



January 29, 2018

Resolute FP US Inc.  
Attn: Richard Davis  
5300 Cureton Ferry Rd  
Catawba, SC 29704

RE: Inspection of BOWATERS CAROLINA DAM 6 (DHEC ID # D3657)  
York County

Dear Resolute FP US Inc.:

The S.C. Department of Health and Environmental Control (the Department/DHEC), through our engineering contractor CDM Smith, undertook an inspection initiative this year to obtain updated information on the overall condition of all regulated dams in South Carolina. Your Low Hazard dam was inspected on August 31, 2017, and the report of our findings is enclosed. The Department determined that your dam is properly classified as a Low Hazard dam, meaning failure of the dam is not expected to cause loss of life or significant damage to property. **The information in this report is being provided for information only and no action is being requested at this time.**

The inspection report is broken into sections that correspond to the different functional parts of a dam. The inspector attempted to access every applicable part of the dam where it was safe and possible to do so. If part of the dam was inaccessible or unsafe, that area might not have been inspected. Where a deficiency was noted, inspectors tried to insert pictures that show the problem.

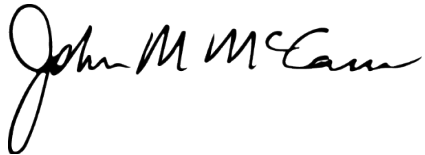
The Findings section of the report is followed by an Inspection Summary that provides the overall rating for this dam and final comments from the inspector. Dams rated as "Poor" have conditional concerns that, if not promptly addressed, could lead to dam failure and the inability of the dam to impound water for its current use (agricultural, fire flow, recreation, etc.). If the dam was rated as "Unsatisfactory", engineers have identified one or more major issues that could lead to dam failure.

The Final Comments section provides the inspector's recommendations and is a tool you can use to voluntarily improve the condition of your dam. Following these

recommendations is one way to protect your investment, extend the life of your dam and allow it to serve its existing use. Regulations require that you obtain a permit from DHEC before making any repairs. **Contact us first if you wish to make repairs or alterations.**

Thank you for your attention to this report and efforts to keep your dam working properly. If at any time you have concerns or want a consultation with Dam Safety Program engineers, feel free to call us at 803-898-4300 or e-mail us at [damsafety@dhec.sc.gov](mailto:damsafety@dhec.sc.gov). Visit [www.scdhec.gov/dams](http://www.scdhec.gov/dams) to find educational materials, laws and regulations concerning dams, staff contacts, and other information.

Sincerely,

A handwritten signature in black ink that reads "John M. McCain". The signature is written in a cursive style with a large initial "J" and "M".

**John M. McCain, P.E.**


Manager, Dam Safety Program  
Dam Safety and Stormwater Permitting Division  
**S.C. Dept. of Health & Environmental Control**

Enclosures:

1. D3657 Inspection Report

# BOWATERS CAROLINA DAM 6 (D3657)

## Dams Preliminary Inspection Form

<b>Inspection Information</b>	<b>Answer</b>	<b>Violation</b>						
1. Date of Inspection 08/30/2017								
2. Inspectors Present Greg Leaphart, Drew Pavy								
3. Other Persons Attending Inspection								
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #cccccc;"> <th style="text-align: left; padding: 2px;">Name</th> <th style="text-align: left; padding: 2px;">Phone</th> <th style="text-align: left; padding: 2px;">Owner/Engineer/Other</th> </tr> </thead> <tbody> <tr> <td style="padding: 2px;">Pat Murphy</td> <td style="padding: 2px;"></td> <td style="padding: 2px;">Plant Contractor</td> </tr> </tbody> </table>	Name	Phone	Owner/Engineer/Other	Pat Murphy		Plant Contractor		
Name	Phone	Owner/Engineer/Other						
Pat Murphy		Plant Contractor						
4. Is this a follow-up inspection?	<input type="text" value="No"/>							
<b>Observation/Instrumentation</b>	<b>Answer</b>	<b>Violation</b>						
1. Estimate the current level of the water in the reservoir: Normal Pool The pond is a dry post-processing sludge basin with no water. The pond is at normal operating conditions and therefore considered to be at Normal Pool.								
<div style="display: flex; align-items: flex-start;">  <div style="margin-left: 10px;"> <p>Photo Taken: 8/30/2017 4:13:36 PM</p> </div> </div>								
2. Describe the current weather & conditions: 80 degrees F, sunny								
3. Recent rainfall quantity: None								
4a. Are Piezometers or Observation Wells present?	<input type="text" value="No"/>							
4b. (If Present:) Condition of Piezometers/Observation Wells								
5a. Is a Staff Gauge or Recorder present?	<input type="text" value="No"/>							

**BOWATERS CAROLINA DAM 6 (D3657)**  
Dams Preliminary Inspection Form

<b>Observation/Instrumentation</b>	<b>Answer</b>	<b>Violation</b>
5b. (If Present:) Condition of Staff Gauge or Recorder		
6a. Are Measurement Weirs Present?	<input type="text" value="No"/>	
6b. (If Present:) Condition of Weirs:		
7a. Number of Spillways Present	0	
7b. Type of Spillways Present	The pond is a dry post-processing sludge basin with no inlet or outlet sources.	
8. Other:		
9. Additional Comments (Refer to item number if applicable)		

# BOWATERS CAROLINA DAM 6 (D3657)

## Dams Preliminary Inspection Form

<b>Embankment: Crest</b>	<b>Answer</b>	<b>Violation</b>
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Is this section applicable for this dam?

Crest Length: 7495' (entire dike surrounding pond/sludge basin)

Crest Width: 10'

Dam Height: Negligible on north and west embankments of dike, up to 50' on south and east embankments bordering the Catawba River

Freeboard: N/A (no water, dry post-processing sludge basin)

Hazard Classification: C III, (Low Hazard)




Photo Taken: 8/30/2017 4:05:50 PM



Photo Taken: 8/30/2017 4:25:57 PM

# BOWATERS CAROLINA DAM 6 (D3657)

## Dams Preliminary Inspection Form

<b>Embankment: Crest</b>	<b>Answer</b>	<b>Violation</b>
<p>1. Grass Cover</p> <p>No Deficiency</p> <p>Top of dam is a gravel road for large truck access.</p>		
<div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <p>Photo Taken: 8/30/2017 3:54:42 PM</p> </div> </div>		
<p>2. Deleterious Vegetation</p> <p>No Deficiency</p>		
<p>3. Trees</p> <p>No Deficiency</p>		
<p>4. Animal Activity</p> <p>Monitor</p> <p>None observed.</p>		
<p>5. Surface Cracking</p> <p>No Deficiency</p>		
<p>6. Horizontal Alignment</p> <p>No Deficiency</p>		
<p>7. Settlement</p> <p>No Deficiency</p>		
<p>8. Sinkhole</p> <p>No Deficiency</p>		
<p>9. Erosion</p> <p>Monitor</p> <p>No obvious signs of erosion but heavy truck traffic observed.</p>		
<p>10a. Are Alterations/Repairs Present?</p>	<div style="border: 1px solid black; display: inline-block; padding: 2px 10px;">No</div>	

**BOWATERS CAROLINA DAM 6 (D3657)**  
Dams Preliminary Inspection Form

<b>Embankment: Crest</b>	<b>Answer</b>	<b>Violation</b>
10b. (If Present:) Alterations/Repairs Condition		
11. Other:		
12. Embankment: Crest Condition <b>DAMMAINTREP</b> Regular Monitoring Necessary		
13. Additional Comments (Refer to item number if applicable)		
<b>Concrete/Masonry Dams: Crest</b>	<b>Answer</b>	<b>Violation</b>
Is this section applicable for this dam?	<input type="text" value="No"/>	
1. Surface Conditions		
2. Horizontal Alignment		
3. Vertical Alignment		
4. Condition of Joints		
5. Unusual Movement		
6a. Are Alterations/Repairs Present?		
6b. (If Present:) Alterations/Repairs Condition		
7. Other:		
8. Concrete/Masonry Dam Crest Condition <b>DAMMAINTREP</b>		
9. Additional Comments (Refer to item number if applicable)		

# BOWATERS CAROLINA DAM 6 (D3657)

## Dams Preliminary Inspection Form

<b>Embankment: Upstream Slope</b>	<b>Answer</b>	<b>Violation</b>
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Is this section applicable for this dam?

Slope: 2H:1V



Photo Taken: 8/30/2017 3:55:15 PM

### 1. Grass Cover

#### Monitor

Greater than 70 percent grass cover greater than 6" tall in some places.




Photo Taken: 8/30/2017 4:13:05 PM





## BOWATERS CAROLINA DAM 6 (D3657)

### Dams Preliminary Inspection Form

<b>Embankment: Upstream Slope</b>	<b>Answer</b>	<b>Violation</b>
<p>2. Deleterious Vegetation</p> <p>Monitor</p> <p>Vegetation and brush present throughout upstream slope.</p>		
<div style="display: flex; align-items: flex-start;">  <div style="margin-left: 20px; padding-top: 10px;"> <p>Photo Taken: 8/30/2017 4:25:55 PM</p> </div> </div>		
<p>3. Trees</p> <p>No Deficiency</p>		
<p>4. Animal Activity</p> <p>Monitor</p> <p>None observed.</p>		
<p>5. Surface Cracking</p> <p>No Deficiency</p>		
<p>6. Subsidence, Sinkhole</p> <p>No Deficiency</p>		
<p>7. Slide, Slough, Scarp</p> <p>No Deficiency</p>		
<p>8. Groins</p> <p>Not Applicable.</p>		
<p>9. Erosion</p> <p>No Deficiency</p>		
<p>10a. Slope Protection/Armoring Present?</p>	<div style="border: 1px solid black; display: inline-block; padding: 2px 10px;">No</div>	
<p>10b. (If Present:) Slope Protection/Armoring</p>		

# BOWATERS CAROLINA DAM 6 (D3657)

## Dams Preliminary Inspection Form

<b>Embankment: Upstream Slope</b>	<b>Answer</b>	<b>Violation</b>
11a. Alterations/Repairs Present?	<input type="text" value="No"/>	
11b. (If Present:) Alterations/Repairs Condition		
12. Other: Large raw water pipeline extends throughout approximately 2000' of upstream slope.		
	Photo Taken: 8/30/2017 3:58:22 PM	
	Photo Taken: 8/30/2017 4:09:10 PM	
13. Embankment: Upstream Slope Condition		
<b>DAMMAINTREP</b>		
Regular Monitoring Necessary		
14. Additional Comments (Refer to item number if applicable)		
<b>Concrete/Masonry Dams: Upstream Face</b>	<b>Answer</b>	<b>Violation</b>
Is this section applicable for this dam?	<input type="text" value="No"/>	

**BOWATERS CAROLINA DAM 6 (D3657)**  
Dams Preliminary Inspection Form

<b>Concrete/Masonry Dams: Upstream Face</b>	<b>Answer</b>	<b>Violation</b>
1. Surface Conditions		
2. Condition of Joints		
3. Unusual Movement		
4. Abutments		
5a. Alterations/Repairs Present?		
5b. (If Present:) Alterations/Repairs Condition		
6. Other:		
7. Concrete/Masonry Dams: Upstream Face Condition <b>DAMMAINTREP</b>		
8. Additional Comments (Refer to item number if applicable)		

BOWATERS CAROLINA DAM 6 (D3657)  
Dams Preliminary Inspection Form

**Embankment: Downstream Slope** **Answer** **Violation**

Is this section applicable for this dam?

Yes

Slope: 2H:1V




Photo Taken: 8/30/2017 3:58:11 PM



Photo Taken: 8/30/2017 4:13:11 PM

# BOWATERS CAROLINA DAM 6 (D3657)

## Dams Preliminary Inspection Form

<b>Embankment: Downstream Slope</b>	<b>Answer</b>	<b>Violation</b>
<p>1. Grass Cover</p> <p><b>Monitor</b></p> <p>Greater than 70 percent grass cover with grass taller than 6" in some places.</p>		
<div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <p>Photo Taken: 8/30/2017 4:26:01 PM</p> </div> </div>		
<p>2. Deleterious Vegetation</p> <p><b>Monitor</b></p> <p>Vegetation and brush present in some places.</p>		
<p>3. Trees</p> <p><b>No Deficiency</b></p>		
<p>4. Animal Activity</p> <p><b>Monitor</b></p> <p>None observed.</p>		
<p>5. Surface Cracking</p> <p><b>No Deficiency</b></p>		
<p>6. Subsidence, Sinkhole</p> <p><b>No Deficiency</b></p>		
<p>7. Slide, Slough, Scarp</p> <p><b>No Deficiency</b></p>		
<p>8. Groins</p> <p>Not Applicable.</p>		
<p>9. Erosion</p> <p><b>No Deficiency</b></p>		
<p>10a. Slope Protection/Armoring Present?</p>	<div style="border: 1px solid black; display: inline-block; padding: 2px 10px;">No</div>	

**BOWATERS CAROLINA DAM 6 (D3657)**  
Dams Preliminary Inspection Form

<b>Embankment: Downstream Slope</b>	<b>Answer</b>	<b>Violation</b>
10b. (If Present:) Slope Protection Condition		
11. Wet Areas		
12a. Seepage	<input type="text" value="No"/>	
12b. (If Present:) Seepage Flow		
13a. Drainage System Present?	<input type="text" value="No"/>	
13b. (If Present:) Drainage System Condition		
14a. Alterations/Repairs Present?		
14b. (If Present:) Alterations/Repairs Condition		
15. Other:		
16. Embankment: Downstream Slope Condition		
<b>DAMMAINTREP</b>		
Regular Monitoring Necessary		
17. Additional Comments (Refer to item number if applicable)		
<b>Concrete/Masonry Dams: Downstream Face</b>	<b>Answer</b>	<b>Violation</b>
Is this section applicable for this dam?	<input type="text" value="No"/>	
1. Surface Conditions		
2. Condition of Joints		
3. Unusual Movement		
4. Drains		
5. Leakage		
6. Abutments		
7a. Alterations/Repairs Present?		
7b. (If Present:) Alterations/Repairs Condition		

**BOWATERS CAROLINA DAM 6 (D3657)**  
Dams Preliminary Inspection Form

<b>Concrete/Masonry Dams: Downstream Face</b>	<b>Answer</b>	<b>Violation</b>
8. Other:		
9. Concrete/Masonry Dam: Downstream Face Condition <b>DAMMAINTREP</b>		
10. Additional Comments (Refer to item number if applicable)		
<b>Downstream Area</b>	<b>Answer</b>	<b>Violation</b>
Is this section applicable for this dam?	<input type="text" value="No"/>	
Is Downstream Area clear?		
1. Trees		
2. Deleterious Vegetation		
3. Wet Areas		
4a. Seepage		
4b. (If Present): Seepage Flow		
5a. Boils		
5b. (If Present): Boil Flow		
6a. Alterations/Repairs Present		
6b. (If Present:) Alterations/Repairs Condition		
7. Other:		
8. Downstream Area Condition <b>DAMMAINTREP</b>		
9. Additional Comments (Refer to item number if applicable)		
<b>Spillways: Erodible Channel</b>	<b>Answer</b>	<b>Violation</b>
Is this section applicable for this dam?	<input type="text" value="No"/>	
1. Location		

**BOWATERS CAROLINA DAM 6 (D3657)**  
Dams Preliminary Inspection Form

<b>Spillways: Erodible Channel</b>	<b>Answer</b>	<b>Violation</b>
2. Grass Cover		
3. Deleterious Vegetation		
4. Trees		
5. Animal Activity		
6. Subsidence, Sinkhole		
7. Slide, Slough, Scarp		
8. Erosion		
9. Debris		
10. Flowing?		
11a. Alterations/Repairs Present		
11b. (If Present:) Alterations/Repairs Condition		
12. Other:		
13. Spillway: Erodible Channel Condition <b>DAMMAINTREP</b>		
14. Additional Comments (Refer to item number if applicable)		
<b>Spillways: Non-Erodible Channel</b>	<b>Answer</b>	<b>Violation</b>
Is this section applicable for this dam?	<input style="border: 1px solid black; width: 50px; height: 20px;" type="text" value="No"/>	
1. Location		
2. Approach Area		
3. Weir/Control		
4. Sidewalls		
5. Channel Floor		





**BOWATERS CAROLINA DAM 6 (D3657)**  
Dams Preliminary Inspection Form

<b>Spillways: Non-Erodible Channel</b>	<b>Answer</b>	<b>Violation</b>
6. Condition of Joints		
7. Surface Condition		
8. Unusual Movement		
9. Discharge Channel		
10. Debris		
11. Flowing?		
12a. Boils		
12b. (If Present): Boils		
13a. Alterations/Repairs Present		
13b. (If Present:) Alterations/Repairs Condition		
14. Other:		
15. Spillway: Non-Erodible Channel Condition <b>DAMMAINTREP</b>		
16. Additional Comments (Refer to item number if applicable)		

# BOWATERS CAROLINA DAM 6 (D3657)

## Dams Preliminary Inspection Form

<b>Spillways: Inlet Structure</b>	<b>Answer</b>	<b>Violation</b>
Is this section applicable for this dam?	<input type="text" value="No"/>	
The pond is a dry post-processing sludge basin. 12" DIP siphon system present but not embedded or in use.		
	Photo Taken: 8/30/2017 4:28:38 PM	
	Photo Taken: 8/30/2017 4:29:07 PM	
1. Location (34.844106, -80.874968)		
2a. Intake Structure Monitor		
12" DIP siphon		
2b. Intake Structure Types Siphon		
3. Trashrack Not Present		
4a. Low-Level Valve Present?	<input type="text" value="No"/>	

**BOWATERS CAROLINA DAM 6 (D3657)**  
Dams Preliminary Inspection Form

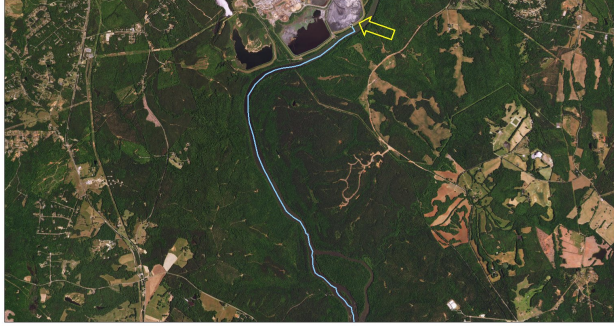
<b>Spillways: Inlet Structure</b>	<b>Answer</b>	<b>Violation</b>
4b. (If Present:) Low-Level Valve Condition		
5. Debris No Deficiency		
6a. Repairs/Alterations Present	<input type="text" value="No"/>	
6b. (If Present:) Alterations/Repairs Condition		
7. Other:		
8. Spillway: Inlet Structure Condition <b>DAMMAINTREP</b> Regular Monitoring Necessary		
9. Additional Comments (Refer to item number if applicable)		
<b>Spillways: Outlet Works</b>	<b>Answer</b>	<b>Violation</b>
Is this section applicable for this dam? The pond is a dry post-processing sludge basin.	<input type="text" value="No"/>	
1. Location		
2a. Outlet Structure		
2b. Outlet Structure Type		
3. Outlet Pipe		
4. Primary Closure/Control		
5. Secondary Closure/Control (If Applicable)		
6. Unusual Movement		
7a. Seepage		
7b. (If Present): Seepage		
8. Stilling Basin		
9. Normal Flow Quantity		

**BOWATERS CAROLINA DAM 6 (D3657)**  
Dams Preliminary Inspection Form

<b>Spillways: Outlet Works</b>	<b>Answer</b>	<b>Violation</b>
10. Low-Level Flow Quantity		
11a. Alterations/Repairs Present		
11b. (If Present:) Alterations/Repairs		
12. Other:		
13. Outlet Works Condition <b>DAMMAINTREP</b>		
14. Additional Comments (Refer to item number if applicable)		
<b>Emergency Action Plan</b>	<b>Answer</b>	<b>Violation</b>
Is this section applicable for this dam?	<input type="text" value="No"/>	
1. Date of last update of emergency plan:		
2a. EAP provided by owner? <b>DAMREPORT</b>		
2b. (If EAP was not provided, was a copy of the EAP form left with the owner?)		
3. Does EAP contain emergency alert plan?		
4. Does EAP contain specific actions to take if the dam has failed or is failing?		
5. Additional Comments (Refer to item number if applicable)		

## BOWATERS CAROLINA DAM 6 (D3657)

### Dams Preliminary Inspection Form

<b>Downstream Hazard Check</b>	<b>Answer</b>	<b>Violation</b>
1. Satellite Imagery	<input type="button" value="Yes"/>	
<div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="width: 45%;">  <p style="font-size: small; margin-top: 5px;">August 20, 2017</p> </div> <div style="width: 50%; padding-left: 10px;"> <p>Photo Taken: 9/4/2017 1:03:07 PM</p> </div> </div>		
2. Inundation Map	<input type="button" value="No"/>	
3. Structures/Developments	<input type="button" value="No"/>	
4. Roads/Railways	<input type="button" value="No"/>	
5. Utilities	<input type="button" value="No"/>	
6. Consider For Reclass?	<input type="button" value="No"/>	
7. Additional Comments (Refer to item number if applicable)		
<b>Inspection Summary</b>	<b>Answer</b>	<b>Violation</b>
1. Overall Condition (*Per National Inventory of Dams Definition)		
Fair		

# BOWATERS CAROLINA DAM 6 (D3657)

## Dams Preliminary Inspection Form

Inspection Summary	Answer	Violation
-----NID Definitions-----		
(SATISFACTORY) No existing or potential dam safety deficiencies are recognized. Acceptable performance is expected under all loading conditions in accordance with state engineer's rules and regulations for dams or tolerable risk guidelines.		
(FAIR) No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. Risk may be in the range to take further action.		
(POOR) A dam safety deficiency is recognized for loading conditions, which may realistically occur. Remedial action is necessary. A POOR condition is used when uncertainties exist as to critical analysis parameters, which identify a potential dam safety deficiency. Further investigations and studies are necessary.		
(UNSATISFACTORY) A dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution.		
(NOT RATED) This should only be used if it is not possible to assess to dam's condition due to site constraints on visibility on the day of inspection. If vegetation is a problem the owner should be ordered perform maintenance to remove it before the next visit.		

### 3. Final Comments

Cut and remove brush and woody vegetation on upstream and downstream slopes where necessary. Monitor possible erosion on gravel access road on top of dam where necessary. Maintain/manage vegetation by mowing regularly.

**Dam Inspection Sketch**

Dam Name <u>Ecoators Forest Company, Dist 6</u>	Inspection Date/Time <u>9/30 8:30 AM Weather 80°F Sunny</u>
Dam Number <u>D 3657</u>	Hazard Classification <u>CH 1A</u>
	Inspector Name(s) <u>Pat Murphy, Brad Becker</u>

Crest Length <u>749.5'</u>	Freeboard <u>10' slope</u>
Crest Width <u>10'</u>	Dam Height <u>N/A, no water</u>
Upstream Slope <u>2 H: 1 V</u>	Primary Spillway/Outlet <u>spillway on right</u>
Downstream Slope <u>2 H: 1 V</u>	Auxiliary Spillway(s) <u>none</u>
Identify Roads/Access and Pond/Lake Name	
Owner Present/Name/Phone <u>Pat Murphy, Brad Becker</u>	

Show approx. location of items to be investigated, monitored, repaired  
Include Spillway Gate, Type, etc.

Photo Taken: 9/4/2017 1:05:47 PM

**BOWATERS CAROLINA DAM 6 (D3657)**  
**Dams Preliminary Inspection Form**

<b>Inspection Summary</b>	<b>Answer</b>	<b>Violation</b>
<p>Preliminary Dam Inspection Disclaimer:</p> <p>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.</p>		

BOWATERS CAROLINA DAM 6 (D3657)  
Violation List

No Violations Found