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MEMORANDUM

TO: Jean Fraser, Planner
FROM: David Senus, P.E.
DATE: December 6, 2013
RE: Munjoy Heights, Final Level III Site Plan Application

Woodard & Curran has reviewed the Final Level III Site Plan Application for the proposed infill residential development located at 79 Walnut Street in Portland, Maine. The project consists of the development of 29 townhouse style residences.

Documents Reviewed by W&C

- Stormwater Management Report, revised November 27, 2013, prepared by Acorn Engineering, Inc. on behalf of Redfern Properties, LLC
- Engineering Plans, Sheets C-01, C-02, C-10, C-20, C-30, C-31, C-32, C-33, C-40, C-41, C-42, C-43, C-44, C-45, & C-46, revised December 2, 2013 (detail sheets revised December 4, 2013), prepared by Acorn Engineering, Inc. on behalf of Redfern Properties, LLC
- Stamped Boundary Survey, dated November 11, 2013, prepared by Nadeau Land Surveys, on behalf of Redfern Properties, LLC
- Letter from Acorn Engineering to City Planning Office dated December 4, 2013 providing response to comments contained in Woodard & Curran's 11/20/2013 memo
- Email from Will Savage to Woodard & Curran dated December 5, 2013 identifying additions to Civil Plans since previous submittal

Comments

The following comments are listed in the numerical order of the November 20, 2013 memorandum prepared by Woodard & Curran and the associated December 4, 2013 response letter from Acorn Engineering. Previous comments and responses are not included for brevity.

1) a), b) & c) (i.)(ii.)(iii.) – Comments adequately addressed.
2) a), b) & c) – Comments adequately addressed.
   d) Sheet C-30: The access/diversion structure labeled CB-1 has two outlets, a 12" pipe and a 24" pipe. The 24" pipe connects to the Isolator Row, whereas the 12" pipe appears to connect to an adjacent standard chamber. Please clarify the intent of 12" pipe, along with the invert elevation. Because the Isolator Row is intended to remove sediment and debris from the stormwater flow, we would not anticipate that the 12" pipe invert elevation would be set the same as the 24" pipe invert elevation. If the 12" pipe is acting as a high-flow outlet, we would anticipate that the invert elevation of this pipe would be set higher than the 24" pipe.
3) Comment adequately addressed relative to the Underdrained Subsurface Sand Filter. The plans contain additional details on two underdrained soil filters / rain gardens. It appears these systems were designed without an impermeable liner. We request review and comment on these systems by the project's geotechnical engineer.
4) Comment adequately addressed. We recommend requiring a Stormwater Drainage System Maintenance Agreement as a condition of approval.
5) a), b), c), d) – Comments adequately addressed.
6) Comment adequately addressed.
7) Comment adequately addressed.
8) Comment adequately addressed.
9) We recommend a condition of approval stating that the Applicant shall submit final plans to the Portland Water District for review and approval, with documentation of PWD's approval forwarded to the City Planning Office.

10) Comment adequately addressed.
11) Comment adequately addressed.
12) The Applicant's response letter states that "All proposed trees within a 5' proximity of the sewer pipe will be planted at a depth no greater than 3' deep. Permeable landscape fabric will be used to create a root barrier around the sewer pipes". This requirement should be reflected on the Landscaping and Civil plans.
13) Comment mostly addressed; note that Unit #20 is missing a sewer service connection on sheet C-20.
14) Comment adequately addressed.
15) Comment adequately addressed.
16) Comment adequately addressed.
17) The details provided for the underdrained soil filters (rain gardens) on C-42 do not provide sufficient detail at the edges of the system, where the in-slope meets the driveway/walkway pavers. The in-slope should be designed with measures to avoid erosion and under-mining of the adjacent pavers. As noted in Comment #3, the soil filters are not currently designed with an impermeable liner below the underdrain. The project geotechnical engineer should review the design to ensure that the introduction of surface water to the subsurface soils will not create geotechnical concerns.
18) The Applicant has noted that a revised C-30 drawing will be provided to address the previous review comment; we will review upon receiving the revised C-30 plan.
19) In general we agree with the Applicant's proposal to provide "weep holes" at the base of the wall in lieu of a direct connection to the combined sewer in East Cove Street. The Applicant should include details and notes on the plans for the weep hole outlets to ensure that they are properly stabilized and that they do not direct concentrated flow onto adjoining properties. Per discussions with City DPS, the Applicant should design the retaining wall drainage system and weep holes to allow for a future connection to a hard-piped system if issues arise from groundwater flow. Additional notes and design details should be submitted for review and approval.
20) Comment adequately addressed.
21) Comment adequately addressed.
22) Comment adequately addressed.
23) On Sheet C-32 & C-33 the Applicant has noted that Summit Engineering Services in coordination with Structural Integrity Consulting Engineers, Inc., shall provide the retaining wall design, global stability analysis, and the design of the temporary soil restraint measures, as required. We recommend a condition of approval stating that the retaining wall designs be completed and submitted to the City as part of the Building Permit process prior to construction, and that it be stamped by a professional engineer.
24) Comment adequately addressed.
25) Comment adequately addressed.
26) Comment adequately addressed.