August 12, 2020
16031-01

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

Subject: Two Penguin Properties, 14 Hill Way, Cape Elizabeth, Maine
Site Plan and Minor Subdivision Amendment

Dear Maureen:

We have received and reviewed a submission package dated July 29, 2020 for the subject project. The package included a July 29, 2020 cover letter prepared by Richard Dunton of Main-Land Development Consultants, supporting documentation, and a twenty-two (22) page plan set, prepared by Owen Haskell, Inc., Royal Oaks Design, and Main-Land Development Consultants. The plans prepared by Royal Oaks Design and Main-Land Development are revision dated July 28, 2020.

Sebago has reviewed the Amended Subdivision Plan by Owen Haskell, Inc. and the civil plans by Main-Land Development. A July 28, 2020 Stormwater Control Plan as prepared by Main-Land Development as well as an and Erosion & Sedimentation Control Plan were included in the application package. Based on our review of the submitted material and the project's conformance to the technical requirements of the Zoning Ordinance Article IX "Site Plan Review", the Subdivision Ordinance Article III "Standards" and Appendix A "Minor Subdivision Submission List", we offer the following comments:

1. The project is located at 14 Hill Way in Cape Elizabeth which is shown as Lot 74-3 on the Town's Tax Map 022 and identified as Lot 3 on the submitted April 22, 2020 Amended Subdivision Plan prepared by Owen Haskell. Lot 3 is mostly undeveloped and grassed with a paved drive located partially on the lot. The applicant is proposing to construct a mixed-use building consisting of non-medical offices on the first floor (1,920 SF) and a single-family residential dwelling on the second and third floors. The proposed improvements also include associated utility infrastructure, parking areas, walkways, retaining walls, and landscaping. The applicant is also proposing alterations to the northerly lot line of Lot 2 and is seeking an amendment to the previously approved subdivision plan.

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.

General Engineering Comments

1. Section 5 "Utilities" in the application package includes a June 16, 2020 email from the former Public Works Director, Robert Malley, indicating the Town's capacity for solid waste disposal. In the email, Mr. Malley indicates that the Public Works Department has jurisdiction over the sanitary sewer connection. The designer should coordinate the proposed sanitary sewer design and connection with the Public Works Department. The designer should provide an estimated daily flow from the development based on Maine Subsurface Disposal Rules and request a capacity determination from the Town.
2. Section 5 "Utilities" in the application package includes a July 23, 2020 letter from the Portland Water District indicating that the District can serve the proposed project. The letter includes several Conditions of Service that should be included in the final design of the water system.
3. The designer has noted that the review of the fire suppression system is in progress. The designer should provide confirmation from the jurisdiction that the proposed design is acceptable.
4. As part of the proposed development, the applicant is seeking a waiver from the Town's off-street parking requirements specified in Section 19-7-8 of the Zoning Ordinance. The designer notes that 7 spaces are required for a "non-medical office building". However, we note that 8 spaces would be required to meet the ordinance (1,920 SF / 250 = 7.7 = 8 spaces).

Existing Conditions and Demolition Plan Sheet (C1.1)

1. The Existing Conditions and Demolition Plan, C1.1, indicates that the pavement around an existing catch basin on Scott Dyer Road is to be removed and presumably repaired. As Scott Dyer Road is currently scheduled to be paved in September of 2020, the pavement around this catch basin cannot be disturbed and the removal of a concrete walk panel and coring of the underdrain connection into the catch basin should be done in a manner as to not impact the new surface pavement. A note to that effect should be added to the plans.
2. This plan also contains a note that that granite curb should be removed and stockpiled during the water installation work in Hill Way. We believe that the curbing in that section of Hill Way is slip form concrete so the section of curb will need to be removed and replaced.

Site Plan Comments (Sheet C2.1):

1. The designer should provide a van accessible parking space per Section 19-7-8 "Off Street Parking", Part C.
2. It appears that the entrance adjacent to the parking area leads directly to a stairwell. Accordingly, an accessible route should be provided to the front entrance.
3. Architectural drawings indicate an exterior door on the west side of the ground floor. The designer should confirm if pedestrian access from the site is needed to this entry.
4. Since the proposed parking area will be mixed-use, serving both residential units and office space, we recommend increasing the access drive width to accommodate two-way traffic.
5. Parking spaces will need to be striped in accordance with Section 19-7-8 (C). The plan should indicate that spaces will be striped on the site plan and add dimensions for the parking space widths. Additionally, one parking stall is shown immediately in front of a new walkway. Consider modifying stall or walkway location, if possible.
6. One parking stall is shown partially on a structural concrete slab. The designer should consider modifying stall location or indicating an asphalt overlay atop the concrete slab within the stall.

7. There are a few short segments of dripline filters immediately behind the retaining walls. The designer should consider including a special detail at these locations to prevent concentrated water behind the retaining wall.
8. The concrete structural slab detail shown on C9.2 indicates that the transition slab is offset from the building face, but is shown adjacent to the entry on the site plan. The designer should clarify this situation.

Grading Comments (Sheet C2.2):

1. Additional spot grades should be added to the grading plan in locations including adjacent to the proposed building, along the property need where grades tie-in, and where proposed work abuts existing features. Top of wall and bottom of wall elevations should also be added to the retaining walls.
2. The bottom of step elevation (B.O.S.) is shown as the same elevation as the 1st Finish Floor Elevation. Additional spot grades are needed to clarify grading and runoff conveyance.
3. The rain garden limits on the grading plan should be called out for clarity and indicate the bottom surface elevations of rain gardens.
4. Proposed grades on the building side of Rain Garden 2 (towards Dripline Filter 2) will likely be in excess of Elevation 97.5 to promote drainage away from the building. The designer should confirm that this elevation would be acceptable with the 1st Finish Floor Elevation (EL=98) to provide adequate reveal along the foundation wall.

Utility Comments (Sheet C2.3):

1. The designer should add storm drain structure information (i.e., rim elevations, invert elevations) to existing and proposed drainage structures. Storm drain and underdrain pipe sizes, material lengths, and slopes should be included as well.
2. We recommend showing the rain garden limits on the utility plan for clarity.
3. The designer should add invert elevations to the foundation drain systems to ensure that the system works with adequate slopes. The 1st Finish Floor Elevation is 98 with the foundation drain located at a depth below that elevation. It appears that this will make it difficult to discharge to some of the locations indicated so it is important to confirm the design intent with actual design invert information.
4. The designer should also add invert elevations to the rain garden underdrains to confirm adequate pipe slopes to the downstream connections.
5. It appears that the proposed invert in connection to the south catch basin (EL=98.00) is lower than the existing invert out (EL=98.12).
6. We believe that the existing storm drain shown along the curb line of the east side of Hill Way does not actually exist and was part of a preliminary design that was ultimately not installed. The designer should confirm this understanding as if this storm drain pipe were to exist there might likely be a conflict with the new storm drain connection from Lot 3 into the catch basin located in the southerly drive to Lot 1 which would require that the drainage structure be removed and replaced with a larger structure.
7. As it is difficult to determine from the current information presented on the plan, the designer should determine the storm drain/water line crossing elevations to confirm clearance prior to installation and to determine whether test pits would be required to confirm existing waterline elevations.

8. A new storm drain is proposed to be installed under a future retaining wall on the west side of the proposed building. The designer should consider whether a pipe sleeve, poured concrete, or other provisions should be applied to ensure the integrity of the storm drain and the retaining wall.
9. Per the Chapter 25 "Stormwater" Ordinance, easements shall be provided to the Town for access and maintenance of stormwater infrastructure.
10. Easements should also be provided to Lot 3 for the storm drain crossing on Lot 2 and on Lot 1.
11. An easement should also be provided for the underdrain pipe location and tie in on Lot 2.
12. The PWD typically requires 10-foot separation between water and sewer lines. The designer should implement that standard in utility design development, where practicable.
13. Invert information for the proposed sewer force main should be added to the plan.
14. There appears to be a conflict between the sewer lift station and the fire protection water service.

Detail Comments:

1. We recommend adding the following details:
    a. Paver walkway
    b. Cedar Fence
    c. Granite slab/landscape step
    d. Storm drain outlet apron
    e. Sewer connection to existing force main
    f. Asphalt transition detail where new asphalt pavement abuts existing asphalt pavement
2. Proposed bituminous pavement within the Town right of way should match existing thickness or meet applicable Town standards, whichever is more stringent.
3. Material specification for the gravel materials in the details should be designated per Maine Department of Transportation specifications. Pavement materials should also be called out per mix designation and geotextile fabric products should also be specified.
4. Proposed granite curbing within the Town right of way should meet applicable Town Standards.
5. Invert elevations, float, and pump information should be added to the lift station detail on C9.2.
6. Notes should be added to the retaining wall detail indicating that shop drawings and supporting calculations stamped by a qualified professional engineer shall be provided to the Engineer of Record prior to construction. A description of the retaining wall should be added to the plans along with a product material specification.
7. Note 1 of the dripline filter details indicates the reservoir course shall be at least 18 inches thick. However, the detail callouts indicate varying depths less than this thickness. The note or dimensions should be adjusted accordingly.

Stormwater Comments

- The applicant has submitted a Stormwater Submission (Section 3), as part of the of application. Since the total impervious area for the 3 Lots remains under one (1) acre, the site's stormwater improvements are not subject to Maine DEP Stormwater Law. However, the project is required to meet the Town's Stormwater Ordinance (Chapter 25). We note that Section 25-5-5 indicates that MDEP Chapter 500 Quality standards also apply. Based on our review, it appears that the design approach can meet the quality and quantity standard, but modifications and additional analyses are required.

- The designer has noted that a Maine DEP Stormwater Permit-by-Rule application has been submitted by the applicant.
- The designer is proposing two rain gardens on the east and west sides of the site to detain and treat stormwater runoff that flows overland towards the BMPs. Additionally, dripline filters are proposed around the exterior of the building to treat roof runoff. Stormwater from the site is eventually conveyed overland offsite or via the Town's drainage system, similar to existing conditions.
- A Post-Construction Stormwater Inspection and Maintenance Plan has been included within the Stormwater Control Plan. The Town's MS4 Stormwater Compliance Consultant, Kristie Rabasca of Integrated Environmental Engineering, should review this information for compliance with the Town's standards.
- Per the Site Plan Review and Chapter 25 Stormwater Ordinances, the proposed stormwater improvements shall not increase peak rates of runoff from the site for the 2-year and 25-year storm events. In general, we support this approach, however at this time, it is difficult to determine if this requirement is met. We offer the following comments for the designer to address on future submittals:

Stormwater Plans:

1. Per Section 25-1-4 (b), add existing and proposed impervious surface quantities to the Post-Development Plan.
2. Show and label the dripline filters on the Post Development Plan.
3. Add proposed contour labels to Post-Development plan.
4. It appears that the time of concentration (Tc) for sub catchment 1.1B has a segment of sheet flow incorrectly labeled.
5. Confirm that the eastern boundary considers all off-site flow from the adjacent property to WAP A.

HydroCAD Model and Calculations:

1. It appears that some impervious area is not accounted for within the area descriptions for proposed sub catchments 1.1A, 1.1C and 1.2B.
2. Dripline Filter 2 reaches a peak elevation of 97.91 in the 25-year storm event. Since the 1st FFE is 98, we assume that the dripline will overtop and flow towards Rain Garden 2. Accordingly, we recommend re-routing the dripline overflow (modeled as a weir in HydroCAD) to Rain Garden 2.
3. Dripline Filter 3 is modeled up to EL 108, but it appears that proposed grades are equal to or less than EL 107 on that side of the building. Verify and adjust model accordingly.
4. Dripline Filter 3 reaches a peak elevation of 107.85 in the 25-year storm event. It appears that proposed grades are equal to or less than EL 107 on that side of the building, meaning the dripline filter will overtop. There is a swale proposed on the adjacent lot, but the designer should confirm that the overflow conditions will not impact the neighboring property to the north. Additional drainage infrastructure may need to be installed on the north side of the site to account for the overflow condition and prevent impacts to the abutting property.
5. Rain Garden 1 reaches a peak elevation of 103.58 in the 2-year storm event. Additional spot grades should be added to demonstrate that the rain garden does not overflow to Scott Dyer Road. If overflow is expected, we recommend modeling the overflow as a secondary device in order to analyze the impacts to drainage system within Scott Dyer Road.
6. The peak water elevation in Rain Garden 1 exceeds its storage capacity and will overflow to Scott Dyer Road in the 25-year event. We recommend providing a means for overflow and re-analyzing

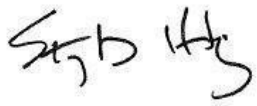
the impacts to the drainage system within Scott Dyer Road to ensure that the overflow condition does not affect downstream infrastructure and peak flow rates can still be reduced.

7. Provide supporting calculations that the rain gardens will meet the recommend treatment volumes indicated in MDEP CH 500 standards (i.e., 1-inch x impervious surface areas and 0.4-inches times the landscaped areas). Ponded depths should not exceed 6-inches for the treatment volumes. Calculations should also show drain times for the WQV event.
8. Please adjust scale of hydrographs in HydroCAD report to show the entire drain down time for the proposed rain gardens.

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:sdh

cc: Richard Dunton, Main-Land Development Consultants
Jay Reynolds, Public Works Director
Kristie Rabasca of Integrated Environmental Engineering
Corey Colwell, Sebago Technics