

AURORA WEST DAM AND CANOE CHUTE INSPECTION REPORT

DECEMBER 30, 2025

RS&H



AURORA WEST DAM AND CANOE CHUTE INSPECTION REPORT

December 30, 2025
City of Aurora,
Kane County,
Illinois

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Prepared by RS&H, Inc. at the
direction of The City of Aurora, Illinois

RS&H

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ATTACHMENTS

- Attachment 01 – West Dam and Canoe Chute Photo Log
- Attachment 02 – Dive Inspection of Canoe Chute East Wall (Fox River Side) and West Dam by Collins Engineers, Inc.
- Attachment 03 – IDNR Inspection Form

1.1 INSPECTION SUMMARY AURORA WEST DAM AND CANOE CHUTE

The Aurora West Dam and Canoe Chute inspection was divided into two separate field visits – the first site inspection occurred on Monday, November 10, 2025, for the dry inspection of the Canoe Chute. The weather was sunny with temperatures at 30° Fahrenheit at the time of the inspection. The inspection was visual on accessible features.



FIGURE 1 – FOX RIVER AND CANOE CHUTE UPSTREAM OF WEST DAM

The inspection team included:

From RS&H:

Daniel Schmanski, PE, CFM

Charles Barber, PE

Joseph Klenck, SE, PE

At the time of the inspection, the Canoe Chute had flowing water to a depth of approximately 1 ft and the flow rate on the Fox River was under a low flow period with a flow of approximately 628 cfs at the downstream Montgomery Gage. The visual inspection included the inlet structure from the Fox River, five intermediate drop structures, the outlet structure to the Fox River, and the east and west banks and walls of the Canoe Chute. The visual inspection focused on the overall condition and the identification of issues along the Canoe Chute.

The second site inspection occurred on Tuesday, November 21, 2025, for the underwater inspection of the Canoe Chute East Wall on the Fox River side and the West Dam. The weather was overcast with temperatures at 46° Fahrenheit at the time of the inspection. The underwater inspection was visual on accessible features.



FIGURE 2 – INSPECTION TEAM ALONG CANOE CHUTE EAST WALL

The inspection team included:

From RS&H:

Daniel Schmanski, PE, CFM

Julie Prohaska

From Collins Engineers:

Piotr Sawulski, PE

Jacob Green

Christopher Morrow, EIT

At the time of the inspection, the Fox River was at a normal flow period with a flowrate of approximately 1,030 cfs, or below the median flow at the downstream Montgomery Gage. The underwater inspection began with the Canoe Chute East Wall along the Fox River, then proceeded to the underwater inspection of the West Dam on the upstream side; however, access to the downstream toe of the dam was not accessible due to flow rates. The visual inspection focused on the overall condition of the noted underwater items.

See **Attachment 02** for the underwater inspection report prepared by Collins Engineers, Inc.

Figure 3 and **Figure 4**, below, show the project and gage location and flow rates at the Fox River for the two inspections.

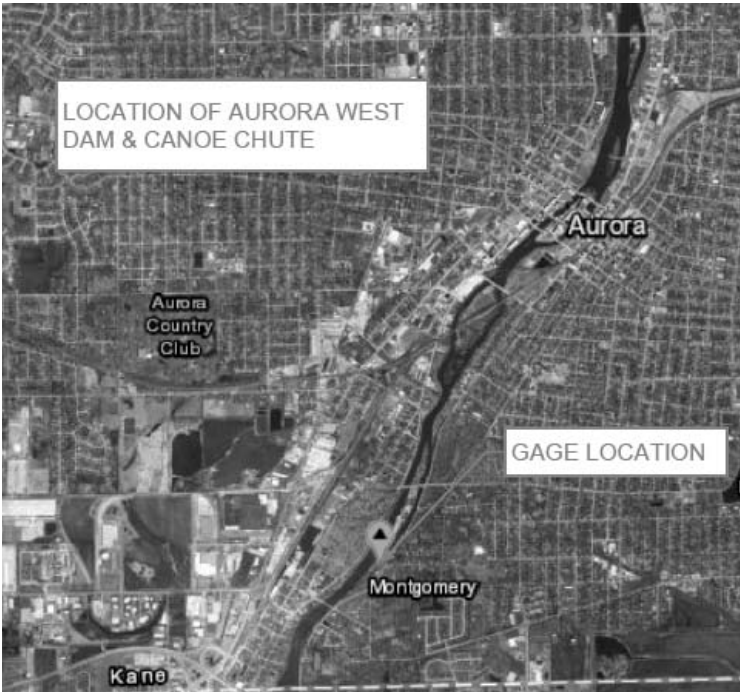


FIGURE 3 – USGS-05551540 GAGE LOCATION

Fox River at Montgomery, IL - USGS-05551540
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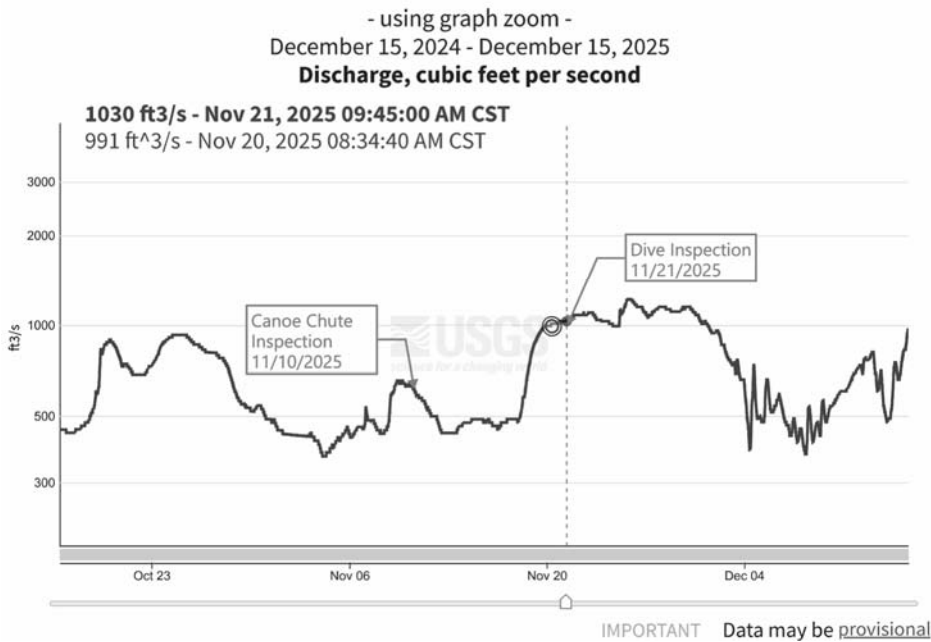


FIGURE 4 – USGS-05551540 FOX RIVER FLOW RATES DURING INSPECTIONS

This report identifies the condition of the Canoe Chute and the West Dam from the surface and underwater inspections and includes a priority list and conceptual cost estimate of repairs and maintenance for the Canoe Chute, Wall, and West Dam. A list of observed issues related to the West Dam and Canoe Chute East Wall area is also discussed to mitigate deficiencies noted during the underwater investigation.

1.2 GENERAL AND BACKGROUND

The City of Aurora Canoe Chute March 2001 Operation and Maintenance Manual indicates that the Canoe Chute was last repaired in 1999 following damages from July 1996 and February 1997 flood events. The previous inspection reports were dated April 28, 2005, September 17, 2014, and December 21, 2020. The 2020 West Dam and Canoe Chute Inspection Report was referenced as a basis for this 2025 report. The Canoe Chute has an Obermeyer Pneumatic Crest Gate with an air bladder system installed to regulate water levels at the concrete Drop Structure 1 (DS1). The bladder system was repaired in 2021 and the system is operational.

Attachment 01 contains overall site photos and detail photos from the Canoe Chute inspection and dive inspection. At the time of the visual inspection, the overall condition of the Canoe Chute was good, with minor repair items noted. The underwater inspection report is documented in **Attachment 02**. Overall, the conditions of underwater elements per the dive report were satisfactory to fair, with deficiencies noted that are not believed to pose an immediate threat or concern at this time.

Figure 5, on the following page, shows the project inspection location in detail. The West Dam is classified as a Class III Dam with a tributary area of 1,705 sq. miles and is in a FEMA regulatory floodplain and floodway, as indicated in the Kane County Flood Insurance Study, with a Revised Date of July 20, 2021.

The Inspection was performed in accordance with the Illinois Department of Natural Resources *Guidelines and Forms for Inspection of Illinois Dams*, (IDNR, November 1999). The completed IDNR Dam Inspection form is included as part of **Attachment 03**.

Repair and maintenance recommendations are provided. However, design of those repairs is at a conceptual level only, and the cost analysis is a rough order of magnitude estimate for budgeting purposes.

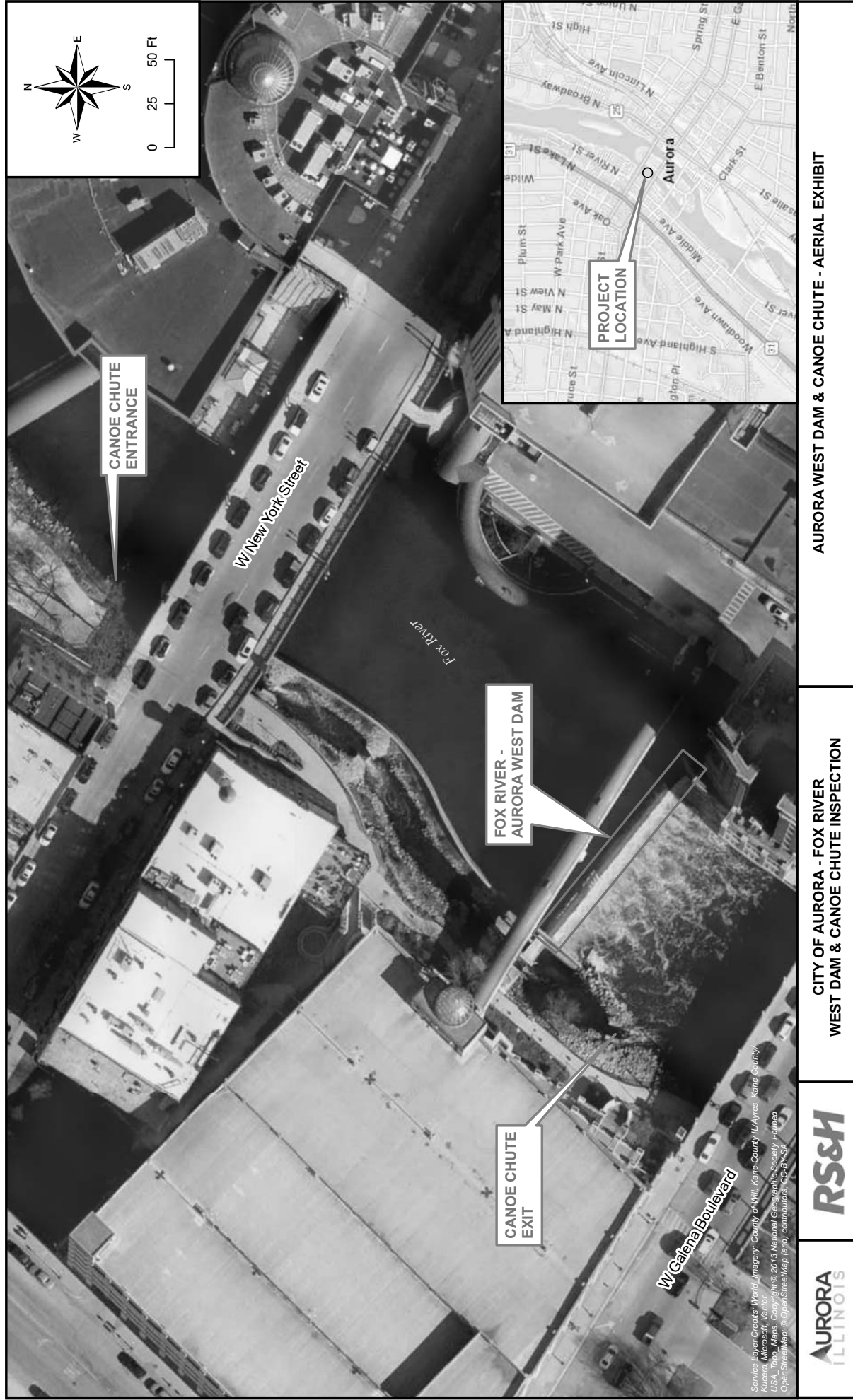


FIGURE 5 – AURORA WEST DAM & CANOE CHUTE – AERIAL EXHIBIT

1.3 DISCUSSION OF OBSERVATIONS

The Canoe Chute begins at the inlet structure just north of the New York Street Bridge. According to the Canoe Chute Manual, the invert elevation is approximately 2 ft below the West Dam crest to have navigable depths of flow in the chute when the river pool is at the crest of the dam. There are five drop structures along the chute and four interim bays or pools between drop structures. The Canoe Chute ends at an outlet structure downstream of the West Dam, just north of Galena Boulevard. See **Figures 6** and **7** on Pages 8 and 9, respectively, for the structure locations and photos. The Canoe Chute and its components are discussed below. The downstream interim pools are described with each drop structure, and the observations from the dive inspection are summarized. Refer to **Attachment 01** for more detailed photos of the observations discussed below.

Inlet Structure

The inlet structure was observed to be in good shape. The slots in the timber on the east and west side of the inlet structure appeared to be in satisfactory condition but can trap debris. See Photos **IN-1** and **IN-2**.

Drop Structure 1

DS1 was observed to be in good shape overall. The depth of flow through the structure was at a higher velocity, but no erosion was observed through the structure or downstream channel. The Obermeyer Pneumatic Crest Gate is situated on the downstream side of this structure, was repaired after the 2020 inspection report, and is assumed to be operational. See Photos **DS1-1** to **DS1-4**.

Drop Structure 2

DS2 was observed to have damaged riprap and erosion along the upstream flares of the drop structure. There is a void between the south side of the New York Street bridge pier and the chute bank on the upstream side of DS2 (see Photo **DS2-2**) and erosion-related damage to riprap upstream and downstream of DS2. Shrubbery downstream of the drop structure is recommended to be managed. Some erosion was observed along the west sidewalk wall. Overall, the condition of the structure itself appears satisfactory. See Photos **DS2-1** to **DS2-4**.

Drop Structure 3

DS3 was observed to have some minor erosion issues on the upstream and downstream sides but was in good shape overall. Erosion has dislodged riprap as noted at other drop structure locations, creating voids in riprap. Shrubbery upstream and downstream of the drop structure is recommended to be managed. Cracking was observed along the west

sidewalk and wall. Overall, the condition of the structure itself appears satisfactory. See Photos **DS3-1** to **DS3-4**.

Drop Structure 4

DS4 was observed to have active water flowing into the Canoe Chute from the Fox River on the upstream side. The water was coming into the Canoe Chute at a high volume and velocity from a void at the base of the wall (see Photo **DS4-2**). Seepage and erosion were also observed on the downstream side. Cracking was observed along the west sidewalk and wall. See Photos **DS4-1** to **DS4-6**.

Drop Structure 5

DS5 has some minor erosion issues on the downstream side. The west side of the structure and the west sidewalk wall show concrete cracking. Seepage was observed upstream of the structure along the west Fox River wall. The downstream pool connects to the chute outfall and there is a spillway along the east side of the chute to the Fox River. This spillway appeared functional; however, the grading of the top of the spillway was irregular. See Photos **DS5-1** to **DS5-4**.

Outlet

The outlet to the Canoe Chute had dislodged riprap/concrete along the Canoe Chute East Wall, along the Fox River, but did have a clear outfall channel to the Fox River. A pipe outlet along the Canoe Chute West Wall appeared to be in satisfactory condition, although the source of the pipe outlet is unknown. See Photos **Out-1** through **Out-3**.

Canoe Chute East Wall (Fox River Side) and West Dam

The dive inspection of the Canoe Chute East Wall indicated the wall was in generally satisfactory condition but did have several minor hairline cracks. Seepage and active water flow was observed below the wall at a construction joint upstream of DS4. On the downstream side of the dam, the East Wall did have undermining exposing a steel caisson; however, the steel caisson did not exhibit any defects. The West Dam was generally in fair condition. The upstream side did have areas of poor concrete consolidation and debris (tree trunks) over the dam crest. The Fox River East Wall had scaling observed, and the toe of the dam undermining observed in the 2020 inspection could not be verified during this inspection due to high river flow. See **Attachment 02** for more information.



See Drop Structure (DS) Photos on Sheet 2



IMG01: Canoe Chute Inlet



IMG02: Canoe Chute Channel & East Wall



IMG03: Canoe Chute Outlet & Spillway

		CITY OF AURORA - FOX RIVER WEST DAM & CANOE CHUTE INSPECTION	AURORA WEST DAM & CANOE CHUTE - STRUCTURE LOCATIONS WITH PHOTOS
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FIGURE 6 – AURORA WEST DAM & CANOE CHUTE – STRUCTURE LOCATIONS WITH PHOTOS

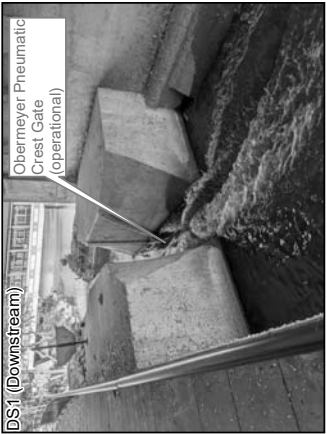
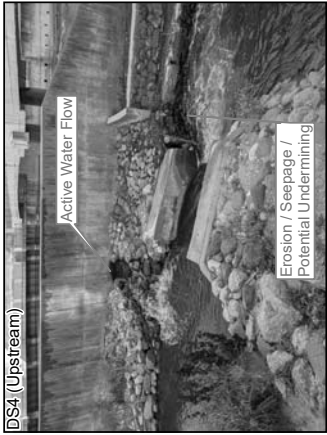
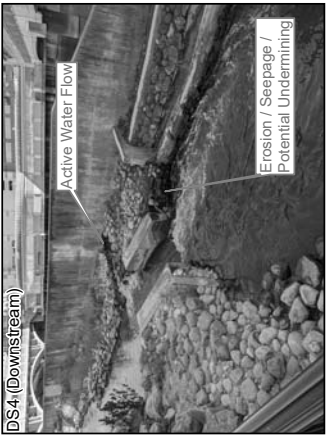
 DS1 (Upstream)	 DS1 (Downstream) Obermeyer Pneumatic Crest Gate (operational)	 DS4 (Upstream) Active Water Flow	 DS4 (Downstream) Active Water Flow Erosion / Seepage / Potential Undermining
 DS2 (Upstream) Repair Erosion	 DS2 (Downstream)	 DS5 (Upstream) Concrete Cracking	 DS5 (Downstream)
 DS3 (Upstream)	 DS3 (Downstream) Repair Erosion	CITY OF AURORA - FOX RIVER WEST DAM & CANOE CHUTE INSPECTION	AURORA WEST DAM & CANOE CHUTE - REPAIR EXHIBIT WITH PHOTOS

FIGURE 7 – AURORA WEST DAM & CANOE CHUTE – REPAIR EXHIBIT WITH PHOTOS

1.4 CONCEPT LEVEL REHABILITATION PLAN

During the Canoe Chute and West Dam inspections, the recommended repairs were noted and are ranked below in order of priority. See **Table 1**, on the following page for the Conceptual Opinion of Cost.

1. The construction joint and void at the Canoe Chute East Wall should be sealed and filled, respectively. This location was observed with active water flow from the Fox River into the Canoe Chute. The wall is supported by steel-encased concrete caissons keyed into the bedrock and the condition is not yet a bearing concern for the wall. The repair is recommended to eliminate this active flow of water and additional erosion concerns.
2. The drop structures were observed to have erosion and scour mostly along the concrete flares which included undercutting and riprap pop outs. It is recommended that void areas be filled with grout, and that riprap be reset along the concrete flares, in areas of undercutting, and along the pool walls. At the time of the inspections, pockets of branch and stone debris were noted, and these should be removed during regular Canoe Chute maintenance to keep continuous flow and prevent additional buildup in the chute. The West Dam also had two tree trunks trapped against the dam crest that should be removed.
3. The Canoe Chute East Wall was observed to have approximately eighteen hairline cracks that should be epoxy sealed on both sides of the wall. The Canoe Chute West Wall adjacent to the Fox River Trail had concrete cracking and exposed rebar that should be repaired and sealed. There are multiple areas of cracking and spalled concrete at railing post and conduit attachment points that could cause localized failures if not repaired. See Photos DS2-3, DS3-3, DS3-4, DS4-6, & DS5-4.
4. The spillway just upstream of the outlet should be regraded or have stones reset to create a uniform spillway crest. The outlet structure had several stones dispersed around and these should be removed from the flow path.
5. The West Dam was observed to be in fair condition with several areas of poor concrete consolidation along the crest – these are not considered structural concerns at this time. Given the current size and extent of these deficiencies and the considerable effort required to perform repairs to the submerged portions of the dam, the repairs are not recommended at this time. See **Attachment 02** for more information.
6. The West Dam toe could not be accessed for inspection and areas of observed undermining were carried over from the 2020 inspection. The undermining along the toe of the dam and the Canoe Chute East Wall undermining are not considered to be a concern at this time. See **Attachment 02** for more information.

Table 1 West Dam and Canoe Chute Conceptual Opinion of Cost						
Rehabilitation Item	Item	Quantity	Unit	Unit Cost	Cost	Notes
1 Underwater Repairs Canoe Chute East Wall	Undermining Void Fill at downstream toe	1.0	CY	\$ 25,000	\$ 25,000	1.5 ft L x 2 in H void at wall base at Sta 1+80
	Other items				\$ 7,500	30% contingency
	Rehabilitation Item 1 Subtotal				\$ 32,500	
2 DS2, DS3, DS4, and DS5 Erosion Repair, Canoe Chute Cleaning, and Debris Removal	Erosion and Scour Repair - Riprap Placement with Grout	10.5	CY	\$ 1,500	\$ 15,750	At US and DS sides of structure, void at pier, and along west wall
	Debris Removal	1.0	LS	\$ 1,000	\$ 1,000	Clear logs, branches, stones, etc. at drop structures and dam
	Other items				\$ 5,025	30% contingency
	Rehabilitation Item 2 Subtotal				\$ 21,775	
3 Canoe Chute East and West Walls	Canoe Chute West Wall (along sidewalk) Epoxy Crack Seal	50.0	FT	\$ 100	\$ 5,000	Along Fox River Trail including sidewalk and wall crack sealing
	Canoe Chute East Wall (both sides) Epoxy Crack Seal	288.0	FT	\$ 50	\$ 14,400	18 hairline to 1/16th in crack sealing
	Other items				\$ 5,820	30% contingency
	Rehabilitation Item 3 Subtotal				\$ 25,220	
4 Canoe Chute Spillway Regrading	Spillway regrading	30.0	FT	\$ 250	\$ 7,500	Reset and adjust riprap along spillway
	Other items				\$ 2,250	30% contingency
	Rehabilitation Item 4 Subtotal				\$ 9,750	
5 Underwater Repairs Upstream West Dam and Canoe Chute East Wall	Undermining Void Fill at Canoe Chute East Wall	1.0	CY	\$ 15,000	\$ 15,000	Remove debris and pump grout suitable for underwater application
	West Dam Crest Poor Concrete Consolidation Repair	3.9	CY	\$ 15,000	\$ 58,211	Remove debris and pump grout suitable for underwater application
	Scaling Repair on East Wall of West Dam	0.3	CY	\$ 10,000	\$ 2,500	Pump grout suitable for underwater application
	Other items				\$ 22,713	30% contingency
	Rehabilitation Item 5 Subtotal				\$ 98,424	
6 Underwater Repairs Downstream West Dam Toe and Canoe Chute East Wall	Undermining Void Fill at downstream toe	2.1	CY	\$ 25,000	\$ 51,935	Remove debris and pump grout suitable for underwater application
	Undermining Void Fill at Canoe Chute East Wall	1.0	CY	\$ 15,000	\$ 15,000	Hairline crack seal and construction joint seal (seepage observed)
	Other items				\$ 20,081	30% contingency
	Rehabilitation Item 6 Subtotal				\$ 87,016	
Project total					\$ 274,685	

1.5 CONCLUSION

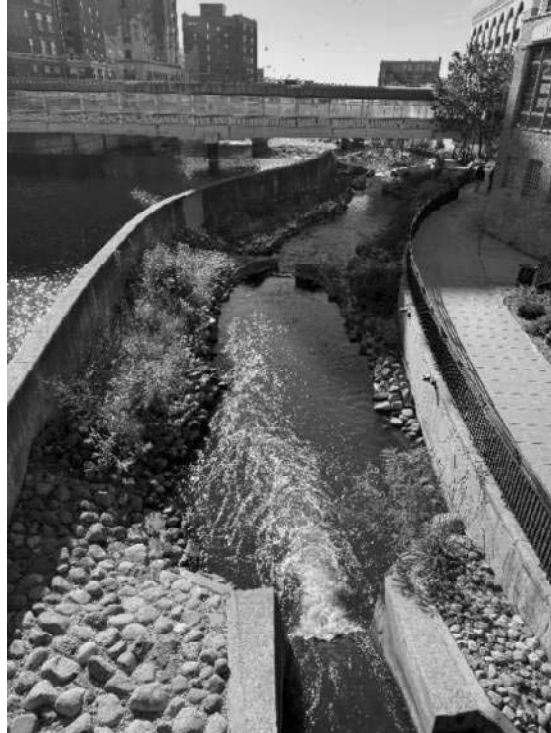
The inspections revealed that the Canoe Chute was in good condition overall. The issues observed along the Chute were related to deferred maintenance such as cleaning and management. There are minor issues such as erosion and scour areas near the drop structures and concrete cracking at the drop structures and along the walls. Active water flow was observed along the Canoe Chute East Wall at a construction joint at the time of the inspection.

The underwater inspection revealed that the Canoe Chute East Wall along the Fox River was in satisfactory condition and that the cracking and undermining observed is not a structural concern at this time. The active flow near a construction joint occurs due to a void measuring approximately 1.5 feet in length x 2 inches in height near the bottom of the wall. This area is noted to not be a bearing concern at this time; however, it is recommended for repairs to eliminate the water flow and erosion. The West Dam was generally in fair condition, and issues observed on the upstream and downstream sides of the dam did not present an immediate threat or concern at this time. The undermining observed on the downstream side should be monitored until repairs can be made.



FIGURE 8 – WEST DAM AND CANOE CHUTE LOOKING UPSTREAM

Attachment 01
West Dam and Canoe Chute Photo Log



***PHOTOGRAPH CC-1: CANOE CHUTE OVERALL VIEW
– LOOKING UPSTREAM TO DOWNSTREAM AT DS2***



***PHOTOGRAPH CC-2: CANOE CHUTE OVERALL VIEW
– LOOKING UPSTREAM TO DOWNSTREAM AT DS4***



***PHOTOGRAPH CC-3: CANOE CHUTE OUTLET OVERALL VIEW
– LOOKING DOWNSTREAM TO UPSTREAM AT DOWNSTREAM END***



PHOTOGRAPH CC-4: DROP STRUCTURE (TYPICAL)



PHOTOGRAPH IN-1: INLET STRUCTURE UPSTREAM SIDE



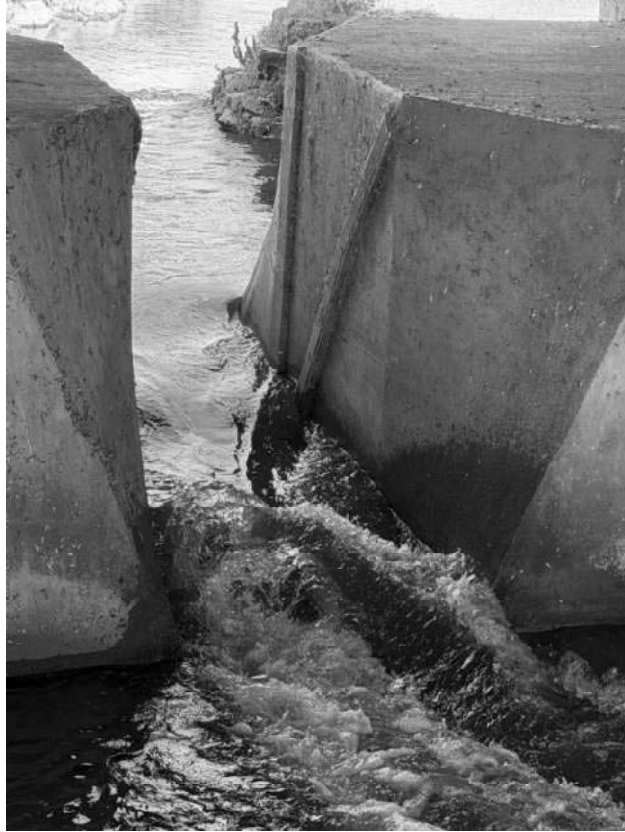
PHOTOGRAPH IN-2: INLET STRUCTURE AND STOP LOG SLOTS



PHOTOGRAPH DS1-1: UPSTREAM FACE OF DROP STRUCTURE 1 (DS1)



PHOTOGRAPH DS1-2: DOWNSTREAM SIDE OF DS1



PHOTOGRAPH DS1-3: DOWNSTREAM SIDE OF DS1 LOOKING UPSTREAM



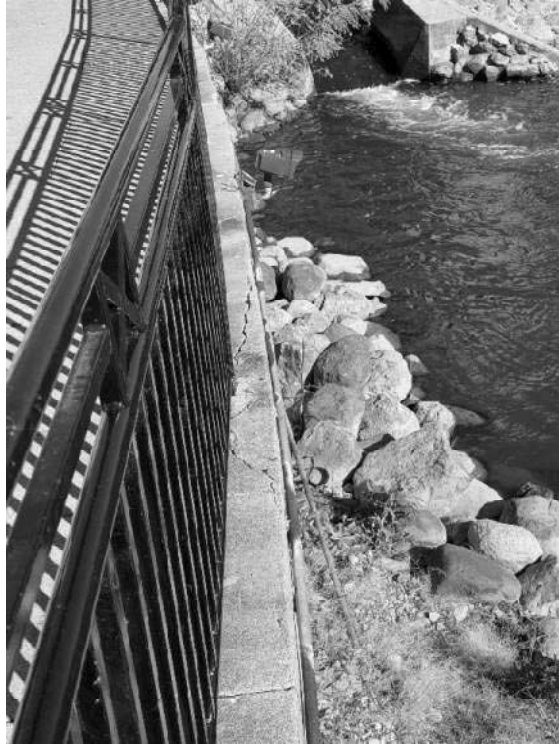
PHOTOGRAPH DS1-4: DOWNSTREAM CHANNEL OF DS1



PHOTOGRAPH DS2-1: DROP STRUCTURE 2 (DS2) OVERALL VIEW



PHOTOGRAPH DS2-2: EROSION AT DS2 UPSTREAM RIPRAP



PHOTOGRAPH DS2-3: CANOE CHUTE WEST WALL POTENTIAL EROSION AREA



PHOTOGRAPH DS2-4: TYPICAL CANOE CHUTE EAST WALL SECTION



PHOTOGRAPH DS3-1: DROP STRUCTURE 3 (DS3) OVERALL VIEW



PHOTOGRAPH DS3-2: TYPICAL EROSION CONDITION



PHOTOGRAPH DS3-3: CRACKING IN SIDEWALK AT CANOE CHUTE WEST WALL



PHOTOGRAPH DS3-4: CRACKING IN SIDEWALK AT CANOE CHUTE WEST WALL



PHOTOGRAPH DS4-1: DROP STRUCTURE 4 (DS4) OVERALL VIEW



PHOTOGRAPH DS4-2: FLOW THROUGH CANOE CHUTE EAST WALL UPSTREAM OF DS4



PHOTOGRAPH DS4-3: DS4 DOWNSTREAM VIEW



PHOTOGRAPH DS4-4: DS4 DOWNSTREAM EROSION



PHOTOGRAPH DS4-5: DS4 DOWNSTREAM VIEW LOOKING UPSTREAM



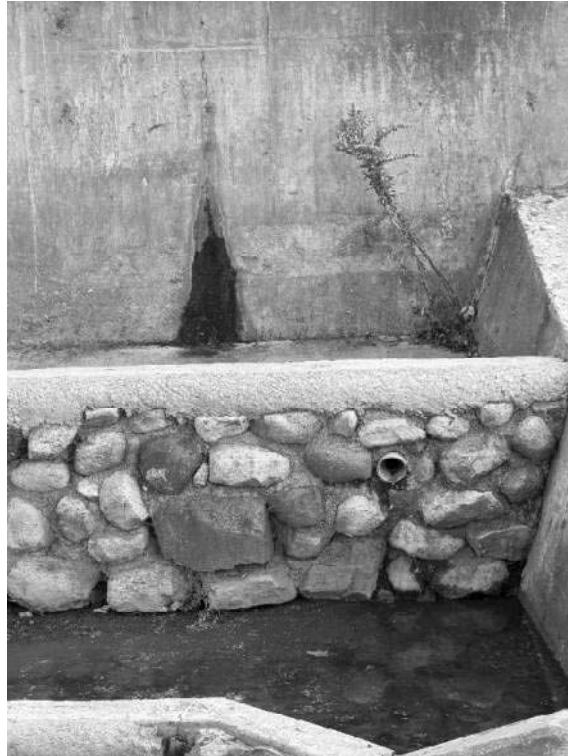
PHOTOGRAPH DS4-6: CRACKING ON DOWNSTREAM CANOE CHUTE WEST WALL



PHOTOGRAPH DS5-1: DROP STRUCTURE 5 (DS5) UPSTREAM VIEW



PHOTOGRAPH DS5-2: CRACKING AND SPALLING AT DS5



PHOTOGRAPH DS5-3: CANOE CHUTE EAST WALL SEEPAGE UPSTREAM OF DS5



PHOTOGRAPH DS5-4: CRACKING IN CANOE CHUTE WEST WALL



PHOTOGRAPH OUT-1: OUTLET STRUCTURE LOOKING DOWNSTREAM



PHOTOGRAPH OUT-2: OUTLET STRUCTURE LOOKING UPSTREAM



PHOTOGRAPH OUT-3: LOOSE RIPRAP/CONCRETE CANOE CHUTE EAST WALL ON FOX RIVER SIDE



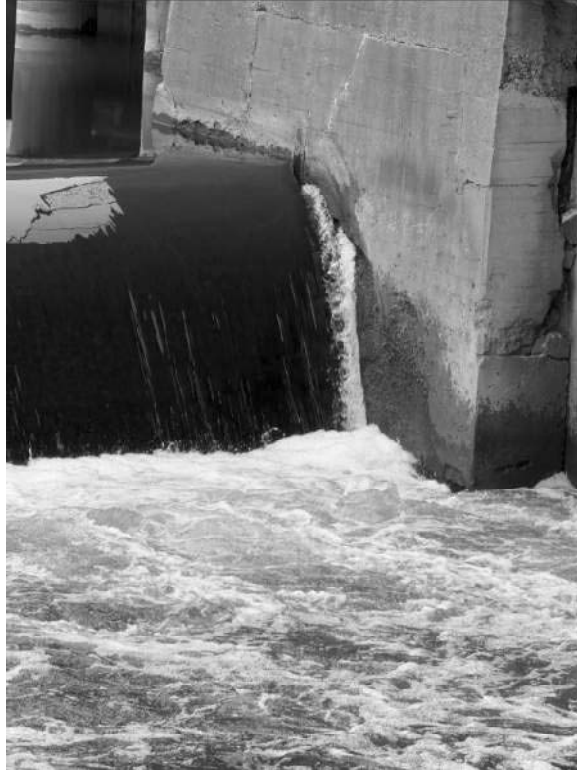
***PHOTOGRAPH WD-1: WEST DAM OVERALL VIEW
– LOOKING AT DOWNSTREAM SIDE***



PHOTOGRAPH WD-2: WEST DAM CANOE CHUTE EAST WALL ALONG FOX RIVER



PHOTOGRAPH WD-3: WEST DAM CANOE CHUTE EAST WALL ALONG FOX RIVER)



PHOTOGRAPH WD-4: WEST DAM FOX RIVER EAST WALL SCALING

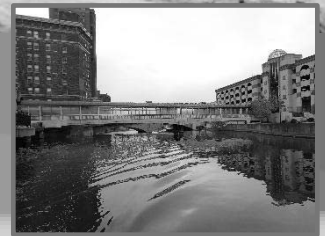


PHOTOGRAPH WD-5: WEST DAM FOX RIVER EAST WALL SCALING DETAIL



PHOTOGRAPH INSP-1: CANOE CHUTE EAST WALL INSPECTION ALONG FOX RIVER

Attachment 02
Dive Inspection of Canoe Chute East Wall (Fox River Side)
and West Dam
By Collins Engineers, Inc.



Underwater Inspection Report

Aurora Dam and Canoe Chute East Wall

Inspected:
November 21, 2025

Prepared for:
The City of Aurora

Through:
RS&H Inc.

Prepared by:

**COLLINS
ENGINEERS^{INC}**

550 West Jackson Blvd, Suite 1200
Chicago, Illinois 60661
312.704.9300 • www.collinsengr.com

DAM INSPECTION SUMMARY

GENERAL:

Inspection Date: November 21, 2025
Insp. Team Leader/Diver: Piotr Sawulski, P.E.
Engineer-Divers: Jacob Green; Christopher Morrow, E.I.T.
Inspection Method: Commercial Surface Supplied Air Diving

STRUCTURE INFORMATION:

Structure Type: Broad-Crested Weir
Portions Inspected: Canoe Chute East Wall, Downstream Canoe Chute Pool, Upstream Face of Dam

GENERAL CONDITIONS:

Water Visibility: 1 foot
Water Velocity: 1.0 fps to 4 fps
Water Temperature: 53 °F
Weather: Overcast, 46 °F
Waterline Elevation: Upstream of Dam– 629.0 feet
Downstream of Dam – 621.5 feet
Maximum Depth: 9.0 feet Upstream of Dam near West End

STRUCTURE CONDITIONS:

East Canoe Chute Wall: Satisfactory – Active water leakage below the wall around the construction joint at Sta. 1+80; Random Hairline to 1/16-inch-wide vertical cracking; Undermining of the southern portion of the wall exposing one caisson.

Dam: Fair – Several areas of poor concrete consolidation in the upstream dam wall and the exposed apron.
Undermining of the downstream toe, originally identified during 2020 inspection, could not be verified due to high river flow at the time of this inspection.

MAINTENANCE/REPAIR RECOMMENDATIONS:

Repair the Canoe Chute East Wall leakage at Sta. 1+80.

Perform the next underwater inspection at an interval not to exceed 60 months, preferably during a period of low flow in the Fox River, to confirm the extent of downstream toe undermining. If an increase in undermining is observed, repairs may be warranted at that time.

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APPENDIX A - FIGURES

APPENDIX B - PHOTOGRAPHS

1.0 INTRODUCTION

1.1 Purpose and Scope

This report presents the findings of the underwater investigation performed for the Aurora Dam, Canoe Chute East Wall, and the canoe chute downstream pool on the Fox River in Aurora, IL. Collins Engineers, Inc. (Collins) performed the inspection for the City of Aurora through RS&H, Inc. on November 21, 2025. The purpose of the investigation was as follows:

- Perform an in-water inspection and determine the condition of the submerged surfaces of the downstream chute pool.
- Perform an underwater inspection of the east wall of the canoe chute, both upstream and downstream of the dam.
- Perform an underwater inspection of the dam structure.
- Obtain general and defect photographs of all structures inspected.

The following report includes a general description of the structure, method of investigation, description of existing conditions, an evaluation and recommendations based on the existing conditions. The inspection figures and photographs are included in Appendices A and B, respectively.

1.2 General Description of the Structure

The dam is a submerged, broad-crested weir-type structure with its longitudinal axis oriented northwest to southeast. The dam retains the Fox River, with flow over the structure generally occurring from north to south. The dam is constructed of concrete and extends approximately 167 feet across the river between the East and West abutment walls, with an approximate base width of 17 feet. The original subbase material is unknown.

A canoe chute was constructed over the top of the dam along the western bank of the Fox River, extending from just upstream of New York Street to just downstream of the dam. The canoe chute measures approximately 40 feet wide at the dam. Construction of the canoe chute included removal

of a portion of the dam crest to accommodate the chute and construction of the Canoe Chute East Wall. The Canoe Chute East Wall is a reinforced concrete wall supported by steel-encased concrete caissons spaced at approximately 10-foot intervals and keyed into bedrock.

The Fox River actively flows over approximately 125 feet of the dam crest. A pedestrian bridge is located immediately upstream of the dam and includes a single pier within the waterway consisting of two circular steel caissons. A pedestrian riverwalk extends along the west bank of the canoe chute.

Refer to Photographs 1 and 2 in Appendix B for overall views of the dam, and Photographs 3 and 4 for overall views of the waterway.

1.3 Method of Investigation

For the purpose of this inspection, the longitudinal axis of the dam was assumed to generally extend east to west. For defect location identification, two stationing systems were utilized: one for the Canoe Chute East Wall and one for the dam itself. Canoe chute stationing begins at Station 0+00 at the interface with the west pier of the West New York Street Bridge and extends south along the length of the wall to Station 2+62 at the south end of the wall taper. Dam stationing begins at Station 0+00 at the interface with the Canoe Chute East Wall and extends east to Station 1+25 at the East Abutment. All stationing is approximate.

The inspection of the dam consisted of underwater and above-water visual and tactile examinations of accessible dam elements, with particular attention given to observed defects and areas of apparent distress. A three-person team, led by an Illinois-licensed Professional Engineer-Diver conducted the underwater inspection. The condition of the canoe chute downstream pool, Canoe Chute East Wall, and the overall condition of the dam and its appurtenances were noted. The presence and location of any scour holes or foundation undermining, riprap, drift and debris, and channel bottom material were also documented. Water depth soundings were obtained along the upstream slopewall using diver-verified pneumatic readings. Photographs were taken to document general conditions and observed defects.

2.0 EXISTING CONDITIONS

2.1 General Conditions

At the time of the inspection, the upstream waterline was located approximately 6.0 feet below the top of the Canoe Chute East Wall, corresponding to a water surface elevation of 629.0 feet based on the 1999 rehabilitation plans. The downstream waterline was located approximately 4.5 feet below the top of the southern end of the Canoe Chute East Wall, corresponding to a water surface elevation of 621.5 feet. The Fox River was flowing from north to south at an estimated velocity of 1 foot per second, with approximately 1 foot of underwater visibility.

2.2 Canoe Chute East Wall and Downstream Pool

The Canoe Chute East Wall was generally in satisfactory condition. The wall exhibited hairline to 1/16-inch-wide vertical cracks extending the full height of both wall faces and across the top at 18 locations along the wall. No water seepage was observed at any of these cracks. An active water discharge was observed at the base of the Canoe Chute East Wall on the west side near the construction joint at Station 1+80. A void measuring approximately 1.5 feet in length by 2 inches in height was observed at the river bottom along the outboard side of the wall at this location. The water discharge has resulted in minor bank erosion and localized loss of stone along the west side of the wall. The east wall downstream of the dam was undermined by up to 3 feet vertically, exposing one steel caisson supporting the wall. The caisson did not exhibit any defects. The Canoe Chute pool adjacent to the east wall is constructed of a concrete apron floor and did not exhibit any defects. Refer to Figures 2 and 3 in Appendix A for detailed inspection notes and Photographs 5 through 16 for views of the Canoe Chute Pool and the East Wall.

2.3 Dam

The Aurora Dam was generally in fair condition. The upstream face of the dam exhibited six areas of poor concrete consolidation between Stations 0+30 and 1+25. These areas

measured approximately 2 to 13 feet in width by 4 to 12 inches in height, with penetrations ranging from approximately 3 to 8 inches. Upstream of the dam, approximately 13 feet of a concrete apron was exposed along the channel bottom near Station 0+30 at 9 feet below the waterline. The concrete apron extended approximately 10 feet upstream before becoming covered with silt and gravel. Tree trunks were observed lodged within the dam spillway near Stations 0+10 and 0+50.

The following observations pertaining to the downstream end of the dam were originally identified during the 2020 underwater inspection but could not be verified during this inspection due to high river flow conditions that restricted safe access. These conditions are presented herein for confirmation during the next inspection.

The downstream toe of the dam was previously observed to be exposed from Station 0+00 to Station 0+75, with exposure heights varying from approximately 1 to 4 feet. Three adjacent undermining voids were documented beneath the downstream toe between Stations 0+75 and 0+98, with a combined length of approximately 22 feet. These voids measured up to approximately 8 inches in height with horizontal penetrations ranging from approximately 1 to 4 feet beneath the toe. From Station 0+98 to Station 1+25, the downstream toe was previously observed to be fully exposed, with an approximate vertical exposure of 5 feet and no observed undermining; however, the lower 12 inches of the toe exhibited widespread section loss with penetrations ranging from approximately 3 to 12 inches over this length. Bedrock was exposed from Station 0+98 to Station 1+25.

Refer to Figure 3 in Appendix A for detailed inspection notes and Photographs 17 through 20 for views of the dam and East Abutment.

3.0 EVALUATION AND RECOMMENDATIONS

Overall, the Aurora Dam was generally in fair condition at the time of the inspection. An area of active water discharge and associated void were observed along the outboard side of the Canoe Chute East Wall near the construction joint at Station 1+80. Based on review of the available construction drawings and diver-obtained water depth soundings, the observed void is interpreted

to be indicative of the bottom of the wall, allowing passage of water beneath the structure. This condition has resulted in localized bank erosion and loss of stone along the west side of the wall and, if left unaddressed, may lead to further erosion and progression of the void. Although the wall is supported by steel-encased concrete caissons keyed into bedrock and the observed condition is not yet considered a bearing concern, it is recommended that this condition be repaired at this time to eliminate water flow and associated erosion. Repairs may include but are not limited to placement of grout bags along the outboard side of the wall to seal the void and limit water passage, or restricting water flow on the inboard side of the wall and pumping a flowable concrete or grout mix into the void to reduce seepage and erosion.

The areas of poor concrete consolidation and scaling observed along the upstream face of the dam are not considered structural concerns at this time. Given the current size and extent of these deficiencies and the considerable effort required to perform repairs to submerged portions of the dam, repairs are not recommended at this time. These areas should continue to be monitored during future inspections. If the size or extent of these defects is found to increase or to adversely affect the stability of the dam, repairs may be warranted at that time.

Cracking observed along the Canoe Chute East Wall is not considered a concern at this time. These cracks should be monitored during future inspections for evidence of active seepage or progression.

The Undermining observed downstream of the dam along the Canoe Chute East Wall is not considered a concern at this time, as the wall is supported by steel-encased concrete caissons keyed into bedrock. However, this area should be monitored during future inspections to verify that the undermining is not increasing and that there is no loss of fill beneath the downstream canoe chute pool located immediately west of the wall.

The undermining voids previously documented at the downstream toe of the dam between Stations 0+75 and 0+98 could not be verified during this inspection due to high river flow conditions that restricted safe access. These voids were previously reported to account for a relatively small percentage of overall bearing loss for the dam, with no associated cracking or other signs of distress

observed at that time. It is recommended that these areas be specifically evaluated during the next underwater inspection to confirm their current extent. To facilitate safe access and verification of these conditions, the next underwater inspection should preferably be performed during a period of lower river flow. If the undermining is found to have increased, repairs should be undertaken at that time to prevent further bearing loss. Repairs may include but are not limited to removal of debris down to bedrock and placement of grout suitable for underwater applications to restore support beneath the downstream toe.

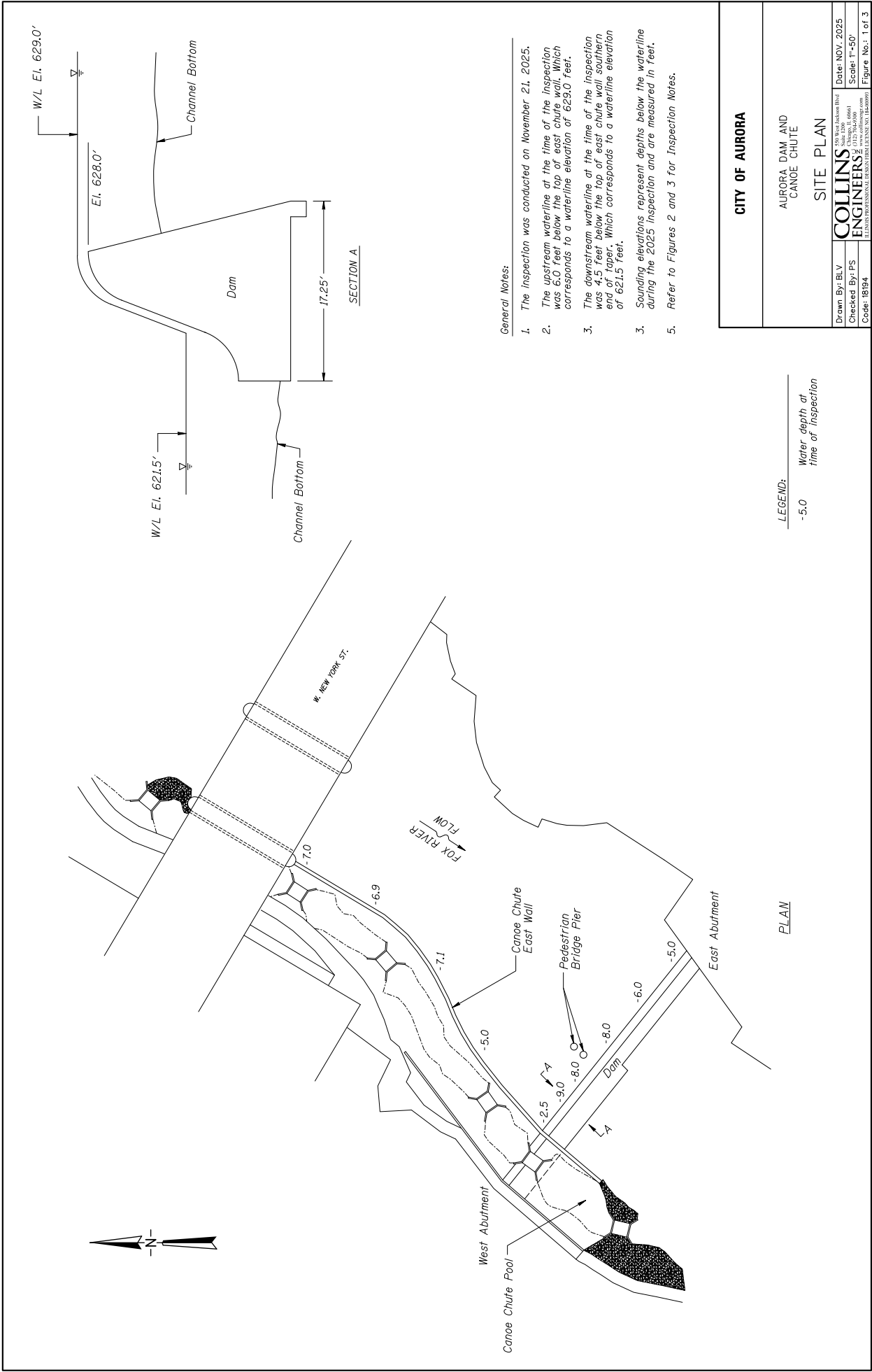
The Aurora Dam should continue to be inspected on a five-year interval in accordance with IDNR Subchapter I, Part 3702, with the next inspection to occur within that interval. It is also recommended that the dam be inspected in a timely manner following any significant flood event.

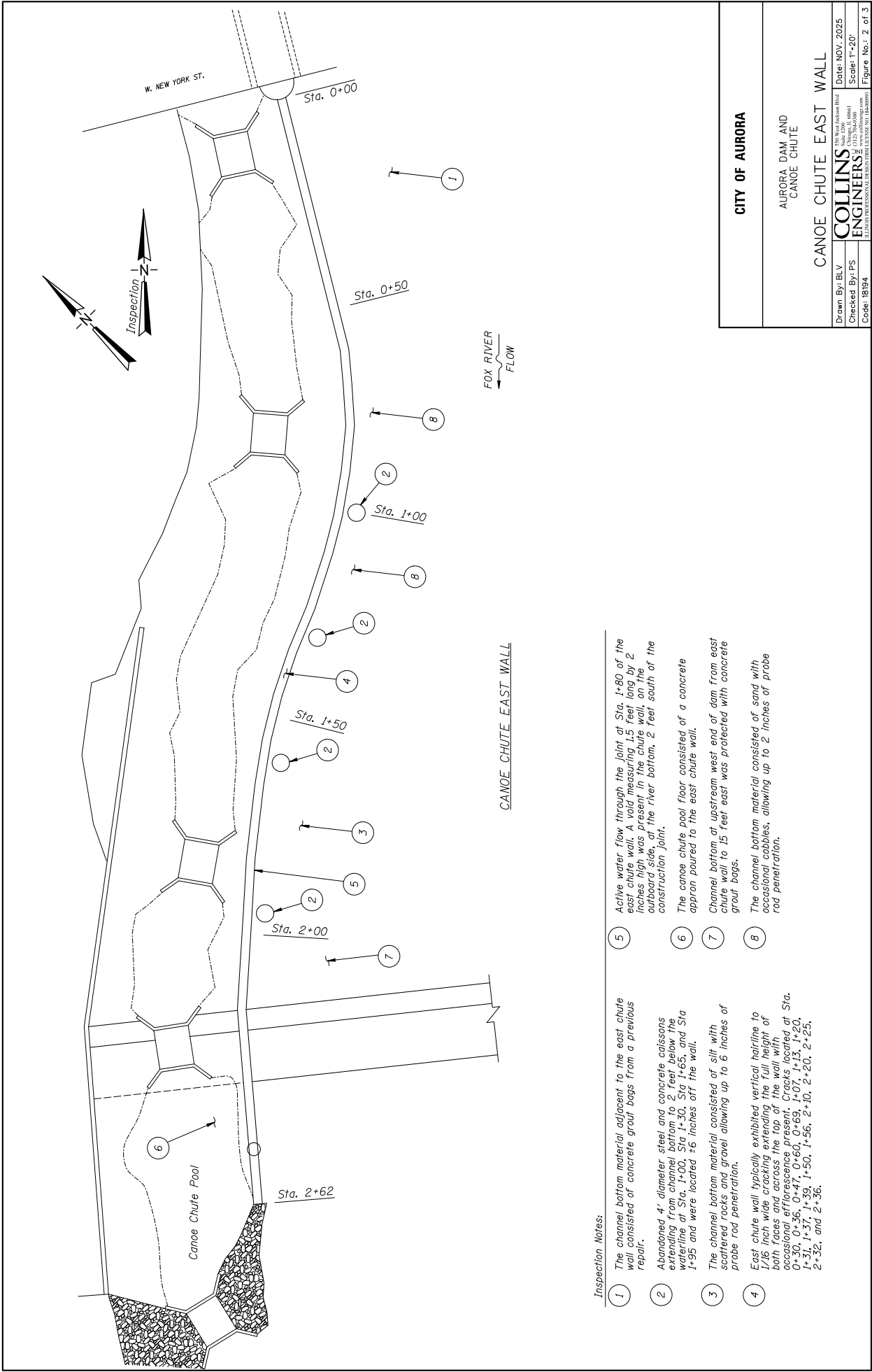
Respectfully submitted,
COLLINS ENGINEERS, INC.

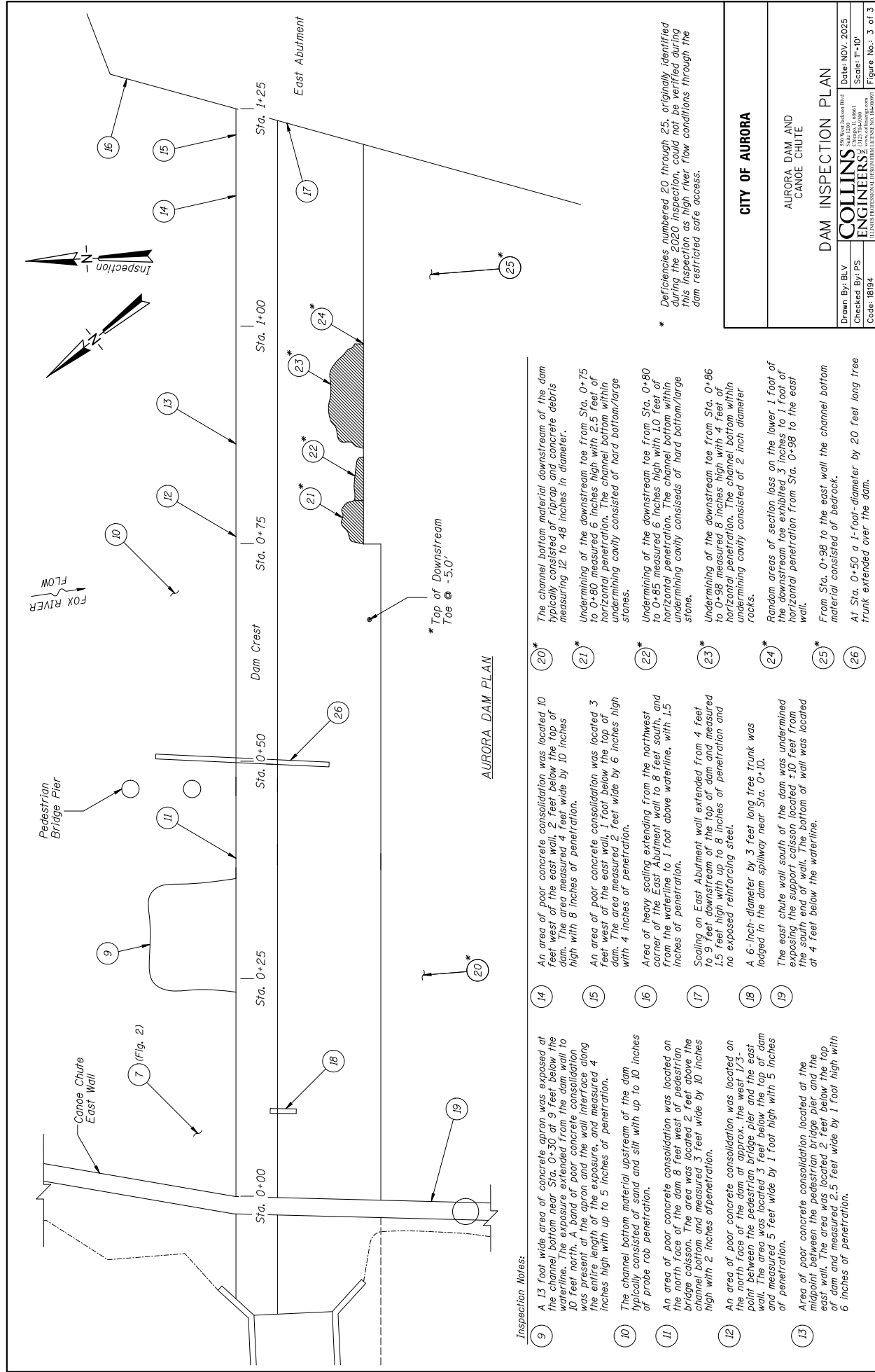


Piotr Sawulski, P.E.
Team Leader

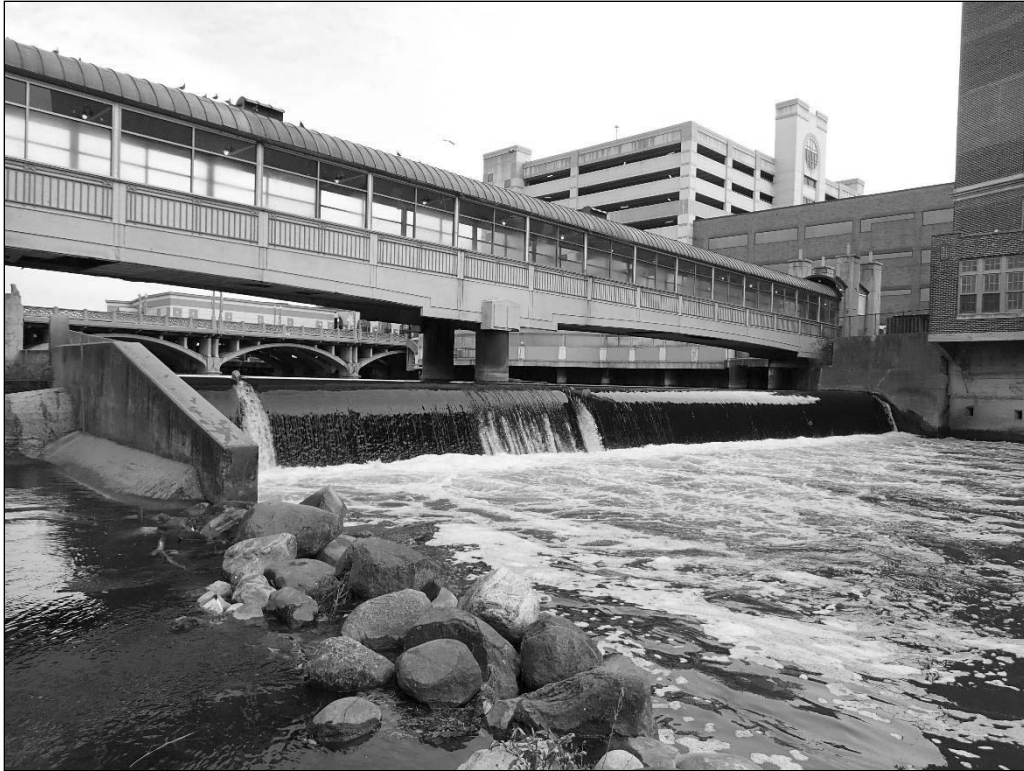
APPENDIX A
FIGURES







APPENDIX B
PHOTOGRAPHS



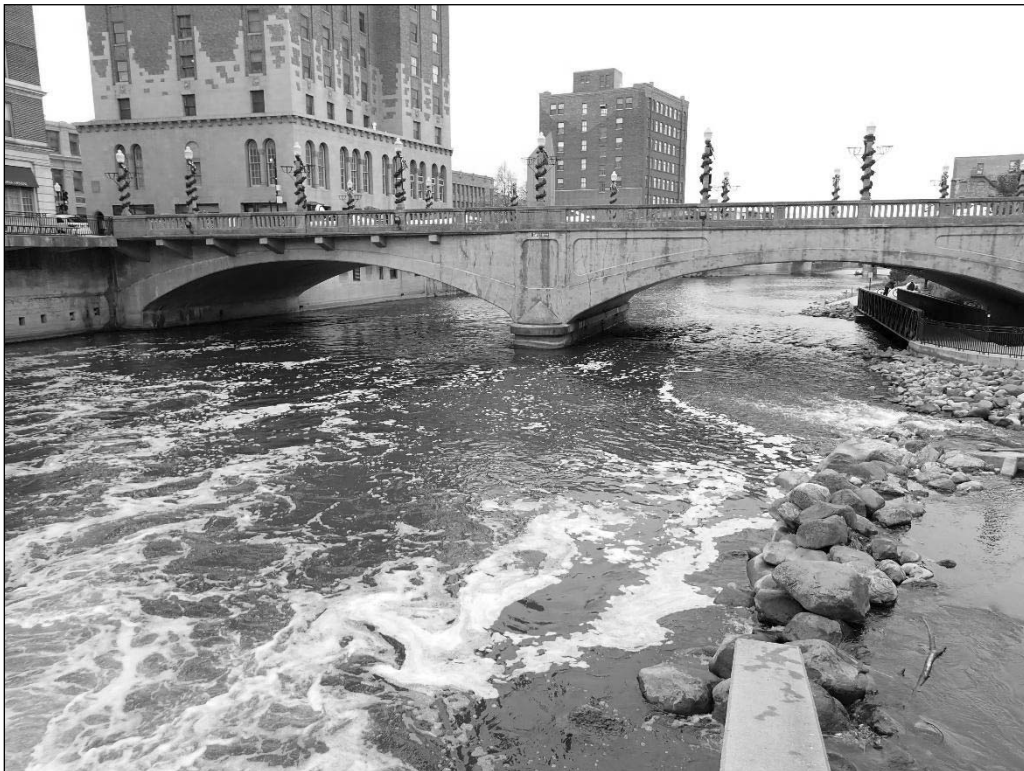
Photograph 1. Overall View of the Aurora Dam, Looking Northeast.



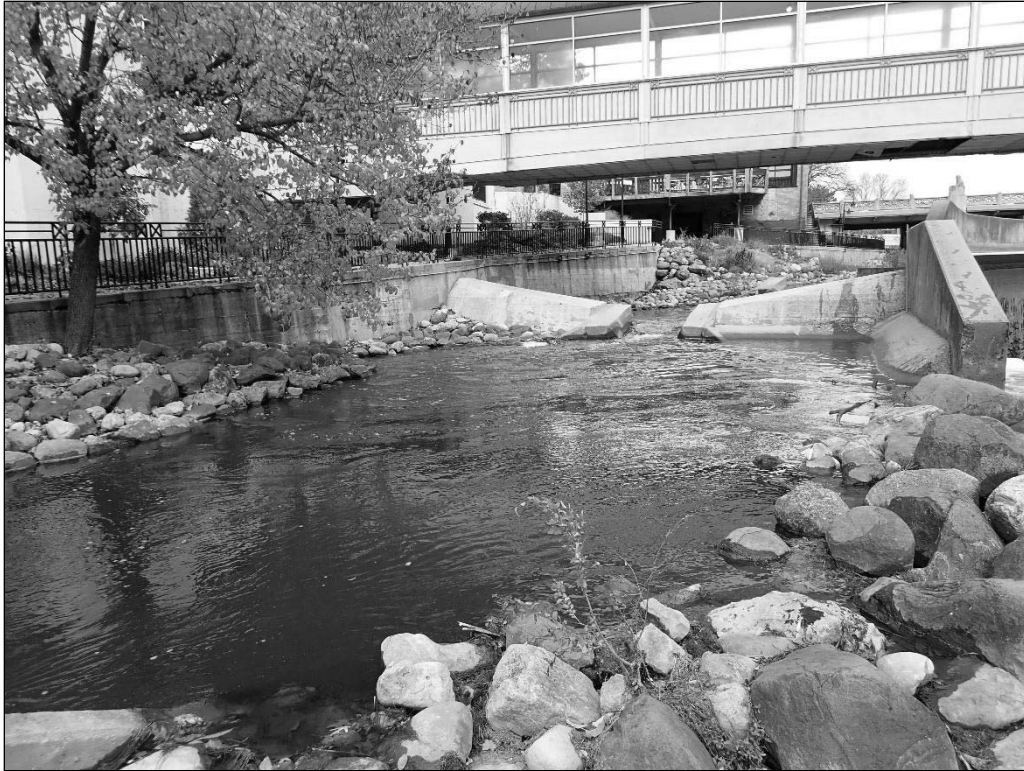
Photograph 2. Overall View of the Aurora Dam, Looking Southwest.



Photograph 3. View of the Upstream Channel, Looking North.



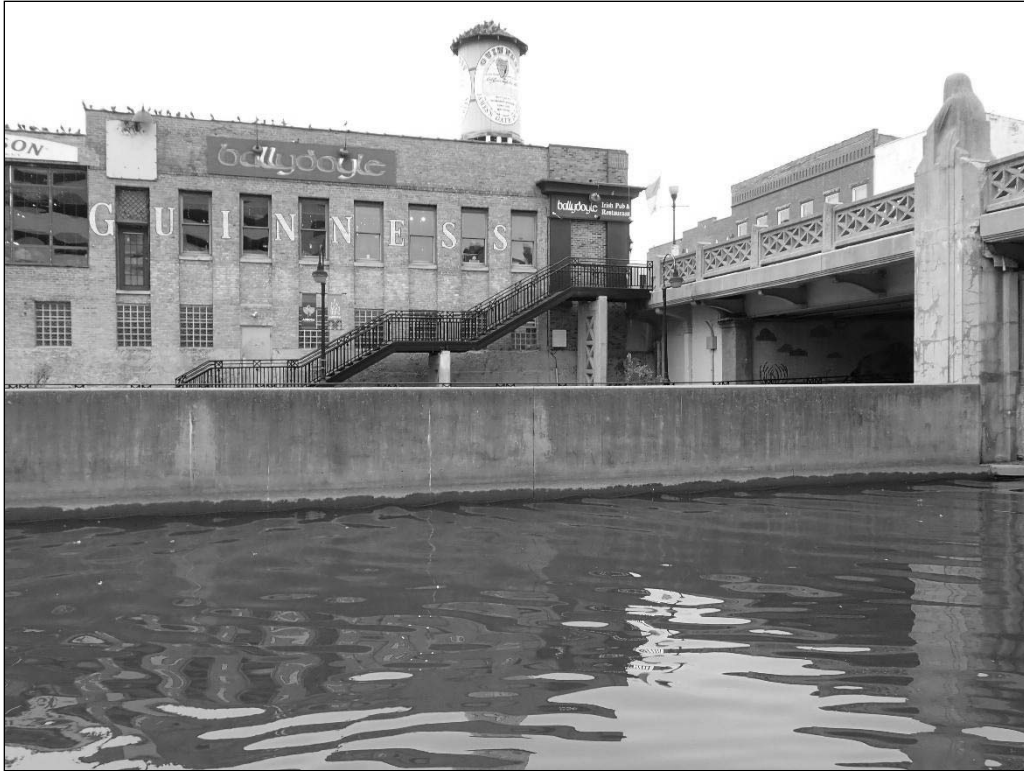
Photograph 4. View of the Downstream Channel, Looking South.



Photograph 5. View of the Canoe Chute Downstream Pool, Looking North.



Photograph 6. View of the Canoe Chute East Wall, Looking North.



Photograph 7. View of the Canoe Chute East Wall from Station 0+00 to Station 0+50, Looking West.



Photograph 8. View of the Canoe Chute East Wall from Station 0+50 to Station 0+75, Looking West.



Photograph 9. View of the Canoe Chute East Wall from Station 0+75 to Station 1+25, Looking West.



Photograph 10. View of the Canoe Chute East Wall from Station 1+25 to Station 1+75, Looking West.



Photograph 11. View of the Canoe Chute East Wall from Station 1+75 to Station 2+35, Looking Southwest.



Photograph 12. View of the Canoe Chute East Wall from Station 2+20 to Station 2+62, Looking Southwest.



Photograph 13. View of the Top of the Canoe Chute East Wall at Station 1+80, Looking South. Note Active Water Flow on the West Side of the Wall.



Photograph 14. View of Active Water Flow and Bank Erosion on the West Side of the Canoe Chute East Wall at Station 1+80, Looking East.



Photograph 15. View of a Typical Crack across the Top of the Canoe Chute East Wall, Looking South.



Photograph 16. View of a Typical Crack on the East Face of the Canoe Chute East Wall, Looking West.



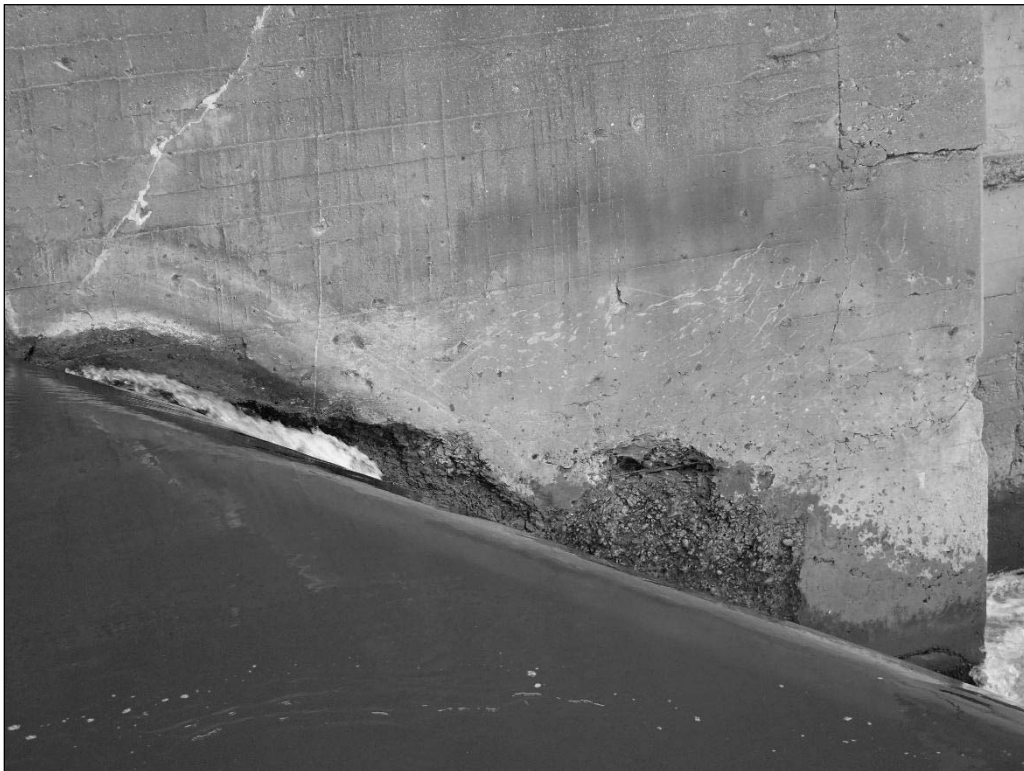
Photograph 17. View of the Timber Debris over the Dam near Station 0+50, Looking East.



Photograph 18. View of the East Abutment, Looking East.



Photograph 19. View of the Scaling at the East Abutment Upstream of the Dam, Looking Southeast.



Photograph 20. View of the Scaling on the East Abutment at the Dam, Looking Southeast.

Attachment 03
IDNR Inspection Form

Dam Inspection Report

Name of Dam Aurora West Dam Dam ID No. IL00918

Permit Number 21121 Class of Dam III

Location SW 1/4 Section 22 Township 38N Range 8E

Owner City of Aurora 630-256-3200
Name Telephone Number (Day)

44 East Downer Place Telephone Number (Night)
Street

Aurora, IL 60507 County Kane
City Zip Code

Type of Dam run-of-river

Type of Spillway Concrete

Date(s) Inspected 11/21/2025

Weather When Inspected Overcast

Temperature When Inspected 46°F

Pool Elevation When Inspected 629.0 ft

Tailwater Elevation When Inspected 621.5 ft

Inspection Personnel:

Piotr Sawulski, PE Inspection Team Leader
Name Title

Jacob Green
Christopher Morrow, EIT Engineer-Diver
Name Title

Daniel Schmanski, PE, CFM Engineer
Name Title



Professional Engineer's Seal

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

CONCRETE OR MASONRY DAMS

ITEM	CONDITION CODE	DEFICIENCIES	RECOMMENDED REMEDIAL MEASURES AND IMPLEMENTATION SCHEDULE
Seepage	IM	Seepage through construction joint / bottom of wall void at Sta. 1+80 of the Canoe Chute East Wall	Repair 1.5' x 2" void at bottom of wall. Repairs may include but are not limited to placement of grout bags along the outboard side of the wall to seal the void and limit water passage, or restricting water flow on the inboard side of the wall and pumping a flowable concrete grout mix into the void to reduce seepage and erosion.
Structure to Abutment/ Embankment Junctions	OB	Scaling on west along east wall of dam.	Repairs not recommended at this time, if during future inspections the size and extent of the submerged defects are found to be increasing and affect the stability of the dam, repairs may be warranted at that time.
Water Passages	MM OB	Canoe Chute East Wall undermining, downstream of Dam.	The east wall downstream of the dam was undermined by up to 3 feet vertically, exposing one steel caisson supporting the wall. The caisson did not exhibit any defects.
Foundation	MM OB	Three adjacent voids below downstream toe of the Dam, from Sta. 0+75 to 0+98 should be repaired to prevent potential for further undermining.	To prevent further undermining and associated bearing loss, these voids should be repaired. Repairs consist of removing debris down to bedrock and pumping a grout suitable for underwater applications into the voided area to restore the design area of the Dam. These voids were not able to be inspected due to site conditions and could not be verified and are recommended to be specifically evaluated at the next underwater inspection.
Surface Cracks in Concrete Surfaces	OB	The upstream face of the dam exhibited 6 areas of poor concrete consolidation from Sta. 0+30 to 1+25. The areas measured 2 to 13 feet wide by 4 to 12 inches high with 2 to 8 inches of penetration.	All areas of poor concrete consolidation and scaling are not structural concerns at this time. If, during future inspections, the size and extent of the submerged defects are found to be increasing and affect the stability of the dam, repairs may be warranted at that time.
Structural Cracking	NE		
Vertical and Horizontal Alignment	NE		

CONCRETE OR MASONRY DAMS

(CONTINUED)

ITEM	CONDITION CODE	DEFICIENCIES	RECOMMENDED REMEDIAL MEASURES AND IMPLEMENTATION SCHEDULE
Monolith Joints	NA		
Construction Joints	IM	Seepage through construction joint / bottom of wall void at Sta. 1+80 of the Canoe Chute East Wall	Repair 1.5' x 2" void at bottom of wall. Repairs may include but are not limited to placement of grout bags along the outboard side of the wall to seal the void and limit water passage, or restricting water flow on the inboard side of the wall and pumping a flowable concrete grout mix into the void to reduce seepage and erosion.
Spalling of Concrete	OB	Scaling on west along east wall of dam.	Repairs not recommended at this time, if during future inspections the size and extend of the submerged defects are found to be increasing and affect the stability of the dam, repairs may be warranted at that time.
Filters, Drains, etc.	NA		
Riprap	NE		
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	A moderate accumulation of tree trunk debris, 6" to 12" in diameter, were located along the Dam spillway. A 6" diameter, 3 ft long tree trunk at Sta 0+10 and a 12" diameter, 20 ft long tree trunk at Sta 0+50.	
Side Slope Stability	NE		
Slope Protection	NE		
Other (Name)			
Other			
Other			

PRINCIPAL SPILLWAY

☐ Drop Inlet Spillway ☒ Overflow Spillway Structure ☐ Gated

ITEM	CONDITION CODE	DEFICIENCIES	RECOMMENDED REMEDIAL MEASURES AND IMPLEMENTATION SCHEDULE
Erosion, Spalling, Cavitation	SEE CONCRETE DAM SHEET		
Structure to Embankment Junction	SEE CONCRETE DAM SHEET		
Drains	NA		
Seepage Around or Into Structure	SEE CONCRETE DAM SHEET		
Surface Cracks	SEE CONCRETE DAM SHEET		
Structural Cracks	SEE CONCRETE DAM SHEET		

IF THE SPILLWAY IS GATED FILL OUT THE GATES SECTION

PRINCIPAL SPILLWAY

☐ Drop Inlet Spillway ☒ (Continued)
Overflow Spillway Structure ☐ Gated

ITEM	CONDITION CODE	DEFICIENCIES	RECOMMENDED REMEDIAL MEASURES AND IMPLEMENTATION SCHEDULE
Alignment of Abutment Walls	SEE CONCRETE DAM SHEET		
Construction Joints	SEE CONCRETE DAM SHEET		
Filter and Filter Drains	NA		
Trash Racks	NA		
Bridge and Piers	NE		
Differential Settlement	NE		
Other (Name)			

IF THE SPILLWAY IS GATED FILL OUT THE GATES SECTION

ENERGY DISSIPATOR



Principal Spillway

Type: Broad Crested Weir



Outlet Works

ITEM	CONDITION CODE	DEFICIENCIES	RECOMMENDED REMEDIAL MEASURES AND IMPLEMENTATION SCHEDULE
Erosion, Spalling, Cavitation	SEE CONCRETE DAM SHEET		
Structure to Embankment Junction	SEE CONCRETE DAM SHEET		
Construction Joints	SEE CONCRETE DAM SHEET		
Surface Cracks	SEE CONCRETE DAM SHEET		
Structural Cracks	SEE CONCRETE DAM SHEET		
Differential Alignment	NA		
Expansion and Contraction Joints	NA		

SUMMARY OF MAINTENANCE DONE AND/OR

DATE OF PRESENT INSPECTION

11/21/2025

DATE OF LAST INSPECTION

10/14/2020

1. EARTH EMBANKMENT DAMS

NA

2. CONCRETE MASONRY DAMS

No record of maintenance available

3. PRINCIPAL SPILLWAY

No record of maintenance available

4. OUTLET WORKS

No record of maintenance available

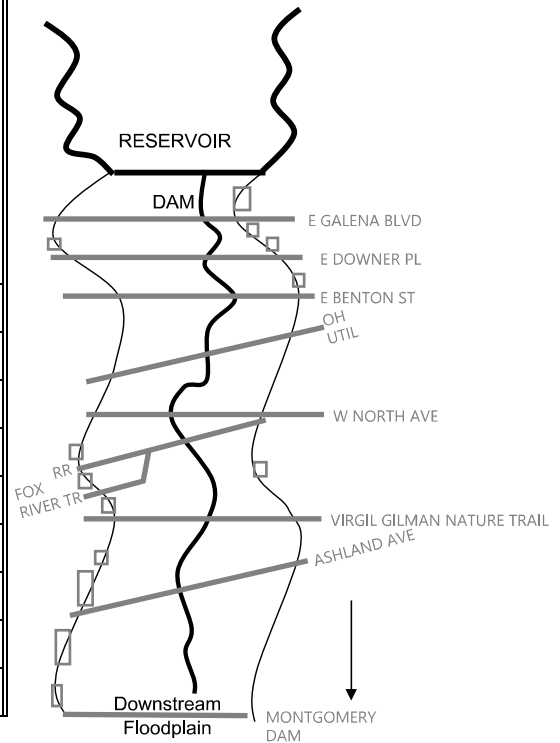
5. EMERGENCY SPILLWAY

NA

DOWNSTREAM DEVELOPMENT
APPROXIMATE WIDTH OF AFFECTED FLOODPLAIN 0.03 MILES

MILES DOWNSTREAM FROM DAM	DOWNSTREAM DEVELOPMENT									Loss of Life Potential			Economic Loss Potential		
	OCCUPIED HOMES	UNOCCUPIED HOMES	AGRICULTURAL BUILDINGS	INDUSTRIAL BUILDINGS	COMMERCIAL BUILDINGS	SCHOOLS	HOSPITALS	ROADS & BRIDGES	DAMS	OVERHEAD UTILITIES	OTHER DEVELOPMENT (Name)	OTHER DEVELOPMENT (Name)	MINIMAL EXPECTED	APPRECIABLE EXPECTED	EXCESSIVE EXPECTED
0 to 1/4					10			3							
1/4 to 1/2								1		1					
1/2 to 3/4								2							
3/4 to 1	2			4				2							
1 to 1-1/4				2	1			1							
1-1/4 to 1-1/2				1											
1-1/2 to 1-3/4	8							2							
1-3/4 to 2	20				1										
OVER 2	2							1							

SKETCH IN DEVELOPMENTS
DOWNSTREAM OF THE DAM



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.

Owner's Maintenance Statement

I, _____, owner of _____ dam,
Dam Identification Number _____, in _____ County,
am maintaining the dam in accordance with the accepted maintenance plan which is part of
Permit Number _____.

Signature

Date

Owner's Operation and Maintenance Plan Statement

I, _____, owner of _____ dam,
Dam Identification Number _____, in _____ County,
have reviewed the operation and maintenance plan including the Emergency Action Plan (EAP),
which is part of, Permit Number _____.

I _____ have enclosed the appropriate revisions or

_____ have determined that no revisions to the plan are necessary.

Signature

Date