



ENVIRONMENTAL PROTECTION DIVISION

**David B. Dove, Interim Director**

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**Watershed Protection Branch**

2 Martin Luther King, Jr. Drive  
Suite 1470A, East Tower  
Atlanta, Georgia 30334  
404-463-1511

August 10, 2023

Jamey Dotson, P.E.  
Geosyntec Consultants, Inc.  
835 Georgia Avenue, Suite 500  
Chattanooga, TN 37402

**Subject:** Lake Petit Dam  
Pickens County  
Permit #112-009-00462

Dear Mr. Dotson:

The Safe Dams Program (Program) has completed its review of the permit application for the subject dam received May 12, 2023. The following comments must be adequately addressed before the permit can be issued:

**A. Stability and Seepage Analyses**

1. Because the Program lacks expertise in seismic analysis, we are planning to have an outside review done of this portion of the permit documents. When the outside review is complete, the Program will send additional comments to be addressed.
2. Please explain the reasoning behind the downstream saprolite layer being more permeable than the upstream saprolite layer and why this is appropriate.
3. Please explain in more detail the reasoning in assuming the head at the upstream end of the trench drain is equal to the normal pool elevation (1635.5). Is this reasonable given the seepage analysis showing head of 1550-1560?
4. Why were no boring logs for P-2, P-4, P-6, P-7, L-3, L-4, L-5, and G-3 included? What tests were run on samples from these boreholes?
5. Figure 2-1 on page 106 should have a legend for the dots which appear to be boring sample points and the upstream end of the trench drain. The downstream end of the trench drain, on which the downstream boundary condition is based, should be more clearly shown.

**B. Seepage Collection System Modifications Plans**

1. Sheet 1 must include a 24-hour contact name and phone number for the project and an 811 dig alert. Plans should also include coordinates of the dam, the elevations, surface areas, and storage volumes at normal pool and top of dam, and elevations at the upstream and downstream slope toes.
2. Complete Erosion and Sediment Control Plans conforming to the Georgia Soil and Water Conservation Commission's (GASWCC) Manual for Erosion and Sediment Control in Georgia and signed by a GASWCC Level II Design Professional should be included as part of the plans.
3. How deep below the existing drain pipes and how wide on either side of the existing drain pipes will the excavation and fine drain filters be? How thick will the topsoil layer over the new drains be? These dimensions should be on the plans.
4. Sheet 6, Section B, Existing Conditions, shows PVC pipe wrapped with geotextile. The program has noted that geotextile wrapped drain pipe tends to clog and become non-functional.

Please make sure all proposed condition drain pipe is not wrapped in geotextile. Please clarify whether existing pipe is to be removed and fine drain fill placed.

5. Will filter fabric be used at the soil/fine drain fill interface? If so, please show and note this in all appropriate locations.
6. On Sheet 7, Detail 5, please clarify what the dimension referred to as 4" min on 8" – 24", 6" min on 30" & 36" is measuring. Is the U shape around the Nyloplast Drain Basin soil or drain fill? What material will be next to the drain basin? Notes 2, 3, and 5 reference drawings which are not present. Detail 6 should also identify the material surrounding the drain basin.
7. Sheet 7, Details 3 and 4 show the pipe flush with both the vertical part of the headwall encompassing the pipe end and the headwall floor. Drain pipe outlets should extend 4 inches beyond the headwall and have 12 inches of clearance above floor, ground, or riprap to facilitate measurement. All drain outlets should be equipped with animal guards. To the extent reasonably possible stormwater should be kept separate from seepage drains, and seepage drains should be measurable.
8. Should ADS and ASTM details and notes referenced be included on the plans?
9. What traffic considerations are required for the drain basins, especially related to excavation note 6 on Sheet 8?
10. Will compacted fill notes on Sheet 8 apply to drain materials? Scarification (note 4) may not be practical or advisable for areas of drain fill.
11. On Sheet 8, Bench Drain Note 4, will perforations in TN 1.01 be large enough to allow transport of fine drain fill into the drain pipes? Should TN 1.01 be included on the plans?
12. Should Drainage Aggregate notes on Sheet 8 contain additional specifications such as being free of soluble materials, organic materials, soils, etc.?
13. In Vegetation notes on Sheet 8, perennial ryegrass should not be used on dams. It should be specified here or in the erosion and sediment control plans how long disturbed areas may be left unworked or after reaching final grade before being seeded with temporary or permanent vegetation.
14. Will geofabric with gravel cushioning be used under riprap?

You must respond to the comments above within 30 days of issuance of the remaining Stability and Seepage Analyses comments. If you have any questions, please contact me at [Kate.Betsill@dnr.ga.gov](mailto:Kate.Betsill@dnr.ga.gov) or at (470) 524-4667. We look forward to continuing to work with you on this project.

Sincerely,



Kate Betsill  
Environmental Engineer  
Safe Dams Program

cc: Scott Auer, Big Canoe POA