

Dam Inspection Report

Name of Dam Wonder Lake Dam ID No. IL00585
Permit Number NE2003078 Class of Dam Class I
Location SE Section 6 Township 45N Range 8E

Owner Master Property Owners Assoc. of Wonder Lake 815-653-1000
Name Telephone Number (Day)

7602 Hancock Drive 815-653-1000
Street Telephone Number (Night)

Wonder Lake, IL 60097 McHenry
City Zip Code County

Type of Dam: Earth-Fill Embankment with Ambursen Spillway

Type of Spillway: Ungated Overflow

Date(s) Inspected 10/18/2024

Weather When Inspected Clear

Temperature When Inspected 65 degrees

Pool Elevation When Inspected 802.47 (approximately 2" above spillway crest (EL. 802.3'))

Tailwater Elevation When Inspected NA



Jeff Barnett

Exps 11/30/2025

Professional Engineer's Seal

Inspection Personnel:

Jeff Barnett, PE, SE	CBBEL - Structural Engineer
Name	Title
Emma Dahl	CBBEL - Water Resources Engi
Name	Title
Randy Stowe	MPOA Lake Manager
Name	Title
Tom Cooper	MPOA Dam Committee Chair
Name	Title
Richard Hilton	MPOA Lake President
Name	Title
Paul Mauer	IDNR-OWR
Name	Title

Name	Title
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The Department of Natural Resources is requesting information that is necessary to accomplish the statutory purpose as outlined under the River, Lakes and Streams Act, 615 ILCS 5. Submittal of this information is REQUIRED. Failure to provide the required information could result in the initiation of non-compliance procedures as outlined in Section 3702.160 of the "Rules for Construction and Maintenance of Dams".

CONDITION CODES

- NE - No evidence of a problem
- GC - Good condition
- MM - Item needing minor maintenance and/or repairs within the year, the safety or integrity of the item is not yet imperiled
- IM - Item needing immediate maintenance to restore or ensure its safety or integrity
- EC - Emergency condition which if not immediately repaired or other appropriate measures taken could lead to failure of the dam
- OB - Condition requires regular observation to ensure that the condition does not become worse
- NA - Not applicable to this dam
- NI - Not inspected - list the reason for non-inspection under deficiencies

EARTH EMBANKMENT

ITEM	CONDITION CODE	DEFICIENCIES	RECOMMENDED REMEDIAL MEASURES AND IMPLEMENTATION SCHEDULE
Surface Cracks	NE		
Vertical and Horizontal Alignment of Crest	GC		
Unusual Movement or Cracking At or Beyond Toe	NE		
Sloughing or Erosion of Embankment and Abutment Slopes	NE		
Upstream Face Slope Protection	GC		Riprap is in good shape
Seepage	OB	<i>There is some standing water at toe of west embankment due to adjacent Fen located to the north</i>	<i>Monitor for any changes This wet area has remained unchanged from the October 13, 2016 Dam Inspection</i>
Filter and Filter Drains	NE		

EARTH EMBANKMENT

(Continued)

ITEM	CONDITION CODE	DEFICIENCIES	RECOMMENDED REMEDIAL MEASURES AND IMPLEMENTATION SCHEDULE
Animal Damage	NE		
Embankment Drainage Ditches	GC		
Vegetative Cover	GC		
Other (Name) Piezometers	NI	Two noted at west end of embankment but were locked.	It was explained that these are not in use.
Other			
Other			
Other			

CONCRETE OR MASONRY DAMS

ITEM	CONDITION CODE	DEFICIENCIES	RECOMMENDED REMEDIAL MEASURES AND IMPLEMENTATION SCHEDULE
Seepage	NA		
Structure to Abutment/ Embankment Junctions	NA		
Water Passages	NA		
Foundation	NA		
Surface Cracks in Concrete surface	NA		
Structural Cracking	NA		
Vertical and Horizontal Alignment	NA		

CONCRETE OR MASONRY DAMS

(CONTINUED)

ITEM	CONDITION CODE	DEFICIENCIES	RECOMMENDED REMEDIAL MEASURES AND IMPLEMENTATION SCHEDULE
Monolith Joints	NA		
Contruction Joints	NA		
Spalling of Concrete	NA		
Filters, Drains, etc.	NA		
Riprap	NA		
Other (Name)			

IF THE DAM IS GATED - Fill out the portion of the Principal Spillway Form related to Gated Spillways

PRINCIPAL SPILLWAY
APPROACH CHANNEL

ITEM	CONDITION CODE	DEFICIENCIES	RECOMMENDED REMEDIAL MEASURES AND IMPLEMENTATION SCHEDULE
Debris	<i>NE</i>		
Side Slope Stability	<i>GC</i>		
Slope Protection	<i>GC</i>		
Other (Name)			
Other			
Other			
Other			

PRINCIPAL SPILLWAY

Drop Inlet Spillway

Overflow Spillway Structure (Ambursen)

Gated

ITEM	CONDITION CODE	DEFICIENCIES	RECOMMENDED REMEDIAL MEASURES AND IMPLEMENTATION SCHEDULE
Erosion, Spalling, Cavitation	<i>MM</i>	Minor spalling is evident.	Perform concrete repairs as needed.
Structure to Embankment Junction	<i>OB</i>	Work on retaining walls has been completed in 2022.	Monitor additional areas of spalling concrete and repair as needed. Monitor erosion at downstream corners of abutment/embankment junction.
Drains	<i>NE</i>		
Seepage Around or Into Structure	<i>MM</i>	Minor seepage and weeping thru several walls. There were seepage through top of spillway at chamber 3 and 7. The seepage is similar to last year's inspection.	Continue to monitor.
Surface Cracks	<i>OB</i>	Existing grouted repair areas appear in good condition. There are minor cracks with leaching that should be monitored for future leaking.	Continue to monitor for any changes to current conditions.
Structural Cracks	<i>MM</i>	There are some minor cracks at within most chambers.	Continue to monitor for any changes to current conditions. Area around cracks have been repaired.

IF THE SPILLWAY IS GATED FILL OUT THE GATES SECTION

PRINCIPAL SPILLWAY

(Continued)

Drop Inlet Spillway

Overflow Spillway Structure (Ambursen)

Gated

ITEM	CONDITION CODE	DEFICIENCIES	RECOMMENDED REMEDIAL MEASURES AND IMPLEMENTATION SCHEDULE
Alignment of Abutment Walls (wingwalls)	GC		
Construction Joints	NA		
Filter and Filter Drains	NA		
Trash Racks	NA		
Bridge and Piers	NA		
Differential Settlement	NE		
Other (Name)	GC	Safety cables installed along dam walkway.	

IF THE SPILLWAY IS GATED FILL OUT THE GATES SECTION

PRINCIPAL SPILLWAY

(Continued)

Conduit

Gated

ITEM	CONDITION CODE	DEFICIENCIES	RECOMMENDED REMEDIAL MEASURES AND IMPLEMENTATION SCHEDULE
Erosion, Spalling, Cavitation	NA		
Joint Separation	NA		
Seepage Around of Into Conduit	NA		
Surface Cracks	GC	Water level was above the top of spillway, and the Spillway surface was not visible.	
Structural Cracks	GC	Water level was above the top of spillway, and the Spillway surface was not visible.	
Trash Racks	NA		
Differential Settlement	NA		
Alignment	NA		
Other (Name)			

IF THE SPILLWAY IS GATED FILL OUT THE GATES SECTION

PRINCIPAL SPILLWAY

(Continued)

Chute

ITEM	CONDITION CODE	DEFICIENCIES	RECOMMENDED REMEDIAL MEASURES AND IMPLEMENTATION SCHEDULE
Erosion, Spalling, Cavitation	NA		
Structure to Embankment Junction	NA		
Construction Joints	NA		
Expansion and Contraction Joints	NA		
Differential Settlement	NA		
Surface Cracks	NA		
Structural Cracks	NA		
Wall Alignment	NA		
Other (Name)			

IF THE SPILLWAY IS GATED FILL OUT THE GATES SECTION

GATES

Principal Spillway

Dewatering

Other:

ITEM	CONDITION CODE	DEFICIENCIES	RECOMMENDED REMEDIAL MEASURES AND IMPLEMENTATION SCHEDULE
Gate Sill	GC/MM	East Gate was opened and closed during the dam inspection. There are no issues with the gate components. West Gate inoperable.	Repair West Gate.
Gate Seals	GC/MM	East Gate was opened and closed during the dam inspection. There are no issues with the gate components. West Gate inoperable.	Repair West Gate.
Gate and Frame	GC/MM	East Gate was opened and closed during the dam inspection. There are no issues with the gate components. West Gate inoperable.	Repair West Gate. Note that west gate shaft and steel protection framing are bent.
Operating Machinery	NI		
Emergency Operating Machinery	NA		
Other (Name)			
Other			

OUTLET WORKS
IF SEPARATE FROM PRINCIPAL SPILLWAY STRUCTURE

ITEM	CONDITION CODE	DEFICIENCIES	RECOMMENDED REMEDIAL MEASURES AND IMPLEMENTATION SCHEDULE
Erosion, Spalling, Cavitation	NA		
Joint Separation	NA		
Seepage Around or Into Conduit	NA		
Intake Structure	NA		
Outlet Structure	NA		
Outlet Channel	NA		
Riprap	NA		
Other (Name)			
Other			

ENERGY DISSIPATOR

Principal Spillway
Type: *Plunge Pool*

Outlet Works

ITEM	CONDITION CODE	DEFICIENCIES	RECOMMENDED REMEDIAL MEASURES AND IMPLEMENTATION SCHEDULE
Erosion, Spalling, Cavitation	<i>NE</i>		
Structure to Embankment Junction	<i>GC</i>		
Construction Joints	<i>GC</i>		
Surface Cracks	<i>NE</i>		
Structural Cracks	<i>NE</i>		
Differential Alignment	<i>NE</i>		
Expansion and Contraction Joints	<i>GC</i>		

ENERGY DISSIPATOR

(Continued)

Principal SpillwayType: *Plunge Pool*

Outlet Works

ITEM	CONDITION CODE	DEFICIENCIES	RECOMMENDED REMEDIAL MEASURES AND IMPLEMENTATION SCHEDULE
Riprap	GC		
Outlet Channel	GC	Minor erosion but overall good condition and stable. No threat to dam.	
Debris	NE		
Other (Name)	NA		
Other	NA		
Other			
Other			

EMERGENCY SPILLWAY

None

ITEM	CONDITION CODE	DEFICIENCIES	RECOMMENDED REMEDIAL MEASURES AND IMPLEMENTATION SCHEDULE
Erosion	NA		
Weeds, Logs, Other Obstructions	NA		
Side Slope Sloughing	NA		
Vegetation	NA		
Sedimentation	NA		
Riprap	NA		
Settlement of Crest	NA		
Downstream Channel	NA		
Other (Name)			

SUMMARY OF MAINTENANCE DONE AND/OR
REPAIRS MADE SINCE THE LAST INSPECTION

DATE OF PRESENT INSPECTION 10/18/2024

DATE OF LAST INSPECTION 10/17/2023

1. EARTH EMBANKMENT DAMS

None.

2. CONCRETE MASONRY DAMS

N/A

3. PRINCIPAL SPILLWAY

None.

4. OUTLET WORKS

*Exercising East dewatering gate.
West dewatering gate inoperable.*

5. EMERGENCY SPILLWAY

N/A

DOWNSTREAM DEVELOPMENT

APPROXIMATE WIDTH OF AFFECTED FLOODPLAIN

0.25 MILES

MILES DOWNSTREAM FROM DAM	DOWNSTREAM DEVELOPMENT											Loss of Life Potential			Economic Loss Potential			SKETCH IN DEVELOPMENTS DOWNSTREAM OF THE DAM		
	OCCUPIED HOMES	UNOCCUPIED HOMES	AGRICULTURAL BUILDINGS	INDUSTRIAL BUILDINGS	COMMERCIAL BUILDINGS	SCHOOLS	HOSPITALS	ROADS & BRIDGES	DAMS	OVERHEAD UTILITIES	OTHER DEVELOPMENT (Name)	OTHER DEVELOPMENT (Name)	NONE	1 TO 10	OVER 10	MINIMAL EXPECTED	APPRECIABLE EXPECTED		EXCESSIVE EXPECTED	
0 to 1/4	4	1						1						X			X			
1/4 to 1/2	2		1											X						
1/2 to 3/4																				
3/4 to 1																				
1 to 1-1/4																				
1-1/4 to 1-1/2																				
1-1/2 to 1-3/4																				
1-3/4 to 2								1									X			
OVER 2																				

The number of homes, buildings, or other items in the floodplain downstream of the dam should be placed in the appropriate row and column to designate their location.



Photo 1: Spillway Crest (Facing west)



Photo 2: Downstream Face of Spillway



Photo 3: Downstream Channel



Photo 4 - Downstream Face of Spillway (West Abutment)



Photo 5: East Abutment



Photo 6: Downstream Face of East Embankment



Photo 7: Top of East Embankment (Facing East)



Photo 8: East Sluice Gate Control



Photo 9: West Sluice Gate – Shaft and steel protection framing is bent – Gate is inoperable



Photo 10: Downstream Side of West Sluice Gate



Photo 11: Wonder Lake - Upstream of Dam



Photo 12: East Embankment – Upstream Face Riprap (Facing East)



Photo 13: Downstream Side of West Embankment (Facing West)



Photo 14: Upstream Side of West Embankment (Facing East)



Photo 15 - Western Embankment – (Facing West)



Photo 16 – Erosion at Downstream End of East Abutment - Monitor



Photo 17 - Erosion at Downstream End of East Abutment - Monitor



Photo 18: Chamber #1 – Looking West

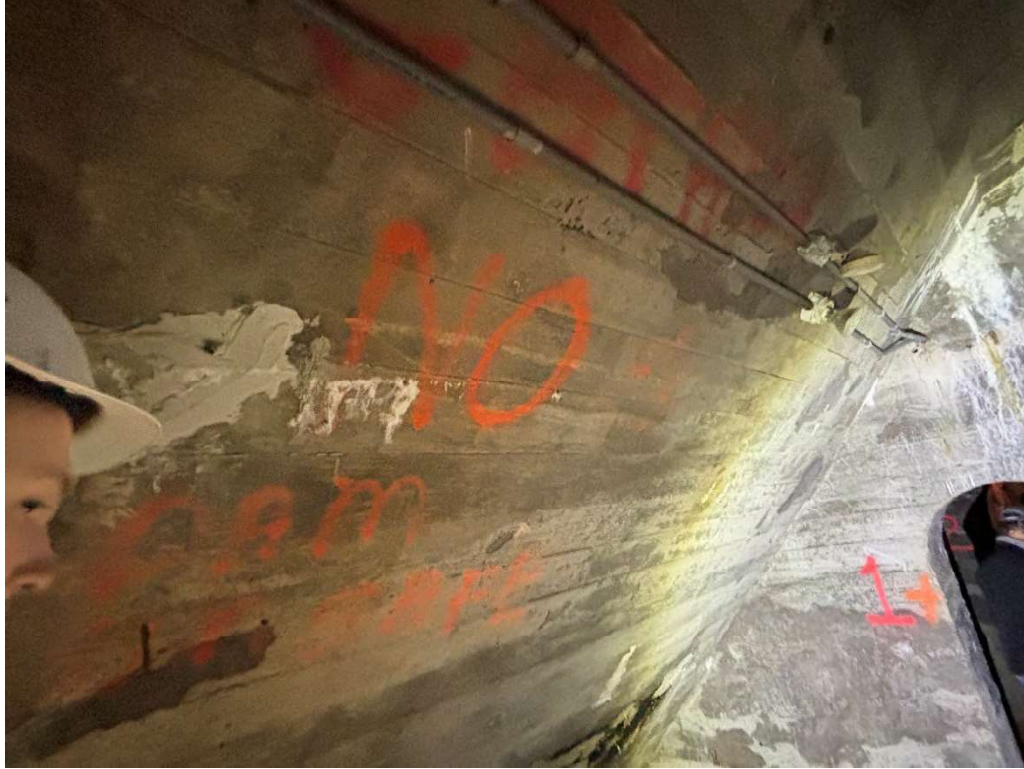


Photo 19: Chamber #1 – Upstream Wall



Photo 20: Chamber #1 – Downstream Wall



Photo 21: Chamber #1 – Looking East



Photo 22: Chamber #2 – Looking West



Photo 23: Chamber #2 – Upstream Wall

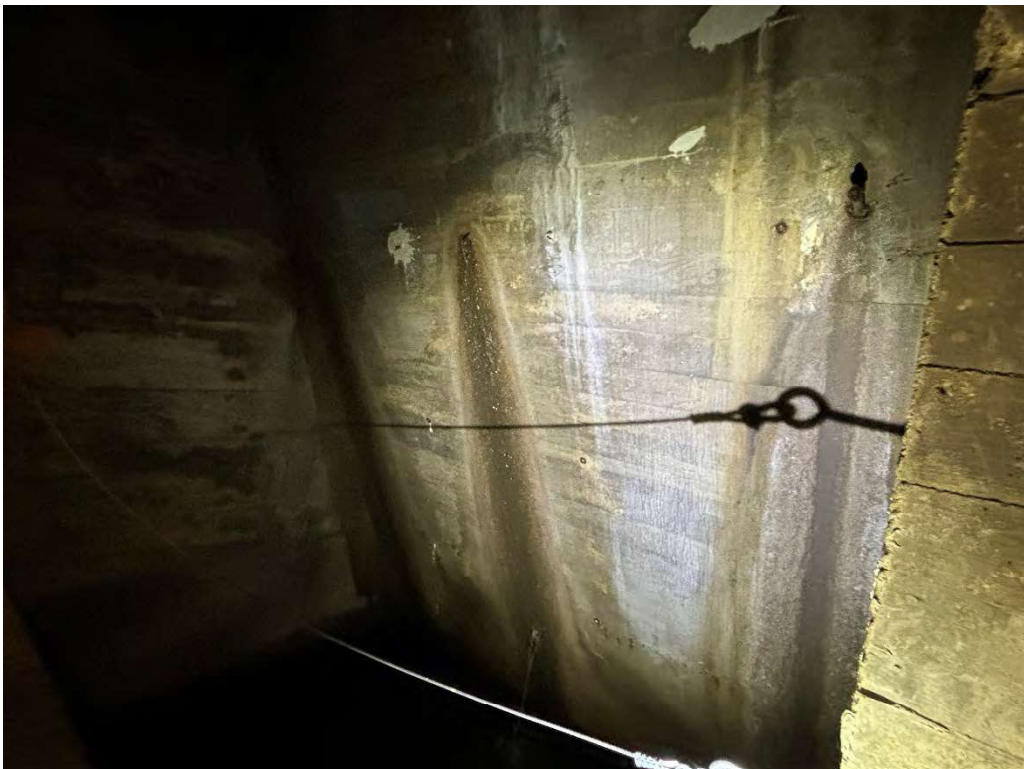


Photo 24: Chamber #2 – Downstream Wall



Photo 25: Chamber #2 – Looking East



Photo 26: Chamber #3 – Looking West



Photo 27: Chamber #3 – Upstream Wall



Photo 28: Chamber #3 – Downstream Wall



Photo 29: Chamber #3 – Looking East



Photo 30: Chamber #4 – Looking West



Photo 31: Chamber #4 – Upstream Wall



Photo 32: Chamber #4 – Downstream Wall



Photo 33: Chamber #5 – Looking West



Photo 34: Chamber #5 – Upstream Wall

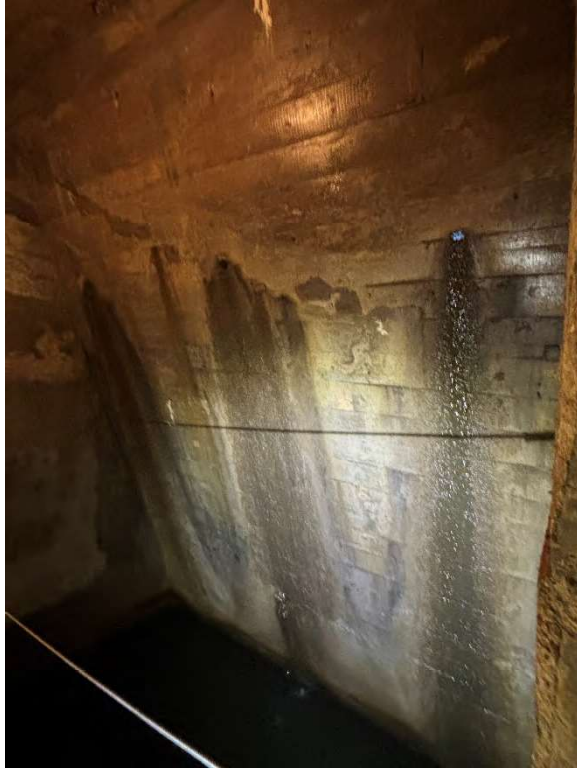


Photo 35: Chamber #5 – Downstream Wall

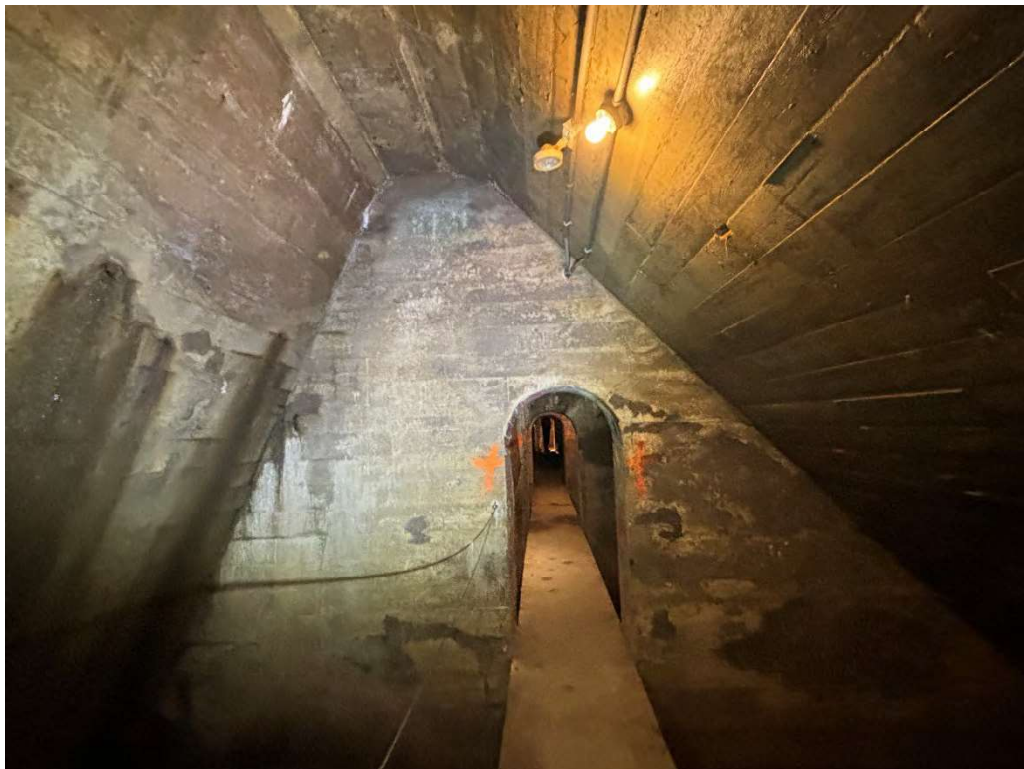


Photo 36: Chamber #5 – Looking East



Photo 37: Chamber #6 – Looking West



Photo 38: Chamber #6 – Upstream Wall

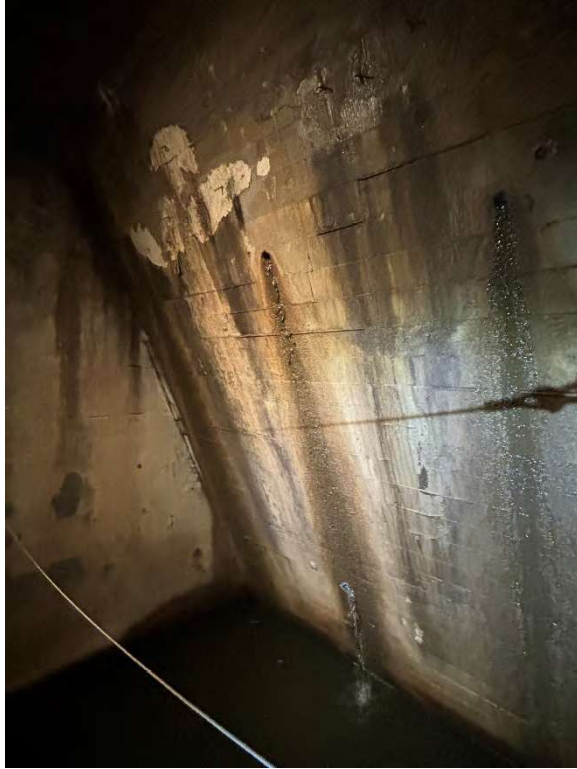


Photo 39: Chamber #6 – Downstream Wall



Photo 40: Chamber 6 – Looking East



Photo 41: Chamber #7 – Looking West

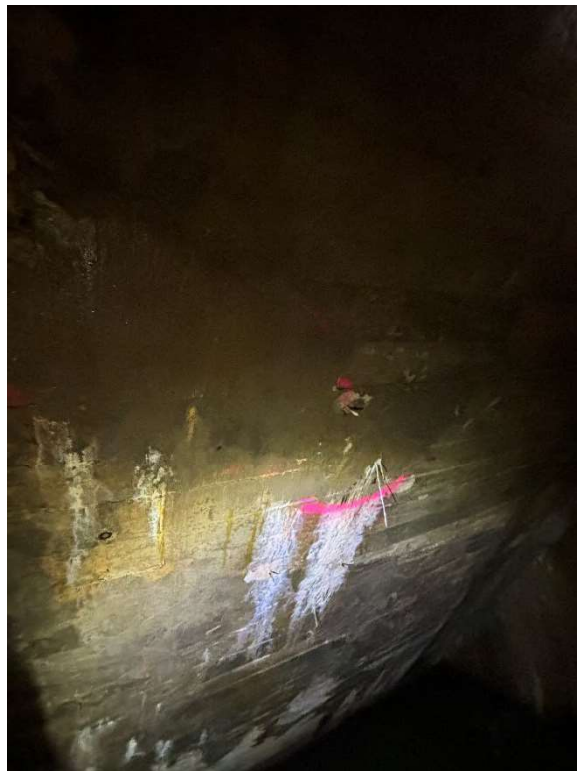


Photo 42: Chamber #7 – Upstream Wall

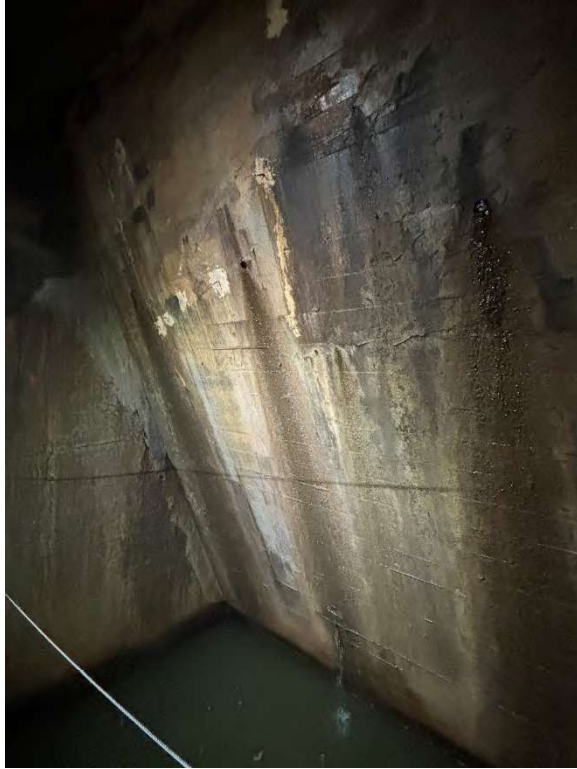


Photo 43: Chamber #7 – Downstream Wall



Photo 44: Chamber #7 – Looking East



Photo 45: Chamber #8 – Looking West



Photo 46: Chamber #8 – Upstream Wall



Photo 47: Chamber #8 – Downstream Wall



Photo 48: Chamber #8 – Looking East



Photo 49: Chamber #9 – Looking West



Photo 50: Chamber #9 – Upstream Wall



Photo 51: Chamber #9 – Downstream Wall



Photo 52: Chamber #9 – Looking East



Photo 53: Chamber #10 – Looking West

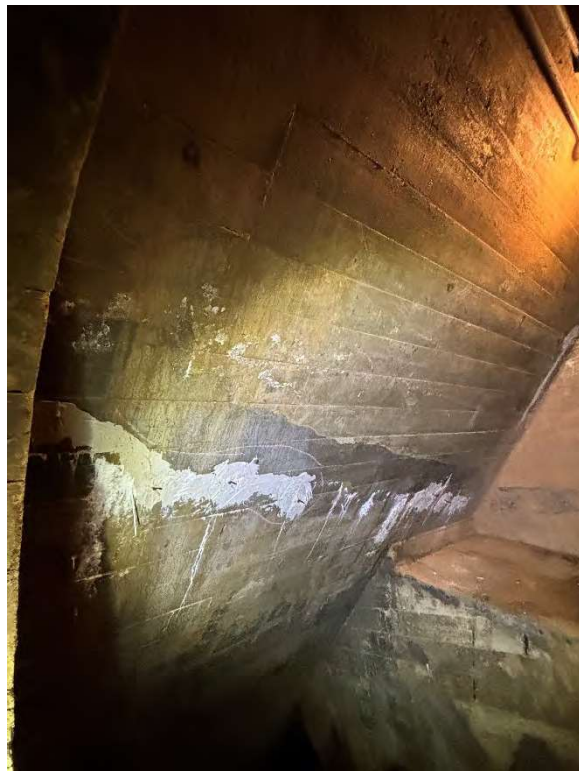


Photo 54: Chamber #10 – Upstream Wall



Photo 55: Chamber #10 – Downstream Wall

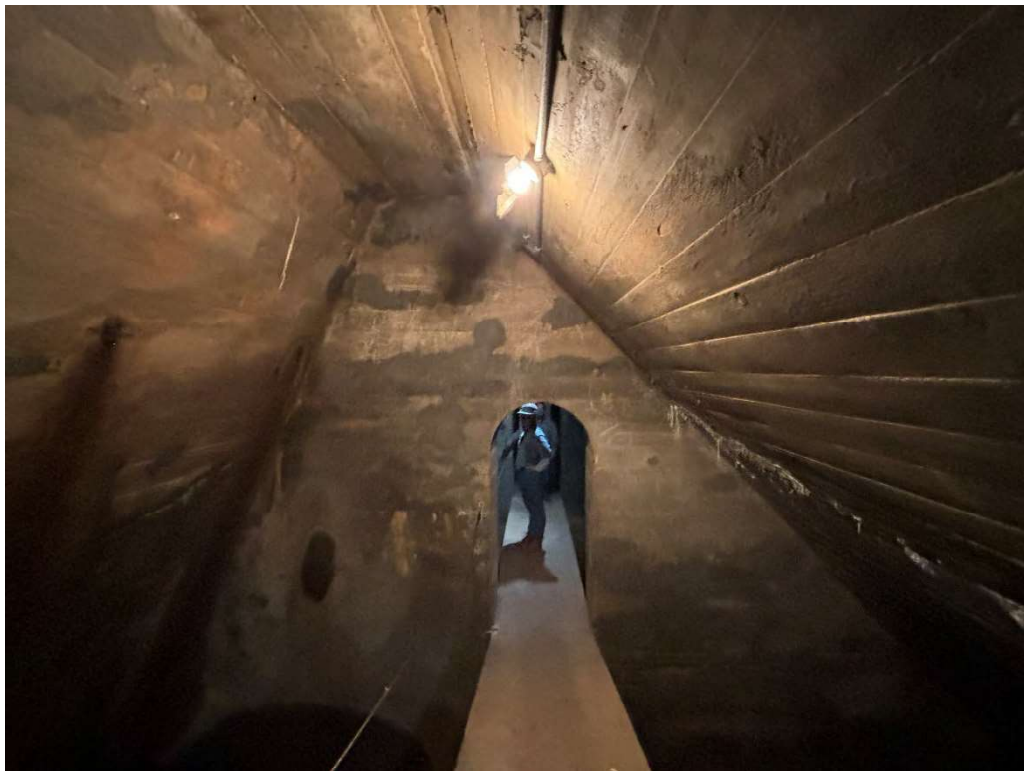


Photo 56: Chamber #10 – Looking East



Photo 57: Typical Walkway Condition