



Catherine B. Templeton, Director

*Promoting and protecting the health of the public and the environment*

Date: December 6, 2012

Attn: David B. Ray, Jr.  
359 Nina Lee Dr.  
Columbia, SC 29229

RE: Reinspection of Lake Elizabeth Dam D-0024, Classification C1, Richland County

Dear Mr. Ray:

The Lake Elizabeth Dam was inspected on December 4<sup>th</sup>, 2012 under the provisions of South Carolina Dams and Reservoirs Safety Act.

During this inspection, I noticed trees, weeds, two small sinkholes and a small crack on the upstream side of the dam (see photo's enclosed). The holes and crack are near the Lake Elizabeth Estates Sign and should be filled, compacted and monitored for changes. The crack should also be monitored and if the holes or cracks show any signs of getting worse, an engineer should be retained to evaluate them.

Trees, brush and briars were found on the downstream slope of the dam. Since trees and their root systems are very damaging to the integrity of a dam, I recommend that you have an engineer evaluate them for removal. The trees, brush and briars made it impossible to conduct a thorough inspection of the soil conditions (i.e. cracks, seepage, sinkholes etc) on most of the downstream slope. It should be noted that the spillway concrete is pitted and this deteriorating condition should be monitored closely. Additionally, the gates should undergo routine maintenance such that lowering the lake levels before a sudden high rain event is quickly possible. A copy of the inspection report is enclosed.

Also, please complete the enclosed Emergency Notification and Action Plan and return one copy with original signatures to the address provided on the instruction sheet.

Sincerely,

Steven Hauptmann, EIT  
District Engineer  
Region 3 EQC- Columbia  
[hauptmse@dhec.sc.gov](mailto:hauptmse@dhec.sc.gov)



Preliminary Inspection Report for South Carolina  
Regulated Dams and Impoundment Structures  
Regulations  
R.72-1 through R.72-9

**Section I (Owner's Information)**

A. Dam Number: D 0624 & Hazard Class C1 B. Name of Dam: Lake Elizabeth Dam  
C. Inspection Date 12/04/2012 & Time: 2:10pm D. Date of Last Inspection: (12/31/2010)  
E. Location-County/City: Richland / Columbia F. EQC Regional Office: Region 3-Columbia  
G. Inspector's Name: Steven Hauptmann  
H. Owner's Name: Lake Elizabeth Estates  
I. Contact Person (if different from above): David B. Ray, Jr.  
J. Dam Owner's or Contact Person's Phone Numbers: Home (803) 754-0791  
Office ( )  
Other (803) 690-0370  
K. Dam Owner's or Contact Person's mailing address:  
Address 1 359 Nina Lee Dr.  
Address 2 (optional) \_\_\_\_\_  
City Columbia State SC Zip Code 29203

**Section II (Dam Condition)**

General Condition Assessment (Select one of the following):

- a) Satisfactory ☒ b) Fair ☐ c) Poor ☐ d) Unsatisfactory ☐ e) Not Rated ☐

**Section III (Dam Inspection Checklist)**

**A. Dam Crest**

- i. Vegetation (grass, trees weeds)? Road (Wilson Blvd - Hwy 21)  
ii. Animal activity observed? \_\_\_\_\_  
iii. Any obvious alteration or repairs made? \_\_\_\_\_  
iv. Erosion noticed on crest? \_\_\_\_\_  
v. Any visible settlement, misalignment or cracks? \_\_\_\_\_

### Section III (Dam Inspection Checklist) continued

#### **B. Upstream Slope**

- i. Vegetation (grass, trees weeds)? grass, weeds, trees
- ii. Animal activity observed? \_\_\_\_\_
- iii. Any obvious alterations or repairs made? \_\_\_\_\_
- iv. Erosion observed on upstream slope? \_\_\_\_\_
- v. Settlement or cracks visible in slope? Some holes - See pictures  
Small crack on north side - See picture

#### **C. Down Stream Slope**

- i. Vegetation (grass, trees weeds)? trees, brush, briars
- ii. Animal activity observed? \_\_\_\_\_
- iii. Any obvious alterations or repairs made? \_\_\_\_\_
- iv. Erosion observed on down stream slope? \_\_\_\_\_
- v. Settlement or cracks visible in slope? \_\_\_\_\_
- vi. Toe drains flowing? \_\_\_\_\_
- vii. Any seepage observed? If so, describe location, flow rate, and any turbidity or color within the flow: \_\_\_\_\_

#### **D. Primary Spillway**

- i. Any visible deterioration of structure? pitting + erosion on surface of concrete
- ii. Is there an obvious need to repair or replace trash rack? \_\_\_\_\_
- iii. Any noticeable problems with debris? \_\_\_\_\_
- iv. Is valve or gate present? Yes

#### **E. Outlet Pipe**

- i. Any water visibly flowing or leaking outside of the discharge pipe? \_\_\_\_\_
- ii. Describe any deflection or damage observed to the pipe: \_\_\_\_\_
- iii. Visible condition of outlet channel: \_\_\_\_\_

#### **F. Auxillary (Emergency) Spillway**

- i. Noticeable obstructions to flow? \_\_\_\_\_
- ii. Animal activity observed? \_\_\_\_\_
- iii. Any noticeable deterioration in the approach or discharge channel? \_\_\_\_\_
- iv. Any visible deterioration of structure's crest? \_\_\_\_\_

**F. Auxiliary (Emergency) Spillway continued**

v. If applicable, any observed exposure of rebar reinforcement? \_\_\_\_\_

vi. If applicable, any visible leakage below concrete spillway? \_\_\_\_\_

**H. Downstream/Hazard Class Issues**

i. Any noticeable changes immediately downstream of the dam that affects the hazard classification? \_\_\_\_\_

**I. Emergency Action Plan (EAP)**

i. Emergency Action Plan provided by owner? \_\_\_\_\_

ii. Does EAP contains emergency alert notification plan? If so, when was it last updated? \_\_\_\_\_

iii. Does EAP contain specific actions to take if the dam has failed or is near failure? \_\_\_\_\_

**Section IV (Conclusions)**

**General comments and recommendations:**

Small SHK holes should be evaluated (on North end of upstream slope)

Small Crack should be monitored

Trees + shrub + briars should be evaluated for removal

Gates should be evaluated for functionality + possible  
need for servicing (grease etc.)

**Preliminary Dam Inspection Disclaimer:**

The information contained in the preliminary inspection report is intended as an aid to identify those dams that require maintenance and/or repair actions to reduce their danger to human life or property only. It is not intended as professional engineering or consulting advice for conditions or situations present at individual dams. It is not a substitute for a detailed inspection, nor does it replace the need for services provided by registered professional engineers. If your dam is experiencing an unusual situation consult with engineering professionals to find an appropriate remedy. Preliminary inspections conducted by South Carolina Department of Health and Environmental Control (the Department) are provided "AS IS" and "as available", without warranties of any kind, either express or implied. Preliminary inspections consist only of a visual but technical examination of the dam and its appurtenant works. All findings are based solely on visual observations of the inspector at the time of the inspection. Common law holds that the storage of water is a hazardous activity and the Department does not assume any responsibility or risk for your actions or inactions. Dam owners are responsible for the safe operations and maintenance of their impoundment structures.





















