

ADDENDUM #2

Job #: 242762 **Project Title:** AJ JOLLY PARK: CONCRETE RISER & VALVE REPLACEMENT AND ANNUAL INSPECTION & EXERCISING OF CONTROL VALVE

Client: Campbell County

Issue Date: November 4, 2025

Bid Date: November 10, 2025

THIS IS TO CERTIFY THAT YOU ARE IN RECEIPT OF ADDENDUM #2 FOR THE ABOVE-MENTIONED PROJECT.

PLEASE SIGN AND RETURN BY VIA EMAIL TO: bretzer@verdantas.com .

Name / Title:

Company:

Date:

This Addendum includes a copy of the Annual Inspection and Exercising of Control Valve at AJ Jolly Park Dam Report, Dated, August 11, 2025 by EnviroScience.

Att.

ANNUAL INSPECTION AND EXERSIZING OF CONTROL VALVE AT AJ JOLLY PARK DAM REPORT:

CAMPBELL COUNTY, KY

August 11, 2025

Prepared for:



Project No.: 18544.3

Date: 08/11/2025

Prepared by:



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1.0 INTRODUCTION

EnviroScience, Inc. (ES) has been contracted by Campbell County Kentucky to perform an underwater inspection on the outfall, discharge culvert, valve, and valve stem components of the dam at AJ Jolly Golf Course (Terry Jolly Way) 11541 Alexandria Pike Alexandria KY, 41001. The inspection is to take place annually for years (2023, 2024, and 2025).

ES performed the initial inspection on November 8, 2023, and then again on October 15, 2024. This third inspection took place on August 11, 2025. The purpose of the inspection was to evaluate the overall condition of the components, look for damage, debris, or obstructions, document any debris or obstructions, and then clear all debris or obstructions found. This third inspection had some additional aspects included on the interior of the riser that were not previously inspected. The addition of these elements was made due to the planned replacement of the gate valve and its operational components.

1.1. DESCRIPTION OF STRUCTURE

The culvert is 4'x4' and 240' long from the outlet structure to the interior of the culvert valve. The intake valve has a 16" opening and a 24" flange. The intake pipe is 18" inside diameter with a 24" diameter flange and extends 70' straight out from the valve into the lake. The intake pipe is completely buried up to the intake structure where it turns 90 degrees and extends upward to the top of the intake structure. At the top of the intake structure the pipe ends with no flange at the concrete and is open with no grate or trash rack. The open end of the pipe that is visible sits 2" proud of the concrete base, the pipe is 18" ID, and 22" OD (2" wall thickness). The interior of the riser structure measuring 72"x 48" and is 42' tall. On the top pad of the intake riser there is a manhole for entry that is 24" in diameter. The manhole original cover is not present, and a sheet metal cover has been installed. The top pad of the riser structure supports an operator station that is connected to a stem which in turn is connected to the gate valve at the lower portion of the interior of the riser structure. The stem is in two sections each 2" in diameter. There is a total of two stem couplers and three stem guides before the lower section of stem connects to the gate valve.

2.0 INSPECTION PROCEDURE

The ES-Divers team set up a trailer mounted Surface-supplied air (SSA) dive station on the top of the dam to be inspected directly in between the outfall and the riser structure. Surface-supplied diving methods were used for all portions of the inspection and conducted in accordance with the relevant Occupational Safety and Health Administration (OSHA) 29 CFR 1910 Subpart T standards for commercial diving.

Step I – The first step was to conduct an inspection of the interior of the riser structure. This portion of the inspection was new for 2025 and had not been conducted previously. A steel sheet metal cover was fastened to the top of the riser structure with two ½" bolts that thread into the original manhole base. The original manhole cover was not present. Person rated fall protection was set up over the manhole opening and a diver was lowered into the riser interior space to inspect the gate valve stems, stem guides, and the condition of the concrete on the interior walls. Video was captured documenting this procedure.

Step II – The second step was to conduct a dive in the lake on the intake side of the riser. Based on our previous inspection in 2024 we knew that the intake was 70' out from the east face (lake side) of the riser. Once located the diver confirmed area around the intake pipe was still 80% clear from the jetting done in

2024, but that some sedimentary infill had begun. The intake pipe/structure was then inspected for obstructions and structural integrity.

Step III - The third step was to perform a comprehensive 100% Level I inspection on the interior of the outlet structure and culvert up to the valve. This method was the same as that used last year so that a direct comparison could be made to the 2024 inspection. All inspection procedures were based on the American Society of Civil Engineers (ASCE) Underwater Investigations Standard Practice Manual 2001, United States Naval Engineering Command (NAVFAC) and the Federal Highway Administration (FHWA). Following this the ES-Divers team exercised the valve itself. This was done by opening the valve fully (53.5 revolutions) and letting it run open until the discharge water was clear. This took approximately 30 minutes. Once the valve was returned to the full closed position the valve was reinspected for proper closure and seating.

3.0 INSPECTION FINDINGS

3.1. RISER, VALVE STEMS, STEM GUIDES, AND VALVE

The riser structure was found to be in good condition. The stems and guides were found to be in poor condition; however, they are still operational. The valve was found to be in acceptable condition and is operational. Notable observations are detailed below. At the time of inspection, the distance from the top of the riser to the water was 5' 5 ½". The depth from the water line to the mud line at the east face of the riser was 11'. Refer to Appendix A. Sheet 1 and 2.

3.1.1. Notable Observations

- The concrete of the riser structure was found to be in good condition; however, some cracks are developing on the interior and exterior on the southwest corner of the top pad.
- Coupler 1
 - 8" Diameter held together with 8 bolts and 2 set screws
 - 18 ½" off east wall
- Stem guide 1
 - Mounted on east wall with 4 bolts
 - The bolts are still there but they are slightly pulled out of the wall
 - Broken and non-operational
- Stem guide 2
 - Completely gone, just 4 holes in the east wall from where the fasteners used to be
- Coupler 2
 - 8" Diameter held together with 8 bolts
 - 19 ½" off east wall
- Stem guide 3
 - Connected to the north, east, and south walls
 - 2 ½" tube stock around the stem held in place by ½" steel brackets connected to the north, east, and south walls with 1 bolt on each wall
- The interior dimensions of the riser structure at the highest point are 72"x 48" with a wall thickness assumed to be 12".
- The concrete of the riser structure was found to be in good condition; however, some cracks are developing on the interior and exterior on the southwest corner of the top pad.

3.1.2. Figures



Photo By: Shannon J. 8.11.2025

Fig. 1 Coupler 1



Photo By: Shannon J. 8.11.2025

Fig. 2 Stem Guide 1



Photo By: Shannon J. 8.11.2025

Fig. 3 Stem Guide 2



Photo By: Shannon J. 8.11.2025

Fig. 4 Coupler 2



Photo By: Shannon J. 8.11.2025

Fig. 5 Stem Guide 3



Photo By: Shannon J. 8.11.2025

Fig. 6 Wear on Stem at Stem Guide 3



Photo By: Shannon J. 8.11.2025

Fig. 7 Stem Attached to Gate valve



Photo By: Shannon J. 8.11.2025

Fig. 8 Gate valve



Photo By: Shannon J. 8.11.2025

Fig. 9 Typical Condition of Gate Mounting Bolts

3.2. INTAKE STRUCTURE

The intake structure was readily visible and uncovered from the jetting performed in 2024. Approximately 50% of the area previously cleaned is still clear. Some infill of fine sediments has occurred however no heavy clay or large debris were observed. The pipe is set into a rough concrete base. Notable observations are detailed below.

3.2.1. Notable Observations

- The intake pipe was flush with the top of the intake structure and had no grate or trash rack covering.
- No debris or obstructions were found in or around the intake pipe or structure aside from the fine sediment that has begun to settle back into the cleared area.
- No marine growth or algae were present on the pipe or concrete base.
- A 6-8' radius was cleaned of all mud down to the concrete base where the intake pipe is flush in 2024 and has been filled in and is now a 3-4' radius around the intake pipe in 2025.

3.3. OUTLET STRUCTURE

The outlet structure was found to be in good condition with no points of concern. Notable observations are detailed below.

3.3.1. Notable Observations

- The concrete of the outlet structure was found to be in good condition.
- No debris or obstructions were found in the structure or in the pool directly surrounding it.
- Little to no marine growth or algae were present on the structure.

3.4. OUTLET CULVERT

The culvert and culvert valve were found to be in good condition with no major points of concern. Notable observations are detailed below.

3.4.1. Notable Observations

- 35' in from the outlet structure moving east into the culvert some minor cracks were found in the ceiling and left wall (looking east). No more than 1/16" wide. In this same area there is some aggregate showing in the ceiling, however it looks to be from poor formwork during construction not wear overtime. (same as 2024, no change)
- 45' in from the outlet structure moving east into the culvert a void from a 2x4 used in the construction form work was found, however it did not pass through the wall and no exterior infiltration was found. (same as 2024, no change)
- 50' in from the outlet structure moving east into the culvert minor cracks were found running from the left wall across the ceiling and back down the right wall (looking east). No more than 1/16" wide. Some efflorescence was present. (same as 2024, no change)
- 65' in from the outlet structure moving east into the culvert minor cracks were found running from the left wall across the ceiling and back down the right wall (looking east). No more than 1/8" wide. Some efflorescence was present. (same as 2024, no change)
- 110' in from the outlet structure moving east into the culvert cracks were found running across the ceiling. Between 1/8"- 1/4" wide. Some small amounts of concrete were missing from the areas around the cracks, but no exterior infiltration was found. This was filled with an underwater repair epoxy during the inspection process. (same as 2024, no change)
- 165' in from the outlet structure moving east into the culvert some minor cracks were found on both north and south walls and the ceiling. (new in 2025)
- 180' in from the outlet structure moving east into the culvert two 3" diameter abandon pipes and one shallow spall 3.5" in diameter where found grouped together in the ceiling. (same as 2024, no change)
- The valve was found to be in good condition with all bolts and guides in place. It was able to be opened and closed completely with no leaks once closed completely. (same as 2024, no change)

3.4.2. figures



Photo By: Shannon J. 8.11.2025

Fig. 1 C left wall 35' E. of outlet structure 2025



Photo By: Traxler A. 10.15.2024

Fig. 2 2x4 void at 45' on outlet structure (no new photo)



Photo By: Shannon J. 8.11.2025

Fig. 3 crack in ceiling 50' E. of outlet structure 2025



Photo By: Shannon J. 8.11.2025

Fig. 4 crack in right wall at 65' E. of outlet structure 2025



Photo By: Shannon J. 8.11.2025

Fig. 5 crack in ceiling at 110' E. of outlet structure 2025



Photo By: Shannon J. 8.11.2025

Fig. 6 crack in ceiling at 110' E. of outlet structure (repaired with epoxy 2024) 2025



Photo By: Shannon J. 8.11.2025

Fig. 7 crack in right wall 165' E. of outlet structure 2025

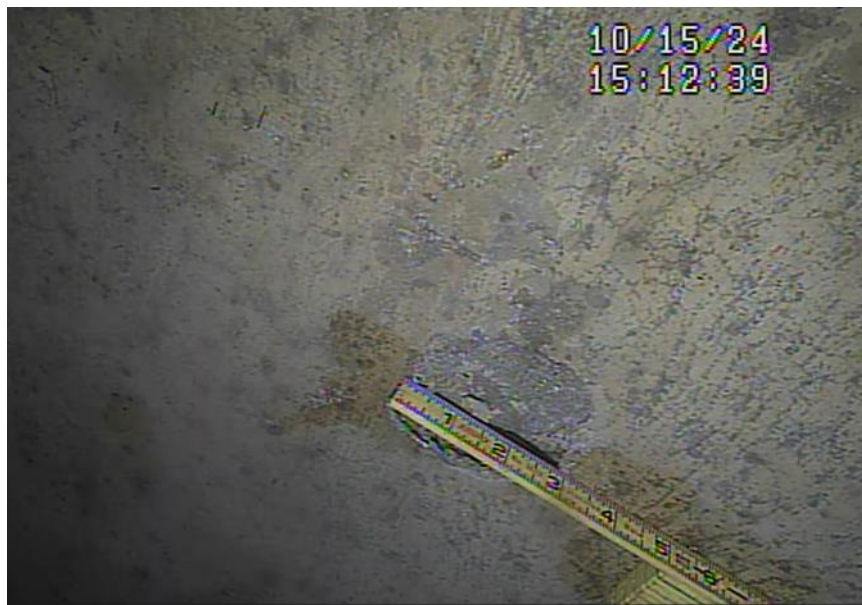


Photo By: Traxler A. 10.15.2024

Fig. 8 shallow spall in ceiling 180' E. of outlet structure (no new photo) 2025

3.5. CONCLUSIONS AND RECOMMENDATIONS

Overall, the entire system is in mediocre condition, yet operational. No structural deficiencies were found in the riser or outfall structure. Although some additional debris has accumulated over the last year and with the removal of hard packed sediment in the immediate area it is still the opinion of ES-Divers that a top grating is not needed at this time. We will check next year and assess what if any accumulation has occurred. If it is planned to replace the intake gate valve in the near future, then no immediate action is needed in our opinion, and the stem and guides should be replaced with the gate valve. If replacement will be on hold for a prolonged period of time, we recommend replacing the stem guides sooner than later at a minimum.

Appendix A

Field Notes



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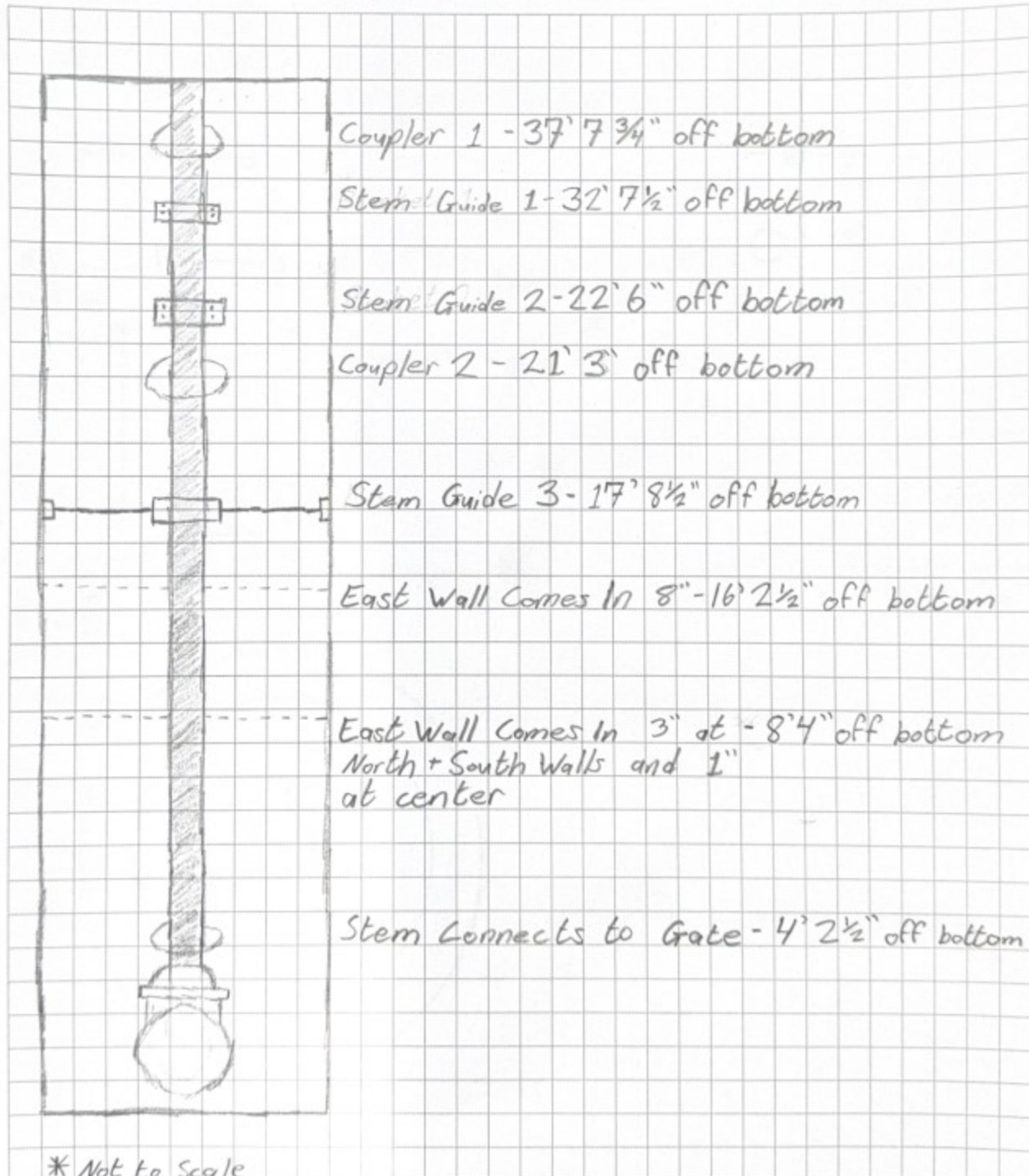
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Calculated By: Shannon

Checked By: Gaebelein

Sheet: 1 of 6





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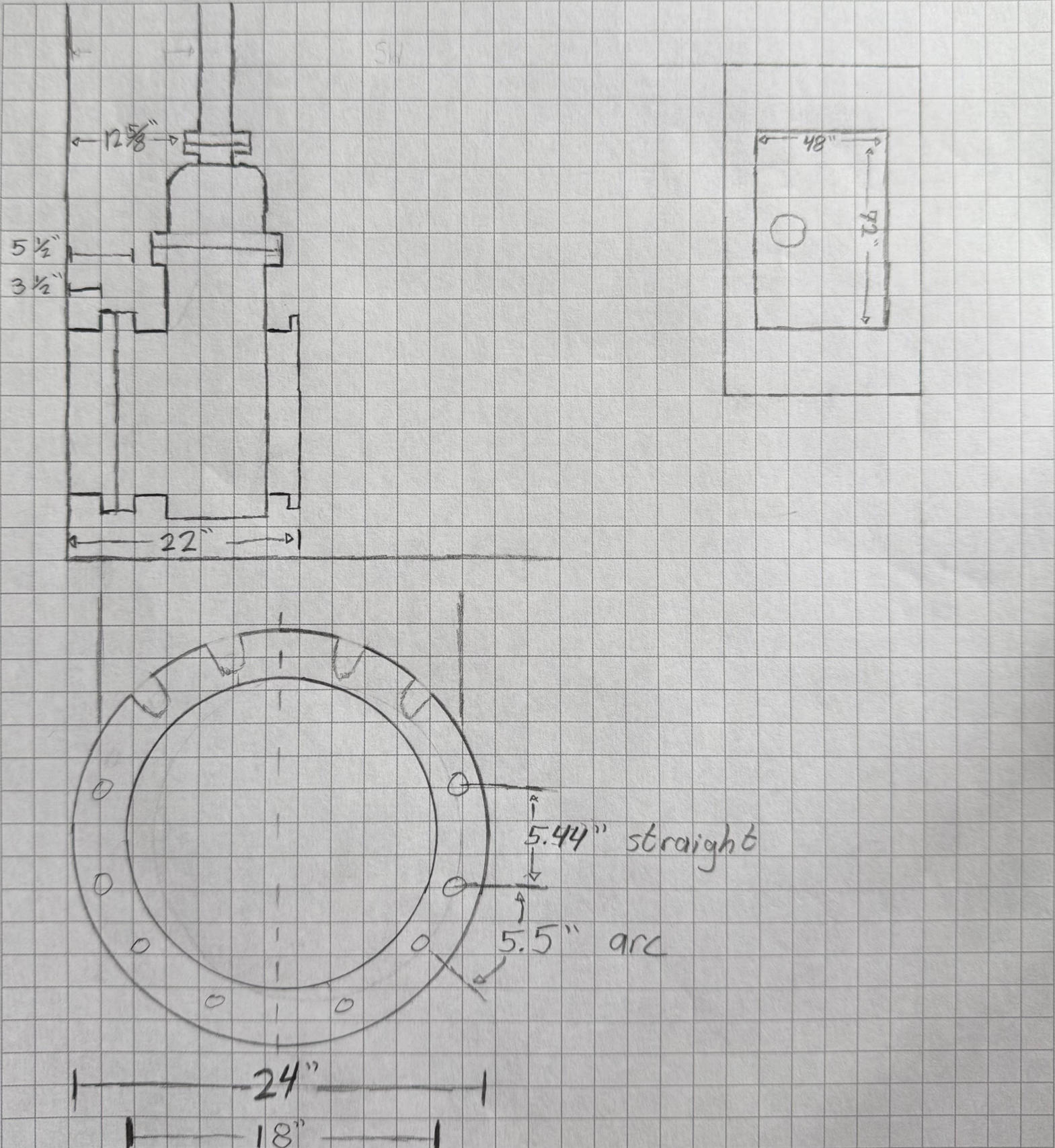
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Description: AJ Jolly Dam Insp.

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Sheet: 2 of 6





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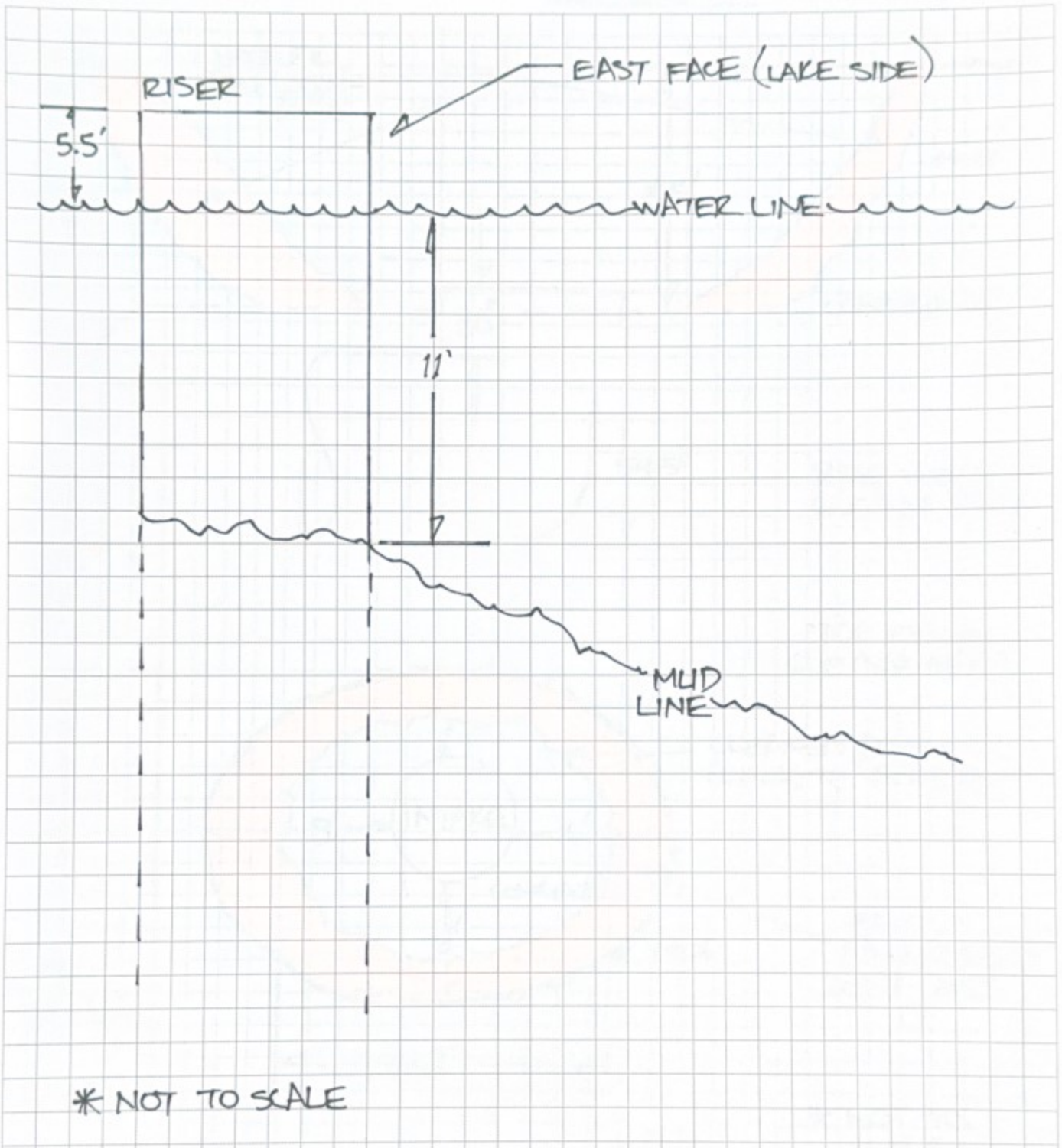
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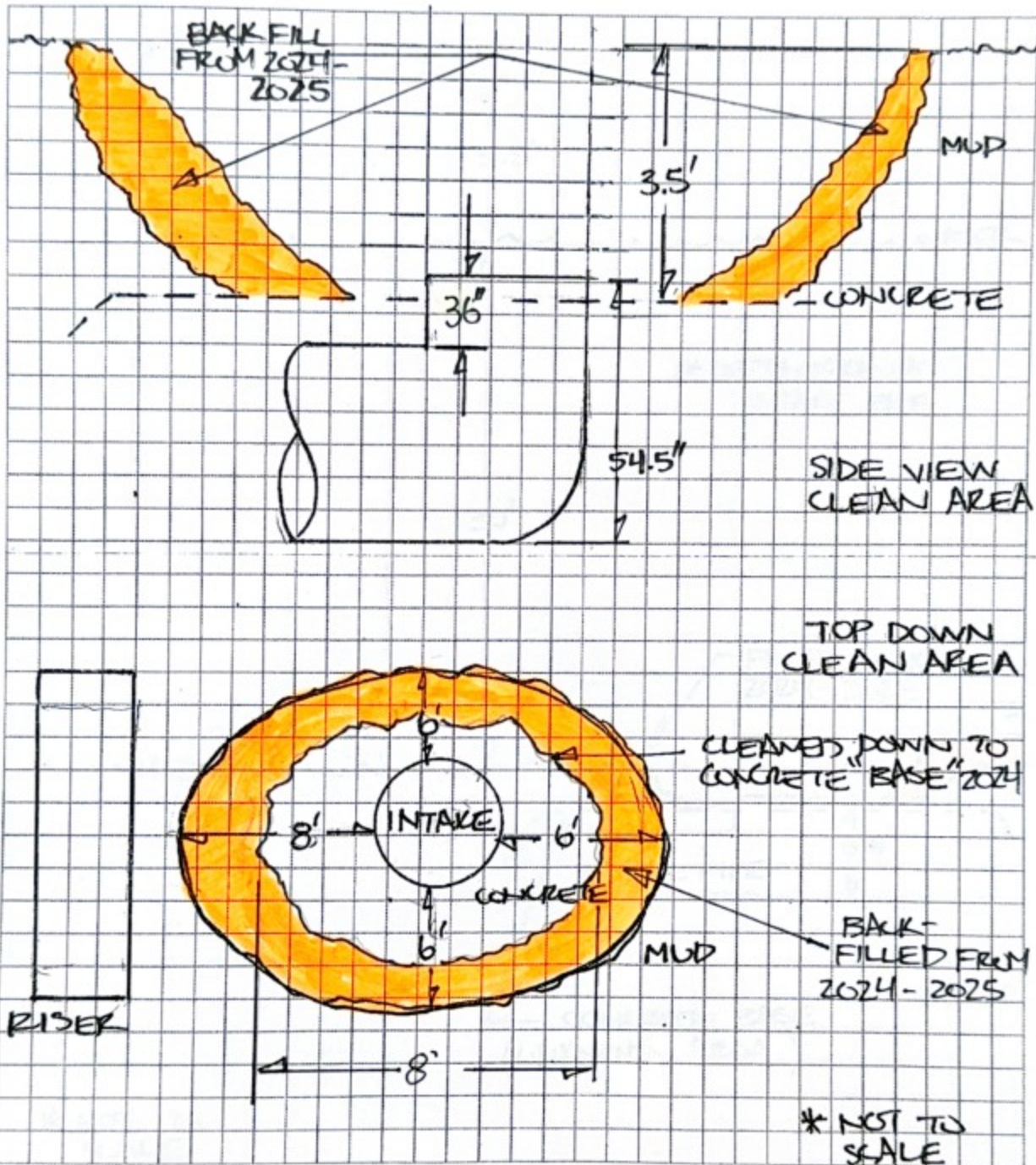
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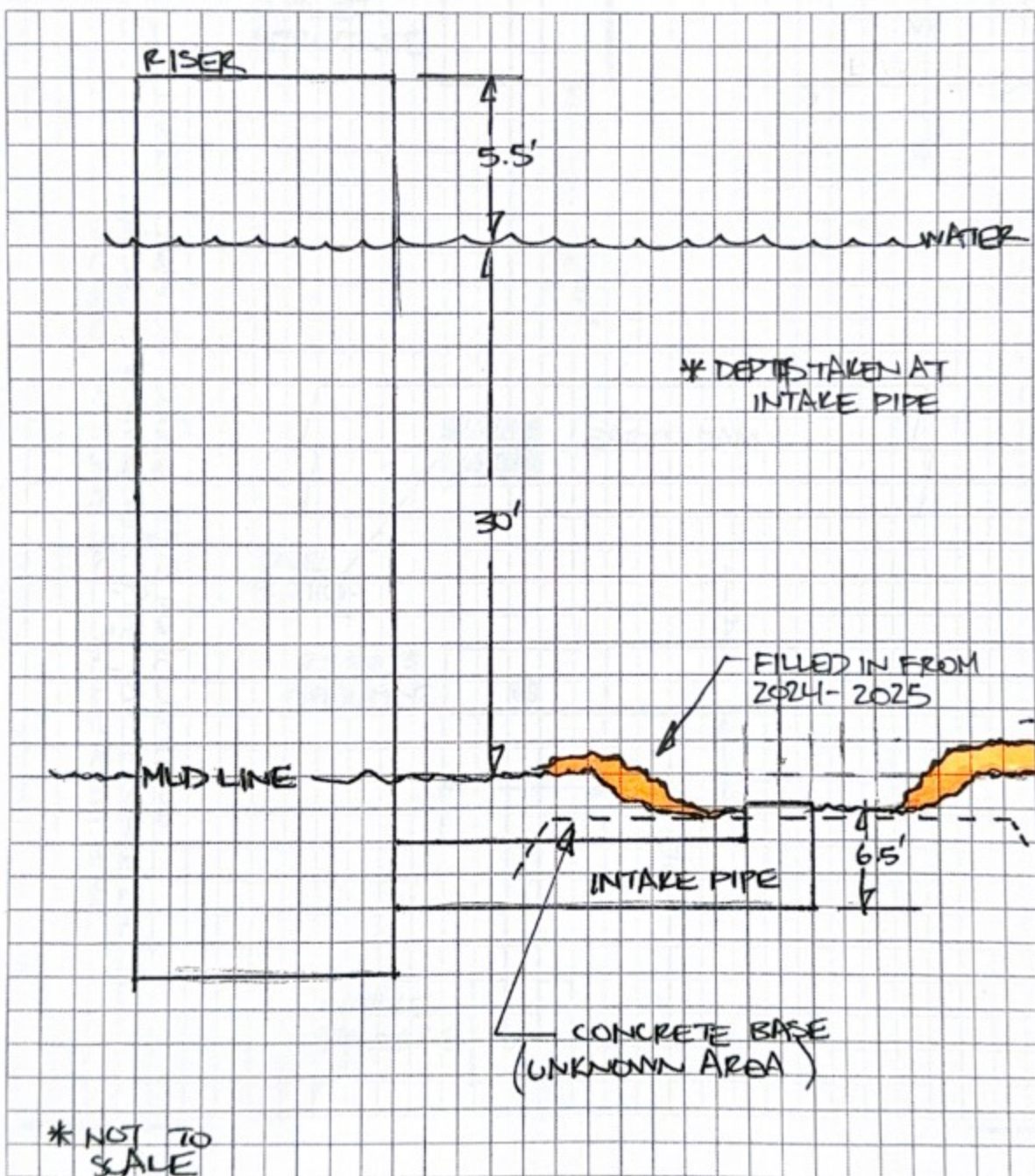
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Description: AD JOLLY DAM INSP.

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Project Number: 18544.3 Date: 8/11/25

Description: A) JOLLY DAM INSP.

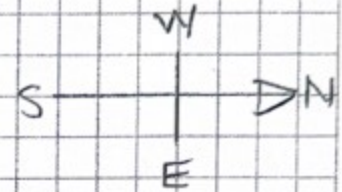
Calculated By: SHANNON

Checked By: GAEBELEIN

Sheet: 6 of 6

NOTE: OPEN TO CLOSE 53.5 REVOLUTIONS
VALVE OPENING 16" - PIPE 18" - FLANGE 24"
CONCRETE SECTIONS 30'-35' LENGTH 4'x4'

OUTLET
STRUCTURE



240'

EARTH DAM

DIVE
STATION

RISER &
OPERATOR

70'

INTAKE
STRUCTURE