LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

Office of Engineering
PO Box 94245 | Baton Rouge, LA 70804-9245
ph: 225-379-3000 | fx: 225-379-3002

John Bel Edwards, Governor
Shawn D. Wilson, Ph.D., Secretary

January 24, 2022

Joe Beale
P.O. Box 220
BUSH, LA 70431

Re: Cormorant Lake Dam
Dam Inspection Report
NID ID No.: LA00395
St. Tammany Parish

Dear Mr. Beale,

The Dam Safety Program of the Public Works and Water Resources Section of the Louisiana Department of Transportation and Development (LA DOTD) is responsible for regulating the Louisiana Dam Safety Program (R.S. 38:21-28). As part of the ongoing implementation of the program, LA DOTD has obtained the services of ECM Consultants, Inc. to conduct safety inspections of dams falling within the state regulatory jurisdiction. The inspections are performed in order to minimize potential hazards to downstream life and property in the event of a dam failure.

An inspection of the **Cormorant Lake dam was performed on 12/15/2021. Please see enclosed Inspection Report for deficiencies.** Also included are reference materials relevant to the inspection results and general educational materials as well as a Dam Inspection Performance survey. If you have any questions regarding inspection of dams or enclosed report, please contact me by email at timothy.harper@la.gov, or by phone at (225) 379-3012. You may also contact the State Dam Safety Official, Mr. Bradley A. Sticker, P.E., by email at brad.sticker@la.gov, or phone at (225) 379-3006.

Sincerely,

Tim Harper, P.E.
DOTD Dam Safety Program

c: Bradley A. Sticker, P.E., State Dam Safety Official (elec w/o enclosure)
Jennifer D. Branton, P.E., District 62 (DOTD) (elec w/o enclosure)
Phillip Dibenedetto, E.I., District 62 (DOTD) (elec w/ enclosure/ftp)
Benjamin J. Dow, Inspector, ECM Consultants, Inc. (elec w/ enclosure/ftp)

LADOTD DAM INSPECTION AND EVALUATION REPORT

Inspection Date: 12/15/2021

Reviewed and Approved by:

Name (Signature): John A Rasi

John Alan Rasi
11/20/2022

Name (Typed or Printed):	John A. Rasi, P.E.
Firm Name:	ECM Consultants, Inc.
Address:	8048 One Calais Ave., Suite F
City, State, Zip Code:	Baton Rouge, LA 70809
Phone:	(225) 615-7885
Name of Dam:	Cormorant Lake
Downstream Hazard:	Low
NID ID #:	LA00395
Parish:	St. Tammany
DOTD District:	62
District Contact:	Jennifer Branton, P.E.

OWNER INFORMATION

Name of Owner

Whippoorwill Grove, Inc.

Person to Contact

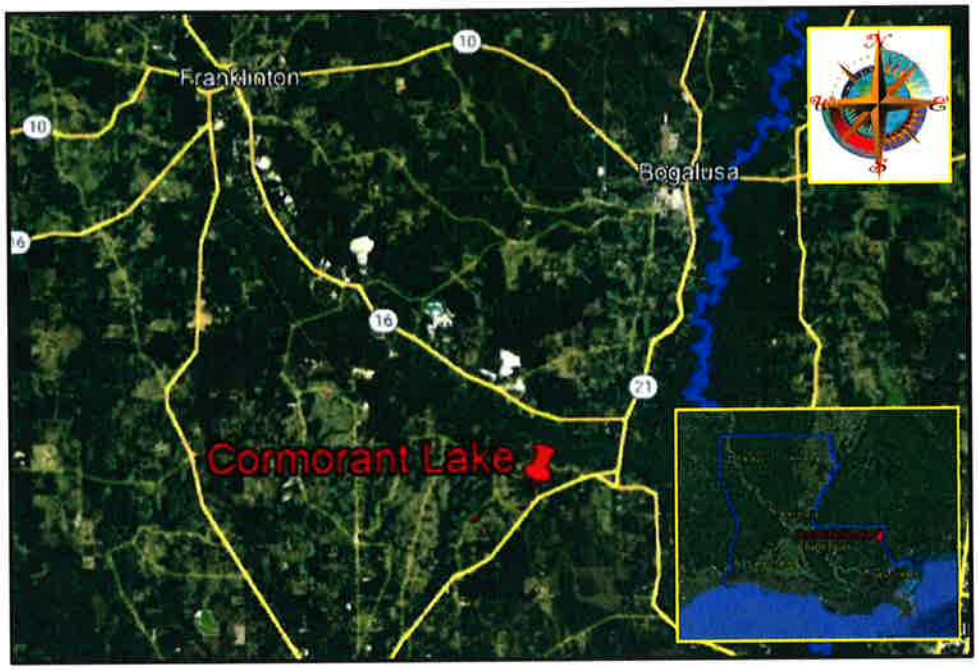
Joe Beale, Whippoorwill Grove Inc
P.O. Box 220
Bush, LA, 70431
Tel.: (504) 812-3149

DAM INFORMATION

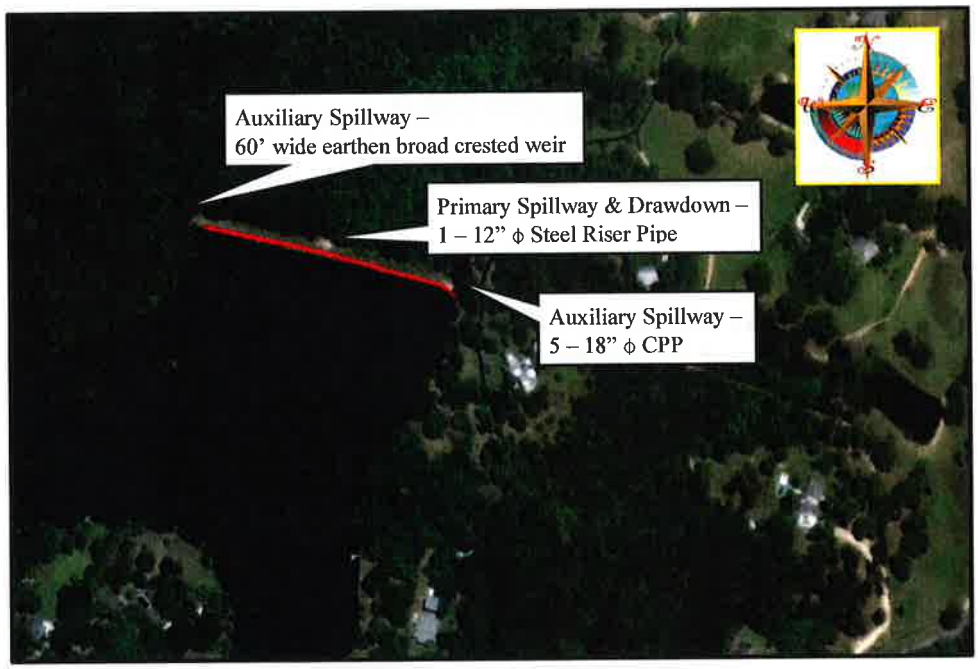
Location of Dam

Directions to the dam are as follows:

1. From the intersection of US Highway 190 and LA Highway 21, in Covington, proceed 11 miles northeasterly on LA 21.
2. Turn left onto Fairgrounds Boulevard and proceed 1.4 miles northwesterly.
3. Turn right onto LA 1083 (Ben Williams Road) and proceed 0.2 miles northerly.
4. Turn right onto Turkey Ridge Road and proceed 1.3 miles easterly.
5. Turn right onto the dam access driveway and proceed about 0.2 miles southeasterly along a dirt access driveway to the western end of the dam.



Plan view of Cormorant Lake Dam (vicinity)



Plan view of Cormorant Lake Dam (dam site)

Description of Dam

Cormorant Lake Dam consists of an earthen embankment stretching 800 feet along the northern shore of the reservoir and having an attached (riprap lined) 60-foot wide auxiliary spillway on the western end. The other auxiliary spillway consists of five 18-inch diameter corrugated plastic pipes (CPP), centered about 50 feet west of the eastern abutment. The primary spillway is a 12-inch diameter steel riser pipe located about midway of the embankment on the north side.

Dam height	10.0 feet
Structural height	10.0 feet
Hydraulic height	8.0 feet
Maximum discharge	233.5 cubic feet/second
Maximum storage	169.0 acre-feet
Normal storage	135.2 acre-feet
Surface area	33.8 acres
Drainage area	1.5 square miles

History of Dam

The Cormorant Lake Dam was designed by Dave Goodyear and was constructed by Dave Goodyear in 1988. No other history of the dam was available at the time of the inspection.

INSPECTION TEAM

Name

Benjamin Dow, ECM
Kumar Ambati, ECM
Grant Berne, DOTD
Joe Beale, Whippoorwill Grove

■ INSPECTION RESULTS

Brief Description of Condition of Dam and Summary Items Requiring Attention

The Cormorant Lake Dam is in fair condition and fulfilling its intended purpose. The inspection was made on a clear and sunny day with good visibility. The following items require attention:

Crown Deficiencies:

None

Downstream Embankment Deficiencies:

□ Significant vegetation growth (>6 in. Dia.) located within the dam section. Large overhanging branches or fallen trees may be present, which can reduce dam efficiency and/or impact maintenance operations.

Upstream Embankment Deficiencies:

□ Minor wave induced erosion generally < 6 - 12 in. deep.

Spillway Deficiencies:

Spillway 1 (Primary):

None

Spillway 2 (Auxiliary):

□ Head cutting erosion was observed along the flow path.

Spillway 3 (Auxiliary):

□ Head cutting erosion was observed along the flow path.

Outlet Works Deficiencies:

None

Irrigation Deficiencies:

None

Instrumentation Deficiencies:

None

Corrected Items from Last Inspection:

None

Present Pool Elevation (ft.)

Spillway flowing, 1-foot below auxiliary

Present Tailwater Elevation (ft.)

None

Operation and Maintenance Procedures

Operation and maintenance procedures are the responsibility of the owner. There were no

written operation or maintenance records available during the inspection.

EARTH EMBANKMENTS

Dimensions/Shape/Describe Overall Condition
This dam consists of an 740-foot long earthen embankment that runs along the northern shore. The crown width is 12 feet. The upstream slope descends from the crown at a 2H: 1V rate, and the downstream slope descends from the crown at a 3H: 1V rate.

Dam Embankment - Crown

Crown Width (Ft.):	12
Crown Length (Ft.):	740
Crown Description:	Earthen crown with grass coverage.
Fence:	There is a wooden fence across the eastern abutment.
Abutment:	Both abutments appear to be in fair condition.
Comments:	No additional comments.

No deficiencies identified

Embankment Crown Photo 1

Embankment Crown Photo 2

Embankment Crown Photo 3

Embankment Crown Photo 4

Embankment Crown Photo 5

Dam Embankment - Downstream Embankment

Embankment Description: Earthen embankment with grass coverage.
Embankment Slope: 3H: 1V
Berm Description: None
Berm Slope: None
Toe Area: The area at the embankment toe and beyond is densely vegetated with trees and brush.
Comments: Trees encroaching on slope.
Deficiencies (1):

Type	Description	Corrective Action
Unwanted Vegetation (Major)	Significant vegetation growth (>6 in. Dia.) located within the dam section. Large overhanging branches or fallen trees maybe present, which can reduce dam efficiency and/or impact maintenance operations.	Remove vegetation by cutting, trimming or using approved herbicide. Remove unwanted vegetation from the dam section, or within 15 ft. of the embankment toe to facilitate maintenance operations.

Downstream Embankment Photo 1

Downstream Embankment Photo 2

Downstream Embankment Photo 3

Downstream Embankment Photo 4

Dam Embankment - Upstream Embankment

Embankment Description: Earthen embankment with grass coverage.
Embankment Slope: 2H: 1V
Protection Type: None
Comments: Very gradual slope visible under the water, vertical above water due to wave erosion.

Deficiencies (1):

Type	Description	Corrective Action
Wave Induced Erosion (Minor)	Minor wave induced erosion generally < 6 - 12 in. deep.	Backfill area to original geometry and stabilize bank to prevent further erosion. Consider armoring with riprap, soil cement or other appropriate methods. Monitor area for further deterioration.

Upstream Embankment Photo 1

Upstream Embankment Photo 2

Upstream Embankment Photo 3

Upstream Embankment Photo 4

Upstream Embankment Photo 5

Upstream Embankment Photo 6

SPILLWAY

Spillway Classification:	Primary
Spillway Type:	Uncontrolled
Spillway Description:	12-inch diameter steel riser pipe
Crest Description:	None
Stilling Basin:	The earthen stilling basin has some minor erosion.
End Sill:	None
Approach Channel:	None
Discharge Channel:	Earthen streambed to Simmons Creek
Gates and Operations:	None
Spillway Drains:	None
Comments:	No additional comments.

No deficiencies identified

Primary Spillway Photo 1

Primary Spillway Photo 2

Primary Spillway Photo 3

Primary Spillway Photo 4

Primary Spillway Photo 5

Primary Spillway Photo 6

Spillway Classification: Auxiliary
Spillway Type: Uncontrolled
Spillway Description: 60-foot wide riprap lined earthen broad crested weir
Crest Description: Earthen broad crested weir.

Stilling Basin: None
End Sill: None
Approach Channel: None
Discharge Channel: Earthen streambed leading to Simmons Creek
Gates and Operations: None
Spillway Drains: None
Comments: Headcut erosion in channel: 4-foot deep, 15-foot wide plunge pool; 60 feet downstream of rock in spillway

Deficiencies (1):

Type	Description	Corrective Action
Head Cutting	Head cutting erosion was observed along the flow path.	Backfill area to design grade, compact in lifts and establish/install adequate erosion protection to the affected area and re-establish sod cover.

Auxiliary Spillway Photo 1

Auxiliary Spillway Photo 2

Auxiliary Spillway Photo 3

Auxiliary Spillway Photo 4

Auxiliary Spillway Photo 5

Auxiliary Spillway Photo 6

Spillway Classification: Auxiliary
Spillway Type: Uncontrolled
Spillway Description: Five 18-inch diameter corrugated plastic pipe (CPP) cross drains.
Crest Description: None
Stilling Basin: None
End Sill: None
Approach Channel: None
Discharge Channel: Earthen streambed to Simmons Creek
Gates and Operations: None
Spillway Drains: None
Comments: Replaced with five 18-inch-diameter corrugated plastic pipes in 2018. Mr. Beale states the other auxiliary flows first now. Minor headcut erosion in channel; 1-foot deep, 50-feet downstream.

Deficiencies (1):

Type	Description	Corrective Action
Head Cutting	Head cutting erosion was observed along the flow path.	Backfill area to design grade, compact in lifts and establish/install adequate erosion protection to the affected area and re-establish sod cover.

Auxiliary Spillway Photo 1

Auxiliary Spillway Photo 2

Auxiliary Spillway Photo 3

Auxiliary Spillway Photo 4

Auxiliary Spillway Photo 5

Auxiliary Spillway Photo 6

OUTLET WORKS

Type and Description: There is a 12-inch diameter steel pipe and gate valve at the base of the riser pipe that can be used as a drawdown.

Intake Structure: The upstream end of the steel riser pipe.
Outlet Channel: Earthen channel that is a tributary to Simmons Creek
Gates and Related Devices: None
Comments: No additional comments.

No deficiencies identified

Outlet Works Photo 1

Outlet Works Photo 2

Outlet Works Photo 3

IRRIGATION STRUCTURE

Type and Description: None
Irrigation: None
Intake Structure: None
Outlet: None
Channel: None
Gates and Related Devices: None
Comments: None

No deficiencies identified

INSTRUMENTATION

Monumentation/Surveys:	None
Observation Wells:	None
Weirs:	None
Piezometers:	None
Staff Gage Description:	None
Staff Gage Reading (Ft.):	Spillway flowing, 1-foot below auxiliary
Tailwater Staff Gage Description:	None
Tailwater Staff Gage Reading (Ft.):	None
Comments:	None

No deficiencies identified

RESERVOIR

Slope
The reservoir slopes appear to be in satisfactory condition and fulfilling their intended purpose.

Bank
The reservoir banks appear to be in satisfactory condition and fulfilling their intended purpose.

Sedimentation
There were no visible areas of sedimentation occurring within the reservoir at the time of the inspection.

Reservoir Photo 1

Reservoir Photo 2