

JONES & BEACH ENGINEERS INC.

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July 19, 2016

Ossipee Planning Board
Mr. Chester "Ski" Kwiatkowski, Chair
1 Moultonville Road
PO Box 67
Center Ossipee, NH 03814

Via email: planningboard@ossipee.org

**RE: Engineering Review Letter 1
Planning Board Case #16-3-SPR
Westward Shores Campground
110 Nichols Road, West Ossipee, NH
JBE Project No. 16134**

Dear Planning Board,

Jones & Beach Engineers, Inc. (JBE), has been asked to perform an engineering review of the plans and documents for proposed expansion of the Westward Shores Campground in West Ossipee. Brad Jones and Jonathan Ring of JBE met with Ski Kwiatkowski and Rick St. Jean of the Planning Board to review issues and concerns on July 8, 2016. We have received the following information:

1. Zoning Ordinance, Town of Ossipee, rev. 3/10/15.
2. Site Plan Review Regulations, Ossipee, amended 11/20/07.
3. SFC Engineering Partnership, Inc. – Application to Ossipee Zoning Board of Adjustment for Special Exception to expand campground with attachments, dated 1/14/16.
4. Ossipee ZBA Notice of Decision approving the expansion Special Exception, dated 3/8/16.
5. NH Division of Historical Resources Review, dated 2/25/16.
6. SFC Engineering Partnership, Inc. – Application for Site Plan Review for Northgate Ossipee, LLC, with attachments, dated 3/14/16.

7. SFC Engineering Partnership, Inc. – Application to Ossipee ZBA for Variance to reduce road width from 20’ to 16’ with attachments, dated 4/15/16.
8. Ossipee ZBA Notice of Decision approving the road width Variance, dated 5/11/16.
9. NHDES Alteration of Terrain Permit: AoT-1088 approval for stormwater design and treatment, dated 5/18/16.
10. Mr. & Mrs. Patrick Fatyol: Letter received 5/17/16 wanting it read during meeting.
11. NH DES – Tracie Sands - Rivers & Lakes Program Manager, submit letter of water quality report of Ossipee Lake.
12. Town of Effingham: Letter received 6/27/16 – Response to “potential regional impact” abutters notification.
13. Town of Porter PB – Letter received 6/27/16 – Statement of Concerns for potential upstream affects.
14. LRPC (Mike Iazard) – Draft letter received 6/29/16 – Response to abutters notification.
15. SFC Engineering Partnership, Inc. - Letter to PB received 7/1/16 in response to LRPC.
16. SFC Engineering Partnership, Inc. - Letter to PB received 7/1/16 in response to letter from Effingham PB dated June 23, 2016.
17. SFC Engineering Partnership, Inc. - Letter to PB received 7/1/16 in response to letter from Porter, Maine’s PB dated June 21, 2016.
18. SFC Engineering Partnership, Inc. – Letter to PB received 7/1/16 of WWSCG Seasonal Rules & Regulations quoted in the response letters.
19. Elwin & Gwen Richardson – Letter received via email on July 3, 2016, response from a Freedom resident with Lake Shore property.
20. “Site Development Plans,” Westward Shores Campground, prepared by SFC Engineering Partnership, Inc., last revised 7/5/16, 31 sheets.

We offer the following comments:

1. Item 5 noted above “Review by the NH Division of Historical Resources” indicates that an archeology study is required prior to the anticipated US EPA “Notice of Intent” for site construction of any expansion.
2. We share the concern expressed by the Planning Board and the public that the entire Campground is located in the 100-Year FEMA Flood Zone AE.

3. The NHDES Shoreland Permit received should be provided.
4. The “Wildlife Corridor Study” should be provided as prepared by Gove Environmental Services, dated April 2016.
5. Sheets 24-26: The proposed Effluent Disposal Areas (EDAs) are within the FEMA Flood Zone. Per the Town of Ossipee Zoning Ordinance Article 4.10.4 Water and Sewer Systems: “Where new or replacement water and sewer systems (including on-site systems) are proposed in a special flood hazard area the applicant shall provide the Zoning Enforcement Officer with assurance that these systems will be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters, and on-site waste disposal systems will be located to avoid impairment to them or contamination from them during periods of flooding.” It appears that the bed bottoms for the three systems are under the flood elevations. The systems should be designed so that the bed bottoms are above the flood elevations, or a Variance should be obtained.
6. Sheet 2: Notes 4 and 5 indicates that topography survey has been performed by SFC. A Licensed Land Surveyor stamp should be provided.
7. Sheet 2: Drainage flow arrows should be shown to indicate downstream direction of Bearcamp River.
8. Sheet 3: A detail should be provided for the Emergency Access Gates, as well as the Access Gates to the Campground. These should be reviewed and approved by the Fire Department.
9. Sheet 3: Note 14 details the parking requirements. We understand that Zoning requires one space per unit. However, we are concerned about the number of vehicles for tenants and visitors. The Board must be comfortable that vehicles will not obstruct emergency access through the site. Perhaps more surplus parking should be considered at the Gate House area.
10. Sheets 4-8: We do not see any plan notes specifying finish floor elevations for campsite units. Flood elevations should be considered, and should be shown on these plan sheets.
11. Sheets 4-8: Site Plan Review (SPR) 8.02.4. indicates that proposed lighting shall be provided. We do not see any lighting, nor any details of fixtures, poles, or bases.
12. Sheet 8: SPR 8.03.6. requires Fire Easements to be minimum 30’ wide. This item should be reviewed for the proposed emergency access road. We are concerned that emergency apparatus may not negotiate the tight 20’ edge of pavement radius curves within the site, as well as at the west access road.
13. Sheet 8: A detail should be provided for the proposed dry hydrant into the Lake.

14. Sheet 8: The designer should determine whether any equalization cross culvert(s) may be necessary along the Peninsula Road.
15. Sheet 8: Note 3 indicates that the Peninsula Road is to be paved, however, it appears that a portion of that road is "Gravel Pave."
16. Sheet 8: Well P3 may need to be above the 100-Year Flood Elevation, as well as the other proposed wells. This may require a constructed ramp and fill within the Flood Zone.
17. Sheet 10: Section 1-1- The minimum stone height above the roadway surface should be specified as no guard rail is proposed. Is it 18"?
18. Sheet 10: Sections 2-2 and 3-3 show a 1' shoulder. We assume that this is gravel, so the subbase crushed gravel should be shown to the road surface elevation, not loam and seed.
19. Sheet 10: We recommend that NHDOT items should be called out for the pavement types and gravels to assist the contractor, and quality of final product.
20. Sheets 11-23: Water and Sewer lines should be shown with minimum 10' separation.
21. Sheets 23: Water service lines should be shown to the Peninsula units.
22. Sheet 23: Finish floor elevations should be specified for each Peninsula unit.
23. Sheet 23: We understand that the existing bedrock well on the Peninsula is to be abandoned. A note should be added indicating that to be done in accordance with proper NHDES regulations and requirements.
24. Sheet 23: Is the existing dwelling leach field being removed? Where is it?
25. Sheet 26: There are winter "No Flow" concerns on the site, when the septic tanks are pumped and empty. These tanks should be designed with antibouyancy calculations.
26. Sheet 28: Paved Road Detail - see Comments 18 and 19 above. The 20' paved width should be added.
27. Sheet 28: Electric Trench – it is suggested that a spare conduit be considered for possible future use. Are all service connections and lines underground for the development? The electric lines should be shown on the plan views.
28. Matchlines are shown on some sheets, and should be added to all plan sheets where applicable.
29. The 10' water and sewer separations are not present at each of the camp sites.

30. There is no detail for the Water, Electric and Sewer services at each camp site.
31. Note 4 on the septic sheets calls out HDPE for the forcemain piping, but the plans call out SDR 21.
32. Sheet 23: The Peninsula gravel pave sites do not scale per the detail on Sheet 28. The 30' x 54' site envelope should be shown demonstrating that 15 sites can fit on the Peninsula per the detail.
33. Note 5 on the septic plans states that access covers are to be provided to grade. Which covers are being referenced? It is recommended to have at-grade covers for each access distribution box at the effluent disposal fields.
34. Sheet 27: The silt sock in the detail should be staked.
35. Sheet 22: The silt sock enters the wetland.
36. The proposed water system shows inline and isolation valves. Blow off hydrants should be provided, as well as details of these devices.
37. Sheet 29: A plan view of the pump station with the dual pumps should be provided.
38. Sheet 29: There is a vented cleanout detail shown, but no location specified on the plans. We have concerns with the cleanout locations in the gravel roadways, and long-term maintenance of the roads and destruction of the cleanouts.
39. Sheet 29: We have many concerns with the information provided on the pump station table. The PF1005 10 gpm pump specified is also listed for the 20 and 30 gpm flows. The pump off elevation is set 6" above the bottom of the wetwell, but the pump impeller for the specified pump is 16" high. The friction loss calculations on the table need to be revised. The designer needs to provide calculations on how many pumps will be running at a time and overall friction for each run. Flow passing of each pump station needs to be provided.
40. The NHDES Drinking Water approval for the proposed wells P1, P2 and P3 is **ONLY** the well siting approvals. The wells still need to be drilled, tested, and then final well siting approvals obtained from NHDES with an updated water distribution and storage plan, before final comments can be made on the water system.
41. Dumpster pad locations for the development should be located outside the Flood Zone and/or provisions for flooding should be taken into account.
42. The Stormwater Management Plan for the long-term maintenance of the bioretention filter systems may require revision.
43. Site Plan Review 6.12.D. suggests that the Town Engineer should review construction. Due to the environmental sensitivity of this location, it is suggested that JBE conduct

periodic inspections of the construction work to ensure compliance in accordance with the final approved plans.

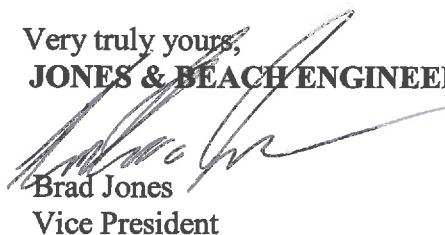
44. Zoning 20.5 appears to require a Special Use Permit for leach fields with flow greater than 600 gallons per day located within the Water Resources Protection District. This should be submitted.
45. Milfoil voluntary inspection poses a concern for water quality of Lake Ossipee. A better solution should be provided.
46. Emergency Evacuation requiring Tenant removal of Campsite units in the event of extreme weather is a concern. This seems unreasonable.

This concludes Engineering Review Letter 1. We suggest that written response from the applicant be provided to address these comments. Thank you very much for your time.

Very truly yours,
JONES & BEACH ENGINEERS, INC.


Jonathan S. Ring, PE
President

Very truly yours,
JONES & BEACH ENGINEERS, INC.


Brad Jones
Vice President

cc: George Fredette, SFC Engineering Partnership, Inc.