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December 7, 2021

Town of Wareham
Planning Board
Attn: Mr. Richard Swenson, Chairman
54 Marion Road
Wareham, MA 02571

RE: Maritime Haven – Response to Peer Review
7 Lot Definitive Subdivision Plan
36, 42, and 48 Robinwood Road
G.A.F. Job No. 20-9600

Dear Chairman Swenson,

G.A.F. Engineering, Inc., on behalf of our client RESI, LLC, has prepared revised plans and provides the following responses to the engineering peer review letter dated November 1, 2021 prepared by Charles L. Rowley, P.E., P.L.S.

This letter has been formatted for clarity by listing the review comment first in standard type followed by our italicized responses.

Compliance with Zoning

1. Lot 48 as shown on Sheet 4 of 8 does not comply with Section 615, Lot Shape Factor of the Zoning By-Law. The section requires the circle of a diameter equivalent with the minimum frontage (180') to be in buildable upland. The Board has the authority to waive this requirement if it is seen as not detrimental to the intent of the regulation.

Lot 48 contains the lot shape factor circle and has 97% contiguous upland. We believe the inclusion of a portion of wetland within the circle is not detrimental to the intent of the regulation since the shape required is being provided. A separate waiver request letter is being submitted to the Planning Board requesting relief from this requirement.

2. The 180' diameter circle as noted above includes within it an area that is identified as an isolated vegetated wetland. This would not be considered as buildable upland.

Informational. No response required. It should be noted, however, that isolated vegetated wetlands are non-jurisdictional under the Wetlands Protection Act.

3. Lot 52 also has a small portion of the 180' diameter circle located within an area that is below an existing retaining wall on an existing beach (310 CMR 10.27) and coastal dune (310 CMR 1028) both as noted on the plan. Both of these areas would not be considered as buildable upland as required in Section 615 of the By-Law.

Lot 52 contains the shape factor circle and has 91% upland. We believe that the inclusion of a small portion of beach within the circle is not detrimental to the intent of the regulation since the shape required is being provided. A separate waiver request letter has been submitted to the Planning Board requesting relief from this requirement.

Stormwater Requirements

1. The stormwater review is limited to the impact on the site caused by the construction of the proposed paved road labeled as "Maritime Row". Under the subdivision review requirements.

Informational. No response required.

2. Any stormwater impacts related to construction on the proposed lots is subject to comment by the Wareham Board of Health and to the provisions of MGL Chapter 131, The Wetlands Protection Act and the Wareham Wetlands By-Law.

Informational. No response required.

3. The GAF submittal includes a request for a waiver to the requirement of provide existing and post construction stormwater calculations due to the location of the project being in an area subject to coastal storm flowage. This waiver request should be rejected as being inconsistent with the requirements of the stormwater regulations as it pertains to impacts on abutting lands.
 - a. A 100-year storm event may not involve coastal flooding but may be a significant rain event. Events of this magnitude should not adversely impact the abutting properties.
 - b. Stormwater calculations should be submitted for the project as required by Section V, Design Standards, B, Design, 1. Full compliance with this section is required.

We have provided the requested comparison of existing and post construction flow rates and volumes. Proposed road and lot grading is provided to confirm no increase will occur in runoff to adjacent properties.

4. It is highly recommended that a design for the proposed road not include a low point where surface water can collect and not be properly disposed of from the paved surface.

The design has been revised to provide infiltration swales with crushed stone trenches on both sides of the road. The low point in the center of the road is a minimum of 1.5 feet above the low point in the swales. Grades for the south side swale adjacent to the low point have been specified to allow overflow from the swale to run onto Lot 54 and not pond in the road. Refer to sheets 5 and 6 for details associated with this revision.

5. Should the proposed subsurface infiltration system fail, there is no provision for an emergency outlet.

The revised design allows overflow from the swale to enter Lot 54.

6. An equalizer should be installed under the proposed roadway at or near station 1+0 where the road profile is in a fill section.

An 8" ductile iron equalizer pipe has been provided at the low point in the road. The flow to this pipe will be restricted by the installation of the 10" high crushed stone check dams.

7. It is recommended that a low impact design be considered that holds more to existing contours without cuts and fills.

The centerline road grade has been revised to the minimum longitudinal grade of 0.75%. Filling a portion of the road above existing grades is necessary to match the intersection elevation at Robinwood Road and provide adequate separation from seasonal high ground water for the drainage swales.

Access

1. It has been pointed out during the public hearing that currently Robinwood Road is narrow and in poor condition. It is recommended that the Board inspect Robinwood Road for possible improvements from its intersection with Powers Avenue to the proposed Maritime Row.

We have provided a report prepared by Pare Corporation dated November 8, 2021 which documents traffic impacts are not anticipated resulting from the project. Robinwood Road is maintained by the Town of Wareham and is listed as a town accepted street on the list kept on file at the Municipal Maintenance Department.

2. MGL Chapter 41, Section 81Q is the basis under which certain improvements of access may be required.

Informational. No response required.

Proposed Sewer Connection

1. It is recommended that the proposed sewer force main from the project to Nanumet Street be buried to below frost depth or be otherwise insulated to prevent freezing.

The sewer force main is proposed to be installed by directional drilling at a minimum depth of 6-7 feet.

2. If the proposed sewer line is located within any private ways that are not part of the project development site, it is recommended that approval be obtained from responsible parties to allow for excavation, directional drilling or other disturbance.

The proposed sewer line will be installed within street layouts where other municipal and utility services currently exist. This neighborhood is registered land going back to the early 1900's. The deeds for the subject property submitted with the Form C application include references to "rights in common with others entitled thereto to lay and maintain water pipes, gas pipes, and electric and telephone wires, with the poles to support the same, in said avenue, but not in any manner that shall be a detriment to the rest of the property abutting thereon".

3. Any portion of the proposed sewer line that is within a public way that is maintained by the Town of Wareham will need a permit from Municipal Maintenance for construction.

Informational. No response required.

4. Requirements of the Sewer Department should be provided for the file.

We have provided a copy of the letter authorizing discharge of the project's sewer flow into the system. An analysis of any potential impact to the system at the connection point and downstream pump station has been requested by the Director of Water Pollution Control. This project's potential impact will be minimal since we are specifying individual lot pump chambers which will discharge 50-60 gallons of sewage for each cycle as compared to a neighborhood pump station which discharges hundreds of gallons per cycle.

Water Mains and Services

1. These need to comply with the requirements of the Onset Fire District Water Department and Fire Department.

We have revised the water main location and provided two connection points based on the initial review comments received from the Onset Water Department's review engineer. Refer to revised plan sheet 5.

Waiver Request

1. Waiver from requirement for Stormwater Calculations: This waiver is not recommended and is explained above.

We are no longer requesting this waiver. The calculations have been provided with this submission.

2. Waiver from the requirement for Street Trees: This waiver is not recommended. Whether the project remains in private hands in perpetuity or not is not part of the consideration for whether trees need to be added.

We are providing the required number of street trees along the outside of the street layout line to avoid conflict with the drainage swales. The trees may eventually damage the edge of pavement if placed within the grassed shoulder within the layout.

3. Waiver from Sidewalks. There is no technical comment for this request and is left to the Board for its consideration. At the public hearing it was noted that there are no sidewalks in the immediate area.

We continue to request a waiver from the requirement for a sidewalk since there are none existing in Robinwood Road and traffic speed and volume within the development will be minimal.

4. Waiver for use of molded berms along the proposed road: This waiver may not be necessary depending on the final profile and cross section of the road. If allowed to stay as currently designed, Cape Cod Berms are a suitable alternative to either granite or cement concrete curbs.

This waiver is consistent with the low impact development drainage design which allows runoff to flow across the grassed shoulders into the swales along its entire length which will maximize infiltration and reduce gutter flow on the pavement.

5. It is assumed that the above four design criteria waivers are the only ones requested for the project and that all other requirements of the Rules and Regulations will be incorporated into the final plan. This includes all appropriate items of Section VI of the Rules and Regulations.

We have reviewed Section VI of the Rules and Regulations and revised our waiver request letter consistent with the design plans.

General Plan Comments

Sheet 5 of 8

1. Revise Note 2 at the top of the sheet to reflect the appropriate lot numbers.

We have revised the note to reference the lot numbers necessary for Land Court approval as shown on the Definitive Plans.

Sheet 7 of 8

1. Proposed Roadway Cross Section: The use of gravel and dense graded material under the proposed road surface is not recommended in this instance. Adequate sub-surface drainage is of utmost importance due to the existing site conditions.

The roadway gravel is necessary to provide a firm foundation for the pavement. The drainage swales are below the base gravel sufficient to dispose of the runoff without the need for additional storage beneath the pavement.

2. It is also recommended that the road surface be crowned to both sides with suitable stone lined swales to collect surface runoff along its length rather than a single collection system with no emergency outlet.

We have incorporated these recommendations into the revised plans.

Sheet 8 of 8

1. The bottom of the proposed rain garden is shown as being at elevation 1.0 based on the detail shown. The test pit elevation is at elevation 7.5 with mottles at 72" (6 feet) suggesting high ground water is at elevation 1.5. This is an unacceptable condition.

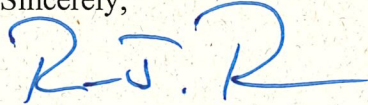
The rain garden is no longer proposed in the revised design. The bottom of the grassed swales at the low point is at elevation 4.0. No credit is taken in the calculations for infiltration within the crushed stone trenches.

2. The bottom of the proposed rain garden, if maintained, should have the bottom of stone no lower than elevation 3.5 to be in compliance with the Stormwater Regulations and guidelines of the Stormwater Handbook.

See response above.

We look forward to further discussion of the project at the upcoming continued public hearing. Please contact me directly if you have any questions.

Sincerely,



Robert J. Rogers

RJR:lmf

cc: RESI, LLC
Gay & Gay PC