

Engineering has reviewed the plans for the Birchwood Drive Access Plan project submitted March 26, 2019 and have the following comments:

Stormwater Management Permit Application Form

1. IV. Project Information; #6-#8: The numbers don't add up. Please verify existing on-site to be removed/demolished and the amount to remain. Also, the Existing Conditions & Demolition Plan needs to reflect what is listed in this section of the application. The demolition does not appear to include a majority of the existing impervious.
2. IV. Project Information; #10: This line item may need to be updated based on comment #1.
3. IV. Project Information; #11: The percentage appears to be incorrect.
4. IV. Project Information; #13: This number is the summation of #9 and #12. Please revise.
5. IV. Project Information; #14: 13,000sf of Impervious Pavement is listed incorrectly. The Impervious Pavement needs to be 12,358sf and the 642sf should be listed as Existing Impervious to remain.

Stormwater Calculations

6. Acreage of Total Area Draining to Pond is incorrect. 149,500sf equals 3.43 acres. 3.29 acres is listed.
7. Break out the 642sf of existing access road impervious to remain from the 13,000sf. Need calculation breakdown to mirror the SCM information in the application.
8. Because the lots are not being developed at this time, please add 'Future' to the right of Lot 1 and Lot 2.
9. Required storage provided (12,170cf) does not match the 1.5" storage volume in the stage-storage table (12,405cf)
10. There appears to be discrepancies with the SA/DA ratio section. The average depth calculated and used is correct, but the SA/DA ratio is suspect. I calculate 3.55 (64% @ 4.0 feet yields 3.55 SA/DA) which sets the required surface area at 5,307sf.
11. The provided surface area is 6,235sf per the stage-storage, not 6,371sf as listed.
12. The V_{shelf} of 326cf is listed incorrectly. Should be 978cf.
13. The A_{bottomshelf} is listed incorrectly. Should be 4,544sf.
14. The contour areas in the Pond Report are not consistent with the 1.5" Storage Volume table in the pond calculations.
15. Pond Report: Weir Structure A crest length (25') is not consistent with the size of the outlet structure (4'x4' box) on C-6.2.
16. Pond Report: Weir Structure B crest length (30') is not consistent with the length of the emergency spillway on C-6.2 (20').
17. Weir B elevation (37.75') must be at least 6 inches higher than the elevation of Weir A (37.30'). Need to raise the emergency spillway 0.05 ft.
18. Line 5 slope and invert up in the Storm Sewer tabulation does not agree with the information on C-4.0.
19. The HGL appears to start below the pond's permanent pool elevation. HGL should start at the 1.5" water surface elevation at a minimum, but ideally at the 10- and 50-year pond water surface elevations.
20. Provide energy dissipater calculations for the pond outlet pipe.

Supplement

21. Verify that any changes to the calculations are reflected in the supplement.

Plans

22. Cover sheet: Update the Site Data table to match the application.

23. C-2: Is the existing impervious to be removed with the construction of the access drive? The demo plan only shows a culvert to be removed. The application states all but 642sf of existing impervious is being removed. Please clarify.
24. C-3:
 - a. A private access easement must be added to the Site Plan & Layout sheet. Label it as well.
 - b. Label easements as public or private.
 - c. Are the parcels to be leased or sold? Knowing which would help determine how best to permit the site and whether or not the pond may need to be on a separate parcel.
 - d. Provide a label for each lot.
25. C-4.0:
 - a. Make sure the tables match the storm pipe calculations and the information in plan view.
 - b. Add an invert label at the downstream end of the 24" pipe leading into the forebay.
 - c. Label the storm structures in plan view to match the storm structure table.
 - d. Show proposed grading for the pond outlet pipe at the existing ditch for construction of the energy dissipater.
26. C-4.2: The delineated inlet drainage areas need labels.
27. C-6.0: Label the rip-rap apron as RRA-1 on other sheets in the plan set.
28. C-6.2:
 - a. The permanent pool elevation is incorrect in the Pond Cross-Section.
 - b. The forebay bottom and sediment storage elevations are incorrect.
 - c. The pond outlet pipe must have a flared end section.
 - d. Verify the width of the emergency spillway.
 - e.
29. L-1: Label the 10-foot maintenance access so the landscaper knows not to plant within it.

Please submit one complete set of plans, application, calculations, supplement and any other supporting documentation to Engineering for additional review. Please call or email if there are any questions. Thank you.