



Dynamic Engineering Solutions, Inc.
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June 11, 2013

To: Mr. Steven K. Tilbrook, Partner
Shutts & Bowen LLP
200 East Broward Blvd., Suite 2100
Fort Lauderdale, FL 33301

Re: Multimo, LLC
Mr. Giles Blondeau
3012 NE 20th Ct.
Fort Lauderdale, FL

To Mr. Tilbrook:

We have reviewed the proposed plans for mooring a 115' Westport vessel at 3012 NE 20th Ct., Fort Lauderdale, Florida. The vessel will be secured in the 200 foot right of way of Lake Crevalle off the Intracoastal Waterway utilizing existing dock fender pilings and two sets of triple pile clusters driven 43.4 feet from the property line as shown on the proposed plans dated 4/17/13 by the Chappell Group Inc.

There are certain design restrictions and industry best practices that must be adhered to in order to effectively and safely secure a vessel of this size. The piles must have the rigidity in section to withstand the forces placed on them by a 137 ton vessel, but they must be elastically forgiving enough that they will not damage the vessel or snap when stressed. For the 115' Westport, the minimum length of the piling is dictated by the height of the rail above the waterline, the high tide elevation, and the length and angle of the lines required to safely secure the vessel in a tidal area. It is recommended that the tip of the pilings be placed a minimum 15 feet above mean high tide.

The minimal mooring pile design should include three wood piles as proposed on the plans. Three pilings are required to provide the bending resistance. One or two pilings would not safely secure the vessel and could create a hazardous situation if the vessel were to break away from the mooring.

Wood is the non-corrosive, industry standard for mooring pilings because concrete piles are much less forgiving and will scratch and damage a vessel on impact. Also, if concrete piles are not laterally supported in a pilecap,

they will develop cracks under heavy loading or impact. Cracks lead to corrosion, corrosion leads to spalling, and spalling leads to failure. Concrete pilings are not recommended as stand-alone mooring piles.

In addition it should be noted that high tide is 1.8 feet NGVD. Therefore the minimum tip elevation of the pile clusters should be set at 16.8 feet NGVD. If line of site is a concern, the finish floor of the residence on this property is 7.08 feet NGVD. A person 5'-6" standing in the house would only see about 4 feet of piling above their line of site. If they are standing 100 feet from the piling, perspective would make the height projection appear minimal.

Should you have any questions or need any additional information, do not hesitate to contact me

Sincerely,

John H. Omslaer, P.E.

P.E. Number: 52733

E.B. 26829