

Redline

CITY OF NEWPORT BEACH
WATERFRONT PROJECT GUIDELINES
AND STANDARDS

HARBOR DESIGN CRITERIA
COMMERCIAL & RESIDENTIAL
FACILITIES



~~2017 EDITION~~

DRAFT, September 1, 2020

Redline

- (3) Fabrication and erection shall comply with the latest applicable codes as noted:
 - (a) AISC, Latest Editions
 - (b) Aluminum Structural Welding Code, Latest Edition
 - (c) Aluminum Design Manual, Latest Edition
 - (d) 12011 Design Manual for Structural Stainless Steel, Latest Edition
 - (4) All bolts securing primary structural members shall be a minimum of ½ inch diameter thru bolts. Bolts shall be minimum A307 and include washers where direct contact with timber members occurs. Carriage bolts are also allowed.
 - (5) No connecting device shall protrude beyond the fascia or waler into the berthed area, which may contact any part of the berthed vessel, or extend up into any walking surface creating a tripping hazard.
- d. Concrete and Reinforcing:
- (1) Concrete shall be designed for permeability, strength, chemical stability and abrasion resistance, appropriate for its application. Minimum compressive strength for concrete, subject to salt water splash, immersion and/or brackish water is 5,000 psi and a 0.4 water-to-cement ratio.
 - (2) In absence of soil report recommendations based on soil testing, Portland cement shall conform to ASTM C 150 Type ~~I or~~ Type II concrete meeting Exposure classification S1 and having minimum f'c=4000 psi and a water cement ratio of 0.4 shall be used in compliance with ACI -14 Table 19.3.2.1, modified, and low alkali. Chemical admixtures shall conform to ASTM C 494. Chemicals designed to limit corrosion of internal reinforcing may be used. Air entrainment admixtures shall conform to ASTM C 260. Coarse and fine aggregate shall conform to ASTM C 33, and ASTM C 330 where lightweight aggregates are used. Lightweight aggregate, if used, shall consist of expanded and coated shale or equivalent material of sufficient strength and durability to provide concrete of the required strength.
 - (3) Concrete structures shall be designed to provide sufficient coverage of reinforcing steel, so as to prevent corrosion, per code

Redline

requirements. For structures exposed to salt water splash or immersion, bar reinforcement shall conform to ASTM A 706, and shall be epoxy coated per ASTM A-775 ~~or~~ and ASTM A-934, after bending of the bars. Welded wire mesh shall conform to ASTM A 185 and shall be galvanized or epoxy coated conforming to ASTM A 884, with all visible defects and cut ends repair coated. Wires used to tie reinforcing steel shall be either epoxy-coated steel, or 316 stainless steel.

e. Pilings and Anchorage:

- (1) Piles shall be the products of manufacturers and contractors regularly engaged in the production of such items for marine construction. Typical materials approved for pile materials include: 1. Pre-stressed concrete, 2. Steel, or 3. High-strength composite materials. Timber piles are not allowed.
- (2) Unless subsurface soil materials prevent their use, pilings shall be pre-stressed concrete. In absence of soil report recommendations based on soil testing, Portland cement shall be ASTM C150 Type II2 concrete meeting Exposure classification S1 and having minimum $f'c=4000$ psi and a water cement ratio of 0.4 shall be used in compliance with ACI -14 Table 19.3.2.1, modified, low alkali. Water for mixing and curing shall be fresh, clean and potable. Aggregates shall conform to ASTM C33, Size Number 67, and be free from any substance that is deleteriously reactive with the alkalis in the cement. Admixtures, if used, shall conform to the requirements of ASTM C494 and not contain chlorides. Corrosion inhibiting concrete admixtures are encouraged. Pre-stressing steel shall be uncoated, seven-wire stress relieved strand with a minimum ultimate stress of 270,000 psi conforming to ASTM A416. Ties and spirals shall conform to ASTM A82, cold drawn and shall be epoxy coated per ASTM A775 or ASTM A934. Piles shall cure and reach a strength of not less than 4,000psi before de-tensioning and cutoff of the strands.
- (3) Guide rollers shall be fabricated from polyethylene, UHMW, polyolefin or polyurethane roller or plate material. As an option to the use of rollers, UHMW rub blocks may be used. Minimum thickness of a rub block shall be 2 inches, with attachment bolts countersunk into the UHMW material.
- (4) Any structural steel components used in the marine environment shall be hot-dip galvanized or epoxy coated per manufacturers recommendations, or 316 stainless steel.

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Cantilevered seawalls are limited by the height of the wall above the waterside mudline and are generally effective for exposed heights of not more than 8 feet. For structural steel type seawalls, higher exposed heights are possible. Tied-back seawalls can be effective for exposed heights over 8 feet and may require continuous caps, walers (beams), steel tie rods and a foundation anchors (Deadman), or earth anchors. Tie-back anchor systems shall require protection against corrosion. Galvanic anode cathodic protection system is recommended. Tie-back anchor system shall be designed to last the life of seawall.

- (2) Generally, seawall sheets constructed of reinforced, prestressed concrete are desirable, although for special conditions, structural steel interlocking sheets may be necessary. Steel products in the marine environment require special non-toxic coating protection and cathodic protection, in order to provide extended life spans.

- (3) ~~Seawalls shall have a top elevation of not less than 10.0 MLLW. Seawall elevations of greater than 10.0 MLLW may be required by City of Newport Beach, depending on location within the bay and potential for wave or wake over-topping.~~

The City understands there is a threat of flooding and inundation in and around Newport Harbor due to sea level rise. Newport Harbor and adjacent low-lying areas rely on a system of harbor bulkheads, seawalls, revetments, or other improvements to function. Additionally, the system of shoreline defenses protects existing development, public access, public views, and scenic qualities of the coastal zone. The City is committed to using the best-available science to determine a range of sea level rise projections for use in developing harbor development standards and in reviewing coastal development permit applications. Currently the best available science is California Coastal Commission Sea Level Rise Policy Guidance Final Adopted Science Update, November 7, 2018. Experts acknowledge that there is considerable uncertainty in the magnitude and rate of the rise in sea level and as a result, the City recognizes the need to set standards over time that provide protection from future sea level rise given the inherent uncertainty of the rate and magnitude of the rise.

Bulkheads, seawalls or other protective improvements shall be constructed and maintained as shown in Table No. 2. The structure shall also be initially designed and constructed to accommodate and receive future increases in height when directed by the City to protect adjacent low-lying areas from future flooding without the need to replace or substantially alter the structure.

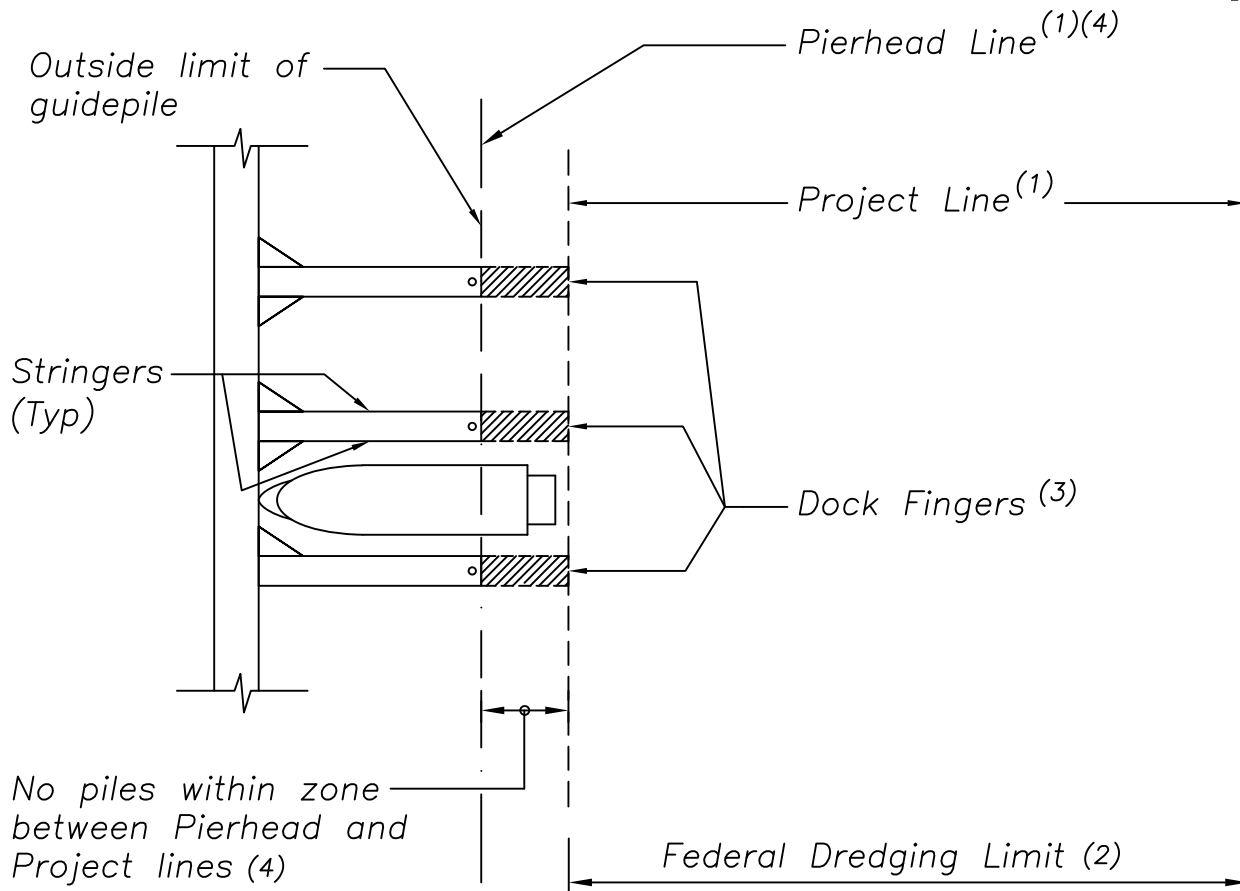
Redline

Table No. 2

<u>Year Structure Permitted</u>	<u>Initial Top of Structure Elevation ¹</u>		<u>Ultimate Design Height Elevation ²</u>	
	<u>NAVD88</u>	<u>MLLW</u>	<u>NAVD88</u>	<u>MLLW</u>
<u>2020-2024</u>	<u>10.7</u>	<u>10.9</u>	<u>13.7</u>	<u>13.9</u>
<u>2025-2029</u>	<u>10.9</u>	<u>11.1</u>	<u>14.4</u>	<u>14.6</u>
<u>2030-2034</u>	<u>11.0</u>	<u>11.1</u>	<u>14.6</u>	<u>14.8</u>

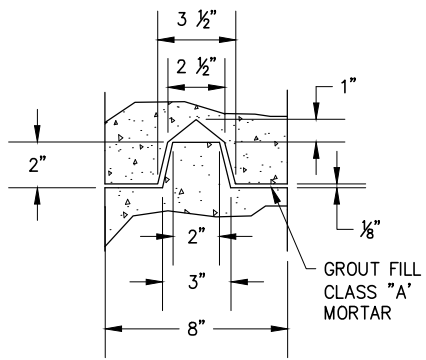
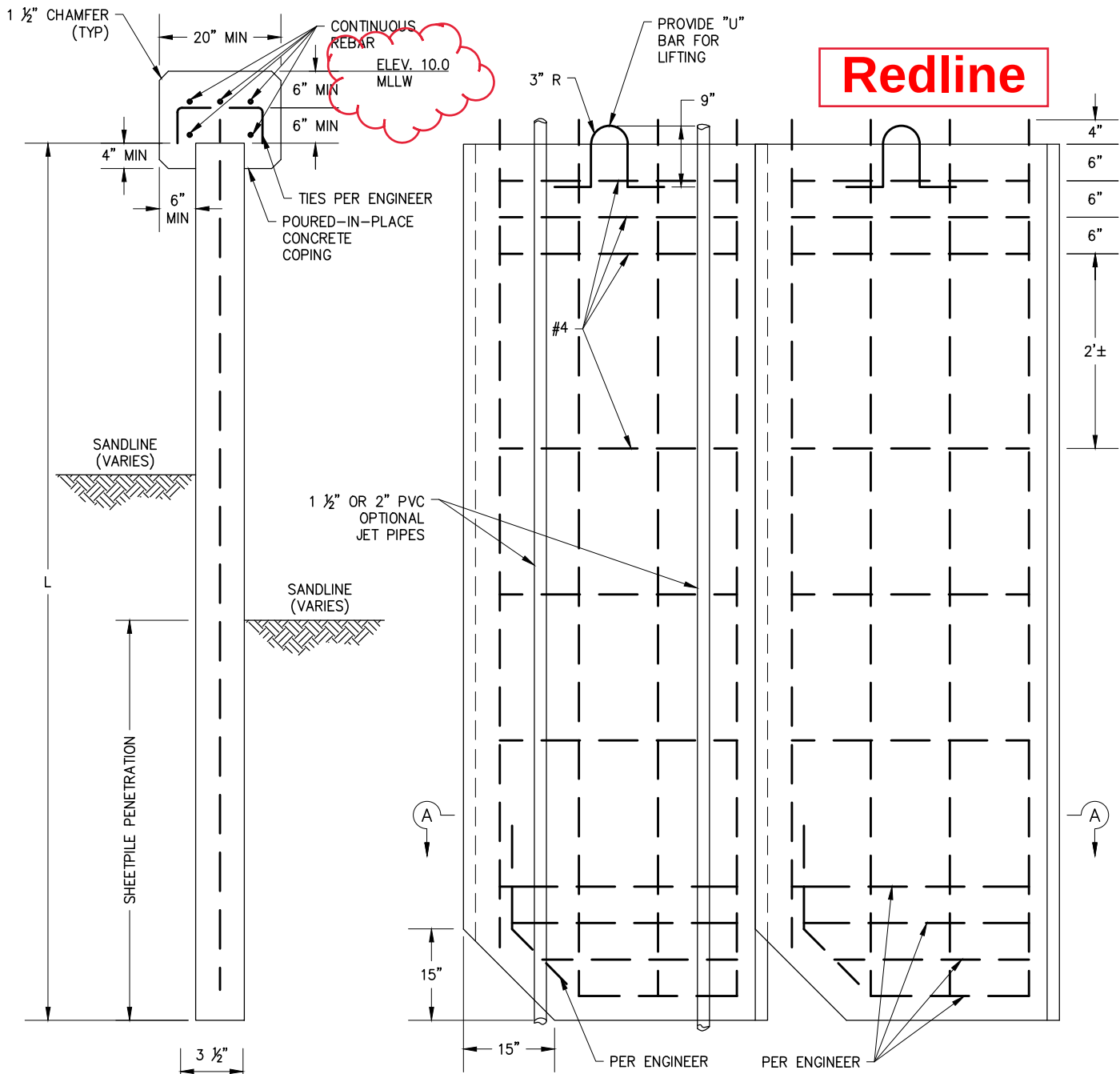
1. The initial top of Structure elevations are derived using the Low Risk Aversion probabilistic sea level rise protection scenario for the Los Angeles tidal gauge estimated 75 years into the future based on the California Coastal Commission Sea Level Rise Policy Guidance Final Adopted Science Update, November 7, 2018. This scenario accounts for the upper range of what is “likely to occur” with approximately a 17 percent probability that sea level rise exceeds the elevations shown.
2. The ultimate design height elevations are derived using the Medium-High Risk Aversion probabilistic sea level rise protection scenario for the Los Angeles tidal gauge, again estimated 75 years into the future based on the California Coastal Commission Sea Level Rise Policy Guidance Final Adopted Science Update, November 7, 2018. This scenario accounts for increased sea level with approximately a 1-in-200 or 0.5 percent probability that sea level rise exceeds the elevations shown.

- (4) The distance between seawalls and all floating dock components shall be a minimum of one foot horizontal distance.
- (5) Seawalls shall be designed to resist all applicable vertical and horizontal loads.
- (6) A minimum safety factor of 1.5 shall apply to gravity loads, and a minimum safety factor of 1.1 shall apply to seismic loading cases for the stability of seawalls.
- (7) Decking may butt to the seawall cap, or cantilever over the top of the seawall, if approved.
- (8) Wing Walls: Wing walls are retaining walls that project landward and are perpendicular to the seawall. Wing walls may be necessary to isolate the seawall protection system of one property to the adjacent property. Special care must be taken to assure that the construction of a seawall for the subject property does not adversely impact the seawalls of the adjoining properties, either during construction or over the life of the structures.

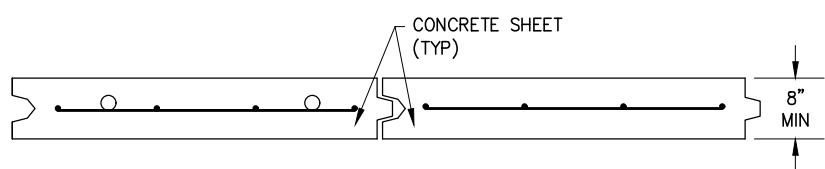


- (1) Pierhead and Project lines are established and managed by the federal government.
- (2) Portions of floating docks that extend into Federal Dredging Limit must be removed by the dock owner at dock owner's cost, when the federal government conducts periodic dredging operations.
- (3) Dock fingers must be designed and constructed in such a way that provides structural integrity of the fingers to resist lateral impact and mooring line loads without guide piles at the finger ends. Continuous structural stringers and/or special moment and shear-carrying splices must be engineered and submitted to the Building Department for approval.
- (4) The City Council has allowed exceptions for dock construction beyond the Pierhead Lines as noted in Council Policy H-1.

DOCK ARRANGEMENT CASE 9B



TYPICAL PANEL JOINT



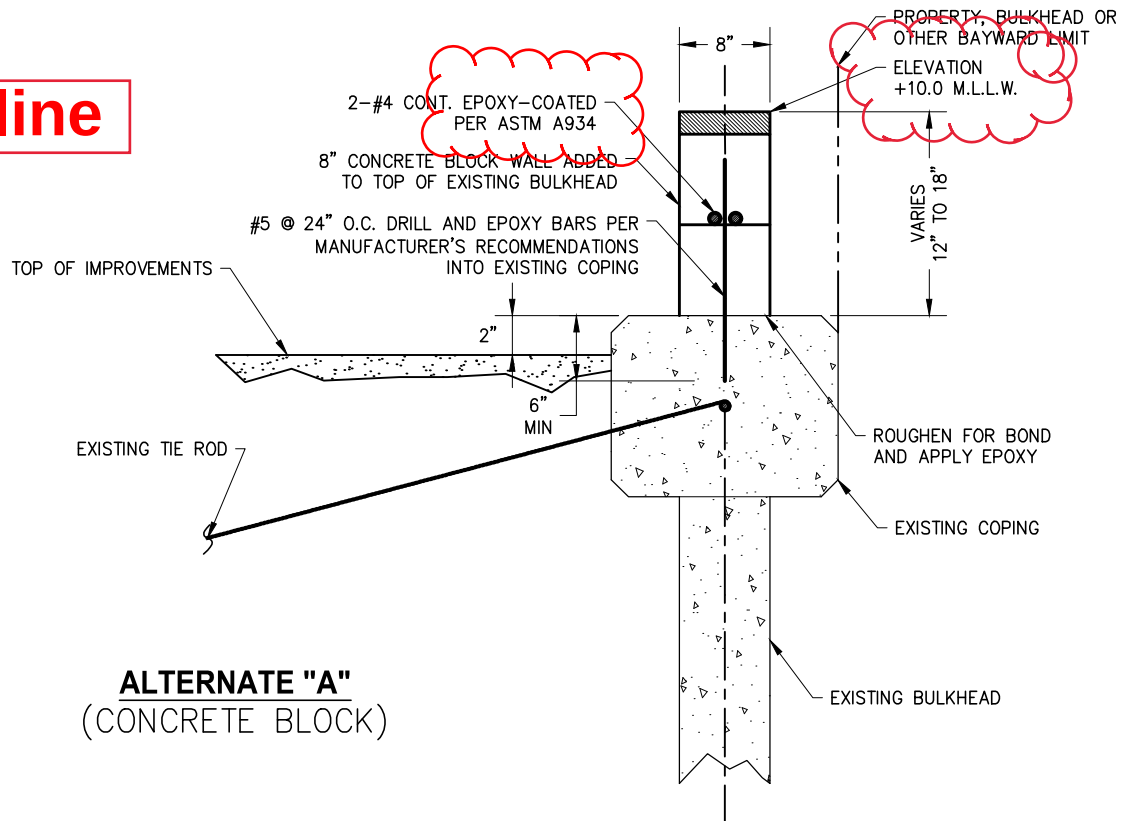
SECTION A-A

NOTES:

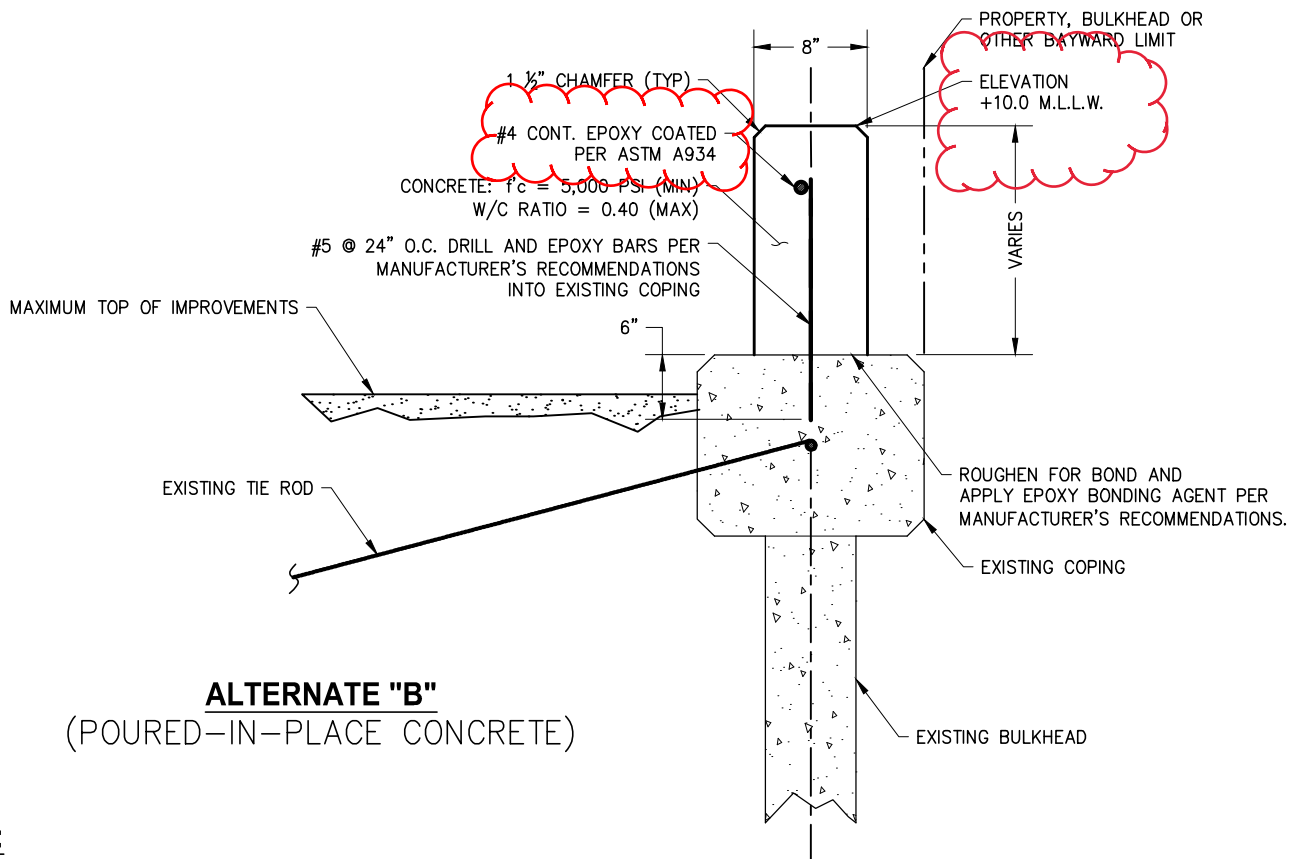
1. PANELS TO HAVE A SMOOTH FINISH ON BOTH SIDES.
2. REINFORCING STEEL SHALL HAVE A MINIMUM COVER OF 3" AND BE EPOXY-COATED PER ASTM A-934. GRADE 60 BARS SHALL BE USED.
3. AS AN OPTION, APPLICANT MAY USE PRESTRESSED CONCRETE SHEETS PER STD 602.
4. USE OF JETTING TECHNIQUES MAY REQUIRE SPECIAL PERMITS AND MITIGATION MEASURES BY LOCAL, STATE AND FEDERAL AGENCIES.
5. CONCRETE: $f'_c = 5,000$ PSI (MIN) AND W/C RATIO = 0.40 (MAX).
6. PANEL MUST BE DESIGNED BY A CALIFORNIA LICENSED CIVIL OR STRUCTURAL ENGINEER.

APP. _____		CITY ENGINEER		RCE		DATE	
DRAWN: P. KHARAZMI		DATE: 4/29/2020		CITY OF NEWPORT BEACH DEPARTMENT OF PUBLIC WORKS			
PRECAST REINFORCED CONCRETE GROIN PANEL (NOT FOR BULKHEAD USE)				STANDARD DRAWING NO. 600 SHEET 1 OF 1			

Redline



ALTERNATE "A"
(CONCRETE BLOCK)



ALTERNATE "B"
(POURED-IN-PLACE CONCRETE)

NOTES:

- EPOXY SHALL CONFORM TO ASTM C881 STANDARD AND BE USED IN STRICT ACCORD WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS.

APP. _____ CITY ENGINEER _____ RCE _____ DATE _____

NO.	DATE	DESCRIPTION OF REVISIONS

CITY OF NEWPORT BEACH DEPARTMENT OF PUBLIC WORKS

DRAWN: P. KHARAZMI

DATE: 1/8/2020

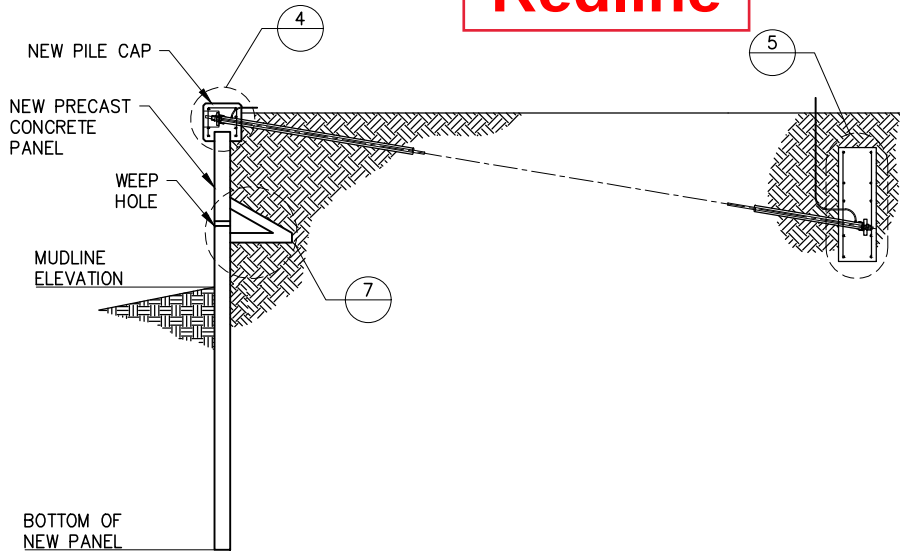
DETAIL FOR RAISING BULKHEADS

STANDARD DRAWING NO.

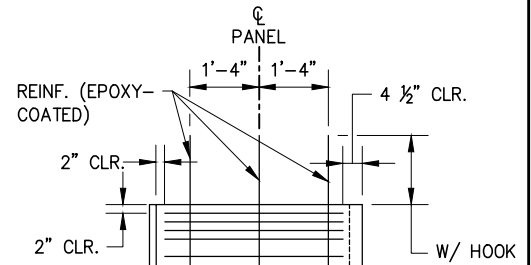
601

SHEET 1 OF 1

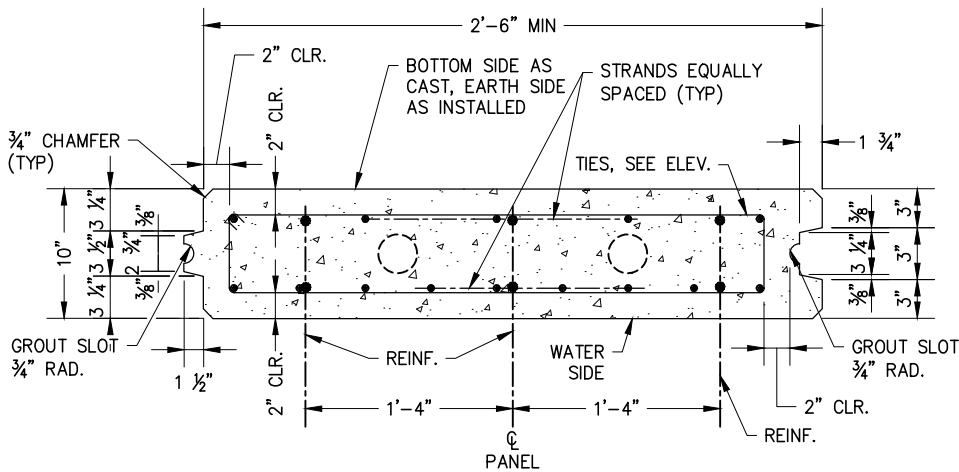
Redline



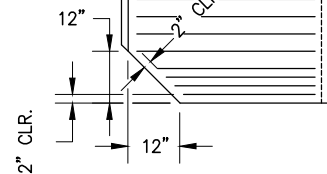
SECTION AT BULKHEAD (1)



REINFORCING BY DESIGN ENGINEER



PRECAST (PRESTRESSED) PANEL SECTION (1) (3)



PRECAST (PRESTRESSED) PANEL ELEVATION (1) (2)

NOTES:

1. DIMENSIONS AND SIZES NOTED TO BE CONFIRMED OR AMENDED BY THE ENGINEER OR RECORD.

APP. _____ CITY ENGINEER RCE DATE _____

NO.	DATE	DESCRIPTION OF REVISIONS

CITY OF NEWPORT BEACH DEPARTMENT OF PUBLIC WORKS

DRAWN: P. KHARAZMI

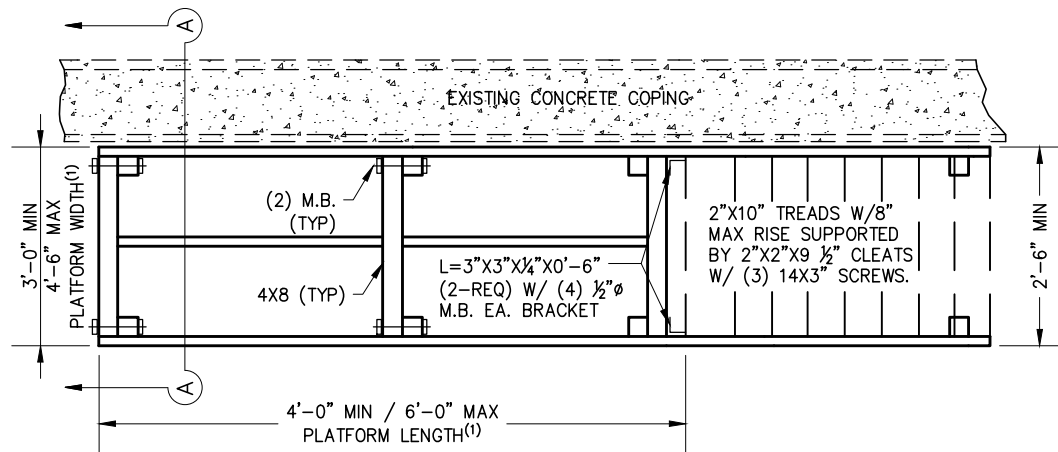
DATE: 1/8/2020

BULKHEAD & PRECAST PANEL SECTION & ELEVATION

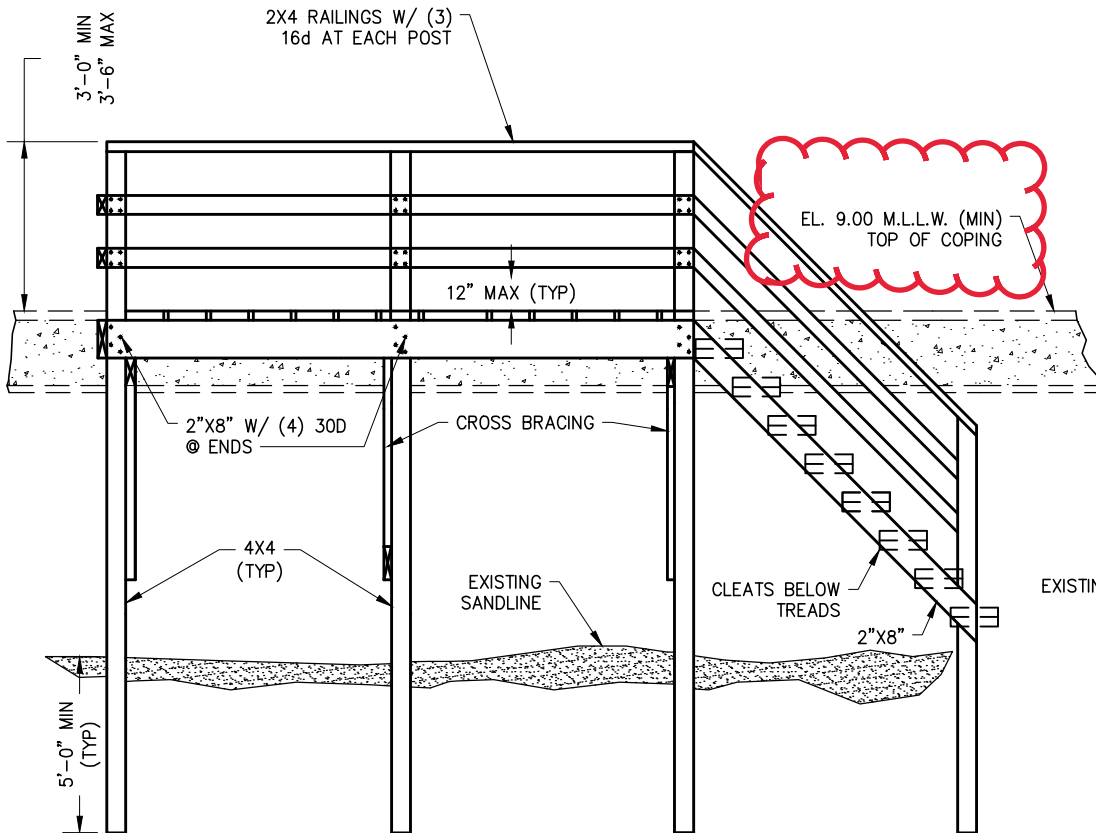
STANDARD DRAWING NO.

602

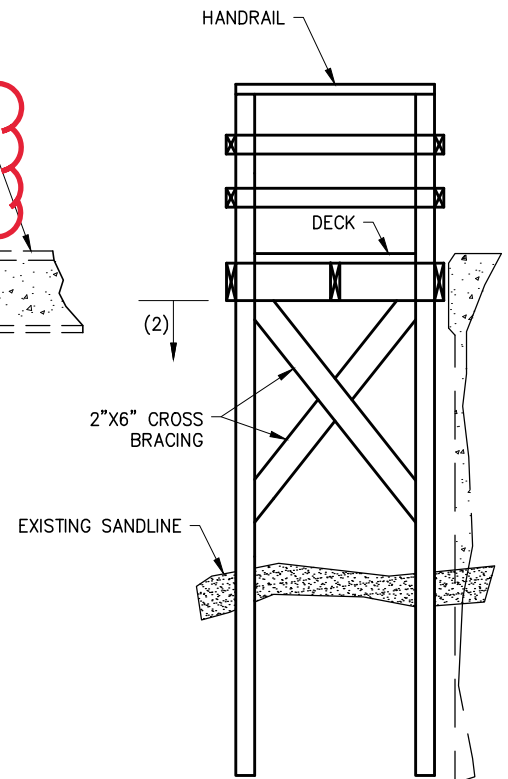
SHEET 1 OF 3



PLAN



ELEVATION



SECTION A-A

NOTES:

1. OVERALL PLATFORM SIZE (NOT INCLUDING STEPS) SHALL NOT BE GREATER THAN 27 SQ. FT.
2. ALL STRUCTURAL PLATFORM SUPPORTING MEMBERS BELOW ELEV 7.5 MLLW SHALL BE SUITABLE FOR MARINE ENVIRONMENT SUBMERSION INTO HARBOR WATERS AS WELL AS SUBTERRANEAN EMBEDMENT INTO THE MUDFLATS. TREATED LUMBER IS **NOT** ALLOWED FOR THIS SERVICE, UNLESS ENCAPSULATED IN AN IMPERVIOUS MEMBRANE. ALTERNATIVE OR COMPOSITE MATERIALS OR CONSTRUCTION CAN BE SUBMITTED FOR CITY APPROVAL.
3. PLATFORM SHALL NOT BE ANCHORED TO COPING.
4. PRESERVATIVE TREATMENT FOR ALL LUMBER USED ABOVE ELEV 7.5 MLLW SHALL MEET STATE OF CALIFORNIA REQUIREMENTS.
5. ALL METAL CONNECTION PLATES SHALL BE GALVANIZED OR STAINLESS STEEL. ALL FASTENERS (LAG BOLTS, SCREWS AND/OR NAILS) SHALL BE GALVANIZED STEEL, STAINLESS STEEL OR A PRODUCT SPECIFICALLY DESIGNED TO RESIST CORROSION IN THE MARINE ENVIRONMENT, AND APPROVED BY THE CITY.
6. NON-STRUCTURAL MEMBERS MAY BE ALTERNATIVE MATERIALS SUCH AS PLASTIC DIMENSIONAL LUMBER. SUBMIT PRODUCT SPECIFICATIONS TO CITY OF NEWPORT BEACH FOR APPROVAL.

APP. _____ CITY ENGINEER _____ RCE _____ DATE _____

NO.	DATE	DESCRIPTION OF REVISIONS

CITY OF NEWPORT BEACH DEPARTMENT OF PUBLIC WORKS

DRAWN: P. KHARAZMI

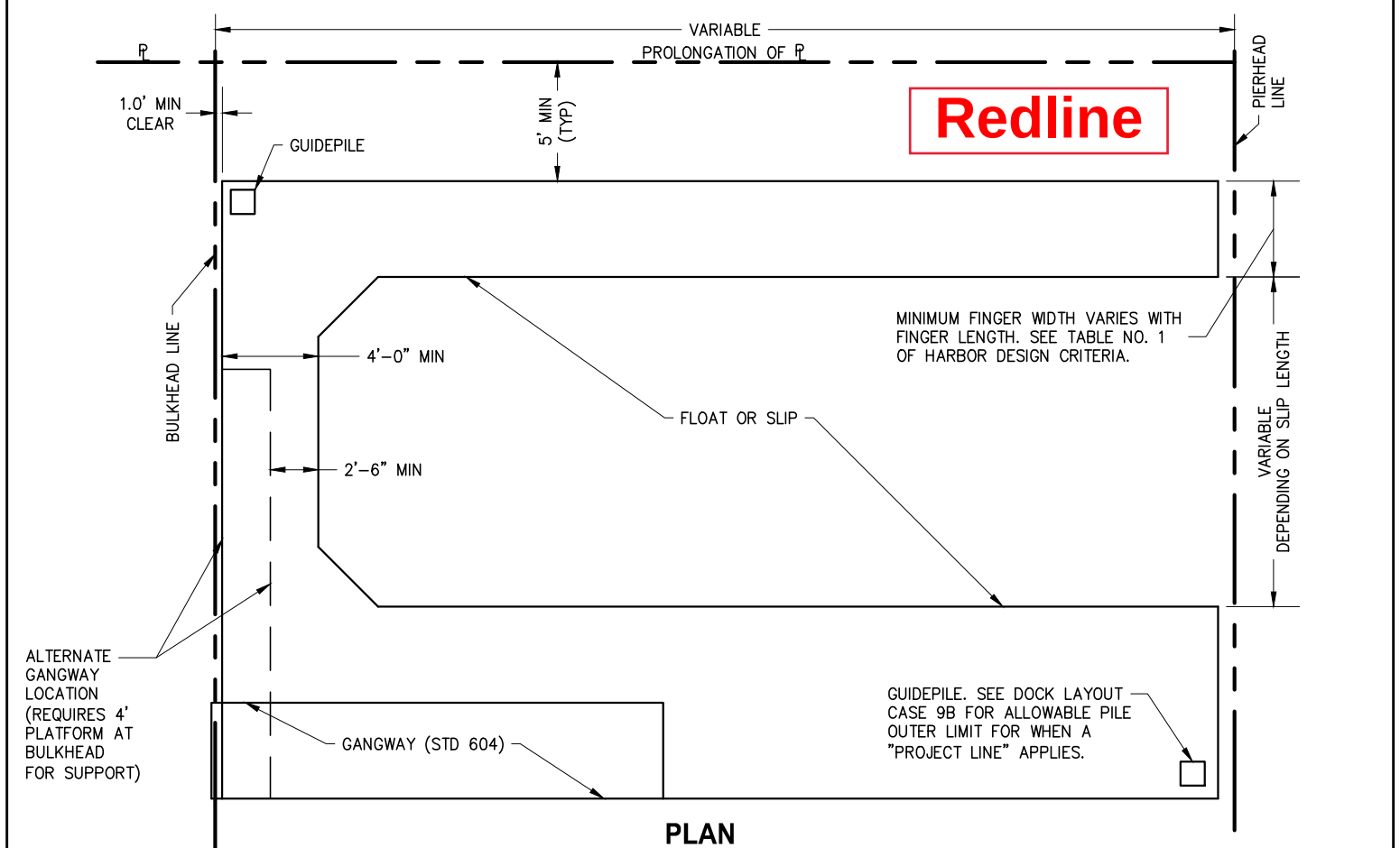
DATE: 8/3/2020

GRAND CANAL - PLATFORM & STEPS

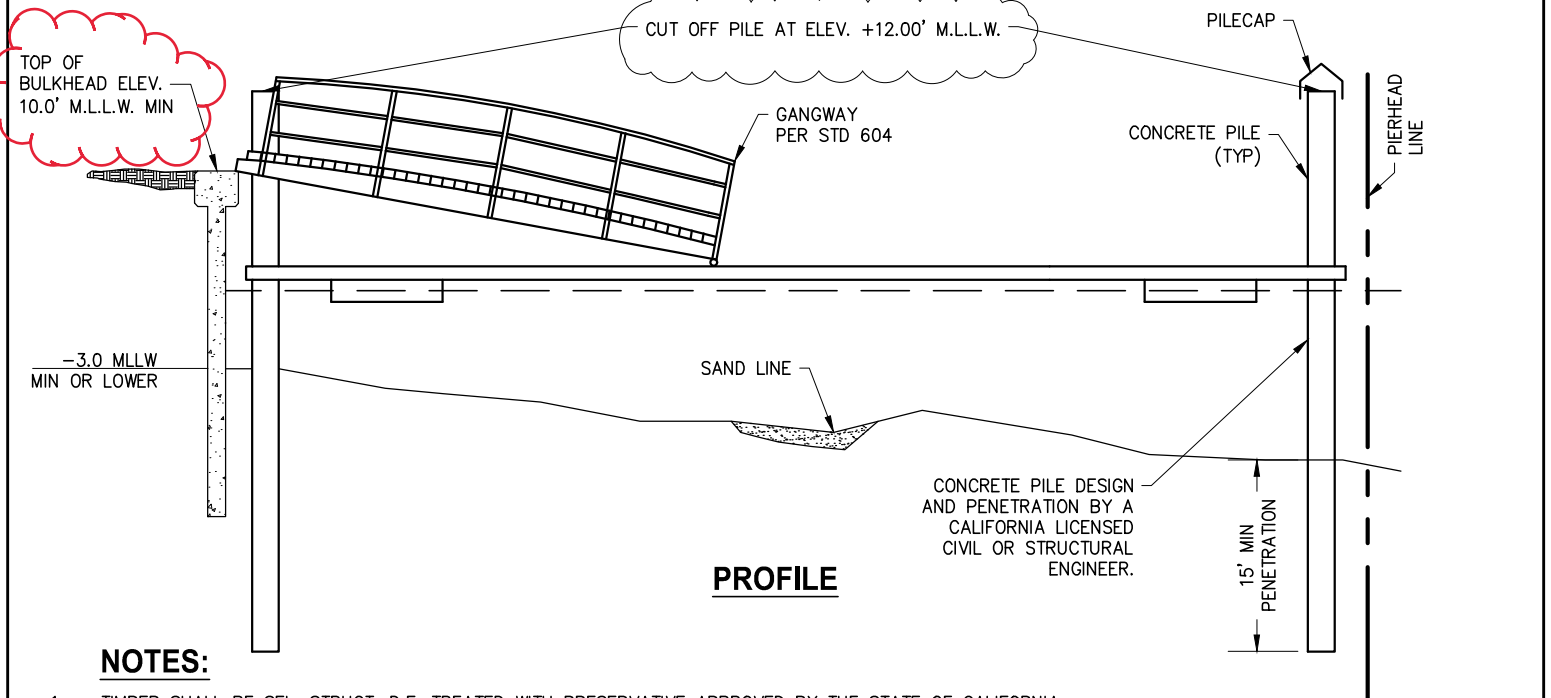
STANDARD DRAWING NO.

603

SHEET 1 OF 1



PLAN



PROFILE

NOTES:

1. TIMBER SHALL BE SEL. STRUCT. D.F. TREATED WITH PRESERVATIVE APPROVED BY THE STATE OF CALIFORNIA.
2. FIELD CUTS AND BORED HOLES SHALL RECEIVE A BRUSH COAT OF CONCENTRATED CCA, ACA OR AC2A.
3. BRACKETS AND FASTENERS SHALL BE STAINLESS, HOT DIP GALVANIZED OR EPOXY COATED.
4. WALKING SURFACES SHALL HAVE A SKID RESISTANT FINISH, SUCH AS UNPAINTED TIMBER OR GRIT ON TIMBER, OR OTHER SURFACING DEEMED APPROPRIATE FOR THE INTENDED SERVICE, BY THE CITY OF NEWPORT BEACH.
5. SEE STD 604 & STD 612 FOR GANGWAY AND HANGAR BRACKET DETAILS.
6. LOCATION OF PLATFORM, GANGWAY, SLIP & FLOATS IS OPTIONAL PROVIDING PROPER SETBACKS ARE MAINTAINED.

APP.					
CITY ENGINEER	RCE	DATE	NO.	DATE	DESCRIPTION OF REVISIONS

CITY OF NEWPORT BEACH DEPARTMENT OF PUBLIC WORKS

DRAWN: P. KHARAZMI	SINGLE RESIDENTIAL USE FLOAT WITHOUT PIER	STANDARD DRAWING NO. 605 SHEET 1 OF 1
DATE: 4/29/2020		

The diagram illustrates a cross-section of a canal structure. On the left, a vertical line represents the **CANAL R/W LINE**. A horizontal dimension line indicates a distance of **18' MINIMUM** from the canal line to the center of a **PILE GUIDE (TYP)**. A red cloud-like shape highlights this area, with a note: **PROLONGATION OF P_L** . Another dimension line shows a **30' MAXIMUM** distance from the pile guide to the right edge of the structure. A horizontal dimension line labeled **VARIES** spans the width of the structure. A vertical dimension line indicates a height of **5' MIN (TYP)** from the bottom of the structure to the top of the pile guide. The structure consists of a **GANGWAY (STD 604)** and a **FLOAT**. The pile guide is shown in two cross-sectional views, one on the gangway and one on the float.

TOP OF BULKHEAD
ELEV. 10.0' M.L.L.W. MIN

CUT OFF PILE AT
ELEV. +12.00' M.L.L.W.

CONCRETE PILE
(TYP)

GANGWAY
PER STD 604.

FLOAT

VARIES

1:5
=-3.0' M.L.L.W. MIN
OR LOWER

15' MIN
PENETRATION

1:4
-6.0'

FREEBOARD PER
DESIGN CRITERIA

NOTES:

1. TIMBER SHALL BE SEL. STRUCT. D.F. TREATED WITH PRESERVATIVE APPROVED BY THE STATE OF CALIFORNIA.
2. FIELD CUTS AND BORED HOLES SHALL RECEIVE A BRUSH COAT OF PRESERVATIVE TREATMENT PER STATE AND FEDERAL GUIDELINES.
3. FASTENERS SHALL BE STAINLESS, HOT DIP GALVANIZED OR EPOXY-COATED STEEL.
4. WALKING SURFACES SHALL HAVE A SKID RESISTANT FINISH, SUCH AS UNPAINTED TIMBER OR GRIT ON TIMBER, OR OTHER SURFACING DEEMED APPROPRIATE FOR THE INTENDED SERVICE, BY THE CITY OF NEWPORT BEACH.
5. NON-STRUCTURAL MEMBERS MAY BE ALTERNATIVE MATERIALS SUCH AS PLASTIC DIMENSIONAL LUMBER, SUBMIT PRODUCT SPECIFICATIONS TO CITY OF NEWPORT BEACH FOR APPROVAL.
6. SEE STD 604 & HARBOR DESIGN CRITERIA FOR GANGWAY DESIGN REQUIREMENTS.
7. LOCATION OF PLATFORM, GANGWAY, SLIP & FLOATS IS OPTIONAL PROVIDING PROPER SETBACKS ARE MAINTAINED.

APP. _____

CITY ENGINEER	RCE	DATE

NO.	DATE	DESCRIPTION OF REVISIONS

CITY OF NEWPORT BEACH DEPARTMENT OF PUBLIC WORKS

DRAWN: P. KHARAZMI

DATE: 4/29/2020

SINGLE RESIDENTIAL USE FLOAT WEST NEWPORT CHANNELS

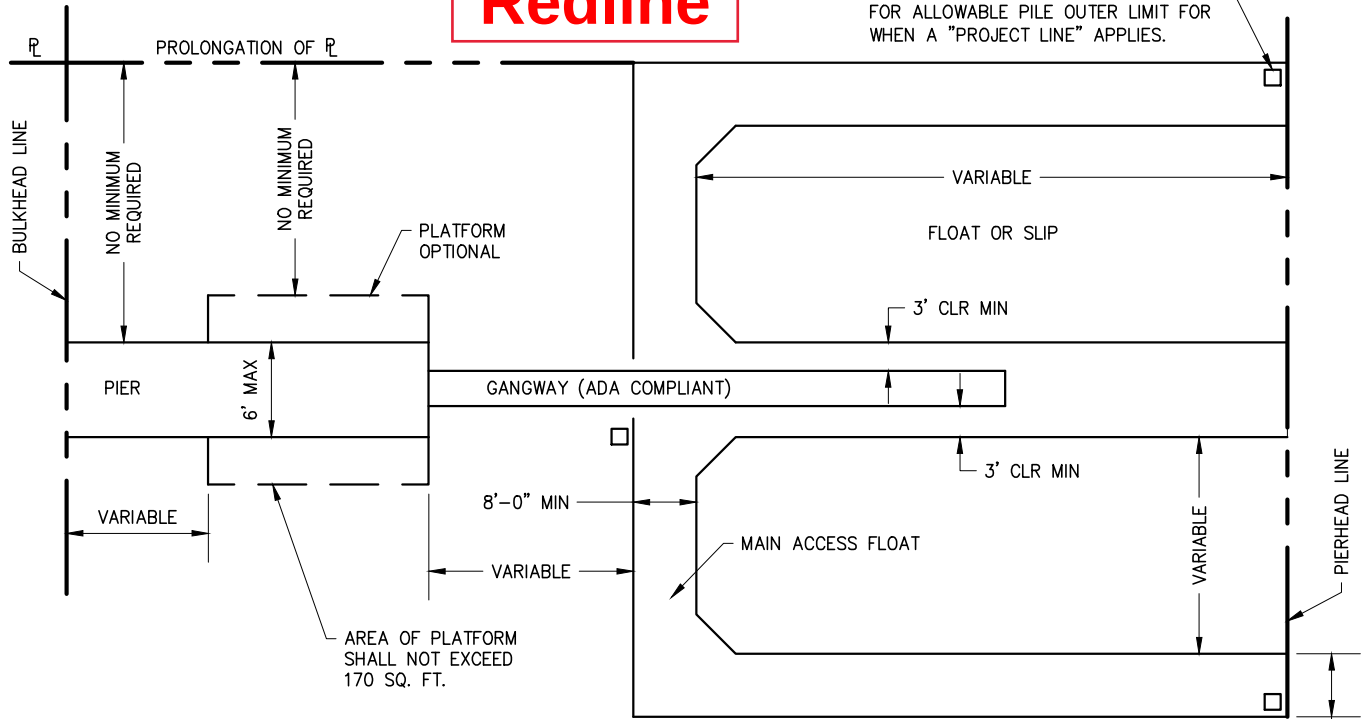
STANDARD DRAWING NO.

606

SHEET 1 OF 1

Redline

GUIDEPILE. SEE DOCK LAYOUT CASE 9B FOR ALLOWABLE PILE OUTER LIMIT FOR WHEN A "PROJECT LINE" APPLIES.



PLAN

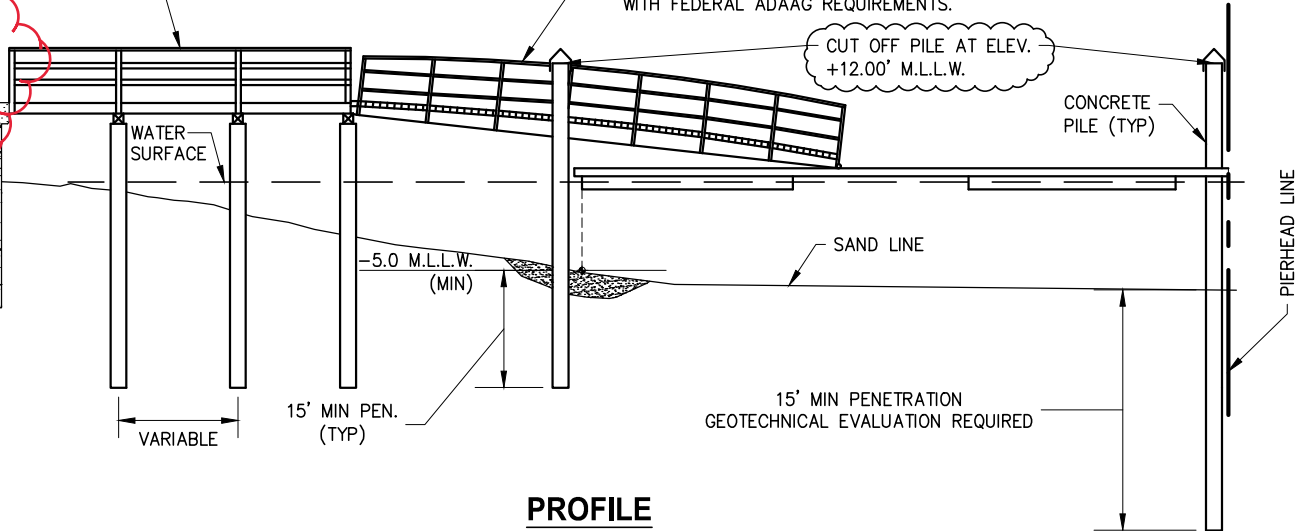
MIN FINGER WIDTH VARIES WITH FINGER LENGTH. SEE TABLE NO. 1 OF HARBOR DESIGN CRITERIA.

RAILINGS SHALL COMPLY WITH STATE OF CALIFORNIA TITLE 24 REQUIREMENTS.

TOP OF BULKHEAD ELEV. 10.0' M.L.L.W. MIN

ALL COMMERCIAL GANGWAYS SHALL MEET CURRENT ADA STANDARDS OF THE CITY OF NEWPORT BEACH, IN CONFORMANCE WITH FEDERAL ADAAG REQUIREMENTS.

CUT OFF PILE AT ELEV. +12.00' M.L.L.W.



PROFILE

NOTES:

1. TIMBER SHALL BE SEL. STRUCTURAL D.F. TREATED WITH PRESERVATIVE APPROVED BY THE STATE OF CALIFORNIA.
2. FIELD CUTS AND BORED HOLES SHALL RECEIVE A BRUSH COAT OF PRESERVATIVE TREATMENT PER STATE AND FEDERAL GUIDELINES.
3. FASTENERS SHALL BE STAINLESS, HOT DIP GALVANIZED OR EPOXY-COATED STEEL.
4. WALKING SURFACES SHALL HAVE A SKID RESISTANT FINISH, SUCH AS UNPAINTED TIMBER OR GRIT ON TIMBER, OR OTHER SURFACING DEEMED APPROPRIATE FOR THE INTENDED SERVICE, BY THE CITY OF NEWPORT BEACH.
5. NON-STRUCTURAL MEMBERS MAY BE ALTERNATIVE MATERIALS SUCH AS PLASTIC DIMENSIONAL LUMBER, SUBMIT PRODUCT SPECIFICATIONS TO CITY OF NEWPORT BEACH FOR APPROVAL.
6. COMMERCIAL PIERS, GANGWAYS, FLOATS AND PILES TO BE DESIGNED BY A CALIFORNIA LICENSED CIVIL OR STRUCTURAL ENGINEER.
7. LOCATION OF PLATFORM, GANGWAY, SLIP & FLOATS IS OPTIONAL PROVIDING PROPER SETBACKS ARE MAINTAINED.

APP.

CITY ENGINEER

RCE

DATE

NO.

DATE

DESCRIPTION OF REVISIONS

CITY OF NEWPORT BEACH DEPARTMENT OF PUBLIC WORKS

DRAWN: P. KHARAZMI

DATE: 4/29/2020

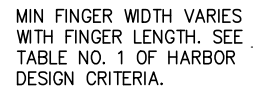
COMMERCIAL PIER & FLOAT INSTALLATION

STANDARD DRAWING NO.

607

SHEET 1 OF 1

GUIDEPILE. SEE DOCK LAYOUT CASE 9B
FOR ALLOWABLE PILE OUTER LIMIT FOR
WHEN A "PROJECT LINE" APPLIES.



TOP OF BULKHEAD
ELEV. 10.0' M.L.L.W
MIN

FOR RAILING CONSTRUCTION
SEE STD 609

CUT OFF PILE AT
ELEV. +12.00' M.L.L.W.

GANGWAY
PER STD 604

CONCRETE PILE (TYP)

WATER
SURFACE

SAND LINE

-3.0 M.L.L.W.
(MIN)
SEE NOTE 8.

15' MIN
PENETRATION
(TYP)

VARIABLE

FLOAT INSTALLATIONS
PER DESIGN CRITERIA

15' MIN PENETRATION
GEOTECHNICAL EVALUATION
REQUIRED

PROFILE

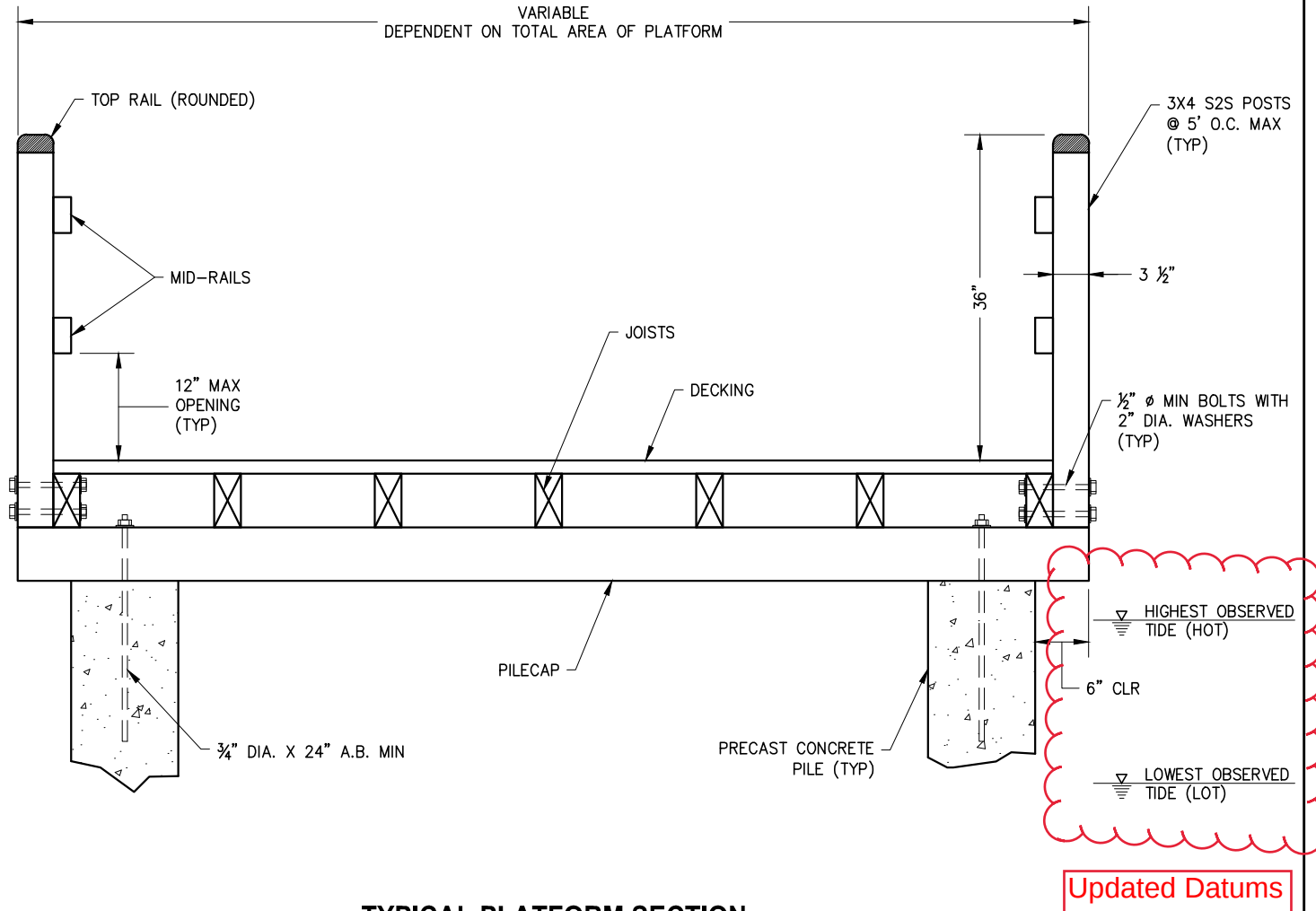
NOTES:

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3. FASTENERS SHALL BE STAINLESS, HOT DIP GALVANIZED OR EPOXY-COATED STEEL.
4. WALKING SURFACES SHALL HAVE A SKID RESISTANT FINISH, SUCH AS UNPAINTED TIMBER OR GRIT ON TIMBER, OR OTHER SURFACING DEEMED APPROPRIATE FOR THE INTENDED SERVICE, BY THE CITY OF NEWPORT BEACH.
5. NON-STRUCTURAL MEMBERS MAY BE ALTERNATIVE MATERIALS SUCH AS PLASTIC DIMENSIONAL LUMBER, SUBMIT PRODUCT SPECIFICATIONS TO CITY OF NEWPORT BEACH FOR APPROVAL.
6. SEE STD 604 & HARBOR DESIGN CRITERIA FOR GANGWAY DESIGN REQUIREMENTS.
7. LOCATION OF PLATFORM, GANGWAY, SLIP & FLOATS IS OPTIONAL PROVIDING PROPER SETBACKS ARE MAINTAINED.
8. UNDER EXTREME LOW WATER CONDITIONS, PONTOON MAY CONTACT MUDLINE. VERIFY IF PONTOONS AND DOCK SYSTEM CAN WITHSTAND THIS STRESS.

NO.	DATE	DESCRIPTION OF REVISIONS

SHEET 1 OF 1

Redline



NOTES:

1. TIMBER SHALL BE SELECT STRUCTURAL D.F. TREATED WITH PRESERVATIVE APPROVED BY THE STATE OF CALIFORNIA.
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5. NON-STRUCTURAL MEMBERS MAY BE ALTERNATIVE MATERIALS SUCH AS PLASTIC DIMENSIONAL LUMBER, SUBMIT PRODUCT SPECIFICATIONS TO CITY OF NEWPORT BEACH FOR APPROVAL.
6. JOIST SPLICES ARE NOT PERMITTED BETWEEN PILES.
7. DESIGN TO BE BY A CALIFORNIA LICENSED CIVIL OR STRUCTURAL ENGINEER.

APP.

CITY ENGINEER

RCE

DATE

NO.

DATE

DESCRIPTION OF REVISIONS

CITY OF NEWPORT BEACH DEPARTMENT OF PUBLIC WORKS

DRAWN: P. KHARAZMI

DATE: 1/8/2020

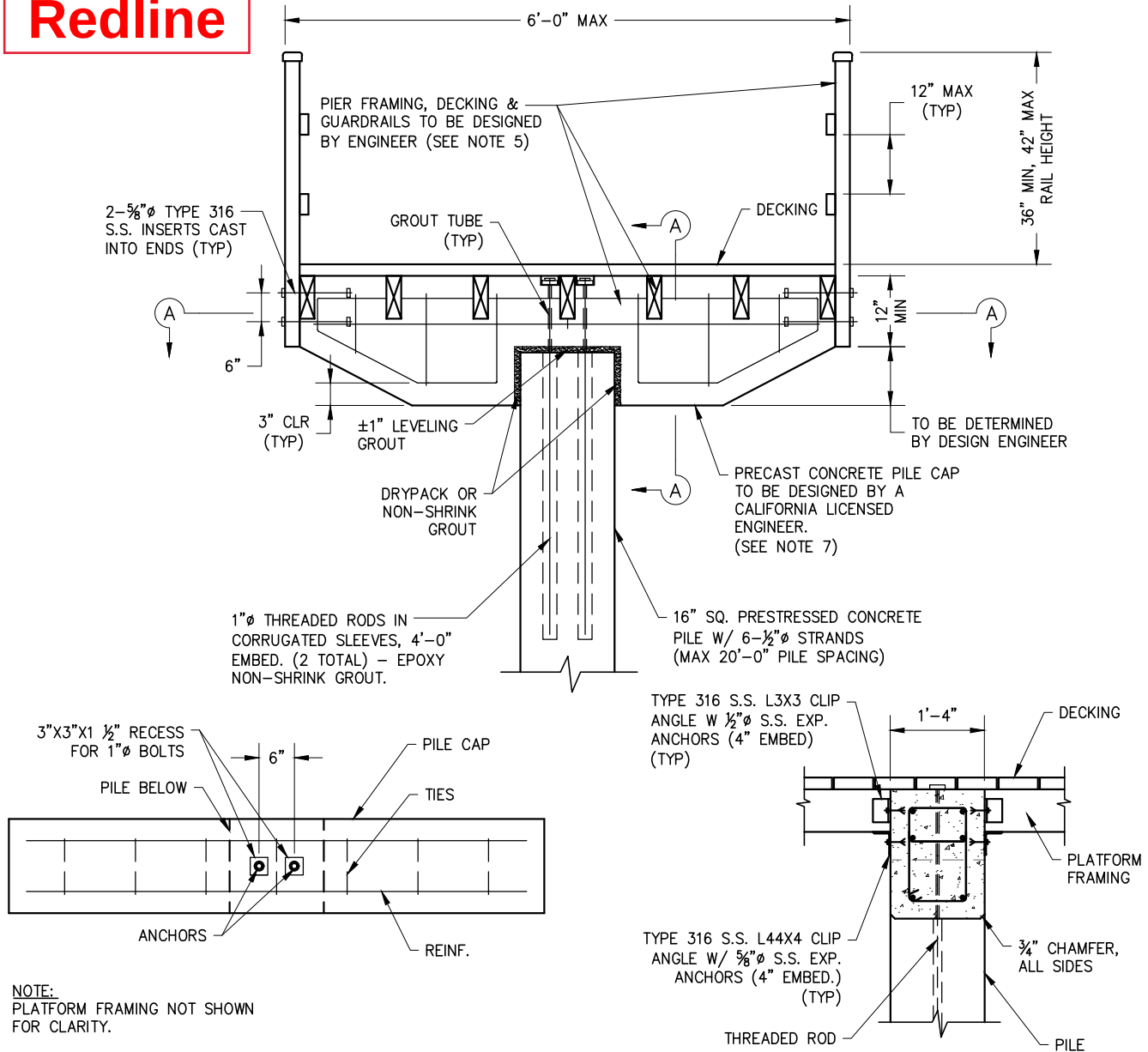
**SINGLE OR JOINT
RESIDENTIAL USE PLATFORM SECTION**

STANDARD DRAWING NO.

609

SHEET 1 OF 1

Redline



SECTION A-A

SECTION B-B

NOTES:

1. CONCRETE SHALL HAVE A MINIMUM $f'_c = 6,000$ PSI. PRE-STRESSING STRANDS SHALL HAVE A MINIMUM $f_{pu} = 270$ KSI.
2. ALL TIMBER SHALL BE TREATED PER ACCEPTED STATE OF CALIFORNIA REQUIREMENTS.
3. BRACKETS AND FASTENERS FOR TIMBER FRAMING SHALL BE HOTDIP GALVANIZED, EPOXY-COATED OR STAINLESS STEEL. CONNECTORS TO BE $\frac{1}{4}$ " MIN THICKNESS, UNLESS OTHERWISE NOTED.
4. WALKING SURFACES SHALL BE SKID RESISTANT.
5. ALL TIMBER PLATFORM FRAMING AND RAILINGS SHALL BE DESIGNED BY A LICENSED ENGINEER AND ARE NOT DETAILED IN THIS STANDARD.
6. TIMBER STRINGER SPLICES ARE NOT PERMITTED BETWEEN PILES.
7. OPTIONAL CAST-IN-PLACE CONSTRUCTION IS ACCEPTABLE. IF SO, LEVELING GROUT AND DRYPACK OR NON-SHRINK GROUT ILLUSTRATION WOULD NOT BE REQUIRED.
8. AN ENGINEER LICENSED IN THE STATE OF CALIFORNIA SHALL VERIFY PILE SIZE AND TYPE, AS WELL AS EMBEDMENT.

APP. _____ CITY ENGINEER _____ RCE _____ DATE _____

NO.	DATE	DESCRIPTION OF REVISIONS

CITY OF NEWPORT BEACH DEPARTMENT OF PUBLIC WORKS

DRAWN: P. KHARAZMI

DATE: 1/8/2020

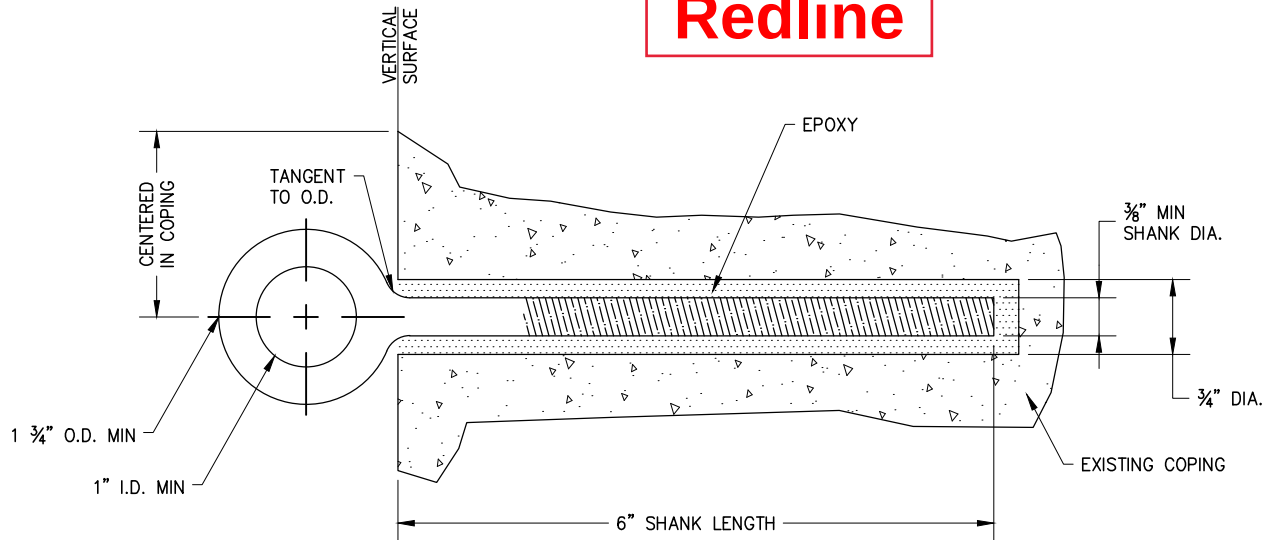
TYPICAL PIER SECTION

STANDARD DRAWING NO.

610

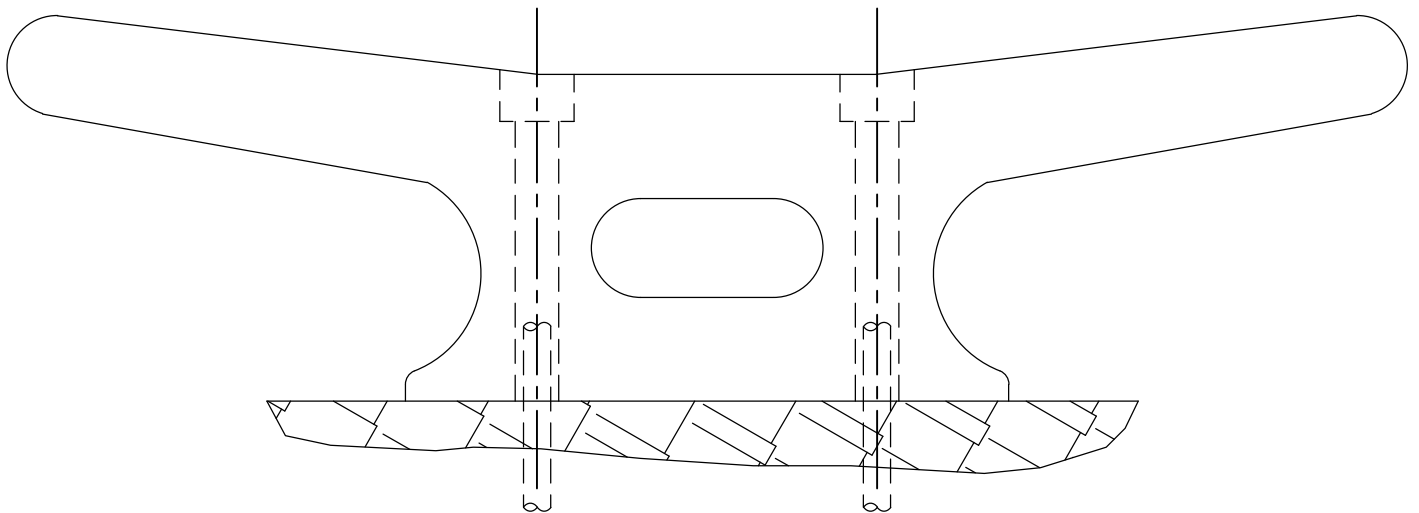
SHEET 1 OF 2

Redline



EYE BOLT

(SHORE MOORING)



DOCK CLEAT

(TYPICAL DOCK MOORING CLEAT)

NOTES:

1. EYE BOLT SHALL BE FABRICATED OF STAINLESS OR GALVANIZED STEEL.
2. EPOXY SHALL CONFORM TO ASTM C881 STANDARD, OR SHALL BE AN EPOXY FORTIFIED GROUT INTENDED TO BE USED FOR PERMANENT ANCHORAGE OF EQUIPMENT, AND SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
3. DOCK CLEATS SHALL BE GALVANIZED CAST METAL WITH HEX-HEAD THRU-BOLTS CONNECTED INTO THE TIMBER FRAMING WITH WASHER AND NUT, ALL GALVANIZED.
4. DIAMETER OF THRU-BOLT PER CLEAT MANUFACTURER RECOMMENDATIONS.
5. CLEAT AND BOLT SIZES BY DESIGN ENGINEER.

APP. _____
CITY ENGINEER RCE DATE

NO.	DATE	DESCRIPTION OF REVISIONS

CITY OF NEWPORT BEACH DEPARTMENT OF PUBLIC WORKS

DRAWN: P. KHARAZMI

DATE: 1/8/2020

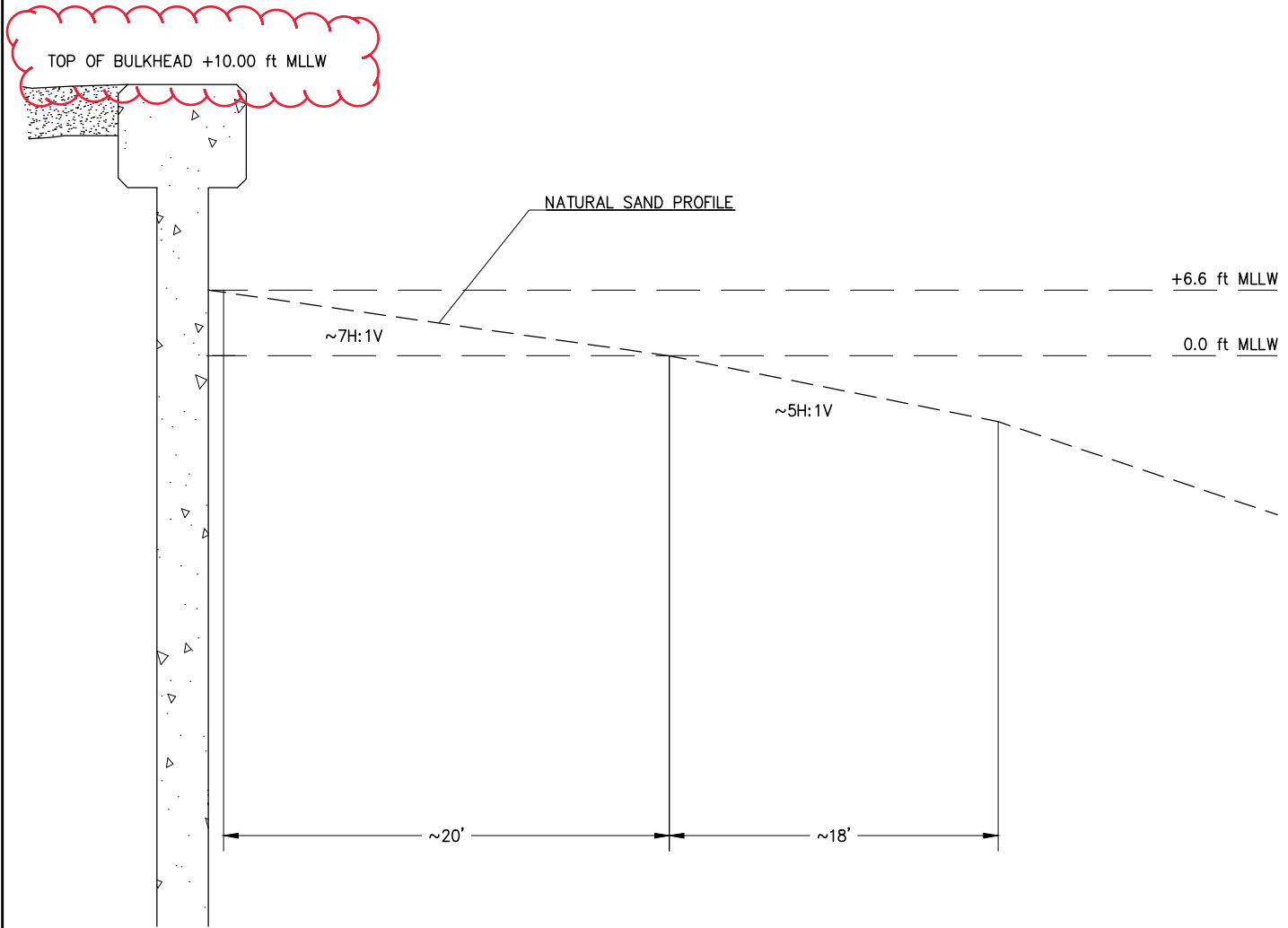
EYE BOLT OR CLEAT FOR BOAT ANCHORAGE

STANDARD DRAWING NO.

611

SHEET 1 OF 1

Redline



PROFILE

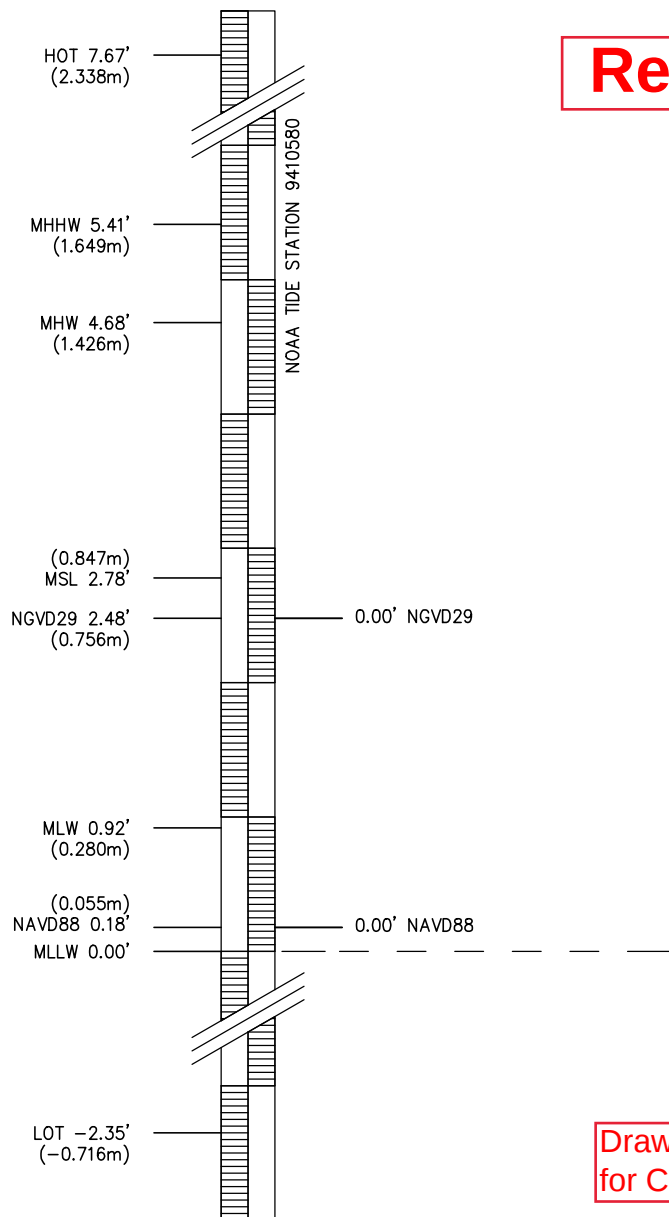
**Drawing Simplified
for Clarity**

NOTES:

1. NATURAL SAND PROFILES VARY BY LOCATION WITHIN THE HARBOR.
2. H:V = HORIZONTAL TO VERTICAL
3. MLLW = MEAN LOWER LOW WATER

APP. _____		CITY ENGINEER _____		RCE _____		DATE _____		NO. _____		DATE _____		DESCRIPTION OF REVISIONS	
CITY OF NEWPORT BEACH DEPARTMENT OF PUBLIC WORKS													
DRAWN: P. KHARAZMI		NATURAL SAND PROFILES IN NEWPORT HARBOR										STANDARD DRAWING NO. 615 SHEET 1 OF 1	
DATE: 8/4/2020													

TIDAL DATUMS AND ELEVATIONS



ABBREVIATIONS:

HOT	=	HIGHEST OBSERVED TIDE (1993.01.28)
MHHW	=	MEAN HIGHER HIGH WATER
MHW	=	MEAN HIGH WATER
MSL	=	MEAN SEA LEVEL
MLW	=	MEAN LOW WATER
MLLW	=	MEAN LOWER LOW WATER
LOT	=	LOWEST OBSERVED TIDE (1988.01.20)
NAVD88	=	NORTH AMERICAN VERTICAL DATUM 1988
NGVD	=	NATIONAL GEODETIC VERTICAL DATUM 1929

TIDAL DATUM SEPARATIONS SHOWN FOR
NOAA TIDE STATION 9410580, NEWPORT BAY ENTRANCE
TIDAL EPOCH 1983 - 2001
<https://co-ops.nos.noaa.gov/datums.html?id=9410580>

APP. _____		CITY ENGINEER		RCE		DATE		NO.		DATE		DESCRIPTION OF REVISIONS	
CITY OF NEWPORT BEACH DEPARTMENT OF PUBLIC WORKS													
DRAWN: P. KHARAZMI		TIDE PLANES AND TIDAL DATUM RELATIONSHIPS										STANDARD DRAWING NO.	
DATE: 1/8/2020												616	
												SHEET 1 OF 1	