



# Cranston, Robertson & Whitehurst, P.C.

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## MEMORANDUM OF MEETING

**To:** Troy Ledbetter  
**From:** Thomas H. Robertson *THR*  
**Subject:** Meeting on Petit Cove Dam / *Petit Cove*  
Our File No. 97-329  
**Date:** May 6, 1998  
**Present:** Georgia Safe Dams Program  
Big Canoe Property Owners Association  
Board of Directors

Jordan Jones & Goulding, Inc.  
Piedmont Geotechnical Consultants  
Cranston, Robertson & Whitehurst, P.C.

Tom Woosley  
John Baugus  
Emory Williams  
Jim Owens  
Nancy Zak  
Bill Byrne  
Troy Ledbetter  
Mark Kilby  
John Britton  
Karl Myers  
Craig Robinson  
Tom Robertson

*JJ 7990*  
*RM*  
**RECEIVED**  
MAY 12 1998  
DAM SAFETY

The meeting was held in the Chimneys Restaurant for the purpose of reviewing progress on the repairs to Petit Cove Dam and to establish a schedule and program for next steps. The following is a brief summary of the items discussed:

1. Mark Kilby outlined the repair alternatives which have been studied and the thought processes have led to the selection of Option 1B as the preferred route. Under Option 1B, additional piezometric measurements will be made in new borings in the lower part of the dam.
2. Existing slope stability analyses have been made using piezometric measurements in the upper portion of the dam. Phreatic surfaces have been extrapolated from them and the seepage exit points near the toe of the dam. Piezometric measurements have been recorded on a periodic basis since the completion of the borings. Variations have been

- noted in the water levels, recording a slightly rising trend through last month. The most recent measurements have shown a slight decline indicating a peak in the phreatic surface records. During the measurement period, there has been some fluctuation in the water level in the lake, indicating a possible seasonal variation.
3. The site specific seismic field work and a study of the borings all indicate that the dam is founded on weathered rock. The seismic consultant reports that it is unlikely that further studies would improve on the 0.18 g acceleration factor.
  4. Karl Myers discussed the slope stability analyses.
    - a. He has assumed 0.18 g as the seismic acceleration based upon the NEHRP charts, according to the *proposed* regulations of the Safe Dams Program. The current regulations indicate a factor of 0.19 g for new dams. Karl will write Tom Woosley a letter asking for concurrence that using the 0.18 factor will be approved by his office. Tom indicated that that approval would be forthcoming.
    - b. Seismic conditions drive the design.
    - c. Karl reviewed the alternatives and stability analyses for the benefit of Tom Woosley.
    - d. Two additional borings will be made beginning next week in the fourth and fifth berms from the top. The first boring will be in Berm No. 4 and measurements of the water levels will be compared to the assumed values previously used. If the results appear favorable, the boring at Berm No. 5 will drilled; if not, the boring will not be drilled.
  5. Concurrently with the drilling and additional piezometric measurements, a borrow study will be undertaken to ascertain the suitability of soils at the identified borrow site across Steve Tate Highway adjacent to the current borrow site. Test pits will be dug using the POA's rubber-tired backhoe to a depth of eight to ten feet in enough locations to define the types of soils available. Samples will be recovered and the engineering properties of the soils determined. The laboratory analyses will take about four to six weeks to complete.
  6. Mark Kilby reported that the plans and specifications would take about six to eight weeks to develop, probably six weeks.
  7. Considerable discussion ensued on the schedule of the work, the minutiae of which will not be recounted here. In essence, the state wants to keep the project moving and on track. No one wants to drain the lake. The design plans must be based on accurate laboratory analyses and engineering judgement, which take time to complete. It was generally agreed that the most likely schedule would be for plans and specifications to be submitted to the state for review in August or September, with approved plans being
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Troy Ledbetter  
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ready for bidding in October or November. The road and utilities could be moved to clear the dam construction by December. Bidding and contractor selection could be accomplished by December. Construction would take six months or more, and could begin as soon as wet weather is over in the Spring of 1999. This should allow sufficient time for the Property Owner's Association to arrange funding for the work.

8. Tom Woosley agreed to consider this schedule and will respond in writing as to the schedule as well as the seismic coefficient. Tom Woosley left the meeting.
9. The group went over the proposal of Jordan, Jones and Goulding for engineering to complete the design plans, specifications, and contract documents. John Baugus gave the consultants verbal authority to proceed with the additional borings and the borrow study and would follow up on the rest of the proposal later. Tom Robertson inquired about the construction phase engineering services, which Mark Kilby said were not included. John Baugus requested that the next cost estimates furnished by JJ&G include all costs so that an overall budget can be established.