



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

Janet T. Mills
GOVERNOR

Bruce A. Van Note
COMMISSIONER

January 23, 2025
Subject: Breakwater
State WIN: 026824.00
Location: **Lubec**
Amendment No. 6

Dear Sir/Ms.:

The following questions have been received:

Question: Referring to item 531.91, some of the floats in this system will be tidal and ground out. Typically, these floats would have a bottom skid system to protect the flotation. Should the floats in the tidal / ground out area include skid systems? If so can the designer identify which floats should be equipped with this skid system and can specifications be provided to ensure these skid systems meet the intent of the design?

Response: Yes, skid protection shall be provided to floating docks that are expected to be grounded during the daily tidal cycle. These would include the floating docks located overtop/within the limits of the boat ramp rubble. Specifically, all 8'x20' floats from approximately Station 201+30 to Station 203+50. Skid details shall be submitted and reviewed during the shop drawing process.

Question: With regard to the floating docks as shown on S-301 and S-325, where floating dock sections will be grounded out on the tide cycle, typically, bottom skids are installed to help protect the flotation from being worn or damaged. Will bottom skids be required for any of the float sections?

Response: Yes, skid protection shall be provided to floating docks that are expected to be grounded during the daily tidal cycle. These would include the floating docks located overtop/within the limits of the boat ramp rubble. Specifically, all 8'x20' floats from approximately Station 201+30 to Station 203+50.

Question: With regard to the floating docks in Spec 531, stainless steel bolts are indicated. Stainless is not commonly used for fasteners for internal and external float hardware. The dissimilar materials can cause crevice corrosion and galling. Please clarify if galvanized fasteners can be used for all internal and external structural float hardware.

Response: Yes, float hardware may be galvanized. Galvanizing shall be by the hot dip method according to ASTM A 123 and A 153.

Question: Special Provision Spec section 504 for Misc Fabrication indicates welding to be in accordance with AWS D1.5. Since the Wave Screen is not related to the actual platform structure, can welding related to wave screen (eg, waler shear tabs) be in accordance with AWS D1.1? Can other welding related to the scope of this special provision be welded in accordance with AWS D1.1 (eg, W24 struts)?

Response: No. The structural integrity and performance of the struts and of the wave screen is related to the overall structural performance of the platform. All welding shall comply with AWS D1.5.

Question: With regard to the floating docks in Spec 531, Sect 531.02 indicates a requirement for “interconnected with heavy duty compression blocks and reinforced connection points”. Section 531.07 indicates a requirement for “articulating joints between float modules”. Rubber compression mounts as referred to in Section 531.02 are typically used in concrete float systems. (These are large blocks that create a 10” + gap between float sections is not readily available for timber float construction. These also make the float-to-float connection more rigid and allows minimal articulation.) Typically, timber float connectors are hot-dipped galvanized with connection tabs and pins to allow articulations between float sections, with a typical gap between float sections of 4”. Please confirm that HDG tabs and pins are acceptable at float joints with 4” gap between floats.

Response: HDG tabs and pins are acceptable at the float joints. The floats along the boat ramp, that will see grounding due to tidal change require additional flexibility to be built into the connections to allow for the expansion and contraction of the float to float joints during the daily tidal cycle. However, 4” gaps do not meet ADA compliance, so hinged cover-plates or another acceptable solution will be required

Question: SP 815, Privy Building, states that the building shall be designed to the National Electrical Code. However, there is no information in the plans for electrical service to the building. Will the privy building need to include electrical components and service / hookup?

Response: There is no requirement for electrical service to the privy.

Question: Foundation Pile Specification Section 501.043 indicates that a downhole camera is required to verify the side wall integrity of the rock socket. The ability to achieve this inspection is directly related to the clarity of the in hole/pile water. Flushing and water exchange will be required adding excessive delays in completing the pile. If the purpose of this is to confirm the quality of the rock, then this can be accomplished by verifying quality by inspecting the rock cuttings

Response: No. Camera inspections are required to confirm the quality of the rock and ensure the hole has been properly cleaned.

Question: What is the required thickness for the 30" diameter corrugated steel tubes cast into the precast pile caps?

Response: The corrugate steel pipe is not structural or critical for the performance of the pile caps. Its main purpose is to provide the void in the pile cap for the pipe pile to pile cap connection. A minimum of 16 gauge corrugated steel pipe should be used for this application.

Question: Line #0980, Item 634.2042 – The description calls out T3 lights but none are listed on the prints, in addition to the R1 & R2 lights. Please identify where these lights are to be installed. If this is a typo, does the quantity need to be adjusted from 31 to match the quantity of 18 for the R1 & R2 lights?

Response: The quantity of 31 refers to the actual light fixtures mounted on top of the poles and this quantity is correct. The numbers of each type of light pole are separate quantities because some poles have 1 fixture and some poles have 2 fixtures. Types T3 and OC are used to make a distinction between the two different light fixture model numbers (they refer to the light distribution types).

Question: Dwg. S-229 calls out an 8" diameter light pole, whereas Dwg. E-120 calls out a 4" in the parapet wall conduit detail. Please confirm which is preferred.

Response: Please refer to the pole model numbers listed in the Light Fixture Schedule on E-110 for pole requirements. This is a tapered light pole, the base is 8" and it tapers to 4.5" at the top. The model # in the lighting fixture schedule takes precedent over the sizes indicated in the details. The model # indicates design intent, but if a different product is submitted that still meets the design intent, it could be of a different diameter. The parapet wall detail on E-120 has the wrong diameter shown.

Question: Foundation Pile Specification Section 501.043 indicates that a bottom inspection for the piles is required using a SID device. Since the inspection bell/device is typically hung/lowered into the bottom of the pile/shaft with cable and manually moved around the pile bottom, it will be extremely difficult to do this within a battered pile. Can this requirement be eliminated for the battered drilled sockets?

Response: Yes. Camera inspections is not required for battered pile.

Question: What is the required surface finish of the Concrete Roadway and Pier Deck Slab?

Response: The surface finish shall comply with MaineDOT Standard Specifications, Section 502.13 Finishing Concrete Surfaces, F. Saw Cut Grooving of Concrete Wearing Surfaces.

Question: Per Special Provision 534 we are to comply with the mass concrete requirements of Special Provision 502 when producing precast pile caps. Our preliminary analysis of the maximum cementitious content along with the required pozzolan content to meet the temperature constraints does not allow for the production of 5000 psi concrete at 28 days. Is the mass concrete provision necessary if the caps are produced inside a building at the precast plant? If so, per ACI 207-guide To Mass Concrete, to allow for the reduced cementitious content the compressive strength requirement is usually extended to 90 plus days. ACI 301 Optional Checklist further corroborates that 90 days is an allowed time for reaching strength for mass concrete mixes. Is it acceptable to reach 5000 psi at 90 days?

Response: The structural concrete must meet the 5,000-psi minimum compressive strength at 28-days. The precast pile caps shall not be considered mass concrete and therefore do not need to meet ACI mass concrete requirements. The maximum total cementitious content requirements in 502 for cast-in-place items will not apply to this 534 item.

Question: Per Special Provision 534 we are to comply with the mix requirements of Special Provision 502 when producing precast/prestress. In Special Provision 502 it states the mix **shall** contain Shrinkage Reducing/Compensating admixture. If we can meet the shrinkage limits of the special provision without the admixture would it be acceptable to omit this admixture?

Response: Meeting shrinkage limits is key to the durability and quality of the precast pile caps in a highly corrosive environment. If shrinkage limits can be met without or with reduced amounts of admixture, that will be acceptable.

Consider these changes and information prior to submitting your bid on **January 29, 2025**

Sincerely,



George M. A. Macdougall P.E.
Contracts & Specifications Engineer