

# DEEPWATER DOCK TRAIL BOARDWALK CITY OF HOMER

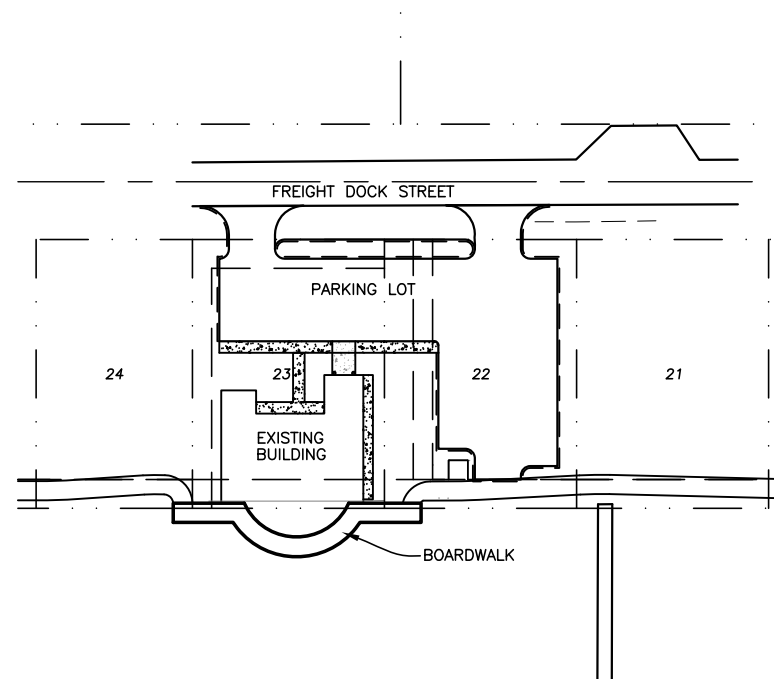
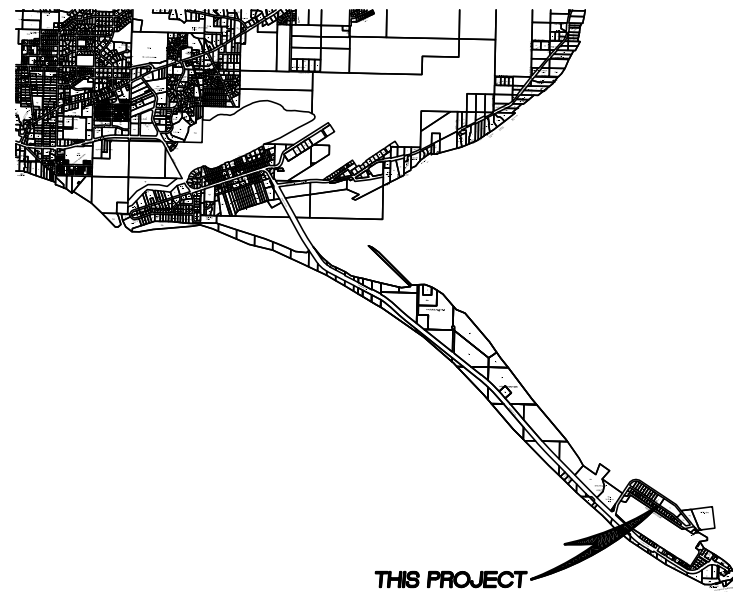


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BEAUREGARD BURGESS



DRAWING	SHEET
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# GENERAL NOTES

## GENERAL

ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO REQUIREMENTS OF THE INTERNATIONAL CODE COUNCIL INTERNATIONAL BUILDING CODE (IBC) 2009 EDITION. WHERE EXPLICIT DETAILS ARE NOT SHOWN OR DESCRIBED, THE MINIMUM REQUIREMENTS OF THE ABOVE CODE SHALL APPLY. UNLESS OTHERWISE NOTED, ALL CODES, STANDARDS AND OTHER PUBLICATIONS CITED SHALL REFER TO THE LATEST EDITION.

## REFERENCE SPECIFICATIONS

SPECIFICATIONS FOR 'HOMER HARBORMASTERS OFFICE' SHALL BE INCORPORATED INTO THE REQUIREMENTS FOR THIS PROJECT BY REFERENCE.

## LOCATION

THESE DRAWINGS ARE INTENDED FOR THE CONSTRUCTION OF (1) BOARDWALK IN HOMER, ALASKA. THIS PROJECT IS LOCATED IN THE 'HARBOR OVSLOPE' ZONE AND MAY BE SUBJECT TO PERIODIC TIDAL INUNDATION.

## DESIGN LOADS

IN ADDITION TO DEAD LOADS, THE FOLLOWING LOADS WERE USED FOR DESIGN:

OCCUPANCY CATEGORY: II

## ROOF:

GROUND SNOW LOAD	Pg=40 PSF
FLAT-ROOF SNOW LOAD	Pf=40 PSF
SNOW EXPOSURE FACTOR	Ce=1.0
SNOW LOAD IMPORT. FACTOR	Is=1.0

## WIND:

BASIC WIND SPEED (3 SEC GUST)	V=120 MPH
EXPOSURE D	EXP=1.47
WIND LOAD IMPORT. FACTOR	Iw=1.0
METHOD 1 SIMPLIFIED PROCEDURE USED FOR DESIGN SEE ROOF PLAN FOR COMP AND CLADDING WIND LOADS TO BE USED FOR DESIGN. OTHER LOADS SHALL BE PER ASCE 7-05.	

## SEISMIC:

SEISMIC LOAD IMPORT. FACTOR	Ie=1.0
SPECT. RESPONSE ACCEL.	Ss=148% S1=56%
SITE CLASS D.	
SPECTRAL RESONSE COEFF.	Sds=0.99 Sd1=0.56
SEISMIC DESIGN CATEGORY: D	
SEISMIC LOADS TO BE RESISTED BY EXISTING BUILDING, AND WERE INCLUDED IN THE DESIGN OF THE EXISTING BUILDING.	

## SITE WORK

PREPARATION OF A SAFE AND SUITABLE BUILDING SITE SHALL BE COMPLETED PRIOR TO CONSTRUCTION OF FOUNDATIONS AND SLABS. NO SITE INVESTIGATION OR SOILS BORINGS WERE PERFORMED BY THE ENGINEER. THE FOUNDATION DESIGN IS BASED ON THE ASSUMPTION THAT SOILS BENEATH THE FOUNDATION ARE WELL DRAINED NON FROST SUSCEPTIBLE SAND OR GRAVEL WITH LOAD CAPACITIES IN ACCORDANCE WITH IBC TABLE 1804.2 ALLOWABLE BEARING CAPACITY OF 3000 PSF WAS USED FOR DESIGN.

## FOUNDATIONS

EXCAVATE AND REMOVE ALL ORGANIC MATTER, DEBRIS AND FROST SUSCEPTIBLE SOILS TO DEPTH INDICATED UNDER THE BUILDING FOOTPRINT AND TO 24" BEYOND THE BUILDING FOOTPRINT. PLACE ALL INTERIOR AND EXTERIOR FOOTINGS ON NATURAL UNDISTURBED, NON-FROST SUSCEPTIBLE (N.F.S.) SOIL OR ON COMPACTED NON-FROST SUSCEPTIBLE GRAVEL BACKFILL FREE OF ORGANIC MATTER AND DEBRIS, AND CONFORMING TO THE FOLLOWING GRADATION:

NON-FROST SUSCEPTIBLE GRAVEL BACKFILL	
SIEVE:	PERCENT PASSING:
3"	100
1"	80 - 100
#4	30 - 70
#200	0 - 5

NO MORE THAN 3% OF PARTICLES BY WEIGHT SHALL BE FINER THAN 0.02 MM. BACKFILL SHALL BE PLACED IN LIFTS NOT EXCEEDING 12 INCHES IN LOOSE THICKNESS AND COMPACTED TO 95% OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM SPECIFICATION D-1557.

## ASPHALT

ALL ASPHALT SHALL MEET THE REQUIREMENTS OF THE CITY OF HOMER STANDARD CONSTRUCTION SPECIFICATIONS FOR ASPHALT CONCRETE PAVEMENT, DIVISION 400. WHERE EXPLICIT DETAILS ARE NOT SHOWN OR DESCRIBED, THE MINIMUM REQUIREMENTS OF THE ABOVE STANDARD SHALL APPLY.

## LEVELING COURSE

ALL LEVELING COURSE MATERIAL SHALL MEET THE REQUIREMENTS OF THE CITY OF HOMER STANDARD CONSTRUCTION SPECIFICATIONS FOR EARTHWORK, DIVISION 200. LEVELING COURSE MATERIAL SHALL COMPLY TO SECTION 206, 'LEVELING COURSE'. WHERE EXPLICIT DETAILS ARE NOT SHOWN OR DESCRIBED, THE MINIMUM REQUIREMENTS OF THE ABOVE STANDARD SHALL APPLY.

## CONCRETE

MIXING, SELECTION OF MATERIALS, AND PLACING OF ALL CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF THE IBC, CHAPTER 19. AN AIR ENTRAINING AGENT SHALL BE USED IN ALL CONCRETE MIXES FOR CONCRETE WORK WHICH IS TO BE EXPOSED TO EARTH OR WEATHER.

AIR ENTRAINMENT SHALL BE 5% +/- 1% BY VOLUME. ALL CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH (F'C) = 3000 P.S.I. EXCEPT CONCRETE GROUT FOR MASONRY WALLS WHICH SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH (F'c)= 2000 P.S.I. CONCRETE FOR INTERIOR AND EXTERIOR SLABS SHALL CONTAIN 1.6 POUNDS OF 'FORTA FIBRE D15' COLLATED FIBRILLATED POLYPROPYLENE FIBER PER CUBIC YARD OF CONCRETE. THE FIBER SHALL BE THOROUGHLY MIXED INTO THE CONCRETE IN TRANSIT TO THE SITE, IN ACCORDANCE WITH THE FIBER MANUFACTURER'S RECOMMENDATIONS.

## REINFORCING STEEL

UNLESS NOTED OTHERWISE, ALL REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO IBC CHAPTER 19. REINFORCING BARS SHALL BE GRADE 60. REINFORCING STEEL SHALL BE SECURELY TIED IN PLACE WITH #16 DOUBLE ANNEALED IRON WIRE. REINFORCING IN FOOTINGS SHALL BE SUPPORTED ON WELL CURED CONCRETE BLOCKING OR APPROVED METAL CHAIRS. REINFORCING BARS SHALL BE SPLICED BY A LAP OF AT LEAST 30 BAR DIAMETERS. A MINIMUM LAP FOR ALL BARS SHALL BE 24". CONCRETE COVER OVER REINFORCING SHALL BE 3" FOR CONCRETE CAST AGAINST EARTH. CONCRETE COVER FOR FORMED CONCRETE THAT WILL BE EXPOSED TO WEATHER OR EARTH SHALL BE 2" MINIMUM FOR #6 THROUGH #18 BARS AND 1 1/2" MINIMUM FOR #5 BARS AND SMALLER, INCLUDING WELDED WIRE FABRIC (WWF). OTHER REINFORCEMENT SHALL HAVE A MINIMUM COVERAGE OF NOT LESS THAN 3/4".

## SAWN LUMBER AND TIMBER

LUMBER SHALL CONFORM TO THE CLASSIFICATION, DEFINITION, AND GRADING REQUIREMENTS OF IBC CHAPTER 23 WITH ALLOWABLE UNIT STRESSES AS GIVEN IN THE AMERICAN FOREST & PAPER ASSOCIATION 'NATIONAL DESIGN SPECIFICATION 2012 SUPPLEMENT', TABLE 4A. LUMBER SHALL BE GRADE MARKED BY THE WEST COAST LUMBER INSPECTION BUREAU /WESTERN WOOD PRODUCTS ASSOCIATION.

ITEM	SPECIES
4 X AND LARGER	DOUGLAS FIR #2
ALL OTHER LUMBER	HEM FIR #2

ALL LUMBER SHALL BE FASTENED IN CONFORMANCE WITH TABLE 2304.9.1 OF THE IBC, UNLESS NOTED OTHERWISE. FASTENERS SHALL BE GALVANIZED UNLESS OTHERWISE NOTED. FASTEN ALL JOIST BLOCKING TO PLATES WITH (4) 16D MINIMUM.

BOLT HEADS AND NUTS BEARING AGAINST WOOD TO BE PROVIDED WITH FLAT WASHERS. SOLID BLOCKING OF NOT LESS THAN 2" NOMINAL THICKNESS SHALL BE PROVIDED AT ENDS AND AT ALL SUPPORTS OF JOISTS AND RAFTERS, UNLESS SHOWN OTHERWISE. BEAM AND JOIST HANGERS SHALL HAVE A CAPACITY EQUAL TO THE SHEAR STRENGTH OF THE BEAM OR JOIST WHICH IT IS SUPPORTING, UNLESS NOTED OTHERWISE. ALL METAL FRAMING ANCHORS AND HANGERS SHOWN ON DRAWINGS SHALL BE "STRONG TIE CONNECTORS" AS MANUFACTURED BY SIMPSON COMPANY OR APPROVED EQUAL. ALL SIMPSON CONNECTORS IN CONTACT WITH PRESSURE TREATED WOOD SHALL BE TYPE 304 OR TPYE 316 STAINLESS STEEL.

## PRESSURE TREATED WOOD

ALL WOOD INDICATED AS PRESSURE TREATED (PT), SHALL BE PRESSURE TREATED IN ACCORDANCE THE AMERICAN WOOD PRESERVER'S ASSOCIATION STANDARD U1-02. THE PRESERVATIVE SHALL BE ALKALINE COPPER QUAT (ACQ).

ALL 4X MATERAL SHALL BE TREATED TO A RETENTION OF 0.60 PCF AS REQUIRED FOR 'GROUND CONTACT'.

ALL 2X8 DECKING AND 2X12 JOISTS SHALL BE TREATED TO A RETENTION OF 0.25 PCF.

ALL PRESSURE TREATED WOOD SHALL BE APPROPRIATELY MARKED ATTESTING TO COMPLIANCE WITH THESE REQUIREMENTS. LUMBER SHALL BE DRIED AFTER TREATMENT TO A MOISTURE CONTENT OF 19% OR LESS.

## STRUCTURAL STEEL AND CONNECTORS

STRUCTURAL STEEL SHALL CONFORM TO IBC CHAPTER22, FOR ASTM SPECIFICATION A-36, FY = 36 K.S.I. EXCEPT WHERE NOTED OTHERWISE. STEEL W-SHAPES SHALL CONFORM TO ASTM A992 FY = 50 KSI. STEEL TUBING (TS) SHALL CONFORM TO ASTM A500, GRADE B, FY = 46 K.S.I. DESIGN, FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH THE IBC CHAPTER 22, DIVISION IX, ALLOWABLE STRESS DESIGN. MACHINE BOLTS (MB) SHALL CONFORM TO ASTM 307 AND SHALL BE PROVIDED WITH STANDARD HEX HEAD NUTS AND FLAT WASHERS. ALL WELDING SHALL CONFORM TO AMERICAN WELDING SOCIETY D1.1. WELD ALL FAYING SURFACES WITH CONTINUOUS 3/16" FILLET WELD (MINIMUM) UNLESS OTHERWISE NOTED. ELECTRODES SHALL BE A.W.S. E-70. PROVIDE HOT DIPPED GALVANIZED (HDG) COATING TO ALL STEEL PLATES AND BRACKETS.

ALL LUMBER CONNECTORS, INCLUDING JOIST HANGERS AND POST BASE CONNECTORS SHALL BE AS MANUFACTURED BY SIMPSON STRONG TIE. FURNISHED WITH SIMPSON 'Z-MAX' HOT DIPPED GALVANIZED (HDG) COATING, OR APPROVED EQUAL.

## STRUCTURAL ALUMINUM

STRUCTURAL ALUMINUM SHALL CONFORM TO IBC CHAPTER 20, ALL MEMBERS, PLATES, AND BOLTS SHALL BE MADE OF 6061-T6 ALUMINUM, FY=35K.S.I. EXCEPT WHERE NOTED OTHERWISE. ALL WELDING SHALL CONFORM TO AMERICAN WELDING SOCIETY D1.2 WELD ALL FAYING SURFACES WITH CONTINUOUS 3/16" FILLET WELD (MINIMUM) UNLESS OTHERWISE NOTED. FILLER ALLOYS SHALL MEET AWS A5.10.

## STAINLESS STEEL CONNECTORS

STAINLESS STEEL BOLTS AND WASHERS SHALL BE 300 SERIES STAINLESS STEEL EXCEPT WHERE NOTED OTHERWISE. ALL BOLTS SHALL MEET F594. ALL NUTS SHALL MEET ASTM F594.

DECKING SCREWS SHALL BE #9 X 3" STAINLESS STEEL (SS) WITH SQUARE DRIVE FLAT HEADS AND SHALL BE SET 1/16" BELOW THE SURFACE DECKING.

## EPOXY

THREADED ROD ANCHORS AND REINFORCING BARS SHALL BE SET IN HIILTI EPOXY HIT-RE-500-SD ADHESIVE OR STRUCTURAL EQUIVALENT APPROVED BY THE ENGINEER OF RECORD. ADHESIVE ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH THE ADHESIVE MANUFACTUERES'S RECOMMENDED INSTALLATION PROCEDURES. MINIMUM EMBEDMENT IN CONCRETE FOR ALL ANCHORS SHALL BE 3 1/2" UNLESS NOTED OTHERWISE.

## UHMW-PE

ALL ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE (UHMW-PE) SHALL BE IN ACCORDANCE WITH ASTM STANDARD D6712.

## BITUTHENE

A CONTINUOUS LAYER OF GRACE ICE AND WATERSHIELD BITIMONOUS SHEETING SHALL BE PLACED BETWEEN ALL PRESSURE TREATED WOOD AND ALL AREAS OF POTENTIAL CONTRACT WITH STEEL AND ALUMINUM AS REQUIRED TO REDUCE CORROSION OF STEEL HARDWARE.

## TYPE 3 FILL

ALL TYPE 3 FILL MATERIAL SHALL MEET THE REQUIREMENTS OF THE CITY OF HOMER STANDARD CONSTRUCTION SPECIFICATIONS FOR EARTHWORK, DIVISION 200. TYPE 3 FILL MATERIAL SHALL COMPLY TO SECTION 205, 'CLASSIFIED FILL AND BACKFILL'. WHERE EXPLICIT DETAILS ARE NOT SHOWN OR DESCRIBED, THE MAXIMUM REQUIREMENTS OF THE ABOVE STANDARD SHALL APPLY.

## SPECIAL INSPECTION NOTES

PROVIDE A SPECIAL INSPECTION PROGRAM IN ACCORDANCE WITH IBC CHAPTER 17. PROVIDE DOCUMENTATION OF SPECIAL INSPECTION TO ENGINEER OF RECORD AND BUILDING OFFICIAL.

## STEEL

- 1.) VERIFICATION OF BOLT MANUFACTURER'S CERTIFICATE OF COMPLIANCE
- 2.) PERIODIC INSPECTION OF SNUG TIGHT BOLTED CONNECTIONS
- 3.) VERIFICATION OF STRUCTURAL STEEL IDENTIFICATION MARKINGS, GRADES AND MANUFACTURERS CERTIFIED TEST REPORTS.
- 4.) VERIFICATION OF WELD FILLER MATERIALS IDENTIFICATION MARKINGS AND MANUFACTURERS CERTIFICATE OF COMPLIANCE
- 5.) CONTINUOUS INSPECTION OF COMPLETE AND PARTIAL JOINT PENETRATION GROOVE WELDS, MULTIPASS FILLET WELDS, FILLET WELDS GREATER THAN 5/8", AND PLUG/SLOT WELDS.
- 6.) PERIODIC INSPECTION OF SINGLE PASS FILLET WELDS <= 5/8".

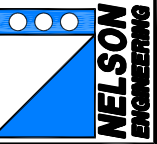
## CONCRETE

1.) PER IBC 2009 SECTION 1704.2.3 - ALL CONCRETE ELEMENTS IN THE FOUNDATION OF THIS STRUCTURE HAVE BEEN DESIGNED FOR 2,500 PSI COMPRESSIVE STRENGTH CONCRETE THEREFORE NO SPECIAL INSPECTION IS REQUIRED. THE REQUIRED CONCRETE COMPRESSIVE STRENGTH IS 3000 PSI PER



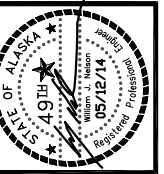
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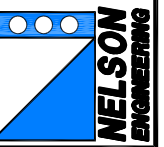
DEEPWATER DOCK TRAIL BOARDWALK  
HOMER, AK  
NOTES AND SPECIFICATIONS

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DRAWN BY: ZSR  
CHECKED BY: WJN  
DATE: 05/12/14  
SCALES: NOTED  
HORIZ. NOTED  
VERT. NOTED  
SHEET 12 OF 7



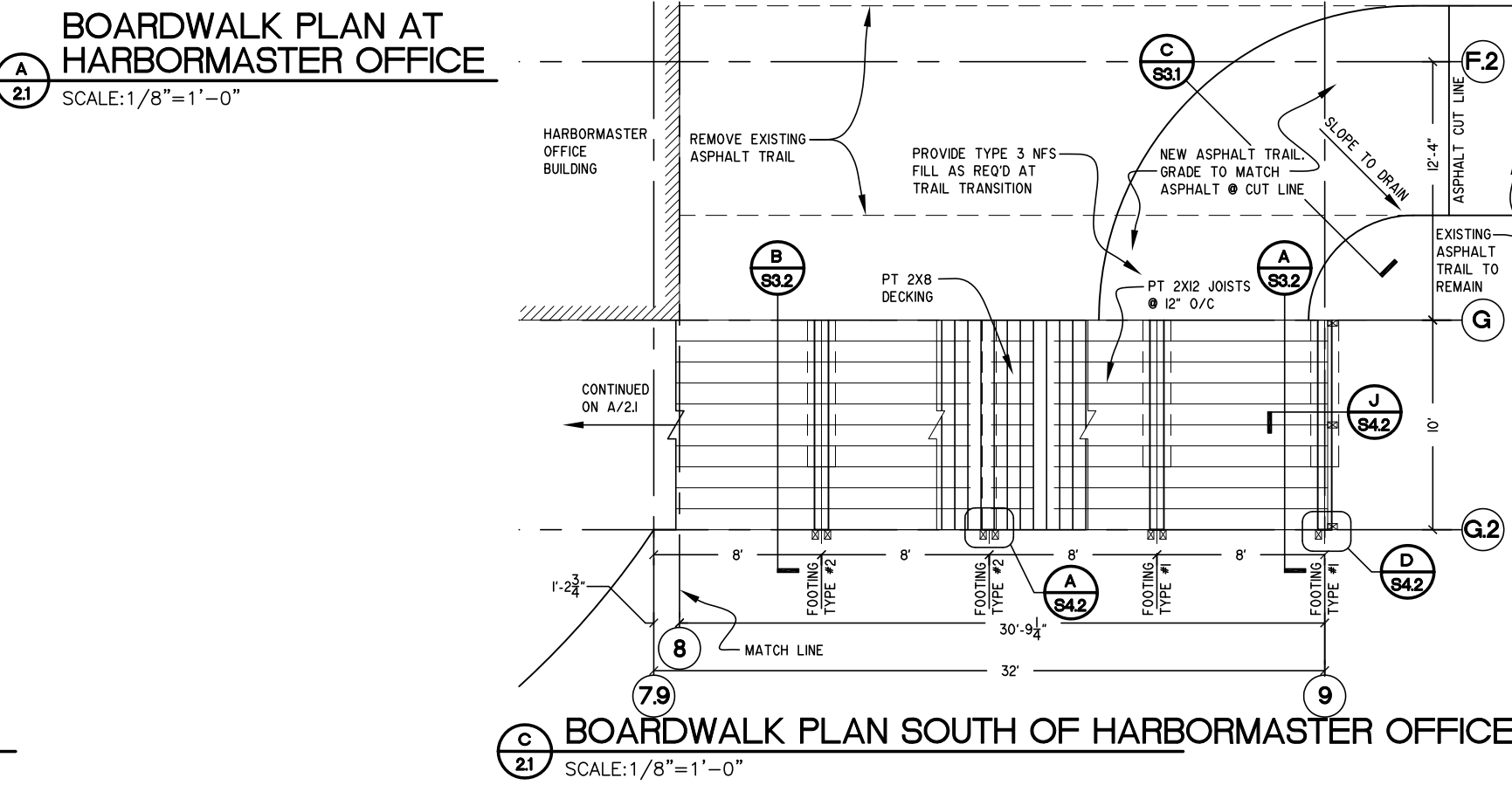
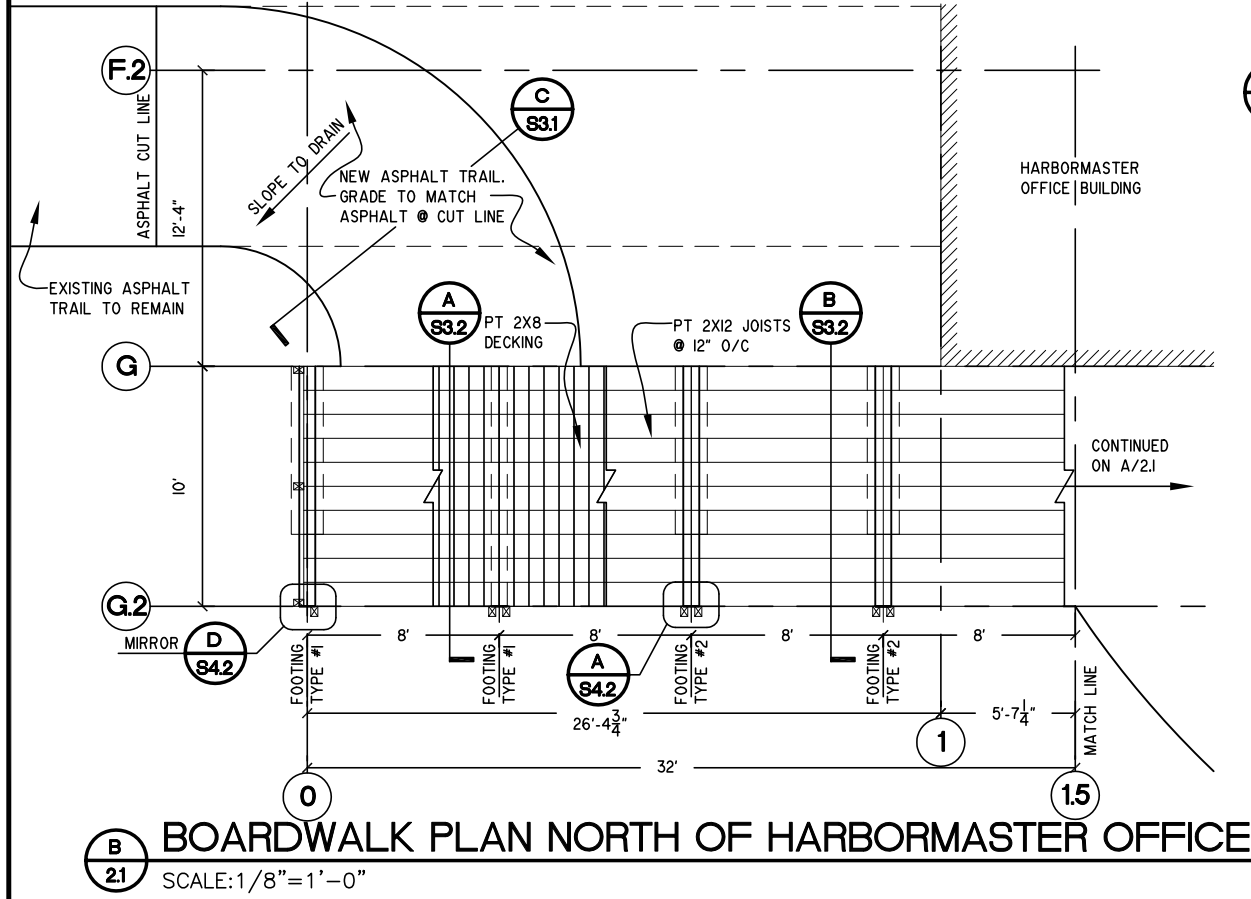
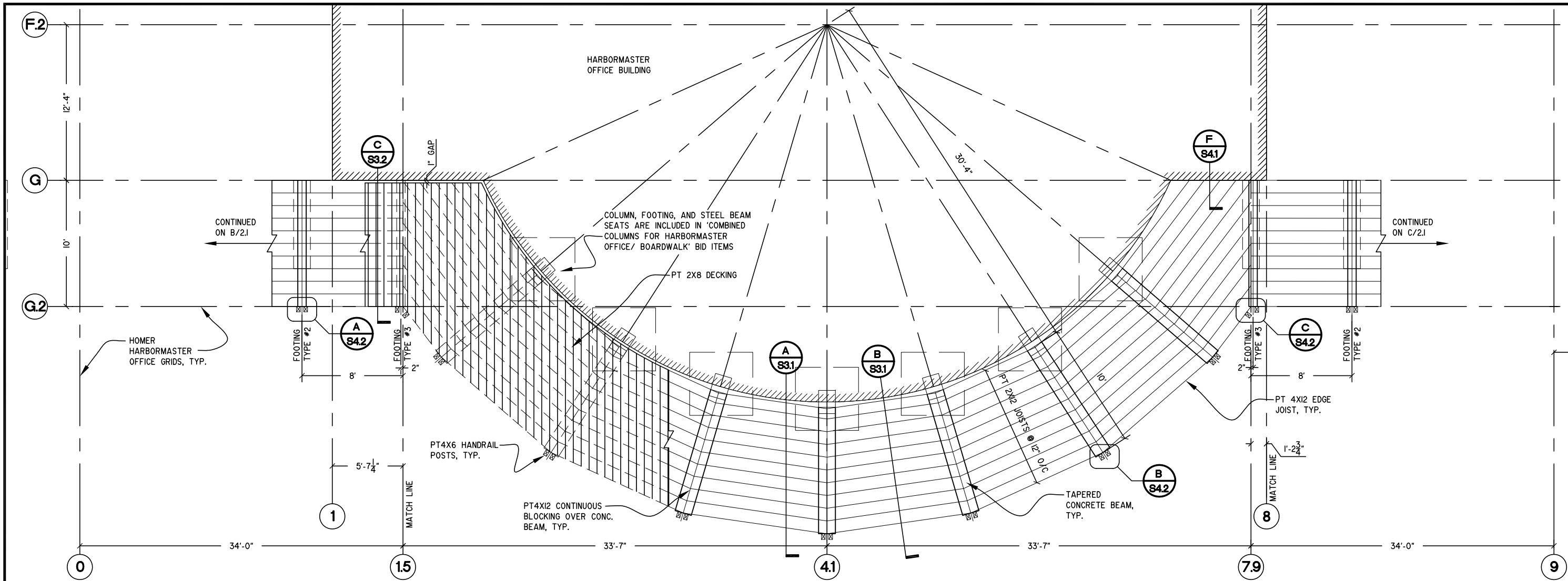
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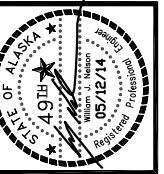
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DEEPWATER DOCK TRAIL BOARDWALK  
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**BOARDWALK PLAN**

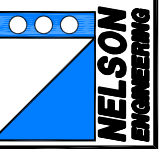
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VERT. NOTED  
SHEET **2.1**  
3 OF 7





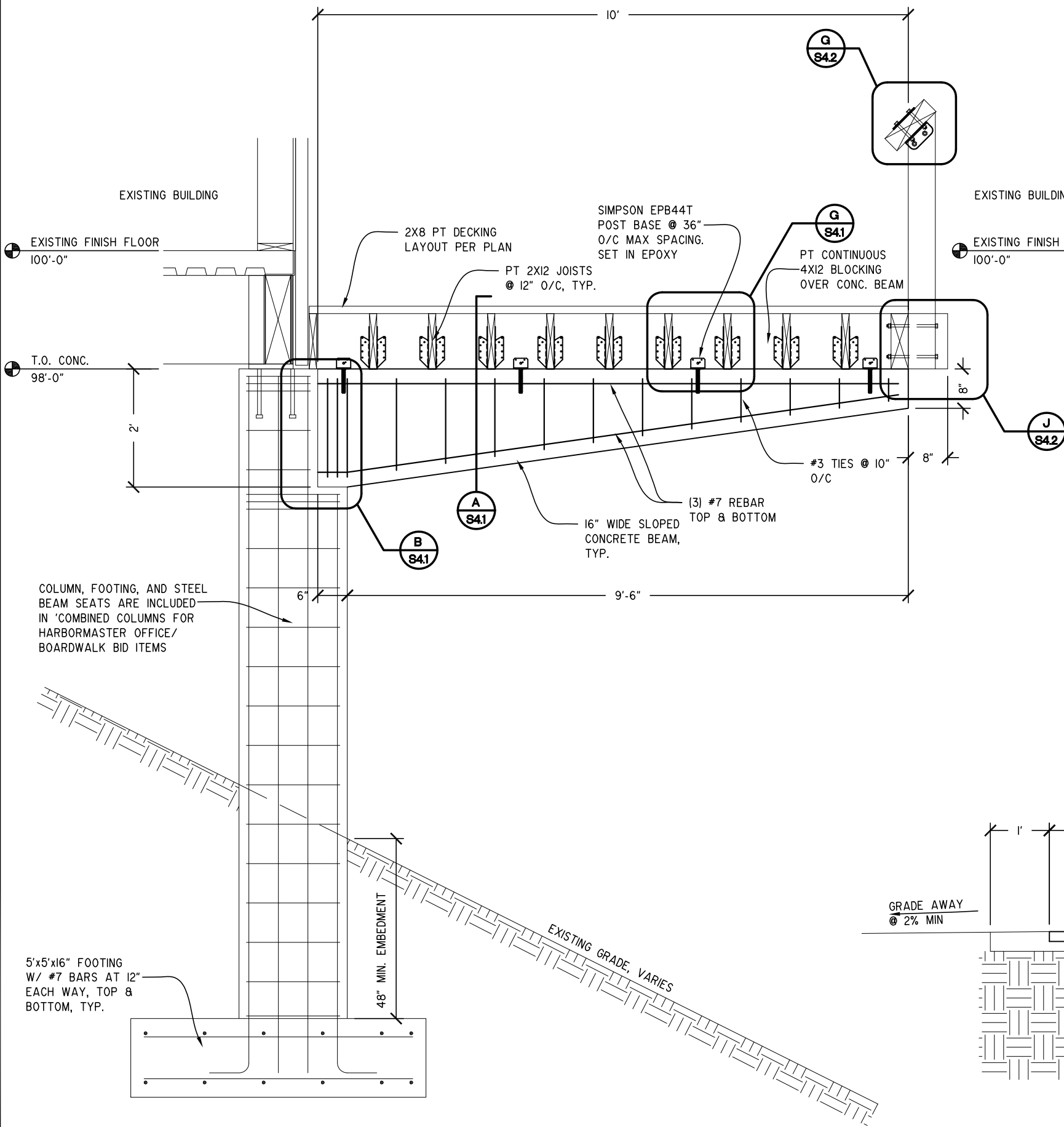
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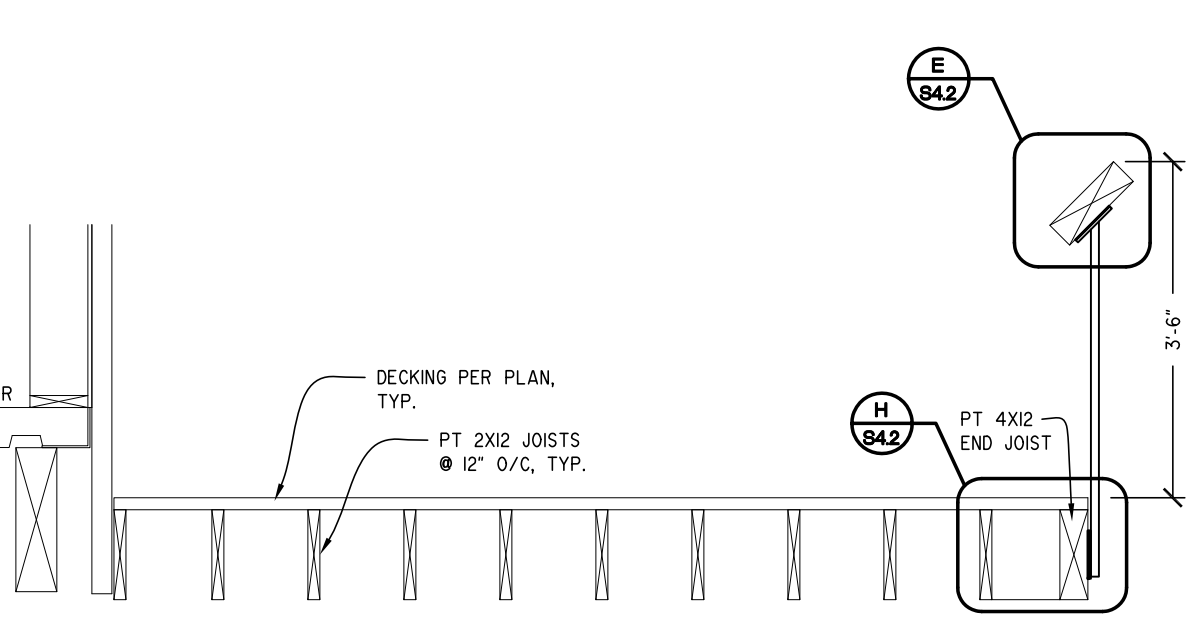


DEEPWATER DOCK TRAIL BOARDWALK  
 HOMER, AK  
**SECTIONS**

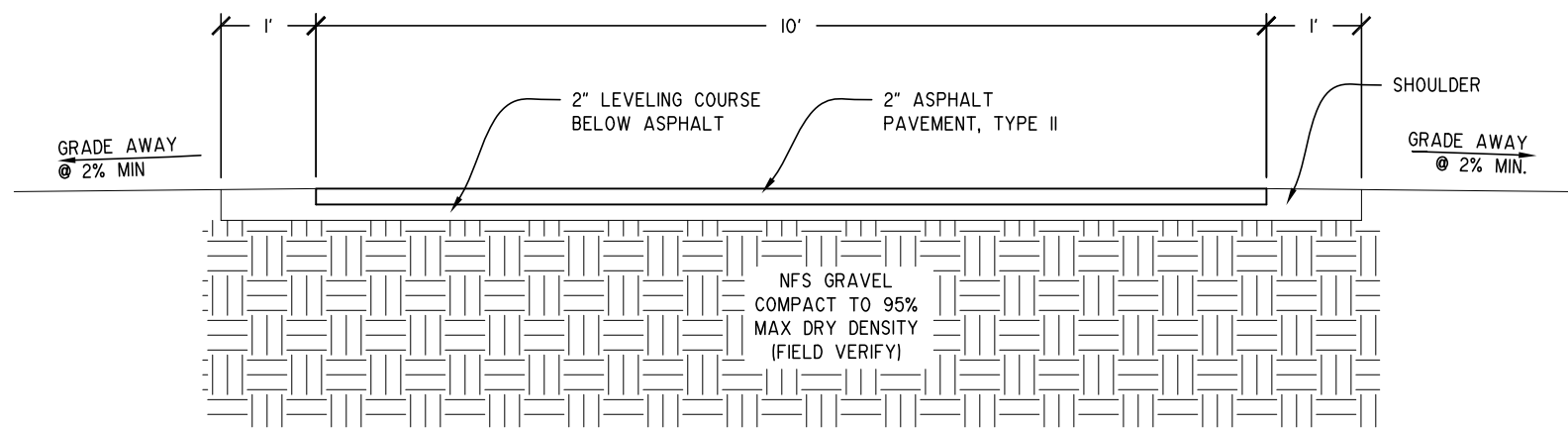
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 VERT. NOTED  
 SHEET **3.1**  
 4 OF 7



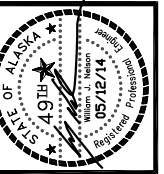
**A**  
**31** SECTION @ CANTILEVER DECK BEAM  
 SCALE: 1/2" = 1'-0"



**B**  
**31** SECTION @ CANTILEVER DECK  
 SCALE: 1/2" = 1'-0"

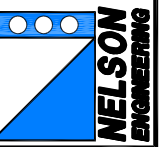


**C**  
**31** SECTION @ OVERSLOPE FOOTING  
 SCALE: 1/2" = 1'-0"



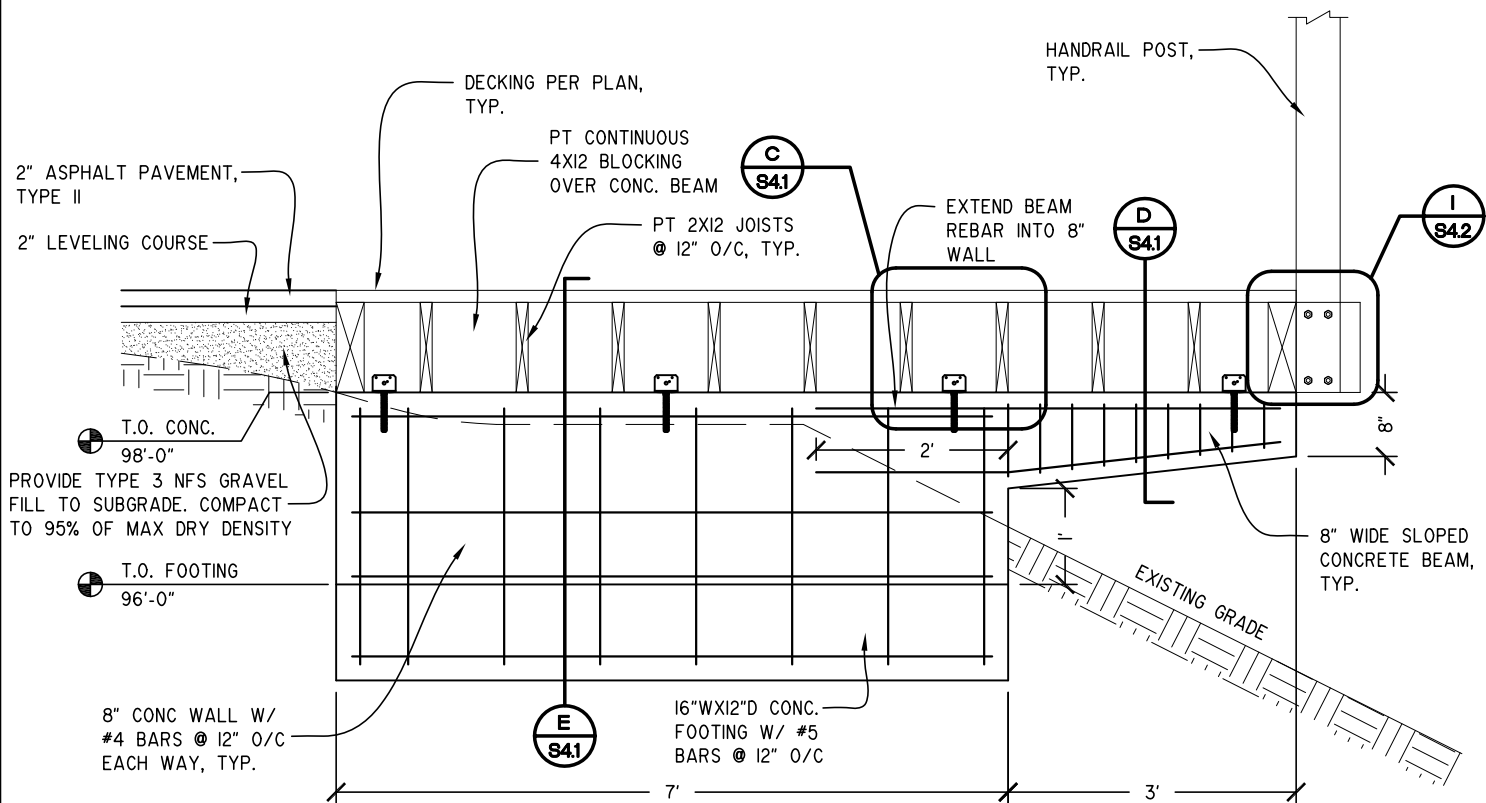
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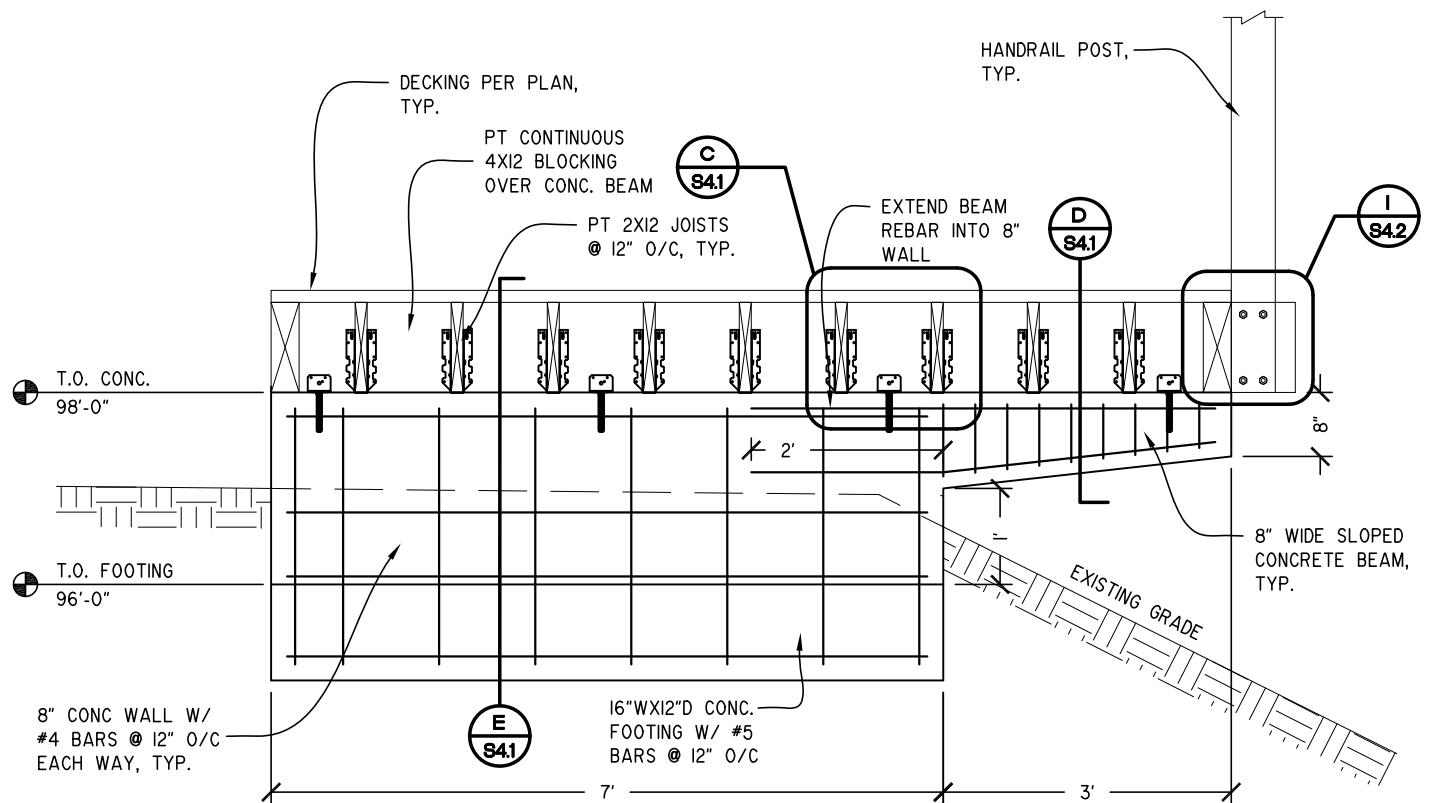


DEEPWATER DOCK TRAIL BOARDWALK  
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SECTIONS

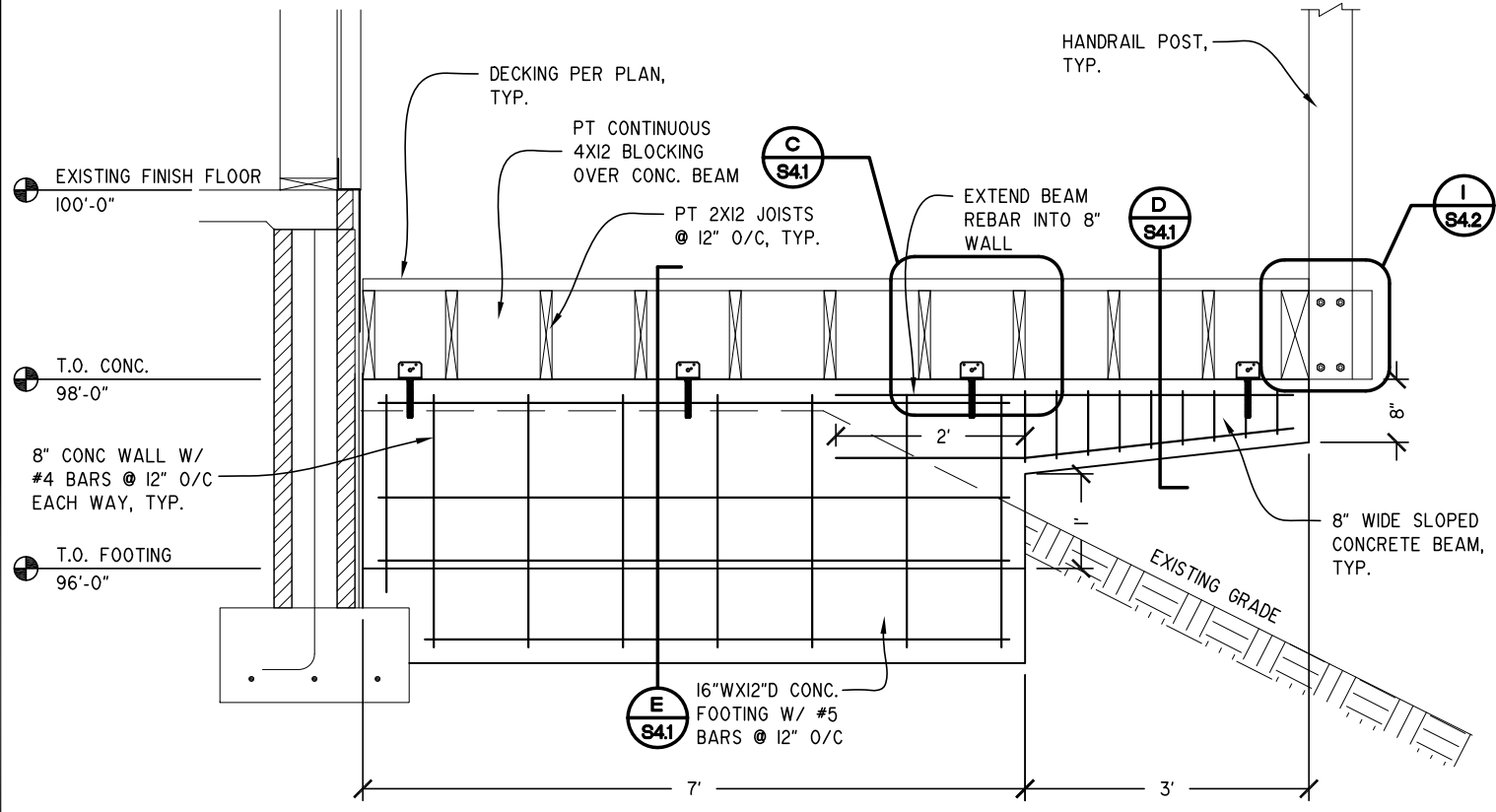
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VERT. NOTED  
SHEET 3.2  
5 OF 7



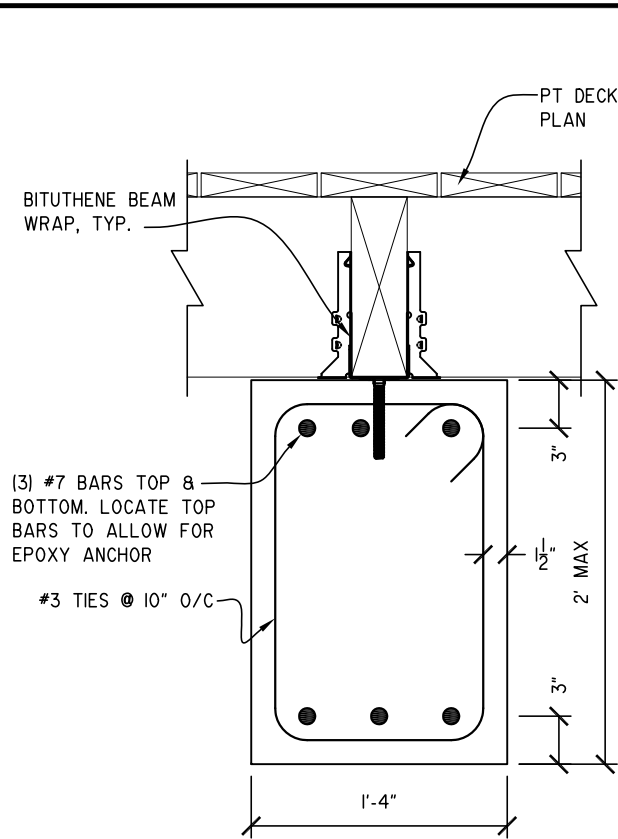
**A** TYPE #1 ISOLATED BOARDWALK FOOTING  
3.2 SCALE: 1/2" = 1'-0"



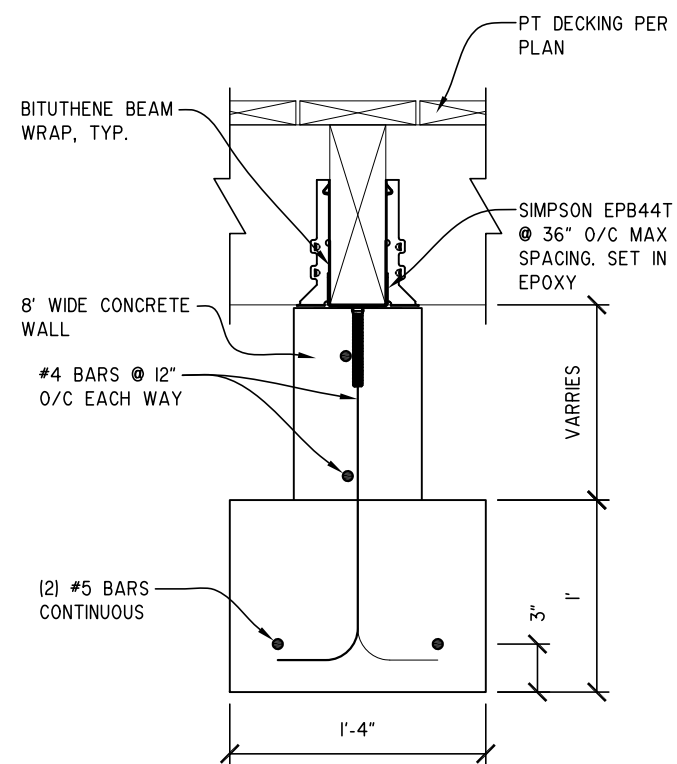
**B** TYPE #2 ISOLATED BOARDWALK FOOTING  
3.2 SCALE: 1/2" = 1'-0"



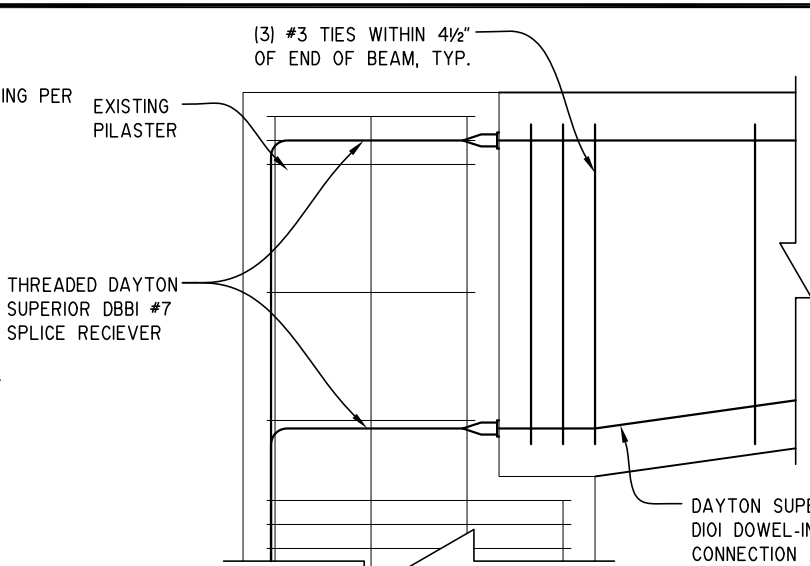
**C** SECTION @ CANTILEVER DECK BEAM  
3.2 SCALE: 1/2" = 1'-0"



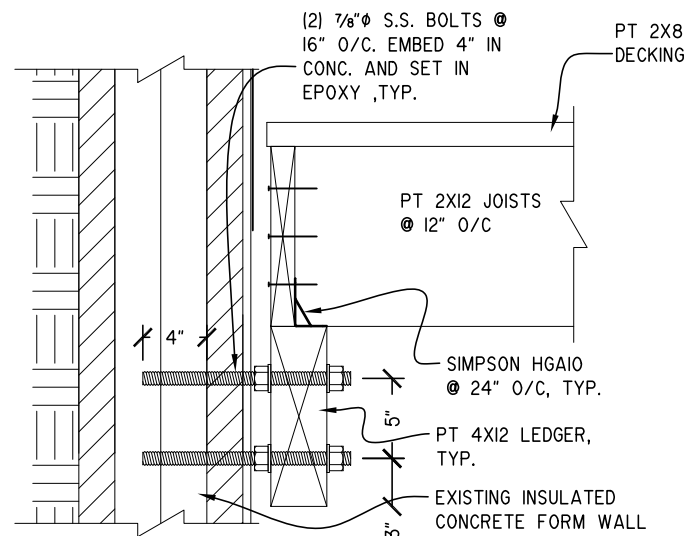
**A** CANT. DECK BEAM SECTION  
4.1 SCALE: 1"=1'-0"



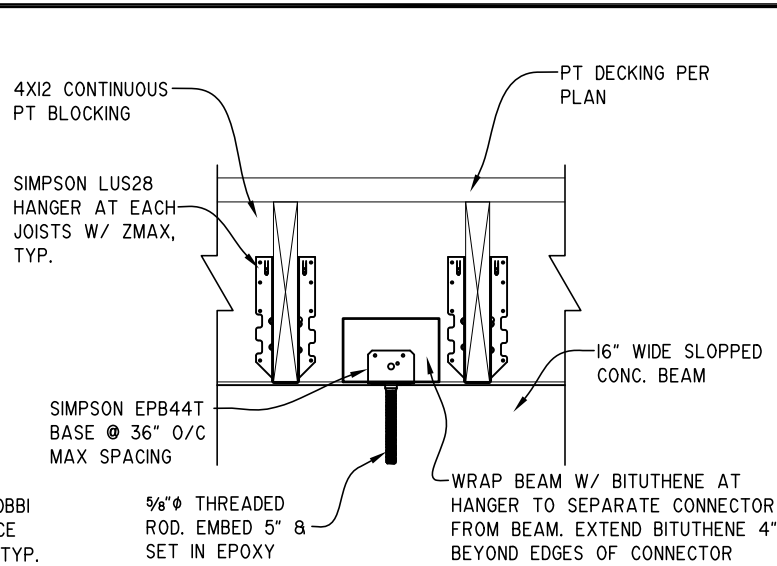
**E** BOARDWALK FOOTING SECTION  
4.1 SCALE: 1"=1'-0"



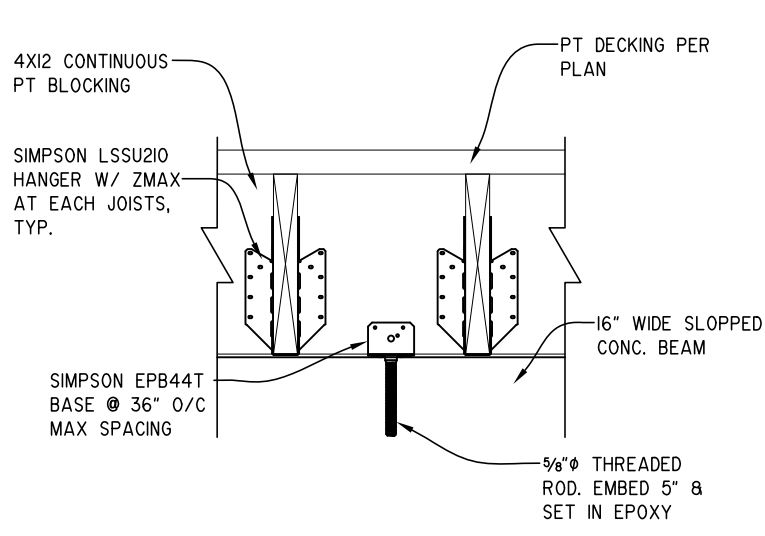
**B** CANT. DECK BEAM ATTACHMENT  
4.1 SCALE: 1"=1'-0"



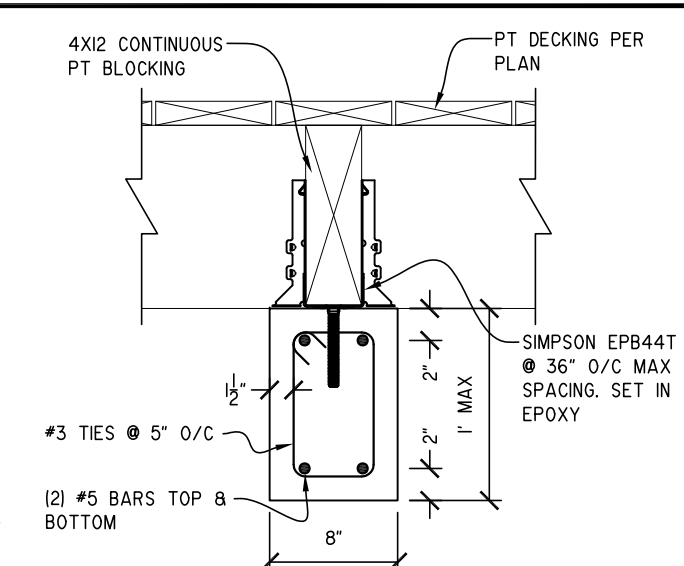
**F** LEDGER @ HARBORMASTER OFFICE  
4.1 SCALE: 1"=1'-0"



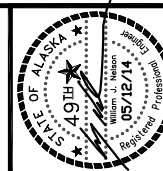
**C** BLOCKING AT STRAIGHT DECK  
4.1 SCALE: 1"=1'-0"



**G** BLOCKING AT CURVED DECK  
4.1 SCALE: 1"=1'-0"

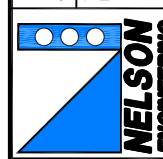


**D** CANT. DECK BEAM SECTION  
4.1 SCALE: 1"=1'-0"



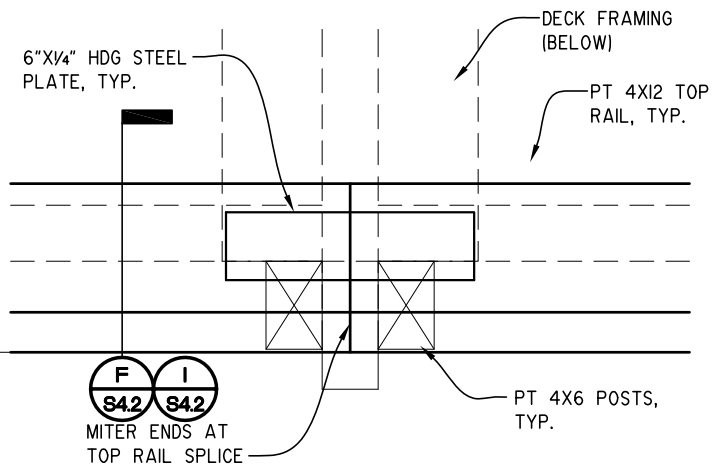
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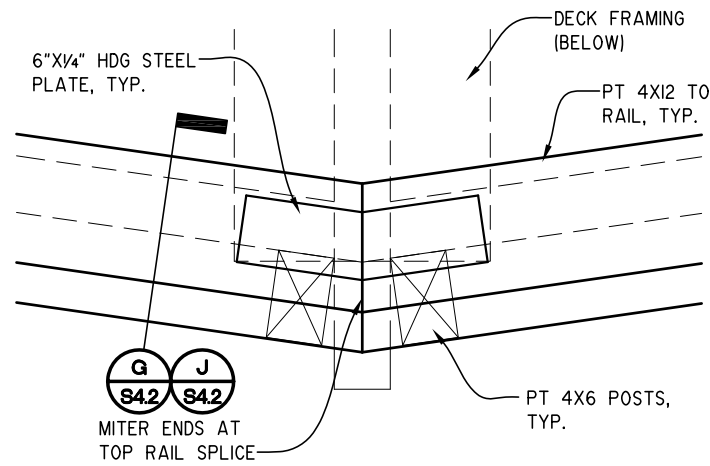
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HORIZ. NOTED  
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SHEET 4.1  
6 OF 7



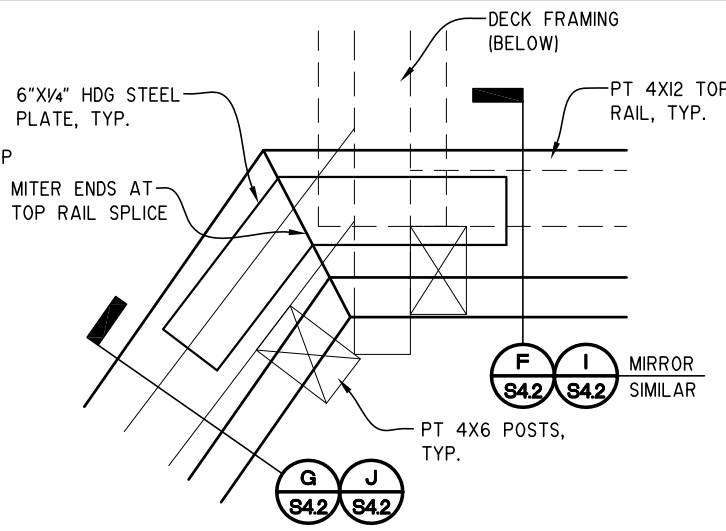
**A** TOP RAIL PLAN @ STRAIGHT BOARDWALK

SCALE: 1"=1'-0"



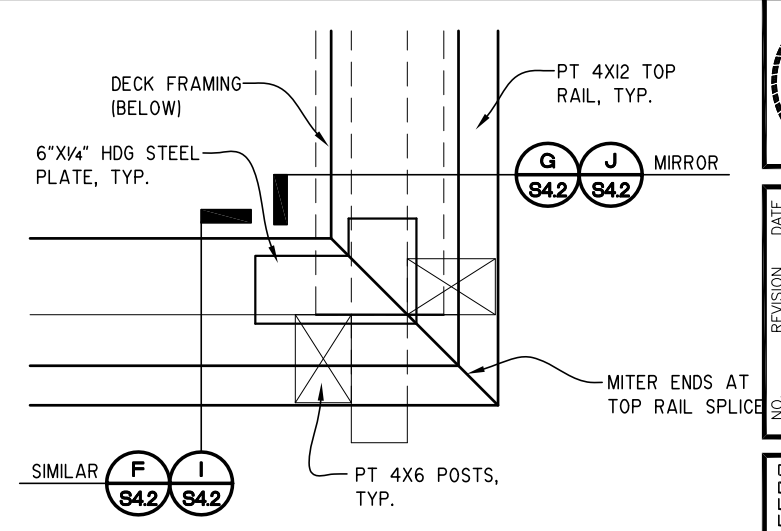
**B** TOP RAIL PLAN @ CURVED BOARDWALK

SCALE: 1"=1'-0"



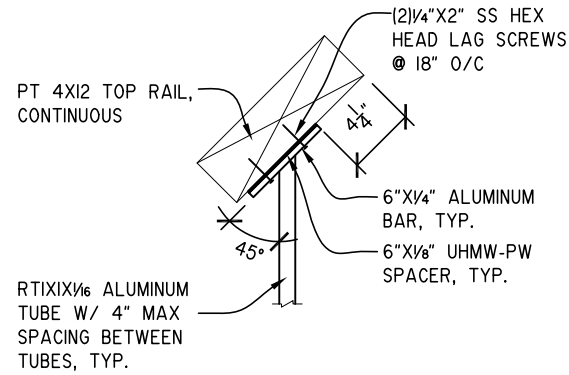
**C** TOP RAIL PLAN @ INTERIOR CORNER

SCALE: 1"=1'-0"



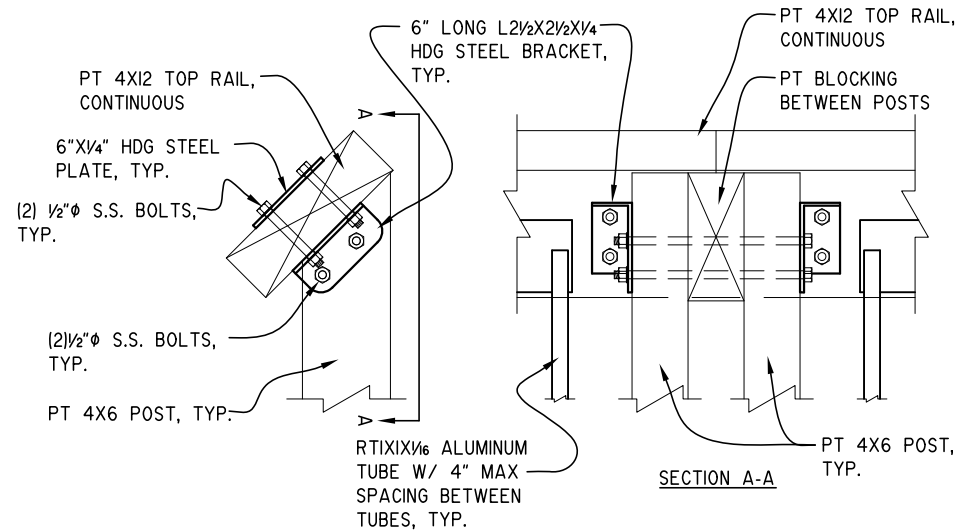
**D** TOP RAIL PLAN @ EXTERIOR CORNER

SCALE: 1"=1'-0"



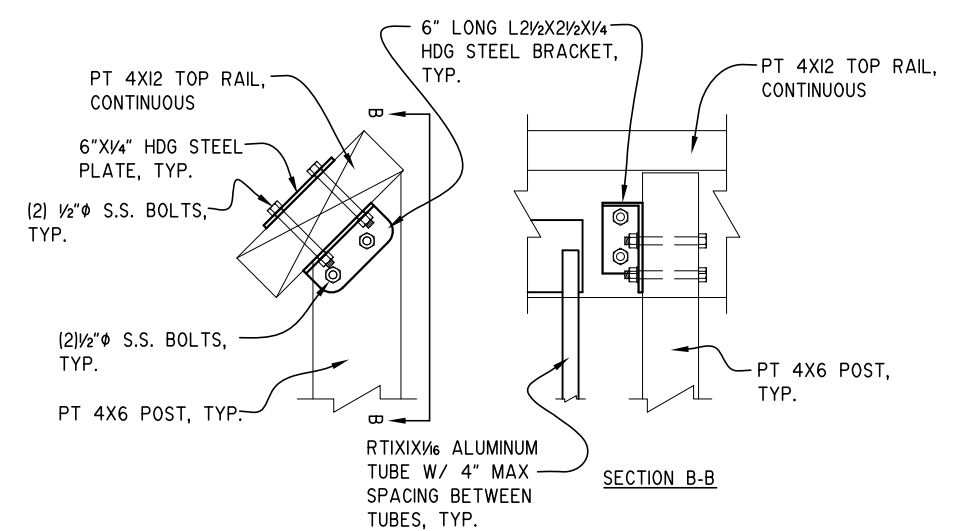
**E** TYP. HANDRAIL PICKET TYP.

SCALE: 1"=1'-0"



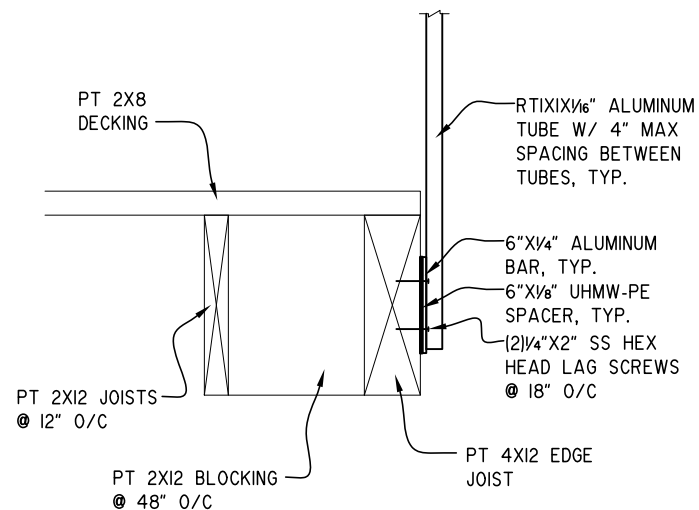
**F** HANDRAIL TOP LAYOUT

SCALE: 1"=1'-0"



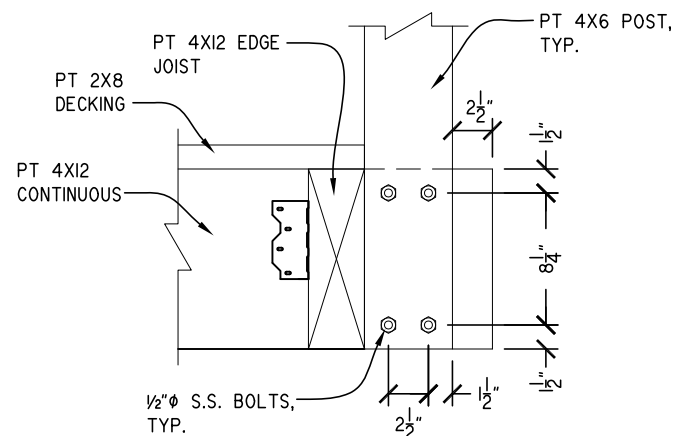
**G** HANDRAIL TOP LAYOUT

SCALE: 1"=1'-0"



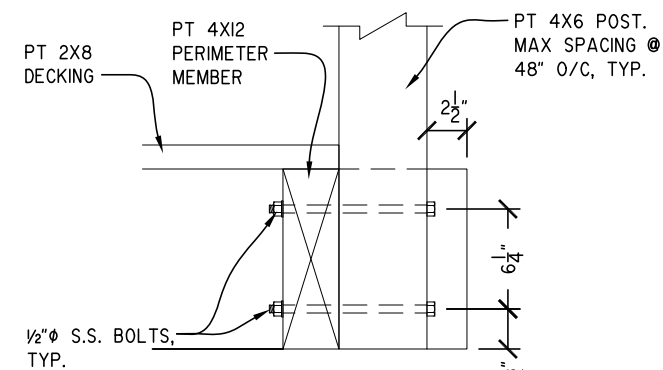
**H** HANDRAIL TOP LAYOUT

SCALE: 1"=1'-0"



**I** HANDRAIL TOP LAYOUT

SCALE: 1"=1'-0"



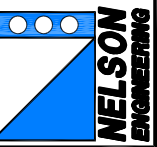
**J** HANDRAIL TOP LAYOUT

SCALE: 1"=1'-0"



DATE	
REVISION	
NO.	

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DEEPWATER DOCK TRAIL BOARDWALK  
HOMER, AK  
DETAILS

PROJECT NO. 1412  
DRAWN BY: ZSR  
CHECKED BY: WJN  
DATE: 05/12/14  
SCALES: NOTED  
HORIZ. NOTED  
VERT. NOTED  
SHEET 4.2  
7 OF 7