

MEMORANDUM

To : North Salem Planning Board

From : Frank D. Annunziata, P.E.
Project Manager

Dated : March 6, 2012

Subject : Bridleside (Formally Salem Hunt)
Site Plan Application
Town of North Salem

Drawings Received : Project Plans Set, Prepared by Insite Engineering Surveying and Landscape Architecture, P.C., dated 2/15/12, 17 Sheets.

Project Plans Set, Prepared by L & M Design, LLC, dated 2/10/12, 18 Sheets.

Architectural Plan and Sections Westchester Treatment Plant, prepared by Milnes Engineering, Inc., dated 2/15/12.

Documents Received : Bridleside Site Development Plan EAF Narrative prepared by Tim Miller Associates, Inc., dated February 15, 2012.

Preliminary Stormwater Pollution Prevention Plan, prepared by Insite Engineering Surveying and Landscape Architecture, P.C., dated February 15, 2012.

The above referenced documents have been reviewed for the engineering issues within our purview.

We offer the following comments for your consideration:

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E N V I R O N M E N T A L A N D C I V I L E N G I N E E R I N G
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Stormwater Pollution Prevention Plan

1. The SPDES General Permit for Stormwater Discharges From Construction Related Activities GP-0-10-001 requires that a Runoff Reduction Volume (RRv) equivalent to 100% of the Water Quality Volume (WQv) be provided, or with proper justification a minimum RRv be provided. The RRv can be achieved through the use of Green Infrastructure Practice (GIP) such as rain gardens, porous pavement, etc. If the entire RRv cannot be achieved through the use of GIP, and proper justification exists for acceptance of the minimum RRv, the remaining WQv must be addressed by standard water quality practices, i.e., ponds, filters, etc. The present applicant has proposed providing an RRv slightly in excess of the minimum, but less than the entire WQv. They present their justification for acceptance of the minimum in the Stormwater Pollution Prevention Plan (SWPPP) including the use of conservation of natural areas, tree planting, rain gardens, porous pavement and the impracticality of the use of rain barrels, stormwater planters and green roofs. Also, be aware that in May 2011, the NYSDEC distributed an interpretation on implementation of the newest New York State Stormwater Management Design Manual (Manual) that allows projects for which applications were made before March 1, 2011 and included a SWPPP which was developed in accordance with the previous version of the Manual, to obtain coverage under the current General Permit. It is our opinion that the plans for the Salem Hunt project met this standard.

The Board should determine whether the project has achieved a sufficient volume of runoff reduction in order to gain coverage under the General Permit. Based on our review of the SWPPP, it is our opinion that they have.

2. The 24 hour rainfall value for the one year design storm used in all appropriate calculations should be 3.1 inches, rather than the 2.8 inches used by the applicant, in accordance with Section 10.3.2 of the Manual. A clearer map can be seen at the following web site: squall.nrcc.cornell.edu/acis/acis/isomap_process.
3. A schedule of drainage infrastructure components with all appropriate elevations should be provided.
4. Page 9 of SWPPP states that the stormwater conveyance system has been sized to handle the 25 year storm at a minimum. The system should also be designed to safely convey the 100 year design storm flow at critical low points and Section 3.0 should state that. Calculations and details should also be provided to demonstrate this and, at critical locations, catch basin inlets shall have the ability to collect flow from that storm.

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5. A Pre-Developments Schematic is not included in the SWPPP.
6. It should be clarified why the Post Development Schematic does not identify Sub-Catchment 1.1S as tributary to Design Line 1.
7. The Pre and Post Development Drainage Maps must show the path and components of the developed times of concentration for each sub-catchment.
8. Table 2.1A should be re-labeled to avoid confusion as follows:

“WQv Reduction by Green Infrastructure” should indicate that this is the “Minimum Required WQv Reduction by Green Infrastructure” and Column “WQv required” should be identified as the remaining WQv required by other practices if the entire RRv is not provided.
9. The Sub-Catchment designations in Table 2.1A (i.e. 2.1S and 2.2S) do not correspond to those on the plans and the SWPPP.
10. For a Practice 2.2P, an elevation data point should be provided at elev. 513.60 in the Hydrocad data in order to demonstrate compliance with the required WQv storage prior to filtration.
11. The SWPPP refers to porous pavement being incorporated into the plans, however the plans do not show the location of this feature on the site. The SWPPP should demonstrate porous pavement sizing. The plans should be revised to reflect the cross section and construction guidelines outlined in Chapter 5.3.11 of the Manual. The subgrade should not be compacted as proposed in the “Porous Driveway and Parking Area Pavement” detail. Details for maintenance of the porous pavement should be included in the SWPPP. Measures to protect the porous pavement should be explained in the SWPPP and included in the By-Laws.
12. The information intended to be provided by Appendix K needs further clarification.
 - The “RRv Provided” in the chart in Section 2.2 “Porous Pavement” does not match Appendix K.
 - The “Summary for Subcatchment 2.1A” data for the “Bridleside Post Development” condition differs from the “Bridleside WQv and RRv” data.

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- What the “0.38 Impervious area” is supposed to represent.
 - The significance of the Pond 2.1PA, 2.1PB, 2.2P and 3P outputs.
13. The “Permanent Stormwater Basin 2.2P Outlet Structure Detail” in “Plan” shows the pipes 3 feet O.C. and in “Section” at 6 feet O.C.
 14. The diameter of the outlet pipes should be provided on the “Permanent Stormwater Basin 2.1P” detail.
 15. The Emergency Overflows including adjacent spot elevations should be provided and labeled on the “Permanent Stormwater Basins 2.1P and 2.2P Enlarged Plan View”.
 16. Flow dissipation devices should be incorporated into the rain garden detail.
 17. Information should be provided that demonstrates that pond inlets shall be partially (i.e., 1/2 full) submerged.
 18. A cross sectional detail of the Pond 2.1PA, Sediment Forebay, should be provided. In addition, information should be provided to demonstrate that the Forebay has been designed with non-erosive conditions. A fixed vertical sediment depth marker should be provided in the Forebay.
 19. The proposed grading for Pond 2.1PB (Enlarged Plan View) does not reflect a micropool adjacent to the pond outlet. A pond drain should be provided in the outlet structure.
 20. The plans should label the Flow Splitter and provide a detail.

General Engineering

21. The plans and report should be clear and consistent in regards to surface of the emergency access road. Page 21 of the Environmental Assessment Form (EAF) states that the surface will be pervious pavement, but the plans and Detail Sheet D-2 show it as gravel.
22. The structure crossing the road at Station 4+60 should be identified on the plans.
23. The backup areas adjacent to the parking spaces appear tight. We recommend that they be widened to 24 feet adjacent to any parking instead of the proposed 22 feet.

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24. The floor plans for the Wastewater Treatment Plant shows a standby power source, however the plans for the Water Control Building do not. This should be addressed by the applicant.

Any questions that applicant may have regarding this memorandum should be directed to the Planning Board.



Fred Brunzetta

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