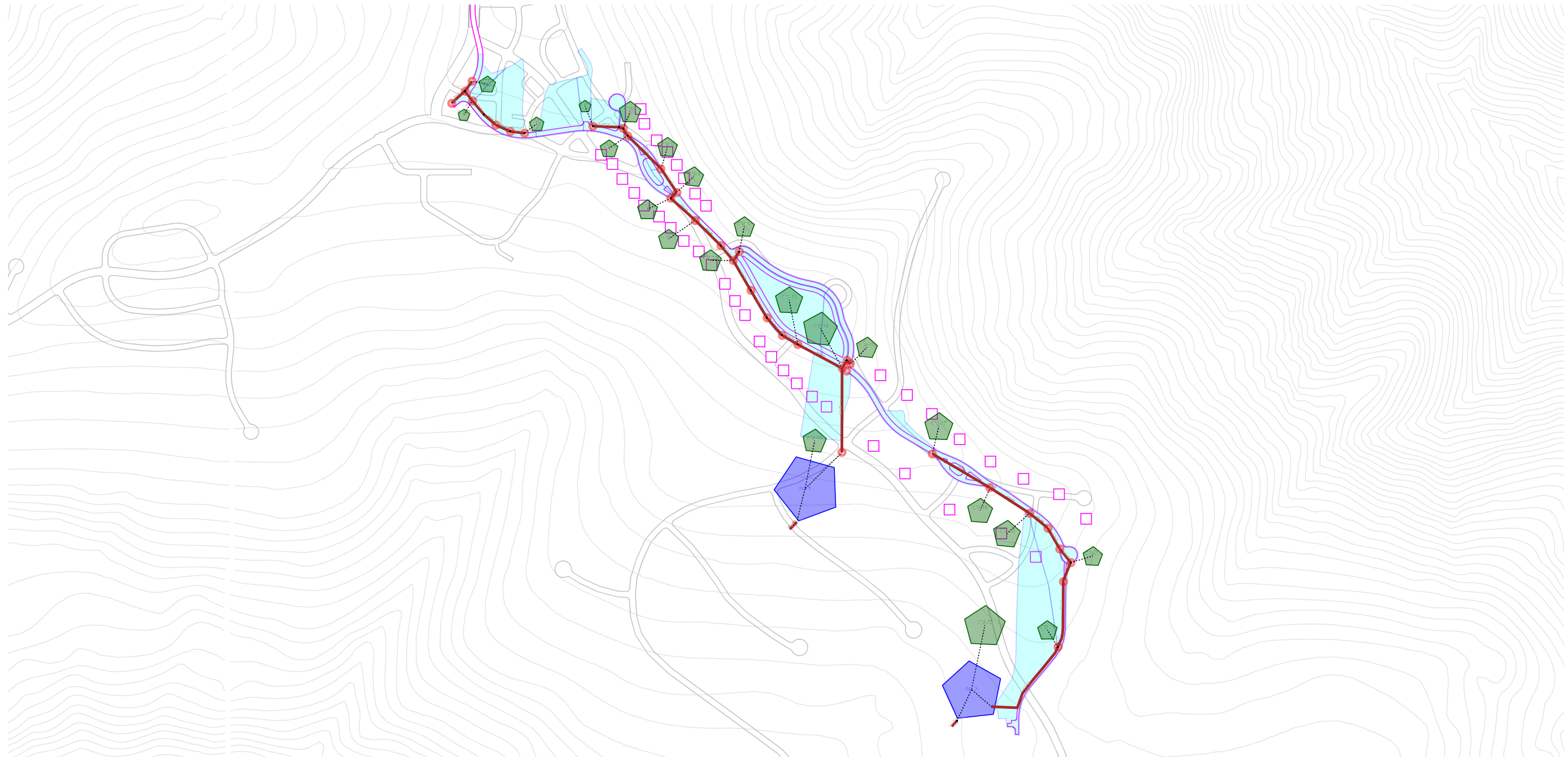


Model Schematic



Storm Data Detailed Report: 10 Year Storm

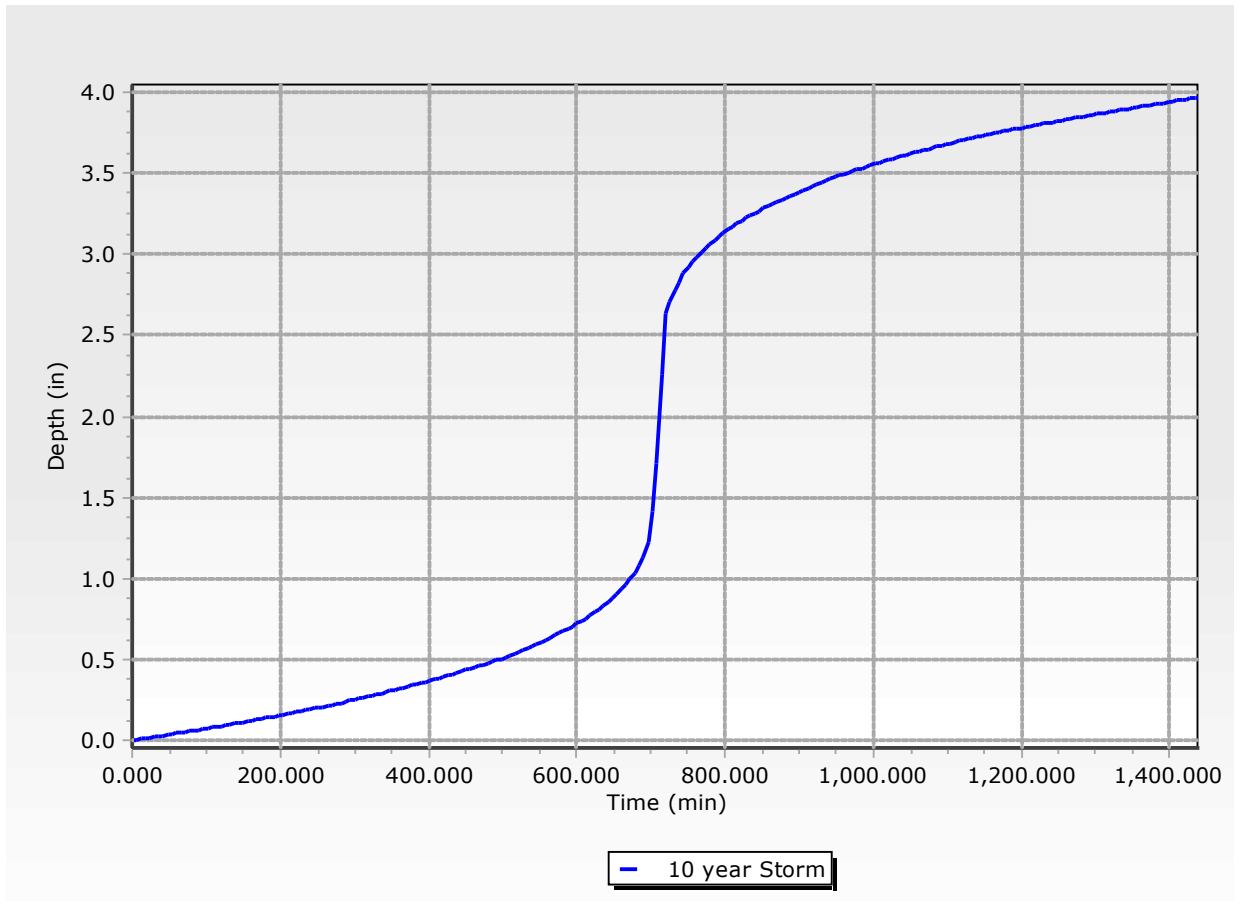
Element Details			
ID	449	Notes	
Label	10 Year Storm		
10 year Storm			
Label	10 year Storm	End Time	1,440.000 min
Return Event	10 years	Depth	4.0 in
Start Time	0.000 min	Storm Event Depth Type	Cumulative
Increment	6.000 min		

10 year Storm

Time (min)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
30.000	0.0	0.0	0.0	0.0	0.0
60.000	0.0	0.0	0.1	0.1	0.1
90.000	0.1	0.1	0.1	0.1	0.1
120.000	0.1	0.1	0.1	0.1	0.1
150.000	0.1	0.1	0.1	0.1	0.1
180.000	0.1	0.1	0.1	0.2	0.2
210.000	0.2	0.2	0.2	0.2	0.2
240.000	0.2	0.2	0.2	0.2	0.2
270.000	0.2	0.2	0.2	0.2	0.2
300.000	0.3	0.3	0.3	0.3	0.3
330.000	0.3	0.3	0.3	0.3	0.3
360.000	0.3	0.3	0.3	0.3	0.3
390.000	0.4	0.4	0.4	0.4	0.4
420.000	0.4	0.4	0.4	0.4	0.4
450.000	0.4	0.4	0.5	0.5	0.5
480.000	0.5	0.5	0.5	0.5	0.5
510.000	0.5	0.5	0.5	0.6	0.6
540.000	0.6	0.6	0.6	0.6	0.6
570.000	0.6	0.7	0.7	0.7	0.7
600.000	0.7	0.7	0.8	0.8	0.8
630.000	0.8	0.8	0.9	0.9	0.9
660.000	0.9	1.0	1.0	1.0	1.1
690.000	1.1	1.2	1.4	1.7	2.3
720.000	2.6	2.7	2.8	2.8	2.9
750.000	2.9	3.0	3.0	3.0	3.0
780.000	3.1	3.1	3.1	3.1	3.2
810.000	3.2	3.2	3.2	3.2	3.2
840.000	3.3	3.3	3.3	3.3	3.3
870.000	3.3	3.3	3.4	3.4	3.4
900.000	3.4	3.4	3.4	3.4	3.4
930.000	3.4	3.5	3.5	3.5	3.5
960.000	3.5	3.5	3.5	3.5	3.5
990.000	3.5	3.5	3.6	3.6	3.6
1,020.000	3.6	3.6	3.6	3.6	3.6

Storm Data Detailed Report: 10 Year Storm 10 year Storm

Time (min)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
1,050.000	3.6	3.6	3.6	3.6	3.6
1,080.000	3.7	3.7	3.7	3.7	3.7
1,110.000	3.7	3.7	3.7	3.7	3.7
1,140.000	3.7	3.7	3.7	3.7	3.7
1,170.000	3.8	3.8	3.8	3.8	3.8
1,200.000	3.8	3.8	3.8	3.8	3.8
1,230.000	3.8	3.8	3.8	3.8	3.8
1,260.000	3.8	3.8	3.8	3.8	3.8
1,290.000	3.9	3.9	3.9	3.9	3.9
1,320.000	3.9	3.9	3.9	3.9	3.9
1,350.000	3.9	3.9	3.9	3.9	3.9
1,380.000	3.9	3.9	3.9	3.9	3.9
1,410.000	3.9	4.0	4.0	4.0	4.0
1,440.000	4.0	(N/A)	(N/A)	(N/A)	(N/A)



Storm Data Detailed Report: 100 Year Storm

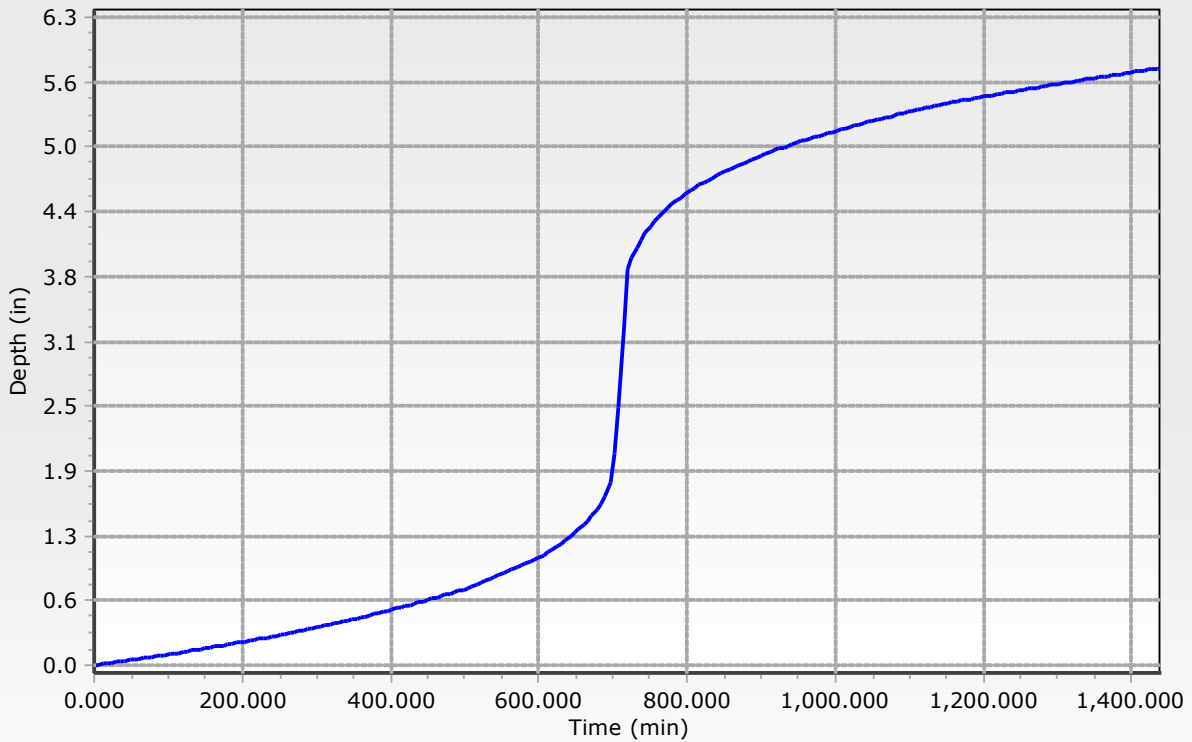
Element Details			
ID	450	Notes	
Label	100 Year Storm		
100 Year Storm			
Label	100 Year Storm	End Time	1,440.000 min
Return Event	100 years	Depth	5.8 in
Start Time	0.000 min	Storm Event Depth Type	Cumulative
Increment	6.000 min		

100 Year Storm

Time (min)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
30.000	0.0	0.0	0.0	0.0	0.1
60.000	0.1	0.1	0.1	0.1	0.1
90.000	0.1	0.1	0.1	0.1	0.1
120.000	0.1	0.1	0.1	0.1	0.2
150.000	0.2	0.2	0.2	0.2	0.2
180.000	0.2	0.2	0.2	0.2	0.2
210.000	0.2	0.2	0.3	0.3	0.3
240.000	0.3	0.3	0.3	0.3	0.3
270.000	0.3	0.3	0.3	0.3	0.4
300.000	0.4	0.4	0.4	0.4	0.4
330.000	0.4	0.4	0.4	0.4	0.5
360.000	0.5	0.5	0.5	0.5	0.5
390.000	0.5	0.5	0.5	0.5	0.6
420.000	0.6	0.6	0.6	0.6	0.6
450.000	0.6	0.6	0.7	0.7	0.7
480.000	0.7	0.7	0.7	0.7	0.7
510.000	0.8	0.8	0.8	0.8	0.8
540.000	0.8	0.9	0.9	0.9	0.9
570.000	0.9	1.0	1.0	1.0	1.0
600.000	1.0	1.1	1.1	1.1	1.1
630.000	1.2	1.2	1.2	1.3	1.3
660.000	1.4	1.4	1.4	1.5	1.6
690.000	1.6	1.8	2.0	2.5	3.3
720.000	3.8	3.9	4.0	4.1	4.2
750.000	4.2	4.3	4.3	4.4	4.4
780.000	4.4	4.5	4.5	4.5	4.6
810.000	4.6	4.6	4.7	4.7	4.7
840.000	4.7	4.7	4.8	4.8	4.8
870.000	4.8	4.8	4.9	4.9	4.9
900.000	4.9	4.9	4.9	5.0	5.0
930.000	5.0	5.0	5.0	5.0	5.1
960.000	5.1	5.1	5.1	5.1	5.1
990.000	5.1	5.1	5.2	5.2	5.2
1,020.000	5.2	5.2	5.2	5.2	5.2

Storm Data Detailed Report: 100 Year Storm 100 Year Storm

Time (min)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
1,050.000	5.3	5.3	5.3	5.3	5.3
1,080.000	5.3	5.3	5.3	5.3	5.3
1,110.000	5.4	5.4	5.4	5.4	5.4
1,140.000	5.4	5.4	5.4	5.4	5.4
1,170.000	5.4	5.5	5.5	5.5	5.5
1,200.000	5.5	5.5	5.5	5.5	5.5
1,230.000	5.5	5.5	5.5	5.5	5.5
1,260.000	5.6	5.6	5.6	5.6	5.6
1,290.000	5.6	5.6	5.6	5.6	5.6
1,320.000	5.6	5.6	5.6	5.6	5.7
1,350.000	5.7	5.7	5.7	5.7	5.7
1,380.000	5.7	5.7	5.7	5.7	5.7
1,410.000	5.7	5.7	5.7	5.7	5.8
1,440.000	5.8	(N/A)	(N/A)	(N/A)	(N/A)



— 100 Year Storm

Catchment Table - (100 Year, 24 Hour Storm)

Current Time: 0.00 min

Label	Area (User Defined) (ft ²)	SCS CN	Time of Concentration (min)	Volume (Total Runoff) (ft ³)	Flow (Maximum) (cfs)
CM-1	30,769.100	85	10.000	6,472.0	2.42
CM-2	110,146.000	75	10.000	15,810.0	5.97
CM-3	80,633.240	74	10.000	11,093.0	4.18
CM-4	126,320.000	89	10.000	30,450.0	11.14
CM-5	38,593.930	71	10.000	4,648.0	1.73
CM-6	14,223.900	94	10.000	4,027.0	1.40
CM-7	22,208.940	87	10.000	5,006.0	1.86
CM-8	11,949.360	86	10.000	2,602.0	0.97
CM-9	10,086.810	87	10.000	2,273.0	0.84
CM-10	9,756.410	93	10.000	2,676.0	0.94
CM-11	13,215.020	97	10.000	4,102.0	1.36
CM-12	25,835.880	91	10.000	6,649.0	2.39
CM-13	176,957.540	91	10.000	45,541.0	16.40
CM-14	54,309.520	89	10.000	13,092.0	4.79
CM-15	20,516.420	91	10.000	5,280.0	1.90
CM-16	121,218.300	67	10.000	12,027.0	4.36
CM-17	46,679.800	83	10.000	9,144.0	3.44
CM-18	37,816.200	88	10.000	8,817.0	3.25
CM-19	11,531.090	92	10.000	3,064.0	1.09
CM-20	23,227.110	94	10.000	6,575.0	2.29
CM-21	81,721.210	73	10.000	10,766.0	4.05
CM-22	232,412.200	72	10.000	29,289.0	10.97

Conduit Table - (100 Year, 24 Hour Storm)

Current Time: 0.00 min

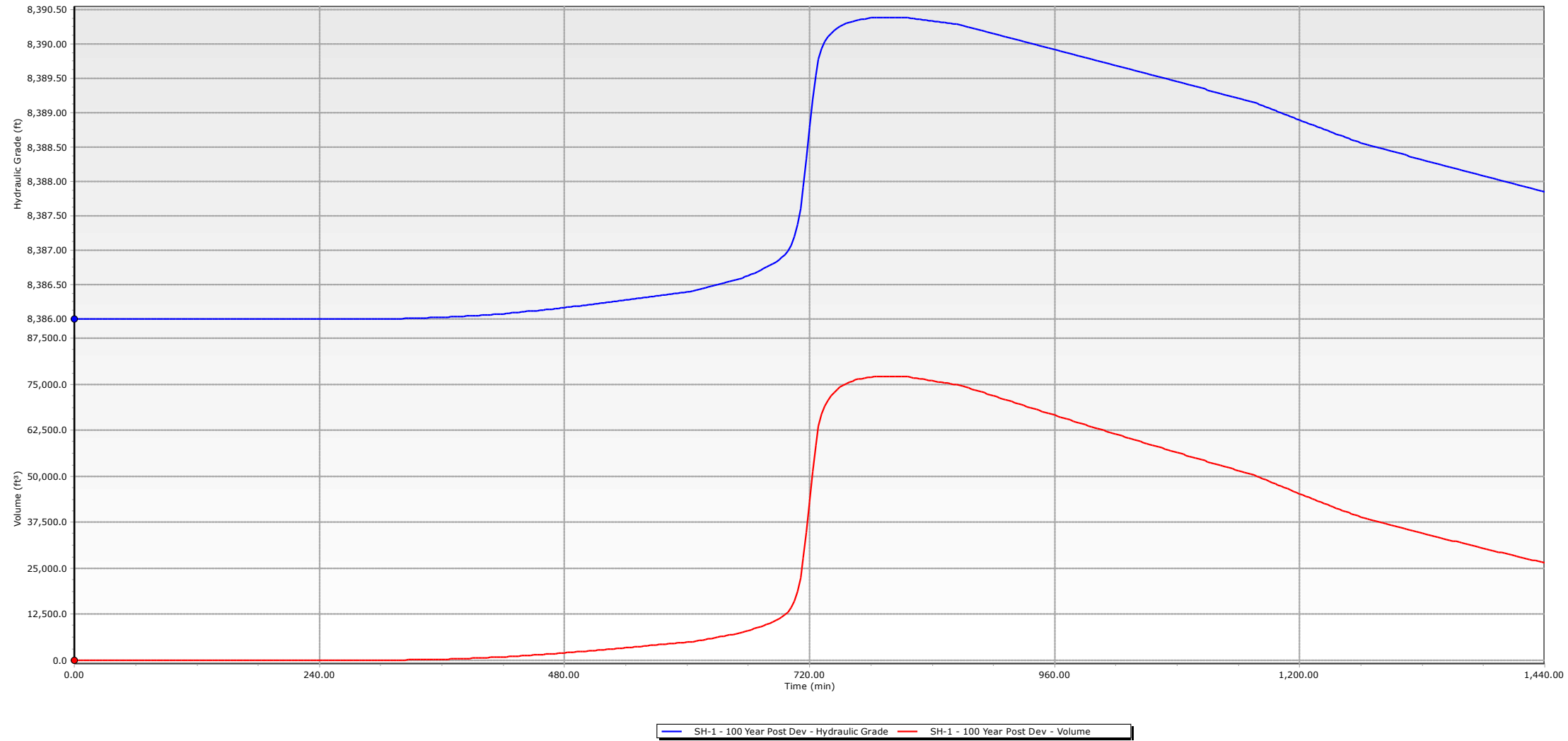
Label	Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Diameter (in)	Manning's n	Velocity (Maximum Calculated) (ft/s)	Flow (Maximum) (cfs)	Capacity (Full Flow) (cfs)
CO-1	CB-253	8,592.12	CB-1	8,589.06	113.0	0.027	18.0	0.010	12.98	12.27	22.47
CO-2	CB-509	8,598.15	CB-253	8,592.12	77.2	0.078	18.0	0.010	12.06	2.40	38.19
CO-3	CB-2	8,592.50	CB-253	8,592.12	75.9	0.005	18.0	0.010	6.25	9.98	9.66
CO-4	CB-265	8,593.06	CB-2	8,592.50	113.1	0.005	18.0	0.010	3.20	4.08	9.62
CO-5	CB-254	8,593.55	CB-265	8,593.06	99.9	0.005	18.0	0.010	4.91	4.12	9.59
CO-6	CB-255	8,594.05	CB-254	8,593.55	99.9	0.005	18.0	0.010	4.93	4.14	9.66
CO-7	CB-3	8,594.50	CB-255	8,594.05	92.9	0.005	18.0	0.010	4.86	4.15	9.49
CO-8	CB-4	8,591.33	CB-256	8,590.50	165.2	0.005	24.0	0.010	6.32	11.07	20.89
CO-9	CB-256	8,590.50	CB-6	8,590.36	28.8	0.005	24.0	0.010	5.80	11.08	20.73
CO-10	CB-6	8,590.36	CB-5	8,590.09	53.0	0.005	24.0	0.010	6.14	12.47	20.71
CO-11	CB-5	8,590.09	CB-8	8,582.45	297.4	0.026	18.0	0.010	13.13	14.19	21.89
CO-12	CB-8	8,582.45	CB-9	8,576.86	177.9	0.031	18.0	0.010	15.74	15.15	24.20
CO-13	CB-9	8,576.86	CB-7	8,576.60	53.1	0.005	18.0	0.010	9.04	15.98	9.65
CO-14	CB-7	8,576.60	CB-10	8,571.43	207.8	0.025	18.0	0.010	13.59	17.81	21.54
CO-15	CB-10	8,571.43	CB-257	8,563.00	226.5	0.037	18.0	0.010	16.19	18.72	26.35
CO-16	CB-257	8,563.00	CB-11	8,560.30	123.7	0.022	18.0	0.010	12.93	18.70	20.16
CO-17	CB-12	8,561.32	CB-11	8,560.30	68.6	0.015	18.0	0.010	3.76	2.38	16.66
CO-18	CB-11	8,560.30	CB-258	8,555.47	217.1	0.022	24.0	0.010	14.04	22.41	43.87
CO-19	CB-258	8,555.47	CB-259	8,543.10	200.4	0.062	24.0	0.010	20.54	22.38	73.05
CO-20	CB-259	8,543.10	CB-260	8,538.26	145.6	0.033	24.0	0.010	15.40	22.36	53.65
CO-21	CB-260	8,538.26	CB-13	8,537.69	116.3	0.005	30.0	0.010	5.81	22.31	37.46
CO-22	CB-13	8,537.69	CB-14	8,535.93	317.0	0.006	30.0	0.010	8.73	38.43	39.65
CO-23	CB-15	8,542.78	CB-261	8,542.45	35.5	0.009	18.0	0.010	5.24	1.89	13.31
CO-24	CB-261	8,542.45	CB-14	8,535.93	57.9	0.113	18.0	0.010	10.98	1.89	45.81
CO-25	CB-14	8,535.93	O-34	8,390.00	531.9	0.274	24.0	0.010	43.24	44.98	154.03
CO-26	CB-17	8,485.51	CB-18	8,465.05	424.0	0.048	18.0	0.010	11.23	3.39	30.00
CO-27	CB-18	8,465.05	CB-19	8,457.82	296.8	0.024	18.0	0.010	10.65	6.58	21.31
CO-28	CB-19	8,457.82	CB-262	8,445.94	147.0	0.081	18.0	0.010	17.00	7.66	38.83
CO-29	CB-262	8,445.94	CB-263	8,429.20	149.7	0.112	18.0	0.010	19.09	7.66	45.65
CO-30	CB-263	8,429.20	CB-20	8,423.96	113.2	0.046	18.0	0.010	13.98	7.66	29.37
CO-31	CB-20	8,423.96	CB-21	8,392.30	547.5	0.058	36.0	0.010	15.46	9.90	208.52
CO-32	CB-21	8,392.30	O-28	8,376.00	628.4	0.026	36.0	0.010	12.72	13.91	139.64
CO-279	POS-5	8,372.00	O-30	8,362.00	49.1	0.100	18.0	0.010	11.08	1.90	43.18
CO-280	POS-4	8,386.00	O-29	8,378.00	61.4	0.080	18.0	0.010	13.01	2.94	38.62

Pond Table - (100 Year, 24 Hour Storm)

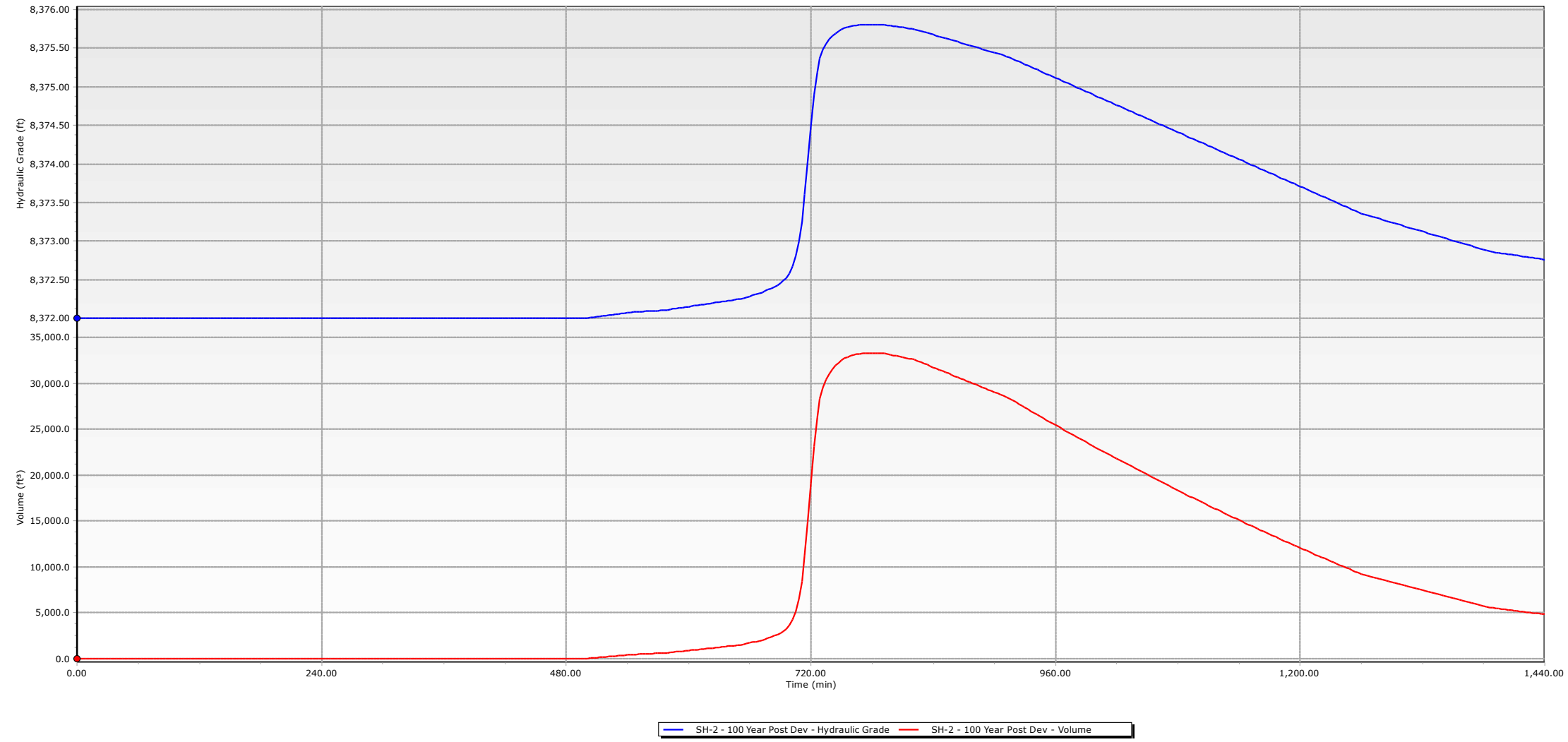
Current Time: 0.00 min

Label	Flow (Total In Maximum) (cfs)	Flow (Out to Links Maximum) (cfs)	Storage (Maximum) (ft³)	Hydraulic Grade (Maximum) (ft)	Is Ever Overflowing?
SH-1	49.19	2.94	77,166.6	8,390.39	False
SH-2	24.76	1.90	33,297.4	8,375.81	False

SH-1 Pond Graph - Hydraulic Grade and Volume vs Time



SH-2 Pond Graph - Hydraulic Grade & Volume vs Time





NOAA Atlas 14, Volume 1, Version 5
Location name: Eden, Utah, USA*
Latitude: 41.3756°, Longitude: -111.7779°
Elevation: 8350.7 ft**
 * source: ESRI Maps
 ** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

[PF_tabular](#) | [PF_graphical](#) | [Maps_&_aerials](#)

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.183 (0.161-0.209)	0.232 (0.206-0.266)	0.313 (0.275-0.357)	0.384 (0.334-0.439)	0.494 (0.422-0.569)	0.595 (0.495-0.691)	0.712 (0.575-0.838)	0.851 (0.663-1.02)	1.08 (0.794-1.34)	1.30 (0.907-1.66)
10-min	0.278 (0.245-0.318)	0.353 (0.314-0.405)	0.476 (0.418-0.543)	0.584 (0.509-0.668)	0.753 (0.643-0.867)	0.905 (0.753-1.05)	1.08 (0.876-1.28)	1.30 (1.01-1.56)	1.64 (1.21-2.04)	1.97 (1.38-2.52)
15-min	0.345 (0.304-0.394)	0.438 (0.389-0.502)	0.590 (0.519-0.673)	0.725 (0.631-0.828)	0.933 (0.797-1.07)	1.12 (0.933-1.30)	1.34 (1.09-1.58)	1.61 (1.25-1.93)	2.04 (1.50-2.53)	2.44 (1.71-3.12)
30-min	0.464 (0.409-0.531)	0.589 (0.523-0.676)	0.795 (0.698-0.907)	0.976 (0.850-1.12)	1.26 (1.07-1.45)	1.51 (1.26-1.76)	1.81 (1.46-2.13)	2.16 (1.69-2.60)	2.74 (2.02-3.40)	3.29 (2.31-4.21)
60-min	0.575 (0.506-0.657)	0.729 (0.648-0.836)	0.984 (0.864-1.12)	1.21 (1.05-1.38)	1.56 (1.33-1.79)	1.87 (1.56-2.17)	2.24 (1.81-2.64)	2.68 (2.09-3.22)	3.39 (2.50-4.21)	4.08 (2.85-5.21)
2-hr	0.772 (0.691-0.871)	0.970 (0.865-1.09)	1.25 (1.11-1.41)	1.51 (1.32-1.70)	1.92 (1.65-2.19)	2.29 (1.93-2.64)	2.73 (2.23-3.18)	3.25 (2.56-3.87)	4.08 (3.04-5.00)	4.87 (3.46-6.12)
3-hr	0.889 (0.805-0.991)	1.10 (0.999-1.23)	1.37 (1.23-1.53)	1.62 (1.45-1.82)	2.03 (1.78-2.28)	2.40 (2.06-2.72)	2.84 (2.38-3.27)	3.34 (2.72-3.92)	4.17 (3.23-5.03)	4.93 (3.67-6.18)
6-hr	1.26 (1.16-1.38)	1.54 (1.42-1.69)	1.86 (1.69-2.04)	2.14 (1.94-2.36)	2.57 (2.30-2.84)	2.92 (2.58-3.26)	3.32 (2.89-3.75)	3.77 (3.21-4.31)	4.63 (3.82-5.40)	5.40 (4.34-6.45)
12-hr	1.69 (1.55-1.86)	2.07 (1.90-2.28)	2.50 (2.27-2.76)	2.88 (2.60-3.19)	3.45 (3.08-3.85)	3.92 (3.45-4.40)	4.42 (3.83-5.02)	4.96 (4.21-5.70)	5.78 (4.77-6.79)	6.43 (5.18-7.70)
24-hr	2.34 (2.09-2.63)	2.88 (2.57-3.23)	3.47 (3.10-3.89)	3.97 (3.53-4.45)	4.66 (4.13-5.22)	5.20 (4.59-5.82)	5.76 (5.07-6.45)	6.34 (5.55-7.09)	7.13 (6.19-7.99)	7.75 (6.67-8.71)
2-day	2.90 (2.58-3.28)	3.57 (3.18-4.04)	4.31 (3.83-4.89)	4.94 (4.37-5.59)	5.80 (5.12-6.57)	6.48 (5.69-7.34)	7.19 (6.29-8.14)	7.92 (6.88-8.97)	8.91 (7.68-10.1)	9.70 (8.29-11.0)
3-day	3.39 (3.01-3.83)	4.18 (3.72-4.73)	5.08 (4.51-5.75)	5.83 (5.16-6.60)	6.88 (6.06-7.78)	7.71 (6.76-8.72)	8.57 (7.48-9.69)	9.46 (8.21-10.7)	10.7 (9.18-12.1)	11.7 (9.93-13.3)
4-day	3.88 (3.45-4.39)	4.79 (4.26-5.42)	5.84 (5.18-6.61)	6.72 (5.95-7.61)	7.95 (7.00-8.99)	8.93 (7.82-10.1)	9.95 (8.67-11.2)	11.0 (9.53-12.5)	12.5 (10.7-14.1)	13.6 (11.6-15.5)
7-day	4.93 (4.34-5.66)	6.09 (5.37-7.00)	7.41 (6.52-8.54)	8.52 (7.47-9.82)	10.1 (8.78-11.6)	11.3 (9.81-13.0)	12.5 (10.9-14.4)	13.9 (11.9-16.0)	15.7 (13.3-18.1)	17.1 (14.4-19.8)
10-day	5.71 (5.04-6.55)	7.05 (6.23-8.08)	8.52 (7.51-9.79)	9.71 (8.55-11.2)	11.3 (9.92-13.0)	12.5 (11.0-14.4)	13.8 (12.0-15.9)	15.1 (13.0-17.3)	16.7 (14.4-19.3)	18.0 (15.4-20.9)
20-day	7.59 (6.75-8.55)	9.36 (8.32-10.5)	11.2 (9.92-12.6)	12.6 (11.2-14.2)	14.5 (12.8-16.3)	15.8 (13.9-17.8)	17.2 (15.1-19.4)	18.5 (16.2-20.9)	20.2 (17.6-22.9)	21.5 (18.6-24.4)
30-day	9.30 (8.33-10.5)	11.4 (10.2-12.9)	13.6 (12.1-15.3)	15.3 (13.6-17.2)	17.5 (15.5-19.7)	19.1 (16.9-21.5)	20.7 (18.3-23.4)	22.2 (19.6-25.2)	24.2 (21.2-27.5)	25.7 (22.4-29.2)
45-day	11.8 (10.7-13.1)	14.5 (13.1-16.1)	17.2 (15.5-19.1)	19.4 (17.4-21.5)	22.1 (19.8-24.6)	24.2 (21.6-26.9)	26.3 (23.3-29.2)	28.3 (25.0-31.5)	30.9 (27.1-34.6)	33.0 (28.7-37.0)
60-day	13.8 (12.5-15.3)	17.0 (15.3-18.8)	20.1 (18.1-22.2)	22.4 (20.2-24.9)	25.5 (22.9-28.2)	27.7 (24.8-30.8)	29.9 (26.7-33.2)	32.0 (28.5-35.6)	34.7 (30.7-38.7)	36.7 (32.3-41.1)

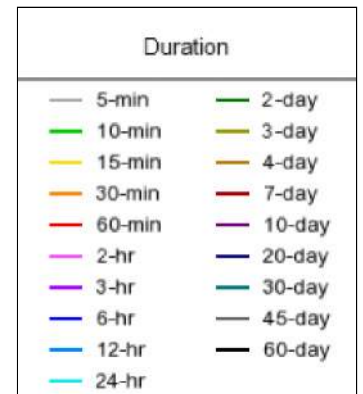
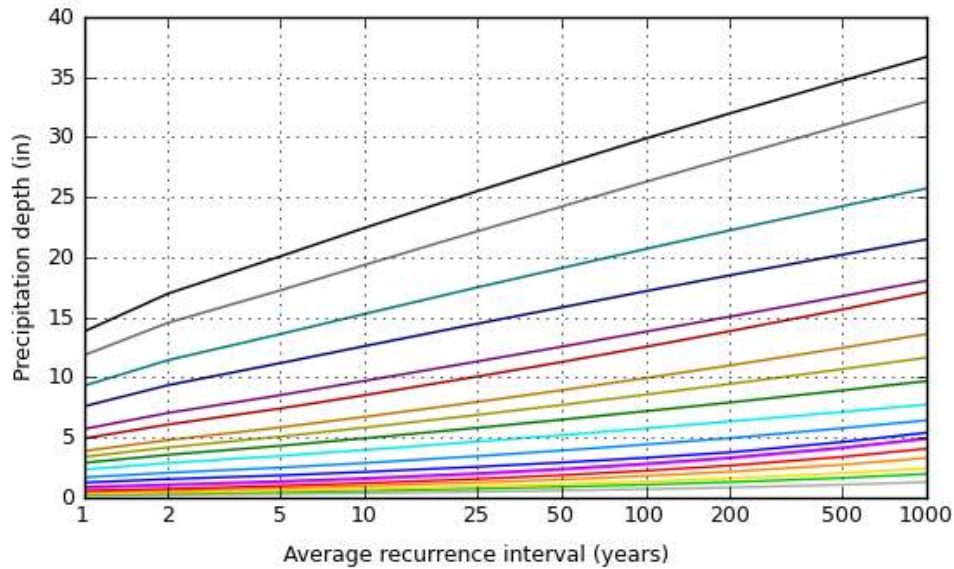
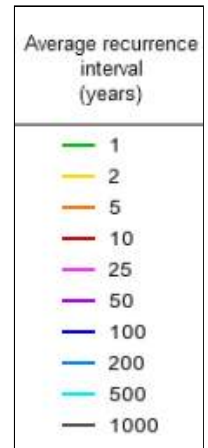
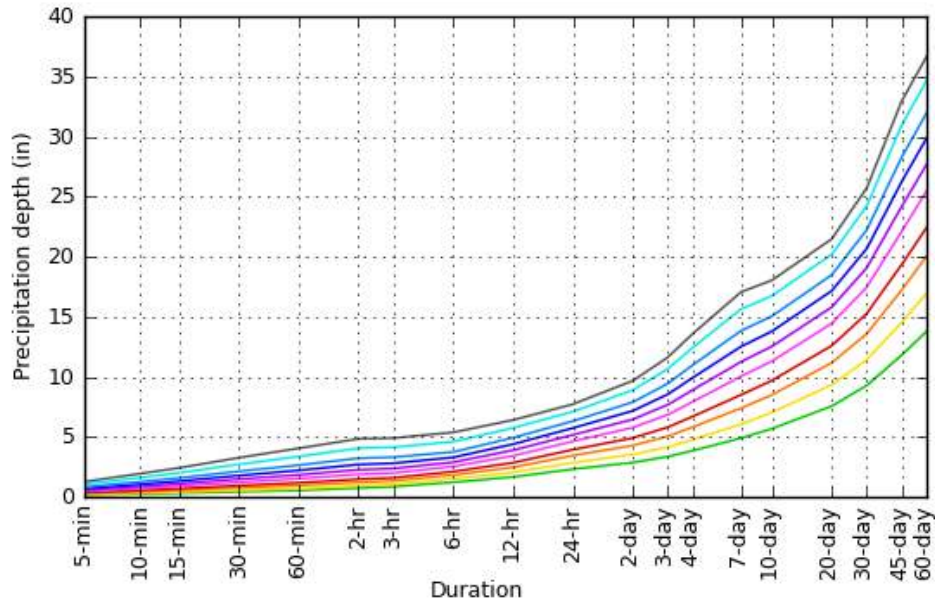
¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

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PF graphical

PDS-based depth-duration-frequency (DDF) curves

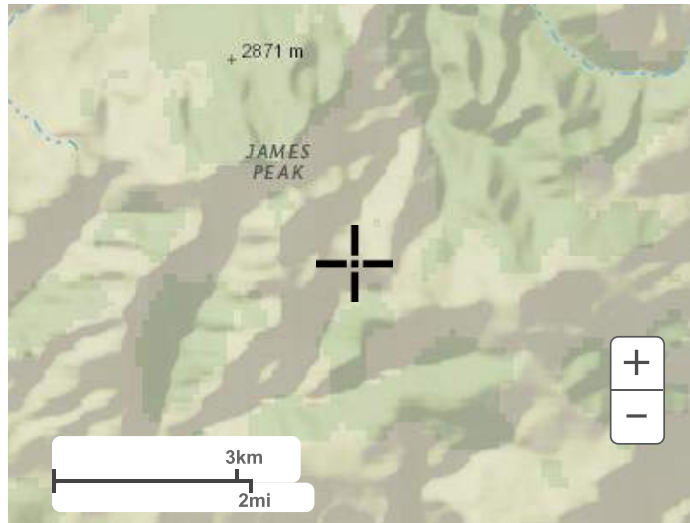
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Maps & aerials

Small scale terrain



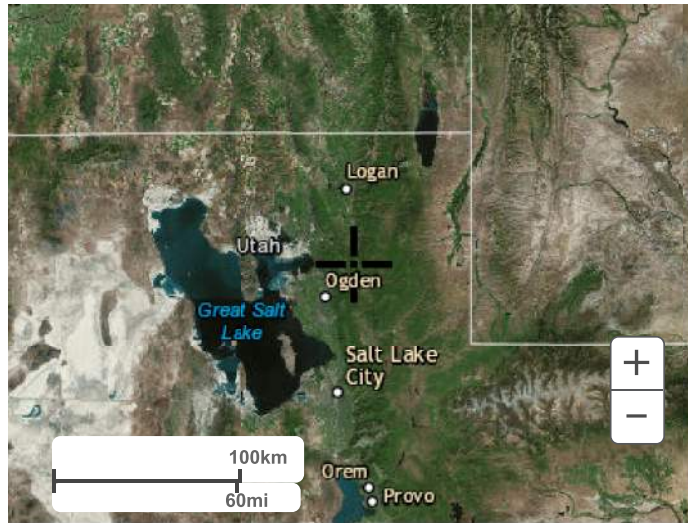
Large scale terrain



Large scale map



Large scale aerial

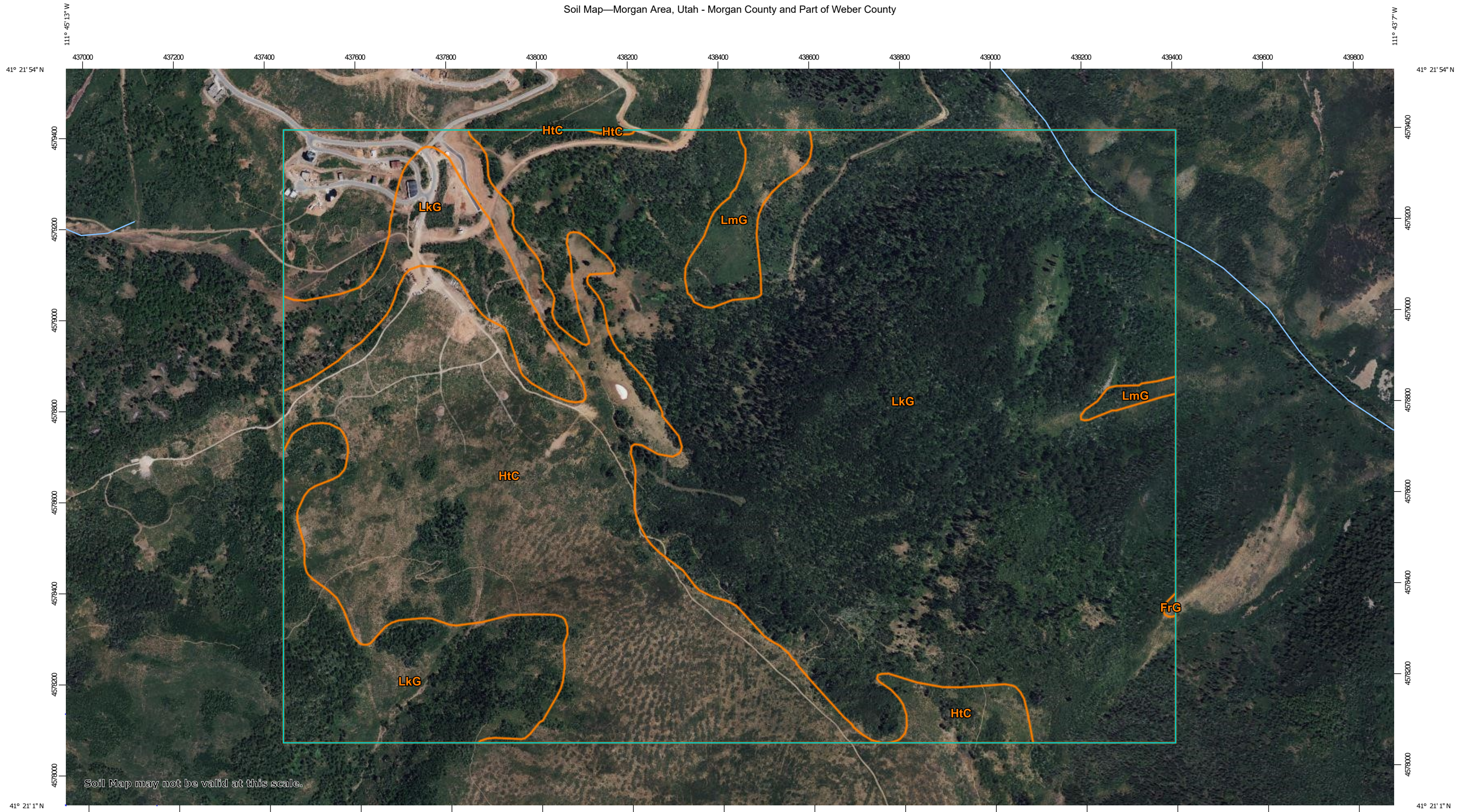


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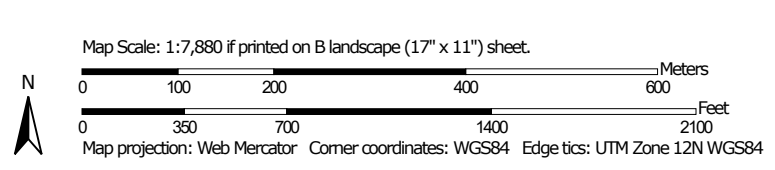
[US Department of Commerce](#)
[National Oceanic and Atmospheric Administration](#)
[National Weather Service](#)
[National Water Center](#)
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

[Disclaimer](#)

Soil Map—Morgan Area, Utah - Morgan County and Part of Weber County



Soil Map may not be valid at this scale.



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: Morgan Area, Utah - Morgan County and Part of Weber County
Survey Area Data: Version 16, Sep 8, 2023

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

Date(s) aerial images were photographed: Jun 22, 2022—Jul 11, 2022

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
FrG	Foxol-Rock outcrop complex, 40 to 70 percent slopes	0.2	0.0%
HtC	Herd-Yence complex, 3 to 15 percent slopes	198.8	30.3%
LkG	Lucky Star silt loam, 30 to 60 percent slopes	442.8	67.5%
LmG	Lucky Star-Charcol complex, 30 to 60 percent slopes	14.4	2.2%
Totals for Area of Interest		656.3	100.0%

Morgan Area, Utah - Morgan County and Part of Weber County

LmG—Lucky Star-Charcol complex, 30 to 60 percent slopes

Map Unit Setting

National map unit symbol: k047
Elevation: 6,890 to 8,530 feet
Mean annual precipitation: 18 to 35 inches
Frost-free period: 50 to 90 days
Farmland classification: Not prime farmland

Map Unit Composition

Lucky star and similar soils: 45 percent
Charcol and similar soils: 40 percent
Minor components: 15 percent
*Estimates are based on observations, descriptions, and transects of
the mapunit.*

Description of Lucky Star

Setting

Landform: Mountainsides
Landform position (three-dimensional): Mountainflank
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Colluvium and/or slope alluvium derived from
conglomerate

Typical profile

A11 - 0 to 6 inches: silt loam
A12 - 6 to 19 inches: gravelly silt loam
A21 - 19 to 34 inches: very gravelly loam
A22 - 34 to 47 inches: very gravelly sandy loam
A&B - 47 to 58 inches: extremely gravelly loam
A&B2 - 58 to 74 inches: extremely gravelly sandy loam

Properties and qualities

Slope: 30 to 60 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
*Capacity of the most limiting layer to transmit water
(Ksat):* Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 5.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B

Ecological site: F047XA508UT - High Mountain Loam (quaking aspen)

Hydric soil rating: No

Description of Charcol

Setting

Landform: Mountainsides

Landform position (three-dimensional): Mountainflank

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Colluvium derived from conglomerate

Typical profile

A11, A12 - 0 to 27 inches: gravelly fine sandy loam

A21, A22 - 27 to 40 inches: very gravelly fine sandy loam

B2t - 40 to 58 inches: very gravelly sandy clay loam

C - 58 to 62 inches: clay loam

Properties and qualities

Slope: 30 to 50 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water

(Ksat): Moderately high (0.20 to 0.60 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 5.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: B

Ecological site: R047XA432UT - Mountain Loam (oak)

Hydric soil rating: No

Minor Components

Condie

Percent of map unit: 4 percent

Hoskin

Percent of map unit: 4 percent

St. marys

Percent of map unit: 4 percent

Mowebe

Percent of map unit: 3 percent

Data Source Information

Soil Survey Area: Morgan Area, Utah - Morgan County and Part of Weber
County

Survey Area Data: Version 16, Sep 8, 2023

Morgan Area, Utah - Morgan County and Part of Weber County

FrG—Foxol-Rock outcrop complex, 40 to 70 percent slopes

Map Unit Setting

National map unit symbol: k037
Elevation: 5,900 to 8,500 feet
Mean annual precipitation: 18 to 22 inches
Frost-free period: 50 to 90 days
Farmland classification: Not prime farmland

Map Unit Composition

Foxol and similar soils: 60 percent
Rock outcrop: 30 percent
Minor components: 10 percent
*Estimates are based on observations, descriptions, and transects of
the mapunit.*

Description of Foxol

Setting

Landform: Mountainsides
Landform position (three-dimensional): Mountainflank
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Colluvium over residuum derived from quartzite

Typical profile

A11, A12 - 0 to 9 inches: very cobbly loam
B2 - 9 to 14 inches: extremely cobbly loam
R - 14 to 18 inches: unweathered bedrock

Properties and qualities

Slope: 40 to 70 percent
Depth to restrictive feature: 14 to 20 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Low to
high (0.01 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 1.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: R047XA446UT - Mountain Shallow Loam
(mountain big sagebrush)
Hydric soil rating: No

Description of Rock Outcrop

Setting

Landform: Mountainsides

Landform position (three-dimensional): Mountainflank

Down-slope shape: Convex

Across-slope shape: Convex

Minor Components

Smarts

Percent of map unit: 5 percent

Durst

Percent of map unit: 5 percent

Data Source Information

Soil Survey Area: Morgan Area, Utah - Morgan County and Part of Weber
County

Survey Area Data: Version 16, Sep 8, 2023

Morgan Area, Utah - Morgan County and Part of Weber County

HtC—Herd-Yence complex, 3 to 15 percent slopes

Map Unit Setting

National map unit symbol: k03p
Elevation: 6,990 to 8,890 feet
Mean annual precipitation: 22 to 35 inches
Farmland classification: Not prime farmland

Map Unit Composition

Herd and similar soils: 40 percent
Yence and similar soils: 35 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Herd

Setting

Landform: Ridges, mountain slopes
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Mountainflank, interfluve, crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Colluvium and/or slope alluvium derived from conglomerate

Typical profile

A11 - 0 to 3 inches: cobbly clay loam
A12, A13 - 3 to 20 inches: cobbly clay loam
IIB21tIIB22t - 20 to 36 inches: clay
IIB3t - 36 to 50 inches: clay loam
IIC - 50 to 60 inches: very gravelly clay loam

Properties and qualities

Slope: 3 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
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
Available water supply, 0 to 60 inches: Moderate (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: C
Ecological site: R047XA504UT - High Mountain Clay (slender
wheatgrass)
Hydric soil rating: No

Description of Yence

Setting

Landform: Ridges, mountain slopes
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Mountainflank, interfluve,
crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Till derived from conglomerate

Typical profile

A11 - 0 to 2 inches: very stony loam
A12 - 2 to 9 inches: very gravelly loam
B1t - 9 to 16 inches: very gravelly sandy clay loam
B21t - 16 to 23 inches: very gravelly clay loam
B22t - 23 to 33 inches: very cobbly clay
B3t - 33 to 42 inches: very cobbly clay loam
R - 42 to 46 inches: weathered bedrock

Properties and qualities

Slope: 3 to 15 percent
Surface area covered with cobbles, stones or boulders: 16.0
percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
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
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0
mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Ecological site: R047XA528UT - High Mountain Stony Clay
(slender wheatgrass)
Hydric soil rating: No

Minor Components

Richens

Percent of map unit: 13 percent

Yeljack

Percent of map unit: 12 percent

Data Source Information

Soil Survey Area: Morgan Area, Utah - Morgan County and Part of Weber
County

Survey Area Data: Version 16, Sep 8, 2023

Morgan Area, Utah - Morgan County and Part of Weber County

LkG—Lucky Star silt loam, 30 to 60 percent slopes

Map Unit Setting

National map unit symbol: k046
Elevation: 5,990 to 8,500 feet
Mean annual precipitation: 22 to 35 inches
Farmland classification: Not prime farmland

Map Unit Composition

Lucky star and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lucky Star

Setting

Landform: Mountainsides
Landform position (three-dimensional): Mountainflank
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Colluvium and/or slope alluvium derived from conglomerate

Typical profile

A11 - 0 to 6 inches: silt loam
A12 - 6 to 19 inches: gravelly silt loam
A21 - 19 to 34 inches: very gravelly loam
A22 - 34 to 47 inches: very gravelly sandy loam
A&B - 47 to 58 inches: extremely gravelly loam
A&B2 - 58 to 74 inches: extremely gravelly sandy loam

Properties and qualities

Slope: 30 to 60 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 5.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: F047XA508UT - High Mountain Loam (quaking aspen)

Hydric soil rating: No

Minor Components

Herd

Percent of map unit: 3 percent

Charcol

Percent of map unit: 3 percent

Ercan

Percent of map unit: 2 percent

Yeljack

Percent of map unit: 2 percent

Data Source Information

Soil Survey Area: Morgan Area, Utah - Morgan County and Part of Weber County

Survey Area Data: Version 16, Sep 8, 2023