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October 10, 2023

Coastal Waters Commission  
Town of Freeport  
30 Main Street  
Freeport, ME 04032

Re: Carter Becker, Shore Drive (Map 5, Lot 96A)  
Coastal Waters Commission- Response to Comments at 9/13/23 Meeting

Dear Commission Members:

On behalf of my client Carter Becker, I provide the following additional information as requested by the Commission, along with responses to various comments made during the Commission's hearing on September 13<sup>th</sup>.

The Commission requested additional information regarding the engineering behind the design, more details on a restoration plan (if restoration is warranted), and risk mitigation. I provide the following:

Engineering design- Attached to this response is a detailed analysis report and discussion provided by the project engineer, Ross Cudlitz. (Mr. Cudlitz informed us that he is unable to attend the next CWC meeting on October 11, due to pre-existing travel plans.) His report provides the science-based method applied to the project design. While several opponent comments were made regarding the validity of the design, we have provided an engineered solution and no substantive factual and science-based evidence has been provided to suggest that the design is prone to failure. Only unsubstantiated fear-based “what if” comments have been made regarding the design and project (discussed below). As we described in the last CWC meeting, the proposed launch plan included far more detail than usual given the high level of interest in this project; nonetheless, these additional points address some of the main concerns we heard that night.

Restoration plan detail- The proposed project is designed to distribute the weight of the vessel and all project components (crane mats, transportation dollies attached to vessel, etc.) in a manner to avoid any permanent impacts to the coastal wetland; in fact, beyond minor, temporary impacts as described, it is intended to be a no-impact project to the salt marsh. However, to proactively address any unexpected significant compression of the salt marsh, we propose to evaluate the site for unreasonable compression after the vessel is launched and the temporary launch ramp structure has been removed. If compression occurs, we propose to implement

restorative actions if the intertidal zone does not rebound without corrective action near the start of the 2024 growing season (target implementation by May 1, 2024, provided a fall 2023 launch).

Specifically, if compression of 4 inches or more persists and if a good catch of salt marsh vegetation fails to re-establish within the footprint, the compressed area will be mechanically tilled/aerated using a small tracked excavator operating on mats and the affected area would be replanted with spartina plugs. *Spartina alterniflora* would be planted within the lower vegetated salt marsh zone, and *Spartina patens* would be planted in the high marsh zone. Plugs will be planted on 2'- 3' centers in accordance with USDA/NRCS planting specifications, and would be monitored during the 2024 growing season to ensure success. Again, we do not anticipate that corrective actions will be necessary, but we provide you with this plan simply so that it is clear that a plan is in place should unexpected results occur. If minor compression occurs and a good catch of salt marsh vegetation grows within the area during the growing season, we are reluctant to disturb the established vegetation only to replant new vegetation.

Risk Mitigation- Coastal wetland impact mitigation is discussed above. Other mitigations have been taken into account as well to ensure a safe and successful launching of the vessel. They are as follows:

-A large bulldozer or other heavy equipment will be stationed in an upland location (or, to the extent necessary, on the crane mats themselves) to provide braking assistance, in conjunction with the wheel dolly braking system, as the vessel is maneuvered into launch position.

-A large tug will be utilized to maneuver the vessel into the bay during a high tide to assist with the launching and subsequent removal of the vessel into the deeper navigable waters.

-Insurance/Financial: Carter Becker, through Falls Point Marine, performs large-scale vessel and other large equipment operations throughout the Maine coast and is fully insured for this type of project. The CWC (and some members of the public) expressed concern about a possible failure that could occur during launch, *e.g.*, "What if the boat falls over?" This is what insurance is for, and Mr. Becker intends to add the Town of Freeport to his Falls Point Marine as an additional insured for the duration of this project. He can provide proof of coverage to the Town Manager or the CWC chair, as directed.

-Remediation funds: As noted above, the launch plan is designed to have zero permanent impact upon the salt marsh and its vegetation. However, one way to ensure that there is adequate assurance for remediation efforts is to have the applicant post money in an escrow account to be used in the event the CWC determines that remediation funds are necessary and / or the applicant does not adequately address the CWC's concerns. Such funds could be available to the CWC for a fixed period following the launch and returned to the applicant if they are not used.

**Responses to other comments:**

Soils- Article XIII, §8.a.x of the Coastal Waters Ordinance requires a project to be developed on soils appropriate for the use. Numerous permanent boat launch ramps have been successfully constructed in similar coastal wetland soils as found at the project site, so the soils have historically been proven to be appropriate for the use. Further, the project design has been engineered with the soils being a primary consideration. The engineering calculations demonstrate that the soils are appropriate for the use, particularly given the project design.

Chapter 65, Section 306 standards via Section 404 standards- It was suggested that the Commission may have jurisdiction over the project in its entirety, including the upland portions of the project. Article XIII, §1 of the Coastal Waters Ordinance explicitly establishes the Commission's authority as being limited to structures and uses extending within a coastal wetland. Section 404 does not usurp the CEO's authority to review the upland portions of the project and it does not intend to assign authority to the Commission for upland development. In this respect, the proposed project is treated no differently than when a house, septic system, and pier are proposed on a property. The Commission certainly does not review adequacy of the septic system or whether the house and driveway meet minimum dimensional requirements, lot coverage, vegetation removal, etc. Rather, the Commission's authority is limited to review standards associated with the pier located within the coastal wetland, and the CEO is assigned the authority to review the upland development, without redundancy.

What if the vessel sits longer than expected- The applicant intends to launch the vessel quickly and the project has been designed to support this. As discussed during our last meeting, the design will allow the vessel to float in approximately 4 feet of water depth, which does not require an astronomical high tide- although timing of the launch is anticipated during an astronomical high tide as it provides a greater high-water duration within which to facilitate the launch. Should the vessel sit longer than expected, the project design is engineered to accommodate the vessel regardless of length of time so the likelihood of coastal wetland impacts will not increase. As noted above, there is adequate insurance cover to address any fortuitous event that may prolong the launch, but there are multiple redundancies built into the launch plan itself that will ensure no prolonged delay.

Miscellaneous- Other comments were seemingly predicated on either general distaste of the proposed project or were intended to discredit the knowledge and experience of the “local folks”, or else were otherwise framed as “what if” comments in an effort to derail the project out of unfounded fears and emotional pleading. Again, “What if the vessel tips over?” The engineered design was drafted and stamped by a Maine-licensed engineer with decades of experience; no substantive evidence has been provided that would suggest that the project design is inadequate or prone to failure. No science based or other technical evidence has been offered to competently suggest that the plan is inadequate. The proposed project has been very carefully scrutinized under widely accepted scientific practices and the design is not unique. The placement of timber crane mats to convey heavy equipment over wetland soils is a well-established practice that has proven to be very effective in providing the structural support needed and for protecting the wetland soils and vegetation beneath. This project's design is no

different than the hundreds of other wetland construction projects, perhaps other than the intended purpose of launching a vessel. But the (temporary) construction methods are the same as every other similar project on the Maine coast, such as adjacent to bridges, boat ramps, piers, causeways, and coastal roadway repairs.

Other comments included unsupported emotional appeals to the Commission regarding imagined coastal wetland impacts. For some, it likely is a legitimate fear based on a lack of knowledge about the science behind the design. However, municipal permitting decisions cannot be based on emotion. These concerns have already been adequately addressed in the proposed plan and in this letter, and we respectfully request that the Commission disregard emotion-based comments.

One comment was made that the removal of vegetation at the shoreline for the project will violate the Town's related shoreland zoning provisions. This was another comment offered without any substantiation provided by the commenter and it is simply incorrect. The Shoreland Zoning Ordinance clearly exempts the removal of vegetation for such projects (§306.P.2). Without such a provision, most pier projects that have been permitted throughout the State could not have been legally constructed, including the structures on the abutting properties! Although the CEO is assigned the authority to review vegetation removal (very limited removal is only proposed within the upland area), I felt it important to respond to this comment since it had been raised to the Commission.

I appreciate the Commission's role to separate fact from fiction and unfounded fears as it considers its approval of the proposed project. Hopefully this response will be beneficial to the Commission in that respect and that it provides sufficient information to warrant the approval of the project as proposed.

Please don't hesitate to contact me with any questions. Thank you in advance for your consideration of this matter. I look forward to discussing this with you in the near future.

Sincerely,

A handwritten signature in blue ink, appearing to read "Mike Morse".

Mike Morse

MM/lb  
Enclosures  
Cc: Carter Becker

My apologies for not being present for I am attending a mandatory company conference out of state. I hope my discussion here will provide some insight regarding the engineering behind the project:

I would like to address the discussions pertaining to pressure on the mud flats and stability of the vessel on the mats.

### Bearing Capacity of the mud flat

Initial assumptions of the properties of the mud flats were taken from standard soils bearing capacity charts such as the one below.

 emilms.fema.gov < > : X

Table 4-8. Typical Allowable Bearing Capacity by Soil Type Shown in Table 4-4

Soil Type (Symbol)	Allowable Bearing Capacity (lb/ft <sup>2</sup> )
Clay, Soft (CL, CH)	600 to 1,200
Clay, Firm (CL, CH)	1,500 to 2,500
Clay, Stiff (CL, CH)	3,000 to 4,500
Loose Sand, Wet (SP, SW, SM)	800 to 1,600
Firm Sand, Wet (SP, SW, SM, SC)	1,600 to 3,500
Gravel (GW, GP, GM, GC)	2,700 to 3,000

To be conservative the mud flats were considered to be a soft clay (600 to 1,200 PSF); these soils are also consolidated under the pressure of the high tide. An average weight (165 lbs.) individual standing on the mud flat would exert their weight over two-foot prints totaling ~54 square inches (0.375 SF). This would be the equivalent of 440 lbs. per SF of pressure on the mud flat (165lbs./0.375 SF), and they do no sink standing still. To put this in another perspective, if one were to rest a 300 lb. mushroom on the mud flat it would make a minor surface impression, but not sink being well below the minimum capacity of the mud of 600 lbs./SF.

The per tire load of the vessel carrying system is calculated at #5625 (180,000 total load / 32 tires.) There are sixteen tires per dolly set which would be #90,000 per dolly set. The longitudinal distance between the centers of the dolly axles is 5-6', so no mat would have more than a single axle at a time. That works out to 8 tires each carrying #5,625, or #45,000 per axle, and two axles per dolly set.

The picture below shows the dollies; the mat arrangement is not for the proposed launch ramp. There will be four axles (one dolly) riding on one section of mats that is 16 x 20 feet area. That is (4) 4 x 16 runners laying perpendicular (gap for skeg) on top of (5) 4 x 20 mats = 320 SF.

The total loading on the aforementioned 320 SF of mud flat is: 9 mats that weigh ~#2,000 lbs. each (5 -4' x 20' mats w/ 4 – 4' x 16' mats on top) totaling #18,000, two power dollies (w/ 16 tires total) weighing #11,600 (each dolly #5,300, and one half the vessel weight at #90,000 equals a gross total of #119,600.

The gross weight of 119,600 lbs. divided by the 320 SF contact area **equals approximately 375 lbs per SF**. This is nearly a 2.0 factor of safety when compared to the allowable of 600 lbs. / SF shown in the Soils Bearing Capacity chart found at the beginning of this letter.

There will also be Mirafi 600X Geotextile structural fabric under the mats to prevent mud from pumping up between mats, and helping to spread the load evenly.



### Access Stability

The existing topography show on the plans was provided by survey. The intent of the matted access is to keep it as low as possible to the ground while maintaining a negotiable grade for the boat transport system.

Tote bags filled with stone or gravel (see plans and plan notes), which will conform to the terrain, are to be installed only as required in areas of uneven terrain to maintain a flat launch ramp surface, and at the salt marsh vegetation to mud flat transition zone to protect the transition zone and to achieve desired mat/ramp grade.

The percent grade of the access cannot be made any steeper for safety reasons. Likewise, the matted grade cannot be made flatter for that would extend further out onto the mud flats and be higher off the existing terrain, hence more stone totes; neither of which is favorable.

### Safety

As an added precaution a heavy piece of equipment such as a D9 / D10 Bulldozer or Heavy Rescue Tow truck (or similar capacity equipment) will be perched at the top of the access ramp with a wire cable connected to the uphill dolly or vessel. This is intended to assist the dolly braking systems in order that they are not overtaxed.

The proposed design is intended to provide safe transport of the vessel from Shore Drive to launching in the water. Careful selection of materials, means, and methods has been thought out to protect the salt marsh and mudflat from compression as much as possible, while providing lateral stability to the vessel as it traverses the temporary launch ramp.

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