



NORTH CAROLINA
Environmental Quality

ROY COOPER

Governor

ELIZABETH S. BISER

Secretary

BRIAN WRENN

Director

Certificate of Approval

January 26, 2022

CERTIFIED MAIL

RETURN RECEIPT REQUESTED

7019 2280 0000 6517 6714

Mr. David L. Andrews, ICMA-CM
City Manager, Boiling Spring Lakes
9E. Boiling Spring Rd.
Southport, NC 28461

RE: Approval to Modify
Boiling Spring Lakes Dams
(North, Pine, Sanford, Upper Lakes Dams)
Brunswick County
State Dam ID: BRUNS-001 thru 003, and BRUNS-012

Dear Mr. David:

This is in response to your latest revised submission dated January 15, 2021 and received on January 21, 2021, with additional information dated December 10, 2021 and received on December 17, 2021, of plans, specifications, and design data for modification of the subject dams in compliance with the Dam Safety Law of 1967. All four dams are of high hazard classification. The plans, specifications, and design data submitted were prepared under the supervision of Mr. Michael A. Hanson, PE of McGill Associates, P.A. and Mr. Adam C. Paisley, PE of Schnabel Engineering South, P.C. Also, Check No. 049399 in the amount of \$200.00 serving as the minimum application processing fee was received on January 21, 2021.

This letter constitutes approval of the proposal to modify the subject dams according to the plans, specifications, and design data received by this Division on January 21, 2021 and additional information received on December 17, 2021 with the following stipulations:

1. In accordance with GS 143-215.29, project construction shall be supervised by Mr. Michael A. Hanson, PE and Mr. Adam C. Paisley, PE. Mr. Michael A. Hanson, PE and Mr. Adam C. Paisley, PE shall be responsible for field observation of construction as necessary to ensure compliance with approved plans.
2. During construction, the Division of Energy, Mineral, and Land Resources may require progress reports as are deemed necessary.
3. A minimum flow of 2 cubic feet per second must be released from the Sanford dam (BRUNS-003) at all times, even during construction. The Contractor shall assess and determine the minimum flows from the other 3 dams (BRUNS-001, BRUNS-002 and BRUNS-0012) & ensure required minimum flows are also released from these dams as well at all times, even during construction.
4. In accordance with GS 143-215.30 and 15A NCAC 02K .0203, .0212, .0215, and .0216, within 30 days of completion of the project, Mr. Michael A. Hanson, PE and Mr. Adam C. Paisley, PE shall inspect the completed work and upon finding that the work has been done as specified, minimum stream flow requirements have



been satisfied, and the dam is safe, shall file with the Division of Energy, Mineral, and Land Resources two sets of record drawings and a certificate stating that the work has been completed in accordance with approved plans, specifications, and other requirements.

5. Prior to commencement of construction, potential borrow sources including their locations must be identified as per NCAC 02K .0201(d)(1) and soil properties considered in the design verified. Please provide identified borrow area locations and associated data to DEQ for approval before commencement of construction.
6. A formal QA/QC document shall be adopted for the barrier wall construction. All test data related to project shall be submitted to NCDEQ on completion of construction. Additionally, information on testing methods adopted to verify that wall is continuous and free from blemishes shall be submitted with the as-built plans.
7. Prior to issuance of final written consent for use of this dam pursuant to these modifications, the requirements of Session Law 2014-122, Section 8, as revised by Session Law 2015-7 must be met. Session Law 2015-7 requires all owners of high and intermediate hazard dams to submit an annually updated Emergency Action Plan (EAP) to the NC Department of Environmental Quality and the NC Department of Public Safety. More details regarding this requirement may be found online at (<https://deg.nc.gov/about/divisions/energy-mineral-land-resources/energy-mineral-land-permits/dam-safety>).
8. All trees, brush and woody vegetation must be removed from the slopes and crest of the dam embankments and the emergency spillway areas. All trees and/or brush less than three inches in diameter at breast height may be removed either by excavation or cutting flush to the ground. All trees larger than three inches in diameter at breast height must be completely removed by excavation, including roots, and the resulting excavations properly backfilled with select fill. All disturbed areas must be immediately revegetated with a good cover of grass adequate to prevent surface erosion. Excavation and backfilling required for tree removal will require engineered plans to be submitted to Dam Safety for review and approval before removal may proceed. FEMA 534 "Technical Manual for Dam Owners, Impacts of Plants on Earthen Dams" should be used as guidance.
9. No water shall be impounded behind the dam until final approval for operation of this dam is issued by the Division of Energy, Mineral, and Land Resources. Also, draining of the lake shall be performed in such a manner as to preclude off-site sedimentation.
10. An operation and maintenance (O&M) plan are required for all high hazard dams. The O&M plan should address routine maintenance, frequency of piezometer readings, frequency of inspections by the owner or the owner's representative, and annual operation of the bottom drain to ensure that it is functional. The O&M plan must be received prior to issuance of final written consent for use of this dam pursuant to these modifications.
11. This approval does not convey the right to access the private property of others. Any required access to perform the approved work must be secured prior to initiation of construction activities.
12. You must notify Mr Dan Sams, PE, Regional Engineer, Land Quality Section, 127 Cardinal Drive Ext, Wilmington, NC 28405, telephone number (910) 796-7326 ten days before the start of construction.

Water control activities required to complete approved modifications which involve diversion and discharge of reservoir waters to discharge points not covered by an existing NPDES permit, or which utilize procedures that are not approved by an existing NPDES permit, must receive approval from the Division of Water Resources prior to implementation.

The Army Corps of Engineers and the Division of Water Resources of this Department should be contacted to determine if additional permits are required. Also, the erosion and sediment control program having jurisdiction

should be contacted to determine plan approval requirements. In any case, sediment must be prevented from entering the waters of the state or flowing onto neighboring property.

Enclosed are a cost certification form and an explanation of the final processing fee calculation via email transmission (You may also refer to the Dam Safety website at <https://deq.nc.gov/about/divisions/energy-mineral-land-resources/energy-mineral-land-permits/dam-safety-permits/fees>). An additional fee will be required when the cost certification and engineer's certifications are submitted if the cost for modification of the dam exceeds \$10,001.00. The cost certification form must be completed and returned with the engineer's certification in any event.

Should the subject dam change ownership, a "Change of Ownership of a Dam" form must be completed by the new owner of the dam at the time of transfer in order to ensure the new owner receives important information concerning the subject dam, and the former owner be released from liability. The form may be located on the Dam Safety website at <https://deq.nc.gov/about/divisions/energy-mineral-land-resources/dam-safety/application-forms>. The completed form must be submitted via email to dam.safety@ncdenr.gov listing the change of ownership for the subject dam with its applicable state ID in the subject line.

There are additional guidance and resources available on the Dam Safety website at: <https://deq.nc.gov/about/divisions/energy-mineral-land-resources/energy-mineral-land-permits/dam-safety>. Also, to assist dam owners through outreach and education, the Association of State Dam Safety Officials' Owner Outreach Committee has developed three educational videos as a free resource for owners on critical basics of operating and maintaining a dam safely. The videos are 1) dam inspections, 2) spillways and outlet works, and 3) operation and maintenance plans. All the videos are available at: <https://damsafety.org/dam-owners>. These videos are the first in a series specific to owner education called the 'Dam Owner Academy.'

The Dam Safety Law of 1967 requires that project construction commence within one year from the date of this approval, or the approval is void. For assistance, you may contact Mr Dan Sams, PE, Regional Engineer, Land Quality Section, 127 Cardinal Drive Ext, Wilmington, NC 28405, telephone number (910) 796-7326 or the Dam Safety Program in the Raleigh Central Office at telephone number (919) 707-9217 should you have questions concerning this matter.

Sincerely,

William E. Vinson, PE
Section Chief, Program Operations

WEV/hsh/as

cc: Mr. Dan Sams, PE, Land Quality Regional Engineer, FRO.
Mr. Michael A. Hanson, PE of McGill Associates, P.A.
Mr. Adam C. Paisley, PE of Schnabel Engineering South, P.C.