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MEMORANDUM

TO: Jean Fraser, Planner
FROM: David Senus, P.E. & Ashley Auger, E.I.T.
DATE: January 16, 2013
RE: Final Level III Site Plan Application – Old Barn Estates, Ledgewood Drive off Ocean Ave

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Woodard & Curran has reviewed the Final Level III Site Plan Application for Old Barn Estates Subdivision off of Ledgewood Drive on the Falmouth/Portland line. The project will include 12 new residential house lots spanning between Falmouth and Portland, a 28-foot wide roadway named Ice Pond Drive, stormwater management systems, private septic systems, and public water.

Documents Provided By Applicant

- Cover Letter, dated January 1, 2013, prepared by Land Design Solutions, on behalf of TPO Properties, LLC.
- Stormwater Management Report dated January 2013, prepared by Land Design Solutions, on behalf of TPO Properties, LLC.
- Engineering Plans, Sheet S-101, C-101, C-201, C-202, C-300 to C-303, & D-100 to D-102, revised January 1, 2012, prepared by Land Design Solutions, on behalf of TPO Properties, LLC.
- Subdivision Plat Plan, dated December 27, 2012, prepared by Cullenberg Land Surveying, on behalf of Tim O'Donovan.

Comments

1) In accordance with Section 5 of the City of Portland Technical Manual, a Level III development project is required to submit a stormwater management plan pursuant to the regulations of Maine DEP Chapter 500 Stormwater Management Rules, including conformance with the Basic, General, and Flooding Standards. In addition, Chapter 32 of the City of Portland Code of Ordinances outlines specific requirements related to inspection, maintenance, and reporting for stormwater management systems.
   a) Basic Standards:
      i) Plans, notes, and details have been provided that adequately address erosion and sediment control requirements during construction of the roadway and the stormwater management features.
      ii) The Stormwater Management Report includes an Inspection and Maintenance Plan for the project. The Inspection and Maintenance Plan should include a section specific to inspection and maintenance of the proposed forested buffers and dripline filters, and these features should be included in the "Sample Inspection Report" worksheet that is appended to the Plan. Also, the plan should identify the inspection and reporting requirements outlined in Chapter 32 of the City of Portland Code of Ordinances.
   b) General Standards: The Applicant has proposed vegetated buffers, grassed underdrained soil filters, and underdrained dripline filters to provide stormwater quality treatment in accordance with the General Standards.
      i) Underdrained Soil Filters: Per Section 7.1 of Volume III of the MaineDEP Stormwater BMP Manual:
         (1) No test pit or soil exploration information has been provided with the submittal. One test pit should be excavated in the area of each filter bed to identify the depth to groundwater and bedrock.
         (2) The area of the filter must be no less than the sum of 5% of the impervious area and 2% of the landscaped area draining to the filter. Filter T1 appears to have an insufficient filter area to meet this requirement.
         (3) The Grassed Underdrained Soil Filter detail on C-302 should include a geotextile fabric between natural soils and constructed media.

(4) The Applicant has proposed maintenance easements for the proposed soil filter systems. A copy of the easement language associated with the access and maintenance of these systems should be forwarded for review.

ii) Vegetated Buffers: Per Section 5.0 of Volume III of the MaineDEP Stormwater BMP Manual:

(1) Use of buffers may be limited by location of suitable septic areas, building sites, roads, and driveways. Lots 3, 4, 5 and 11 appear to show a proposed location for a septic system leach field within the limits of the proposed buffers. The septic system leach fields must be located outside of the buffer areas.

(2) Areas designated as buffers must be protected from disturbance by deed restrictions and covenants. Deed restrictions and conservation easements for the proposed buffers should be forwarded for review. In addition, we recommend requiring that permanent posts or markers be set along the edge of each buffer to ensure that future homeowners are aware of the buffer locations. We also recommend that basic language associated with any restricted activities in these buffer areas be included as a note on the Subdivision Plan.

iii) Dripline Filters: To meet the requirements of the General Standards, the Applicant has proposed the use of Dripline Filters for the future house structures on Lots 7, 8 & 9. We recommend noting the requirement for Dripline Filters on these lots on the Subdivision Recording Plan and the Grading, Drainage, and Erosion Control Plan, and including a detail on the Site Detail Sheets with a note referencing the applicable house lots.

c) Flooding Standard: The City of Portland requires conformance with the MaineDEP Chapter 500 Flooding Standard, which requires the applicant to evaluate pre-development and post-development flow from the 2, 10 and 25 year, 24-hour storm events. The Applicant has included this information in the package, in addition to providing data on the 50 year storm event. It should be noted that the Town of Falmouth also requires an evaluation of the 100-year storm event, and therefore the Applicant may be asked by the Town of Falmouth to evaluate this storm event.

i) It appears that the post-development HydroCAD model is approximately 20,000 SF smaller than the pre-development model. The area evaluated in the post-development condition should match the area evaluated in the pre-development condition.

ii) The Applicant has demonstrated that flows from the post-development site for the 2-, 10-, and 25-year storm events do not exceed those in the pre-development condition at two out of the three study points, and are only fractionally higher at the 60" culvert crossing on Ledgewood Drive (Study Point AP1). The projected increase in flow at AP1 is minor (0.1 CFS), and as such, the project would be considered in general conformance with the Flooding Standard; however, we request further review of the projected flow information once the post development area is adjusted to match the pre development area.

2) It appears the proposed project is adjacent to several natural resources (i.e., wetlands, stream). As noted, one on-site freshwater wetland will require a 75-foot setback. It appears that the septic system leach fields for lots 3 & 4 encroach into the 75-foot setback area. The Applicant has noted that MaineDEP NRPA Permit-by-Rule Applications will be filed for a proposed stream crossing, and for activity within 75-feet of wetlands on Lot #9 for the construction of a proposed underdrained soil filter. The Applicant should verify with MaineDEP that the septic system leach field locations are acceptable as proposed. Once filed, the permit notifications should be forwarded to the City for the project record.

3) On Sheet C-201, the Applicant proposes a 12" HDPE pipe with shallow cover (approx. 1.5') and two 45 degree bends between CB 1 and an outfall on the south side of the roadway. HDPE is not an acceptable pipe material within the City of Portland Right-of-Way (refer to Technical Manual Section 2.5.2 for a list of acceptable pipe materials; applies to all proposed underdrain/stormdrain pipe greater than 6" within ROW). In addition, a manhole is required at any change in direction, and the amount of cover over the pipe should be increased to ensure the pipe is a least below the roadway subbase elevation.

4) Sheet C-201 should depict a more defined swale from the outlet of the storm drain pipe to underdrained soil filter T2.

5) Sheet C-201 includes a call-out for an "interception swale" on the north side of Lot 8. It appears that this features is a berm, not a swale; please clarify.