

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

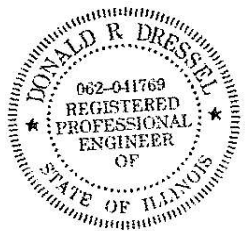
Date(s) Inspected 10/14/2022

Weather When Inspected Cloudy & Windy

Temperature When Inspected 50 degrees

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

Tailwater When Inspected NA



Exps 11-30-22

Professional Engineer's Seal

Donald R. Dressel

Inspection Personnel:

Donald R. Dressel, PE, CFM	CBBEL - Vice President
Name	Title
Madjid Mobasseri, PE, SE	CBBEL - Structural Engineer
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, PE	IDNR-OWR
Name	Title
Name	Title

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		
Contraction 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	NE		
Side Slope Stability	GC		
Slope Protection	GC		
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	MM	Minor spalling is evident.	Repair spalling were required.	
Structure to Embankment Junction	OB	Work on retaining walls has been completed in 2022.	Monitor additional areas of spalling concrete and repair as needed.	
Drains	NE			
Seepage Around or Into Structure	MM	Minor seepage and weeping thru several walls. There were seepage through top of spillway at chamber 7. The seepage at chamber 7 is less than year's inspection.	Continue to monitor. MOPA indicated that they had some repair done since last inspection. The leakage at chambers 3 & 7 is considerably reduced since last year's inspection. Keep monitoring.	
Surface Cracks	OB	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	MM	There are some minor cracks at within most chambers. Cracks within chamber 3 & 7 have been patched since last inspection.	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)	MM	No safety cables along internal dam walkway.	Anchors for safety cables have been installed, but not cables. Install safety cables	

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	N/A		
Structure to Embankment Junction	N/A		
Construction Joints	N/A		
Expansion and Contraction Joints	N/A		
Differential Settlement	N/A		
Surface Cracks	N/A		
Structural Cracks	N/A		
Wall Alignment	N/A		
Other (Name)			

IF THE SPILLWAY IS GATED FILL OUT THE GATES SECTION

GATES

Principal Spillway

Other:

Dewatering

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.
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	NE		
Structure to Embankment Junction	GC		
Construction Joints	GC		
Surface Cracks	NE		
Structural Cracks	NE		
Differential Alignment	NE		
Expansion and Contraction Joints	GC		

ENERGY DISSIPATOR

Principal Spillway
Type: *Plunge Pool*

(Continued)

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	N/A		
Weeds, Logs, Other Obstructions	N/A		
Side Slope Sloughing	N/A		
Vegetation	N/A		
Sedimentation	N/A		
Riprap	N/A		
Settlement of Crest	N/A		
Downstream Channel	N/A		
Other (Name)			

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

DATE OF PRESENT INSPECTION 10/14/2022

DATE OF LAST INSPECTION 10/15/2021

1. EARTH EMBANKMENT DAMS

None.

2. CONCRETE MASONRY DAMS

N/A

3. PRINCIPAL SPILLWAY

*Repairs have been completed in
Chambers #3 & 7 that have reduced
seepage.*

*Downstream wing walls were repaired by chipping
off spalling concrete and applying a surface coating
of new concrete.*

4. OUTLET WORKS

Exercising dewatering gates.

5. EMERGENCY SPILLWAY

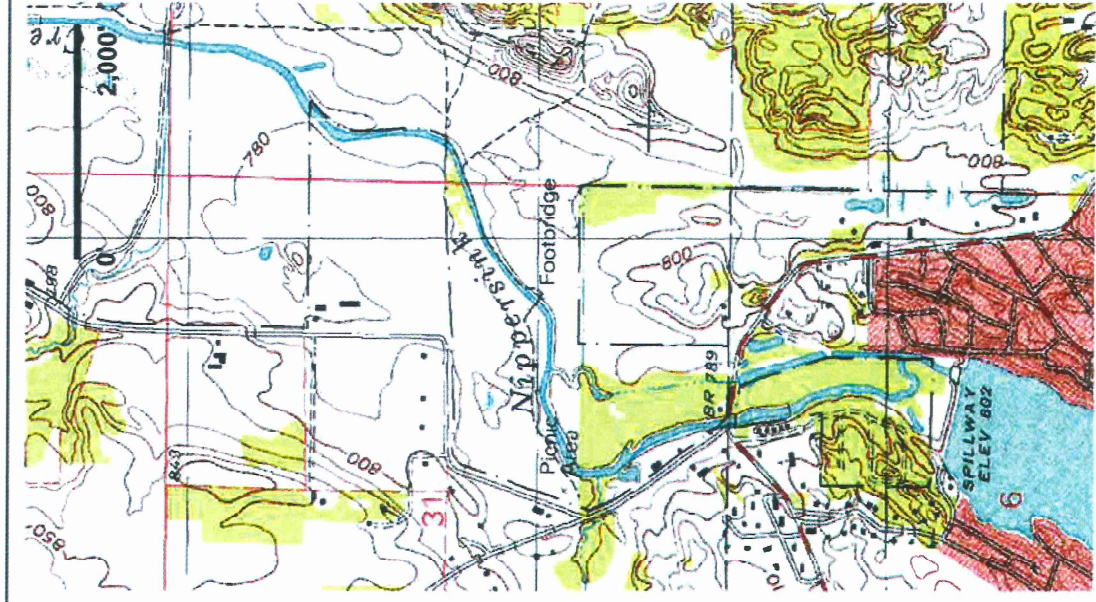
N/A

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																	
1/4 to 1/2	2		1					1						X			X		
1/2 to 3/4					1									X			X		
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																	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 east)



Photo 2: Downstream Face of Spillway



Photo 3: Downstream Channel



Photo 4 - Downstream Face of Spillway with Sluice Gate Open (East Abutment)



Photo 5: West Abutment



Photo 6: Downstream Face of East Embankment



Photo 7: Top of East Embankment (Facing west)



Photo 8: East Sluice Gate Control



Photo 9: West Sluice Gate Control



Photo 10: Wonder Lake - Upstream of Dam



Photo 11: East Embankment – Upstream Face Riprap (Facing East)



Photo 12: Downstream Side of West Embankment (Facing East)



Photo 13: Upstream Side of West Embankment (Facing East)

Photo 14: West Embankment



Photo 13: West Embankment (Facing East)



Photo 14: West Spillway Abutment (Facing West)



Photo 15: East Spillway Abutment (Facing East)



Photo 23: Chamber #1

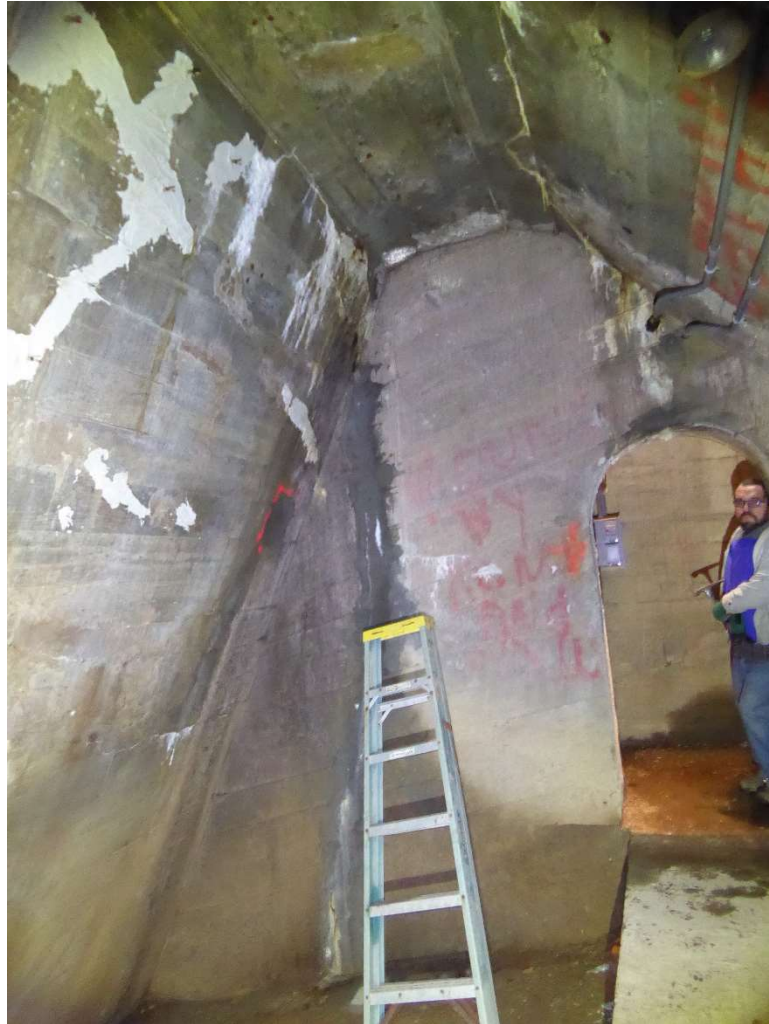


Photo 24: Downstream & East wall- Chamber #1



Photo 25: Chamber #2



Photo 26: Upstream Wall – Chamber #2



Photo 27: Chamber #3



Photo 28: Downstream Face - Chamber #3



Photo 29: Upstream Face – Chamber #3



Photo 30-Partial West wall and downstream



Photo 31: Chamber #4



Photo 32: Downstream Face - Chamber #4



Photo 33: Upstream Face - Chamber #4



Photo 34: Chamber #5



Photo 35: Downstream Face – Chamber #5



Photo 36: Upstream Face - Chamber #5



Photo 37: Chamber #6



Photo 38: Downstream Face – Chamber #6



Photo 39: Upstream Face – Chamber #6



Photo 40: Chamber #7



Photo 41: Upstream Face - Chamber #7

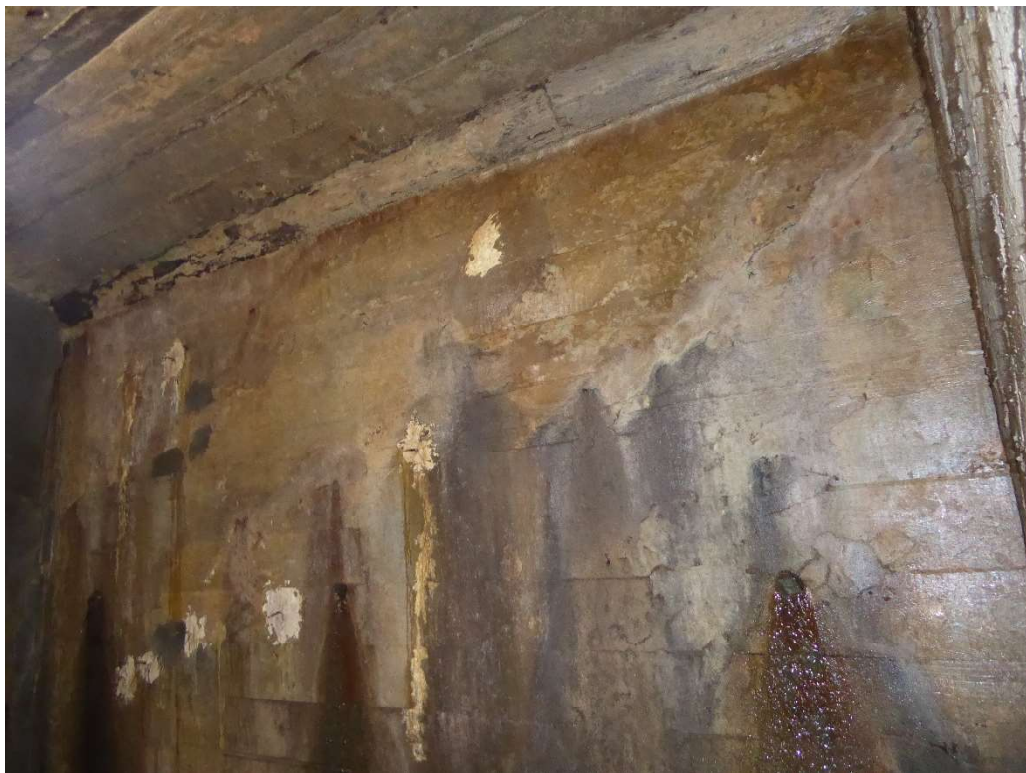


Photo 42: Downstream Face - Chamber #7



Photo 43: Chamber #7



Photo 44: Chamber #7



Photo 45: Chamber #8



Photo 46 Downstream Wall – Chamber 8



Photo 47: Downstream Wall - Chamber #8



Photo 48: Upstream Wall - Chamber #8



Photo 49: Chamber #9

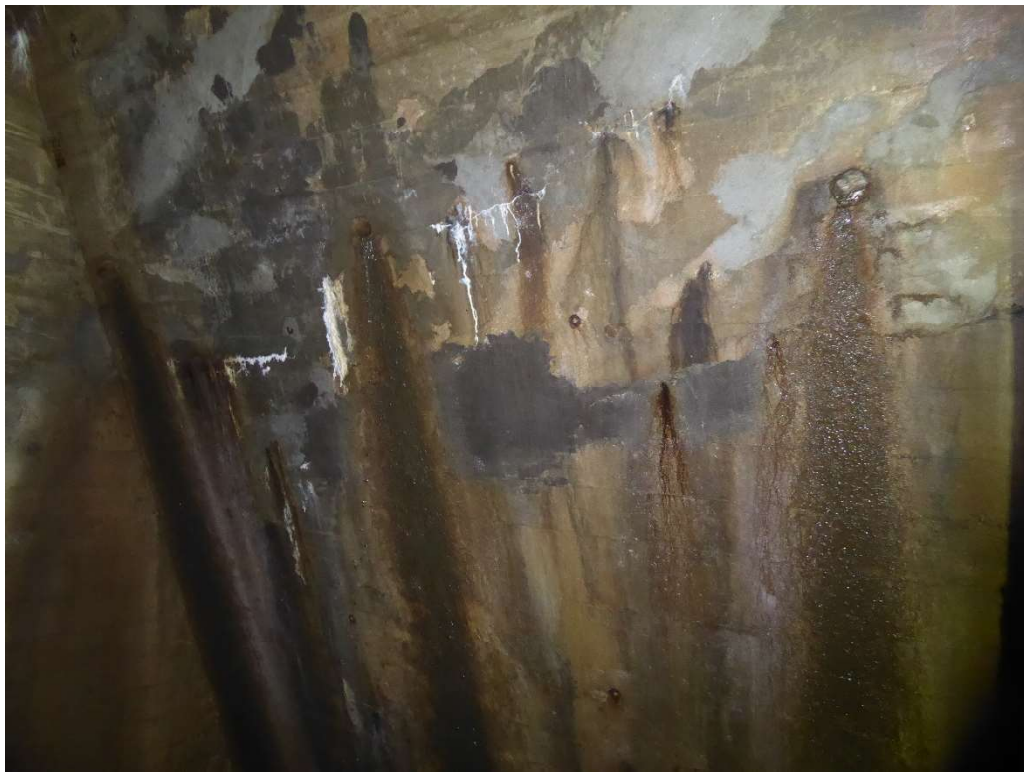


Photo 50: Downstream Wall - Chamber #9



Photo 51: Upstream Wall - Chamber #9



Photo 52: Chamber #10



Photo 53: Downstream Wall - Chamber #10



Photo 54: Upstream Wall - Chamber #10



Photo 55: Downstream Wall- Chamber 10