

Chessia Consulting Services LLC



November 30, 2021

Zoning Board of Appeals
345 Main Street
Norwell, MA 02061

RE: Supplemental Plan review
Comprehensive Permit – 15 High Street
Norwell, MA

Dear Members of the Board:

Chessia Consulting Services, LLC has reviewed the revised submittal information provided to us regarding the above referenced project. The project has been submitted under Chapter 40B as a Comprehensive Permit application and as such the applicant can request relief from local requirements for Zoning, Subdivision Regulations, Board of Health Regulations, Conservation Commission By-laws, etc., which are more stringent than State requirements.

The requirements for Comprehensive Permit Applications do not include the preparation of fully designed plans with all pipe inverts, pump calculations, utility profiles, etc. In my opinion, the plans should include sufficient data to demonstrate that the project is feasible to construct in compliance with applicable regulations and utility purveyor requirements as well as providing plans from which realistic project costs can be estimated for budgeting purposes. I recommend that final construction plans and calculations be developed and reviewed if the project is approved and prior to any construction activity.

My review included review of local Zoning Regulations Article 10, Comprehensive Permits and general design standards and standard engineering practices relative to land development projects. I visited the site on June 14, 2021 to observe existing conditions and again on August 28, 2021 to witness hydraulic conductivity testing. The following documents were provided for review:

Plan Sets Entitled:

- “15 High Street Proposed Residential Development 15, 19, 27 & 35 High Street Norwell, Massachusetts” dated April 30, 2021, last revised 10-29-21 and prepared by Merrill Engineers and Land Surveyors consisting of 11 Sheets. I note that the last sheet stapled in the set is a lighting sheet not listed on the Cover Sheet. In addition, two sheets (C3.3 and C 5.1) were provided via email on November 11, 2021. (Plans)
- “15 High Street, Norwell, MA Schematic Architecture Package” dated October 29, 2021” and prepared by Union Studio, consisting of 26 Sheets. (Architectural Plans)

Documents:

- “15 High Street, A New Mixed Income Community Norwell, MA Application for Comprehensive Permit Submitted to the Norwell Zoning Board of Appeals” dated April 30, 2021. Two volumes submitted one is “Supplemental Materials” (Application) *Not resubmitted supplemental data listed below has been provided:*
 - Stormwater Management Report Submitted to Town of Norwell 15, 19, 27 & 35 High Street Norwell, MA” dated April 30, 2021, last revised October 29, 2021 and prepared by Merrill Engineers and Land Surveyors.
 - Long-Term Pollution Prevention Plan Operation & Maintenance Plan #15, 19, 27 & 35 High Street Norwell, MA” dated April 30, 2021 and prepared by Merrill Engineers and Land Surveyors.
 - Construction Phase Operation & Maintenance Plan #15, 19, 27 & 35 High Street Norwell, MA” dated April 30, 2021 and prepared by Merrill Engineers and Land Surveyors.
 - Letter from Northland Residential dated October 29, 2021 Re: Response to Town and Consultant Comments.
 - Letter from Merrill Engineers and Land Surveyors dated October 12, 2021 RE: Stormwater Review. I note that this letter was prepared prior to the current plans but has been referred to in this comment letter. (Civil Response)
 - Letter from Northland Residential regarding Revisions to Waiver Requests dated November 24, 2021.

The proposed development, 15 High Street, is to be located off of High Street in Norwell, MA. The site is proposed to contain 56 rental units consisting of 28 one bedroom and 22 two bedroom and 6 three bedroom units. The entire parcel reportedly consists of 3.88 acres. No wetlands have been identified on the site. The site is located within several districts including Residence B, a triangular wedge in the south side of the site, Business C1 in the southwest and primarily Business B4 in the north and east of the site.

The site is currently developed with 4 single family homes, some of which are currently vacant, together with associated site amenities including driveways, sheds, and utility services including septic systems. Based on a review of MassGIS data the site is not identified as a habitat area through the Natural Heritage and Endangered Species Program (NHESP). The site is outside of the Zone II of public water supply well, the Zone II is off site to the north and there is a Zone A to a surface water supply several hundred feet offsite to the west. The site is outside of the FEMA flood zone.

Natural Resource Conservation Service soil mapping data indicates that the site consists of Canton Series soils. These are listed as Hydrologic Soil Group (HSG) B indicative of moderate to high permeability. The Application included soil logs for testing that has been performed on the site. Soil logs indicate primarily highly permeable sand consistent with HSG A soils, with some tests having less permeable material at depths of over 5 feet. The less permeable material was in the northeastern part of the site not at the proposed stormwater infiltration system.

Topographically the sites highest elevations are in the northeast corner of the lot. There are generally gentle slopes across the site excepting in the northwest corner. Overall the slope is southerly with the frontage sloping to High Street and the north western part of the site sloping to the northwest. There are some low areas contained within the site based on field observations that are not clearly indicated on the plans. Much of the rear of the lots, is wooded excepting #35 which has more clearing and established lawn and gardens over the lot.

The Eligibility letter did not include any specific issues to address in the Comprehensive Permit Application. Therefore, I have not commented on the Eligibility letter.

Current comments are in *italic type* following my initial comment. I have only added comments where necessary. Recommended conditions have been highlighted within the comments. Where additional review or action by the Board is recommended I have used highlight. I offer the following comments:

Town of Norwell Board of Appeals – Rules and Regulations Article 10 Comprehensive Permits

301-10.3. Minimum Jurisdictional Requirements for Filing an Application

- A. The Application states that a limited dividend organization will be formed. The Board and Counsel should determine at what time this organization is required to be formed to meet the organization requirements.
No further comment required.
- B. I recommend that Counsel review the funding mechanism for the project. I note that a Project Eligibility letter was issued for the project.
No further comment required.
- C. Site Control – The Application demonstrates that the Applicant has the required site control under the Regulations.
 - 1. The properties are not owned by the Applicant.
 - 2. Section 4A of the Application includes the required data on the Purchase and Sale agreement.
 - 3. Four parcels of land comprise the total land area associated with this project. All parcels are owned by the seller of the property. There is one easement on the southern property line for the overall parcel. This is reported as a drain easement. I recommend that the Board be provided with more descriptive data on this easement and that at a minimum the Applicant have the inverts of manholes and pipe size, actual location of the pipe, etc. determined for this system by field survey and inspection.
Satisfied, the drainage easement and data on the pipe inverts, etc. have been provided.
 - 4. The submittal includes an Existing Conditions Plan that was prepared by a Registered Land Surveyor and includes metes and bounds, etc. As the parcels will ultimately be combined, the Board may include a condition that an ANR plan combining the lots consistent with the Regulations. I note that there appear to be encroachments along the property's street frontage including parts of the sidewalk and a hydrant.
Not specifically addressed in any of the responses reviewed. The Board should review the above relative to potential conditions. I note that the revised plans locate the sidewalk

primarily on the subject property and include some aesthetic features. Since this will serve as a public sidewalk an easement to the benefit of the Town may be required.

301-10.4. Elements of the Complete Application

A. Preliminary Site Development Plans

The Application package includes Site Plans that indicate the proposed development including: The proposed building footprints with setbacks to the closest property lines are indicated as required. It is proposed to have a minimum setback of 20 feet from front except for an overhang on Buildings G and J, which would be 18 feet from the front property line. There would be a 20 foot side and rear setback to property lines.

The revised plans have a front setback of 30 feet to the main building with a minimum of 25 feet to the entry overhang. The rear setback has been reduced to 17 feet minimum distance for the main buildings and a maintenance shed set back a minimum of 9 feet from the northerly sideline has been added.

The proposed locations, general dimensions and materials for the access drive, parking area, and walkways are indicated as required. The proposed parking area is bituminous concrete with cape cod berm, excepting at the curb cuts, which have vertical granite curb radii to match the roadway curbing in High Street. The walkways are proposed to be concrete.

Walkways appear to be all concrete, although the wheel chair ramp indicates bituminous concrete tying into the concrete ramp. I recommend that the plans include either labels or a note regarding materials.

A proposed Landscaping Plan is included in the submission but is not specific as to the location of the proposed species nor the number of each type of planting. The plan is more generic with locations of trees, and general shrub/perennial beds. There is no screening proposed for any abutting properties on the site. Some areas appear to be left natural near property lines but it has not been specified if there are any existing trees in these areas that are suitable to be retained. Existing trees, if any, to be protected and remain should be identified. The Board may require a more detailed Landscape Plan.

The Landscape Plan has been revised to indicate the location, size and species of proposed plantings. I note that there are extensive plantings proposed in the easement area that is counter to Highway Department comments. The Board should review this issue, in particular if the Highway Department has the right to remove vegetation in the event of an issue with the pipe and their responsibility relative to replacement of damaged vegetation. The Board should also review the Landscape Plan in general.

Buildings on abutting property are not indicated nor are abutters only separated from the site by a public way. It is unclear if the Board would require a larger area indicated on an overview plan to show more of the surroundings.

An overview plan based on an aerial photograph has been provided. Refer to sheet C 3.2.

The Regulations require compliance with the DEP Stormwater Management Regulations. I have listed the specific requirements below.

STORMWATER MANAGEMENT REGULATIONS:

The DEP Stormwater Management Regulations consist of ten standards, which apply to this project based on requirements in the Zoning Board Rules and Regulations, unless waived. I note

that it does not appear that this particular section has been requested to be waived. I also note that the Zoning Board Rules and Regulations and General Information (R&R) includes other requirements for stormwater that are included following this section. I have also included some references to the requirements in this section as applicable. This section of the correspondence lists the DEP Standards and identifies whether the submittal complies, does not comply or if additional information is required to demonstrate compliance. The following standards were reviewed using the Massachusetts Stormwater Handbook Documenting Compliance (MSHDC) together with other sections of the Handbook as appropriate, the Zoning Bylaw (ZBL) and R&R.

This project could be considered a partial redevelopment since some of the site is currently developed. Portions of the site that were not previously developed are required to fully comply with the Standards; developed areas must comply to the extent practicable. Under the Regulations only existing impervious areas are considered developed. In this case that would apply only to the existing buildings and driveways. Since there are no aspects of the existing site to remain and there is an increase in impervious area, the Application considers the site new development. I note under redevelopment and partial redevelopment standards, the existing part of the site should also have some improvement relative to compliance with the standards.

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.

There are currently no direct point source discharge from the site as there are no existing drainage systems excepting roof downspouts, which are far from wetlands and property lines. The plans do not propose any new point source discharges as nearly all runoff from impervious areas would discharge to the underground infiltration system. There are small sections of pavement at the two curb cuts that would flow into High Street. There would be a reduction in untreated pavement runoff to High Street versus current conditions.

It is proposed to direct all runoff from the new drives and parking areas to deep sump catch basins, a proprietary water quality treatment unit and then a subsurface infiltration system. The buildings would also discharge to the subsurface system; however, the means of connecting the buildings has not been indicated. The proposed design would provide treatment and since the subsurface system is designed to have no outflow in all of storms modeled, including the 100 year storm, there would not be erosion or scour as there is no outlet pipe.

This Standard would be met. Although additional data regarding other standards that may impact runoff are required, flows from the proposed stormwater system would not impact a wetland. *The revised plans do not alter the design concept and this Standard would still 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. For redevelopment projects it is required to meet this standard to the extent practical.

The submittal uses Cornell rainfall data as required under R&R 301-9 but did not include the 1 year storm. It should not be an issue for the Applicant to provide the 1 year storm but it is also unlikely to alter the design.

Satisfied, the 1 year storm has been added.

Existing Conditions:

Based on soil testing results and Natural Resource Conservation Service (NRCS) the site consists of predominantly sandy soil over most of the site with some test pits indicating less permeable loamy sand at depths of 68 inches or deeper. None of the tests that encountered loamy sand were proximate to the stormwater infiltration system. The two soil tests at the proposed location of the infiltration system were all sand to a depth of 180 inches in D5 and 216 inches in D4.

I witnessed a hydraulic conductivity test at the location of the proposed subsurface infiltration system. Soils were sands at this location.

I recommend that more spot grades be added to the existing conditions plans. Based on field observations, the site has very gentle slopes and there appear to be some shallow low areas within the lots that would trap runoff. I also recommend that the plans identify the low area offsite at the northwest corner of the property. At a minimum the elevation of the bottom should be identified and contours for the slope along the northwest side of the site to the bottom.

Satisfied.

Time of concentration calculations in some cases do not appear to use the longest hydraulic flow path. I recommend that the flow path for areas 1S and 2S be reviewed. This may not have a significant impact as it is proposed to significantly reduce runoff off site in these areas. In addition, dense grass should be used in lawn areas not short grass pasture. The shallow concentrated flow segments should use the more precise values available in HydroCAD and TR-20 rather than just "unpaved".

Satisfied.

Proposed Conditions:

There is a small increase in runoff rate in area 3S. This should be addressed in the design.

Satisfied.

The infiltration rate used in the subsurface system of 8.27 in./hr. from the Rawls table is acceptable for subsurface systems in sand; however, it is not appropriate to use the conductivity to groundwater model in HydroCAD for rate control modeling when using the Rawls rate. This option in HydroCAD takes into account the saturated thickness of the soils and is not a constant rate of infiltration as required in the DEP Handbook. The model should use either the Constant Velocity option or alternatively, a permeability test should be performed and half of the measured permeability rate would be the basis for infiltration.

An Infiltration test to determine in-situ soil hydraulic conductivity has been performed. The results included in the Report should include the field test raw results. I witnessed the testing and the results indicated a higher infiltration rate than was initially used in the model. The DEP

Handbook requires that the field results be reduced by 50% in the model. The calculations have used a rate of 16 in./hr. which is 50% of the test results as required.

The means of collecting and conveying roof runoff from Buildings A, B, C, D, E and F should be detailed on the plans. Potentially Buildings G and J could may need to have this data as well. If a gutter and downspout system is proposed for these buildings, the collection system (gutters and downspouts for the building's roof designs) together with any buried pipe system should be indicated on the plans. Portions of the buildings that would discharge off site to the site perimeter based on the grading, should be sized for the 100 year storm to be consistent with the proposed model. Buildings that would flow into the roadway based on grades would not need to have this sizing performed.

The plans indicate where roof drains would connect to the system in the rear of Buildings B, C, D, E and F. Sizing data has not been provided. The Board should consider a condition if the plans are approved that final construction plans with sizing of gutters, downspouts and roof drain piping be provided for review and approval prior to issuance of a building permit. If downspouts are directed to the surface or an underground system for other parts of the site, this data should also be provided to confirm that runoff will discharge where assumed in the model.

Proposed groundwater separation is greater than 4 feet based on the depth of test pits, which would not require a mounding analysis. Provided that the buildings are slab on grade the system meets separation requirements from the foundation. It is required that the system be > 10 feet from a slab.

The Board may want to include a condition that the foundations be slab on grade where proximate to stormwater and wastewater systems to avoid issues with setbacks from basements and potential impacts to the basements. The submittal is unclear in this regard.

I recommend as noted above that additional topography be added along the west side of the infiltration system to demonstrate that there is no potential for breakout to the abutting property. This is likely the case but the plans should demonstrate the slope setback, as there is a steep slope to the northwest of the site.

Satisfied.

Some additional data or modifications are required to demonstrate compliance with this Standard. *This Standard would be met. I recommend that the Board consider the above recommendations.*

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. For a redevelopment it is required to meet this standard to the extent practicable. Although this site could be considered a partial redevelopment, as the entire existing impervious area is being removed it has been considered new development.

Soil testing has been performed and indicates suitable soils. Based on the storage volume available in the subsurface infiltration system, there would be far in excess of the required recharge.

This Standard would be met.
This Standard would still be met.

Standard 4 – 80% TSS Removal

This standard requires runoff be treated to remove suspended solids (TSS) to at least 80% removal. In areas with a rapid infiltration rate such as this site, pretreatment of 44% is required prior to infiltration systems.

The design proposes the following BMP's for removal of sediment.

Deep sump catch basins: Deep sump catch basins are credited with 25% removal subject to proper design and sizing. To meet the removal credit, catch basins should collect no more than 10,890 square feet (1/4 acre) of impervious area. The submittal should include a catch basin watershed catchment plan to review the design. Based on what has been provided, CB 3 exceeds the allowable impervious area. Although roof runoff is considered clean, if the roof discharges to the pavement for collection in a catch basin or is piped to a catch basin that portion should be included in the tributary impervious area calculations to the respective catch basin.

Not addressed in the revised submittal. A watershed plan is required. Based on the data provided in the Report, CB 7 receives over 1/4 acre of impervious area. The Board could include a condition to revise the design to address this issue in final construction plans if the project is approved.

First Defense Proprietary Unit: The proposed unit has been approved through TARP (New Jersey DEP). Based on the TARP approval the unit as proposed would receive 50% TSS removal. .

Infiltration system: As noted above under Standard 2 there are a few design issues with the subsurface infiltration system that should be addressed. The sizing is in excess of requirements to receive 80% TSS removal credit. I note that although the roof is considered clean it discharges to the infiltration basin and would take up available runoff volume and is included in the calculations. *No further comment required. The system is smaller however the volume would still meet requirements.*

Overall this system would comply with TSS requirements as the First Defense Unit would provide sufficient pretreatment, but I recommend that additional catch basins be added to reduce the impervious area tributary to CB 3 such that it receives .25 acres of impervious area or less. This does not appear to be a particular hardship to implement.

As noted CB 7 receives over 1/4 acre of impervious area according to the Report. It appears that it would be feasible to adjust the design to meet the 1/4 acre impervious area between CB's 3 and 7.

This Standard would be met by the design, but as noted some modifications are required in the HydroCAD model and potentially the design.

I recommend that if the project is approved, the Board include a condition to revise the design to address the above comments in final construction plans.

Standard 5 – Higher Potential Pollutant Loads

The site would be not considered a source of higher pollutant loads, this Standard is not applicable.

Standard 6 – Protection of Critical Areas

The project is not located in a Critical Area based on DEP requirements. This standard is not applicable under DEP requirements; however the design uses 1" for BMP sizing as required under the DEP Handbook for Critical Areas. The site is in the local Aquifer Protection District and other Regulations would require using 1" in this District based on the ZBL and R&R.

No further comment required.

Standard 7 – Redevelopment Projects

The project could be considered a partial redevelopment for the area of the buildings and driveways only. As none of this area is to remain it is likely not feasible to claim that this aspect would apply except for the small areas tributary to High Street directly. There is an overall increase in impervious area proposed. Refer to comments under other Standards.

No further comment required.

Standard 8 – Erosion/Sediment Control

This Standard requires construction phase erosion controls.

A detailed written Construction Phase Operation & Maintenance Plan has been provided but no Plan in the set includes all of the required data. I recommend a construction phase plan be provided. The limits of sediment controls are the only aspect indicated on the Grading and Drainage Plan. The plan should indicate the location and size of temporary measures including temporary basins for runoff storage as described in the report. The location(s) should be identified as on a site such as this there are limited locations. I recommend that the Applicant review the requirements in the Zoning Board Regulations for a Construction Plan/Erosion and Sedimentation Control Plan. The Report includes some but not all of the information required. Support calculations for sizing of temporary basin(s) which likely would be required, has not been provided, except a general performance requirement. I have not listed all the requirements at this time as it will be more efficient to review with the associated plan(s).

Not addressed relative to a Construction Phase Plan. Based on a brief review, the write up has not been modified.

A SWPPP will be required as the project would have over 1 acre of disturbance. I recommend that prior to the close of the hearing a detailed construction management plan including erosion and sediment control aspects be provided together with a draft SWPPP be provided. This site has an intensive development proposed and parking, staging, material storage, stockpiles, etc. will be necessary for construction of the project.

If the project is approved, the Board should include a condition that the SWPPP, including detailed construction phase plans indicating the location of proposed construction phase measures, be submitted and approved by the Board prior to the start of construction.

Additional data is required to comply with this Standard.

If approved, I recommend that the Board include the above recommended condition.

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.

A Post-Construction Best Management Practices Operation and Maintenance Plan (O&M) has been provided in the Report and is complete based on the data in both binders, with the exception of a BMP plan and an estimate for annual maintenance. I recommend that the O&M be a standalone document with a plan that identifies BMP locations, snow storage areas, locations for landscape debris disposal if proposed, etc.

Not addressed.

The O&M includes the Manufacturer's documentation for maintenance requirements for the proprietary First Defense and Stormtech units in the Supplemental data. As noted ultimately this data should be combined into a stand-alone document.

The initially submitted O&M plan has been provided in a separate document.

I recommend the above issues be addressed in the O&M.

If the project is approved, the Board should include a condition that the O&M include the above listed data.

Standard 10 – No Illicit Discharges

There are no obvious illicit discharges proposed. The Report should include a signed certification to comply with this Standard.

Not addressed, the Response indicates that one will be provided. If the project is approved, the Board should include a condition that a signed Illicit Discharge Statement be provided.

B. Existing Site Conditions with Narrative Report

The submittal includes a Narrative in the Application binder. In addition further site description is provided in the Supplemental Materials. Some traffic data was included, traffic issues will be reviewed under separate cover. I recommend that sight distance at the intersections be provided on the site plans, together with required stopping sight distance with justification for the speed used to determine the required intersection stopping sight distance. Although the site is in a well-known location, the Board may request an overview plan of the area with nearby amenities, open space, etc.

Traffic issues have been addressed separately. Based on a review of the Landscape Plan compared to the sight line plans there should not be any conflicts with sight distances.

C. Preliminary Scaled Architectural Drawings

The submittal includes preliminary Architectural Drawings. I note that the Architectural Plans indicate heights but do not reference actual elevations as required under this section. I defer review of the Architectural Plans to the Board.

Architectural aspects have been reviewed by others.

D. Tabulations

There are 10 buildings proposed, with 6 distinct unit types. Section 6 of the Application binder includes tabulations for total units, number of bedrooms, type of unit, etc. The Tabulations should also include data including the square footage for each unit type proposed. The site Plans include the building and impervious area coverage as required. Based on my review, it appears that there are dens that could be converted to additional bedrooms. The Board should review this issue. The Application requests a waiver from the regulations relative to the inclusion of dens in the bedroom count. It appears that this requirement would be met.

Not addressed in the Responses. I defer these issues to the Board.

E. Preliminary Subdivision Plan

This is not applicable as a subdivision is not proposed.

F. Preliminary Utilities Plan

The Plans include water, gas and electric/cable connections from existing utilities in High Street. All services would be underground; the electric/cable utilities would be dropped from an existing pole in the northeast corner of the front of the site. It is anticipated that adequate service is available based on other buildings in the area. There is a new on-site septic system proposed together with stormwater collection and disposal facilities. No new hydrants are proposed, I recommend that the Fire Chief comment on the adequacy of the water system, it is likely that hydrants will be required. The buildings would be required to have sprinklers under the Building Code. No transformers or pull boxes, handholds, etc. are indicated. Although it is understood that the utility purveyors do not typically provide a design at this stage of the development, there is sufficient data available for similar projects to estimate requirements and provide preliminary locations. Transformers can be large as can electrical manholes, etc. and it should be demonstrated that the system can be installed. Screening of transformers is typically an issue that will also need to be addressed.

The Fire Chief has commented on proposed hydrants based on data on the Town's website. The Fire Chief should issue a final comment letter indicating that the project meets fire safety requirements, prior to the Board's action on the plans. The Water Department also had several comments in their review letter. The Water Department should issue a final comment letter indicating that the project meets their requirements, prior to the Board's action on the plans. A potential location for electric utilities, including transformers has been added to the Utility Plan. It appears that unspecified shrubbery/perennials are proposed around transformers.

I recommend that stormwater management details for the infiltration system components be site specific. The data is generic manufacturers data and some references such as soil conditions and replacement fill, if necessary, should be specified. Observation ports should not be optional. The depth of stone below the system should be specified on the plans. All data on the details and plans should match the design calculations.

Not addressed, the plan does not appear to have been revised. If approved, the Board should include a condition that final construction plans be developed with the above data included on the plans.

The storm sewer network should include design calculations for capacity, slope, etc. The plans include invert data so the calculations should have been performed in order to design the pipe network. I note that the system would be surcharged in storms larger than the 10 year storm. This is not necessarily an issue provided that runoff does not by pass the storm drainage system and flow to another location in the larger storms.

Partially addressed, the revised Report includes partial storm sewer calculations. If approved, the Board should include a condition that final construction plans be developed with the above data included on the plans.

I have not performed a review of the wastewater disposal system other than a general overview. The proposed system is approved for general use subject to some specific requirements in the DEP Approval. Data on the design has not been provided other than the flow and layout data so additional information may address these issues.

I note the following in the DEP Standard Conditions for Alternative Soil Absorption Systems permit:

- *For new construction or increases in flow, the System shall be subject to the following:
d) Where the System has reduced the effective leaching area, as allowed by the Standard Conditions, the installation shall not disturb the site in any manner that would preclude the future installation of the conventional full-sized primary SAS without encroaching on the reserve area; and
e) Except for the installed SAS, the System Owner shall not construct any permanent buildings or structures or disturb the site in any manner that would encroach on the area approved for a full-sized conventional primary SAS or the area approved for a full-sized conventional reserve SAS.*

It is unclear if the above requirements have been met and the Board could require that this information be provided. There are several conditions in the permits for the system and the Board will need to review the waiver from the local regulations, which would require treatment for a system of this size on the lot. I recommend that the Board of Health review the data and comment to the Board on the proposed system.

The Civil Response defers this subject to the Board of Health. If approved, the Board should include a condition that final construction plans be developed and approved by the Board of Health prior to receiving a building permit.

G. Traffic Survey

The Application includes a Transportation Impact Assessment (TIA) prepared by Vanasse & Associates, Inc. Supplemental supporting data is included in the Supplemental Materials binder. The plans should indicate grading at the intersection and associated sight distance sight lines. Review of the TIA will be provided under separate cover. CHA is performing a review of the TIA.

This issue has been addressed by CHA and through various meetings. No further comment.

H. Stormwater Management

Refer to comments under Section 4. a. above. I note that this section also references 301-9.1 and 301-9.2 as part of the submittal requirements.

I. Waivers

Section 8 of the Application lists requested waivers. The Applicant has requested waivers from the Board of Appeals Rules and Regulations Article J. This is a reference to the older Regulations as they have been reformatted and this is now Article 10 Section 301-10. The following are requested:

- 301-10.2 Definitions.
Waiver of the term “Local Board”. Town Counsel should comment on this aspect as it is not an engineering issue.
No further comment.
- 301-10.3 Minimum Jurisdictional Requirements for Filing an Application.
Waiver requested to the extent that the Board Regulations are inconsistent with 760 CMR 56.00. Town Counsel should comment on this aspect as it is not an engineering issue.
No further comment.
- 301-10.4 Elements of the Complete Application.
D. Definition of a bedroom. If the room meets the Title 5 definition of a bedroom the room should be considered a bedroom in my opinion. The Applicant should review Title 5 for a means to differentiate the rooms to eliminate this issue.
Not addressed in any response, I defer this issue to the Board.
K. Proof of filing of Notification form with Mass Historic Commission. The Applicant requests that this be filed in the future. It is unclear why this should be a consideration as it does not appear to impact the project feasibility.
Not addressed in any response, I defer this issue to the Board.
O. Pro Forma. I defer this issue to the appropriate parties, as this is not an engineering issue.
P. Appraisal. I defer this issue to the appropriate parties, as this is not an engineering issue.
- 301-10.6 Application filing fees.
I defer this issue to the appropriate parties, as this is not an engineering issue.
- 301-10.7 Technical review escrow, consultant selection and appeal
No engineering comment required. The request is to waive Legal fees for special counsel to the Board if applicable.
- 301-10.8 Review of conditions claimed to render the project uneconomic, pro forma and escrow requirements.
No engineering comment required. This waiver is from any aspects of the Regulations that differ from 760 CMR 56.05(7).
- 301-10.9 Public hearing and decision.
No engineering comment required. The request lists section C and the requirement for a unanimous vote. I believe the appropriate section is B
- 301-10.10 Changes in application
No engineering comment required at this time. The waiver requested is from section A which requires a new project eligibility letter for a material or substantial change in the project and B which requires filing of a complete application for the revised project.
- 301-10.12 Other provisions
No engineering comment required at this time. The waiver request is specific to the following sections:
B. Issuance of building permit(s), specifically as it relates to the Board’s Regulations.
D. Terms and conditions, specifically as they differ from 760 CMR 56.05(12)(b).

E. Performance guarantee, the request states that the Applicant will not obtain occupancy permits until construction is complete or guaranteed. Town Counsel should comment on this issue.

Waivers are also requested from the following Town Regulations:

Zoning Bylaws:

A letter listing Revisions to Waiver Requests was submitted on November 24, 2021 by Northland.

- Article 8 District Use Regulations
Multifamily developments are not allowed the Residential District, Business C district and only limited multifamily uses are allowed in the Business B district. The request is a blanket waiver from the entire section.
- Article 9 Intensity of Use Regulations
 - 201-9.4 Required yards
The Application requests a minimum front setback of 15 feet, where 50 feet is required.
The revised plans provide 25 feet to the entry overhang minimum. The rear yard has been reduced to 17 feet at the closest point and the proposed maintenance shed is 9 feet from the northerly side line. This is noted in the Northland Letter of November 24, 2021.
 - 201-9.6 Height restrictions
The Application requests a maximum height of 43 feet in 3 stories, where the Bylaw limits height in to 34 feet in 2-1/2 stories, except in Business C where 3 stories up to 40 feet in height is allowed. The portion of the site within the Business C district is a small area in the southwest corner of the lot.
The height has not changed on the plans.
- Article 10 Business Districts A, B and C Restrictions
 - 201-10.1 Building coverage
The Application requests 23% building coverage. The Bylaw allows 18% building coverage.
The Northland Letter of November 24, 2021 requests an increase in coverage from 23.1 to 23.4 % based on the addition of the Maintenance building.
- Article 12 Off street parking
 - 201-12.4 Size of off street parking spaces
The Application requests that spaces be allowed as designed (9' by 18') versus the required 9' by 20'. In this case some spaces may need to be longer, in particular if they abut a building door at a garage or if there is no overhang as the aisles are proposed as only 20 feet wide and a typical parking area would have a 24 foot aisle for access. I note that a waiver for aisle width has not been requested.
This waiver is no longer requested. Spaces are all 9 by 20 feet long. As noted spaces at a garage door may need to be longer to keep larger vehicles from encroaching on the access drive and sidewalk.
 - 201-12.7(G) Bicycle racks
The Application proposes no bicycle racks. I note that this is a minor cost, the Applicant should discuss the need for this waiver.
This waiver is no longer requested. Bicycle racks have been added to the pavilion area.
- Article 13 Landscaping and Screening

- 201-13.1 District boundary buffers
The Application requests relief from this entire section. Typically it is required to provide screening of abutting properties as part of this type of application as the projects are much denser than the surrounding area. The Board should discuss this issue with the Applicant.

The Board should review this issue.

- Article 14 Signs
 - 201-14.5-14.7 (sic) The request should be clarified as it is unclear what specifically is requested. In addition justification for the waiver should be provided.

The Board should review this issue.

- Article 19 Aquifer Protection District
A waiver from this entire section is requested. It is unlikely that every aspect would need to be waived. I recommend that the specific issues that would affect the project be listed with a description the need for the waiver.

Not addressed in the Northland Letter of November 24, 2021.

Division 2 General Bylaws

Part IV Land Use And Natural Resources

- Chapter 61 Conservation Commission
 - Article 1 Wetlands Protection.
The Application requests a blanket waiver from this section. There are no wetlands proximate to the site based on the plans and it does not appear that this waiver would be required.
- Chapter 62 Soil, Loam, Sand or Gravel removal
A waiver from this entire section is requested. It is unclear if a waiver is required as the project does not propose excess material removal beyond that required to develop the site plan as proposed. The Board should review this waiver and determine if it is required.

Not addressed.

Part V Streets and Ways

- Chapter 82 Scenic Roads
The Application requests a waiver from this entire section. It is unclear that the section can be waived as it is a state law, only specific provisions beyond the state requirements can be waived.

Not addressed.

Division 4 Rules and Regulations

- Chapter 302 Planning Board
 - Part 1 Subdivision Regulations
A waiver from this entire section is requested. As the project is not a subdivision of land a waiver would not be required. I note that an ANR plan combining the lots into one lot should be a requirement of the Board as it would clarify setbacks etc. and is proposed as one project.
- Chapter 304 Board of Health
 - 304.64 C High groundwater determination. This Regulation requires that high groundwater be determined in March or April or as approved by the Board of Health.

This waiver may not be necessary if the Board of Health approves the test pit logs as submitted.

Not addressed.

- 304.64 H Nitrogen sensitive district. The entire town is considered nitrogen sensitive in the Regulations. This would typically require treatment of wastewater for a development of this intensity. I recommend that the Board of Health comment on this request. There are material options that are listed as advanced treatment that are manufactured by Presby that may be implemented at minimum cost that reportedly provide some nitrogen removal. It is unclear if this or any other options have been considered.

Not addressed.

- 304.64 M Pump systems. The Regulations require all pumped systems to be pressure dosed. I note that the type of system proposed (Presby) is not designed to be pressure dosed.

Not addressed.

- Chapter 308 Permanent Drainage Committee

A waiver from this entire section is requested. It is unclear if a waiver is required as the project may comply with these requirements. There is a drainage system with pipes, etc. but calculations for the pipe network have not been provided at this time. I note that the pipe system will need to either convey the 100 year storm or retain it on-site with ponding contained around catch basins or otherwise within the site or the model modified to address any bypass of the system in storms that exceed pipe system and associated storage capacity.

Not addressed.

The project could not be constructed without the use certain waivers. Other waivers, if not granted, would also limit the proposed size of the project. The description of the need for the waivers is limited in the Report, the Board may require more data on the need for each requested waiver.

J. Abutters List

The Certified Abutters List was included in the Application as required.

K. Proof of filing of notification form with Massachusetts Historical Commission.

A letter from the Massachusetts Historical Commission has not been provided, a waiver has been requested.

Not addressed in any response, I defer this issue to the Board.

L. Proof of filing with Massachusetts Natural Heritage and Endangered Species Program. Not applicable, there are no species listed on the site based on MassGIS review.

M. Smart Growth. It is unclear that the project complies with “Smart Growth” policies. The Board may want to request data on this issue. The Application did not include any specific reference to this requirement.

Not addressed in any response, I defer this issue to the Board.

N. It is unclear that the project complies with Massachusetts Governor's Executive Order 385. The Board may want to request data on this issue.

Not addressed in any response, I defer this issue to the Board.

O. Pro Forma.

A waiver has been requested, I defer this issue to the Board.

P. Property Appraisal

A waiver has been requested, I defer this issue to the Board.

Q. Review Fee.

No comment required.

R Project Eligibility

The Project Eligibility letter is included in the Application. There were no specific requirements that need to be addressed in the letter that would typically be covered in this section.

S. Other Applications and Submissions

No other Applications and Submission have been included it is unclear if any other than those that would occur after Zoning Board of Appeals approval would apply at this time. The site will need a Disposal Works Construction Permit from the Board of Health, Scenic Road Permit and Street Opening Permit for installation of utilities, etc. and a Building Permit.

No further comment at this time.

T. Permits, Approvals and Grants

No data on other permits, approvals or grants has been provided. Reportedly there is a demolition permit for the two historic houses.

No further comment required.

U. Development and Marketing Team

The Application includes data on the development team as part of the Application for Project Eligibility. I note the site contractor has not been selected at this time.

V. Prior Development Projects

The Application includes a list of prior projects as required. This data is included as part of the Application for Project Eligibility.

Article 9

I have listed the applicable sections of this Regulation.

301-9.1 Requirements and purpose

A. The project is required to comply with DEP Stormwater Management Regulations, refer to section 301-10.4. Elements of the Complete Application, A. Preliminary Site Development Plans above.

Refer to section 301-10.4. Elements of the Complete Application, A. Preliminary Site Development Plans above.

- B. No comment required, this refers to potential future changes in DEP regulations.
- C. As noted under the Stormwater Management Regulations the 1 year storm should also be included in the HydroCAD calculations.
Satisfied.
- D. No comment required this relates to compliance with DEP Regulations as discussed in this review.

301-9.2 Documentation and plans

Most of the required data is included and covered under the above review. I note the following:

- A. Design Report. A design report has been submitted. The Report does not include the DEP Stormwater Checklist as required. Refer to other comments on specific issues with the Report and calculations.
Not addressed.
- B. Major site features. The plans show on-site features but the surrounding area has not been included as required. Specifically, stonewalls, fences, buildings, etc. within 50 feet. It does not appear that there are any wetlands within 200 feet of the project locus. Existing storm sewers should be identified, including locations and inverts, in particular those that may impact utility connections and the one located within the easement on the site.
It appears that sufficient data has been provided to assess the project.
- C. Staking. The site has been staked in the field as required.
- D. Natural Resources Conservation Service (NRCS) soils classifications. The plans and Report include soil mapping and NRCS data and test data. Soils on site are more permeable than mapped by the NRCS and the classification was adjusted as required.
- E. Soil evaluations, percolation tests and permeability testing.
 - 1) Soil test data has been provided as required.
 - 2) Test locations are indicated on the plans and logs and test data has been provided as required.
 - 3) There are two tests in the proposed infiltration system as required.
 - 4) No soil permeability tests were performed. As the soils are highly permeable, additional testing may not be required. Refer also to comments under Standard 2 under Stormwater Management Regulations. The Board should determine if additional testing is required.
A test to determine the infiltration rate of the soil at the proposed stormwater infiltration area has been performed.
 - 5) There are some tests near roadways but not in compliance with requirements for a test every 250 feet. As soils are consistent additional testing is unlikely to alter the design.
No further comment required.
 - 6) The testing was witnessed by the Board of Health consultant. The Board will need to determine if additional witnessed testing by the Zoning Board of Appeals consultant is required.
I defer this issue to the Board but note that I observed the infiltration test and observed soils consistent with the prior testing.
- F. Plan information.
 - 1) The plans do not include a profile of the access roadway as required.
Comment remains, the Board should determine if a profile is required.

G. Profile plans of proposed accessways shall be drawn as follows:

The Board should determine if any profile information for the access road is required. I have not listed each subsection as a profile of the access road has not been submitted.

Comment remains, the Board should determine if a profile is required.

H. Calculations. Volume calculations are required and were not found in the data submitted. *I erroneously noted that there were not Volume calculations. The initial submittal in the last pages of the Supplemental Materials included volume calculations. There would be a net cut of approximately 5,680 cubic yards.*

301-9.3 Drainage specifications. No comment required refer to other drainage comments.

301-9.4 Drainage design. No comment required refer to other drainage comments.

301-9.5 General Requirements.

A. The design follows DEP and modeling requirements except as noted under other comments.

B. This section requires analysis of the one year storm and treatment of runoff in the Aquifer Protection District as a critical area. Refer to comments under Standard 4 TSS removal. *Satisfied.*

301-9.6 Data Submission

Refer to other sections, most of the required data has been provided but some issues as previously listed are also covered in this section. In particular there are overlapping requirements for soil testing as listed under 301-9.2 E.

No further comment required.

301-9.7 Construction plan/erosion and sedimentation control

Data as required under this section should be supplied prior to the close of the public hearing. There is some data in the Application but a detailed plan should be provided to coordinate and describe the data required under this section.

This aspect has not been revised. I recommend that the Board include a condition that the SWPPP be filed and approved prior to the start of construction.

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

Very truly yours,
Chessia Consulting Services, LLC

John C. Chessia, P.E.