



March 9, 2016  
16031

Maureen O'Meara, Town Planner  
Town of Cape Elizabeth  
320 Ocean House Road  
P.O. Box 6260  
Cape Elizabeth, Maine 04107

**Cape Chiropractic & Acupuncture Site Plan/Minor Subdivision Review**

Dear Maureen:

We have received and reviewed a submission package dated February 26, 2016 for the subject project. The package included a February 26, 2016 cover letter addressed to you from John Kenney of WBRC Architects & Engineers of Bangor and Portland, Maine along with supporting documentation, a 21 page drawing set of the project plans all dated February 26, 2016, and a standalone Subdivision Plat Plan dated February 26, 2016. Based on our review of submitted material and the project's conformance to the technical requirements of Section 16-2-3, Minor Subdivision Completeness and Section 19-9, Site Plan Completeness for a project site within the Town Center District Zone, we offer the following comments:

**General Engineering Comments:**

1. The applicant is seeking minor subdivision approval to create a three-lot subdivision which has been entitled the Tarbox Triangle Subdivision. This subdivision is being created from an existing 2.01-acre parcel located at 12 Hill Way with frontage on both Hill Way and Scott Dyer Road. In addition to subdividing the parcel, the applicant is seeking Lot 1 Site Plan approval to construct two buildings, one of which to be utilized as Cape Chiropractic & Acupuncture, with a connecting structure. Both building will also contain residential units which in total will be 10 units. The Lot 1 development also includes associated driveways, parking, and sidewalk areas. Municipal water and wastewater services will be provided from Hill Way and Scott Dyer Road, respectively. Proposed overhead and then underground electric service will be provided from Ocean House Road.
2. We understand that the Board will be conducting a completeness review for this project at their upcoming meeting. In our opinion, the submitted materials represent a completed package and the remainder of our comments here are to facilitate future design submittals and peer reviews of the project. It should be noted that additional submitted information may result in additional review comments.
3. In the February 26<sup>th</sup> cover letter, the designer requests a waiver to not construct a sidewalk along Scott Dyer Road in front of the proposed Lot 3 development. Due to a sidewalk being across from the site on Scott Dyer Road and that no development is currently proposed on Lot 3 at this time. Given that a more suitable walkway could be incorporated into the eventual design of Lot 3 and that no pressing need currently exists for the sidewalk, we support this waiver.

It should be noted that in another location within the application, there is a statement that no waivers are being requested which would be inconsistent with the request not to build a sidewalk on the Scott Dyer Road frontage at this time.

4. The Boundary Plan depicts two Right-of-Way (R.O.W.) boundary lines along the eastern side of Hill Way. The R.O.W. line closest to Hill Way was defined by Maine State Highway Commission in October 1963. The other R.O.W. line was defined by H.I. & E.C. Jordan Surveyors in January of 1955 revised through January 1969. The designer shows the H.I. and E.C. Jordan R.O.W. line as the boundary line throughout the remainder of plan set, using more of a conservative approach.
5. Additional signage (i.e. stop signs) should be added to the Site Layout Plan.
6. The number of parking spaces should be added to the Site Layout Plan. Parking space requirements per the Cape Elizabeth Site Plan Regulations should be added as notes on the Site Layout Plan.
7. New 8-inch by 8-inch granite bollards are shown along the proposed sidewalk. We are concerned that the location of the bollards may be in conflict with the plowing operations of the walkway and would suggest that these be located with a suitable separation from the main path of the sidewalk. The Public Works Director should review the location of the bollards to ensure that they will not interfere with plowing operations.
8. There is an existing water line along the subject project side of Hill Way. The designer should review with the Portland Water District as to the age of the water line and any concerns that they may have with blasting near the water line. Past blasting procedures on the municipal project have impacted older water lines to the point that the Town no longer allows blasting on roadway improvement projects and that any ledge removal needs to be done with mechanical means rather than blasting. The ledge removal on-site should not impact the water line if the method of blasting is properly used.
9. The rim and invert elevations for the existing catch basin shown on the Boundary Survey near the intersection of Hill Way and Route 77 need to be reviewed/revised. The rim elevation is shown at the same, or lower elevation as the pipe inverts.
10. It does not appear that the stone retaining wall is being proposed to stabilize either the concrete patio or grass area. The designer may wish to rename the wall to reflect that it is being proposed to create a separation barrier and also call out the location of the detail on the plan view drawing to clearly demonstrate the wall's intended construction characteristics.
11. Rip rap should be specified along the 1:1 slope at the east of the project site.
12. For the ditch areas, the designer should consider using stone check dams in lieu of or in addition to the proposed hay bales to effectively control the release of sediment during construction activities and prior to stabilization of the site.
13. Complications were noted with the proposed grading between Hill Way and the proposed sidewalk. The existing ditch is being proposed to be filled to allow for street trees in the proposed esplanade area between the edge of Hill Way and the proposed sidewalk. With the currently proposed grading, stormwater from the south side of the site will now flow to the

north and then onto Hill Way at contour elevation 86. The runoff from the site will then have to flow over 160-feet along the paved edge of Hill Way before entering a catch basin located near the intersection with Ocean House Road.

Typically, it is not a Best Management Practice to direct surface runoff from the subject site onto an existing roadway and the use of an enclosed underground drainage system of catch basins and associated storm drain pipes along with curbing is often employed. The designer should consider other methods, such as the use of a rain garden, re-implementing a swale, or installing catch basins along Hill Way in order to effectively catch and treat stormwater runoff from the project site.

Ongoing conversations are being held between the designer, the Public Works Director, and Sebago Technics as to the best method to address this issue given that the Town is also contemplating improvements to Hill Way as a Council goal. The submitted plan certainly has addressed the completeness level of design and we expect that this issue will be addressed in a subsequent submission.

14. The sawcut lines of the public roadways should be shown on the grading plan as a proposed line.
15. The designer should add invert information to all utility connections at the buildings.
16. Pump station elevations and pipe inverts should be added to the Utility Plan.
17. Length and slope information should be added to storm drain pipes.
18. Size of pipe should be added to the force main and sewer main pipes.
19. We assume that a fire service line will be necessary for the proposed buildings. The designer should add this to the plans and ensure with PWD that the existing water main in Hill Way has adequate capacity to service the proposed development.
20. Existing utility poles along Hill Way are currently shown in the middle of the proposed sidewalk. The designer should indicate that the utility poles will be relocated or realign the proposed sidewalk.
21. The designer should add light intensity level labels to the Isometric Plan to indicate intensity of the lighting. A fixture schedule should also be included on the plans. "A1" and "A2" lighting callouts should be defined on Sheet CU101.
22. The designer should specify where non-woven geotextile fabric is to be used on the Porous Pavement Detail N1 of Sheet C501.
23. A note should be added to Detail N1 on Sheet C501 to specify the purpose of the underdrain pipe where the porous pavement meets the HMA section.
24. Specification information should be added for each material within the porous pavement section on Sheet C501.
25. Detail N14 on Sheet C503 shows a Type 'C' Underdrain. The designer should indicate on the plans where this is being used.

26. The building foundation drain should tie into the proposed underground storm drain system or daylight onsite.
27. Temporary construction entrances should be shown on the grading plan.
28. A general note should be added to the plan set for Inspection and Maintenance Plan to be submitted annually by July 1<sup>st</sup> to the Town.
29. The designer should confirm that vehicle movements of a B-40 (fire truck) vehicle were analyzed through the site.

**Traffic Engineering Comments:**

A Traffic Impact Study for the project site was performed by Maine Traffic Resources (MTR) in January 2016. After review of the submitted materials, we offer the following comments:

1. MTR collected field count data in January of this year for the project – MaineDOT has recently issued new guidelines for conducting traffic counts to better reflect seasonal variations in data. For an Urban Group 1 Roadway, which Ocean House Road is, counts should be limited to between April and October. January is outside of these parameters, but given the low traffic generation of the subject facility, we are comfortable with MTR's use of this data and their subsequent analysis.
2. Traffic counts on Ocean House Road have been declining since 2002. MTR's use of a 2% growth factor on the existing counts suggests that a very conservative approach was used to analyze the proposed project's affect onto the existing roadway network.
3. MTR used a medical office use for the unspecified 2,238 square footage of the project, which we agree is the most conservative approach.
4. Based on the proposed trip generation being below the 100 peak hour trip threshold for MaineDOT's Traffic Movement Permit (TMP), we agree that no DOT permitting involvement is necessary for this project.
5. We agree with MTR's capacity analysis results. While they did not look at Ocean House Road and Shore Road intersection's function, the projected new trips are so small that we would expect there not to be any noticeable change in the Level of Service (LOS) for this intersection as a result of the project.
6. We agree that the safety analysis shows no High Crash Locations (HCL's) in the vicinity of the Project.
7. MTR makes some specific recommendations with regard to Pedestrian Circulation and Crossings particularly at the Hill Way intersection with Ocean House Road. These did not get carried forward into the design plans and will be for the Town's consideration to implement.

In summary, we agree with MTR's conclusions and see no issues with regard to traffic on this project.

**Stormwater Design Comments:**

1. Time of concentration lines should be added to the watershed plans where direct entry is not being proposed.
2. Flow arrows should be added to the watershed plans.
3. Reach 11 on the Post-Development Hydrology Plan is not modeled in the Drainage Analysis as "11R." The designer should revise the number of the node.
4. Reach's 24 and 25 are modeled in the HydroCAD analysis but are not shown on the Post-Development Hydrology Plan.

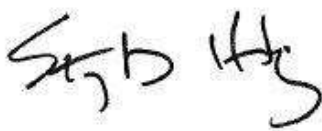
The designer analyzed the 2-, 10-, and 25- year storm events in both pre- and post-development conditions. The Stormwater Management Plan proximately features the use of porous pavement to treat and control surface water. The designer relied on publication material from the University of New Hampshire's stormwater center which is considered the regional expert on local Low Impact Development (LID) provisions in addressing stormwater quantity and, most importantly, quality impacts.

In concept, we strongly support the designer's use of the porous pavement as it will dramatically reduce the need for winter sanding and salting applications which will act to increase the water quality of runoff leaving the site. We are concerned with the slight increase (less than 5%) in peak runoff flow rates for all of the storm events in the estimated post-development condition in comparison to the pre-development condition. We encourage the designer to implement additional measure of surface water control, particularly on the Hill Way patio areas to attenuate the peak flow from the buildings and patios so that the reduction in peak rate can also be achieved.

We trust that these comments will assist the Board during their deliberations on this project. Should there be any questions or comments regarding our review, please do not hesitate to contact us.

Sincerely,

SEBAGO TECHNICS, INC.



Stephen D. Harding, P.E.  
Town Engineer

SDH:cca/llg

cc: John Kenney, WBRC  
Bob Malley, Public Works Director  
Caitlyn Abbott, Sebago Technics