PROOF-LOAD TEST

   B. ALL INSPECTIONS CALLED FOR IN GEOTECHNICAL ENGINEERS REPORT FOR SPECIFIC INSPECTION REQUIREMENTS BY SOIL ENGINEERS REPRESENTATIVE, INCLUDING SITE PREPARATION, EXCAVATION AND BACKFILLING.

2. ALL ALUMINUM STRUCTURES TO BE PREFABRICATED AND WELDED BY AWS-CERTIFIED WELDERS IN MANUFACTURER'S YARD AND SHIPPED TO CONTRACTOR FOR FINAL BOLTED ASSEMBLY ON SITE. NO FIELD WELDING IS TO BE ALLOWED. THEREFORE SPECIAL INSPECTION IS NOT REQUIRED.

AS-BUILT
08/31/2018

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

MICHAEL J. MC CARTHY
LICENSED PROFESSIONAL ENGINEER
NO. 11476
HAWAII U.S.A.

LICENSE EXPIRATION DATE: 4/30/2018

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Michael J. McCarthy

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF BOATING AND OCEAN RECREATION

PORT ALLEN SMALL BOAT HARBOR
PIERS A & B REPLACEMENT
KAUAI, HI

FLOATING DOCK NOTES

DESIGNED:	TM	SUBMITTED:	MAY 20, 2016
DRAWN:	KL	DATE:	MAY 20, 2016
CHECKED:	JH	SCALE:	AS NOTED
APPROVED:			DRAWING NO. DK-01

CHIEF ENGINEER DATE

JOB NO. B94DK71A SHEET NO. 14 OF 39 SHEETS

12/13/2017 2:52:42 PM Q:\LB\8848 - DOBOR_Port Allen Piers A,B\CADD_Active_SheetSet\DK-01.dwg

NEW 4'x29' GANGWAY AND APPROACH, SEE 1/S-02

WORK POINT
N 24,892.40
E 1,609,839.50

NEW 4'x60' GANGWAY AND APPROACH SEE 1/S-03

WORK POINT
N 24,962.83
E 1,610,002.22

RFI 1: Work points given on sheet DK-02 are to establish on-land starting location and axial alignment of each pier. Overall dimensions of both piers may vary slightly from what shown on sheets DK-02 but slip dimensions should be maintained.

RFI 17: 100, 101, 102, and 103 are ADA Designated slips therefore ADA designated pedestals required to serve them.

Install hose bibb at 16" high

WORK POINT
N 24,662.56
E 1,609,939.03

WORK POINT
N 24,721.48
E 1,610,106.73

LEGEND

- A-20 — DENOTES BOAT SLIP NUMBER
- DENOTES MARINE POWER CENTER
- DENOTES DOCK BOX
- DENOTES STANDPIPE
- DENOTES FIRE EXTINGUISHER CABINET

NOTES:

1. EXISTING BATHYMETRIC DATA SHOWN ON THESE PLANS IS BASED ON HYDROGRAPHIC SURVEY PERFORMED BY SEA ENGINEERING, INC. COMPLETED APRIL 23, 2015 AND IS PROVIDED FOR INFORMATION ONLY. BATHYMETRY IS REFERENCED TO MLLW VERTICAL DATUM.

SCALE: 1''=20'

SLIP SUMMARY			
SLIP LENGTH (FT)	QUANTITY OF SLIPS (EA)		LINEAR FEET OF BERTH
	DOCK A	DOCK B	
35.00	11	–	385
38.00	–	1	38
40.00	11	9	800
48.00	–	1	48
50.00	–	9	450
		TOTAL =	1,721 LF
		AVG. =	40.97 LF

DOCK LAYOUT – SITE PLAN

SCALE: 1" = 20'-0"

AS-BUILT
08/31/2018

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PIERS A & B REPLACEMENT
KAUAI, HI

DOCK LAYOUT – SITE PLAN

DESIGNED:	TM	SUBMITTED:	MAY 20, 2016
DRAWN:	KL	DATE:	MAY 20, 2016
CHECKED:	JH	SCALE:	AS NOTED
APPROVED:			DRAWING NO. DK-02
CHIEF ENGINEER		DATE	

JOB NO. B94DK71A

SHEET NO. 15 OF 39 SHEETS

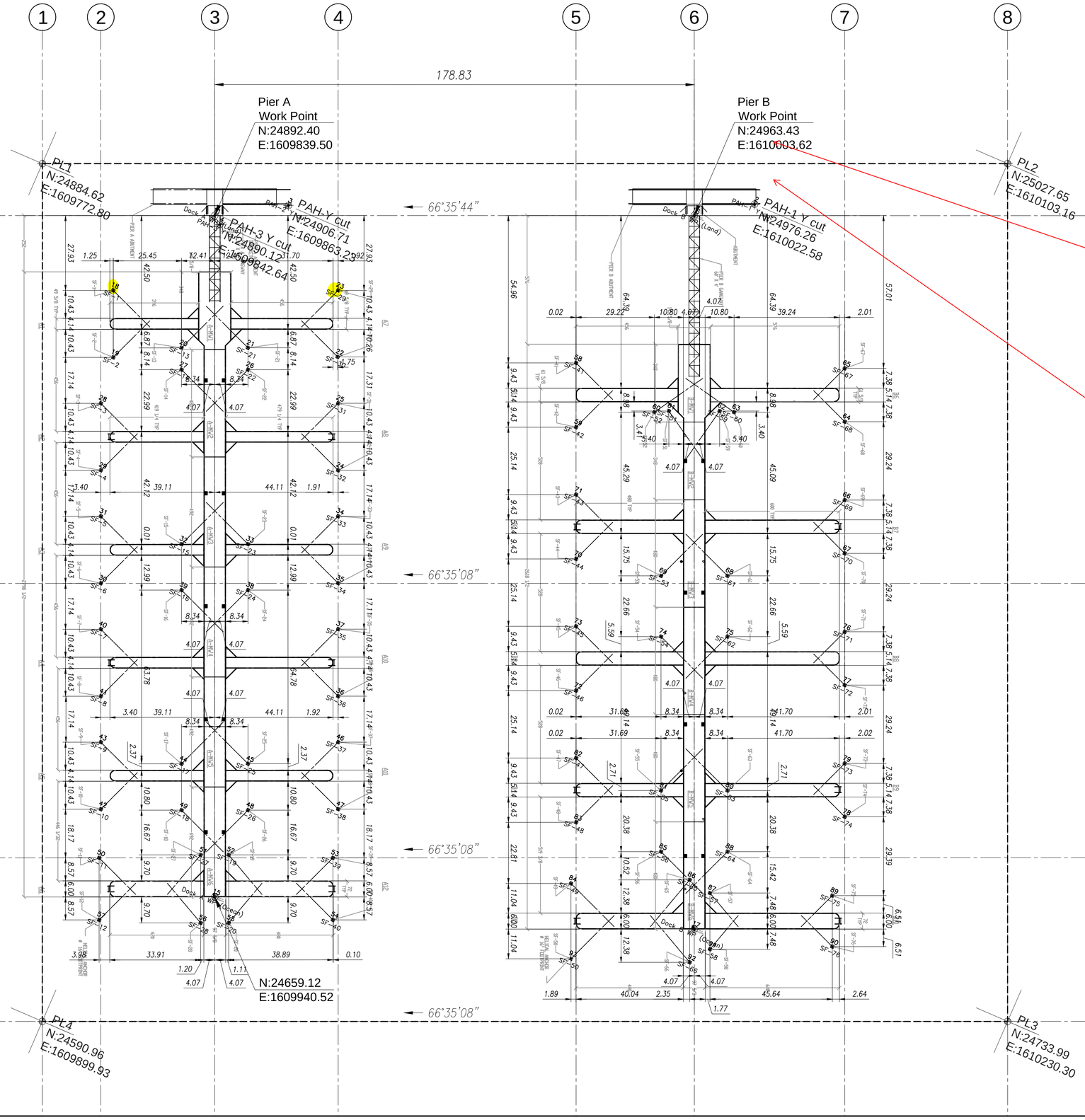
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Pier-Anchor Layout Worksheet

HDCC - Port Allen Small Boat Harbor
Floating Dock Improvements,
Port Allen, Kauai, Hawaii

Job: 17-004

Date: February 12, 2018



RFI 24: As discussed at 1/17/18 progress meeting, distance between piers are 178'-10". Length of dock is also 1 ft to 2 ft longer than what is called out on DK-02.

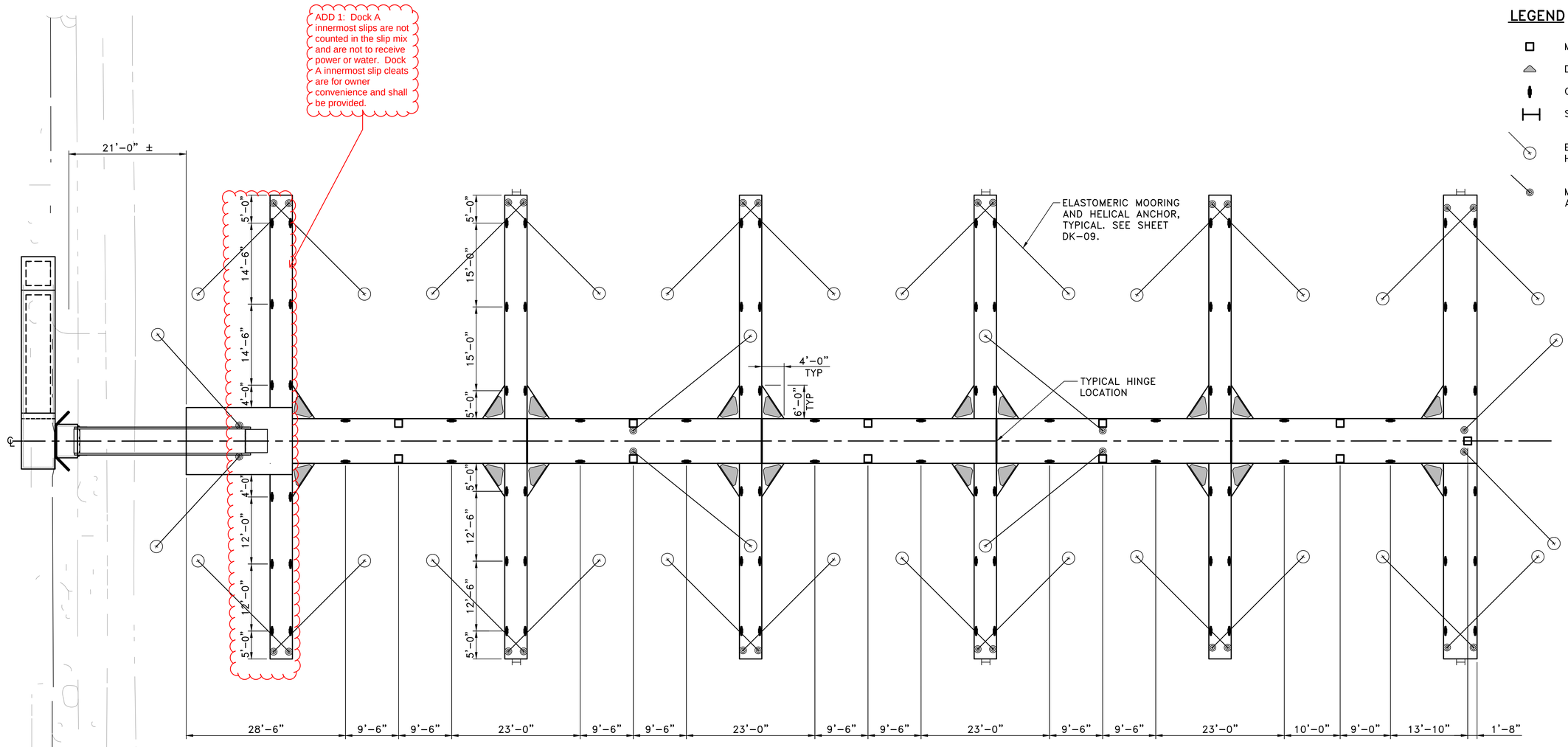
As discussed at meeting, HDCC will hold starting coordinate on DK_02 and S-02 for gangway mount at Pier A as constant. Therefore, straight end point of Pier A and starting and end points of Pier B now changed to their relative respective coordinates.

DOBOR concurs with HDCC's recommendation to hold Pier A gangway mount coordinate as starting point and extend Pier A by 2ft and have Pier B move 1 ft to east and extend 1 ft.

RFI 32: As sidewalk is skewed, found out that starting points of Pier A and Pier B are skewed, or not in line. HDCC using existing sidewalk to match abutment, and moving 6 inches forward or backwards as needed to follow sidewalk but also provide 4 ft long gangway pad. State took no exception to matching sidewalk, and said Pier A and Pier B do not need to line up straight across, just generally need to be parallel to each other.

AS-BUILT
08/31/2018

22" x 34"



LEGEND

- MARINE POWER CENTER
- DOCK BOX
- CLEAT
- SAFETY LADDER
- ELASTOMERIC MOORING AND HELICAL ANCHOR
- MOORING ATTACHMENT POINT AT FLOAT

DOCK "A" LAYOUT PLAN

SCALE: 1" = 10'-0"

SCALE: 1"=10'

NOTES:

1. THE FLOATING DOCK SYSTEM SHALL HAVE UTILITY RACEWAYS WITH REMOVABLE COVER ON BOTH SIDES OF THE MAIN WALK. THE INSTALLATION OF THE FLOATING DOCK SYSTEM SHALL INCLUDE CONNECTING THE FLEXIBLE ELECTRICAL LINES TO THE LIGHTING AND POWER OUTLETS AND THE FLEXIBLE WATER LINES TO THE HOSE BIBS AT THE MARINE POWER CENTERS.
2. THE MOORING LAYOUTS SHOW ARE CONCEPTUAL, THE CONTRACTORS ENGINEER SHALL BE RESPONSIBLE FOR DETERMINING THE FINAL MOORING LAYOUTS AND ANCHOR REQUIREMENTS BASED ON THE ACTUAL LOADS COMPUTED IN COMPLIANCE WITH DESIGN CRITERIA GIVEN ON SHEET DK-01.
3. COORDINATE LOCATIONS OF MOORING SYSTEM LINE SO AS TO NOT INTERFERE WITH KEEL CLEARANCE OF DESIGN VESSELS.

AS-BUILT
08/31/2018

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

MICHAEL J. MC CARTHY ★ LICENSED PROFESSIONAL ENGINEER NO. 11476 ★ HAWAII U.S.A.

LICENSE EXPIRATION DATE: 4/30/2018

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DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF BOATING AND OCEAN RECREATION

PORT ALLEN SMALL BOAT HARBOR
PIERS A & B REPLACEMENT
KAUAI, HI

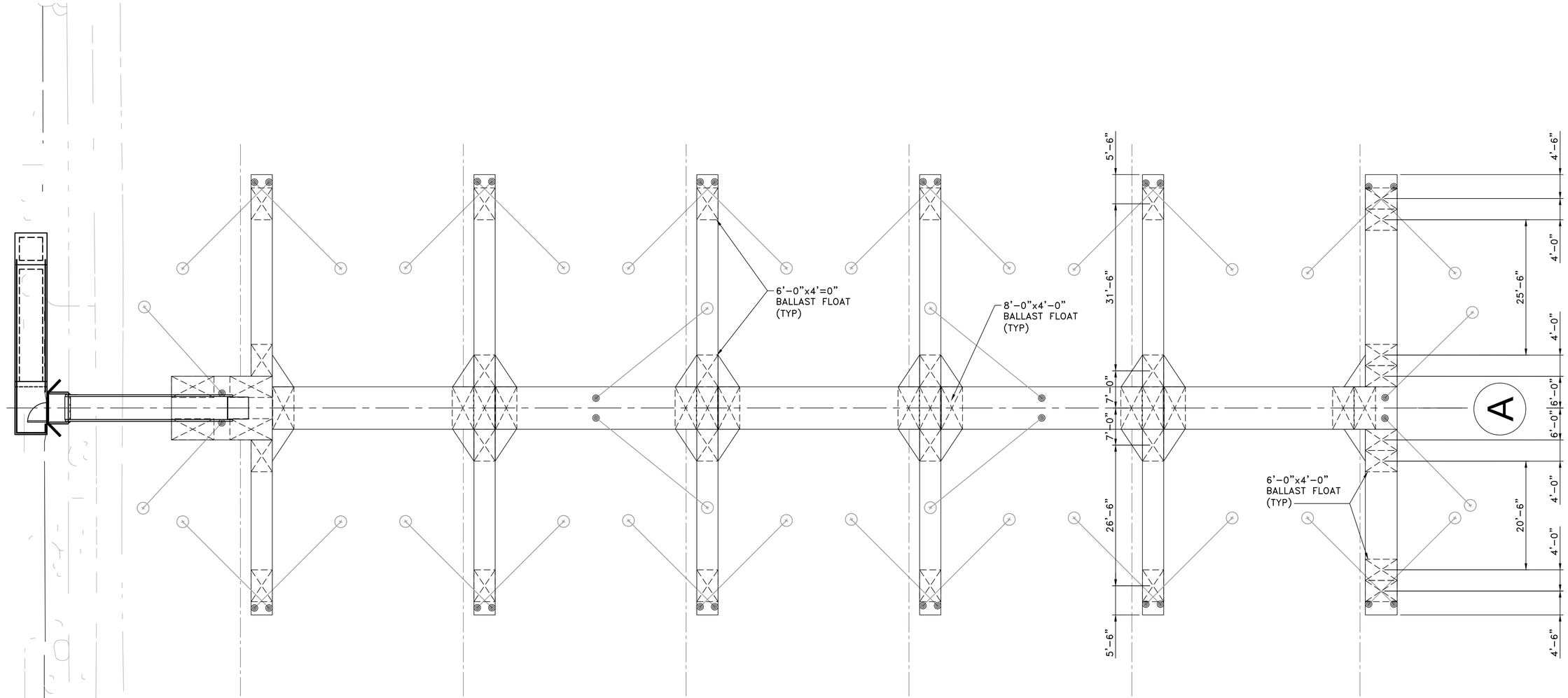
DOCK A LAYOUT PLAN

DESIGNED:	TM	SUBMITTED:	MAY 20, 2016
DRAWN:	KL	DATE:	MAY 20, 2016
CHECKED:	JH	SCALE:	AS NOTED

APPROVED: _____ CHIEF ENGINEER _____ DATE

DRAWING NO. **DK-03**

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DOCK "A" ADDED WATER BALLAST FLOATS – PLAN

SCALE: 1" = 10'-0"

NOTE:

IF DEEMED NECESSARY BY THE CONTRACTOR'S ENGINEER, WATER BALLAST FLOATS SHALL BE ADDED TO THE FLOATING DOCK FINGERS, MAIN WALKWAY, AND GANGWAY FLOAT TO ALLOW ADJUSTMENT IN FLOATING DOCK FREEBOARD AND TO PROVIDE A STABLE DOCK SURFACE.

LOCATIONS SHOWN ARE CONCEPTUAL. THE CONTRACTOR'S ENGINEER SHALL BE RESPONSIBLE FOR DETERMINING THE FINAL BALLAST LAYOUT BASED ON ACTUAL LOADS COMPUTED IN COMPLIANCE WITH DESIGN CRITERIA INDICATED AND SPECIFIED.

10' 0' 10' 20'

SCALE: 1"=10'

AS-BUILT
08/31/2018

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MICHAEL J. MC CARTHY
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NO. 11476
HAWAII U.S.A.

LICENSE EXPIRATION DATE: 4/30/2018

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PORT ALLEN SMALL BOAT HARBOR
PIERS A & B REPLACEMENT
KAUAI, HI

DOCK A – ADDED WATER BALLAST FLOATS – PLAN

DESIGNED:	TM	SUBMITTED:	MAY 20, 2016
DRAWN:	KL	DATE:	MAY 20, 2016
CHECKED:	JH	SCALE:	AS NOTED

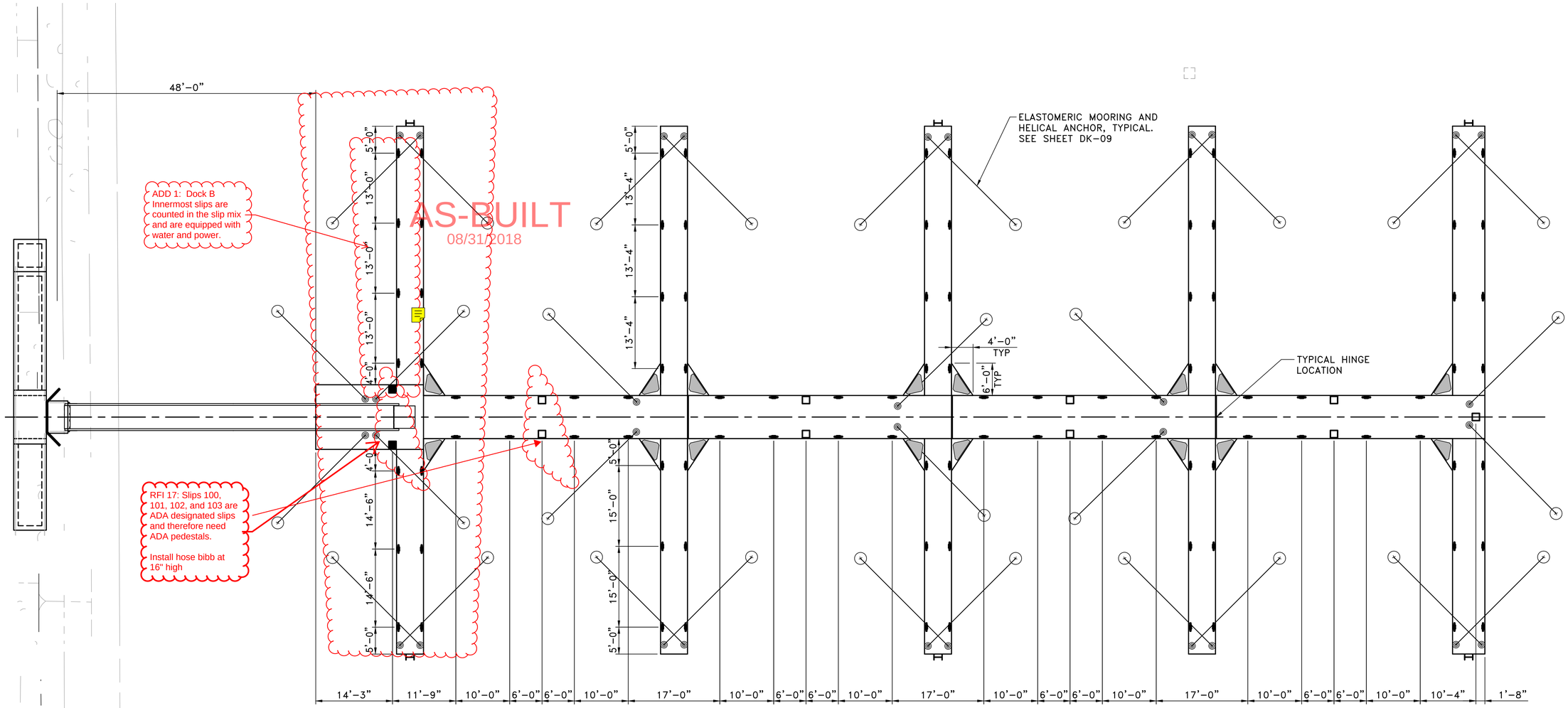
APPROVED: _____ CHIEF ENGINEER _____ DATE

DRAWING NO. **DK-04**

JOB NO. B94DK71A

SHEET NO. 17 OF 39 SHEETS

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08/31/2018

DOCK "B" LAYOUT PLAN

SCALE: 1" = 10'–0"

10' 0' 10' 20'

SCALE: 1''=10'

NOTES:

1. THE FLOATING DOCK SYSTEM SHALL HAVE UTILITY RACEWAYS, WITH REMOVABLE COVER, ON BOTH SIDES OF THE MAIN WALK. THE INSTALLATION OF THE FLOATING DOCK SYSTEM SHALL INCLUDE CONNECTING THE FLEXIBLE ELECTRICAL LINES TO THE LIGHTING AND POWER OUTLETS AND THE FLEXIBLE WATER LINES TO THE HOSE BIBBS AT THE MARINE POWER CENTERS.
2. THE MOORING LAYOUTS SHOW ARE CONCEPTUAL, THE CONTRACTORS ENGINEER SHALL BE RESPONSIBLE FOR DETERMINING THE FINAL MOORING LAYOUTS AND ANCHOR REQUIREMENTS BASED ON THE ACTUAL LOADS COMPUTED IN COMPLIANCE WITH DESIGN CRITERIA GIVEN ON SHEET DK–01.
3. COORDINATE LOCATIONS OF MOORING SYSTEM LINE SO AS TO NOT INTERFERE WITH KEEL CLEARANCE OF DESIGN VESSELS.

LEGEND

- MARINE POWER CENTER
- DOCK BOX
- CLEAT
- SAFETY LADDER
- ELASTOMERIC MOORING AND HELICAL ANCHOR
- MOORING ATTACHMENT POINT AT FLOAT

AS-BUILT
08/31/2018

REVISION NO.	SYM	DESCRIPTION	SHT./OF	DATE	APPROVED

MICHAEL J. MC CARTHY — LICENSED PROFESSIONAL ENGINEER NO. 11476 — HAWAII U.S.A.

LICENSE EXPIRATION DATE: 4/30/2018

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PORT ALLEN SMALL BOAT HARBOR
PIERS A & B REPLACEMENT
KAUAI, HI

DOCK B LAYOUT PLAN

DESIGNED:	TM	SUBMITTED:	MAY 20, 2016
DRAWN:	KL	DATE:	MAY 20, 2016
CHECKED:	JH	SCALE:	AS NOTED

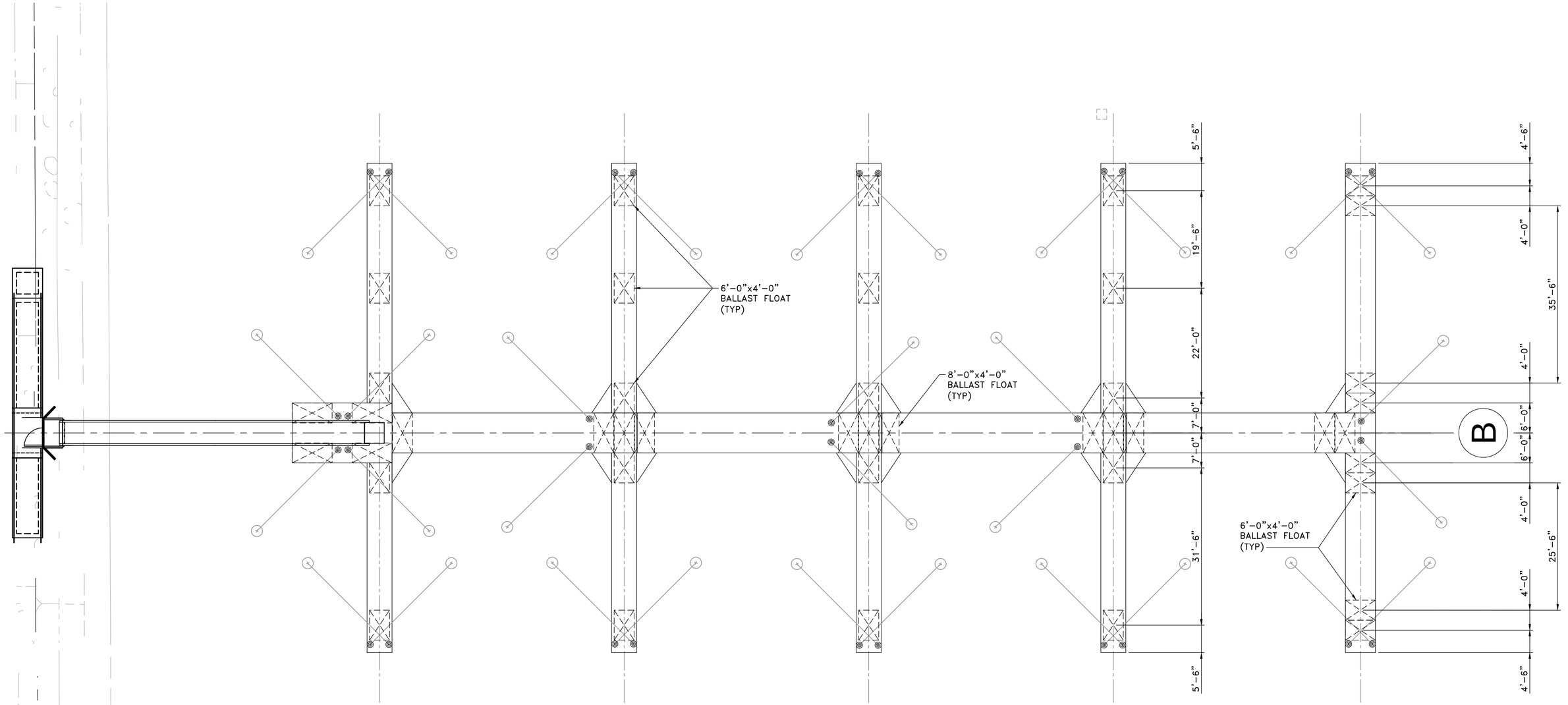
APPROVED: _____ CHIEF ENGINEER _____ DATE

DRAWING NO. **DK-05**

JOB NO. B94DK71A

SHEET NO. 18 OF 39 SHEETS

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DOCK "B" ADDED WATER BALLAST FLOATS – PLAN

SCALE: 1" = 10'–0"

10' 0' 10' 20'

SCALE: 1"=10'

NOTE:

IF DEEMED NECESSARY BY THE CONTRACTOR'S ENGINEER, WATER BALLAST FLOATS SHALL BE ADDED TO THE FLOATING DOCK FINGERS, MAIN WALKWAY, AND GANGWAY FLOAT TO ALLOW ADJUSTMENT IN FLOATING DOCK FREEBOARD AND TO PROVIDE A STABLE DOCK SURFACE.
LOCATIONS SHOWN ARE CONCEPTUAL. THE CONTRACTOR'S ENGINEER SHALL BE RESPONSIBLE FOR DETERMINING THE FINAL BALLAST LAYOUT BASED ON ACTUAL LOADS COMPUTED IN COMPLIANCE WITH DESIGN CRITERIA INDICATED AND SPECIFIED.

AS-BUILT
08/31/2018

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HAWAII U.S.A.

LICENSE EXPIRATION DATE: 4/30/2018

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DIVISION OF BOATING AND OCEAN RECREATION

PORT ALLEN SMALL BOAT HARBOR
PIERS A & B REPLACEMENT
KAUAI, HI

DOCK B – ADDED WATER BALLAST FLOATS – PLAN

DESIGNED:	TM	SUBMITTED:	MAY 20, 2016
DRAWN:	KL	DATE:	MAY 20, 2016
CHECKED:	JH	SCALE:	AS NOTED

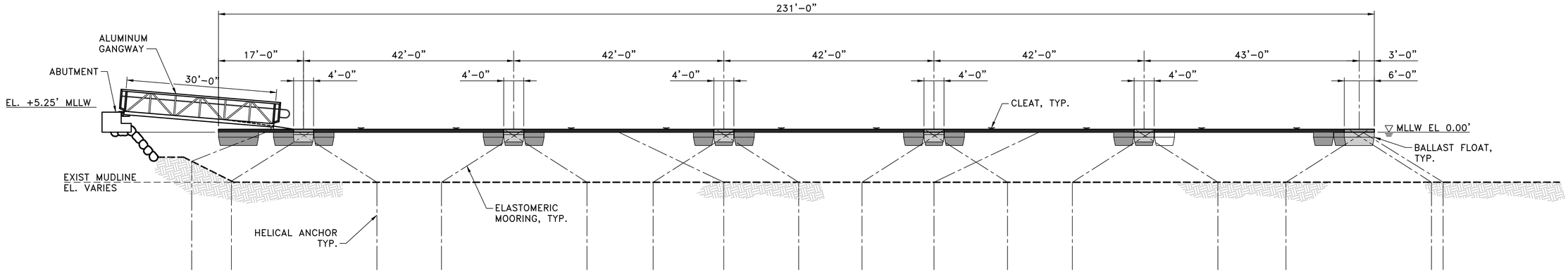
APPROVED: _____ DATE _____
CHIEF ENGINEER

DRAWING NO. **DK-06**

JOB NO. B94DK71A

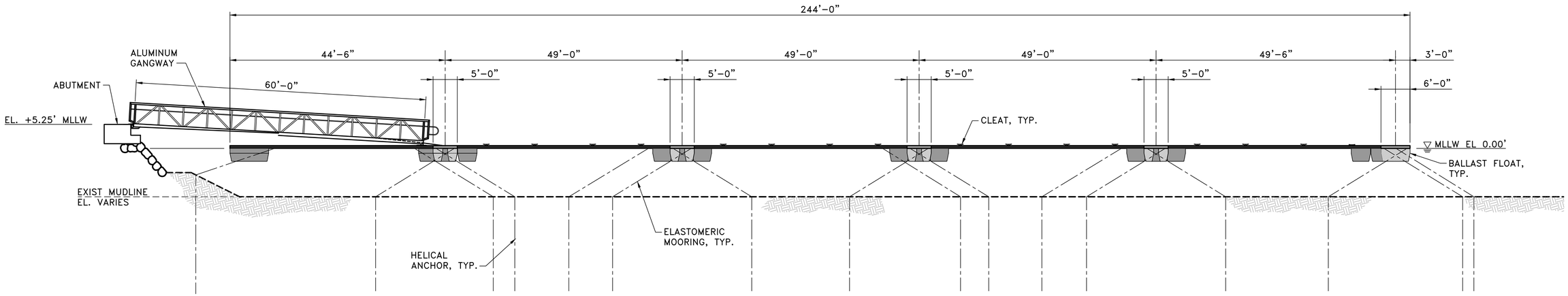
SHEET NO. 19 OF 39 SHEETS

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DOCK "A" – FLOATING DOCK ELEVATION

SCALE: 3/32" = 1'-0"



DOCK "B" – FLOATING DOCK ELEVATION

SCALE: 3/32" = 1'-0"

16'-0" 0'-0" 8'-0" 16'-0"

SCALE: 3/32"=1'-0"

NOTES:

1. SEE SHEET B-01 FOR LOCATIONS OF SOIL BORINGS. REFER TO GEOTECHNICAL SOIL REPORT FOR ADDITIONAL RECOMMENDATIONS.
2. REFER TO NOTES ON SHEET DK-03 FOR MORE INFORMATION.

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HAWAII U.S.A.

LICENSE EXPIRATION DATE: 4/30/2018

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Michael J. McCarthy

CHIEF ENGINEER

DATE

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DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF BOATING AND OCEAN RECREATION

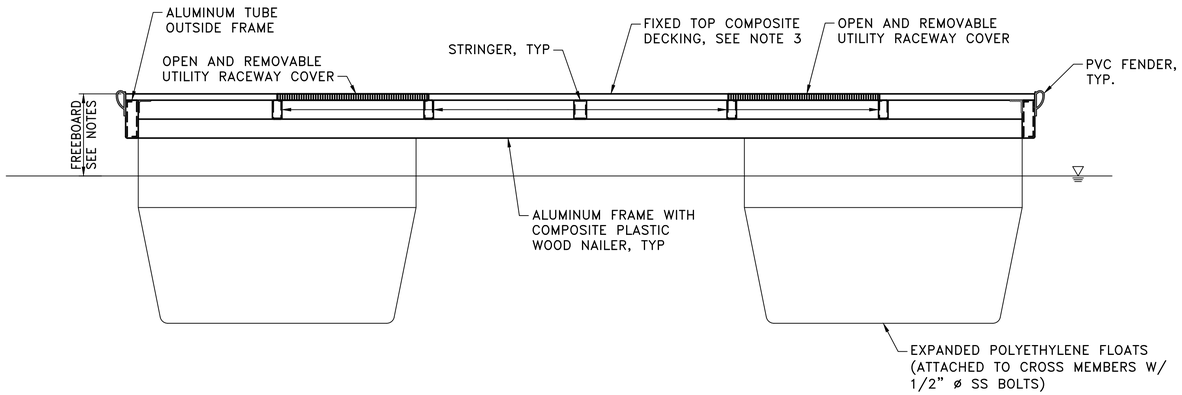
PORT ALLEN SMALL BOAT HARBOR
PIERS A & B REPLACEMENT
KAUAI, HI

FLOATING DOCK A AND B ELEVATIONS

DESIGNED:	TM	SUBMITTED:	MAY 20, 2016
DRAWN:	KL	DATE:	MAY 20, 2016
CHECKED:	JH	SCALE:	AS NOTED
APPROVED:			DRAWING NO. DK-07

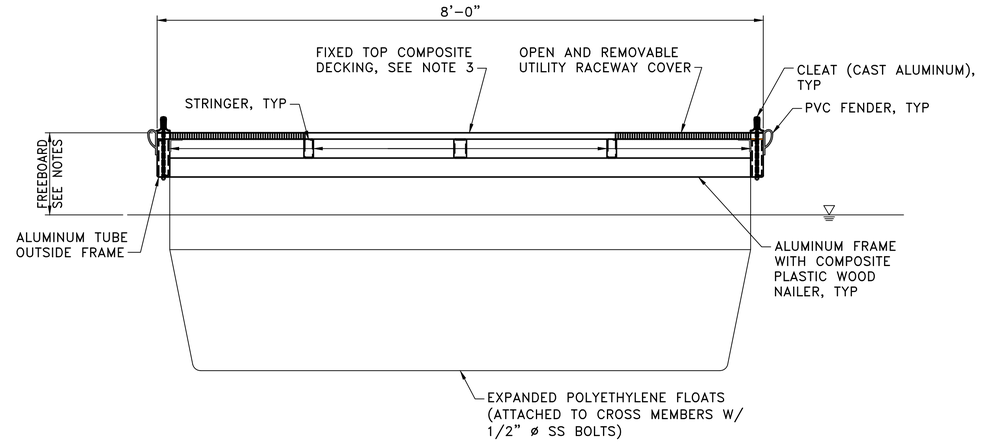
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08/31/2018

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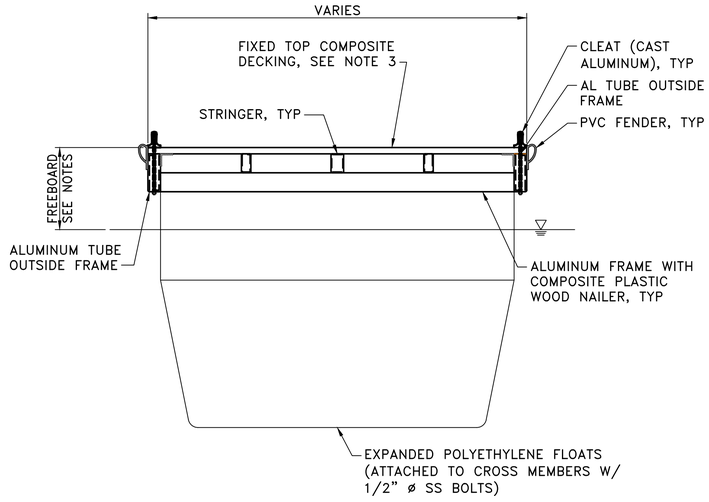
A DK-02 TYPICAL 12 FT WIDE DOCK SECTION

SCALE: 1"= 1'-0"



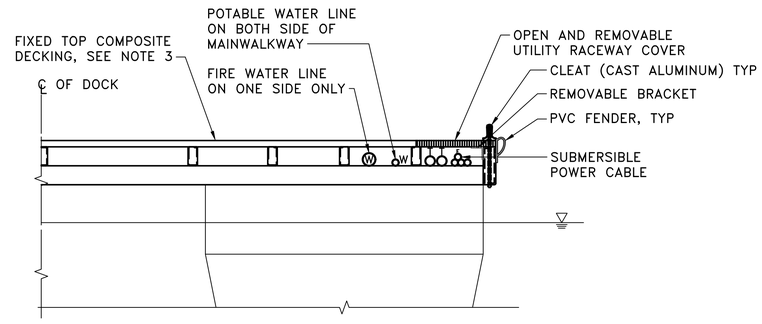
B DK-02 TYPICAL 8 FT WIDE DOCK SECTION

SCALE: 1"= 1'-0"



C DK-02 TYPICAL FINGER SECTION

SCALE: 1"= 1'-0"



1 DK-02 UTILITY RACEWAY DETAIL

SCALE: 1"= 1'-0"

1'-0" 0'-0" 1'-0" 2'-0"

SCALE: 1"=1'-0"

AS-BUILT
08/31/2018

NOTES:

1. SEE DK-01 FOR FREEBOARD REQUIREMENTS.
2. SEE DK-02 FOR DOCK DIMENSIONS.
3. DECKING SHALL BE REMOVABLE FOR FUTURE REPAIR OR REPLACEMENT. FASTEN W/COUNTER SUNK S.S. SCREWS TO COMPOSITE WOOD NAILER. (TYP)

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

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HAWAII U.S.A.

LICENSE EXPIRATION DATE: 4/30/2018

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PORT ALLEN SMALL BOAT HARBOR
PIERS A & B REPLACEMENT
KAUAI, HI

FLOATING DOCK SECTIONS

DESIGNED:	TM	SUBMITTED:	MAY 20, 2016
DRAWN:	KL	DATE:	MAY 20, 2016
CHECKED:	JH	SCALE:	AS NOTED

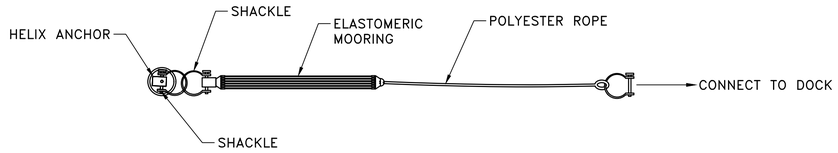
APPROVED: _____ DATE _____
CHIEF ENGINEER

DRAWING NO. **DK-08**

JOB NO. B94DK71A

SHEET NO. 21 OF 39 SHEETS

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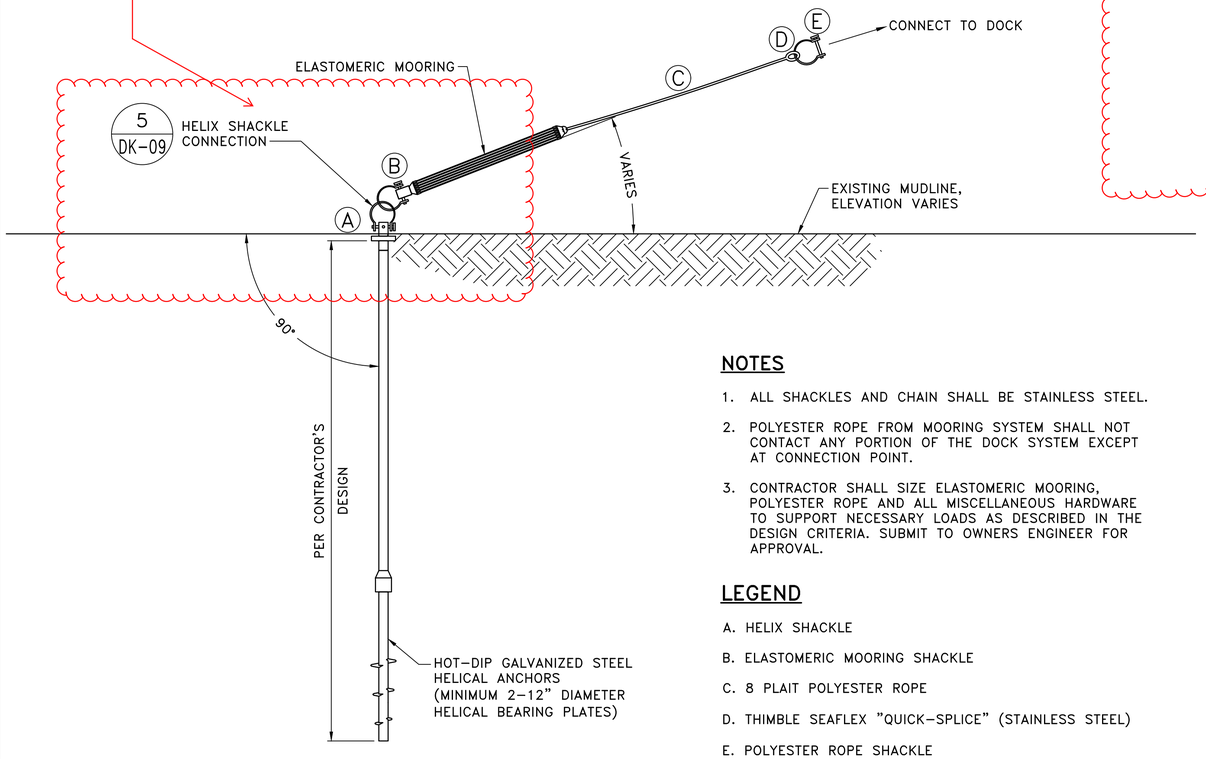


1 DK-09 ELASTOMERIC MOORING AND HELIX ANCHOR – PLAN VIEW

SCALE: NOT TO SCALE

ADD 1: Contractor's design engineer shall evaluate dissimilar metals and select. Shackles are HDG, which shall be minimum.

Submittal 6BR1: Providing HDG anchor shackle as HDG end for Seaflex



NOTES

1. ALL SHACKLES AND CHAIN SHALL BE STAINLESS STEEL.
2. POLYESTER ROPE FROM MOORING SYSTEM SHALL NOT CONTACT ANY PORTION OF THE DOCK SYSTEM EXCEPT AT CONNECTION POINT.
3. CONTRACTOR SHALL SIZE ELASTOMERIC MOORING, POLYESTER ROPE AND ALL MISCELLANEOUS HARDWARE TO SUPPORT NECESSARY LOADS AS DESCRIBED IN THE DESIGN CRITERIA. SUBMIT TO OWNERS ENGINEER FOR APPROVAL.

LEGEND

A. HELIX SHACKLE

B. ELASTOMERIC MOORING SHACKLE

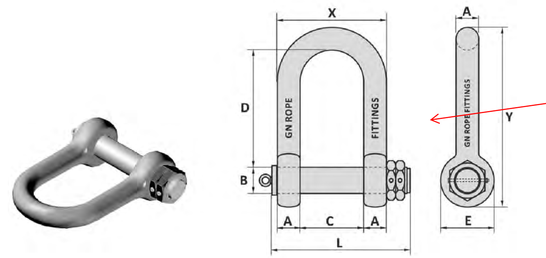
C. 8 PLAIT POLYESTER ROPE

D. THIMBLE SEAFLEX "QUICK-SPLICE" (STAINLESS STEEL)

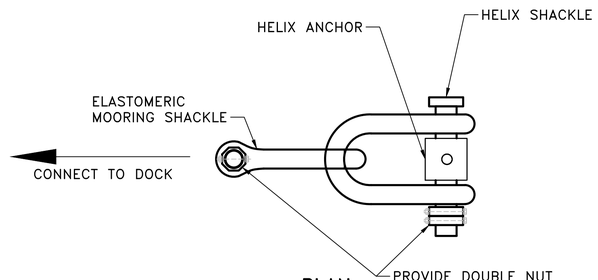
E. POLYESTER ROPE SHACKLE

3 DK-09 ELASTOMERIC MOORING AND HELIX ANCHOR – ELEVATION

SCALE: NOT TO SCALE



SHACKLE DETAIL



PLAN

5 DK-09 SHACKLE DETAIL

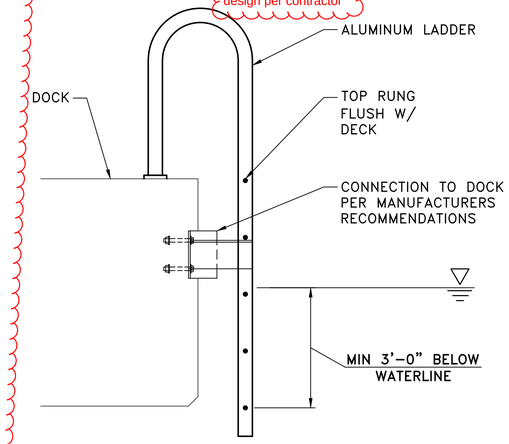
SCALE: NOT TO SCALE

Revised Stamped Drawings 3/12/18:

Drawings sent 3/12/18 added this detail.

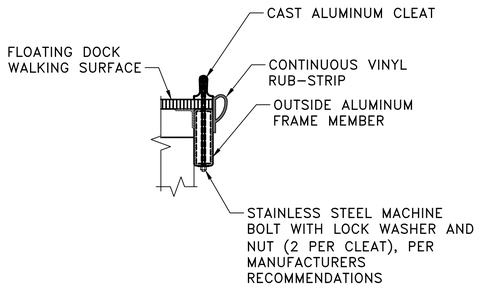
Different from 6/26/16 bid drawings

Do not use this detail per 3/27/18 progress meeting. Keep per design per contractor



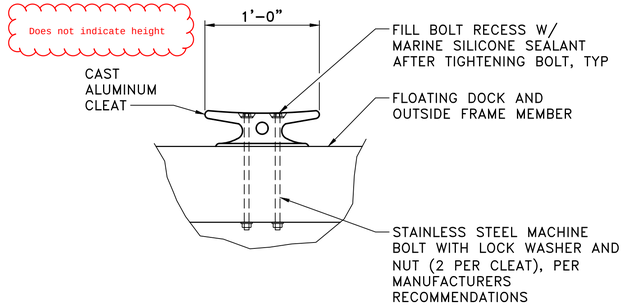
2 DK-09 SAFETY LADDER DETAIL

SCALE: NOT TO SCALE



SECTION

Does not indicate height



ELEVATION

4 DK-09 CLEAT DETAIL

SCALE: NOT TO SCALE

AS-BUILT
08/31/2018

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

LICENSED PROFESSIONAL ENGINEER NO. 11476 — MICHAEL J. MC CARTHY — HAWAII U.S.A.

LICENSE EXPIRATION DATE: 4/30/2018

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Michael J. McCarthy

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF BOATING AND OCEAN RECREATION

PORT ALLEN SMALL BOAT HARBOR
PIERS A & B REPLACEMENT
KAUAI, HI

DOCK DETAILS

DESIGNED:	TM	SUBMITTED:	MAY 20, 2016
DRAWN:	KL	DATE:	MAY 20, 2016
CHECKED:	JH	SCALE:	AS NOTED
APPROVED:			DRAWING NO. DK-09
CHIEF ENGINEER		DATE	

JOB NO. B94DK71A

SHEET NO. 22 OF 39 SHEETS

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A. CONCRETE

1. ALL CONCRETE SHALL HAVE A MINIMUM 28 DAYS COMPRESSIVE STRENGTH (fc') AS FOLLOWS:

   CAST-IN-PLACE CONCRETE . . . . . fc' = 5,000 PSI

2. CHAMFER ALL EXPOSED EDGES OF PILE CAPS, WALLS, AND CURBS 1/2" X 1/2" UNLESS OTHERWISE NOTED ON THE PLANS.

3. UNLESS OTHERWISE NOTED ON THE DRAWINGS, MINIMUM CLEAR CONCRETE PROTECTION FOR REINFORCEMENT SHALL BE PROVIDED AS FOLLOWS:

   CAST-IN-PLACE CONCRETE . . . . . 3"

B. REINFORCING STEEL

1. ALL REINFORCING STEEL SHALL BE EPOXY COATED IN ACCORDANCE WITH ASTM A775/A775M AND CONFORM TO THE FOLLOWING:

   #4 AND LARGER . . . . . ASTM A615, GRADE 60 KSI

   STIRRUPS . . . . . ASTM A615, GRADE 60 KSI

   WELDED WIRE FABRIC . . . . . ASTM A185, GALVANIZED

2. ALL BARS MARKED CONTINUOUS (CONT.) ON THE PLANS SHALL BE LAPPED 40 BARS DIAMETERS AT ALL LAPS, SPLICES, INTERSECTIONS, AND CORNERS. LAP TOP BARS AT MIDSPAN AND BOTTOM BARS AT SUPPORTS.

C. DESIGN LIVE LOADS (GANGWAY PLATFORM)

1. UNIFORM LIVE LOADS . . . . . 50 PSF

2. CONCENTRATED LIVE LOAD. . . . . 400 LBS

D. METALS AND HARDWARE

1. ALL PLATES, WASHERS, NUTS, ANCHOR BOLTS, INSERTS, AND OTHER NECESSARY HARDWARE EXPOSED TO THE WEATHER FOR SECURING THE PLASTIC FENDER, CHANNEL, CLEATS, PRECAST CONCRETE, AND FENDER BUMPERS SHALL CONFORM TO ASTM A167-88, TYPE 316 STAINLESS STEEL. INSTALL LOCK WASHERS AT ALL BOLT CONNECTIONS.

E. PLASTIC LUMBER

1. PLASTER LUMBER AND BEAMS SHALL BE IN ACCORDANCE WITH THE PROJECT SPECIFICATION.

FORMWORK AND SHORING

1. THE CONTRACTOR SHALL SUBMIT FORMWORK AND SHORING WORK SHOP DRAWINGS AND STRUCTURAL CALCULATIONS FOR ALL WORK REQUIRED. SHOP DRAWINGS AND CALCULATIONS SHALL BE STAMPED AND SIGNED BY A LICENSED HAWAII STRUCTURAL ENGINEER WITH A STATEMENT SAYING "THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION WILL BE UNDER MY OBSERVATION".

2. FORMWORK OVER WATER OR IN WATER SHALL BE WATER-TIGHT TO PREVENT CONCRETE FROM ENTERING THE WATER.

RFI 7: Per note 3 on S-01, assumed cover on top and bottom was 3" as was not noted otherwise. However, per RFI 7, topside Cover should be noted as 2" per ACI 318, and bottom side cover is noted as 3" per ACI 318. With 0.5" diameter for #4 bar each way, that will make slab 6" in thickness (2" top cover + 0.5" E-W #4 bar + 0.5" N-S #4 bar + 3" bottom cover)

1

12/28/17 Revised Structural Drawings:

Revised from Grade 40 ksi on bid drawings to Grade 60 ksi

1 REVISED BY STATE 12/28/17

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
		REVISED PER A.D.A. REQUIREMENTS		10/24/17	

MICHAEL J. MC CARTHY
LICENSED PROFESSIONAL ENGINEER NO. 11476
HAWAII U.S.A.

LICENSE EXPIRATION DATE: 4/30/2018

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Michael J. McCarthy

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF BOATING AND OCEAN RECREATION

PORT ALLEN SMALL BOAT HARBOR
PIERS A & B REPLACEMENT
KAUAI, HI

STRUCTURAL NOTES

DESIGNED:	TM	SUBMITTED:	MAY 20, 2016
DRAWN:	KL	DATE:	MAY 20, 2016
CHECKED:	JH	SCALE:	AS NOTED

APPROVED: _____ _____
CHIEF ENGINEER DATE

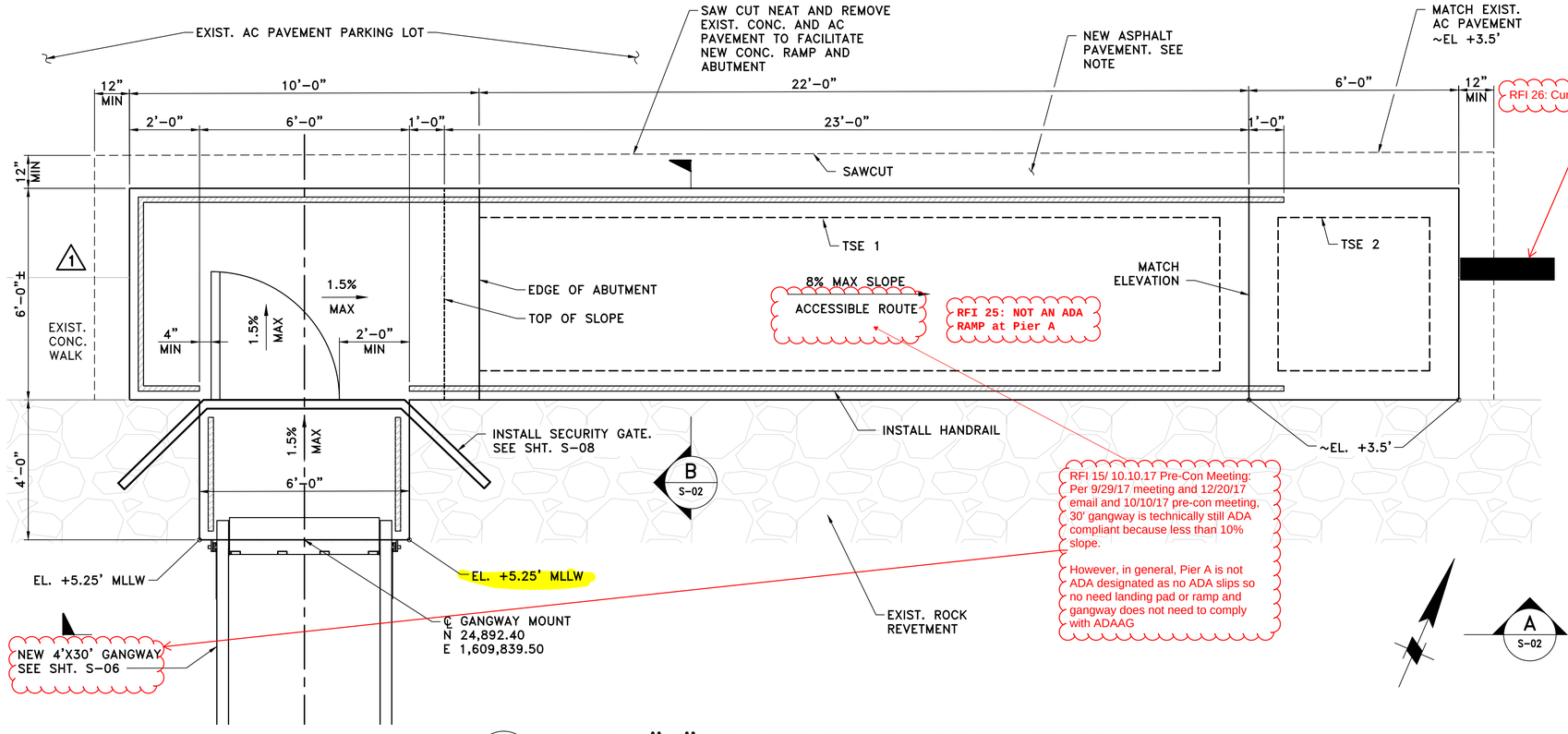
DRAWING NO. S-01

AS-BUILT
08/31/2018

JOB NO. B94DK71A

SHEET NO. 23 OF 39 SHEETS

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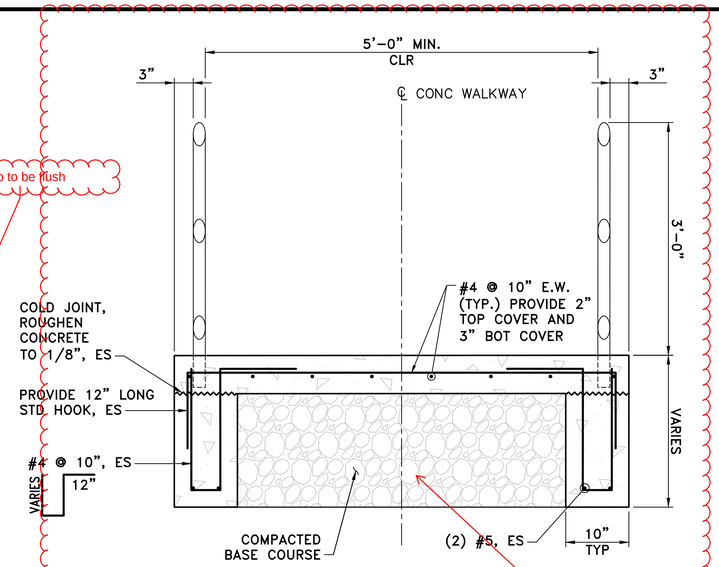


RFI 26: Curb to be flush

RFI 25: NOT AN ADA RAMP at Pier A

RFI 15/ 10.10.17 Pre-Con Meeting: Per 9/29/17 meeting and 12/20/17 email and 10/10/17 pre-con meeting, 30' gangway is technically still ADA compliant because less than 10% slope.

However, in general, Pier A is not ADA designated as no ADA slips so no need landing pad or ramp and gangway does not need to comply with ADAAG



B S-02 TYPICAL PLATFORM RAMP SECTION

SCALE: 1" = 1'-0"

S-03

RFI 41: CLSM backfill is ok

RFI 34: Longitudinal section cut similar. Even though no corner details, hook reinforcing, or finishing details, contractor to provide as required.

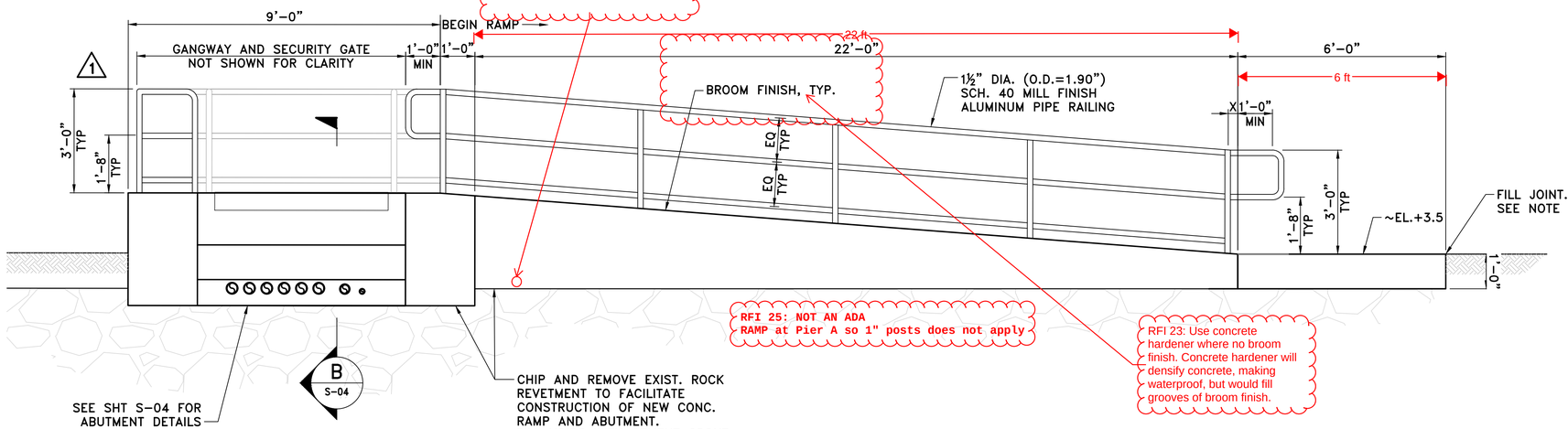
RFI 8: Detail added per RFI 8 that needed not just a thickened slab edge but walls to encapsulate fill

1 DK-02 DOCK "A" GANGWAY PLATFORM PLAN

SCALE: 1/2" = 1'-0"

RFI 33: Provide 2" drainage weep hole as taking away low point for storm water run off

RFI 25: NOT ADA RAMP



RFI 25: NOT AN ADA RAMP at Pier A so 1" posts does not apply

RFI 23: Use concrete hardener where no broom finish. Concrete hardener will densify concrete, making waterproof, but would fill grooves of broom finish.

A S-02 DOCK "A" GANGWAY PLATFORM ELEVATION

SCALE: 1/2" = 1'-0"

NOTE:

1. USE 1/2" THICK PREMOLDED JOINT FILLER WITH SEALANT AT JOINTS BETWEEN RAMP AND ABUTMENT.
2. NEW ASPHALT PAVEMENT:

   2" ASPHALT PAVEMENT. STATE MIX IV ON 6" COMPACTED BASE COURSE.

REVISED BY STATE 12/28/17

RFI 25: 2/1/18 STATE DRAWING CONFIRMS THAT OVERRIDES 1/26/18 ADA CHANGES TO THIS DRAWING

1'-0" 0'-0" 1'-0" 2'-0"
SCALE: 1''=1'-0"

2'-0" 0'-0'' 2'-0" 4'-0"
SCALE: 1/2"=1'-0''

AS-BUILT
08/31/2018

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
	⚠	REVISED PER A.D.A. REQUIREMENTS		10/24/17	

MICHAEL J. MC CARTHY ★ LICENSED PROFESSIONAL ENGINEER NO. 11476 ★ HAWAII U.S.A.

LICENSE EXPIRATION DATE: 4/30/2018

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Michael J. McCarthy

CHIEF ENGINEER DATE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF BOATING AND OCEAN RECREATION

PORT ALLEN SMALL BOAT HARBOR
PIERS A & B REPLACEMENT
KAUAI, HI

DOCK A GANGWAY APPROACH DETAILS

DESIGNED:	TM	SUBMITTED:	MAY 20, 2016
DRAWN:	KL	DATE:	MAY 20, 2016
CHECKED:	JH	SCALE:	AS NOTED
APPROVED:		DRAWING NO.	S-02

JOB NO. B94DK71A

SHEET NO. 24 OF 39 SHEETS

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RFI 25: 2/1/18 REVISIONS APPLY

NEW ½" THICK PREMOLDED JOINT FILLER W/ SEALANT ALL AROUND

EXIST. AC PAVEMENT PARKING LOT

6/7/18 Field Visit:
ADA Patch Required
Blue- Non Compliant Area
Green- Patch Repair

SAW CUT NEAT AND REMOVE EXIST. CONC. AND AC PAVEMENT TO FACILITATE NEW CONC. RAMP AND ABUTMENT

NEW ASPHALT PAVEMENT. SEE NOTE

MATCH EXIST. AC PAVEMENT ~EL +3.5'

12" MIN | 16'-0" | 10'-0" | 1'-0" | 7'-0" | 1'-0" | 22'-0" | 23'-0" | 1'-0" | 6'-0" | 12" MIN

12" MIN

6'-0"

EXIST. CONC. WALK

6.0 ft

RFI 26: Cut back 6 ft

RFI 30: No guardpost required at space

INSTALL NEW HANDRAILING, TYP.

RFI 31: Construction joints responsibility of contractor as means and method. Provided crack control as shown in submittal #22R1 Formwork.

Submittal #22R1: Dowels provided to assist in keeping ramp walls upright during construction. Because as remove forming, walls could be unstable and could fall. Dowels lock it into abutment to keep from falling.

TSE

MATCH EXIST. ELEVATION

1:12 MAX SLOPE

RFI 25: NOT ADA RAMP

EDGE OF ABUTMENT

TOP OF SLOPE

4" MIN

1.5% MAX

2'-0" MIN

1.5% MAX

4'-0"

1.5% MAX

6'-0"

1.5 ft

2.6 ft

EDGE OF ABUTMENT

TOP OF SLOPE

INSTALL SECURITY GATE. SEE SHT. S-08

B S-02

EL. +5.25' MLLW

EL. +5.25' MLLW

℄ GANGWAY MOUNT
N 24,962.83
E 1,610,002.22

NEW 60' GANGWAY SEE SHT. S-05

1 DK-02 DOCK "B" GANGWAY PLAN

SCALE: 1/2" = 1'-0"

TSE 1

SAWCUT

8% MAX SLOPE

ACCESSIBLE ROUTE

RFI 25: ADA RAMP

INSTALL HANDRAIL

EXIST. ROCK REVETMENT

RFI 25: Provide directional sign at ramp

TSE 2

MATCH ELEVATION

~EL. +3.5'

RFI 26: Keep flush

A S-03

RFI 42: The hand rail on the harbor side railing may be 1-1/4" or 1-1/2". Either size complies with ADAAG. We confirm it is acceptable to fill the annular space between the 1" and 1-1/2" via welding.

RFI 44: 16 ft which still meets ADA standards per Dean Aoki on 6/7/18 inspection

1" DIA. SCH. 40 MILL FINISH ALUM. PIPE VERT. SUPPORTS
NOTE: 1" VERT. SUPPORTS ONLY REQUIRED FOR ADA RAMP. STATE on 4/4/18 EMAIL SAID PLACING 1" DIA POST FOR ONLY TOP SECTION AND THEN TRANSITIONING BACK TO A 1-1/2" DIA POST FOR INTO RAMP

2

RFI 25: Provide directional sign at ramp

BEGIN RAMP | 8'-0" | BEGIN RAMP

16'-0" | 1'-0" | 1'-0" | GANGWAY AND SECURITY GATE NOT SHOWN FOR CLARITY | 1'-0" MIN | 1'-0" | 1'-0" | 22'-0" | 6'-0"

1½" DIA. (O.D.=1.90") SCH. 40 MILL FINISH ALUMINUM PIPE RAILING

1'-0" X MIN

3'-0" TYP

1'-8" TYP

EQ TYP

EQ TYP

12" MIN. TO ROUNDED SECTION

BROOM FINISH, TYP.

RFI 44: 16 ft

EQ TYP

EQ TYP

1½" DIA. (O.D.=1.90") SCH. 40 MILL FINISH ALUMINUM PIPE RAILING

1'-0" X MIN

3'-0" TYP

1'-8" TYP

3.5" FR. BOTTOM OF PIPE TO RAMP SURFACE

~EL.+3.5

FILL JOINT. SEE NOTE

1'-0"

MATCH EXIST. ~EL. +3.9'

RFI 25: NOT ADA RAMP

RFI 33: Provide 2" drainage weep hole as taking away low point for storm water run off

B S-04

SEE SHT S-04 FOR ABUTMENT DETAILS

RFI 25: ADA RAMP

CHIP AND REMOVE EXIST. ROCK REVETMENT TO FACILITATE CONSTRUCTION OF NEW CONC. RAMP AND ABUTMENT. FILL VOIDS WITH CEMENT GROUT.

A S-03 DOCK "B" GANGWAY PLATFORM ELEVATION

SCALE: 1/2" = 1'-0"

AS-BUILT
08/31/2018

5/15/18 progress meeting: State said to provide posts for both guardrail and handrail at 4 ft oc spacing (max)

2'-0" 0'-0" 2'-0" 4'-0"

SCALE: 1/2"=1'-0"

2

REVISED BY STATE PER A.D.A. REQUIREMENTS 2/1/18

NOTES:

1. USE ½" THICK PREMOLDED JOINT FILLER WITH SEALANT AT JOINTS BETWEEN RAMP AND ABUTMENT.

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
		REVISED PER A.D.A. REQUIREMENTS		10/24/17	

MICHAEL J. MC CARTHY ★ LICENSED PROFESSIONAL ENGINEER NO. 11476 ★ HAWAII U.S.A.

LICENSE EXPIRATION DATE: 4/30/2018

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Michael J. McCarthy

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF BOATING AND OCEAN RECREATION

PORT ALLEN SMALL BOAT HARBOR
PIERS A & B REPLACEMENT
KAUAI, HI

DOCK B GANGWAY APPROACH DETAILS

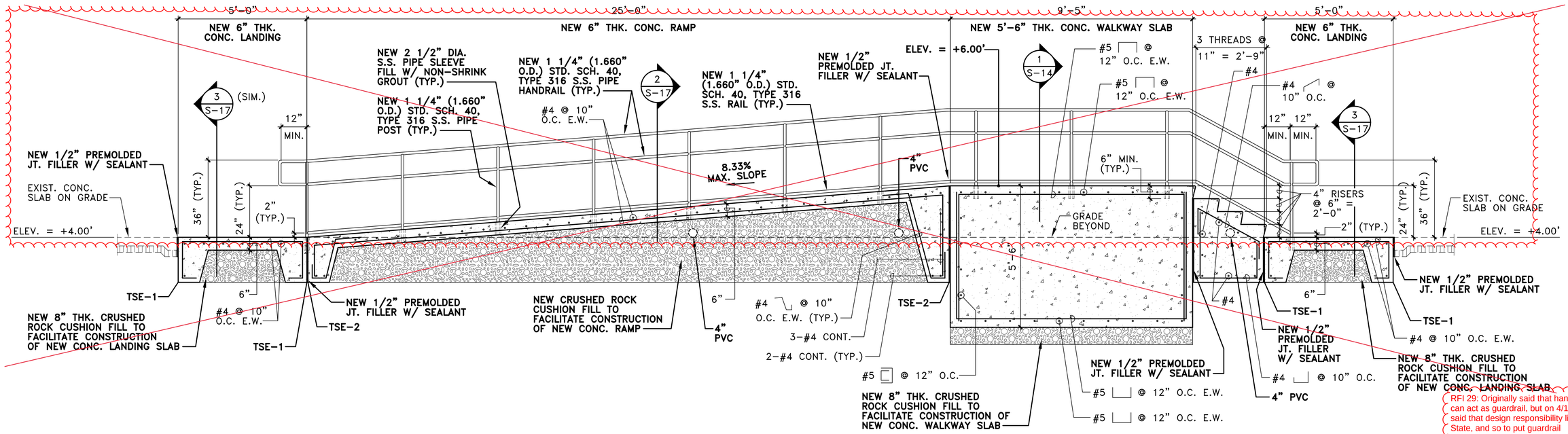
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DRAWN:	TM	DATE:	MAY 20, 2016
CHECKED:	JH	SCALE:	AS NOTED
APPROVED:			
CHIEF ENGINEER		DATE	

DRAWING NO. S-03

JOB NO. B94DK71A

SHEET NO. 25 OF 39 SHEETS

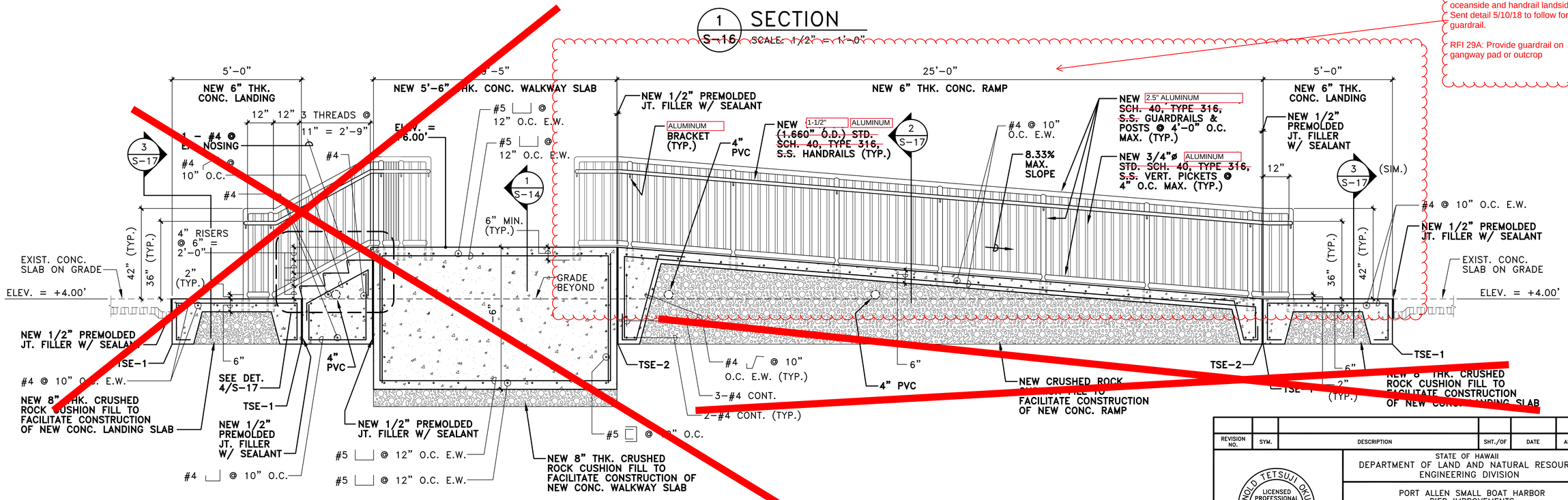
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1 S-16 SECTION
SCALE: 1/2" = 1'-0"

RFI 29: Originally said that handrail can act as guardrail, but on 4/12/18, said that design responsibility lies with State, and so to put guardrail oceanside and handrail landside. Sent detail 5/10/18 to follow for guardrail.

RFI 29A: Provide guardrail on gangway pad or outcrop



2 S-16 SECTION
SCALE: 1/2" = 1'-0"

5/15/18 progress meeting: State said to provide posts for both guardrail and handrail at 4 ft oc spacing (max)

Detail provided in 5/11/18 email

AS-BUILT
08/31/2018

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

ARNOLD TETSUJI OKUBO * LICENSED PROFESSIONAL ENGINEER * No. 4173-S * HAWAII, U.S.A. *

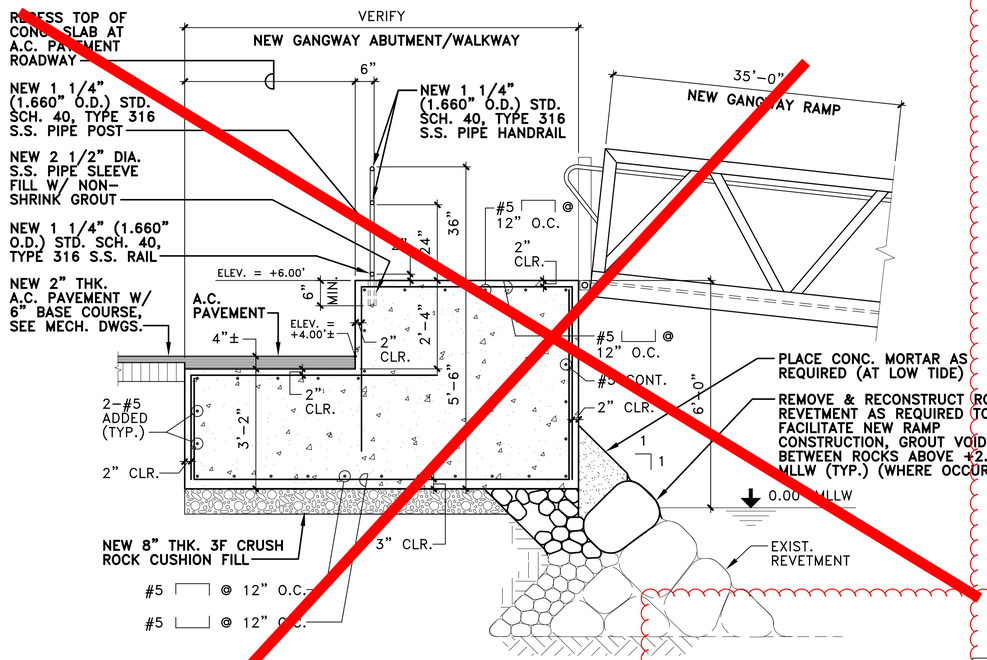
PORT ALLEN SMALL BOAT HARBOR
PIER IMPROVEMENTS
ELEELE, KAUAI, HAWAII

CONCRETE RAMP AND STAIRWAY – SECTIONS

This work was prepared by me or under my supervision.
Arnold T. Okubo
Expiration date of the license: 04/30/2014

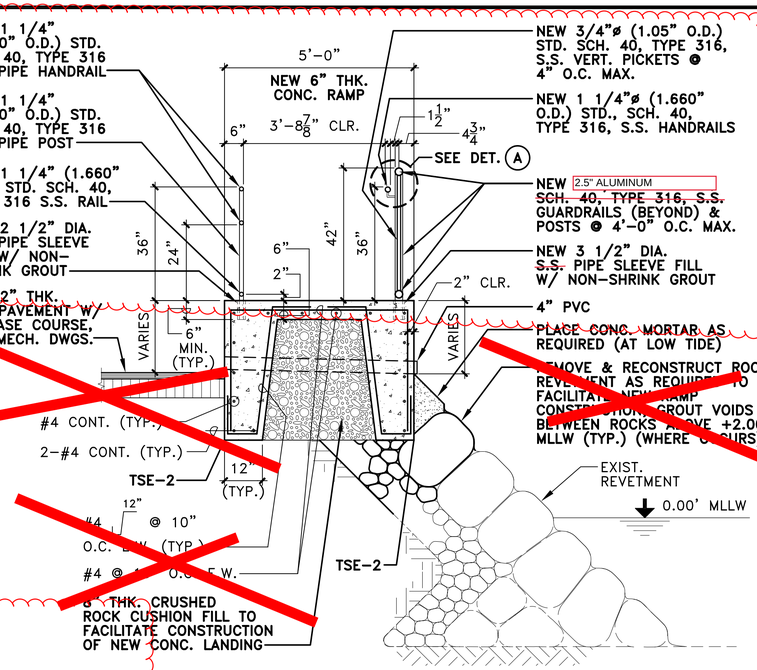
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DRAWN:	RMA/LC	DATE:	MAY 24, 2012
CHECKED:	ATO	SCALE:	AS SHOWN
APPROVED:		DRAWING NO.	S - 16
CHIEF ENGINEER		DATE	

05/22/2012



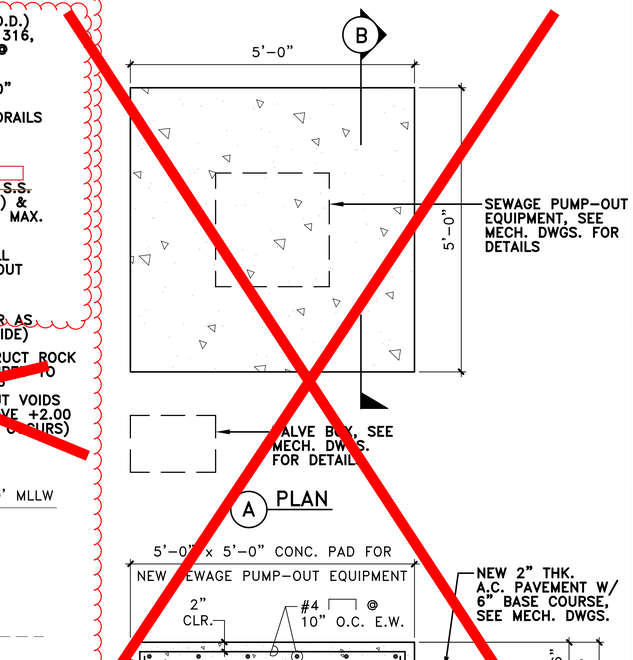
CONDITION @ CONCRETE WALKWAY

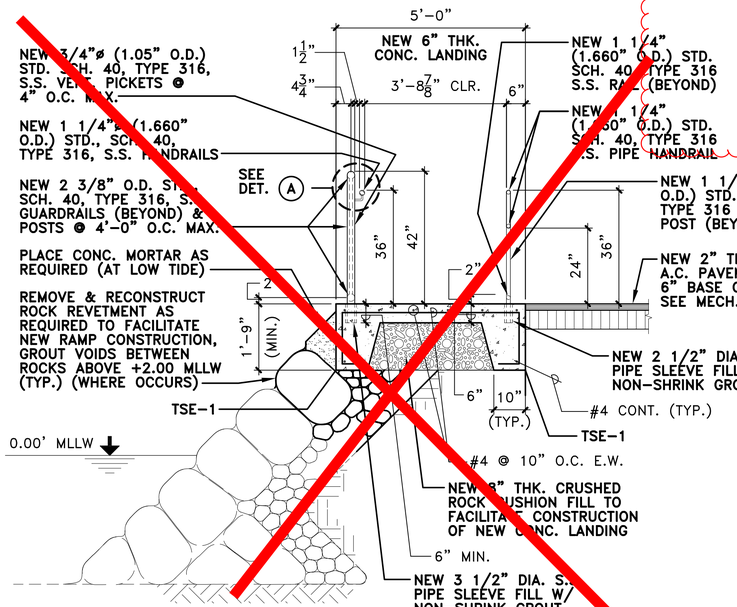
1 S-17 SECTION
SCALE: 1/2" = 1'-0"



CONDITION @ CONCRETE RAMP

2 S-17 SECTION
SCALE: 1/2" = 1'-0"

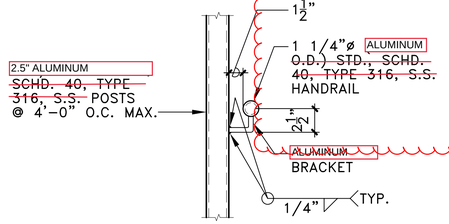




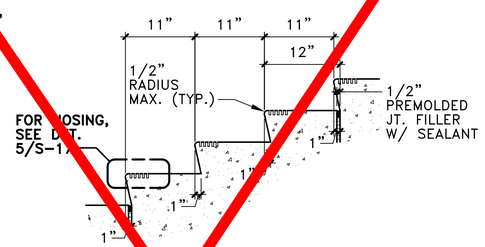
CONDITION @ CONCRETE LANDING

3 S-17 SECTION
SCALE: 1/2" = 1'-0"

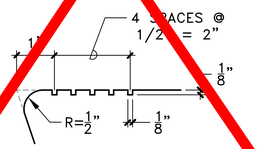
Detail provided in 5/11/18 email



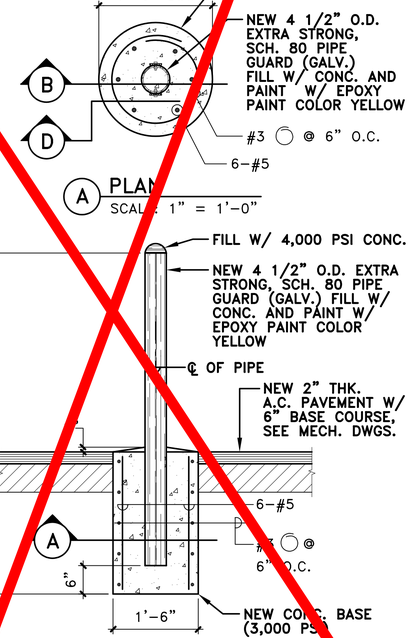
A HANDRAIL DETAIL
SCALE: 1 1/2" = 1'-0"



4 S-17 TYPICAL STEP DETAIL
SCALE: 1" = 1'-0"

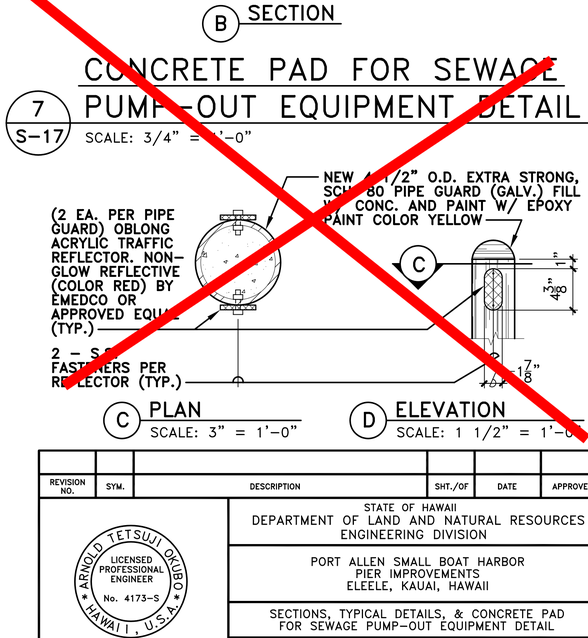


5 S-17 NOSING DETAIL
NOT TO SCALE



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

6 S-17 NEW PIPE GUARD DETAIL
SCALE AS SHOWN



REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

PORT ALLEN SMALL BOAT HARBOR
PIER IMPROVEMENTS
ELEELE, KAUAI, HAWAII

SECTIONS, TYPICAL DETAILS, & CONCRETE PAD FOR SEWAGE PUMP-OUT EQUIPMENT DETAIL

ARNOLD TETSUJI OKUBO — LICENSED PROFESSIONAL ENGINEER — No. 4173-S — HAWAII, U.S.A.

This work was prepared by me or under my supervision.

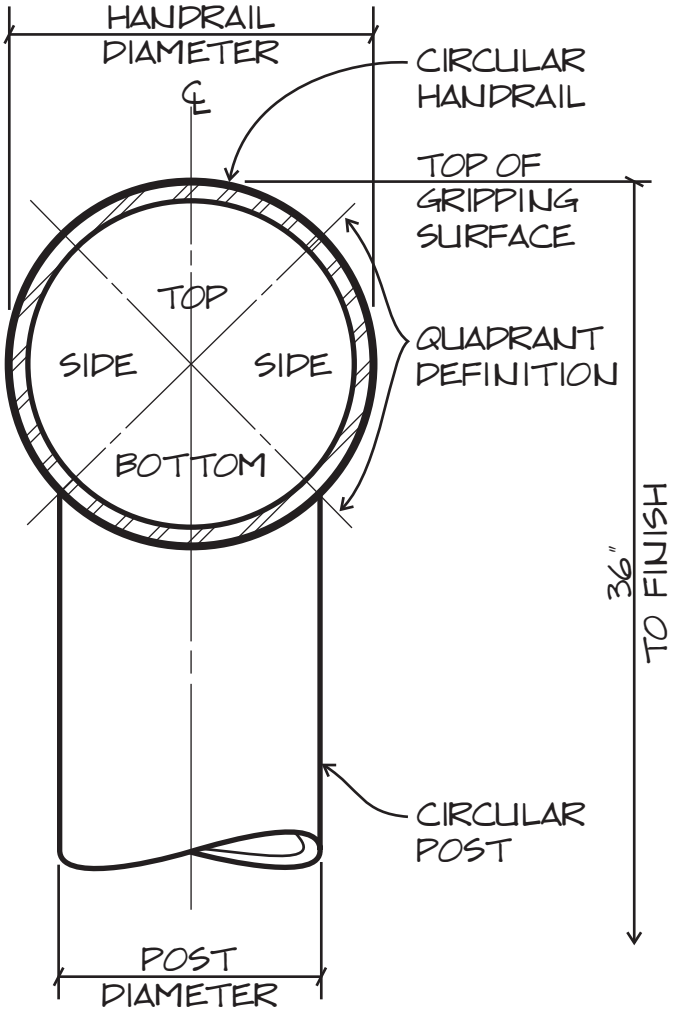
Expiration date of the license: 04/30/2014

DESIGNED:	ATO	SUBMITTED:	
DRAWN:	RMA/LC	DATE:	MAY 24, 2012
CHECKED:	ATO	SCALE:	AS SHOWN
APPROVED:			DRAWING NO. S - 17
CHIEF ENGINEER		DATE	

05/22/2012

JOB NO. B94CK71A

SHEET NO. 18 OF 29 SHEETS



DETAIL

505 HANDRAIL

505.4 HEIGHT

TOP OF HANDRAIL GRIPPING SURFACES SHALL BE 34" MIN. AND 38" MAX. VERTICAL ABOVE SURFACES.

DLNR: 36" TO SURFACES.

505.6 GRIPPING SURFACE

SHALL BE CONTINUOUS AND SHALL NOT BE OBSTRUCTED ALONG THEIR TOPS OR SIDES.

DLNR: SEE CHART BELOW USING

MAX. POST DIAMETER = HANDRAIL DIAMETER X SIN (90/2)

BOTTOMS SHALL NOT BE OBSTRUCTED MORE THAN 20% OF THEIR LENGTH.

505.7.1 CIRCULAR CROSS SECTION

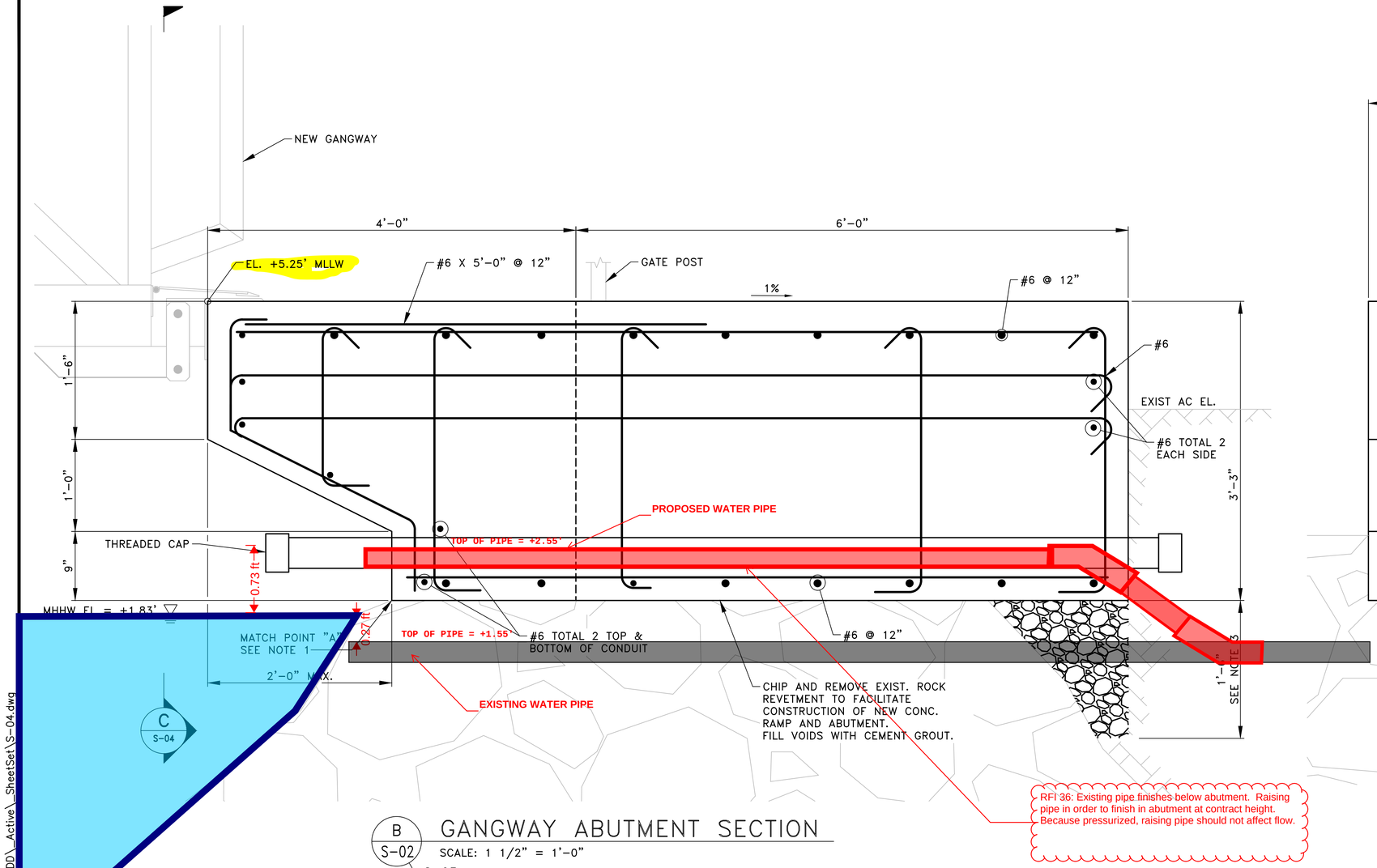
SHALL HAVE OUTSIDE DIA. OF 1-1/4" MIN. AND 2" MAX.

DLNR: 1-1/2" Ø PIPE HANDRAIL

PIPE HANDRAIL			VERTICAL PIPE POST	
NOMINAL DIAMETER	ACTUAL OUTSIDE DIAMETER	BOTTOM QUADRANT	NOMINAL DIAMETER	ACTUAL OUTSIDE DIAMETER
1"	1.315"	0.930"	1/2"	0.840"
1-1/4"	1.660"	1.174"	3/4"	1.050"
→ 1-1/2"	1.900"	1.344"	→ 1"	1.315"

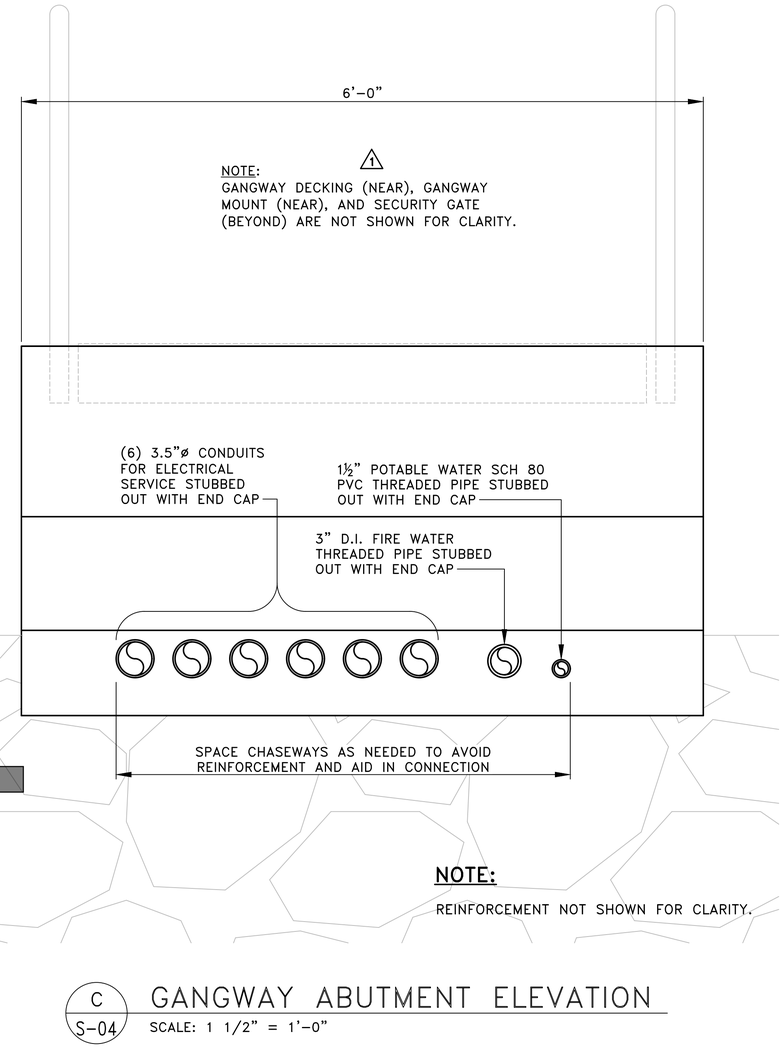
AS-BUILT
08/31/2018

Department of Land and Natural Resources, State of Hawaii	Ref: 2010 ACCESSIBILITY STANDARDS Subj: 505.6 GRIPPING SURFACE 505.7 CROSS SECTION Scale: NOT TO SCALE	Title: TECHNICAL CLARIFICATION CIRCULAR HANDRAIL ON CIRCULAR POSTS	Drwg No. 505.6 DLNR: DA 11/15/2013 DCAB: MH 11/15/2013



B S-02 S-03 GANGWAY ABUTMENT SECTION

SCALE: 1 1/2" = 1'–0"



C S-04 GANGWAY ABUTMENT ELEVATION

SCALE: 1 1/2" = 1'–0"

NOTES:

1. EXTEND MATCH POINT "A" TO MEET EXIST. SLOPE.
2. CAP ALL UTILITY STUBS TO PROTECT IN PLACE UNTIL FINAL CONNECTION IS MADE.
3. EXCAVATE AND PLACE COMPACTED BASE COURSE WHERE EXIST. RIP RAP DOES NOT OCCUR.

1'–0" 0'–0'' 6" 1'–0"

SCALE: 1 1/2"=1'–0''

REVISION NO.	SYM	DESCRIPTION	SHT./OF	DATE	APPROVED
	1	REVISED PER A.D.A. REQUIREMENTS		10/24/17	

MICHAEL J. MC CARTHY ★ LICENSED PROFESSIONAL ENGINEER NO. 11476 ★ HAWAII U.S.A.

LICENSE EXPIRATION DATE: 4/30/2018

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Michael J. McCarthy

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF BOATING AND OCEAN RECREATION

PORT ALLEN SMALL BOAT HARBOR
PIERS A & B REPLACEMENT
KAUAI, HI

GANGWAY ABUTMENT SECTION AND DETAILS

DESIGNED:	TM	SUBMITTED:	MAY 20, 2016
DRAWN:	KL	DATE:	MAY 20, 2016
CHECKED:	JH	SCALE:	AS NOTED

APPROVED: _____ DATE _____
CHIEF ENGINEER

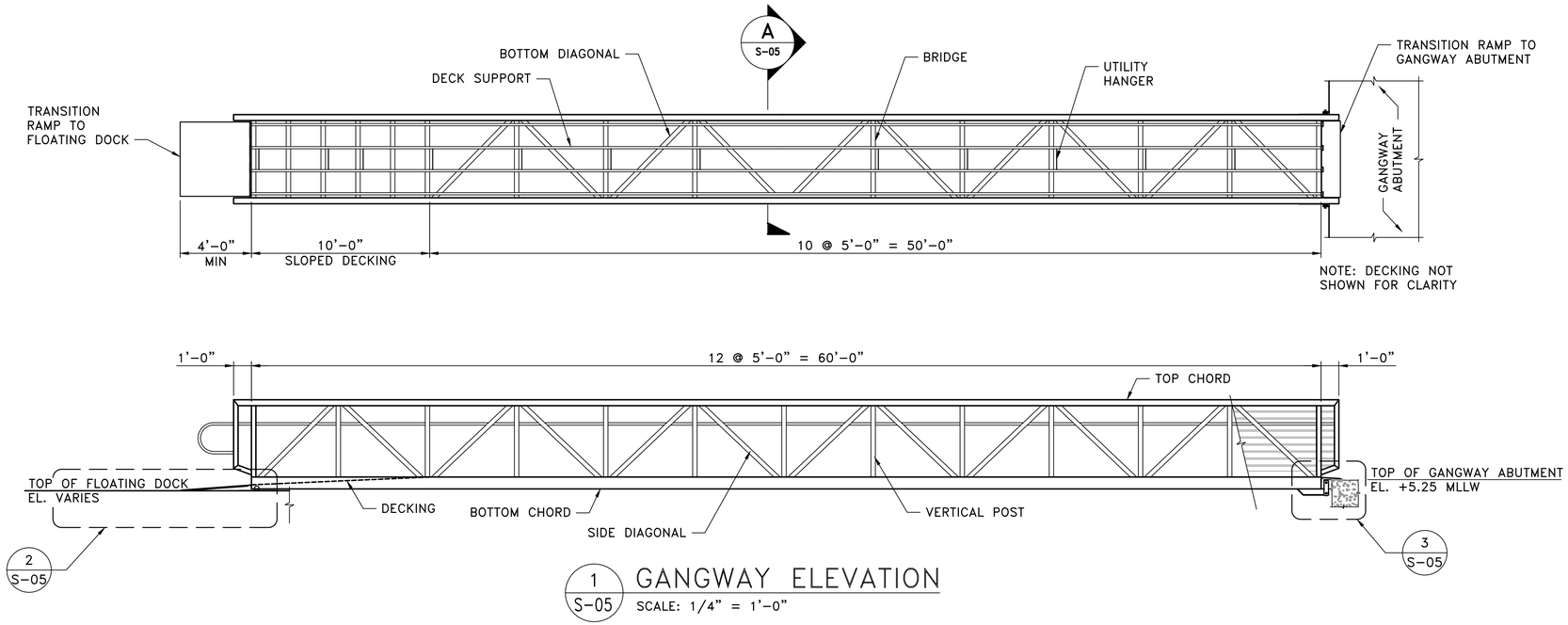
DRAWING NO. **S-04**

AS-BUILT
08/31/2018

JOB NO. B94DK71A

SHEET NO. 26 OF 39 SHEETS

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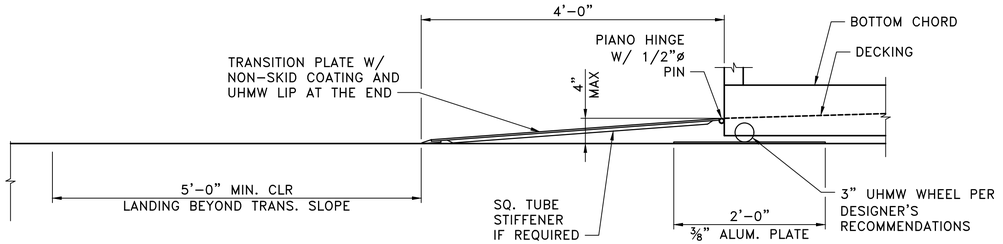


1 S-05 GANGWAY ELEVATION

SCALE: 1/4" = 1'-0"

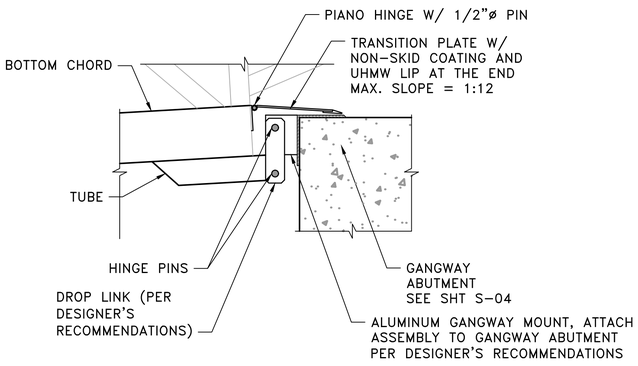
NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR STRUCTURAL STABILITY DURING CONSTRUCTION. THE STRUCTURE SHOWN ON THE DRAWINGS HAS BEEN DESIGNED FOR STABILITY IN THE FINAL CONFIGURATION ONLY.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR STRUCTURAL DESIGN AND DETAILING OF THE GANGWAY AND MOUNTING HARDWARE SHOWN ON THIS SHEET. REFER TO SHEET S-01 FOR PERFORMANCE SPECIFICATION.
3. ADJUSTABLE GANGWAY MUST BE FUNCTIONAL OVER ENTIRE TIDAL RANGE. NO PORTION OF GANGWAY SHALL BE SUBJECT TO SUBMERSION.
4. GANGWAY, RAMP, AND TRANSITION PLATE SHALL MEET CURRENT ADA ACCESSIBILITY GUIDELINES FOR RECREATIONAL FACILITIES. AS SUCH MINIMUM LENGTHS AND MAXIMUM ALLOWED SLOPES SHALL BE MAINTAINED BETWEEN ALL DESIGN WATER LEVELS.
5. FRAMING SHALL BE 6061-T6 OR 6063-T6 ALUMINUM ALLOY CONFORMING TO ASTM B-209, B-221, AND B-303.
6. RAILING SHALL BE 6061-T6 ALUMINUM PIPE AND TUBING ASTM B-429. A 4" SPHERE SHALL NOT BE ABLE TO PASS THROUGH THE RAILING. RAILING SHALL EXTEND 1' BEYOND GANGWAY LENGTH AS SHOWN ABOVE.
7. DIRECT CONTACT BETWEEN ALUMINUM AND DISSIMILAR METALS IS NOT PERMITTED.



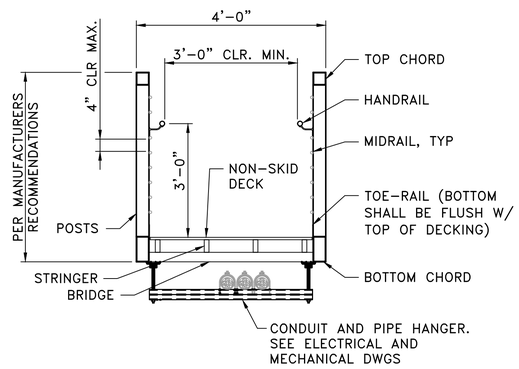
2 S-05 GANGWAY DETAIL (FLOATING DOCK END)

SCALE: 1/4" = 1'-0"



3 S-05 GANGWAY DETAIL (ABUTMENT END)

SCALE: 1"= 1'-0"



A S-05 GANGWAY SECTION

SCALE: 1/2"= 1'-0"

AS-BUILT
08/31/2018

4'-0" 0'-0" 4'-0" 8'-0"
SCALE: 1/4"=1'-0"
2'-0" 0'-0" 2'-0" 4'-0"
SCALE: 1/2"=1'-0"
1'-0" 0'-0" 1'-0" 2'-0"
SCALE: 1"=1'-0"

REVISION NO.	SYM	DESCRIPTION	SHT./OF.	DATE	APPROVED
		REVISED PER A.D.A. REQUIREMENTS		10/24/17	

MICHAEL J. MC CARTHY ★ LICENSED PROFESSIONAL ENGINEER NO. 11476 ★ HAWAII U.S.A.

LICENSE EXPIRATION DATE: 4/30/2018

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Michael J. McCarthy

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF BOATING AND OCEAN RECREATION

PORT ALLEN SMALL BOAT HARBOR
PIERS A & B REPLACEMENT
KAUAI, HI

4X60 ADA GANGWAY SECTIONS AND DETAILS

DESIGNED:	TM	SUBMITTED:	MAY 20, 2016
DRAWN:	KL	DATE:	MAY 20, 2016
CHECKED:	JH	SCALE:	AS NOTED

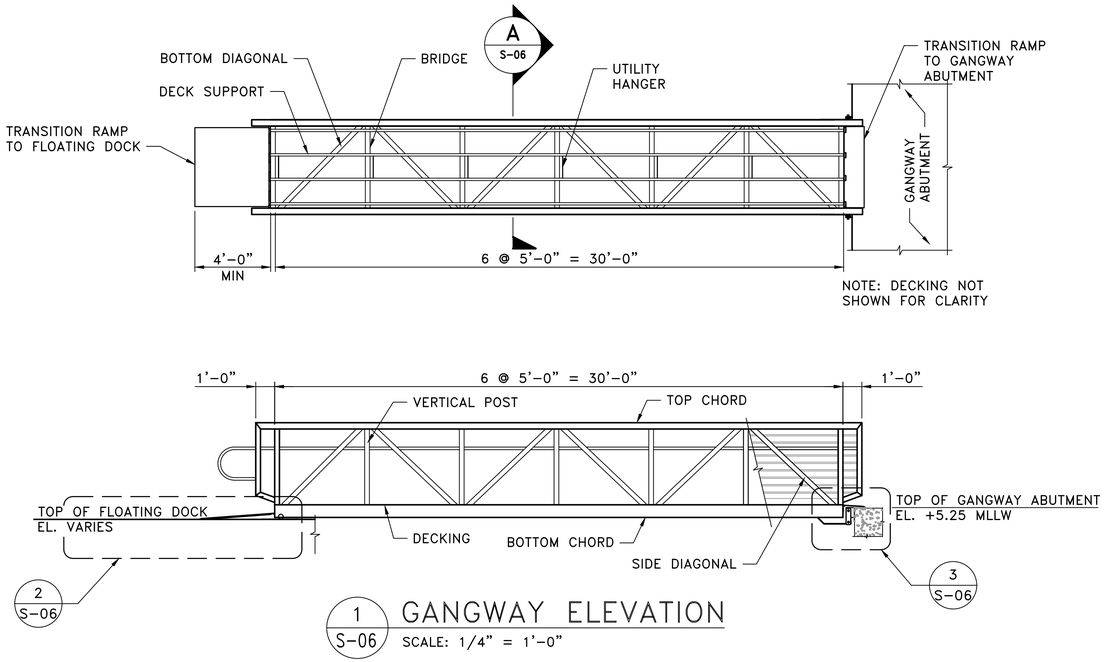
APPROVED: _____ DATE _____
CHIEF ENGINEER

DRAWING NO. **S-05**

JOB NO. B94DK71A

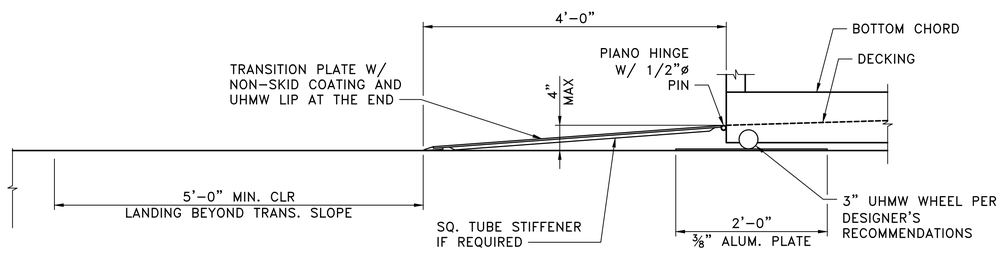
SHEET NO. 27 OF 39 SHEETS

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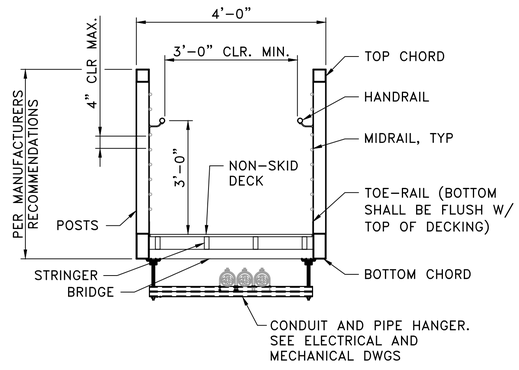
1 S-06 GANGWAY ELEVATION

SCALE: 1/4" = 1'-0"



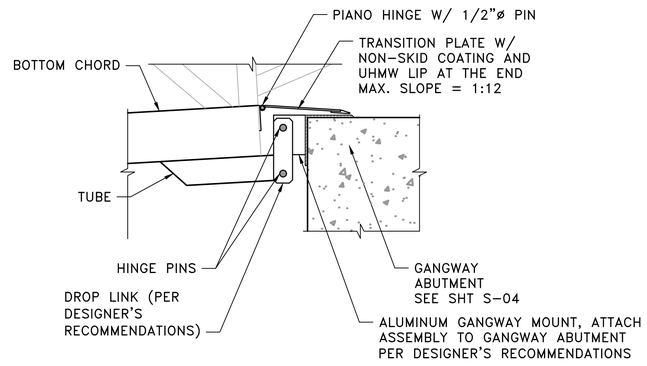
2 S-06 GANGWAY DETAIL (FLOATING DOCK END)

SCALE: 1/4" = 1'-0"



A S-06 GANGWAY SECTION

SCALE: 1/2"= 1'-0"



3 S-06 GANGWAY DETAIL (ABUTMENT END)

SCALE: 1"= 1'-0"

NOTES:

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2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR STRUCTURAL DESIGN AND DETAILING OF THE GANGWAY AND MOUNTING HARDWARE SHOWN ON THIS SHEET. REFER TO SHEET S-01 FOR PERFORMANCE SPECIFICATION.
3. ADJUSTABLE GANGWAY MUST BE FUNCTIONAL OVER ENTIRE TIDAL RANGE. NO PORTION OF GANGWAY SHALL BE SUBJECT TO SUBMERSION.
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7. DIRECT CONTACT BETWEEN ALUMINUM AND DISSIMILAR METALS IS NOT PERMITTED.

RFI 15, RFI 25, 10/10/17 Pre-Con Meeting:
Per 9/29/17 meeting and 12/20/17 email, for variable gangway, allowed ADA slope is 10% or less, not 8% as is standard for ramps, so gangway is ok for ADA.

Therefore, while this slope is 8.39% at low tide, as it is variable slope, it is ok.

However, Pier A is not ADAAG compliant so irrelevant.

AS-BUILT
08/31/2018

4'-0" 0'-0" 4'-0" 8'-0"
SCALE: 1/4"=1'-0"
2'-0" 0'-0" 2'-0" 4'-0"
SCALE: 1/2"=1'-0"
1'-0" 0'-0" 1'-0" 2'-0"
SCALE: 1"=1'-0"

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
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MICHAEL J. MC CARTHY
LICENSED PROFESSIONAL ENGINEER NO. 11476
HAWAII U.S.A.

LICENSE EXPIRATION DATE: 4/30/2018

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STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF BOATING AND OCEAN RECREATION

PORT ALLEN SMALL BOAT HARBOR
PIERS A & B REPLACEMENT
KAUAI, HI

4X30 GANGWAY SECTIONS AND DETAILS

DESIGNED:	TM	SUBMITTED:	MAY 20, 2016
DRAWN:	TM	DATE:	MAY 20, 2016
CHECKED:	JH	SCALE:	AS NOTED

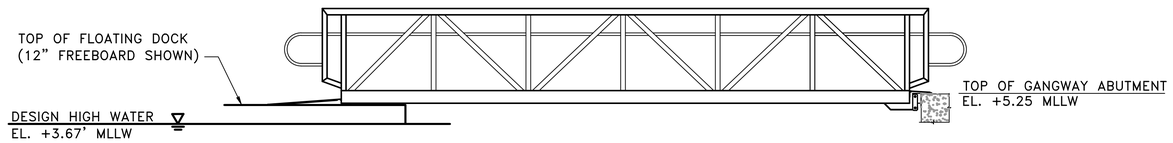
APPROVED: _____ DATE _____
CHIEF ENGINEER

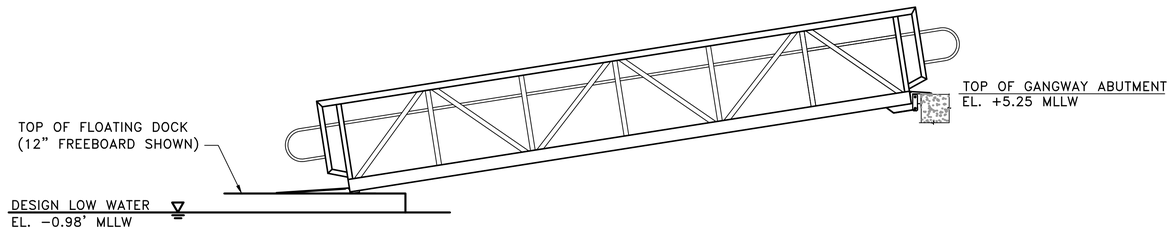
DRAWING NO. S-06

JOB NO. B94DK71A

SHEET NO. 28 OF 39 SHEETS

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1 / S-07 4'x30' GANGWAY TIDAL RANGE

SCALE: 1/4" = 1'-0"

1 / S-07 4'x60' GANGWAY TIDAL RANGE

SCALE: 1/4" = 1'-0"

AS-BUILT
08/31/2018

4'-0" 0'-0'' 4'-0" 8'-0"

SCALE: 1/4"=1'-0''

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
		REVISED PER A.D.A. REQUIREMENTS		10/24/17	

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NO. 11476
HAWAII U.S.A.

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Michael J. McCarthy

CHIEF ENGINEER DATE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
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PORT ALLEN SMALL BOAT HARBOR
PIERS A & B REPLACEMENT
KAUAI, HI

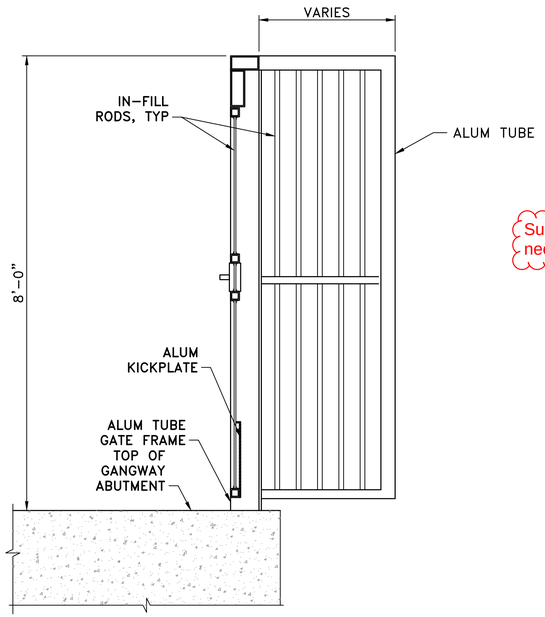
GANGWAY ELEVATIONS

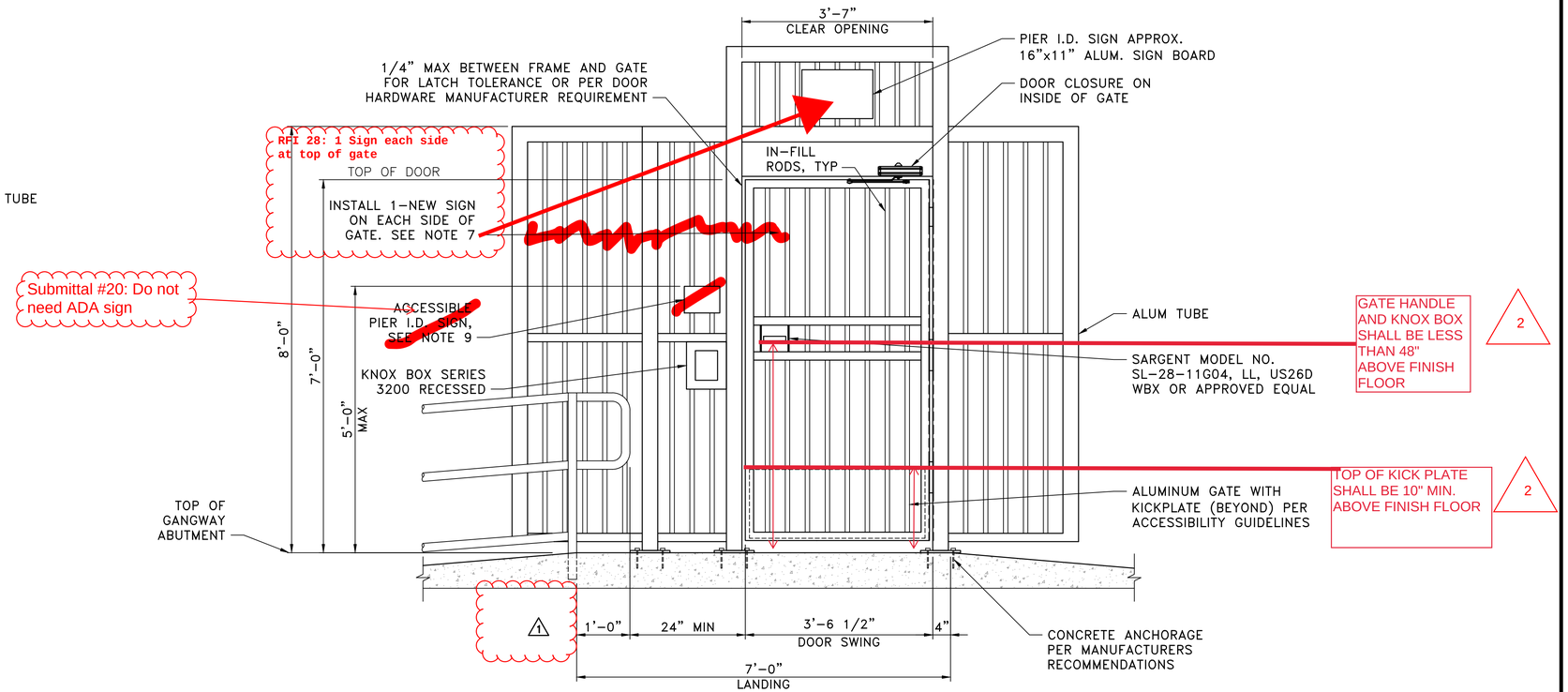
DESIGNED:	TM	SUBMITTED:	MAY 20, 2016
DRAWN:	TM	DATE:	MAY 20, 2016
CHECKED:	JH	SCALE:	AS NOTED
APPROVED:		DRAWING NO.	S-07

JOB NO. B94DK71A

SHEET NO. 29 OF 39 SHEETS

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1 / S-02 SECURITY GATE DETAILS
S-03
SCALE: 3/4"= 1'-0"

SECURITY GATE NOTES

1. GATE AND FENCE MEMBER SIZES SHOWN ARE FOR INFORMATION ONLY. FINAL SIZES AND DESIGN TO BE DETERMINED BY THE CONTRACTOR. MATERIALS TO BE ALUMINUM (PER SPECIFICATIONS) WITH MATTE FINISH.
2. ANY MISCELLANEOUS WELDS SHALL BE THE SAME SIZE AS MATERIAL THICKNESS OF THE THINNER PART JOINED.
3. ALL ALUMINUM MEMBER THICKNESS SHALL BE $\frac{1}{4}$" UNLESS NOTED OTHERWISE.
4. FENCE AND GATE SHALL HAVE FULL-COVERAGE OF CONSTRUCTION SCREENING (OR SIMILAR) TO PREVENT REACH-IN.
5. DESIGN ALL FENCES WITH RETURNS TO PREVENT HUMAN INTRUSION. DETAIL A SAFE YET EFFECTIVE EDGE DETAIL TO DETER CLIMBING VAGRANCY.
6. GATES SHALL BE DESIGNED PER IBC SECTION 1008 AND 1133B. MAXIMUM EFFORT TO OPERATE GATES SHALL NOT EXCEED 5 LBF.
7. PRIOR TO INSTALLING NEW SIGNS, CONTRACTOR TO VERIFY SIGNAGE REQUIREMENTS AND LANGUAGE WITH DOBOR REGARDING DOCK NAME.
8. PROVIDE GATE STOP WHEN GATE IS OPENED 90 DEGREES.
9. ACCESSIBLE PIER I.D. SIGN WITH LETTERING IN ACCORDANCE WITH ADAAG 703.1, 703.2 AND 703.5 MOUNTED ON LATCH SIDE OF SECURITY GATE IN ACCORDANCE WITH ADAAG 703.4.

Submittal #20: Do not need ADA sign

2 REVISED BY STATE PER A.D.A. REQUIREMENTS 2/1/18

AS-BUILT
08/31/2018

2'-0" 0'-0" 1'-0" 2'-0"
SCALE: 3/4"=1'-0"

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
	1	REVISED PER A.D.A. REQUIREMENTS		10/24/17	

MICHAEL J. MC CARTHY — LICENSED PROFESSIONAL ENGINEER NO. 11476 — HAWAII U.S.A.

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PORT ALLEN SMALL BOAT HARBOR
PIERS A & B REPLACEMENT
KAUAI, HI

SECURITY GATE DETAILS

DESIGNED:	TM	SUBMITTED:	MAY 20, 2016
DRAWN:	KL	DATE:	MAY 20, 2016
CHECKED:	JH	SCALE:	AS NOTED
APPROVED:			DRAWING NO. S-08

CHIEF ENGINEER — DATE

JOB NO. B94DK71A

SHEET NO. 30 OF 39 SHEETS

3/1/2018 2:52:42 PM Q:\LB\8848 - DOBOR_Port Allen Piers A,B\CADD_Active_SheetSet\S-08.dwg

MECHANICAL NOTES:

1. ALL PIPING SHALL FOLLOW THE GENERAL ARRANGEMENT SHOWN. PIPING SHALL BE RUN ESSENTIALLY AS INDICATED, CARE BEING TAKEN TO AVOID INTERFERENCE WITH OTHER PIPING, CONDUIT, OR EQUIPMENT. THE LOCATION OF PIPING TO BE RUN ON DOCKS SHALL BE CAREFULLY COORDINATED WITH DOCK STRUCTURE AND ELECTRICAL CONDUITS SPECIFIED. BEFORE JOINTING AND ERECTION OF PIPING, THOROUGHLY CLEAN INTERIORS OF PIPE AND COMPONENTS. MAINTAIN CLEANLINESS BY CLOSURE OF PIPE OPENINGS WITH CAPS OR PLUGS.

2. THE CONTRACTOR SHALL MAINTAIN THAT SUFFICIENT PIPE FLEXIBILITY AND ANCHORAGE IS PROVIDED FOR ALL LINES FOR THERMAL EXPANSION AND CONTRACTION, PRESSURE, HYDRODYNAMIC THRUST FORCES, AND DOCK FLEXING. THE DOCK STRUCTURE AND COMPONENTS SHALL ACCOMMODATE THE PIPING LAYOUT REQUIREMENTS SUCH THAT THE PIPE SHALL NOT BECOME OVERSTRESSED. THE PIPING SHALL BE PROPERLY SUPPORTED AND ANCHORED. SHORT SECTIONS OF HOSE MAY BE CONSIDERED FOR PW SERVICE. UNSTAMPED DRAWING OF PROPOSED LAYOUT, IF DIFFERENT THAN SHOWN ON THE PROJECT DRAWINGS, SHALL BE SUBMITTED BY CONTRACTOR. LAYOUT TO BE REVIEWED BY STATE FOR CODE COMPLIANCE.

ADD 1: Concrete approach ramp, gangway pad, abutment, electrical, and mechanical sheets do not need to be stamped by contractor's licensed engineer. Contractor does not have to hire licensed electrical and/or mechanical engineer to design and stamp drawings. In accordance with specifications, only floating docks and gangways need to be signed and sealed by contractor's Hawaii Registered Structural Engineer. Construct ramps, abutments, mechanical, and electrical in accordance with plans and specifications.

RFI 10: Unstamped drawing of suggested layout by contractor to be submitted in piping submittal. Layout to be reviewed by State for code compliance.

1

3. CONTRACTOR SHALL INSPECT MATERIALS DELIVERED TO SITE FOR DAMAGE. UNLOAD AND STORE WITH MINIMUM HANDLING. STORE MATERIALS ON SITE IN ENCLOSURES OR UNDER PROTECTIVE COVERING. STORE PLASTIC PIPING UNDER COVER OUT OF DIRECT SUNLIGHT. DO NOT STORE MATERIALS DIRECTLY ON THE GROUND. KEEP INSIDE OF PIPES, FITTINGS AND EQUIPMENT FREE OF DIRT AND DEBRIS. HANDLE PIPE, FITTINGS, VALVES, AND OTHER ACCESSORIES IN SUCH MANNER AS TO ENSURE DELIVERY TO THE DOCKS AND INSTALLATION LOCATION IN A SOUND UNDAMAGED CONDITION.

4. ALL PW AND FW MATERIALS (PIPE, VALVES, ETC.) SHALL BE FURNISHED BY THE CONTRACTOR. ALL SUCH MATERIALS SHALL BE NEW, SHALL MEET CITY, COUNTY, UTILITY COMPANY, AND OTHER AHJ SPECIFICATION REQUIREMENTS FOR EACH ITEM, AND PRIOR TO INSTALLATION, BE APPROVED IN WRITING BY THE ENGINEER.

5. ALL WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE STATE AND CITY PLUMBING CODE AND FIRE CODE, LATEST EDITIONS, AS APPLICABLE.

6. THE CONTRACTOR SHALL VERIFY ALL EXISTING UTILITY LOCATIONS IN THE FIELD BEFORE STARTING WORK. THE CONTRACTOR SHALL FIELD VERIFY THE POINT OF CONNECTIONS AND MATERIALS AT POINT OF CONNECTION. LOCATIONS OF PIPING AND APPURTENANT FITTINGS SHOWN ON THE PLANS (DRAWINGS) ARE APPROXIMATE. IT IS INTENDED THAT SUCH ITEMS BE LOCATED BASED ON EXACT LOCATIONS DETERMINED IN THE FIELD AND THE DIMENSIONS, ANCHORING REQUIREMENTS, ACCESS REQUIREMENTS, ETC., OF THE SUPPLIED MATERIALS. ACTUAL TIE–IN POINT TO EXISTING LINE SHALL BE DETERMINED IN FIELD. REUSE OF EXISTING LATERAL FOR BUILDING SERVICES MAY BE CONSIDERED AFTER DETERMINATION OF PIPE CONDITION, LOCATION, COVER, SIZE, ETC., AND WITH PRIOR APPROVAL OF CITY AND UTILITY PROVIDER.

7. LOCATIONS OF UTILITIES, PUBLIC AND/OR PRIVATE, ARE APPROXIMATE ONLY, AND THE EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD. IT IS POSSIBLE THAT SOME EXISTING FACILITIES ARE NOT SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING TIE–IN PRIOR TO THE BEGINNING OF CONSTRUCTION.

8. THE CONTRACTOR SHALL PROVIDE PROTECTIVE MEASURES TO SAFEGUARD EXISTING UTILITIES TO REMAIN FROM DAMAGE DURING CONSTRUCTION OF THIS PROJECT.

9. CONSTRUCTION EQUIPMENT AND MATERIAL MAY BE STORED ONLY IN AREAS DESIGNATED FOR CONTRACTOR'S USE.

10. THE ENGINEER SHALL HAVE THE AUTHORITY TO DESIGNATE AND/OR LIMIT AREAS OF CONSTRUCTION.

11. SUPPORTS AND HARDWARE SHALL BE HDPE (SUBMERGED ONLY) AND TYPE 316 STAINLESS STEEL FOR SERVICES NOTED AND SHALL BE FROM MANUFACTURED SHAPES. FIELD BENDING IS NOT PERMITTED. VALVE SUPPORTS SHALL BE INSTALLED ON ADJACENT PIPING ON BOTH SIDES OF THE VALVE. SUBMIT SHOP DRAWINGS OR CATALOG DATA FOR REVIEW AND APPROVAL. A DIELECTRIC ISOLATION SHEET SHALL BE PLACED WHERE DISSIMILAR METALS CONTACT ON THE SUPPORT.

12. DIELECTRIC COUPLINGS SHALL BE USED AT DISSIMILAR METAL PIPING CONNECTIONS.

13. CONTRACTOR SHALL PROVIDE TEMPORARY BLOW OFF VALVES AT THE END OF EACH WATER/FIRE LINE, TO BE REMOVED WHEN INSTALLATION IS COMPLETE.

14. IF EXPOSING PVC AND HDPE PIPING TO SUNLIGHT CANNOT BE AVOIDED, A SUFFICIENT PERCENTAGE OF UV ABSORBERS, SUCH AS TITANIUM OXIDE, SHALL BE ADDED TO THE PVC RESIN TO PREVENT THE DETRIMENTAL EFFECTS OF CONTINUOUS AND LONG TERM EXPOSURE TO UV LIGHT. HDPE PIPE SHALL CONTAIN SUFFICIENT UV A/B STABILIZERS AND INHIBITORS – MINIMUM OF 2% CARBON BLACK COLOR UV STABILIZER. HDPE PIPE MAY ALSO BE WRAPPED W/40 mil UV TAPE W/ 50% OVERLAP.

LEGEND AND ABBREVIATIONS

SYMBOLS	ABBREV	DESCRIPTION
	ADA	AMERICANS WITH DISABILITIES ACT
	AHJ	AUTHORITY HAVING JURISDICTION
	ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
	ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
	BFP	BACKFLOW PREVENTION DEVICE
—⋈—	BV	BALL VALVE
	CONN	CONNECTION
ø	DIA	DIAMETER
	DWG	DRAWING
	ELL	ELBOW
	EXIST. (E)	EXISTING
—▶—		FLOW DIRECTION ARROW
⊠	FEC	FIRE EXTINGUISHER CABINET
⊗	FHS	FIRE HOSE STANDPIPE
	FT	FEET
— FW —	FW	FIRE WATER
	GALV	GALVANIZED
	GPM	GALLONS PER MINUTE
—⋈—	GV	GATE VALVE
⚓	HB	HOSE BIBB ON STANCHION
	HDPE	HIGH DENSITY POLYETHYLENE
	HP	HORSEPOWER
	FH	FIRE HYDRANT
	MAX	MAXIMUM
	MIN	MINIMUM
	MSS	MANUFACTURER'S STANDARDIZATION SOCIETY
	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
	NPT	NATIONAL PIPE THREAD
	NSF	NATIONAL SANITATION FOUNDATION INTERNATIONAL
	NTS	NOT TO SCALE
	OSHA	OCCUPATIONAL AND SAFETY HEALTH ADMINISTRATION
◔	POC	POINT OF CONNECTION
	PPM	PARTS PER MILLION
	PVC	POLYVINYL CHLORIDE PIPE
— PW —	PW	POTABLE WATER (MARINA)
	PSI	POUNDS PER SQUARE INCH
—▷—	RED	REDUCER
	SDR	STANDARD DIMENSION RATIO
	SS	STAINLESS STEEL
	STD	STANDARD
	STL	STEEL
	TYP	TYPICAL
	UL	UNDERWRITERS LABORATORIES, INC.
	UNO	UNLESS NOTED OTHERWISE
▣	UP	UTILITY PEDESTAL (W/ 1 HOSE BIBB)
▣	UP	UTILITY PEDESTAL (W/ 2 HOSE BIBBS)
	UV	ULTRAVIOLET
	W/	WITH
— W —	W	POTABLE WATER (SITE DISTRIBUTION)

REVISION NO.	SYM	DESCRIPTION	SHT./OF	DATE	APPROVED
1	1	3/16/18 Construction Changes			

AS-BUILT
08/31/2018

DIGALERT
800-227-2600
Call 2 Full Working Days In Advance

MICHAEL J. MC CARTHY
LICENSED PROFESSIONAL ENGINEER NO. 11476
HAWAII U.S.A.

LICENSE EXPIRATION DATE: 4/30/2018

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Michael J. McCarthy

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF BOATING AND OCEAN RECREATION

PORT ALLEN SMALL BOAT HARBOR
PIERS A & B REPLACEMENT
KAUAI, HI

MECHANICAL NOTES

DESIGNED:	TM	SUBMITTED:	MAY 20, 2016
DRAWN:	KL	DATE:	MAY 20, 2016
CHECKED:	JH	SCALE:	AS NOTED

APPROVED: _____ DATE _____
CHIEF ENGINEER

DRAWING NO. M-01

JOB NO. B94DK71A

SHEET NO. 31 OF 39 SHEETS

2/8/2018 2:52:42 PM Q:\LB\8848 – DOBOR_Port Allen Piers A,B\CADD_Active_SheetSet\M-01.dwg

POTABLE WATER NOTES:

1. PIPING FOR POTABLE WATER ONSHORE AND AT DOCKS SHALL BE SCHEDULE 80 PVC, IN ACCORDANCE WITH ASTM D1784, ASTM D1785, AND ASTM D 2467. PIPING SHALL CONFORM TO UNIFORM PLUMBING CODE. POTABLE WATER PIPING AT GANGWAYS, HOSE BIBB AND DOCK HOSE RISER SHALL BE SCHEDULE 40, TYPE 316L SS. PIPE AND FITTINGS SHALL BE FROM ONE MANUFACTURER. PIPING AND INSTALLATION SHALL CONFORM TO UNIFORM PLUMBING CODE.

2. THE POTABLE WATER SYSTEM SHALL BE PRESSURE TESTED DOWNSTREAM OF THE POC. FLUSH PIPING WITH CLEAN WATER TO REMOVE DEBRIS. APPLY AND MAINTAIN 75 PSI WORKING TEST PRESSURE FOR 15 MINUTES, DURING WHICH TIME THERE WILL BE NO REDUCTION IN TEST PRESSURE – SHOULD A REDUCTION OCCUR, LEAKS SHALL BE LOCATED, REPAIRED AND THE TEST REPEATED. THE POTABLE WATER SYSTEM FROM THE POC, SHALL BE STERILIZED PRIOR TO USE. A SOLUTION OF CHLORINE AND WATER CONTAINING NOT LESS THAN 50 P.P.M. OF FREE CHLORINE SHALL BE INJECTED INTO THE SYSTEM IN SUCH A MANNER AS TO INSURE THAT THE ENTIRE SYSTEM IS COMPLETELY FILLED WITH THE SOLUTION. AFTER INJECTION, THE SYSTEM SHALL BE ISOLATED AND THE SOLUTION HELD FOR A PERIOD OF 24 HOURS MINIMUM. THE SYSTEM SHALL THEN BE FLUSHED WITH FRESH WATER UNTIL THE CHLORINE LEVEL IN THE SYSTEM DOES NOT EXCEED THE LEVEL OF THE FLUSHING WATER. THE CONTRACTOR SHALL CONTACT THE HEALTH DEPARTMENT TO ARRANGE FOR SAMPLING AND TESTING OF THE SYSTEM. THE CONTRACTOR SHALL INSURE THAT THE WATER IN THE SYSTEM IS NOT USED FOR HUMAN CONSUMPTION DURING THE STERILIZATION PROCESS AND THAT STERILIZATION SOLUTION IS DISPOSED OF IN ACCORDANCE WITH LOCAL REQUIREMENTS.

3. FLEXIBLE HOSE: HOSE AND FITTING MATERIALS SHALL BE COMPATIBLE WITH POTABLE WATER AND SUITABLE FOR 24 HOUR CONTACT WITH CHLORINE STERILIZATION SOLUTION. FACTORY ASSEMBLED LENGTHS OF CONTITECH DEEP BLUE OR CLEARWATER RUBBER HOSE, OR APPROVED EQUAL, 5 INCH MAX BEND RADIUS FOR 1.5" HOSE, 150 PSI WORKING PRESSURE WITH MARINE GRADE STAINLESS STEEL (SS316) COUPLINGS EACH END.

RFI 3A: Shall be Rubber hoses, 150 psi, helical reinforcing is regular steel, cover is ozone and marine resistant.

Use Contitech Deep Blue or Clearwater hose or approved equal

4. HOSE BIBB SHALL CONTAIN INTEGRAL ANTI–SIPHON VACUUM BREAKERS AND LEAD FREE.

5. MAXIMUM DISTANCE OF PIPE BETWEEN PIPE SUPPORTS PER UNIFORM PLUMBING CODE SHALL NOT EXCEED THE FOLLOWING, UNO:

NOMINAL PIPE SIZE	PVC PIPE SPAN, FT	SS PIPE SPAN, FT
3"	4	12
2 1/2"	4	12
2"	4	12
1 1/2"	4	12
1"	4	12
3/4"	4	10

6. PVC PIPE SHALL BE MARKED AT MANUFACTURER FOR POTABLE WATER AND BE NSF 14 LISTED.

FIRE PROTECTION NOTES:

1. PIPING MATERIAL & FIREWATER SYSTEM SHALL BE IN COMPLIANCE WITH 2010 CFC, NFPA 24 2010 EDITION, NFPA 303 2006 EDITION, NFPA 14 2007 EDITION, & NFPA 13 2010 EDITION, EXCEPT WHERE NOTED, AND REQUIREMENTS OF AUTHORITY HAVING JURISDICTION. ALL MATERIALS SHALL BE UL/FM LISTED WHERE AVAILABLE.

2. THE MARINA STANDPIPE SYSTEM IS A MANUAL–DRY, CLASS I SYSTEM, PER NFPA 14, CAPABLE OF PRODUCING A MINIMUM OF 100 GPM AND 65 PSI AT THE MOST REMOTE HOSE STANDPIPE.

3. THE SYSTEM SHALL ONLY EMPLOY THE USE OF APPROVED MATERIALS AND DEVICES. ONSHORE FW PIPING SHALL BE CLASS 350 DUCTILE IRON IN ACCORDANCE WITH AWWA C151/A21.51, ANSI 21.10/AWWA C110 AND AWWA C606. DOCK FW PIPING SHALL BE SCHEDULE 80 PVC, IN ACCORDANCE WITH ASTM D1784, ASTM D1785, AND ASTM D 2467. STANDPIPES SHALL BE 316L STAINLESS STEEL, SCHEDULE 40. ANY VALVES INSTALLED SHALL BE LOCKED OPEN, 200 PSI WORKING PRESSURE MINIMUM.

4. 2 1/2" FIRE HOSE STANDPIPES SHALL BE SPACED TO PROVIDE PROTECTION TO ANY PORTION OF DOCKS OR VESSELS. HOSE VALVE SHALL BE POTTER ROEMER 4065, OR APPROVED EQUAL. LOCATIONS SHALL BE BASED ON A NOT TO EXCEED DISTANCE OF 150 FEET FROM STANDPIPE CONNECTION TO ANY POINT ON THE DOCK. SHOP DRAWINGS OR CATALOG DATA FOR ABOVE STANDPIPE AND MOUNTINGS SHALL BE SUBMITTED FOR APPROVAL.

5. A FIRE EXTINGUISHER CABINET WITH ONE 10 POUND FIRE EXTINGUISHER HAVING A MINIMUM RATING OF 4A–80B:C SHALL BE LOCATED AS SHOWN ON PLANS.

6. FLEXIBLE HOSE SHALL BE FACTORY ASSEMBLED LENGTHS OF CONTITECH SUPER BLACK FLEXWING HOSE, OR APPROVED EQUAL, 16" MAX BEND RADIUS ON A 3" HOSE, 250 PSI MIN WORKING PRESSURE WITH MARINE GRADE STAINLESS STEEL (SS316) VICTAULIC COUPLINGS EACH END.

7. COMPLETED WORK SHALL BE SUBJECTED TO A FIRE WATER PRESSURE TEST OF 250 PSI FOR TWO HOURS AT 73°F OR LESS, DURING WHICH THERE IS TO BE NO REDUCTION IN TEST PRESSURE. IF A REDUCTION SHOULD OCCUR, LEAK(S) SHALL BE LOCATED, REPAIRED AND THE TEST REPEATED.

9. MAXIMUM DISTANCE OF ABOVEGROUND AND DOCK PIPE BETWEEN PIPE SUPPORTS SHALL NOT EXCEED THE FOLLOWING UNO:

NOMINAL PIPE SIZE	PVC PIPE SPAN, FT
4"	4
3"	4
2 1/2"	4
2"	4
1 1/2"	4

10. PIPING SHALL BE LISTED FOR FIRE PROTECTION SERVICE OR SHALL COMPLY WITH THE STANDARDS IN TABLE 10.1.1 OF NFPA 24, 2010 EDITION. PVC FOR FIRE USE SHALL BE MARKED BY MANUFACTURER.

11. FIRE PROTECTION CONTRACTOR SHALL HAVE A CURRENT P–16 LICENSE.

12. REFER TO DWG M–01 FOR GENERAL NOTES. THE CONTRACTOR SHALL DETERMINE THE METHOD AND PIPING LAYOUT FOR ACCOMMODATING THERMAL EXPANSION AND CONTRACTION AS NOTED IN MECHANICAL NOTE 2. CONTRACTOR TO DETERMINE LINE ANCHORING BASED ON FINAL ROUTING AND DOCK STRUCTURE FOR ANCHOR MOUNTING. UNSTAMPED DRAWING OF PROPOSED LAYOUT, IF DIFFERENT THAN SHOWN ON THE PROJECT DRAWINGS, SHALL BE SUBMITTED BY CONTRACTOR. LAYOUT TO BE REVIEWED BY STATE FOR CODE COMPLIANCE.

ADD 1: Concrete approach ramp, gangway pad, abutment, electrical, and mechanical sheets do not need to be stamped by contractor's licensed engineer. Contractor does not have to hire licensed electrical and/or mechanical engineer to design and stamp drawings. In accordance with specifications, only floating docks and gangways need to be signed and sealed by contractor's Hawaii Registered Structural Engineer. Construct ramps, abutments, mechanical, and electrical in accordance with plans and specifications.

RFI 10: Unstamped drawing of suggested layout by contractor to be submitted in piping submittal. Layout to be reviewed by State for code compliance.

13. DRAIN CONNECTIONS AND VALVES SHALL BE PROVIDED AT LOW POINTS. ALTERNATIVE METHODS TO DRAIN AND DRY LINES AFTER TESTING/INSPECTION AND USE SHALL BE APPROVED BY ENGINEER PRIOR TO COMPLETION OF CONSTRUCTION.

14. THRUST BLOCKS SHALL BE OF A CONCRETE MIX NOT LEANER THAN ONE PART CEMENT, TWO AND ONE HALF PARTS SAND, AND FIVE PARTS STONE. (NFPA 24, 10.8.2.2)

15. THRUST BLOCKS SHALL BE PLACED BETWEEN UNDISTURBED EARTH AND THE FITTING TO BE RESTRAINED AND SHALL BE CAPABLE OF RESISTING THE CALCULATED FORCES. (NFPA 24, 10.8.2.3)

16. PIPE SHALL BE BURIED AT LEAST 36" WHERE SUBJECT TO LOADING (E.G., DRIVEWAYS, PARKING LOTS). (NFPA 24, 10.4.4)

17. AFTER INSTALLATION, RODS, NUTS, BOLTS, WASHERS, CLAMPS, AND OTHER RESTRAINING DEVICES SHALL BE CLEANED AND THOROUGHLY COATED WITH A BITUMINOUS OR OTHER ACCEPTABLE CORROSION RETARDING MATERIAL. (NFPA 24, 10.8.3.5)

18. FDCs SHALL BE PAINTED OSHA SAFETY RED. (NFPA 14, 6.4.5.1)

19. THE STANDPIPE SYSTEM SHALL BE FLOW TESTED TO VERIFY THE SYSTEM DEMAND. THIS TEST SHALL INCLUDE, BUT NOT BE LIMITED TO, A FIRE TRUCK PUMPER, AT THE COST OF THE CONTRACTOR, TO SUPPLY THE SYSTEM DEMAND UNLESS INSTRUCTED OTHERWISE BY THE AUTHORITY HAVING JURISDICTION. (NFPA 24, 11.5.2)

20. THE INSTALLING CONTRACTOR SHALL PROVIDE THE OWNER WITH THE FOLLOWING: 1.) ALL LITERATURE AND INSTRUCTIONS PROVIDED BY THE MANUFACTURER DESCRIBING THE OPERATION AND MAINTENANCE OF EQUIPMENT AND DEVICES INSTALLED. 2.) A COPY OF NFPA 25, STANDARD FOR THE INSPECTION, TESTING AND MAINTENANCE OF WATER–BASED FIRE PROTECTION SYSTEMS. (NFPA 14, 11.8)

Submittal 6BR2: Fire Cabinets in submittal approved

RFI 3A: Shall be Rubber hoses, 250 psi working pressure, helical reinforcing is regular steel, cover is ozone and marine resistant.

Use Contitech Super Black Flexwing or approved equal

Meeting 3/27/18: At progress meeting, DOBOR said flow testing by fire department does not apply

RFI 9: Per DOBOR, harbor is outside jurisdiction of fire department. Therefore, no approval, witness, inspection, or testing are required by Kauai Fire Dept.

AS-BUILT
08/31/2018

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

MICHAEL J. MC CARTHY ★ LICENSED PROFESSIONAL ENGINEER NO. 11476 ★ HAWAII U.S.A.

LICENSE EXPIRATION DATE: 4/30/2018

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Michael J. McCarthy

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF BOATING AND OCEAN RECREATION

PORT ALLEN SMALL BOAT HARBOR
PIERS A & B REPLACEMENT
KAUAI, HI

POTABLE WATER AND FIRE PROTECTION NOTES

DESIGNED:	TM	SUBMITTED:	MAY 20, 2016
DRAWN:	KL	DATE:	MAY 20, 2016
CHECKED:	JH	SCALE:	AS NOTED

APPROVED: _____ CHIEF ENGINEER _____ DATE

DRAWING NO. **M-02**

JOB NO. B94DK71A SHEET NO. 32 OF 39 SHEETS

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RFI 46: Keep Ball Valve despite reach distance into hole as State thinks ball valves less likely to seize. Therefore, use bigger handhole to accommodate reach

EXIST PW LINE, CONTRACTOR TO VERIFY PIPE MATERIAL AND SIZE IN FIELD

1 1/2" GATE VALVE

CONN TO EXISTING PW W/ LASCO FITTINGS INC COUPLING, OR APPROVED EQUAL, AT TEE

GANGWAY PIPING, SEE DETAIL 1/M-05

SUBMITTAL 12: USE BALL VALVE

RFI 45: Relocate Ball Valve closer to abutment

1 1/2" PW

FOR UTILITY PEDESTAL, PIPING, SEE PARTIAL PLAN 4/M-05 TYP

4/M-05

UTILITY PEDESTAL, SEE DETAIL 5/M-05 TYP

A

B

AS-BUILT
08/31/2018

20' 0' 20' 40'
SCALE: 1"=20'

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

LICENSED PROFESSIONAL ENGINEER NO. 11476 — MICHAEL J. MC CARTHY — HAWAII U.S.A.

LICENSE EXPIRATION DATE: 4/30/2018

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Michael J. McCarthy

CHIEF ENGINEER DATE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF BOATING AND OCEAN RECREATION

PORT ALLEN SMALL BOAT HARBOR
PIERS A & B REPLACEMENT
KAUAI, HI

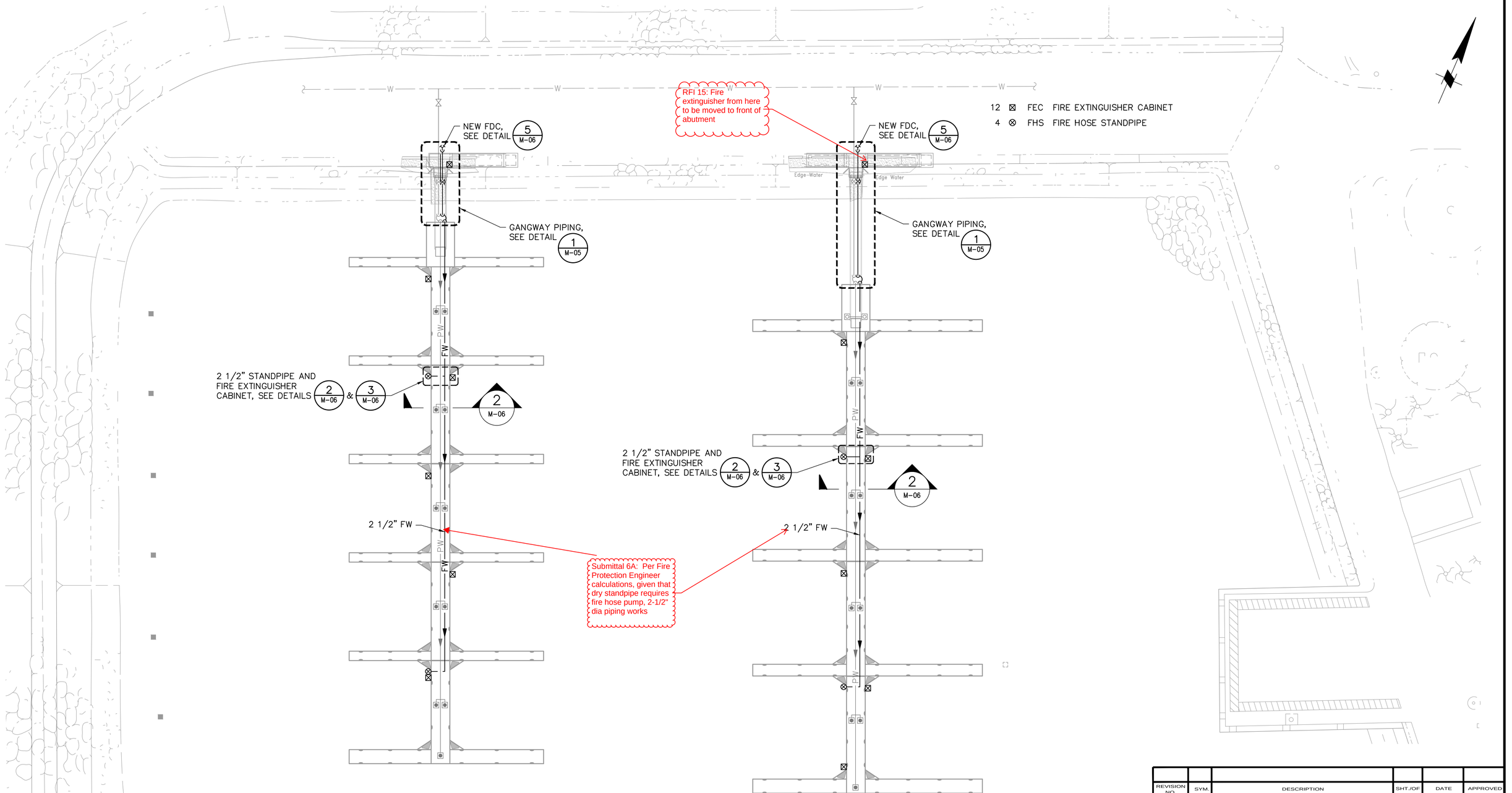
POTABLE WATER PLAN

DESIGNED:	TM	SUBMITTED:	MAY 20, 2016
DRAWN:	KL	DATE:	MAY 20, 2016
CHECKED:	JH	SCALE:	AS NOTED
APPROVED:		DRAWING NO.	M-03

JOB NO. B94DK71A

SHEET NO. 33 OF 39 SHEETS

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AS-BUILT
08/31/2018

20' 0' 20' 40'
SCALE: 1"=20'

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MICHAEL J. MC CARTHY
LICENSED PROFESSIONAL ENGINEER
NO. 11476
HAWAII U.S.A.

LICENSE EXPIRATION DATE: 4/30/2018

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PORT ALLEN SMALL BOAT HARBOR
PIERS A & B REPLACEMENT
KAUAI, HI

FIRE WATER PLAN

DESIGNED:	TM	SUBMITTED:	MAY 20, 2016
DRAWN:	KL	DATE:	MAY 20, 2016
CHECKED:	JH	SCALE:	AS NOTED

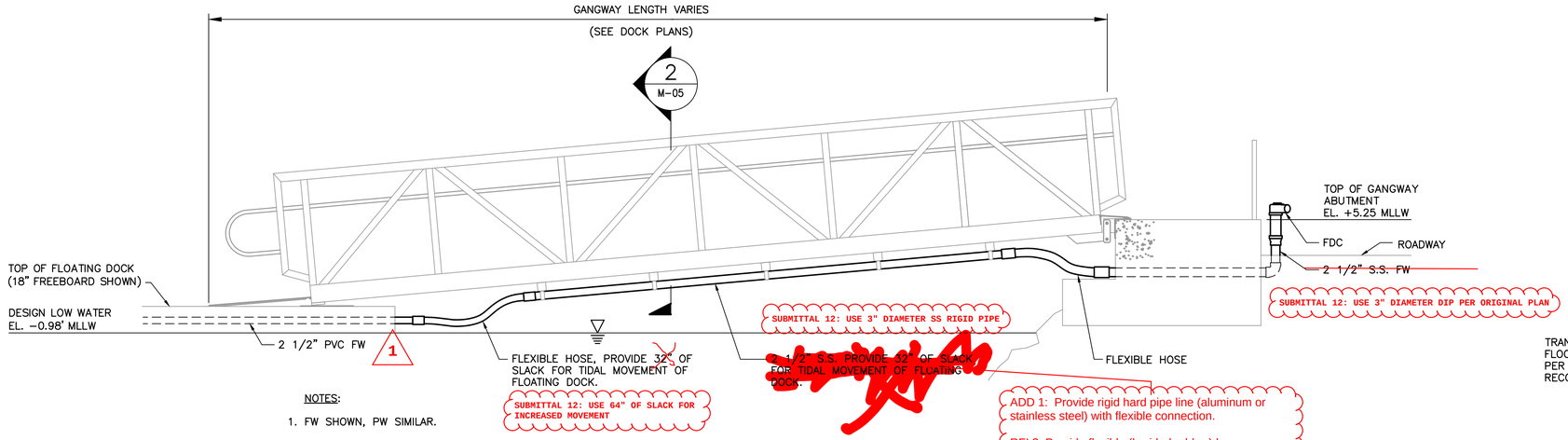
APPROVED: _____ DATE _____
CHIEF ENGINEER

DRAWING NO. M-04

JOB NO. B94DK71A

SHEET NO. 34 OF 39 SHEETS

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NOTES:

1. FW SHOWN, PW SIMILAR.
2. DOCK STRUCTURE SHOWN IS DIAGRAMMATIC. CONTRACTOR SHALL ADAPT WORK TO SELECTED DOCK STRUCTURE.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGN OF CABLE/CONDUIT AND PIPE SUPPORTS. SUPPORTS SHOWN ARE ONLY REPRESENTATIVE. ALL MATERIAL SHALL BE 316 SS. CONTRACTOR SHALL COORDINATE SUPPORT ATTACHMENTS TO GANGWAY PLATFORM, GANGWAY, AND FLOATING DOCKS WITH PLATFORM, GANGWAY AND DOCK SUPPLIERS/FABRICATORS.

ADD 1: Provide rigid hard pipe line (aluminum or stainless steel) with flexible connection.

RFI 3: Provide flexible (braided rubber) hose connections at each end for fire water and potable water pipelines. Because it is not a flexible stainless steel FW line, it will not be supported by unistrut at 5' intervals. As note 3 says, contractor shall be responsible for design of cable/conduit and pipe supports.

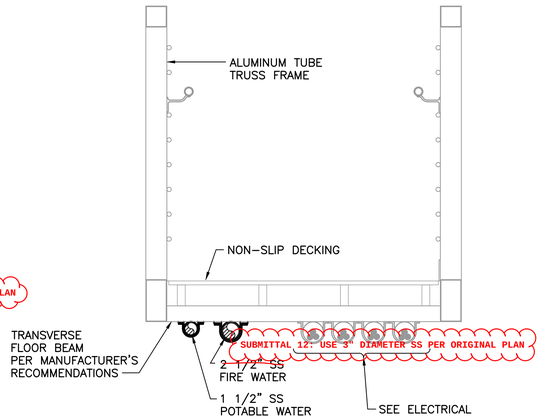
RFI 3A: Provide rubber flexible hose connections. Helix outer reinforcing is regular steel. Chlorine resistant, marine and ozone resistant.

Super Black Flexwing or approved equal for Fire Protection Line

Deep Blue/Clearwater or approved equal for potable water line.

1 M-05 GANGWAY PIPING ELEVATION

SCALE: NOT TO SCALE



NOTE:

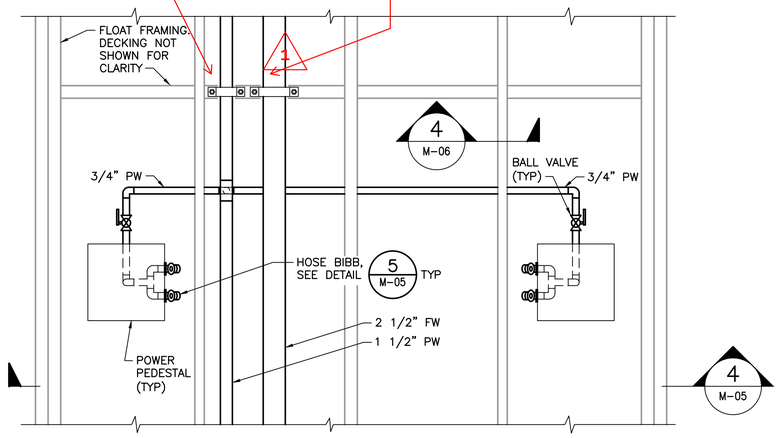
1. REFER TO ELECTRICAL PLANS FOR POWER AND COMMUNICATION CONDUITS.

2 M-05 GANGWAY PIPING SECTION

SCALE: NOT TO SCALE

RFI 22: Cush a clamp is ok in lieu of insulation for PW

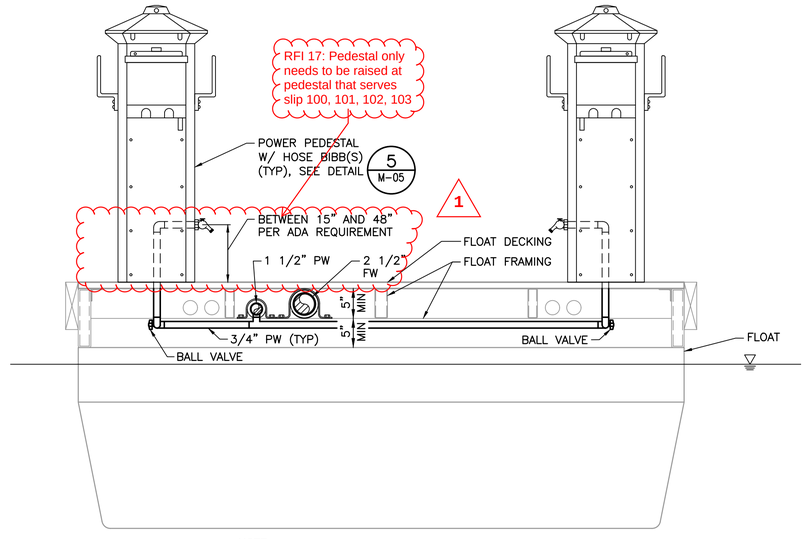
RFI 14: Insulation not required on FW pipe just PW pipe



3 M-05 PARTIAL DOCK PIPING PLAN

SCALE: NOT TO SCALE

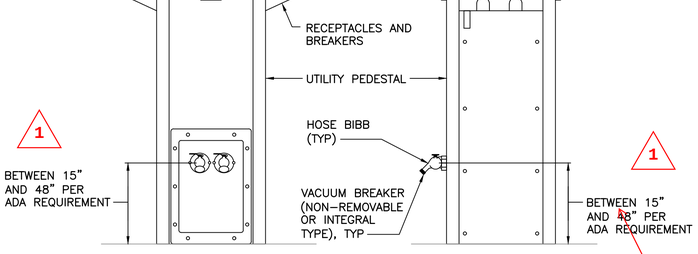
RFI 17: Pedestal only needs to be raised at pedestal that serves slip 100, 101, 102, 103



NOTE:
UTILITY SPACE IN FLOAT MUST BE ABLE TO PROVIDE 5" MIN OF VERTICAL CLEARANCE FOR MAIN PIPING, AND 5" FOR BRANCH PIPING.

4 M-05 DOCK SECTION

SCALE: NOT TO SCALE



FRONT VIEW SIDE VIEW

NOTE:

SEE LEGEND ON DWG M-01, AND MARINA PIPING PLAN M-03, FOR WHICH UTILITY PEDESTALS ARE PROVIDED WITH ONE HOSE BIBB OR TWO HOSE BIBBS.

RFI 11: Hose bibb to be 16" off dock.

Or between 15" and 48".

At designated pedestals per RFI 17

5 M-05 UTILITY PEDESTAL DETAIL

SCALE: NOT TO SCALE

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08/31/2018

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STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF BOATING AND OCEAN RECREATION

PORT ALLEN SMALL BOAT HARBOR
PIERS A & B REPLACEMENT
KAUAI, HI

MECHANICAL DETAILS SHEET 1 OF 2

DESIGNED:	TM	SUBMITTED:	MAY 20, 2016
DRAWN:	KL	DATE:	MAY 20, 2016
CHECKED:	JH	SCALE:	AS NOTED
APPROVED:			DRAWING NO. M-05
CHIEF ENGINEER		DATE	

JOB NO. B94DK71A SHEET NO. 35 OF 39 SHEETS

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3" PVC FW

3" FEXIBLE S.S. FW LINE SUPPORTED BY UNISTRUCT AT 5' INTERVAL. PROVIDE 32" OF SLACK FOR TIDAL MOVEMENT OF FLOATING DOCK.

NOTES:

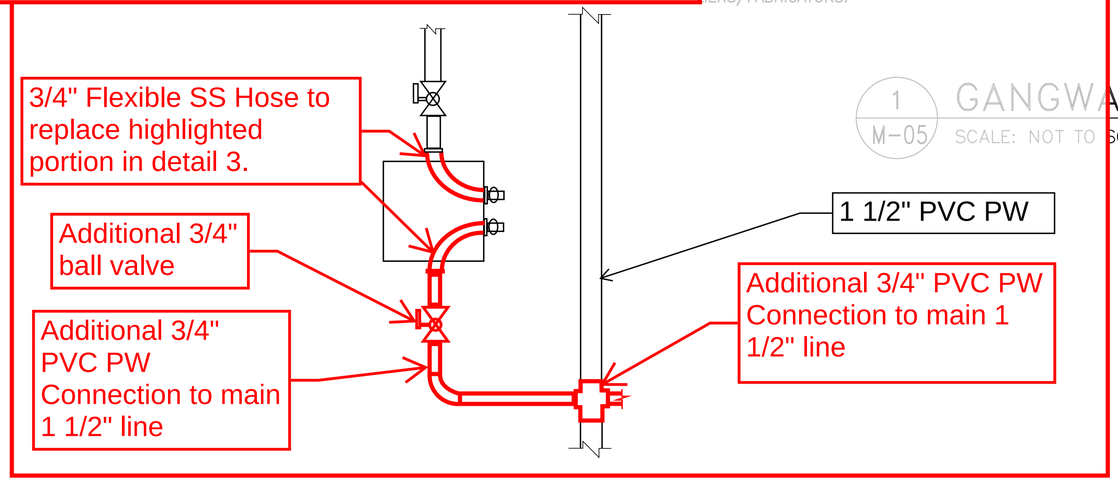
1. FW SHOWN, PW SIMILAR.

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ACTOR SHALL BE RESPONSIBLE FOR DESIGN OF CABLE/CONDUIT AND PIPE SUPPORTS. SUPPORTS SHOWN NLY REPRESENTATIVE. ALL MATERIAL SHALL BE 316 SS. CONTRACTOR SHALL COORDINATE SUPPORT HMENTS TO GANGWAY PLATFORM, GANGWAY, AND FLOATING DOCKS WITH PLATFORM, GANGWAY AND DOCK IERS/FABRICATORS.

RFI 43 Detail

Typical proposed detail for waterline to power pedestal

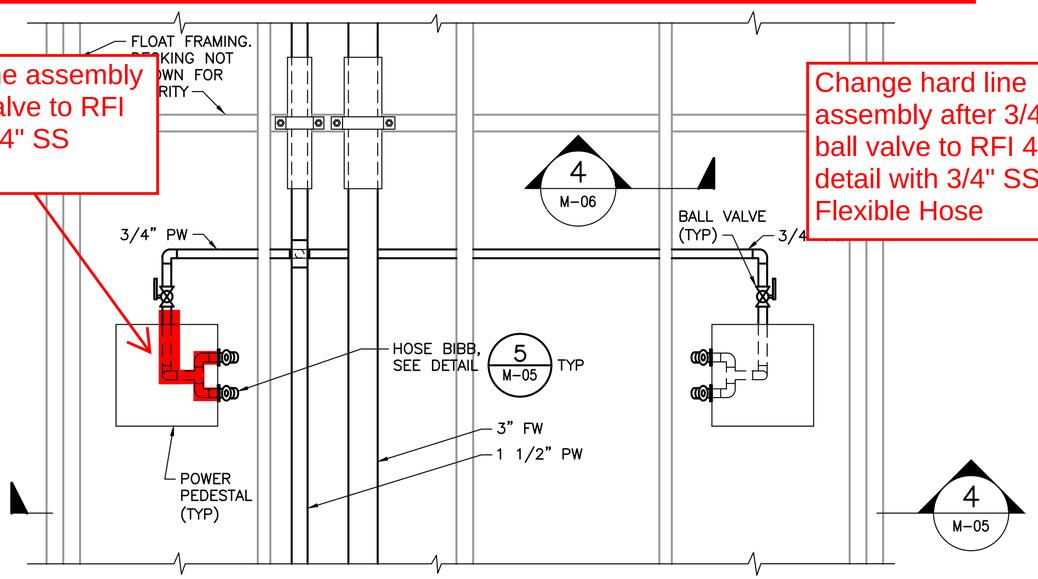


1 M-05 GANGWAY PIPING ELEVATION

SCALE: NOT TO SCALE

RFI 43: State accepted on 6/6/18

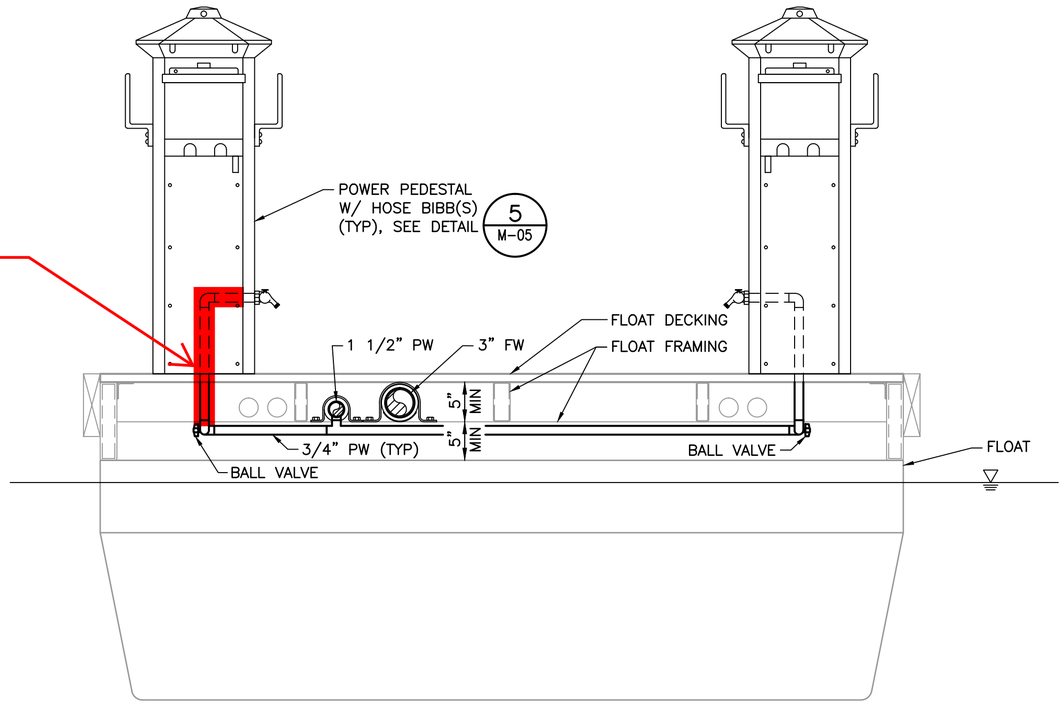
Change hard line assembly after 3/4" ball valve to RFI 43 detail with 3/4" SS Flexible Hose



3 M-05 PARTIAL DOCK PIPING PLAN

SCALE: NOT TO SCALE

Change hard line assembly after 3/4" ball valve to RFI 43 detail with 3/4" SS Flexible Hose



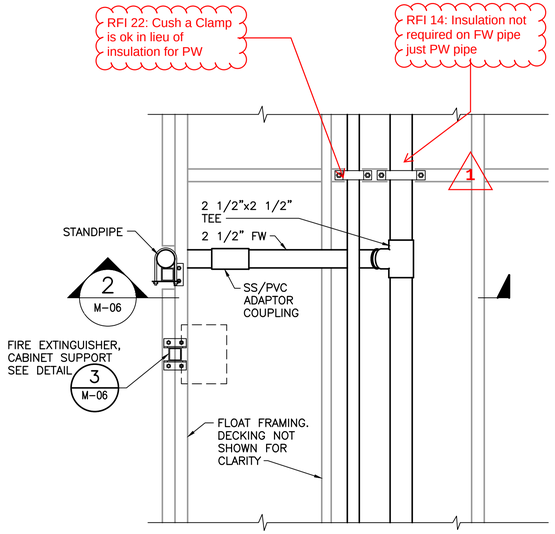
NOTE:
UTILITY SPACE IN FLOAT MUST BE ABLE TO PROVIDE 5" MIN OF VERTICAL CLEARANCE FOR MAIN PIPING, AND 5" FOR BRANCH PIPING.

4 M-05 DOCK SECTION

SCALE: NOT TO SCALE

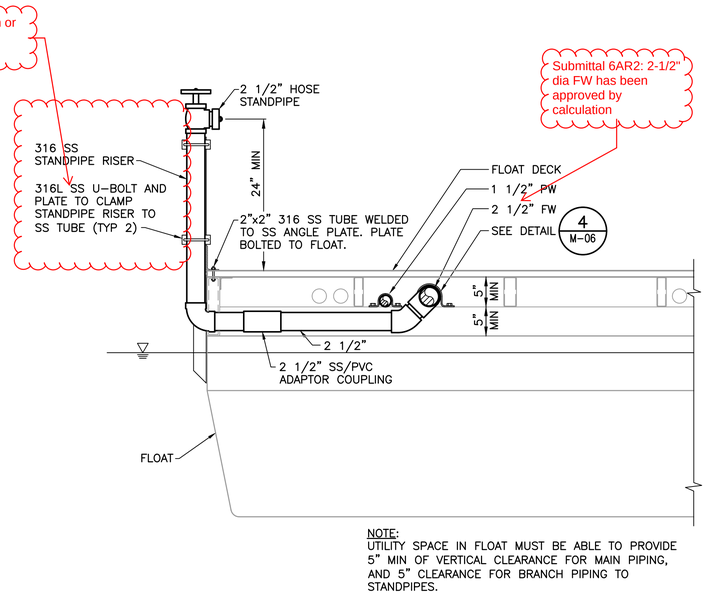
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08/31/2018

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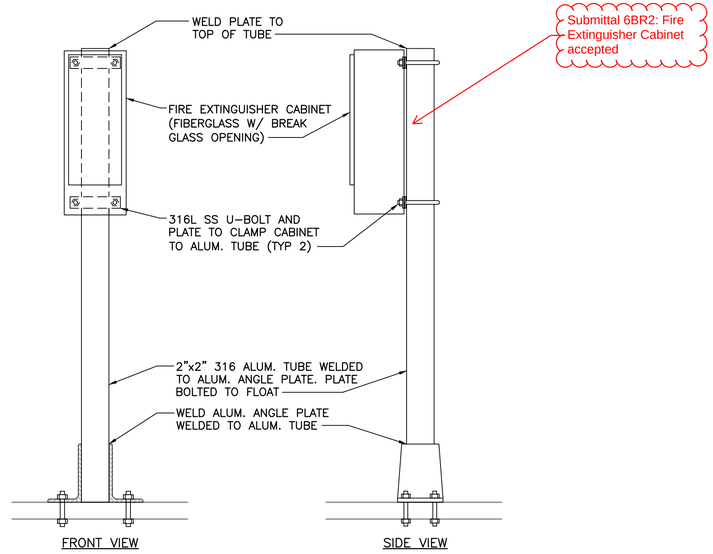
1 M-06 TYPICAL STANDPIPE PIPING PLAN

SCALE: 1"=1'-0"



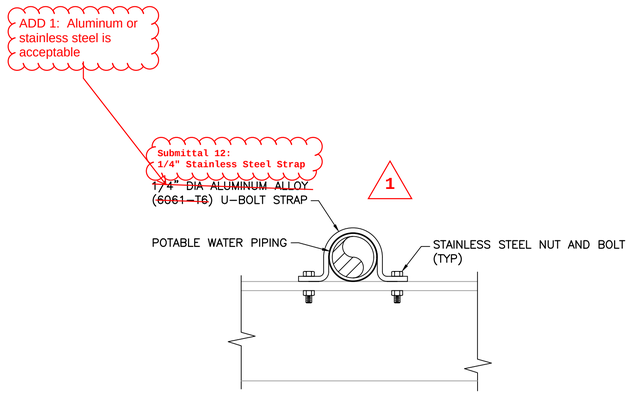
2 M-06 STANDPIPE SECTION

SCALE: 1"=1'-0"



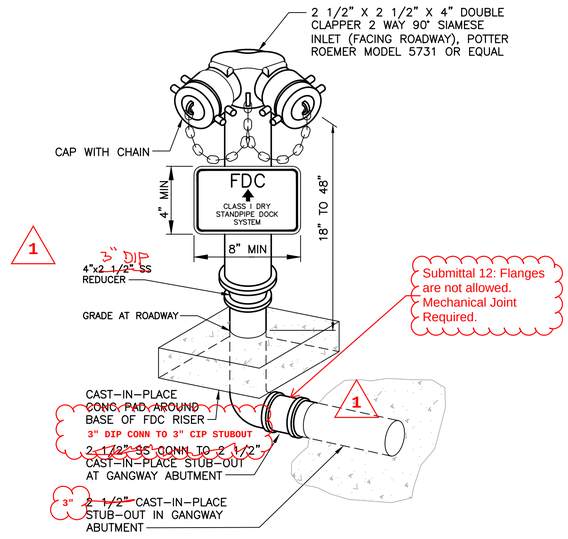
3 M-06 FIRE EXTINGUISHER DETAIL

SCALE: NOT TO SCALE



4 M-06 TYPICAL PIPE SUPPORT DETAIL

SCALE: NOT TO SCALE



NOTES:

1. FDC SIGN SHALL BE MOUNTED ON FDC RISER. LETTERING SHALL BE AT LEAST 1" HIGH AND HAVE CLEARLY CONTRASTING BACKGROUND.
2. SEE DRAWING S-04 FOR GANGWAY ABUTMENT AND CAST-IN-PLACE STUBOUT DETAILS.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR TESTING OF THE MARINA DOCKS FIRE PROTECTION SYSTEM, INCLUDING THIS ONSHORE FDC, AS IT CONSTITUTES A PART OF THE MARINA DOCKS FIRE PROTECTION SYSTEM.

5 M-06 FDC AT GANGWAY ABUTMENT DETAIL

SCALE: NOT TO SCALE

20' 0' 20' 40'

SCALE: 1"=20'

AS-BUILT
08/31/2018

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PORT ALLEN SMALL BOAT HARBOR
PIERS A & B REPLACEMENT
KAUAI, HI

MECHANICAL DETAILS SHEET 2 OF 2

MICHAEL J. MC CARTHY ★ LICENSED PROFESSIONAL ENGINEER NO. 11476 ★ HAWAII U.S.A.

LICENSE EXPIRATION DATE: 4/30/2018

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Michael J. McCarthy

CHIEF ENGINEER

DESIGNED:	TM	SUBMITTED:	MAY 20, 2016
DRAWN:	KL	DATE:	MAY 20, 2016
CHECKED:	JH	SCALE:	AS NOTED
APPROVED:		DRAWING NO.	M-06
	DATE		

JOB NO. B94DK71A

SHEET NO. 36 OF 39 SHEETS

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GENERAL NOTES

1. ALL WORK SHALL COMPLY WITH THE LATEST ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE (NEC) AND ALL OTHER APPLICABLE FEDERAL, STATE AND LOCAL CODES. WHERE THE PLANS SHOW MORE RESTRICTIVE REQUIREMENTS, THE PLANS SHALL GOVERN. NOTHING ON THESE PLANS SHALL BE INTERPRETED AS AUTHORITY TO VIOLATE ANY CODE OR REGULATION.
2. ALL CIRCUIT BREAKERS, FUSES AND ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING RATING NOT LESS THAN THE MAXIMUM SHORT CIRCUIT CURRENT TO WHICH THEY MAY BE SUBJECTED.
3. ALL MATERIAL, INCLUDING PULL BOXES, CONDUIT BODIES, FITTINGS AND MOUNTING HARDWARE INSTALLED OUTSIDE AND ON DOCKS SHALL BE APPROVED WEATHERTIGHT CORROSION RESISTANT, UNLESS OTHERWISE NOTED.
4. ALL WIRE SHALL BE COPPER. UL LISTED, RATED FOR 600 VOLTS, NO. 12 MINIMUM SIZE.
5. THE ELECTRICAL CONTRACTOR SHALL INSTALL ALL CONDUITS AND WIRES WITH A MINIMUM NUMBER OF BENDS AND IN SUCH A MANNER AS TO CONFORM TO THE STRUCTURE. THE DRAWINGS ARE DIAGRAMMATIC, AND DO NOT SHOW ALL SUCH REQUIRED BENDS, OFFSETS, FITTING, BOXES, ETC.
6. THE ELECTRICAL CONTRACTOR SHALL NOT BORE, NOTCH OR IN ANY WAY CUT INTO ANY STRUCTURAL MEMBER, WITHOUT APPROVAL FROM THE STRUCTURAL ENGINEER.
7. THE ELECTRICAL CONTRACTOR SHALL PROVIDE SUPPORT FOR ALL ELECTRICAL EQUIPMENT TO COMPLY WITH THE REQUIREMENTS OF THE LATEST ADOPTED UNIFORM BUILDING CODE AND ALL LOCAL ORDINANCES.
8. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED AS REQUIRED BY NEC ARTICLE 250. ALL PVC POWER CONDUITS SHALL HAVE A CODE SIZED GROUND WIRE INSTALLED.
9. THE ENTIRE WIRING SYSTEM SHALL BE TESTED FOR SHORT CIRCUITS, GROUNDS AND INSULATION RESISTANCE BETWEEN CONDUCTORS AND TO GROUND.
10. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL CONDUITS, WIRES, BOXES, SWITCHES, LIGHT FIXTURES (WITH LAMPS), RECEPTACLES, SERVICE DEVICES, AND PANEL BOARDS ETC. REQUIRED FOR A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM.
11. PROVIDE ENGRAVED PLASTIC NAMEPLATES ON ALL DISTRIBUTION EQUIPMENT AND PANELS SECURED WITH STAINLESS STEEL HARDWARE.
12. PROVIDE A PULL ROPE IN ALL EMPTY CONDUITS.
13. CONDUITS SHALL BE LISTED PVC SCHEDULE 40, UNLESS OTHERWISE NOTED.
14. LANDSIDE PULLBOXES SHALL BE H20 LOADING PRECAST CONCRETE, WITH COVER PERMANENTLY MARKED "ELECTRICAL" EQUIPMENT AS REQUIRED, AND SIZED AS INDICATED.
15. PROVIDE POWER PEDESTALS AS SPECIFIED IN THE SYMBOL LIST, THIS SHEET. FOR EACH POWER PEDESTAL, PROVIDE FEEDER LUGS SIZED LARGE ENOUGH TO ACCOMMODATE THE CONDUCTORS FEEDING THE PEDESTAL.
16. POWER PEDESTALS SHALL BE EQUIPPED WITH INTERGRAL GROUND FAULT WARNING AND 30mA GROUND FAULT CIRCUIT BREAKER FOR EACH SHORE POWER OUTLET. GROUND FAULT NOTIFICATION SHALL BE INDICATED BY INTERGRAL RED LED FLASHING WARNING LIGHT AT TOP OF EACH PEDESTAL.
17. ALL EQUIPMENT SHALL BE U.L. LISTED.
18. PROVIDE ARC FLASH LABELING AS REQUIRED PER NEC.
19. UNDERGROUND WIRING METHODS SHALL COMPLY WITH NEC TABLE 300.5.
20. RACEWAYS CONTAINING MORE THAN THREE CURRENT CARRYING CONDUCTORS SHALL COMPLY WITH 2013 NEC 310.15(B)(2)(A).

ABBREVIATIONS

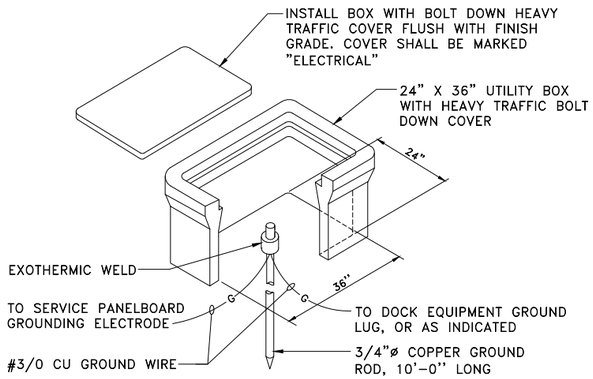
2P	TWO POLE, OR AS INDICATED
A	AMPERES
AIC	AMPERES INTERRUPTING CAPACITY
AWG	AMERICAN WIRE GAGE
C	CONDUIT
CO	CONDUIT ONLY
DIST	DISTRIBUTION
DWG	DRAWING
EX, EXIST	EXISTING
FHC	FIRE HOSE CABINET
GND	GROUND
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
Hz	HERTZ, CYCLES PER SECOND
KAIC	AMPS INTERRUPTING CAPACITY IN THOUSANDS
KCMIL	THOUSAND CIRCULAR MILS
KIUC	KAUAI ISLAND UTILITY COOPERATIVE
KVA	KILOVOLT AMPERE
KWH	KILOWATT HOUR
NEC	NATIONAL ELECTRICAL CODE

ABBREVIATIONS CONTINUED

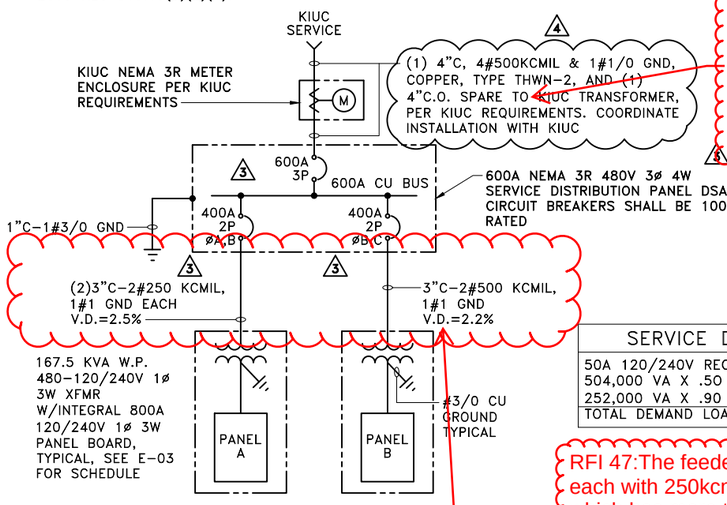
NEUT	NEUTRAL WIRE
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
P	POLE
PC	PHOTOCELL
PH, ø	PHASE
PVC	POLYVINYL CHLORIDE
SC	SHORT CIRCUIT
SCH	SCHEDULE
SS	STAINLESS STEEL
TYP	TYPICAL
UL	UNDERWRITER'S LABORATORIES
UON	UNLESS OTHERWISE NOTED
V	VOLT
VA	VOLT AMPERES
VD	VOLTAGE DROP
W	WATT, WIRE

SYMBOL LIST

SYM.	DESCRIPTION
□	EATON LIGHTHOUSE GROUND FAULT PEDESTAL WITH (2) 30A 120V, 1ø RECEPTACLES WITH 30mA GROUND FAULT CIRCUIT BREAKER PROTECTION EACH, (2) 50A 120/240V 1ø RECEPTACLES WITH 30mA GROUND FAULT CIRCUIT BREAKER PROTECTION EACH, WIRELESS REMOTE METERING FOR EACH SLIP, LED LIGHT WITH PHOTOCELL AND FLASHING RED LED GROUND FAULT WARNING LIGHT, (2) 120V GFCI RECEPTACLES, AND (2) HOSE BIBBS
■	EATON LIGHTHOUSE GROUND FAULT PEDESTAL WITH (1) 30A 120V, 1ø RECEPTACLE WITH 30mA GROUND FAULT CIRCUIT BREAKER PROTECTION EACH, (1) 50A 120/240V 1ø RECEPTACLE WITH 30mA GROUND FAULT CIRCUIT BREAKER PROTECTION EACH, WIRELESS REMOTE METERING FOR EACH SLIP, LED LIGHT WITH PHOTOCELL AND FLASHING RED LED GROUND FAULT WARNING LIGHT, (1) 120V GFCI RECEPTACLE, AND (1) HOSE BIBB
⊠	EXISTING LIGHT POLE
⏚	GROUND ROD, 10' X 3/4" COPPER ROUTE GROUND ELECTRODE CONDUCTORS IN CONDUIT WITH FEEDERS BACK TO UFER OR GROUND ROD LOCATED ON LAND
— E —	EXISTING ELECTRIC CONDUIT
———	RIGID NON-METALLIC CONDUIT, PVC SCHEDULE 40 CONDUITS INSTALLED IN DOCK OR ON LANDSIDE AS INDICATED ON PLANS.
~~	TYPE W PORTABLE POWER CABLE WITH GROUND, SIZE AND NUMBER OF CONDUCTORS AS INDICATED ON PLANS
1 / E-3	"1" INDICATES VIEW NUMBER, E-3 INDICATES SHEET NUMBER REFERENCED FROM
▨	MAIN SERVICE DISTRIBUTION PANEL IN NEMA 3R ENCLOSURE MOUNTED ON CONCRETE PAD
■	PANEL BOARD WITH INTEGRAL TRANSFORMER IN NEMA 3R ENCLOSURE, MOUNTED ON CONCRETE PAD
100A 2P	THERMAL MAGNETIC CIRCUIT BREAKER, RATING AND NUMBER OF POLES AS INDICATED
(M)	UTILITY COMPANY METER IN NEMA 3R ENCLOSURE
	TRANSFORMER
T	UTILITY COMPANY TRANSFORMER
	PRE-CAST CONCRETE PULL BOX (POWER), UON
1	CONSTRUCTION NOTE



1 / E-01 DOCK LANDSIDE PULL BOX
SCALE: NOT TO SCALE

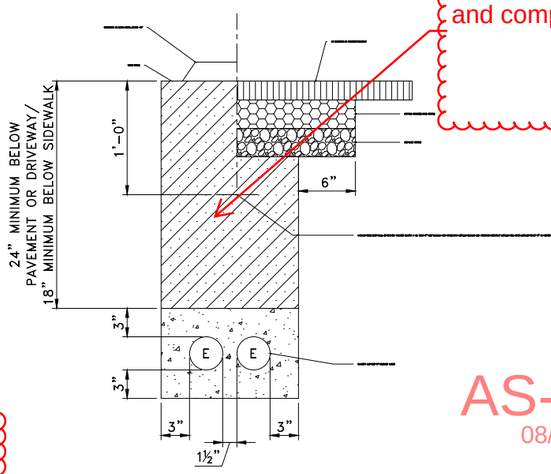


SINGLE LINE DIAGRAM
NOT TO SCALE

SERVICE DEMAND LOAD: SUMMARY		
50A 120/240V RECEPTACLE (42) X 12000VA	=	504,000VA
504,000 VA X .50 PER NEC 555	=	252,000VA
252,000 VA X .90 (METER)	=	226,800VA
TOTAL DEMAND LOAD @ 480V 3ø	=	273A

RFI 39: KIUC indicated Contractor to install conduits and conductors, State agreed and made change

RFI 47:The feeder to Panel A is (2) 3 inch conduits each with 250kcmil conductors. It is a parallel feeder which has more total ampacity than the 500kcmil feeder to Panel B.



2 / E-01 TYPICAL DUCT SECTION
SCALE: NOT TO SCALE

RFI 41: CLSM backfill is ok in lieu of backfill and compaction

AS-BUILT
08/31/2018

BACKFILL NOTES:

TYPE "A" BACKFILL – EARTH AND GRAVEL ROCK SIZE TO BE 1" MAX AND THE MIXTURE TO CONTAIN NOT MORE THAN 50% BY VOLUME OF ROCK PARTICLES. 95% COMPACTION

CONCRETE – 3" ENCASEMENT, 3000 PSI COMPRESSIVE STRENGTH AT 28 DAYS

NOTES:

1. BASE COURSE AND SUB-BASE COURSE PER CURRENT STATE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
2. THICKNESS OF A/C PAVEMENT, BASE COURSE AND SUB-BASE COURSE TO MATCH EXISTING CONDITIONS

REVISION NO.	SYM.	DESCRIPTION	SHT./OF.	DATE	APPROVED
4	4	KIUC REQUIREMENTS		5/24/18	TWS
3	3				

TYLER SPARKS — LICENSED PROFESSIONAL ENGINEER NO. 16162 — HAWAII U.S.A.
LICENSE EXPIRATION DATE: 4/30/2018
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF BOATING AND OCEAN RECREATION

PORT ALLEN SMALL BOAT HARBOR
PIERS A & B REPLACEMENT
KAUAI, HI

GENERAL NOTES, ABBREVIATIONS AND SYMBOLS

DESIGNED:	GM	SUBMITTED:	MAY 20, 2016
DRAWN:	EP	DATE:	MAY 20, 2016
CHECKED:	TS	SCALE:	AS NOTED

APPROVED: _____ CHIEF ENGINEER _____ DATE

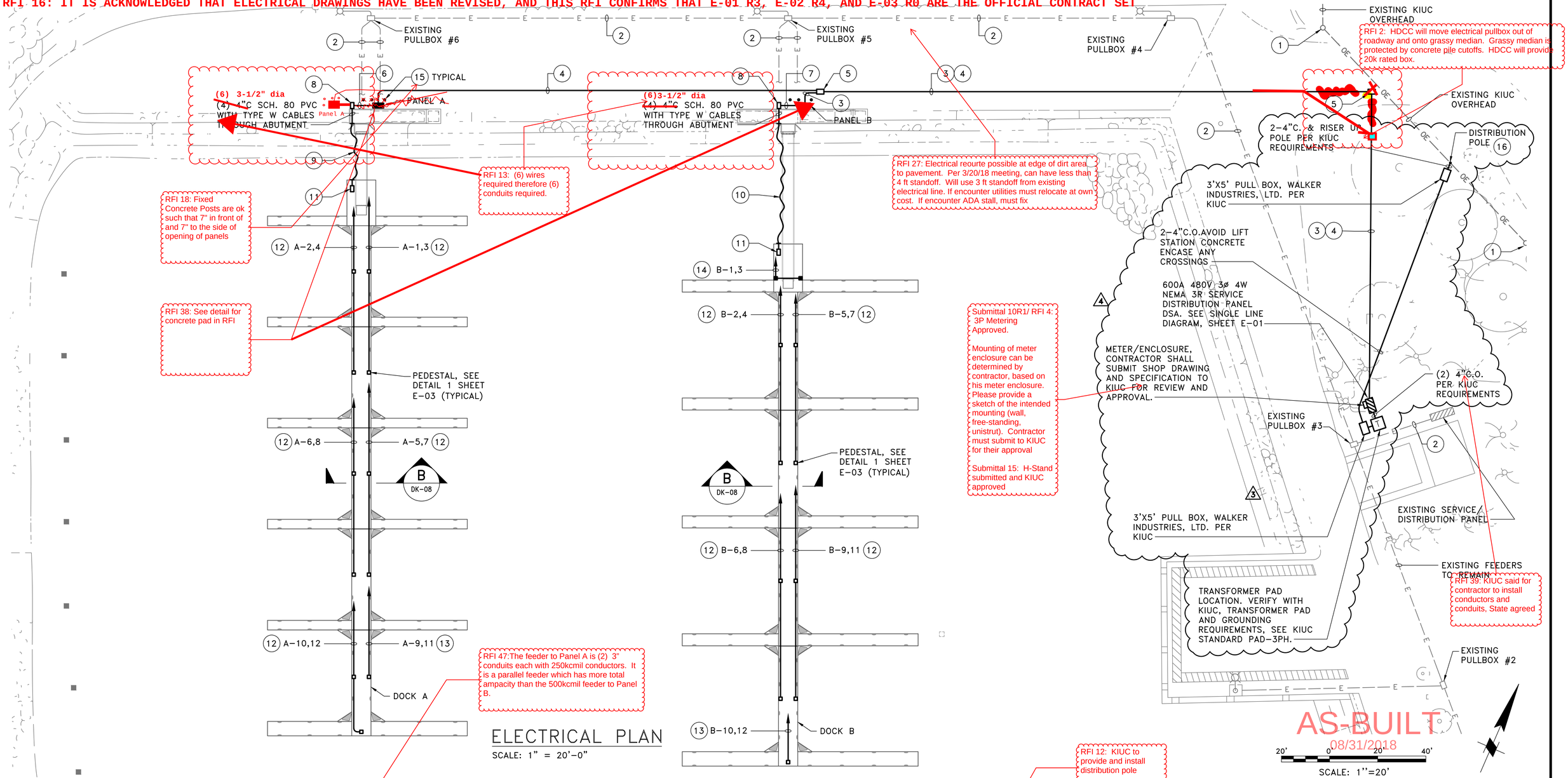
DRAWING NO. E-01

JOB NO. B94DK71A

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RFI 16: IT IS ACKNOWLEDGED THAT ELECTRICAL DRAWINGS HAVE BEEN REVISED, AND THIS RFI CONFIRMS THAT E-01 R3, E-02 R4, AND E-03 R0 ARE THE OFFICIAL CONTRACT SET



ELECTRICAL PLAN

SCALE: 1" = 20'-0"

CONSTRUCTION NOTES:

1. EXISTING KIUC POWER POLE.
2. EXISTING PIER A AND PIER B FEEDERS SERVING PIER A AND PIER B TO BE DISCONNECTED AT EXISTING DISTRIBUTION PANEL AND REMOVED. ALL OTHER EXISTING CIRCUITS TO REMAIN.
3. 3"C-2#500KCMIL, 1#1 GROUND TO TRANSFORMER/PANEL B.
4. (2)3"C-2#250KCMIL, 1#1 GROUND EACH TO TRANSFORMER/PANEL A.
5. 24" X 36" X 24"D PRE-CAST CONCRETE PULL BOX WITH HEAVY TRAFFIC COVER. SEE DETAIL 2, SHEET E-03.
6. (5) 2½"C-3#4/0, 1#4 GROUND
   (1) 1½"C-3#1/0, 1#6 GROUND

CONSTRUCTION NOTES:

7. (4) 2½"C-3#4/0, 1#4 GROUND
   (1) 1½"C-3#1/0, 1#6 GROUND
   (1) 1½"C-3#1, 1#6 GROUND
8. 24" X 36" X 24"D PRE-CAST CONCRETE PULL BOX WITH HEAVY TRAFFIC COVER. SPLICE LANDSIDE CONDUCTORS TO TYPE W FLEXIBLE CABLE WITH LISTED AND APPROVED SUBMERSIBLE SPLICE COMPONENTS. SEE DETAIL 1, SHEET E-01.
9. (5) 3/C #4/0 TYPE W CABLE WITH GROUND
   (1) 3/C #1/0 TYPE W CABLE WITH GROUND. ROUTE CABLES IN 4" SCH. 80 PVC SLEEVES ON UNDERSIDE OF GANGWAY, QUANTITY AS REQUIRED. SEE DETAIL 3, SHEET E-03.
10. (4) 3/C #4/0 TYPE W CABLE WITH GROUND
    (1) 3/C #1/0 TYPE W CABLE WITH GROUND
    (1) 3/C #1 TYPE W CABLE WITH GROUND
    ROUTE CABLES IN 4" SCH 80 PVC SLEEVES ON UNDERSIDE OF GANGWAY, QUANTITY AS REQUIRED. SEE DETAIL 3, SHEET E-03.

CONSTRUCTION NOTES CONTINUED:

11. FLOATING DOCK NON-METALLIC PULL BOX BY FLOATING DOCK MANUFACTURER. SPLICE TYPE W FLEXIBLE CABLE TO DOCK CONDUCTORS WITH LISTED AND APPROVED SUBMERSIBLE SPLICE COMPONENTS.
12. TYPE W 3/C #4/0 WITH #4 GROUND (CIRCUIT AS INDICATED), VIA FLOATING DOCK PULLBOX.
13. TYPE W 3/C #1/0 WITH #6 GROUND (CIRCUIT AS INDICATED), VIA FLOATING DOCK PULLBOX.
14. TYPE W 3/C #1 WITH #6 GROUND (CIRCUIT AS INDICATED), VIA FLOATING DOCK PULLBOX.
15. GUARD POST, TYPICAL.
16. CONTRACTOR TO PROVIDE AND INSTALL DISTRIBUTION POLE PER KIUC REQUIREMENTS. (4)

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
4	4	REVISED PER KIUC		07/06/17	
3	3				

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PORT ALLEN SMALL BOAT HARBOR
PIERS A & B REPLACEMENT
KAUAI, HI

ELECTRICAL PLAN

DESIGNED:	GM	SUBMITTED:	MAY 20, 2016
DRAWN:	EP	DATE:	MAY 20, 2016
CHECKED:	TS	SCALE:	AS NOTED
APPROVED:			DRAWING NO. E-02
CHIEF ENGINEER		DATE	

JOB NO. B94DK71A

SHEET NO. 38 OF 39 SHEETS

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RFI 48: State have no objection to reusing the existing conduits for the new wires to the lights. State also agree to demolish the existing concrete pull boxes and replace with smaller fiberglass boxes.

7/12/18 email: Connect ex. lights to new electrical line

EXISTING PULLBOX #6

EXISTING PULLBOX #5

EXISTING PULLBOX #4

15 TYPICAL

PANEL A

PANEL B

(6) (4) 4"C SCH. 80 PVC WITH TYPE W CABLES THROUGH ABUTMENT

(6) (4) 4"C SCH. 80 PVC WITH TYPE W CABLES THROUGH ABUTMENT

7/12/18 email: New Panel A and bollards location

RFI 27: For electrical reroute, per RFI State requested 4 ft standoff between utility lines but after 3/23/18 progress meeting, said can go down to 3 ft standoff. HDCC determined that existing electrical line shown on plan is actually the water line, and the existing electrical line is above that. Therefore, per utility toning, route of new electrical line will be 6 ft from existing water line which is 6 ft from existing electrical line for light poles

7/12/18 email: New Panel B and pull box location. Keep bollards outside edge of pavement. Now interferes with water line, but as moving out of roadway is priority, must keep

7/12/18 email: New electrical line alignment per RFI 27

RFI 40: Utility Line Crossing confirmed at 5/15/18 meeting

Per 7/12/18 email and drawing, abandon line and place new wires to lights from new line

EXISTING KIUC OVERHEAD

EXISTING KIUC OVERHEAD

DETAIL A

DETAIL B

2-4"C. & RISER ON POLE PER KIUC REQUIREMENTS

CURRENT ELECTRICAL

DISTRIBUTION POLE 16

3'X5' PULL BOX, WALKER INDUSTRIES, LTD. PER KIUC

2-4"C.O.AVOID LIFT STATION CONCRETE ENCASE ANY CROSSINGS

600A 480V 3ø 4W NEMA 3R SERVICE DISTRIBUTION PANEL DSA. SEE SINGLE LINE DIAGRAM, SHEET E-01

METER/ENCLOSURE, CONTRACTOR SHALL SUBMIT SHOP DRAWING AND SPECIFICATION TO KIUC FOR REVIEW AND APPROVAL.

(2) 4"C.O. PER KIUC REQUIREMENTS

EXISTING PULLBOX #3

3'X5' PULL BOX, WALKER INDUSTRIES, LTD. PER KIUC

EXISTING SERVICE / DISTRIBUTION PANEL

WATERLINE

EXISTING ELECTRICAL

EXISTING FEEDERS TO REMAIN

TRANSFORMER PAD LOCATION. VERIFY WITH KIUC, TRANSFORMER PAD AND GROUNDING REQUIREMENTS, SEE KIUC STANDARD PAD-3PH.

EXISTING PULLBOX #2

DETAIL A-EXISTING ELEC

TOP= +5.46'

TOP= +3.75'

TOP= +2.75'

MHHW= +1.84'

1.71 / 1.00 / 0.50 / 0.76

ASPHALT

EXISTING ELEC (CONC ENCASED)

CURRENT ELEC (WILL BE CONC ENCASED)

CONCRETE ENCASE CROSSING

DETAIL B-WATER

TOP= +5.68'

TOP= +3.18'

MHHW= +1.84'

2.50 / 1.25 / 0.76 / 0.50 / 1.34

ASPHALT

CONTRACT ELEC (WILL BE CONC ENCASED)

EXISTING WATER (DIRECT BURIED)

CONCRETE ENCASE WATER LINE OVER CROSSING

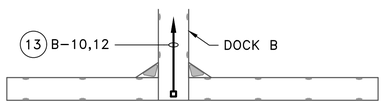
AS-BUILT
08/31/2018

20' 0' 20' 40'
SCALE: 1"=20'



ELECTRICAL PLAN

SCALE: 1" = 20'-0"



CONSTRUCTION NOTES:

1. EXISTING KIUC POWER POLE.
2. EXISTING PIER A AND PIER B FEEDERS SERVING PIER A AND PIER B TO BE DISCONNECTED AT EXISTING DISTRIBUTION PANEL AND REMOVED. ~~ALL OTHER EXISTING CIRCUITS TO REMAIN~~. Per 7/11/18 email, remove lights circuit
3. 3"C-2#500KCMIL, 1#1 GROUND TO TRANSFORMER/PANEL B.
4. (2)3"C-2#250KCMIL, 1#1 GROUND EACH TO TRANSFORMER/PANEL A.
5. 24" X 36" X 24"D PRE-CAST CONCRETE PULL BOX WITH HEAVY TRAFFIC COVER. SEE DETAIL 2, SHEET E-03.
6. (5) 2½"C-3#4/0, 1#4 GROUND
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CONSTRUCTION NOTES:

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9. (5) 3/C #4/0 TYPE W CABLE WITH GROUND
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10. (4) 3/C #4/0 TYPE W CABLE WITH GROUND
    (1) 3/C #1/0 TYPE W CABLE WITH GROUND
    (1) 3/C #1 TYPE W CABLE WITH GROUND
    ROUTE CABLES IN 4" SCH 80 PVC SLEEVES ON UNDERSIDE OF GANGWAY, QUANTITY AS REQUIRED. SEE DETAIL 3, SHEET E-03.

CONSTRUCTION NOTES CONTINUED:

11. FLOATING DOCK NON-METALLIC PULL BOX BY FLOATING DOCK MANUFACTURER. SPLICE TYPE W FLEXIBLE CABLE TO DOCK CONDUCTORS WITH LISTED AND APPROVED SUBMERSIBLE SPLICE COMPONENTS.
12. TYPE W 3/C #4/0 WITH #4 GROUND (CIRCUIT AS INDICATED), VIA FLOATING DOCK PULLBOX.
13. TYPE W 3/C #1/0 WITH #6 GROUND (CIRCUIT AS INDICATED), VIA FLOATING DOCK PULLBOX.
14. TYPE W 3/C #1 WITH #6 GROUND (CIRCUIT AS INDICATED), VIA FLOATING DOCK PULLBOX.
15. GUARD POST, TYPICAL.
16. CONTRACTOR TO PROVIDE AND INSTALL DISTRIBUTION POLE PER KIUC REQUIREMENTS. (4)

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PIERS A & B REPLACEMENT
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ELECTRICAL PLAN

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CHIEF ENGINEER

DRAWING NO. E-02

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SHEET NO. 38 OF 39 SHEETS

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RFI 37: Electrical Transformer Relocation

New Pole

Proposed Location of Transformer and 3x5 pullbox

Drawing's Location for Transformer and 3x5 Pullbox

Water Line

Electrical Line

Sewer Line

EXISTING ACCESS ROAD

EXISTING KIUC POLE # 7260

PROPOSED KIUV SERVICE DROP

EXISTING KIUC SERVICE DROP TO BE REMOVED

EXISTING PANEL TO BE REMOVED 4/E-3

NEW SERVICE POLE, WEATHERHEAD & SERVICE ENTRANCE

EXISTING SERVICE EQUIPMENT TO BE REMOVED 3/E-3

NEW ELECTRICAL ENCLOSURE 3/E-4

EXISTING DUCTLINE

EXISTING 2x4 EPB # 3 TO BE REPLACED WITH NEW 3x5 EPB #

EXISTING 2"C, 3-# 8 & 1-# 8 GROUND

EXISTING UG DUCTLINE
2"C, PIER OUTLET FEEDER, 4-# 2 & 1-# 8 GROUND
2"C, SPARE
2"C, AREA & PIER LIGHTING FEEDER, 2-# 8 & 1-# 8 GROUND

EXISTING 1" PVC, 2-# 10 & 1-# 10 GROUND

plumeria d=7 h=8 s=10

banyan d=23 h=15 s=15

concrete

concrete wall

ac curb

piling

edge of ROAD

blue striping

white st

NORTH

1/E-1 ELECTRICAL SITE PLAN
SCALE: 1/4" = 1'-0"

AS-BUILT
08/31/2018

GRAPHIC SCALE
0 1' 2' 4' 6' 8' 12'
SCALE: 1/4"=1'-0"

ELECTRICAL SYMBOL LIST

EXISTING	NEW	DESCRIPTION
		LIGHT, POLE MOUNTED.
		LIGHT, FLUORESCENT, CEILING RECESSED MOUNTED.
		LIGHT, CEILING SURFACE MOUNTED.
		NIGHT LIGHT, WALL MOUNTED.
		ELECTRIC PANEL.
		ELECTRICAL EQUIPMENT.
		METER SOCKET. OR COMBINATION METER SOCKET & MAIN BREAKER.
		WEATHERHEAD.
		OVERHEAD ELECTRICAL CABLES.
		RACEWAY, CONCEALED BELOW FINISH FLOOR, NUMBER OF HASH MARKS INDICATE NUMBER OF WIRES WITHIN.
		RACEWAY, CONCEALED ABOVE FINISH FLOOR,
2	2	ELECTRICAL NOTE INDICATOR.
	A	DUCT SECTION INDICATOR.
	A/UG	FIXTURE INDICATOR UPPER HALF: FIXTURE TYPE. LOWER HALF: NO. OF LAMPS & WATTS OR LENGTH.
	2/E-2	DETAIL INDICATOR UPPER HALF: DETAIL NUMBER. LOWER HALF: SHEET NUMBER, DETAIL LOCATION.

GENERAL ELECTRICAL NOTES:

1. ELECTRICAL CONTRACTOR SHALL VISIT THE JOB SITE AND FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS PRIOR TO BIDDING. BID SUBMISSION SHALL BE CONSIDERED AS CONFIRMATION THAT THE CONTRACTOR HAS VISITED THE SITE AND HAS RESOLVED ALL DISCREPANCIES AND QUESTIONS REGARDING THE WORK. NO EXTRA PAYMENT WILL BE GIVEN FOR WORK MADE NECESSARY BY THE CONTRACTOR'S FAILURE TO VISIT THE SITE.
2. ALL WIRING SHALL INCLUDE AN INSULATED GREEN GROUNDING CONDUCTOR SIZED PER TABLE 250.122 OF THE NATIONAL ELECTRICAL CODE. THIS CONDUCTOR SHALL BE CARRIED IN ALL RACEWAYS AND SHALL BE ATTACHED TO THE DEVICE OR EQUIPMENT HOUSING USING A SUITABLE GROUNDING LUG.
3. PROJECT CONDITIONS MAY REQUIRE REARRANGEMENT OF ELECTRICAL WORK. THE CONTRACTOR SHALL MAKE CHANGES ON THE AS-BUILT DRAWINGS AND SUBMIT TO THE CONTRACTING OFFICER. WHERE CHANGES REQUIRE ALTERNATE METHODS TO THOSE SPECIFIED IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL SUBMIT DRAWINGS SHOWING THE PROPOSED METHOD FOR APPROVAL. THE CONTRACTOR SHALL NOT PROCEED UNTIL APPROVAL IS OBTAINED FROM THE CONTRACTING OFFICER.
4. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL OTHER TRADES.
5. ALL MATERIAL, EQUIPMENT, AND WIRING LOCATED OUTDOORS SHALL BE RATED FOR WET LOCATIONS.

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

BRIAN T. ITOZAKI LICENSED PROFESSIONAL ENGINEER No. 9058-E HAWAII, U.S.A.

This work was prepared by me or under my supervision.

Expiration date of the license: 04/30/14

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

REPAIRS TO COMFORT STATION
PORT ALLEN SMALL BOAT HARBOR
ELEELE, KAUAI, HAWAII

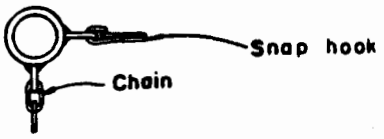
ELECTRICAL SITE PLAN
ELECTRICAL SYMBOL LIST & GENERAL ELECTRICAL NOTES

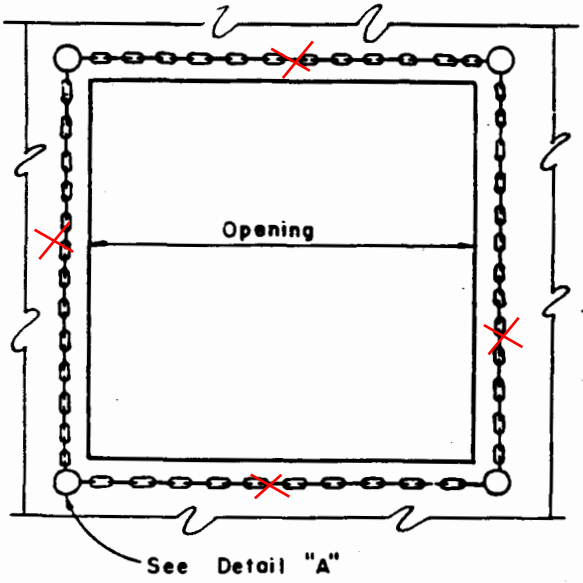
DESIGNED:	SM	SUBMITTED:	
DRAWN:	SY	DATE:	JULY 2013
CHECKED:	BI	SCALE:	AS NOTED
APPROVED:			DRAWING NO. E-1
CHIEF ENGINEER		DATE	

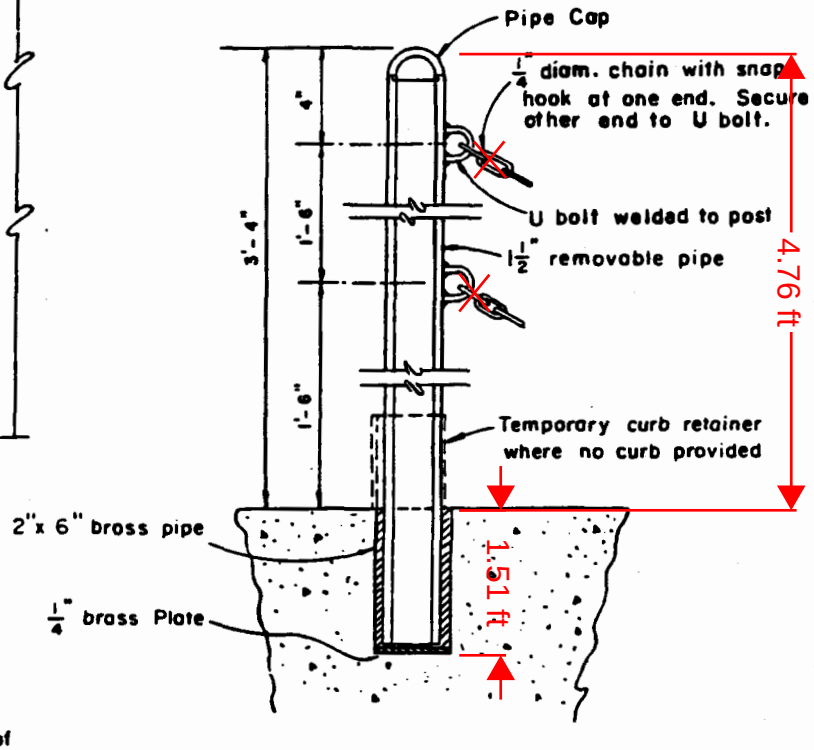
JOB NO. B94CK74A SHEET NO. OF SHEETS

399.069

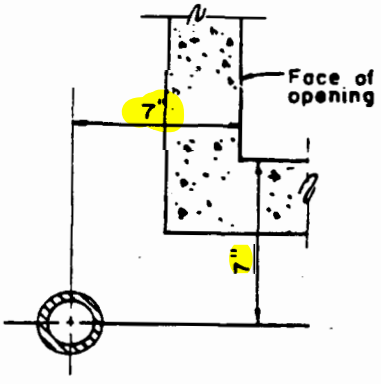
RFI 18: GUARD POST DETAIL OMITTED, ADDED STANDARD C&C OF KAUAI DETAIL



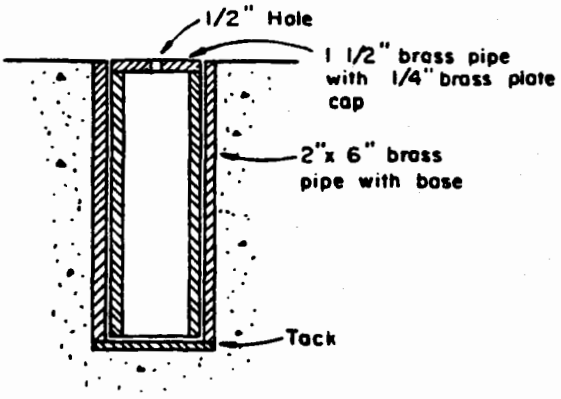




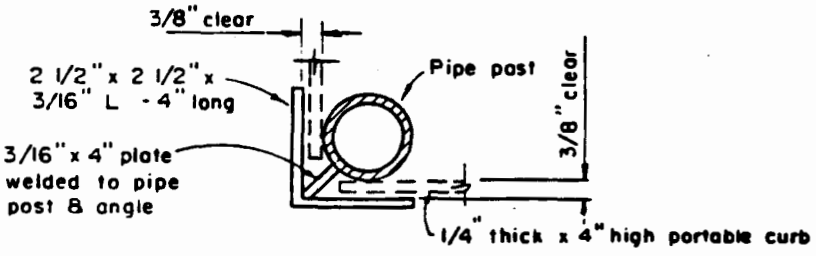
SECTION



DETAIL "A"



DETAIL COVER PLATE



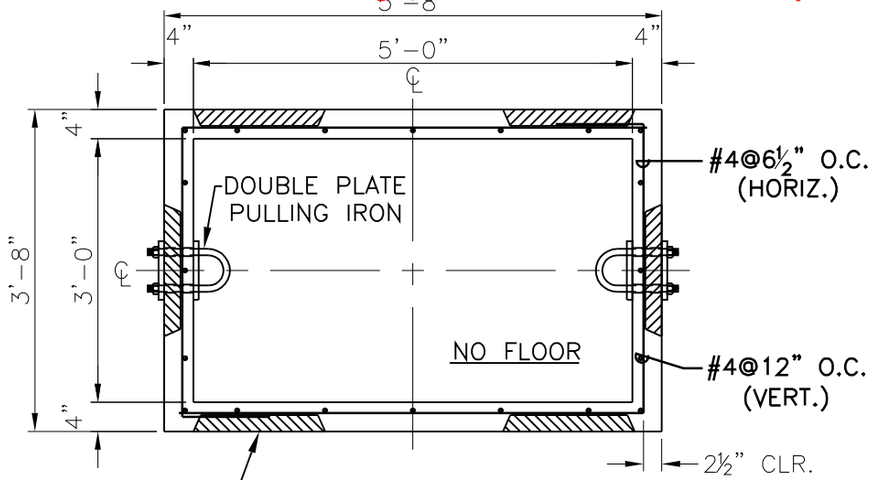
TEMPORARY CURB RETAINER

REMOVABLE POST & CHAIN DETAILS

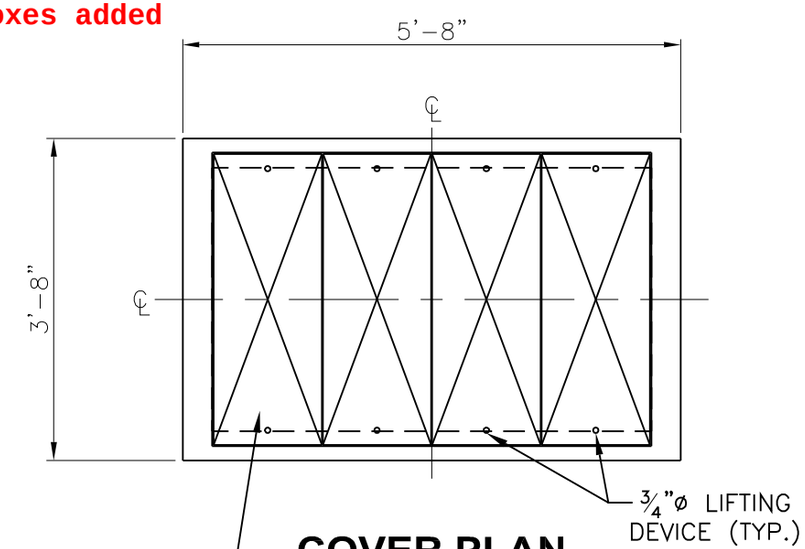
AS-BUILT
08/31/2018
COUNTY OF KAUAI
CITY & COUNTY OF HONOLULU

P-6	STANDARD DETAILS	REMOVABLE POST AND CHAIN DETAILS SEPTEMBER 1984 NOT TO SCALE	

RFI 16: Revised Elec Dwgs, 3'x5' standard KIUC pullboxes added

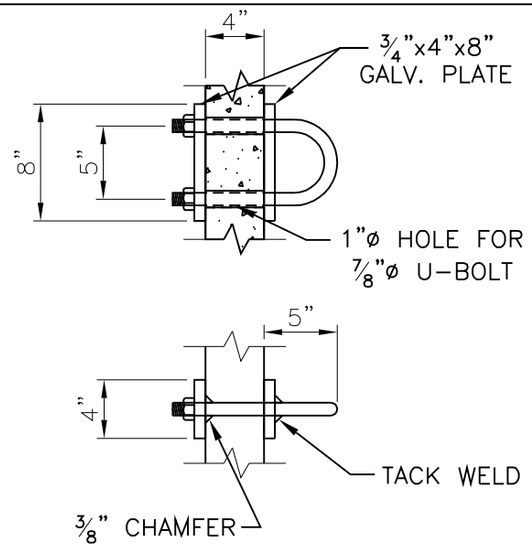


WALL PLAN
SCALE: 1/2"=1'-0"

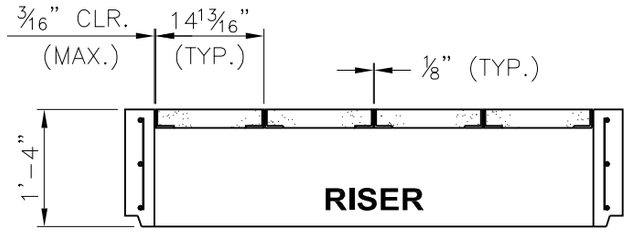


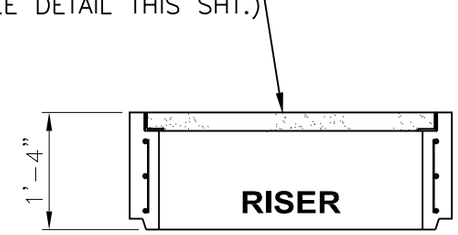
COVER PLAN
SCALE: 1/2"=1'-0"

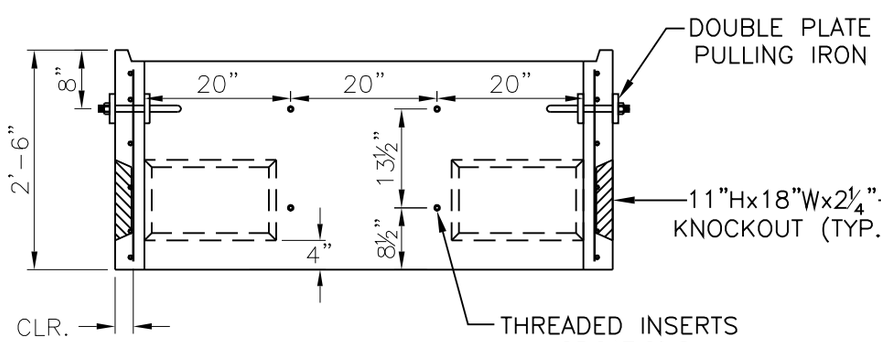
4-REMOVABLE CONC. COVERS (SEE DETAIL THIS SHT.)



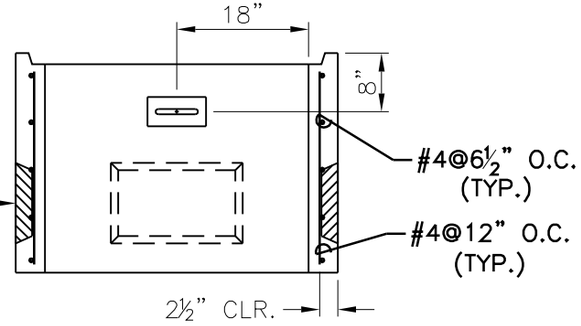
PULLING IRON DETAILS
SCALE: 1"=1'-0"





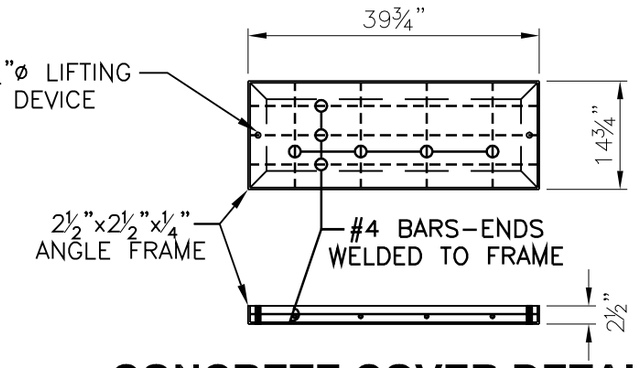


SECTION "A-A"
SCALE: 1/2"=1'-0"



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

AS-BUILT
08/31/2018



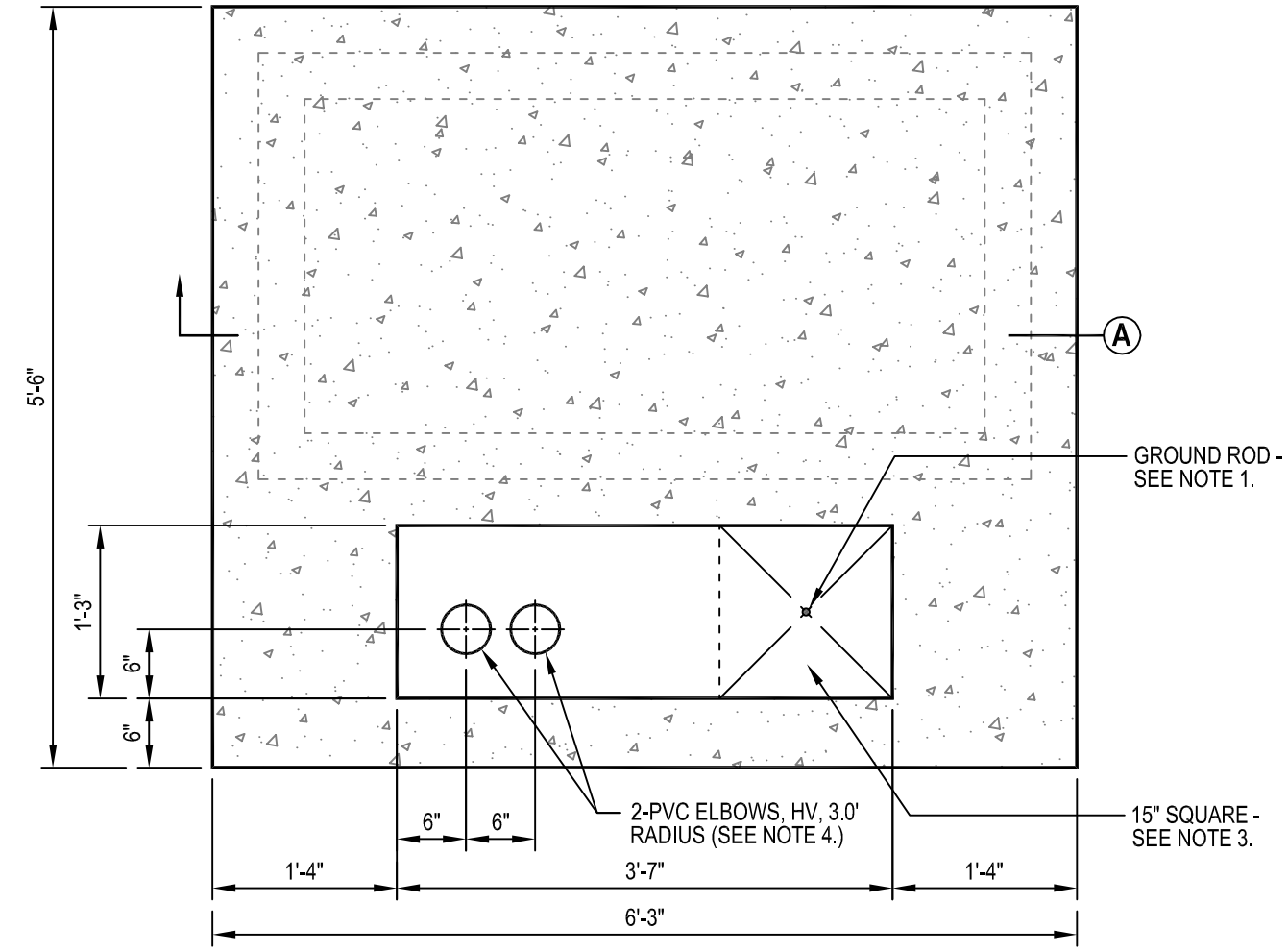
CONCRETE COVER DETAILS
SCALE: 1/2"=1'-0"

Walker Industries, Ltd.
P.O. BOX 1568 KAHULUI, HI 96733
Ph: (808) 877-3430 Fax: (808) 871-7282

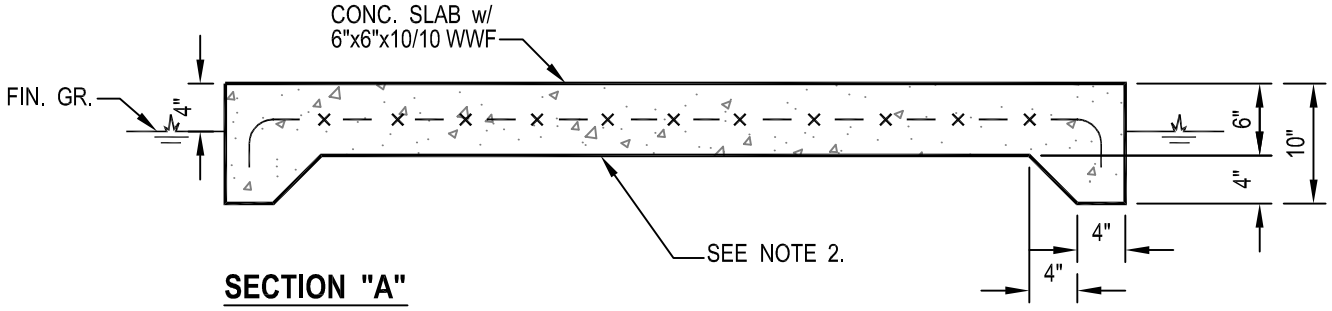
3'-0" x 5'-0" HANDHOLE

SCALE: AS SHOWN	DRAWN BY: JLN	CHECKED BY: FKW	
DATE: 3/17/03	SHEET: 1 OF 1		

RFI 16: Revised Elec Dwgs, KIUC TRANSFORMER PAD, STANDARD DETAIL added



PLAN VIEW



SECTION "A"

NOTES:

1. GROUND ROD, 5/8" DIA. x 8'-0", FURNISHED AND INSTALLED BY THE DEVELOPER/CONTRACTOR. IF THE RESISTANCE EXCEEDS 25-OHMS, INSTALL ADDITIONAL GROUND ROD.
2. PAD TO BE INSTALLED ON FIRM, UNDISTURBED SOIL OR ON 95% COMPACTED BACKFILL.
3. DEVELOPER/CONTRACTOR/CUSTOMER TO TERMINATE DUCTS WITHIN THE 15"-SQUARE AREA.
4. CONTACT KIUC's ENGINEERING DEPARTMENT FOR ELBOW SIZES.

AS-BUILT
08/31/2018

ORIGINAL - 04/88

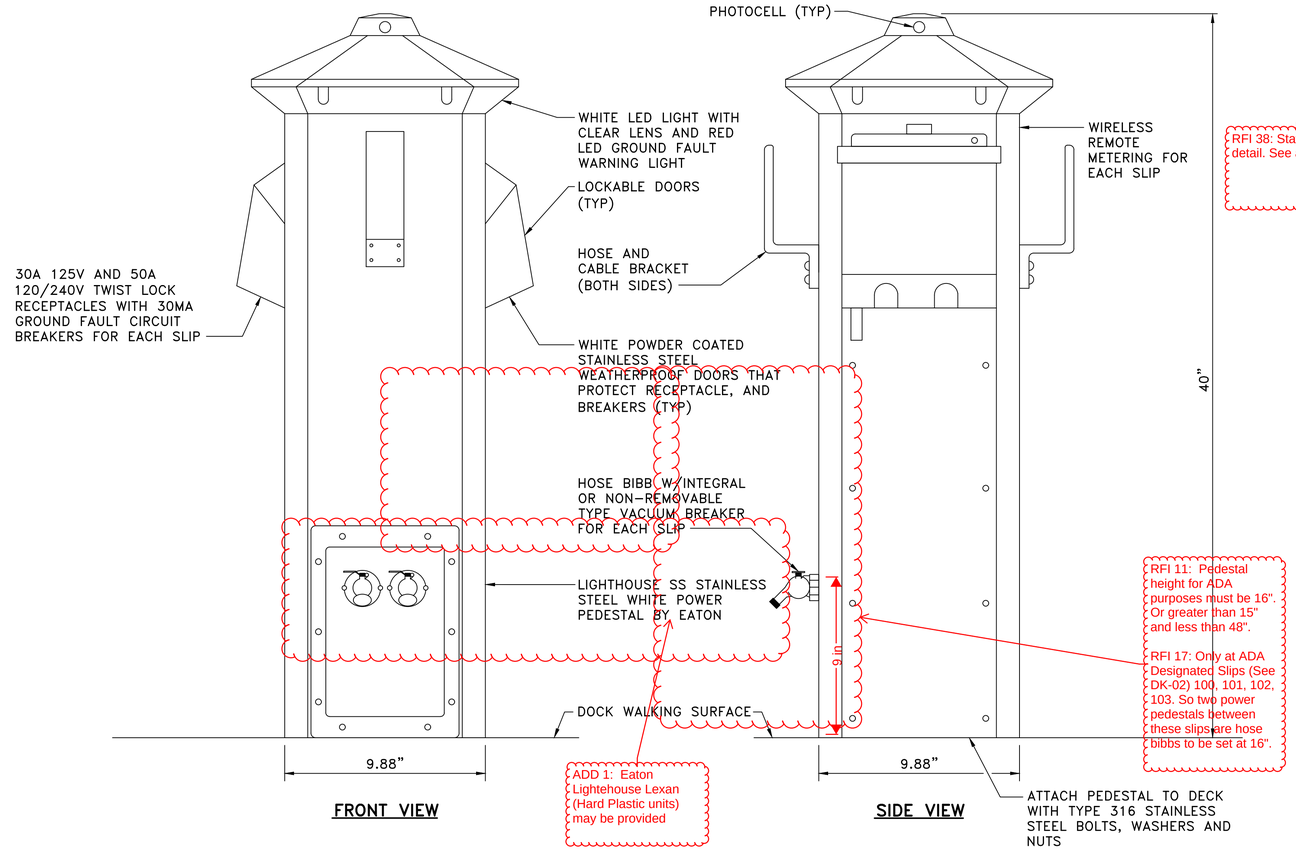
Kaua'i Island Utility Cooperative
Your Touchstone Energy Cooperative

NO.	DATE	REVISION	BY	APP'D

TITLE	DRWG. NO.	REV.
PAD, TRANSFORMER, THREE PHASE, 75-300 KVA	PAD - 3PH	

SCALE:	DR'N BY:	CHK'D BY:	APPR'D BY:	DATE:	SHEET	OF
3/4"=1'-0"	JF	FP	FP	11/06	1	1

RFI 16: IT IS ACKNOWLEDGED THAT ELECTRICAL DRAWINGS HAVE BEEN REVISED, AND THIS RFI CONFIRMS THAT E-01 R3, E-02 R4, AND E-03 R0 ARE THE OFFICIAL CONTRACT SET



1/E-03 30/50 GROUND FAULT POWER PEDESTAL

SCALE: NOT TO SCALE

PANEL: A WITH INTEGRAL 167.5 KVA TRANSFORMER IN NEMA 3R ENCLOSURE

LOCATION : EXTERIOR
ENCLOSURE : MARINE GRADE 3R
MOUNTING : CONCRETE PAD
VOLTAGE/PHASE : 240/120V, 1ø 3W
BUS AMPS : 800A
MAIN BREAKER : 800A, 3P (SEE NOTE 1)
FED FROM : DSA
MIN. BUS BRACING : PER KIUC AVAILABLE FAULT CURRENT

LOADS	SEE NOTE	OUTLETS MISC	REC	LTG	VOLT–AMPS A	B	CKT	BKR/POLE	A	B	BKR/POLE	CKT	VOLT–AMPS A	B	OUTLETS LTG	REC	MISC	SEE NOTE	LOADS
(4) SLIPS			4		24,000		1	200/2	*–		200/2	2	24,000			4			(4) SLIPS
–						24,000	3	–	–*		–	3		24,000					–
(4) SLIPS			4		24,000		5	200/2	*–		200/2	6	24,000			4			(4) SLIPS
–						24,000	7	–	–*		–	8		24,000					–
(2) SLIPS			2		12,000		9	100/2	*–		200/2	10	24,000			4			(4) SLIPS
–						12,000	11	–	–*		–	12		24,000					–
SPACE					·		13	·	*–		·	14	·						SPACE
SPACE						·	15	·	–*		·	16		·					SPACE
SPACE					·		17	·	*–		·	18	·						SPACE
SPACE						·	19	·	–*		·	20		·					SPACE
SPACE					·		21	·	*–		·	22	·						SPACE
SPACE						·	23	·	–*		·	24		·					SPACE

NOTES:
1. BREAKERS TO BE 100% RATED.

RECEPTACLES: (22) 50A 240V 1ø

CONNECTED RECEPTACLE LOAD: 22 X 12,000VA = 264,000VA

RECEPTACLE DEMAND LOAD:
70% PER NEC 555.12 = 184,000VA
90% PER NEC 555.12 = 166,320VA (METER)
TOTAL = 166,320VA

TOTAL DEMAND LOAD @ 240V, 1ø = 693 AMPS
TOTAL DEMAND LOAD @ 480V, 1ø = 347 AMPS

PANEL: B WITH INTEGRAL 167.5 KVA TRANSFORMER IN NEMA 3R ENCLOSURE

LOCATION : EXTERIOR
ENCLOSURE : MARINE GRADE 3R
MOUNTING : CONCRETE PAD
VOLTAGE/PHASE : 240/120V, 1ø 3W
BUS AMPS : 800A
MAIN BREAKER : 800A, 3P (SEE NOTE 1)
FED FROM : DSA
MIN. BUS BRACING : PER KIUC AVAILABLE FAULT CURRENT

LOADS	SEE NOTE	OUTLETS MISC	REC	LTG	VOLT–AMPS A	B	CKT	BKR/POLE	A	B	BKR/POLE	CKT	VOLT–AMPS A	B	OUTLETS LTG	REC	MISC	SEE NOTE	LOADS
(2) SLIPS			2		12,000		1	100/2	*–		200/2	2	24,000			4			(4) SLIPS
–						12,000	3	–	–*		–	3		24,000					–
(4) SLIPS			4		24,000		5	200/2	*–		200/2	6	24,000			4			(4) SLIPS
–						24,000	7	–	–*		–	8		24,000					–
(4) SLIPS			4		24,000		9	200/2	*–		100/2	10	12,000			2			(2) SLIPS
–						24,000	11	–	–*		–	12		12,000					–
SPACE					·		13	·	*–		·	14	·						SPACE
SPACE						·	15	·	–*		·	16		·					SPACE
SPACE					·		17	·	*–		·	18	·						SPACE
SPACE						·	19	·	–*		·	20		·					SPACE
SPACE					·		21	·	*–		·	22	·						SPACE
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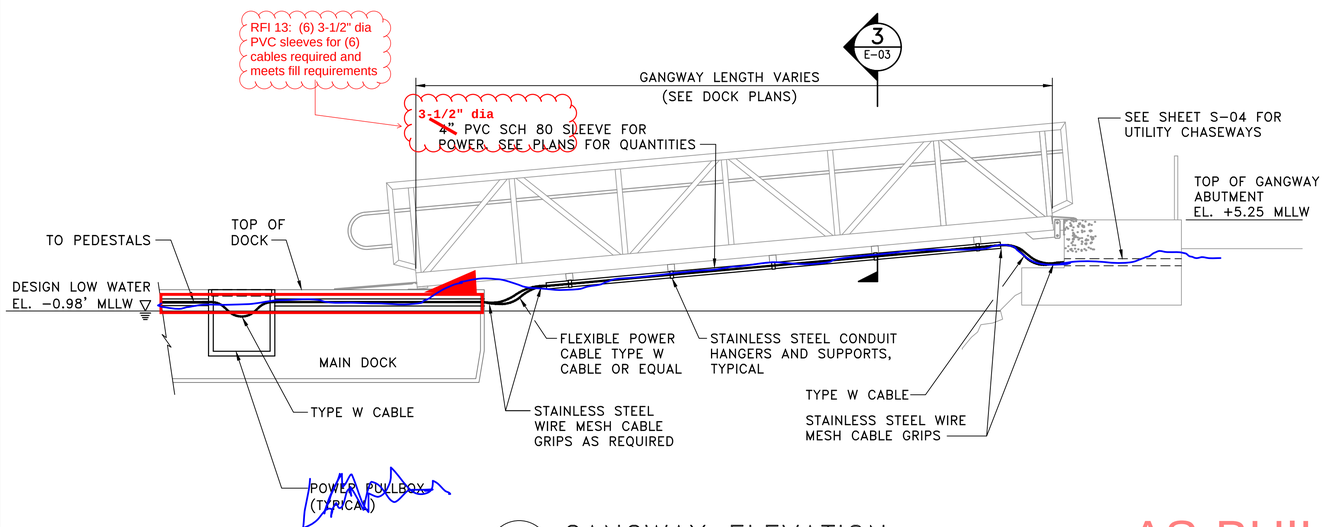
NOTES:
1. BREAKERS TO BE 100% RATED.

RECEPTACLES: (20) 50A 240V 1ø

CONNECTED RECEPTACLE LOAD: 20 X 12,000VA = 240,000VA

RECEPTACLE DEMAND LOAD:
70% PER NEC 555.12 = 168,000VA
90% PER NEC 555.12 = 151,200VA (METER)
TOTAL = 151,200VA

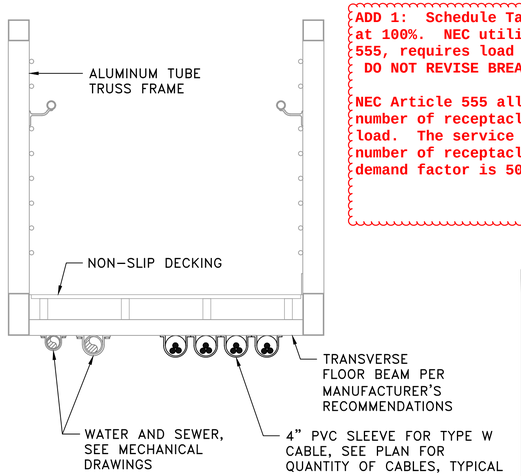
TOTAL DEMAND LOAD @ 240V, 1ø = 630 AMPS
TOTAL DEMAND LOAD @ 480V, 1ø = 315 AMPS



2/E-03 GANGWAY ELEVATION

SCALE: NOT TO SCALE

AS-BUILT
08/31/2018



3/E-03 GANGWAY SECTION

SCALE: NOT TO SCALE

ADD 1: Schedule Table For Piers A AND B Indicate 50A Breakers will be working at 100%. NEC utilizes 80% breakers, not 100% as detailed. Per NEC ARTICLE 555, requires load calculations to be taken using 100% of rating of receptacle. DO NOT REVISE BREAKERS SIZES SHOWN ON DRAWINGS.

NEC Article 555 allows demand factors to be applied to marina loads based on number of receptacles. Docks A and B each have 70% demand applied to the rec load. The service has a 50% demand applied, per the NEC, based on teh larger number of receptacles. Note in both cases the total load before applying the demand factor is 504 kVa.

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

TYLER SPARKS — LICENSED PROFESSIONAL ENGINEER NO. 16162 — HAWAII U.S.A.

LICENSE EXPIRATION DATE: 4/30/2018

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF BOATING AND OCEAN RECREATION

PORT ALLEN SMALL BOAT HARBOR
PIERS A & B REPLACEMENT
KAUAI, HI

DETAILS, PANEL SCHEDULE

DESIGNED:	GM	SUBMITTED:	MAY 20, 2016
DRAWN:	EP	DATE:	MAY 20, 2016
CHECKED:	TS	SCALE:	AS NOTED
APPROVED:			DRAWING NO. E-03
CHIEF ENGINEER		DATE	

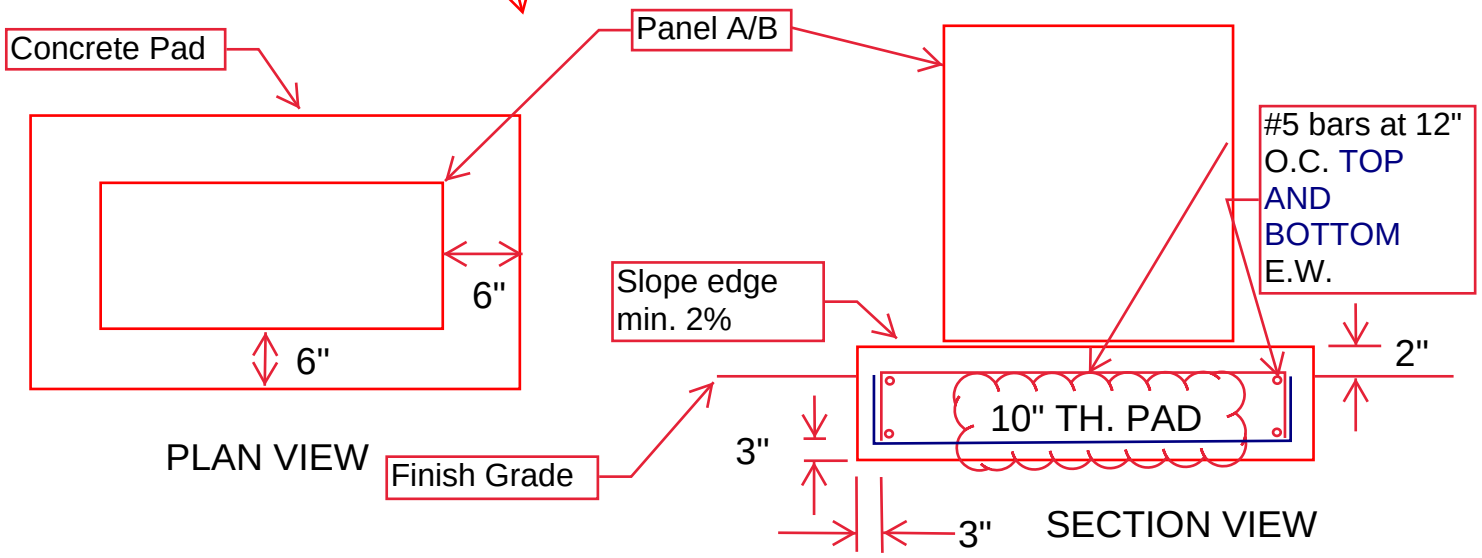
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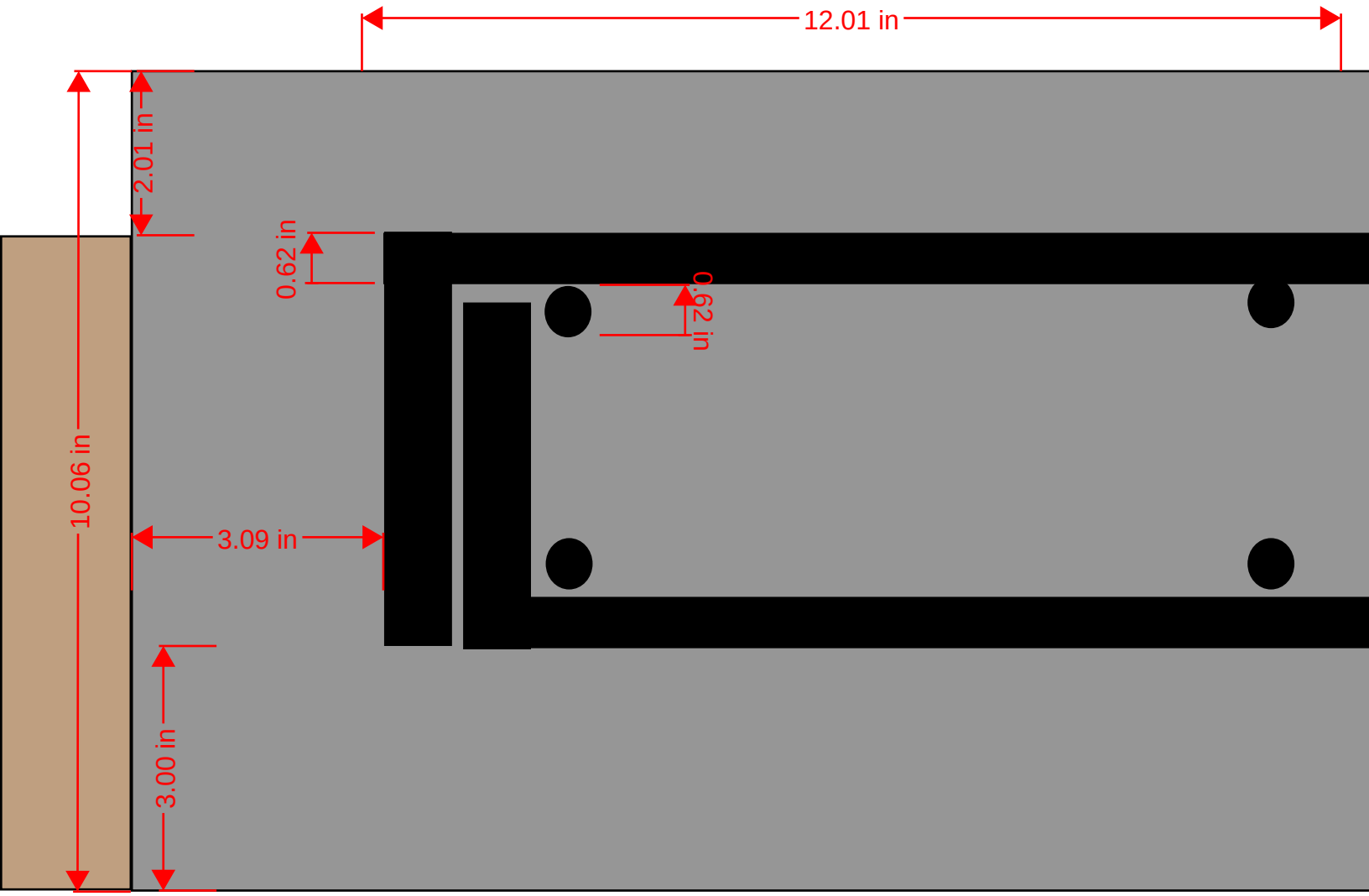
SHEET NO. 39 OF 39 SHEETS

10/17/2017 2:52:42 PM Q:\LB\8848 - DOBOR_Port Allen Piers A,B\CADD_Active_SheetSet\E-03.dwg

RFI 38: Panel Pad Detail

Please provide a detail for the concrete pad for the panels.





AS-BUILT

08/31/2018