OLSSON ASSOCIATES

Old Longview Lake Rehabilitation Study

Longview Road and View High Drive
Lee's Summit, Missouri

May 7, 2018
Revised August 8, 2018

Prepared for:
Platform Ventures

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1.0 GENERAL INFORMATION

This study of the proposed rehabilitation of Old Longview Lake is being submitted on behalf of Platform Ventures for the proposed rehabilitation of the spillway and dam located south of the intersection of Longview Road and Longview Boulevard in Lee's Summit, Missouri.

1.1 Project Location and Description

The proposed site is located south of the intersection of Longview Road and View High Drive. It is bounded to the north, west, and east by single family residential and to the south by park land. Immediately downstream of the park land is Longview Lake.

The existing spillway for the dam has failed and several large trees and other woody vegetation are present on the dam.

1.2 Purpose and Scope

The purpose of this study is to evaluate the impact of future development and the planned rehabilitation to the dam and spillway.

This document adopts the freeboard requirements for detention facilities set forth in the Design Criteria Section 5600 "Storm Drainage Systems and Facilities" of the American Public Works Associates, Kansas City Metro Chapter (APWA) adopted February 15, 2011, and exceptions listed by the City of Lee's Summit.

Per discussions with the City, the existing conditions 100-year elevation for the lake should be maintained during future development conditions and with any modifications to the spillway and dam.

2.0 MODEL DEVELOPMENT

A series of models were developed for this analysis to compare existing and future land use, peak discharge values, basin elevation, in existing and future conditions. Hydrologic and hydraulic analyses were performed using Bentley PondPack V8i. Drainage area for the lake was delineated using City of Lee's Summit topographic information. The time of concentration for this area was calculated using United States Department of Agriculture Technical Release 55 (TR-55) methodology. The flow path used for the time of concentration can be found in Exhibit 4 in Appendix A. The calculations for the time of concentration can be seen in the model output in Appendix D. Because the flow path for the watershed passes through a developed portion, the time of concentration was not altered from existing to future land use conditions.

Storm data compiled by the National Resource Conservation Service (NRCS) for Jackson County, Missouri for the 24-hour, 50% (2-Year), 10% (10-Year), and 1% (100-Year) chance storms was used for these analyses. The rainfall depths used in the analysis are shown in Table 1.

Table 1. Rainfall Depths – 24-hour Event

Return Period	Rainfall Depth (in)
2-Year	3.5
10-Year	5.3
100-Year	7.7

Appendix B contains visual schematics for the model used.

2.1 Curve Number Calculation

TR-55 methodology was used to determine a composite curve number for the drainage area using aerial imagery and soil data obtained from the National Resources Conservation Service (NRCS) Web Soil Survey.

The soil groups in the watershed that drains to Old Longview Lake consist of soil groups C, C/D and D and are shown in Table 2. NRCS guidelines indicate that for soils assigned a dual hydrologic soil group the first letter is for drained areas and the second is for undrained areas. It is assumed the area that contains the soil group with the dual soil class is undrained and a hydrologic soil group of D was used for curve number calculations. The guidelines are included in the soil report in Appendix E.

Table 2. Soil Groups

Map Unit Symbol	Soil Name	Hydrologic soil group
10024	Greenton-Urban land complex, 5 to 9 percent slopes	D
10120	Sharpsburg silt loam, 2 to 5 percent slopes	C
10128	Sharpsburg-Urban land complex, 2 to 5 percent slopes	D
30080	Greenton silty clay loam, 5 to 9 percent slopes	C/D
30178	Polo silt loam, 2 to 5 percent slopes	C
99001	Water	D

For future land, use the area that is classified as a soil group C and is planned to be developed was assumed as a soil group C in future conditions per APWA guidance and discussions with City staff. Curve numbers for land use and soil groups were taken from APWA 5600 where available, and NRCS TR-55 when not available in APWA 5600. The curve number for the Single Family Residential (Dense) Land Use was interpolated between the 1/8-acre lot land use 65% impervious and 1/4-acre land use 38% impervious values from NRCS TR-55. The lot size in this development is smaller than the typical single family residential development in the Kansas City metro area and the percent impervious ranged between 38% and 65%. It was determined that a higher curve number than shown in APWA 5600 better represented the land use for the area. Currently, the commercial zone northwest of the intersection of Longview Road and Longview Boulevard is not fully developed. However, the site does have existing buildings and drives and the percent impervious for the site is approximately 22 percent. A curve number of 85, for soil group D, was interpolated for the area from NRCS TR-55. This area is referred to as Future Commercial in Table 3.

The weighted curve number for existing and future land use conditions can be seen in Table 3 and Table **4**. The weighted curve numbers were updated from previous studies based on City comments and a review of the land use in the area.

Table 3. Existing Land Use Weighted Curve Number

Land Use	Area (acres)	CN
Single Family Residential- Soil Group C	9.3	82
Single Family Residential (1/3 acre lots)- Soil Group D*	77.5	86
Single Family Residential (Dense)- Soil Group C*	2.5	87
Single Family Residential (Dense)- Soil Group D*	30.1	90
Future Commercial - Soil Group D*	7.5	85
Elementary School - Soil Group D*	6.4	93
Park – Soil Group C	3.5	74
Park - Soil Group D*	4	80
Undeveloped – Soil Group C	4.6	74
Undeveloped - Soil Group D*	41.2	80
Lake	20.8	98
Weighted Curve Number		86

*NRCS TR-55 Used for CN determination

Exhibit 2, in Appendix A shows the existing land use for the watershed.

Table 4. Future Land Use Weighted Curve Number

Land Use	Area (acres)	CN
Single Family Residential- Soil Group C	13.9	82
Single Family Residential (1/3 acre lots)- Soil Group D*	94.8	86
Single Family Residential (Dense)- Soil Group C*	2.5	87
Single Family Residential (Dense)- Soil Group D*	49	90
Commercial - Soil Group D*	7.5	95
Elementary School - Soil Group D*	6.4	93
Park – Soil Group C	3.5	74
Park - Soil Group D*	9.0	80
Lake	20.8	98
Weighted Curve Number		88

Exhibit 3, in Appendix A shows the future land use for the watershed.

2.2 Existing Conditions

The existing conditions model was developed using the curve number methodology previously discussed and field survey for the existing dam and spillway structure. During the field survey and site investigations, the outlet from the existing riser pipe in the lake was not found and it was assumed that the existing riser pipe is clogged and not functioning. The existing spillway structure was modeled (based on survey information) as a single 2.8-foot by 11.48-foot box culvert with

wingwall flared 30 to 75 degrees and an upstream flowline elevation of 930.2 feet. The spillway structure is undermined and the water surface at the time of the field survey was elevation 929.0 feet. The existing conditions model was computed assuming the erosional channel was not present, and the starting water surface elevation of the lake is 930.2 feet.

The top of the dam was input into the model using field survey information. The low elevation on the top of the dam is 932.0 feet. The stage storage information for the existing lake was computed from field survey information and a graph of the elevation–volume for the basin can be seen in Appendix C.

Table 5. Stage Storage Volume

Elevation (ft)	Area (ac)	Cumulative Volume (ac-ft)
927	16.0	0.0
928	17.9	16.9
929	20.2	36.0
930	21.1	56.7
931	21.4	77.9
932	21.9	99.5
933	22.7	121.8
934	24.2	145.3

The 2-year, 10-year and 100-year events were routed through the existing lake with the existing spillway and the results of the basin routing can be seen in Table 6.

Table 6. Existing Land Use Conditions with Existing Spillway Results

Return Event	Peak Inflow (cfs)	Peak Outflow (cfs)	Peak Elevation (ft)	Peak Storage (ac-ft)
2-year	506	30	931.22	21.43
10-year	889	67	931.99	38.42
100-year	1,401	336	932.74	54.95

As documented in Table 6, the dam is overtopped in the 100-year event and the 10-year event is at the crest of the dam. Curves for the inflow hydrographs, stage discharge for the spillway and dam top, and routing curves can be seen in Appendix C. Detailed PondPack model output has been provided in Appendix D.

2.3 Future Conditions

The existing outlet configuration and dam top does not meet APWA freeboard requirements and requires rehabilitation to extend the life of the dam and maintain public safety. The proposed normal pool elevation is 929.0.

A rehabilitated spillway is proposed on the east side of the dam. The spillway will consist of a concrete trapezoidal spillway with 3:1 (H:V) side slopes and a wier with a 20-foot bottom width. The concrete spillway will flow to a riprap channel that will outlet to an energy dissipation basin and then to the existing channel at the toe of the dam. The existing riser in the lake will be removed to below the water surface and filled with a non-shrink grout. Additional fill is proposed on the top of the dam to meet emergency spillway and freeboard requirements. Additional fill on the dam is necessary to maintain existing slopes and meet the required factor of safety. For future land use conditions, the 2-year, 10-year and 100-year events were routed through the lake with the proposed spillway and the results of the basin routing are shown in Table 7.

Table 7. Future Land Use Conditions with Rehabilitated Spillway Results

Return Event	Peak Inflow (cfs)	Peak Outflow (cfs)	Peak Elevation (ft)	Peak Storage (ac-ft)
2-year	544	65.71	929.99	20.49
10-year	929	154	930.67	34.83
100-year	1,439	313	931.52	53.14

As can be seen in Table 7, the proposed spillway with the future land use conditions results in a 100-year water surface elevation that is below the 100-year water surface elevation for the existing land use existing spillway configuration.

A 300-foot emergency spillway is proposed 0.58 feet above the peak 100-year elevation at elevation 932.1. Assuming no storage in the lake, the spillway was sized to convey the peak inflow (1,440 cfs) to the lake during the 100-year event. The depth of flow in the emergency spillway will be 1.3 feet or elevation 933.4. The proposed top of dam elevation is 934.5, providing 1 foot of freeboard from the peak elevation in the emergency spillway to the top of the dam. Curves for the inflow hydrographs, stage discharge for the spillway and dam top, and routing curves can be seen in Appendix C.

3.0 CONCLUSIONS

The existing dam, outlet pipe and spillway for Old Longview Lake are in poor condition and in need of rehabilitation. An engineering analysis was completed, based on collected survey information, and determined that the existing lake and conveyance structures do not meet current city adopted design criteria. The proposed improvements for Old Longview Lake include raising the normal pool elevation, construction of a concrete trapezoidal spillway and earthen emergency spillway, a dam raise, and stabilization of the dam embankment. The engineering analysis completed provides documentation that the proposed improvements and future development will not increase the existing 100-year water surface elevation of the lake and APWA freeboard requirements are met.

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APPENDIX A
EXHIBITS

Exhibit 1
Soil Map
Old Longview Lake
Lee's Summit, Missouri

Legend

Watershed Boundary

Hydrologic Soil Group

Soil Group C

Soil Group D

0 500 1,000 Ft

N

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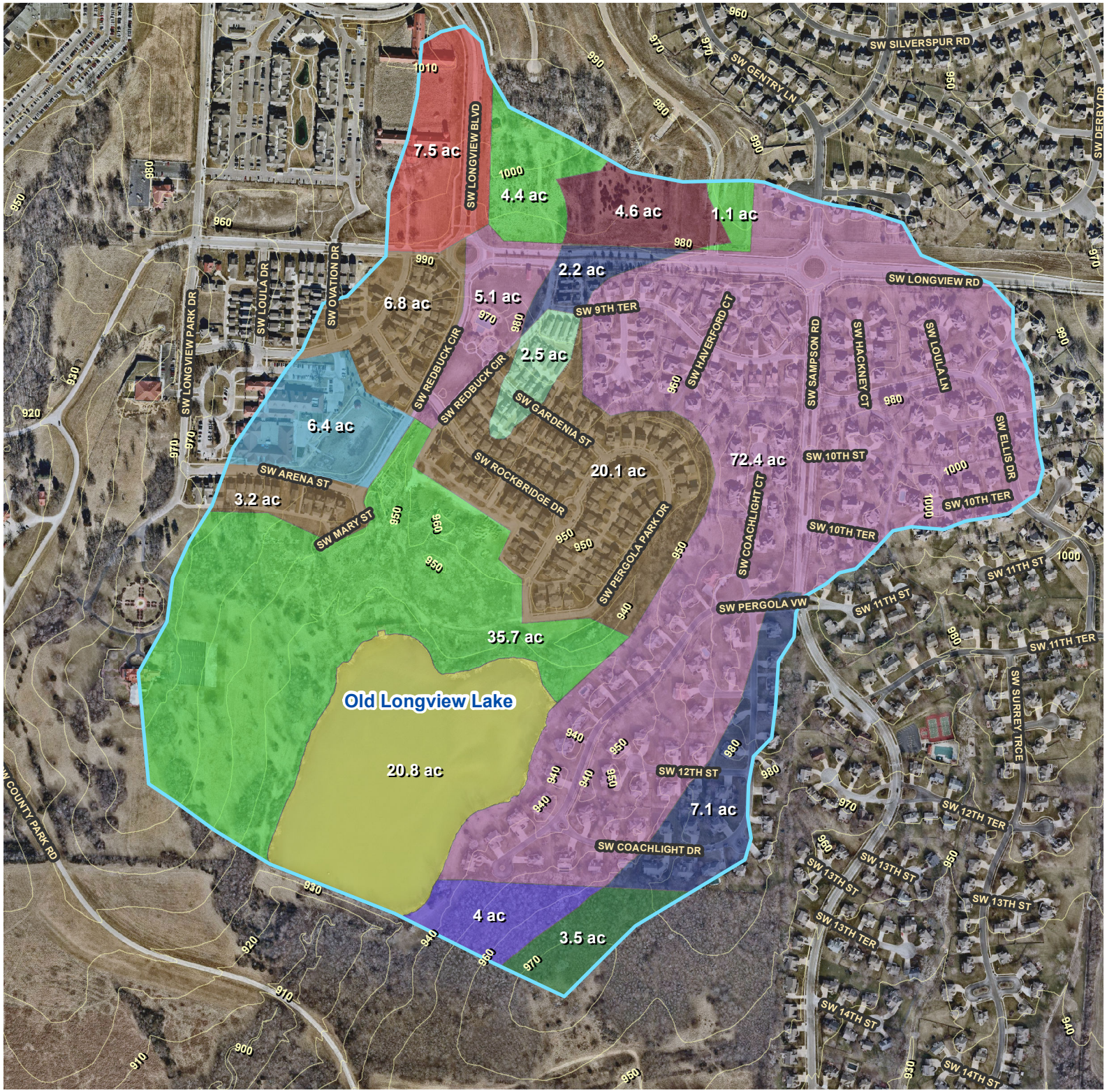

Exhibit 2
Existing Land Use
Old Longview Lake
Lees Summit, Missouri

Legend

- Watershed Boundary

Land Use

- Elementary School
- Future Commercial
- Lake
- Park
- Park - Soil Group C
- Single Family Residential
- Single Family Residential (Dense)
- Single Family Res. (Dense) - Soil Group C
- Single Family Residential - Soil Group C
- Undeveloped
- Undeveloped - Soil Group C

0 500 1,000 Ft

N

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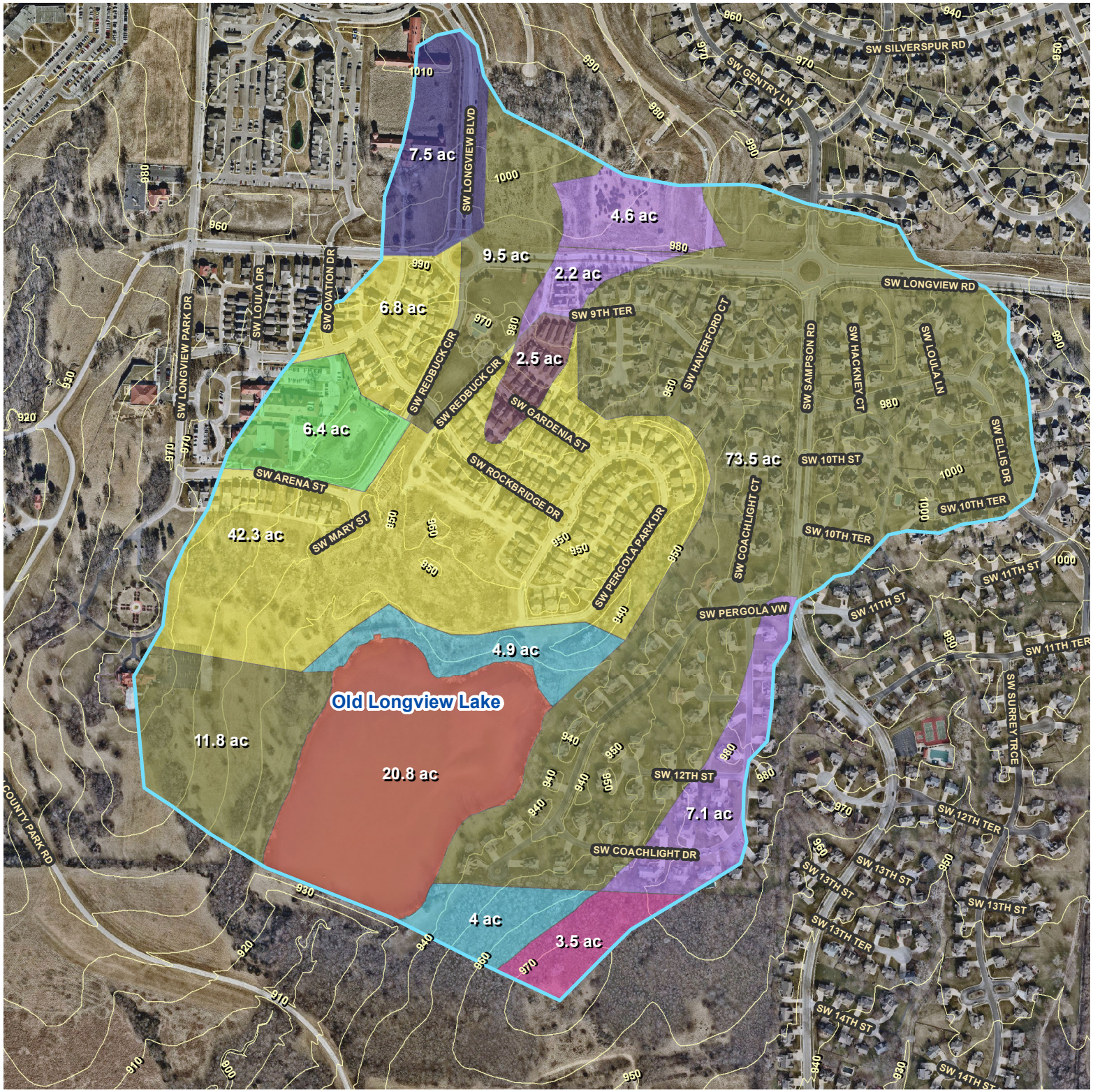

Exhbit 3
Future Land Use
Old Longview Lake
Lees Summit, Missouri

Legend

- Watershed Boundary

Land Use

- Commercial
- Elementary School
- Lake
- Park
- Park - Soil Group C
- Single Family Residential
- Single Family Residential (Dense)
- Single Family Res. (Dense) - Soil Group C
- Single Family Residential - Soil Group C

0 500 1,000 Ft

N

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Exhibit 4
Flow Path
Old Longview Lake
Lees Summit, Missouri

Legend

- Flow Path
- Watershed Boundary

0 500 1,000 Ft

N

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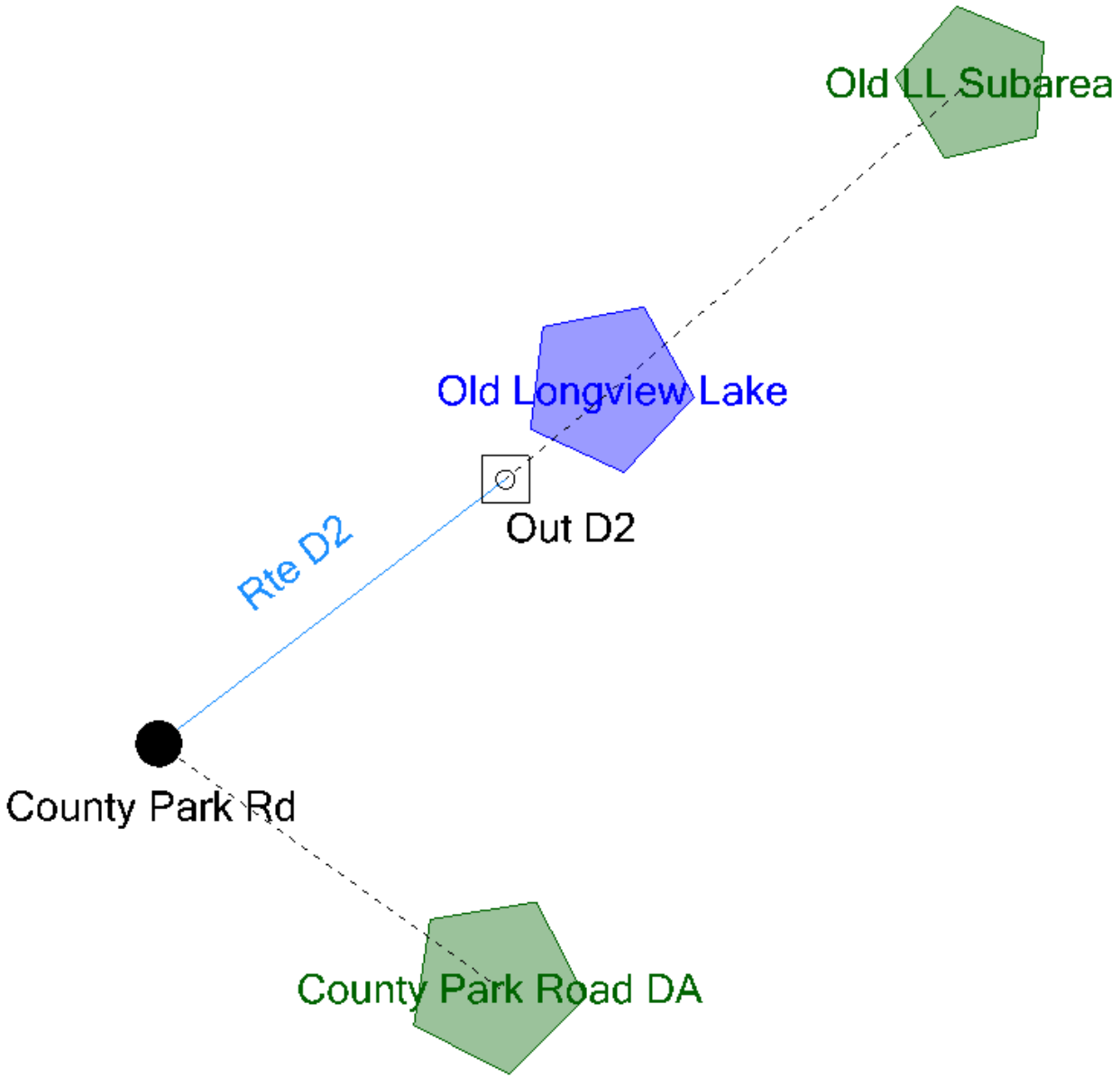
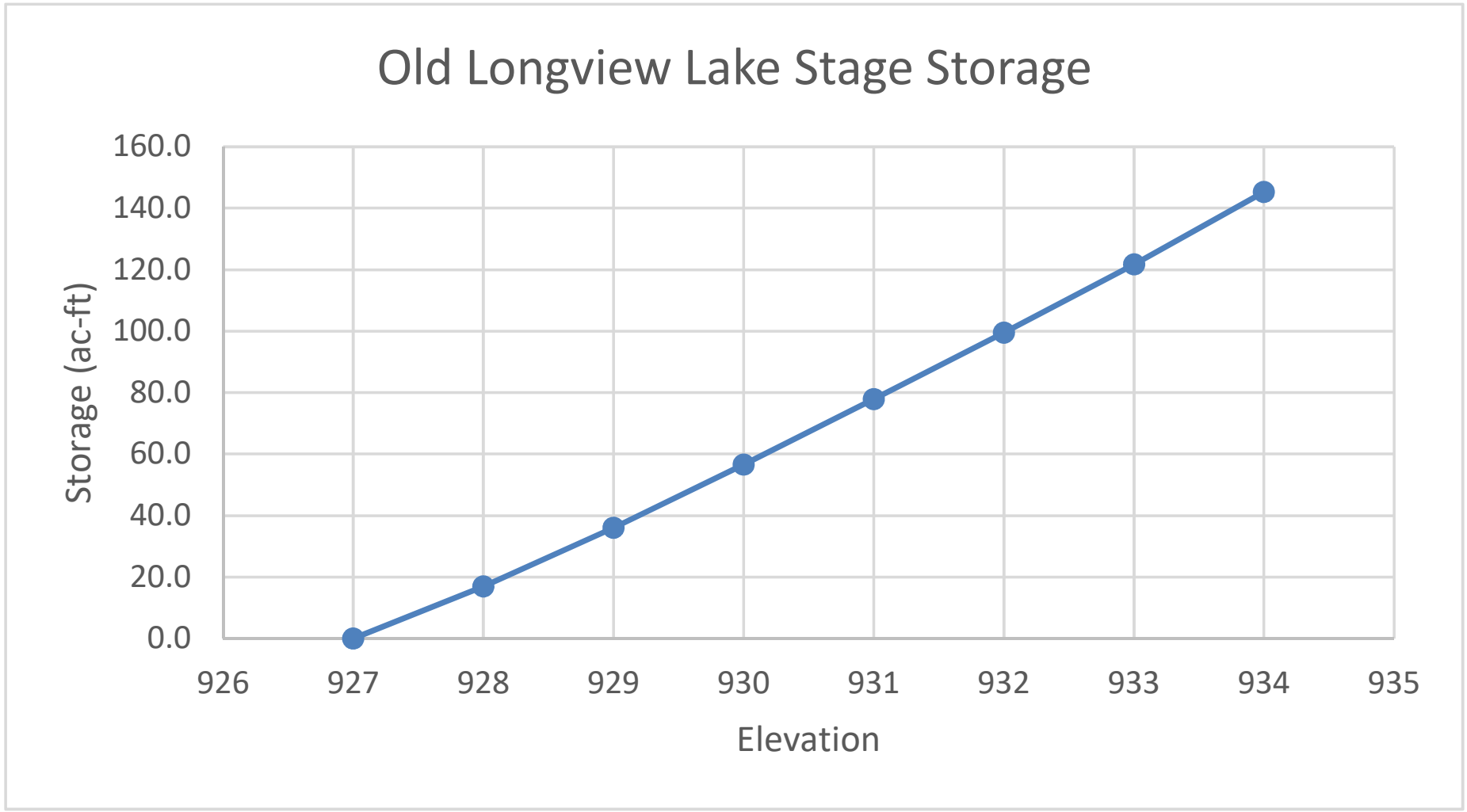
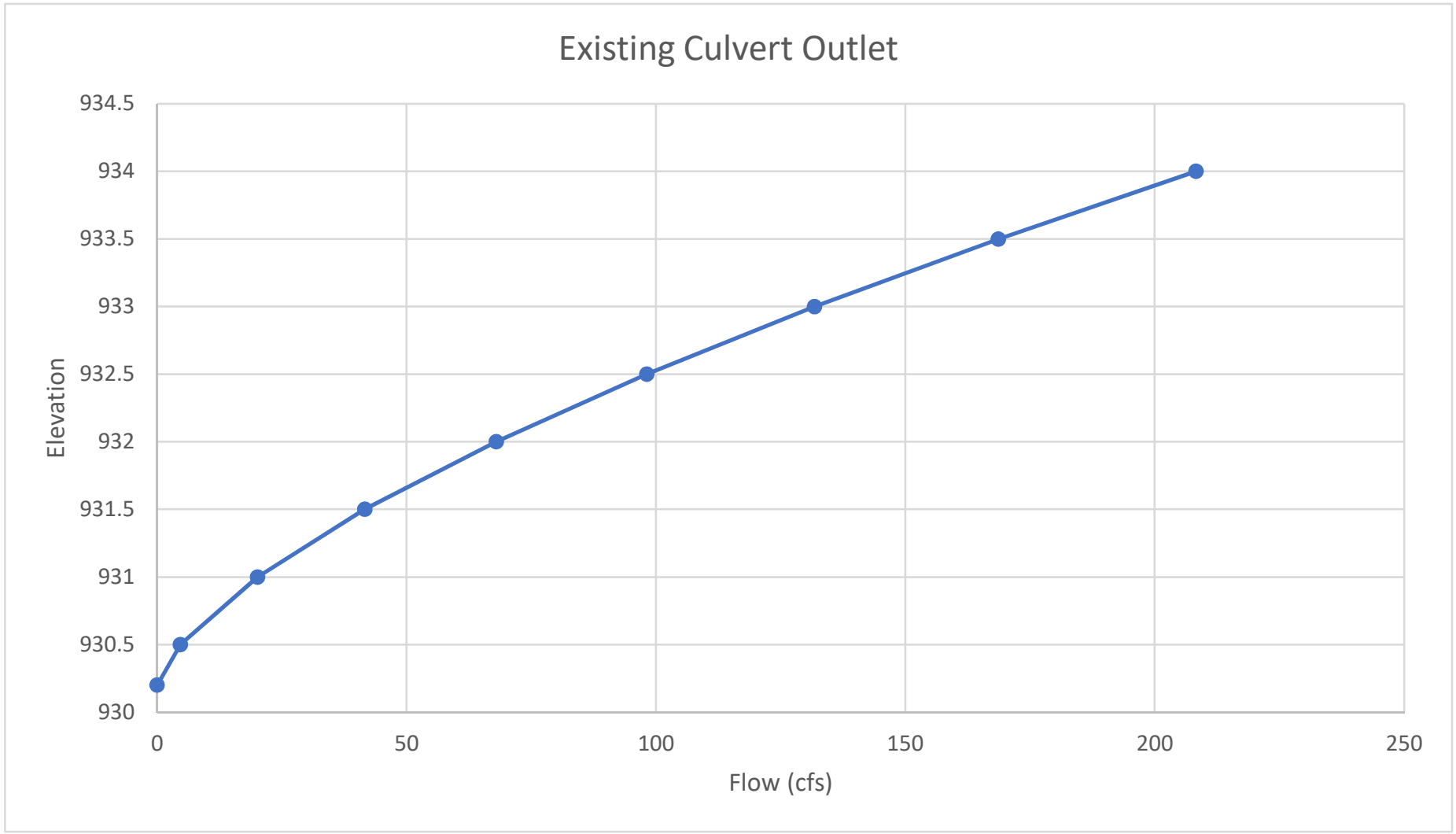
APPENDIX B
POND PACK SCHEMATIC

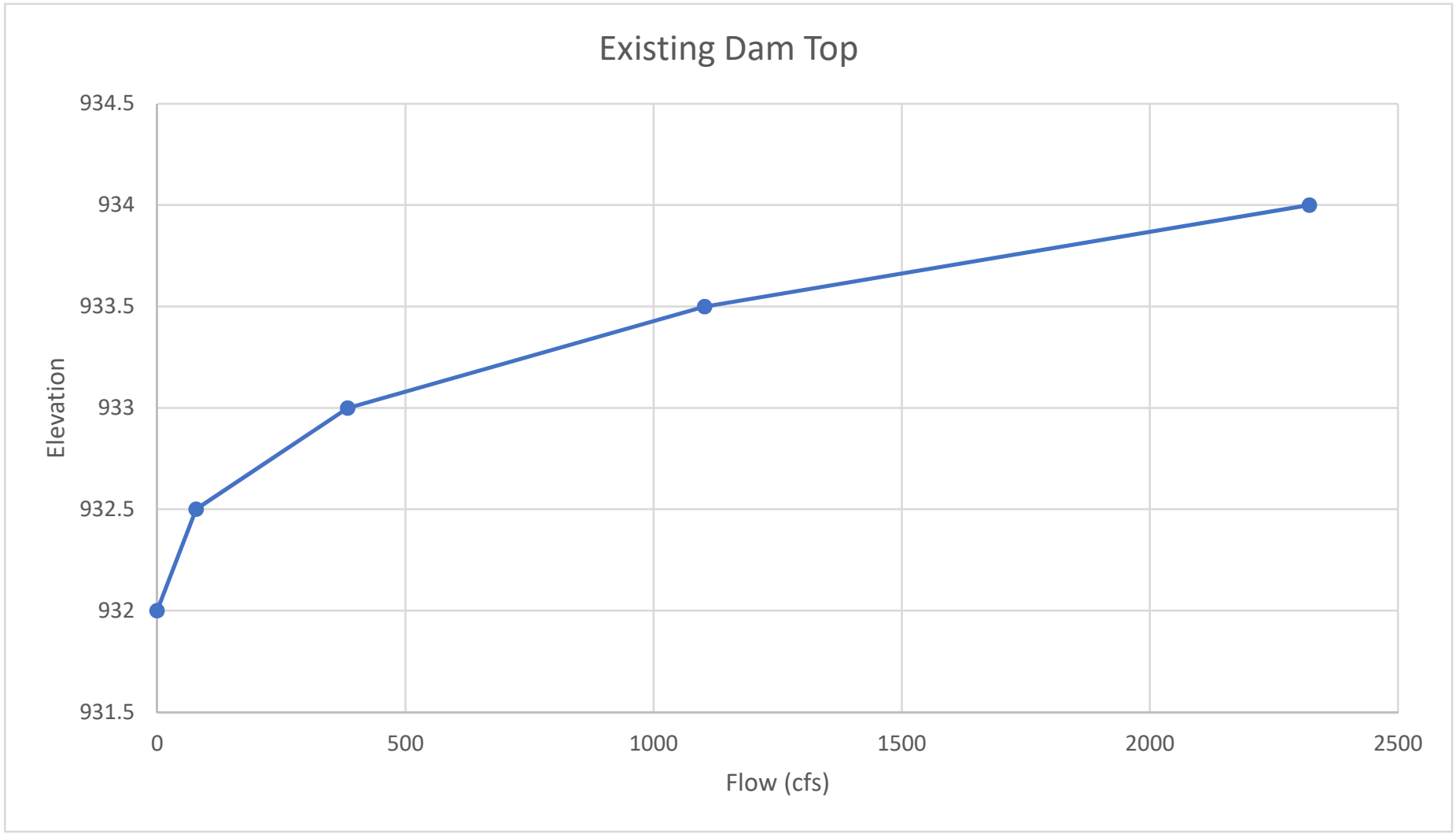
Pond Pack Model Schematic

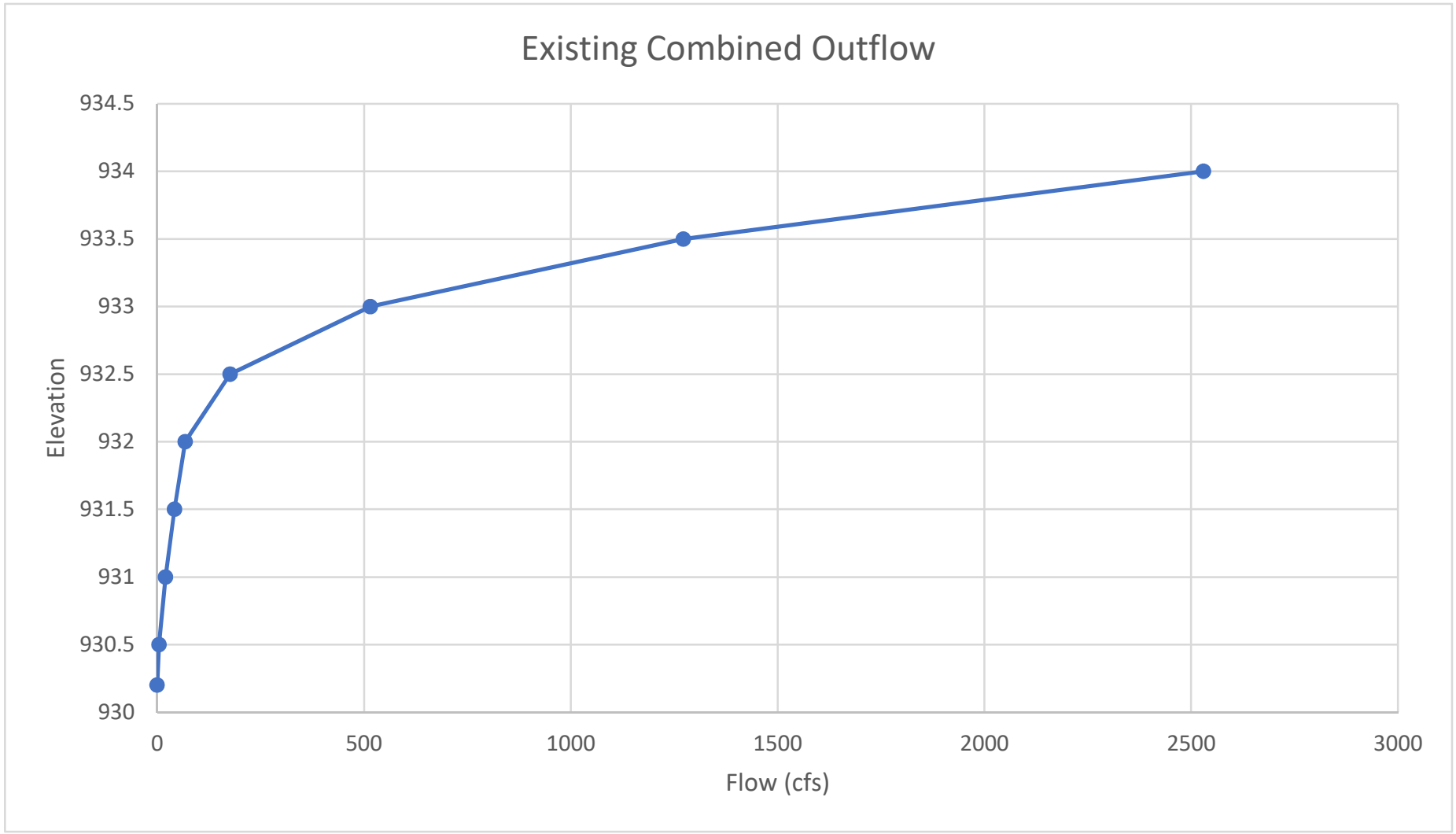


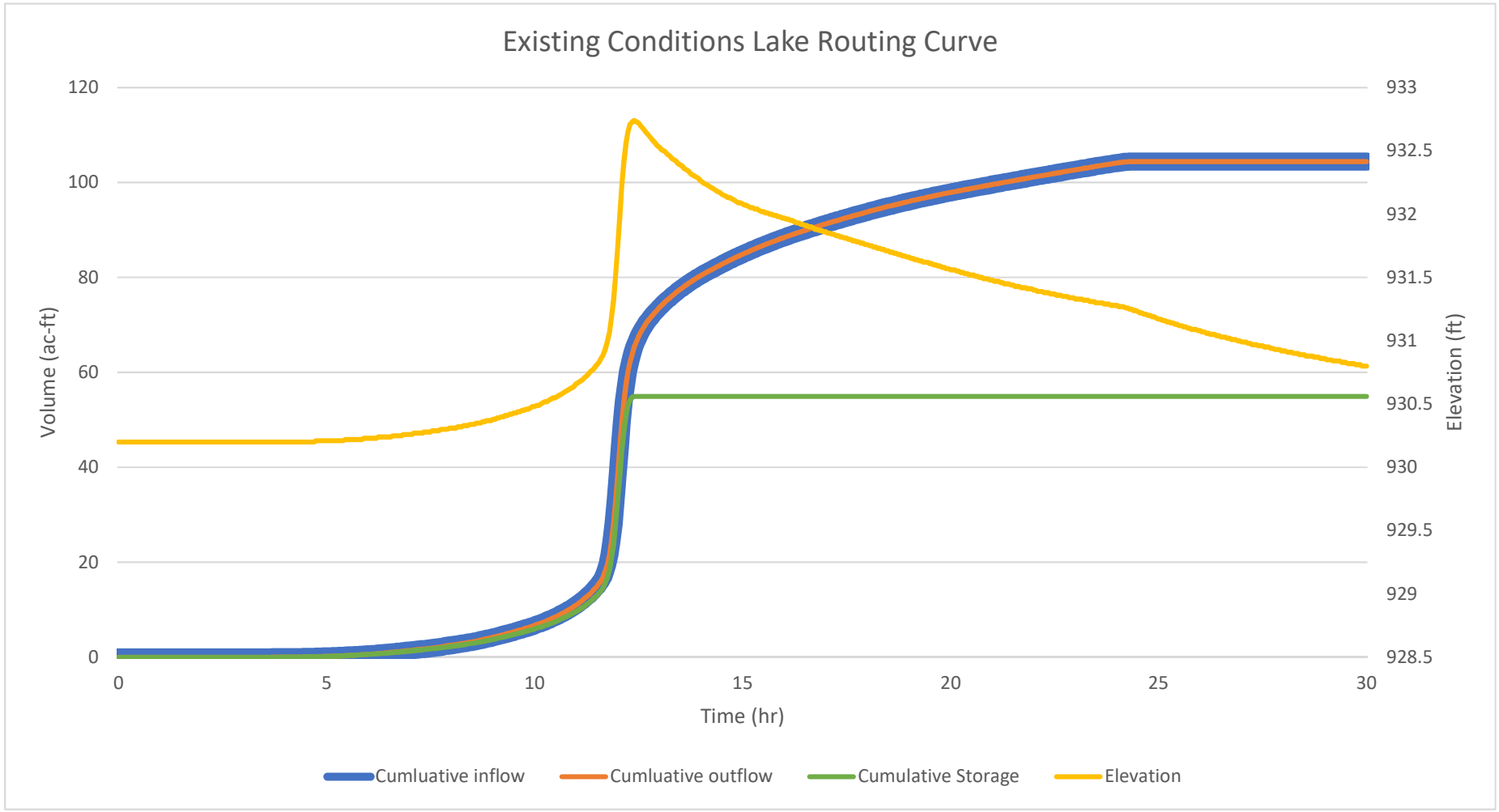
APPENDIX C
OUTPUT GRAPHS


Old Longview Lake Stage Storage
Storage (ac-ft)
160.0
140.0
120.0
100.0
80.0
60.0
40.0
20.0
0.0
926
927
928
929
930
931
932
933
934
935
Elevation

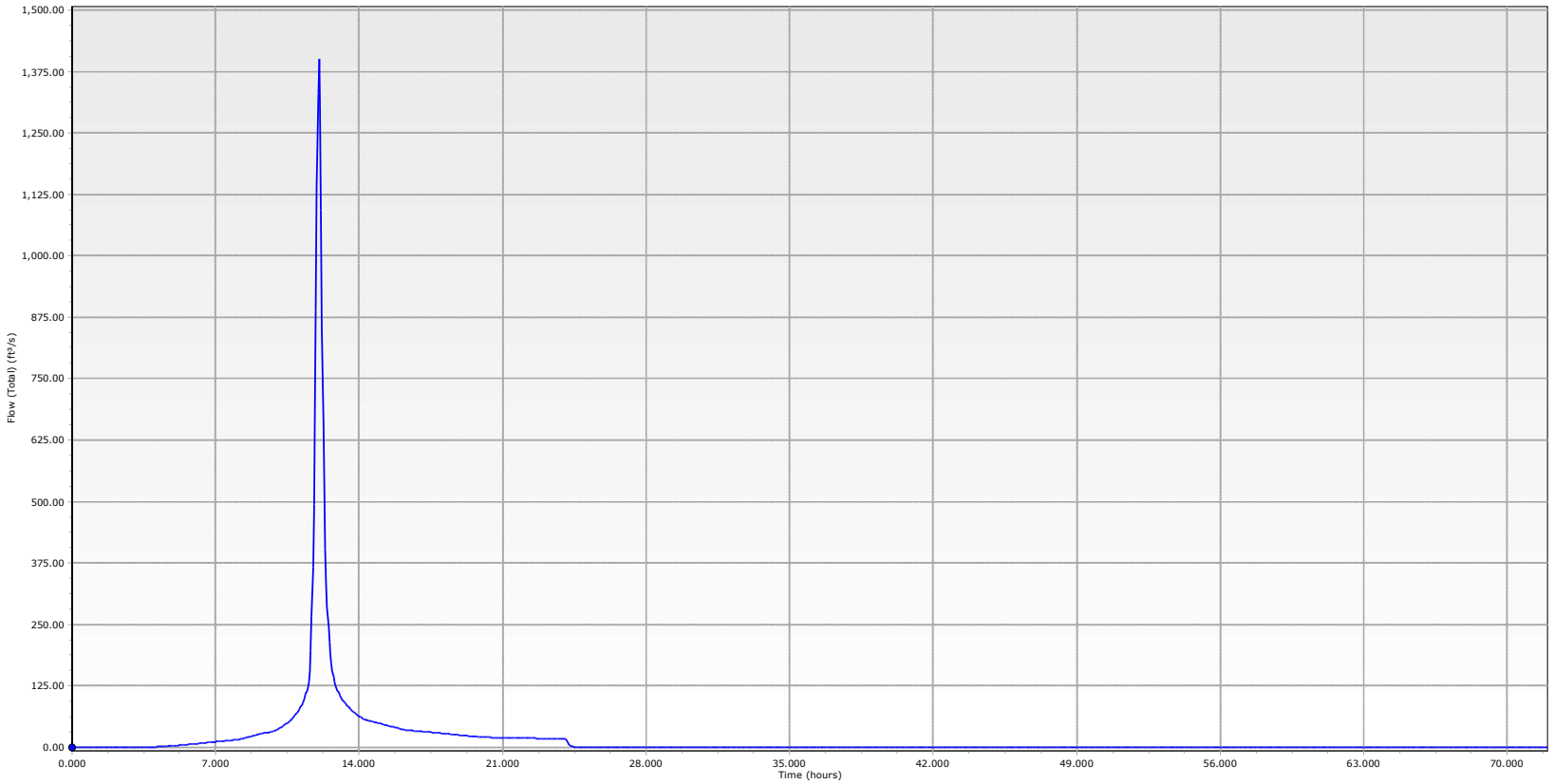

Existing Culvert Outlet
Elevation
934.5
934
933.5
933
932.5
932
931.5
931
930.5
930
0
50
100
150
200
250
Flow (cfs)


Existing Dam Top
934.5
934
933.5
933
932.5
932
931.5
Elevation
0
500
1000
1500
2000
2500
Flow (cfs)

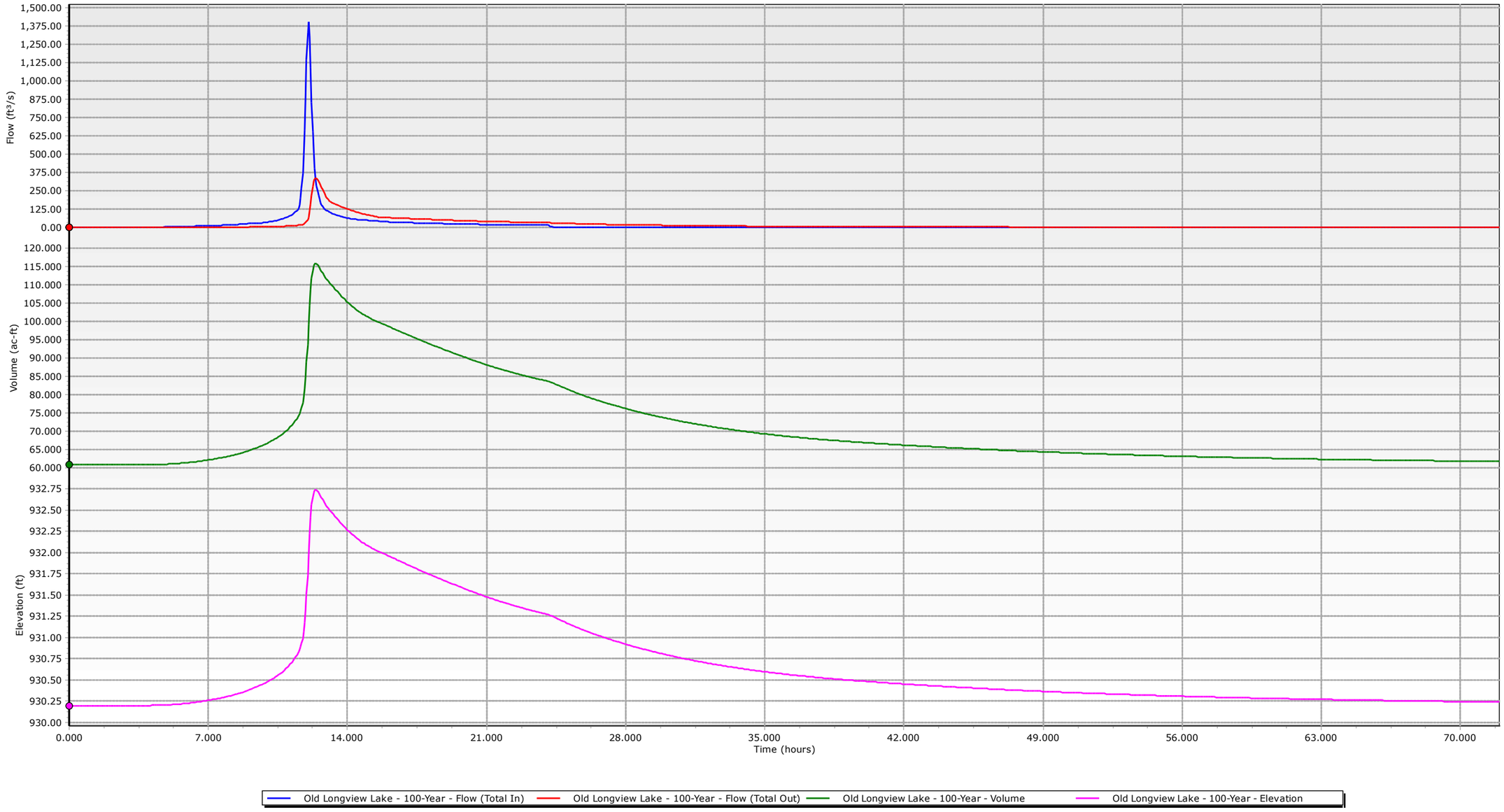

Existing Combined Outflow
Elevation
934.5
934
933.5
933
932.5
932
931.5
931
930.5
930
0
500
1000
1500
2000
2500
3000
Flow (cfs)

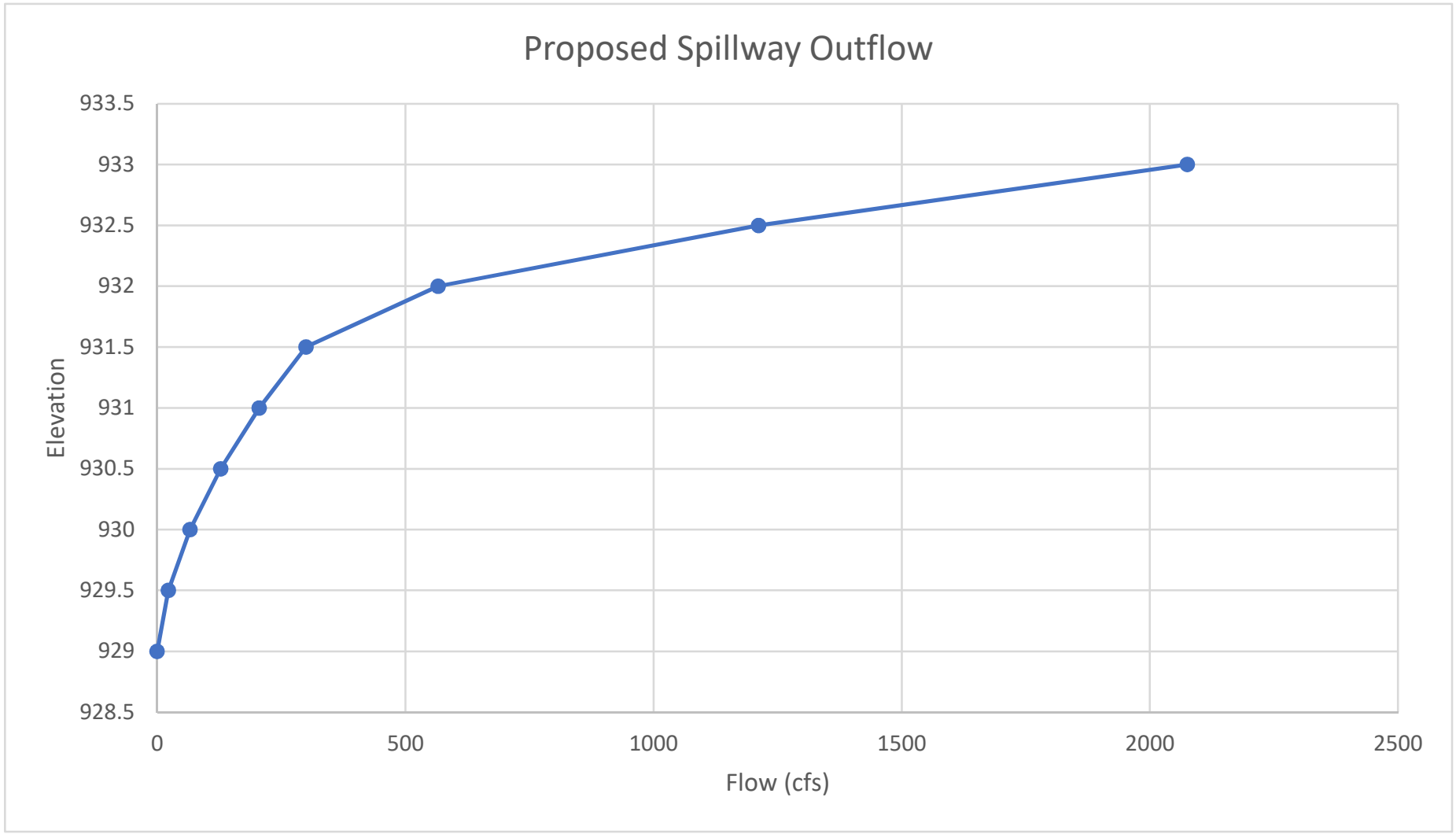

Existing Conditions Lake Routing Curve
120
100
80
60
40
20
0
Volume (ac-ft)
933
932.5
932
931.5
931
930.5
930
929.5
929
928.5
Elevation (ft)
0
5
10
15
20
25
30
Time (hr)
Cumluative inflow
Cumluative outflow
Cumulative Storage
Elevation

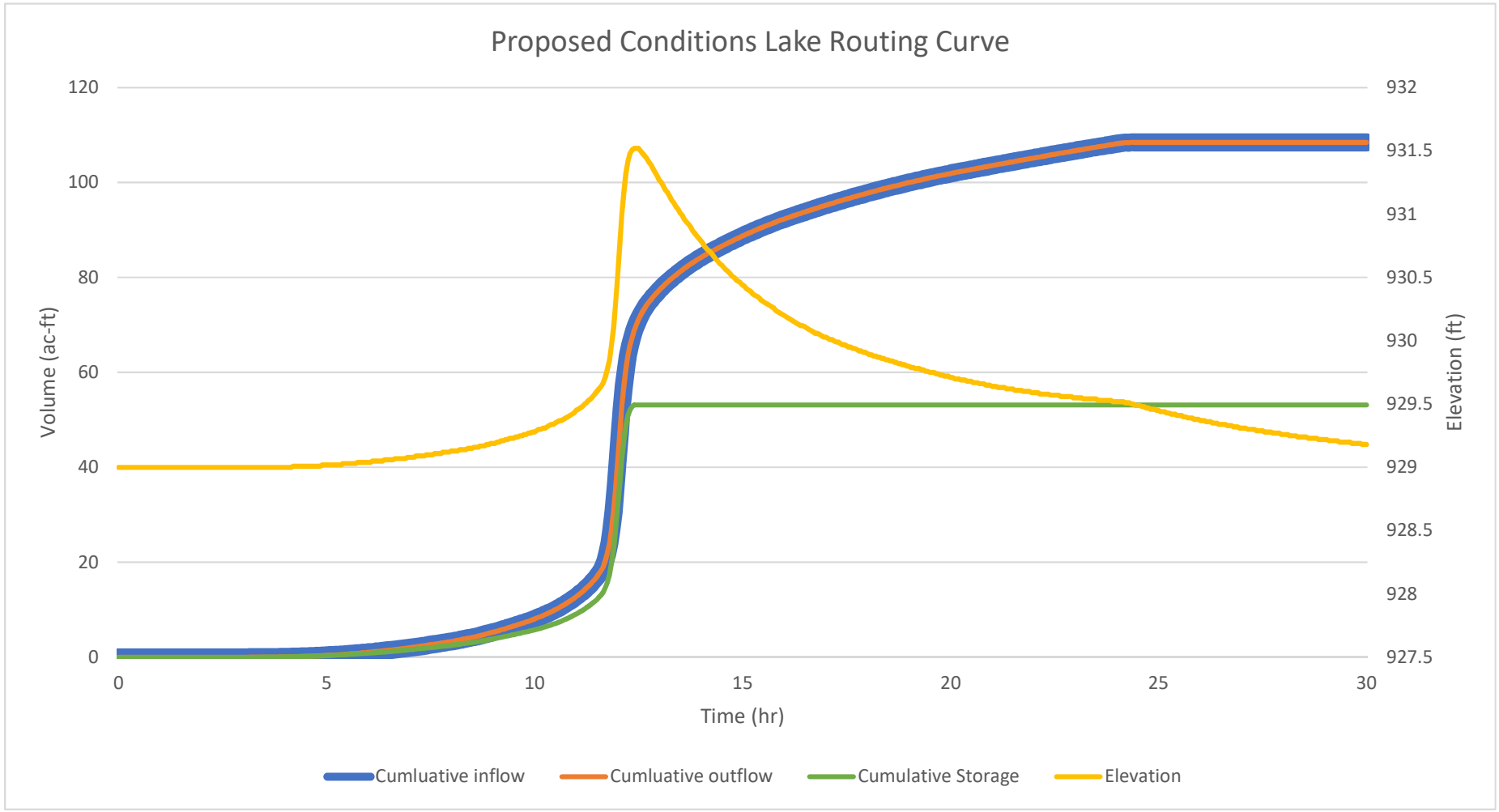
Existing Land Use - 100-year Event - Inflow Hydrograph



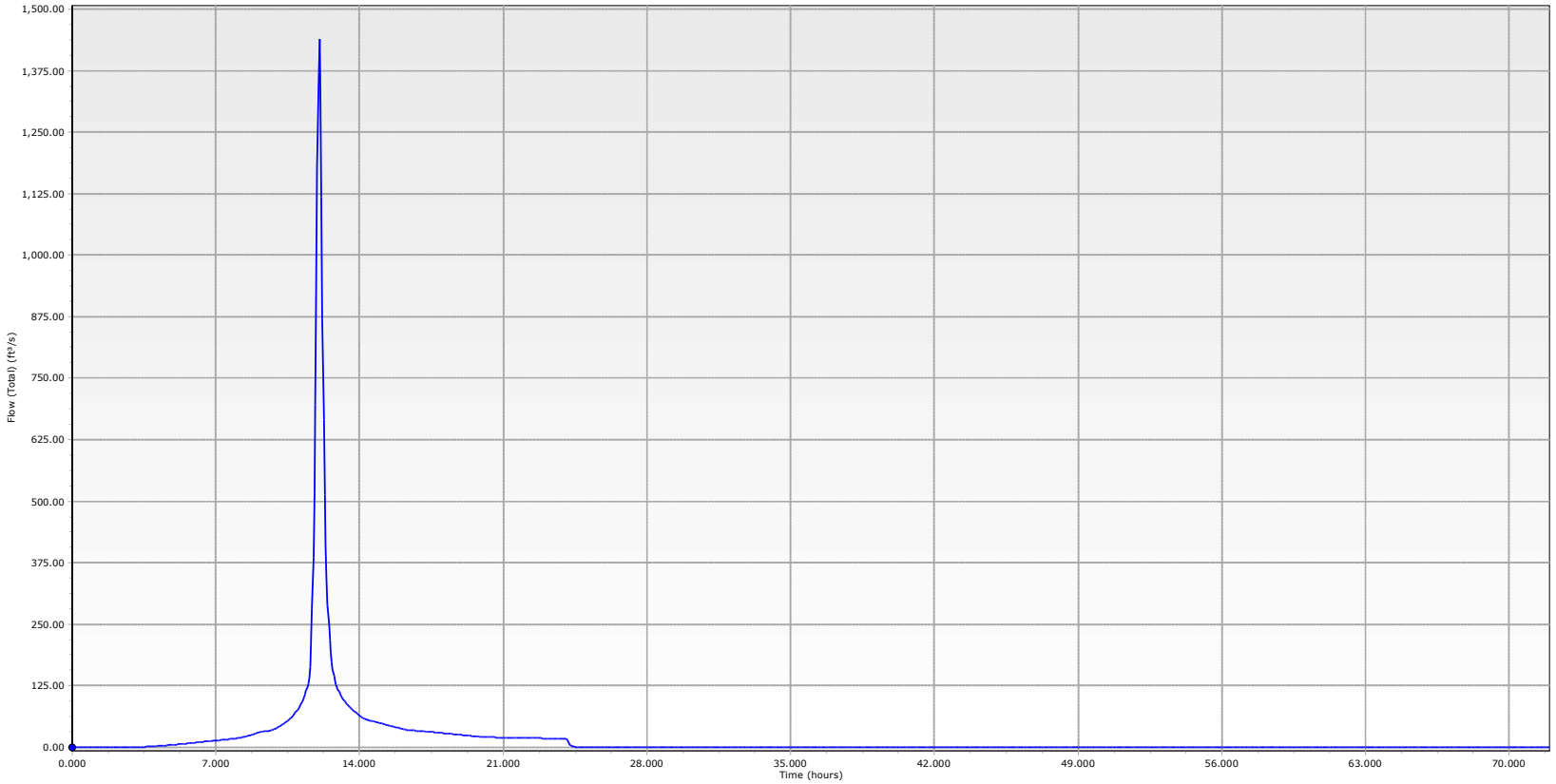
Existing Land Use - 100-year Event - Old Longview Lake



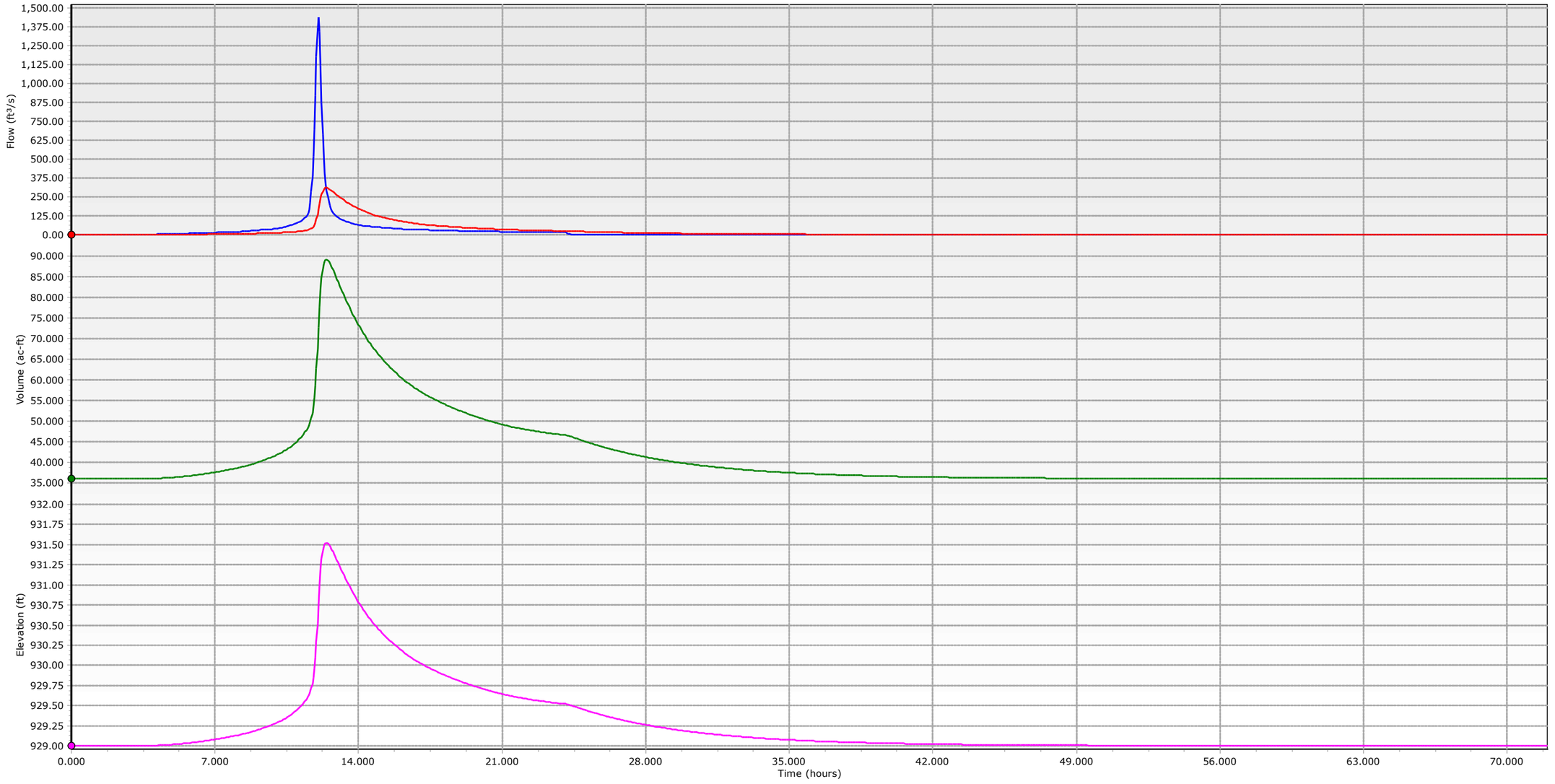

Proposed Spillway Outflow
933.5
933
932.5
932
931.5
931
930.5
930
929.5
929
928.5
Elevation
0
500
1000
1500
2000
2500
Flow (cfs)


Proposed Conditions Lake Routing Curve
120
100
80
60
40
20
0
Volume (ac-ft)
932
931.5
931
930.5
930
929.5
929
928.5
928
927.5
Elevation (ft)
0
5
10
15
20
25
30
Time (hr)
Cumluative inflow
Cumluative outflow
Cumulative Storage
Elevation

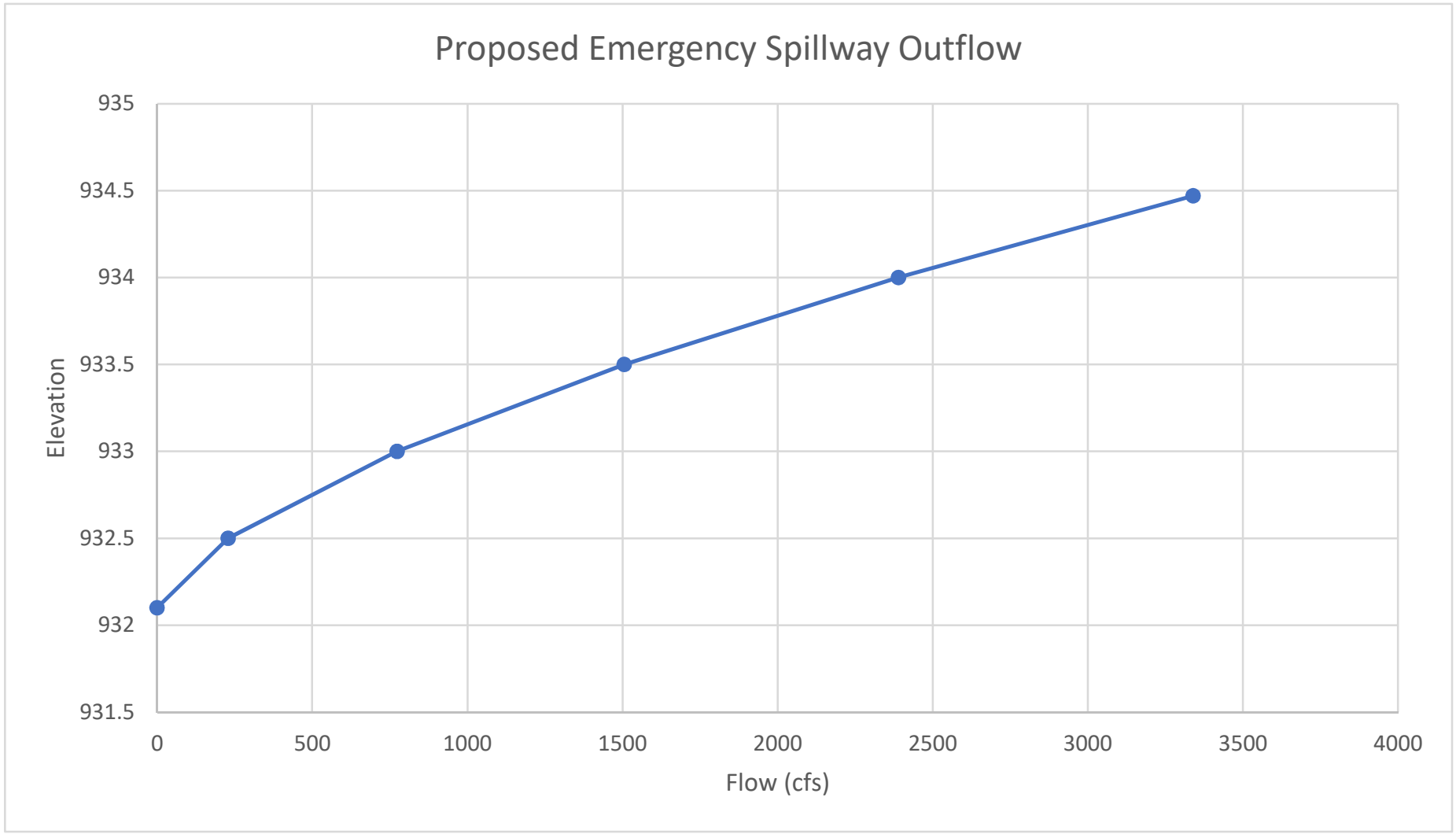
Future Land Use - 100-year Event - Inflow Hydrograph



Future Land Use - 100-year Event - Old Longview Lake



Old Longview Lake - 929 Normal WSE - Flow (Total In)
Old Longview Lake - 929 Normal WSE - Flow (Total Out)
Old Longview Lake - 929 Normal WSE - Volume
Old Longview Lake - 929 Normal WSE - Elevation


Proposed Emergency Spillway Outflow
Elevation
935
934.5
934
933.5
933
932.5
932
931.5
0
500
1000
1500
2000
2500
3000
3500
4000
Flow (cfs)

APPENDIX D
POND PACK OUTPUT

Existing Conditions

Project Summary	
Title	Old Longview Lake
Engineer	BHL
Company	Olsson Associates
Date	5/4/2018

Notes

Table of Contents

Existing Conditions

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft³/s)
Old LL Subarea	2-Year	2	36.267	12.050	505.68
Old LL Subarea	10-Year	10	64.777	12.050	888.88
Old LL Subarea	100-Year	100	104.407	12.050	1,401.20
County Park Road DA	2-Year	2	3.406	12.050	46.50
County Park Road DA	10-Year	10	6.659	12.050	91.75
County Park Road DA	100-Year	100	11.373	12.050	155.08

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft³/s)
County Park Rd	2-Year	2	39.028	12.100	59.76
County Park Rd	10-Year	10	70.636	12.100	125.57
County Park Rd	100-Year	100	114.897	12.350	379.66

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft³/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
Old Longview Lake (IN)	2-Year	2	36.267	12.050	505.68	(N/A)	(N/A)
Old Longview Lake (OUT)	2-Year	2	35.622	13.700	29.56	931.22	82.579
Old Longview Lake (IN)	10-Year	10	64.777	12.050	888.88	(N/A)	(N/A)
Old Longview Lake (OUT)	10-Year	10	63.977	13.100	67.41	931.99	99.268
Old Longview Lake (IN)	100-Year	100	104.407	12.050	1,401.20	(N/A)	(N/A)
Old Longview Lake (OUT)	100-Year	100	103.524	12.400	336.26	932.74	115.806

Time-Depth Curve: 100-YEAR	
Label	100-YEAR
Start Time	0.000 hours
Increment	0.100 hours
End Time	24.000 hours
Return Event	100 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
0.500	0.0	0.0	0.1	0.1	0.1
1.000	0.1	0.1	0.1	0.1	0.1
1.500	0.1	0.1	0.1	0.2	0.2
2.000	0.2	0.2	0.2	0.2	0.2
2.500	0.2	0.2	0.2	0.2	0.3
3.000	0.3	0.3	0.3	0.3	0.3
3.500	0.3	0.3	0.3	0.3	0.4
4.000	0.4	0.4	0.4	0.4	0.4
4.500	0.4	0.4	0.4	0.5	0.5
5.000	0.5	0.5	0.5	0.5	0.5
5.500	0.5	0.6	0.6	0.6	0.6
6.000	0.6	0.6	0.6	0.7	0.7
6.500	0.7	0.7	0.7	0.7	0.7
7.000	0.8	0.8	0.8	0.8	0.8
7.500	0.8	0.9	0.9	0.9	0.9
8.000	0.9	0.9	1.0	1.0	1.0
8.500	1.0	1.0	1.1	1.1	1.1
9.000	1.1	1.2	1.2	1.2	1.2
9.500	1.3	1.3	1.3	1.3	1.4
10.000	1.4	1.4	1.5	1.5	1.5
10.500	1.6	1.6	1.7	1.7	1.8
11.000	1.8	1.9	1.9	2.0	2.1
11.500	2.2	2.4	2.7	3.3	4.4
12.000	5.1	5.3	5.4	5.5	5.6
12.500	5.7	5.7	5.8	5.8	5.9
13.000	5.9	6.0	6.0	6.1	6.1
13.500	6.2	6.2	6.2	6.3	6.3
14.000	6.3	6.3	6.4	6.4	6.4
14.500	6.4	6.5	6.5	6.5	6.5
15.000	6.6	6.6	6.6	6.6	6.7
15.500	6.7	6.7	6.7	6.7	6.8
16.000	6.8	6.8	6.8	6.8	6.8
16.500	6.9	6.9	6.9	6.9	6.9

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
17.000	6.9	7.0	7.0	7.0	7.0
17.500	7.0	7.0	7.0	7.1	7.1
18.000	7.1	7.1	7.1	7.1	7.1
18.500	7.2	7.2	7.2	7.2	7.2
19.000	7.2	7.2	7.2	7.3	7.3
19.500	7.3	7.3	7.3	7.3	7.3
20.000	7.3	7.3	7.4	7.4	7.4
20.500	7.4	7.4	7.4	7.4	7.4
21.000	7.4	7.4	7.4	7.5	7.5
21.500	7.5	7.5	7.5	7.5	7.5
22.000	7.5	7.5	7.5	7.6	7.6
22.500	7.6	7.6	7.6	7.6	7.6
23.000	7.6	7.6	7.6	7.6	7.6
23.500	7.7	7.7	7.7	7.7	7.7
24.000	7.7	(N/A)	(N/A)	(N/A)	(N/A)

Time-Depth Curve: 10-YEAR	
Label	10-YEAR
Start Time	0.000 hours
Increment	0.100 hours
End Time	24.000 hours
Return Event	10 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
0.500	0.0	0.0	0.0	0.0	0.0
1.000	0.1	0.1	0.1	0.1	0.1
1.500	0.1	0.1	0.1	0.1	0.1
2.000	0.1	0.1	0.1	0.1	0.1
2.500	0.1	0.2	0.2	0.2	0.2
3.000	0.2	0.2	0.2	0.2	0.2
3.500	0.2	0.2	0.2	0.2	0.2
4.000	0.3	0.3	0.3	0.3	0.3
4.500	0.3	0.3	0.3	0.3	0.3
5.000	0.3	0.3	0.4	0.4	0.4
5.500	0.4	0.4	0.4	0.4	0.4
6.000	0.4	0.4	0.4	0.5	0.5
6.500	0.5	0.5	0.5	0.5	0.5
7.000	0.5	0.5	0.5	0.6	0.6
7.500	0.6	0.6	0.6	0.6	0.6
8.000	0.6	0.6	0.7	0.7	0.7
8.500	0.7	0.7	0.7	0.7	0.8
9.000	0.8	0.8	0.8	0.8	0.8
9.500	0.9	0.9	0.9	0.9	0.9
10.000	1.0	1.0	1.0	1.0	1.1
10.500	1.1	1.1	1.1	1.2	1.2
11.000	1.2	1.3	1.3	1.4	1.4
11.500	1.5	1.6	1.9	2.3	3.0
12.000	3.5	3.6	3.7	3.8	3.8
12.500	3.9	3.9	4.0	4.0	4.1
13.000	4.1	4.1	4.2	4.2	4.2
13.500	4.2	4.3	4.3	4.3	4.3
14.000	4.3	4.4	4.4	4.4	4.4
14.500	4.4	4.5	4.5	4.5	4.5
15.000	4.5	4.5	4.6	4.6	4.6
15.500	4.6	4.6	4.6	4.6	4.7
16.000	4.7	4.7	4.7	4.7	4.7
16.500	4.7	4.7	4.7	4.8	4.8

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
17.000	4.8	4.8	4.8	4.8	4.8
17.500	4.8	4.8	4.9	4.9	4.9
18.000	4.9	4.9	4.9	4.9	4.9
18.500	4.9	4.9	4.9	5.0	5.0
19.000	5.0	5.0	5.0	5.0	5.0
19.500	5.0	5.0	5.0	5.0	5.0
20.000	5.0	5.1	5.1	5.1	5.1
20.500	5.1	5.1	5.1	5.1	5.1
21.000	5.1	5.1	5.1	5.1	5.1
21.500	5.1	5.2	5.2	5.2	5.2
22.000	5.2	5.2	5.2	5.2	5.2
22.500	5.2	5.2	5.2	5.2	5.2
23.000	5.2	5.2	5.3	5.3	5.3
23.500	5.3	5.3	5.3	5.3	5.3
24.000	5.3	(N/A)	(N/A)	(N/A)	(N/A)

Time-Depth Curve: 2-YEAR	
Label	2-YEAR
Start Time	0.000 hours
Increment	0.100 hours
End Time	24.000 hours
Return Event	2 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
0.500	0.0	0.0	0.0	0.0	0.0
1.000	0.0	0.0	0.0	0.0	0.1
1.500	0.1	0.1	0.1	0.1	0.1
2.000	0.1	0.1	0.1	0.1	0.1
2.500	0.1	0.1	0.1	0.1	0.1
3.000	0.1	0.1	0.1	0.1	0.1
3.500	0.1	0.1	0.2	0.2	0.2
4.000	0.2	0.2	0.2	0.2	0.2
4.500	0.2	0.2	0.2	0.2	0.2
5.000	0.2	0.2	0.2	0.2	0.2
5.500	0.2	0.3	0.3	0.3	0.3
6.000	0.3	0.3	0.3	0.3	0.3
6.500	0.3	0.3	0.3	0.3	0.3
7.000	0.3	0.4	0.4	0.4	0.4
7.500	0.4	0.4	0.4	0.4	0.4
8.000	0.4	0.4	0.4	0.4	0.5
8.500	0.5	0.5	0.5	0.5	0.5
9.000	0.5	0.5	0.5	0.5	0.6
9.500	0.6	0.6	0.6	0.6	0.6
10.000	0.6	0.6	0.7	0.7	0.7
10.500	0.7	0.7	0.8	0.8	0.8
11.000	0.8	0.8	0.9	0.9	1.0
11.500	1.0	1.1	1.2	1.5	2.0
12.000	2.3	2.4	2.4	2.5	2.5
12.500	2.6	2.6	2.6	2.7	2.7
13.000	2.7	2.7	2.7	2.8	2.8
13.500	2.8	2.8	2.8	2.8	2.9
14.000	2.9	2.9	2.9	2.9	2.9
14.500	2.9	2.9	3.0	3.0	3.0
15.000	3.0	3.0	3.0	3.0	3.0
15.500	3.0	3.0	3.1	3.1	3.1
16.000	3.1	3.1	3.1	3.1	3.1
16.500	3.1	3.1	3.1	3.1	3.1

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
17.000	3.2	3.2	3.2	3.2	3.2
17.500	3.2	3.2	3.2	3.2	3.2
18.000	3.2	3.2	3.2	3.2	3.2
18.500	3.3	3.3	3.3	3.3	3.3
19.000	3.3	3.3	3.3	3.3	3.3
19.500	3.3	3.3	3.3	3.3	3.3
20.000	3.3	3.3	3.3	3.3	3.4
20.500	3.4	3.4	3.4	3.4	3.4
21.000	3.4	3.4	3.4	3.4	3.4
21.500	3.4	3.4	3.4	3.4	3.4
22.000	3.4	3.4	3.4	3.4	3.4
22.500	3.4	3.4	3.4	3.5	3.5
23.000	3.5	3.5	3.5	3.5	3.5
23.500	3.5	3.5	3.5	3.5	3.5
24.000	3.5	(N/A)	(N/A)	(N/A)	(N/A)

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	100.00 ft
Manning's n	0.150
Slope	0.010 ft/ft
2 Year 24 Hour Depth	3.6 in
Average Velocity	0.14 ft/s
Segment Time of Concentration	0.203 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	1,000.00 ft
Is Paved?	False
Slope	0.069 ft/ft
Average Velocity	4.24 ft/s
Segment Time of Concentration	0.066 hours

Segment #3: Length and Velocity	
Hydraulic Length	319.00 ft
Velocity	7.00 ft/s
Segment Time of Concentration	0.013 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.281 hours

==== User Defined Length & Velocity

Tc =	(Lf / V) / 3600
Where:	Tc= Time of concentration, hours Lf= Flow length, feet V= Velocity, ft/sec

==== SCS Channel Flow

Tc =	R = Qa / Wp V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n (Lf / V) / 3600
Where:	R= Hydraulic radius Aq= Flow area, square feet Wp= Wetted perimeter, feet V= Velocity, ft/sec Sf= Slope, ft/ft n= Manning's n Tc= Time of concentration, hours Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc =	Unpaved surface: V = 16.1345 * (Sf**0.5) Paved Surface: V = 20.3282 * (Sf**0.5) (Lf / V) / 3600
Where:	V= Velocity, ft/sec Sf= Slope, ft/ft Tc= Time of concentration, hours Lf= Flow length, feet

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	100.00 ft
Manning's n	0.150
Slope	0.030 ft/ft
2 Year 24 Hour Depth	3.6 in
Average Velocity	0.21 ft/s
Segment Time of Concentration	0.131 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	508.00 ft
Is Paved?	False
Slope	0.013 ft/ft
Average Velocity	1.84 ft/s
Segment Time of Concentration	0.077 hours

Segment #3: Length and Velocity	
Hydraulic Length	2,419.00 ft
Velocity	10.00 ft/s
Segment Time of Concentration	0.067 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.275 hours

==== User Defined Length & Velocity

Tc =	(Lf / V) / 3600
Where:	Tc= Time of concentration, hours Lf= Flow length, feet V= Velocity, ft/sec

==== SCS Channel Flow

Tc =	R = Qa / Wp V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n (Lf / V) / 3600
Where:	R= Hydraulic radius Aq= Flow area, square feet Wp= Wetted perimeter, feet V= Velocity, ft/sec Sf= Slope, ft/ft n= Manning's n Tc= Time of concentration, hours Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc =	Unpaved surface: V = 16.1345 * (Sf**0.5) Paved Surface: V = 20.3282 * (Sf**0.5) (Lf / V) / 3600
Where:	V= Velocity, ft/sec Sf= Slope, ft/ft Tc= Time of concentration, hours Lf= Flow length, feet

Existing Conditions

Subsection: Runoff CN-Area
Label: County Park Road DA

Return Event: 100 years
Storm Event: 100-YEAR

Runoff Curve Number Data

Soil/Surface Description	CN	Area (acres)	C (%)	UC (%)	Adjusted CN
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)

Existing Conditions

Subsection: Runoff CN-Area
Label: Old LL Subarea

Return Event: 100 years
Storm Event: 100-YEAR

Runoff Curve Number Data

Soil/Surface Description	CN	Area (acres)	C (%)	UC (%)	Adjusted CN
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)

Storm Event	2-YEAR
Return Event	2 years
Duration	72.000 hours
Depth	3.5 in
Time of Concentration (Composite)	0.281 hours
Area (User Defined)	26.100 acres

Computational Time Increment	0.038 hours
Time to Peak (Computed)	12.079 hours
Flow (Peak, Computed)	46.94 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	46.50 ft³/s

Drainage Area	
SCS CN (Composite)	79.000
Area (User Defined)	26.100 acres
Maximum Retention (Pervious)	2.7 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.6 in
Runoff Volume (Pervious)	3.406 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	3.406 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.281 hours
Computational Time Increment	0.038 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

SCS Unit Hydrograph Parameters	
Unit peak, qp	105.11 ft³/s
Unit peak time, Tp	0.188 hours
Unit receding limb, Tr	0.750 hours
Total unit time, Tb	0.938 hours

Storm Event	10-YEAR
Return Event	10 years
Duration	72.000 hours
Depth	5.3 in
Time of Concentration (Composite)	0.281 hours
Area (User Defined)	26.100 acres

Computational Time Increment	0.038 hours
Time to Peak (Computed)	12.042 hours
Flow (Peak, Computed)	91.79 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	91.75 ft³/s

Drainage Area	
SCS CN (Composite)	79.000
Area (User Defined)	26.100 acres
Maximum Retention (Pervious)	2.7 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.1 in
Runoff Volume (Pervious)	6.659 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	6.659 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.281 hours
Computational Time Increment	0.038 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

SCS Unit Hydrograph Parameters	
Unit peak, qp	105.11 ft³/s
Unit peak time, Tp	0.188 hours
Unit receding limb, Tr	0.750 hours
Total unit time, Tb	0.938 hours

Storm Event	100-YEAR
Return Event	100 years
Duration	72.000 hours
Depth	7.7 in
Time of Concentration (Composite)	0.281 hours
Area (User Defined)	26.100 acres

Computational Time Increment	0.038 hours
Time to Peak (Computed)	12.042 hours
Flow (Peak, Computed)	155.40 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	155.08 ft³/s

Drainage Area	
SCS CN (Composite)	79.000
Area (User Defined)	26.100 acres
Maximum Retention (Pervious)	2.7 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.2 in
Runoff Volume (Pervious)	11.374 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	11.373 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.281 hours
Computational Time Increment	0.038 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

SCS Unit Hydrograph Parameters	
Unit peak, qp	105.11 ft³/s
Unit peak time, Tp	0.188 hours
Unit receding limb, Tr	0.750 hours
Total unit time, Tb	0.938 hours

Storm Event	2-YEAR
Return Event	2 years
Duration	72.000 hours
Depth	3.5 in
Time of Concentration (Composite)	0.275 hours
Area (User Defined)	207.400 acres

Computational Time Increment	0.037 hours
Time to Peak (Computed)	12.055 hours
Flow (Peak, Computed)	507.81 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	505.68 ft³/s

Drainage Area	
SCS CN (Composite)	86.000
Area (User Defined)	207.400 acres
Maximum Retention (Pervious)	1.6 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.1 in
Runoff Volume (Pervious)	36.267 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	36.267 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.275 hours
Computational Time Increment	0.037 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

SCS Unit Hydrograph Parameters	
Unit peak, qp	855.11 ft³/s
Unit peak time, Tp	0.183 hours
Unit receding limb, Tr	0.733 hours
Total unit time, Tb	0.916 hours

Storm Event	10-YEAR
Return Event	10 years
Duration	72.000 hours
Depth	5.3 in
Time of Concentration (Composite)	0.275 hours
Area (User Defined)	207.400 acres

Computational Time Increment	0.037 hours
Time to Peak (Computed)	12.055 hours
Flow (Peak, Computed)	891.54 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	888.88 ft³/s

Drainage Area	
SCS CN (Composite)	86.000
Area (User Defined)	207.400 acres
Maximum Retention (Pervious)	1.6 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.7 in
Runoff Volume (Pervious)	64.777 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	64.777 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.275 hours
Computational Time Increment	0.037 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

SCS Unit Hydrograph Parameters	
Unit peak, qp	855.11 ft³/s
Unit peak time, Tp	0.183 hours
Unit receding limb, Tr	0.733 hours
Total unit time, Tb	0.916 hours

Storm Event	100-YEAR
Return Event	100 years
Duration	72.000 hours
Depth	7.7 in
Time of Concentration (Composite)	0.275 hours
Area (User Defined)	207.400 acres

Computational Time Increment	0.037 hours
Time to Peak (Computed)	12.055 hours
Flow (Peak, Computed)	1,404.35 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	1,401.20 ft³/s

Drainage Area	
SCS CN (Composite)	86.000
Area (User Defined)	207.400 acres
Maximum Retention (Pervious)	1.6 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	6.0 in
Runoff Volume (Pervious)	104.408 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	104.407 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.275 hours
Computational Time Increment	0.037 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

SCS Unit Hydrograph Parameters	
Unit peak, qp	855.11 ft³/s
Unit peak time, Tp	0.183 hours
Unit receding limb, Tr	0.733 hours
Total unit time, Tb	0.916 hours

Existing Conditions

Subsection: Time vs. Elevation
Label: Old Longview Lake (OUT)

Return Event: 100 years
Storm Event: 100-YEAR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	930.20	930.20	930.20	930.20	930.20
0.250	930.20	930.20	930.20	930.20	930.20
0.500	930.20	930.20	930.20	930.20	930.20
0.750	930.20	930.20	930.20	930.20	930.20
1.000	930.20	930.20	930.20	930.20	930.20
1.250	930.20	930.20	930.20	930.20	930.20
1.500	930.20	930.20	930.20	930.20	930.20
1.750	930.20	930.20	930.20	930.20	930.20
2.000	930.20	930.20	930.20	930.20	930.20
2.250	930.20	930.20	930.20	930.20	930.20
2.500	930.20	930.20	930.20	930.20	930.20
2.750	930.20	930.20	930.20	930.20	930.20
3.000	930.20	930.20	930.20	930.20	930.20
3.250	930.20	930.20	930.20	930.20	930.20
3.500	930.20	930.20	930.20	930.20	930.20
3.750	930.20	930.20	930.20	930.20	930.20
4.000	930.20	930.20	930.20	930.20	930.20
4.250	930.20	930.20	930.20	930.20	930.20
4.500	930.20	930.20	930.20	930.20	930.20
4.750	930.21	930.21	930.21	930.21	930.21
5.000	930.21	930.21	930.21	930.21	930.21
5.250	930.21	930.21	930.21	930.21	930.22
5.500	930.22	930.22	930.22	930.22	930.22
5.750	930.22	930.22	930.22	930.23	930.23
6.000	930.23	930.23	930.23	930.23	930.23
6.250	930.24	930.24	930.24	930.24	930.24
6.500	930.24	930.24	930.25	930.25	930.25
6.750	930.25	930.25	930.26	930.26	930.26
7.000	930.26	930.26	930.27	930.27	930.27
7.250	930.27	930.27	930.28	930.28	930.28
7.500	930.28	930.29	930.29	930.29	930.29
7.750	930.30	930.30	930.30	930.30	930.31
8.000	930.31	930.31	930.31	930.32	930.32
8.250	930.32	930.33	930.33	930.33	930.34
8.500	930.34	930.34	930.35	930.35	930.35
8.750	930.36	930.36	930.37	930.37	930.37
9.000	930.38	930.38	930.39	930.39	930.40
9.250	930.40	930.41	930.41	930.42	930.42
9.500	930.43	930.43	930.44	930.44	930.45
9.750	930.45	930.46	930.46	930.47	930.48
10.000	930.48	930.49	930.49	930.50	930.51

Existing Conditions

Subsection: Time vs. Elevation
Label: Old Longview Lake (OUT)

Return Event: 100 years
Storm Event: 100-YEAR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
10.250	930.52	930.52	930.53	930.54	930.55
10.500	930.55	930.56	930.57	930.58	930.59
10.750	930.60	930.61	930.62	930.63	930.64
11.000	930.66	930.67	930.68	930.69	930.71
11.250	930.72	930.74	930.76	930.77	930.79
11.500	930.81	930.83	930.86	930.89	930.93
11.750	930.99	931.07	931.18	931.32	931.51
12.000	931.73	931.98	932.22	932.42	932.56
12.250	932.65	932.71	932.73	932.74	932.73
12.500	932.72	932.70	932.68	932.66	932.64
12.750	932.62	932.60	932.58	932.56	932.54
13.000	932.53	932.51	932.50	932.49	932.47
13.250	932.46	932.44	932.43	932.42	932.40
13.500	932.39	932.38	932.36	932.35	932.34
13.750	932.32	932.31	932.30	932.29	932.28
14.000	932.26	932.25	932.24	932.23	932.22
14.250	932.21	932.20	932.19	932.18	932.17
14.500	932.16	932.15	932.14	932.13	932.13
14.750	932.12	932.11	932.10	932.09	932.09
15.000	932.08	932.07	932.07	932.06	932.05
15.250	932.05	932.04	932.04	932.03	932.02
15.500	932.02	932.01	932.01	932.00	932.00
15.750	931.99	931.99	931.98	931.98	931.97
16.000	931.97	931.96	931.96	931.95	931.95
16.250	931.94	931.93	931.93	931.92	931.92
16.500	931.91	931.91	931.90	931.90	931.89
16.750	931.88	931.88	931.87	931.87	931.86
17.000	931.86	931.85	931.85	931.84	931.84
17.250	931.83	931.83	931.82	931.82	931.81
17.500	931.81	931.80	931.80	931.79	931.79
17.750	931.78	931.78	931.77	931.77	931.76
18.000	931.76	931.75	931.75	931.74	931.74
18.250	931.73	931.73	931.72	931.72	931.71
18.500	931.71	931.70	931.70	931.69	931.69
18.750	931.68	931.68	931.67	931.67	931.66
19.000	931.66	931.65	931.65	931.64	931.64
19.250	931.63	931.63	931.62	931.62	931.62
19.500	931.61	931.61	931.60	931.60	931.59
19.750	931.59	931.58	931.58	931.57	931.57
20.000	931.56	931.56	931.56	931.55	931.55
20.250	931.54	931.54	931.53	931.53	931.52

Existing Conditions

Subsection: Time vs. Elevation
Label: Old Longview Lake (OUT)

Return Event: 100 years
Storm Event: 100-YEAR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
20.500	931.52	931.52	931.51	931.51	931.50
20.750	931.50	931.49	931.49	931.49	931.48
21.000	931.48	931.47	931.47	931.47	931.46
21.250	931.46	931.45	931.45	931.45	931.44
21.500	931.44	931.43	931.43	931.43	931.42
21.750	931.42	931.42	931.41	931.41	931.41
22.000	931.40	931.40	931.39	931.39	931.39
22.250	931.38	931.38	931.38	931.37	931.37
22.500	931.37	931.36	931.36	931.36	931.35
22.750	931.35	931.35	931.34	931.34	931.34
23.000	931.33	931.33	931.33	931.33	931.32
23.250	931.32	931.32	931.31	931.31	931.31
23.500	931.30	931.30	931.30	931.30	931.29
23.750	931.29	931.29	931.28	931.28	931.28
24.000	931.28	931.27	931.27	931.27	931.26
24.250	931.26	931.25	931.25	931.24	931.24
24.500	931.23	931.22	931.22	931.21	931.21
24.750	931.20	931.20	931.19	931.19	931.18
25.000	931.17	931.17	931.16	931.16	931.15
25.250	931.15	931.14	931.14	931.13	931.13
25.500	931.12	931.12	931.11	931.11	931.10
25.750	931.10	931.09	931.09	931.09	931.08
26.000	931.08	931.07	931.07	931.06	931.06
26.250	931.05	931.05	931.05	931.04	931.04
26.500	931.03	931.03	931.03	931.02	931.02
26.750	931.01	931.01	931.01	931.00	931.00
27.000	930.99	930.99	930.99	930.98	930.98
27.250	930.97	930.97	930.97	930.96	930.96
27.500	930.96	930.95	930.95	930.95	930.94
27.750	930.94	930.93	930.93	930.93	930.92
28.000	930.92	930.92	930.91	930.91	930.91
28.250	930.90	930.90	930.90	930.89	930.89
28.500	930.89	930.88	930.88	930.88	930.88
28.750	930.87	930.87	930.87	930.86	930.86
29.000	930.86	930.85	930.85	930.85	930.84
29.250	930.84	930.84	930.84	930.83	930.83
29.500	930.83	930.82	930.82	930.82	930.82
29.750	930.81	930.81	930.81	930.80	930.80
30.000	930.80	930.80	930.79	930.79	930.79
30.250	930.79	930.78	930.78	930.78	930.78
30.500	930.77	930.77	930.77	930.77	930.76

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
30.750	930.76	930.76	930.76	930.75	930.75
31.000	930.75	930.75	930.74	930.74	930.74
31.250	930.74	930.73	930.73	930.73	930.73
31.500	930.73	930.72	930.72	930.72	930.72
31.750	930.71	930.71	930.71	930.71	930.71
32.000	930.70	930.70	930.70	930.70	930.70
32.250	930.69	930.69	930.69	930.69	930.69
32.500	930.68	930.68	930.68	930.68	930.68
32.750	930.67	930.67	930.67	930.67	930.67
33.000	930.66	930.66	930.66	930.66	930.66
33.250	930.65	930.65	930.65	930.65	930.65
33.500	930.65	930.64	930.64	930.64	930.64
33.750	930.64	930.64	930.63	930.63	930.63
34.000	930.63	930.63	930.63	930.62	930.62
34.250	930.62	930.62	930.62	930.62	930.61
34.500	930.61	930.61	930.61	930.61	930.61
34.750	930.60	930.60	930.60	930.60	930.60
35.000	930.60	930.60	930.59	930.59	930.59
35.250	930.59	930.59	930.59	930.59	930.58
35.500	930.58	930.58	930.58	930.58	930.58
35.750	930.58	930.57	930.57	930.57	930.57
36.000	930.57	930.57	930.57	930.57	930.56
36.250	930.56	930.56	930.56	930.56	930.56
36.500	930.56	930.56	930.55	930.55	930.55
36.750	930.55	930.55	930.55	930.55	930.55
37.000	930.54	930.54	930.54	930.54	930.54
37.250	930.54	930.54	930.54	930.54	930.53
37.500	930.53	930.53	930.53	930.53	930.53
37.750	930.53	930.53	930.53	930.52	930.52
38.000	930.52	930.52	930.52	930.52	930.52
38.250	930.52	930.52	930.52	930.51	930.51
38.500	930.51	930.51	930.51	930.51	930.51
38.750	930.51	930.51	930.51	930.50	930.50
39.000	930.50	930.50	930.50	930.50	930.50
39.250	930.50	930.50	930.50	930.50	930.49
39.500	930.49	930.49	930.49	930.49	930.49
39.750	930.49	930.49	930.49	930.49	930.49
40.000	930.49	930.48	930.48	930.48	930.48
40.250	930.48	930.48	930.48	930.48	930.48
40.500	930.48	930.48	930.48	930.47	930.47
40.750	930.47	930.47	930.47	930.47	930.47

Existing Conditions

Subsection: Time vs. Elevation
Label: Old Longview Lake (OUT)

Return Event: 100 years
Storm Event: 100-YEAR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
41.000	930.47	930.47	930.47	930.47	930.47
41.250	930.46	930.46	930.46	930.46	930.46
41.500	930.46	930.46	930.46	930.46	930.46
41.750	930.46	930.46	930.46	930.45	930.45
42.000	930.45	930.45	930.45	930.45	930.45
42.250	930.45	930.45	930.45	930.45	930.45
42.500	930.45	930.44	930.44	930.44	930.44
42.750	930.44	930.44	930.44	930.44	930.44
43.000	930.44	930.44	930.44	930.44	930.44
43.250	930.43	930.43	930.43	930.43	930.43
43.500	930.43	930.43	930.43	930.43	930.43
43.750	930.43	930.43	930.43	930.43	930.43
44.000	930.42	930.42	930.42	930.42	930.42
44.250	930.42	930.42	930.42	930.42	930.42
44.500	930.42	930.42	930.42	930.42	930.42
44.750	930.41	930.41	930.41	930.41	930.41
45.000	930.41	930.41	930.41	930.41	930.41
45.250	930.41	930.41	930.41	930.41	930.41
45.500	930.41	930.40	930.40	930.40	930.40
45.750	930.40	930.40	930.40	930.40	930.40
46.000	930.40	930.40	930.40	930.40	930.40
46.250	930.40	930.40	930.39	930.39	930.39
46.500	930.39	930.39	930.39	930.39	930.39
46.750	930.39	930.39	930.39	930.39	930.39
47.000	930.39	930.39	930.39	930.39	930.39
47.250	930.38	930.38	930.38	930.38	930.38
47.500	930.38	930.38	930.38	930.38	930.38
47.750	930.38	930.38	930.38	930.38	930.38
48.000	930.38	930.38	930.38	930.37	930.37
48.250	930.37	930.37	930.37	930.37	930.37
48.500	930.37	930.37	930.37	930.37	930.37
48.750	930.37	930.37	930.37	930.37	930.37
49.000	930.37	930.37	930.37	930.36	930.36
49.250	930.36	930.36	930.36	930.36	930.36
49.500	930.36	930.36	930.36	930.36	930.36
49.750	930.36	930.36	930.36	930.36	930.36
50.000	930.36	930.36	930.36	930.36	930.35
50.250	930.35	930.35	930.35	930.35	930.35
50.500	930.35	930.35	930.35	930.35	930.35
50.750	930.35	930.35	930.35	930.35	930.35
51.000	930.35	930.35	930.35	930.35	930.35

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
51.250	930.35	930.34	930.34	930.34	930.34
51.500	930.34	930.34	930.34	930.34	930.34
51.750	930.34	930.34	930.34	930.34	930.34
52.000	930.34	930.34	930.34	930.34	930.34
52.250	930.34	930.34	930.34	930.34	930.34
52.500	930.33	930.33	930.33	930.33	930.33
52.750	930.33	930.33	930.33	930.33	930.33
53.000	930.33	930.33	930.33	930.33	930.33
53.250	930.33	930.33	930.33	930.33	930.33
53.500	930.33	930.33	930.33	930.33	930.33
53.750	930.32	930.32	930.32	930.32	930.32
54.000	930.32	930.32	930.32	930.32	930.32
54.250	930.32	930.32	930.32	930.32	930.32
54.500	930.32	930.32	930.32	930.32	930.32
54.750	930.32	930.32	930.32	930.32	930.32
55.000	930.32	930.32	930.32	930.31	930.31
55.250	930.31	930.31	930.31	930.31	930.31
55.500	930.31	930.31	930.31	930.31	930.31
55.750	930.31	930.31	930.31	930.31	930.31
56.000	930.31	930.31	930.31	930.31	930.31
56.250	930.31	930.31	930.31	930.31	930.31
56.500	930.31	930.31	930.31	930.30	930.30
56.750	930.30	930.30	930.30	930.30	930.30
57.000	930.30	930.30	930.30	930.30	930.30
57.250	930.30	930.30	930.30	930.30	930.30
57.500	930.30	930.30	930.30	930.30	930.30
57.750	930.30	930.30	930.30	930.30	930.30
58.000	930.30	930.30	930.30	930.30	930.30
58.250	930.30	930.29	930.29	930.29	930.29
58.500	930.29	930.29	930.29	930.29	930.29
58.750	930.29	930.29	930.29	930.29	930.29
59.000	930.29	930.29	930.29	930.29	930.29
59.250	930.29	930.29	930.29	930.29	930.29
59.500	930.29	930.29	930.29	930.29	930.29
59.750	930.29	930.29	930.29	930.29	930.29
60.000	930.29	930.29	930.29	930.28	930.28
60.250	930.28	930.28	930.28	930.28	930.28
60.500	930.28	930.28	930.28	930.28	930.28
60.750	930.28	930.28	930.28	930.28	930.28
61.000	930.28	930.28	930.28	930.28	930.28
61.250	930.28	930.28	930.28	930.28	930.28

Existing Conditions

Subsection: Time vs. Elevation
Label: Old Longview Lake (OUT)

Return Event: 100 years
Storm Event: 100-YEAR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
61.500	930.28	930.28	930.28	930.28	930.28
61.750	930.28	930.28	930.28	930.28	930.28
62.000	930.28	930.28	930.28	930.28	930.28
62.250	930.27	930.27	930.27	930.27	930.27
62.500	930.27	930.27	930.27	930.27	930.27
62.750	930.27	930.27	930.27	930.27	930.27
63.000	930.27	930.27	930.27	930.27	930.27
63.250	930.27	930.27	930.27	930.27	930.27
63.500	930.27	930.27	930.27	930.27	930.27
63.750	930.27	930.27	930.27	930.27	930.27
64.000	930.27	930.27	930.27	930.27	930.27
64.250	930.27	930.27	930.27	930.27	930.27
64.500	930.27	930.27	930.27	930.26	930.26
64.750	930.26	930.26	930.26	930.26	930.26
65.000	930.26	930.26	930.26	930.26	930.26
65.250	930.26	930.26	930.26	930.26	930.26
65.500	930.26	930.26	930.26	930.26	930.26
65.750	930.26	930.26	930.26	930.26	930.26
66.000	930.26	930.26	930.26	930.26	930.26
66.250	930.26	930.26	930.26	930.26	930.26
66.500	930.26	930.26	930.26	930.26	930.26
66.750	930.26	930.26	930.26	930.26	930.26
67.000	930.26	930.26	930.26	930.26	930.26
67.250	930.26	930.26	930.26	930.25	930.25
67.500	930.25	930.25	930.25	930.25	930.25
67.750	930.25	930.25	930.25	930.25	930.25
68.000	930.25	930.25	930.25	930.25	930.25
68.250	930.25	930.25	930.25	930.25	930.25
68.500	930.25	930.25	930.25	930.25	930.25
68.750	930.25	930.25	930.25	930.25	930.25
69.000	930.25	930.25	930.25	930.25	930.25
69.250	930.25	930.25	930.25	930.25	930.25
69.500	930.25	930.25	930.25	930.25	930.25
69.750	930.25	930.25	930.25	930.25	930.25
70.000	930.25	930.25	930.25	930.25	930.25
70.250	930.25	930.25	930.25	930.25	930.25
70.500	930.25	930.25	930.25	930.25	930.25
70.750	930.24	930.24	930.24	930.24	930.24
71.000	930.24	930.24	930.24	930.24	930.24
71.250	930.24	930.24	930.24	930.24	930.24
71.500	930.24	930.24	930.24	930.24	930.24

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
71.750	930.24	930.24	930.24	930.24	930.24
72.000	930.24	(N/A)	(N/A)	(N/A)	(N/A)

Existing Conditions

Subsection: Time vs. Volume
Label: Old Longview Lake

Return Event: 100 years
Storm Event: 100-YEAR

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
0.000	60.857	60.857	60.857	60.857	60.857
0.250	60.857	60.857	60.857	60.857	60.857
0.500	60.857	60.857	60.857	60.857	60.857
0.750	60.857	60.857	60.857	60.857	60.857
1.000	60.857	60.857	60.857	60.857	60.857
1.250	60.857	60.857	60.857	60.857	60.857
1.500	60.857	60.857	60.857	60.857	60.857
1.750	60.857	60.857	60.857	60.857	60.857
2.000	60.857	60.857	60.857	60.857	60.857
2.250	60.857	60.857	60.857	60.857	60.857
2.500	60.857	60.857	60.857	60.857	60.857
2.750	60.857	60.857	60.857	60.857	60.857
3.000	60.857	60.857	60.857	60.857	60.857
3.250	60.857	60.857	60.857	60.857	60.857
3.500	60.857	60.857	60.857	60.857	60.857
3.750	60.857	60.857	60.858	60.859	60.861
4.000	60.863	60.865	60.869	60.872	60.877
4.250	60.882	60.887	60.893	60.900	60.907
4.500	60.915	60.923	60.932	60.942	60.953
4.750	60.963	60.975	60.987	61.000	61.014
5.000	61.028	61.043	61.058	61.075	61.091
5.250	61.109	61.127	61.146	61.165	61.186
5.500	61.206	61.228	61.250	61.273	61.297
5.750	61.321	61.346	61.372	61.398	61.426
6.000	61.453	61.482	61.511	61.541	61.572
6.250	61.603	61.635	61.668	61.702	61.736
6.500	61.771	61.807	61.843	61.880	61.918
6.750	61.957	61.996	62.036	62.077	62.118
7.000	62.161	62.203	62.247	62.292	62.337
7.250	62.383	62.429	62.477	62.525	62.574
7.500	62.623	62.673	62.724	62.776	62.829
7.750	62.882	62.936	62.990	63.046	63.102
8.000	63.159	63.216	63.275	63.334	63.395
8.250	63.457	63.520	63.585	63.652	63.721
8.500	63.792	63.866	63.941	64.018	64.098
8.750	64.180	64.264	64.350	64.439	64.530
9.000	64.623	64.719	64.817	64.917	65.019
9.250	65.123	65.228	65.333	65.440	65.547
9.500	65.656	65.764	65.874	65.985	66.097
9.750	66.211	66.329	66.449	66.572	66.700
10.000	66.830	66.965	67.104	67.246	67.392

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
10.250	67.543	67.698	67.859	68.024	68.195
10.500	68.371	68.553	68.741	68.935	69.135
10.750	69.344	69.560	69.786	70.020	70.264
11.000	70.517	70.781	71.055	71.342	71.643
11.250	71.961	72.299	72.658	73.040	73.445
11.500	73.875	74.340	74.873	75.537	76.427
11.750	77.662	79.345	81.631	84.718	88.768
12.000	93.663	99.071	104.265	108.668	111.913
12.250	113.976	115.125	115.660	115.806	115.703
12.500	115.438	115.070	114.639	114.172	113.691
12.750	113.212	112.748	112.307	111.894	111.509
13.000	111.151	110.818	110.508	110.201	109.892
13.250	109.584	109.276	108.970	108.667	108.367
13.500	108.071	107.777	107.486	107.199	106.915
13.750	106.636	106.361	106.090	105.823	105.561
14.000	105.303	105.050	104.800	104.556	104.316
14.250	104.081	103.853	103.631	103.415	103.205
14.500	103.001	102.803	102.611	102.424	102.243
14.750	102.067	101.896	101.729	101.567	101.410
15.000	101.256	101.107	100.961	100.819	100.681
15.250	100.546	100.415	100.286	100.161	100.038
15.500	99.918	99.801	99.686	99.574	99.463
15.750	99.352	99.239	99.125	99.010	98.893
16.000	98.776	98.658	98.539	98.419	98.299
16.250	98.178	98.057	97.936	97.816	97.696
16.500	97.576	97.457	97.338	97.219	97.101
16.750	96.983	96.865	96.748	96.632	96.515
17.000	96.400	96.284	96.169	96.054	95.940
17.250	95.826	95.712	95.599	95.486	95.373
17.500	95.261	95.149	95.037	94.926	94.815
17.750	94.705	94.594	94.484	94.375	94.265
18.000	94.156	94.048	93.939	93.831	93.724
18.250	93.616	93.509	93.402	93.295	93.189
18.500	93.083	92.977	92.872	92.766	92.661
18.750	92.557	92.452	92.348	92.244	92.140
19.000	92.037	91.934	91.831	91.728	91.626
19.250	91.524	91.422	91.320	91.218	91.117
19.500	91.016	90.915	90.815	90.714	90.614
19.750	90.514	90.414	90.315	90.216	90.116
20.000	90.018	89.919	89.820	89.722	89.625
20.250	89.527	89.431	89.335	89.240	89.145

Existing Conditions

Subsection: Time vs. Volume
Label: Old Longview Lake

Return Event: 100 years
Storm Event: 100-YEAR

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
20.500	89.051	88.958	88.866	88.775	88.684
20.750	88.594	88.504	88.414	88.325	88.236
21.000	88.148	88.061	87.974	87.888	87.802
21.250	87.717	87.633	87.549	87.465	87.383
21.500	87.300	87.218	87.137	87.056	86.976
21.750	86.896	86.817	86.738	86.660	86.582
22.000	86.505	86.428	86.352	86.276	86.200
22.250	86.126	86.051	85.977	85.904	85.831
22.500	85.758	85.686	85.614	85.543	85.472
22.750	85.402	85.332	85.262	85.193	85.124
23.000	85.056	84.988	84.920	84.853	84.787
23.250	84.720	84.654	84.589	84.524	84.459
23.500	84.395	84.331	84.267	84.204	84.141
23.750	84.078	84.016	83.955	83.893	83.832
24.000	83.771	83.710	83.644	83.569	83.481
24.250	83.380	83.270	83.155	83.036	82.915
24.500	82.794	82.672	82.551	82.431	82.311
24.750	82.192	82.073	81.956	81.840	81.724
25.000	81.610	81.497	81.384	81.272	81.162
25.250	81.052	80.943	80.835	80.728	80.622
25.500	80.517	80.413	80.309	80.207	80.105
25.750	80.004	79.904	79.805	79.707	79.609
26.000	79.512	79.416	79.321	79.227	79.133
26.250	79.040	78.948	78.857	78.767	78.677
26.500	78.588	78.500	78.412	78.326	78.240
26.750	78.154	78.070	77.986	77.902	77.819
27.000	77.737	77.654	77.573	77.491	77.410
27.250	77.330	77.250	77.171	77.092	77.014
27.500	76.936	76.858	76.781	76.705	76.629
27.750	76.553	76.478	76.403	76.329	76.255
28.000	76.182	76.109	76.036	75.964	75.893
28.250	75.822	75.751	75.681	75.611	75.541
28.500	75.472	75.404	75.335	75.268	75.200
28.750	75.133	75.067	75.000	74.935	74.869
29.000	74.804	74.740	74.675	74.612	74.548
29.250	74.485	74.422	74.360	74.298	74.237
29.500	74.175	74.115	74.054	73.994	73.934
29.750	73.875	73.816	73.757	73.699	73.641
30.000	73.584	73.526	73.469	73.413	73.357
30.250	73.301	73.245	73.190	73.135	73.080
30.500	73.026	72.972	72.919	72.866	72.813

Existing Conditions

Subsection: Time vs. Volume
Label: Old Longview Lake

Return Event: 100 years
Storm Event: 100-YEAR

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
30.750	72.760	72.708	72.656	72.604	72.553
31.000	72.502	72.451	72.401	72.350	72.301
31.250	72.251	72.202	72.153	72.104	72.056
31.500	72.008	71.960	71.913	71.865	71.818
31.750	71.772	71.726	71.679	71.634	71.588
32.000	71.543	71.498	71.453	71.409	71.365
32.250	71.321	71.277	71.234	71.191	71.148
32.500	71.105	71.063	71.021	70.979	70.937
32.750	70.896	70.855	70.814	70.773	70.733
33.000	70.693	70.653	70.614	70.574	70.535
33.250	70.496	70.457	70.419	70.381	70.343
33.500	70.305	70.267	70.230	70.193	70.156
33.750	70.120	70.083	70.047	70.011	69.975
34.000	69.940	69.904	69.869	69.834	69.800
34.250	69.765	69.731	69.697	69.663	69.629
34.500	69.596	69.562	69.529	69.496	69.464
34.750	69.431	69.399	69.367	69.335	69.303
35.000	69.272	69.240	69.209	69.178	69.148
35.250	69.117	69.087	69.056	69.026	68.997
35.500	68.967	68.937	68.908	68.879	68.850
35.750	68.821	68.793	68.764	68.736	68.708
36.000	68.680	68.652	68.624	68.597	68.570
36.250	68.543	68.516	68.489	68.462	68.436
36.500	68.409	68.383	68.357	68.331	68.306
36.750	68.280	68.255	68.230	68.204	68.180
37.000	68.155	68.130	68.106	68.081	68.057
37.250	68.033	68.009	67.986	67.962	67.938
37.500	67.915	67.892	67.869	67.846	67.823
37.750	67.801	67.778	67.756	67.733	67.711
38.000	67.689	67.668	67.646	67.624	67.603
38.250	67.582	67.560	67.539	67.518	67.498
38.500	67.477	67.456	67.436	67.416	67.395
38.750	67.375	67.355	67.335	67.316	67.296
39.000	67.277	67.257	67.238	67.219	67.200
39.250	67.181	67.162	67.143	67.124	67.105
39.500	67.086	67.068	67.049	67.030	67.012
39.750	66.993	66.975	66.956	66.938	66.920
40.000	66.901	66.883	66.865	66.847	66.829
40.250	66.811	66.793	66.775	66.757	66.740
40.500	66.722	66.704	66.687	66.669	66.652
40.750	66.634	66.617	66.600	66.582	66.565

Existing Conditions

Subsection: Time vs. Volume
Label: Old Longview Lake

Return Event: 100 years
Storm Event: 100-YEAR

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
41.000	66.548	66.531	66.514	66.497	66.480
41.250	66.463	66.446	66.429	66.413	66.396
41.500	66.379	66.363	66.346	66.329	66.313
41.750	66.297	66.280	66.264	66.248	66.231
42.000	66.215	66.199	66.183	66.167	66.151
42.250	66.135	66.119	66.104	66.088	66.072
42.500	66.056	66.041	66.025	66.010	65.994
42.750	65.979	65.963	65.948	65.933	65.917
43.000	65.902	65.887	65.872	65.857	65.842
43.250	65.827	65.812	65.797	65.782	65.767
43.500	65.752	65.738	65.723	65.708	65.694
43.750	65.679	65.665	65.650	65.636	65.622
44.000	65.607	65.593	65.579	65.564	65.550
44.250	65.536	65.522	65.508	65.494	65.480
44.500	65.466	65.452	65.439	65.425	65.411
44.750	65.397	65.384	65.370	65.357	65.343
45.000	65.330	65.316	65.303	65.289	65.276
45.250	65.263	65.250	65.236	65.223	65.210
45.500	65.197	65.184	65.171	65.158	65.145
45.750	65.132	65.119	65.106	65.094	65.081
46.000	65.068	65.056	65.043	65.030	65.018
46.250	65.005	64.993	64.980	64.968	64.956
46.500	64.943	64.931	64.919	64.907	64.894
46.750	64.882	64.870	64.858	64.846	64.834
47.000	64.822	64.810	64.798	64.787	64.775
47.250	64.763	64.751	64.739	64.728	64.716
47.500	64.705	64.693	64.681	64.670	64.659
47.750	64.647	64.636	64.624	64.613	64.602
48.000	64.590	64.579	64.568	64.557	64.546
48.250	64.535	64.524	64.513	64.502	64.491
48.500	64.480	64.469	64.458	64.447	64.436
48.750	64.426	64.415	64.404	64.394	64.383
49.000	64.372	64.362	64.351	64.341	64.330
49.250	64.320	64.309	64.299	64.289	64.278
49.500	64.268	64.258	64.248	64.237	64.227
49.750	64.217	64.207	64.197	64.187	64.177
50.000	64.167	64.157	64.147	64.137	64.127
50.250	64.118	64.108	64.098	64.088	64.079
50.500	64.069	64.059	64.050	64.040	64.030
50.750	64.021	64.011	64.002	63.992	63.983
51.000	63.974	63.964	63.955	63.946	63.936

Existing Conditions

Subsection: Time vs. Volume
Label: Old Longview Lake

Return Event: 100 years
Storm Event: 100-YEAR

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
51.250	63.927	63.918	63.909	63.900	63.890
51.500	63.881	63.872	63.863	63.854	63.845
51.750	63.836	63.827	63.818	63.809	63.800
52.000	63.792	63.783	63.774	63.765	63.756
52.250	63.748	63.739	63.730	63.722	63.713
52.500	63.705	63.696	63.688	63.679	63.671
52.750	63.662	63.654	63.645	63.637	63.629
53.000	63.620	63.612	63.604	63.595	63.587
53.250	63.579	63.571	63.563	63.554	63.546
53.500	63.538	63.530	63.522	63.514	63.506
53.750	63.498	63.490	63.482	63.475	63.467
54.000	63.459	63.451	63.443	63.435	63.428
54.250	63.420	63.412	63.405	63.397	63.389
54.500	63.382	63.374	63.367	63.359	63.351
54.750	63.344	63.337	63.329	63.322	63.314
55.000	63.307	63.299	63.292	63.285	63.278
55.250	63.270	63.263	63.256	63.249	63.241
55.500	63.234	63.227	63.220	63.213	63.206
55.750	63.199	63.192	63.185	63.178	63.171
56.000	63.164	63.157	63.150	63.143	63.136
56.250	63.129	63.123	63.116	63.109	63.102
56.500	63.095	63.089	63.082	63.075	63.069
56.750	63.062	63.055	63.049	63.042	63.036
57.000	63.029	63.023	63.016	63.010	63.003
57.250	62.997	62.990	62.984	62.977	62.971
57.500	62.965	62.958	62.952	62.946	62.940
57.750	62.933	62.927	62.921	62.915	62.908
58.000	62.902	62.896	62.890	62.884	62.878
58.250	62.872	62.866	62.860	62.854	62.848
58.500	62.842	62.836	62.830	62.824	62.818
58.750	62.812	62.806	62.800	62.794	62.789
59.000	62.783	62.777	62.771	62.766	62.760
59.250	62.754	62.748	62.743	62.737	62.731
59.500	62.726	62.720	62.715	62.709	62.703
59.750	62.698	62.692	62.687	62.681	62.676
60.000	62.670	62.665	62.659	62.654	62.649
60.250	62.643	62.638	62.633	62.627	62.622
60.500	62.617	62.611	62.606	62.601	62.596
60.750	62.590	62.585	62.580	62.575	62.570
61.000	62.564	62.559	62.554	62.549	62.544
61.250	62.539	62.534	62.529	62.524	62.519

Existing Conditions

Subsection: Time vs. Volume
Label: Old Longview Lake

Return Event: 100 years
Storm Event: 100-YEAR

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
61.500	62.514	62.509	62.504	62.499	62.494
61.750	62.489	62.484	62.479	62.474	62.470
62.000	62.465	62.460	62.455	62.450	62.446
62.250	62.441	62.436	62.431	62.427	62.422
62.500	62.417	62.412	62.408	62.403	62.398
62.750	62.394	62.389	62.385	62.380	62.375
63.000	62.371	62.366	62.362	62.357	62.353
63.250	62.348	62.344	62.339	62.335	62.330
63.500	62.326	62.322	62.317	62.313	62.308
63.750	62.304	62.300	62.295	62.291	62.287
64.000	62.283	62.278	62.274	62.270	62.265
64.250	62.261	62.257	62.253	62.249	62.244
64.500	62.240	62.236	62.232	62.228	62.224
64.750	62.220	62.216	62.211	62.207	62.203
65.000	62.199	62.195	62.191	62.187	62.183
65.250	62.179	62.175	62.171	62.167	62.163
65.500	62.160	62.156	62.152	62.148	62.144
65.750	62.140	62.136	62.132	62.129	62.125
66.000	62.121	62.117	62.113	62.110	62.106
66.250	62.102	62.098	62.095	62.091	62.087
66.500	62.083	62.080	62.076	62.072	62.069
66.750	62.065	62.062	62.058	62.054	62.051
67.000	62.047	62.044	62.040	62.036	62.033
67.250	62.029	62.026	62.022	62.019	62.015
67.500	62.012	62.008	62.005	62.002	61.998
67.750	61.995	61.991	61.988	61.984	61.981
68.000	61.978	61.974	61.971	61.968	61.964
68.250	61.961	61.958	61.954	61.951	61.948
68.500	61.944	61.941	61.938	61.935	61.931
68.750	61.928	61.925	61.922	61.919	61.915
69.000	61.912	61.909	61.906	61.903	61.900
69.250	61.896	61.893	61.890	61.887	61.884
69.500	61.881	61.878	61.875	61.872	61.869
69.750	61.866	61.863	61.860	61.857	61.854
70.000	61.851	61.848	61.845	61.842	61.839
70.250	61.836	61.833	61.830	61.827	61.824
70.500	61.821	61.818	61.815	61.813	61.810
70.750	61.807	61.804	61.801	61.798	61.795
71.000	61.793	61.790	61.787	61.784	61.781
71.250	61.779	61.776	61.773	61.770	61.768
71.500	61.765	61.762	61.759	61.757	61.754

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
71.750	61.751	61.749	61.746	61.743	61.741
72.000	61.738	(N/A)	(N/A)	(N/A)	(N/A)

Existing Conditions

Subsection: Elevation-Area Volume Curve
Label: Old Longview Lake

Return Event: 100 years
Storm Event: 100-YEAR

Elevation (ft)	Planimeter (ft^2)	Area (acres)	A1+A2+sqr (A1*A2) (acres)	Volume (ac-ft)	Volume (Total) (ac-ft)
927.00	0.0	16.000	0.000	0.000	0.000
928.00	0.0	17.899	50.822	16.941	16.941
929.00	0.0	20.223	57.148	19.049	35.990
930.00	0.0	21.072	61.938	20.646	56.636
931.00	0.0	21.397	63.703	21.234	77.870
932.00	0.0	21.852	64.872	21.624	99.494
933.00	0.0	22.723	66.858	22.286	121.780
934.00	0.0	24.245	70.440	23.480	145.260

Existing Conditions

Subsection: Outlet Input Data
Label: With No Riser

Return Event: 100 years
Storm Event: 100-YEAR

Requested Pond Water Surface Elevations	
Minimum (Headwater)	927.00 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	934.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Culvert-Box	Culvert - 1	Forward	TW	930.20	934.00
Irregular Weir	Weir - 2	Forward	TW	932.00	934.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Structure ID: Weir - 2
Structure Type: Irregular Weir

Station (ft)	Elevation (ft)
0.00	934.00
63.56	933.44
135.10	933.21
241.40	932.97
314.50	932.44
381.18	932.00
441.24	932.20
469.58	932.68
554.00	932.94
608.12	933.55
651.99	933.82
666.09	933.86
671.38	934.00

Lowest Elevation	932.00 ft
Weir Coefficient	3.00 (ft^0.5)/s

Structure ID: Culvert - 1 Structure Type: Culvert-Box	
Number of Barrels	1
Width	11.48 ft
Height	2.80 ft
Length	27.87 ft
Length (Computed Barrel)	27.92 ft
Slope (Computed)	0.061 ft/ft

Outlet Control Data	
Manning's n	0.013
Ke	0.500
Kb	0.004
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0260
M	1.0000
C	0.0347
Y	0.8100
T1 ratio (HW/D)	1.148

Inlet Control Data	
T2 ratio (HW/D)	1.335
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	933.41 ft	T1 Flow	188.26 ft³/s
T2 Elevation	933.94 ft	T2 Flow	215.15 ft³/s

Structure ID: TW
Structure Type: TW Setup, DS Channel

Tailwater Type	Free Outfall

Convergence Tolerances	
Maximum Iterations	30
Tailwater Tolerance (Minimum)	0.01 ft
Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft
Headwater Tolerance (Maximum)	0.50 ft
Flow Tolerance (Minimum)	0.001 ft^3/s
Flow Tolerance (Maximum)	10.000 ft^3/s

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Weir - 2 (Irregular Weir)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
927.00	0.00	(N/A)	0.00
927.50	0.00	(N/A)	0.00
928.00	0.00	(N/A)	0.00
928.50	0.00	(N/A)	0.00
929.00	0.00	(N/A)	0.00
929.50	0.00	(N/A)	0.00
930.00	0.00	(N/A)	0.00
930.20	0.00	(N/A)	0.00
930.50	0.00	(N/A)	0.00
931.00	0.00	(N/A)	0.00
931.50	0.00	(N/A)	0.00
932.00	0.00	(N/A)	0.00
932.50	78.44	(N/A)	0.00
933.00	383.54	(N/A)	0.00
933.50	1,103.17	(N/A)	0.00
934.00	2,321.43	(N/A)	0.00

Computation Messages
E < Y min=932.00
E < Y min=932.00
E < Y min=932.00
E < Y min=932.00
E < Y min=932.00
E < Y min=932.00
E < Y min=932.00
E < Y min=932.00
E < Y min=932.00
E < Y min=932.00
E < Y min=932.00
E = Y min=932.00
Max.H=.50; Max.Htw=free out;; W(ft) =152.73
Max.H=1.00; Max.Htw=free out;; W(ft) =331.21
Max.H=1.50; Max.Htw=free out;; W(ft) =546.93

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Weir - 2 (Irregular Weir)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Computation Messages
Max.H=2.00; Max.Htw=free out;; W(ft) =671.38

Existing Conditions

Subsection: Individual Outlet Curves
Label: With No Riser

Return Event: 100 years
Storm Event: 100-YEAR

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Culvert - 1 (Culvert-Box)

Mannings open channel maximum capacity: 1,383.19 ft³/s
Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
927.00	0.00	(N/A)	0.00
927.50	0.00	(N/A)	0.00
928.00	0.00	(N/A)	0.00
928.50	0.00	(N/A)	0.00
929.00	0.00	(N/A)	0.00
929.50	0.00	(N/A)	0.00
930.00	0.00	(N/A)	0.00
930.20	0.00	(N/A)	0.00
930.50	4.62	(N/A)	0.00
931.00	20.09	(N/A)	0.00
931.50	41.65	(N/A)	0.00
932.00	67.96	(N/A)	0.00
932.50	98.15	(N/A)	0.00
933.00	131.75	(N/A)	0.00
933.50	168.61	(N/A)	0.00
934.00	208.30	(N/A)	0.00

Computation Messages
Upstream HW & DNstream TW < Inv.El
Upstream HW & DNstream TW < Inv.El
Upstream HW & DNstream TW < Inv.El
Upstream HW & DNstream TW < Inv.El
Upstream HW & DNstream TW < Inv.El
Upstream HW & DNstream TW < Inv.El
Upstream HW & DNstream TW < Inv.El
Upstream HW & DNstream TW < Inv.El
CRIT.DEPTH CONTROL Vh= .086ft Dcr= .171ft
CRIT.DEPTH Hev= .00ft

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Culvert - 1 (Culvert-Box)

Mannings open channel maximum capacity: 1,383.19 ft³/s
Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Computation Messages
CRIT.DEPTH CONTROL Vh= .228ft Dcr= .457ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .371ft Dcr= .742ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .514ft Dcr= 1.029ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .657ft Dcr= 1.315ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .800ft Dcr= 1.600ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .943ft Dcr= 1.886ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= 1.085ft Dcr= 2.171ft CRIT.DEPTH Hev= .00ft

Existing Conditions

Subsection: Composite Rating Curve
Label: With No Riser

Return Event: 100 years
Storm Event: 100-YEAR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
927.00	0.00	(N/A)	0.00
927.50	0.00	(N/A)	0.00
928.00	0.00	(N/A)	0.00
928.50	0.00	(N/A)	0.00
929.00	0.00	(N/A)	0.00
929.50	0.00	(N/A)	0.00
930.00	0.00	(N/A)	0.00
930.20	0.00	(N/A)	0.00
930.50	4.62	(N/A)	0.00
931.00	20.09	(N/A)	0.00
931.50	41.65	(N/A)	0.00
932.00	67.96	(N/A)	0.00
932.50	176.58	(N/A)	0.00
933.00	515.29	(N/A)	0.00
933.50	1,271.78	(N/A)	0.00
934.00	2,529.73	(N/A)	0.00

Contributing Structures
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1 + Weir - 2
Culvert - 1 + Weir - 2
Culvert - 1 + Weir - 2
Culvert - 1 + Weir - 2
Culvert - 1 + Weir - 2

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	930.20 ft
Volume (Initial)	60.857 ac-ft
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	1,401.20 ft³/s	Time to Peak (Flow, In)	12.050 hours
Flow (Peak Outlet)	336.26 ft³/s	Time to Peak (Flow, Outlet)	12.400 hours

Elevation (Water Surface, Peak)	932.74 ft
Volume (Peak)	115.806 ac-ft

Mass Balance (ac-ft)	
Volume (Initial)	60.857 ac-ft
Volume (Total Inflow)	104.407 ac-ft
Volume (Total Infiltration)	0.000 ac-ft
Volume (Total Outlet Outflow)	103.524 ac-ft
Volume (Retained)	61.735 ac-ft
Volume (Unrouted)	-0.004 ac-ft
Error (Mass Balance)	0.0 %

Peak Discharge	336.26 ft³/s
Time to Peak	12.400 hours
Hydrograph Volume	103.524 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
3.850	0.00	0.00	0.00	0.00	0.01
4.100	0.01	0.01	0.01	0.02	0.02
4.350	0.03	0.03	0.04	0.04	0.05
4.600	0.06	0.06	0.07	0.08	0.09
4.850	0.10	0.10	0.11	0.12	0.14
5.100	0.15	0.16	0.17	0.18	0.20
5.350	0.21	0.23	0.24	0.25	0.27
5.600	0.29	0.30	0.32	0.34	0.36
5.850	0.38	0.39	0.41	0.43	0.46
6.100	0.48	0.50	0.52	0.54	0.57
6.350	0.59	0.62	0.64	0.67	0.69
6.600	0.72	0.75	0.77	0.80	0.83
6.850	0.86	0.89	0.92	0.95	0.98
7.100	1.01	1.05	1.08	1.11	1.15
7.350	1.18	1.22	1.25	1.29	1.32
7.600	1.36	1.40	1.44	1.48	1.51
7.850	1.55	1.59	1.64	1.68	1.72
8.100	1.76	1.80	1.85	1.89	1.94
8.350	1.99	2.04	2.09	2.14	2.19
8.600	2.25	2.30	2.36	2.42	2.48
8.850	2.54	2.61	2.67	2.74	2.81
9.100	2.88	2.96	3.03	3.11	3.18
9.350	3.26	3.34	3.41	3.49	3.57
9.600	3.65	3.73	3.81	3.90	3.98
9.850	4.07	4.16	4.25	4.35	4.44
10.100	4.54	4.67	4.89	5.10	5.33
10.350	5.56	5.81	6.05	6.31	6.58
10.600	6.85	7.13	7.42	7.73	8.04
10.850	8.37	8.71	9.06	9.43	9.82
11.100	10.21	10.63	11.07	11.53	12.02
11.350	12.54	13.10	13.68	14.31	14.98
11.600	15.76	16.72	18.01	19.79	23.06
11.850	27.66	33.85	42.00	53.88	66.94
12.100	115.18	158.42	218.61	281.08	315.75
12.350	331.87	336.26	333.17	325.19	314.10
12.600	301.08	286.98	272.44	257.96	243.91
12.850	230.57	218.04	206.35	195.50	185.39

Existing Conditions

Subsection: Pond Routed Hydrograph (total out) Return Event: 100 years
Label: Old Longview Lake (OUT) Storm Event: 100-YEAR

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
13.100	176.38	173.39	170.38	167.36	164.36
13.350	161.37	158.41	155.48	152.57	149.69
13.600	146.84	144.03	141.25	138.50	135.80
13.850	133.14	130.52	127.95	125.41	122.91
14.100	120.46	118.05	115.68	113.37	111.12
14.350	108.93	106.80	104.72	102.71	100.76
14.600	98.86	97.01	95.22	93.47	91.78
14.850	90.13	88.53	86.97	85.45	83.96
15.100	82.52	81.11	79.74	78.40	77.10
15.350	75.82	74.58	73.36	72.17	71.00
15.600	69.86	68.75	67.88	67.61	67.34
15.850	67.07	66.79	66.51	66.23	65.94
16.100	65.65	65.37	65.07	64.78	64.49
16.350	64.20	63.91	63.62	63.33	63.04
16.600	62.76	62.47	62.19	61.90	61.62
16.850	61.34	61.05	60.77	60.49	60.21
17.100	59.94	59.66	59.38	59.11	58.83
17.350	58.56	58.29	58.01	57.74	57.47
17.600	57.20	56.93	56.66	56.40	56.13
17.850	55.86	55.60	55.33	55.07	54.81
18.100	54.55	54.28	54.02	53.76	53.50
18.350	53.24	52.99	52.73	52.47	52.21
18.600	51.96	51.70	51.45	51.20	50.94
18.850	50.69	50.44	50.19	49.94	49.69
19.100	49.44	49.19	48.94	48.69	48.44
19.350	48.20	47.95	47.70	47.46	47.21
19.600	46.97	46.73	46.48	46.24	46.00
19.850	45.76	45.51	45.27	45.03	44.79
20.100	44.55	44.32	44.08	43.84	43.61
20.350	43.37	43.14	42.91	42.69	42.46
20.600	42.23	42.01	41.79	41.59	41.41
20.850	41.23	41.05	40.87	40.70	40.52
21.100	40.35	40.18	40.01	39.84	39.67
21.350	39.50	39.34	39.17	39.01	38.84
21.600	38.68	38.52	38.36	38.20	38.04
21.850	37.88	37.73	37.57	37.42	37.26
22.100	37.11	36.96	36.81	36.66	36.51
22.350	36.36	36.22	36.07	35.92	35.78
22.600	35.64	35.49	35.35	35.21	35.07
22.850	34.93	34.79	34.66	34.52	34.38
23.100	34.25	34.12	33.98	33.85	33.72
23.350	33.59	33.46	33.33	33.20	33.07

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
23.600	32.94	32.82	32.69	32.56	32.44
23.850	32.32	32.19	32.07	31.95	31.83
24.100	31.69	31.54	31.37	31.17	30.95
24.350	30.71	30.48	30.23	29.99	29.75
24.600	29.50	29.26	29.02	28.78	28.55
24.850	28.31	28.08	27.84	27.62	27.39
25.100	27.16	26.94	26.72	26.49	26.28
25.350	26.06	25.84	25.63	25.42	25.21
25.600	25.00	24.80	24.59	24.39	24.19
25.850	23.99	23.79	23.59	23.40	23.21
26.100	23.02	22.83	22.64	22.45	22.27
26.350	22.08	21.90	21.72	21.54	21.36
26.600	21.19	21.01	20.84	20.67	20.50
26.850	20.33	20.16	20.02	19.90	19.78
27.100	19.66	19.55	19.43	19.31	19.20
27.350	19.08	18.97	18.86	18.74	18.63
27.600	18.52	18.41	18.30	18.19	18.08
27.850	17.97	17.86	17.76	17.65	17.55
28.100	17.44	17.34	17.23	17.13	17.03
28.350	16.93	16.82	16.72	16.62	16.52
28.600	16.43	16.33	16.23	16.13	16.04
28.850	15.94	15.84	15.75	15.66	15.56
29.100	15.47	15.38	15.28	15.19	15.10
29.350	15.01	14.92	14.83	14.74	14.66
29.600	14.57	14.48	14.39	14.31	14.22
29.850	14.14	14.05	13.97	13.89	13.80
30.100	13.72	13.64	13.56	13.48	13.39
30.350	13.31	13.24	13.16	13.08	13.00
30.600	12.92	12.84	12.77	12.69	12.62
30.850	12.54	12.46	12.39	12.32	12.24
31.100	12.17	12.10	12.02	11.95	11.88
31.350	11.81	11.74	11.67	11.60	11.53
31.600	11.46	11.39	11.32	11.26	11.19
31.850	11.12	11.06	10.99	10.92	10.86
32.100	10.79	10.73	10.66	10.60	10.54
32.350	10.47	10.41	10.35	10.29	10.23
32.600	10.16	10.10	10.04	9.98	9.92
32.850	9.86	9.81	9.75	9.69	9.63
33.100	9.57	9.52	9.46	9.40	9.35
33.350	9.29	9.23	9.18	9.12	9.07
33.600	9.02	8.96	8.91	8.85	8.80
33.850	8.75	8.70	8.65	8.59	8.54

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
34.100	8.49	8.44	8.39	8.34	8.29
34.350	8.24	8.19	8.14	8.09	8.04
34.600	8.00	7.95	7.90	7.85	7.81
34.850	7.76	7.71	7.67	7.62	7.58
35.100	7.53	7.49	7.44	7.40	7.35
35.350	7.31	7.26	7.22	7.18	7.14
35.600	7.09	7.05	7.01	6.97	6.92
35.850	6.88	6.84	6.80	6.76	6.72
36.100	6.68	6.64	6.60	6.56	6.52
36.350	6.48	6.44	6.40	6.37	6.33
36.600	6.29	6.25	6.22	6.18	6.14
36.850	6.10	6.07	6.03	6.00	5.96
37.100	5.92	5.89	5.85	5.82	5.78
37.350	5.75	5.71	5.68	5.65	5.61
37.600	5.58	5.55	5.51	5.48	5.45
37.850	5.41	5.38	5.35	5.32	5.29
38.100	5.25	5.22	5.19	5.16	5.13
38.350	5.10	5.07	5.04	5.01	4.98
38.600	4.95	4.92	4.89	4.86	4.83
38.850	4.80	4.77	4.75	4.72	4.69
39.100	4.66	4.63	4.61	4.60	4.59
39.350	4.57	4.56	4.55	4.53	4.52
39.600	4.50	4.49	4.48	4.46	4.45
39.850	4.44	4.42	4.41	4.40	4.38
40.100	4.37	4.36	4.34	4.33	4.32
40.350	4.31	4.29	4.28	4.27	4.25
40.600	4.24	4.23	4.22	4.20	4.19
40.850	4.18	4.17	4.15	4.14	4.13
41.100	4.12	4.10	4.09	4.08	4.07
41.350	4.05	4.04	4.03	4.02	4.01
41.600	3.99	3.98	3.97	3.96	3.95
41.850	3.93	3.92	3.91	3.90	3.89
42.100	3.88	3.86	3.85	3.84	3.83
42.350	3.82	3.81	3.80	3.78	3.77
42.600	3.76	3.75	3.74	3.73	3.72
42.850	3.70	3.69	3.68	3.67	3.66
43.100	3.65	3.64	3.63	3.62	3.61
43.350	3.60	3.58	3.57	3.56	3.55
43.600	3.54	3.53	3.52	3.51	3.50
43.850	3.49	3.48	3.47	3.46	3.45
44.100	3.44	3.43	3.42	3.41	3.40
44.350	3.39	3.38	3.37	3.36	3.35

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
44.600	3.34	3.32	3.32	3.31	3.30
44.850	3.29	3.28	3.27	3.26	3.25
45.100	3.24	3.23	3.22	3.21	3.20
45.350	3.19	3.18	3.17	3.16	3.15
45.600	3.14	3.13	3.12	3.11	3.10
45.850	3.09	3.08	3.08	3.07	3.06
46.100	3.05	3.04	3.03	3.02	3.01
46.350	3.00	2.99	2.98	2.98	2.97
46.600	2.96	2.95	2.94	2.93	2.92
46.850	2.91	2.90	2.90	2.89	2.88
47.100	2.87	2.86	2.85	2.84	2.84
47.350	2.83	2.82	2.81	2.80	2.79
47.600	2.78	2.78	2.77	2.76	2.75
47.850	2.74	2.73	2.73	2.72	2.71
48.100	2.70	2.69	2.69	2.68	2.67
48.350	2.66	2.65	2.65	2.64	2.63
48.600	2.62	2.61	2.61	2.60	2.59
48.850	2.58	2.58	2.57	2.56	2.55
49.100	2.54	2.54	2.53	2.52	2.51
49.350	2.51	2.50	2.49	2.48	2.48
49.600	2.47	2.46	2.45	2.45	2.44
49.850	2.43	2.43	2.42	2.41	2.40
50.100	2.40	2.39	2.38	2.37	2.37
50.350	2.36	2.35	2.35	2.34	2.33
50.600	2.33	2.32	2.31	2.30	2.30
50.850	2.29	2.28	2.28	2.27	2.26
51.100	2.26	2.25	2.24	2.24	2.23
51.350	2.22	2.22	2.21	2.20	2.20
51.600	2.19	2.18	2.18	2.17	2.16
51.850	2.16	2.15	2.14	2.14	2.13
52.100	2.12	2.12	2.11	2.11	2.10
52.350	2.09	2.09	2.08	2.07	2.07
52.600	2.06	2.06	2.05	2.04	2.04
52.850	2.03	2.02	2.02	2.01	2.01
53.100	2.00	1.99	1.99	1.98	1.98
53.350	1.97	1.96	1.96	1.95	1.95
53.600	1.94	1.94	1.93	1.92	1.92
53.850	1.91	1.91	1.90	1.90	1.89
54.100	1.88	1.88	1.87	1.87	1.86
54.350	1.86	1.85	1.84	1.84	1.83
54.600	1.83	1.82	1.82	1.81	1.81
54.850	1.80	1.80	1.79	1.78	1.78

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
55.100	1.77	1.77	1.76	1.76	1.75
55.350	1.75	1.74	1.74	1.73	1.73
55.600	1.72	1.72	1.71	1.71	1.70
55.850	1.70	1.69	1.69	1.68	1.68
56.100	1.67	1.67	1.66	1.66	1.65
56.350	1.65	1.64	1.64	1.63	1.63
56.600	1.62	1.62	1.61	1.61	1.60
56.850	1.60	1.59	1.59	1.58	1.58
57.100	1.57	1.57	1.56	1.56	1.55
57.350	1.55	1.54	1.54	1.54	1.53
57.600	1.53	1.52	1.52	1.51	1.51
57.850	1.50	1.50	1.49	1.49	1.49
58.100	1.48	1.48	1.47	1.47	1.46
58.350	1.46	1.45	1.45	1.45	1.44
58.600	1.44	1.43	1.43	1.42	1.42
58.850	1.42	1.41	1.41	1.40	1.40
59.100	1.39	1.39	1.39	1.38	1.38
59.350	1.37	1.37	1.37	1.36	1.36
59.600	1.35	1.35	1.35	1.34	1.34
59.850	1.33	1.33	1.33	1.32	1.32
60.100	1.31	1.31	1.31	1.30	1.30
60.350	1.29	1.29	1.29	1.28	1.28
60.600	1.27	1.27	1.27	1.26	1.26
60.850	1.26	1.25	1.25	1.24	1.24
61.100	1.24	1.23	1.23	1.23	1.22
61.350	1.22	1.21	1.21	1.21	1.20
61.600	1.20	1.20	1.19	1.19	1.19
61.850	1.18	1.18	1.18	1.17	1.17
62.100	1.16	1.16	1.16	1.15	1.15
62.350	1.15	1.14	1.14	1.14	1.13
62.600	1.13	1.13	1.12	1.12	1.12
62.850	1.11	1.11	1.11	1.10	1.10
63.100	1.10	1.09	1.09	1.09	1.08
63.350	1.08	1.08	1.07	1.07	1.07
63.600	1.06	1.06	1.06	1.05	1.05
63.850	1.05	1.05	1.04	1.04	1.04
64.100	1.03	1.03	1.03	1.02	1.02
64.350	1.02	1.01	1.01	1.01	1.01
64.600	1.00	1.00	1.00	0.99	0.99
64.850	0.99	0.98	0.98	0.98	0.98
65.100	0.97	0.97	0.97	0.96	0.96
65.350	0.96	0.96	0.95	0.95	0.95

Existing Conditions

Subsection: Pond Routed Hydrograph (total out) Return Event: 100 years
Label: Old Longview Lake (OUT) Storm Event: 100-YEAR

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
65.600	0.94	0.94	0.94	0.94	0.93
65.850	0.93	0.93	0.92	0.92	0.92
66.100	0.92	0.91	0.91	0.91	0.90
66.350	0.90	0.90	0.90	0.89	0.89
66.600	0.89	0.89	0.88	0.88	0.88
66.850	0.88	0.87	0.87	0.87	0.86
67.100	0.86	0.86	0.86	0.85	0.85
67.350	0.85	0.85	0.84	0.84	0.84
67.600	0.84	0.83	0.83	0.83	0.83
67.850	0.82	0.82	0.82	0.82	0.81
68.100	0.81	0.81	0.81	0.80	0.80
68.350	0.80	0.80	0.80	0.79	0.79
68.600	0.79	0.79	0.78	0.78	0.78
68.850	0.78	0.77	0.77	0.77	0.77
69.100	0.76	0.76	0.76	0.76	0.76
69.350	0.75	0.75	0.75	0.75	0.74
69.600	0.74	0.74	0.74	0.74	0.73
69.850	0.73	0.73	0.73	0.72	0.72
70.100	0.72	0.72	0.72	0.71	0.71
70.350	0.71	0.71	0.71	0.70	0.70
70.600	0.70	0.70	0.69	0.69	0.69
70.850	0.69	0.69	0.68	0.68	0.68
71.100	0.68	0.68	0.67	0.67	0.67
71.350	0.67	0.67	0.66	0.66	0.66
71.600	0.66	0.66	0.65	0.65	0.65
71.850	0.65	0.65	0.64	0.64	(N/A)

Summary for Hydrograph Addition at 'Old Longview Lake'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	Old LL Subarea

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	Old LL Subarea	104.407	12.050	1,401.20
Flow (In)	Old Longview Lake	104.407	12.050	1,401.20

Existing Conditions

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Proposed Conditions

Project Summary	
Title	Old Longview Lake
Engineer	BHL
Company	Olsson Associates
Date	8/8/2018

Notes

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Proposed Conditions

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft³/s)
Old LL Subarea	929 Normal WSE	2	39.211	12.050	543.88
Old LL Subarea	929 Normal WSE	10	68.349	12.050	928.60
Old LL Subarea	929 Normal WSE	100	108.456	12.050	1,438.68
County Park Road DA	929 Normal WSE	2	3.406	12.050	46.50
County Park Road DA	929 Normal WSE	10	6.659	12.050	91.75
County Park Road DA	929 Normal WSE	100	11.373	12.050	155.08

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft³/s)
County Park Rd	929 Normal WSE	2	42.615	12.150	85.38
County Park Rd	929 Normal WSE	10	75.006	12.150	188.90
County Park Rd	929 Normal WSE	100	119.827	12.200	366.81

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft³/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
Old Longview Lake (IN)	929 Normal WSE	2	39.211	12.050	543.88	(N/A)	(N/A)
Old Longview Lake (OUT)	929 Normal WSE	2	39.210	12.700	65.71	929.99	56.480
Old Longview Lake (IN)	929 Normal WSE	10	68.349	12.050	928.60	(N/A)	(N/A)
Old Longview Lake (OUT)	929 Normal WSE	10	68.348	12.550	154.25	930.67	70.824
Old Longview Lake (IN)	929 Normal WSE	100	108.456	12.050	1,438.68	(N/A)	(N/A)
Old Longview Lake (OUT)	929 Normal WSE	100	108.455	12.450	312.50	931.52	89.131

Proposed Conditions

Subsection: Time-Depth Curve
Label: Jackson Co TR-55

Return Event: 10 years
Storm Event: 10

Time-Depth Curve: 10	
Label	10
Start Time	0.000 hours
Increment	0.100 hours
End Time	24.000 hours
Return Event	10 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
0.500	0.0	0.0	0.0	0.0	0.0
1.000	0.1	0.1	0.1	0.1	0.1
1.500	0.1	0.1	0.1	0.1	0.1
2.000	0.1	0.1	0.1	0.1	0.1
2.500	0.1	0.2	0.2	0.2	0.2
3.000	0.2	0.2	0.2	0.2	0.2
3.500	0.2	0.2	0.2	0.2	0.2
4.000	0.3	0.3	0.3	0.3	0.3
4.500	0.3	0.3	0.3	0.3	0.3
5.000	0.3	0.3	0.4	0.4	0.4
5.500	0.4	0.4	0.4	0.4	0.4
6.000	0.4	0.4	0.4	0.5	0.5
6.500	0.5	0.5	0.5	0.5	0.5
7.000	0.5	0.5	0.5	0.6	0.6
7.500	0.6	0.6	0.6	0.6	0.6
8.000	0.6	0.6	0.7	0.7	0.7
8.500	0.7	0.7	0.7	0.7	0.8
9.000	0.8	0.8	0.8	0.8	0.8
9.500	0.9	0.9	0.9	0.9	0.9
10.000	1.0	1.0	1.0	1.0	1.1
10.500	1.1	1.1	1.1	1.2	1.2
11.000	1.2	1.3	1.3	1.4	1.4
11.500	1.5	1.6	1.9	2.3	3.0
12.000	3.5	3.6	3.7	3.8	3.8
12.500	3.9	3.9	4.0	4.0	4.1
13.000	4.1	4.1	4.2	4.2	4.2
13.500	4.2	4.3	4.3	4.3	4.3
14.000	4.3	4.4	4.4	4.4	4.4
14.500	4.4	4.5	4.5	4.5	4.5
15.000	4.5	4.5	4.6	4.6	4.6
15.500	4.6	4.6	4.6	4.6	4.7
16.000	4.7	4.7	4.7	4.7	4.7
16.500	4.7	4.7	4.7	4.8	4.8

Proposed Conditions

Subsection: Time-Depth Curve
Label: Jackson Co TR-55

Return Event: 10 years
Storm Event: 10

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
17.000	4.8	4.8	4.8	4.8	4.8
17.500	4.8	4.8	4.9	4.9	4.9
18.000	4.9	4.9	4.9	4.9	4.9
18.500	4.9	4.9	4.9	5.0	5.0
19.000	5.0	5.0	5.0	5.0	5.0
19.500	5.0	5.0	5.0	5.0	5.0
20.000	5.0	5.1	5.1	5.1	5.1
20.500	5.1	5.1	5.1	5.1	5.1
21.000	5.1	5.1	5.1	5.1	5.1
21.500	5.1	5.2	5.2	5.2	5.2
22.000	5.2	5.2	5.2	5.2	5.2
22.500	5.2	5.2	5.2	5.2	5.2
23.000	5.2	5.2	5.3	5.3	5.3
23.500	5.3	5.3	5.3	5.3	5.3
24.000	5.3	(N/A)	(N/A)	(N/A)	(N/A)

Proposed Conditions

Subsection: Time-Depth Curve
Label: Jackson Co TR-55

Return Event: 100 years
Storm Event: 100-YEAR

Time-Depth Curve: 100-YEAR	
Label	100-YEAR
Start Time	0.000 hours
Increment	0.100 hours
End Time	24.000 hours
Return Event	100 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
0.500	0.0	0.0	0.1	0.1	0.1
1.000	0.1	0.1	0.1	0.1	0.1
1.500	0.1	0.1	0.1	0.2	0.2
2.000	0.2	0.2	0.2	0.2	0.2
2.500	0.2	0.2	0.2	0.2	0.3
3.000	0.3	0.3	0.3	0.3	0.3
3.500	0.3	0.3	0.3	0.3	0.4
4.000	0.4	0.4	0.4	0.4	0.4
4.500	0.4	0.4	0.4	0.5	0.5
5.000	0.5	0.5	0.5	0.5	0.5
5.500	0.5	0.6	0.6	0.6	0.6
6.000	0.6	0.6	0.6	0.7	0.7
6.500	0.7	0.7	0.7	0.7	0.7
7.000	0.8	0.8	0.8	0.8	0.8
7.500	0.8	0.9	0.9	0.9	0.9
8.000	0.9	0.9	1.0	1.0	1.0
8.500	1.0	1.0	1.1	1.1	1.1
9.000	1.1	1.2	1.2	1.2	1.2
9.500	1.3	1.3	1.3	1.3	1.4
10.000	1.4	1.4	1.5	1.5	1.5
10.500	1.6	1.6	1.7	1.7	1.8
11.000	1.8	1.9	1.9	2.0	2.1
11.500	2.2	2.4	2.7	3.3	4.4
12.000	5.1	5.3	5.4	5.5	5.6
12.500	5.7	5.7	5.8	5.8	5.9
13.000	5.9	6.0	6.0	6.1	6.1
13.500	6.2	6.2	6.2	6.3	6.3
14.000	6.3	6.3	6.4	6.4	6.4
14.500	6.4	6.5	6.5	6.5	6.5
15.000	6.6	6.6	6.6	6.6	6.7
15.500	6.7	6.7	6.7	6.7	6.8
16.000	6.8	6.8	6.8	6.8	6.8
16.500	6.9	6.9	6.9	6.9	6.9

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
17.000	6.9	7.0	7.0	7.0	7.0
17.500	7.0	7.0	7.0	7.1	7.1
18.000	7.1	7.1	7.1	7.1	7.1
18.500	7.2	7.2	7.2	7.2	7.2
19.000	7.2	7.2	7.2	7.3	7.3
19.500	7.3	7.3	7.3	7.3	7.3
20.000	7.3	7.3	7.4	7.4	7.4
20.500	7.4	7.4	7.4	7.4	7.4
21.000	7.4	7.4	7.4	7.5	7.5
21.500	7.5	7.5	7.5	7.5	7.5
22.000	7.5	7.5	7.5	7.6	7.6
22.500	7.6	7.6	7.6	7.6	7.6
23.000	7.6	7.6	7.6	7.6	7.6
23.500	7.7	7.7	7.7	7.7	7.7
24.000	7.7	(N/A)	(N/A)	(N/A)	(N/A)

Time-Depth Curve: 222	
Label	222
Start Time	0.000 hours
Increment	0.100 hours
End Time	24.000 hours
Return Event	2 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
0.500	0.0	0.0	0.0	0.0	0.0
1.000	0.0	0.0	0.0	0.0	0.1
1.500	0.1	0.1	0.1	0.1	0.1
2.000	0.1	0.1	0.1	0.1	0.1
2.500	0.1	0.1	0.1	0.1	0.1
3.000	0.1	0.1	0.1	0.1	0.1
3.500	0.1	0.1	0.2	0.2	0.2
4.000	0.2	0.2	0.2	0.2	0.2
4.500	0.2	0.2	0.2	0.2	0.2
5.000	0.2	0.2	0.2	0.2	0.2
5.500	0.2	0.3	0.3	0.3	0.3
6.000	0.3	0.3	0.3	0.3	0.3
6.500	0.3	0.3	0.3	0.3	0.3
7.000	0.3	0.4	0.4	0.4	0.4
7.500	0.4	0.4	0.4	0.4	0.4
8.000	0.4	0.4	0.4	0.4	0.5
8.500	0.5	0.5	0.5	0.5	0.5
9.000	0.5	0.5	0.5	0.5	0.6
9.500	0.6	0.6	0.6	0.6	0.6
10.000	0.6	0.6	0.7	0.7	0.7
10.500	0.7	0.7	0.8	0.8	0.8
11.000	0.8	0.8	0.9	0.9	1.0
11.500	1.0	1.1	1.2	1.5	2.0
12.000	2.3	2.4	2.4	2.5	2.5
12.500	2.6	2.6	2.6	2.7	2.7
13.000	2.7	2.7	2.7	2.8	2.8
13.500	2.8	2.8	2.8	2.8	2.9
14.000	2.9	2.9	2.9	2.9	2.9
14.500	2.9	2.9	3.0	3.0	3.0
15.000	3.0	3.0	3.0	3.0	3.0
15.500	3.0	3.0	3.1	3.1	3.1
16.000	3.1	3.1	3.1	3.1	3.1
16.500	3.1	3.1	3.1	3.1	3.1

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
17.000	3.2	3.2	3.2	3.2	3.2
17.500	3.2	3.2	3.2	3.2	3.2
18.000	3.2	3.2	3.2	3.2	3.2
18.500	3.3	3.3	3.3	3.3	3.3
19.000	3.3	3.3	3.3	3.3	3.3
19.500	3.3	3.3	3.3	3.3	3.3
20.000	3.3	3.3	3.3	3.3	3.4
20.500	3.4	3.4	3.4	3.4	3.4
21.000	3.4	3.4	3.4	3.4	3.4
21.500	3.4	3.4	3.4	3.4	3.4
22.000	3.4	3.4	3.4	3.4	3.4
22.500	3.4	3.4	3.4	3.5	3.5
23.000	3.5	3.5	3.5	3.5	3.5
23.500	3.5	3.5	3.5	3.5	3.5
24.000	3.5	(N/A)	(N/A)	(N/A)	(N/A)

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	100.00 ft
Manning's n	0.150
Slope	0.010 ft/ft
2 Year 24 Hour Depth	3.6 in
Average Velocity	0.14 ft/s
Segment Time of Concentration	0.203 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	1,000.00 ft
Is Paved?	False
Slope	0.069 ft/ft
Average Velocity	4.24 ft/s
Segment Time of Concentration	0.066 hours

Segment #3: Length and Velocity	
Hydraulic Length	319.00 ft
Velocity	7.00 ft/s
Segment Time of Concentration	0.013 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.281 hours

==== User Defined Length & Velocity

Tc =	(Lf / V) / 3600
Where:	Tc= Time of concentration, hours Lf= Flow length, feet V= Velocity, ft/sec

==== SCS Channel Flow

Tc =	R = Qa / Wp V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n (Lf / V) / 3600
Where:	R= Hydraulic radius Aq= Flow area, square feet Wp= Wetted perimeter, feet V= Velocity, ft/sec Sf= Slope, ft/ft n= Manning's n Tc= Time of concentration, hours Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc =	Unpaved surface: V = 16.1345 * (Sf**0.5) Paved Surface: V = 20.3282 * (Sf**0.5) (Lf / V) / 3600
Where:	V= Velocity, ft/sec Sf= Slope, ft/ft Tc= Time of concentration, hours Lf= Flow length, feet

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	100.00 ft
Manning's n	0.150
Slope	0.030 ft/ft
2 Year 24 Hour Depth	3.6 in
Average Velocity	0.21 ft/s
Segment Time of Concentration	0.131 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	508.00 ft
Is Paved?	False
Slope	0.013 ft/ft
Average Velocity	1.84 ft/s
Segment Time of Concentration	0.077 hours

Segment #3: Length and Velocity	
Hydraulic Length	2,419.00 ft
Velocity	10.00 ft/s
Segment Time of Concentration	0.067 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.275 hours

==== User Defined Length & Velocity

Tc =	(Lf / V) / 3600
Where:	Tc= Time of concentration, hours Lf= Flow length, feet V= Velocity, ft/sec

==== SCS Channel Flow

Tc =	R = Qa / Wp V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n (Lf / V) / 3600
Where:	R= Hydraulic radius Aq= Flow area, square feet Wp= Wetted perimeter, feet V= Velocity, ft/sec Sf= Slope, ft/ft n= Manning's n Tc= Time of concentration, hours Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc =	Unpaved surface: V = 16.1345 * (Sf**0.5) Paved Surface: V = 20.3282 * (Sf**0.5) (Lf / V) / 3600
Where:	V= Velocity, ft/sec Sf= Slope, ft/ft Tc= Time of concentration, hours Lf= Flow length, feet

Proposed Conditions

Subsection: Runoff CN-Area
Label: County Park Road DA

Return Event: 100 years
Storm Event: 100-YEAR

Runoff Curve Number Data

Soil/Surface Description	CN	Area (acres)	C (%)	UC (%)	Adjusted CN
Open Space HSG D	80.000	20.700	0.0	0.0	80.000
Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil C	74.000	5.400	0.0	0.0	74.000
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	26.100	(N/A)	(N/A)	78.759

Proposed Conditions

Subsection: Runoff CN-Area
Label: Old LL Subarea

Return Event: 100 years
Storm Event: 100-YEAR

Runoff Curve Number Data

Soil/Surface Description	CN	Area (acres)	C (%)	UC (%)	Adjusted CN
Single Family Residential- Soil Group C	82.000	13.900	0.0	0.0	82.000
Single Family Residential (1/3 acre lots)- Soil Group D*	86.000	94.800	0.0	0.0	86.000
Single Family Residential (Dense)- Soil Group C*	87.000	2.500	0.0	0.0	87.000
Single Family Residential (Dense)- Soil Group D*	90.000	49.000	0.0	0.0	90.000
Commercial - Soil Group D*	95.000	7.500	0.0	0.0	95.000
Elementary School - Soil Group D*	93.000	6.400	0.0	0.0	93.000
Park – Soil Group C	74.000	3.500	0.0	0.0	74.000
Park - Soil Group D*	80.000	9.000	0.0	0.0	80.000
Lake	98.000	20.800	0.0	0.0	98.000
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	207.400	(N/A)	(N/A)	87.971

Storm Event	222
Return Event	2 years
Duration	72.000 hours
Depth	3.5 in
Time of Concentration (Composite)	0.281 hours
Area (User Defined)	26.100 acres

Computational Time Increment	0.038 hours
Time to Peak (Computed)	12.079 hours
Flow (Peak, Computed)	46.94 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	46.50 ft³/s

Drainage Area	
SCS CN (Composite)	79.000
Area (User Defined)	26.100 acres
Maximum Retention (Pervious)	2.7 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.6 in
Runoff Volume (Pervious)	3.406 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	3.406 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.281 hours
Computational Time Increment	0.038 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary
Label: County Park Road DA

Return Event: 2 years
Storm Event: 222

SCS Unit Hydrograph Parameters	
Unit peak, qp	105.11 ft³/s
Unit peak time, Tp	0.188 hours
Unit receding limb, Tr	0.750 hours
Total unit time, Tb	0.938 hours

Storm Event	10
Return Event	10 years
Duration	72.000 hours
Depth	5.3 in
Time of Concentration (Composite)	0.281 hours
Area (User Defined)	26.100 acres

Computational Time Increment	0.038 hours
Time to Peak (Computed)	12.042 hours
Flow (Peak, Computed)	91.79 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	91.75 ft³/s

Drainage Area	
SCS CN (Composite)	79.000
Area (User Defined)	26.100 acres
Maximum Retention (Pervious)	2.7 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.1 in
Runoff Volume (Pervious)	6.659 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	6.659 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.281 hours
Computational Time Increment	0.038 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary
Label: County Park Road DA

Return Event: 10 years
Storm Event: 10

SCS Unit Hydrograph Parameters	
Unit peak, qp	105.11 ft³/s
Unit peak time, Tp	0.188 hours
Unit receding limb, Tr	0.750 hours
Total unit time, Tb	0.938 hours

Storm Event	100-YEAR
Return Event	100 years
Duration	72.000 hours
Depth	7.7 in
Time of Concentration (Composite)	0.281 hours
Area (User Defined)	26.100 acres

Computational Time Increment	0.038 hours
Time to Peak (Computed)	12.042 hours
Flow (Peak, Computed)	155.40 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	155.08 ft³/s

Drainage Area	
SCS CN (Composite)	79.000
Area (User Defined)	26.100 acres
Maximum Retention (Pervious)	2.7 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.2 in
Runoff Volume (Pervious)	11.374 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	11.373 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.281 hours
Computational Time Increment	0.038 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

SCS Unit Hydrograph Parameters	
Unit peak, qp	105.11 ft³/s
Unit peak time, Tp	0.188 hours
Unit receding limb, Tr	0.750 hours
Total unit time, Tb	0.938 hours

Storm Event	222
Return Event	2 years
Duration	72.000 hours
Depth	3.5 in
Time of Concentration (Composite)	0.275 hours
Area (User Defined)	207.400 acres

Computational Time Increment	0.037 hours
Time to Peak (Computed)	12.055 hours
Flow (Peak, Computed)	545.85 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	543.88 ft³/s

Drainage Area	
SCS CN (Composite)	88.000
Area (User Defined)	207.400 acres
Maximum Retention (Pervious)	1.4 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.3 in
Runoff Volume (Pervious)	39.211 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	39.211 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.275 hours
Computational Time Increment	0.037 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary
Label: Old LL Subarea

Return Event: 2 years
Storm Event: 222

SCS Unit Hydrograph Parameters	
Unit peak, qp	855.11 ft³/s
Unit peak time, Tp	0.183 hours
Unit receding limb, Tr	0.733 hours
Total unit time, Tb	0.916 hours

Storm Event	10
Return Event	10 years
Duration	72.000 hours
Depth	5.3 in
Time of Concentration (Composite)	0.275 hours
Area (User Defined)	207.400 acres

Computational Time Increment	0.037 hours
Time to Peak (Computed)	12.055 hours
Flow (Peak, Computed)	931.02 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	928.60 ft³/s

Drainage Area	
SCS CN (Composite)	88.000
Area (User Defined)	207.400 acres
Maximum Retention (Pervious)	1.4 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.0 in
Runoff Volume (Pervious)	68.349 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	68.349 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.275 hours
Computational Time Increment	0.037 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

Subsection: Unit Hydrograph Summary
Label: Old LL Subarea

Return Event: 10 years
Storm Event: 10

SCS Unit Hydrograph Parameters	
Unit peak, qp	855.11 ft³/s
Unit peak time, Tp	0.183 hours
Unit receding limb, Tr	0.733 hours
Total unit time, Tb	0.916 hours

Storm Event	100-YEAR
Return Event	100 years
Duration	72.000 hours
Depth	7.7 in
Time of Concentration (Composite)	0.275 hours
Area (User Defined)	207.400 acres

Computational Time Increment	0.037 hours
Time to Peak (Computed)	12.055 hours
Flow (Peak, Computed)	1,441.56 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	1,438.68 ft³/s

Drainage Area	
SCS CN (Composite)	88.000
Area (User Defined)	207.400 acres
Maximum Retention (Pervious)	1.4 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	6.3 in
Runoff Volume (Pervious)	108.457 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	108.456 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.275 hours
Computational Time Increment	0.037 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

SCS Unit Hydrograph Parameters	
Unit peak, qp	855.11 ft³/s
Unit peak time, Tp	0.183 hours
Unit receding limb, Tr	0.733 hours
Total unit time, Tb	0.916 hours

Proposed Conditions

Subsection: Time vs. Elevation
Label: Old Longview Lake (OUT)

Return Event: 100 years
Storm Event: 100-YEAR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	929.00	929.00	929.00	929.00	929.00
0.250	929.00	929.00	929.00	929.00	929.00
0.500	929.00	929.00	929.00	929.00	929.00
0.750	929.00	929.00	929.00	929.00	929.00
1.000	929.00	929.00	929.00	929.00	929.00
1.250	929.00	929.00	929.00	929.00	929.00
1.500	929.00	929.00	929.00	929.00	929.00
1.750	929.00	929.00	929.00	929.00	929.00
2.000	929.00	929.00	929.00	929.00	929.00
2.250	929.00	929.00	929.00	929.00	929.00
2.500	929.00	929.00	929.00	929.00	929.00
2.750	929.00	929.00	929.00	929.00	929.00
3.000	929.00	929.00	929.00	929.00	929.00
3.250	929.00	929.00	929.00	929.00	929.00
3.500	929.00	929.00	929.00	929.00	929.00
3.750	929.00	929.00	929.00	929.00	929.00
4.000	929.00	929.00	929.00	929.00	929.01
4.250	929.01	929.01	929.01	929.01	929.01
4.500	929.01	929.01	929.01	929.01	929.01
4.750	929.01	929.01	929.01	929.02	929.02
5.000	929.02	929.02	929.02	929.02	929.02
5.250	929.02	929.02	929.02	929.03	929.03
5.500	929.03	929.03	929.03	929.03	929.03
5.750	929.04	929.04	929.04	929.04	929.04
6.000	929.04	929.04	929.05	929.05	929.05
6.250	929.05	929.05	929.05	929.06	929.06
6.500	929.06	929.06	929.06	929.07	929.07
6.750	929.07	929.07	929.07	929.07	929.08
7.000	929.08	929.08	929.08	929.09	929.09
7.250	929.09	929.09	929.09	929.10	929.10
7.500	929.10	929.10	929.11	929.11	929.11
7.750	929.11	929.12	929.12	929.12	929.12
8.000	929.13	929.13	929.13	929.13	929.14
8.250	929.14	929.14	929.14	929.15	929.15
8.500	929.15	929.16	929.16	929.16	929.17
8.750	929.17	929.17	929.18	929.18	929.19
9.000	929.19	929.19	929.20	929.20	929.21
9.250	929.21	929.22	929.22	929.23	929.23
9.500	929.23	929.24	929.24	929.25	929.25
9.750	929.26	929.26	929.27	929.27	929.28
10.000	929.28	929.29	929.30	929.30	929.31

Proposed Conditions

Subsection: Time vs. Elevation
Label: Old Longview Lake (OUT)

Return Event: 100 years
Storm Event: 100-YEAR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
10.250	929.31	929.32	929.33	929.34	929.34
10.500	929.35	929.36	929.37	929.37	929.38
10.750	929.39	929.40	929.41	929.42	929.43
11.000	929.45	929.46	929.47	929.48	929.50
11.250	929.51	929.53	929.54	929.56	929.58
11.500	929.60	929.62	929.64	929.67	929.71
11.750	929.77	929.85	929.96	930.10	930.29
12.000	930.51	930.76	930.99	931.18	931.33
12.250	931.42	931.48	931.51	931.52	931.52
12.500	931.52	931.50	931.48	931.46	931.44
12.750	931.41	931.39	931.36	931.33	931.30
13.000	931.27	931.25	931.22	931.19	931.17
13.250	931.14	931.11	931.09	931.06	931.04
13.500	931.01	930.99	930.96	930.94	930.92
13.750	930.90	930.87	930.85	930.83	930.81
14.000	930.79	930.77	930.74	930.72	930.71
14.250	930.69	930.67	930.65	930.63	930.61
14.500	930.60	930.58	930.56	930.55	930.53
14.750	930.51	930.50	930.48	930.47	930.46
15.000	930.44	930.43	930.41	930.40	930.39
15.250	930.37	930.36	930.35	930.34	930.32
15.500	930.31	930.30	930.29	930.28	930.27
15.750	930.26	930.24	930.23	930.22	930.21
16.000	930.20	930.19	930.18	930.17	930.16
16.250	930.15	930.14	930.13	930.12	930.12
16.500	930.11	930.10	930.09	930.08	930.07
16.750	930.06	930.06	930.05	930.04	930.03
17.000	930.03	930.02	930.01	930.01	930.00
17.250	929.99	929.99	929.98	929.97	929.97
17.500	929.96	929.95	929.95	929.94	929.94
17.750	929.93	929.92	929.92	929.91	929.91
18.000	929.90	929.89	929.89	929.88	929.88
18.250	929.87	929.87	929.86	929.86	929.85
18.500	929.85	929.84	929.84	929.83	929.83
18.750	929.82	929.82	929.81	929.81	929.80
19.000	929.80	929.79	929.79	929.78	929.78
19.250	929.78	929.77	929.77	929.76	929.76
19.500	929.75	929.75	929.75	929.74	929.74
19.750	929.73	929.73	929.72	929.72	929.72
20.000	929.71	929.71	929.70	929.70	929.70
20.250	929.69	929.69	929.69	929.68	929.68

Proposed Conditions

Subsection: Time vs. Elevation
Label: Old Longview Lake (OUT)

Return Event: 100 years
Storm Event: 100-YEAR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
20.500	929.68	929.67	929.67	929.67	929.66
20.750	929.66	929.66	929.65	929.65	929.65
21.000	929.64	929.64	929.64	929.63	929.63
21.250	929.63	929.63	929.62	929.62	929.62
21.500	929.62	929.61	929.61	929.61	929.61
21.750	929.60	929.60	929.60	929.60	929.59
22.000	929.59	929.59	929.59	929.58	929.58
22.250	929.58	929.58	929.58	929.57	929.57
22.500	929.57	929.57	929.57	929.56	929.56
22.750	929.56	929.56	929.56	929.56	929.55
23.000	929.55	929.55	929.55	929.55	929.54
23.250	929.54	929.54	929.54	929.54	929.54
23.500	929.54	929.53	929.53	929.53	929.53
23.750	929.53	929.53	929.53	929.52	929.52
24.000	929.52	929.52	929.52	929.52	929.51
24.250	929.51	929.51	929.50	929.50	929.49
24.500	929.49	929.49	929.48	929.48	929.47
24.750	929.47	929.46	929.46	929.46	929.45
25.000	929.45	929.44	929.44	929.44	929.43
25.250	929.43	929.42	929.42	929.42	929.41
25.500	929.41	929.41	929.40	929.40	929.39
25.750	929.39	929.39	929.38	929.38	929.38
26.000	929.37	929.37	929.37	929.36	929.36
26.250	929.36	929.35	929.35	929.35	929.34
26.500	929.34	929.34	929.34	929.33	929.33
26.750	929.33	929.32	929.32	929.32	929.31
27.000	929.31	929.31	929.31	929.30	929.30
27.250	929.30	929.30	929.29	929.29	929.29
27.500	929.29	929.28	929.28	929.28	929.28
27.750	929.27	929.27	929.27	929.27	929.26
28.000	929.26	929.26	929.26	929.25	929.25
28.250	929.25	929.25	929.24	929.24	929.24
28.500	929.24	929.24	929.23	929.23	929.23
28.750	929.23	929.23	929.22	929.22	929.22
29.000	929.22	929.22	929.21	929.21	929.21
29.250	929.21	929.21	929.20	929.20	929.20
29.500	929.20	929.20	929.20	929.19	929.19
29.750	929.19	929.19	929.19	929.18	929.18
30.000	929.18	929.18	929.18	929.18	929.18
30.250	929.17	929.17	929.17	929.17	929.17
30.500	929.17	929.16	929.16	929.16	929.16

Proposed Conditions

Subsection: Time vs. Elevation
Label: Old Longview Lake (OUT)

Return Event: 100 years
Storm Event: 100-YEAR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
30.750	929.16	929.16	929.16	929.15	929.15
31.000	929.15	929.15	929.15	929.15	929.15
31.250	929.14	929.14	929.14	929.14	929.14
31.500	929.14	929.14	929.14	929.13	929.13
31.750	929.13	929.13	929.13	929.13	929.13
32.000	929.13	929.13	929.12	929.12	929.12
32.250	929.12	929.12	929.12	929.12	929.12
32.500	929.12	929.11	929.11	929.11	929.11
32.750	929.11	929.11	929.11	929.11	929.11
33.000	929.11	929.10	929.10	929.10	929.10
33.250	929.10	929.10	929.10	929.10	929.10
33.500	929.10	929.10	929.09	929.09	929.09
33.750	929.09	929.09	929.09	929.09	929.09
34.000	929.09	929.09	929.09	929.09	929.08
34.250	929.08	929.08	929.08	929.08	929.08
34.500	929.08	929.08	929.08	929.08	929.08
34.750	929.08	929.08	929.08	929.07	929.07
35.000	929.07	929.07	929.07	929.07	929.07
35.250	929.07	929.07	929.07	929.07	929.07
35.500	929.07	929.07	929.07	929.07	929.06
35.750	929.06	929.06	929.06	929.06	929.06
36.000	929.06	929.06	929.06	929.06	929.06
36.250	929.06	929.06	929.06	929.06	929.06
36.500	929.06	929.06	929.06	929.05	929.05
36.750	929.05	929.05	929.05	929.05	929.05
37.000	929.05	929.05	929.05	929.05	929.05
37.250	929.05	929.05	929.05	929.05	929.05
37.500	929.05	929.05	929.05	929.05	929.05
37.750	929.04	929.04	929.04	929.04	929.04
38.000	929.04	929.04	929.04	929.04	929.04
38.250	929.04	929.04	929.04	929.04	929.04
38.500	929.04	929.04	929.04	929.04	929.04
38.750	929.04	929.04	929.04	929.04	929.04
39.000	929.04	929.04	929.04	929.03	929.03
39.250	929.03	929.03	929.03	929.03	929.03
39.500	929.03	929.03	929.03	929.03	929.03
39.750	929.03	929.03	929.03	929.03	929.03
40.000	929.03	929.03	929.03	929.03	929.03
40.250	929.03	929.03	929.03	929.03	929.03
40.500	929.03	929.03	929.03	929.03	929.03
40.750	929.03	929.03	929.03	929.03	929.03

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
41.000	929.02	929.02	929.02	929.02	929.02
41.250	929.02	929.02	929.02	929.02	929.02
41.500	929.02	929.02	929.02	929.02	929.02
41.750	929.02	929.02	929.02	929.02	929.02
42.000	929.02	929.02	929.02	929.02	929.02
42.250	929.02	929.02	929.02	929.02	929.02
42.500	929.02	929.02	929.02	929.02	929.02
42.750	929.02	929.02	929.02	929.02	929.02
43.000	929.02	929.02	929.02	929.02	929.02
43.250	929.02	929.02	929.02	929.02	929.02
43.500	929.02	929.02	929.02	929.02	929.02
43.750	929.02	929.02	929.01	929.01	929.01
44.000	929.01	929.01	929.01	929.01	929.01
44.250	929.01	929.01	929.01	929.01	929.01
44.500	929.01	929.01	929.01	929.01	929.01
44.750	929.01	929.01	929.01	929.01	929.01
45.000	929.01	929.01	929.01	929.01	929.01
45.250	929.01	929.01	929.01	929.01	929.01
45.500	929.01	929.01	929.01	929.01	929.01
45.750	929.01	929.01	929.01	929.01	929.01
46.000	929.01	929.01	929.01	929.01	929.01
46.250	929.01	929.01	929.01	929.01	929.01
46.500	929.01	929.01	929.01	929.01	929.01
46.750	929.01	929.01	929.01	929.01	929.01
47.000	929.01	929.01	929.01	929.01	929.01
47.250	929.01	929.01	929.01	929.01	929.01
47.500	929.01	929.01	929.01	929.01	929.01
47.750	929.01	929.01	929.01	929.01	929.01
48.000	929.01	929.01	929.01	929.01	929.01
48.250	929.01	929.01	929.01	929.01	929.01
48.500	929.01	929.01	929.01	929.01	929.01
48.750	929.01	929.01	929.01	929.01	929.01
49.000	929.01	929.01	929.01	929.01	929.01
49.250	929.01	929.01	929.01	929.01	929.01
49.500	929.01	929.01	929.01	929.01	929.01
49.750	929.01	929.01	929.01	929.01	929.00
50.000	929.00	929.00	929.00	929.00	929.00
50.250	929.00	929.00	929.00	929.00	929.00
50.500	929.00	929.00	929.00	929.00	929.00
50.750	929.00	929.00	929.00	929.00	929.00
51.000	929.00	929.00	929.00	929.00	929.00

Proposed Conditions

Subsection: Time vs. Elevation
Label: Old Longview Lake (OUT)

Return Event: 100 years
Storm Event: 100-YEAR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
51.250	929.00	929.00	929.00	929.00	929.00
51.500	929.00	929.00	929.00	929.00	929.00
51.750	929.00	929.00	929.00	929.00	929.00
52.000	929.00	929.00	929.00	929.00	929.00
52.250	929.00	929.00	929.00	929.00	929.00
52.500	929.00	929.00	929.00	929.00	929.00
52.750	929.00	929.00	929.00	929.00	929.00
53.000	929.00	929.00	929.00	929.00	929.00
53.250	929.00	929.00	929.00	929.00	929.00
53.500	929.00	929.00	929.00	929.00	929.00
53.750	929.00	929.00	929.00	929.00	929.00
54.000	929.00	929.00	929.00	929.00	929.00
54.250	929.00	929.00	929.00	929.00	929.00
54.500	929.00	929.00	929.00	929.00	929.00
54.750	929.00	929.00	929.00	929.00	929.00
55.000	929.00	929.00	929.00	929.00	929.00
55.250	929.00	929.00	929.00	929.00	929.00
55.500	929.00	929.00	929.00	929.00	929.00
55.750	929.00	929.00	929.00	929.00	929.00
56.000	929.00	929.00	929.00	929.00	929.00
56.250	929.00	929.00	929.00	929.00	929.00
56.500	929.00	929.00	929.00	929.00	929.00
56.750	929.00	929.00	929.00	929.00	929.00
57.000	929.00	929.00	929.00	929.00	929.00
57.250	929.00	929.00	929.00	929.00	929.00
57.500	929.00	929.00	929.00	929.00	929.00
57.750	929.00	929.00	929.00	929.00	929.00
58.000	929.00	929.00	929.00	929.00	929.00
58.250	929.00	929.00	929.00	929.00	929.00
58.500	929.00	929.00	929.00	929.00	929.00
58.750	929.00	929.00	929.00	929.00	929.00
59.000	929.00	929.00	929.00	929.00	929.00
59.250	929.00	929.00	929.00	929.00	929.00
59.500	929.00	929.00	929.00	929.00	929.00
59.750	929.00	929.00	929.00	929.00	929.00
60.000	929.00	929.00	929.00	929.00	929.00
60.250	929.00	929.00	929.00	929.00	929.00
60.500	929.00	929.00	929.00	929.00	929.00
60.750	929.00	929.00	929.00	929.00	929.00
61.000	929.00	929.00	929.00	929.00	929.00
61.250	929.00	929.00	929.00	929.00	929.00

Proposed Conditions

Subsection: Time vs. Elevation
Label: Old Longview Lake (OUT)

Return Event: 100 years
Storm Event: 100-YEAR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
61.500	929.00	929.00	929.00	929.00	929.00
61.750	929.00	929.00	929.00	929.00	929.00
62.000	929.00	929.00	929.00	929.00	929.00
62.250	929.00	929.00	929.00	929.00	929.00
62.500	929.00	929.00	929.00	929.00	929.00
62.750	929.00	929.00	929.00	929.00	929.00
63.000	929.00	929.00	929.00	929.00	929.00
63.250	929.00	929.00	929.00	929.00	929.00
63.500	929.00	929.00	929.00	929.00	929.00
63.750	929.00	929.00	929.00	929.00	929.00
64.000	929.00	929.00	929.00	929.00	929.00
64.250	929.00	929.00	929.00	929.00	929.00
64.500	929.00	929.00	929.00	929.00	929.00
64.750	929.00	929.00	929.00	929.00	929.00
65.000	929.00	929.00	929.00	929.00	929.00
65.250	929.00	929.00	929.00	929.00	929.00
65.500	929.00	929.00	929.00	929.00	929.00
65.750	929.00	929.00	929.00	929.00	929.00
66.000	929.00	929.00	929.00	929.00	929.00
66.250	929.00	929.00	929.00	929.00	929.00
66.500	929.00	929.00	929.00	929.00	929.00
66.750	929.00	929.00	929.00	929.00	929.00
67.000	929.00	929.00	929.00	929.00	929.00
67.250	929.00	929.00	929.00	929.00	929.00
67.500	929.00	929.00	929.00	929.00	929.00
67.750	929.00	929.00	929.00	929.00	929.00
68.000	929.00	929.00	929.00	929.00	929.00
68.250	929.00	929.00	929.00	929.00	929.00
68.500	929.00	929.00	929.00	929.00	929.00
68.750	929.00	929.00	929.00	929.00	929.00
69.000	929.00	929.00	929.00	929.00	929.00
69.250	929.00	929.00	929.00	929.00	929.00
69.500	929.00	929.00	929.00	929.00	929.00
69.750	929.00	929.00	929.00	929.00	929.00
70.000	929.00	929.00	929.00	929.00	929.00
70.250	929.00	929.00	929.00	929.00	929.00
70.500	929.00	929.00	929.00	929.00	929.00
70.750	929.00	929.00	929.00	929.00	929.00
71.000	929.00	929.00	929.00	929.00	929.00
71.250	929.00	929.00	929.00	929.00	929.00
71.500	929.00	929.00	929.00	929.00	929.00

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
71.750	929.00	929.00	929.00	929.00	929.00
72.000	929.00	(N/A)	(N/A)	(N/A)	(N/A)

Proposed Conditions

Subsection: Time vs. Volume
Label: Old Longview Lake

Return Event: 100 years
Storm Event: 100-YEAR

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
0.000	35.990	35.990	35.990	35.990	35.990
0.250	35.990	35.990	35.990	35.990	35.990
0.500	35.990	35.990	35.990	35.990	35.990
0.750	35.990	35.990	35.990	35.990	35.990
1.000	35.990	35.990	35.990	35.990	35.990
1.250	35.990	35.990	35.990	35.990	35.990
1.500	35.990	35.990	35.990	35.990	35.990
1.750	35.990	35.990	35.990	35.990	35.990
2.000	35.990	35.990	35.990	35.990	35.990
2.250	35.990	35.990	35.990	35.990	35.990
2.500	35.990	35.990	35.990	35.990	35.990
2.750	35.990	35.990	35.990	35.990	35.990
3.000	35.990	35.990	35.990	35.990	35.990
3.250	35.990	35.990	35.990	35.993	35.995
3.500	35.997	36.000	36.004	36.008	36.013
3.750	36.018	36.024	36.030	36.037	36.045
4.000	36.053	36.062	36.071	36.081	36.092
4.250	36.103	36.114	36.126	36.139	36.152
4.500	36.166	36.181	36.196	36.211	36.228
4.750	36.244	36.262	36.280	36.298	36.317
5.000	36.337	36.357	36.378	36.400	36.422
5.250	36.444	36.468	36.491	36.516	36.541
5.500	36.566	36.592	36.619	36.646	36.674
5.750	36.702	36.731	36.761	36.791	36.822
6.000	36.853	36.884	36.917	36.950	36.983
6.250	37.017	37.051	37.087	37.122	37.158
6.500	37.195	37.232	37.270	37.308	37.347
6.750	37.386	37.426	37.467	37.508	37.549
7.000	37.591	37.633	37.676	37.720	37.764
7.250	37.808	37.853	37.899	37.945	37.991
7.500	38.038	38.086	38.134	38.182	38.231
7.750	38.280	38.330	38.380	38.431	38.482
8.000	38.534	38.586	38.639	38.692	38.746
8.250	38.802	38.859	38.917	38.977	39.039
8.500	39.103	39.169	39.237	39.306	39.378
8.750	39.452	39.527	39.605	39.685	39.766
9.000	39.850	39.936	40.024	40.114	40.205
9.250	40.297	40.390	40.483	40.577	40.670
9.500	40.764	40.858	40.953	41.048	41.144
9.750	41.241	41.341	41.444	41.550	41.659
10.000	41.771	41.886	42.006	42.129	42.256

Proposed Conditions

Subsection: Time vs. Volume
Label: Old Longview Lake

Return Event: 100 years
Storm Event: 100-YEAR

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
10.250	42.388	42.524	42.666	42.813	42.965
10.500	43.123	43.286	43.456	43.631	43.814
10.750	44.004	44.202	44.409	44.626	44.852
11.000	45.088	45.333	45.590	45.859	46.143
11.250	46.438	46.750	47.081	47.431	47.802
11.500	48.194	48.619	49.109	49.730	50.579
11.750	51.776	53.439	55.717	58.768	62.732
12.000	67.528	72.706	77.685	81.830	84.893
12.250	86.931	88.170	88.840	89.118	89.131
12.500	88.963	88.673	88.288	87.824	87.304
12.750	86.743	86.159	85.562	84.960	84.359
13.000	83.759	83.164	82.573	81.987	81.409
13.250	80.839	80.277	79.726	79.185	78.654
13.500	78.133	77.619	77.110	76.608	76.113
13.750	75.626	75.145	74.673	74.208	73.750
14.000	73.300	72.857	72.422	71.993	71.573
14.250	71.161	70.758	70.364	69.979	69.603
14.500	69.236	68.877	68.527	68.185	67.852
14.750	67.526	67.207	66.893	66.584	66.280
15.000	65.981	65.687	65.398	65.114	64.834
15.250	64.559	64.288	64.021	63.758	63.500
15.500	63.245	62.995	62.748	62.505	62.265
15.750	62.029	61.796	61.567	61.341	61.118
16.000	60.898	60.681	60.467	60.257	60.049
16.250	59.846	59.645	59.449	59.256	59.066
16.500	58.881	58.699	58.520	58.345	58.174
16.750	58.005	57.840	57.678	57.519	57.363
17.000	57.210	57.060	56.913	56.768	56.626
17.250	56.484	56.344	56.205	56.068	55.933
17.500	55.799	55.667	55.536	55.407	55.280
17.750	55.153	55.028	54.905	54.783	54.662
18.000	54.543	54.425	54.308	54.192	54.078
18.250	53.964	53.852	53.742	53.632	53.523
18.500	53.416	53.309	53.204	53.100	52.996
18.750	52.894	52.793	52.692	52.593	52.495
19.000	52.397	52.300	52.205	52.110	52.016
19.250	51.923	51.830	51.739	51.648	51.558
19.500	51.469	51.381	51.293	51.206	51.120
19.750	51.035	50.950	50.866	50.782	50.699
20.000	50.617	50.536	50.455	50.375	50.296
20.250	50.217	50.140	50.063	49.988	49.914

Proposed Conditions

Subsection: Time vs. Volume
Label: Old Longview Lake

Return Event: 100 years
Storm Event: 100-YEAR

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
20.500	49.841	49.769	49.698	49.628	49.560
20.750	49.492	49.425	49.359	49.295	49.231
21.000	49.168	49.106	49.045	48.985	48.926
21.250	48.868	48.810	48.754	48.698	48.643
21.500	48.589	48.536	48.483	48.431	48.380
21.750	48.330	48.280	48.231	48.183	48.135
22.000	48.088	48.042	47.997	47.952	47.907
22.250	47.864	47.821	47.778	47.736	47.695
22.500	47.654	47.614	47.574	47.535	47.496
22.750	47.458	47.420	47.383	47.346	47.310
23.000	47.275	47.239	47.205	47.170	47.136
23.250	47.103	47.070	47.037	47.005	46.973
23.500	46.942	46.911	46.880	46.850	46.820
23.750	46.790	46.761	46.732	46.704	46.675
24.000	46.648	46.619	46.586	46.544	46.489
24.250	46.422	46.346	46.264	46.180	46.092
24.500	46.003	45.914	45.825	45.737	45.648
24.750	45.561	45.474	45.388	45.303	45.218
25.000	45.135	45.052	44.969	44.888	44.807
25.250	44.727	44.648	44.569	44.491	44.414
25.500	44.338	44.262	44.187	44.113	44.039
25.750	43.966	43.894	43.822	43.751	43.681
26.000	43.611	43.542	43.474	43.406	43.339
26.250	43.272	43.206	43.141	43.076	43.012
26.500	42.948	42.885	42.823	42.761	42.699
26.750	42.639	42.578	42.519	42.460	42.401
27.000	42.343	42.286	42.229	42.172	42.116
27.250	42.061	42.006	41.951	41.897	41.844
27.500	41.791	41.739	41.687	41.635	41.584
27.750	41.533	41.483	41.434	41.384	41.335
28.000	41.287	41.239	41.192	41.145	41.098
28.250	41.052	41.006	40.961	40.916	40.871
28.500	40.827	40.784	40.740	40.697	40.655
28.750	40.613	40.571	40.529	40.488	40.448
29.000	40.408	40.368	40.328	40.289	40.250
29.250	40.212	40.173	40.136	40.098	40.061
29.500	40.024	39.988	39.952	39.916	39.881
29.750	39.845	39.811	39.776	39.742	39.708
30.000	39.674	39.641	39.608	39.576	39.543
30.250	39.511	39.479	39.448	39.417	39.386
30.500	39.355	39.325	39.295	39.265	39.235

Proposed Conditions

Subsection: Time vs. Volume
Label: Old Longview Lake

Return Event: 100 years
Storm Event: 100-YEAR

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
30.750	39.206	39.177	39.148	39.120	39.091
31.000	39.063	39.036	39.008	38.981	38.954
31.250	38.927	38.901	38.875	38.848	38.823
31.500	38.797	38.772	38.747	38.722	38.697
31.750	38.673	38.649	38.625	38.601	38.577
32.000	38.554	38.531	38.508	38.485	38.463
32.250	38.440	38.418	38.396	38.375	38.353
32.500	38.332	38.311	38.290	38.269	38.249
32.750	38.228	38.208	38.188	38.168	38.149
33.000	38.129	38.110	38.091	38.072	38.053
33.250	38.035	38.016	37.998	37.980	37.962
33.500	37.944	37.926	37.909	37.892	37.875
33.750	37.858	37.841	37.824	37.807	37.791
34.000	37.775	37.759	37.743	37.727	37.711
34.250	37.696	37.681	37.665	37.650	37.635
34.500	37.620	37.606	37.591	37.577	37.562
34.750	37.548	37.534	37.520	37.507	37.493
35.000	37.479	37.466	37.453	37.439	37.426
35.250	37.413	37.401	37.388	37.375	37.363
35.500	37.350	37.338	37.326	37.314	37.302
35.750	37.290	37.279	37.267	37.255	37.244
36.000	37.233	37.222	37.211	37.200	37.189
36.250	37.178	37.167	37.157	37.146	37.136
36.500	37.125	37.115	37.105	37.095	37.085
36.750	37.075	37.065	37.056	37.046	37.037
37.000	37.027	37.018	37.008	36.999	36.990
37.250	36.981	36.972	36.963	36.955	36.946
37.500	36.937	36.929	36.920	36.912	36.904
37.750	36.895	36.887	36.879	36.871	36.863
38.000	36.855	36.848	36.840	36.832	36.825
38.250	36.817	36.810	36.802	36.795	36.788
38.500	36.781	36.774	36.766	36.759	36.753
38.750	36.746	36.739	36.732	36.725	36.719
39.000	36.712	36.706	36.699	36.693	36.687
39.250	36.680	36.674	36.668	36.662	36.656
39.500	36.650	36.644	36.638	36.632	36.626
39.750	36.621	36.615	36.609	36.604	36.598
40.000	36.593	36.587	36.582	36.577	36.571
40.250	36.566	36.561	36.556	36.551	36.546
40.500	36.541	36.536	36.531	36.526	36.521
40.750	36.516	36.512	36.507	36.502	36.498

Proposed Conditions

Subsection: Time vs. Volume
Label: Old Longview Lake

Return Event: 100 years
Storm Event: 100-YEAR

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
41.000	36.493	36.488	36.484	36.480	36.475
41.250	36.471	36.466	36.462	36.458	36.454
41.500	36.450	36.445	36.441	36.437	36.433
41.750	36.429	36.425	36.421	36.417	36.414
42.000	36.410	36.406	36.402	36.399	36.395
42.250	36.391	36.388	36.384	36.381	36.377
42.500	36.374	36.370	36.367	36.363	36.360
42.750	36.357	36.353	36.350	36.347	36.344
43.000	36.340	36.337	36.334	36.331	36.328
43.250	36.325	36.322	36.319	36.316	36.313
43.500	36.310	36.307	36.304	36.301	36.299
43.750	36.296	36.293	36.290	36.288	36.285
44.000	36.282	36.280	36.277	36.275	36.272
44.250	36.269	36.267	36.264	36.262	36.260
44.500	36.257	36.255	36.252	36.250	36.248
44.750	36.245	36.243	36.241	36.238	36.236
45.000	36.234	36.232	36.230	36.227	36.225
45.250	36.223	36.221	36.219	36.217	36.215
45.500	36.213	36.211	36.209	36.207	36.205
45.750	36.203	36.201	36.199	36.197	36.195
46.000	36.194	36.192	36.190	36.188	36.186
46.250	36.185	36.183	36.181	36.179	36.178
46.500	36.176	36.174	36.173	36.171	36.169
46.750	36.168	36.166	36.165	36.163	36.161
47.000	36.160	36.158	36.157	36.155	36.154
47.250	36.152	36.151	36.149	36.148	36.147
47.500	36.145	36.144	36.142	36.141	36.140
47.750	36.138	36.137	36.136	36.134	36.133
48.000	36.132	36.131	36.129	36.128	36.127
48.250	36.126	36.124	36.123	36.122	36.121
48.500	36.120	36.118	36.117	36.116	36.115
48.750	36.114	36.113	36.112	36.110	36.109
49.000	36.108	36.107	36.106	36.105	36.104
49.250	36.103	36.102	36.101	36.100	36.099
49.500	36.098	36.097	36.096	36.095	36.094
49.750	36.093	36.092	36.091	36.091	36.090
50.000	36.089	36.088	36.087	36.086	36.085
50.250	36.084	36.084	36.083	36.082	36.081
50.500	36.080	36.079	36.079	36.078	36.077
50.750	36.076	36.075	36.075	36.074	36.073
51.000	36.072	36.072	36.071	36.070	36.069

Proposed Conditions

Subsection: Time vs. Volume
Label: Old Longview Lake

Return Event: 100 years
Storm Event: 100-YEAR

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
51.250	36.069	36.068	36.067	36.067	36.066
51.500	36.065	36.065	36.064	36.063	36.063
51.750	36.062	36.061	36.061	36.060	36.059
52.000	36.059	36.058	36.058	36.057	36.056
52.250	36.056	36.055	36.054	36.054	36.053
52.500	36.053	36.052	36.052	36.051	36.051
52.750	36.050	36.049	36.049	36.048	36.048
53.000	36.047	36.047	36.046	36.046	36.045
53.250	36.045	36.044	36.044	36.043	36.043
53.500	36.042	36.042	36.041	36.041	36.040
53.750	36.040	36.040	36.039	36.039	36.038
54.000	36.038	36.037	36.037	36.037	36.036
54.250	36.036	36.035	36.035	36.034	36.034
54.500	36.034	36.033	36.033	36.033	36.032
54.750	36.032	36.031	36.031	36.031	36.030
55.000	36.030	36.030	36.029	36.029	36.028
55.250	36.028	36.028	36.027	36.027	36.027
55.500	36.026	36.026	36.026	36.025	36.025
55.750	36.025	36.024	36.024	36.024	36.024
56.000	36.023	36.023	36.023	36.022	36.022
56.250	36.022	36.021	36.021	36.021	36.021
56.500	36.020	36.020	36.020	36.020	36.019
56.750	36.019	36.019	36.019	36.018	36.018
57.000	36.018	36.017	36.017	36.017	36.017
57.250	36.017	36.016	36.016	36.016	36.016
57.500	36.015	36.015	36.015	36.015	36.014
57.750	36.014	36.014	36.014	36.014	36.013
58.000	36.013	36.013	36.013	36.012	36.012
58.250	36.012	36.012	36.012	36.012	36.011
58.500	36.011	36.011	36.011	36.011	36.010
58.750	36.010	36.010	36.010	36.010	36.009
59.000	36.009	36.009	36.009	36.009	36.009
59.250	36.008	36.008	36.008	36.008	36.008
59.500	36.008	36.007	36.007	36.007	36.007
59.750	36.007	36.007	36.006	36.006	36.006
60.000	36.006	36.006	36.006	36.006	36.005
60.250	36.005	36.005	36.005	36.005	36.005
60.500	36.005	36.005	36.004	36.004	36.004
60.750	36.004	36.004	36.004	36.004	36.003
61.000	36.003	36.003	36.003	36.003	36.003
61.250	36.003	36.003	36.003	36.002	36.002

Proposed Conditions

Subsection: Time vs. Volume
Label: Old Longview Lake

Return Event: 100 years
Storm Event: 100-YEAR

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
61.500	36.002	36.002	36.002	36.002	36.002
61.750	36.002	36.002	36.001	36.001	36.001
62.000	36.001	36.001	36.001	36.001	36.001
62.250	36.001	36.001	36.000	36.000	36.000
62.500	36.000	36.000	36.000	36.000	36.000
62.750	36.000	36.000	36.000	35.999	35.999
63.000	35.999	35.999	35.999	35.999	35.999
63.250	35.999	35.999	35.999	35.999	35.999
63.500	35.998	35.998	35.998	35.998	35.998
63.750	35.998	35.998	35.998	35.998	35.998
64.000	35.998	35.998	35.998	35.997	35.997
64.250	35.997	35.997	35.997	35.997	35.997
64.500	35.997	35.997	35.997	35.997	35.997
64.750	35.997	35.997	35.997	35.997	35.996
65.000	35.996	35.996	35.996	35.996	35.996
65.250	35.996	35.996	35.996	35.996	35.996
65.500	35.996	35.996	35.996	35.996	35.996
65.750	35.996	35.996	35.995	35.995	35.995
66.000	35.995	35.995	35.995	35.995	35.995
66.250	35.995	35.995	35.995	35.995	35.995
66.500	35.995	35.995	35.995	35.995	35.995
66.750	35.995	35.995	35.995	35.994	35.994
67.000	35.994	35.994	35.994	35.994	35.994
67.250	35.994	35.994	35.994	35.994	35.994
67.500	35.994	35.994	35.994	35.994	35.994
67.750	35.994	35.994	35.994	35.994	35.994
68.000	35.994	35.994	35.994	35.994	35.994
68.250	35.993	35.993	35.993	35.993	35.993
68.500	35.993	35.993	35.993	35.993	35.993
68.750	35.993	35.993	35.993	35.993	35.993
69.000	35.993	35.993	35.993	35.993	35.993
69.250	35.993	35.993	35.993	35.993	35.993
69.500	35.993	35.993	35.993	35.993	35.993
69.750	35.993	35.993	35.993	35.993	35.992
70.000	35.992	35.992	35.992	35.992	35.992
70.250	35.992	35.992	35.992	35.992	35.992
70.500	35.992	35.992	35.992	35.992	35.992
70.750	35.992	35.992	35.992	35.992	35.992
71.000	35.992	35.992	35.992	35.992	35.992
71.250	35.992	35.992	35.992	35.992	35.992
71.500	35.992	35.990	35.990	35.990	35.990

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
71.750	35.990	35.990	35.990	35.990	35.990
72.000	35.990	(N/A)	(N/A)	(N/A)	(N/A)

Proposed Conditions

Subsection: Elevation-Area Volume Curve
Label: Old Longview Lake

Return Event: 100 years
Storm Event: 100-YEAR

Elevation (ft)	Planimeter (ft^2)	Area (acres)	A1+A2+sqr (A1*A2) (acres)	Volume (ac-ft)	Volume (Total) (ac-ft)
927.00	0.0	16.000	0.000	0.000	0.000
928.00	0.0	17.899	50.822	16.941	16.941
929.00	0.0	20.223	57.148	19.049	35.990
930.00	0.0	21.072	61.938	20.646	56.636
931.00	0.0	21.397	63.703	21.234	77.870
932.00	0.0	21.852	64.872	21.624	99.494
933.00	0.0	22.723	66.858	22.286	121.780

Requested Pond Water Surface Elevations	
Minimum (Headwater)	927.00 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	933.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Irregular Weir	Spillway	Forward	TW	929.00	933.00
Rectangular Weir	Dam Top	Forward	TW	933.00	933.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Structure ID: Dam Top Structure Type: Rectangular Weir	
Number of Openings	1
Elevation	933.00 ft
Weir Length	670.00 ft
Weir Coefficient	3.00 (ft^0.5)/s

Structure ID: Spillway
Structure Type: Irregular Weir

Station (ft)	Elevation (ft)
0.00	4.00
12.00	0.00
32.00	0.00
40.10	2.70
351.10	2.70
355.00	4.00

Lowest Elevation	929.00 ft
Weir Coefficient	3.00 (ft^0.5)/s

Structure ID: TW Structure Type: TW Setup, DS Channel	
Tailwater Type	Free Outfall

Convergence Tolerances	
Maximum Iterations	30
Tailwater Tolerance (Minimum)	0.01 ft
Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft
Headwater Tolerance (Maximum)	0.50 ft
Flow Tolerance (Minimum)	0.001 ft³/s
Flow Tolerance (Maximum)	10.000 ft³/s

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Dam Top (Rectangular Weir)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
927.00	0.00	(N/A)	0.00
927.50	0.00	(N/A)	0.00
928.00	0.00	(N/A)	0.00
928.50	0.00	(N/A)	0.00
929.00	0.00	(N/A)	0.00
929.50	0.00	(N/A)	0.00
930.00	0.00	(N/A)	0.00
930.50	0.00	(N/A)	0.00
931.00	0.00	(N/A)	0.00
931.50	0.00	(N/A)	0.00
932.00	0.00	(N/A)	0.00
932.50	0.00	(N/A)	0.00
933.00	0.00	(N/A)	0.00

Computation Messages
HW & TW below Inv.El.=933.000
HW & TW below Inv.El.=933.000
HW & TW below Inv.El.=933.000
HW & TW below Inv.El.=933.000
HW & TW below Inv.El.=933.000
HW & TW below Inv.El.=933.000
HW & TW below Inv.El.=933.000
HW & TW below Inv.El.=933.000
HW & TW below Inv.El.=933.000
HW & TW below Inv.El.=933.000
HW & TW below Inv.El.=933.000
HW & TW below Inv.El.=933.000
HW & TW below Inv.El.=933.000

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Dam Top (Rectangular Weir)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Computation Messages
H=.00; Htw=.00; Qfree=.00;

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Spillway (Irregular Weir)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
927.00	0.00	(N/A)	0.00
927.50	0.00	(N/A)	0.00
928.00	0.00	(N/A)	0.00
928.50	0.00	(N/A)	0.00
929.00	0.00	(N/A)	0.00
929.50	22.34	(N/A)	0.00
930.00	66.36	(N/A)	0.00
930.50	127.76	(N/A)	0.00
931.00	205.71	(N/A)	0.00
931.50	300.06	(N/A)	0.00
932.00	566.34	(N/A)	0.00
932.50	1,211.83	(N/A)	0.00
933.00	2,075.70	(N/A)	0.00

Computation Messages
E < Y min=929.00
E < Y min=929.00
E < Y min=929.00
E < Y min=929.00
E = Y min=929.00
Max.H=.50; Max.Htw=free out;; W(ft) =23.00
Max.H=1.00; Max.Htw=free out;; W(ft) =26.00
Max.H=1.50; Max.Htw=free out;; W(ft) =29.00
Max.H=2.00; Max.Htw=free out;; W(ft) =32.00
Max.H=2.50; Max.Htw=free out;; W(ft) =35.00
Max.H=3.00; Max.Htw=free out;; W(ft) =349.00

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Spillway (Irregular Weir)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Computation Messages
Max.H=3.50; Max.Htw=free out;; W(ft) =352.00
Max.H=4.00; Max.Htw=free out;; W(ft) =355.00

Proposed Conditions

Subsection: Composite Rating Curve
Label: Normal Elev 929

Return Event: 100 years
Storm Event: 100-YEAR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
927.00	0.00	(N/A)	0.00
927.50	0.00	(N/A)	0.00
928.00	0.00	(N/A)	0.00
928.50	0.00	(N/A)	0.00
929.00	0.00	(N/A)	0.00
929.50	22.34	(N/A)	0.00
930.00	66.36	(N/A)	0.00
930.50	127.76	(N/A)	0.00
931.00	205.71	(N/A)	0.00
931.50	300.06	(N/A)	0.00
932.00	566.34	(N/A)	0.00
932.50	1,211.83	(N/A)	0.00
933.00	2,075.70	(N/A)	0.00

Contributing Structures
None Contributing
None Contributing
None Contributing
None Contributing
Spillway
Spillway
Spillway
Spillway
Spillway
Spillway
Spillway
Spillway
Spillway + Dam Top

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	929.00 ft
Volume (Initial)	35.990 ac-ft
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Elevation (ft)	Outflow (ft³/s)	Storage (ac-ft)	Area (acres)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
927.00	0.00	0.000	16.000	0.00	0.00	0.00
927.50	0.00	8.233	16.936	0.00	0.00	3,984.74
928.00	0.00	16.941	17.899	0.00	0.00	8,199.26
928.50	0.00	26.175	19.043	0.00	0.00	12,668.56
929.00	0.00	35.990	20.223	0.00	0.00	17,419.07
929.50	22.34	46.207	20.645	0.00	22.34	22,386.39
930.00	66.36	56.636	21.072	0.00	66.36	27,478.12
930.50	127.76	67.212	21.234	0.00	127.76	32,658.55
931.00	205.71	77.870	21.397	0.00	205.71	37,894.86
931.50	300.06	88.625	21.624	0.00	300.06	43,194.72
932.00	566.34	99.494	21.852	0.00	566.34	48,721.56
932.50	1,211.83	110.528	22.285	0.00	1,211.83	54,707.58
933.00	2,075.70	121.780	22.723	0.00	2,075.70	61,017.38

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	929.00 ft
Volume (Initial)	35.990 ac-ft
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	1,438.68 ft³/s	Time to Peak (Flow, In)	12.050 hours
Flow (Peak Outlet)	312.50 ft³/s	Time to Peak (Flow, Outlet)	12.450 hours

Elevation (Water Surface, Peak)	931.52 ft
Volume (Peak)	89.131 ac-ft

Mass Balance (ac-ft)	
Volume (Initial)	35.990 ac-ft
Volume (Total Inflow)	108.456 ac-ft
Volume (Total Infiltration)	0.000 ac-ft
Volume (Total Outlet Outflow)	108.455 ac-ft
Volume (Retained)	35.990 ac-ft
Volume (Unrouted)	-0.002 ac-ft
Error (Mass Balance)	0.0 %

Proposed Conditions

Subsection: Pond Routed Hydrograph (total out) Return Event: 100 years
Label: Old Longview Lake (OUT) Storm Event: 100-YEAR

Peak Discharge	312.50 ft³/s
Time to Peak	12.450 hours
Hydrograph Volume	108.455 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
3.250	0.00	0.00	0.00	0.01	0.01
3.500	0.02	0.02	0.03	0.04	0.05
3.750	0.06	0.08	0.09	0.11	0.12
4.000	0.14	0.16	0.18	0.20	0.22
4.250	0.25	0.27	0.30	0.33	0.36
4.500	0.39	0.42	0.45	0.49	0.53
4.750	0.56	0.60	0.64	0.68	0.72
5.000	0.77	0.81	0.86	0.91	0.95
5.250	1.00	1.06	1.11	1.16	1.22
5.500	1.27	1.33	1.39	1.45	1.51
5.750	1.57	1.64	1.70	1.77	1.84
6.000	1.90	1.97	2.05	2.12	2.19
6.250	2.27	2.34	2.42	2.50	2.58
6.500	2.66	2.74	2.82	2.91	2.99
6.750	3.08	3.17	3.26	3.35	3.44
7.000	3.53	3.63	3.72	3.82	3.91
7.250	4.01	4.11	4.21	4.31	4.41
7.500	4.52	4.62	4.73	4.83	4.94
7.750	5.05	5.16	5.27	5.38	5.49
8.000	5.61	5.72	5.84	5.95	6.07
8.250	6.19	6.32	6.45	6.58	6.72
8.500	6.86	7.00	7.15	7.30	7.46
8.750	7.62	7.79	7.96	8.13	8.31
9.000	8.49	8.68	8.88	9.07	9.27
9.250	9.47	9.68	9.88	10.09	10.29
9.500	10.50	10.70	10.91	11.12	11.33
9.750	11.54	11.76	11.98	12.21	12.45
10.000	12.70	12.95	13.21	13.48	13.76
10.250	14.04	14.34	14.65	14.97	15.30
10.500	15.64	16.00	16.37	16.75	17.15
10.750	17.56	17.99	18.44	18.91	19.40
11.000	19.91	20.45	21.00	21.59	22.20
11.250	23.33	24.65	26.06	27.55	29.13
11.500	30.80	32.60	34.68	37.31	40.90
11.750	45.96	52.96	62.52	78.78	101.81
12.000	130.08	168.02	204.36	240.56	267.43
12.250	285.26	296.09	305.34	312.18	312.50

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
12.500	308.37	301.24	297.11	293.07	288.52
12.750	283.62	278.51	273.29	268.02	262.75
13.000	257.50	252.27	247.08	241.94	236.86
13.250	231.85	226.91	222.06	217.30	212.62
13.500	208.03	203.88	200.17	196.51	192.90
13.750	189.34	185.84	182.39	178.99	175.65
14.000	172.36	169.12	165.93	162.80	159.73
14.250	156.71	153.76	150.87	148.05	145.30
14.500	142.61	139.98	137.41	134.90	132.46
14.750	130.06	127.74	125.92	124.13	122.37
15.000	120.64	118.94	117.27	115.62	114.00
15.250	112.40	110.83	109.29	107.76	106.27
15.500	104.79	103.34	101.90	100.49	99.10
15.750	97.73	96.38	95.05	93.74	92.44
16.000	91.16	89.90	88.66	87.44	86.23
16.250	85.05	83.88	82.74	81.62	80.52
16.500	79.44	78.38	77.34	76.32	75.32
16.750	74.34	73.38	72.44	71.51	70.60
17.000	69.71	68.84	67.98	67.13	66.32
17.250	65.73	65.14	64.56	63.99	63.43
17.500	62.87	62.31	61.77	61.22	60.69
17.750	60.16	59.64	59.12	58.61	58.10
18.000	57.60	57.10	56.61	56.13	55.65
18.250	55.17	54.70	54.24	53.77	53.32
18.500	52.87	52.42	51.98	51.54	51.10
18.750	50.67	50.24	49.82	49.40	48.99
19.000	48.58	48.17	47.77	47.37	46.97
19.250	46.58	46.19	45.80	45.42	45.04
19.500	44.67	44.29	43.92	43.56	43.19
19.750	42.83	42.47	42.12	41.76	41.41
20.000	41.07	40.72	40.38	40.04	39.71
20.250	39.38	39.05	38.72	38.41	38.09
20.500	37.78	37.48	37.18	36.88	36.59
20.750	36.30	36.02	35.74	35.47	35.20
21.000	34.93	34.67	34.41	34.16	33.90
21.250	33.66	33.41	33.17	32.94	32.70
21.500	32.47	32.25	32.02	31.80	31.59
21.750	31.37	31.16	30.95	30.75	30.55
22.000	30.35	30.15	29.96	29.77	29.58
22.250	29.39	29.21	29.03	28.85	28.68
22.500	28.50	28.33	28.16	27.99	27.83
22.750	27.67	27.51	27.35	27.19	27.04

Proposed Conditions

Subsection: Pond Routed Hydrograph (total out) Return Event: 100 years
Label: Old Longview Lake (OUT) Storm Event: 100-YEAR

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
23.000	26.89	26.74	26.59	26.44	26.30
23.250	26.16	26.02	25.88	25.74	25.60
23.500	25.47	25.34	25.21	25.08	24.95
23.750	24.83	24.70	24.58	24.46	24.34
24.000	24.22	24.10	23.96	23.78	23.54
24.250	23.26	22.93	22.58	22.28	22.09
24.500	21.90	21.70	21.51	21.32	21.13
24.750	20.94	20.75	20.57	20.38	20.20
25.000	20.02	19.84	19.66	19.48	19.31
25.250	19.13	18.96	18.79	18.62	18.45
25.500	18.29	18.12	17.96	17.80	17.64
25.750	17.48	17.32	17.17	17.01	16.86
26.000	16.71	16.56	16.41	16.26	16.11
26.250	15.97	15.83	15.68	15.54	15.40
26.500	15.26	15.13	14.99	14.86	14.72
26.750	14.59	14.46	14.33	14.20	14.07
27.000	13.94	13.82	13.70	13.57	13.45
27.250	13.33	13.21	13.09	12.97	12.86
27.500	12.74	12.63	12.51	12.40	12.29
27.750	12.18	12.07	11.96	11.85	11.75
28.000	11.64	11.54	11.43	11.33	11.23
28.250	11.13	11.03	10.93	10.83	10.73
28.500	10.63	10.54	10.44	10.35	10.26
28.750	10.16	10.07	9.98	9.89	9.80
29.000	9.72	9.63	9.54	9.46	9.37
29.250	9.29	9.20	9.12	9.04	8.96
29.500	8.88	8.80	8.72	8.64	8.56
29.750	8.48	8.41	8.33	8.26	8.18
30.000	8.11	8.04	7.96	7.89	7.82
30.250	7.75	7.68	7.61	7.54	7.48
30.500	7.41	7.34	7.28	7.21	7.15
30.750	7.08	7.02	6.95	6.89	6.83
31.000	6.77	6.71	6.65	6.59	6.53
31.250	6.47	6.41	6.35	6.30	6.24
31.500	6.18	6.13	6.07	6.02	5.96
31.750	5.91	5.86	5.81	5.75	5.70
32.000	5.65	5.60	5.55	5.50	5.45
32.250	5.40	5.35	5.30	5.26	5.21
32.500	5.16	5.12	5.07	5.02	4.98
32.750	4.93	4.89	4.85	4.80	4.76
33.000	4.72	4.67	4.63	4.59	4.55
33.250	4.51	4.47	4.43	4.39	4.35

Proposed Conditions

Subsection: Pond Routed Hydrograph (total out) Return Event: 100 years
Label: Old Longview Lake (OUT) Storm Event: 100-YEAR

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
33.500	4.31	4.27	4.23	4.19	4.16
33.750	4.12	4.08	4.04	4.01	3.97
34.000	3.94	3.90	3.87	3.83	3.80
34.250	3.76	3.73	3.70	3.66	3.63
34.500	3.60	3.56	3.53	3.50	3.47
34.750	3.44	3.41	3.38	3.35	3.32
35.000	3.29	3.26	3.23	3.20	3.17
35.250	3.14	3.11	3.08	3.06	3.03
35.500	3.00	2.97	2.95	2.92	2.90
35.750	2.87	2.84	2.82	2.79	2.77
36.000	2.74	2.72	2.69	2.67	2.65
36.250	2.62	2.60	2.57	2.55	2.53
36.500	2.51	2.48	2.46	2.44	2.42
36.750	2.39	2.37	2.35	2.33	2.31
37.000	2.29	2.27	2.25	2.23	2.21
37.250	2.19	2.17	2.15	2.13	2.11
37.500	2.09	2.07	2.05	2.04	2.02
37.750	2.00	1.98	1.96	1.95	1.93
38.000	1.91	1.89	1.88	1.86	1.84
38.250	1.83	1.81	1.79	1.78	1.76
38.500	1.75	1.73	1.71	1.70	1.68
38.750	1.67	1.65	1.64	1.62	1.61
39.000	1.59	1.58	1.57	1.55	1.54
39.250	1.52	1.51	1.50	1.48	1.47
39.500	1.46	1.44	1.43	1.42	1.41
39.750	1.39	1.38	1.37	1.36	1.34
40.000	1.33	1.32	1.31	1.30	1.28
40.250	1.27	1.26	1.25	1.24	1.23
40.500	1.22	1.21	1.19	1.18	1.17
40.750	1.16	1.15	1.14	1.13	1.12
41.000	1.11	1.10	1.09	1.08	1.07
41.250	1.06	1.05	1.04	1.03	1.02
41.500	1.02	1.01	1.00	0.99	0.98
41.750	0.97	0.96	0.95	0.94	0.94
42.000	0.93	0.92	0.91	0.90	0.89
42.250	0.89	0.88	0.87	0.86	0.86
42.500	0.85	0.84	0.83	0.82	0.82
42.750	0.81	0.80	0.80	0.79	0.78
43.000	0.77	0.77	0.76	0.75	0.75
43.250	0.74	0.73	0.73	0.72	0.71
43.500	0.71	0.70	0.69	0.69	0.68
43.750	0.68	0.67	0.66	0.66	0.65

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
44.000	0.65	0.64	0.63	0.63	0.62
44.250	0.62	0.61	0.61	0.60	0.60
44.500	0.59	0.59	0.58	0.57	0.57
44.750	0.56	0.56	0.55	0.55	0.54
45.000	0.54	0.53	0.53	0.52	0.52
45.250	0.52	0.51	0.51	0.50	0.50
45.500	0.49	0.49	0.48	0.48	0.48
45.750	0.47	0.47	0.46	0.46	0.45
46.000	0.45	0.45	0.44	0.44	0.43
46.250	0.43	0.43	0.42	0.42	0.42
46.500	0.41	0.41	0.40	0.40	0.40
46.750	0.39	0.39	0.39	0.38	0.38
47.000	0.38	0.37	0.37	0.37	0.36
47.250	0.36	0.36	0.35	0.35	0.35
47.500	0.34	0.34	0.34	0.33	0.33
47.750	0.33	0.33	0.32	0.32	0.32
48.000	0.31	0.31	0.31	0.31	0.30
48.250	0.30	0.30	0.29	0.29	0.29
48.500	0.29	0.28	0.28	0.28	0.28
48.750	0.27	0.27	0.27	0.27	0.26
49.000	0.26	0.26	0.26	0.25	0.25
49.250	0.25	0.25	0.25	0.24	0.24
49.500	0.24	0.24	0.23	0.23	0.23
49.750	0.23	0.23	0.22	0.22	0.22
50.000	0.22	0.22	0.21	0.21	0.21
50.250	0.21	0.21	0.21	0.20	0.20
50.500	0.20	0.20	0.20	0.19	0.19
50.750	0.19	0.19	0.19	0.19	0.18
51.000	0.18	0.18	0.18	0.18	0.18
51.250	0.17	0.17	0.17	0.17	0.17
51.500	0.17	0.17	0.16	0.16	0.16
51.750	0.16	0.16	0.16	0.16	0.15
52.000	0.15	0.15	0.15	0.15	0.15
52.250	0.15	0.14	0.14	0.14	0.14
52.500	0.14	0.14	0.14	0.14	0.13
52.750	0.13	0.13	0.13	0.13	0.13
53.000	0.13	0.13	0.12	0.12	0.12
53.250	0.12	0.12	0.12	0.12	0.12
53.500	0.12	0.12	0.11	0.11	0.11
53.750	0.11	0.11	0.11	0.11	0.11
54.000	0.11	0.11	0.10	0.10	0.10
54.250	0.10	0.10	0.10	0.10	0.10

Proposed Conditions

Subsection: Pond Routed Hydrograph (total out) Return Event: 100 years
Label: Old Longview Lake (OUT) Storm Event: 100-YEAR

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
54.500	0.10	0.10	0.10	0.09	0.09
54.750	0.09	0.09	0.09	0.09	0.09
55.000	0.09	0.09	0.09	0.09	0.09
55.250	0.08	0.08	0.08	0.08	0.08
55.500	0.08	0.08	0.08	0.08	0.08
55.750	0.08	0.08	0.08	0.08	0.07
56.000	0.07	0.07	0.07	0.07	0.07
56.250	0.07	0.07	0.07	0.07	0.07
56.500	0.07	0.07	0.07	0.07	0.07
56.750	0.06	0.06	0.06	0.06	0.06
57.000	0.06	0.06	0.06	0.06	0.06
57.250	0.06	0.06	0.06	0.06	0.06
57.500	0.06	0.06	0.06	0.05	0.05
57.750	0.05	0.05	0.05	0.05	0.05
58.000	0.05	0.05	0.05	0.05	0.05
58.250	0.05	0.05	0.05	0.05	0.05
58.500	0.05	0.05	0.05	0.05	0.05
58.750	0.04	0.04	0.04	0.04	0.04
59.000	0.04	0.04	0.04	0.04	0.04
59.250	0.04	0.04	0.04	0.04	0.04
59.500	0.04	0.04	0.04	0.04	0.04
59.750	0.04	0.04	0.04	0.04	0.04
60.000	0.04	0.04	0.04	0.03	0.03
60.250	0.03	0.03	0.03	0.03	0.03
60.500	0.03	0.03	0.03	0.03	0.03
60.750	0.03	0.03	0.03	0.03	0.03
61.000	0.03	0.03	0.03	0.03	0.03
61.250	0.03	0.03	0.03	0.03	0.03
61.500	0.03	0.03	0.03	0.03	0.03
61.750	0.03	0.03	0.03	0.03	0.03
62.000	0.02	0.02	0.02	0.02	0.02
62.250	0.02	0.02	0.02	0.02	0.02
62.500	0.02	0.02	0.02	0.02	0.02
62.750	0.02	0.02	0.02	0.02	0.02
63.000	0.02	0.02	0.02	0.02	0.02
63.250	0.02	0.02	0.02	0.02	0.02
63.500	0.02	0.02	0.02	0.02	0.02
63.750	0.02	0.02	0.02	0.02	0.02
64.000	0.02	0.02	0.02	0.02	0.02
64.250	0.02	0.02	0.02	0.02	0.02
64.500	0.02	0.02	0.02	0.02	0.02
64.750	0.02	0.02	0.01	0.01	0.01

Proposed Conditions

Subsection: Pond Routed Hydrograph (total out) Return Event: 100 years
Label: Old Longview Lake (OUT) Storm Event: 100-YEAR

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
65.000	0.01	0.01	0.01	0.01	0.01
65.250	0.01	0.01	0.01	0.01	0.01
65.500	0.01	0.01	0.01	0.01	0.01
65.750	0.01	0.01	0.01	0.01	0.01
66.000	0.01	0.01	0.01	0.01	0.01
66.250	0.01	0.01	0.01	0.01	0.01
66.500	0.01	0.01	0.01	0.01	0.01
66.750	0.01	0.01	0.01	0.01	0.01
67.000	0.01	0.01	0.01	0.01	0.01
67.250	0.01	0.01	0.01	0.01	0.01
67.500	0.01	0.01	0.01	0.01	0.01
67.750	0.01	0.01	0.01	0.01	0.01
68.000	0.01	0.01	0.01	0.01	0.01
68.250	0.01	0.01	0.01	0.01	0.01
68.500	0.01	0.01	0.01	0.01	0.01
68.750	0.01	0.01	0.01	0.01	0.01
69.000	0.01	0.01	0.01	0.01	0.01
69.250	0.01	0.01	0.01	0.01	0.01
69.500	0.01	0.01	0.01	0.01	0.01
69.750	0.01	0.01	0.01	0.01	0.01
70.000	0.01	0.01	0.01	0.01	0.01
70.250	0.01	0.01	0.01	0.01	0.01
70.500	0.01	0.01	0.01	0.01	0.01
70.750	0.01	0.01	0.01	0.01	0.00
71.000	0.00	0.00	0.00	0.00	0.00
71.250	0.00	0.00	0.00	0.00	0.00
71.500	0.00	0.00	0.00	0.00	0.00
71.750	0.00	0.00	0.00	0.00	0.00
72.000	0.00	(N/A)	(N/A)	(N/A)	(N/A)

Summary for Hydrograph Addition at 'Old Longview Lake'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	Old LL Subarea

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	Old LL Subarea	108.456	12.050	1,438.68
Flow (In)	Old Longview Lake	108.456	12.050	1,438.68

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300' Emergency Spillway

Project Summary	
Title	Old Longview Lake
Engineer	BHL
Company	Olsson Associates
Date	8/8/2018

Notes

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300' Emergency Spillway

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)
County Park Road DA	300' Spillway 929 Normal	100	11.373	12.050	155.08
Old LL Subarea	300' Spillway 929 Normal	100	108.456	12.050	1,438.68

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)
County Park Rd	300' Spillway 929 Normal	100	119.828	12.050	1,559.56

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
Old Longview Lake (IN)	300' Spillway 929 Normal	100	108.456	12.050	1,438.68	(N/A)	(N/A)
Old Longview Lake (OUT)	300' Spillway 929 Normal	100	108.456	12.050	1,404.48	933.43	0.043

300' Emergency Spillway

Subsection: Time-Depth Curve
Label: Jackson County

Return Event: 100 years
Storm Event: 100-YEAR

Time-Depth Curve: 100-YEAR	
Label	100-YEAR
Start Time	0.000 hours
Increment	0.100 hours
End Time	24.000 hours
Return Event	100 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
0.500	0.0	0.0	0.1	0.1	0.1
1.000	0.1	0.1	0.1	0.1	0.1
1.500	0.1	0.1	0.1	0.2	0.2
2.000	0.2	0.2	0.2	0.2	0.2
2.500	0.2	0.2	0.2	0.2	0.3
3.000	0.3	0.3	0.3	0.3	0.3
3.500	0.3	0.3	0.3	0.3	0.4
4.000	0.4	0.4	0.4	0.4	0.4
4.500	0.4	0.4	0.4	0.5	0.5
5.000	0.5	0.5	0.5	0.5	0.5
5.500	0.5	0.6	0.6	0.6	0.6
6.000	0.6	0.6	0.6	0.7	0.7
6.500	0.7	0.7	0.7	0.7	0.7
7.000	0.8	0.8	0.8	0.8	0.8
7.500	0.8	0.9	0.9	0.9	0.9
8.000	0.9	0.9	1.0	1.0	1.0
8.500	1.0	1.0	1.1	1.1	1.1
9.000	1.1	1.2	1.2	1.2	1.2
9.500	1.3	1.3	1.3	1.3	1.4
10.000	1.4	1.4	1.5	1.5	1.5
10.500	1.6	1.6	1.7	1.7	1.8
11.000	1.8	1.9	1.9	2.0	2.1
11.500	2.2	2.4	2.7	3.3	4.4
12.000	5.1	5.3	5.4	5.5	5.6
12.500	5.7	5.7	5.8	5.8	5.9
13.000	5.9	6.0	6.0	6.1	6.1
13.500	6.2	6.2	6.2	6.3	6.3
14.000	6.3	6.3	6.4	6.4	6.4
14.500	6.4	6.5	6.5	6.5	6.5
15.000	6.6	6.6	6.6	6.6	6.7
15.500	6.7	6.7	6.7	6.7	6.8
16.000	6.8	6.8	6.8	6.8	6.8
16.500	6.9	6.9	6.9	6.9	6.9

300' Emergency Spillway

Subsection: Time-Depth Curve
Label: Jackson County

Return Event: 100 years
Storm Event: 100-YEAR

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
17.000	6.9	7.0	7.0	7.0	7.0
17.500	7.0	7.0	7.0	7.1	7.1
18.000	7.1	7.1	7.1	7.1	7.1
18.500	7.2	7.2	7.2	7.2	7.2
19.000	7.2	7.2	7.2	7.3	7.3
19.500	7.3	7.3	7.3	7.3	7.3
20.000	7.3	7.3	7.4	7.4	7.4
20.500	7.4	7.4	7.4	7.4	7.4
21.000	7.4	7.4	7.4	7.5	7.5
21.500	7.5	7.5	7.5	7.5	7.5
22.000	7.5	7.5	7.5	7.6	7.6
22.500	7.6	7.6	7.6	7.6	7.6
23.000	7.6	7.6	7.6	7.6	7.6
23.500	7.7	7.7	7.7	7.7	7.7
24.000	7.7	(N/A)	(N/A)	(N/A)	(N/A)

300' Emergency Spillway

Subsection: Time of Concentration Calculations
Label: County Park Road DA

Return Event: 100 years
Storm Event: 100-YEAR

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	100.00 ft
Manning's n	0.150
Slope	0.010 ft/ft
2 Year 24 Hour Depth	3.6 in
Average Velocity	0.14 ft/s
Segment Time of Concentration	0.203 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	1,000.00 ft
Is Paved?	False
Slope	0.069 ft/ft
Average Velocity	4.24 ft/s
Segment Time of Concentration	0.066 hours

Segment #3: Length and Velocity	
Hydraulic Length	319.00 ft
Velocity	7.00 ft/s
Segment Time of Concentration	0.013 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.281 hours

300' Emergency Spillway

Subsection: Time of Concentration Calculations
Label: County Park Road DA

Return Event: 100 years
Storm Event: 100-YEAR

==== User Defined Length & Velocity

Tc =	(Lf / V) / 3600
Where:	Tc= Time of concentration, hours Lf= Flow length, feet V= Velocity, ft/sec

==== SCS Channel Flow

Tc =	R = Qa / Wp V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n (Lf / V) / 3600
Where:	R= Hydraulic radius Aq= Flow area, square feet Wp= Wetted perimeter, feet V= Velocity, ft/sec Sf= Slope, ft/ft n= Manning's n Tc= Time of concentration, hours Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc =	Unpaved surface: V = 16.1345 * (Sf**0.5) Paved Surface: V = 20.3282 * (Sf**0.5) (Lf / V) / 3600
Where:	V= Velocity, ft/sec Sf= Slope, ft/ft Tc= Time of concentration, hours Lf= Flow length, feet

300' Emergency Spillway

Subsection: Time of Concentration Calculations
Label: Old LL Subarea

Return Event: 100 years
Storm Event: 100-YEAR

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	100.00 ft
Manning's n	0.150
Slope	0.030 ft/ft
2 Year 24 Hour Depth	3.6 in
Average Velocity	0.21 ft/s
Segment Time of Concentration	0.131 hours

Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	508.00 ft
Is Paved?	False
Slope	0.013 ft/ft
Average Velocity	1.84 ft/s
Segment Time of Concentration	0.077 hours

Segment #3: Length and Velocity	
Hydraulic Length	2,419.00 ft
Velocity	10.00 ft/s
Segment Time of Concentration	0.067 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.275 hours

==== User Defined Length & Velocity

Tc =	(Lf / V) / 3600
Where:	Tc= Time of concentration, hours Lf= Flow length, feet V= Velocity, ft/sec

==== SCS Channel Flow

Tc =	R = Qa / Wp V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n (Lf / V) / 3600
Where:	R= Hydraulic radius Aq= Flow area, square feet Wp= Wetted perimeter, feet V= Velocity, ft/sec Sf= Slope, ft/ft n= Manning's n Tc= Time of concentration, hours Lf= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Tc =	Unpaved surface: V = 16.1345 * (Sf**0.5) Paved Surface: V = 20.3282 * (Sf**0.5) (Lf / V) / 3600
Where:	V= Velocity, ft/sec Sf= Slope, ft/ft Tc= Time of concentration, hours Lf= Flow length, feet

300' Emergency Spillway

Subsection: Runoff CN-Area
Label: County Park Road DA

Return Event: 100 years
Storm Event: 100-YEAR

Runoff Curve Number Data

Soil/Surface Description	CN	Area (acres)	C (%)	UC (%)	Adjusted CN
Open Space HSG D	80.000	20.700	0.0	0.0	80.000
Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil C	74.000	5.400	0.0	0.0	74.000
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	26.100	(N/A)	(N/A)	78.759

300' Emergency Spillway

Subsection: Runoff CN-Area
Label: Old LL Subarea

Return Event: 100 years
Storm Event: 100-YEAR

Runoff Curve Number Data

Soil/Surface Description	CN	Area (acres)	C (%)	UC (%)	Adjusted CN
Single Family Residential- Soil Group C	82.000	13.900	0.0	0.0	82.000
Single Family Residential (1/3 acre lots)- Soil Group D*	86.000	94.800	0.0	0.0	86.000
Single Family Residential (Dense)- Soil Group C*	87.000	2.500	0.0	0.0	87.000
Single Family Residential (Dense)- Soil Group D*	90.000	49.000	0.0	0.0	90.000
Commercial - Soil Group D*	95.000	7.500	0.0	0.0	95.000
Elementary School - Soil Group D*	93.000	6.400	0.0	0.0	93.000
Park – Soil Group C	74.000	3.500	0.0	0.0	74.000
Park - Soil Group D*	80.000	9.000	0.0	0.0	80.000
Lake	98.000	20.800	0.0	0.0	98.000
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	207.400	(N/A)	(N/A)	87.971

300' Emergency Spillway

Subsection: Unit Hydrograph Summary
Label: County Park Road DA

Return Event: 100 years
Storm Event: 100-YEAR

Storm Event	100-YEAR
Return Event	100 years
Duration	72.000 hours
Depth	7.7 in
Time of Concentration (Composite)	0.281 hours
Area (User Defined)	26.100 acres

Computational Time Increment	0.038 hours
Time to Peak (Computed)	12.042 hours
Flow (Peak, Computed)	155.40 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	155.08 ft³/s

Drainage Area	
SCS CN (Composite)	79.000
Area (User Defined)	26.100 acres
Maximum Retention (Pervious)	2.7 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.2 in
Runoff Volume (Pervious)	11.374 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	11.373 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.281 hours
Computational Time Increment	0.038 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

300' Emergency Spillway

Subsection: Unit Hydrograph Summary
Label: County Park Road DA

Return Event: 100 years
Storm Event: 100-YEAR

SCS Unit Hydrograph Parameters	
Unit peak, qp	105.11 ft³/s
Unit peak time, Tp	0.188 hours
Unit receding limb, Tr	0.750 hours
Total unit time, Tb	0.938 hours

300' Emergency Spillway

Subsection: Unit Hydrograph Summary
Label: Old LL Subarea

Return Event: 100 years
Storm Event: 100-YEAR

Storm Event	100-YEAR
Return Event	100 years
Duration	72.000 hours
Depth	7.7 in
Time of Concentration (Composite)	0.275 hours
Area (User Defined)	207.400 acres

Computational Time Increment	0.037 hours
Time to Peak (Computed)	12.055 hours
Flow (Peak, Computed)	1,441.56 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.050 hours
Flow (Peak Interpolated Output)	1,438.68 ft³/s

Drainage Area	
SCS CN (Composite)	88.000
Area (User Defined)	207.400 acres
Maximum Retention (Pervious)	1.4 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	6.3 in
Runoff Volume (Pervious)	108.457 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	108.456 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.275 hours
Computational Time Increment	0.037 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

300' Emergency Spillway

Subsection: Unit Hydrograph Summary
Label: Old LL Subarea

Return Event: 100 years
Storm Event: 100-YEAR

SCS Unit Hydrograph Parameters	
Unit peak, qp	855.11 ft³/s
Unit peak time, Tp	0.183 hours
Unit receding limb, Tr	0.733 hours
Total unit time, Tb	0.916 hours

300' Emergency Spillway

Subsection: Time vs. Elevation
Label: Old Longview Lake (OUT)

Return Event: 100 years
Storm Event: 100-YEAR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	932.02	932.02	932.02	932.02	932.02
0.250	932.02	932.02	932.02	932.02	932.02
0.500	932.02	932.02	932.02	932.02	932.02
0.750	932.02	932.02	932.02	932.02	932.02
1.000	932.02	932.02	932.02	932.02	932.02
1.250	932.02	932.02	932.02	932.02	932.02
1.500	932.02	932.02	932.02	932.02	932.02
1.750	932.02	932.02	932.02	932.02	932.02
2.000	932.02	932.02	932.02	932.02	932.02
2.250	932.02	932.02	932.02	932.02	932.02
2.500	932.02	932.02	932.02	932.02	932.02
2.750	932.02	932.02	932.02	932.02	932.02
3.000	932.02	932.02	932.02	932.02	932.03
3.250	932.05	932.10	932.10	932.10	932.10
3.500	932.10	932.10	932.10	932.10	932.10
3.750	932.10	932.10	932.10	932.10	932.10
4.000	932.10	932.10	932.10	932.10	932.10
4.250	932.11	932.11	932.11	932.11	932.11
4.500	932.11	932.11	932.11	932.11	932.11
4.750	932.11	932.11	932.11	932.11	932.11
5.000	932.11	932.11	932.11	932.11	932.11
5.250	932.11	932.11	932.11	932.11	932.11
5.500	932.11	932.11	932.11	932.11	932.11
5.750	932.12	932.12	932.12	932.12	932.12
6.000	932.12	932.12	932.12	932.12	932.12
6.250	932.12	932.12	932.12	932.12	932.12
6.500	932.12	932.12	932.12	932.12	932.12
6.750	932.12	932.12	932.12	932.12	932.12
7.000	932.12	932.12	932.12	932.13	932.13
7.250	932.13	932.13	932.13	932.13	932.13
7.500	932.13	932.13	932.13	932.13	932.13
7.750	932.13	932.13	932.13	932.13	932.13
8.000	932.13	932.13	932.13	932.13	932.13
8.250	932.13	932.14	932.14	932.14	932.14
8.500	932.14	932.14	932.14	932.14	932.14
8.750	932.14	932.15	932.15	932.15	932.15
9.000	932.15	932.15	932.15	932.15	932.15
9.250	932.16	932.16	932.16	932.16	932.16
9.500	932.16	932.16	932.16	932.16	932.16
9.750	932.16	932.16	932.16	932.17	932.17
10.000	932.17	932.17	932.17	932.18	932.18

300' Emergency Spillway

Subsection: Time vs. Elevation
Label: Old Longview Lake (OUT)

Return Event: 100 years
Storm Event: 100-YEAR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
10.250	932.18	932.18	932.19	932.19	932.19
10.500	932.19	932.20	932.20	932.20	932.21
10.750	932.21	932.21	932.22	932.22	932.23
11.000	932.23	932.24	932.24	932.25	932.26
11.250	932.27	932.28	932.29	932.30	932.31
11.500	932.32	932.34	932.37	932.43	932.52
11.750	932.60	932.70	932.85	933.02	933.19
12.000	933.34	933.43	933.42	933.31	933.15
12.250	933.00	932.83	932.71	932.64	932.58
12.500	932.54	932.51	932.46	932.42	932.39
12.750	932.36	932.35	932.33	932.32	932.31
13.000	932.30	932.29	932.29	932.28	932.27
13.250	932.27	932.26	932.26	932.25	932.25
13.500	932.25	932.24	932.24	932.24	932.23
13.750	932.23	932.23	932.22	932.22	932.22
14.000	932.21	932.21	932.21	932.21	932.20
14.250	932.20	932.20	932.20	932.20	932.20
14.500	932.20	932.20	932.19	932.19	932.19
14.750	932.19	932.19	932.19	932.19	932.19
15.000	932.19	932.19	932.18	932.18	932.18
15.250	932.18	932.18	932.18	932.18	932.18
15.500	932.18	932.18	932.18	932.17	932.17
15.750	932.17	932.17	932.17	932.17	932.17
16.000	932.17	932.17	932.17	932.16	932.16
16.250	932.16	932.16	932.16	932.16	932.16
16.500	932.16	932.16	932.16	932.16	932.16
16.750	932.16	932.16	932.16	932.16	932.16
17.000	932.16	932.16	932.16	932.16	932.16
17.250	932.16	932.16	932.16	932.16	932.15
17.500	932.15	932.15	932.15	932.15	932.15
17.750	932.15	932.15	932.15	932.15	932.15
18.000	932.15	932.15	932.15	932.15	932.15
18.250	932.15	932.15	932.15	932.15	932.15
18.500	932.15	932.15	932.15	932.15	932.15
18.750	932.15	932.15	932.15	932.14	932.14
19.000	932.14	932.14	932.14	932.14	932.14
19.250	932.14	932.14	932.14	932.14	932.14
19.500	932.14	932.14	932.14	932.14	932.14
19.750	932.14	932.14	932.14	932.14	932.14
20.000	932.14	932.14	932.14	932.14	932.14
20.250	932.14	932.14	932.14	932.14	932.14

300' Emergency Spillway

Subsection: Time vs. Elevation
Label: Old Longview Lake (OUT)

Return Event: 100 years
Storm Event: 100-YEAR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
20.500	932.14	932.14	932.14	932.14	932.14
20.750	932.14	932.13	932.13	932.13	932.13
21.000	932.13	932.13	932.13	932.13	932.13
21.250	932.13	932.13	932.13	932.13	932.13
21.500	932.13	932.13	932.13	932.13	932.13
21.750	932.13	932.13	932.13	932.13	932.13
22.000	932.13	932.13	932.13	932.13	932.13
22.250	932.13	932.13	932.13	932.13	932.13
22.500	932.13	932.13	932.13	932.13	932.13
22.750	932.13	932.13	932.13	932.13	932.13
23.000	932.13	932.13	932.13	932.13	932.13
23.250	932.13	932.13	932.13	932.13	932.13
23.500	932.13	932.13	932.13	932.13	932.13
23.750	932.13	932.13	932.13	932.13	932.13
24.000	932.13	932.13	932.13	932.12	932.12
24.250	932.11	932.11	932.10	932.10	932.05
24.500	932.10	932.05	932.10	932.10	932.10
24.750	932.09	932.10	932.10	932.10	932.10
25.000	932.10	932.10	932.10	932.10	932.10
25.250	932.10	932.10	932.10	932.10	932.10
25.500	932.10	932.10	932.10	932.10	932.10
25.750	932.10	932.10	932.10	932.10	932.10
26.000	932.10	932.10	932.10	932.10	932.10
26.250	932.10	932.10	932.10	932.10	932.10
26.500	932.10	932.10	932.10	932.10	932.10
26.750	932.10	932.10	932.10	932.10	932.10
27.000	932.10	932.10	932.10	932.10	932.10
27.250	932.10	932.10	932.10	932.10	932.10
27.500	932.10	932.10	932.10	932.10	932.10
27.750	932.10	932.10	932.10	932.10	932.10
28.000	932.10	932.10	932.10	932.10	932.10
28.250	932.10	932.10	932.10	932.10	932.10
28.500	932.10	932.10	932.10	932.10	932.10
28.750	932.10	932.10	932.10	932.10	932.10
29.000	932.10	932.10	932.10	932.10	932.10
29.250	932.10	932.10	932.10	932.10	932.10
29.500	932.10	932.10	932.10	932.10	932.10
29.750	932.10	932.10	932.10	932.10	932.10
30.000	932.10	932.10	932.10	932.10	932.10
30.250	932.10	932.10	932.10	932.10	932.10
30.500	932.10	932.10	932.10	932.10	932.10

300' Emergency Spillway

Subsection: Time vs. Elevation
Label: Old Longview Lake (OUT)

Return Event: 100 years
Storm Event: 100-YEAR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
30.750	932.10	932.10	932.10	932.10	932.10
31.000	932.10	932.10	932.10	932.10	932.10
31.250	932.10	932.10	932.10	932.10	932.10
31.500	932.10	932.10	932.10	932.10	932.10
31.750	932.10	932.10	932.10	932.10	932.10
32.000	932.10	932.10	932.10	932.10	932.10
32.250	932.10	932.10	932.10	932.10	932.10
32.500	932.10	932.10	932.10	932.10	932.10
32.750	932.10	932.10	932.10	932.10	932.10
33.000	932.10	932.10	932.10	932.10	932.10
33.250	932.10	932.10	932.10	932.10	932.10
33.500	932.10	932.10	932.10	932.10	932.10
33.750	932.10	932.10	932.10	932.10	932.10
34.000	932.10	932.10	932.10	932.10	932.10
34.250	932.10	932.10	932.10	932.10	932.10
34.500	932.10	932.10	932.10	932.10	932.10
34.750	932.10	932.10	932.10	932.10	932.10
35.000	932.10	932.10	932.10	932.10	932.10
35.250	932.10	932.10	932.10	932.10	932.10
35.500	932.10	932.10	932.10	932.10	932.10
35.750	932.10	932.10	932.10	932.10	932.10
36.000	932.10	932.10	932.10	932.10	932.10
36.250	932.10	932.10	932.10	932.10	932.10
36.500	932.10	932.10	932.10	932.10	932.10
36.750	932.10	932.10	932.10	932.10	932.10
37.000	932.10	932.10	932.10	932.10	932.10
37.250	932.10	932.10	932.10	932.10	932.10
37.500	932.10	932.10	932.10	932.10	932.10
37.750	932.10	932.10	932.10	932.10	932.10
38.000	932.10	932.10	932.10	932.10	932.10
38.250	932.10	932.10	932.10	932.10	932.10
38.500	932.10	932.10	932.10	932.10	932.10
38.750	932.10	932.10	932.10	932.10	932.10
39.000	932.10	932.10	932.10	932.10	932.10
39.250	932.10	932.10	932.10	932.10	932.10
39.500	932.10	932.10	932.10	932.10	932.10
39.750	932.10	932.10	932.10	932.10	932.10
40.000	932.10	932.10	932.10	932.10	932.10
40.250	932.10	932.10	932.10	932.10	932.10
40.500	932.10	932.10	932.10	932.10	932.10
40.750	932.10	932.10	932.10	932.10	932.10

300' Emergency Spillway

Subsection: Time vs. Elevation
Label: Old Longview Lake (OUT)

Return Event: 100 years
Storm Event: 100-YEAR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
41.000	932.10	932.10	932.10	932.10	932.10
41.250	932.10	932.10	932.10	932.10	932.10
41.500	932.10	932.10	932.10	932.10	932.10
41.750	932.10	932.10	932.10	932.10	932.10
42.000	932.10	932.10	932.10	932.10	932.10
42.250	932.10	932.10	932.10	932.10	932.10
42.500	932.10	932.10	932.10	932.10	932.10
42.750	932.10	932.10	932.10	932.10	932.10
43.000	932.10	932.10	932.10	932.10	932.10
43.250	932.10	932.10	932.10	932.10	932.10
43.500	932.10	932.10	932.10	932.10	932.10
43.750	932.10	932.10	932.10	932.10	932.10
44.000	932.10	932.10	932.10	932.10	932.10
44.250	932.10	932.10	932.10	932.10	932.10
44.500	932.10	932.10	932.10	932.10	932.10
44.750	932.10	932.10	932.10	932.10	932.10
45.000	932.10	932.10	932.10	932.10	932.10
45.250	932.10	932.10	932.10	932.10	932.10
45.500	932.10	932.10	932.10	932.10	932.10
45.750	932.10	932.10	932.10	932.10	932.10
46.000	932.10	932.10	932.10	932.10	932.10
46.250	932.10	932.10	932.10	932.10	932.10
46.500	932.10	932.10	932.10	932.10	932.10
46.750	932.10	932.10	932.10	932.10	932.10
47.000	932.10	932.10	932.10	932.10	932.10
47.250	932.10	932.10	932.10	932.10	932.10
47.500	932.10	932.10	932.10	932.10	932.10
47.750	932.10	932.10	932.10	932.10	932.10
48.000	932.10	932.10	932.10	932.10	932.10
48.250	932.10	932.10	932.10	932.10	932.10
48.500	932.10	932.10	932.10	932.10	932.10
48.750	932.10	932.10	932.10	932.10	932.10
49.000	932.10	932.10	932.10	932.10	932.10
49.250	932.10	932.10	932.10	932.10	932.10
49.500	932.10	932.10	932.10	932.10	932.10
49.750	932.10	932.10	932.10	932.10	932.10
50.000	932.10	932.10	932.10	932.10	932.10
50.250	932.10	932.10	932.10	932.10	932.10
50.500	932.10	932.10	932.10	932.10	932.10
50.750	932.10	932.10	932.10	932.10	932.10
51.000	932.10	932.10	932.10	932.10	932.10

300' Emergency Spillway

Subsection: Time vs. Elevation
Label: Old Longview Lake (OUT)

Return Event: 100 years
Storm Event: 100-YEAR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
51.250	932.10	932.10	932.10	932.10	932.10
51.500	932.10	932.10	932.10	932.10	932.10
51.750	932.10	932.10	932.10	932.10	932.10
52.000	932.10	932.10	932.10	932.10	932.10
52.250	932.10	932.10	932.10	932.10	932.10
52.500	932.10	932.10	932.10	932.10	932.10
52.750	932.10	932.10	932.10	932.10	932.10
53.000	932.10	932.10	932.10	932.10	932.10
53.250	932.10	932.10	932.10	932.10	932.10
53.500	932.10	932.10	932.10	932.10	932.10
53.750	932.10	932.10	932.10	932.10	932.10
54.000	932.10	932.10	932.10	932.10	932.10
54.250	932.10	932.10	932.10	932.10	932.10
54.500	932.10	932.10	932.10	932.10	932.10
54.750	932.10	932.10	932.10	932.10	932.10
55.000	932.10	932.10	932.10	932.10	932.10
55.250	932.10	932.10	932.10	932.10	932.10
55.500	932.10	932.10	932.10	932.10	932.10
55.750	932.10	932.10	932.10	932.10	932.10
56.000	932.10	932.10	932.10	932.10	932.10
56.250	932.10	932.10	932.10	932.10	932.10
56.500	932.10	932.10	932.10	932.10	932.10
56.750	932.10	932.10	932.10	932.10	932.10
57.000	932.10	932.10	932.10	932.10	932.10
57.250	932.10	932.10	932.10	932.10	932.10
57.500	932.10	932.10	932.10	932.10	932.10
57.750	932.10	932.10	932.10	932.10	932.10
58.000	932.10	932.10	932.10	932.10	932.10
58.250	932.10	932.10	932.10	932.10	932.10
58.500	932.10	932.10	932.10	932.10	932.10
58.750	932.10	932.10	932.10	932.10	932.10
59.000	932.10	932.10	932.10	932.10	932.10
59.250	932.10	932.10	932.10	932.10	932.10
59.500	932.10	932.10	932.10	932.10	932.10
59.750	932.10	932.10	932.10	932.10	932.10
60.000	932.10	932.10	932.10	932.10	932.10
60.250	932.10	932.10	932.10	932.10	932.10
60.500	932.10	932.10	932.10	932.10	932.10
60.750	932.10	932.10	932.10	932.10	932.10
61.000	932.10	932.10	932.10	932.10	932.10
61.250	932.10	932.10	932.10	932.10	932.10

300' Emergency Spillway

Subsection: Time vs. Elevation
Label: Old Longview Lake (OUT)

Return Event: 100 years
Storm Event: 100-YEAR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
61.500	932.10	932.10	932.10	932.10	932.10
61.750	932.10	932.10	932.10	932.10	932.10
62.000	932.10	932.10	932.10	932.10	932.10
62.250	932.10	932.10	932.10	932.10	932.10
62.500	932.10	932.10	932.10	932.10	932.10
62.750	932.10	932.10	932.10	932.10	932.10
63.000	932.10	932.10	932.10	932.10	932.10
63.250	932.10	932.10	932.10	932.10	932.10
63.500	932.10	932.10	932.10	932.10	932.10
63.750	932.10	932.10	932.10	932.10	932.10
64.000	932.10	932.10	932.10	932.10	932.10
64.250	932.10	932.10	932.10	932.10	932.10
64.500	932.10	932.10	932.10	932.10	932.10
64.750	932.10	932.10	932.10	932.10	932.10
65.000	932.10	932.10	932.10	932.10	932.10
65.250	932.10	932.10	932.10	932.10	932.10
65.500	932.10	932.10	932.10	932.10	932.10
65.750	932.10	932.10	932.10	932.10	932.10
66.000	932.10	932.10	932.10	932.10	932.10
66.250	932.10	932.10	932.10	932.10	932.10
66.500	932.10	932.10	932.10	932.10	932.10
66.750	932.10	932.10	932.10	932.10	932.10
67.000	932.10	932.10	932.10	932.10	932.10
67.250	932.10	932.10	932.10	932.10	932.10
67.500	932.10	932.10	932.10	932.10	932.10
67.750	932.10	932.10	932.10	932.10	932.10
68.000	932.10	932.10	932.10	932.10	932.10
68.250	932.10	932.10	932.10	932.10	932.10
68.500	932.10	932.10	932.10	932.10	932.10
68.750	932.10	932.10	932.10	932.10	932.10
69.000	932.10	932.10	932.10	932.10	932.10
69.250	932.10	932.10	932.10	932.10	932.10
69.500	932.10	932.10	932.10	932.10	932.10
69.750	932.10	932.10	932.10	932.10	932.10
70.000	932.10	932.10	932.10	932.10	932.10
70.250	932.10	932.10	932.10	932.10	932.10
70.500	932.10	932.10	932.10	932.10	932.10
70.750	932.10	932.10	932.10	932.10	932.10
71.000	932.10	932.10	932.10	932.10	932.10
71.250	932.10	932.10	932.10	932.10	932.10
71.500	932.10	932.10	932.10	932.10	932.10

300' Emergency Spillway

Subsection: Time vs. Elevation
Label: Old Longview Lake (OUT)

Return Event: 100 years
Storm Event: 100-YEAR

Time vs. Elevation (ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
71.750	932.10	932.10	932.10	932.10	932.10
72.000	932.10	(N/A)	(N/A)	(N/A)	(N/A)

300' Emergency Spillway

Subsection: Time vs. Volume
Label: Old Longview Lake

Return Event: 100 years
Storm Event: 100-YEAR

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
0.000	0.019	0.019	0.019	0.019	0.019
0.250	0.019	0.019	0.019	0.019	0.019
0.500	0.019	0.019	0.019	0.019	0.019
0.750	0.019	0.019	0.019	0.019	0.019
1.000	0.019	0.019	0.019	0.019	0.019
1.250	0.019	0.019	0.019	0.019	0.019
1.500	0.019	0.019	0.019	0.019	0.019
1.750	0.019	0.019	0.019	0.019	0.019
2.000	0.019	0.019	0.019	0.019	0.019
2.250	0.019	0.019	0.019	0.019	0.019
2.500	0.019	0.019	0.019	0.019	0.019
2.750	0.019	0.019	0.019	0.019	0.019
3.000	0.019	0.019	0.019	0.019	0.019
3.250	0.020	0.020	0.020	0.020	0.020
3.500	0.020	0.020	0.020	0.020	0.020
3.750	0.020	0.020	0.020	0.020	0.020
4.000	0.020	0.020	0.020	0.020	0.020
4.250	0.020	0.020	0.020	0.020	0.020
4.500	0.020	0.020	0.020	0.020	0.020
4.750	0.020	0.020	0.020	0.020	0.020
5.000	0.020	0.020	0.020	0.020	0.020
5.250	0.020	0.020	0.020	0.020	0.020
5.500	0.020	0.020	0.020	0.020	0.020
5.750	0.020	0.020	0.020	0.020	0.020
6.000	0.020	0.020	0.020	0.020	0.020
6.250	0.020	0.020	0.020	0.020	0.020
6.500	0.020	0.020	0.020	0.020	0.020
6.750	0.020	0.020	0.020	0.020	0.020
7.000	0.020	0.020	0.020	0.020	0.020
7.250	0.020	0.020	0.020	0.020	0.020
7.500	0.020	0.020	0.020	0.020	0.020
7.750	0.020	0.020	0.020	0.020	0.020
8.000	0.020	0.020	0.020	0.020	0.020
8.250	0.020	0.020	0.020	0.020	0.020
8.500	0.020	0.020	0.020	0.021	0.021
8.750	0.021	0.021	0.021	0.021	0.021
9.000	0.021	0.021	0.021	0.021	0.021
9.250	0.021	0.021	0.021	0.021	0.021
9.500	0.021	0.021	0.021	0.021	0.021
9.750	0.021	0.021	0.021	0.021	0.021
10.000	0.021	0.021	0.021	0.021	0.021

300' Emergency Spillway

Subsection: Time vs. Volume
Label: Old Longview Lake

Return Event: 100 years
Storm Event: 100-YEAR

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
10.250	0.021	0.021	0.021	0.021	0.021
10.500	0.021	0.021	0.021	0.021	0.021
10.750	0.021	0.021	0.021	0.021	0.022
11.000	0.022	0.022	0.022	0.022	0.022
11.250	0.022	0.022	0.022	0.022	0.022
11.500	0.023	0.023	0.023	0.024	0.025
11.750	0.027	0.028	0.031	0.034	0.038
12.000	0.041	0.043	0.043	0.040	0.037
12.250	0.034	0.030	0.028	0.027	0.026
12.500	0.026	0.025	0.025	0.024	0.024
12.750	0.023	0.023	0.023	0.023	0.022
13.000	0.022	0.022	0.022	0.022	0.022
13.250	0.022	0.022	0.022	0.022	0.022
13.500	0.022	0.022	0.022	0.022	0.022
13.750	0.022	0.021	0.021	0.021	0.021
14.000	0.021	0.021	0.021	0.021	0.021
14.250	0.021	0.021	0.021	0.021	0.021
14.500	0.021	0.021	0.021	0.021	0.021
14.750	0.021	0.021	0.021	0.021	0.021
15.000	0.021	0.021	0.021	0.021	0.021
15.250	0.021	0.021	0.021	0.021	0.021
15.500	0.021	0.021	0.021	0.021	0.021
15.750	0.021	0.021	0.021	0.021	0.021
16.000	0.021	0.021	0.021	0.021	0.021
16.250	0.021	0.021	0.021	0.021	0.021
16.500	0.021	0.021	0.021	0.021	0.021
16.750	0.021	0.021	0.021	0.021	0.021
17.000	0.021	0.021	0.021	0.021	0.021
17.250	0.021	0.021	0.021	0.021	0.021
17.500	0.021	0.021	0.021	0.021	0.021
17.750	0.021	0.021	0.021	0.021	0.021
18.000	0.021	0.021	0.021	0.021	0.021
18.250	0.021	0.021	0.021	0.021	0.021
18.500	0.021	0.021	0.021	0.021	0.021
18.750	0.021	0.021	0.021	0.021	0.021
19.000	0.021	0.021	0.021	0.021	0.021
19.250	0.021	0.021	0.021	0.021	0.020
19.500	0.020	0.020	0.020	0.020	0.020
19.750	0.020	0.020	0.020	0.020	0.020
20.000	0.020	0.020	0.020	0.020	0.020
20.250	0.020	0.020	0.020	0.020	0.020

300' Emergency Spillway

Subsection: Time vs. Volume
Label: Old Longview Lake

Return Event: 100 years
Storm Event: 100-YEAR

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
20.500	0.020	0.020	0.020	0.020	0.020
20.750	0.020	0.020	0.020	0.020	0.020
21.000	0.020	0.020	0.020	0.020	0.020
21.250	0.020	0.020	0.020	0.020	0.020
21.500	0.020	0.020	0.020	0.020	0.020
21.750	0.020	0.020	0.020	0.020	0.020
22.000	0.020	0.020	0.020	0.020	0.020
22.250	0.020	0.020	0.020	0.020	0.020
22.500	0.020	0.020	0.020	0.020	0.020
22.750	0.020	0.020	0.020	0.020	0.020
23.000	0.020	0.020	0.020	0.020	0.020
23.250	0.020	0.020	0.020	0.020	0.020
23.500	0.020	0.020	0.020	0.020	0.020
23.750	0.020	0.020	0.020	0.020	0.020
24.000	0.020	0.020	0.020	0.020	0.020
24.250	0.020	0.020	0.020	0.020	0.019
24.500	0.020	0.019	0.020	0.020	0.020
24.750	0.020	0.020	0.020	0.020	0.020
25.000	0.020	0.020	0.020	0.020	0.020
25.250	0.020	0.020	0.020	0.020	0.020
25.500	0.020	0.020	0.020	0.020	0.020
25.750	0.020	0.020	0.020	0.020	0.020
26.000	0.020	0.020	0.020	0.020	0.020
26.250	0.020	0.020	0.020	0.020	0.020
26.500	0.020	0.020	0.020	0.020	0.020
26.750	0.020	0.020	0.020	0.020	0.020
27.000	0.020	0.020	0.020	0.020	0.020
27.250	0.020	0.020	0.020	0.020	0.020
27.500	0.020	0.020	0.020	0.020	0.020
27.750	0.020	0.020	0.020	0.020	0.020
28.000	0.020	0.020	0.020	0.020	0.020
28.250	0.020	0.020	0.020	0.020	0.020
28.500	0.020	0.020	0.020	0.020	0.020
28.750	0.020	0.020	0.020	0.020	0.020
29.000	0.020	0.020	0.020	0.020	0.020
29.250	0.020	0.020	0.020	0.020	0.020
29.500	0.020	0.020	0.020	0.020	0.020
29.750	0.020	0.020	0.020	0.020	0.020
30.000	0.020	0.020	0.020	0.020	0.020
30.250	0.020	0.020	0.020	0.020	0.020
30.500	0.020	0.020	0.020	0.020	0.020

300' Emergency Spillway

Subsection: Time vs. Volume
Label: Old Longview Lake

Return Event: 100 years
Storm Event: 100-YEAR

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
30.750	0.020	0.020	0.020	0.020	0.020
31.000	0.020	0.020	0.020	0.020	0.020
31.250	0.020	0.020	0.020	0.020	0.020
31.500	0.020	0.020	0.020	0.020	0.020
31.750	0.020	0.020	0.020	0.020	0.020
32.000	0.020	0.020	0.020	0.020	0.020
32.250	0.020	0.020	0.020	0.020	0.020
32.500	0.020	0.020	0.020	0.020	0.020
32.750	0.020	0.020	0.020	0.020	0.020
33.000	0.020	0.020	0.020	0.020	0.020
33.250	0.020	0.020	0.020	0.020	0.020
33.500	0.020	0.020	0.020	0.020	0.020
33.750	0.020	0.020	0.020	0.020	0.020
34.000	0.020	0.020	0.020	0.020	0.020
34.250	0.020	0.020	0.020	0.020	0.020
34.500	0.020	0.020	0.020	0.020	0.020
34.750	0.020	0.020	0.020	0.020	0.020
35.000	0.020	0.020	0.020	0.020	0.020
35.250	0.020	0.020	0.020	0.020	0.020
35.500	0.020	0.020	0.020	0.020	0.020
35.750	0.020	0.020	0.020	0.020	0.020
36.000	0.020	0.020	0.020	0.020	0.020
36.250	0.020	0.020	0.020	0.020	0.020
36.500	0.020	0.020	0.020	0.020	0.020
36.750	0.020	0.020	0.020	0.020	0.020
37.000	0.020	0.020	0.020	0.020	0.020
37.250	0.020	0.020	0.020	0.020	0.020
37.500	0.020	0.020	0.020	0.020	0.020
37.750	0.020	0.020	0.020	0.020	0.020
38.000	0.020	0.020	0.020	0.020	0.020
38.250	0.020	0.020	0.020	0.020	0.020
38.500	0.020	0.020	0.020	0.020	0.020
38.750	0.020	0.020	0.020	0.020	0.020
39.000	0.020	0.020	0.020	0.020	0.020
39.250	0.020	0.020	0.020	0.020	0.020
39.500	0.020	0.020	0.020	0.020	0.020
39.750	0.020	0.020	0.020	0.020	0.020
40.000	0.020	0.020	0.020	0.020	0.020
40.250	0.020	0.020	0.020	0.020	0.020
40.500	0.020	0.020	0.020	0.020	0.020
40.750	0.020	0.020	0.020	0.020	0.020

300' Emergency Spillway

Subsection: Time vs. Volume
Label: Old Longview Lake

Return Event: 100 years
Storm Event: 100-YEAR

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
41.000	0.020	0.020	0.020	0.020	0.020
41.250	0.020	0.020	0.020	0.020	0.020
41.500	0.020	0.020	0.020	0.020	0.020
41.750	0.020	0.020	0.020	0.020	0.020
42.000	0.020	0.020	0.020	0.020	0.020
42.250	0.020	0.020	0.020	0.020	0.020
42.500	0.020	0.020	0.020	0.020	0.020
42.750	0.020	0.020	0.020	0.020	0.020
43.000	0.020	0.020	0.020	0.020	0.020
43.250	0.020	0.020	0.020	0.020	0.020
43.500	0.020	0.020	0.020	0.020	0.020
43.750	0.020	0.020	0.020	0.020	0.020
44.000	0.020	0.020	0.020	0.020	0.020
44.250	0.020	0.020	0.020	0.020	0.020
44.500	0.020	0.020	0.020	0.020	0.020
44.750	0.020	0.020	0.020	0.020	0.020
45.000	0.020	0.020	0.020	0.020	0.020
45.250	0.020	0.020	0.020	0.020	0.020
45.500	0.020	0.020	0.020	0.020	0.020
45.750	0.020	0.020	0.020	0.020	0.020
46.000	0.020	0.020	0.020	0.020	0.020
46.250	0.020	0.020	0.020	0.020	0.020
46.500	0.020	0.020	0.020	0.020	0.020
46.750	0.020	0.020	0.020	0.020	0.020
47.000	0.020	0.020	0.020	0.020	0.020
47.250	0.020	0.020	0.020	0.020	0.020
47.500	0.020	0.020	0.020	0.020	0.020
47.750	0.020	0.020	0.020	0.020	0.020
48.000	0.020	0.020	0.020	0.020	0.020
48.250	0.020	0.020	0.020	0.020	0.020
48.500	0.020	0.020	0.020	0.020	0.020
48.750	0.020	0.020	0.020	0.020	0.020
49.000	0.020	0.020	0.020	0.020	0.020
49.250	0.020	0.020	0.020	0.020	0.020
49.500	0.020	0.020	0.020	0.020	0.020
49.750	0.020	0.020	0.020	0.020	0.020
50.000	0.020	0.020	0.020	0.020	0.020
50.250	0.020	0.020	0.020	0.020	0.020
50.500	0.020	0.020	0.020	0.020	0.020
50.750	0.020	0.020	0.020	0.020	0.020
51.000	0.020	0.020	0.020	0.020	0.020

300' Emergency Spillway

Subsection: Time vs. Volume
Label: Old Longview Lake

Return Event: 100 years
Storm Event: 100-YEAR

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
51.250	0.020	0.020	0.020	0.020	0.020
51.500	0.020	0.020	0.020	0.020	0.020
51.750	0.020	0.020	0.020	0.020	0.020
52.000	0.020	0.020	0.020	0.020	0.020
52.250	0.020	0.020	0.020	0.020	0.020
52.500	0.020	0.020	0.020	0.020	0.020
52.750	0.020	0.020	0.020	0.020	0.020
53.000	0.020	0.020	0.020	0.020	0.020
53.250	0.020	0.020	0.020	0.020	0.020
53.500	0.020	0.020	0.020	0.020	0.020
53.750	0.020	0.020	0.020	0.020	0.020
54.000	0.020	0.020	0.020	0.020	0.020
54.250	0.020	0.020	0.020	0.020	0.020
54.500	0.020	0.020	0.020	0.020	0.020
54.750	0.020	0.020	0.020	0.020	0.020
55.000	0.020	0.020	0.020	0.020	0.020
55.250	0.020	0.020	0.020	0.020	0.020
55.500	0.020	0.020	0.020	0.020	0.020
55.750	0.020	0.020	0.020	0.020	0.020
56.000	0.020	0.020	0.020	0.020	0.020
56.250	0.020	0.020	0.020	0.020	0.020
56.500	0.020	0.020	0.020	0.020	0.020
56.750	0.020	0.020	0.020	0.020	0.020
57.000	0.020	0.020	0.020	0.020	0.020
57.250	0.020	0.020	0.020	0.020	0.020
57.500	0.020	0.020	0.020	0.020	0.020
57.750	0.020	0.020	0.020	0.020	0.020
58.000	0.020	0.020	0.020	0.020	0.020
58.250	0.020	0.020	0.020	0.020	0.020
58.500	0.020	0.020	0.020	0.020	0.020
58.750	0.020	0.020	0.020	0.020	0.020
59.000	0.020	0.020	0.020	0.020	0.020
59.250	0.020	0.020	0.020	0.020	0.020
59.500	0.020	0.020	0.020	0.020	0.020
59.750	0.020	0.020	0.020	0.020	0.020
60.000	0.020	0.020	0.020	0.020	0.020
60.250	0.020	0.020	0.020	0.020	0.020
60.500	0.020	0.020	0.020	0.020	0.020
60.750	0.020	0.020	0.020	0.020	0.020
61.000	0.020	0.020	0.020	0.020	0.020
61.250	0.020	0.020	0.020	0.020	0.020

300' Emergency Spillway

Subsection: Time vs. Volume
Label: Old Longview Lake

Return Event: 100 years
Storm Event: 100-YEAR

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
61.500	0.020	0.020	0.020	0.020	0.020
61.750	0.020	0.020	0.020	0.020	0.020
62.000	0.020	0.020	0.020	0.020	0.020
62.250	0.020	0.020	0.020	0.020	0.020
62.500	0.020	0.020	0.020	0.020	0.020
62.750	0.020	0.020	0.020	0.020	0.020
63.000	0.020	0.020	0.020	0.020	0.020
63.250	0.020	0.020	0.020	0.020	0.020
63.500	0.020	0.020	0.020	0.020	0.020
63.750	0.020	0.020	0.020	0.020	0.020
64.000	0.020	0.020	0.020	0.020	0.020
64.250	0.020	0.020	0.020	0.020	0.020
64.500	0.020	0.020	0.020	0.020	0.020
64.750	0.020	0.020	0.020	0.020	0.020
65.000	0.020	0.020	0.020	0.020	0.020
65.250	0.020	0.020	0.020	0.020	0.020
65.500	0.020	0.020	0.020	0.020	0.020
65.750	0.020	0.020	0.020	0.020	0.020
66.000	0.020	0.020	0.020	0.020	0.020
66.250	0.020	0.020	0.020	0.020	0.020
66.500	0.020	0.020	0.020	0.020	0.020
66.750	0.020	0.020	0.020	0.020	0.020
67.000	0.020	0.020	0.020	0.020	0.020
67.250	0.020	0.020	0.020	0.020	0.020
67.500	0.020	0.020	0.020	0.020	0.020
67.750	0.020	0.020	0.020	0.020	0.020
68.000	0.020	0.020	0.020	0.020	0.020
68.250	0.020	0.020	0.020	0.020	0.020
68.500	0.020	0.020	0.020	0.020	0.020
68.750	0.020	0.020	0.020	0.020	0.020
69.000	0.020	0.020	0.020	0.020	0.020
69.250	0.020	0.020	0.020	0.020	0.020
69.500	0.020	0.020	0.020	0.020	0.020
69.750	0.020	0.020	0.020	0.020	0.020
70.000	0.020	0.020	0.020	0.020	0.020
70.250	0.020	0.020	0.020	0.020	0.020
70.500	0.020	0.020	0.020	0.020	0.020
70.750	0.020	0.020	0.020	0.020	0.020
71.000	0.020	0.020	0.020	0.020	0.020
71.250	0.020	0.020	0.020	0.020	0.020
71.500	0.020	0.020	0.020	0.020	0.020

300' Emergency Spillway

Subsection: Time vs. Volume
Label: Old Longview Lake

Return Event: 100 years
Storm Event: 100-YEAR

Time vs. Volume (ac-ft)

Output Time increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
71.750	0.020	0.020	0.020	0.020	0.020
72.000	0.020	(N/A)	(N/A)	(N/A)	(N/A)

300' Emergency Spillway

Subsection: Elevation-Area Volume Curve
Label: Old Longview Lake

Return Event: 100 years
Storm Event: 100-YEAR

Elevation (ft)	Planimeter (ft^2)	Area (acres)	A1+A2+sqr (A1*A2) (acres)	Volume (ac-ft)	Volume (Total) (ac-ft)
930.00	0.0	0.009	0.000	0.000	0.000
932.00	0.0	0.010	0.028	0.019	0.019
933.00	0.0	0.020	0.044	0.015	0.034
934.00	0.0	0.030	0.074	0.025	0.059
936.00	0.0	0.040	0.105	0.070	0.128
938.00	0.0	0.050	0.135	0.090	0.218

300' Emergency Spillway

Subsection: Composite Rating Curve
Label: 300' Emergency Spillway 929 Normal

Return Event: 100 years
Storm Event: 100-YEAR

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
930.00	0.00	(N/A)	0.00
930.50	0.00	(N/A)	0.00
931.00	0.00	(N/A)	0.00
931.50	0.00	(N/A)	0.00
932.00	0.00	(N/A)	0.00
932.10	0.00	(N/A)	0.00
932.50	228.34	(N/A)	0.00
933.00	773.39	(N/A)	0.00
933.50	1,505.80	(N/A)	0.00
934.00	2,389.14	(N/A)	0.00
934.47	3,339.44	(N/A)	0.00

Contributing Structures
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
Weir - 1
Weir - 1
Weir - 1
Weir - 1
Weir - 1
Weir - 1

300' Emergency Spillway

Subsection: Elevation-Volume-Flow Table (Pond) | Return Event: 100 years

Label: Old Longview Lake | Storm Event: 100-YEAR

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	932.02 ft
Volume (Initial)	0.019 ac-ft
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	0.050 hours

Elevation (ft)	Outflow (ft³/s)	Storage (ac-ft)	Area (acres)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
930.00	0.00	0.000	0.009	0.00	0.00	0.00
930.50	0.00	0.005	0.009	0.00	0.00	2.21
931.00	0.00	0.009	0.009	0.00	0.00	4.47
931.50	0.00	0.014	0.010	0.00	0.00	6.80
932.00	0.00	0.019	0.010	0.00	0.00	9.19
932.10	0.00	0.020	0.011	0.00	0.00	9.70
932.50	228.34	0.025	0.015	0.00	228.34	240.48
933.00	773.39	0.034	0.020	0.00	773.39	789.70
933.50	1,505.80	0.045	0.025	0.00	1,505.80	1,527.52
934.00	2,389.14	0.059	0.030	0.00	2,389.14	2,417.47
934.47	3,339.44	0.073	0.032	0.00	3,339.44	3,374.85

300' Emergency Spillway

Subsection: Pond Routed Hydrograph (total out) Return Event: 100 years

Label: Old Longview Lake (OUT) Storm Event: 100-YEAR

Peak Discharge	1,404.48 ft³/s
Time to Peak	12.050 hours
Hydrograph Volume	108.456 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
3.250	0.00	0.00	0.43	0.24	0.68
3.500	0.53	0.97	0.84	1.27	1.15
3.750	1.57	1.46	1.87	1.78	2.18
4.000	2.09	2.48	2.41	2.79	2.73
4.250	3.11	3.07	3.44	3.41	3.78
4.500	3.76	4.12	4.11	4.47	4.47
4.750	4.82	4.83	5.18	5.20	5.55
5.000	5.58	5.92	5.96	6.29	6.34
5.250	6.67	6.72	7.05	7.12	7.44
5.500	7.51	7.83	7.91	8.23	8.31
5.750	8.62	8.72	9.03	9.12	9.43
6.000	9.53	9.82	9.89	10.10	10.31
6.250	10.52	10.73	10.94	11.15	11.36
6.500	11.57	11.78	11.99	12.21	12.42
6.750	12.63	12.85	13.06	13.28	13.49
7.000	13.71	13.93	14.14	14.36	14.58
7.250	14.80	15.02	15.24	15.46	15.68
7.500	15.90	16.12	16.34	16.56	16.78
7.750	17.00	17.23	17.45	17.67	17.89
8.000	18.12	18.35	18.59	18.88	19.22
8.250	19.62	20.08	20.60	21.14	21.71
8.500	22.30	22.90	23.51	24.14	24.78
8.750	25.42	26.07	26.73	27.40	28.07
9.000	28.75	29.43	30.09	30.70	31.24
9.250	31.70	32.08	32.39	32.67	32.91
9.500	33.14	33.37	33.63	33.98	34.45
9.750	35.07	35.84	36.71	37.66	38.66
10.000	39.69	40.76	41.88	43.07	44.34
10.250	45.71	47.15	48.67	50.24	51.85
10.500	53.50	55.19	56.95	58.83	60.87
10.750	63.09	65.50	68.05	70.72	73.46
11.000	76.26	79.16	82.27	85.79	89.91
11.250	94.70	100.12	106.03	112.28	118.76
11.500	125.60	135.02	152.92	186.77	245.07
11.750	333.30	450.89	605.60	808.52	1,050.49
12.000	1,274.36	1,404.48	1,388.82	1,228.48	995.09
12.250	768.37	589.17	462.47	376.38	315.50

300' Emergency Spillway

Subsection: Pond Routed Hydrograph (total out) Return Event: 100 years
Label: Old Longview Lake (OUT) Storm Event: 100-YEAR

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
12.500	269.62	234.37	206.26	183.47	165.32
12.750	151.00	140.07	131.84	125.32	119.97
13.000	115.23	110.77	106.59	102.71	99.19
13.250	96.06	93.24	90.67	88.26	85.93
13.500	83.66	81.44	79.28	77.21	75.25
13.750	73.39	71.63	69.94	68.31	66.71
14.000	65.13	63.59	62.11	60.74	59.52
14.250	58.46	57.56	56.80	56.12	55.49
14.500	54.90	54.32	53.76	53.20	52.65
14.750	52.11	51.57	51.03	50.49	49.95
15.000	49.41	48.87	48.32	47.79	47.25
15.250	46.71	46.16	45.62	45.08	44.54
15.500	43.99	43.46	42.92	42.37	41.82
15.750	41.28	40.74	40.20	39.65	39.11
16.000	38.57	38.03	37.51	37.02	36.59
16.250	36.22	35.91	35.64	35.40	35.18
16.500	34.96	34.76	34.56	34.36	34.16
16.750	33.97	33.78	33.58	33.39	33.19
17.000	33.00	32.81	32.61	32.42	32.23
17.250	32.03	31.84	31.65	31.45	31.26
17.500	31.06	30.87	30.68	30.48	30.29
17.750	30.10	29.90	29.71	29.51	29.32
18.000	29.12	28.93	28.74	28.54	28.35
18.250	28.15	27.96	27.76	27.57	27.38
18.500	27.18	26.99	26.79	26.60	26.40
18.750	26.21	26.01	25.82	25.62	25.43
19.000	25.24	25.04	24.84	24.65	24.46
19.250	24.26	24.07	23.87	23.68	23.48
19.500	23.28	23.09	22.90	22.70	22.51
19.750	22.31	22.12	21.92	21.72	21.53
20.000	21.34	21.14	20.96	20.79	20.65
20.250	20.53	20.43	20.36	20.30	20.25
20.500	20.20	20.16	20.12	20.07	20.03
20.750	19.99	19.96	19.92	19.88	19.84
21.000	19.80	19.76	19.72	19.68	19.65
21.250	19.61	19.57	19.53	19.49	19.45
21.500	19.41	19.38	19.34	19.30	19.26
21.750	19.22	19.18	19.14	19.10	19.07
22.000	19.03	18.99	18.95	18.91	18.87
22.250	18.83	18.79	18.76	18.72	18.68
22.500	18.64	18.60	18.56	18.52	18.48
22.750	18.45	18.41	18.37	18.33	18.29

300' Emergency Spillway

Subsection: Pond Routed Hydrograph (total out) Return Event: 100 years
Label: Old Longview Lake (OUT) Storm Event: 100-YEAR

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
23.000	18.25	18.21	18.17	18.14	18.10
23.250	18.06	18.02	17.98	17.94	17.90
23.500	17.86	17.82	17.79	17.75	17.71
23.750	17.67	17.63	17.59	17.55	17.52
24.000	17.49	17.19	16.02	13.55	10.23
24.250	4.24	4.72	1.03	2.60	0.00
24.500	1.20	0.00	0.31	0.05	0.16
24.750	0.00	0.02	0.00	0.00	(N/A)

300' Emergency Spillway

Subsection: Pond Inflow Summary
Label: Old Longview Lake (IN)

Return Event: 100 years
Storm Event: 100-YEAR

Summary for Hydrograph Addition at 'Old Longview Lake'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	Old LL Subarea

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	Old LL Subarea	108.456	12.050	1,438.68
Flow (In)	Old Longview Lake	108.456	12.050	1,438.68

300' Emergency Spillway

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APPENDIX E
SOIL REPORT

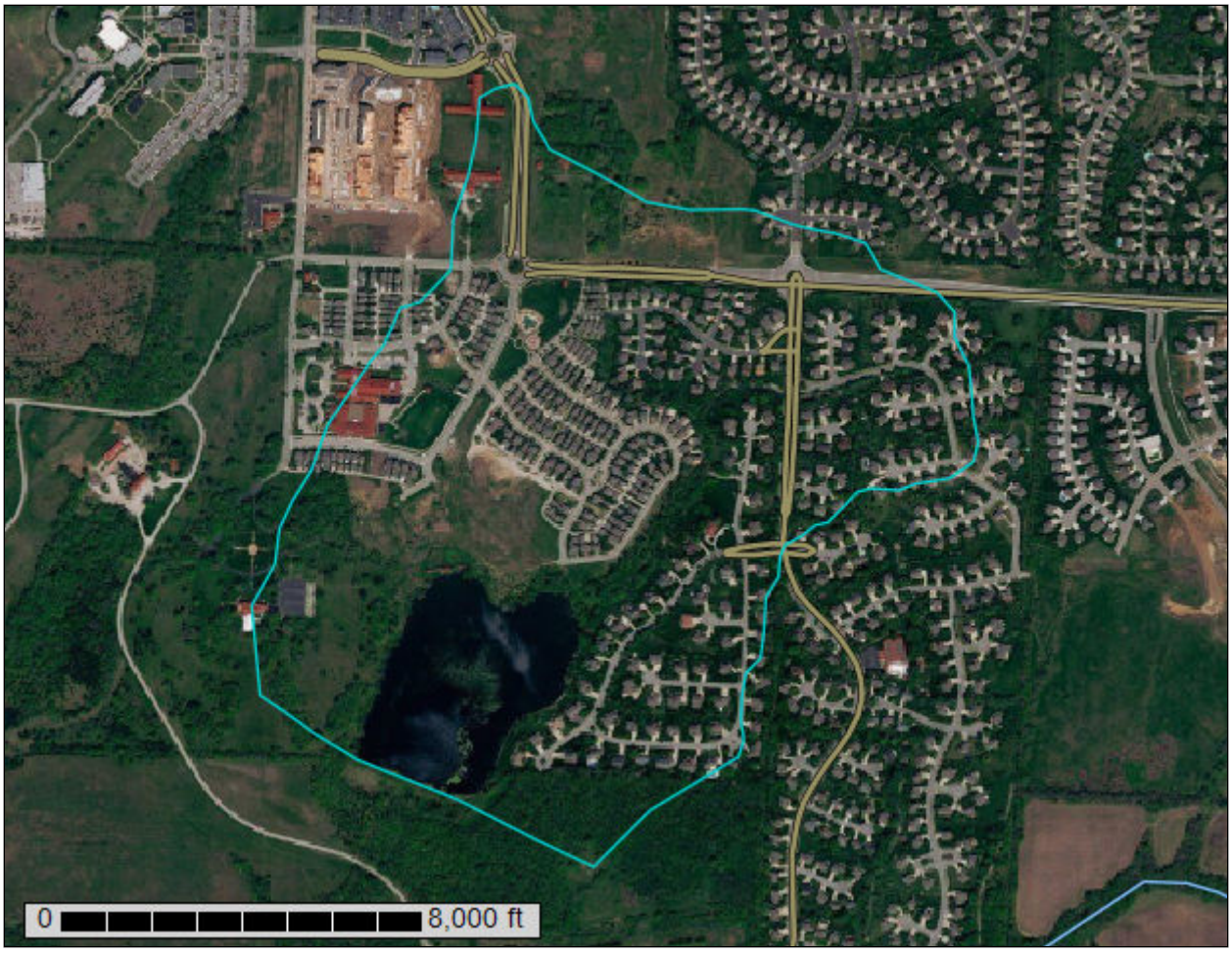
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Jackson County, Missouri



February 13, 2018

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Scale: 1:9,150 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 100 200 400 600

Feet: 0 400 800 1600 2400

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84

MAP LEGEND

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

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

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 1:24,000.

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: Jackson County, Missouri
Survey Area Data: Version 18, Sep 16, 2017

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

Date(s) aerial images were photographed: Oct 14, 2014—Oct 10, 2016

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.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
10024	Greenton-Urban land complex, 5 to 9 percent slopes	60.6	29.2%
10120	Sharpsburg silt loam, 2 to 5 percent slopes	9.3	4.5%
10128	Sharpsburg-Urban land complex, 2 to 5 percent slopes	30.1	14.5%
30080	Greenton silty clay loam, 5 to 9 percent slopes	78.0	37.6%
30178	Polo silt loam, 2 to 5 percent slopes	10.6	5.1%
99001	Water	18.9	9.1%
Totals for Area of Interest		**207.4**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it

was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Jackson County, Missouri

10024—Greenton-Urban land complex, 5 to 9 percent slopes

Map Unit Setting

National map unit symbol: 2qky4
Elevation: 800 to 1,100 feet
Mean annual precipitation: 33 to 41 inches
Mean annual air temperature: 50 to 55 degrees F
Frost-free period: 177 to 220 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Greenton and similar soils: 60 percent
Urban land: 35 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Greenton

Setting

Landform: Hillslopes
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex, concave
Parent material: Loess over residuum weathered from limestone and shale

Typical profile

A - 0 to 16 inches: silty clay loam
Bt1 - 16 to 26 inches: silty clay loam
2Bt2 - 26 to 80 inches: silty clay

Properties and qualities

Slope: 5 to 9 percent
Depth to restrictive feature: About 16 inches to abrupt textural change
Natural drainage class: Somewhat poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 12 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: D
Ecological site: Loess Upland Prairie (R109XY002MO)
Other vegetative classification: Grass/Prairie (Herbaceous Vegetation)
Hydric soil rating: No

Description of Urban Land

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Across-slope shape: Convex, concave

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydric soil rating: No

10120—Sharpsburg silt loam, 2 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2ql02
Elevation: 1,000 to 1,300 feet
Mean annual precipitation: 33 to 41 inches
Mean annual air temperature: 50 to 55 degrees F
Frost-free period: 177 to 220 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Sharpsburg and similar soils: 95 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sharpsburg

Setting

Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loess

Typical profile

A - 0 to 17 inches: silt loam
Bt - 17 to 55 inches: silty clay loam
C - 55 to 60 inches: silty clay loam

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None

Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Very high (about 12.0 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Ecological site: Loess Upland Prairie (R109XY002MO)
Other vegetative classification: Grass/Prairie (Herbaceous Vegetation)
Hydric soil rating: No

10128—Sharpsburg-Urban land complex, 2 to 5 percent slopes

Map Unit Setting
National map unit symbol: 2ql09
Elevation: 1,000 to 1,300 feet
Mean annual precipitation: 33 to 41 inches
Mean annual air temperature: 50 to 55 degrees F
Frost-free period: 177 to 220 days
Farmland classification: All areas are prime farmland

Map Unit Composition
Sharpsburg and similar soils: 60 percent
Urban land: 35 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sharpsburg

Setting
Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loess

Typical profile
A - 0 to 17 inches: silt loam
Bt - 17 to 55 inches: silty clay loam
C - 55 to 60 inches: silty clay loam

Properties and qualities
Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 24 to 35 inches
Frequency of flooding: None

Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Very high (about 12.0 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: D
Ecological site: Loess Upland Prairie (R109XY002MO)
Other vegetative classification: Grass/Prairie (Herbaceous Vegetation)
Hydric soil rating: No

Description of Urban Land

Setting
Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydric soil rating: No

30080—Greenton silty clay loam, 5 to 9 percent slopes

Map Unit Setting
National map unit symbol: 2qnr3
Elevation: 600 to 1,100 feet
Mean annual precipitation: 35 to 41 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 177 to 209 days
Farmland classification: Prime farmland if drained

Map Unit Composition
Greenton and similar soils: 85 percent
Minor components: 3 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Greenton

Setting
Landform: Hillslopes
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loess over residuum weathered from limestone and shale

Typical profile

Ap - 0 to 13 inches: silty clay loam
Bt - 13 to 26 inches: silty clay
2Bt - 26 to 60 inches: silty clay
2C - 60 to 80 inches: silty clay

Properties and qualities

Slope: 5 to 9 percent
Depth to restrictive feature: About 26 inches to abrupt textural change
Natural drainage class: Somewhat poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 12 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C/D
Ecological site: Loess Upland Prairie (R109XY002MO)
Other vegetative classification: Grass/Prairie (Herbaceous Vegetation)
Hydric soil rating: No

Minor Components

Sampsel

Percent of map unit: 3 percent
Landform: Hillslopes
Landform position (two-dimensional): Footslope, backslope
Landform position (three-dimensional): Base slope
Down-slope shape: Convex, concave
Across-slope shape: Convex, concave
Other vegetative classification: Grass/Prairie (Herbaceous Vegetation)
Hydric soil rating: Yes

30178—Polo silt loam, 2 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2qnsr
Elevation: 800 to 1,000 feet
Mean annual precipitation: 35 to 41 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 177 to 209 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Polo and similar soils: 85 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Polo

Setting

Landform: Interfluves

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Interfluve

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loess over residuum weathered from shale

Typical profile

Ap - 0 to 9 inches: silt loam

BA - 9 to 12 inches: silty clay loam

Bt1 - 12 to 50 inches: silty clay loam

2Bt2 - 50 to 80 inches: silty clay

Properties and qualities

Slope: 2 to 5 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water storage in profile: High (about 10.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: C

Ecological site: Loess Upland Prairie (R107BY007MO)

Other vegetative classification: Grass/Prairie (Herbaceous Vegetation)

Hydric soil rating: No

99001—Water

Map Unit Composition

Water: 100 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Water

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8
Hydric soil rating: No

Soil Information for All Uses

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Hydrologic Soil Group (Old Longview Lake)

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.

Map—Hydrologic Soil Group (Old Longview Lake)

Map Scale: 1:9,150 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 100 200 400 600

Feet: 0 400 800 1600 2400

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N 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 1:24,000.

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: Jackson County, Missouri
Survey Area Data: Version 18, Sep 16, 2017

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

Date(s) aerial images were photographed: Oct 14, 2014—Oct 10, 2016

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.

Table—Hydrologic Soil Group (Old Longview Lake)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
10024	Greenton-Urban land complex, 5 to 9 percent slopes	D	60.6	29.2%
10120	Sharpsburg silt loam, 2 to 5 percent slopes	C	9.3	4.5%
10128	Sharpsburg-Urban land complex, 2 to 5 percent slopes	D	30.1	14.5%
30080	Greenton silty clay loam, 5 to 9 percent slopes	C/D	78.0	37.6%
30178	Polo silt loam, 2 to 5 percent slopes	C	10.6	5.1%
99001	Water		18.9	9.1%
Totals for Area of Interest			**207.4**	**100.0%**

Rating Options—Hydrologic Soil Group (Old Longview Lake)

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

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