February 27th, 2020

Building Zoning Appeals
The Town of Manorhaven
33 Manorhaven Blvd.
Port Washington, NY 11050

Subject: Building Structural Design Conformance – Flood Zone Criteria Verification
59 Orchard Beach Boulevard, Manorhaven, New York

Dear Building Zoning Appeals Officer,

Demerara Engineering, PLLC, the Structural Engineering firm that has evaluated the structural effects of the prevailing Flood Zone at the subject site, wishes to present the following narrative in support of our evaluations.

Based on the results of our investigations, design calculations and a thorough Literature Review of applicable documents for the subject project, it is our considered opinion, that the subject building satisfies all structural integrity issues and in our considered professional opinion, this building can be classified as safe in relation to the following items of structural conformance with FEMA and the Building Department of Manorhaven, NY:

- Lateral Hydrostatic Load
- Vertical (Buoyant Hydrostatic) Force
- Breaking Wave Load on Vertical Walls
- Lateral Wave Slam
- Hydro-Dynamic Loads
- Debris Impact Load
- Wind Load in combination with any or all of the conditions listed above.

Our evaluations have revealed that the utilization of FEMA’s Stillwater elevation El. 10.91 for computation of the load conditions that can be anticipated to result from flooding, will not negatively affect the structural integrity of the subject building and/or its foundations. Additionally, we are recommending the implementation of following site activities to serve as an upgrade to the Flood Design Capability and Sustainability of the building and thus ensure conformance with the Building Code of the Village of Manorhaven, New York.
• Remove the entire rear wall located at the garage level.
• In association with the above wall removal, replace the existing building
  supporting columns that bear on the walls to be removed, with new columns that
  will be extended downward and be supported directly on newly upgraded column
  piers and footings with no change to the bottom of footing elevation.
• Introduce side wall openings five (5) feet wide on the two (2) existing side walls,
  and located at positions measured from the rear of the building. When these
  opening are coupled with an open garage entrance, for which no solid garage door
  will be provided, the Building Code requirements for “open-wall area” shall be
  obtained.
• Lower the top of slab elevation of the side yard slabs, particularly at the rear of
  the subject building where the new foundation opening will be provided, to
• EL. 12.21 to match the Top of Slab Elevation of the garage area within the subject
  building.

Do not hesitate to contact the writer, should you have any questions or require
additional information.

Yours sincerely,

[Signature]

EMERSON ENGINEERING, PLLC

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