Former Milesburg Ash Disposal Basin
Initial Inflow Design Flood Control System Plan

West Penn Power Company
Former Milesburg Power Station
Centre County, Pennsylvania

May 2026

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Certification/Statement of Professional Opinion

The Initial Inflow Design Flood Control System Plan (Plan) for the former Milesburg Ash Disposal Basin was prepared by GAI Consultants, Inc. (GAI). The Plan may contain findings and determinations that are based on certain information that, other than for information GAI originally prepared, GAI has relied on, but not independently verified. This Certification/Statement of Professional Opinion is therefore limited to the information available to GAI at the time the Plan was written. On the basis of and subject to the foregoing, it is my professional opinion as a Professional Engineer licensed in the Commonwealth of Pennsylvania that the Plan has been prepared in accordance with good and accepted engineering practices as exercised by other engineers practicing in the same discipline(s), under similar circumstances, at the same time, and in the same locale. It is my professional opinion that the Plan is accurate and has been prepared consistent with the requirements of § 257.82(c) of the United States Environmental Protection Agency's "Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments," published in the Federal Register on April 17, 2015 with an effective date of October 19, 2015 and amended on May 8, 2024 with an effective date of November 8, 2024.

The use of the words "certification" and/or "certify" in this document shall be interpreted and construed as a Statement of Professional Opinion and is not and shall not be interpreted or construed as a guarantee, warranty, or legal opinion.

Arica L. DiTullio, P.E.
Engineering Director

1.0 Introduction

The former Milesburg Ash Disposal Basin (Ash Disposal Basin) is a legacy coal combustion residuals (CCR) surface impoundment located in Centre County, Pennsylvania (PA) approximately 0.25 miles west of the former Milesburg Power Station (Station). The Station is an inactive electric utility also located in Centre County, PA. The former Ash Disposal Basin was used for the management, storage, and disposal of CCR when the former Station was operational. The former Station operated from approximately 1950 until 1984 and was demolished on or around 1999.

The former Ash Disposal Basin was constructed in 1968. In 1970, the embankment was raised ten feet to provide additional disposal volume. The former Ash Disposal Basin was used to manage CCR from approximately 1968 until 1974 when the fuel source was switched from coal to oil. After 1974, the former Ash Disposal Basin was used to manage wastewaters from the former Station. Following shutdown of the facility, the former Ash Disposal Basin was no longer used for management of wastewater or CCR.

From the former Ash Disposal Basin History of Construction Report *(Reference 3),* a site inspection conducted in 1980 by GAI Consultants, Inc. (GAI), indicates that routine maintenance was completed at the former Ash Disposal Basin at that time, including control of tree growth on the embankment and cleaning of the riser pipe. The former Ash Disposal Basin is not currently used for CCR management, and no CCR management at the former Ash Disposal Basin is proposed to occur in the future. The former Ash Disposal Basin is currently vegetated.

2.0 Purpose

This Initial Inflow Design Flood Control System Plan (Plan) was prepared in accordance with the applicable requirements at § 257.82(c) of the United States (US) Environmental Protection Agency's (EPA's) 40 Code of Federal Regulations (CFR) Part 257, Subpart D, *Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments* (CCR Rule).

3.0 Initial Inflow Design Flood Control System Plan

In accordance with § 257.73(a)(2) and § 257.100(f)(2)(iii), an Initial Hazard Potential Classification was prepared for the former Ash Disposal Basin under current conditions. The former Ash Disposal Basin is classified as a "significant hazard potential" CCR surface impoundment *(Reference 4).* As required by § 257.82(a)(3), the inflow design flood for a significant hazard potential CCR surface impoundment is a 1,000-year flood.

As required by § 257.82(c)(1) and 257.100(f)(3)(v), this Plan includes:

- Documentation of how the inflow design flood control system (IDFCS) has been designed, constructed, operated, and maintained to adequately manage flow into the former Ash Disposal Basin during and following the peak discharge of the inflow design flood [§ 257.82(a)(1)];
- Documentation of how the IDFCS has been designed, constructed, operated, and maintained to adequately manage flow from the former Ash Disposal Basin so as to collect and control the peak discharge resulting from the inflow design flood [§ 257.82(a)(2)]; and
- Documentation of how the IDFCS has been designed, constructed, operated, and maintained to adequately address the requirements of § 257.3-3 [§ 257.82(b)].

3.1 Site Configuration

The approximate area of the former Ash Disposal Basin is 19.9 acres. The available storage capacity of the former Ash Disposal Basin, assuming that the current topography represents an empty (dry) pond, is approximately 104 acre-feet (4,530,000 cubic feet). The former Ash Disposal Basin was

constructed into a hillside to the south and east with an embankment enclosing the former Ash Disposal Basin to the north and west. The former Ash Disposal Basin receives stormwater runoff from precipitation landing within its embankments as well as from the upslope watershed, which has a drainage area of 112.4 acres. A Site Investigation Report written by GAI in 1980 (referenced in the *History of Construction Report*) indicates that the embankment that defines the former Ash Disposal Basin was raised by ten feet to elevation (El.) 725 feet in 1970 to provide additional disposal volume. However, publicly available topography indicates that the embankment encloses the former Ash Disposal Basin with an approximate El. of 724 feet. The top of embankment elevation used in further analyses is thus 724 feet. Attachment 1 within Appendix A depicts existing conditions of the former Ash Disposal Basin.

3.2 Flow Into the Impoundment

Stormwater enters the former Ash Disposal Basin from precipitation landing within its embankments as well as from the upslope watershed. The total drainage area to the former Ash Disposal Basin is 132.3 acres. The drainage area map is attached within Appendix A.

Available historic documents indicate that a stormwater diversion ditch was constructed upstream of the former Ash Disposal Basin to divert surface water runoff from entering the former Ash Disposal Basin. Remnants of the ditch remain, but it is not a contiguous channel. The analyses performed to support this Plan assumes that no diversion ditch is present at the site and that all upslope drainage enters the former Ash Disposal Basin.

3.3 Flow From the Impoundment

A riser (principal spillway) structure is present in the northwestern corner of the former Ash Disposal Basin. The riser is a 6-foot diameter corrugated metal pipe (CMP) and skimmer with an estimated crest El. of 712.3 feet. Historic records indicate that the riser was lowered sometime after the former Ash Disposal Basin was no longer actively used for CCR or wastewater management. Historic records do not indicate the elevation of the lowered riser pipe, so the elevation was estimated as part of the analyses completed for this plan (Appendix A, Attachment 1 – Drainage Area Map).

Historic records indicate that the riser discharges to a 36-inch diameter concrete pipe with an approximate invert El. of 705 feet. The concrete pipe is routed through the existing embankment and daylights on the northern side of the former Ash Disposal Basin, upgradient of Bald Eagle Creek.

It is unclear if the riser and discharge pipe function. During multiple site visits conducted between 2024 and 2026, no observations of discharge from the structure were noted. Areas with minor amounts of ponded water have been observed within the lowest elevation portion of the former Ash Disposal Basin.

The former Ash Disposal Basin was modeled to evaluate its performance during a 1,000-year flood. Appendix A contains calculations and results of the modeling. The starting water surface elevation was set to 712.3 feet, which is the estimated crest elevation of the riser. The results presented herein assume that the existing riser and discharge pipe are not functional. A scenario in which the existing riser and discharge pipe are functional was also modeled and is contained in Appendix A.

The model results indicate that the pool in the former Ash Disposal Basin during the 1,000-year flood is estimated to be El. 721.5 feet. This corresponds to 2.5 feet of vertical freeboard in the former Ash Disposal Basin during the design storm event. As such, overtopping of the former Ash Disposal Basin embankments is not anticipated to occur during the 1,000-year flood event.

As stated previously, the storage capacity within the former Ash Disposal Basin is 4,530,000 cubic feet. During the 1,000-year flood, the amount of precipitation that is anticipated to require storage within the embankments of the former Ash Disposal Basin is 2,587,000 cubic feet. The precipitation from the 1,000-year storm events is anticipated to be managed by the former Ash Disposal Basin without

overtopping the embankments of the former Ash Disposal Basin. Hydrologic and hydraulic calculations to support the IDFCS analysis herein are contained in Appendix A.

3.4 Surface Water Requirements

Title 40 CFR § 257.3-3 states that "a facility shall not cause a discharge of pollutants into waters of the United States that is in violation of the National Pollutant Discharge Elimination System under section 402 of the Clean Water Act, as amended." This evaluation indicates that the former Ash Disposal Basin is anticipated to contain the inflow design flood without overtopping to waters of the United States.

4.0 Conclusion

Based on a review of available material and additional analyses performed for this Plan, the former Ash Disposal Basin IDFCS is in compliance with the requirements at § 257.82(c) of the CCR Rule for a significant hazard legacy CCR surface impoundment.

5.0 References

1. GAI Consultants, Inc. *Former Milesburg Ash Disposal Basin Legacy CCR Surface Impoundment Applicability Report*, November 2024.
2. GAI Consultants, Inc. *Former Milesburg Ash Disposal Basin Pond Coal Combustion Residual Annual Report*, February 2025.
3. GAI Consultants, Inc. *Former Milesburg Ash Disposal History of Construction,* February 2026.
4. GAI Consultants, Inc. *Former Milesburg Ash Disposal Basin Hazard Potential Classification* Assessment *Report,* May 2026.

APPENDIX A
Hydrologic and Hydraulic Analysis

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PURPOSE

The purpose of this analysis is to estimate the capacity of the former Milesburg Ash Disposal Basin (Ash Disposal Basin) for the 1,000-year flood to demonstrate compliance with the Environmental Protection Agency's (EPA's) regulations at 40 CFR Part 257, Subpart D, *Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments* (CCR Rule).

METHODOLOGY

The analysis includes the development of the Soil Conservation Service (SCS) Type II 1,000-year event rainfall distribution, an assessment of stage/storage in the former Milesburg Ash Disposal Basin based on existing topography, United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Technical Release 55 (TR-55) hydrology calculations, and modeling of the 1,000-year event and storage capacity of the former Ash Disposal Basin using the USACE HEC-HMS software package.

REFERENCES

1. NOAA, National Weather Service. *Point Precipitation Frequency Estimates, NOAA Atlas 14, Volume 2, Version 3,* downloaded by GAI on March 10, 2026.
2. Pennsylvania Spatial Data Access (PASDA), *PA LiDAR Navigator, USGS LiDAR 2019*, downloaded by GAI in July 2025.
3. United States Department of Agriculture. *Urban Hydrology for Small Watersheds Technical Release 55;* June 1986.
4. GAI Consultants, Inc. *Former Milesburg Ash Disposal Basin Coal Combustion Residual Annual Report*, February 2025.

BACKGROUND

Sections 257.82(c) and 257.100(f)(3)(v) of the CCR Rule require an Inflow Design Flood Control System (IDFCS) Plan that documents that the legacy CCR surface impoundment adequately manages the peak discharge of the inflow design flood event. The former Ash Disposal Basin is classified as a significant hazard per § 257.73(a)(2) and is therefore assigned the 1,000-year flood as the inflow design flood by the CCR Rule at § 257.82(a)(3).

Based on a review of available historic information and field investigations, one discharge structure was identified. The structure is comprised of a 6-foot diameter riser and 36-inch diameter discharge pipe.

PRECIPITATION

Precipitation data was obtained from National Oceanic and Atmospheric Administration (NOAA) Atlas 14 (Reference 1). The approximate location of the former Ash Disposal Basin is shown on Figure 1.

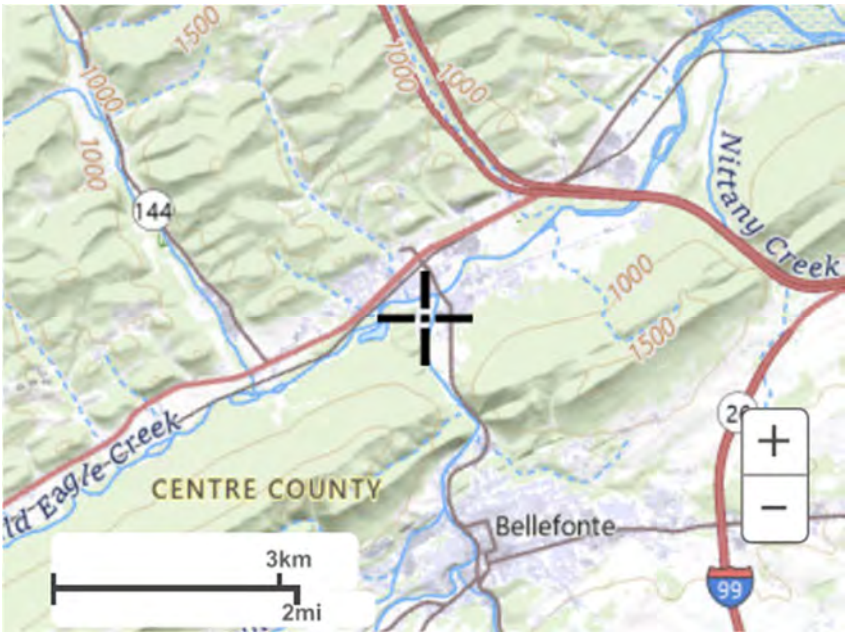

Figure 1: Approximate Location of Former Ash Disposal Basin

At the location of the former Ash Disposal Basin, the 24-hour, 1,000-year event produces a precipitation depth of 8.43 inches.

STAGE STORAGE ESTIMATE

The stage-storage curve of the former Ash Disposal Basin was estimated using publicly available topographic mapping (Reference 2). An embankment encloses the former Ash Disposal Basin to the north and west with an approximate crest elevation of 724 feet. The stage-storage curve based on the 2019 aerial mapping is presented in Figure 2.

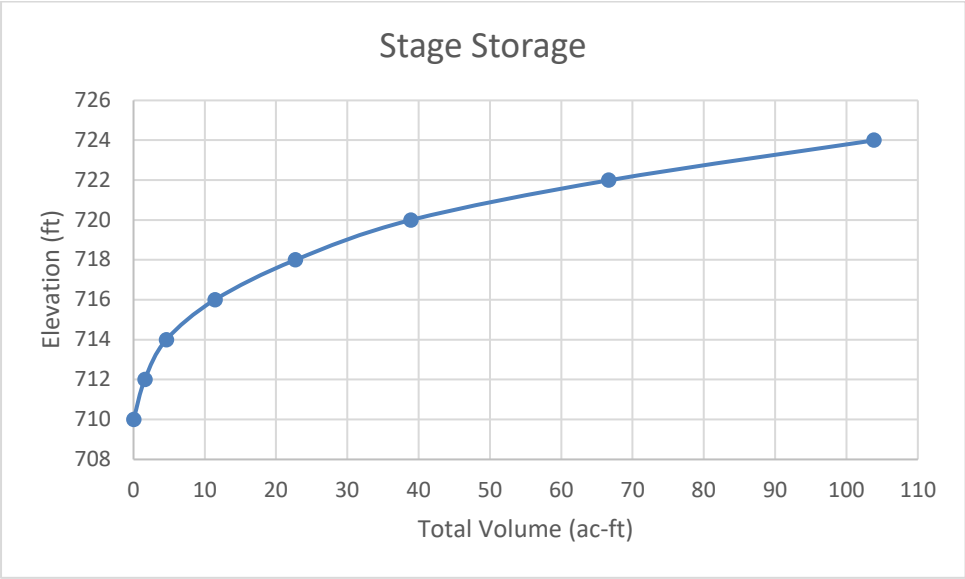

Figure 2: Stage-Storage Curve (Based on 2019 Aerial Mapping)

HYDROLOGY CALCULATIONS

The hydraulic model requires inputs for a drainage area, runoff curve number, and lag time for the watershed. TR-55 methodology was used to estimate the curve number and lag time of the watershed (Reference 3). Table 1 summarizes these parameters. The Drainage Area Map, runoff curve number, and lag time calculations are included in Attachment 1.

Table 1: Summary of Hydrologic Parameters

	Drainage Area	Runoff Curve Number	Lag Time (min)
Former Ash Disposal Basin	19.9 ac (0.031 sq mi)	98	3.6
Upslope Watershed	112.4 ac (0.18 sq mi)	69	29

HYDRAULIC MODELING

The computer programs Hydrologic Engineering Center-Hydrologic Modeling System (HEC-HMS) (Version 4.13) and Hydraflow Hydrographs 2004 (Version 8.0.0.3) were used to model the 1,000-year event and to represent the former Ash Disposal Basin storage. The following conditions apply to the hydraulic modeling:

1. Discharge Structure Considerations:

   A 6-foot diameter riser with an estimated crest elevation of 712.3 feet (Attachment 1 – Drainage Area Map, Attachment 2) is connected to a 36-inch diameter discharge pipe with an invert elevation of approximately 705 feet (Attachment 3). Due to the age of the discharge structure and an absence of observed operation, two separate scenarios were analyzed to evaluate the capacity of the former Ash Disposal Basin.

   - Scenario 1 - Functioning Discharge Structure; HEC-HMS Run name = 1000 Year Riser
   - Scenario 2 – Non-Functioning Discharge Structure; HEC-HMS Run name = 1000 Year No Riser

   The two scenarios are identical except that Scenario 1 includes flow through the discharge structure and Scenario 2 does not.

2. Starting Water Surface Elevations:

   There has been minor pooling observed during some site visits conducted between 2024 and 2026 (Attachment 2). The starting water surface elevation for modeling Scenarios 1 and 2 is elevation 712.3 feet, which is the estimated crest elevation of the riser (Attachment 1 – Drainage Area Map);

3. Embankment Geometry:

   The top of the embankment was set at elevation 724 feet based on the current topography (Reference 2);

4. Precipitation:

   The meteorologic model is the geographically appropriate hypothetical SCS 1,000-year storm for the location (8.43 inches precipitation depth, SCS Type II distribution).

A rating curve table for the riser for the Scenario 1 – Functioning Discharge Structure simulation run was developed using Hydraflow Hydrographs 2004 (Figure 3). The water surface elevation in the reservoir during Scenario 1 – Functioning Discharge Structure is estimated to be 717.7 feet (Figure 11). Thus, approximately 6.3 feet of freeboard is anticipated to be provided between the water surface elevation and the top of the embankment during the 1,000-year event for Scenario 1 – Functioning Discharge Structure.

During Scenario 2 – Non-Functioning Discharge Structure, the water surface elevation in the reservoir during the 1,000-year event is estimated to be 721.5 feet (Figure 12). Thus, approximately 2.5 feet of freeboard is anticipated to be provided between the water surface elevation and the top of the embankment during the 1,000-year event for Scenario 2 – Non-Functioning Discharge Structure.

The Hydraflow Hydrographs 2004 inputs and outputs and HEC-HMS inputs and outputs for Scenarios 1 and 2 are presented on the following pages.

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Pond Report

Hydraflow Hydrographs by Intelisolve — Monday, Oct 20 2025, 11:24 AM

Pond No. 1 - Ash Disposal Basin

Pond Data

Pond storage is based on known values

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	710.00	00	0	0
2.00	712.00	00	68,468	68,468
2.50	712.50	00	18,652	87,120
3.00	713.00	00	34,848	121,968
3.50	713.50	00	34,848	156,816
4.00	714.00	00	42,417	199,233
6.00	716.00	00	297,727	496,960
8.00	718.00	00	490,347	987,307
10.00	720.00	00	705,763	1,693,070
12.00	722.00	00	1,208,575	2,901,645
14.00	724.00	00	1,621,247	4,522,892

Culvert / Orifice Structures

	[A]	[B]	[C]	[D]
Rise (in)	= 36.00	0.00	0.00	0.00
Span (in)	= 36.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 705.00	0.00	0.00	0.00
Length (ft)	= 137.00	0.00	0.00	0.00
Slope (%)	= 0.50	0.00	0.00	0.00
N-Value	= .012	.000	.000	.000
Orif. Coeff.	= 0.60	0.00	0.00	0.00
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 18.85	0.00	0.00	0.00
Crest El. (ft)	= 712.30	0.00	0.00	0.00
Weir Coeff.	= 3.33	0.00	0.00	0.00
Weir Type	= Riser	---	---	---
Multi-Stage	= Yes	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control. Weir riser checked for orifice conditions.

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Total cfs
0.00	0	710.00	0.00	---	---	---	0.00	---	---	---	---	0.00
2.00	68,468	712.00	60.77	---	---	---	0.00	---	---	---	---	0.00
2.50	87,120	712.50	60.77	---	---	---	5.61	---	---	---	---	5.61
3.00	121,968	713.00	60.77	---	---	---	36.76	---	---	---	---	36.76
3.50	156,816	713.50	82.28	---	---	---	82.28	---	---	---	---	82.28
4.00	199,233	714.00	90.70	---	---	---	90.69	---	---	---	---	90.69
6.00	496,960	716.00	103.95	---	---	---	103.93	---	---	---	---	103.93
8.00	987,307	718.00	114.44	---	---	---	114.42	---	---	---	---	114.42
10.00	1,693,070	720.00	124.04	---	---	---	124.02	---	---	---	---	124.02
12.00	2,901,645	722.00	132.94	---	---	---	132.93	---	---	---	---	132.93
14.00	4,522,892	724.00	141.28	---	---	---	141.27	---	---	---	---	141.27

Figure 3: Pond Report from Hydraflow Hydrographs 2004 for Riser Stage/Discharge (Scenario 1 – Functioning Discharge Structure)

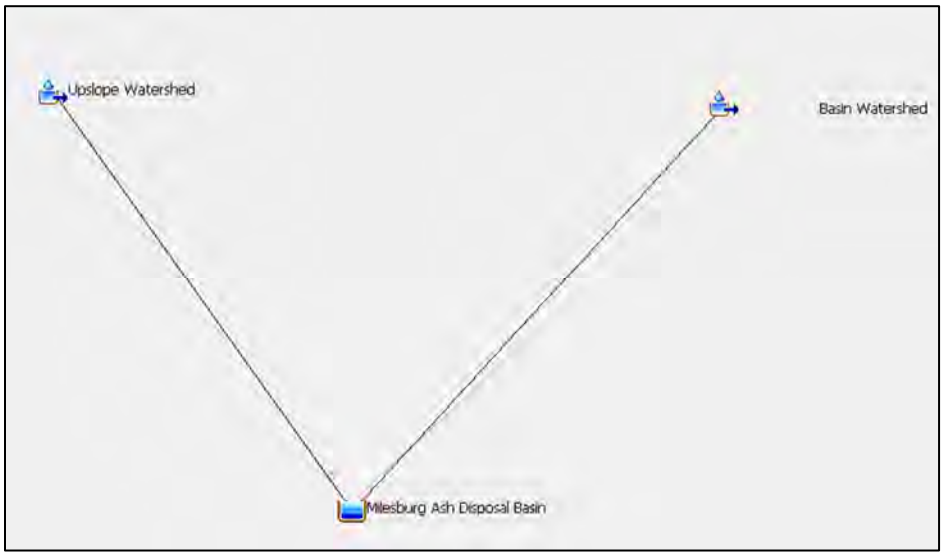

Figure 4: HEC-HMS Basin Model (Scenarios 1 and 2)

Global Parameter Summary - Subbasin

Area (MI2)

Element Name	Area (MI2)
Upslope Watershed	0.18
Basin Watershed	0.03

Downstream

Element Name	Downstream
Upslope Watershed	Milesburg Ash Disposal Basin
Basin Watershed	Milesburg Ash Disposal Basin

Loss Rate: Scs

Element Name	Percent Impervious Area	Curve Number
Upslope Watershed	0	69
Basin Watershed	0	98

Transform: Scs

Element Name	Lag	Unitgraph Type
Upslope Watershed	29	Standard
Basin Watershed	3.6	Standard

Figure 5: HEC-HMS Hydrologic Input Data (Scenarios 1 and 2)

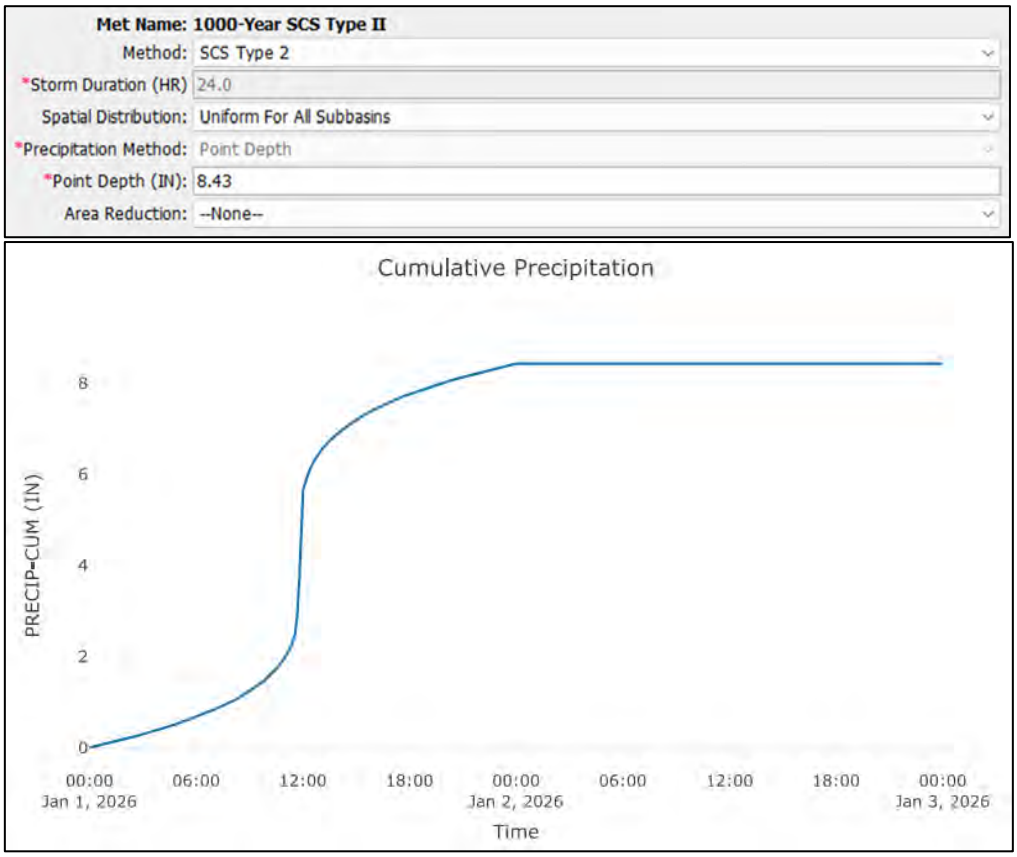

Figure 6: HEC-HMS Meteorologic Input (Scenarios 1 and 2)

Elevation (FT)	Storage (ACRE-FT)
710.0	0.00
712.0	1.57
712.5	2.00
713.0	2.80
713.5	3.60
714.0	4.57
716.0	11.41
718.0	22.67
720.0	38.87
722.0	66.61
724.0	103.83

Figure 7: HEC-HMS Elevation-Volume Input (Scenarios 1 and 2)

Elevation (FT)	Area (ACRE)
710.0	0.57
712.0	1.00
714.0	2.00
716.0	4.83
718.0	6.42
720.0	9.78
722.0	17.97
724.0	19.25

Figure 8: HEC-HMS Elevation-Area Input (Scenarios 1 and 2)

Global Results Summary

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Upslope Watershed	0.18	355.47	01Jan2026, 12:22	4.72
Basin Watershed	0.03	221.88	01Jan2026, 11:56	8.19
Milesburg Ash Disposal Basin	0.21	112.85	01Jan2026, 13:08	5.26

Figure 9: HEC-HMS Global Summary (Scenario 1 – Functioning Discharge Structure)

Global Results Summary

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Upslope Watershed	0.18	355.47	01Jan2026, 12:22	4.72
Basin Watershed	0.03	221.88	01Jan2026, 11:56	8.19
Milesburg Ash Disposal Basin	0.21	0	31Dec2025, 24:00	0

Figure 10: HEC-HMS Global Summary (Scenario 2 – Non-Functioning Discharge Structure)

Reservoir: Milesburg Ash Disposal Basin

Results: Milesburg Ash Disposal Basin	
Peak Discharge (CFS)	112.85
Time of Peak Discharge	01Jan2026, 13:08
Volume (IN)	5.26
Peak Inflow (CFS)	378.4
Time of Peak Inflow	01Jan2026, 12:21
Inflow Volume (AC - FT)	57.82
Maximum Storage (AC - FT)	20.98
Peak Elevation (FT)	717.7
Discharge Volume (AC - FT)	58.08

Figure 11: HEC-HMS Former Milesburg Ash Disposal Basin Summary (Scenario 1 – Functioning Discharge Structure)

Reservoir: Milesburg Ash Disposal Basin

Results: Milesburg Ash Disposal Basin	
Peak Discharge (CFS)	0
Time of Peak Discharge	31Dec2025, 24:00
Volume (IN)	0
Peak Inflow (CFS)	378.4
Time of Peak Inflow	01Jan2026, 12:21
Inflow Volume (AC - FT)	57.82
Maximum Storage (AC - FT)	59.65
Peak Elevation (FT)	721.5
Discharge Volume (AC - FT)	0

Figure 12: HEC-HMS Former Milesburg Ash Disposal Basin Summary (Scenario 2 – Non-Functioning Discharge Structure)

CONCLUSION

A hydrologic and hydraulic assessment was conducted to estimate the water surface elevation in the former Ash Disposal Basin during the 1,000-year event. The assessment indicates that the former Ash Disposal Basin maintains 6.6 feet of freeboard during Scenario 1 – Functioning Discharge Structure and 2.5 feet of freeboard during Scenario 2 – Non-Functioning Discharge Structure. Accordingly, the modeling indicates that the capacity of the former Ash Disposal Basin is sufficient in managing inflow due to the 1,000-year event. Because it is not known whether the existing discharge structure functions, Scenario 2 – Non-Functioning Discharge Structure is the result assumed for CCR Rule compliance and presented in the Inflow Design Flood Control System Plan.

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Attachment 1

Hydrology Calculations

SUBJECT WEST PENN POWER COMPANY – FORMER MILESBURG ASH DISPOSAL BASIN HYDRAULIC CAPACITY ESTIMATE
BY OLMSTCC DATE 03/16/2026 PROJ. NO. C150917.65
CHKD. BY SCHELAB DATE 04/13/2026

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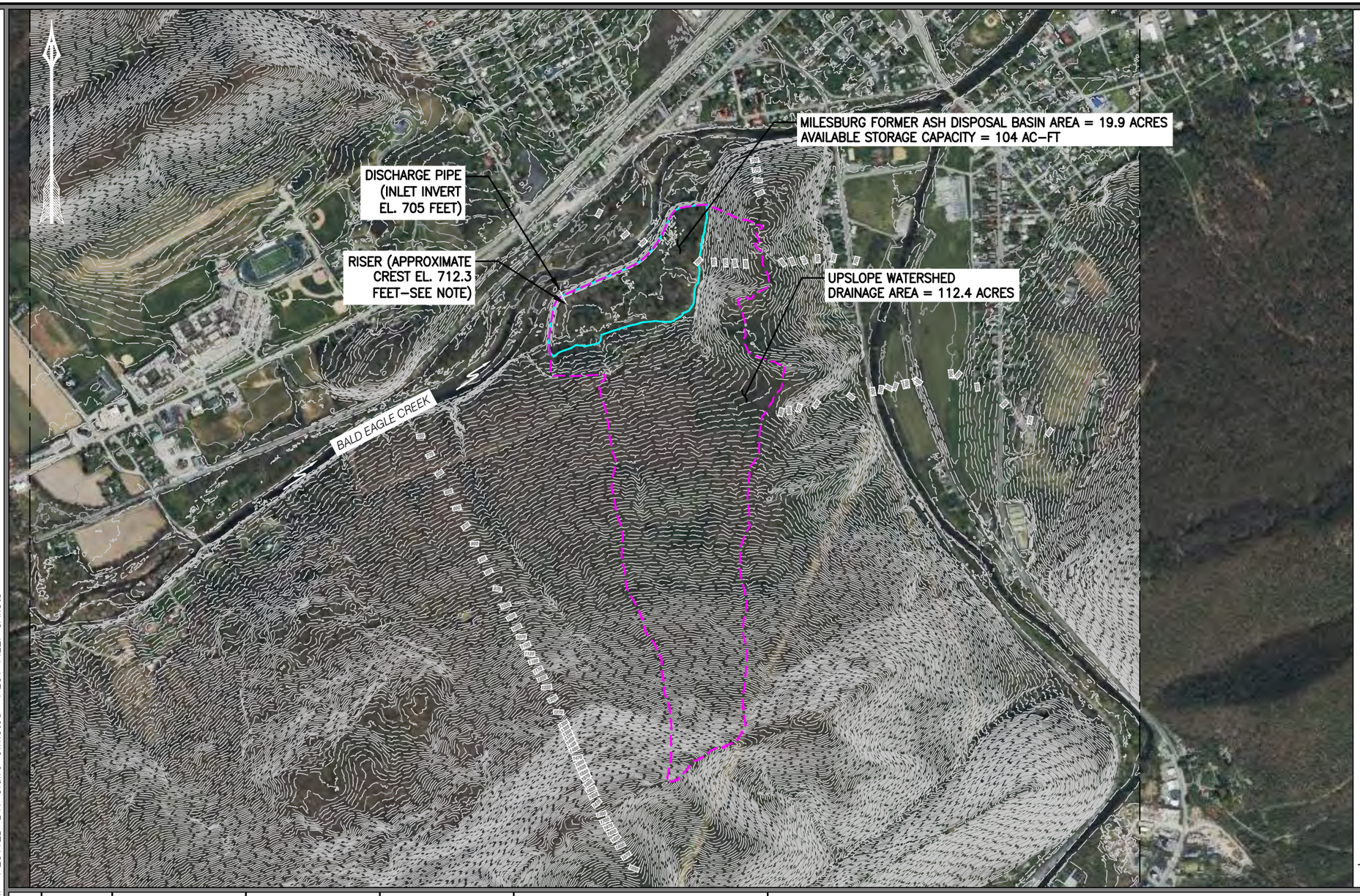
Drainage Area Map

Attachment 1 - Hydrology Calculations



LEGEND:

- DRAINAGE AREA BOUNDARY TO FORMER MILESBURG ASH DISPOSAL BASIN
- MILESBURG FORMER ASH DISPOSAL BASIN
- 450 EXISTING MAJOR CONTOUR (25')
- EXISTING MINOR CONTOUR (5')
- EXISTING TOPOGRAPHY BOUNDARY

NOTES:

THE CREST HEIGHT OF THE RISER WAS APPROXIMATED BY SUMMING THE EXISTING GROUND ELEVATION AT THE LOCATION OF THE RISER (EL. 710.3 FEET) AND THE APPROXIMATE HEIGHT OF THE RISER INVERT ABOVE THE EXISTING TOPOGRAPHY (2 FEET). FIELD VISITS AND PHOTOGRAPHS SHOW THAT THE PRESENT RISER INVERT IS APPROXIMATELY 2 FEET ABOVE THE EXISTING GROUND ELEVATION (SEE ATTACHMENT 2 IN APPENDIX A).

REFERENCES:

- EXISTING TOPOGRAPHY IS BASED ON USGS LIDAR CONTOURS DATED 2019 AND DOWNLOADED FROM PENNSYLVANIA SPATIAL DATA ACCESS (PASDA) IN JULY 2025.
- LOCATION OF RISER AND DISCHARGE PIPE FROM WEST PENN POWER COMPANY DRAWING GA-59538 "ASH DISPOSAL POND HEIGHT ADDITIONS PROPOSED SCHEMES", DATED APRIL 20, 1970.
- AERIAL IMAGERY FROM MICROSOFT CORPORATION, MAXAR, CNES DISTRIBUTION AIRBUS DS 2026 COPYRIGHT.

SCALE: 1" = 1000'

1000 0 1000 2000

NO.:	DATE:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DESCRIPTION:

REVISION RECORD

DRAWING TITLE: **DRAINAGE AREA MAP**

PROJECT: **FORMER MILESBURG ASH DISPOSAL BASIN INFLOW DESIGN FLOOD CONTROL SYSTEM PLAN CENTRE COUNTY, PA**

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CLIENT: **WEST PENN POWER COMPANY 800 CABIN HILL DRIVE GREENSBURG, PA 15601**

ISSUE DATE:	DRAWN BY:
04/13/2026	OLMSTCC
SCALE:	CHECKED BY:
AS SHOWN	ROUNCLL
REVISION	APPROVED BY: DITULAL
	SHEET NO.: 001 OF 001

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GAI FILE NUMBER: C150917-65-01-005 DA MAP

GAI DRAWING NUMBER: DRAINAGE AREA MAP

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GAI CAD FILE PATH: Z:\Energy\2015\C150917.65 - FE Milesburg CCR Rule Leg\CAD\ACAD\Worksheets\Inflow Report\C150917-65-01-005 DA MAP.dwg

PLOTTED ON: 4/13/2026 4:10:53 PM PLOTTED BY: Claire Olmsted PLOT FILE: GAI.stb

SUBJECT WEST PENN POWER COMPANY – FORMER MILESBURG ASH DISPOSAL BASIN HYDRAULIC CAPACITY ESTIMATE
BY OLMSTCC DATE 03/16/2026 PROJ. NO. C150917.65
CHKD. BY SCHELAB DATE 04/13/2026

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Curve Number and Time of Concentration Worksheets

Attachment 1 - Hydrology Calculations

Project:	By:		Date:
Former Milesburg Ash Disposal Basin	OLMSTCC		7/22/2025
C150917.65	Checked:		Date:
Location:	WEBBEGA		8/6/2025
Centre County, Pennsylvania			

Check one: ■ Present ❑ Developed

The former Ash Disposal Basin is considered to have water during the simulation, thus the worst case curve number (98) is selected for the surface area of the former Ash Disposal Basin. The total area and curve number calculated are for the upslope watershed.

Hydrologic Group	Cover Description	CN			Area	Area	Product of CN x Area
		Table 2-2a	Table 2-2b	Table 2-2c	■ Sq Ft	■ Acres	
	Water	98			866962	19.9	1950.47
A	Woods, Good			30	791020	18.2	544.78
D	Woods, Good			77	4051781	93.0	7162.24
A	Grass, Good	39			5147	0.1	4.61
D	Grass, Good	80			47597	1.1	87.41
			TOTALS			**112.4**	**7799.04**

CN (weighted) = Total Product / Total Area

CN		**69**

Project:	By:	Date:
Former Milesburg Ash Disposal Basin	OLMSTCC	7/22/2025
C150917.65	Checked:	Date:
Location:	WEBBEGA	8/4/2025
Centre County, Pennsylvania		

Check one: ■ Present ❑ Developed

Sheet flow

Segment ID	A	
Surface Description (Table 3-1)……..	woods	
Manning's Roughness Coefficient, n (table 3-1)……..	0.8	
Flow Length, L……	100	ft
Two-year 24-hour Rainfall, P_2……	2.63	in
Land Slope, s……	0.02	ft/ft
Travel Time, $T_t = (0.007*(n*L)^{0.8}) / (P_2^{0.5}*s^{0.4})$……..	**0.7169**	**hrs**

Shallow Concentrated Flow

Segment ID	B	C	
Surface Description (Paved / Unpaved)……	Unpaved	Unpaved	
Surface Description Coefficient, C……..	16.13	16.13	
Flow Length, L……	163.77	389.53	ft
Watercourse Slope, s……	0.04	0.08	ft/ft
Average Velocity, $V = C*s^{0.5}$……..	3.34	4.62	ft/sec
Travel Time, $T_t = (L) / (3600*V)$……	**0.0136**	**0.0234**	**hrs**

Channel Flow

Segment ID	D	E
Section Base, b……	5	1
Section Depth, d……	2	4
Section Side Slope, z……..	10	6
Cross Sectional Flow Area, $a = b*d + z*d^2$……..	50	100
Wetted Perimeter, $p_w = b + (2*d)*(z^2 + 1)^{0.5}$……	45.20	49.66
Hydraulic Radius, $r = a / p_w$……	1.11	2.01
Channel Slope, s……	0.03	0.09
Manning's Roughness Coefficient, n……	0.035	0.035
Average Velocity, $V = (1.49*r^{2/3}*s^{1/2}) / (n)$……	8.19	19.94
Flow Length, L……	990.2379	394
Travel Time, $T_t = (L) / (3600*V)$……	**0.0336**	**0.0055**

Time of Concentration

Sheet Flow T_t……	0.7169	hrs
Shallow Concentrated Flow T_t……	0.0370	hrs
Channel Flow T_t……	0.0391	hrs
Time of Concentration, T_c……	**0.7931**	**hrs**
	48	**mins**

Lag Time, $T_L = 0.6*T_C$……	**0.4758**	**hrs**
	29	**mins**

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Precipitation Data

Attachment 1 - Hydrology Calculations

NOAA Atlas 14, Volume 2, Version 3
Location name: Milesburg, Pennsylvania, USA*
Latitude: 40.9402°, Longitude: -77.7892°
Elevation: 697 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

G.M. Bonnin, D. Martin, B. Lin, T. Parzybok, M.Yekta, and D. Riley

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.306** (0.275-0.341)	**0.364** (0.327-0.406)	**0.442** (0.397-0.492)	**0.502** (0.450-0.558)	**0.581** (0.518-0.643)	**0.641** (0.569-0.708)	**0.701** (0.618-0.773)	**0.761** (0.667-0.837)	**0.844** (0.733-0.927)	**0.904** (0.779-0.994)
10-min	**0.475** (0.427-0.530)	**0.568** (0.510-0.633)	**0.687** (0.617-0.765)	**0.776** (0.695-0.861)	**0.889** (0.793-0.983)	**0.972** (0.862-1.07)	**1.06** (0.930-1.16)	**1.14** (0.996-1.25)	**1.24** (1.08-1.36)	**1.32** (1.14-1.45)
15-min	**0.582** (0.524-0.650)	**0.695** (0.624-0.775)	**0.844** (0.758-0.939)	**0.954** (0.855-1.06)	**1.10** (0.980-1.22)	**1.20** (1.07-1.33)	**1.31** (1.16-1.44)	**1.41** (1.24-1.55)	**1.55** (1.34-1.70)	**1.64** (1.42-1.81)
30-min	**0.771** (0.693-0.860)	**0.930** (0.835-1.04)	**1.16** (1.04-1.29)	**1.32** (1.19-1.47)	**1.55** (1.38-1.72)	**1.72** (1.53-1.90)	**1.89** (1.67-2.09)	**2.06** (1.81-2.27)	**2.29** (1.99-2.52)	**2.47** (2.13-2.71)
60-min	**0.941** (0.846-1.05)	**1.14** (1.02-1.27)	**1.45** (1.30-1.61)	**1.69** (1.51-1.87)	**2.01** (1.79-2.22)	**2.26** (2.01-2.50)	**2.53** (2.23-2.79)	**2.80** (2.45-3.08)	**3.17** (2.76-3.49)	**3.46** (2.99-3.81)
2-hr	**1.09** (0.966-1.22)	**1.32** (1.17-1.47)	**1.67** (1.48-1.87)	**1.95** (1.73-2.18)	**2.35** (2.07-2.61)	**2.68** (2.34-2.97)	**3.02** (2.63-3.34)	**3.38** (2.92-3.73)	**3.91** (3.34-4.31)	**4.33** (3.66-4.78)
3-hr	**1.16** (1.04-1.30)	**1.40** (1.26-1.56)	**1.76** (1.58-1.97)	**2.06** (1.84-2.29)	**2.48** (2.20-2.75)	**2.83** (2.49-3.12)	**3.20** (2.80-3.52)	**3.59** (3.12-3.95)	**4.16** (3.57-4.56)	**4.62** (3.93-5.07)
6-hr	**1.43** (1.30-1.60)	**1.72** (1.55-1.91)	**2.14** (1.93-2.38)	**2.49** (2.24-2.75)	**2.98** (2.67-3.29)	**3.39** (3.02-3.73)	**3.82** (3.37-4.19)	**4.28** (3.75-4.69)	**4.95** (4.28-5.41)	**5.48** (4.69-5.98)
12-hr	**1.78** (1.62-1.98)	**2.13** (1.94-2.37)	**2.64** (2.39-2.92)	**3.07** (2.77-3.39)	**3.68** (3.31-4.05)	**4.20** (3.74-4.60)	**4.76** (4.20-5.20)	**5.36** (4.69-5.83)	**6.23** (5.38-6.77)	**6.94** (5.92-7.54)
24-hr	**2.19** (2.03-2.38)	**2.63** (2.44-2.85)	**3.26** (3.01-3.53)	**3.78** (3.49-4.09)	**4.52** (4.16-4.88)	**5.14** (4.70-5.54)	**5.81** (5.28-6.24)	**6.53** (5.89-7.01)	**7.57** (6.75-8.12)	**8.43** (7.44-9.05)
2-day	**2.54** (2.35-2.75)	**3.03** (2.82-3.30)	**3.75** (3.47-4.07)	**4.34** (4.01-4.70)	**5.20** (4.78-5.62)	**5.92** (5.40-6.38)	**6.69** (6.07-7.21)	**7.52** (6.77-8.10)	**8.72** (7.76-9.41)	**9.72** (8.57-10.5)
3-day	**2.70** (2.50-2.92)	**3.22** (2.99-3.50)	**3.97** (3.68-4.30)	**4.59** (4.24-4.96)	**5.48** (5.04-5.91)	**6.22** (5.69-6.70)	**7.01** (6.38-7.56)	**7.86** (7.11-8.47)	**9.10** (8.13-9.81)	**10.1** (8.95-10.9)
4-day	**2.86** (2.65-3.09)	**3.41** (3.17-3.69)	**4.19** (3.89-4.53)	**4.83** (4.47-5.22)	**5.76** (5.30-6.20)	**6.52** (5.98-7.02)	**7.34** (6.69-7.90)	**8.21** (7.44-8.84)	**9.47** (8.49-10.2)	**10.5** (9.33-11.3)
7-day	**3.37** (3.15-3.61)	**4.01** (3.76-4.30)	**4.86** (4.54-5.21)	**5.53** (5.16-5.93)	**6.48** (6.02-6.94)	**7.24** (6.70-7.76)	**8.04** (7.40-8.61)	**8.86** (8.11-9.50)	**10.0** (9.09-10.8)	**10.9** (9.85-11.8)
10-day	**3.89** (3.65-4.17)	**4.62** (4.33-4.94)	**5.52** (5.18-5.91)	**6.25** (5.84-6.68)	**7.25** (6.76-7.75)	**8.05** (7.48-8.61)	**8.88** (8.21-9.50)	**9.73** (8.95-10.4)	**10.9** (9.96-11.7)	**11.8** (10.7-12.7)
20-day	**5.37** (5.07-5.71)	**6.32** (5.96-6.73)	**7.37** (6.95-7.83)	**8.18** (7.71-8.69)	**9.26** (8.70-9.84)	**10.1** (9.47-10.7)	**10.9** (10.2-11.6)	**11.7** (11.0-12.5)	**12.8** (11.9-13.6)	**13.6** (12.6-14.5)
30-day	**6.75** (6.40-7.12)	**7.91** (7.49-8.34)	**9.06** (8.58-9.56)	**9.96** (9.43-10.5)	**11.1** (10.5-11.7)	**12.0** (11.3-12.7)	**12.9** (12.1-13.6)	**13.7** (12.9-14.5)	**14.8** (13.8-15.6)	**15.6** (14.5-16.5)
45-day	**8.47** (8.06-8.92)	**9.89** (9.41-10.4)	**11.2** (10.7-11.8)	**12.2** (11.6-12.8)	**13.4** (12.7-14.1)	**14.3** (13.6-15.1)	**15.1** (14.3-16.0)	**15.9** (15.0-16.8)	**16.9** (15.9-17.8)	**17.5** (16.5-18.5)
60-day	**10.0** (9.58-10.5)	**11.7** (11.2-12.3)	**13.1** (12.5-13.8)	**14.2** (13.5-14.9)	**15.5** (14.7-16.2)	**16.4** (15.6-17.2)	**17.2** (16.4-18.1)	**18.0** (17.1-18.9)	**19.0** (18.0-19.9)	**19.6** (18.6-20.6)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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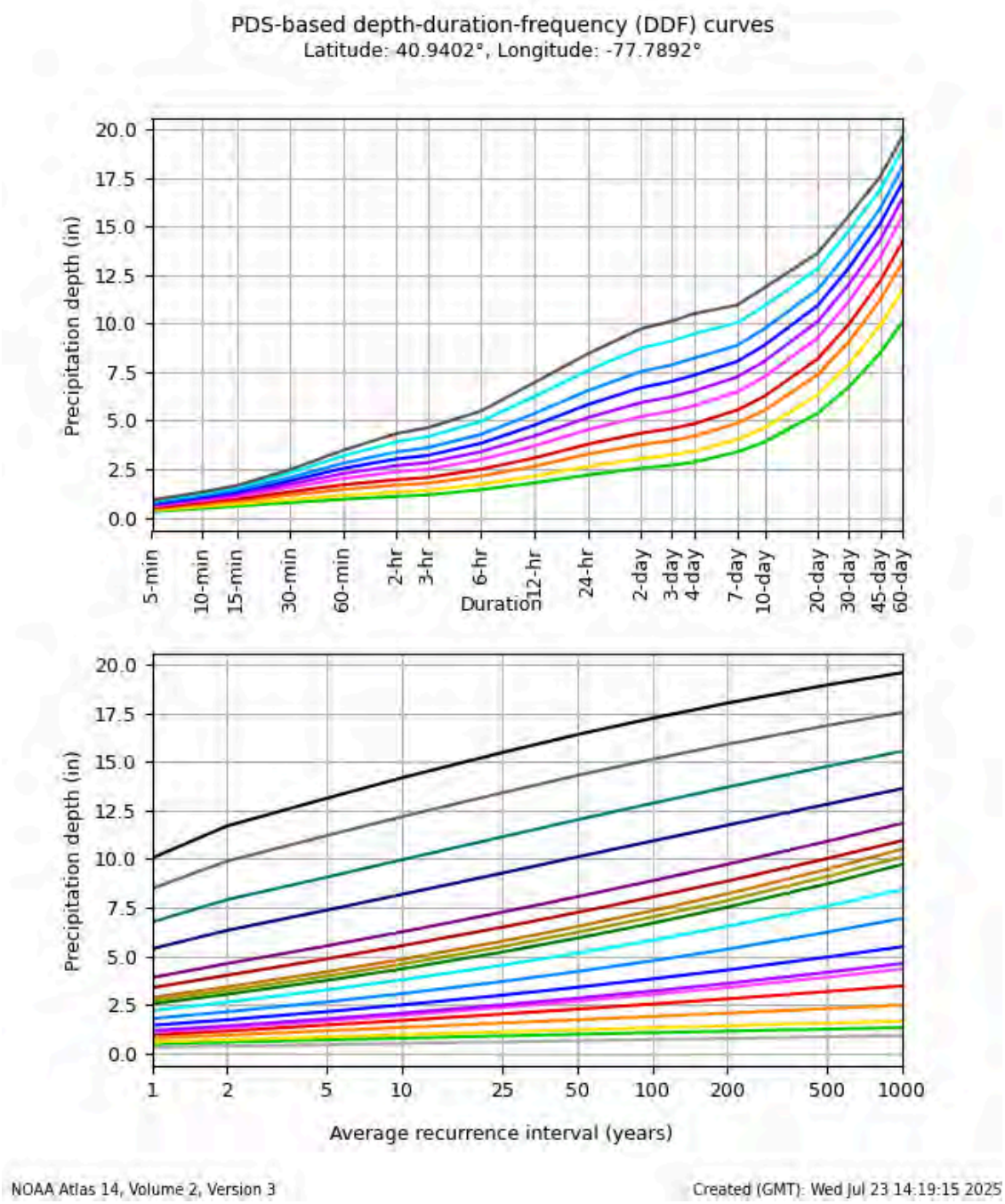
PF graphical



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Maps & aerials

Small scale terrain

Large scale terrain

Large scale map

Large scale aerial

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US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

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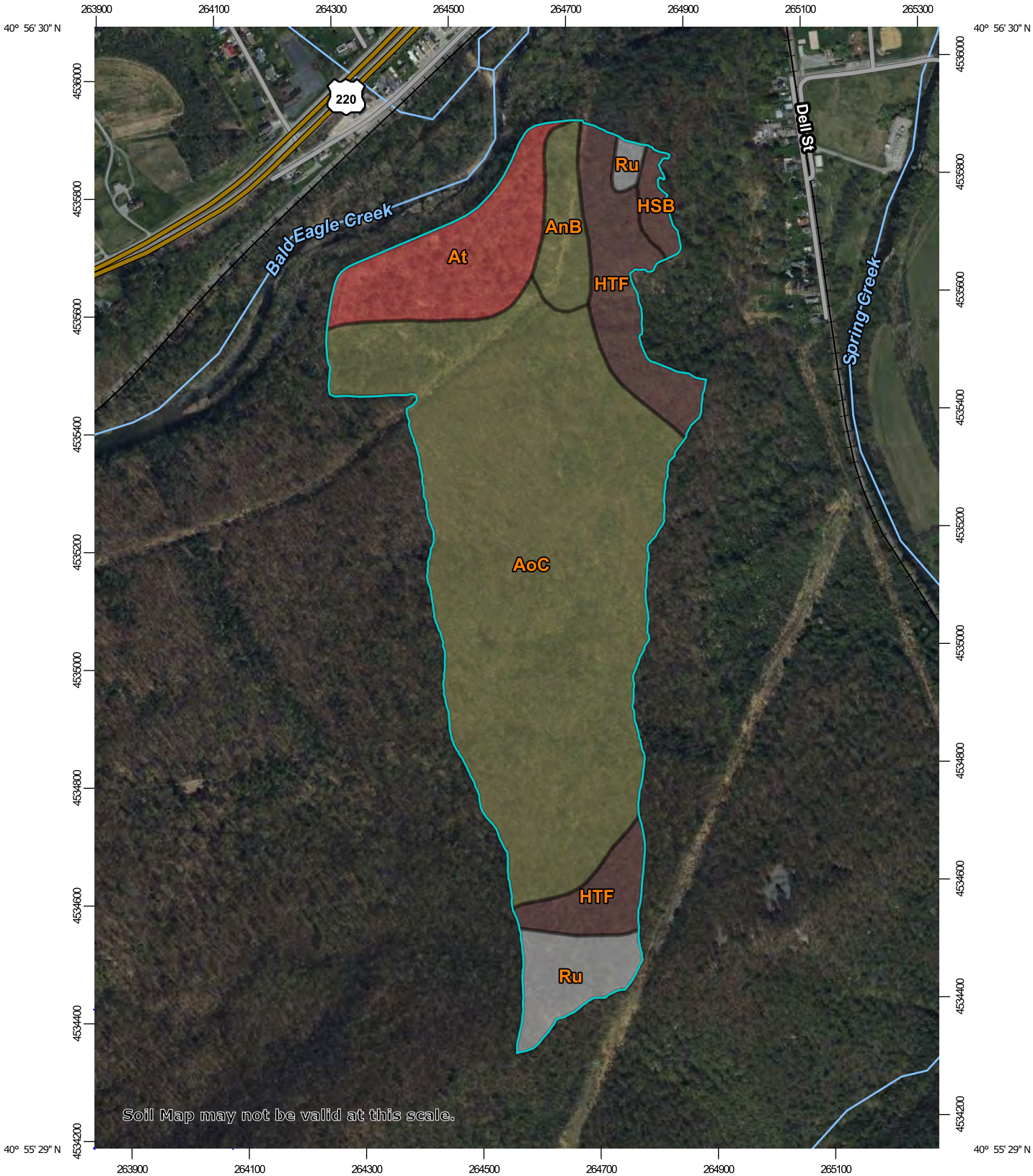
Soils Data

Attachment 1 - Hydrology Calculations

Hydrologic Soil Group—Centre County, Pennsylvania
(2026_DA)



Map Scale: 1:9,280 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 100 200 400 600

Feet
0 450 900 1800 2700

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Centre County, Pennsylvania
Survey Area Data: Version 25, Sep 5, 2025

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 13, 2023—May 17, 2023

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
AnB	Andover channery silt loam, 0 to 8 percent slopes	D	5.5	4.1%
AoC	Andover very stony loam, 8 to 15 percent slopes	D	86.1	65.0%
At	Atkins silt loam, 0 to 3 percent slopes, frequently flooded	B/D	14.9	11.3%
HSB	Hazleton extremely stony sandy loam, gently sloping	A	2.0	1.5%
HTF	Hazleton-Dekalb association, very steep	A	16.3	12.3%
Ru	Rubble land		7.5	5.7%
Totals for Area of Interest			**132.3**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

SUBJECT WEST PENN POWER COMPANY – FORMER MILESBURG ASH DISPOSAL BASIN HYDRAULIC CAPACITY ESTIMATE
BY OLMSTCC DATE 03/16/2026 PROJ. NO. C150917.65
CHKD. BY SCHELAB DATE 04/13/2026

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HEC-HMS Standard Reports

Attachment 1 - Hydrology Calculations

Scenario 1 - Functioning Discharge Structure

Project: Milesburg_1000_Year_Route
Simulation Run: 1000 Year Riser
Simulation Start: 31 December 2025, 24:00
Simulation End: 2 January 2026, 24:00

HMS Version: 4.13
Executed: 13 April 2026, 20:36

Global Parameter Summary - Subbasin

Area (MI2)

Element Name	Area (MI2)
Upslope Watershed	0.18
Basin Watershed	0.03

Downstream

Element Name	Downstream
Upslope Watershed	Milesburg Ash Disposal Basin
Basin Watershed	Milesburg Ash Disposal Basin

Loss Rate: Scs

Element Name	Percent Impervious Area	Curve Number
Upslope Watershed	0	69
Basin Watershed	0	98

Transform: Scs

Element Name	Lag	Unitgraph Type
Upslope Watershed	29	Standard
Basin Watershed	3.6	Standard

Global Results Summary

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Upslope Watershed	0.18	355.47	01Jan2026, 12:22	4.72
Basin Watershed	0.03	221.88	01Jan2026, 11:56	8.19
Milesburg Ash Disposal Basin	0.21	112.85	01Jan2026, 13:08	5.26

Subbasin: Upslope Watershed

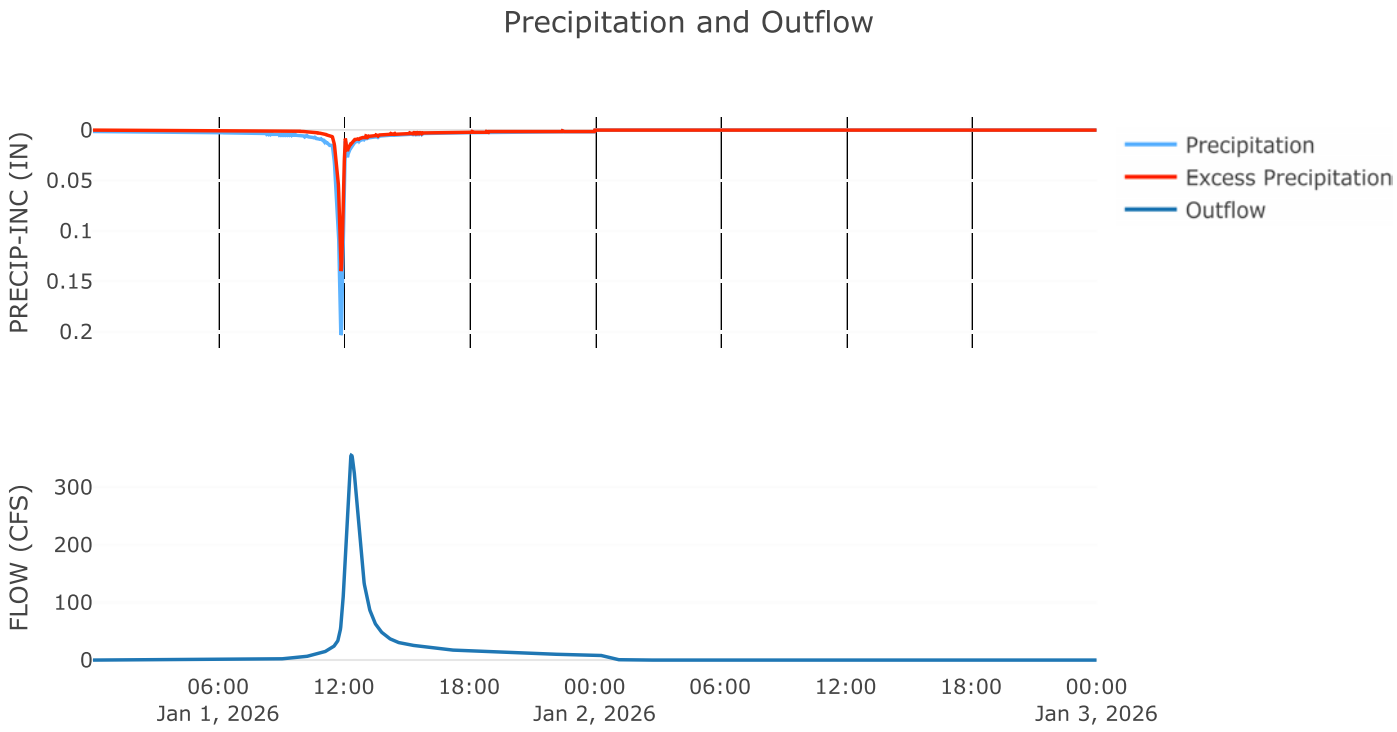
Area (MI2) : 0.18
Downstream : Milesburg Ash Disposal Basin

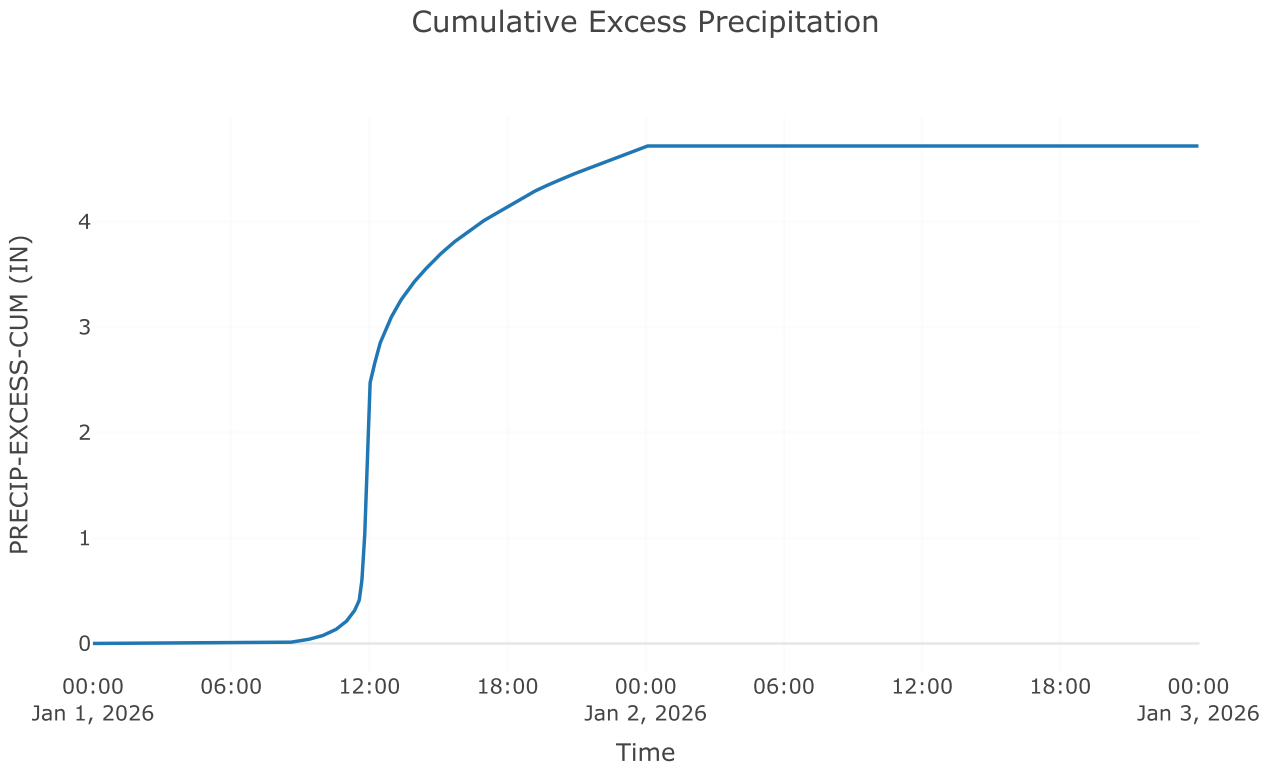
Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	69

Transform: Scs	
Lag	29
Unitgraph Type	Standard

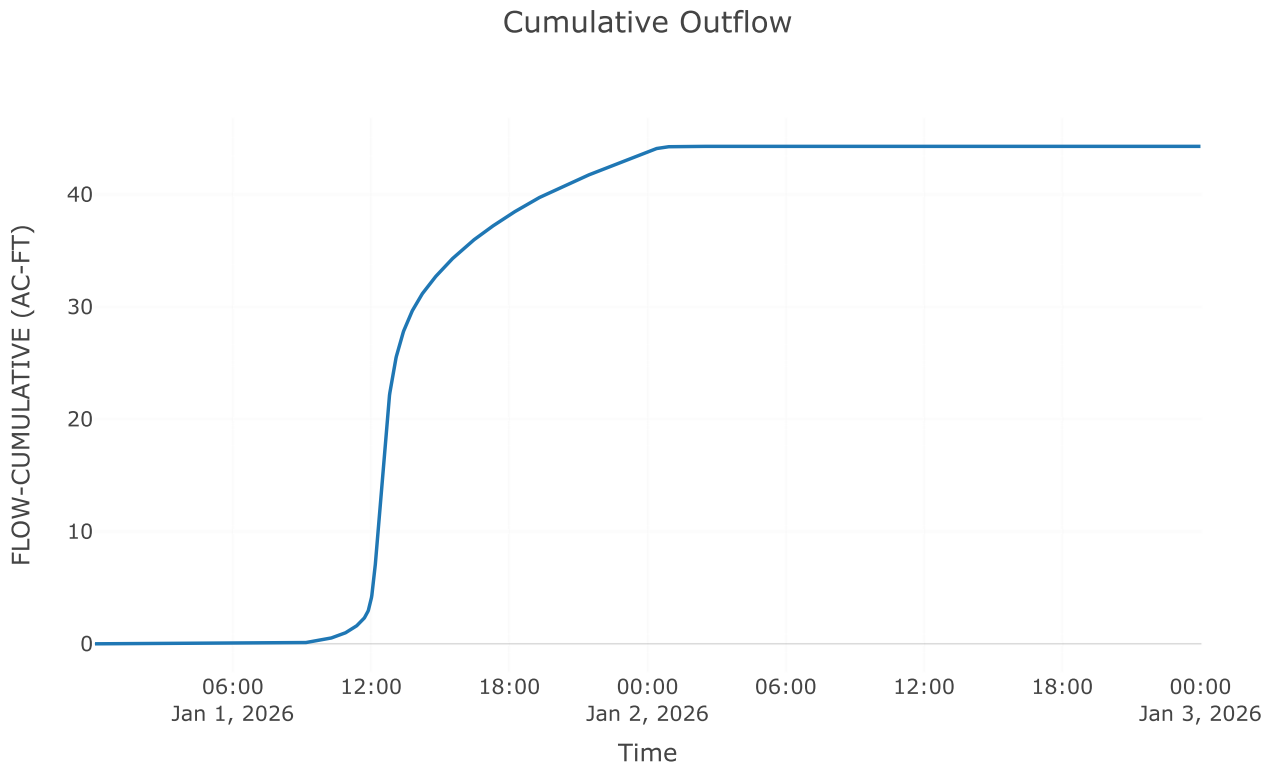
Results: Upslope Watershed	
Peak Discharge (CFS)	355.47
Time of Peak Discharge	01Jan2026, 12:22
Volume (IN)	4.72
Precipitation Volume (AC - FT)	79.13
Loss Volume (AC - FT)	34.85
Excess Volume (AC - FT)	44.28
Direct Runoff Volume (AC - FT)	44.28
Baseflow Volume (AC - FT)	0

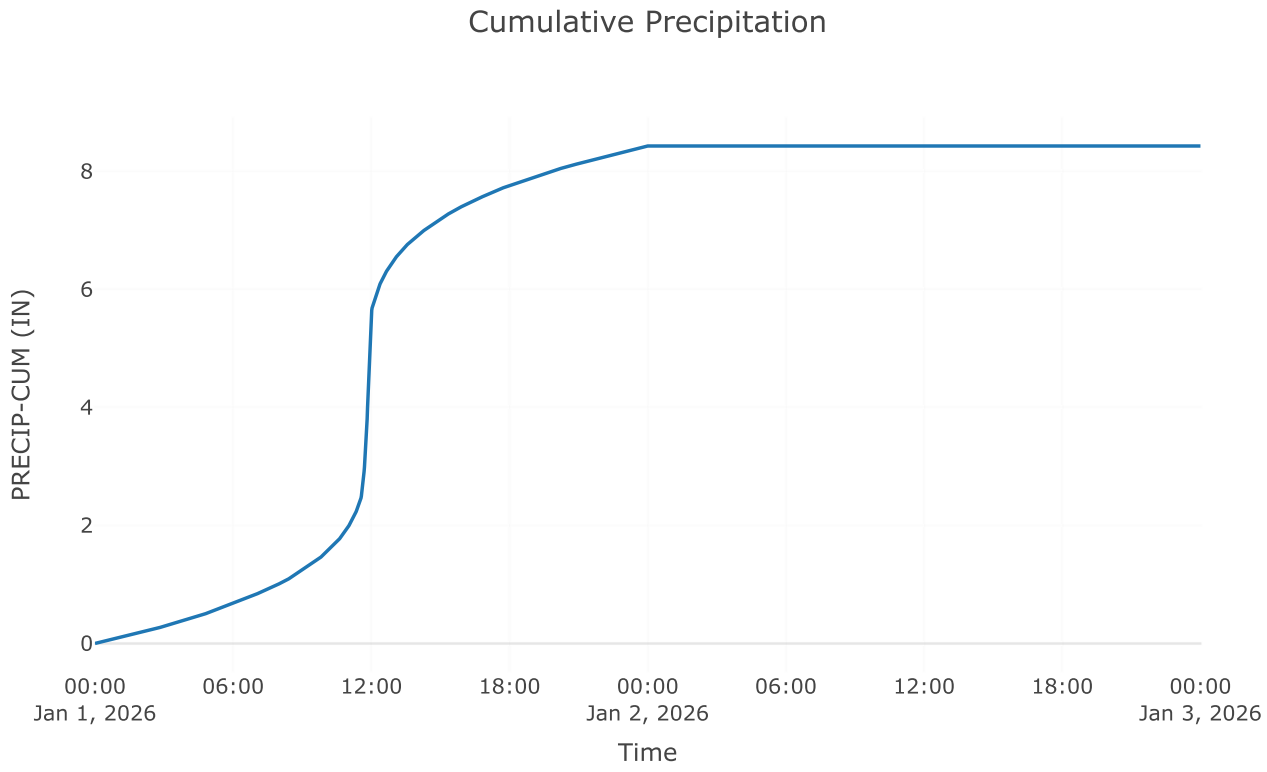
Scenario 1 - Functioning Discharge Structure



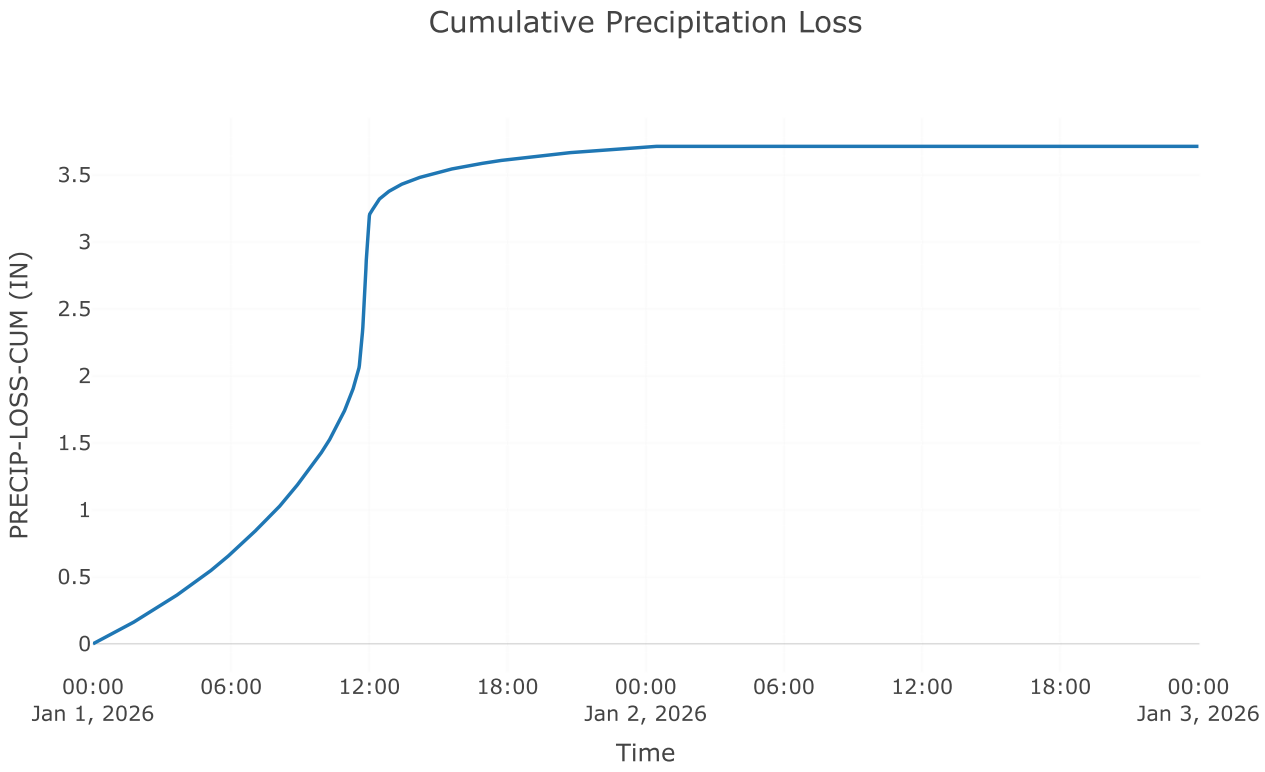


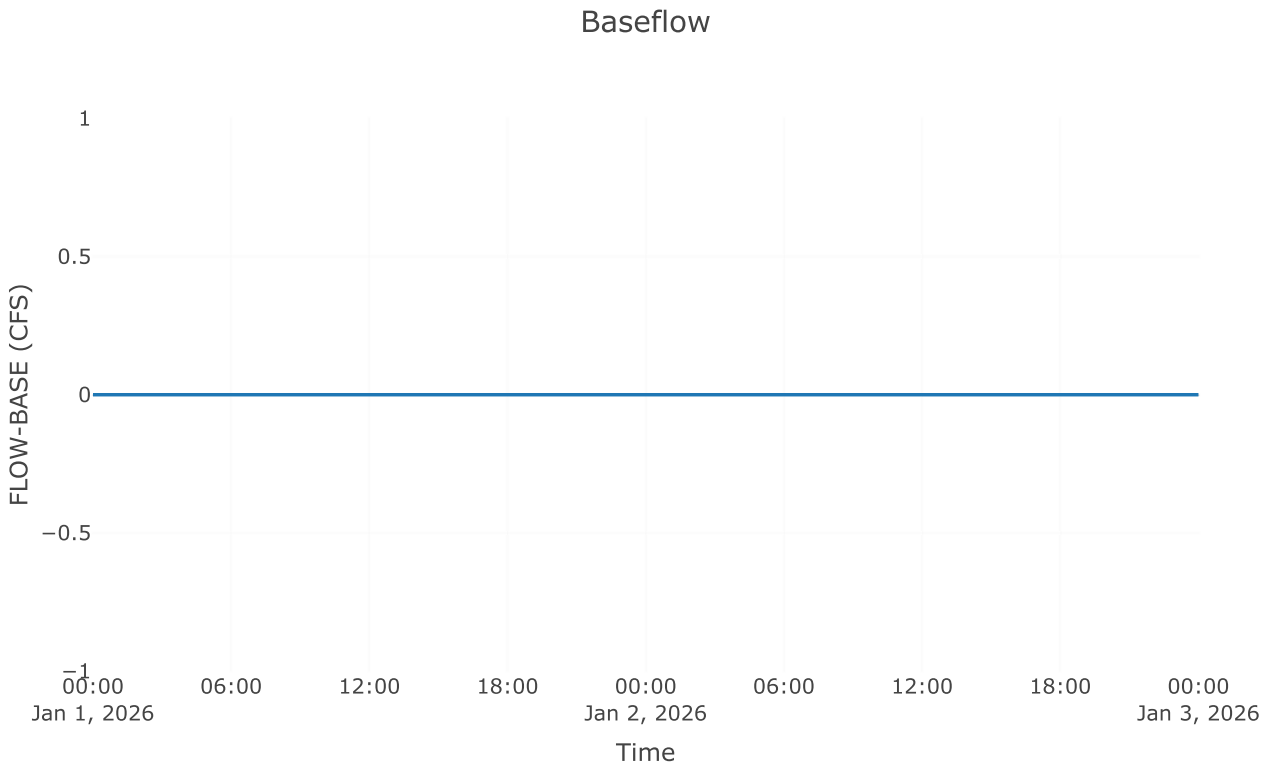
Scenario 1 - Functioning Discharge Structure



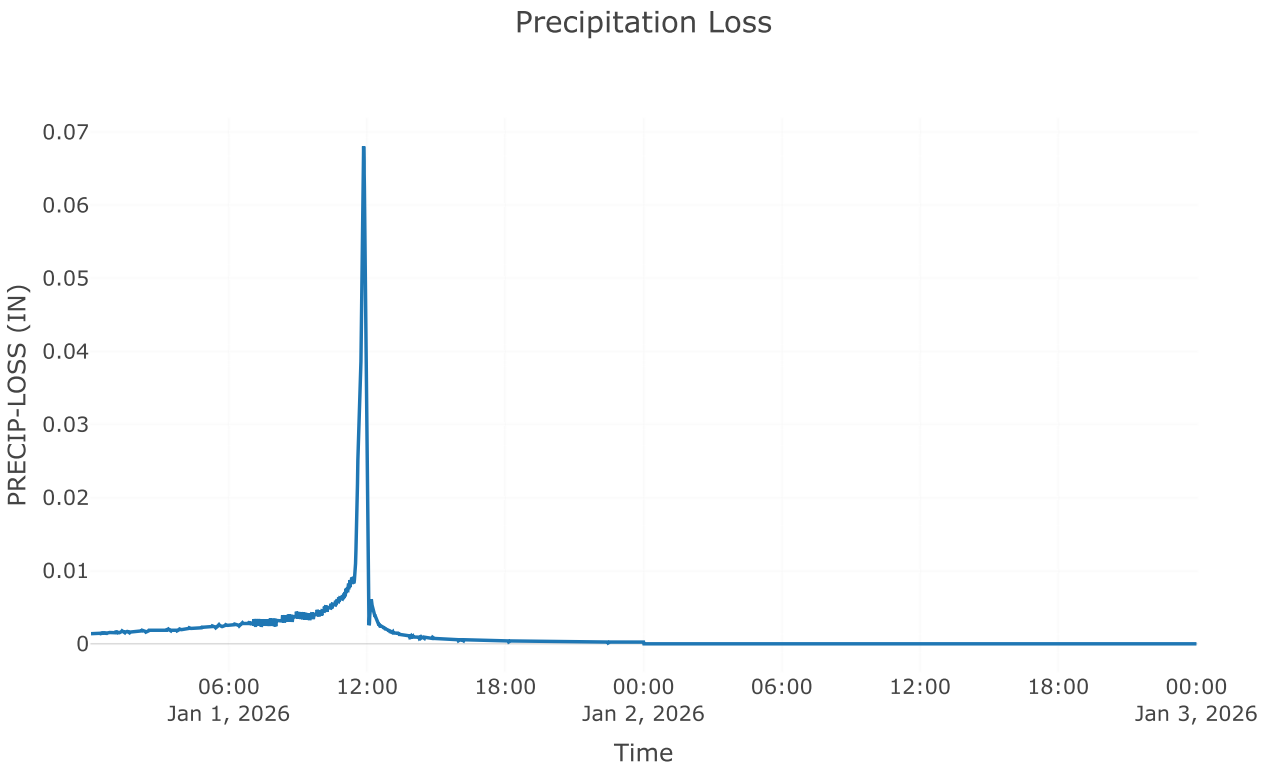


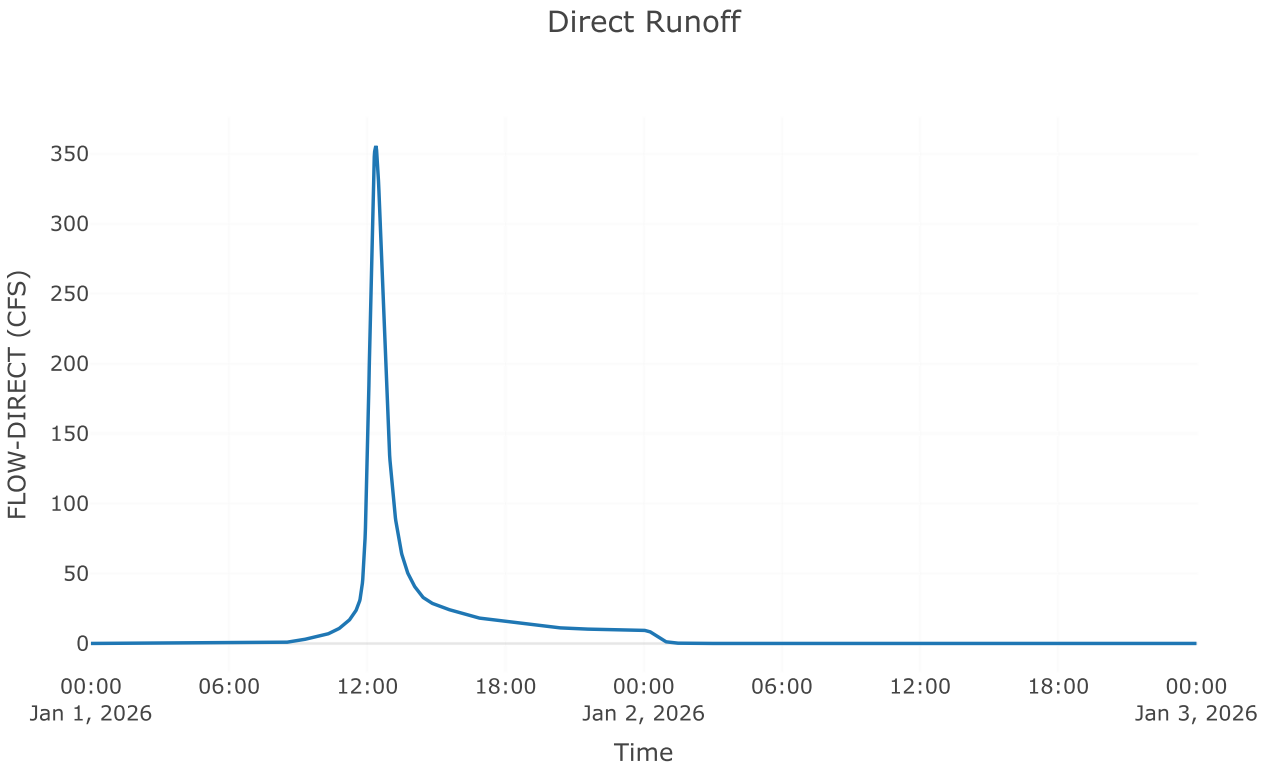
Scenario 1 - Functioning Discharge Structure



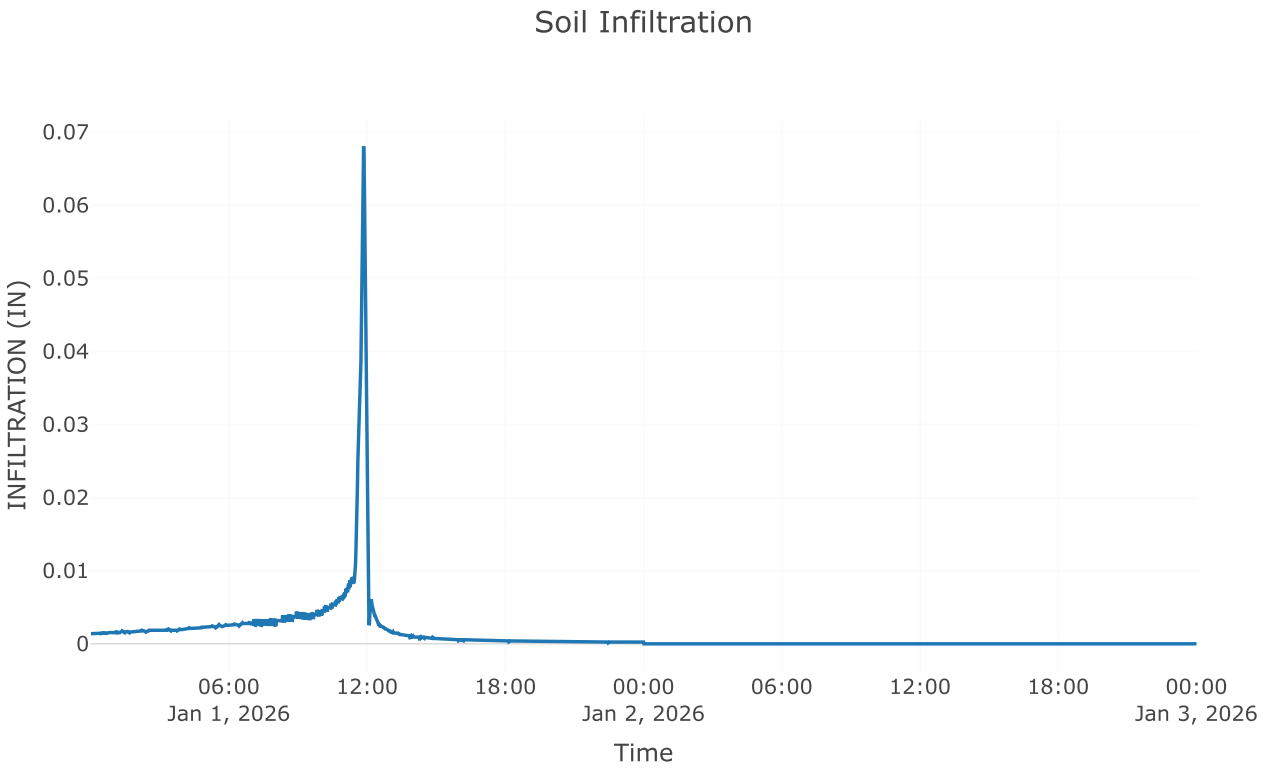


Scenario 1 - Functioning Discharge Structure





Scenario 1 - Functioning Discharge Structure



Subbasin: Basin Watershed

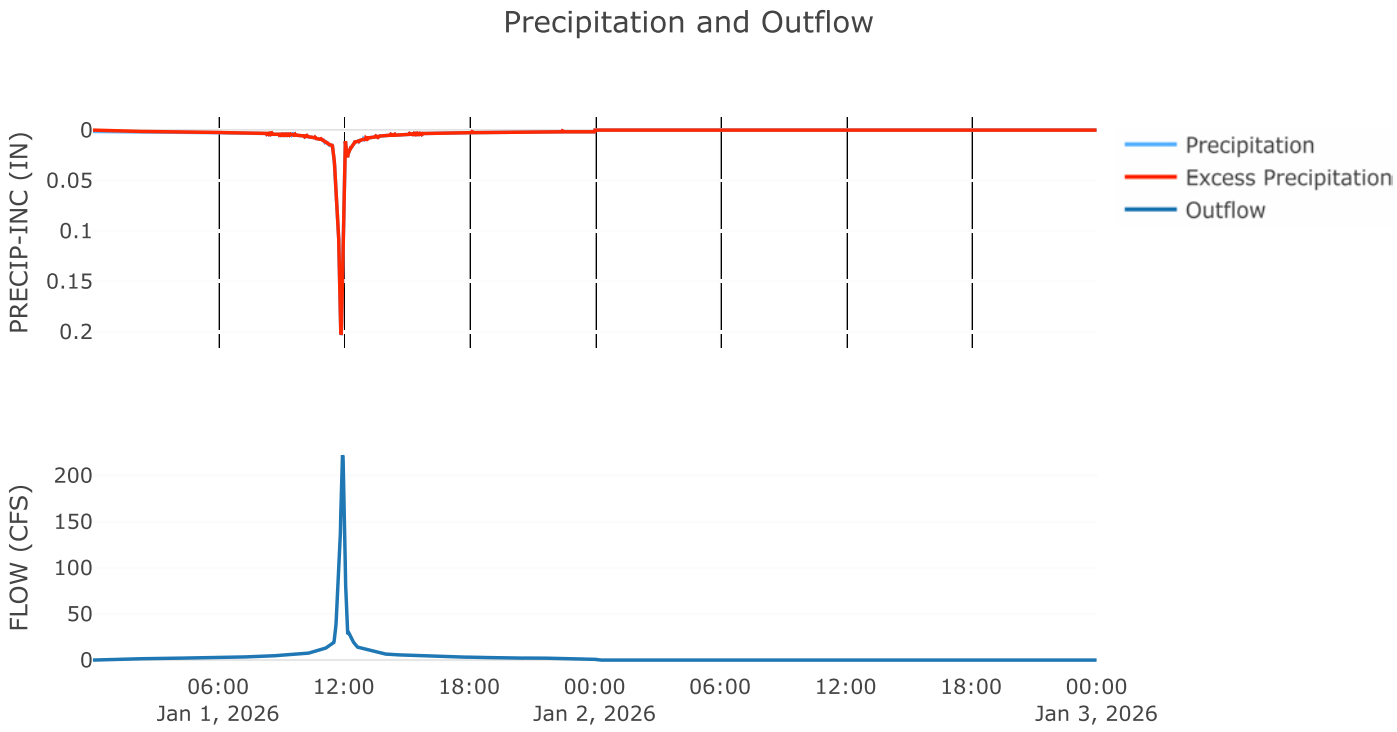
Area (MI2) : 0.03
Downstream : Milesburg Ash Disposal Basin

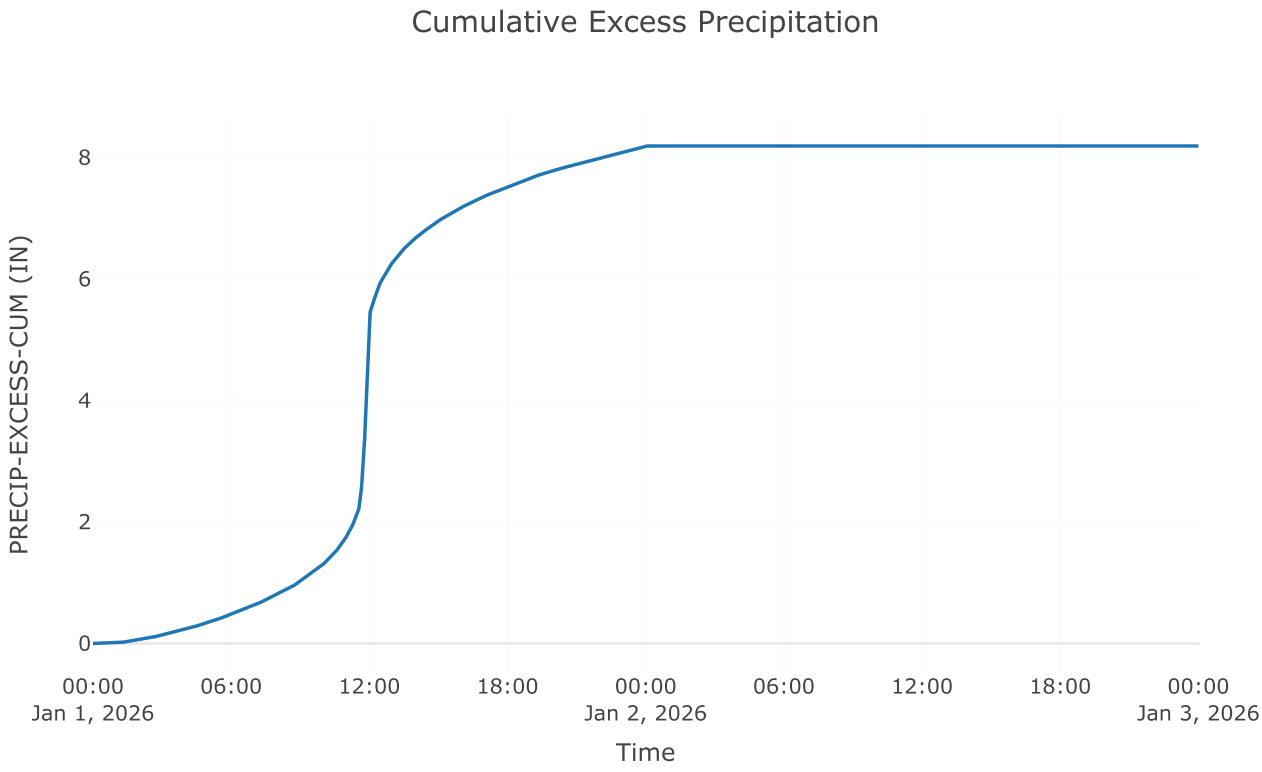
Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	98

Transform: Scs	
Lag	3.6
Unitgraph Type	Standard

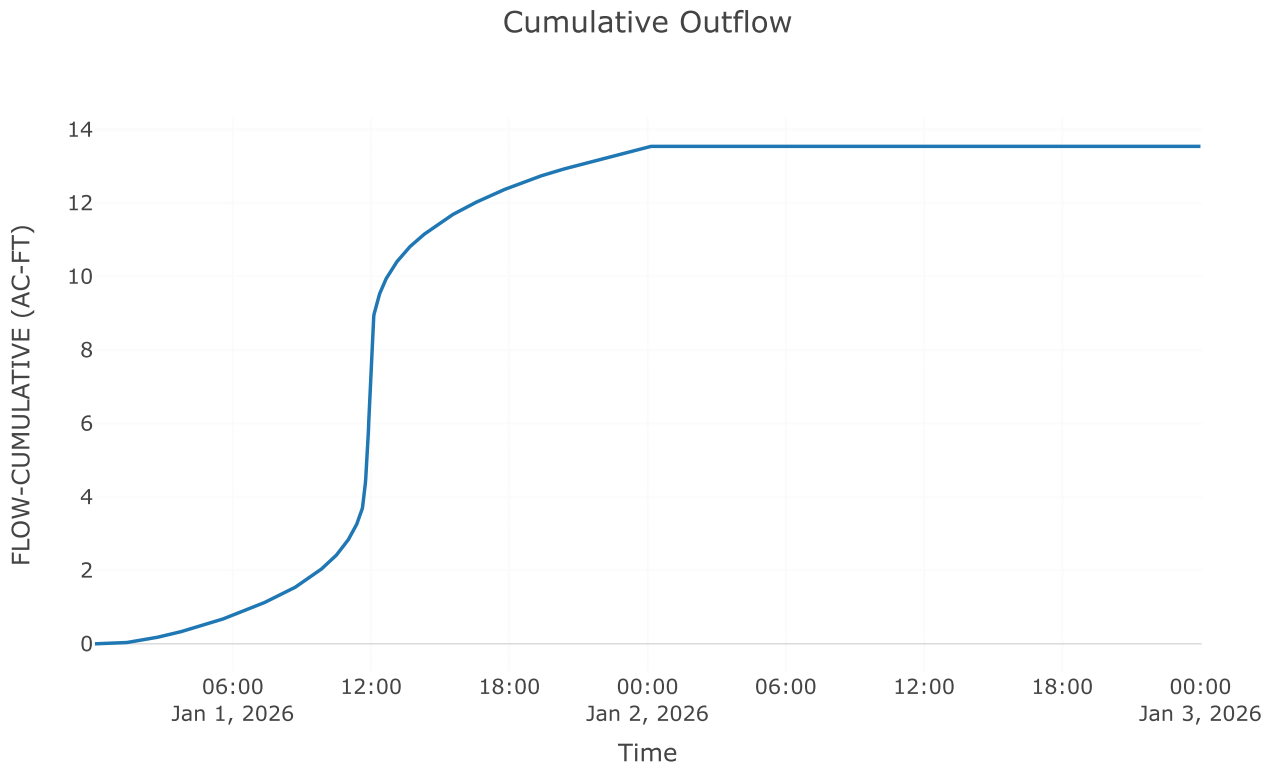
Results: Basin Watershed	
Peak Discharge (CFS)	221.88
Time of Peak Discharge	01Jan2026, 11:56
Volume (IN)	8.19
Precipitation Volume (AC - FT)	13.94
Loss Volume (AC - FT)	0.4
Excess Volume (AC - FT)	13.54
Direct Runoff Volume (AC - FT)	13.54
Baseflow Volume (AC - FT)	0

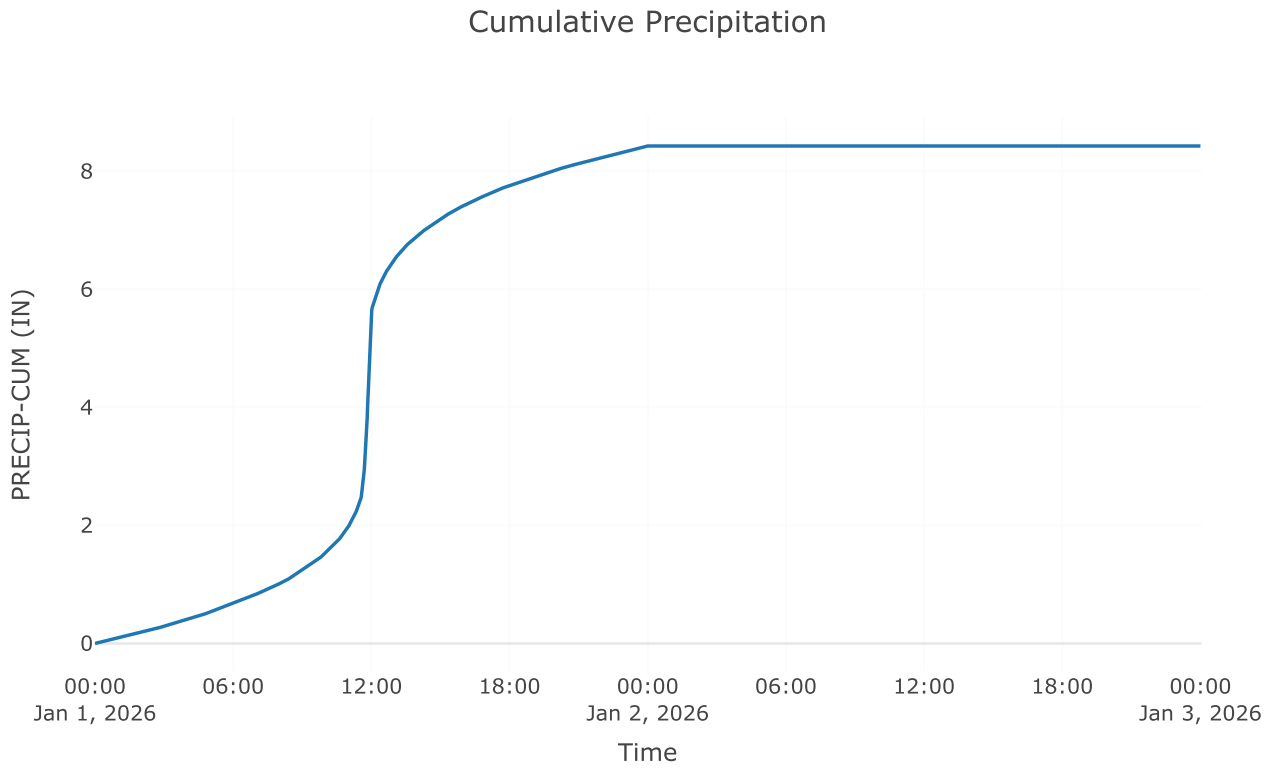
Scenario 1 - Functioning Discharge Structure



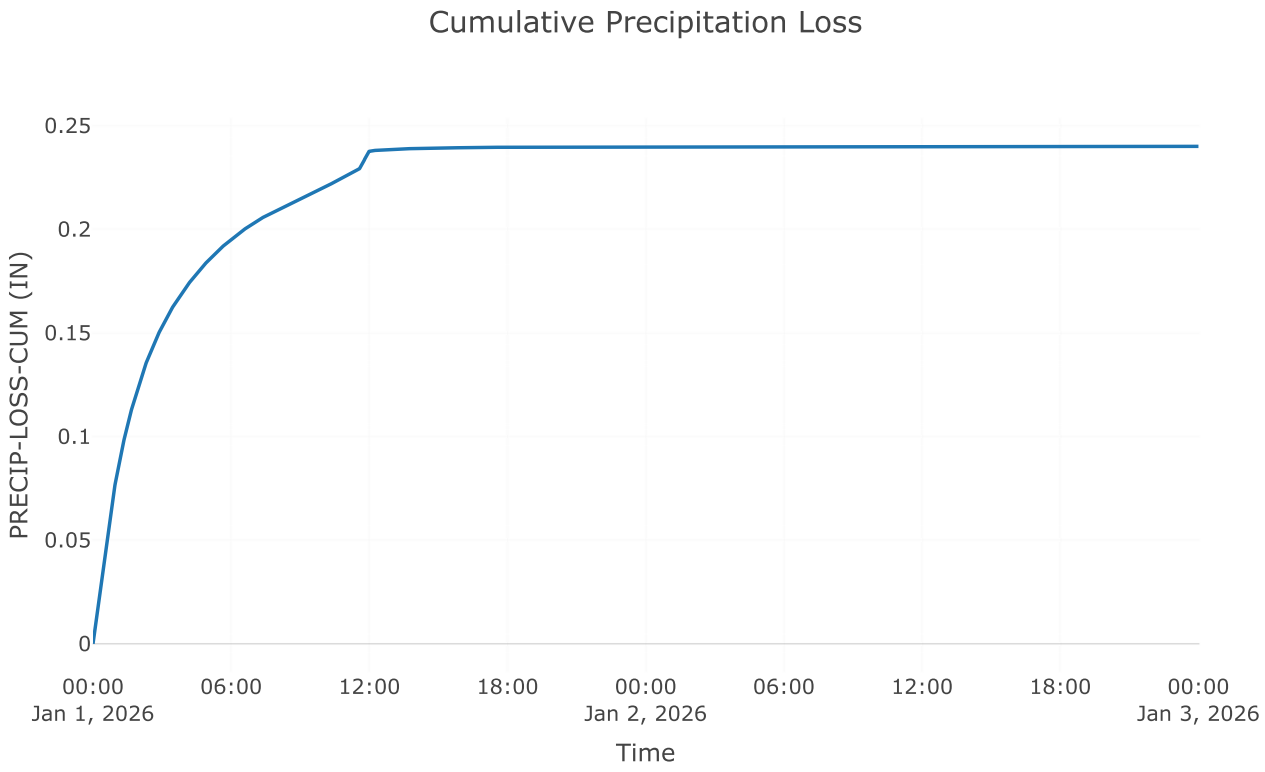


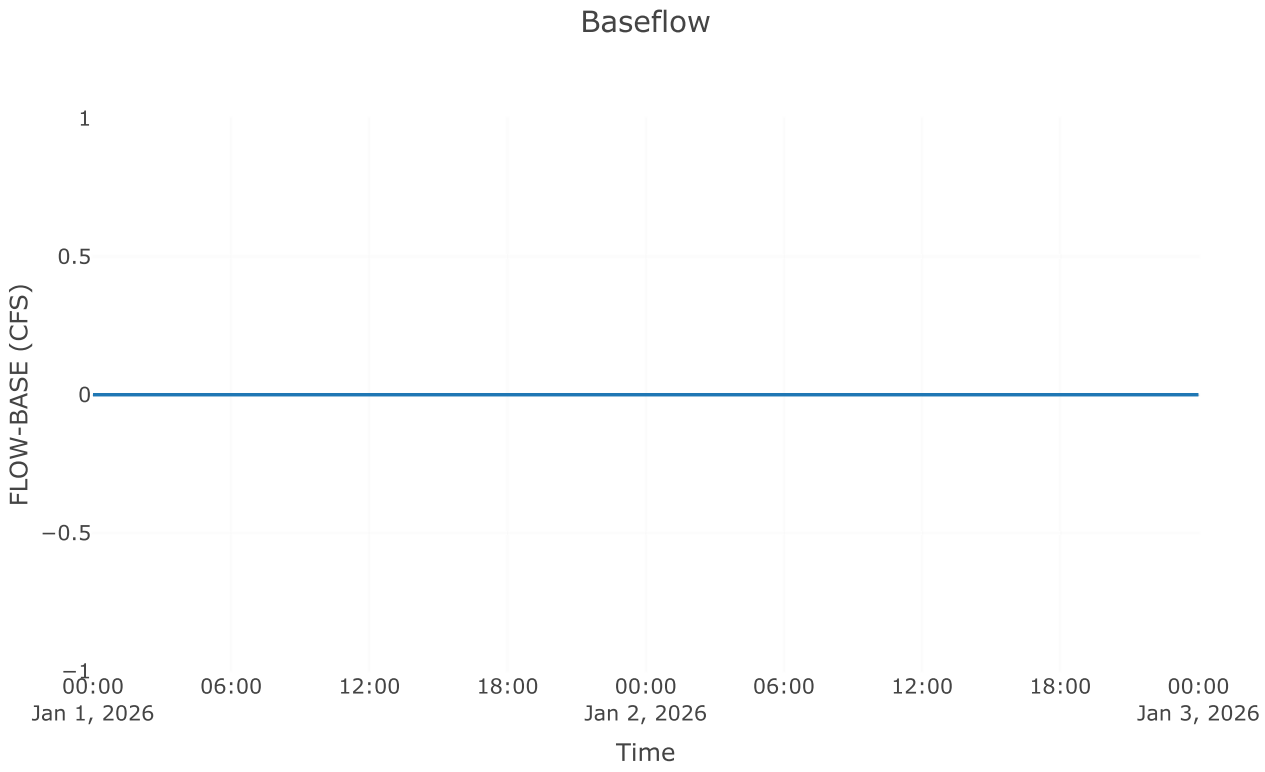
Scenario 1 - Functioning Discharge Structure



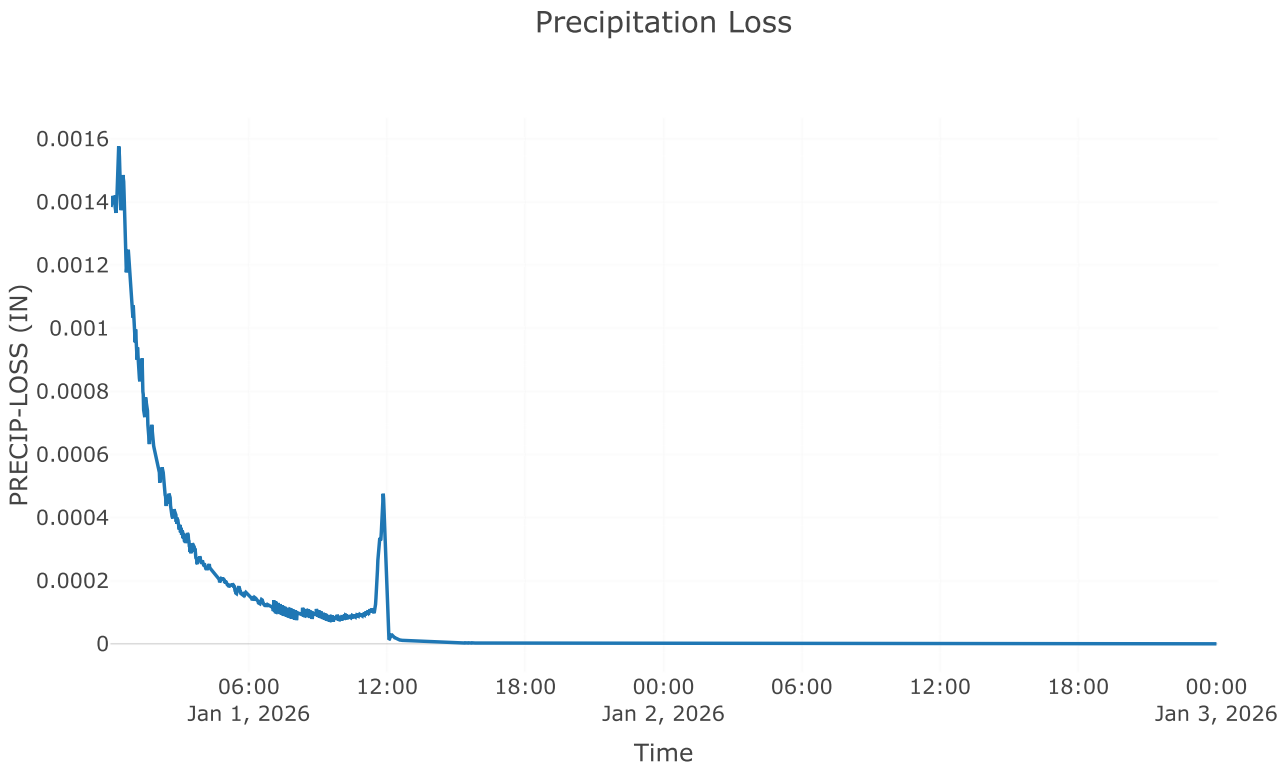


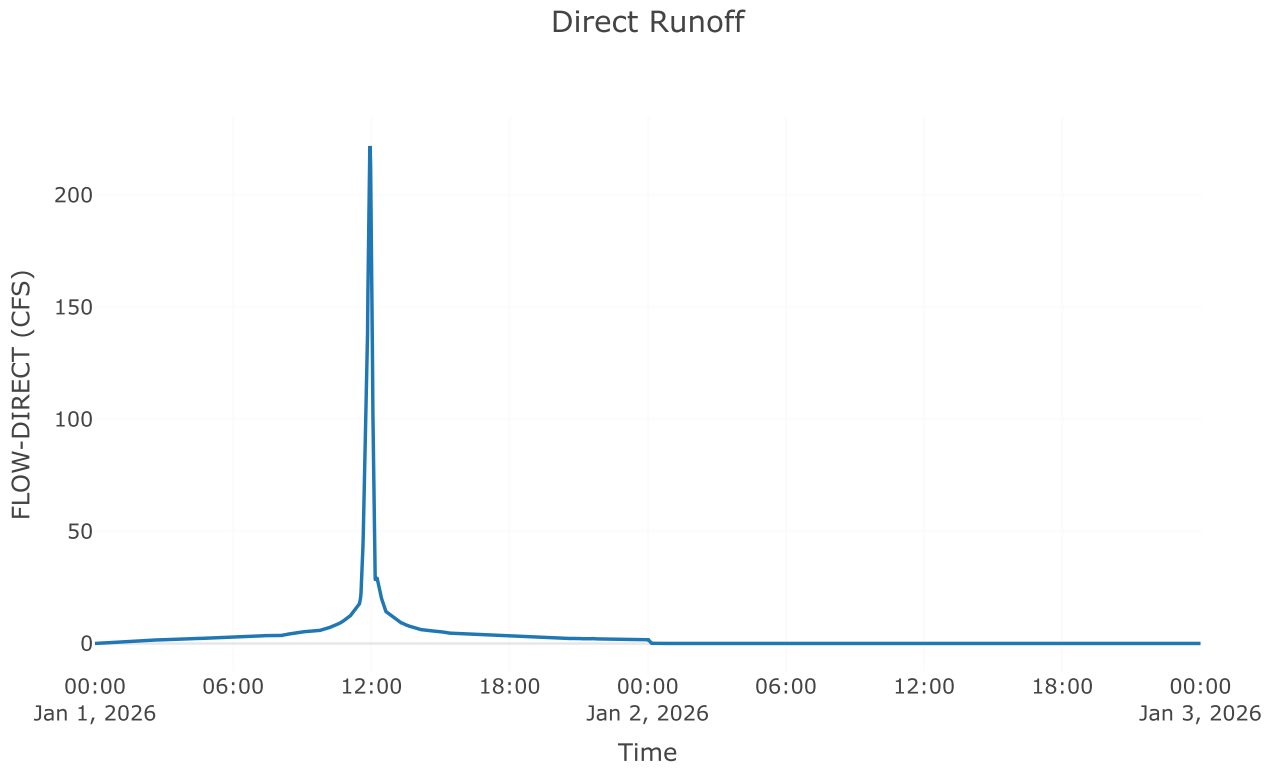
Scenario 1 - Functioning Discharge Structure



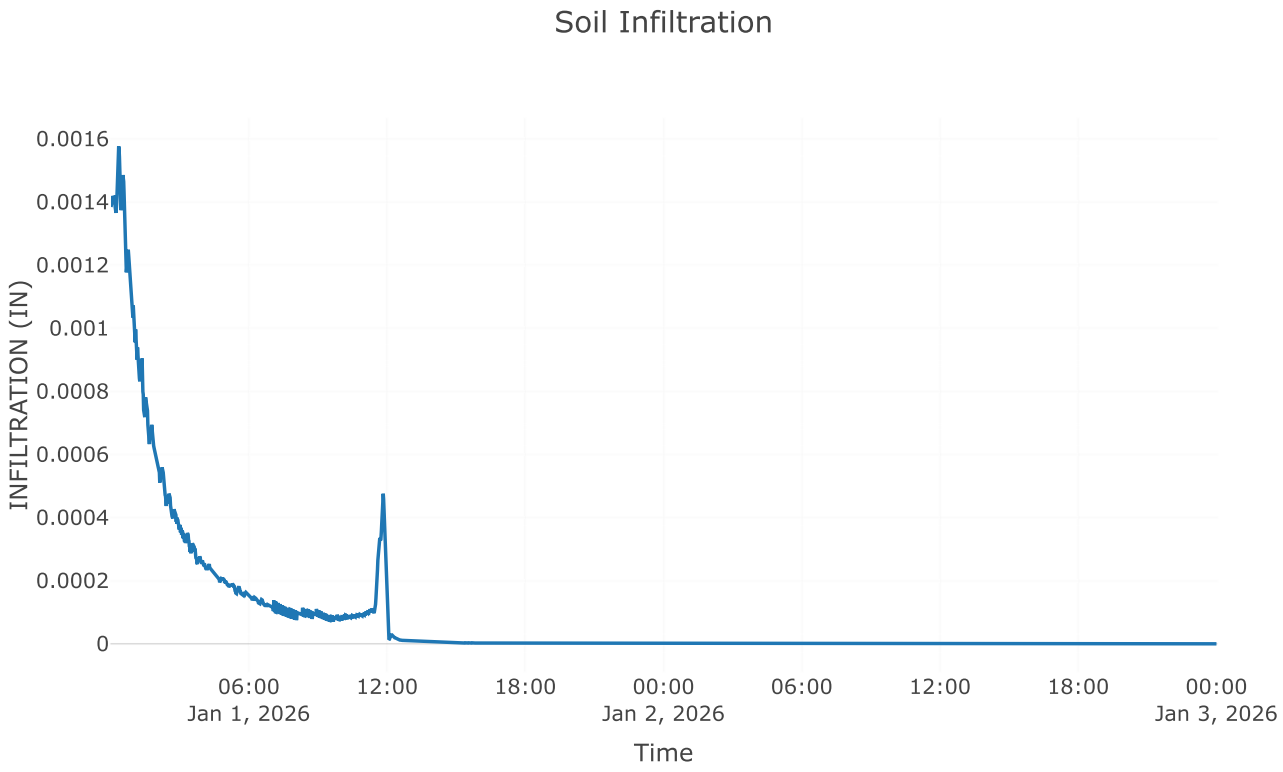


Scenario 1 - Functioning Discharge Structure





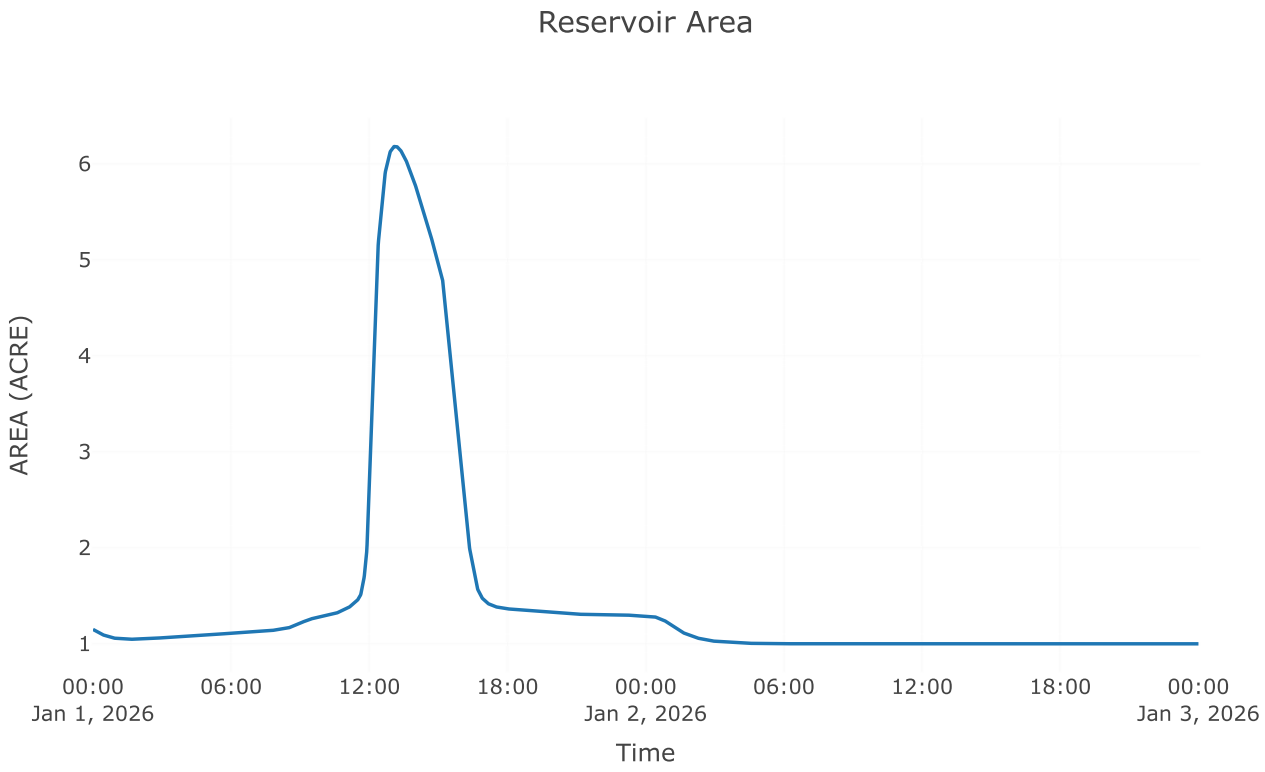
Scenario 1 - Functioning Discharge Structure

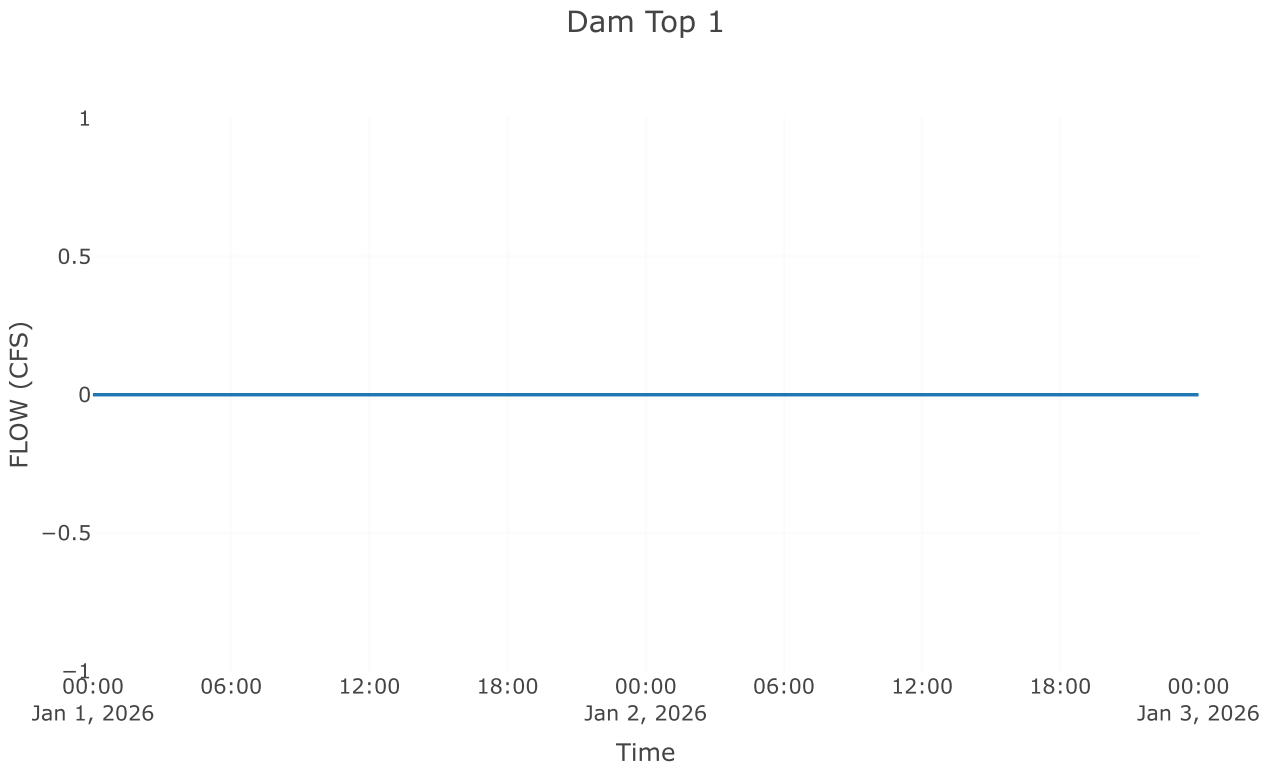


Reservoir: Milesburg Ash Disposal Basin

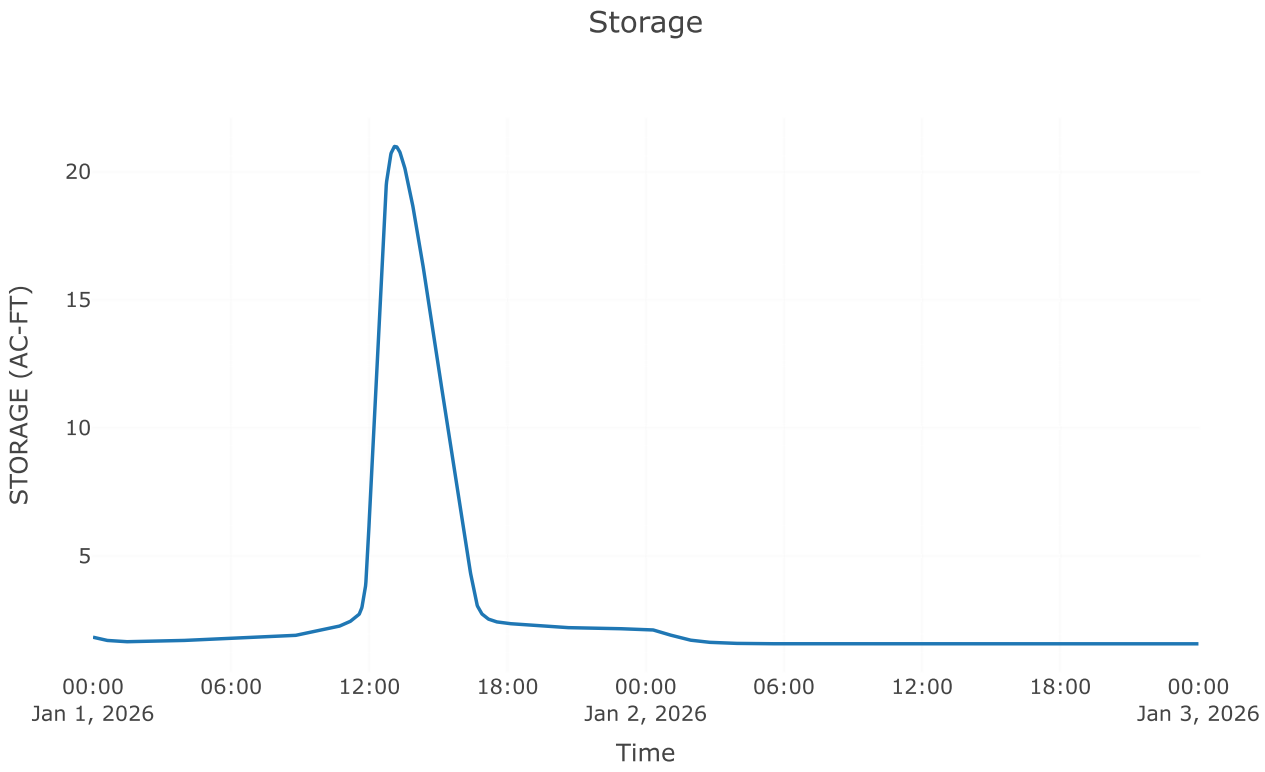
Results: Milesburg Ash Disposal Basin	
Peak Discharge (CFS)	112.85
Time of Peak Discharge	01Jan2026, 13:08
Volume (IN)	5.26
Peak Inflow (CFS)	378.4
Time of Peak Inflow	01Jan2026, 12:21
Inflow Volume (AC - FT)	57.82
Maximum Storage (AC - FT)	20.98
Peak Elevation (FT)	717.7
Discharge Volume (AC - FT)	58.08

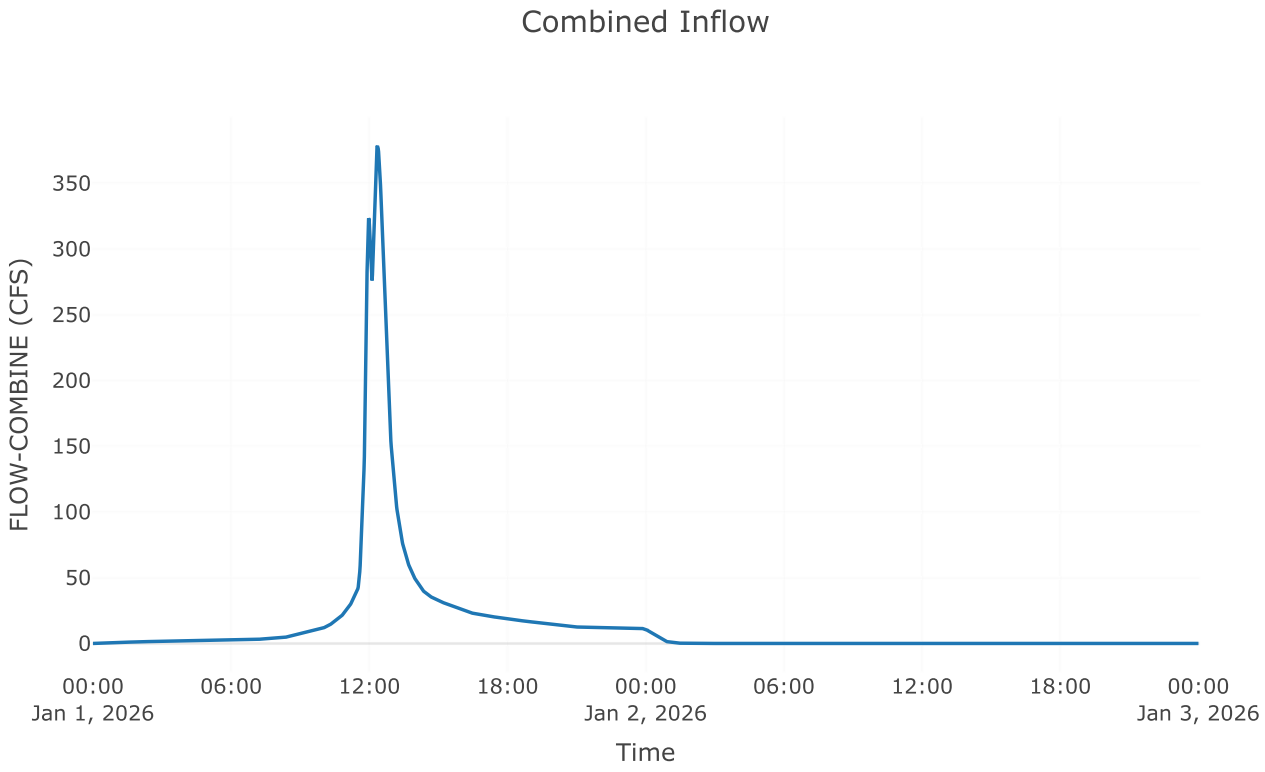
Scenario 1 - Functioning Discharge Structure



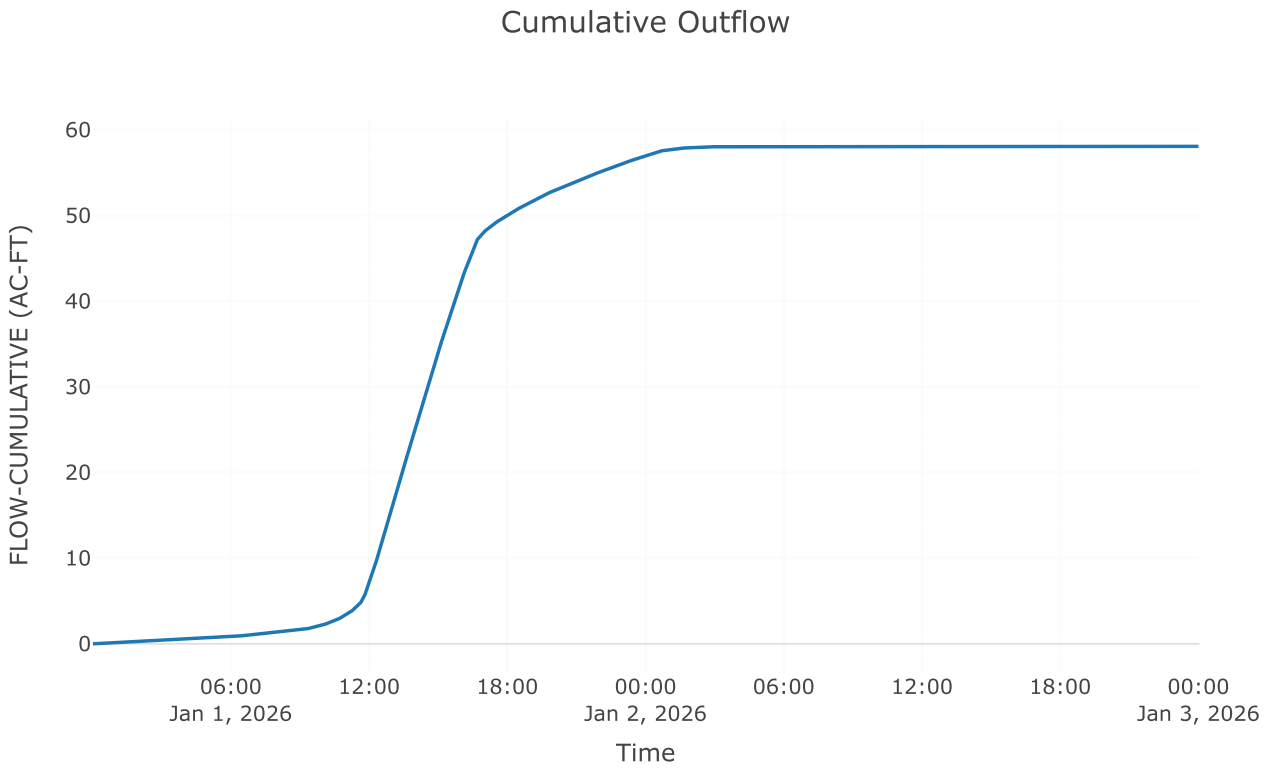


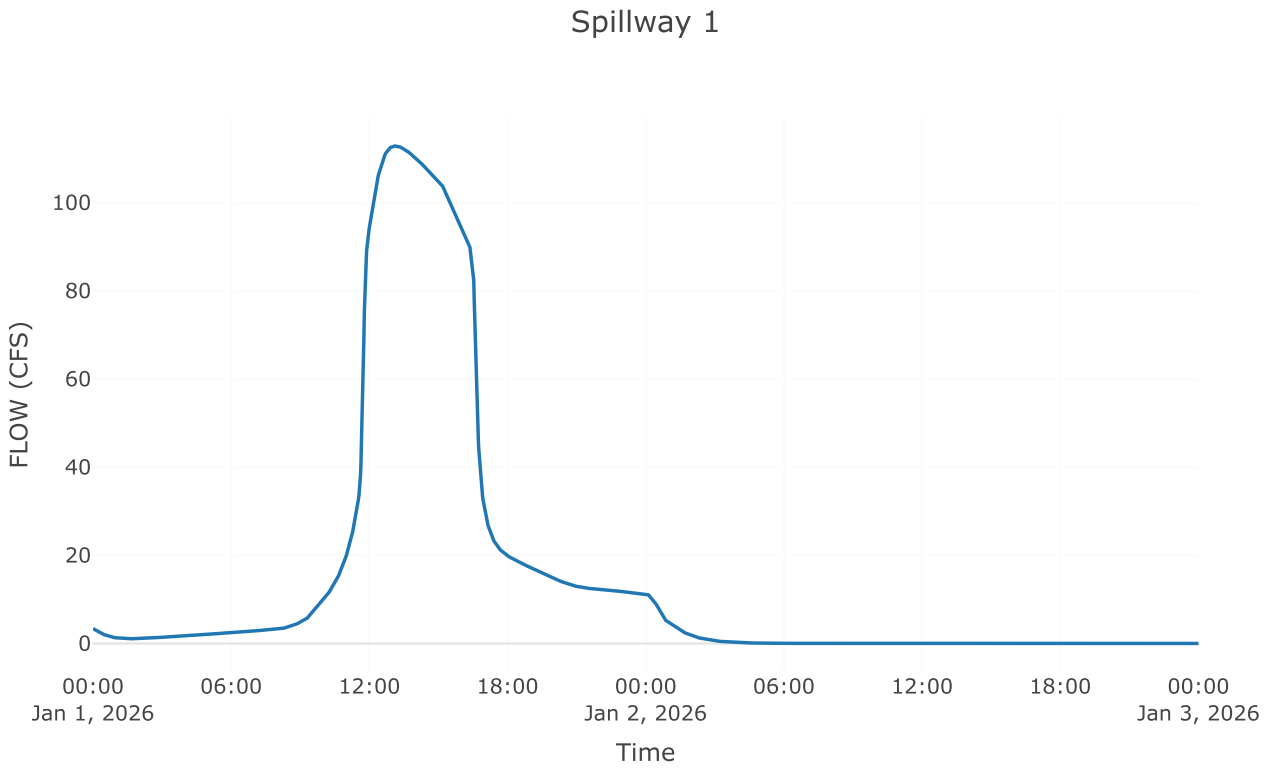
Scenario 1 - Functioning Discharge Structure



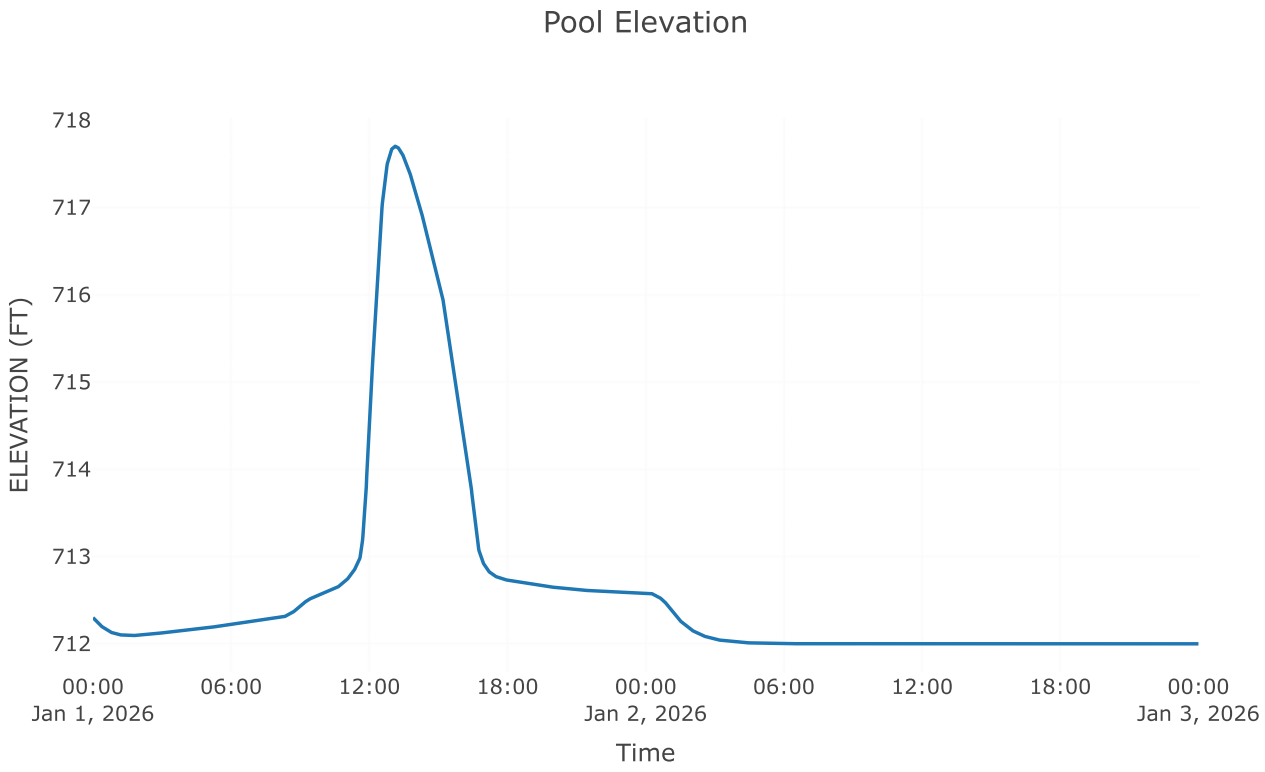


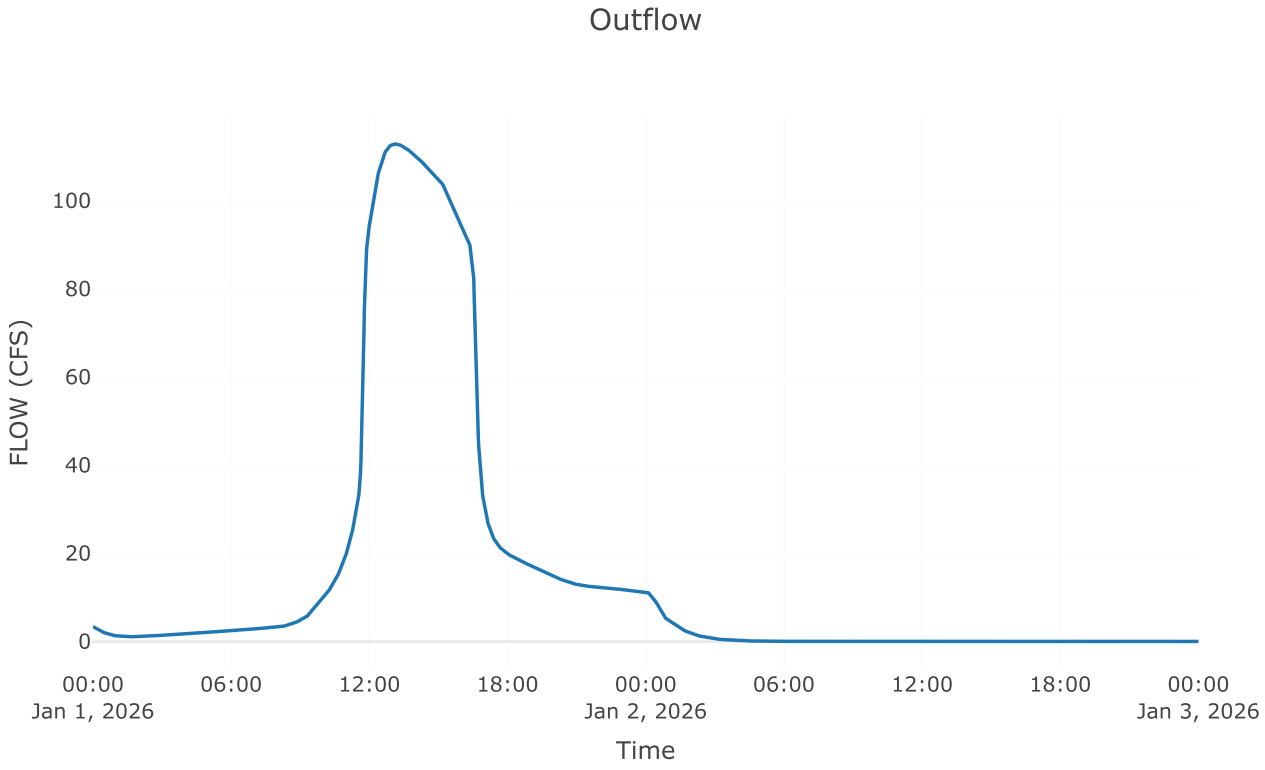
Scenario 1 - Functioning Discharge Structure





Scenario 1 - Functioning Discharge Structure





Scenario 2 - Non-Functioning Discharge Structure

Project: Milesburg_1000_Year_Route
Simulation Run: 1000 Year No Riser
Simulation Start: 31 December 2025, 24:00
Simulation End: 2 January 2026, 24:00

HMS Version: 4.13
Executed: 13 April 2026, 20:20

Global Parameter Summary - Subbasin

Area (MI2)

Element Name	Area (MI2)
Upslope Watershed	0.18
Basin Watershed	0.03

Downstream

Element Name	Downstream
Upslope Watershed	Milesburg Ash Disposal Basin
Basin Watershed	Milesburg Ash Disposal Basin

Loss Rate: Scs

Element Name	Percent Impervious Area	Curve Number
Upslope Watershed	0	69
Basin Watershed	0	98

Transform: Scs

Element Name	Lag	Unitgraph Type
Upslope Watershed	29	Standard
Basin Watershed	3.6	Standard

Global Results Summary

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
Upslope Watershed	0.18	355.47	01Jan2026, 12:22	4.72
Basin Watershed	0.03	221.88	01Jan2026, 11:56	8.19
Milesburg Ash Disposal Basin	0.21	0	31Dec2025, 24:00	0

Subbasin: Upslope Watershed

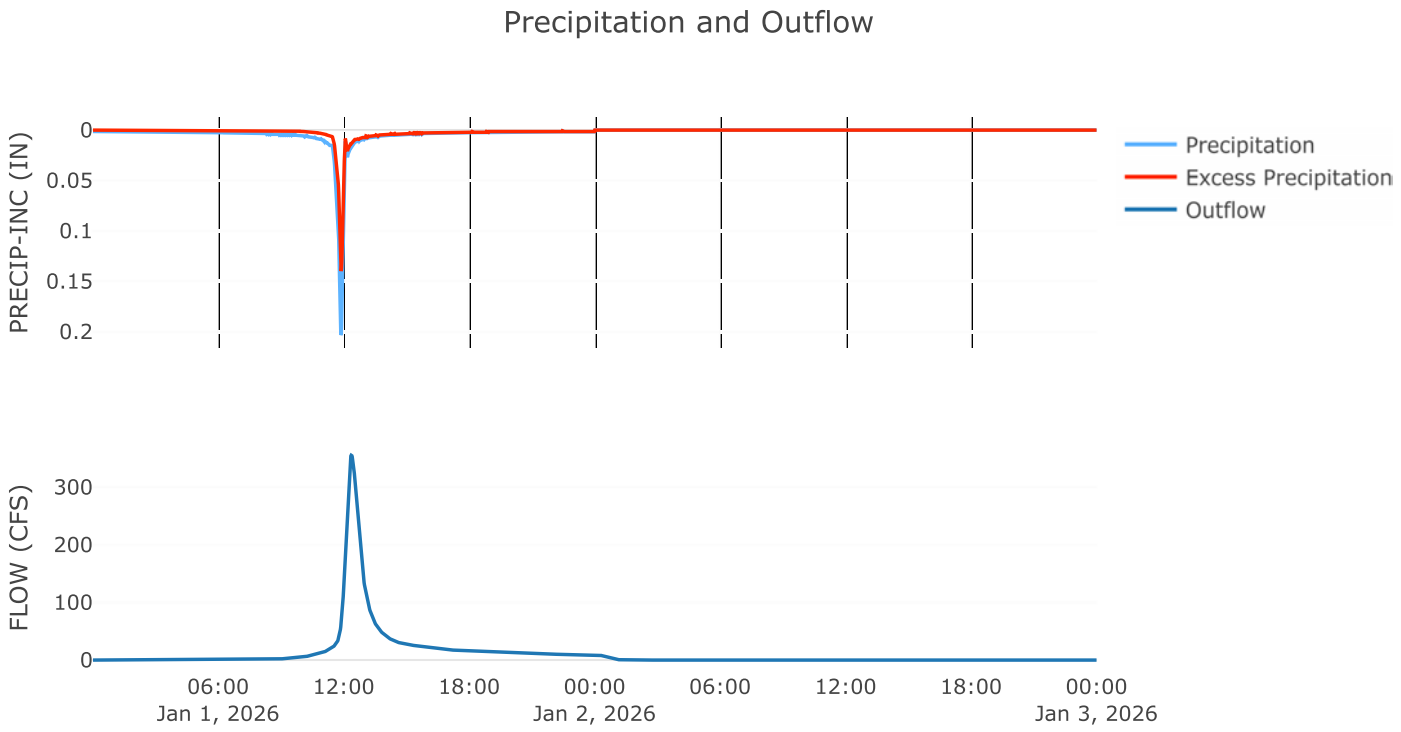
Area (MI2) : 0.18
Downstream : Milesburg Ash Disposal Basin

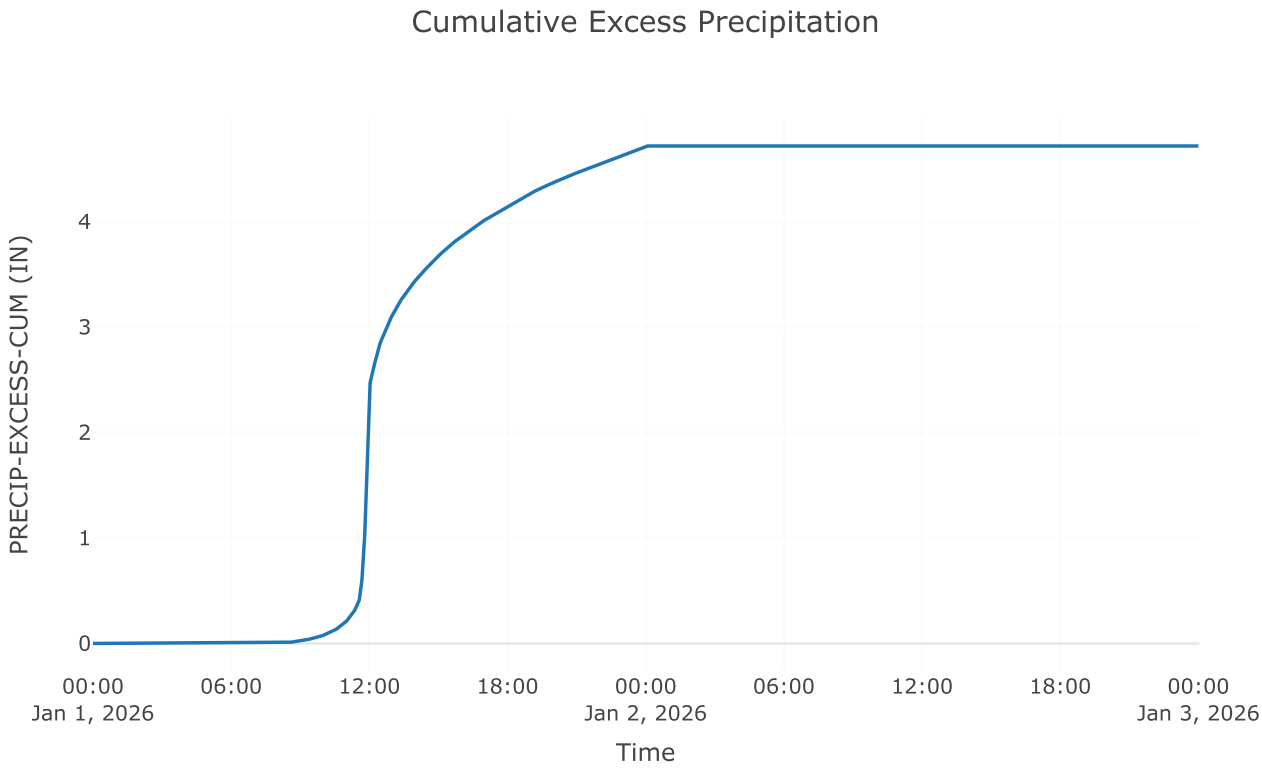
Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	69

Transform: Scs	
Lag	29
Unitgraph Type	Standard

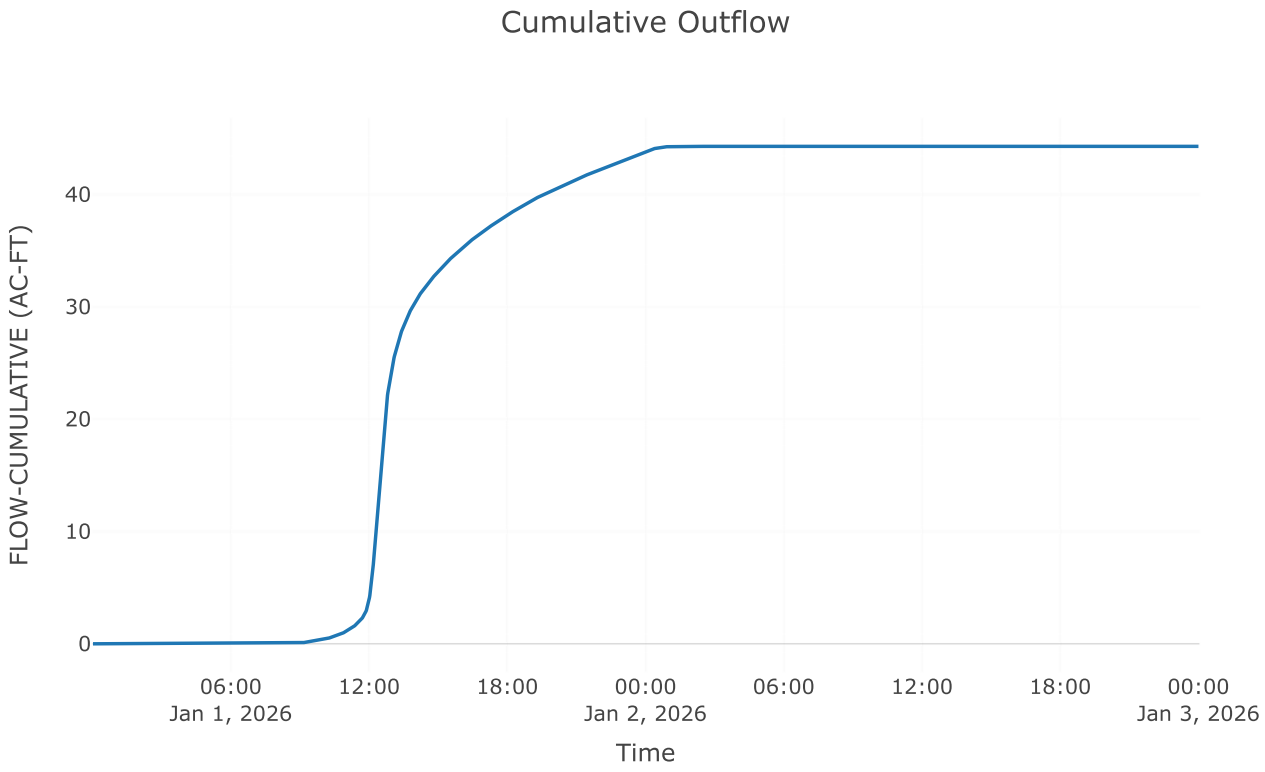
Results: Upslope Watershed	
Peak Discharge (CFS)	355.47
Time of Peak Discharge	01Jan2026, 12:22
Volume (IN)	4.72
Precipitation Volume (AC - FT)	79.13
Loss Volume (AC - FT)	34.85
Excess Volume (AC - FT)	44.28
Direct Runoff Volume (AC - FT)	44.28
Baseflow Volume (AC - FT)	0

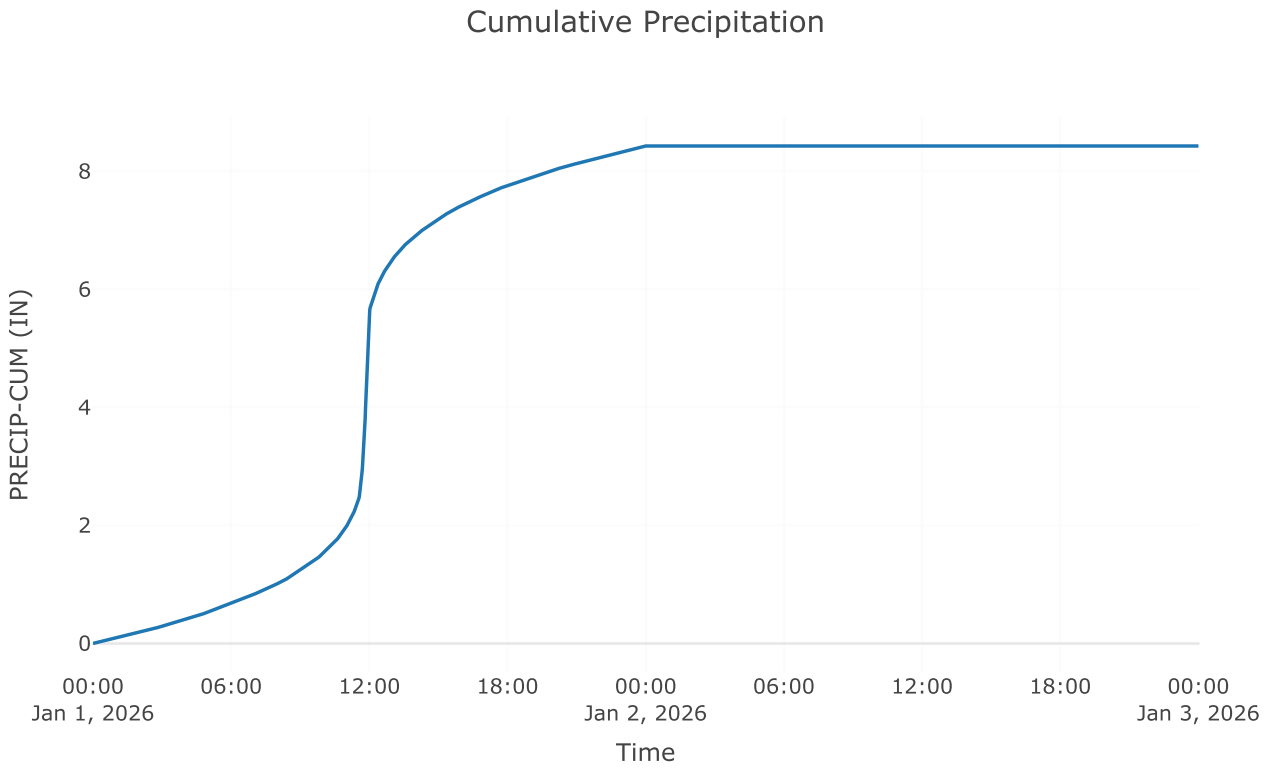
Scenario 2 - Non-Functioning Discharge Structure



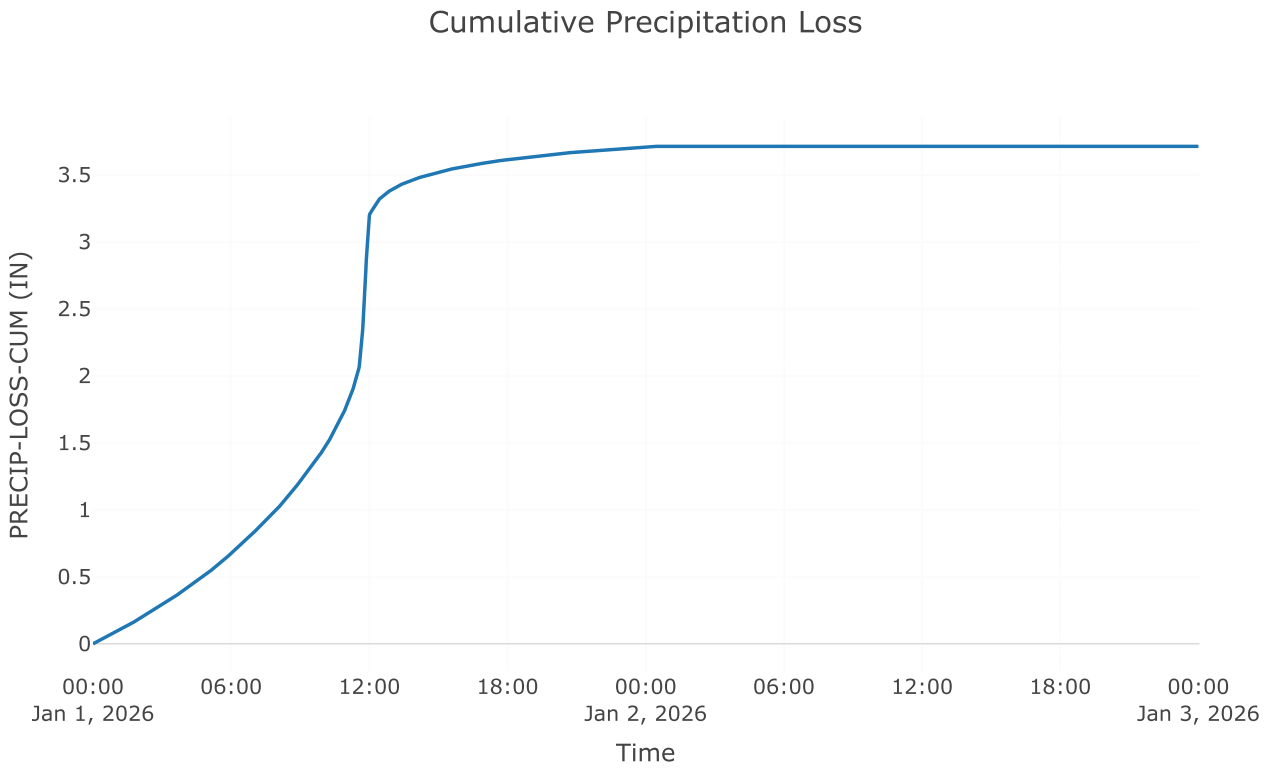


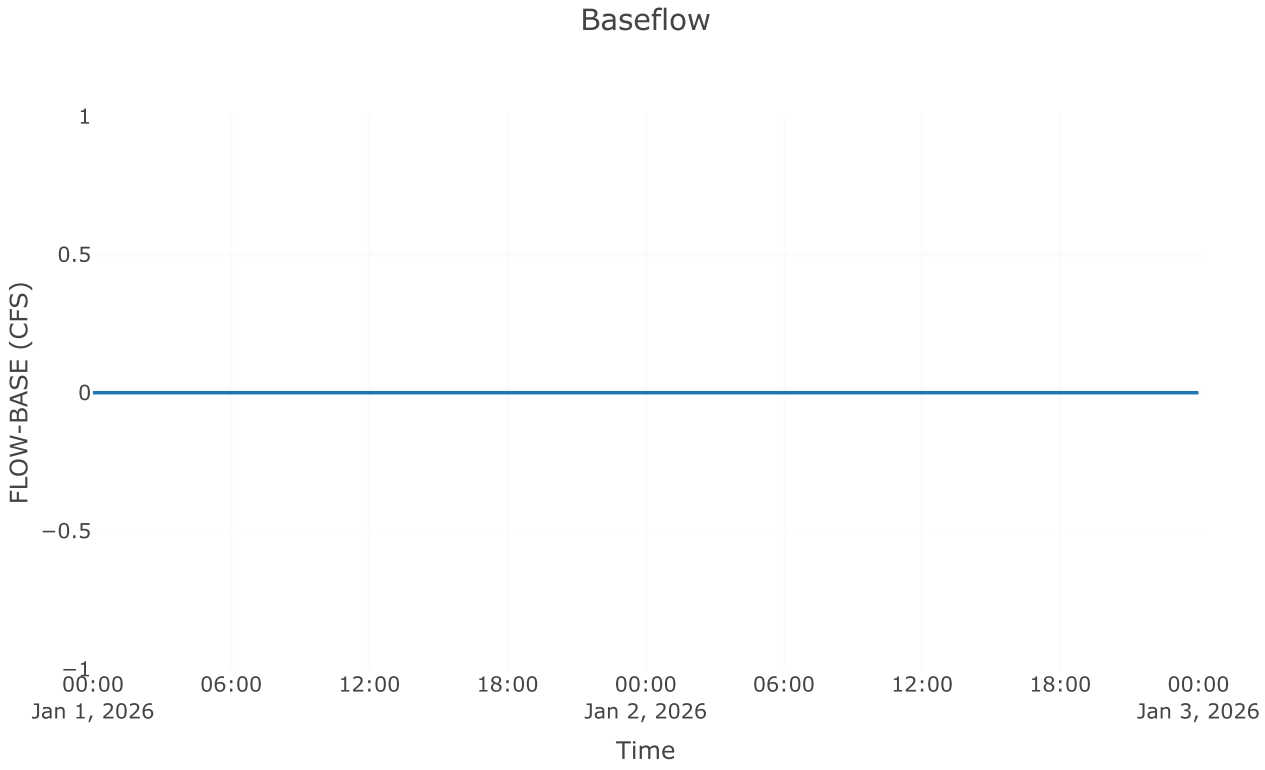
Scenario 2 - Non-Functioning Discharge Structure



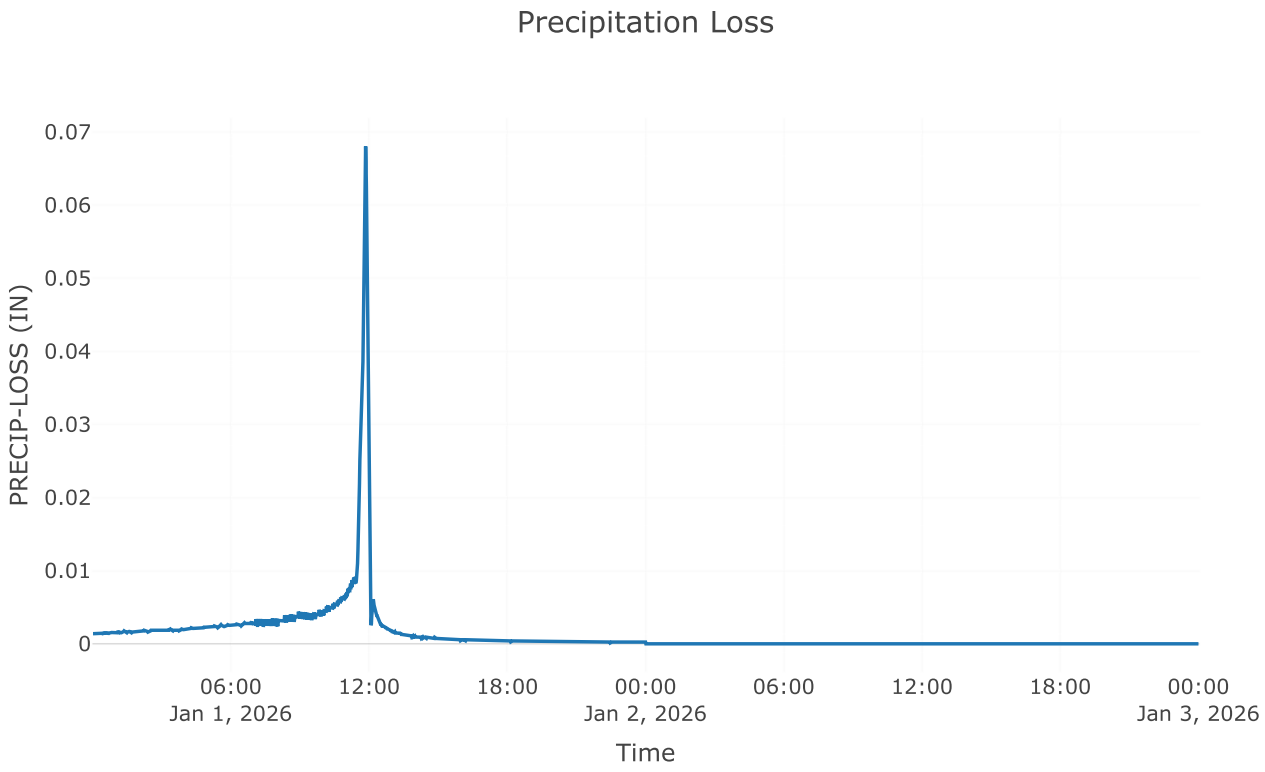


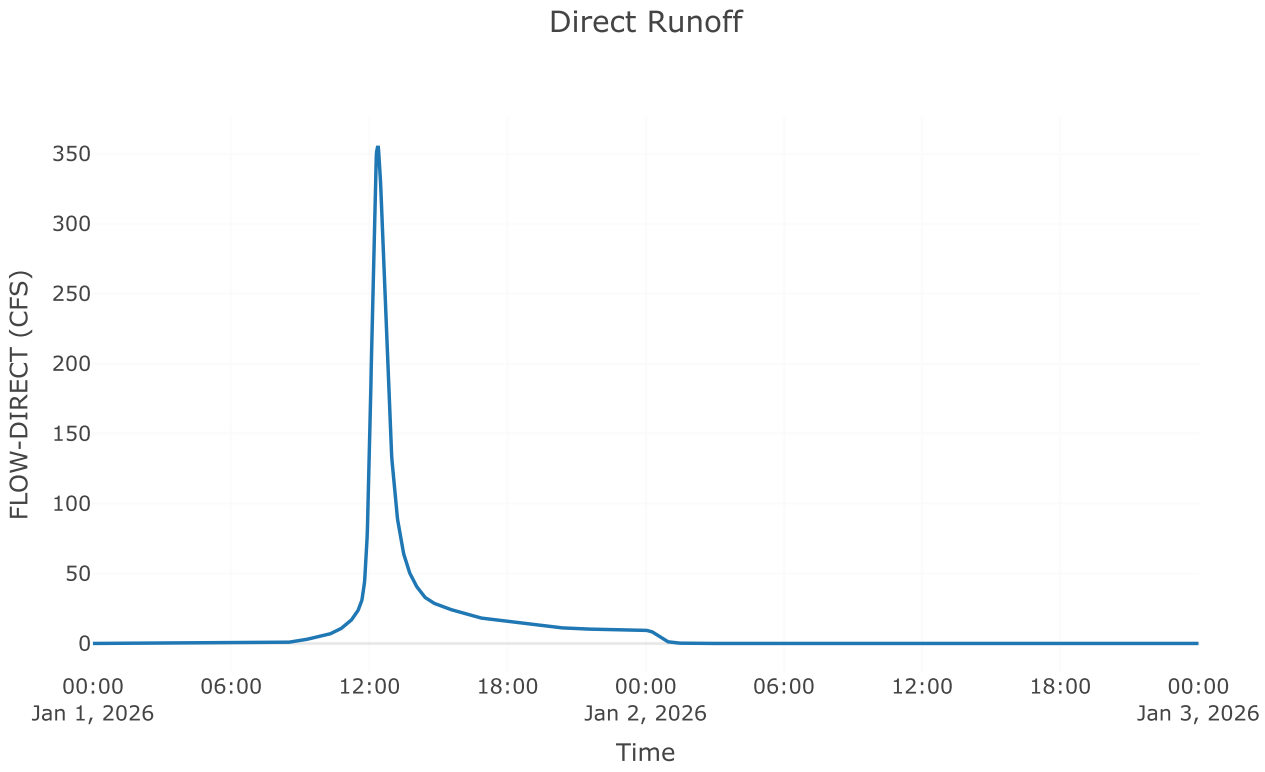
Scenario 2 - Non-Functioning Discharge Structure



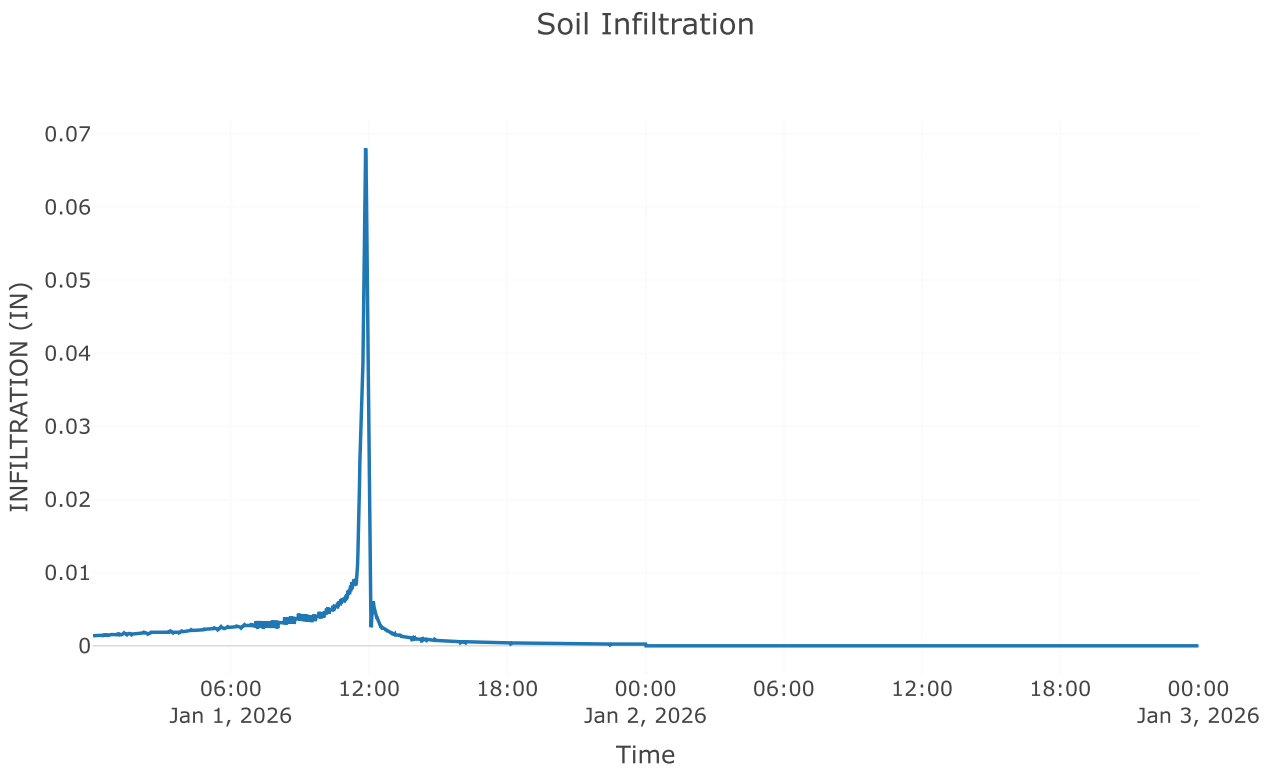


Scenario 2 - Non-Functioning Discharge Structure





Scenario 2 - Non-Functioning Discharge Structure



Subbasin: Basin Watershed

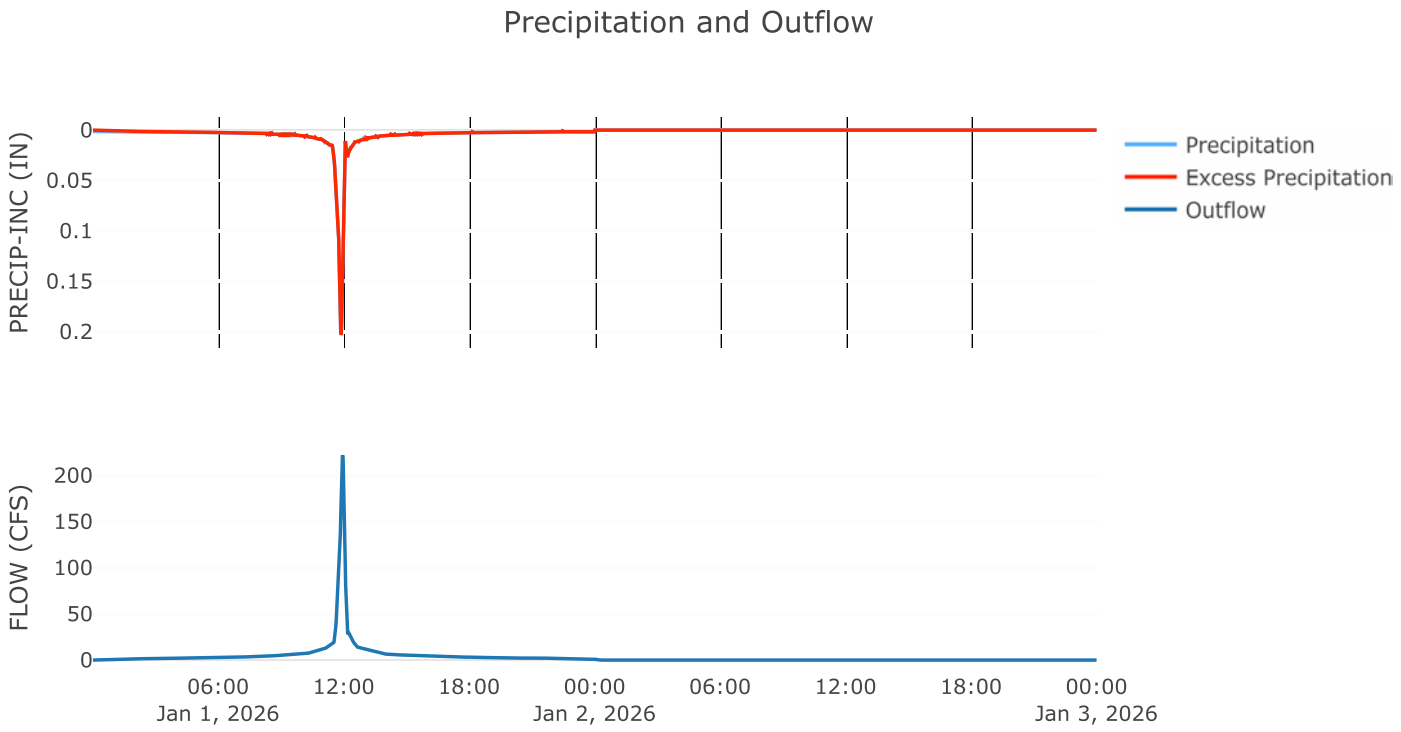
Area (MI2) : 0.03
Downstream : Milesburg Ash Disposal Basin

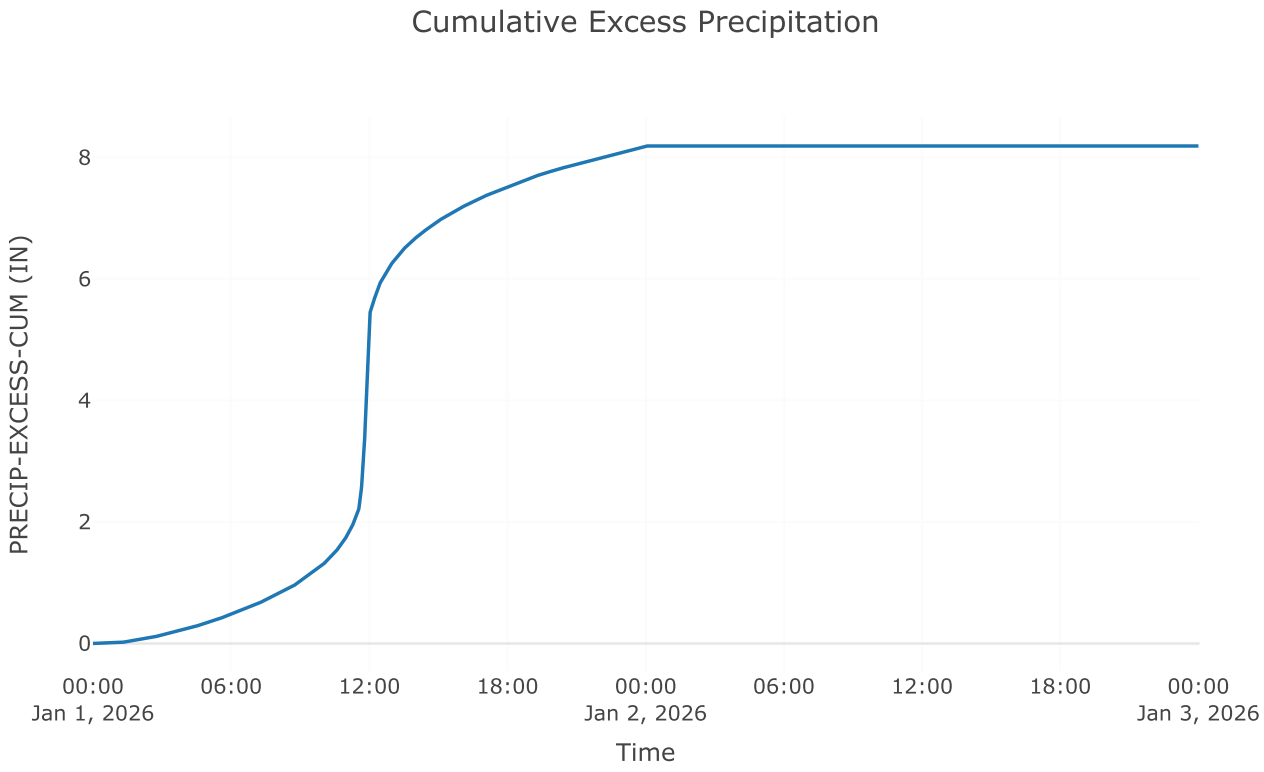
Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	98

Transform: Scs	
Lag	3.6
Unitgraph Type	Standard

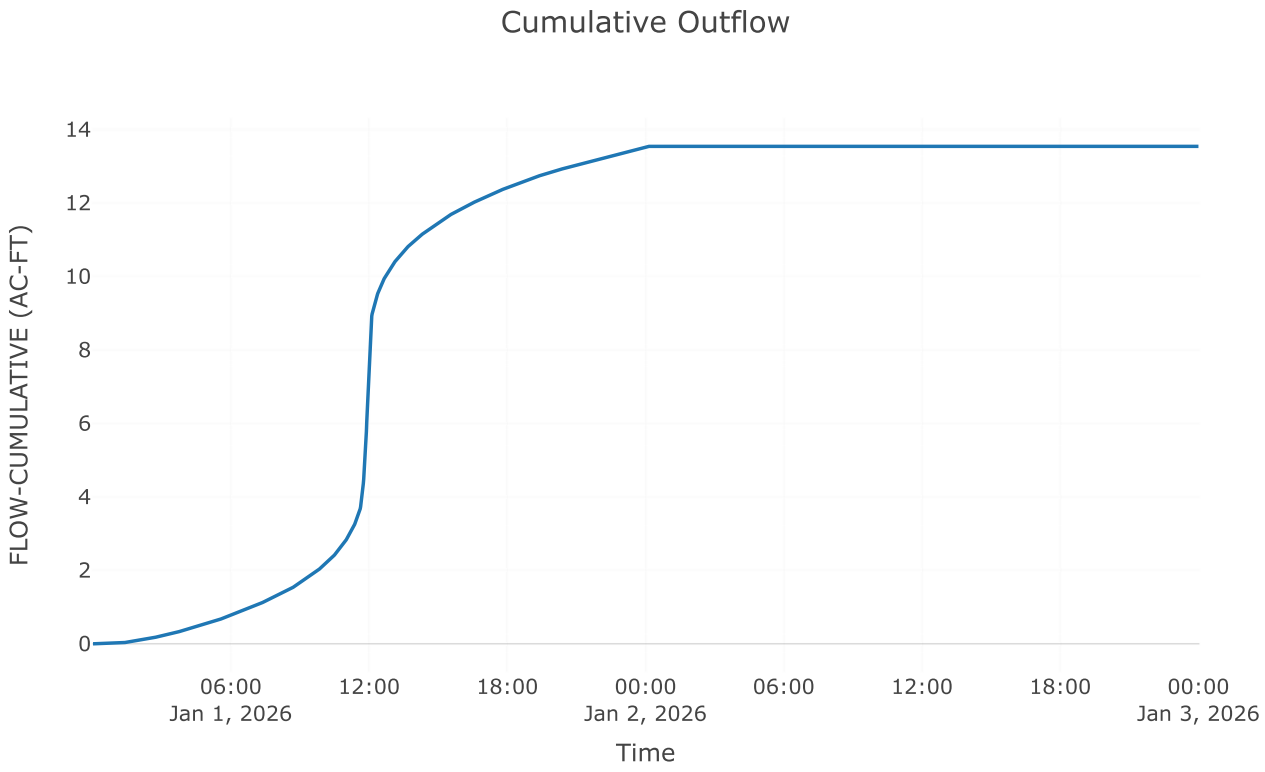
Results: Basin Watershed	
Peak Discharge (CFS)	221.88
Time of Peak Discharge	01Jan2026, 11:56
Volume (IN)	8.19
Precipitation Volume (AC - FT)	13.94
Loss Volume (AC - FT)	0.4
Excess Volume (AC - FT)	13.54
Direct Runoff Volume (AC - FT)	13.54
Baseflow Volume (AC - FT)	0

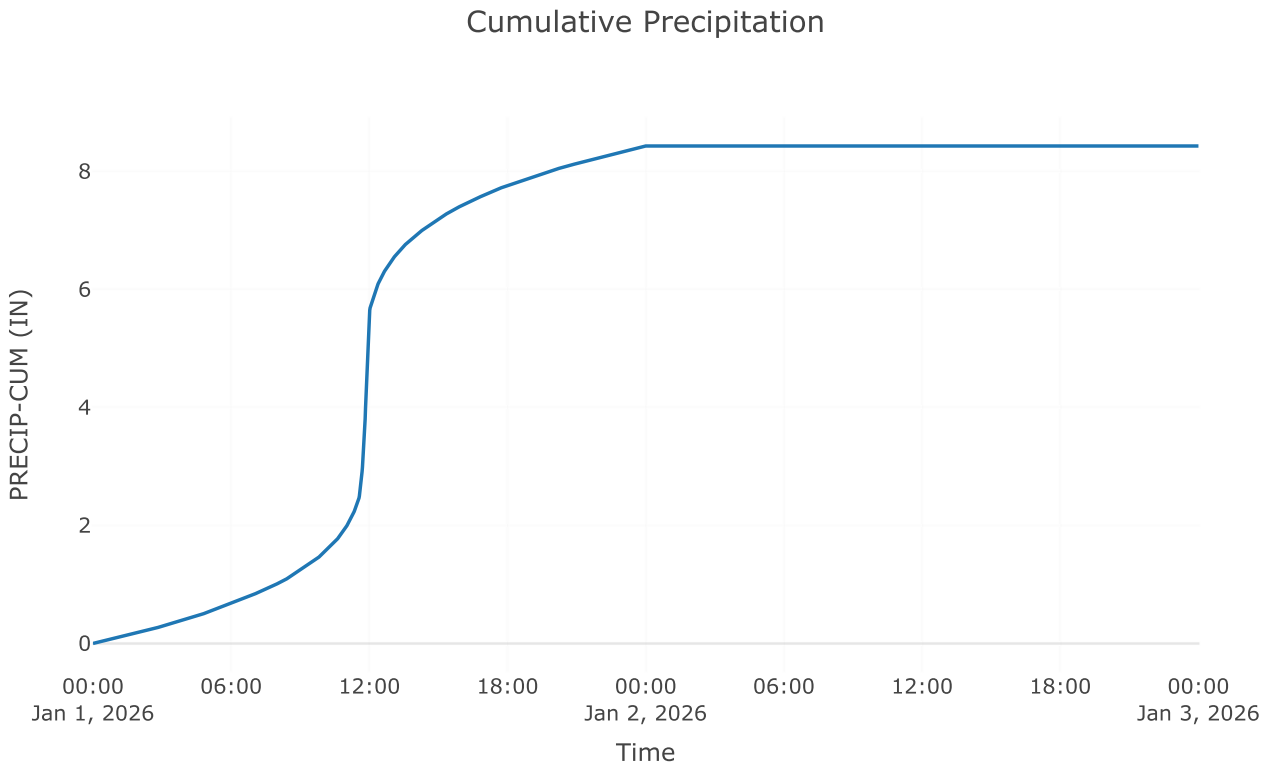
Scenario 2 - Non-Functioning Discharge Structure



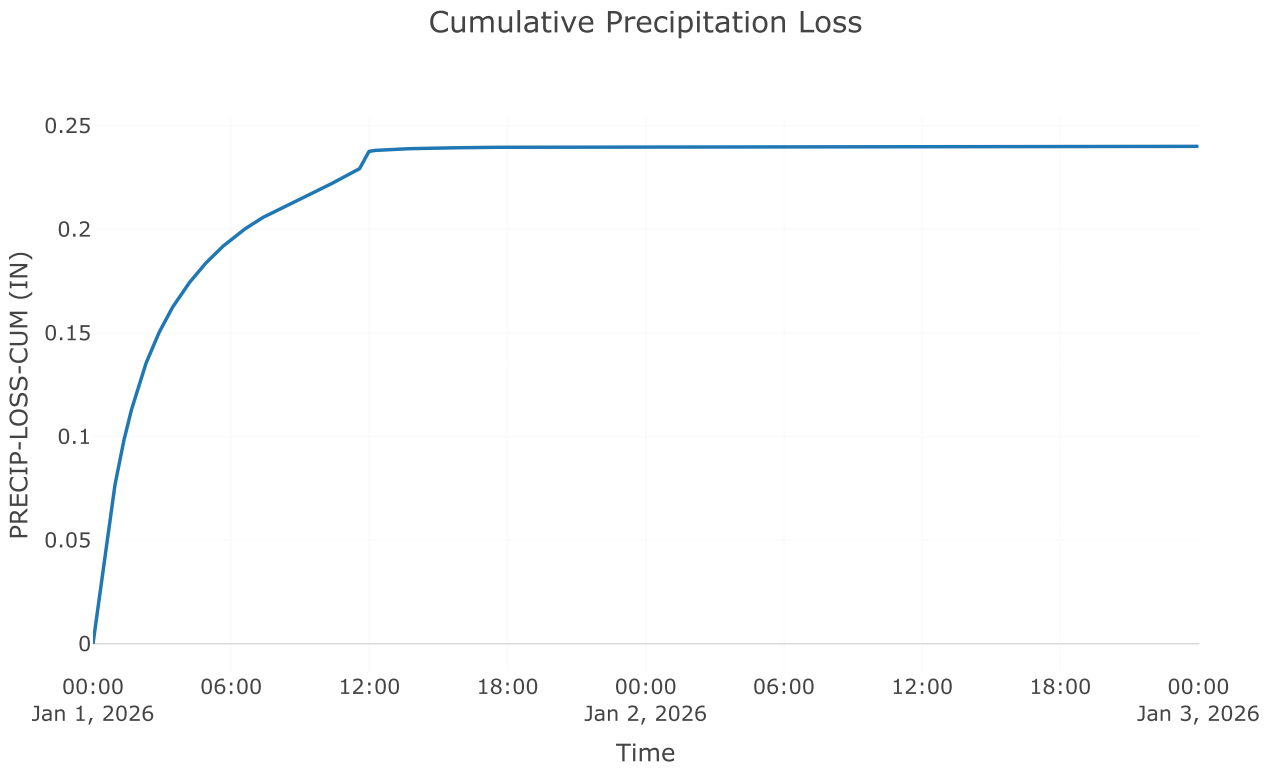


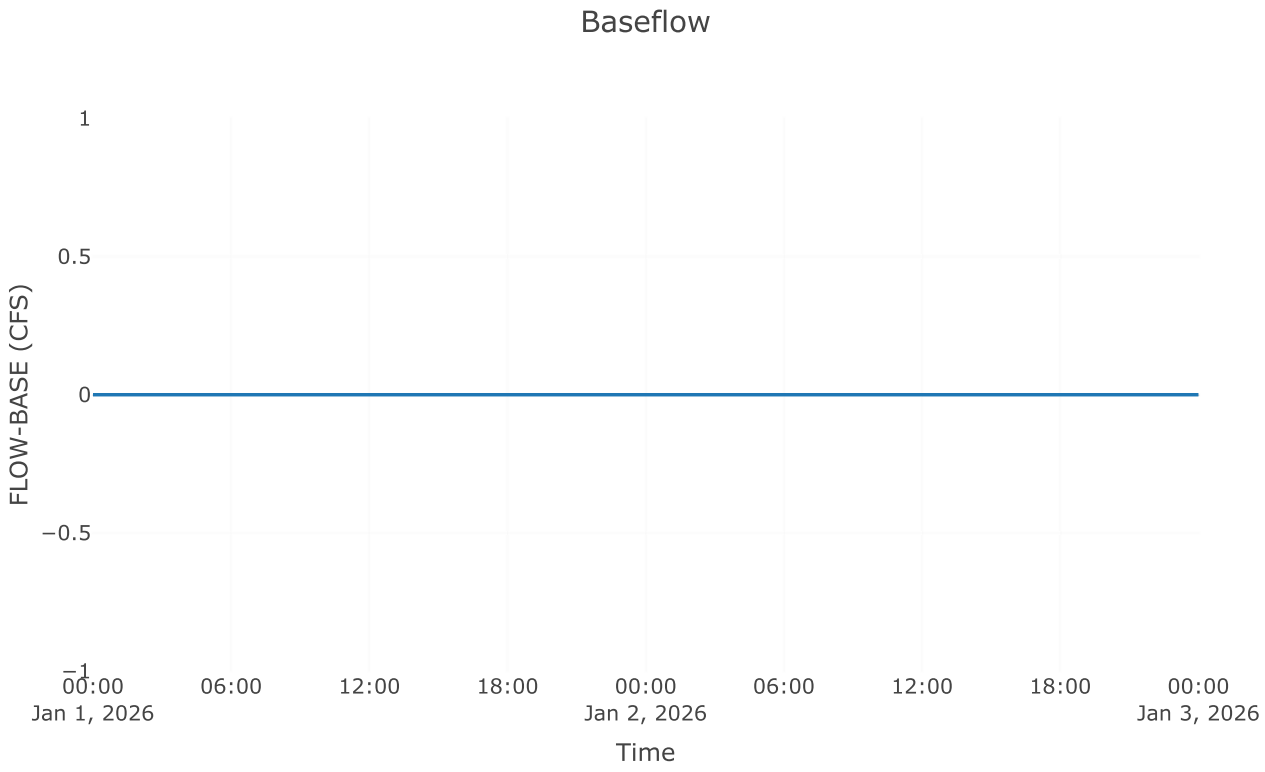
Scenario 2 - Non-Functioning Discharge Structure



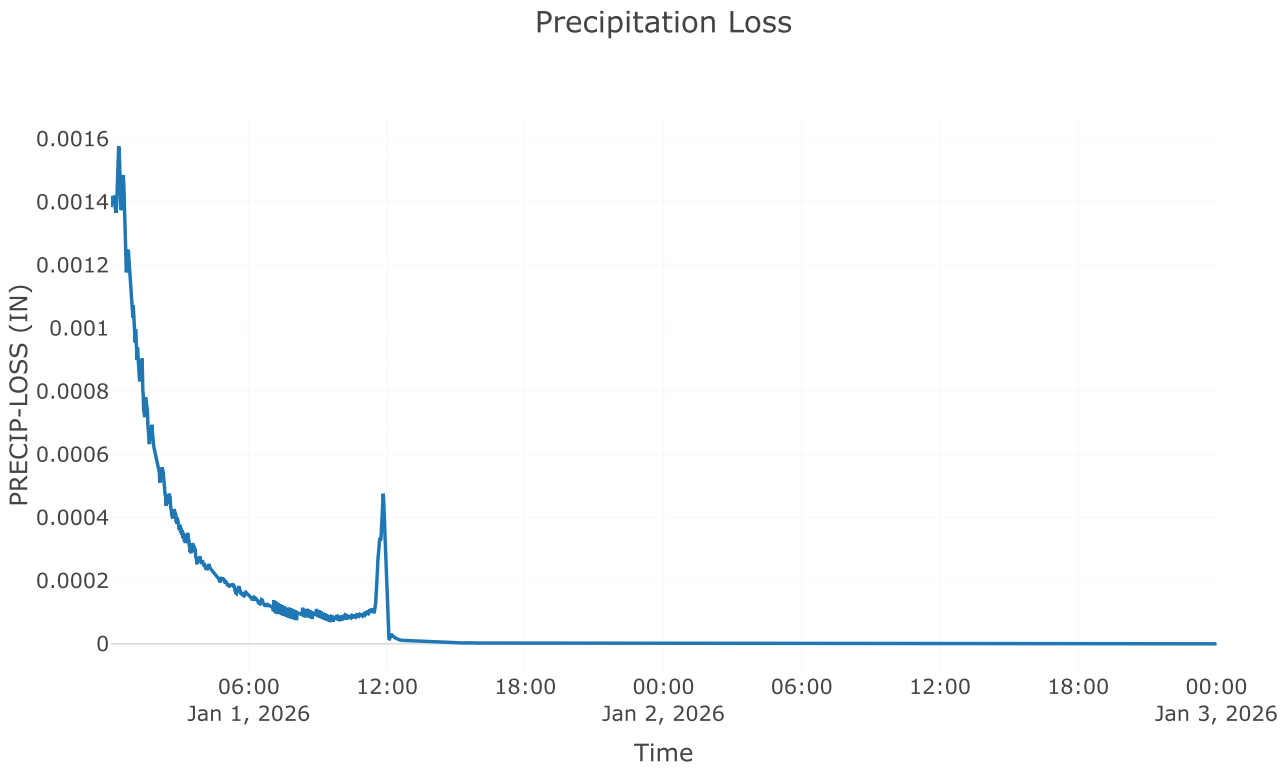


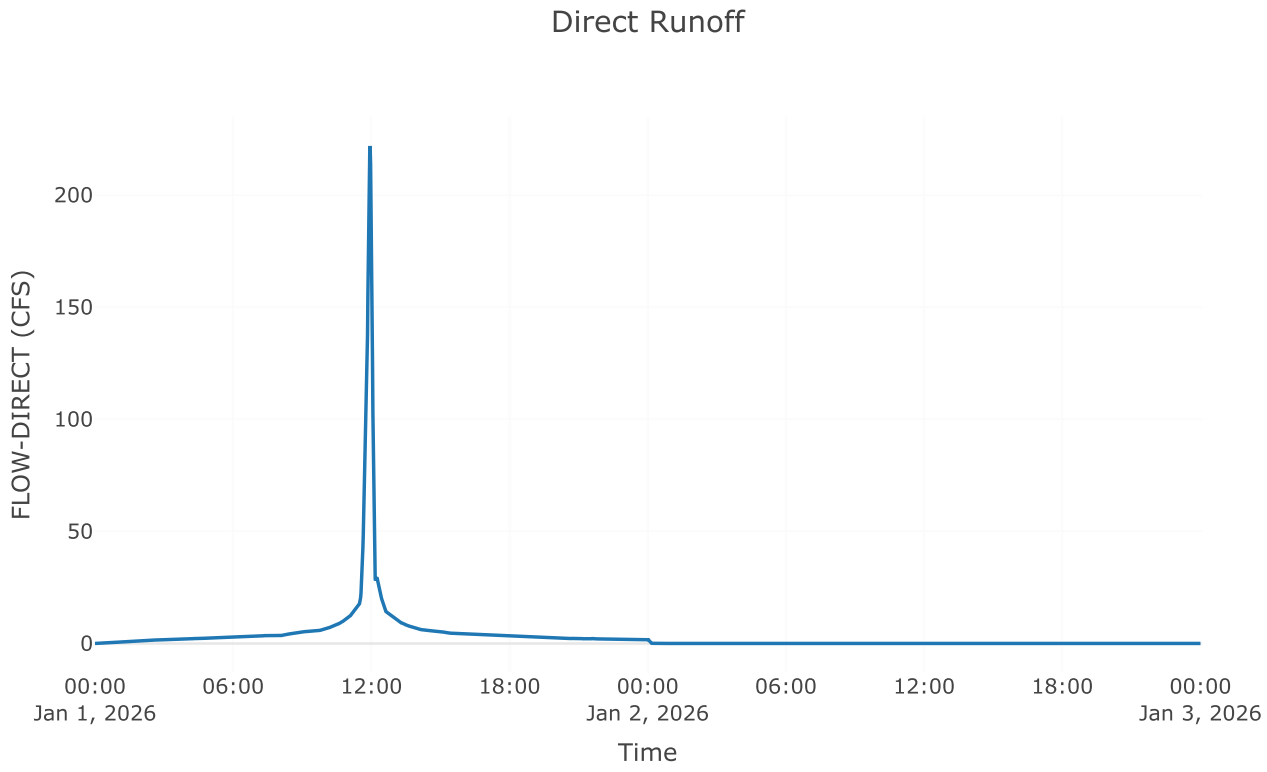
Scenario 2 - Non-Functioning Discharge Structure



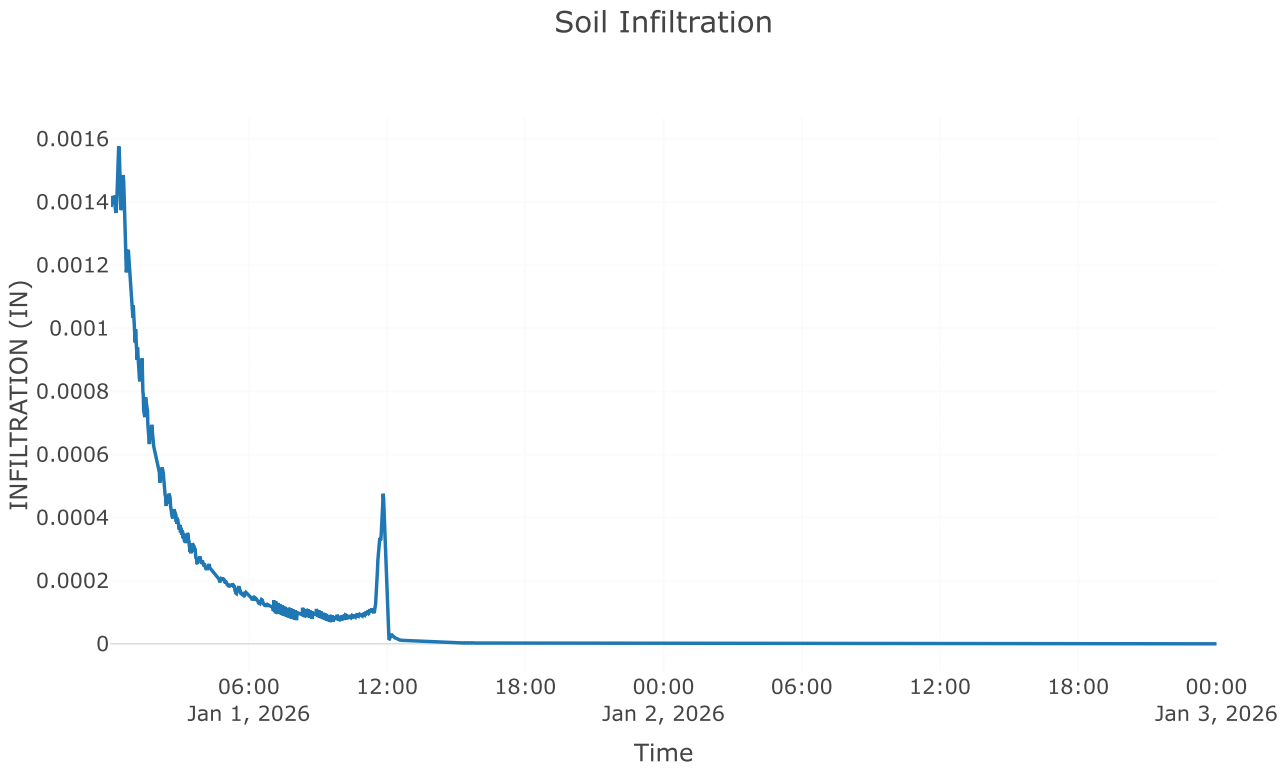


Scenario 2 - Non-Functioning Discharge Structure





Scenario 2 - Non-Functioning Discharge Structure

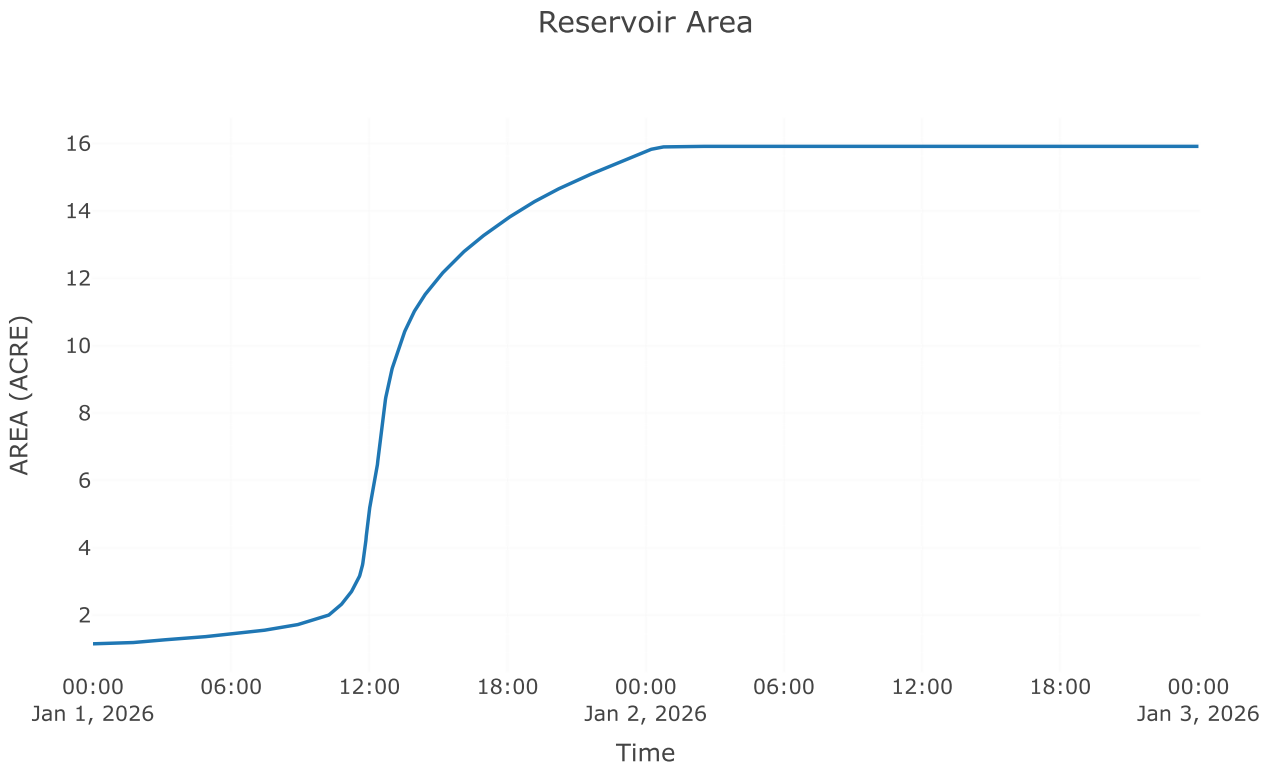


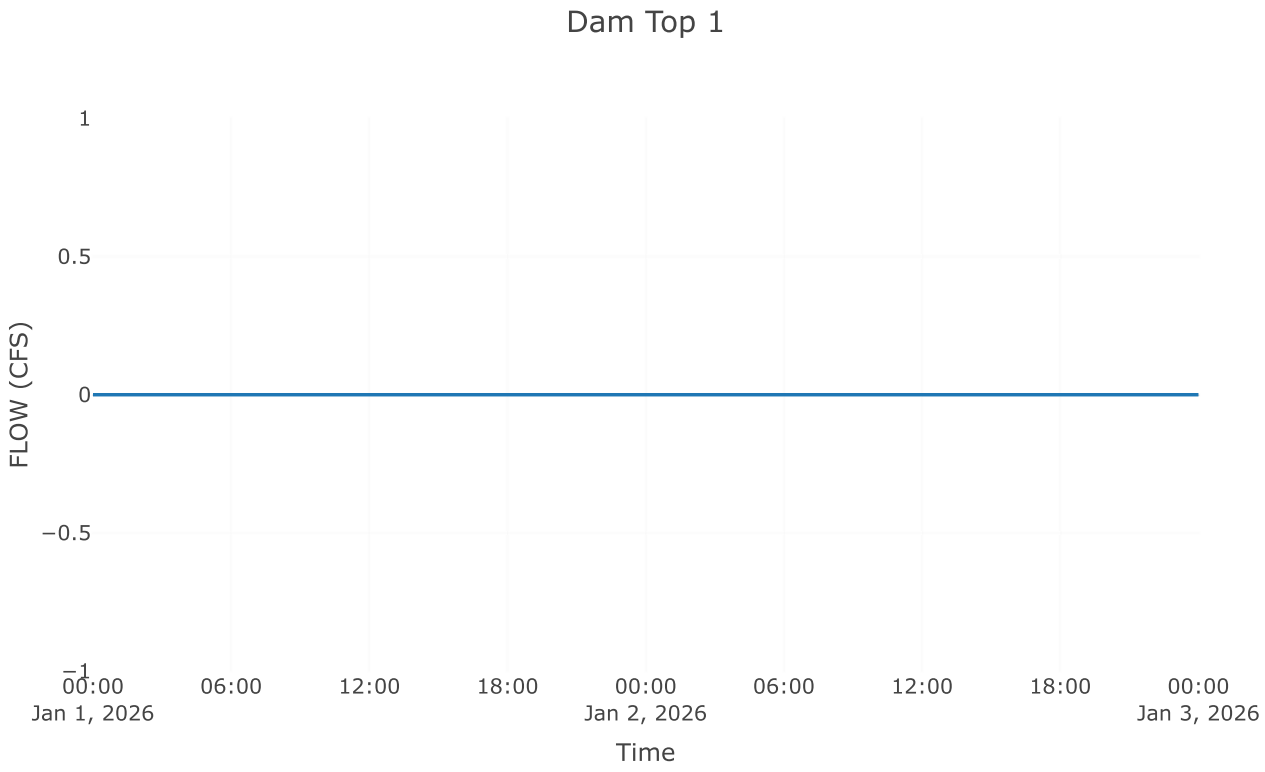
Scenario 2 - Non-Functioning Discharge Structure

Reservoir: Milesburg Ash Disposal Basin

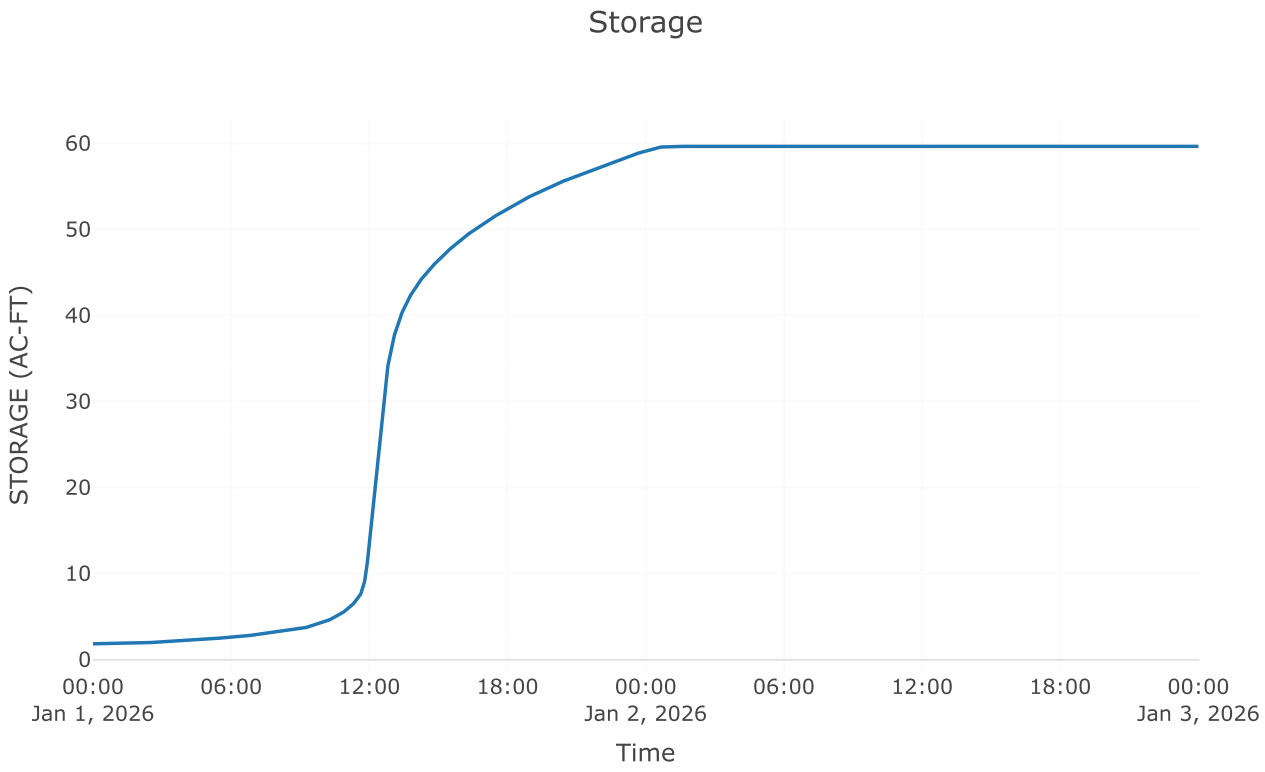
Results: Milesburg Ash Disposal Basin	
Peak Discharge (CFS)	0
Time of Peak Discharge	31Dec2025, 24:00
Volume (IN)	0
Peak Inflow (CFS)	378.4
Time of Peak Inflow	01Jan2026, 12:21
Inflow Volume (AC - FT)	57.82
Maximum Storage (AC - FT)	59.65
Peak Elevation (FT)	721.5
Discharge Volume (AC - FT)	0

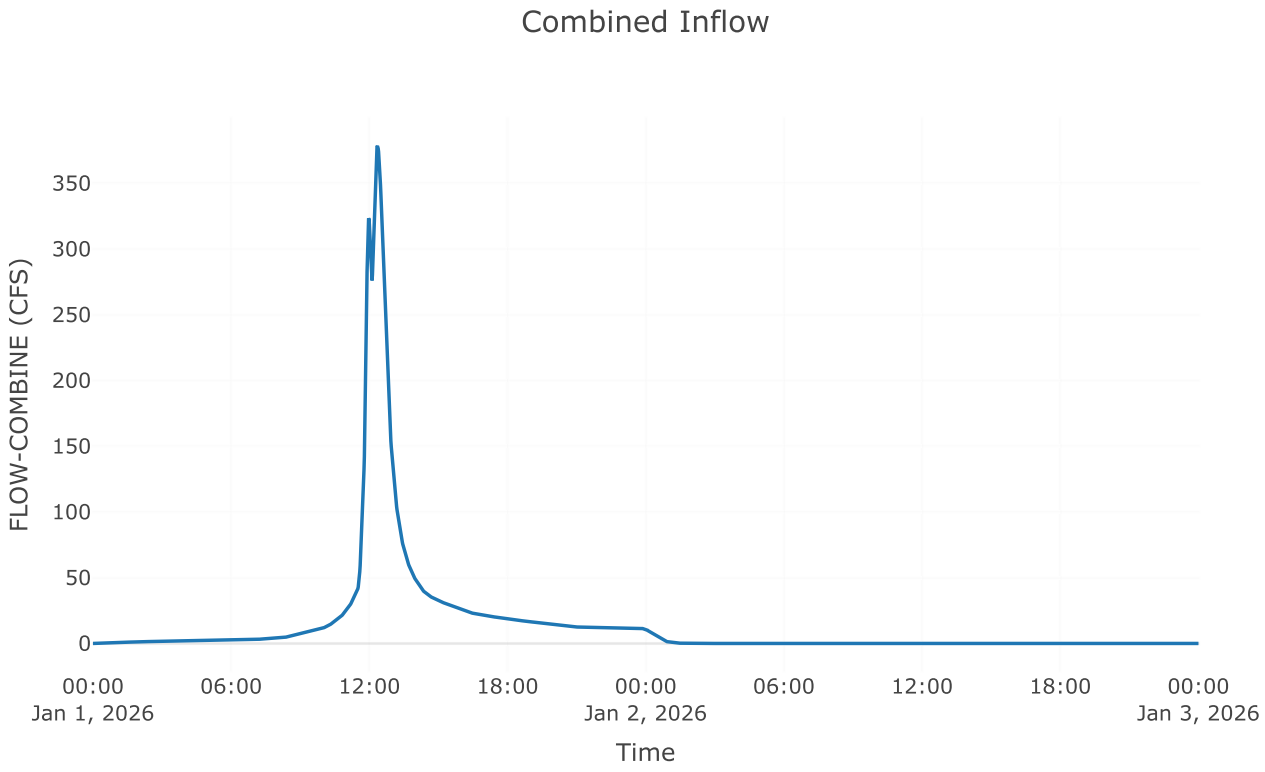
Scenario 2 - Non-Functioning Discharge Structure



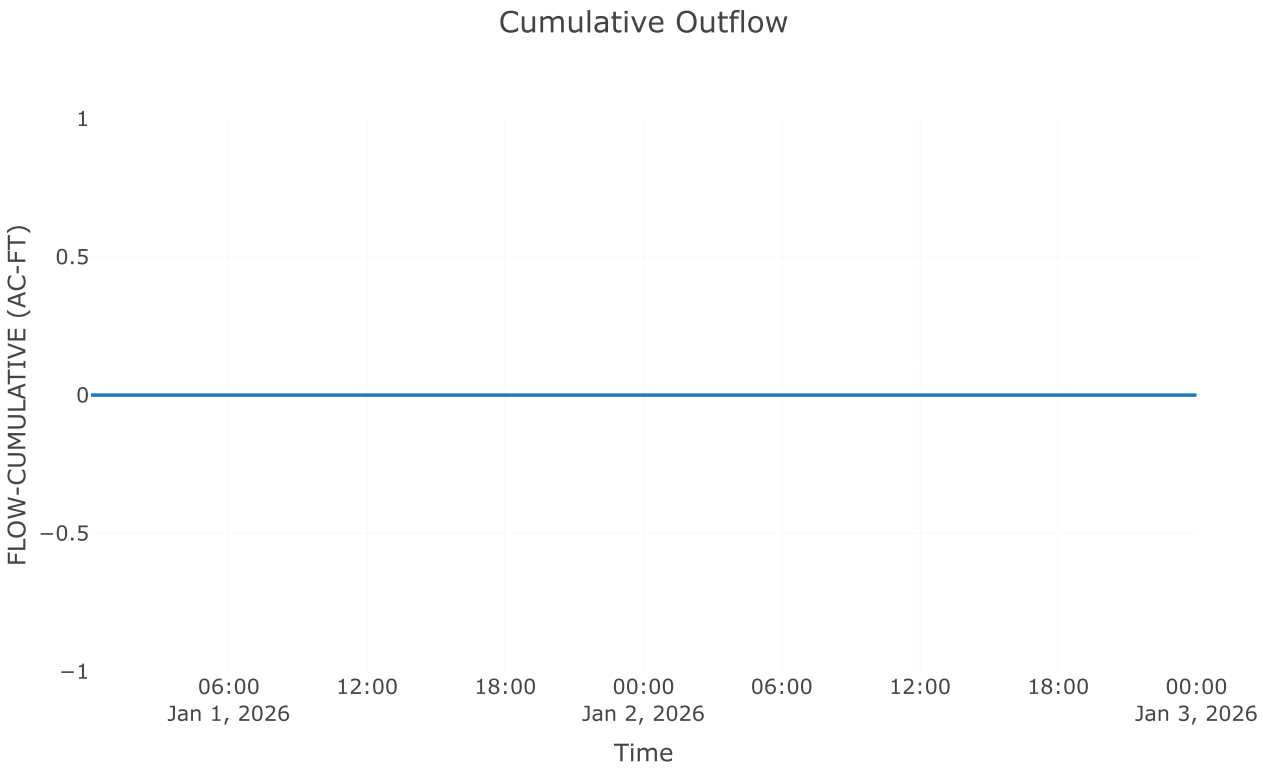


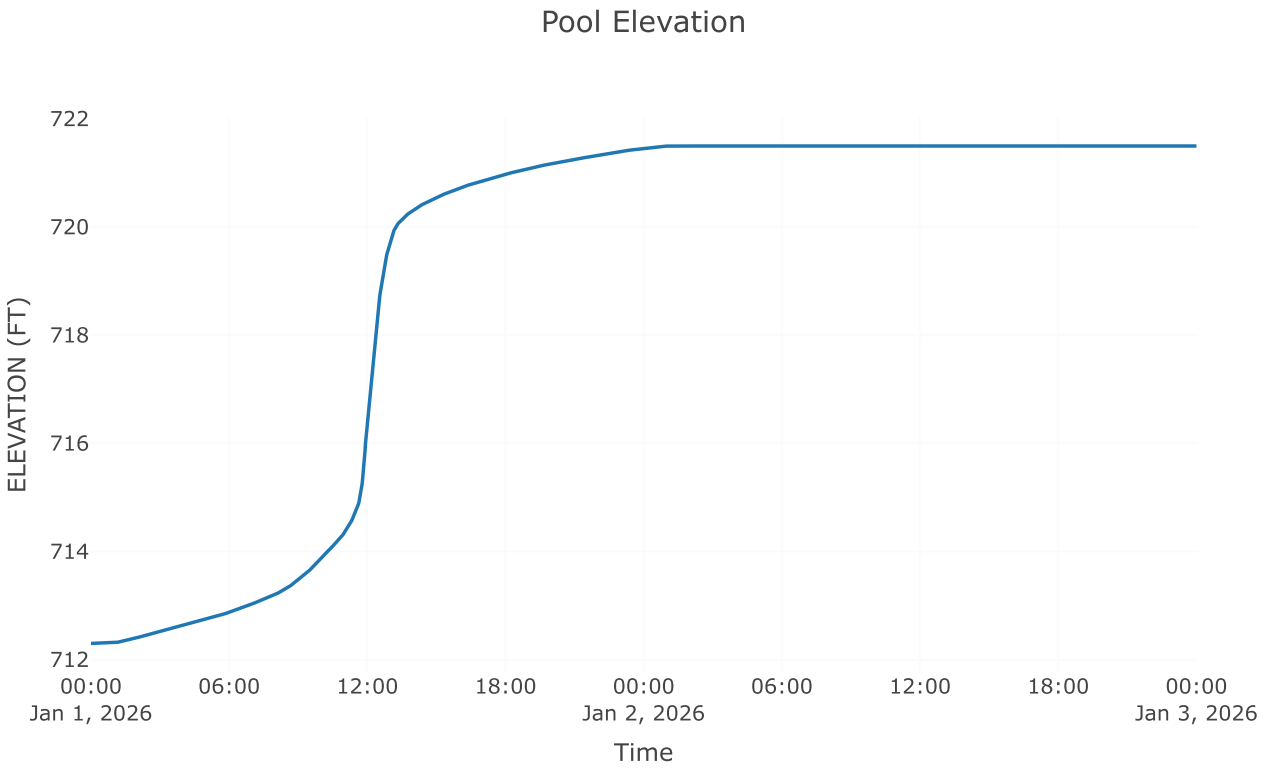
Scenario 2 - Non-Functioning Discharge Structure



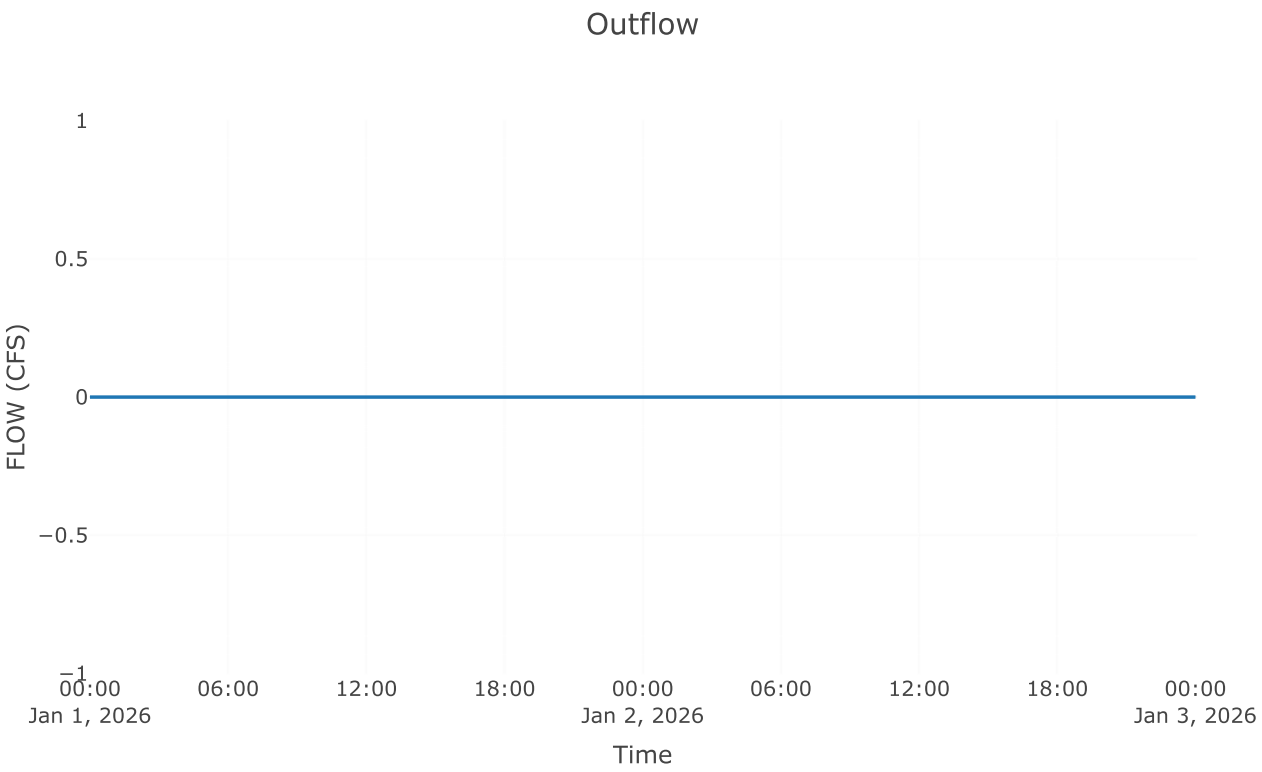


Scenario 2 - Non-Functioning Discharge Structure





Scenario 2 - Non-Functioning Discharge Structure



gai consultants

Attachment 2

Field Photographs

Photo 1: Riser structure in former Ash Disposal Basin (photo taken by GAI, dated 01/24/2025)

Photo 2: Water in low elevation area in northwest corner of former Ash Disposal Basin (photo taken by GAI, dated 06/06/2024)

Photo 3: Water in low elevation area in northwest corner of former Ash Disposal Basin (photo taken by GAI, dated 06/06/2024)

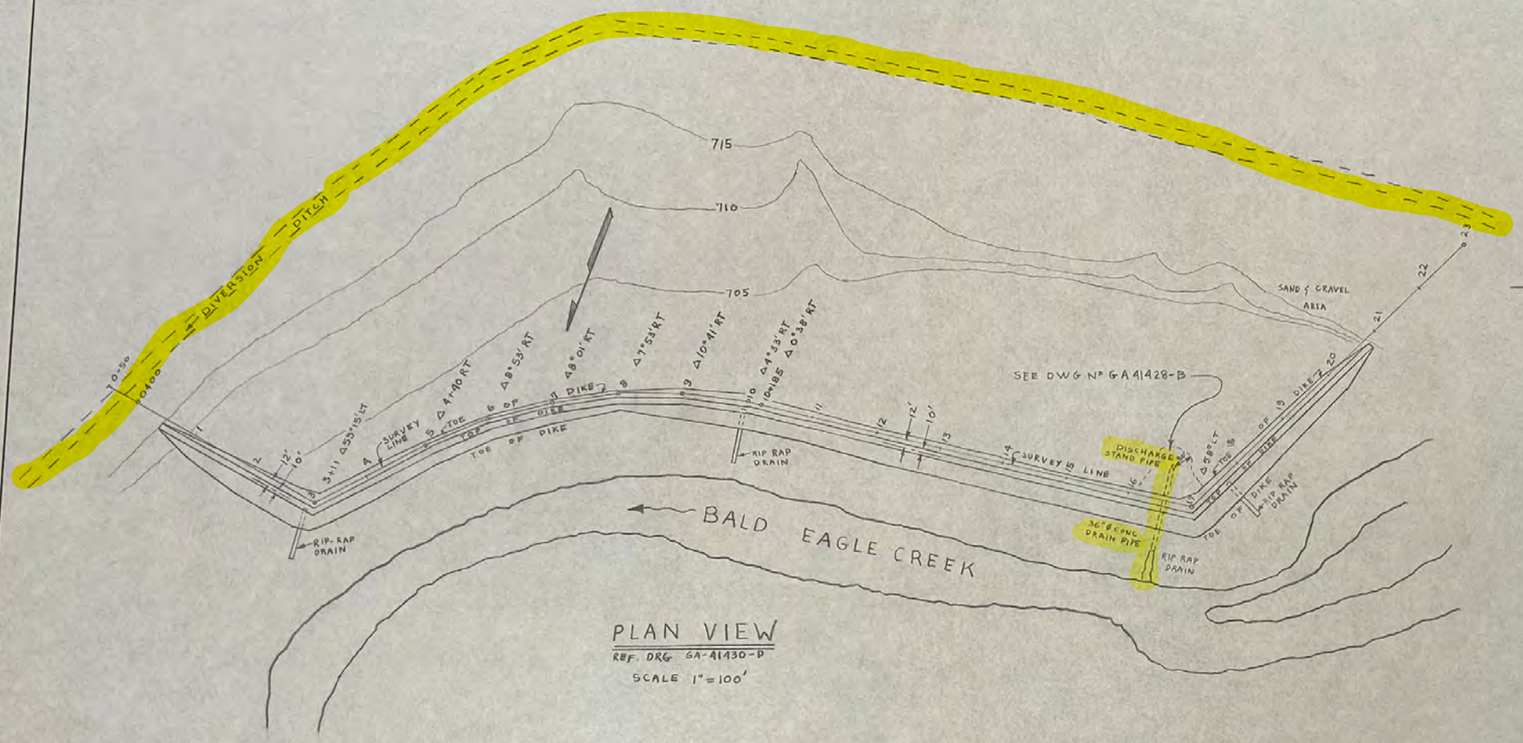
gai consultants

Attachment 3

Historic Drawings

DRAWING NO.	FILE
GA-59538	D

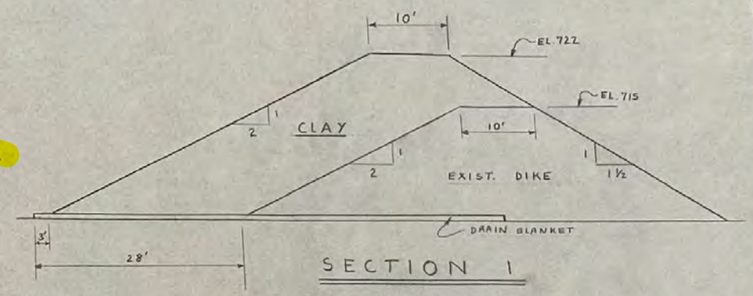
DRAWING NO.	REFERENCE DRAWING
GA-41436	PROPOSED DIKE ALONG BALD EAGLE CREEK
GA-41408	ASH DISPOSAL POND LOCATION & DETAIL



PLAN VIEW

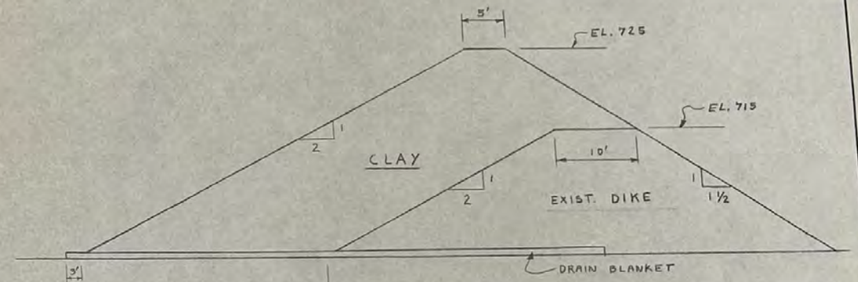
REF. DRG GA-41430-D

SCALE 1"=100'



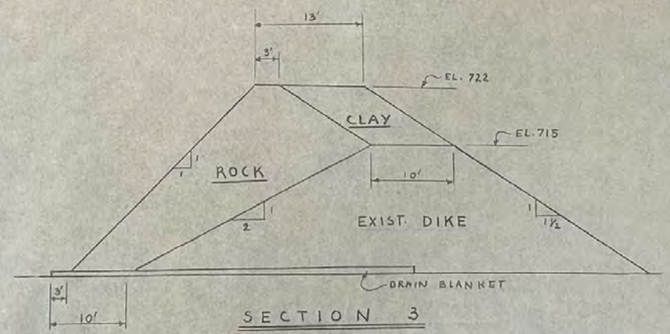
SECTION 1

1. CLAY — 41,000 yd³
2. STRIPPING — 150,255 ft²
3. DRAINAGE BLANKET (LIMESTONE) — 58,800 ft³
4. CLEARING & GRUBBING — 222,000 ft²
5. TOPSOIL & SEEDING — 129,320 ft²



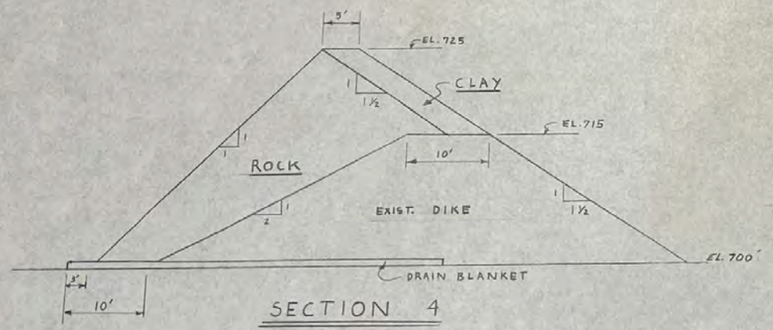
SECTION 2

1. CLAY — 52,600 yd³
2. STRIPPING — 160,650 ft²
3. DRAINAGE BLANKET (LIMESTONE) — 69,300 ft³
4. CLEARING & GRUBBING — 283,920 ft²
5. TOPSOIL & SEEDING — 128,100 ft²



SECTION 3

1. CLAY — 5500 yd³
2. ROCK — 21,600 yd³
3. STRIPPING — 112,350 ft²
4. DRAINAGE BLANKET (LIMESTONE) — 23,000 ft³
5. CLEARING & GRUBBING — 29,700 ft²
6. TOPSOIL & SEEDING — 21,000 ft²



SECTION 4

1. CLAY — 4,000 yd³
2. ROCK — 24,300 yd³
3. STRIPPING — 112,350 ft²
4. DRAINAGE BLANKET (LIMESTONE) — 23,000 ft³
5. CLEARING & GRUBBING — 21,600 ft²
6. TOPSOIL & SEEDING — 10,500 ft²

DATE	4-20-70
SCALE IN./m. FT.	
AUTH.	
SOURCE	R.K.R.
DR.	E.H.
CKD.	
APPROVED	

WEST PENN POWER CO.

MILESBURG POWER STATION

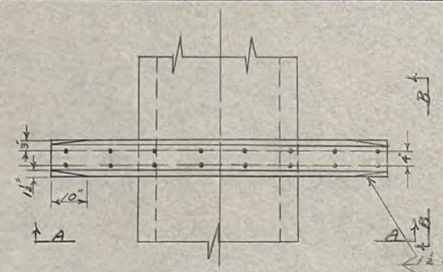
ASH DISPOSAL POND
HEIGHT ADDITIONS
PROPOSED SCHEMES

LOCATION MILESBURG, PA.

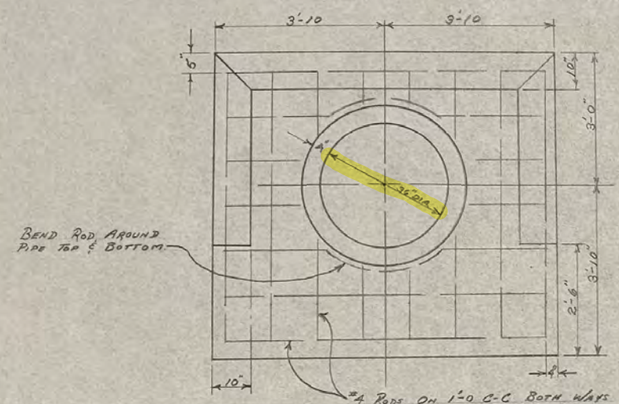
DRAWING NO.	SIZE	REVISIONS
GA-59538	D	

DRAWING NO.	FILE
GA 59537	B

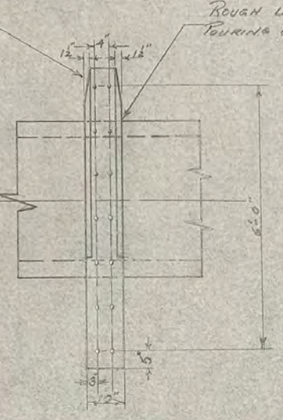
DRAWING NO.	REFERENCE DRAWING
GA91428	Fly Ash & Bottom Ash Disposal Area - Drainage Silo & Drainage Pipe
	Engineering for Dams Vol. III
	By Justin Hinds Creager.



Plan



Section A-A
Scale ½" = 1'

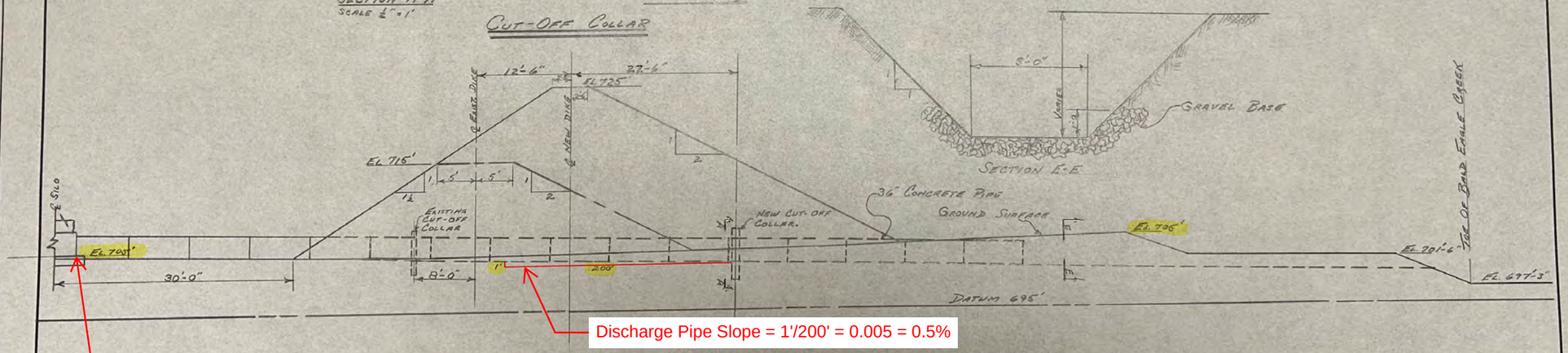


Section B-B

Cut-Off Collar

NOTE:

Upon Competion of the Cut-Off Collar the Pipe Trench shall be Carefully Refilled; the Earth being deposited in Layers 8 or 9 in. Thick and Rammed Thoroughly, with Compressed Air Power Tampers Before the Next Layer is Placed.



Dike Cross Section At Station 16+50
Scale 1" = 10'

DATE	7-1-70
SCALE As marked IN. = FT.	
AUTH.	
SOURCE	
DR.	PKR
CKD.	
APPROVED	

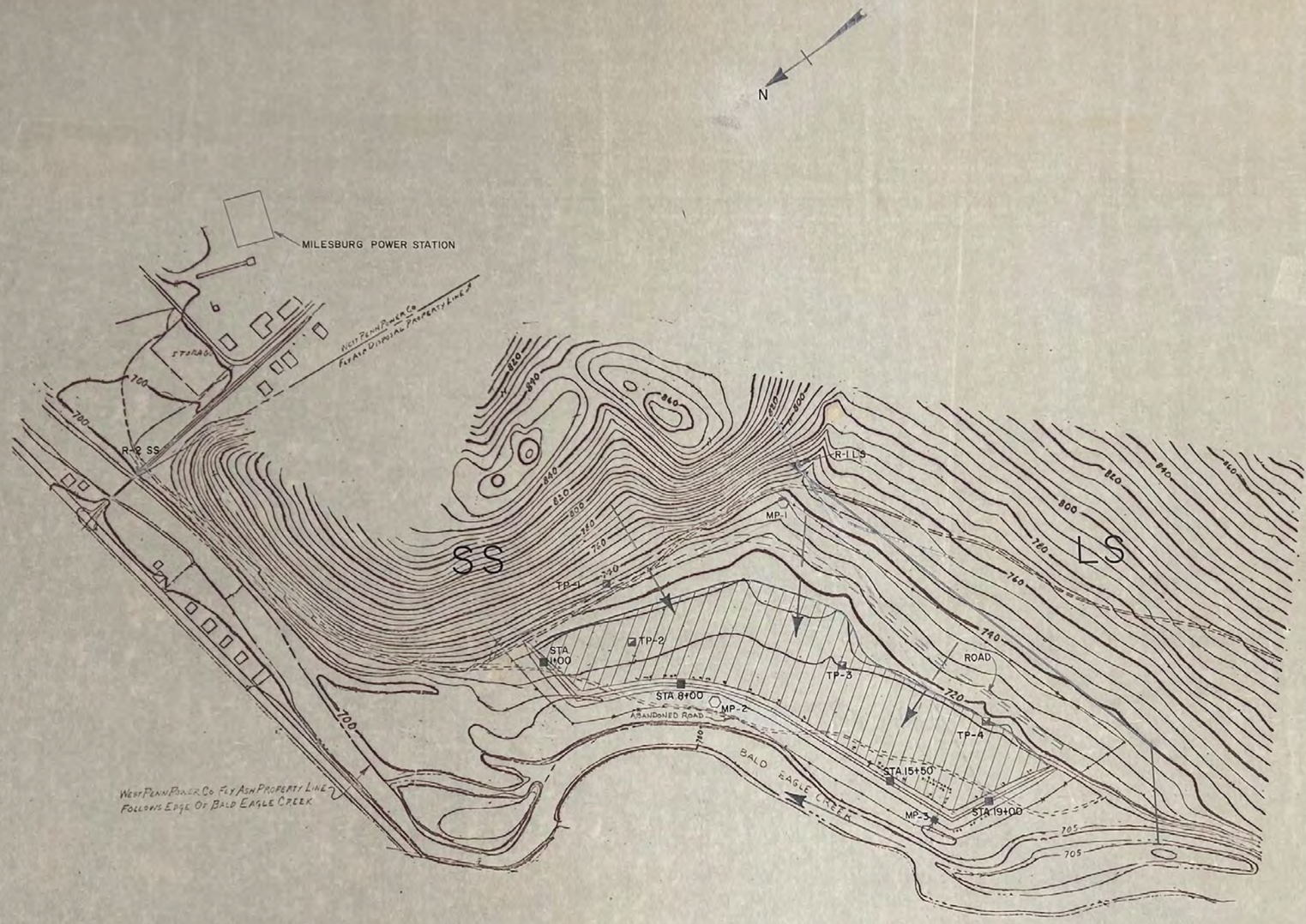
WEST PENN POWER CO.

Milesburg Power Station

Ash Disposal Basin — Discharge Pipe and Cut-Off Collar

LOCATION Milesburg Penna.

DRAWING NO.	SIZE	REVISIONS
GA 59537	B	



LEGEND

- DWELLINGS
- DIRT ROAD
- FENCE LINE
- DIVERSION DITCH
- EMBANKMENT
- TP-1 / STA 1+00 — TEST PITS
- FLY ASH POND
- OVERFLOW DISCHARGE PIPE
- R-1 — ROCK OUTCROP
- LS — LIMESTONE
- SS — SANDSTONE
- DIRECTION OF STREAM FLOW
- DIRECTION OF GROUND WATER MOVEMENT
- APPROX. CONTACT BETWEEN LIMESTONE AND SANDSTONE
- MP-1 — WATER QUALITY MONITORING POINT (PROPOSED)
- WELL (PROPOSED)

DRAWN L.R. 8-24-71	Allegheny Power Service Corporation West Penn Power Company	
CHKD	DTG APPD	
SOURCE	MILESBURG POWER STATION TOPOGRAPHICAL PLAN OF ASH DISPOSAL AREA	
REVIEWED		
APPROVED MRC DATE	AUTHORIZATION	SCALE 1"=200' / DRAWING NUMBER 400-516 / REV

BY: GEWL
DATE: 9-8-71

71-236

71-236-E3

APDC SERIES E