

Exhibit 1, Attachment A

Letter from Matt Goodrich, P.E., Principal, Water Environment Consultants



Water Environment Consultants
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February 20, 2018

Jacksonville District Corps of Engineers
Antilles Office
Fund. Angel Ramos Annex Bldg., Suite 202
383 F.D. Roosevelt Ave.
San Juan, Puerto Rico 00918

Attn: Mr. Jose Cedeno-Maldonado
Regulatory Division
South Permits Branch
Antilles Section

RE: SAJ-2004-12518 (SP-JCM) - Response to January 28, 2018 comment

Dear Mr. Cedeno-Maldonado:

This letter addresses Comment 1 in your January 28, 2018 letter to Ms. Katherine English at the Pavese Law Firm concerning the proposed development of the St. John Marina Yacht Club. I understand that the Corps is concerned that substantial project modifications would be required in the near future to provide additional wave attenuation. This response clarifies how the proposed project will avoid the need of such modifications.

The Water Environment Consultants (WEC) report concludes that although the site location is protected from all wave directions except the southeast, the site is subjected to wave heights that exceed the small craft harbor wave tranquility criteria during both the 1-year storm and during extreme hurricane events. The referenced criteria from the ASCE's *Planning and Design Guidelines for Small Craft Harbors* (2012) are "provisionally recommended criteria" that are commonly used in the industry, but there is no regulatory requirement to satisfy these specific criteria. As noted by the Corps in the January 28, 2018 letter, the WEC report explains that additional infrastructure to attenuate waves is *one* of the methods to address the fact that the wave exposure will exceed the criteria. However, the WEC report also explains that there are other alternatives to address the wave events that exceed the criteria. The proposed project will employ alternative approaches other than wave attenuation infrastructure (e.g., breakwaters).

In regard to the extreme hurricane events, the site does not need to meet tranquility criteria for safe mooring conditions because all vessels will be evacuated from the marina in advance of

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hurricane conditions. Therefore, the only wave height consideration is in regard to structure design and survivability. The project does not need to meet the ASCE's harbor tranquility criteria during extreme conditions to avoid structure damage because the project will not include floating docks and the marina will not be occupied by vessels. The fixed docks used for the marina are designed for wave conditions that exceed the ASCE's harbor tranquility criteria. This is accomplished by using a decking that allows water to pass through (thereby reducing wave uplift forces) and by using a heavy duty dock system. According to Technomarine, the docks will be designed for a 10-year return period event. For extreme events that exceed the design wave conditions, the risk will be mitigated through insurance.

In regard to operational conditions, the WEC report concludes that the site is expected to provide safe berthing for recreational boats during operational conditions except for a small fraction of the time. The alternative to providing wave attenuation for the 1-year storm is for the owner to accept the fact that the marina will not meet the operational criteria (particularly in berths subject to beam-oriented seas) a small fraction of the time during the year. In order to avoid additional wave attenuation infrastructure, this is the approach selected by the owner. This may result in lower occupancy or vessels not entering /leaving the marina during conditions that exceed the operational criteria. The smallest vessels in the marina will be on boat lifts and safe mooring of these vessels is not a concern during conditions when waves exceed the operational criteria. Marina management measures may need to be employed to ensure safe conditions in the marina and avoid vessel or dock damage during times when wave heights exceed the operational criteria.

Sincerely,

A handwritten signature in black ink, appearing to read "Matt Goodrich", with a stylized flourish at the end.

Matt Goodrich, P.E.
Principal