

Chessia Consulting Services LLC



June 17, 2021

Planning Board
Town of Hingham
210 Central Street
Hingham, MA 02043

RE: Supplemental Engineering Review
#4 Jordan Way (Lot 4A)
Site Plan Review

Dear Members of the Board:

In response to your request, Chessia Consulting Services, LLC has reviewed the above referenced project under the Site Plan review procedures in the Zoning By-Law. The submittal was also reviewed for general engineering design standards, and DEP Stormwater Management Policy/drainage design. The data reviewed included the following information:

- Plans entitled:
“4 Jordan Way Hingham, MA” dated March 07, 2021, revised 6/7/21
consisting of 4 sheets prepared by James Engineering, Inc. (Plans)
“Landscape Plan Residence 4 Jordan Way Hingham, MA” dated 04/27/2021
prepared by Tish. *(Not resubmitted)*

I have previously visited the site on several occasions as part of subdivision review and construction. This project is for a lot in the approved Definitive Subdivision. I visited the site on April 15, 2021 to observe site conditions on the lot and performed a follow up visit with Christine Stickney on May 6, 2021.

The site is located off the cul de sac on the south east end. At this time the roadway has been constructed to binder. This lot was listed as part of Phase 2 on the SWPPP. The building area appears to have been mostly cleared at this time based on my site visit. The Lot should have the tree preservation area marked with orange construction fencing in accordance with the SWPPP. This fence has deteriorated and has not been maintained. This should be done immediately for all areas except those that have been completed as part of the construction of existing houses (Lots 2A and 3A). The proposed sediment barrier should also be reviewed and replaced/maintained as necessary.

As this lot is part of the overall site development and calculations, there are no new calculations provided. I have compared the proposed plan to the approved plan and listed any data that the Board may request under site plan review.

GENERAL PLAN REVIEW:

The proposed project would develop a new residential house on a previously approved subdivision lot. At this time the roadway is complete to binder and only the driveway will be necessary to fully access the lot.

Current comments are in **highlighted type** below my prior comments in *italic type* following my initial comment.

The following issues are considered the most significant for the Board to consider in review of the project:

- Part of the driveway is proposed in the Tree Preservation Area and should be relocated outside of this area.

Not addressed.

The response claims this is a small area with no trees and is in blasted ledge. The Tree Preservation Area should be revised, if this is accepted by the Board, as it would no longer function as a tree preservation area. Based on a site visit on June 17, 2021, the area impacted appears to be more filled than blasted. There is a spine of ledge that is exposed in three locations and had not been blasted or removed. I reviewed construction inspection data and it is not clear that the older mulch log in this area was inspected, as appears to have been installed at a later phase and not during the initial start of the project. In any case, the older section of mulch log appears to be well east of the Tree Preservation Area in the northern section and should be shown on the plan. Alternatively a new mulch log could be installed at the approved limit of work. It is unclear if this section of mulch log was staked out by a surveyor. As recommended in prior letters and meetings, identifying the approved location of the Tree Preservation Area in the field would be useful in determining the current impacts in the area and potential mitigation. This has not been performed to date.

- The Board should review the proposed landscaping. I note that a landscaping plan has not been provided and is typically required.

A landscaping plan has been provided. The Board should review the plan.

The landscaping plan has not been revised, the Board should review the plan. I note that part of the fill proposed for a tree planting area is on the abutting property and may not remain as that side, although not proposed to be cut on the approved plans is not in a tree preservation area and it appears that part of the area of woods indicated to remain on that lot has already been cleared.

- *Based on our site visit of May 6, 2021, it appears that the tree preservation area has been altered on the east side of the lot. The plans scale approximately 55-60 feet between areas where the driveway is proposed and there is a significantly*

larger area that has been disturbed to the east of the tree preservation island in front of the proposed house.

The Board should review this aspect of the plans. The Response states that the area has been cleared since 2019. This may be the case but it is not consistent with the approved plans. The Response also claims that there were no trees in this area due to ledge. If that is the case the Applicant should not have proposed it as a Tree Preservation Area, and should have raised the issue prior to any site disturbance. Based on a review of the adjacent ANR lot (39 Canterbury) part of the woods that was not to be disturbed on that lot has been cut. I recommend that the Board require the Applicant to survey the current limit of existing woods in the area together with the location of the currently installed mulch log.

- The revised plans will require a filing with the Conservation Commission for work in the 100 foot buffer zone.

Section I-I Site Plan Review:

1. Purpose:
No comment required.
2. Procedures:
It is assumed that the appropriate information has been submitted to initiate the review process. The Board should review the project relative to the specific subsections of this section.
3. Pre-Application Submittal.
Not applicable, the lot is part of the approved subdivision.
4. Submittal Requirements:
 - a. The submittal includes a locus plan. The Owner/Applicant is listed as Canterbury Street LLC on the Plan. The required zoning setbacks and area dimensions should be listed on the Plans. The actual setbacks are indicated. The lot is in the Residence C district and exceeds lot area requirements and complies with setback requirements. The plans indicate existing and proposed contour elevations in the vicinity of the proposed work but are incomplete. Existing grades elevations should be labeled and the source of the data referenced on the grading plans. It is unclear that the proposed contours connect to existing contours in some locations. Structures within 100 feet of the property line are indicated on the plans.
Contour data has been added and the notes on Sheet 4 reference the sources. Some of the data is based on more recent surveys and some is from the subdivision plans.
Contours have been revised to show current conditions. This was a request from the Planning Board.
 - b. The plans are drawn to scale (1" = 60' and 1" = 20') and indicate the proposed building footprint. Building elevations and floor plans were not provided but may not be required for a residential dwelling.

- c. No data on traffic circulation has been provided. As a single family lot, it is not typically required to perform a traffic analysis.
- d. The Application does not request any relief from zoning requirements. Since the site includes over 20,000 square feet of land disturbance and would alter 2,500 square feet of land with a slope of over 10% a site plan review is required under Section IV-B 6 b.
- e. The plans indicate proposed utility connections to existing stubs that have been approved through the Subdivision process, including various modifications. A low pressure sewer pump would discharge to the main in the cul de sac. Other utilities including water, gas and electric/cable services would also connect directly to the roadway. A stormwater system consisting of a roof leaders and an underground chamber system is proposed. The stormwater system design differs from the approved plan. Primarily the location has been changed to the rear of the lot and has fewer chambers (2) and a smaller outlet (4" PVC pipe proposed versus a 6" PVC pipe approved). Refer to comments on the stormwater systems under h. below. Surface materials for driveways and walkways are not indicated but are proposed to be impervious. There are no details on the plans for these features. It is unclear if the Board will require details for the driveway and walkway. The plans do not indicate the proposed street trees as indicated on the subdivision plans. The only proposed trees on the lot are 8 evergreen trees in the tree preservation area on the east side of the lot. No landscaping plan has been provided at this time. The Approved plans had much more extensive landscape plantings proposed for the lots, refer to Sheet L-202.

Proposed street trees have been added to the plans. There is a brick walkway now proposed from the front door to the driveway. The drainage system has not changed. The Board should determine if they would like driveway and walkway details. A Landscaping Plan has been provided. The Board should review the Landscape Plan.

The design of the drainage system for the roof has been revised to the southwest of the house. The Landscape Plan has not been revised. Based on the Response driveway cross sections have not been requested by the Board for previous lots.

- f. The submittal includes a grading plan. The existing conditions plan does not include any elevation labels. The plans should identify the source of the topography for the existing conditions. The site has been cleared and there are stockpiled soils, trees and stumps dumped along the edge of the altered and filled area. I note that the SWPPP does not indicate that this area was to be used for stockpiling. The Plans should at a minimum indicate the limits of site alteration to compare to the approved plans. The project was previously approved with a slightly larger stormwater system in a different location for roof runoff. No updated stormwater analysis has been provided. The concept is essentially the same. Traffic volume is unlikely to be a concern. Refer to comments under Stormwater Management Regulations below for drainage design. The grading plan indicates a slightly smaller house (3,557 sf approved plan versus 3,250 sf current plan). It is proposed to move the house a few feet

further north and have an angle between the garage and house. The garage would be 0.2 feet higher in elevation. There are fewer retaining walls proposed and a section of rock slope added on the proposed plan. I recommend that the Building Inspector comment on the proposed masonry wall, it is proposed as a maximum height of 4 feet. A detail for this wall has been provided. Grading around the wall is incomplete. The plans include a foundation wall detail with a foundation drain. The outlet for the foundation drain is indicated on this plan. A waiver from Board of Health requirements for the basement will likely be required as ledge is typically considered the elevation of groundwater by the Board of Health.

More grading has been indicated and notes specify the source of various surveys. At this time the current condition on the lot is not indicated in the disturbed area where ledge has been blasted and graded to level off the lot. There is also a rock pipe and tree/stump pile that is located in the tree preservation area on the east side. It is my understanding that the Contractor will be removing this pile. As noted there has been work performed in the easterly tree preservation area. The Board may require the Applicant to stake out the approved line for review in the field. I recommend that the Building Inspector review proposed retaining walls or determine that they do not require a permit. The Board of Health may require a variance for the foundation.

The current plan indicates existing conditions based on a recent survey according to the Response. I revisited the site on June 17, 2021 and the tree/stump pile has been removed. Based on current observations there is some fill in the Tree Preservation Area, and the slope of the fill is not indicated on the survey plan as it appears in the field based on my observations. I recommend that the plans indicate the clearing limit as it currently exists and the location of existing trees if any remain in the Tree Preservation Area on the northerly end of the site. Trees have been indicated on the southerly side of the lot, one of which is on the development side of the mulch log. The plans do not indicate any existing trees in the immediate proximity of the proposed driveway area. As previously recommended, identifying the approved Tree Preservation Area would be helpful to understand what remains and what the Board may require for mitigation as well as identifying soil depth as requested by the Board at the previous hearing. I reviewed the approved subdivision plans and there was a test pit (Test Pit 2 roughly at the proposed location of the driveway extension into the Tree Preservation Area) and it listed refusal at a depth of 70 inches below grade, which would be sufficient for trees to be established. It is proposed to add fill for a new planting area over ledge. Ledge appears to be located 20 feet to the east of the edge of the Tree Preservation Area based on the contours on the plans. At this time it is unclear if the existing soils have been removed from this area, but it appears that the fill was place over existing soils.

- g. This item requires information to assess the impact of the development on soil, water supply, ways and services. There are no test pit logs included in

the Application for this lot although other tests indicate shallow depth to ledge with soils reported as sandy loam or loamy sand where tested. Groundwater is generally shallow and estimated either by redox features or assumed at refusal (ledge) which varies in depth across the site.

There is a label "D 11" on the plans that appears to be a test location but there is no log provided. As noted the site is predominantly ledge, or blasted ledge based on site observations.

No further comment required.

- h. The regulations require compliance with DEP Stormwater Management Policy as discussed below:

STORMWATER MANAGEMENT REGULATIONS - EROSION AND SEDIMENT CONTROL:

The DEP Stormwater Management Regulations consist of ten standards. The standards were reviewed using the Massachusetts Stormwater Handbook Documenting Compliance (MSHDC) together with other sections of the Handbook as appropriate. This section of the correspondence lists the standards and identifies whether the submittal complies, does not comply or if additional information is required to demonstrate compliance.

This project would not be considered a redevelopment.

Standard 1 – Untreated Stormwater

This standard requires that no new untreated point source discharges are created and that point source or sheet flow discharges do not result in erosion into or scour of wetlands. This standard is required to be met for redevelopment projects.

The approved design has an outlet to the east and the proposed plan would discharge to the south. The water would ultimately end up in the pond in either case.

To demonstrate compliance data on the proposed outlet the submittal should include either dimensions and details for the outlet or reference to subdivision details for outlet protection. If different than the approved outlet any associated calculations should be provided.

Satisfied, this Standard would be met.

Standard 2 – Post Development Peak Discharge Rates

This standard requires that the peak rate of discharge does not exceed pre-development conditions and that the design would not result in off-site flooding during the 100 year storm. I note that it is not permitted to increase runoff or flooding to abutting properties without appropriate easements, etc.

This lot did not include the subsurface system in the calculations and the impervious area proposed is slightly smaller so there would not be an increase in runoff.

The subsurface system should include design features to prevent flow from weeping through the proposed slope and masonry wall and slope. There is a proposed barrier along the wall side but it should also extend along the reinforced slope side.

Subject to the above modifications this Standard would be met.

Satisfied, this Standard would be met.

Standard 3 – Recharge to Groundwater

This standard requires that designs provide on-site recharge to mimic pre-development conditions. Calculations to demonstrate compliance are based on soil conditions, and certain methodology as outlined in the MSHDC.

No site specific testing has been performed to determine if any suitable soils exist on the site but given other areas tested it is questionable that there would be sufficient soil depth on the site. The Board should determine if testing will be required.

Based on site conditions it is unlikely that suitable soils exist in a location on this lot that would be suitable for infiltration.

The Board should determine if this Standard should be waived due to soil conditions or if additional testing is required.

The Board should address this issue, as noted most of the site is ledge or blasted ledge.

Comment remains, the Board should make a determination relative to waiving infiltration based on soil conditions for this lot. I note that this requirement was waived for the subdivision.

Standard 4 – 80% TSS Removal

This standard requires runoff be treated to remove suspended solids (TSS) to at least 80% removal.

The runoff from the roof would be considered clean relative to pretreatment. The driveway is designed to flow to the subdivision roadway and that portion of the system has been approved. The design does not include access manholes as indicated on the approved plans for the isolator row in the roof treatment system. These should be added to the plans and a detail provided consistent with the manufacturers specifications.

Satisfied.

This Standard could be met subject to comments under other Standards and the addition of access manholes to the isolator row.

This Standard would be met.

Standard 5 – Higher Potential Pollutant Loads

The project is not considered a source of higher pollutant loads, this standard is not applicable.

Standard 6 – Protection of Critical Areas

Based on a review of Mass GIS mapping the site is not located in a critical area. According to the submittal the discharge of the municipal stormwater system is outside of the Weir River ACEC and this part of the standards would not apply.

Standard 7 – Redevelopment Projects

The project would not be considered a redevelopment

Standard 8 – Erosion/Sediment Control

This standard requires construction phase erosion controls. In this case the project is subject to the approved SWPPP.

This Standard would be met through the existing SWPPP subject to relocation of various components outside of the Tree Preservation Area.

Refer to other comments regarding the Tree Preservation Area. At this time the tree preservation area fencing and most of the sediment controls have not been installed. It is my understanding based on a discussion on May 6, 2021 with the Contractor that some of the fencing will be installed this week and the mulch sock is in the schedule but has been delayed due to recent rain.

The Response states that there is no need for construction fencing at the Tree Preservation Area as the mulch log has been set. Based on the plans the mulch log stops in the southeast part of the lot and leaves approximately 140 feet of the Tree Preservation Area unprotected. Based on my observations, there is an older mulch log there but it is not indicated on the plans and appears to be well into the Tree Preservation Area limits in the northerly part of the Tree Preservation Area. Since there has been issue with encroachment into this area it would appear to be appropriate to install whatever is necessary to prevent further encroachments.

Standard 9 – Operation and Maintenance Plan

This standard requires long term maintenance of non-structural and structural BMP's and requires a specific inspection schedule, etc.

The proposed subsurface system is similar in design to other approved systems and a modification to the O&M would not be required. I note that a manhole at the isolator row for access to maintain the systems should be added as noted under Standard 4.

Satisfied.

As the lot is part of the Homeowners Association the approved O&M would apply to this lot.

This Standard could be met, but the design will need to be modified to comply with access requirements for the proposed system.

this Standard would be met.

Standard 10 – Illicit Discharge

A signed Certification Statement has not been provided as required.

Comment remains.

This Certification is for the Lot having no illicit discharges, the Board could defer it to the occupancy permit if they have the ability to require it at that time as it has not been provided at this time.

- i. It does not appear that any lighting is proposed.
- j. It is unclear if the Board requires or requests and other materials not identified above regarding the project.

The Board should review the comments and determine if all of the information required under Section 7. Review Standards and Approval have been addressed by the Applicant prior to arriving at a decision.

I appreciate the opportunity to assist the Planning Board on this project and hope that this information is sufficient for your needs. This report is for the Hingham Planning Board and associated Hingham land use agencies only and provides no engineering, planning or other advice that may be relied upon by any party or agency other than the Town of Hingham. I would be pleased to meet with the Board or the design engineer to discuss this project at your convenience. If you have any questions please do not hesitate to contact me.

Very truly yours,
Chessia Consulting Services, LLC

John C. Chessia, P.E.
JCC/jcc