



**US Army Corps  
of Engineers®**  
New England District  
**696 Virginia Road**  
**Concord, MA 01742-2751**

# PUBLIC NOTICE

**Comment Period Begins:** March 3, 2020  
**Comment Period Ends:** April 2, 2020  
**File Number:** NAE-2019-02852  
**In Reply Refer To:** Michael Wierbonics  
**Phone:** (978) 318-8723  
**E-mail:** Michael.S.Wierbonics@usace.army.mil

The District Engineer has received a permit application to conduct work in waters of the United States from Gregg Marsili, Harbormaster, Town of Bristol (RI), 10 Court Street, Bristol, Rhode Island 02809. This work is proposed in Bristol Harbor at 127 Thames Street, Bristol, Rhode Island. The site coordinates are: Latitude 41.667322°N, Longitude -71.278915°E.

The proposed work involves the expansion of the Church Street Marina in Bristol, Rhode Island in order to meet the heavy demand for resident and non-resident/transient docking. The applicant has stated that the waiting list for residential slips is long and that expansion should help to provide access to those on the list while also increasing the economic viability of Bristol's historic waterfront through additional slips for transient boats and commercial vessels. The project has a 50-year lifespan and has been designed to limit costs of maintenance over this time.

The existing marina is located behind the Bristol Maritime Center at 125 Thames Street. The Maritime Center serves as the Harbormaster's office and includes a marina support building. The existing marina extends from a small parking lot adjacent to the Maritime Center into Bristol Harbor and consists of a c-shaped fixed timber pier (approximately 2,676-square feet) which encompasses approximately 6,700-square feet of timber floats including (2) main floating timber docks with (17) timber finger floats. There is a timber wave fence along the southern portion of the fixed timber pier which protects the existing marina from long fetch waves. All of the floats and (37) total slip spaces within the existing marina will remain with the proposed marina expansion.

The Town will be reducing the size of the existing fixed timber pier by demolishing the southern and western portions that surround the existing marina (approximately 2,140-square feet). The proposed marina expansion includes repair of the remaining 536-square feet of the eastern portion of the existing pier to provide marina access from a single-entry point. The repairs include removal and replacement of existing timber pile caps, stringers, decking, and railing. Universal access to the proposed marina will be provided via a 50-foot long (200-square foot) aluminium gangway extending south from the fixed timber pier to an approximate 100-square foot aluminium platform, where a second 40-foot long (160-square foot) aluminium gangway and an aluminium stairway extend to the main timber floating docks. The main timber floating dock, Dock A, consists of (20) 8-foot wide by 16-feet long (2,560 square-feet) floats and is supported by (10) 12-inch diameter timber piles. A second main set of timber floating docks, Dock B, extends perpendicular from Dock A into the Harbor and consists of (14) 8-foot wide by 20-foot long (2,240-square feet) floating docks. A total of (18) 5-feet wide by 30-feet long timber finger floats are provided along Dock B providing (38) new slips. The floating docks comprising Dock B are supported by a total of (28) 12-inch diameter timber piles.

Dock C is a set of (6) 66-foot long by 16-foot wide (1,056-square foot) concrete floating docks which run east to west across the site, and are accessed via a 10-foot aluminium gangway (40-square feet) extending from Dock A. Dock D extends from the end of Dock C and includes (6) 66-feet long by 16-feet wide (1,056-square feet) floating docks running north to south at the site. A total of (16) 5-feet wide by 30-feet to 40-feet long timber finger floats (2,750-square feet) will be provided along the interior of Dock C and Dock D providing (36) new slips . A total of (20) new slips will be provided along the exterior portion of the concrete floats Dock C and Dock D.

The concrete floating docks (Dock C and Dock D) will be supported by (46) concrete anchor blocks and heavy chain moorings. Each of the anchor blocks will be approximately 8.5-feet by 8.5-feet by 3.75-feet tall, and approximately 180-foot long (max) chain will extend between the bottom of the concrete floating docks to the anchor blocks. The anchor blocks will occupy approximately 3,324-square feet of harbor bottom and the chain impacts to the bottom are expected to be 3,726-square feet.

A summary of the proposed marina structures and impacts are provided below:

**Table 1 – Floating Docks**

Location	Quantity	Size (ft)	Area (sf)	Foundation Element	Mudline Impacts (sf)
<b>Dock A</b>					
Main Float	20	8 x 16	2,560	(10) 12" diameter timber piles	7.85
<b>Dock B</b>					
Main Float	14	8 x 20	2,240	(10) 12" diameter timber piles	7.85
Finger Floats	18	5 x 30	4,320	(18) 12" diameter timber piles	14.14
<b>Dock C</b>					
Main Float	6	16 x 66	1,056	(24) 8.5'x8x5'x3.75' concrete anchor blocks	1,734
				(24) 2.25" heavy chain 180' long (max)	1,944
Finger Floats	9	5 x 30	1,350	None	0
<b>Dock D</b>					
Main Float	6	16 x 66	1,056	(22) 8.5'x8x5'x3.75' concrete anchor blocks	1,590
				(22) 2.25" heavy chain 180' long (max)	1,782
Finger Floats	7	5 x 40	1,400	None	0
<b>TOTAL</b>		13,982		(38) timber piles (46) concrete anchor blocks and heavy chain	7,080

**Table 2 – Proposed Slip Spaces**

Location	Length	Width	Quantity
Dock B	30'	213'	38
Dock C	30'	214'	18
Dock C	40'	-	10
Dock D	40'	15'	2
Dock D	40'	16'	1
Dock D	40'	17.5'	10
Dock D	40'	30'	2
Dock D	100'	-	11
<b>TOTAL</b>			<b>92</b>

The limits of the existing marina perimeter limit are unknown, however, the proposed marina perimeter will extend 10-feet outside of the proposed marina structures and will expand to the following extents:

**Table 3 – Marina Perimeter Limit**

<b>Northing</b>	<b>Easting</b>
212777.34	388687.82
212669.46	388257.14
213014.68	388170.67
213083.12	388228.94
213072.99	388240.84
213156.45	388592.92

\*Marina extents horizontal datum reference Rhode Island State Plane NAD83

A future permit decision would allow the reconfiguration of floats and other structures within the marina perimeter; however, this would be subject to future approvals from the Corps.

The work is shown on the enclosed plans entitled “Church Street Dock Expansion,” on 10 sheets, and dated “November 2019.”

The applicant originally considered a larger expansion; however due to input from the Coastal Resources Management Council (CRMC) and design changes to limit environments impacts, the applicant has proposed this design. Early iterations of the project included a larger design and other pier and float alignments. This included the proposed construction of 3 separate entrances to 3 distinct docks and the construction timber or concrete floats to access these docks. These designs would require work within the upland and would result in further impacts to the waterbody. These designs also included a proposed addition of 40 more boats than the proposed design. Ultimately through discussions with CRMC, the applicant decided to pursue a design that accommodated 92 slips.

Other alternatives considered are outlined below.

#### **1. Concrete Floats with Concrete-Filled Steel Pipe Piles**

The installation of concrete wave attenuator floats anchored with (36) 3-foot diameter concrete filled steel pipe piles. Steel pipes would need to be anchored into the bedrock resulting in a permanent impact to 255-square feet of harbor bottom.

The Town of Bristol Harbor bottom has chosen not to pursue this option because they have observed the presence of microbes in this waterbody which have caused major damages to other steel structures in this area. It is anticipated that steel construction and piles would have a 10 year lifespan. Additionally, while impacts from piles would be less than anchors, the upfront costs of pile installation is significantly more expensive than anchors. Costs of construction replacement of over the 50 year project lifespan would be exorbitant and impractical and therefore not feasible based on the large costs.

Furthermore, the town believes that the installation of large steel piles would adversely affect the viewshed of the adjacent Bristol Waterfront Historic District.

## **2. Concrete Floats with Elastomeric Moorings and Concrete Anchor Blocks**

The installation of floats with elastomeric moorings and concrete anchor blocks to secure the concrete wave attenuator floats. This alternative would require (70) concrete anchor blocks 8.2-ft by 7.9-ft by 3-ft high and would likely be submerged beneath the harbor bottom, resulting in approximately 4,535-square feet of impact and 500-cubic yards of fill material.

These elastic moorings are significantly more expensive than traditional moorings, and may not provide the same amount of wave attenuation as traditional moorings. These type of mooring lines require significant monitoring and regular maintenance is required. These costs could be very large over the lifespan of the project. Due to the costs, larger environmental impacts, and reduced wave attenuation, this option was not considered feasible.

## **3. Other anchor alignments and types considered**

The applicant also considered other anchor alignments and anchor types. The applicant has stated that due to weak subsurface conditions and discussions with helical anchors manufacturers, helical anchors were not considered to be feasible in this area.

According to the manufacturer specifications, the number of anchors shown on the proposed plans are required for the proposed concrete floats. The specifications take into account tide range, FEMA 100-year flood elevation, design wave, and water depths, and other technical inputs. Reducing the number of anchors may result in instability under all conditions. Furthermore, the applicant has stated reducing the number of anchors will not change the impacts and larger anchors would be required to support this weight.

The applicant has stated that they have reduced the number of slips to the greatest extent possible and that any further reduction in the number of slips will not meet the purpose of the project and could ultimately make the project financially unfeasible as the costs of the construction and maintenance of the Marina will not be offset from the revenue from the anticipated boats. The selected layout reduces the number of slips by approximately 40 boats over the original proposal.

The proposed system also provides more wave attenuation compared to the elastic mooring alternative, and would support the floats in the event of a FEMA 100-year flood. The manufacturer also noted that, the portion of chain on the bottom would only temporarily lift up to allow the floats to rise with the storm surge, and would fall back within the chain footprint. Due to the reduction in upfront costs, reduction in maintenance costs, and the system reducing the amount of energy being allowed into the marina compared to the other alternatives, this option is preferred.

Ultimately, the applicant has chosen to pursue the proposal above, because they believe that the selected approach fulfills the project purpose and design requirements for the floating dock system with a 50-year design life while avoiding and minimizing impacts to coastal resources and reducing long-term maintenance costs.

Other avoidance and minimization measures that will be incorporated into the project design:

- Use of a vibratory hammer to install the proposed support piles to minimize noise levels
- Observing Time of Year work restrictions
- A debris boom with turbidity curtain will be deployed around the work area at all times during construction
- Erosion controls will be installed along the shoreline to prevent runoff into the waterway

The town of Bristol is currently considering mitigation options for the bottom impacts associated with this project.

These include:

1. Permanently remove a total of (10) existing abandoned moorings. Each mooring has a minimum chain length of 20' and the chains routinely sweep the harbor bottom resulting in an ongoing disturbance. Removal of the moorings would eliminate the ongoing disturbance from chain sweep, thereby restoring approximately 12,564-square feet of the harbor bottom.
2. Remove (25) 12" existing timber piles from the area adjacent to the State Street dock, resulting in the restoration of approximately 20-square feet of harbor bottom. The area of the pile field that would be opened up following removal is approximately 1,250 square feet.
3. The proposed marina expansion also includes the demolition and removal the timber pile supported pier surrounding the existing marina, resulting in approximately 2,140-square feet of opened area and 192-square feet of piles.

## AUTHORITY

Permits are required pursuant to:

- Section 10 of the Rivers and Harbors Act of 1899  
 Section 404 of the Clean Water Act  
 Section 103 of the Marine Protection, Research and Sanctuaries Act.  
 Section 14 of the Rivers and Harbors Act of 1899 (33 USC 408)

The decision whether to issue a permit will be based on an evaluation of the probable impact of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which may reasonably accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including the cumulative effects thereof; among those are: conservation, economics, aesthetics, general environmental concerns, wetlands, cultural value, fish and wildlife values, flood hazards, flood plain value, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food production and, in general, the needs and welfare of the people.

The U.S. Army Corps of Engineers, New England District (Corps), is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. The Corps will consider all comments received to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects,

and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

## **ESSENTIAL FISH HABITAT**

The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), requires all federal agencies to consult with the National Marine Fisheries Service on all actions, or proposed actions, permitted, funded, or undertaken by the agency, that may adversely affect Essential Fish Habitat (EFH). Essential Fish Habitat describes waters and substrate necessary for fish for spawning, breeding, feeding or growth to maturity.

This project will impact approximately 0.4 acres of EFH. Based upon the subsurface explorations completed prior to design, this habitat is primarily a muddy bottom consisting of silt, fine sand, and gravel with some organic material. Loss of this habitat may adversely affect species that use these waters and substrate. However, the District Engineer has made a preliminary determination that the site-specific adverse effect will not be substantial. Further consultation with the National Marine Fisheries Service regarding EFH conservation recommendations is being conducted and will be concluded prior to the final decision.

## **NATIONAL HISTORIC PRESERVATION ACT**

Based on his initial review, the District Engineer has determined that the proposed work may impact properties listed in, or eligible for listing in, the National Register of Historic Places. Additional review and consultation to fulfil requirements under Section 106 of the National Historic Preservation Act of 1966, as amended, will be ongoing as part of the permit review process.

## **ENDANGERED SPECIES CONSULTATION**

The Corps has reviewed the application for the potential impact on Federally-listed threatened or endangered species and their designated critical habitat pursuant to section 7 of the Endangered Species Act as amended. It is our preliminary determination that the proposed activity for which authorization is being sought is designed, situated or will be operated/used in such a manner that it is not likely to adversely affect a listed species or their critical habitat. We are coordinating with the National Marine Fisheries Service and/or U.S. Fish and Wildlife Service on listed species under their jurisdiction and the ESA consultation will be concluded prior to the final decision.

## **OTHER GOVERNMENT AUTHORIZATIONS**

The states of Connecticut, Maine, Massachusetts, New Hampshire and Rhode Island have approved Coastal Zone Management Programs. Where applicable, the applicant states that any proposed activity will comply with and will be conducted in a manner that is consistent with the approved Coastal Zone Management Program. By this Public Notice, we are requesting the State concurrence or objection to the applicant's consistency statement.

The following authorizations have been applied for, or have been, or will be obtained:

CENAE-R

FILE NO. NAE- 2019-02852

- ( x ) Permit, license or assent from State.
- ( x ) Permit from local wetland agency or conservation commission.
- ( x ) Water Quality Certification in accordance with Section 401 of the Clean Water Act.

## COMMENTS

In order to properly evaluate the proposal, we are seeking public comment. Anyone wishing to comment is encouraged to do so. Comments should be submitted in writing by the above date. If you have any questions, please contact the Corps of Engineers at (800) 343-4789 or (800) 362-4367, if calling from within Massachusetts.

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider the application. Requests for a public hearing shall specifically state the reasons for holding a public hearing. The Corps holds public hearings for the purpose of obtaining public comments when that is the best means for understanding a wide variety of concerns from a diverse segment of the public.

The initial determinations made herein will be reviewed in light of facts submitted in response to this notice. All comments will be considered a matter of public record. Copies of letters of objection will be forwarded to the applicant who will normally be requested to contact objectors directly in an effort to reach an understanding.

**THIS NOTICE IS NOT AN AUTHORIZATION TO DO ANY WORK.**



**Kevin R. Kotelly, P.E.  
Chief, Permits and Enforcement Branch  
Regulatory Division**

If you would prefer not to continue receiving Public Notices by email, please contact Ms. Tina Chaisson at (978) 318-8058 or e-mail her at [bettina.m.chaisson@usace.army.mil](mailto:bettina.m.chaisson@usace.army.mil). You may also check here ( ) and return this portion of the Public Notice to: Bettina Chaisson, Regulatory Division, U.S. Army Corps of Engineers, 696 Virginia Road, Concord, MA 01742-2751.

NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

PHONE: \_\_\_\_\_

*Prepared for The:*

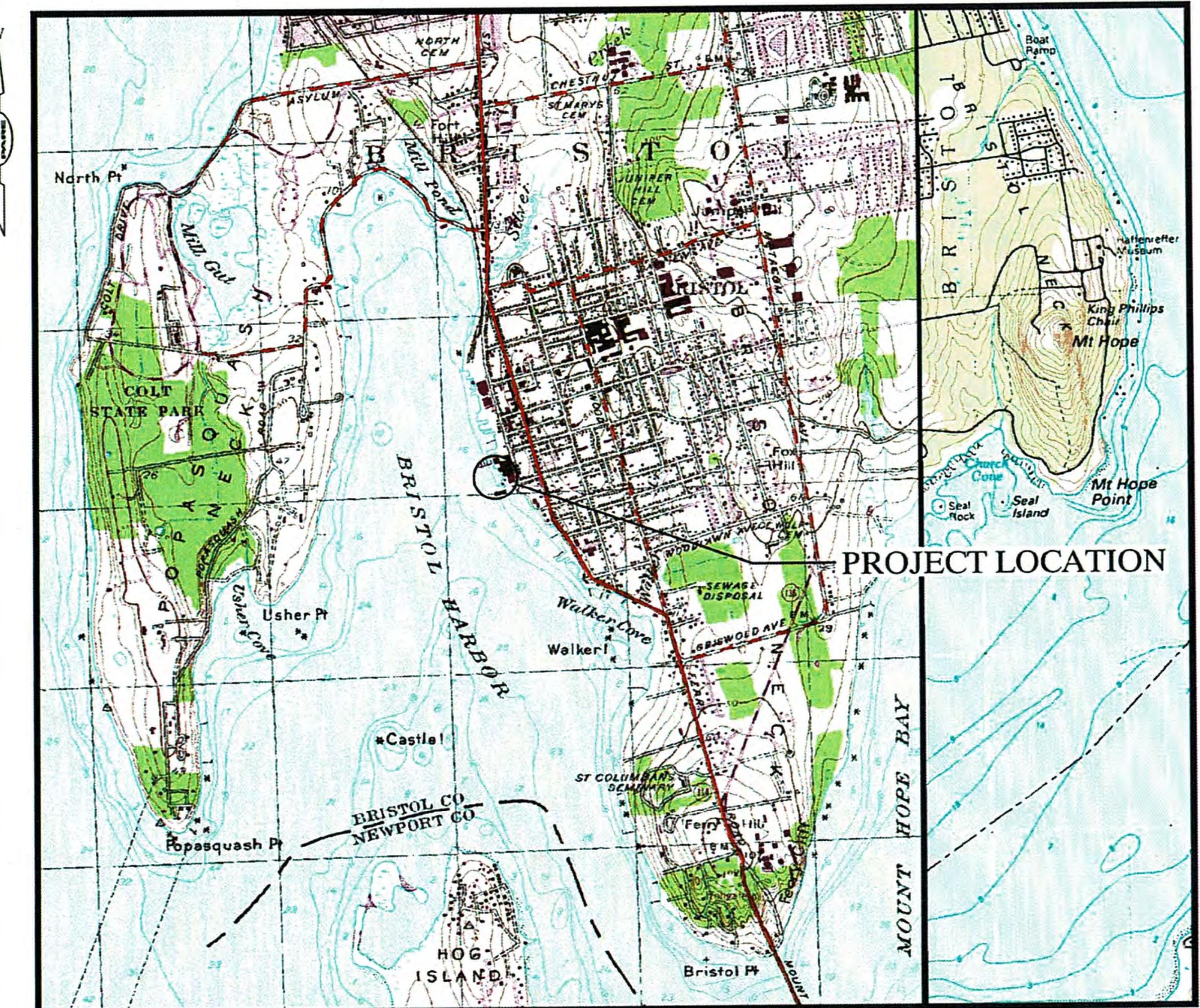
PERMIT SUBMISSION  
NOT FOR CONSTRUCTION

# TOWN OF BRISTOL, RHODE ISLAND CHURCH STREET DOCK EXPANSION BRISTOL, RHODE ISLAND

NOVEMBER 2019

## Drawing Index

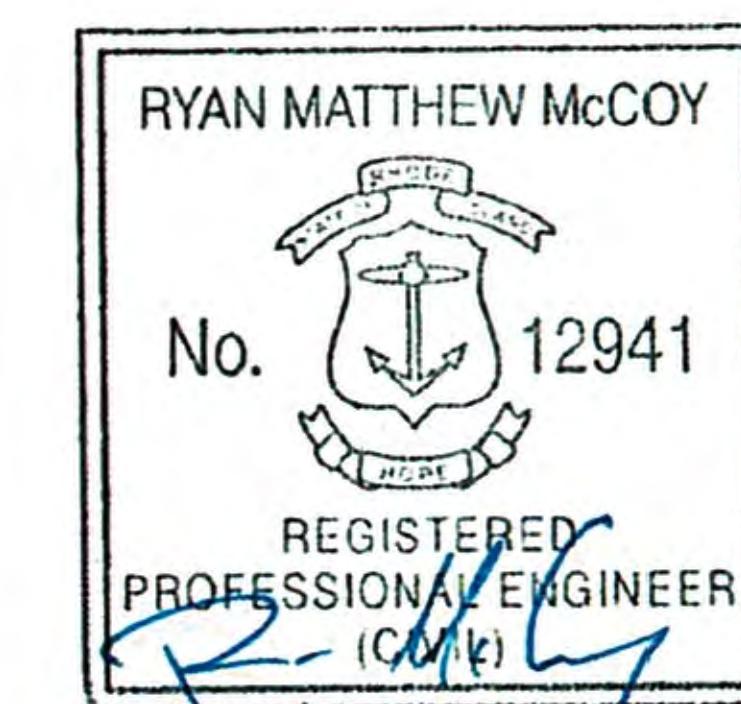
- 0.0 COVER SHEET
- 1.0 GENERAL NOTES AND LEGEND
- 2.0 EXISTING SITE PLAN
- 3.0 PROPOSED SITE PLAN
- 4.0 PROPOSED CONCRETE FLOAT SECTIONS AND DETAILS
- 4.1 PROPOSED TIMBER FLOAT SECTIONS AND DETAILS
- 4.2 PROPOSED GANGWAY SECTIONS AND DETAILS
- 4.3 PROPOSED PLATFORM SECTIONS AND DETAILS
- E-1 PROPOSED UTILITY PLAN
- E-2 PROPOSED UTILITY DETAILS



**LOCUS PLAN**  
SCALE: 1" = 2000'



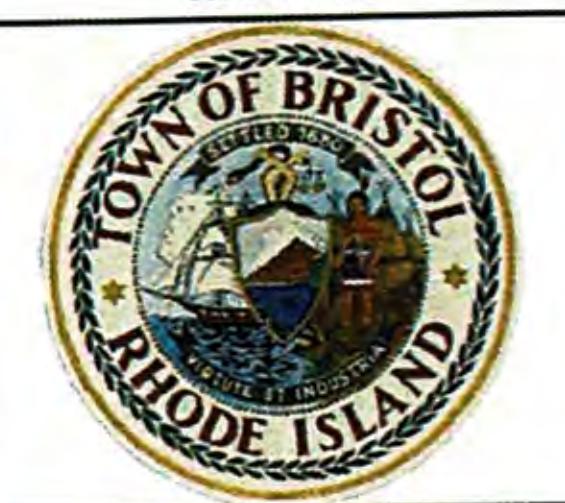
**AERIAL PLAN**  
SCALE: 1" = 400'



*Prepared by:*

**PARE CORPORATION**  
Foxboro, Massachusetts





SCALE ADJUSTMENT GUIDE  
0" 1"  
BAR IS ONE INCH ON  
ORIGINAL DRAWING.

CHURCH STREET DOCK EXPANSION  
TOWN OF BRISTOL

#### GENERAL NOTES:

- FOR THE PURPOSE OF THIS PROJECT
- OWNER — TOWN OF BRISTOL  
10 COURT STREET  
BRISTOL, RI 02809
- ENGINEER — PARE CORPORATION  
10 LINCOLN ROAD, SUITE 210  
FOXBORO, MA 02035  
CONTACT — RYAN MCCOY
- EXISTING CONDITIONS BASED UPON PLAN ENTITLED "EXISTING CONDITIONS" DOCK EXPANSION ROBIN RUG COMPLEX THAMES STREET BRISTOL, RHODE ISLAND PREPARED BY NATIONAL SURVEYORS-DEVELOPERS INC. OF WOONSOCKET, RI DATED APRIL 2016.
- ALL CONSTRUCTION INDICATED ON THESE PLANS SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE RHODE ISLAND STATE BUILDING CODE, ALL FEDERAL AND MUNICIPAL BUILDING CODES, AND THE SPECIFICATIONS INCLUDED IN THIS CONTRACT. THESE PLANS ARE INCOMPLETE UNLESS ACCOMPANIED BY THE SPECIFICATIONS INCLUDED IN THE CONTRACT DOCUMENTS.
- THE VERTICAL DATUM IS MEAN LOW WATER (MLW) AND THE HORIZONTAL DATUM IS RHODE ISLAND STATE PLANE NAD83. CONTRACTOR SHALL ESTABLISH HORIZONTAL AND VERTICAL CONTROL AS REQUIRED TO ENABLE COMPLETION OF THE WORK.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR MEANS, METHODS, AND SAFETY OF WORK.
- INSTALL PROPER CONSTRUCTION AND TRAFFIC SIGNAGE AT OR NEAR THE PROJECT ENTRANCES(S). COORDINATE WITH LOCAL POLICE WHEN CONSTRUCTION VEHICLE ACTIVITIES OR DELIVERIES COULD POTENTIALLY IMPEDE NORMAL DAILY TRAFFIC AND PEDESTRIAN TRAFFIC.
- ENSURE THAT ADEQUATE SHORING AND FALSEWORK ARE PROVIDED TO THE EXISTING STRUCTURE(S) RESULTING IN A STABLE AND SAFE STRUCTURE AT ALL TIMES.
- PLANS AND SECTIONES ARE APPROXIMATE AND ARE TO BE USED FOR GENERAL LAYOUT. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAKING FIELD MEASUREMENTS TO ASSURE CONSISTENCY WITH THE PROPOSED CONSTRUCTION PLANS. THE CONTRACTOR SHALL FIELD VERIFY ACTUAL CONDITIONS, DIMENSIONS, CLEARANCES, ELEVATIONS, AND OTHER INFORMATION INDICATED IN THE DOCUMENTS PRIOR TO ORDERING ANY MATERIALS, COMMENCING ANY FABRICATIONS, OR PERFORMING ANY WORK. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY FIELD CONDITIONS WHICH MAY DIFFER FROM THAT REPRESENTED PRIOR TO COMMENCING WORK.
- PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL VISIT THE SITE AND SHALL NOTIFY THE ENGINEER OF ANY ADDITIONAL UTILITIES, STRUCTURES, OR ANY OTHER ELEMENTS THAT MAY IMPEDE WORK. UTILITY AND/OR STRUCTURE RELOCATIONS, IF NECESSARY, SHALL BE COORDINATED THROUGH THE OWNER'S ENGINEER AT NO ADDITIONAL COST TO THE OWNER.
- PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL SCHEDULE AND COORDINATE ALL WORK THROUGH THE TOWN AND THE ENGINEER. THE CONTRACTOR SHALL COORDINATE THE WORK SO AS TO MINIMIZE INTERRUPTIONS TO NEARBY OPERATIONS AND TOURISM.
- THE CONTRACTOR WILL BE REQUIRED TO SUBMIT A CONSTRUCITON SCHEDULE TO THE OWNER WITHIN 5 DAYS OF THE NOTICE OF AWARD. THE CONTRACTOR SHALL UPDATE THE SCHEDULE AS NEEDED THROUGHOUT THE COURSE OF WORK.
- THE CONTRACTOR SHALL FULLY CORDON OFF THE WORK AREA TO PREVENT PUBLIC ACCESS.
- THE CONTRACTOR SHALL MAINTAIN A SECURE SITE AND PROVIDE APPROPRIATE SAFETY MEASURES TO PREVENT ACCIDENTS. SAFETY MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO SIGNAGE, BARRICADES, FENCING, FLASHING WARNING LIGHTS, AND POLICING.
- THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE OSHA REGULATIONS AND SAFETY PROCEDURES TO ENSURE PERSONAL HEALTH AND SAFETY. THE CONTRACTOR MUST MAINTAIN A SAFE AND CLEAN WORKING ENVIRONMENT AND SHALL UTILIZE PERSONAL PROTECTIVE EQUIPMENT (PPE) AT ALL TIMES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL DIMENSIONS. PLANS SHALL NOT BE SCALED FOR DIMENSIONS.
- NOTES, TYPICAL DETAILS AND SCHEDULES APPLY TO ALL WORK UNLESS OTHERWISE NOTED. FOR CONDITIONS NOT SPECIFICALLY SHOWN, PROVIDE DETAILS OF SIMILAR NATURE. VERIFY APPLICABILITY BY SUBMITTING SHOP DRAWINGS FOR REVIEW.
- THE CONTRACTOR SHALL PROTECT ALL ADJACENT STRUCTURES AND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OF ALL DAMAGE TO ADJACENT STRUCTURES AND UTILITIES AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR'S STORAGE AREA: DUE TO THE SITE'S WATERFRONT LOCATION, ALL NECESSARY MEASURES SHALL BE TAKEN TO PREVENT BY ANY METHOD, OIL, CONSTRUCTION DEBRIS, STOCKPILED MATERIALS, AND OTHER MATERIALS ON THE SITE, FROM ENTERING THE WATERWAY. ANY DEBRIS FALLING INTO THE WATER SHALL BE RECOVERED AND PROPERLY DISPOSED OF. STAGING/LAYDOWN AREAS, AS APPROVED BY THE ENGINEER, SHALL BE RESTORED BY THE CONTRACTOR TO THE EXISTING CONDITION. THE CONTRACTOR SHALL REPLACE ALL DAMAGED MATERIALS AS A RESULT OF HIS OPERATIONS, TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT ALL CONSTRUCTION DEBRIS OR WASTE FROM FALLING INTO THE WATER. ANY DEBRIS FALLING INTO THE WATER SHALL BE RECOVERED AND PROPERLY DISPOSED OF.
- IN CASE OF CONTRADICTION BETWEEN THE DRAWINGS, THE SPECIFICATIONS, AND THE CODES, OR IF ANY CHANGE IS REQUIRED, THE CONTRACTOR SHALL INFORM THE ENGINEER IMMEDIATELY. NO CHANGE SHALL BE MADE WITHOUT WRITTEN APPROVAL OF THE ENGINEER.
- UPON COMPLETION OF THE PROJECT, CONTRACTOR IS TO PROVIDE TWO AS-BUILT PLAN SETS TO THE OWNER DEPICTING ANY FIELD CHANGES OF DIMENSION OR DETAIL, LOCATION OF UNDERGROUND STRUCTURES AND/OR UTILITIES, CONSTRUCTION DEVIATIONS, CHANGES DUE TO FIELD OR CHANGE ORDER, AND DETAILS NOT ON THE ORIGINAL DRAWINGS.
- SHOP AND ERECTION DRAWINGS FOR ALL WORK SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL AS PER THE SPECIFICATIONS. FABRICATION OF THESE ITEMS SHALL NOT COMMENCE WITHOUT APPROVED SHOP DRAWINGS. SHOP DRAWINGS ARE PREPARED AND USED BY THE CONTRACTOR AS INSTRUMENTS TO SEQUENCE HIS WORK AND TO FACILITATE FABRICATION AND ERECTION. REVIEW OF SHOP DRAWINGS SHALL BE FOR GENERAL DETAIL AND ARRANGEMENT ONLY. CONTRACTOR SHALL BEAR FULL RESPONSIBILITY FOR DIMENSIONS, PROPER FIT, AND DETAILED DESIGN OF CONNECTIONS. THEIR APPROVAL BY THE ENGINEER IS NOT TO BE CONSTRUED AS A WAIVER OF CONSTRUCTION CONTRACT REQUIREMENTS OR RESPONSIBILITIES, UNLESS THE CONTRACTOR HAS BEEN GRANTED A DEVIATION IN WRITING.
- DEMOLITION NOTES:

  - THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS IN THE FIELD PRIOR TO ANY DEMOLITION OR CONSTRUCTION. ANY DISCREPANCIES RELATING TO THE DRAWINGS SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
  - CONTRACTOR TO BE AWARE OF SELECTIVE DEMOLITION AT ALL SECTIONS OF WORK. CONTRACTOR WILL BE RESPONSIBLE FOR REPLACEMENT IN-KIND OF ALL WORK INADVERTENTLY REMOVED AT NO ADDITIONAL COST TO THE OWNER.
  - THE CONTRACTOR SHALL REMOVE ITEMS TO BE DEMOLISHED AS INDICATED ON THE DRAWINGS WITH CARE AND NOT TO DAMAGE ADJACENT STRUCTURES. THE WORK AREA WILL BE LEFT READY TO RECEIVE NEW WORK.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR OFFSITE DISPOSAL OF ALL PROJECT DEMOLITION MATERIAL, TRASH, EXCESS MATERIAL, AND DEBRIS IN ACCORDANCE WITH LOCAL AND STATE LAWS.
  - REFER TO SPECIFICATION SECTION 02100—"DEMOLITION AND REMOVAL" FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

#### CONCRETE NOTES:

- CONCRETE WORK SHALL CONFORM TO THE LATEST EDITION OF ACI 318 - "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" AND THE RHODE ISLAND STATE BUILDING CODE.
- CONCRETE SHALL BE PROPORTIONED, MIXED, AND PLACED UNDER THE SUPERVISION OF THE APPROVED TESTING AGENCY.
- CONCRETE SHALL BE NORMAL WEIGHT, WITH TYPE II CEMENT, AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 4,000 PSI. ALL CONCRETE DESIGN MIXES SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL.
- ALL CONCRETE SHALL BE AIR-ENTRAINED WITH AN AIR CONTENT OF 6% +/- 1%.
- ALL EXPOSED EDGES SHALL BE CHAMFERED 1" UNLESS NOTED OTHERWISE.
- WHEN CONCRETE IS PLACED AGAINST PREVIOUSLY HARDENED CONCRETE, THE INTERFACE SHALL BE CLEAN, FREE OF LAITANCE AND INTENTIONALLY ROUGHENED TO FULL AMPLITUDE OF APPROXIMATELY 1/4 INCH.
- CONCRETE WASHOUT OPERATIONS TO OR WITHIN THE WATERWAY MUST NOT TAKE PLACE AT ANY TIME.

#### CONCRETE REINFORCING NOTES:

- REINFORCING BARS SHALL BE DETAILED IN ACCORDANCE WITH ACI 315 - "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT" AND THE RHODE ISLAND STATE BUILDING CODE.
- COMPLETE SHOP DRAWINGS AND SCHEDULES OF ALL REINFORCING STEEL SHALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO COMMENCEMENT OF THAT PORTION OF THE WORK. ALL ACCESSORIES MUST BE SHOWN ON THE SHOP DRAWINGS.
- REINFORCING BARS SHALL BE EPOXY COATED AND CONFORM TO ASTM A615 OR A706 (WELDABLE) GRADE 60.
- ALL SUPPORTS SUCH AS CHAIRS, BOLSTERS, SPACERS, BLOCKS AND HANGERS SHALL BE OF NON-CORROSION MATERIAL. BLOCKS SHALL BE MADE OF 4,000 PSI (UN-REINFORCED) CONCRETE.
- UNLESS NOTED ON THE DRAWINGS, THE MINIMUM CONCRETE PROTECTION (CLEAR COVER) FOR CAST-IN-PLACE CONCRETE COVER SHALL BE AS FOLLOWS:
  - FORMED CONCRETE EXPOSED TO EARTH OR WATER: 3"
  - CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3"
- MINIMUM REINFORCEMENT DEVELOPMENT LENGTH SHALL BE IN ACCORDANCE WITH ACI 318 UNLESS NOTED ON THE DRAWINGS. LAP SPLICE LENGTHS SHALL BE IN ACCORDANCE WITH ACI 318 FOR CLASS B SPLICES UNLESS NOTED OTHERWISE.
- ALL REINFORCEMENT SHALL BE CONTINUOUS THROUGH CONSTRUCTION JOINTS. UNLESS NOTED OTHERWISE, BARS SHALL BE CONTINUOUS AND SHALL RUN CONTINUOUSLY AROUND CORNERS AND LAPPED AT NECESSARY SPLICES OR HOOKED AT DISCONTINUOUS ENDS.

#### LUMBER NOTES:

- ALL NEW LUMBER SHALL BE SOUTHERN YELLOW PINE NO. 1 OR BETTER ( $I/b=1,200$  PSI).
- NEW LUMBER SHALL BE PRESSURE TREATED TO A MINIMUM NET RETENTION OF 2.5 PCF OF CCA IN ACCORDANCE WITH AWPA STANDARD C18 UNLESS OTHERWISE NOTED.
- ALL FIELD CUTS AND BOLT HOLES SHALL BE PROTECTED IN ACCORDANCE WITH AWPA STANDARD M4.
- LUMBER DIMENSIONS PROVIDED IN THE PLANS ARE DRESSED SIZES UNLESS SPECIFIED OTHERWISE.

#### SPILL PREVENTION CONTROL NOTES:

- SPILLS AND LEAKS SHALL BE AVOIDED THROUGH FREQUENT INSPECTION OF EQUIPMENT AND MATERIAL STORAGE AREAS, AND SHALL BE REMEDIATED AND REPAIRED AS NECESSARY.
- HAZARDOUS MATERIAL STORAGE TO BE PLACED ONLY IN DESIGNATED AREAS. MATERIAL STORAGE AREAS SHALL BE ROUTINELY INSPECTED FOR LEAKY CONTAINERS, OPEN CONTAINERS, OR IMPROPER STORAGE TECHNIQUES THAT MAY LEAD TO SPILLS OR LEAKS.
- APPROPRIATE SPILL REMEDIATION PROCEDURES AND SUPPLIES SHALL BE READILY AVAILABLE ON-SITE. TOOLS AND SUPPLIES SHALL BE CLEARLY MARKED SO THAT ALL PERSONNEL CAN LOCATE AND ACCESS THESE SUPPLIES.
- SPILL REMEDIATION SHALL BE PERFORMED IMMEDIATELY. CONTRACTOR SHALL FOLLOW PROPER RESPONSE PROCEDURES IN ACCORDANCE WITH ANY APPLICABLE REGULATORY REQUIREMENTS.
- AT NO TIME SHALL SPILLS BE DIVERTED TOWARD STORM DRAINS OR TO THE WATERWAY.
- EQUIPMENT/VEHICLE FUELING AND REPAIR/MAINTENANCE OPERATIONS SHALL TAKE PLACE ONLY WITHIN DESIGNATED STAGING AREAS.
- THE EQUIPMENT OPERATOR SHALL FULLY MONITOR FUELING OPERATIONS TO EQUIPMENT AND VEHICLES AT ALL TIMES.
- ANY SPILLAGE SHALL BE IMMEDIATELY CLEANED WITH SPILL KITS KEPT ON SITE.
- IN THE CASE OF SMALL AMOUNTS OF SOIL CONTAMINATION, SUCH SOIL SHALL BE PLACED IN 55 GALLON DRUMS FOR DISPOSAL BY A LICENSED HAZARDOUS WASTE HAULER AT NO ADDITIONAL COST TO THE OWNER.
- IN THE CASE OF A LARGE AMOUNT OF SOIL CONTAMINATION OR DISCHARGE TO THE WATERWAY, RHODE ISLAND DEM AND APPLICABLE AGENCIES SHALL BE NOTIFIED AS REQUIRED. A HAZARDOUS WASTE REMEDIATION FIRM SHALL BE CONTRACTED TO REMOVE AND DISPOSE OF THE CONTAMINATED MATERIAL OR CONTAIN THE SPILL AT NO ADDITIONAL COST TO THE OWNER.

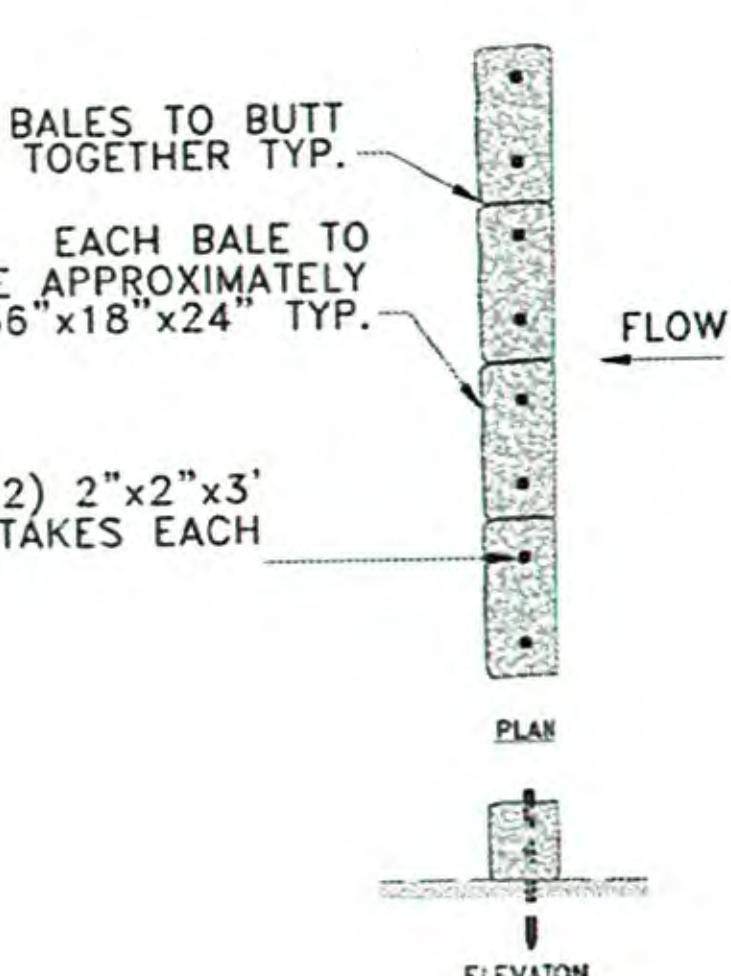
#### EROSION CONTROL NOTES:

- EROSION AND SEDIMENT CONTROLS TO BE INSTALLED AS REQUIRED FOR AND AS DETERMINED BY THE ENGINEER, OWNER, OR REGULATORY AGENCY.
- CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL DEVICES FOR THE DURATION OF THE PROJECT.
- CONTRACTOR SHALL PREVENT SEDIMENT FROM ENTERING THE WATERWAY VIA DISCHARGES THROUGH ANY DRAINAGE STRUCTURES OR RUNOFF FROM WITHIN THE LIMITS OF WORK.
- CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING, RESTORING AND REPAIRING ALL DAMAGE AS A RESULT OF UNAUTHORIZED WORK OR DISCHARGES AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL INSTALL AND MAINTAIN TURBIDITY BARRIERS AS INDICATED IN THE CONTRACT DOCUMENTS. TURBIDITY BARRIERS SHALL BE ANCHORED SECURELY AS TO ENSURE COLLECTION OF SEDIMENT AND ENABLE THE WORK TO BE PERFORMED.
- SOIL STOCKPILES SHALL BE A MINIMUM OF 2 FEET FROM THE EDGE OF THE WALL TO LIMIT RUNOFF INTO THE HARBOR.
- THE LIMITS OF EROSION CONTROL BARRIERS SHALL BE ADJUSTED OR EXPANDED AS FIELD CONDITIONS WARRANT.
- ALL EROSION CONTROL BARRIERS SHALL BE INSPECTED AT LEAST ONCE PER WEEK. ANY DAMAGED AREAS OF THE EROSION CONTROL BARRIER SHALL BE REPAIRED WITHIN 24 HOURS OF DISCOVERY.
- DISCHARGE OF TURBID WATER TO THE WATERWAY IS PROHIBITED.
- THE TURBIDITY BARRIER SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF WORK AND SHALL REMAIN IN PLACE UNTIL ALL PILES ARE INSTALLED AND FALSEWORK/FORMWORK ARE REMOVED.

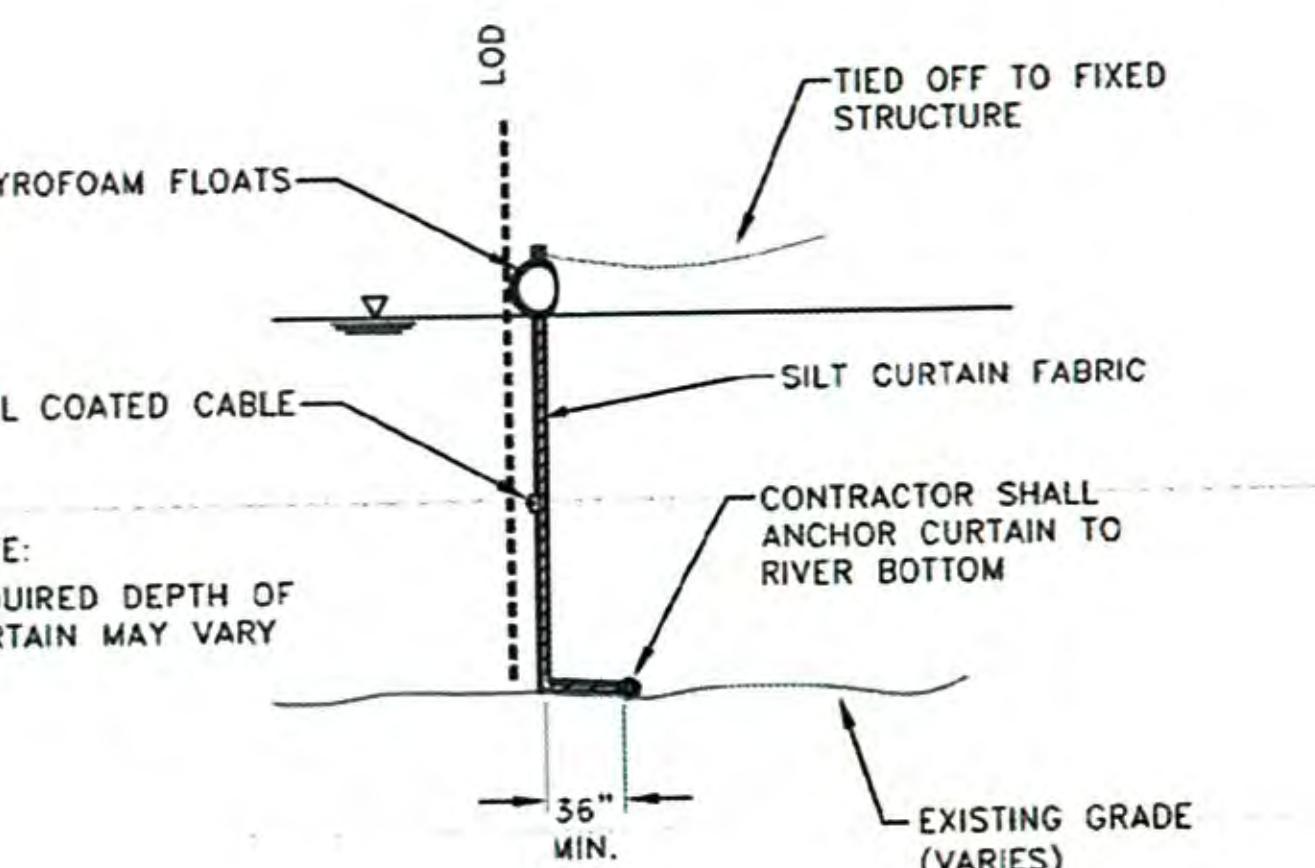
#### GENERAL SCOPE OF WORK:

- PRIOR TO PROJECT COMMENCEMENT, NOTIFY AND COORDINATE WITH ALL STATE, LOCAL AND FEDERAL AUTHORITIES AS REQUIRED. DETERMINE TEMPORARY LOCATIONS AND COORDINATE TEMPORARY RELOCATION OF EXISTING VESSELS AS NECESSARY IN ORDER TO PERFORM CONSTRUCTION OPERATIONS.
- MOBILIZE CONSTRUCTION EQUIPMENT AND PERSONNEL TO THE SITE. UTILIZATION OF A STAGING AREA WILL BE COORDINATED WITH THE TOWN OF BRISTOL AS APPROPRIATE AND AS NECESSARY. WATERSIDE BARGE OPERATIONS SHALL BE COORDINATED WITH THE TOWN OF BRISTOL.
- INSTALL NEW CONCRETE AND TIMBER FLOATING DOCK SYSTEM WITH NEW ALUMINUM GANGWAY.
- INSTALL NEW ELECTRIC/WATER SERVICE AND DRY FIRE LINE TO THE FLOATING DOCKS, INCLUDING TYPE G CABLEING AND UTILITY PEDESTALS.
- RELOCATE EXISTING FLAGPOLE AND PICNIC TABLES AND PROVIDE NEW BENCHES AND LITTER/RECYCLING RECEPTACLES AS INDICATED ON THE DRAWINGS.
- PERFORM SITE CLEANUP AND FINAL WALK THROUGH WITH KEY PROJECT PERSONNEL UPON COMPLETION.
- COMPLETE DEMOBILIZATION AND PROJECT CLOSEOUT.

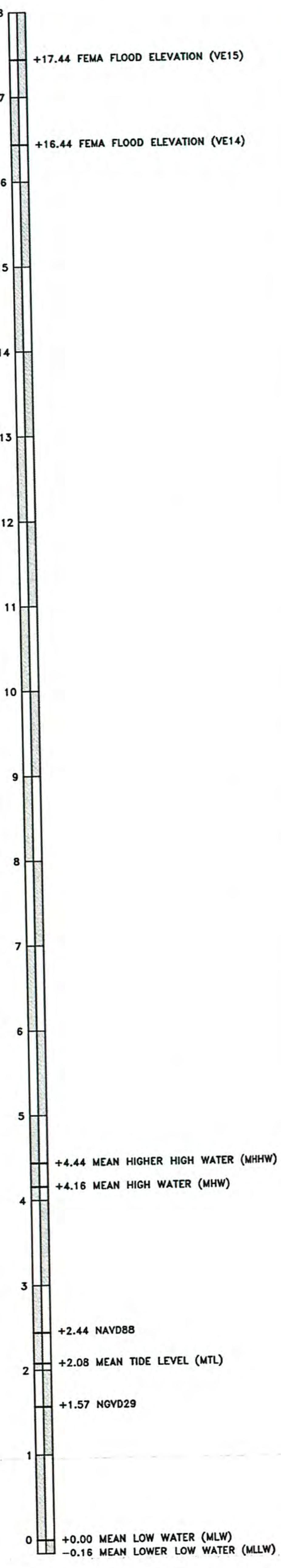
LEGEND	
BUILDING	
BOULDER SEA WALL	
GRAVEL PARKING	
CONCRETE PAD	
CONC./STONE RETAINING WALL	
WOOD WAVE FENCE	
CURBING	
CHAIN LINK FENCE	
CONTOUR MAJOR	
CONTOUR MINOR	
x 6.75'	
SPOT GRADE	
BOULARD	
WOOD POST	
BENCHMARK	
MHW .	MEAN HIGH WATER
MLW .	MEAN LOW WATER
—	EXISTING WATER LINE
—▼—	PROPOSED WATER LINE
—▲—	PROPOSED ELECTRIC LINE
—■—	PROPOSED DRY FIRE LINE
□	PROPOSED UTILITY PEDESTAL
■	PROPOSED WATER STANCHION



TYPE 1 EROSION CONTROL  
NOT TO SCALE



TURBIDITY BARRIER DETAIL  
NOT TO SCALE



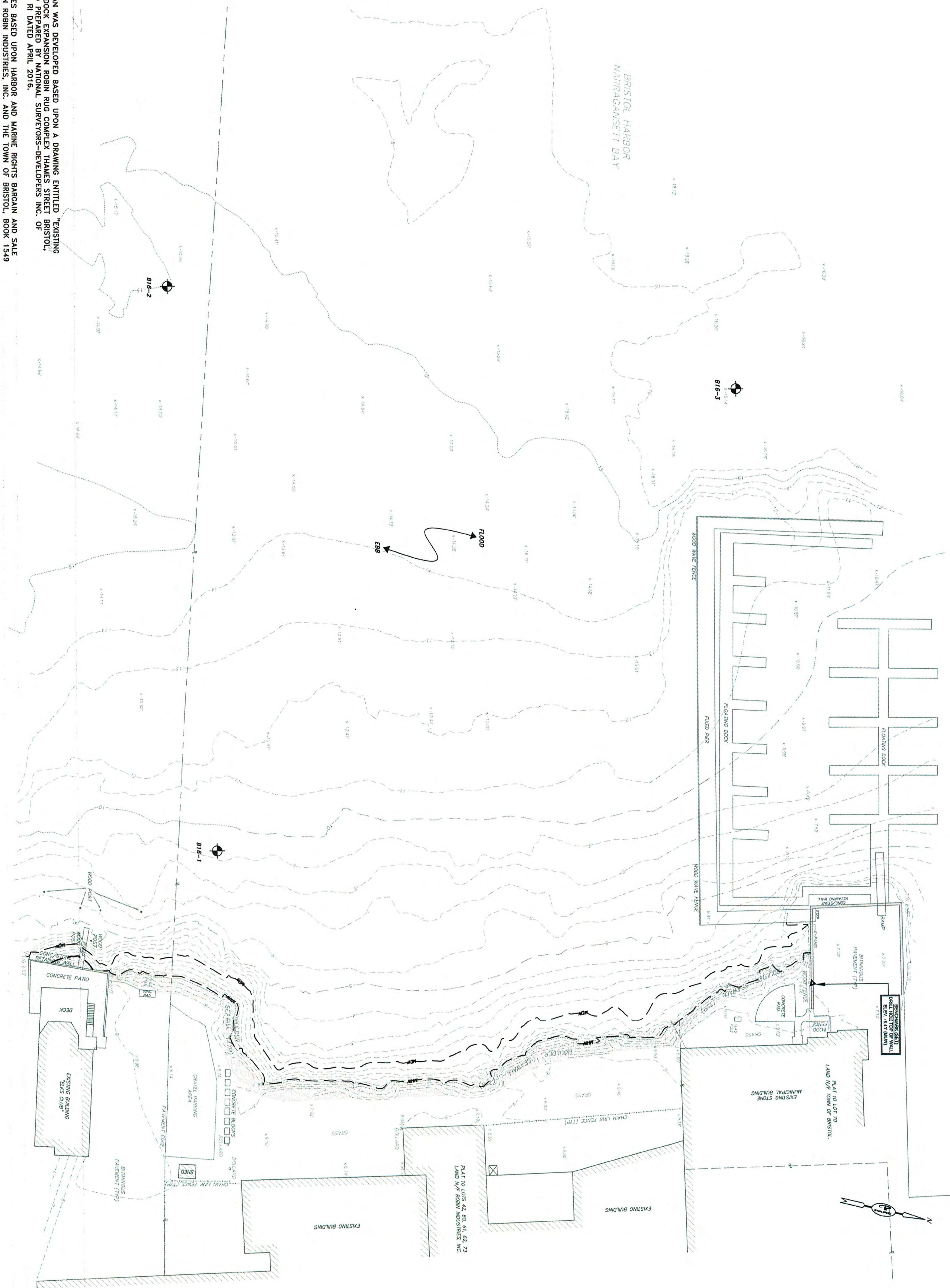
BENCHMARK DISK: 1929E1977  
ELEV. 6.33 (NAVD88)  
TIDAL STATION 8451929

REVISIONS:	
PROJECT NO.:	16136.00
DATE:	APRIL 2019
SCALE:	AS NOTED
DESIGNED BY:	DJG
CHECKED BY:	RMM
DRAWN BY:	LMC/DJG
APPROVED BY:	JMB
GENERAL NOTES AND LEGEND	
SHEET NO.:	1.0
SHEET NO.:	2 OF 10

PERMIT SUBMISSION  
NOT FOR CONSTRUCTION

**EXISTING SITE PLAN**

SCALE: 1"=30'

PERMIT SUBMISSION  
NOT FOR CONSTRUCTION

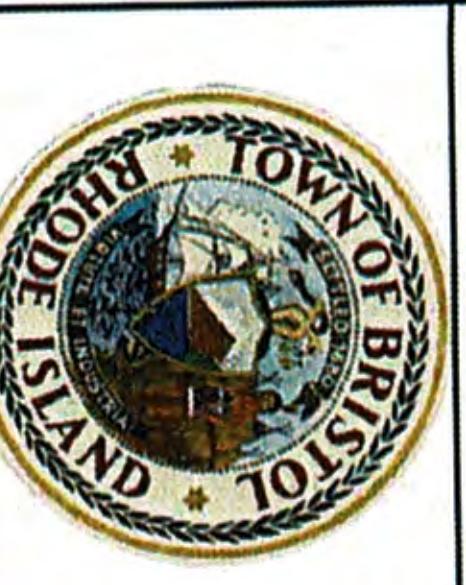
SHEET NO.: 2.0 OF 10

**CHURCH STREET DOCK EXPANSION**

BRISTOL, RHODE ISLAND

TOWN OF BRISTOL

SCALE ADJUSTMENT  
GUIDE  
0" 1"  
BAR IS ONE INCH ON  
ORIGINAL DRAWING.



**PARE**  
ENGINEERS, SURVEYORS-PLANERS  
10 INCH ROAD SURVEYS  
FORBROOK, MA 01003  
508-931-7753

REVISIONS	
PROJECT NO.:	16136.00
DATE:	NOVEMBER 2019
SCALE:	AS NOTED
DESIGNED BY:	DIG
CHECKED BY:	RMM
DRAWN BY:	LM/C/DG
APPROVED BY:	JMB
EXISTING SITE PLAN	
SHEET NO.:	3 OF 10



SCALE ADJUSTMENT  
GUIDE  
0' 1'  
BAR IS ONE INCH ON  
ORIGINAL DRAWING.

BRISTOL, RHODE ISLAND  
TOWN OF BRISTOL

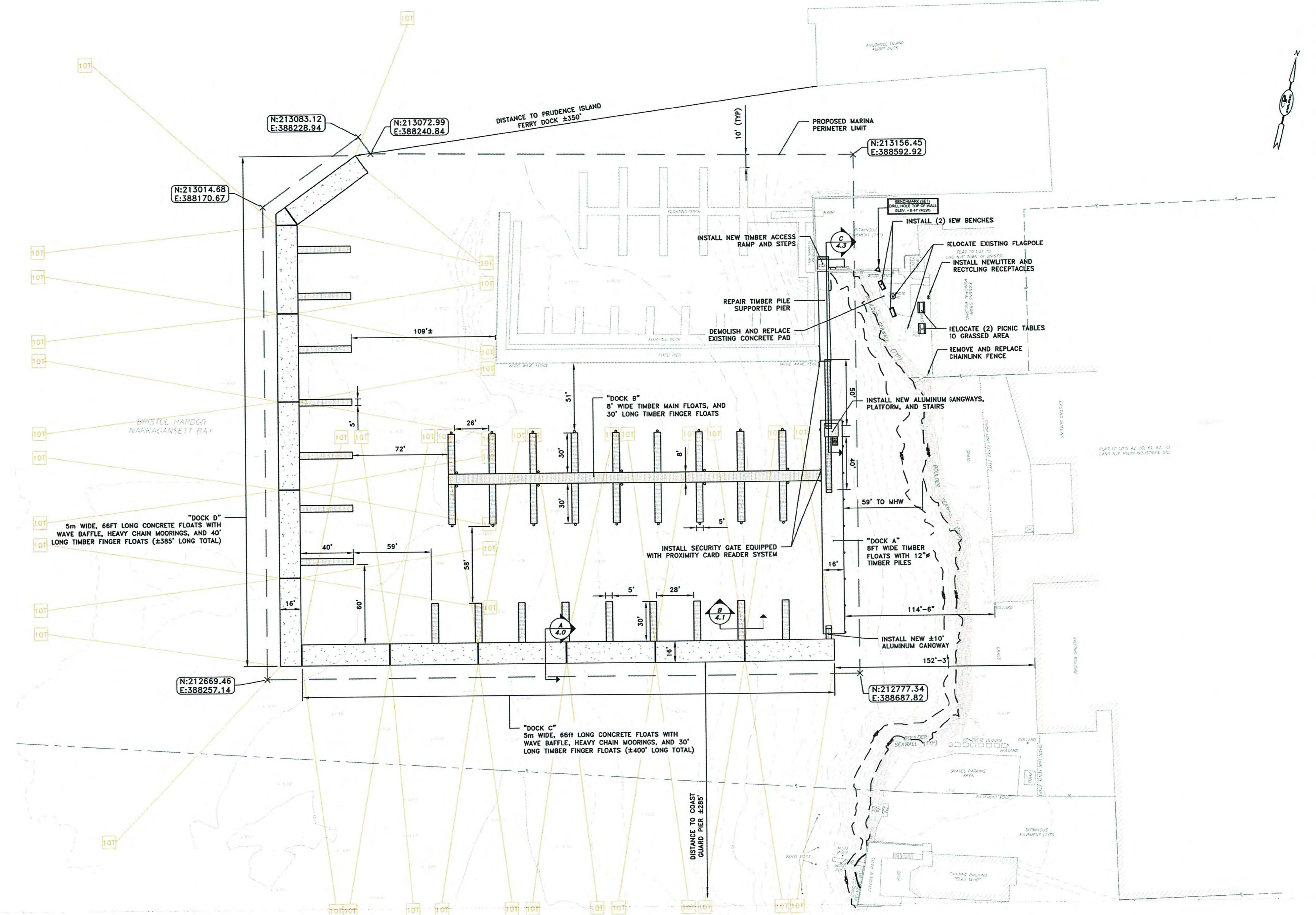
### CHURCH STREET DOCK EXPANSION

#### PROPOSED FLOAT SCHEDULE

LOCATION	TYPE	DIMENSION	QUANTITY
A	TIMBER	8'X20'	8
B	TIMBER	8'X20'	14
B	TIMBER	5'X30'	18
C	TIMBER	5'X30'	9
C	CONCRETE	16'X66'±	6
D	TIMBER	5'X40'	7
D	CONCRETE	16'X66'±	6

#### PROPOSED SLIP SPACES

LOCATION	LENGTH	BEAM	QUANTITY
B	30'	26'	38
C	30'	28'	18
C	75'	-	5
D	40'	16'	1
D	40'	35'	12
D	40'	60'	2
D	100'	-	3
TOTAL			79



#### NOTES:

- LAYOUT SHOWN ASSUMES USE OF 2" ABS RATED STUD LINK CHAIN AND 10 TON CONCRETE ANCHOR BLOCKS FOR MOORING FLOATING BREAKWATER.
- CHAIN SIZE RANGING FROM 1 1/2" TO 2 1/2" MAY BE USED AFTER CONSULTING WITH FLOAT MANUFACTURER.
- DISTANCE TO OPPOSITE SHORELINE APPROXIMATELY 3,000 FEET.

#### PROPOSED SITE PLAN

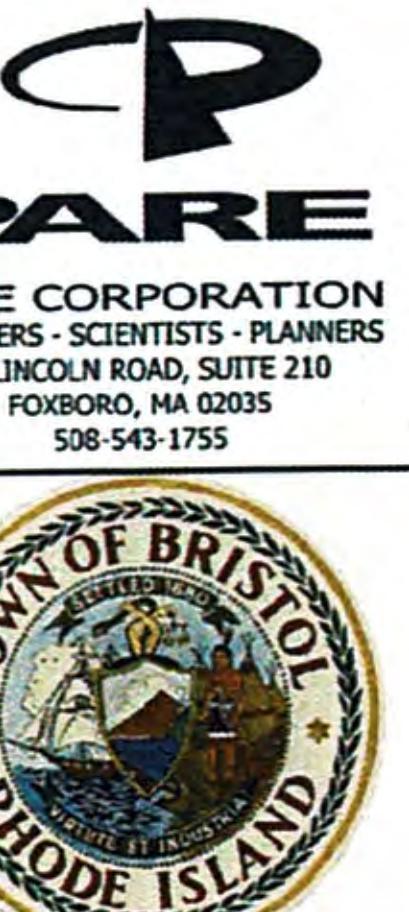
SCALE: 1"=40'

PERMIT SUBMISSION  
NOT FOR CONSTRUCTION

PROJECT NO.: 16136.00  
DATE: NOVEMBER 2019  
SCALE: AS NOTED  
DESIGNED BY: DJG  
CHECKED BY: RMM  
DRAWN BY: LMC/DIG  
APPROVED BY: JMB

PROPOSED  
SITE PLAN

SHEET NO.: 3.0  
SHEET NO.: 4 OF 10



PARE  
CORPORATION  
ENGINEERS - SCIENTISTS - PLANNERS  
10 LINCOLN AVENUE, SUITE 210  
FOXBORO, MA 02035  
508-543-1755

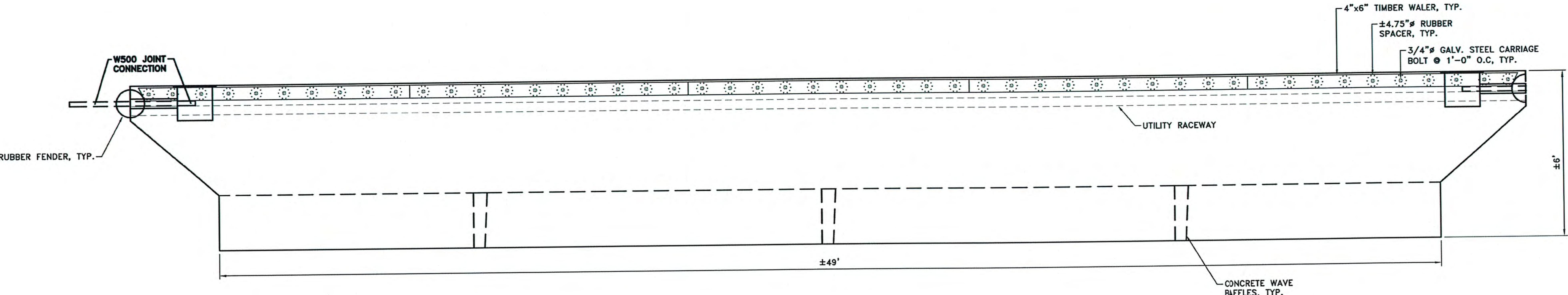


SCALE ADJUSTMENT  
GUIDE  
0' 1'  
BAR IS ONE INCH ON  
ORIGINAL DRAWING.

### CHURCH STREET DOCK EXPANSION

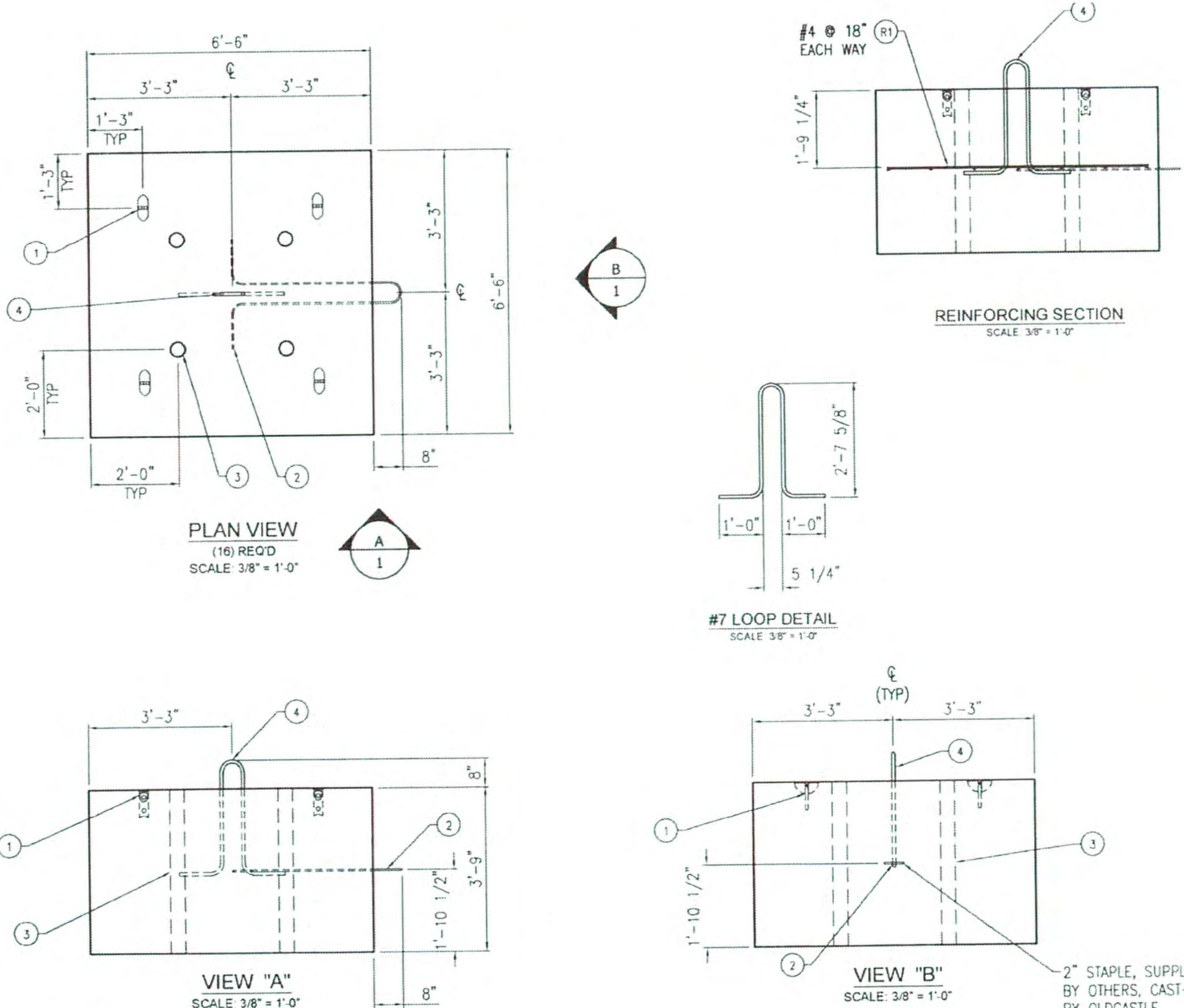
BRISTOL, RHODE ISLAND

TOWN OF BRISTOL



### PROPOSED CONCRETE FLOAT SECTION

SCALE: 1" = 2'

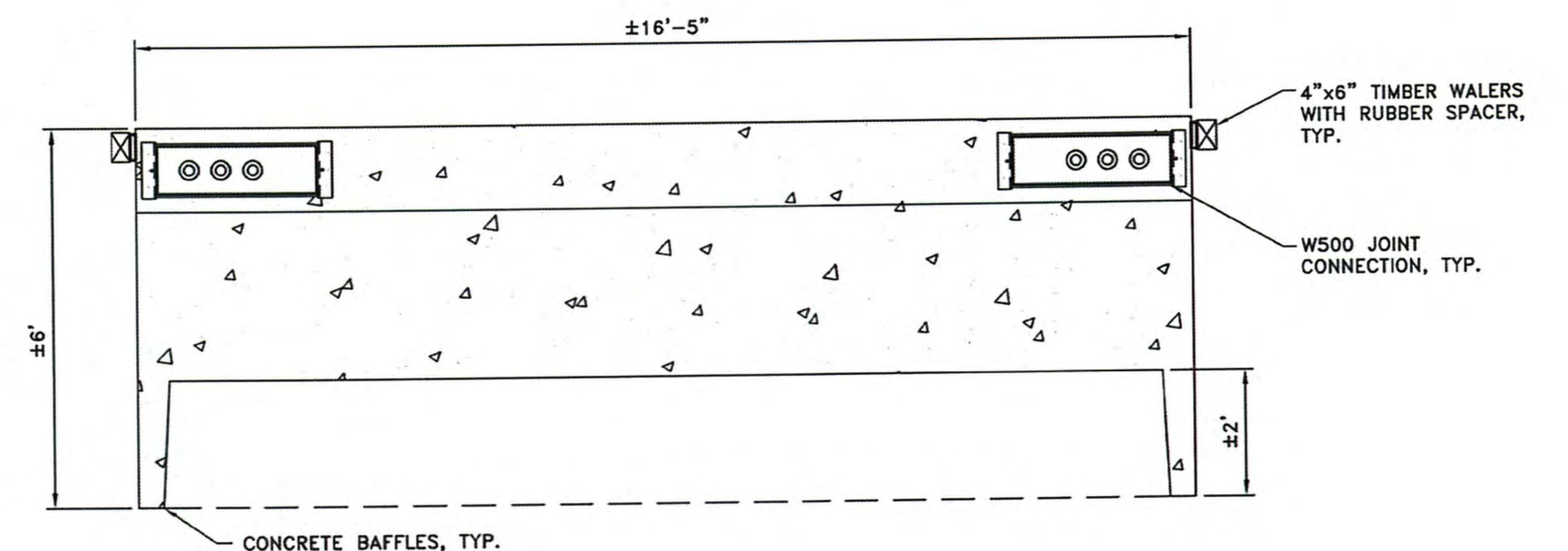


#### NOTES:

1. CONCRETE STRENGTH SHALL BE 5000 PSI @ 28 DAYS.
2. STEEL REINFORCEMENT SHALL BE EPOXY COATED ASTM A615, GRADE 60.
3. REINFORCEMENT COVER SHALL BE 3" MINIMUM.

### CONCRETE ANCHOR BLOCK DETAILS

NOT TO SCALE

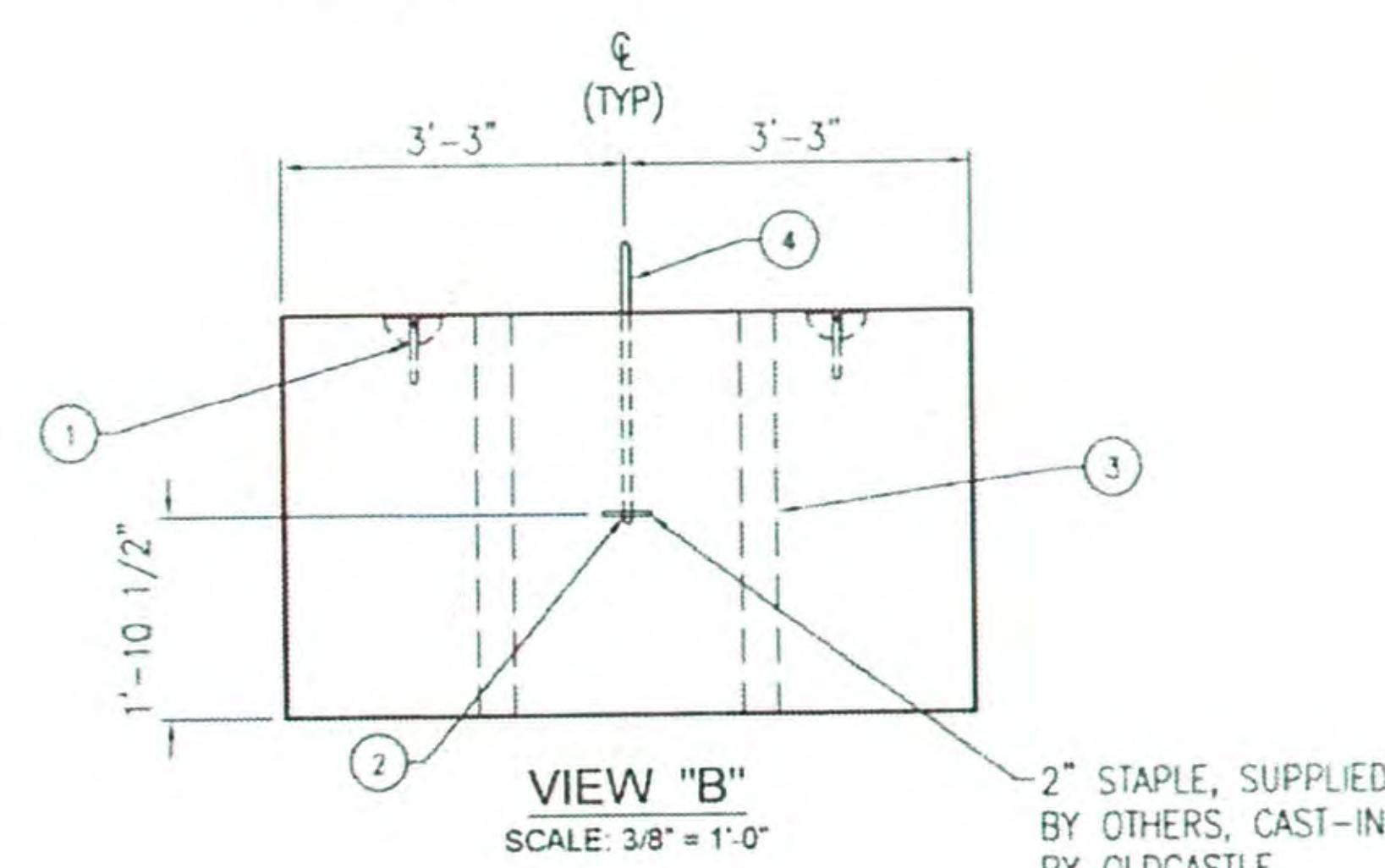


#### NOTES:

1. CONCRETE FLOATS SHALL BE SF MARINA SF500 SERIES OR APPROVED EQUIVALENT.
2. ALL HINGES, PLATES, BOLTS, AND APPURTENANT HARDWARE TO BE GALVANIZED A36 STEEL.
3. CONCRETE FLOAT DESIGNED FOR WAVE IN WEST DIRECTION WITH 4.9 FT HEIGHT AND 4.5 SEC PERIOD.
4. CONCRETE FLOAT SHALL HAVE A BUOYANCY OF 102LB/FT<sup>2</sup>.
5. CONCRETE SHALL BE REINFORCED WITH MINIMUM NPS 500 STEEL FABRIC OR APPROVED EQUIVALENT.
6. STYROFOAM CORE SHALL HAVE A MINIMUM PRESSURE OF 8.7 PSI.

### CONCRETE FLOAT SECTION

SCALE: 1"=2"



REVISIONS:	

PROJECT NO.:	16136.00
DATE:	NOVEMBER 2019
SCALE:	AS NOTED
DESIGNED BY:	DJG
CHECKED BY:	RMM
DRAWN BY:	LMC/DJG
APPROVED BY:	JMB

PROPOSED CONCRETE FLOAT SECTIONS AND DETAILS

SHEET NO.:

4.0

SHEET NO.: 5 OF 10

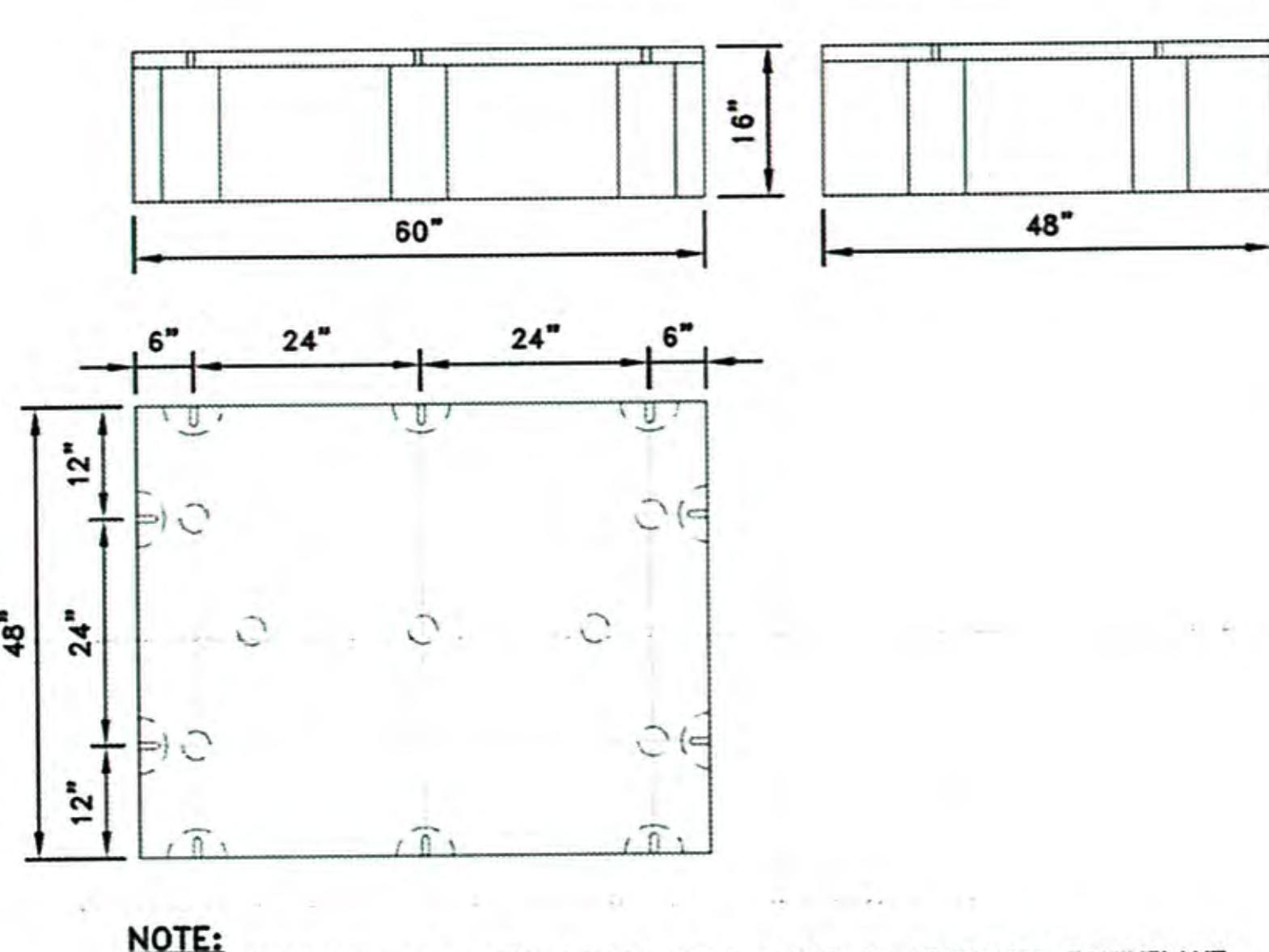
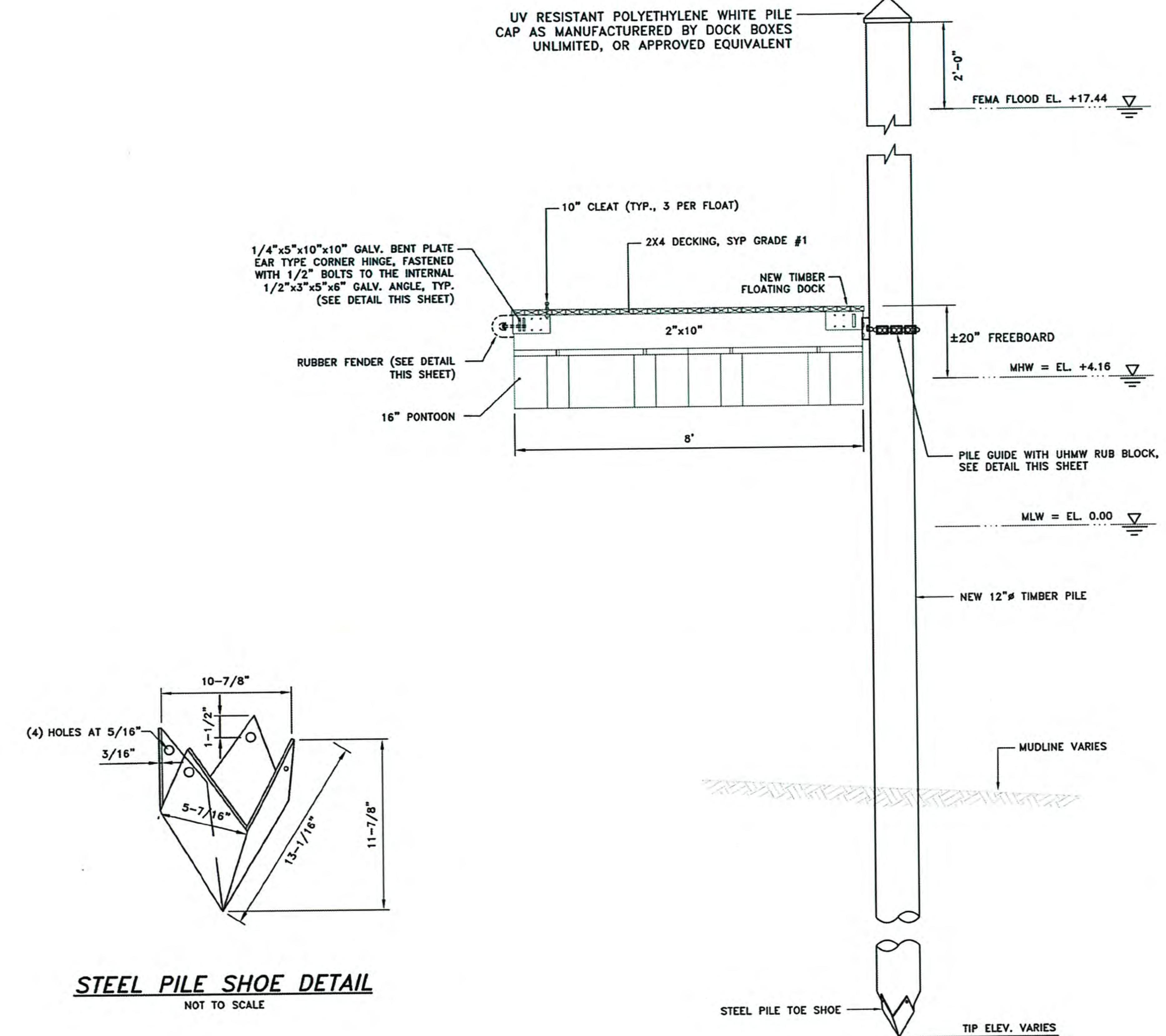
PERMIT SUBMISSION  
NOT FOR CONSTRUCTION



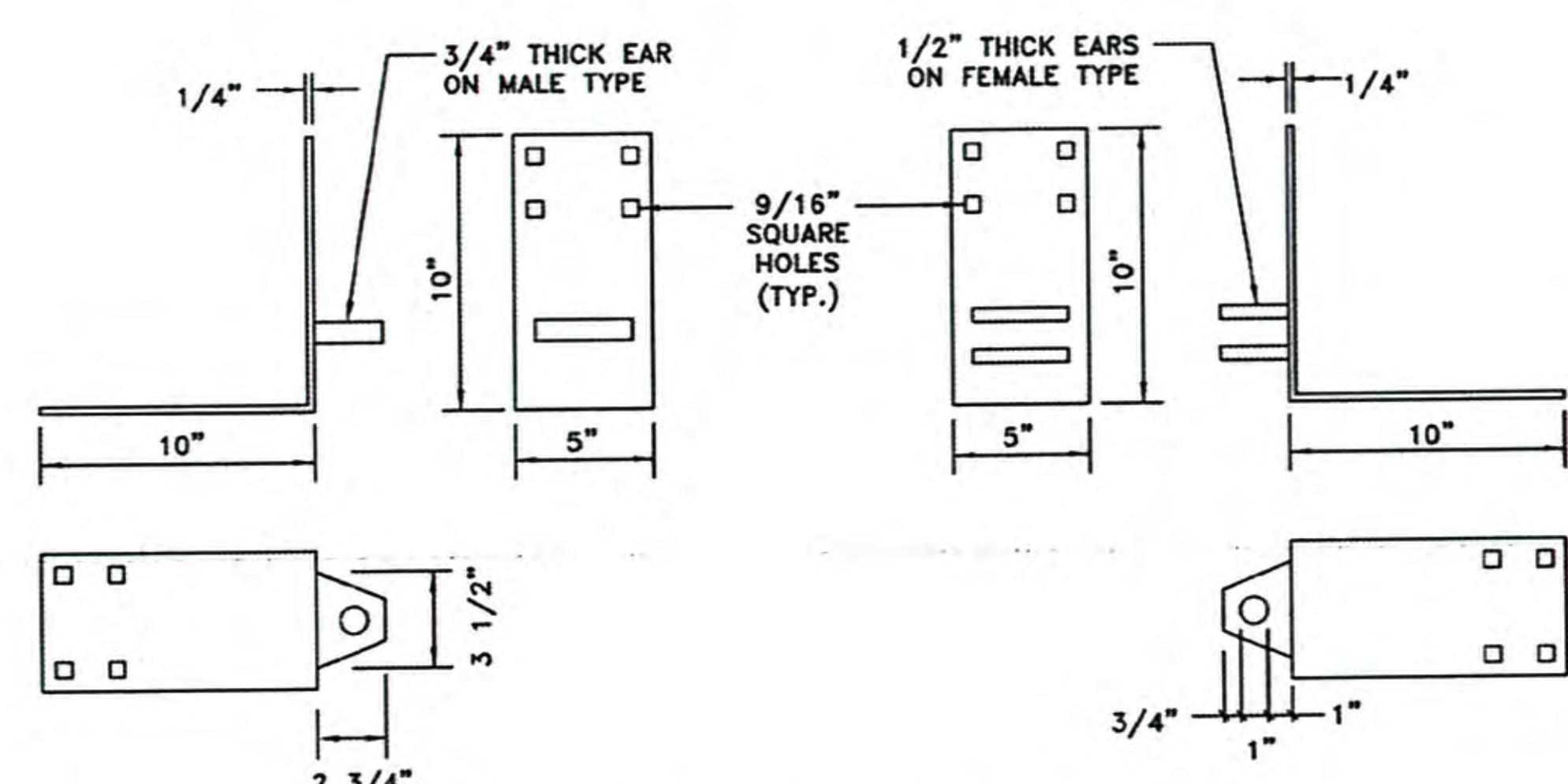
SCALE ADJUSTMENT  
GUIDE  
0" 1"  
BAR IS ONE INCH ON  
ORIGINAL DRAWING.

BRISTOL, RHODE ISLAND  
TOWN OF BRISTOL

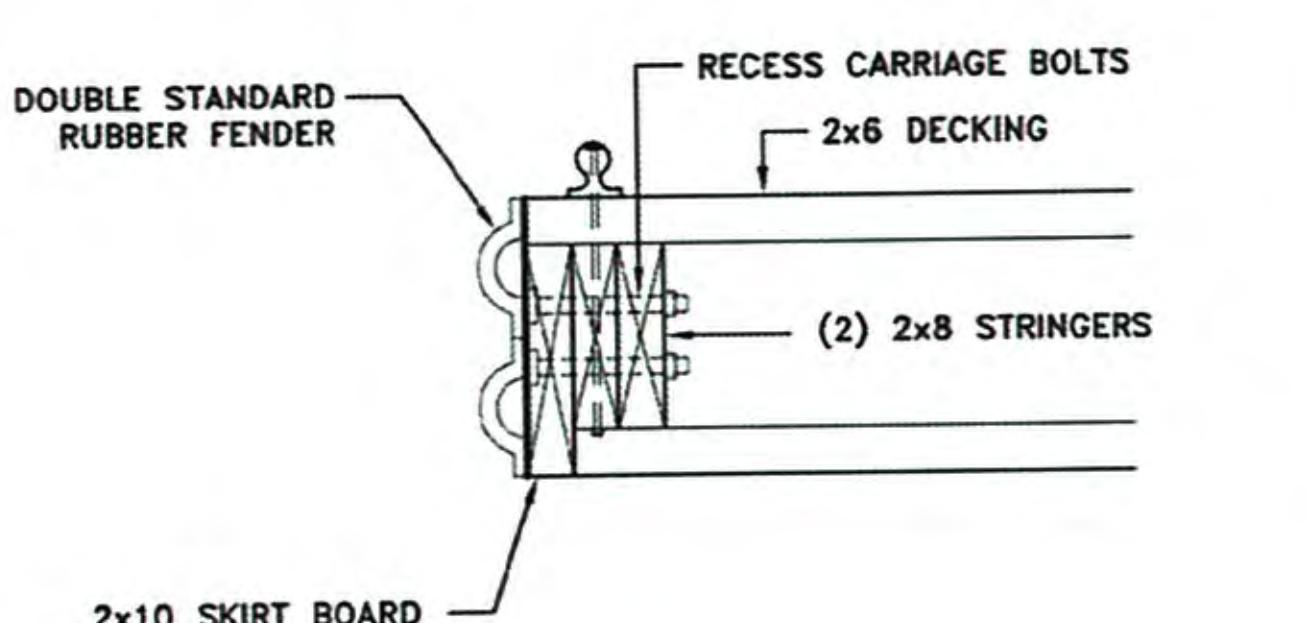
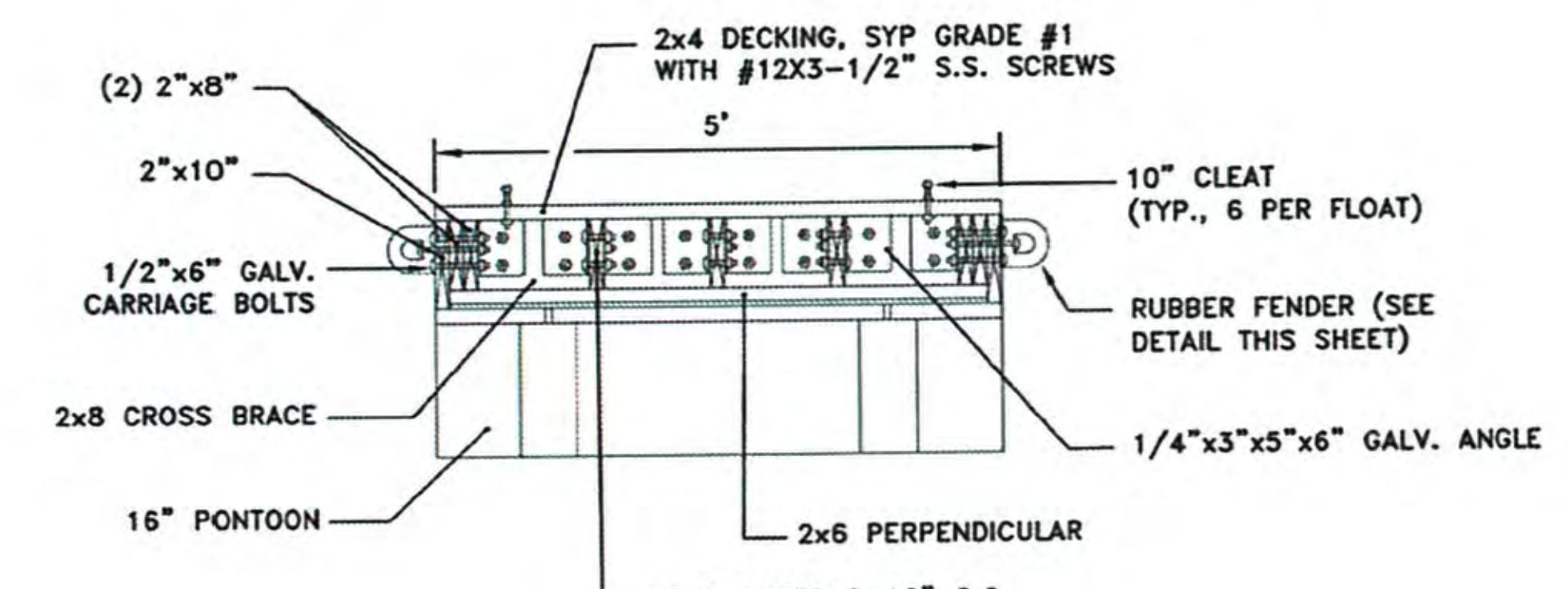
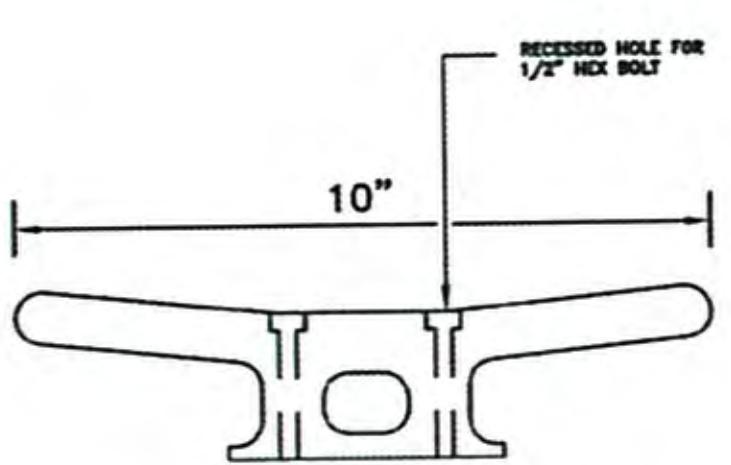
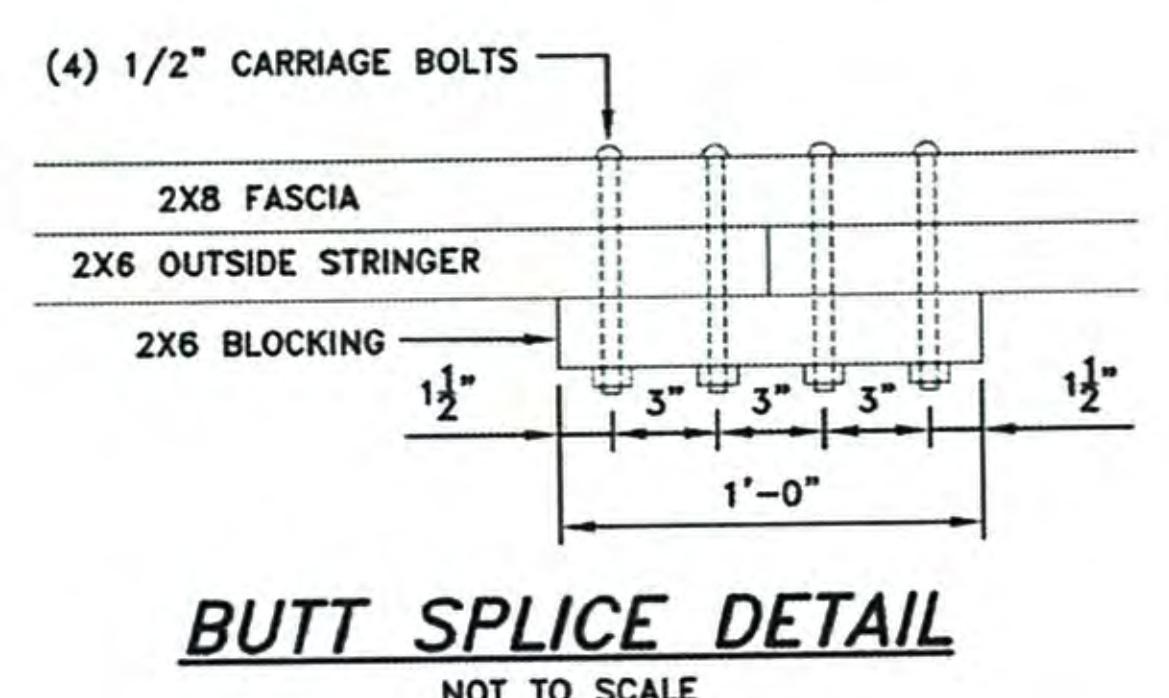
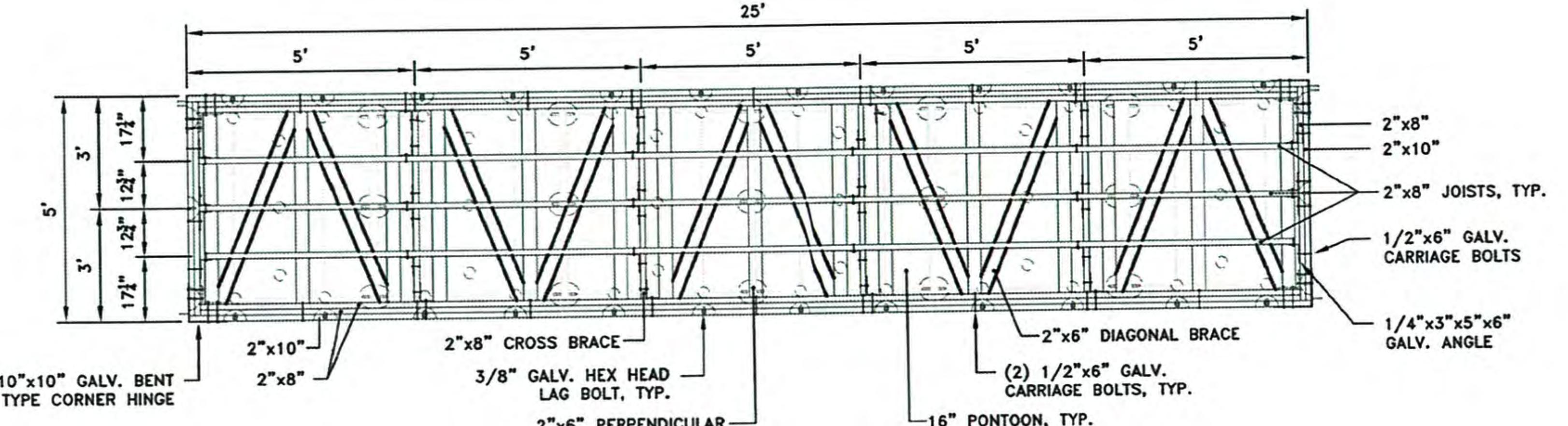
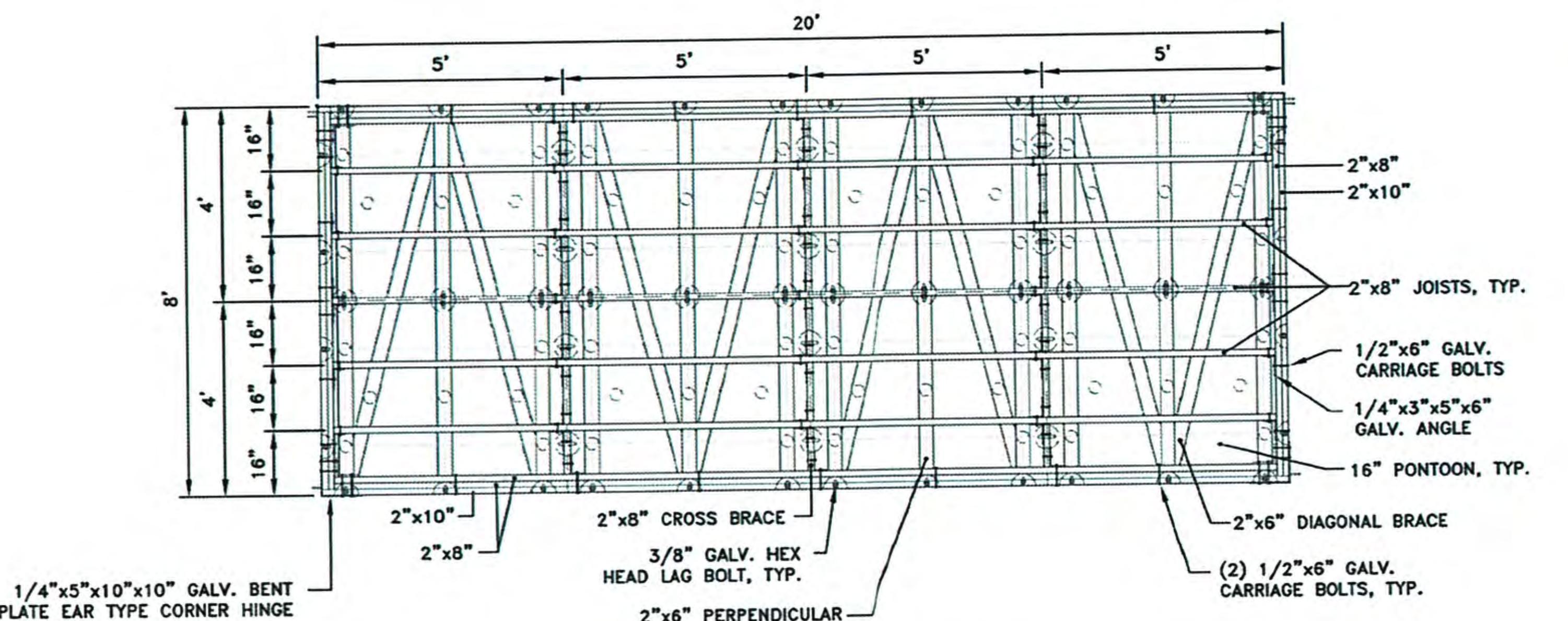
## CHURCH STREET DOCK EXPANSION



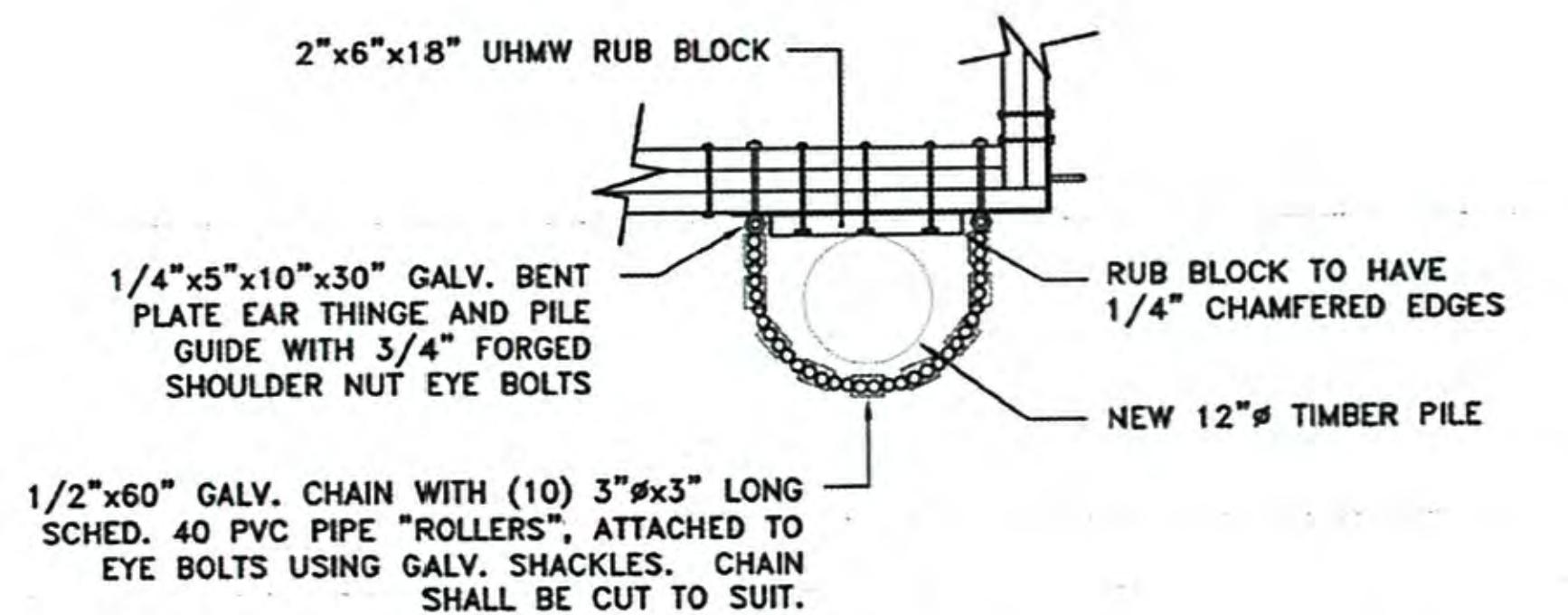
PONTOON DETAILS  
SCALE: 1" = 2"



FLOAT HINGE DETAILS  
SCALE: 1" = 1"



NOTE:  
PROVIDE RUBBER FENDERS ALONG ALL DOCKING SIDES OF THE FLOATS.



TIMBER FLOAT PILE GUIDE DETAILS  
SCALE: 1" = 2"

**PERMIT SUBMISSION  
NOT FOR CONSTRUCTION**

4.1

SHEET NO.: 6 OF 10

PROJECT NO.: 16136.00  
DATE: NOVEMBER 2019  
SCALE: AS NOTED  
DESIGNED BY: DJG  
CHECKED BY: RMM  
DRAWN BY: LMC/DJG  
APPROVED BY: JMB  
PROPOSED  
TIMBER FLOAT  
SECTIONS AND DETAILS

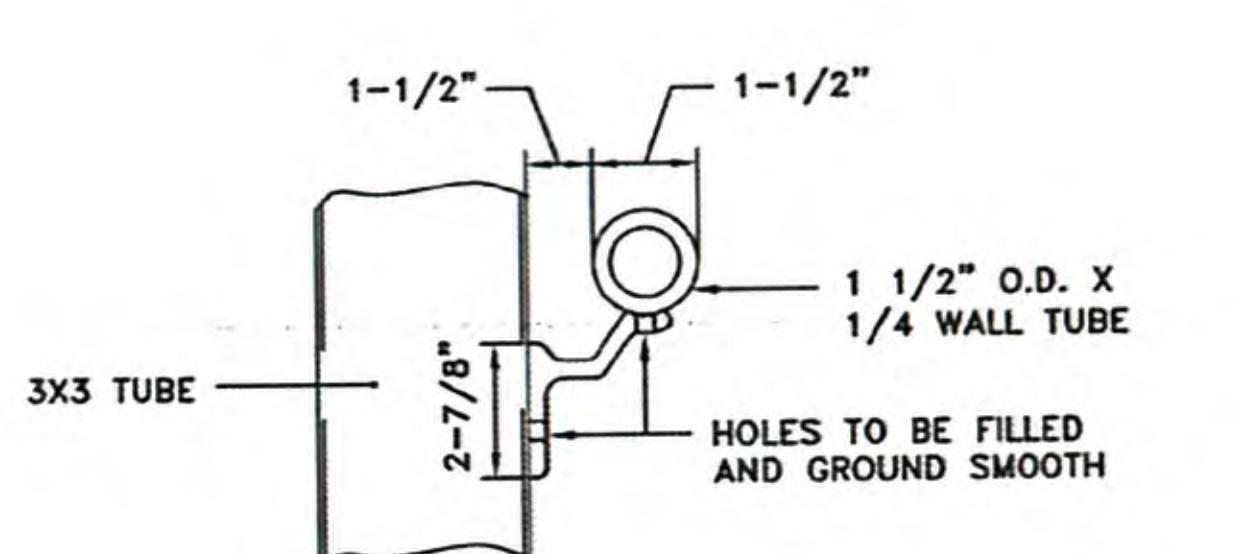
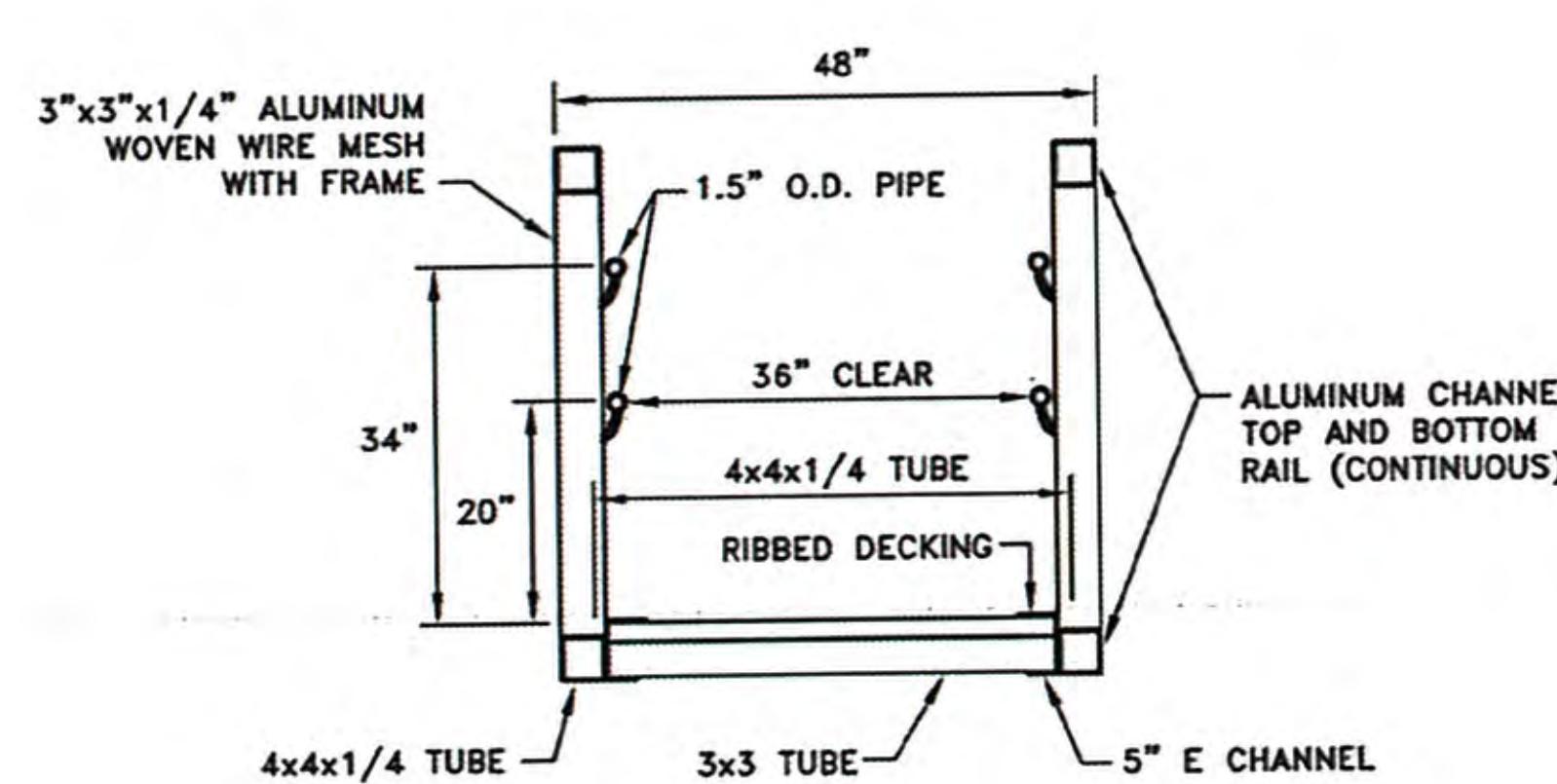
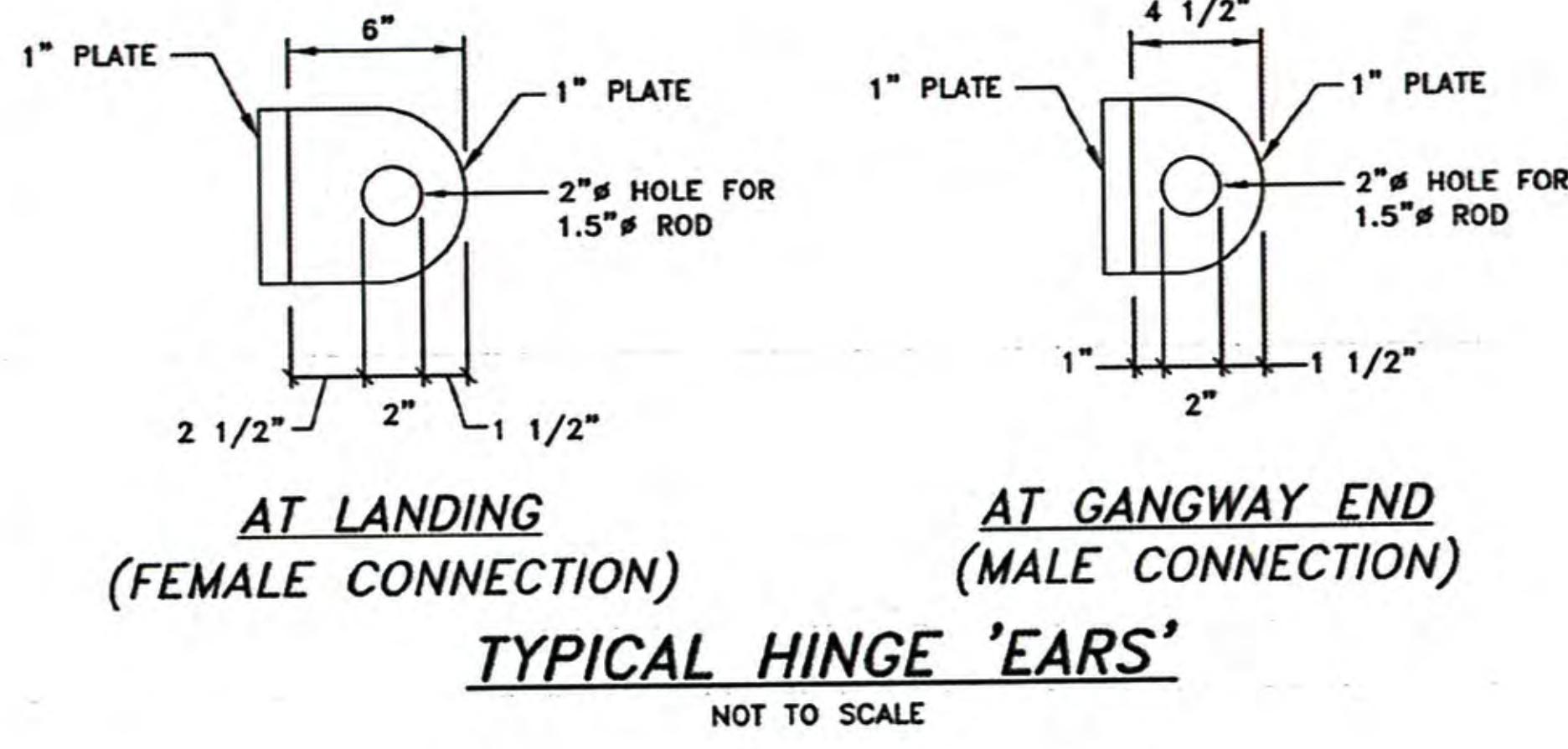
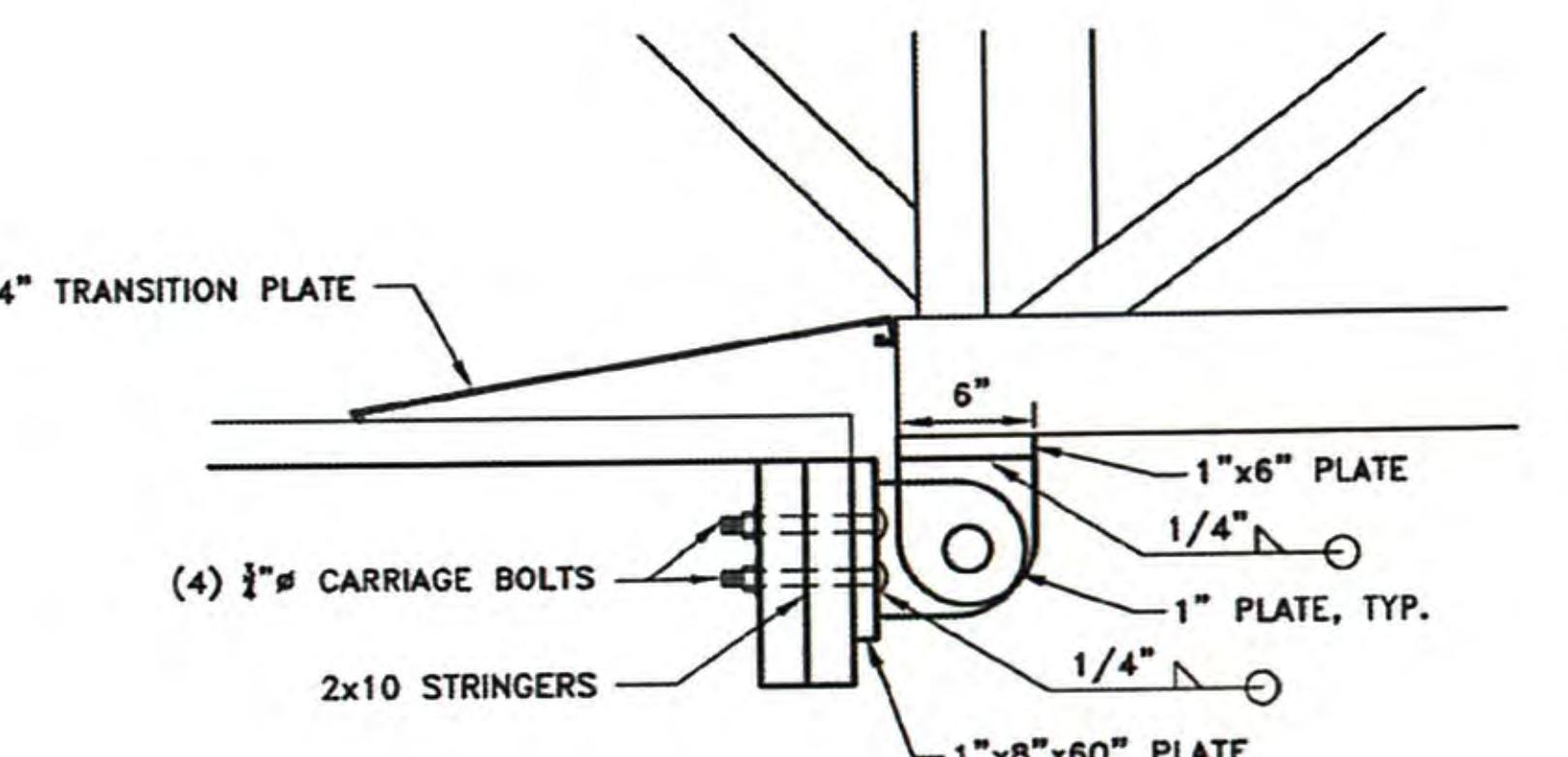
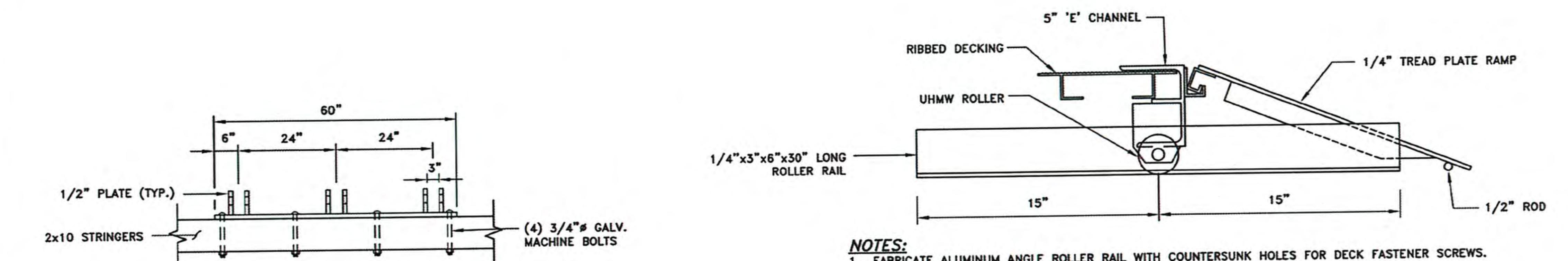
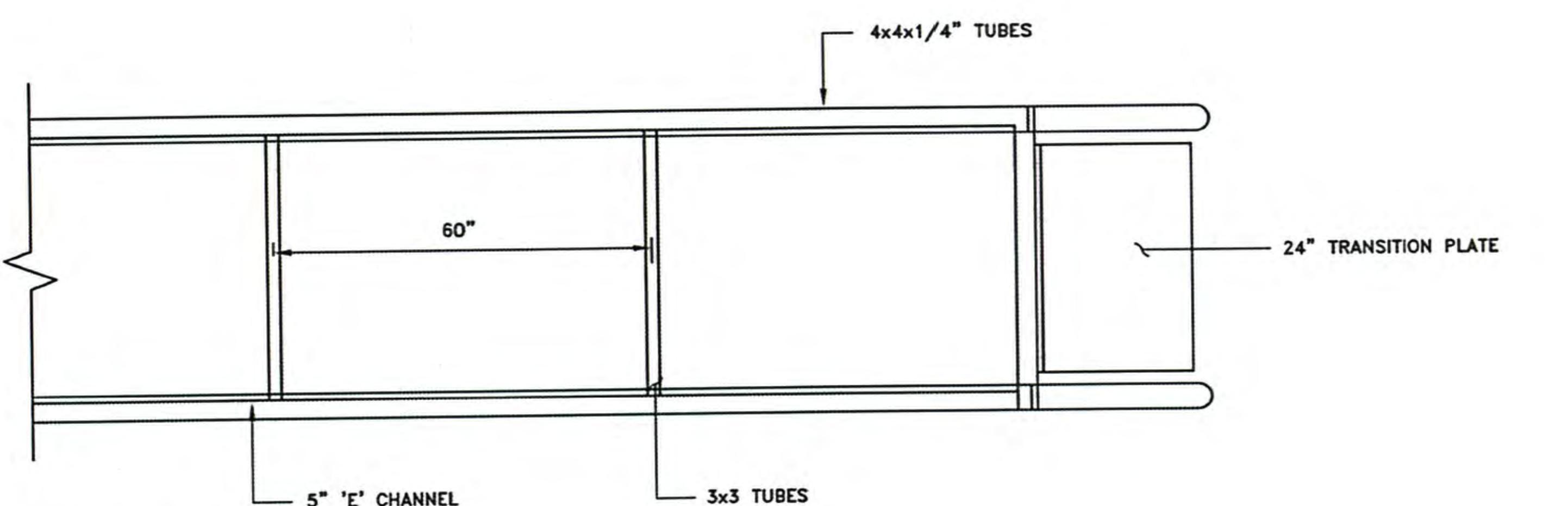
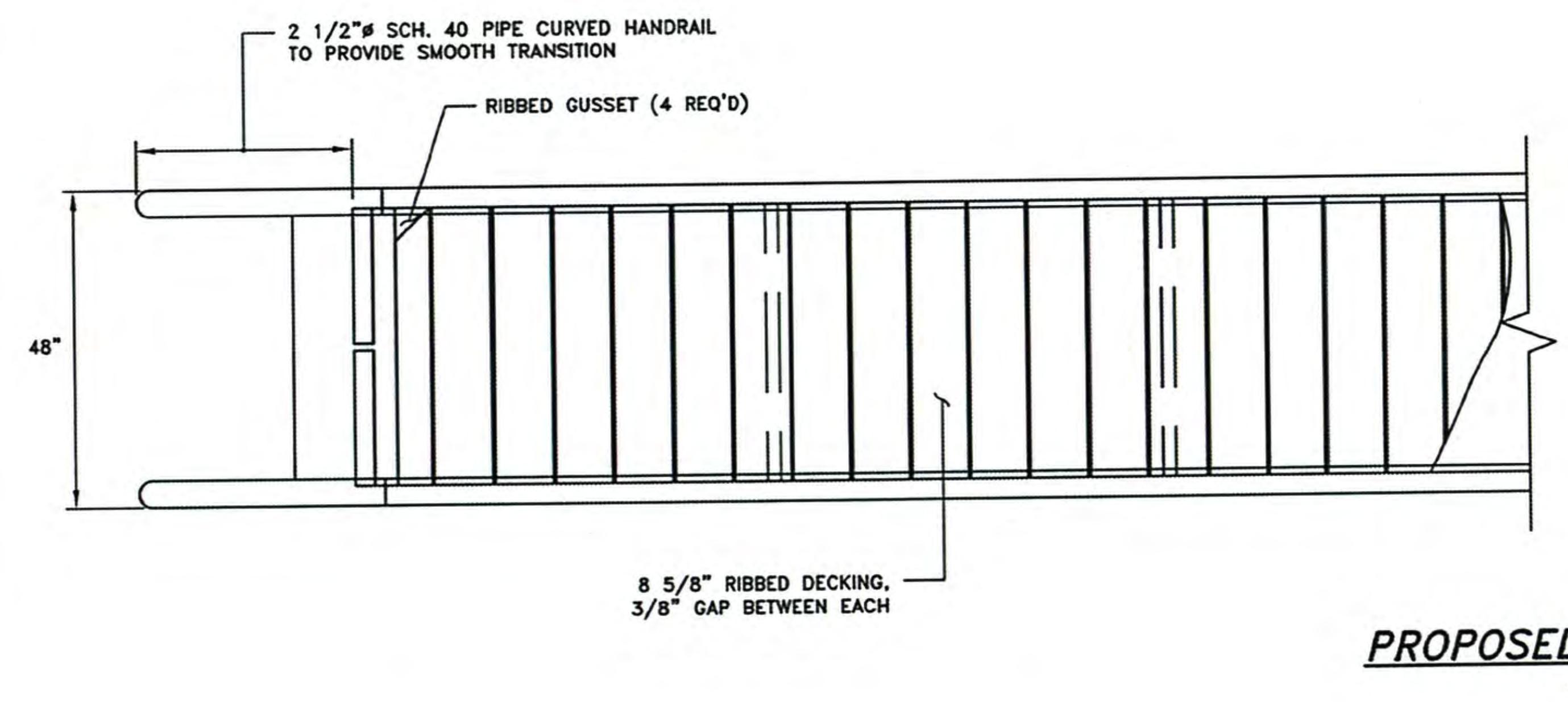
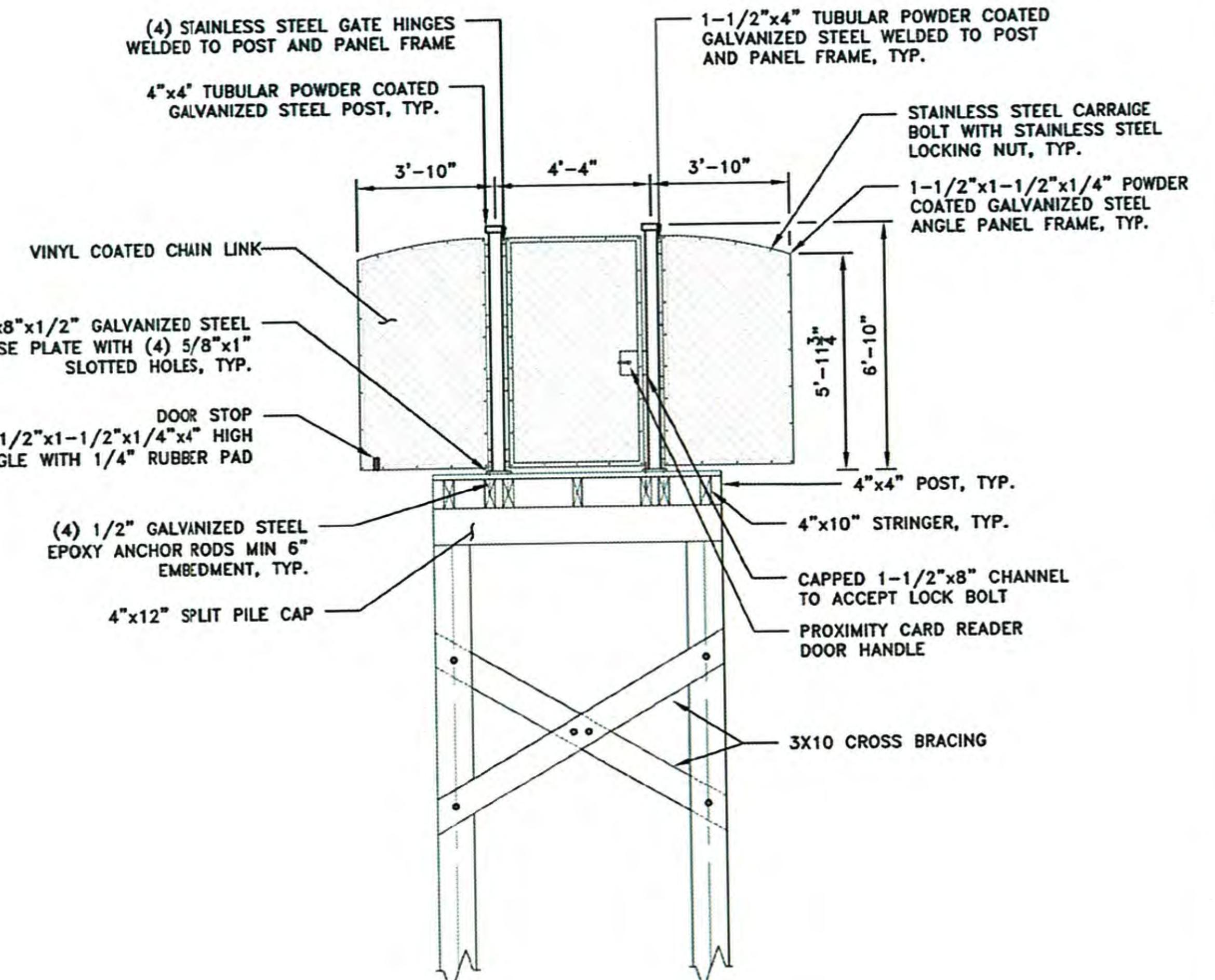
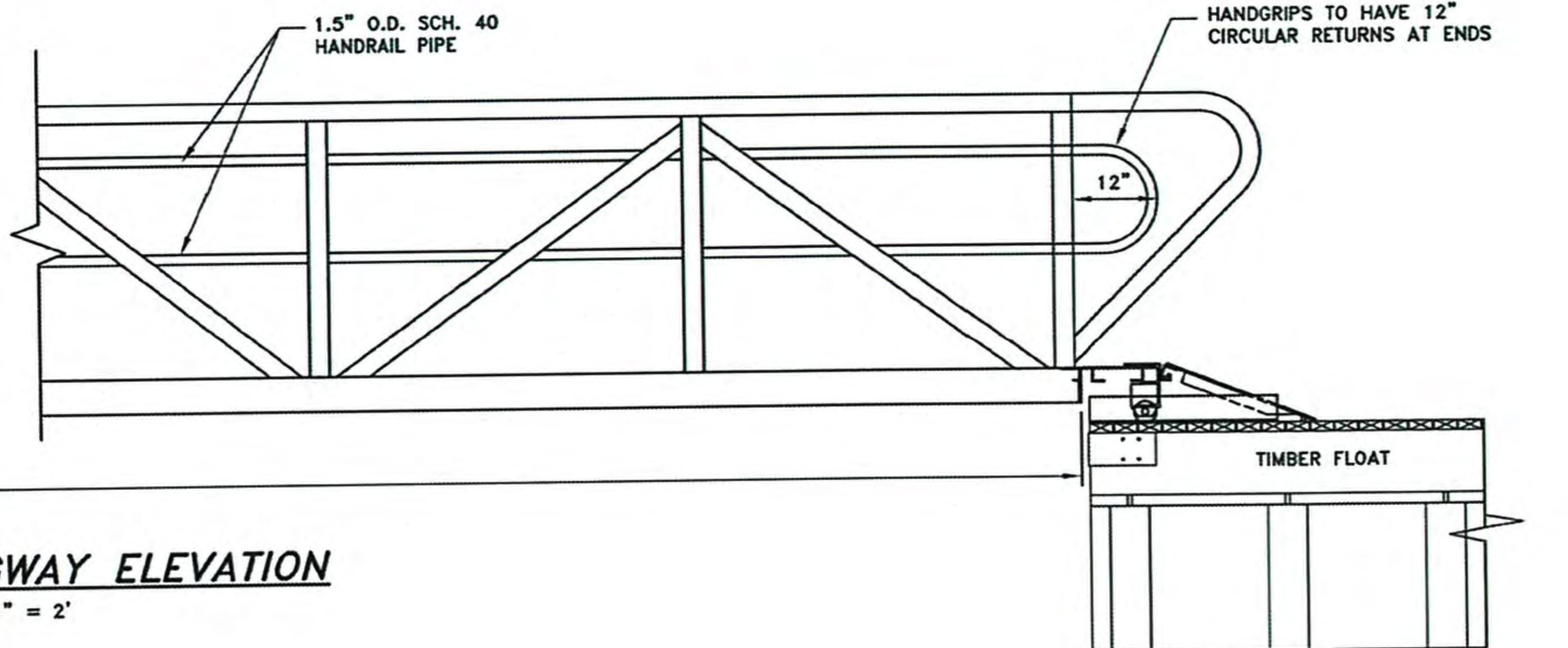
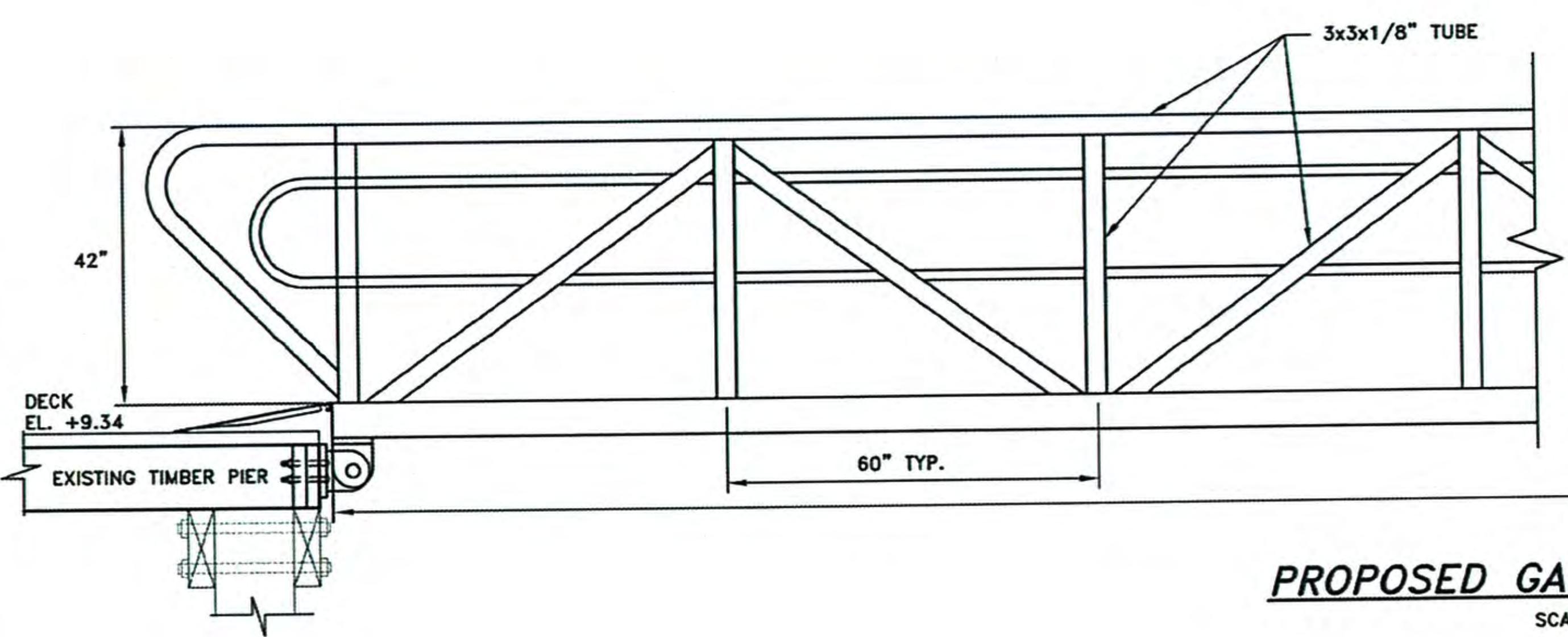
SHEET NO.: 4.1

SCALE ADJUSTMENT  
GUIDE  
0' 1"  
BAR IS ONE INCH ON  
ORIGINAL DRAWING.

### CHURCH STREET DOCK EXPANSION

BRISTOL, RHODE ISLAND

TOWN OF BRISTOL



- NOTES:**
- ALL HINGES, PLATES, BOLTS, AND RODS TO BE GALVANIZED A36 STEEL.
  - ALL GANGWAY FRAMING AND ALUMINUM TO BE 6016-T6 ALUMINUM.
  - ALUMINUM/STEEL CONNECTIONS PROVIDED WITH NYLON WASHERS.
  - ALL WELDS TO BE FULL PENETRATION WELDS.
  - ALUMINUM MEMBER SIZES SHOWN ARE MINIMUM TYPICAL SECTIONS. ACTUAL SECTIONS SHOULD BE BASED ON ACTUAL DESIGN. SEE SPECIFICATIONS.
  - ALL WELDED CONSTRUCTION UNLESS NOTED OTHERWISE. ALL ALUMINUM IN CONTACT WITH ALUMINUM STRUCTURAL SHAPES WILL BE TOTALLY WELDED.
  - GANGWAYS DESIGNED FOR 50 PSF VERTICAL LIVE LOAD AND DEFLECTION = L/180. GANGWAYS DESIGNED FOR 5000 LB LATERAL LOAD. GANGWAY DECK CHORDS TO BE CAPABLE OF 40 KIPS TENSION AND COMPRESSION MINIMUM.
  - THE SHAPES SHOWN ON PLANS ARE FOR INFORMATION ONLY. ACTUAL SHAPE USED SHALL BE DETERMINED BY DESIGN.
  - DISSIMILAR METALS AT BASE PLATES AND OTHER LOCATIONS TO BE SEPARATED BY NYLON PADS AND WASHERS.

PROJECT NO.: 16136.00  
DATE: NOVEMBER 2019  
SCALE: AS NOTED  
DESIGNED BY: DJG  
CHECKED BY: RMM  
DRAWN BY: LMC/DJG  
APPROVED BY: JMB

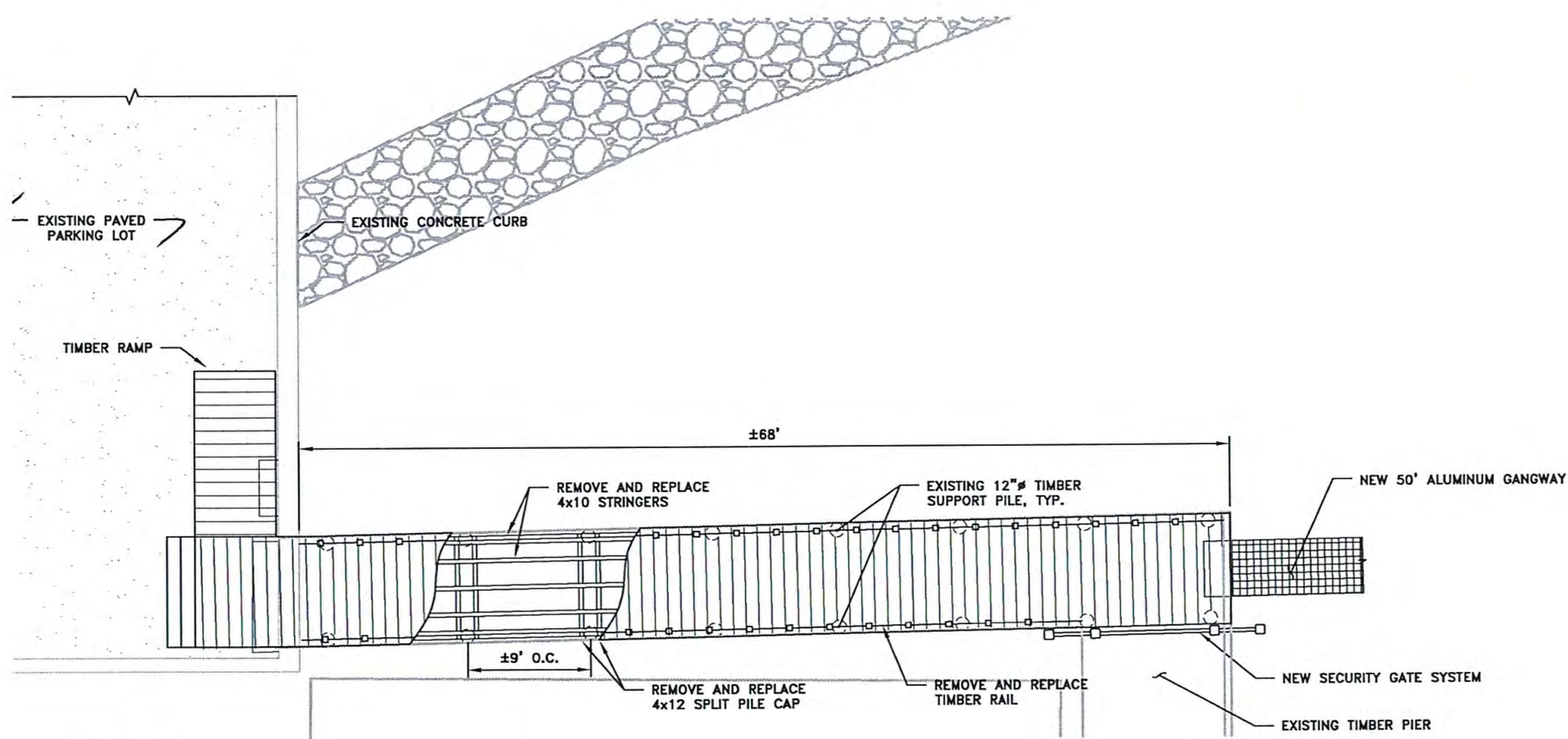
PROPOSED GANGWAY  
SECTIONS AND DETAILS

SHEET NO.: 4.2

SHEET NO.: 7 OF 10

SCALE ADJUSTMENT  
GUIDE  
0" 1"  
BAR IS ONE INCH ON  
ORIGINAL DRAWING.

BRISTOL, RHODE ISLAND  
TOWN OF BRISTOL

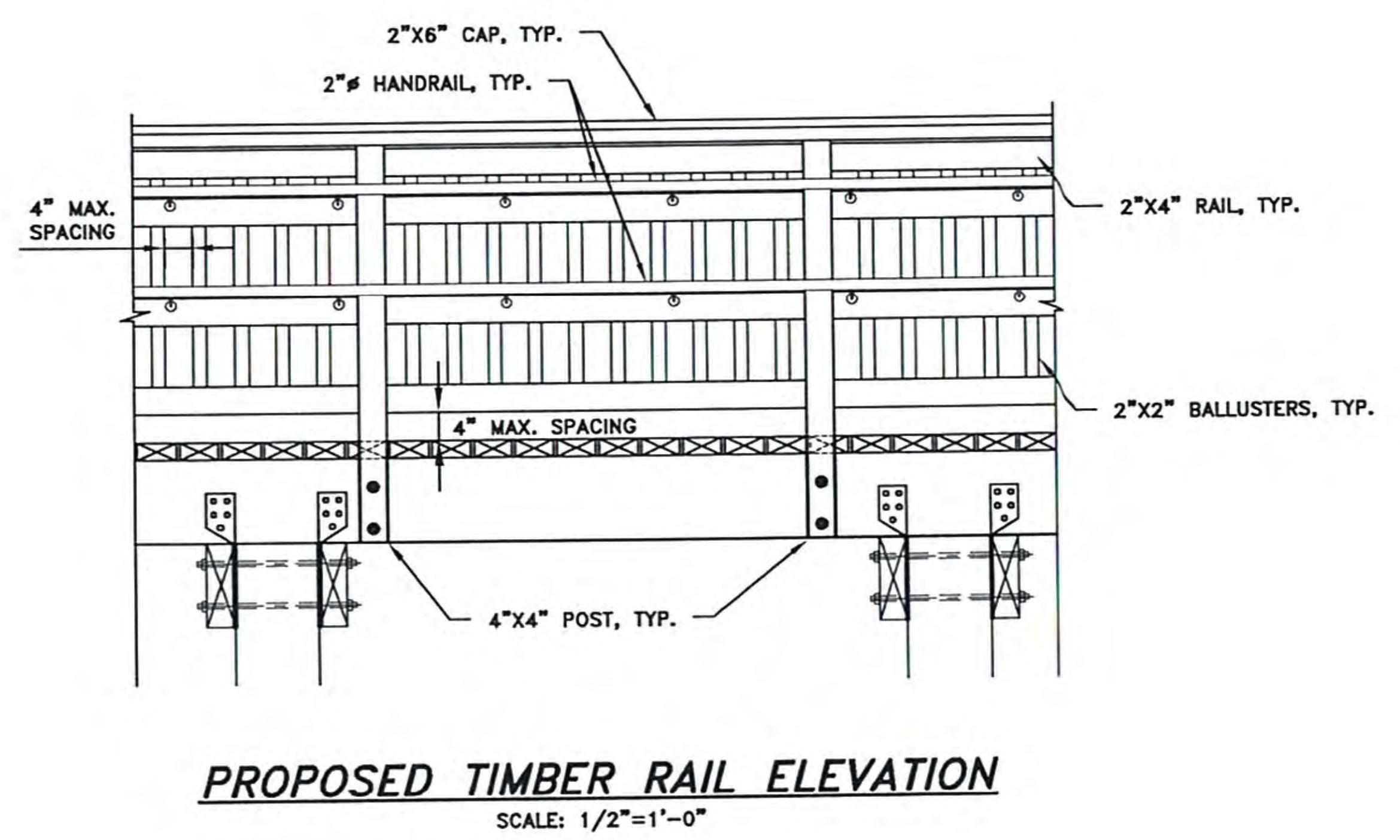


**NOTE:**

- EXISTING PARKING SPACE ADJACENT TO ENTRANCE OF PROPOSED TIMBER PIER SHALL BE REMOVED.

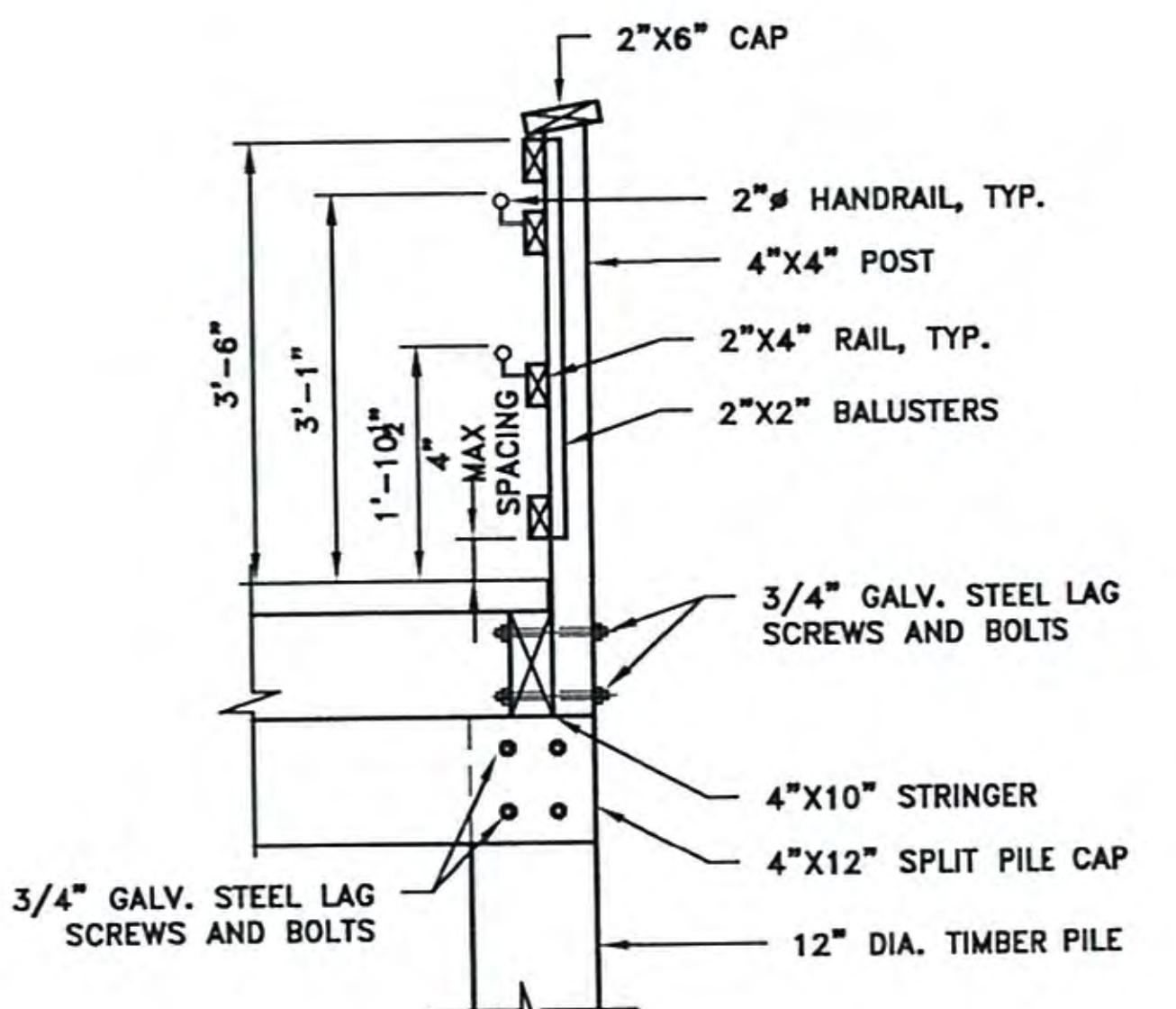
**PROPOSED TIMBER PLATFORM PLAN**

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



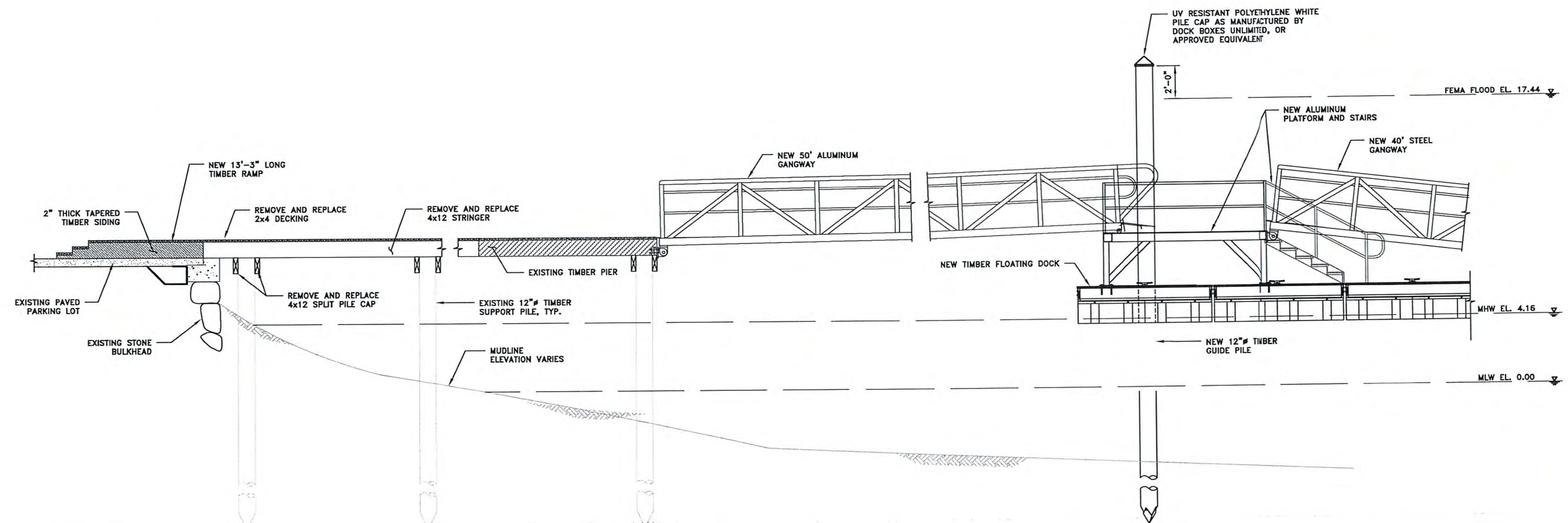
**PROPOSED TIMBER RAIL ELEVATION**

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



**PROPOSED TIMBER RAIL DETAIL**

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



**NOTES:**

- PROPOSED TIMBER RAILING AND SECURITY GATE NOT SHOWN FOR CLARITY.
- SAWCUT EXISTING CONCRETE CURB TO LIMITS OF PROPOSED TIMBER PIER WIDTH.

**PROPOSED PIER REPAIR AND DOCK SECTION**

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

**PERMIT SUBMISSION  
NOT FOR CONSTRUCTION**

PROPOSED PLATFORM  
SECTIONS AND DETAILS

SHEET NO.: 4.3

SHEET NO.: 8 OF 10

PROJECT NO.: 16136.00  
DATE: NOVEMBER 2019  
SCALE: AS NOTED  
DESIGNED BY: DGD  
CHECKED BY: RMM  
DRAWN BY: LMC/DGD  
APPROVED BY: JMB



PARE  
PARE CORPORATION  
ENGINEERS - SCIENTISTS - PLANNERS  
10 LINCOLN ROAD, SUITE 210  
FOXBORO, MA 02035  
508-543-1755




SCALE ADJUSTMENT  
GUIDE  
0' 1"  
BAR IS ONE INCH ON  
ORIGINAL DRAWING.

### CHURCH STREET DOCK EXPANSION

BRISTOL, RHODE ISLAND

TOWN OF BRISTOL



PROPOSED UTILITY PLAN

SCALE: 1"=20'

PERMIT SUBMISSION  
NOT FOR CONSTRUCTION

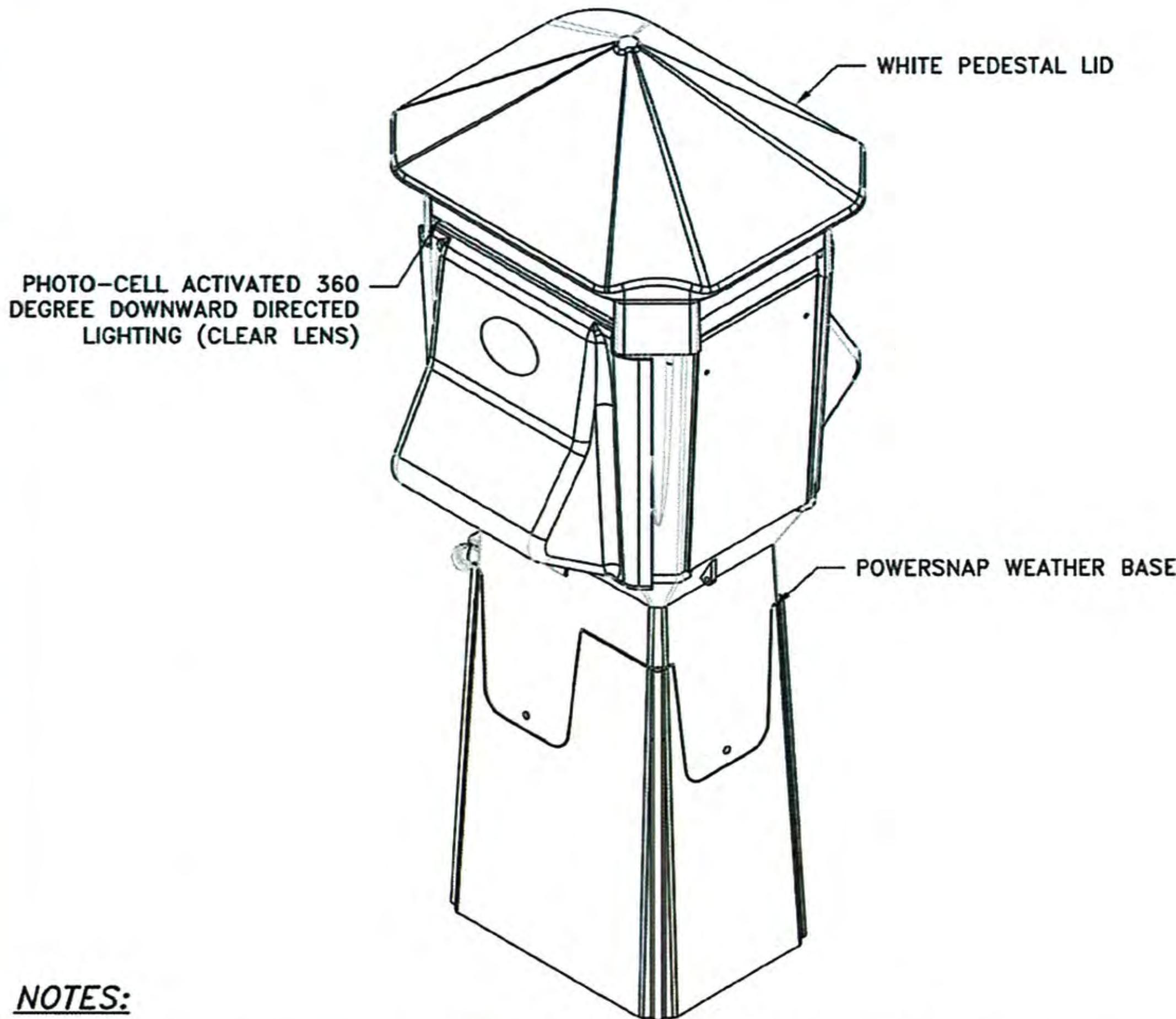
REVISIONS:  
  
PROJECT NO.: 16136.00  
DATE: NOVEMBER 2019  
SCALE: AS NOTED  
DESIGNED BY: DJG  
CHECKED BY: RMM  
DRAWN BY: LMC/DIG  
APPROVED BY: JMB

PROPOSED  
UTILITY PLAN

SHEET NO.: E-1  
SHEET NO.: 9 OF 10

SCALE ADJUSTMENT  
GUIDE  
0" 1"  
BAR IS ONE INCH ON  
ORIGINAL DRAWING.

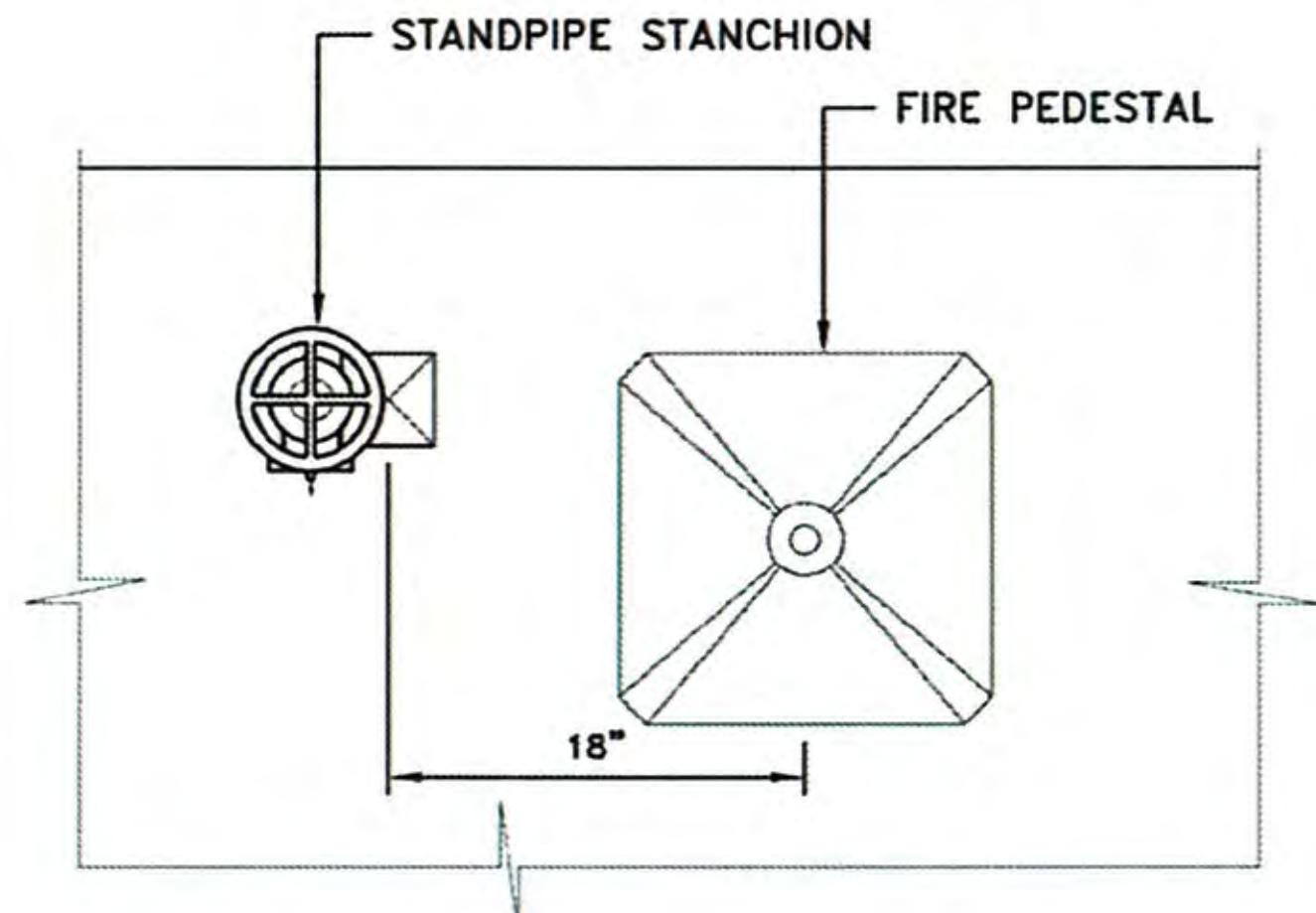
CHURCH STREET DOCK EXPANSION  
BRISTOL, RHODE ISLAND  
TOWN OF BRISTOL



**NOTES:**

1. PEDESTAL SHALL BE CONNECTED TO MOUNTING SURFACE PER MANUFACTURER'S RECOMMENDATIONS AND SHALL INCLUDE POWERSNAP WEATHER BASE.

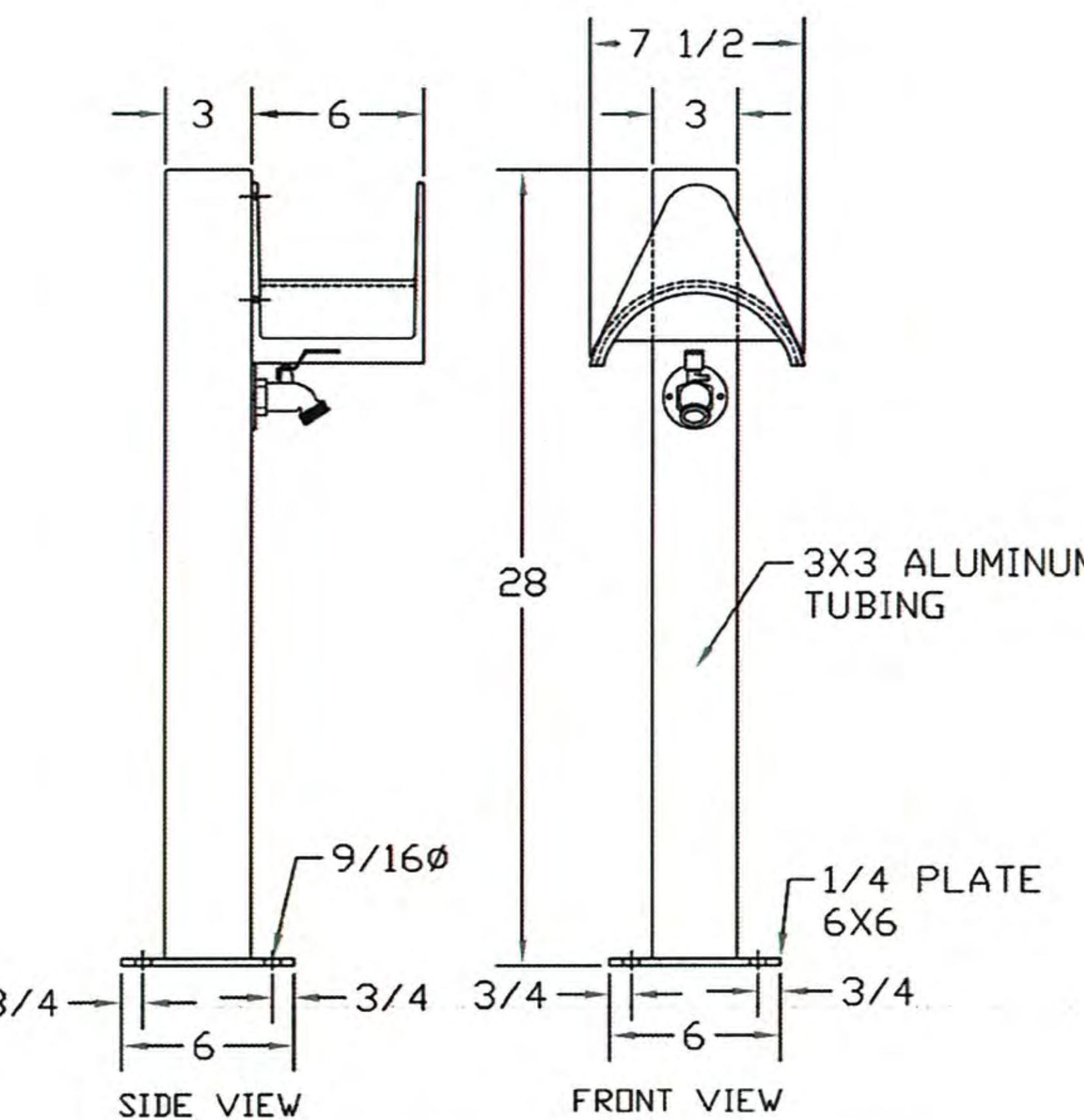
**ELECTRIC PEDESTAL DETAIL**  
NOT TO SCALE



**NOTES:**

1. STANDPIPE INTEGRATION DEPENDENT ON DOCK STRUCTURE. SYSTEMS TO BE ADEQUATELY SECURED AGAINST THRUSTS FOR FIRE DEPARTMENT PUMPING SYSTEM. SYSTEM TO INCLUDE DRAIN VALVES AND SLOPE FOR DRAINAGE. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR ENGINEER APPROVAL PRIOR TO FABRICATION.
2. CONTRACTOR TO VERIFY SYSTEM CONNECTIONS MATCH THOSE OF LOCAL FIRE DEPARTMENT. SYSTEM TO INCORPORATE FLEXIBLE CONNECTIONS AS NECESSARY TO ACCOUNT FOR MOVEMENT OF DOCKS AND SEASONAL EXPANSION/CONTRACTION.
3. SYSTEM TO CONFORM TO, BUT NOT LIMITED TO TOWN OF BRISTOL CODE, RHODE ISLAND FIRE CODE, NFPA 303 AND NFPA 14.
4. FIRE PEDESTALS MUST BE PLACED PER NFPA 303, SO THAT ALL SLIPS ARE WITHIN 75' OF FIRE PEDESTALS.

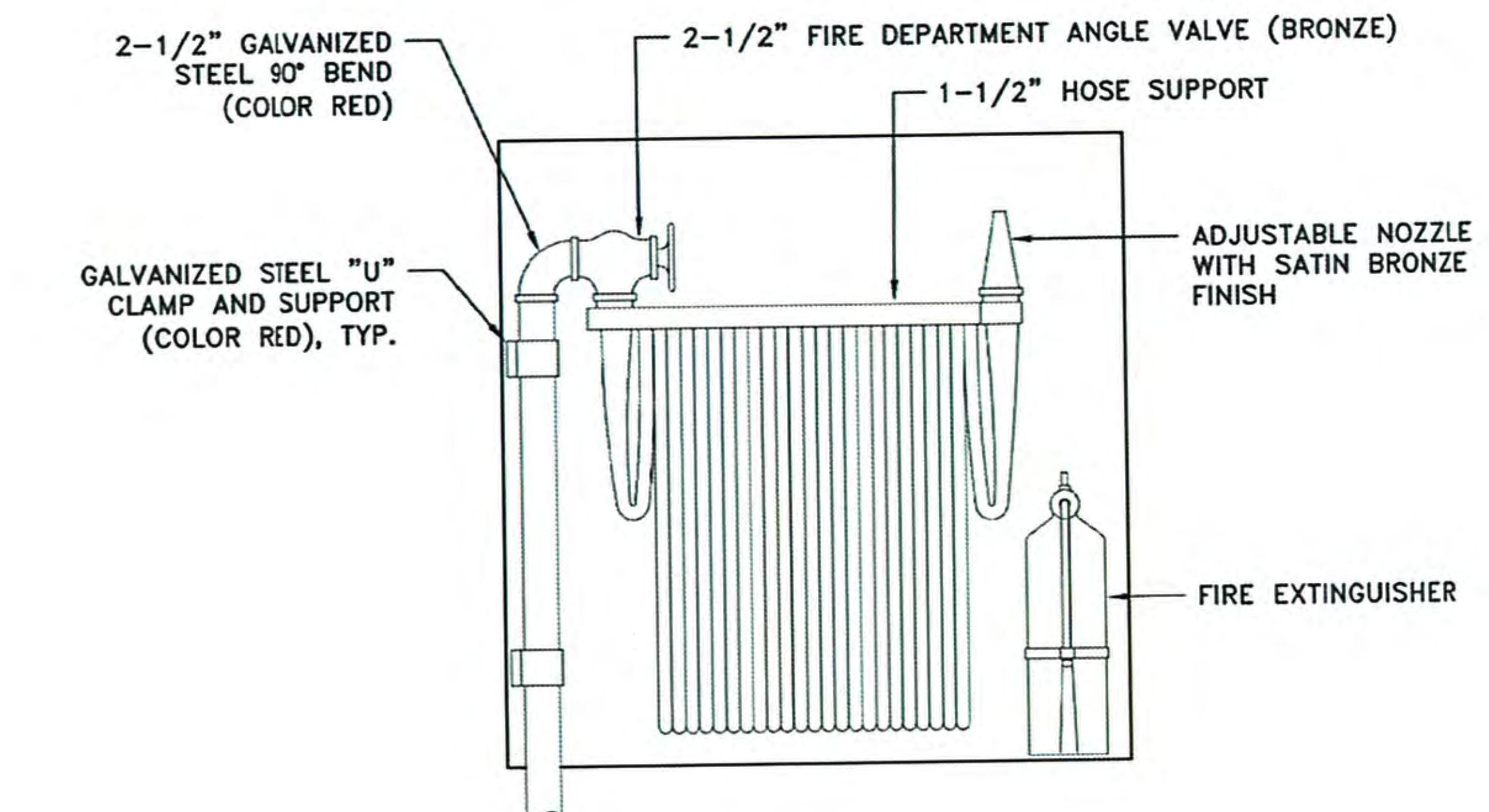
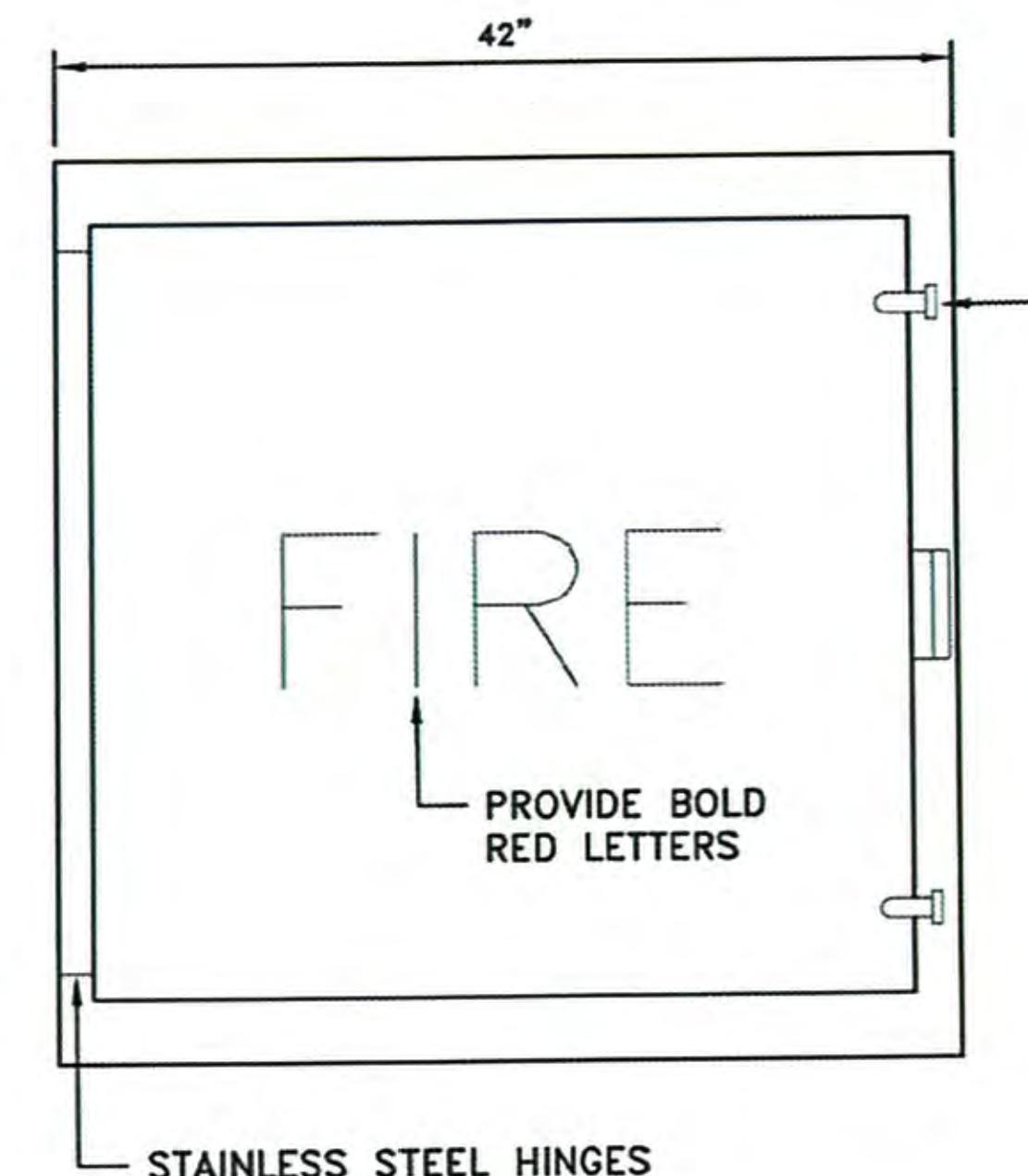
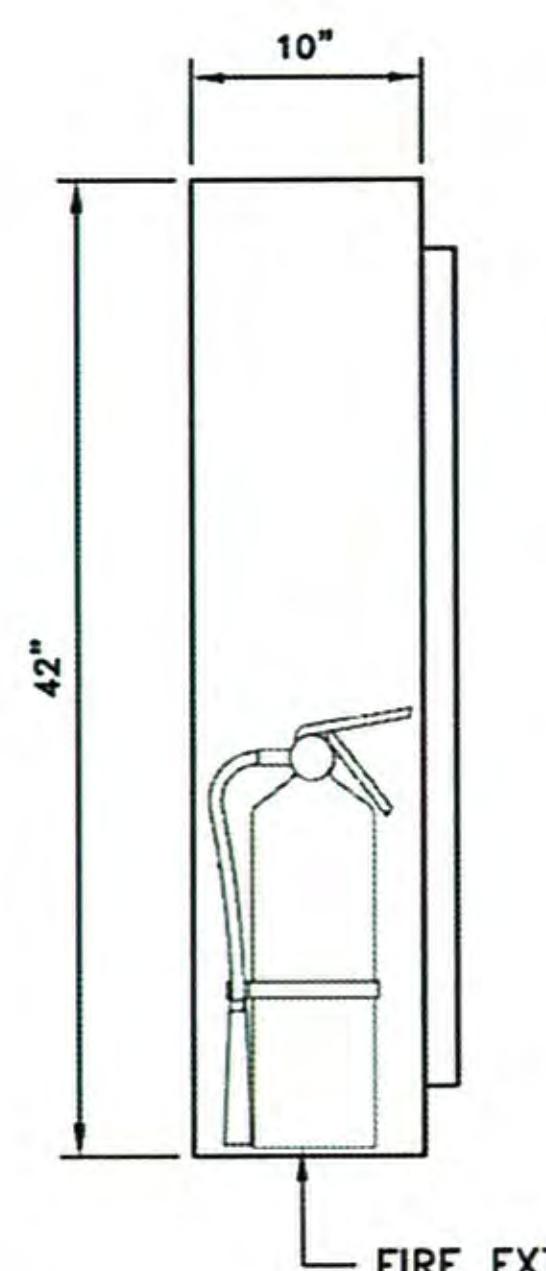
**STANDPIPE STANCHION AND FIRE PEDESTAL DETAIL**  
NOT TO SCALE



Stanchion Fabricated From Marine Grade Aluminum And Powder Coated White to Marine Specifications

Hose Holder (cast aluminum)  
Spigot , Stainless Steel With Ball Valve

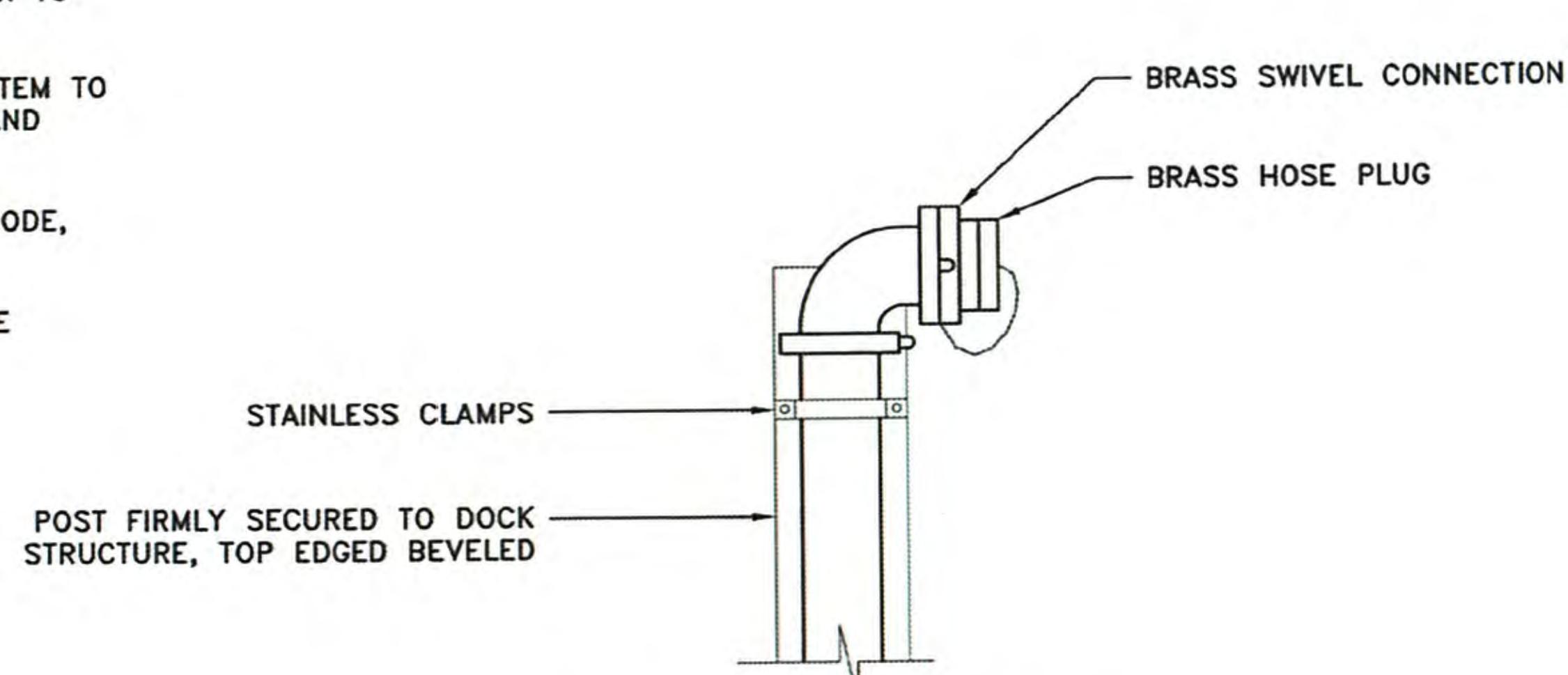
**WATER PEDESTAL DETAIL**  
NOT TO SCALE



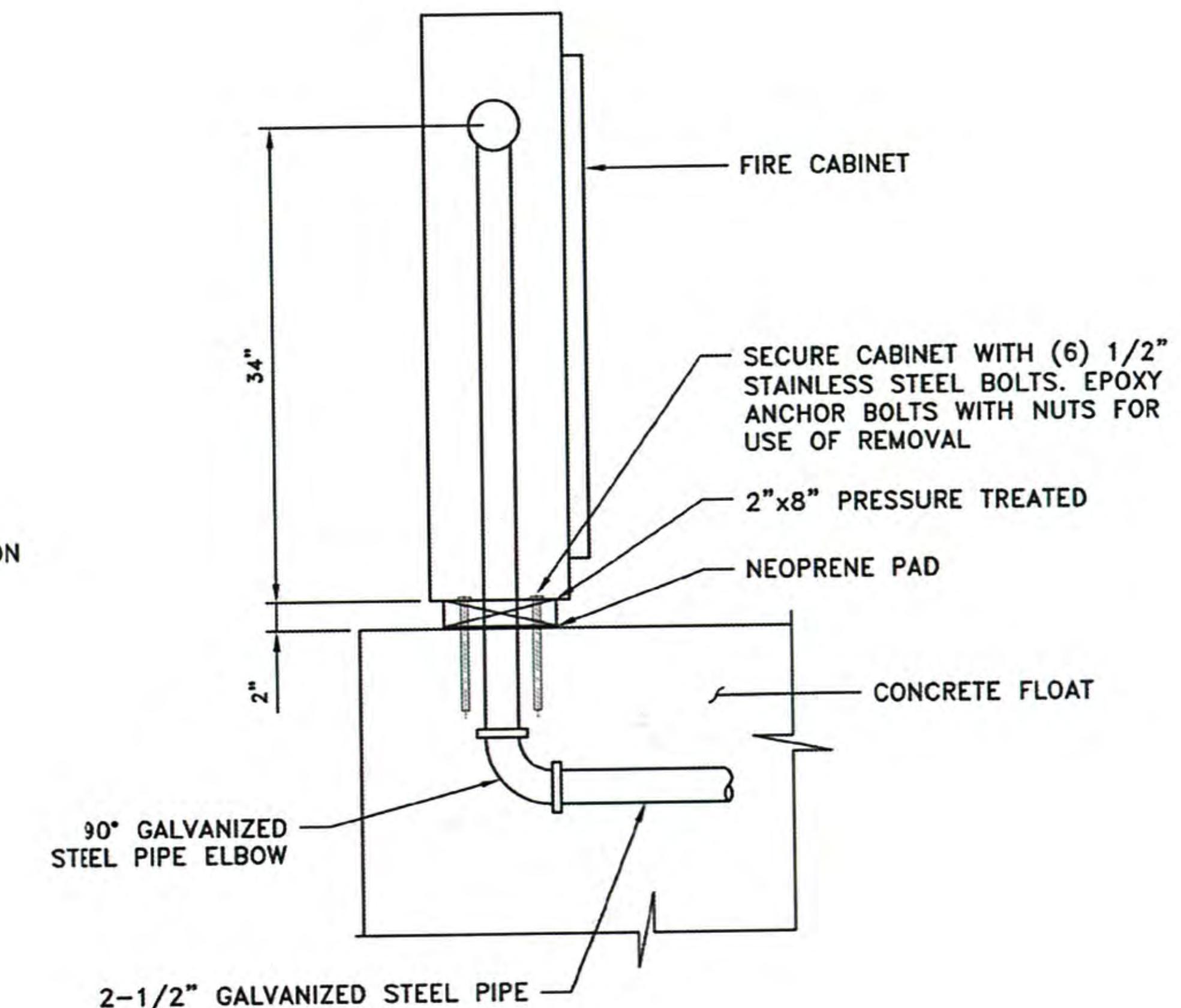
**NOTES:**

1. CABINETS AND FIRE PROTECTION EQUIPMENT SHALL MEET NFPA14, TOWN OF BRISTOL FIRE DEPARTMENT, AND RHODE ISLAND BUILDING CODE REQUIREMENTS.
2. CONTRACTOR TO SUPPLY SHOP DRAWING FOR CABINETS AND MOUNTING SYSTEM TO COMPLY WITH NFPA14.
3. CABINET SHALL BE MARINA POWER COMPANY FC-1 OR APPROVED EQUIVALENT, PROVIDED BY CONTRACTOR.
4. CONTRACTOR TO INSTALL PIPING AND APPERTAINANCES.

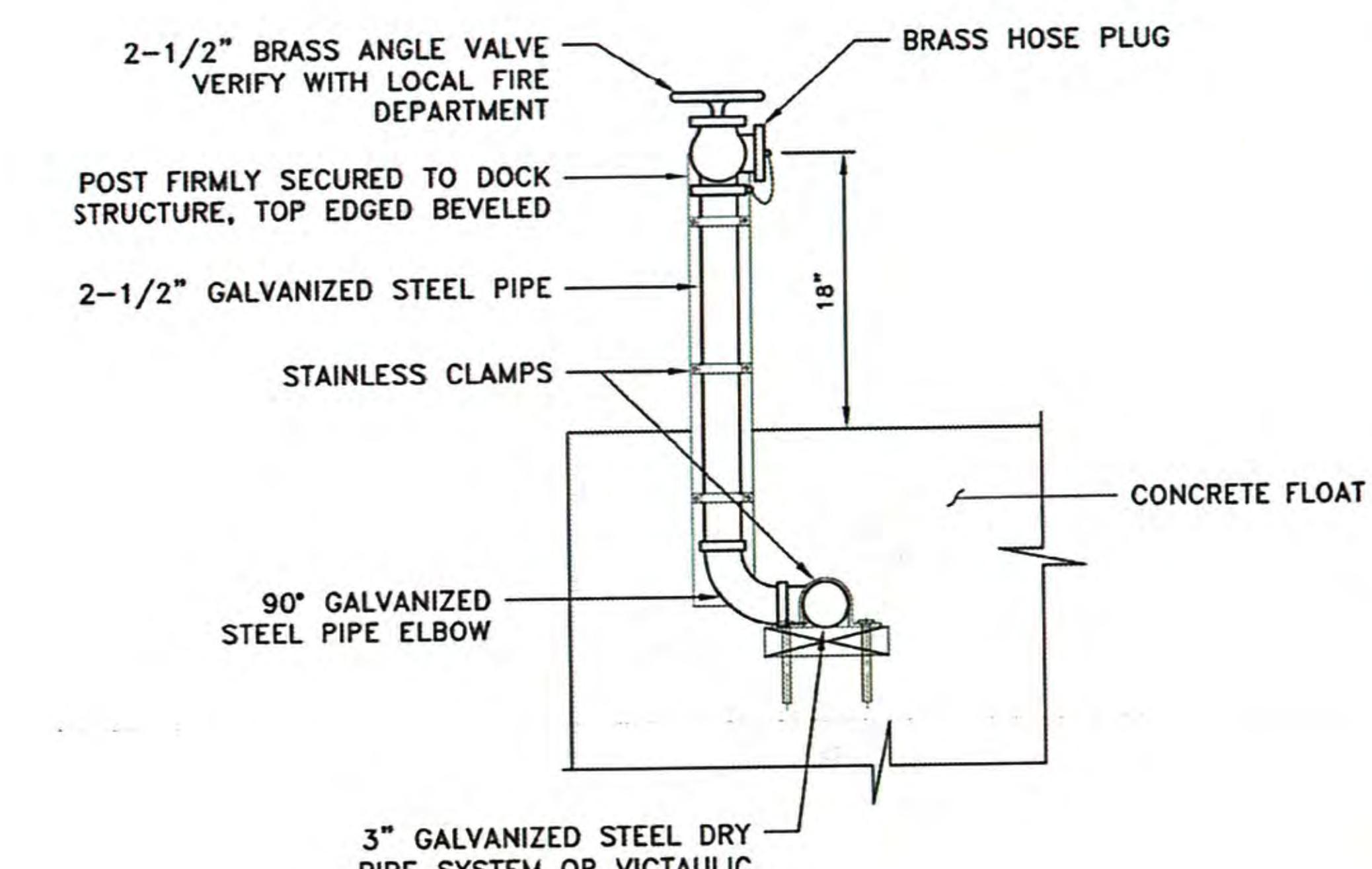
**FIRE CABINET DETAIL**  
NOT TO SCALE



**INLET CONNECTION DETAIL**  
NOT TO SCALE



**FIRE CABINET CONNECTION DETAIL**  
NOT TO SCALE



**STANDPIPE STANCHION DETAIL**  
NOT TO SCALE

PROPOSED POWER PEDESTAL SCHEDULE							PHONE/ CATV	LIGHT		
LABEL	QTY	MANUFACTURER	UNIT TYPE	OUTLETS						
				SIDE 1	SIDE 2	SIDE 3				
1	3	HYPower	POWERPORT	(1)30A-120V	(1)30A-120V	-	0/0	YES		
2	27	HYPower	POWERPORT	(1)50A-120V	(1)50A-120V	-	0/0	YES		
3	8	HYPower	POWERPORT	(1)30A-120V	(1)50A-120V	-	0/0	YES		
4	2	HYPower	POWERPORT	(1)200A-120/240V	(1)100A-120/240V	-	0/0	YES		

**NOTE:**

ELECTRIC PEDESTALS SHALL BE POWERPORT AS MANUFACTURED BY HYPower OR APPROVED EQUIVALENT AND SHALL CONFORM TO THE FOLLOWING:

- RECEPTACLES WILL BE PROVIDED WITH GFI BREAKERS
- (2) ANGLED ADAPTORS FOR RECEPTACLES
- LED LIGHT WITH WHITE FROSTED LENS AND 15 AMP BREAKER
- PHOTOELECTRIC LIGHT CONTROL
- 4 POLE LOOPING DIST BLOCK FOR UP TO 350 MCM MAIN LINES
- SEPARATE LOOPING GROUND LUG

**PERMIT SUBMISSION  
NOT FOR CONSTRUCTION**

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CHECKED BY: RMM  
DRAWN BY: LMC/DJG  
APPROVED BY: JMB

PROPOSED UTILITY  
DETAILS

SHEET NO.: E-2  
SHEET NO.: 10 OF 10