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December 6, 2021

Town of Wareham Planning Board

Memorial Town Hall

54 Marion Road

Wareham, MA 02571

Peer Review for Shell Point Place Definitive Subdivision Plan

Attention: Richard Swenson, Chairman

Dear Chairman Swenson:

I am in receipt of a Subdivision Plan and accompanying Stormwater Calculations for the above referenced project off Great Neck Road. The documents have been prepared by Field Engineering of Mattapoisett, MA and are dated October 7, 2021.

General

1. The project is located in the R-30 zoning district requiring a minimum lot size of 30,000 square feet and a minimum frontage dimension of 150 feet.
2. Section 615, Lot Shape Factor of the Zoning By-Law requires a circle of diameter equal to the minimum frontage be shown for each lot. Lots 2 and 3 of the six lots shown appear to meet this requirement. The other four lots do not.
3. The proposed road layout width of 40 feet is compliant with Section 5, Design Standards of the Rules and Regulations for minor residential streets. Pavement with is shown as 22 feet including 12” Cape Cod berms on both sides of the pavement. Travel surface is 20 feet.
4. Since the project makes a connection with Great Neck Road, a town way, a curb cut permit will be required from Municipal Maintenance.
5. The plan did not evolve from a preliminary plan. Therefore, the Board has 135 days to vote to approve, approve with modification, or disapprove the plan from the date of filing.

Plans

Sheet 3 of 8, EC-1

1. This sheet shows existing conditions which includes an existing dwelling, garage and shed. It is assumed that these structures would be removed if a subdivision plan is approved.
2. The subject property adjacent to Great Neck Road is in a mapped flood zone AE-14. A wetlands line has been shown on the opposite side of Great Neck Road from the property. This line has not been field checked according to note 7 on Sheet 4 of 8, L-1.
3. Prior to any work commencing within the mapped flood zone or within 100 feet of a wetlands, a filing will be required for submission to the Wareham Conservation Commission.

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Definitive Subdivision Plan

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Sheet 4 of 8 Lotting Plan, L-1

1. Lots, 1, 4, 5, and 6 do not comply with Section 615 of the Zoning By-Law for lot shape but Section 615 gives the Board latitude to adjust the minimum dimension if it so chooses.
2. The length of the proposed street meets the requirements of Section 5, C,5 of the Rules and Regulations. The cul-de-sac diameter also meets the requirements of a minimum of 120 feet.
3. Note 2 on the plan needs clarification as no easements can be conveyed without town meeting action to accept the proposed street as a town way.

Sheet 5 of 8, Grading and Drainage, GD-1

1. The plan shows that there is a substantial grade change from Great Neck Road upward toward the rear of the property.
2. Drainage of the proposed road surface has been divided into two sections;
3. Cul-de-sac and 200 feet of road surface along with abutting ground and roofs from potentially 4 dwellings,
4. Approximately 280 feet of road surface and potentially 2 dwellings.
5. Runoff calculations appear to show that roof areas have been included in the impervious surfaces of each sub-catchment area but that there are no potential paved driveways shown. This should be clarified to indicate what portion of the total impervious surfaces of the calculations are dedicated to roofs and driveways. It would also be helpful to know how much of the remaining lot areas are dedicated to lawns or areas of moderate runoff potential.
6. The upper drainage system consists of leaching chambers and stone. The system is at capacity at the 25-year storm and overflows most runoff to the infiltration basin at the street intersection. It is recommended that the system be re-sized to contain the runoff from the 25-year storm without overflow.
7. The drainage basin shown at the intersection of the proposed road and Great Neck Road collects runoff from possibly two dwelling roofs, driveways, lawn and grass areas, 280 feet of road surface and other natural cover including the infiltration basin itself. It also receives overflow runoff from the upper drainage area. It appears to contain up to and including the 25-year storm event. However, it is overtopped for the 100-year storm event and discharges to Great Neck Road and two adjacent catch basins.
8. The stormwater regulations require that impacts from the 100-year storm event will not adversely affect abutting properties. No evidence has been presented to show that allowing overflow to Great Neck Road will not adversely impact public safety or the capacity of the catch basins to adequately handle the runoff. Input from the Municipal Maintenance Department is recommended.
9. Structures and pipe should be labeled on the plan view of the drainage system.

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Sheet 6 of 8 Plan and Profile, P-1

1. A water quality inlet is shown for the infiltration area near the street intersection but none is shown for the system involving the subsurface infiltration system at Station 3+ 0. Please explain.
2. Confirm with the Wareham Fire Dept. that three hydrants are needed for the project. Hydrant layout is typically 500 foot spacing. Where is the nearest existing hydrant on Great Neck Road?
3. It is recommended that the road profile be reviewed to see if it is possible to lower the centerline grade to 2% approaching Great Neck Road rather than 4% as proposed. This would increase the grade slightly from station 0 + 40 to station 3 + 50.
4. The Datum Elevation at the beginning of the profile stationing should be Elevation 0 rather than Elevation 2.
5. It is recommended that the electric system boxes shown on the plan not be located so as to interfere with the proposed sidewalk. Small easement areas behind the sidewalk at the lot corners would be preferable.
6. Maximum stone size in road base gravel should be 3 inches for a 6” thick layer of material. The 2” stone size for the upper layer is satisfactory.

Sheet 7 of 8 Detail Sheet, D-1

1. Show all structures with a 12” thick by 12” wide cement concrete ring that surrounds the casting and riser. Bring the surface of concrete level with the top of the binder course of pavement.
2. All pipe in and out of structures should be mortared in place inside and outside the structure.
3. The Catch Basin Detail should show the gas/oil trap as extending a minimum of 12” below the flow line of the outlet pipe.
4. The Flared End Detail should show stone extending under and in back of the flared end a distance of 2 feet to prevent scouring. The splash block would not be required. Identify the stone size as referenced by the MDOT spec. Maximum size should be half the depth of the stone layer. Filter fabric is recommended under the stone.

Sheet 8 of 8 Detail Sheet, D-2

1. Specify dry wells to be H-20 design.
2. Castings on dry wells (leaching pits) should be secured with cement concrete in a similar manner to those for catch basins.
3. All piping between dry wells should be mortared in.
4. A notation should be placed with the detail for Infiltration Basin #1 that the sand at the bottom should connect directly with the sand identified in Test Pits #1 and #2. Excavation of the top layers of material may be required.

Stormwater Report

The stormwater report contains the Long-term Maintenance plan for the project after completion. There is no reference to an Operation and Maintenance plan for the construction phase of the project. This should be incorporated into the project as a condition of approval.

Calculations presented conform with accepted practice except where noted above for additional information to confirm conditions.

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Other Comments

The plan indicates that a covenant will be provided as security for the road construction. The covenant should be presented to the Board for review and signature. The plan, if approved, can be signed after the expiration of the 20- day appeal period. Copies of the recorded plan and covenant should be submitted to the Planning Board for the file.

This concludes the initial review of the project proposal. Please feel free to contact me if you have any questions.

Very truly yours,

Charles L. Rowley

Charles L. Rowley, PE, PLS

Cc Board Members

Ken Buckland, Town Planner

Aaron Shaheen, Ass’t Town Planner

Kenneth Motta, Field Engineering Co., Inc.

David Pichette, Conservation Agent

David Menard, Director Municipal Maintenance

Jim Munise, BOS Liaison to Planning Board