



September 14, 2016  
16031

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

**Subject: Cape Chiropractic & Acupuncture Site Plan Amendment/Minor Subdivision Re-Approval Review**

Dear Maureen:

We have received and reviewed a revised submission package dated September 8, 2016 for the subject project. The package included a September 8, 2016 cover letter addressed to you from John Kenney of WBRC Architects & Engineers of Bangor and Portland, Maine along with a seven sheet drawing set of the project plans with a revision date of September 7, 2016. Also included in the submission package was a standalone September 7, 2016 Subdivision Plat Plan.

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, and our previous May 11, 2016 review, we offer the following comments:

**General Engineering Comments:**

1. The applicant is requesting re-approval of a 3-lot subdivision located on Hill Way, as well as minor amendments to the site plan approval of Cape Chiropractic and Acupuncture Center. Recent improvements to the plans include the addition of a generator, relocation of a tree, relocation of the entry to Building 2, and a revised connector layout between Building 1 and Building 2.

In our last review letter of May 11, 2016, we noted the need to provide a MDOT specifications for a granular base material referenced in the concrete paver sidewalk detail. That specific comment was not addressed in the submittal package, however in a subsequent telephone conversation with WBRC designer John Kenney, John noted that the classifications and material specifications have been detailed in the construction specifications for this project's construction documents.

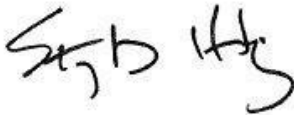
2. In an email on Monday, September 12, 2016, John Kenney provided the project specifications for earth moving for structures and pavements to Sebago Technics, Inc. It was confirmed that the gravels specified for the sidewalk build-up have been defined based on MDOT and other classification Standards. Attached is an excerpt of the specifications that clearly define gravel the materials to be used. As our comment was intended to ensure that the contractor would install the proper materials, we believe that are original comment has been addressed.

3. The remainder of the plan changes do not affect any of the previous engineering related findings of our review.

Based on our review of submitted material and the submittal's conformance to the previous Planning Board approval, we believe that the current design is in keeping with the original Planning Board approval and that the conditions of that approval have been met. 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.

A handwritten signature in black ink, appearing to read "SDH" followed by a stylized flourish.

Stephen D. Harding, P.E.  
Town Engineer

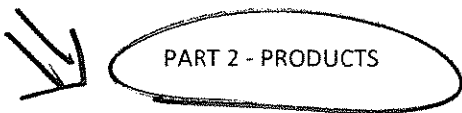
SDH:cca/lhg  
Att.

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

- E. Rock payment lines for building excavation will permit 6 inches of overblow in all directions from footing. Rock payment lines for trenches will permit 6 inches of overblow in all directions from bedding as shown in the Drawings (min. 36" width for payment).
- F. For the purposes of computing compensation, the payment limits for excavation will be not over 18 inches beyond face of foundation wall in any horizontal direction. Excavations which are made beyond these limits shall be so executed at the Contractor's risk without compensation. Payments will not be made for excess excavations caused by methods of operations used by the Contractor. Unauthorized excess excavations shall be at the Contractor's risk and expense.
- G. All rock excavated shall be removed from the site and disposed of by the Contractor. **Except where it can properly be reused on-site as described and indicated on the drawings.**
- H. All lines and grade work not presently established at the site shall be laid out by the Contractor in accordance with the Contract Documents. Establish permanent bench marks by employment of a registered land surveyor or professional Civil Engineer. Maintain all established bounds and bench marks and replace any which are destroyed or disturbed.

1.11 UNSUITABLE MATERIAL EXCAVATION

- A. When, during the process of excavation, unsuitable material is encountered, such material shall be uncovered and exposed and the Architect and/or Engineer shall be notified by the Contractor before proceeding further. The Contractor shall not proceed with the excavation of material claimed as unsuitable until the material has been classified by a Geotechnical Engineer. Failure on the part of the Contractor to uncover such material or notify the Architect or Engineer will forfeit the Contractor's right-of-claim for any compensation.
- B. The Contractor shall employ at their expense a registered land surveyor acceptable to the Architect and/or Engineer to take survey the surface of the unsuitable material before removal of same.
- C. The geotechnical shall remain on site and monitor the removal of the material. The geotechnical engineer will direct the contractor when the extent of unsuitable material has been removed.
- D. The surveyor retained will survey the post removal limits and provide computations of cross sections within the limit of excavation lines. Include a final cubic yardage of material removed. The contractor shall provide this information to the Architect/Engineer for review along with any requisition for payment. Contractor will not be reimbursed for the removal of material they placed as part of this project that has been deemed unsuitable. Similarly the contractor will not be paid for frozen material, or satisfactory material that has been compromised because it was not properly protected and allowed to freeze.
- E. All unsuitable material excavated shall be removed from the site and disposed of by the Contractor following all local, state, and federal regulations.



2.1 MATERIALS

- A. Soil Materials: Provide materials free from debris, roots, wood, scrap materials, vegetable matter, refuse or frozen material. Maximum particle size permitted is 6-inches unless otherwise indicated on

the drawings. Use excavated material from the site for the work indicated when material falls within the requirements specified herein.

B. Coarse Aggregate: MDOT 703.02 Coarse Aggregate for Concrete (Grading AA, Aggregate Size ¾")

C. Gas Permeable Coarse Aggregate: Provide clean crushed stone or gravel per ASTM E1465 Type 2 Medium Aggregate with the following gradation:

Sieve	% by Weight Passing
1 inch	100
¾ inch	90 – 100
½ inch	20 – 55
¾ inch	0 – 15
No. 4	0 – 5

Note: Void space must be at least 40%

D. Granular Fill: MDOT 703.06 Aggregate for Base and Sub-base (Type B)

E. Granular Base: MDOT 703.06 Aggregate for Base and Sub-base (Type A)

F. Granular Subbase: MDOT 703.06 Aggregate for Base and Sub-base (Type C)

G. Fine Aggregate: MDOT 703.01 Fine Aggregate for Concrete

H. General Site Fill: Provide a soil material from the site or borrow that can be readily compacted to the specified densities and meeting requirements as follows:

Sieve	% by Weight Passing
6 inch	100
3 inch	90 – 100
1/4 inch	25 – 90
No. 40	0 – 50
No. 200	0 – 20

Materials shall be free of organic material, peat, clay, and other similar soft materials and may include blast ledge material up to 6" in diameter. This material shall not be used under buildings, pavements, or other structures unless otherwise indicated.

I. Structural Fill: Provide materials classified as "Granular Fill" where indicated. Structural fill may also include non-frost susceptible "General Site Fill" located a minimum of 18" from foundation walls or adjacent to utilities, or a minimum of 12" away from building slabs, pavements or as indicated on the drawings or specified. System to be as follows:

1. Lifts to be a maximum of 9" thick.
2. Compact each lift to 95% compaction as determined by ASTM D1557.
3. Then add the next lift.

- J. Topsoil: Provide product classified as USDA loamy sand topsoil with 5%-8% humified organic matter and meeting the specification provided below. Topsoil from the project site may be appropriate but whether offsite or on-site the material should be tested for organic content and clay content (hydrometer test) The soil must be screened, loose, friable and shall be free of refuse, stones (greater than 2 inches), clogs, roots, and other undesirable foreign matter. See the gradation below:

Sieve	% by Weight Passing
No. 4	75 – 95
No. 10	60 – 90
No. 40	35 – 85
No. 200	8 – 15

- K. Stone Dust/ Crusher Dust: Stone dust shall consist of clean, washed concrete sand or stone dust free from vegetable matter lumps or balls of clay and other deleterious substances conforming to the following gradation requirements:

Sieve	% by Weight Passing
3/8"	100
No. 4	90 – 96
No. 100	10 – 30

NOTE: Do not use mason sand or Limestone screenings.

- L. French Drain Stone: MDOT 703.24 Stone for French Drains
- M. Crushed Stone: MDOT 703.31 Crushed Stone
- N. Landscape Boulders: Landscape Boulders shall be durable sound rock or ledge, either excavated from earth as-is or blasted ledge chunks. If excavated from earth the boulder shall be cleaned of dirt, debris or other objectionable matter. The boulders shall be approximately 3 feet wide by 3 feet deep by 3 feet tall, or the size as indicated on the drawings. The size shall be somewhat symmetrical and shall not have one face exceed four times the length of any other side. (i.e.-avoid long and skinny) The boulder shall be positioned or shaped so as not to have any large protruding edges or sharp points that could pose a safety hazard. The boulder shall be devoid of any cracks, seams, and other defects that would otherwise compromise its integrity or increase the risk of deterioration or erosion from exterior forces manmade or natural causes.

2.2 GEOTEXTILE FABRICS

- A. As specified on drawings or in Section 313000, "Sedimentation and Erosion Control Measures"
- B. Acceptable Manufacturers:
  1. TenCate Geosynthetics
  2. Or Approved By Engineer