April 12, 2018
18039

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

Subject: Aster Lane Private Road Review

Dear Maureen:

We have received and reviewed a submission package dated March 29, 2018 for the subject project. The package included a March 29, 2018 cover letter addressed to the Planning Board Members from applicant Maggie Birlem along with supporting information and a five drawing set of the project plans. The plan set included four engineering related drawings as prepared by Ransom Consulting Engineering and Scientists of Portland, Maine with revision date of March 30, 2018 and a March 12, 2018 Boundary & Topographic Survey plan as prepared by Owen Haskell, Inc. of Falmouth, Maine. Based on our review of submitted material and the project's conformance to the technical requirements of Section 16-3-1, Subdivision Standards and Section 19-7-9, Completeness for a private road project, we offer the following comments:

General Engineering Comments:

1. The applicant is proposing to construct a gravel road connection between the current paved northerly end of Aster Lane public roadway to the existing southerly portion of the gravel surfaced South Street private roadway. This connection will require that the width of the new gravel surface be tapered between the existing 22-foot wide Aster Lane end to the 18-foot wide section of South Street. If requested, the applicant is also proposing to relocate an existing gate location between Aster Lane and South Street further to the north on South Street and name the new gravel roadway extension Aster Lane. In doing so, the applicant will have created the required frontage along a roadway to construct a residential home.

2. We understand that the Board will be conducting a completeness review for this project at their upcoming meeting. Several of our following comments could be considered beyond the completeness level and have been provided here to facilitate future submissions and reviews of the project. It should be noted that additional submitted information may result in additional review comments.

3. The applicant is requesting a waiver from the road width requirement of 22-feet to taper the existing gravel extension to an 18-foot wide surface. We have historically not supported other road width reduction requests in the past, but understand that the Planning Board as the decision-making body has the prerogative to do so on a case-by-case basis.

4. We understand that the new private road will need to meet the local road standards as set forth in Chapter 16, Subdivision Regulations with the Planning Board having the right to grant certain waivers. The typical road section on Sheet C-103 indicates that the proposed roadway will have no shoulders, whereas the local road standard indicates a four foot shoulder. The designer should accommodate a shoulder and/or request a waiver for a reduced shoulder width.

5. The roadway standards also indicate that the road shall be centered in the right of way. The paved public portion of Aster Lane complies with this standard, however, the proposed gravel road extension centerline veers slightly to the east such that the center of the road extension is less than 5-feet off at the end of the new extension. It appears the placement of the road was selected to minimize impacts to existing improvements already constructed within and alongside of South Street. The applicant may wish to consider a waiver request of this standard.

6. The Subdivision Regulations also require that an enclosed drainage system to be provided. The applicant may also consider requesting a waiver for an enclosed drainage system.

7. The applicant's designer has stated that since a minimal increase in new impervious surface occurs as part of the new roadway construction that a formal stormwater report with supporting calculations is not required. We agree with the applicant's assertion that the improvements to the existing drive will create a minimal net gain impervious area and that if the new impervious surface area does not exceed 10,000 square feet, the project does not require a formal stormwater analysis report with supporting calculations.

8. The applicant has proposed to create a rain garden on the house lot, however, to treat runoff from the gravel road and the designer has sized the raingarden to receive 1,000 square feet of the gravel roadway's impervious surface. In looking at the plan, it appears that a larger area including the paved roadway and turnaround areas of Aster Lane along with the surrounding area are likely to enter the rain garden as currently graded. Further areas of the new house lot, which currently shows no contour information nor any lot development plan, could also conceivably drain into the rain garden. Our concern is that the rain garden may be undersized to treat the intended 1-inch storm event. The designer should revisit the design of the rain garden more closely to accurately depict the rain garden's catchment area and make necessary adjustments and provisions (e.g., up gradient diversion swales or berms) to properly size this beneficial low impact development (LID) feature and to keep unintended runoff from entering it.

9. The plans should also indicate that the property owner would be maintaining the rain garden. The Planning Board may also wish to consider expanding the road maintenance agreement to include this drainage feature.

10. The rain garden should also have a provision to address the means of controlling surface runoff outflow for those storm events greater than the one-inch event. Currently, there appears to be a down gradient berm at a constant elevation which can possibly erode in a settled low spot during overflow events. The designer should look to add support to the berm or provide an overflow spillway to encourage the runoff to disperse in a protected location. Also down gradient flow patterns for the rain garden should be evaluated with adequate provisions to ensure that no adverse impact is created.

11. Note 1 on the Rain Garden Detail on Sheet C-103 indicates that the rain garden should be built and vegetated a minimum of 3 months before directing stormwater into it. Given that the gravel road extension would directly drain runoff into the rain garden, the designer should consider how this provision be practically implemented and the runoff controlled during the rain garden establishment period.

12. The applicant is proposing to construct a new driveway with a new house on the adjoining lot. The designer should add the location of the driveway and its culvert along with sizing calculations in a future submission.

13. The design currently shows the removal of a paved berm at the end of the paved section of Aster Lane. Our understanding that this berm was installed to address a continual wash out problem beyond the paved portion of Aster Lane as it transitioned onto the adjacent gravel surfaces. With the removal of the paved berm and given the relatively steep paved portion of Aster Lane which drains to the end of the paved portion of the road, the designer should address the potential for the washouts so that they do not reoccur after the road is extended.

14. The new roadside swale on the east side of the proposed roadway extension appears to be fairly steep. The designer should review the potential for erosion in the new swale and provide permanent and temporary protection measures, as required.

15. With the potential relocation of the gate, there is some question as to how turnaround movements would be made on both Aster Lane and South Street. The Fire Chief should be consulted as to the Town's emergency accessibility needs and these accommodations should be provided on future plan submittals.

16. The plans do not indicate any new monumentation to depict locations of the end of the public way or private way. The Public Works Director should be consulted to determine where such monuments, if any, should be placed.

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:llg

cc: Bob Malley, Cape Elizabeth Public Works Director
Steve Bradstreet, Ransom Consulting Engineering and Scientists