Formal Inspection Checklist

(For Engineers)

(Mississippi File: S:\NRCS\Engineering Staff\Formal Dam Inspections 2016)

DAM NAME: Second Creek 6B

DAM INVENTORY NO: MS00427

OWNER:

Land Owners Name (Per Deed): Craig Carrie c/o Thomas C Sibley

Address: PO Box 455, Ghent, KY 41045-0455

Phone #:

Email:

Primary Contact Person (if different from above): Rudoph V & Pamela H Minor, Jr

Address: 1173 Liberty Road, Natchez, MS 39120

Phone #:601-445-5920

Email:

OPERATOR (if different from Owner):

Name:

Address:

Phone #:

Email:

DATE(S) OF INSPECTION: 2/4/16

MATTHEW GONG Digitally signed by MATTHEW GONG
Date: 2019.06.28 10:12:09 -05'00'

INSPECTION PERSONNEL (include contact information)

Mississippi Licensed Professional Engineer(s):

Name	Affiliation	Area of Expertise
Scott Culberson	NRCS	State Conservationist Engineer

MULTIDISCIPINARY: I am experienced in the technical disciplines or I am working with other professionals experienced in the technical disciplines to properly inspect this dam and appurtenant works. Technical disciplines, in additional to the general civil engineering, may include geotechnical, geological, hydrologic, structural, and mechanical.

☒ Yes ☐ No Comment:

Other technical expert(s) and advisors(s):

Name	Affiliation	Area of Expertise
Jim Garner	NRCS	Wildlife Biologist
Dale Brown	NRCS	Soil Conservation
Michael Greene	NRCS	Civil Engineering

State Representative(s):

Name	Affiliation

Dam Owner Representative(s):

Name	Affiliation

Others:

Name	Affiliation

GENERAL INFORMATION

Weather Conditions (including rainfall within previous 14 days): 2/3:1.5, 2/2:0, 2/1: 0, 1/31:0, 1/30: 0, 1/29:0, 1/28:0, 1/27:0.5 1/26:0.1 1/25:0, 1/24:0, 1/23;0, 1/22:1.0, 1/21:0, 1/20:0

County: Adams

Stream Name: Second Creek

Tributary of: Unnamed

Latitude (N): 31° 30' 10.6"

Longitude (W): 91° 16' 01.2"

Purpose of Dam: Flood Water Retarding

Hazard Classification: High

Drainage Area (sq. mi.):

Height of Dam (ft): 62.5

Length (ft): 1810

Normal Surface (ac): 37.2

Normal Capacity (ac-ft):315.0

Maximum Surface (ac):219.0

Maximum Capacity (ac-ft):3000.0

Normal Reservoir Elevation (ft):260.0

Reservoir Elevation at time of inspection (ft):260.0

SPILLWAY SYSTEM

Type of spillway (riser and conduit, concrete chute, vegetated earthen, etc.)

Principal: 2'6" x 7' 6" R.C. Riser / 30" R.C. pipe

Auxiliary (Emergency): 80' Vegetated Earthen

Principal Spillway Capacity (inches/24 hours & storm distribution): 133.5 cfs

Auxiliary (Emergency) Spillway Capacity (inches/24 hours & storm distribution): 1100 cfs

Note: If you do not understand what is meant by the above questions please engage the services of a professional who can assist you. These questions are not meant to capture the spillway capacity in cfs, as this data is irrelevant in determining the dams overall ability to pass the extreme precipitation event (% of the PMP) as required by the Regulations. If there are more than two spillways, please add an additional item. **A formal inspection will not be approved by the Dam Safety Division unless this section is completed.**

Are the spillway(s) adequate for this classification of dam (see the dam safety regulations 11 Miss. Admin. Code Pt. 7, Ch. 3 for definition of Probable Maximum Precipitation – PMP – and what amount of PMP must be handled by the different spillways)?

Principal:	Yes	☒	No	☐
Auxiliary (Emergency):	Yes	☒	No	☐

If not, what percent of the total PMP will the combined spillways pass (%)?

Or, note date and author of hydrologic and hydraulic report evaluating spillway capacity:

Major changes to the dam or watershed since preparation of last report that may affect spillway adequacy? (Yes / No, if yes then describe changes):

HISTORY

Date Constructed: 1960

Date(s) Reconstructed:

Designer: NRCS

Constructed by:

PREVIOUS INSPECTIONS (date of)

Last Owner's Inspection:

Last Formal Inspection: 1/31/2012

EMERGENCY ACTION PLAN

Date of Last Approved Plan (when the plan was last distributed to the EAP holders):

Date of Last Revision:

Is the notification flowchart complete and current?

Is the emergency materials and equipment information current?

When was the plan last tested? Was this test a table top exercise or a full scale exercise?

DOWNSTREAM HAZARD CLASSIFICATIONS

Present Hazard Classification: High

Changes in Downstream Land Use and Habitation since last inspection: No

Is present Classification appropriate? yes

OPERATION AND MAINTENANCE

Date of Operation and Maintenance Plan:

Are instructions adequate?

Do operating personnel follow instructions?

What are operating personnel capabilities?

PROJECT RECORD REVIEW

Date of file review:

Description of previous deficiencies noted and corrective actions taken (if so, when?):

EXAMINATION OF EMBANKMENT DAMS

DESCRIPTION OF STRUCTURE

Embankment Material: Vegetated Earthen

Cutoff Type (If Known): Keyway

Impervious Core (If Known): CL

Internal Drainage System (Yes / No?) If yes, describe: Foundation Drain

Any Signs of Movement (Horizontal and Vertical Alignment)? : None

Miscellaneous:

CREST

Width of Crest: 16’

Problems:
☐ None ☐ Ruts or Puddles ☐ Erosion ☐ Cracks with Displacement ☐ Sinkholes ☐ Not Wide Enough ☐ Low Area ☐ Misalignment ☐ Inadequate Surface Drainage ☒ Trees, Brush, Briars ☒ Other: small deer stand on 4” legs.

If Trees, Brush, Briars is checked above please describe the nature and extent of vegetation on the dam? One pine sapling by the deer stand.

Comments:

Overall Condition:
☒ Satisfactory
☐ Fair
☐ Poor
☐ Unsatisfactory

UPSTREAM SLOPE

Slope (H:V): 2.5:1

Problems:

☒ None ☐ Riprap - Missing, Sparse, Displaced, Weathered ☐ Wave Erosion-with Scarps

☐ Cracks-with Displacement ☐ Sinkhole ☐ Appears Too Steep ☐ Depressions or Bulges

☐ Slides ☐ Animal Burrows ☐ Trees, Brush, Briars

☐ Other:

If Trees, Brush, Briars is checked above please describe the nature and extent of vegetation on the dam?

Comments:

Overall Condition:

☒ Satisfactory
☐ Fair
☐ Poor
☐ Unsatisfactory

DOWNSTREAM SLOPE (including groins and toe area)

Slope (H:V): 2.5:1

Problems:

☒ None ☐ Livestock Damage ☐ Erosion or Gullies ☐ Cracks with Displacement

☐ Sinkholes ☐ Appears too Steep ☐ Depression or Bulges ☐ Slide(s) ☐ Soft Areas

☐ Trees, Brush, Briars on dam or within 50 feet of toe ☐ Animal Burrows

☐ Other:

If Trees, Brush, Briars is checked above please describe the nature and extent of vegetation on the dam?

Comments:

Overall Condition:
☒ Satisfactory
☐ Fair
☐ Poor
☐ Unsatisfactory

UTILITIES

Utilities Installed in Embankment or Toe?
☐ Phone/Cable ☐ Water ☐ Electrical ☐ Sewer ☐ Gas

Does the location of all utilities appear on the as-built plans for the dam?

SEEPAGE

Problems:
☐ None ☒ Saturated Embankment Area ☐ Seepage Exits on Embankment ☐ Seepage Exits at Point Source ☒ Seepage Area at Toe ☐ Flow Adjacent to Outlet
☐ Other:

Comments: Saturated above terrace from rain, minimal flow at toe.

Overall Condition:
☐ Satisfactory
☒ Fair
☐ Poor
☐ Unsatisfactory

Does the location of all drainage systems/filters appear on the as-built plans for the dam?

SEEPAGE AND TOE DRAIN/RELIEF WELL FLOW

Location	Estimated Flow	Color (Turbidity)

EXAMINATION OF SPILLWAYS AND OUTLET WORKS

PRIMARY SPILLWAY

(Fill out those sections that apply)

ENTRANCE CHANNEL

Description: Open Water

Vegetation (Trees, Bushes): None

Debris: None

Channel Side-Slope Stability:

Slope Protection/Erosion:

Unusual Conditions:

Overall Condition:
☒ Satisfactory
☐ Fair
☐ Poor
☐ Unsatisfactory

SPILLWAY CREST

Description: Covered R.C. Riser Inlet

Condition of Material: Good

Signs of Movement: None

Joints:

Unusual Conditions: Crest is covered with mud and debris

Overall Condition:

☐ Satisfactory
☒ Fair
☐ Poor
☐ Unsatisfactory

CHUTES

Description: None

Condition of Material:

Signs of Movement:

Joints:

Unusual Conditions:

Overall Condition:
☐ Satisfactory
☐ Fair
☐ Poor
☐ Unsatisfactory

SPILLWAY WING WALLS

Description: Concrete

Condition of Material: Good

Signs of Movement: None

Joints:

Drains:

Unusual Conditions:

Overall Condition:
☒ Satisfactory
☐ Fair
☐ Poor
☐ Unsatisfactory

DOWNSTREAM APRON

Description: Earth and rock.

Condition of Material: Soil loss above wall.

Signs of Movement: No

Unusual Conditions:

Overall Condition:
☐ Satisfactory
☒ Fair
☐ Poor
☐ Unsatisfactory

INLET RISER

Description and Material Type (i.e. HDPE, Concrete, Steel, CMP, etc.): 2.5'x7.5' R.C. Covered Riser

Condition of Material: Under water

Signs of Movement: None

Joints:

Floor:

Unusual Conditions:

Overall Condition:

☒ Satisfactory
☐ Fair
☐ Poor
☐ Unsatisfactory

CONDUIT(S)

Description and Material Type (i.e. HDPE, Concrete, Steel, CMP, etc.): 30' R.C. Pipe

When was the last video inspection of the conduit?

Condition of Material: Good

Signs of Movement: None

Joints:

Seepage into conduit(s):

Location	Estimated Flow	Turbidity

Unusual Conditions:

Overall Condition:
☐ Satisfactory
☐ Fair
☐ Poor
☐ Unsatisfactory

TRASH RACKS

Description: 1.25" x 2' x 9.17' metal grating

Condition of Material: Under Water

Unusual Conditions:

Overall Condition:
☒ Satisfactory

☐ Fair
☐ Poor
☐ Unsatisfactory

GATES

Description/Type: 24” Slide Gate

Condition: Under water

Protective Coating:

Leakage when gate is closed (Yes / No?):

Exercising Frequency:

Gates operated at time of Inspection?

Condition of seals:

Condition of gate controls and hoists:

Overall Condition:
☒ Satisfactory
☐ Fair
☐ Poor
☐ Unsatisfactory

STILLING BASIN

Description: R.C. Impact Basin

Condition of Material: Good

Signs of Movement: None

Erosion: None

Unusual Conditions: None

Overall Condition:
☒ Satisfactory
☐ Fair
☐ Poor
☐ Unsatisfactory

OUTLET CHANNEL

Vegetation (Trees, Bushes): Small amount on banks.

Debris: Small amount, all sizes.

Channel Side-Slope Stability: Stable

Erosion: None

Unusual Conditions:

Overall Condition:
☒ Satisfactory
☐ Fair
☐ Poor
☐ Unsatisfactory

LOW LEVEL OUTLET

Description:

Condition: Under water

Trash Rack:

Leakage:

Location	Estimated Flow

Unusual Conditions:

Was the low-level outlet operated during the inspection?

Were there difficulties operating the low-level outlet?

When was the low-level outlet last operated and did this conform with the Operation and Maintenance Procedures?

Overall Condition:
☐ Satisfactory
☐ Fair
☐ Poor
☐ Unsatisfactory

VALVES

Description:

General Condition: Under water

Protective Coating:

Evidence of Cavitation or Abrasion:

Leakage (Yes / No?):

Frequency of Use:

Valve operated during inspection (Yes / No?):

Overall Condition:
☐ Satisfactory

☐ Fair
☐ Poor
☐ Unsatisfactory

AUXILIARY (EMERGENCY) SPILLWAY

Note: For Earthen Spillways Only. If the auxiliary (emergency) spillway is not earthen please duplicate the above sections for the primary spillway here as needed. If there are more than one earthen and/or other spillway besides the primary please duplicate the appropriate sections in this report.

Description: 80' Vegetated Earthen

Vegetation (Trees, Bushes): None

Debris: None

Channel Side-Slope Stability: Stable; one ATV trail up slope.

Slope Protection/Erosion: Protected. Minimal on ATV trail.

Unusual Conditions:

Overall Condition:
☒ Satisfactory
☐ Fair
☐ Poor
☐ Unsatisfactory

EXAMINATION OF OTHER FEATURES

INSTRUMENTATION

List all instrumentation (i.e. weirs, piezometers, flow gauges):

(A separate report including instrument location, instrument readings, instrument condition, normal readings, observations, and conclusions based upon the collected data shall be attached.)

RESERVOIR

Slopes:

Sedimentation:

Unusual Conditions Which May Affect Dam:

Any Other Unusual Conditions:

APPURTENANT STRUCTURES (Power House, Gatehouse, Penstocks, Water Supply, Other)

Description and Condition of each:

FOUNDATION AND GEOLOGY

Unusual Conditions Which May Affect Dam:

Cracks, Joints, Bedding Planes Which May Affect Dam Or Provide Seepage Paths:

Dam

Dam Crest

Dam Outlet

Seep

ESW

Riser