CLA Engineers, Inc.

Civil • Structural • Survey

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December 9, 2024

Meredith Badalucca, Assistant Planner
Town of Montville
310 Norwich-New London Tpke., Uncasville, CT 06382
Via Email: mbadalucca@montville-ct.org

RE: Site Plan Application 24SITE9 Review
1758 Route 32 – Shantok Village
CLA-7873B

Dear Meredith:

CLA Engineers, Inc. (CLA) has received the revised application materials for the above referenced project located on the Town Form Repository:

https://www.townofmontville.org/form-repository/24-site-9-1758-1790-route-32-shantok-village/

CLA performed a review of the revised application documents and offer the following comments: (The original comments are in *italics*, additional comments are in **bold**)

1. *C-2 / Plans: There appear to be inconsistencies in the test hole numbering on the plan sheets and corresponding logs on sheet C-2. Some test holes labeled on the plans don't have a corresponding log. Please clarify if the logs provided on sheet C-2 are excavated test pits or boring logs.* **Addressed**

2. *C-2: The Soil Test Data text indicates that no groundwater was observed on the boring completion. Was there evidence of a seasonal high groundwater table observed during test pit excavation?* **Addressed**

3. *C-2: The Site Notes indicate a separate Zoning Permit is required for onsite material processing. Is onsite rock or material processing proposed throughout construction? It appears to be part of work zone 2, but is located over the site improvements of works zone 1. The use and location should be clarified.* **Addressed**

4. *C-2: Temporary Sediment Basin "A" is sized based on the Temporary Sediment Trap calculations. This should be sized in accordance with the Basin calculations due to the contributing watershed size.* **Temporary basin dimensions are indicated. Required storage volume calculations were not included and should be provided.**

5. *C-2: E&S Control Notes: The Work Zone 1 narrative indicates temporary sediment pond 1 and 2, this should be corrected to basins A and B.* **Addressed**

6. *C-2: E&S Control Notes: We recommend adding a note referencing the use of the Earthguard slope stabilization on the 3:1 slopes or steeper as called out on the plans.* **Addressed**

7. *C-2: E&S Control Notes: We recommend adding a note that temporary E&S measures remain in place until the site has been reviewed and removal allowed by Town Staff.* **Addressed**

8. *C-2: E&S Control Notes: We recommend adding a note that copies of the CTDEEP Construction Stormwater General Permit registration materials and inspection reports shall be provided to Town Staff during construction.* **Addressed**

9. *C-4/5: Is there adequate room on the final site for snow storage?* **Addressed**

10. *C-5: Grading is shown at or in very close proximity to the property line in several locations. The Applicant should address the feasibility of this construction without disturbing neighboring property. In particular along the southern boundary where E&S measures are shown and necessary.* **The Engineer has indicated that the boundary line will be staked by a land surveyor, which is appropriate. The concern remains about the feasibility of construction in close proximately to the southern boundary line. Steeper slopes may be required to complete the grading.**

    We recommend that the project geotechnical engineer review the constructed slopes and specify additional temporary and permanent slope stabilization measures as needed.

11. *C-5: It appears the graded slope east of building 4 heading north toward the ramp is a 2:1 slope or steeper without benching. It also appears that the slope south of building 2 between the entrance drive and south property line is a 2.5:1 slope. Benching should be provided where the slope exceeds 3:1 for 15' vertically, or a detailed analysis should be provided demonstrating the slope stability, as outlined in the E&S Manual.*

    We recommend that the added note #24 include the following: The geotechnical analysis shall include temporary and permanent slope analysis and stabilization requirements for slopes exceeding 3:1. The analysis shall be submitted to the Town for review at least 14 days prior to the start of construction. Changes to the final surface treatment for slope stabilization or retaining walls may require modification of the approved site plan.

12. *C-5/6 & Stormwater Management Report: Calculations should be provided demonstrating the major vegetated swales have the capacity needed and can accommodate the anticipated velocities within them.* **Addressed**

13. *C-6: There is a long run of vegetated swale along the north side of the entrance drive. Can stormwater be captured more frequently along this run to help prevent erosion?* **Addressed**

14. *C-6: Several culverts are proposed with steep slopes. Stormwater velocities should be checked to ensure compliance with the pipe manufacturers' recommendations. The applicant should address if additional support or collars are needed in these trenches to prevent pipe creep.* **Addressed**

15. *C-6: Additional detail or information for the "At Grade Stormwater Infiltration" should be provided, including surface treatment or soil section. Has soil testing been done in this area?* **Addressed**

16. *C-6: Will roof drainage be connected to the stormwater drainage system? If so locations, or call-outs should be provided.* **Addressed**

17. *C-6: Two of the subsurface systems are labeled infiltration, one is labeled detention. Is there a difference in construction of the systems? If so, additional construction details should be provided for each system.* **Addressed**

18. *C-6: The applicant should address the location of the subsurface infiltration/detention systems relative to seasonal high groundwater and ledge. The lack of existing and proposed contour labels makes it difficult to determine if the systems will be in soil or rock cuts. The bottom of the subsurface infiltration system at the driveway entrance appears to be around 15' below grade, has soil testing been done in that area to that depth?*

    The Engineer has acknowledged that additional subsurface investigation is necessary at the infiltration system locations. We recommend that additional testing be performed and confirmation that the proposed systems are suitable, or modifications proposed prior to the issuance of a zoning permit. Results of the subsurface investigation and system modification (if any) shall be submitted to Town Staff for review. Substantial changes to the subsurface systems may require modification of the approved site plan.

19. *C-8: The location of the mulch socks east of building 4 should be adjusted to avoid installation across the slope and potentially concentrating flow.* **Addressed**

20. *C-9: How will the site be accessed for this portion of the work? It appears that the construction entrance and Sediment Basin A overlap.* **Addressed**

21. *C-9: Additional E&S measures should be provided at the drainage system outlets and outlets from the temporary sediment traps/basins.* **Addressed**

22. *C-9: Where will temporary material stockpiles, staging areas, and trailers be located.* **We recommend adding a note that any stockpile areas be surrounded by appropriate erosion & sedimentation control measures.**

23. *C-9: Will the site and building improvements be complete at the end of work zone 1?* **Addressed**

24. *The following construction details should be provided:*
    a. *New Guide Rail –* **The detail provided on sheet C-12 does not depict the type of guide rail detailed on DOT sheet HW-910-10. The guide rail proposed should be specified.**
    b. *Headwalls and endwalls* **Addressed**
    c. *Stacked Retain-it* **Addressed**
    d. *Vegetated swale* **Addressed**
    e. *ADA sidewalk ramps (titles are there)* **Addressed**
    f. *Permanent stone check dams* **Addressed**
    g. *Steps and handrails* **Addressed**
    h. *Concrete sidewalk against BCLC* **Addressed**
    i. *Topsoil section* **Addressed**
    j. *Seed mixes & application rates* **Addressed**

Stormwater Management Report:

25. *The locations, depths, and data for all of the permeability samples should be provided.* **Addressed**

26. *Current stormwater runoff appears to sheet flow off the site along the entire southern boundary. The proposed development will concentrate flow to two point source discharges. The Applicant should address whether these point source discharges could have a negative impact on property or infrastructure downstream.* **The Engineer has noted that stormwater runoff along the southern boundary would be considered shallow concentrated flow per TR55, we acknowledge this. The intention of the original comment was to note that the current stormwater runoff from the site is spread (shallow-concentrated/overland) over most of the southern boundary. The project creates two point source discharges that will direct stormwater from a large portion of the site to these two locations, which is substantially different than what currently exists. While the project reduces peak runoff flow rate and volume overall it is now concentrated to the two discharge locations. The Engineer should address if concentrating the previous overland flow to two point source discharges will have any negative impact downstream.**

27. *The Applicant should address the western FES discharge location. Reviewing GIS contours downstream of this location it appears this discharge could be directing water to the structure on the 100 Fort Hill Drive property.* **We concur with the Engineers response that current stormwater flow is directed to this property. However, as noted in the previous comment, the current stormwater runoff appears to be overland flow distributed along the southern boundary. The new western outlet concentrates the discharge to a single point that appears to be directly upgradient of the building at 100 Fort Hill Drive, based on the available information. The Engineer should address if concentrating discharge to this point will have a negative impact to 100 Fort Hill Drive.**

28. *Time of concentration travel paths for the existing conditions and for the larger post development watersheds should be shown.* **Addressed**

29. *The Hydrocad output sheets indicate the calculations were performed for a Type II storm distribution. The NRCS NOAA Type D distribution should be used.* **Curve "A" was used for existing conditions, please address.**

30. *Subcatchment summary sheets and pond report summary sheets should be provided.* **Addressed**

31. *Analysis for the onsite drainage system should be provided.* **Addressed**

32. *Sizing calculations for outlet protection measures should be provided.* **Addressed**

33. *Reference is made to hydrodynamic separators. Are there any proposed?* **Addressed**

34. *Water quality for each of the discharges should be addressed.* **Addressed**

35. *Maintenance for the at grade infiltration should be provided.* **Addressed**

In our opinion the E&S bond amount of $574,212 is sufficient.

Thank you for the opportunity to provide this review. Please feel free to call me at our office or email khaubert@claengineers.com with any questions.

Very truly yours,
CLA Engineers, Inc.

Kyle Haubert, P.E.