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Civil • Structural • Survey

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December 4, 2024

Marcelle Wood, Chairman
Ledyard Planning & Zoning Commission
C/O Liz Burdick, Director of Land Use & Planning
Town of Ledyard
741 Colonel Ledyard Hwy
Ledyard, CT 06339-1511
Via Email: planner@ledyardct.org

RE: Third Party Review
PZ#24-8, SUP24-9CAM – 1737 & 1761 Route 12, Gales Ferry ("GFI")
Ledyard, Connecticut
CLA-7929

To the Commission:

CLA Engineers, Inc. (CLA) has received the following application materials for the above referenced project: Exhibits #1-#6, #13, #14-1, #14-2, #23, #91, and #172-#175 on file for the record on the Town of Ledyard website:
https://ledyardct.legistar.com/LegislationDetail.aspx?ID=6778331&GUID=A75FACE5-C384-4950-A7DB-8C07B96864B0&Options=&Search=

This review was performed on the revised application documents noted as Exhibits #172, #173, #174, and #175. Original comments are in *italics* notes on whether a comment has been addressed, or if there are new comments are in **bold**.

1. *Benching of the rock face is a common practice for rock excavations. In our opinion, the rock face would not constitute a "bank" based on 8.16.N.4 of the Zoning Regulations, and would not be required to be graded to a 3:1 slope.* **No additional comment**

2. *CLA recommends that the Applicant/Owner provide the Town with an as-built survey of the excavation at the completion of each phase.* **Addressed**

3. *Notes should be added to the plans that the excavation limits and the clearing and grubbing limits for each phase should be staked in the field by a licensed surveyor prior to the start of work for each phase.* **Addressed**

4. *A seed mix for temporary stockpile areas and a requirement for how long after soil placement the seed mix should be installed should be provided on the plans.* **Addressed**

5. *Where will fueling of excavation equipment and vehicles take place? Measures for spill prevention should be called out on the plans.* **Addressed**

6. *A material specification or gradation should be provided for the structural fill to be placed over the rock floor. The stormwater calculations appear to attribute Hydrologic Soil Group (HSG) A to the final floor indicating a high rate of permeability. The material specified should ensure that the HSG A rating can be accomplished.*

   The Applicants response letter noted that a geotechnical engineer will perform a soil evaluation prior to building construction, which is suitable.

   The response letter also outlined that excavated overburden (Hinckley soil/HSG A) will be stockpiled and reused as backfill. This soil after excavation, mixing, reinstallation, and compaction may not necessarily remain a permeable HSG A type soil. We recommend a gradation or other specification for the permeable soil (HSG A) backfill be provided and be included on the plans. Additionally, will enough volume of this native material be available for reinstallation over the entire area designated as permeable HSG A soil? If backfill is needed and manufactured at the site a gradation or material specification to ensure permeability would be critical.

   It is noted in the response letter and included in the Stormwater Management Report that a portion of the excavated area is considered HSG A vs. HSG D. Approximately 16.2 acres, about 82% of subcatchments (watersheds) 3, 8, and 9 are attributed HSG A. How will the Contractor/Operator know where placement of the HSG A soils should be? The limits of the differing backfill soil types should be depicted on the plans.

7. *Construction details for drainage culvert trenches, drainage structures, and the hydrodynamic separator should be provided.* **Addressed**

8. *A construction detail for the perimeter fence should be provided.*

   A detail for construction fence was included on the plans. Details for the 6' high chain link perimeter fence should be provided.

9. *Sheet C-2: A more detailed narrative or construction sequence for the conversion of temporary sediment basins to the permanent water quality basins should be provided. How will the subsoil be protected from the migration of fines during use as a temporary sediment basin?* **Addressed**

10. *Sheet C-5: Outlet Control Structure OCS-2 call-out indicates a 2" diameter orifice, the Stormwater Management Report indicates a 6" diameter orifice.* **Addressed**

11. *Sheet C-6: Will the temporary frac-tank and pumping be used only during the phase 1 excavation work? or the duration of the project? How will the pump(s) and frac-tank be sized and maintained?* **Addressed**

12. *Sheet C-8: The "Typical Water Quality Basin Outlet Control Structure" detail depicts a 12"x12" weir in the structure. This is not included on the plan call-outs or in the Stormwater Management Report. A 6" underdrain is also depicted, but is not included on the plan call-outs or in other details.* **Addressed**

13. *Sheet C-8: Additional detail should be included on the "Section Through Sediment Basin and Riser". In particular the surface treatment and subsoil section information.* **Addressed**

14. *Sheet C-11: The material for the 30" subsoil to be placed on the bench planting area should be specified on the plans.* **Addressed**

15. *Sheet C-11: Specifics on the bench plantings should be provided on the plans. Minimum tree sizes, spacing, and species should be provided.* **Addressed**

16. *Sheet C-11: A call-out on this sheet indicates the floor is to be stabilized with crushed stone. Elsewhere in the plans it is indicated that the final surface is to be topsoil and seed. This should be clarified.* **Addressed**

17. *Stormwater Management Report: Changes to runoff volume from the excavation site should be quantified. Will there be any negative impacts downstream from any changes in runoff volume?*

    The response letter noted that there will be an increase in runoff volume under the new conditions. This volume was not quantified or summarized. The response outlined the water quality measures proposed and the reduction in peak flow rates but does not mention if there will be any impacts downstream from the increase in runoff volume. The runoff volume and potential impacts should be addressed.

18. *Stormwater Management Report: Calculations for the required Water Quality Volumes (WQV) for each watershed have been provided. It is not clear in the data provided if this volume is stored and retained onsite in the water quality basins. A summary or table outlining the required WQV and WQV provided and retained in each basin should be provided.* **Addressed**

19. *Stormwater Management Report: Sizing and treated flow rate capacity information for the hydrodynamic separator should be provided.*

    A Cascade CS-5 is specified on the plans, but sizing info is for a CS-4 Unit. Weighted "c" value in the calculation page appears low for the finished site. We recommend addressing the "c" value and coordinating the proposed unit model.

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 or comments.

Very truly yours,
CLA Engineers, Inc.

Kyle Haubert, P.E.