



October 2, 2023
(revised October 26, 2023)

Mr. Richard S. Novak, Chair
Sherborn Zoning Board of Appeals
Town Hall
19 Washington Street
Sherborn, MA 01770

**Re: Greenwood Homes – Comprehensive Permit
Engineering Peer Review
Sherborn, Massachusetts**

Dear Mr. Novak:

Tetra Tech (TT) has reviewed specific submittal materials for the above-referenced Project to assist the Sherborn Zoning Board of Appeals (Board) in its Comprehensive Permit review of the proposed Greenwood Homes development. The following letter provides comments generated during our review of Applicant submittals and generally focus on substantive concerns that speak to issues whose eventual resolution may substantially impact Project design or could otherwise result in potentially unsafe conditions or unanticipated impacts.

The Project includes development of four single-family homes each on separate 0.92± acre lots subdivided from a larger 18.53-acre parcel. Lot dimensions generally conform to the Residence B zoning district Dimensional Requirements with the exception of lot size (2 acres required). Wetland resource areas are located to the west of the proposed lots with buffer zone extending into the development area. Several rain gardens and exfiltration trenches are proposed to assist in mitigation of stormwater as a result of the development. Each home will be served by private wells and septic systems and will each be connected to existing pole-mounted electric/cable/communications along Greenwood Street.

Our review is based on materials received from the Board comprising the following pertinent documents:

- A plan set (Plans) titled "Comprehensive Permit Plan of Greenwood Street Homes at Greenwood Street, Sherborn, MA", dated August 17, 2023, prepared by Creative Land & Water Engineering, LLC. (CLAWE)
- A Project Narrative (Narrative) titled "Project Description, Greenwood Homes, Greenwood Street, Sherborn MA" dated August 2023.
- A Zoning Analysis summary table.

The Plans and accompanying materials were reviewed for good engineering practice, overall site plan efficiency, stormwater, utilities, wetlands and public safety as it relates to each of the subject areas. In general, the plans and supporting materials were well prepared and we appreciate the clarity and completeness of documents provided. Our initial comments are provided below.

TT 10/26/23 Update

The Applicant has supplied TT with a revised submission addressing comments provided in our previous letter including the following documents:

- A plan set (Plans) titled "Comprehensive Permit Plan of Greenwood Street Homes at Greenwood Street, Sherborn, MA", dated August 17, 2023, revised October 18, 2023, prepared by CLAWE.
- A Response to Comments letter dated October 20, 2023, prepared by CLAWE.
- A letter tracking Plan changes dated October 24, 2023, prepared by CLAWE.
- Four (4) lotting plans for the proposed dwellings dated October 18, 2023, prepared by CLAWE.

The revised Plans and supporting information were reviewed against our previous comment letter (October 2, 2023) and comments have been tracked accordingly. Text shown in gray represents information contained in previous correspondence while new information is shown in black text.

A. SITE DESIGN

The Site Plans provide a good introduction to the Project and its various components and shows the Project is placed in an appropriate location on the site in upland area. The following specific comments are offered to identify areas where additional information is required, or changes are requested to address questions or support further review.

- A.1 The Project notes the Bailey Trail Connector is adjacent to the Project. We recommend the Applicant coordinate with the Town to determine level of access to the trails such as a sidewalk along the frontage of the Project to the Trail access point.
- *CLAWE 10/20/23 Response: Greenwood Homes favors the walking and trail aspects of this neighborhood. However, a sidewalk solely in front of the four homes would be out of keeping with the overall neighborhood. In addition, this street has very light traffic and low speed limit under normal conditions.*
 - **TT 10/26/23 Update: We defer to the ZBA related to desire for a sidewalk as part of the Project and recommend it be discussed at the next hearing.**
- A.2 It appears the Project is a net fill site which may require earth fill to be imported to complete the proposed grading plan. We recommend the Applicant provide earthwork calculations for the Project and source of the proposed fill as we anticipate excavate material produced from building foundation excavation may not be sufficient to complete the proposed grading scope.
- *CLAWE 10/20/23 Response: Greenwood Homes will calculate the approximate fill required. The source for any fill is of course not knowable at this time. Furthermore, we are not aware of any local or MA requirement to report on the source location of fill. No outside fill will be used in any wetland buffer areas. The applicant will assure clean fill be used for all means.*
 - **TT 10/26/23 Update: We recommend the Applicant provide the source of fill once determined, preferably at the pre-construction meeting for the Project and provide documentation through testing that it is clean and free of any reportable contaminants.**
- A.3 Greenwood Street is a small local road (approx. 18 feet wide) and we recommend the Applicant provide a construction management plan detailing truck travel routes, project phasing, etc. for review to ensure abutting properties, the right of way and adjacent roadways are properly protected during construction.
- *CLAWE 10/20/23 Response: At the time of construction, Greenwood Homes will work with the Sherborn Building Inspector to come up with a practical construction management plan to meet best practices and local requirements for site management to ensure proper protection of abutters and other interested parties. The management plan will include proper signage of construction activities and trucking route direction, and project phasing. Limit of work and additional line of sediment and erosion control line will be installed along the street for most of the sections, which will act like a demarcation and protection for the street.*
 - **TT 10/26/23 Update: We recommend a Condition requiring the Applicant provide a construction management plan to the Building Department for approval prior to commencement of construction.**
- A.4 The Applicant should provide the limits of the Greenwood Street roadway and show sight lines at each driveway opening. Greenwood Street is narrow, generally winding and is a scenic roadway and the Applicant should address sight line issues and potential mitigation.
- *CLAWE 10/20/23 Response: Greenwood Street has a speed limit less than 30 mph (likely 25 mph). The sight distance is 155 ft to 200 ft. Based on our site visit and analysis, each driveway has a sight distance of more than 200 ft.*

- **TT 10/26/23 Update: In our opinion, this comment is resolved.**

B. STORMWATER

The Project scope includes four single-family dwellings each on separate lots (the Site) and stormwater generated from the Project does not discharge to a critical area which exempts the Project from the requirements of the Massachusetts Department of Environmental Protection (MA DEP) Stormwater Management Standards (Standards). Stormwater mitigation scope for the Project includes rain gardens and exfiltration trenches. The Project was reviewed for general stormwater design elements and good engineering practice. The following comments are offered specific to the Project Stormwater design.

B.1 The Project proposes rain gardens and exfiltration trenches to mitigate stormwater resulting from the proposed development. We recommend test pits be performed prior to Final Plan development to determine soil conditions and depth to groundwater at those infiltration locations. It is common practice to maintain a two-foot separation between the bottom of the infiltration best management practice (BMP) and the estimated seasonal high groundwater (ESHGW) elevation.

- *CLAWE 10/20/23 Response: As the site plan showed, each lot has 5 deep hole soil test pits. In general, the property has very permeable soils (2 mpi to 8 mpi) and adequate groundwater depth (3 ft to 9 ft) to accommodate the proposed stormwater rain gardens and driveway side stone trench apron to meet 2 ft estimated high ground water separation. The Greenwood Homes will do additional testing in the final rain garden areas to confirm the soil and ground water conditions when the plan is finalized by the review process.*
 - **TT 10/26/23 Update: The Plans show four deep hole soil test pit locations on each lot, three at the proposed SAS system and one in a generic location. We recommend a Condition requiring a Massachusetts certified soil evaluator perform test pits at the proposed rain garden locations and provide test pit logs during the final Project review process.**

B.2 Runoff from the developed site will enter the right of way. The Applicant should coordinate with Sherborn DPW to determine if the Project will require formal stormwater analysis as part of the Town's obligations under the United States Environmental Protection Agency (US EPA) National Pollutant Discharge Elimination System (NPDES) Municipal Separate Stormwater Sewer System (MS4) Permit.

- *CLAWE 10/20/23 Response: Given that Greenwood Street is low impact no-curb street, the added house lots have low impact design of driveway with infiltration stone infiltration shoulder, it is expected that minimal runoff will enter the roadway. Even some entered the roadway, the runoff will end up in the roadway side vegetated area. A formal calculation is not necessary. We will discuss this with Sherborn DPW to seek input. In addition, Greenwood Homes will devise a SWPPP and file a NOI for a US EPA NPDES permit when the plan is getting finalized.*
 - **TT 10/26/23 Update: We recommend a Condition requiring the Applicant confirm and coordinate with the Sherborn DPW and provide written confirmation from the DPW regarding their review of the Project as it relates to the Town's NPDES MS4 permit requirements.**

B.3 One of the proposed rain gardens straddles the property line between Lot 1 and Lot 2. We recommend stormwater mitigation be located on one lot or the other to limit future issues between the homeowners with potential maintenance obligations.

- *CLAWE 10/20/23 Response: The referenced rain gardens are redesigned so each lot has their own distinctive rain gardens to be taken care of in the future.*
 - **TT 10/26/23 Update: In our opinion, this comment is resolved.**

C. EROSION AND SEDIMENTATION CONTROL

The Applicant has included provisions for erosion and sediment control as part of the Project scope. The following comments are offered specific to the Project and potential for off-site erosion during construction.

- C.1 The Project appears to meet the requirements for coverage under the US EPA NPDES General Permit for Discharges from Construction Activities (CGP). We recommend a Condition requiring the Applicant provide proof of coverage under the NPDES CGP and provide a copy of the approved Stormwater Pollution Prevention Plan (SWPPP) prior to construction.
- *CLAWE 10/20/23 Response: We will devise a SWPPP and file an NOI for an EPA NPDES CGP permit prior to construction as recommended.*
 - **TT 10/26/23 Update: Condition recommended in original comment.**
- C.2 The Applicant should provide additional detail on proposed Project phasing, equipment laydown areas, material stockpiles, construction entrances, etc. These will be items required on the NPDES CGP noted in Comment B.5.
- *CLAWE 10/20/23 Response: The requested information is added to the updated plan on the sediment and Erosion Control plan sheet. Equipment will be parked outside of the 100-ft buffer in the driveway area.*
 - **TT 10/26/23 Update: In our opinion, this comment is resolved.**

D. WATER SUPPLY

The Plans indicate the Project will be served by private water supply wells on each of the proposed lots. The following comments are offered specific to Project water supply and related analysis or lack thereof.

- D.1 The Applicant should provide documentation that the proposed dwellings will have sufficient source of water from the proposed wells. This is essential to determine if the Project is viable as proposed. All wells shall be coordinated with Sherborn Board of Health.
- *CLAWE 10/20/23 Response: Greenwood Homes will provide documentation to Sherborn BOH of sufficient water from an on property well prior to the issuance of a building permit.*
 - **TT 10/26/23 Update: We recommend a Condition requiring the Applicant provide written confirmation that the necessary documentation was filed with the BOH prior to construction.**
- D.2 The proposed well on Lot 3 is located adjacent to the proposed driveway exfiltration trench immediately downgradient of the garage, driveway and main parking area. The proposed well location may be prone to contamination by the impervious surfaces and potential damage during snow clearing. We recommend additional areas be investigated on Lot 3 for the proposed well.
- *CLAWE 10/20/23 Response: The plan is updated to relocate the well to a safer place. Location for this well.*
 - **TT 10/26/23 Update: In our opinion, this comment is resolved.**
- D.3 The Applicant should confirm method of fire suppression for each dwelling as there are no available hydrants located adjacent to the Site.
- *CLAWE 10/20/23 Response: Greenwood Homes will coordinate with Sherborn Fire Department on their water source for fire suppression in this area to follow their recommendation.*
 - **TT 10/26/23 Update: We recommend a Condition requiring the Applicant provide written confirmation from the Sherborn Fire Department regarding their review of fire suppression for the Project.**

E. SEPTIC SYSTEMS

The Plans indicate the Project will be served by septic systems on each of the proposed lots. The following comments are offered specific to Project septic design and related analysis or lack thereof.

- E.1 The Applicant has provided test pit logs and percolation testing results (witness by Sherborn BOH) for testing at each soil absorption system (SAS) location. Several of the SAS's are proposed in fill areas and adjacent to 3:1 slopes and groundwater is generally high in the area. However, we

anticipate the Project could be permitted given the current development program with careful design and oversight of installation. All septic designs shall be coordinated with Sherborn Board of Health.

- *CLAWE 10/20/23 Response: Greenwood Homes will submit Title V compliant design for each home.*
 - **TT 10/26/23 Update: We recommend a Condition requiring the Applicant provide written confirmation that the necessary documentation was filed with the BOH prior to construction.**

F. WETLANDS

Wetland resource area is located off-site to the north and west with buffer zone and areas jurisdictional to the Massachusetts Wetlands Protection Act (WPA) extending onto the Site. The following comments are offered specific to the Project's potential impact on wetland resources.

F.1 The Project includes disturbance within area jurisdictional to the Massachusetts WPA and therefore we anticipate the Project will require permitting through the Sherborn Conservation Commission.

- *CLAWE 10/20/23 Response: Greenwood Homes anticipates filing with the Conservation Commission for an NOI to perform minor grading and the installation of one well in the outer buffer zone on Lots 2 and 3.*
 - **TT 10/26/23 Update: We recommend a Condition requiring the Applicant provide written confirmation that the necessary documentation was filed with the Conservation Commission prior to construction.**

F.2 Tree clearing and grading is proposed within the 100-foot buffer zone to the wetland resource areas located off-site to the north. The proposed grading scope on site appears to be primarily a net fill for the Project so we do not anticipate impact to groundwater as a result of that process.

- *CLAWE 10/20/23 Response: No comment.*
 - **TT 10/26/23 Update: No further comment is necessary. In our opinion, this item is resolved.**

F.3 We anticipate foundation drains for each dwelling will be required due to potentially high groundwater in the Project area. The Applicant should provide discharge points on the Plans.

- *CLAWE 10/20/23 Response: The houses are set 2 ft above estimated high groundwater. It is unlikely will be much of discharge from foundation drain. The plan is updated with foundation drain for each house.*
 - **TT 10/26/23 Update: In our opinion, this item is resolved.**

These comments are offered as guides for use during the Town's review and additional comments are likely to be generated during the course of review. The Applicant shall be advised that any absence of comment shall not relieve him/her of the responsibility to comply with all applicable local, state and federal regulations for the Project. If you have any questions or comments, please feel free to contact us at (508) 786-2200.

Very truly yours,



Steven M. Bouley, P.E.
Project Manager

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