



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION
AUGUSTA, MAINE
04333-0016

JOHN ELIAS BALDACCI
GOVERNOR

DAVID A. COLE
COMMISSIONER

February 19, 2010
Subject: **Boothbay**
State Pin No: 012630.00
Amendment No. 4

Dear Sir/Ms:

Make the following changes to the Bid Documents:

In the Bid Book (page 33), "SPECIAL PROVISION, SECTION 105, General Scope of Work, (Environmental Requirements), under paragraph I, **CHANGE** the last line to read as follows; "*Can work **above** the mean water line under dry conditions any time." Make this change in pen and ink.

In the Bid Book (page 43), **REMOVE** "SPECIAL PROVISION, SECTION 107, TIME, (open to Traffic), 1 page dated November 20, 2009 (changed in Amendment #2) and **REPLACE** with the attached new "SPECIAL PROVISION, SECTION 107, TIME, (Open to Traffic), 1 page dated February 3, 2010.

In the Bid Book (page 92), "SPECIAL PROVISION, SECTION 504, ROCK ANCHORS", make the following **CHANGES** in pen and ink;

1. Section 504.05 – Rock Anchors – paragraph (n), page 92, **CHANGE** the second sentence to read as follows; "At no time shall the pile compressive load exceed 90 tons, except during anchor testing or lock off loading, at which time the pile compressive load shall not exceed 1.5 times the anchor design load or 0.80 times the Guaranteed Ultimate Tensile Strength (GUTS) of the anchor, whichever is smaller."

2. Section 504.06 – Rock Anchor Testing procedures and Criteria - paragraph (b), **CHANGE** subparagraph (1) to read as follows: "The maximum load test shall be 1.5 times the design load shown on the plans or 0.80 times the Guaranteed Ultimate Tensile Strength (GUTS) of the anchor, whichever is smaller."

In the Bid Book (page 124), "SPECIAL PROVISION, SECTION 509.72, ERECTING HYBRID-COMPOSITE BEAMS", **ADD** following two sentences in pen and ink to the end of the second paragraph (bottom of page) under "Handling, Storing and Transportation:".

"Stacked HC beams shall be adequately braced or anchored down to prevent high winds from blowing over the light-weight beams during storage. The two prefilled beams shall have adequate blocking at mid-span to prevent the beams from creeping during storage."



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In the Bid Book (page 125), “SPECIAL PROVISION, SECTION 509.72, ERECTING HYBRID-COMPOSITE BEAMS”, under “Placement of Compression Reinforcement” **DELETE** the word “move” from the second sentence. Make this change in pen and ink.

In the Bid Book (page 166), “SPECIAL PROVISION, SECTION 652, MAINTENANCE OF TRAFFIC, (Traffic Control), under “Bridge Closures:”, **CHANGE** the sixth sentence to read as follows; “The Contractor is reminded that it must comply with Standard Specification 104.4.10 Coordination of Bridge Closure/Bridge Width Restrictions Notification for each of the **(12) twelve** road closures, and any other road closures that may occur.” Make this change in pen and ink.

In the Bid Book (page 175), “SPECIAL PROVISION, SECTION 853, Boat Ramp” under Basis of Payment , **CHANGE** the first sentence to read as follows; “Payment for the boat ramp shall be full compensation for all materials, equipment, labor, and hardware necessary to furnish, construct, and install the concrete planks.” Make this change in pen and ink.

In the Bid Book, “SPECIAL PROVISION, SECTION 853, Boat Ramp”, after page 175, **ADD** the attached 2 details.

In the Plans, SHEET NUMBER 29 OF 51 (PIER NOTES), **ADD** the following note in pen and ink under NOTES FOR PIER NOS. 1, 4-7, under PIPE PILE NOTES, (Cont’d); “20. The reinforcing steel cage inside the rock anchored pilings shown on sheet 30, PIER NOS. 1 & 4-7 DETAILS, does not depict the intent of the design. The reinforcing steel cage shall be installed to elevation -25.00, but in no case should the reinforcing steel cage be required within 4’ of bedrock elevation.”

In the Plans, SHEET NUMBER 41 OF 51 (SUPERSTRUCTURE DETAILS), **ADD** the following note in pen and ink;
“5. To install the utility bracket, for each threaded rod that goes through the HC Beam flange, the Contractor shall drill holes through beam flanges, install 1” I.D. PVC electrical conduit, and seal with a silicon sealant around the perimeter of conduit on both the top and bottom side of the flange. Payment shall be incidental to item 890.01 Special Work Number 1 (Utility Conduit Installation).” See attached detail titled “Overhang Bracket”.

The following questions have been received:

Question: We have never seen a rebar cage to the bottom (Sheet 30). We think the centralizers on the PVC sleeve and rock bolt will conflict with the placement of the rebar cage. If the rebar cage is installed first the drill sleeve will not have anything to stabilize except the rebar cage. The drilling sleeve centering on a battered pile requires significant bracing against the pile.

Response: We have changed the required elevation of the rebar cage. Please see the new pier note that has been included as part of this amendment.

Question: Page 30, PIPE PILE SECTION, points out a 5" PVC Schedule 40 sleeve. The specs talk about this being water tight. Please consider changing this to a steel sleeve for the batter and with the strength to seal it into rock.

Response: A steel sleeve can be used in lieu of 5-inch dia. schedule 40 PVC. The dimensions and material of the steel drill casing is subject to approval of shop drawings. Where a steel sleeve is used and sealed into the bedrock, the water test referenced in 504.05 (e) will not be required.

Question: Please refer to page 29 of the plans, note 14 for Piers #1, 4 – 7 and note 12 for Piers #2 & #3 appears to require that the falsework steel used to install the pier piles and concrete must be left in place until the superstructure deck is in place. Is it true that all the falsework bracing for the Piers must remain until the superstructure is complete?

Response: Yes, it is our intention that the falsework for the installation of pier piles will be left in place until the superstructure is complete as per the notes indicated.

Question: Please refer to Amendment #3 page 5. Near the bottom of the page your response says that the pile reinforcing steel cage stops at elevation -25. Sheet 30 of the plans show reinforcing in the piles with rock anchors going to the pile tip and in a 2' grout plug. Which is correct?

Response: Please see the amendment as a note was added to address this issue.

Question: Special Provision 107, Time, allows a 5 day closure for boat ramp reconstitution. Is it the Department's intent for both ramps to remain operational during all time except the 5 day closure? If so, there appears to be a major conflict between the southerly ramp and abutment #1 that will not allow use of the ramp during abutment construction. In addition, if the ramp cannot be reconstructed until Sept 12, 2011, as the SP says, and the bridge needs to be open by Oct. 7, 2011, there will not be adequate time to reconstruct the ramp, build the abutment, build the span one superstructure and open to traffic.

Response: A new 107 has been issued as part of the amendment.

Question: We have been involved with projects requiring Calcium Nitrate in the concrete mix that have had misleading permeability testing results. There have also been numerous studies conducted that have had the same outcome. Is the Department aware that the rapid chloride permeability test can have misleading results due to these admixtures? Will the Department waive the permeability test pay factors due to these misleading results?

Response: MaineDOT will not change the specifications for calcium nitrite for this project. MaineDOT will not waive the permeability test. If we are presented with written documentation and/or shown trial batching results with and without calcium nitrite we may change our position.

Question: Is the Contractor or DOC supplying the boat ramp planks? If it is the Contractor, could you please provide details for the planks, quantity, QC requirements, etc.?

Response: The Contractor is supplying the planks. Please see the attached details. The number of planks is included in the schedule of items. Also see special provision Section 853 Boat Ramp.

Question: Is the Wyoming Rail galvanized and topcoated or just galvanized? If topcoated, please provide the color.

Response: The rail is just galvanized.

Question: We have received the following questions from our piling supplier:

A. If spiral weld pipe is not allowed, the only other readily available method of making this small quantity of pipe is Rolled and Welded. With the diameters of 24" and 26" and the thick wall .625", the largest segment of plate that can be rolled in these sizes is 6". This would have circumferential welds every 6' which would exceed the number of allowed splices in the spec. Can we splice every 6'?

B. Please clarify the following sentence; "Welds shall blend smoothly with the pile material and be free of undercut overlap or other condition injurious to protective coating." Does this mean that the raised material where the seams are welded have to be treated or is this to say that normal raised seams where welding occurs is OK?

C. Does the Fusion Bonded Epoxy coating the pipe piles need to be the typical Gray color or can it be the standard Green color? There is a price difference.

D. Please clarify the following sentence; The steel shall be a prequalified base metal from the AWS D1.1 Structural Welded Code – Steel." Does this refer to the steel plate/coil that the pipe is made from or the welding rod used to weld the seams?

E. Is the piling to be galvanized and coated or just coated?

Response:

- A. Shop splices every six feet are not acceptable. Spiral welded pipe is acceptable if all welds are treated by grinding from the pier cap down to elevation -25 ft. Grinding shall occur prior to coating with FBE. Welds shall be blended smoothly with the pipe material and be free of undercut overlap or other condition injurious to the protective coating. The welds do not need to be completely grinded off flush with the base metal.
- B. All welds shall be treated by grinding from the pier cap down to elevation -25 ft.
- C. Gray is required
- D. This refers to the base metal. The welding rod shall be from our preapproved list of materials available on our website.
- E. The pipe piles shall be just coated with Fusion Bonded Epoxy.

Question: Does the rebar cage in the pipe pile at piers 1 – 7 terminate at elevation -25?

Response: Please see the amendment as a note was added to the plans to address this issue.

Question: We are having difficulty locating a supplier that can meet the pipe pile specifications. Can the MDOT reconsider the use of spiral welded pipe pile?

Response: See response above.

Question: Who delivers the two HC beams that have been filled with compression reinforcement?

Response: The Fabrication Contractor, Harbor Technologies, is responsible for delivery for all 64 HC Beams to the job site including the two beams that have been filled with compression reinforcement.

Question: What are the restrictions on the Contractor when cleaning out the pipe piles?

Response: The material generated through the airlift procedure may be discharged overboard in such a manner that it is deposited immediately adjacent to the pile being cleaned. However, given the fine nature of the material anticipated to be encountered during construction, the contractor should be prepared to employ Best Management Practices that would minimize sedimentation and ensure that the material is deposited immediately adjacent to the pile being cleaned.

Question: What loads can the flange of the beam support?

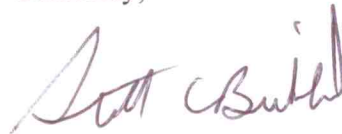
Response: To support the overhang brackets, the beam designer, John Hillman, suggests using a 45 degree tie that is attached to a shear connector or a simple vertical anchor cast in the web. Please see the attached detail. The hole in the HCB flange extension would be centered about 1-1/2" to 2" away from the face of the web. This would put the beam hanger bearing almost directly on top of the HCB laminate webs themselves. This is a similar detail that was used for the High Road Bridge in Illinois and provided a stable bearing location to prevent any localized crushing of the foam and mitigate any additional cantilever moments in the flange overhang. After removing the steel tension ties, the holes in the flange overhangs are to be completely filled with a closed-cell, expandable polyurethane foam. Once the foam has cured, it shall be struck off flush with the bottom of the flange. The remaining exposed foam shall be sealed by adhering a rectangular plate of FRP, approximately 3"x4"x1/8" thick using one of the two part methylmethacrylate adhesives approved for fabrication of the HCB units.

Question: What is the allowable bearing stress on the composite beam?

Response: The allowable bearing stress on the web of the beam is 50 psi.

Consider these changes and formation prior to submitting your bid on **February 24, 2010**.

Sincerely,

A handwritten signature in dark ink, appearing to read "Scott Bickford". The signature is written in a cursive, somewhat stylized font.

Scott Bickford
Contracts & Specifications Engineer

SPECIAL PROVISION

SECTION 107

TIME

(Open to Traffic)

(Bridge Closure, Boat Ramps/Parking Lots)

(Limitation of Operations, & Supplemental Liquidated Damages)

Open To Traffic:

The Contractor shall plan and conduct his operations in such a manner that the bridge and roadway shall be open to traffic by October 7, 2011. Prior to opening to traffic, the bridge rail and guardrail shall be installed, base/binder course paved on the bridge and roadway and pavement markings placed. If the bridge and roadway remain closed to traffic beyond October 7, 2011, the Contractor shall be assessed supplemental liquidated damages at the rate of Five Hundred Dollars (\$500.00) per Day, for each Day the roadway remains closed to traffic. This assessment of supplemental liquidated damages will be in addition to the liquidated damages specified in Section 107 of the Standard Specifications.

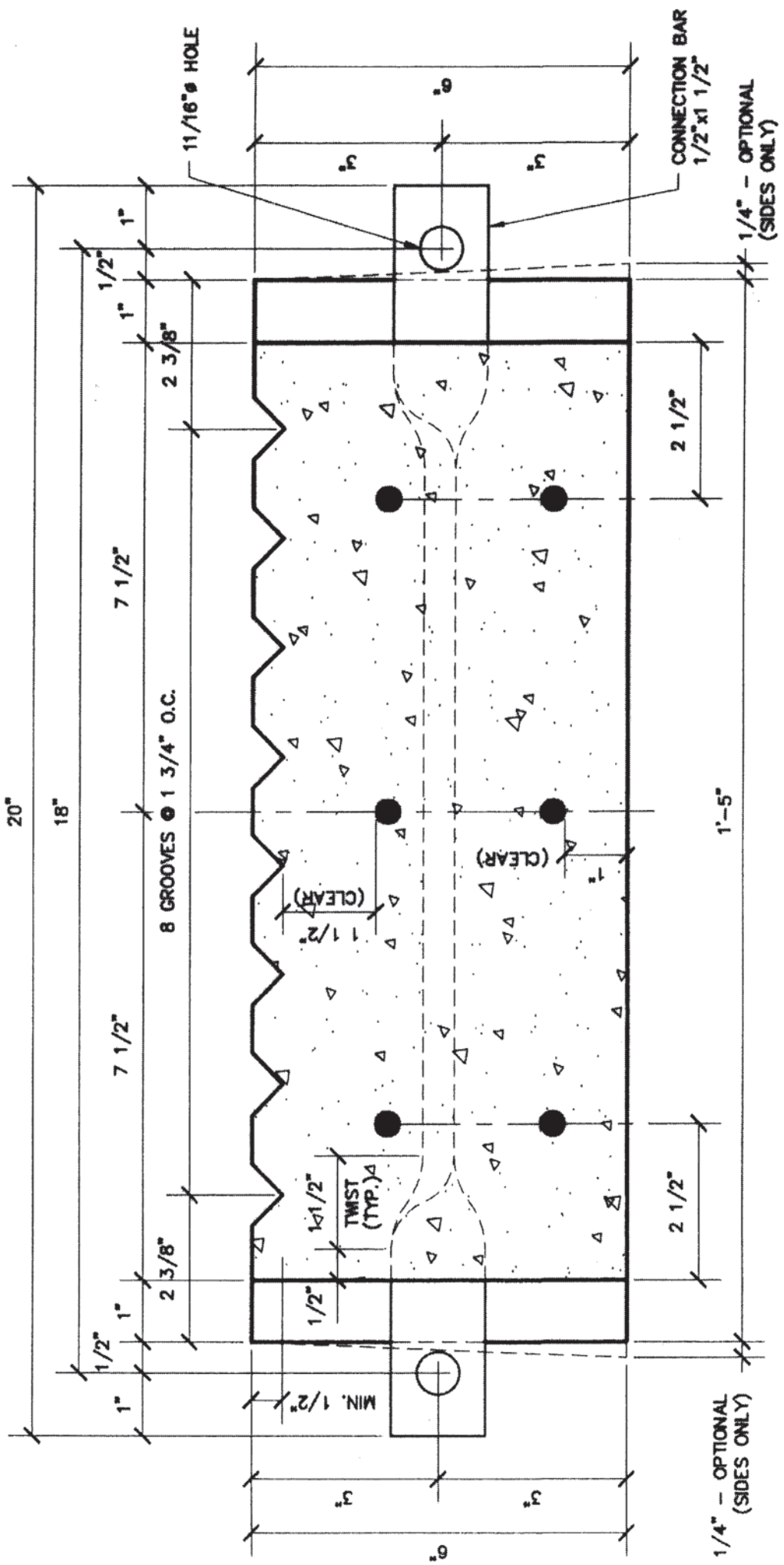
Bridge Closures:

Knickerbocker Bridge may be closed to traffic for a maximum of 12 (twelve) Calendar Days. The bridge closures shall be limited to the hours of 8:30 AM through 3:30 PM and shall meet the guidelines specified in Special Provision 652, Maintenance of Traffic. If Knickerbocker Bridge remains closed to traffic outside of the core hours listed above, The Contractor shall be assessed a lane rental fee at the rate of Five Hundred Dollars (\$500.00) per hour, for each additional hour that the bridge remains closed to traffic. Lane Rental for the first and subsequent hours is assessed when the bridge closure extends at least 10 (ten) minutes outside of the closure hours indicated above. The Contractor shall coordinate the Bridge Closure Notification in accordance with Standard Specification 104.4.10.

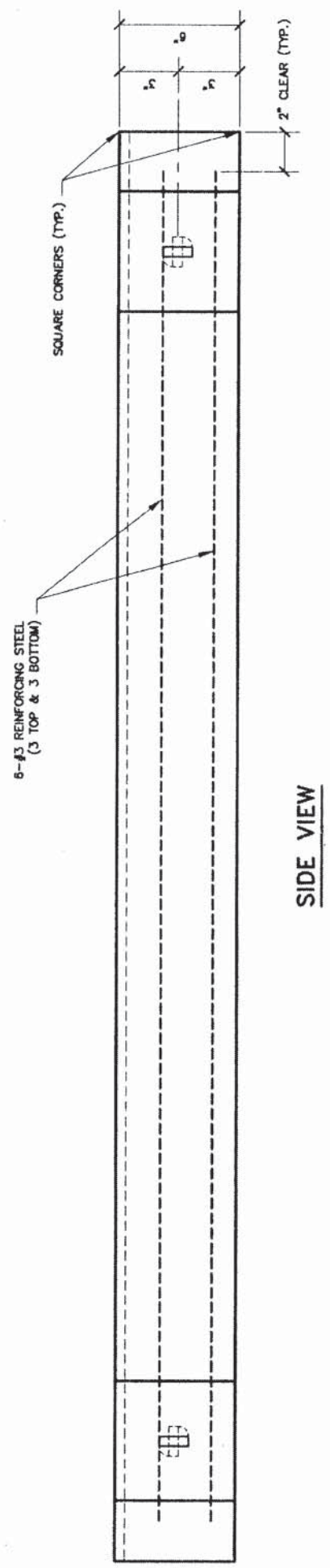
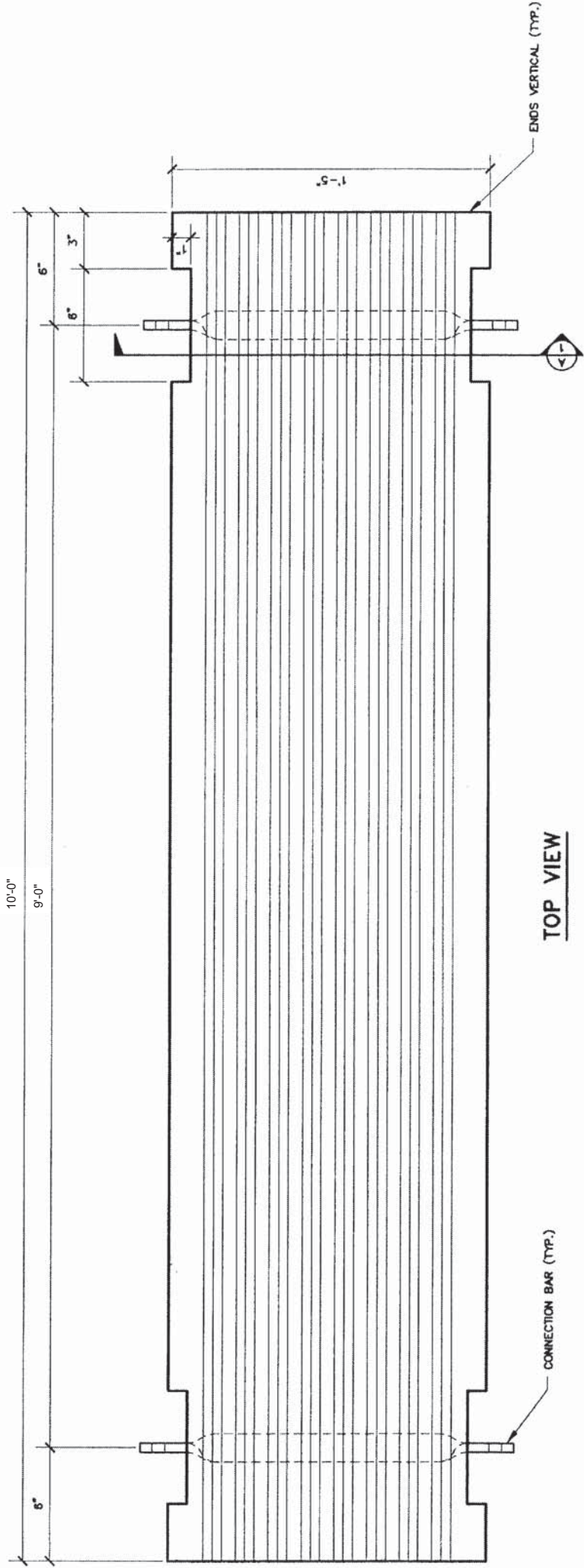
Boat Ramp/Parking Area Closures:

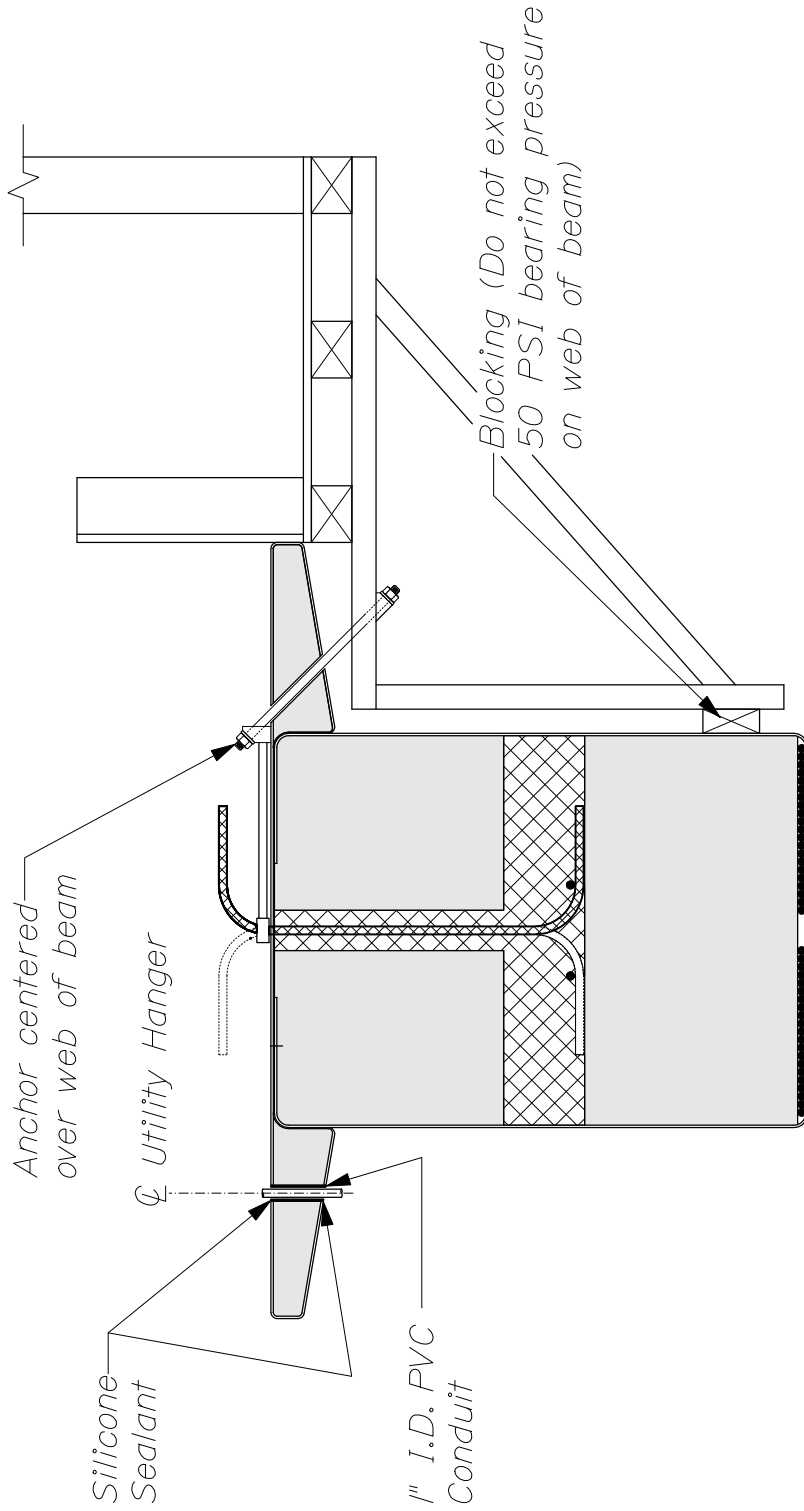
The South parking area and South boat ramp may be closed during construction except during the North boat ramp closure. The Contractor shall make space available for float storage at the south ramp area during the off season. The new south boat ramp shall be installed and available for use when the North boat ramp is closed. Re-construction of the North boat ramp / parking area other than required fill shall not commence until September 12, 2011. The North boat ramp / parking areas shall be closed for up to one 5 (five) day period for re-construction between September 12, 2011 and October 28, 2011. Reconstruction shall occur during the closure and shall include all required work except wearing course paving. If the closure extends beyond the 5 (five) days allotted above, the Contractor shall be assessed supplemental liquidated damages at the rate of Three Hundred Dollars (\$300.00) per Day, for each Day the North boat ramp/parking lot re-construction remains incomplete. The Contractor shall coordinate the North Boat Ramp/Parking Lot Closure by Notification to the Towns of Boothbay and Boothbay Harbor and all local boat yards and marinas at least 10 days prior to the closure.

Once the Contractor commences work on this project the work shall be continuous through completion unless the work stoppage is allowed by the Resident.



SECTION A





OVERHANG BRACKET