

TOWN OF CAPE ELIZABETH

TO: Maureen O'Meara, Town Planner
FROM: Michael Duddy, Tree Warden
DATE: March 25, 2016
RE: Cape Chiropractic & Acupuncture;
Tarbox Triangle Subdivision Plan

As requested, I reviewed the three-lot Tarbox Triangle Subdivision and the site plan for the proposed Cape Chiropractic & Acupuncture project in Lot 1 of the proposed subdivision. My comments with regard to the arboricultural aspects of the projects are set forth below.

Sheet C-1001, Site General Notes & Abbreviations

- Removal Note R5 states as follows: “tree canopy as shown on plans are approximate and should be field verified by the site contractor.” This is an important note, because the location of tree canopies shown on various sheets vary, and sometimes it’s difficult to ascertain whether a disturbed area will be within or without the drip line of a particular tree canopy. As I discuss in subsequent notes, with regard to trees outside of the removal area which the developer plans to retain, it may be important to indicate the location of the tree canopies with more precision.
- The Grading Notes do not speak to what, if any, plans are made for undisturbed areas underneath tree canopy. If the undisturbed areas under the tree canopies will be maintained at their existing grade, then a notes should be added to confirm that. Additionally, the developer should address how changing the grade in surrounding areas will or will not effect the grade in the undisturbed areas under the tree canopies.

Sheet CD101, Site Removals Plan

- The area of tree removals shows several locations where the removal area runs within the drip line of trees which have been selected for retention. The developer should add an explanation for whether removal activity will occur within the drip line of trees intended to be retained after the removals, and if so, how to avoid compaction and other issues.
- A number of trees outside of the tree removal area are indicated for retention. Some of these trees are listed as oak, but the species is not described for other trees. The developer should

ascertain whether any of the trees intended for retention are ash trees (*Fraxinus* spp.). If any of the trees intended for retention are ash trees, it may be useful to ask to reconsider whether those trees are appropriate for retention.

- The tree removal area shows that trees intended for retention will be exposed to a new edge, where previously forest existed. Whether on this sheet or a different sheet, the developer should provide comments about how to deal with the expected edge effects for newly exposed trees that were previously part of a contiguous forest.
- Note 1 states that: “see notes R1-R4 on Sheet C-001 for additional removals information.” The note should reference notes R1-R5, since R5 contains the statement that tree canopy field verification is necessary. This is an important point to include on the removal sheet, to make sure that trees intended for retention are not inadvertently removed.
- Note 5 states as follows: “some tree trimming not shown on this plan may be necessary for construction purposes. The site contractor should evaluate and schedule accordingly.” This note should be expanded, to include specifications for the tree trimming, or to reference a separate document that will include tree trimming specifications. The note should also indicate that any tree trimming shall be done by a licensed arborist, according to the specifications. The tree trimming specifications should address not only above ground parts of the trees, but also root pruning of the root system if necessary.

CG 101, Site Grading Plan

- The Site Grading Plan shows grading changes immediately adjacent to the north boundary of the subdivision, along the entire edge of the area in which trees will be retained. The grading plan shows grading changes within the drip line of several remaining trees. Grading changes can have a significantly adverse impact on survival of remaining trees. Accordingly, the developer should be asked to explain how grading changes around remaining trees will be minimized.
- The grading notes do not reflect whether any fencing will be placed around areas of retained trees to prevent inadvertent grading in areas in which it is not desired. An appropriate note should be added to the sheet.
- It might also be helpful to note that no grading or changes to the surface top soil will occur in areas in which trees are retained.

LP101 Site Planting Plan

- The Planting Plan calls for planting 7 Sugar Maples. For purposes of Town-wide diversity and sustainability, I have recommended that the Maple genus, Acer, should not currently be used for purposes of new plantings. There are several good alternatives to Maples, which are thought to have greater ability to resist invasive pests. The developer should be asked to consider alternatives to the use of sugar maples.
- The Planting Plan currently calls for the use of 2 River Birch trees. For the same reasons as explained with regard to Sugar Maples, the developer should be asked to consider alternatives to River birches.
- The Planting Plans call for 14 Honey Locust trees. These trees are a good selection for purposes of diversity and sustainability. The Planting Plans in particular call for a row of ten Honey Locust trees along Hill Way. Based on issues with subdivisions in other parts of Town, which planted large numbers of ash trees in a row, it would be beneficial to consider whether some of the Honey Locust trees along the 10-tree allee could be swapped out for an alternative species. Perhaps 2 to 4 of the planned 10 trees could be an alternative species.
- Overall, I have a concern that the northern boundary of the project is not adequately buffered. I am concerned that the residual trees do not provide sufficient buffering. I am also concerned that the residual trees may not survive the project, which will cause a substantial loss in buffering. The developer should be asked to provide plans for additional buffering along the northern boundary of the project.
- With regard to the trees intended to be retained, I had expected to find an inventory showing the health status of each of those trees, along with species, diameter, height, and live crown ratio. That data does not appear to exist. Since residual trees are such a critical aspect of the buffering along the northern boundary, this information is important. If any of the trees indicated for retention are of poor health or inadequate live crown ratio, that needs to be factored into the buffering plan.
- Additionally, the developer needs to identify whether any of the trees currently planned for retention are ash trees. If they are ash trees, then special consideration needs to be given for whether it is appropriate to rely on those trees for buffering.
- Currently, 3 Shadblow trees are indicated for planting along the northern boundary for additional buffering. The Shadblow tree does not have a particularly dense canopy, and thus

doesn't provide a lot of additional buffering. The developer should consider alternatives to Shadblow in this area for buffering purposes.

- Additional buffering could be obtained in two ways. First, the developer should consider under-planting the residual trees with shade tolerant trees which will ultimately grow into the overstory. Thus, if some of the retained trees subsequently die, replacements will already be growing underneath them. Second, additional under-planting of small trees and shrubs should be undertaken along much of the northern boundary of the project.
- Trees are planned to be planted in several parking lot projections. It is difficult to ascertain the dimensions of those parking lot projections. The developer should specify the dimensions to the parking lot projections, and include a calculation of soil volume. The soil volume should be assessed to determine whether it is appropriate to support the desired trees.
- Additionally, a note should be added that the parking lot projections where trees will be planted should be filled with soil appropriate to support tree growth, to a depth of at least 2.5 feet. The note should specify the nature of the fill. Since the parking lot projections will be of relatively low soil volume, the entire projection should be filled with appropriate soil for tree planting.
- The 10 Honey Locust trees along Hill Way appear to be designed for planting in the tree lawn between the sidewalk and the paved road. The developer should include the dimensions of the tree lawn, and also include a description of available soil volume. This is especially important, because the 10 trees appear to be designed for planting 20 ft. on center. A note should be added to the plan that the entire tree lawn area should be filled with soil appropriate for tree planting, to compensate for what is anticipated to be a relatively small amount of soil volume per tree. The note should specify exactly what type of soil will be used in this area.
- Note 4 states that “plant root balls shall bear the same relationship to finish grade as they did at the nursesey.” The same statement is contained in A1, A6, and A10. I would prefer all of these notes state that the contractor will open up the top of each root ball to ascertain the location of the root flare. Any soil covering the root flare will be removed from the top of the root ball. Thereafter, the root ball will be planted at such a depth that the root flare remain above the finish grade after planting.
- A1, A6, and A10 all state: “remove burlap from the top 1/3 of root ball if burlap is made of jute.” This is not a sufficient practice for optimizing tree establishment and subsequent survival. The note should be revised to state that burlap, whether made of jute, plastic, or

other material or fabric, should be cut and removed to the greatest extent possible, so that any remaining burlap is only underneath the root ball.

- Note 19 states as follows: “in areas where trees are noted to remain, contractor shall take all necessary precautions to prevent damage to trees to remain, including, but not limited to the installation of temporary fencing.” This note is inadequate. The note should be expanded to include the specifications for tree preservation during construction, or the note should reference a separate document containing detailed specifications for tree preservation during construction.
- A1, A6, and A10 all reference a 3” “earth saucer shaped from planting soil,” to form a ring around the tree planting pit. I would prefer that the saucer consist of raised mulch, rather than earth, to prevent water excessively pooling over the root ball.
- The planting notes do not contain any note about post-planting tree maintenance, such as a watering schedule. Such a note should be added to Sheet LP101.