

# **APPENDIX C    HYDRAULICS**

## **FLO-2D DOCUMENTATION**

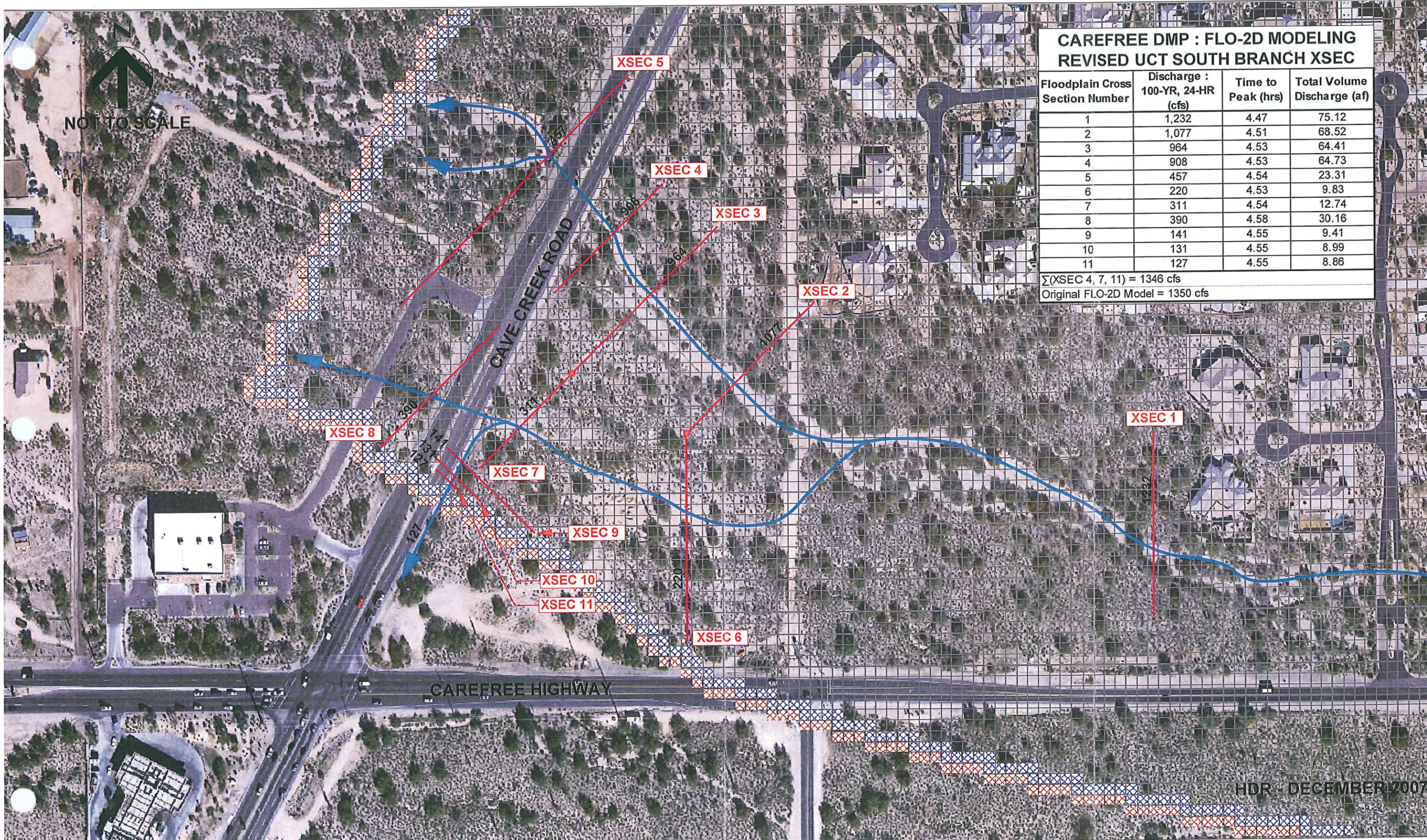


NOT TO SCALE

### CAREFREE DMP : FLO-2D MODELING REVISED UCT SOUTH BRANCH XSEC

Floodplain Cross Section Number	Discharge : 100-YR, 24-HR (cfs)	Time to Peak (hrs)	Total Volume Discharge (af)
1	1,232	4.47	75.12
2	1,077	4.51	68.52
3	964	4.53	64.41
4	908	4.53	64.73
5	457	4.54	23.31
6	220	4.53	9.83
7	311	4.54	12.74
8	390	4.58	30.16
9	141	4.55	9.41
10	131	4.55	8.99
11	127	4.55	8.86

$\Sigma(\text{XSEC 4, 7, 11}) = 1346 \text{ cfs}$   
 Original FLO-2D Model = 1350 cfs



FLO-2D OUTPUT FROM REVISED JEFULLER CAREFREE DMP: 100-YEAR, 24-HOUR MODEL  
 MODEL REPRESENTS THE UNNAMED CENTRAL TRIBUTARY SPLIT (NORTH AND SOUTH BRANCH)  
 [FLOODPLAIN CROSS SECTION REVISED AND RENUMBERED FOR AREA OF INTEREST]

Table C.1 FLO-2D Hydraulic Modeling Results Summary

Floodplain Cross Section Number	Discharge : 100-YR, 24-HR (cfs)	Time to Peak (hrs)	Total Volume Discharge (af)
1	1,232	4.47	75.12
2	1,077	4.51	68.52
3	964	4.53	64.41
4	908	4.53	64.73
5	457	4.54	23.31
6	220	4.53	9.83
7	311	4.54	12.74
8	390	4.58	30.16
9	141	4.55	9.41
10	131	4.55	8.99
11	127	4.55	8.86
$\Sigma(\text{XSEC } 4, 7, 11) = 1346 \text{ cfs}$ Original FLO-2D Model = 1350 cfs			

Units: (cfs = cubic feet per second), (hrs = hours) and (af = acre-feet)

**THE MAXIMUM DISCHARGE FROM CROSS SECTION 1 IS: 1231.51 CFS**  
**AT TIME: 4.47 HOURS**  
**THE TOTAL VOLUME OF DISCHARGE IS: 75.12 AF**

HYDROGRAPH AND AVERAGE FLOODPLAIN HYDRAULICS FOR CROSS SECTION NO: 1

TIME (HRS)	TOPWID (FT)	DEPTH (FT)	VELOCITY (FPS)	DISCHARGE (CFS)
3.90	300.00	0.06	0.12	2.22
4.00	220.00	0.12	0.26	6.68
4.10	100.00	0.28	0.49	13.71
4.20	120.00	0.24	0.50	14.30
4.30	320.00	0.51	2.32	381.63
4.40	360.00	0.94	3.44	1166.45
4.50	360.00	0.97	3.48	1216.04
4.60	360.00	0.91	3.34	1095.01
4.70	360.00	0.82	3.08	909.99
4.80	360.00	0.73	2.88	756.35
4.90	360.00	0.65	2.68	631.00
5.00	360.00	0.59	2.52	531.23
5.10	340.00	0.54	2.39	442.23
5.20	340.00	0.49	2.18	360.30
5.30	340.00	0.41	2.03	285.59
5.40	280.00	0.42	1.95	229.43
5.50	240.00	0.41	1.84	182.33
5.60	200.00	0.41	1.73	142.96
5.70	120.00	0.57	1.65	113.05
5.80	120.00	0.51	1.51	91.41
5.90	100.00	0.54	1.38	74.11
6.00	60.00	0.79	1.31	61.81
6.10	80.00	0.55	1.14	50.37
6.20	60.00	0.65	1.07	41.91
6.30	60.00	0.60	1.01	36.28
6.40	60.00	0.56	0.92	30.90
6.50	60.00	0.51	0.86	26.35
6.60	60.00	0.48	0.79	22.79
6.70	60.00	0.45	0.74	19.85
6.80	60.00	0.41	0.70	17.19
6.90	60.00	0.39	0.63	14.73
7.00	60.00	0.36	0.57	12.35
7.10	60.00	0.34	0.53	11.04
7.20	60.00	0.32	0.50	9.54
7.30	60.00	0.29	0.48	8.47
7.40	60.00	0.28	0.46	7.66
7.50	60.00	0.26	0.43	6.67
7.60	60.00	0.25	0.42	6.28
7.70	60.00	0.23	0.40	5.51
7.80	60.00	0.21	0.38	4.87
7.90	60.00	0.19	0.37	4.31
8.00	60.00	0.18	0.36	3.89
8.10	60.00	0.17	0.35	3.57
8.20	40.00	0.22	0.35	3.06
8.30	40.00	0.21	0.33	2.77
8.40	40.00	0.20	0.32	2.60
8.50	40.00	0.20	0.26	2.05
8.60	40.00	0.20	0.24	1.92

8.70	40.00	0.20	0.21	1.67
8.80	40.00	0.19	0.22	1.68
8.90	40.00	0.18	0.19	1.38
9.00	40.00	0.17	0.18	1.22
9.10	40.00	0.16	0.17	1.07
9.20	40.00	0.14	0.16	0.93
9.30	40.00	0.13	0.15	0.82
9.40	40.00	0.12	0.14	0.66
9.50	40.00	0.09	0.11	0.41
9.60	40.00	0.09	0.11	0.41
9.70	40.00	0.08	0.11	0.34
9.80	40.00	0.08	0.10	0.32
9.90	40.00	0.07	0.10	0.30
10.00	40.00	0.07	0.10	0.27
10.10	40.00	0.06	0.09	0.24
10.20	40.00	0.06	0.09	0.22
10.30	40.00	0.06	0.09	0.20
10.40	40.00	0.05	0.08	0.18
10.50	40.00	0.05	0.05	0.10
10.60	40.00	0.05	0.08	0.15
10.70	40.00	0.05	0.05	0.10
10.80	20.00	0.05	0.02	0.02
10.90	20.00	0.05	0.06	0.06
11.00	40.00	0.05	0.03	0.06
11.10	40.00	0.05	0.02	0.04
11.20	40.00	0.05	0.02	0.05
11.30	40.00	0.05	0.02	0.05

THE MAXIMUM DISCHARGE FROM CROSS SECTION 2 IS: 1077.02 CFS  
 AT TIME: 4.51 HOURS  
 THE TOTAL VOLUME OF DISCHARGE IS: 68.52 AF

HYDROGRAPH AND AVERAGE FLOODPLAIN HYDRAULICS FOR CROSS SECTION NO: 2

TIME (HRS)	TOPWID (FT)	DEPTH (FT)	VELOCITY (FPS)	DISCHARGE (CFS)
3.90	240.00	0.06	0.15	2.24
4.00	260.00	0.13	0.33	10.89
4.10	160.00	0.20	0.51	16.33
4.20	140.00	0.19	0.72	19.65
4.30	140.00	0.19	1.09	29.35
4.40	240.00	0.67	4.71	758.73
4.50	240.00	0.88	5.04	1068.73
4.60	240.00	0.86	4.93	1021.93
4.70	240.00	0.78	4.72	879.44
4.80	240.00	0.69	4.47	736.35
4.90	240.00	0.61	4.24	617.80
5.00	240.00	0.54	4.09	526.03
5.10	240.00	0.47	3.92	445.81
5.20	240.00	0.43	3.65	373.67
5.30	240.00	0.36	3.56	309.74
5.40	240.00	0.30	3.53	253.58
5.50	240.00	0.25	3.44	207.28
5.60	240.00	0.22	3.06	165.29
5.70	240.00	0.19	2.88	132.89
5.80	180.00	0.21	2.87	106.21
5.90	100.00	0.30	2.91	87.05
6.00	100.00	0.28	2.63	72.44
6.10	60.00	0.40	2.48	59.58
6.20	40.00	0.37	3.38	49.56
6.30	40.00	0.31	3.39	41.78
6.40	40.00	0.29	3.16	36.15
6.50	40.00	0.26	2.85	30.13
6.60	40.00	0.24	2.71	25.75
6.70	40.00	0.23	2.52	22.97
6.80	40.00	0.21	2.36	19.97
6.90	40.00	0.19	2.20	17.11
7.00	40.00	0.18	2.07	15.10
7.10	40.00	0.17	1.91	12.64
7.20	40.00	0.16	1.78	11.23
7.30	40.00	0.15	1.68	10.00
7.40	40.00	0.15	1.44	8.68
7.50	40.00	0.14	1.36	7.73
7.60	40.00	0.13	1.29	6.83
7.70	40.00	0.12	1.25	6.12
7.80	40.00	0.12	1.17	5.64
7.90	40.00	0.12	0.95	4.52
8.00	40.00	0.12	0.82	3.84
8.10	40.00	0.11	0.80	3.56
8.20	40.00	0.11	0.97	4.40
8.30	40.00	0.09	0.88	3.18
8.40	40.00	0.08	0.86	2.89
8.50	40.00	0.08	0.86	2.77
8.60	40.00	0.08	0.65	2.10
8.70	40.00	0.08	0.65	2.07

8.80	40.00	0.07	0.62	1.69
8.90	40.00	0.06	0.60	1.52
9.00	40.00	0.06	0.58	1.35
9.10	40.00	0.05	0.56	1.20
9.20	40.00	0.05	0.54	1.07
9.30	40.00	0.05	0.52	0.97
9.40	40.00	0.04	0.50	0.88
9.50	40.00	0.04	0.49	0.80
9.60	40.00	0.04	0.47	0.71
9.70	40.00	0.03	0.44	0.61
9.80	40.00	0.03	0.42	0.53
9.90	40.00	0.03	0.41	0.48
10.00	40.00	0.03	0.39	0.40
10.10	40.00	0.03	0.33	0.33
10.20	40.00	0.03	0.27	0.27
10.30	40.00	0.03	0.20	0.20
10.40	20.00	0.05	0.11	0.11
10.50	40.00	0.03	0.09	0.09
10.60	40.00	0.05	0.08	0.15

THE MAXIMUM DISCHARGE FROM CROSS SECTION 3 IS: 963.86 CFS  
 AT TIME: 4.53 HOURS  
 THE TOTAL VOLUME OF DISCHARGE IS: 64.41 AF

HYDROGRAPH AND AVERAGE FLOODPLAIN HYDRAULICS FOR CROSS SECTION NO: 3

TIME (HRS)	TOPWID (FT)	DEPTH (FT)	VELOCITY (FPS)	DISCHARGE (CFS)
3.90	280.00	0.07	0.15	3.01
4.00	280.00	0.10	0.33	9.47
4.10	80.00	0.18	1.00	14.61
4.20	80.00	0.17	1.18	16.42
4.30	60.00	0.24	1.65	24.00
4.40	180.00	0.67	4.91	592.20
4.50	260.00	0.82	4.44	950.07
4.60	260.00	0.82	4.37	929.43
4.70	260.00	0.74	4.22	812.81
4.80	260.00	0.64	4.16	692.90
4.90	260.00	0.56	4.05	591.49
5.00	260.00	0.50	3.95	510.56
5.10	260.00	0.43	3.92	438.97
5.20	200.00	0.47	3.90	370.08
5.30	200.00	0.41	3.86	312.88
5.40	180.00	0.37	3.92	258.57
5.50	180.00	0.31	3.84	212.58
5.60	180.00	0.26	3.67	171.12
5.70	140.00	0.26	3.74	136.95
5.80	120.00	0.24	3.77	110.82
5.90	60.00	0.39	3.90	90.25
6.00	40.00	0.50	3.76	75.17
6.10	40.00	0.45	3.46	62.64
6.20	40.00	0.40	3.18	51.35
6.30	40.00	0.36	2.98	43.13
6.40	20.00	0.62	3.02	37.20
6.50	20.00	0.54	2.88	31.34
6.60	20.00	0.51	2.64	26.71
6.70	20.00	0.48	2.47	23.76
6.80	20.00	0.44	2.35	20.85
6.90	20.00	0.38	2.31	17.50
7.00	20.00	0.35	2.25	15.58
7.10	20.00	0.31	2.20	13.52
7.20	20.00	0.27	2.16	11.64
7.30	20.00	0.24	2.13	10.39
7.40	20.00	0.22	2.09	9.17
7.50	20.00	0.20	2.02	8.06
7.60	20.00	0.20	1.81	7.24
7.70	20.00	0.20	1.57	6.28
7.80	20.00	0.20	1.43	5.70
7.90	20.00	0.18	1.42	5.25
8.00	20.00	0.15	1.62	4.74
8.10	20.00	0.12	1.68	4.11
8.20	20.00	0.10	1.73	3.63
8.30	20.00	0.09	1.81	3.36
8.40	20.00	0.08	1.97	3.03
8.50	20.00	0.06	2.15	2.67
8.60	20.00	0.05	2.30	2.31
8.70	20.00	0.05	2.13	2.13

8.80	20.00	0.05	1.84	1.84
8.90	20.00	0.05	1.58	1.58
9.00	20.00	0.05	1.38	1.38
9.10	20.00	0.05	1.21	1.21
9.20	20.00	0.05	1.10	1.10
9.30	20.00	0.05	1.03	1.03
9.40	20.00	0.05	1.01	1.01
9.50	20.00	0.05	0.78	0.78
9.60	20.00	0.05	0.52	0.52
9.70	20.00	0.05	0.59	0.59
9.80	20.00	0.05	0.52	0.52
9.90	20.00	0.05	0.52	0.52
10.00	20.00	0.05	0.43	0.43
10.10	20.00	0.05	0.38	0.38
10.20	20.00	0.05	0.32	0.32
10.30	20.00	0.05	0.31	0.31
10.40	20.00	0.05	0.20	0.20
10.50	20.00	0.05	0.14	0.14
10.60	20.00	0.05	0.09	0.09

**THE MAXIMUM DISCHARGE FROM CROSS SECTION 4 IS: 907.73 CFS**  
**AT TIME: 4.53 HOURS**  
**THE TOTAL VOLUME OF DISCHARGE IS: 64.73 AF**

HYDROGRAPH AND AVERAGE FLOODPLAIN HYDRAULICS FOR CROSS SECTION NO: 4

TIME (HRS)	TOPWID (FT)	DEPTH (FT)	VELOCITY (FPS)	DISCHARGE (CFS)
3.70	20.00	0.04	0.11	0.08
3.80	20.00	0.17	0.06	0.21
3.90	220.00	0.11	0.07	1.84
4.00	180.00	0.33	0.06	3.68
4.10	120.00	0.84	0.14	14.32
4.20	120.00	0.96	0.16	18.34
4.30	120.00	1.04	0.23	28.98
4.40	180.00	1.25	2.44	550.68
4.50	200.00	1.38	3.25	896.32
4.60	200.00	1.38	3.21	884.90
4.70	200.00	1.32	2.99	789.57
4.80	200.00	1.25	2.74	685.98
4.90	180.00	1.33	2.47	593.00
5.00	180.00	1.27	2.26	518.86
5.10	180.00	1.21	2.07	452.16
5.20	180.00	1.17	1.85	388.81
5.30	180.00	1.13	1.63	331.59
5.40	180.00	1.09	1.41	276.89
5.50	180.00	1.04	1.25	233.74
5.60	180.00	0.99	1.07	190.77
5.70	160.00	1.06	0.92	155.10
5.80	160.00	1.00	0.79	126.67
5.90	140.00	1.09	0.68	103.66
6.00	100.00	1.44	0.59	85.92
6.10	100.00	1.40	0.52	72.25
6.20	100.00	1.34	0.45	59.95
6.30	100.00	1.27	0.39	49.54
6.40	80.00	1.52	0.35	42.04
6.50	80.00	1.47	0.29	34.42
6.60	80.00	1.42	0.26	29.61
6.70	80.00	1.39	0.24	26.11
6.80	80.00	1.35	0.21	22.92
6.90	80.00	1.32	0.19	19.53
7.00	80.00	1.28	0.17	17.31
7.10	80.00	1.23	0.15	14.93
7.20	80.00	1.20	0.13	12.83
7.30	80.00	1.16	0.12	11.12
7.40	80.00	1.13	0.11	9.78
7.50	80.00	1.09	0.10	8.83
7.60	80.00	1.07	0.09	7.77
7.70	80.00	1.06	0.08	6.50
7.80	80.00	1.06	0.09	7.74
7.90	80.00	1.05	0.07	5.71
8.00	80.00	1.05	0.06	5.00
8.10	60.00	1.37	0.06	4.83
8.20	60.00	1.34	0.06	4.80
8.30	60.00	1.33	0.08	6.15
8.40	60.00	1.32	0.05	3.93
8.50	60.00	1.30	0.04	3.01

8.60	60.00	1.29	0.06	4.45
8.70	60.00	1.27	0.04	2.70
8.80	60.00	1.26	0.03	1.97
8.90	60.00	1.23	0.05	3.34
9.00	60.00	1.21	0.02	1.18
9.10	60.00	1.20	0.02	1.75
9.20	60.00	1.18	0.01	0.47
9.30	60.00	1.17	0.01	0.57
9.40	60.00	1.15	0.00	0.21
9.50	60.00	1.13	0.01	0.55
9.60	60.00	1.12	0.02	1.19
9.70	60.00	1.10	0.01	0.76
9.80	60.00	1.10	0.01	0.62
9.90	60.00	1.09	0.00	0.18
10.00	60.00	1.09	0.01	0.35
10.10	60.00	1.08	0.00	0.18
10.20	60.00	1.08	0.01	0.53
10.30	60.00	1.07	0.00	0.23
10.40	60.00	1.07	0.00	0.13
10.50	60.00	1.06	0.01	0.43
10.60	40.00	1.30	0.00	0.02
10.70	60.00	1.03	0.00	0.14
10.80	40.00	1.28	0.00	0.05
10.90	60.00	1.01	0.00	0.13
11.00	40.00	1.26	0.00	0.00
11.10	60.00	0.98	0.00	0.10
11.20	60.00	0.97	0.00	0.08
11.30	60.00	0.97	0.00	0.04
11.40	20.00	1.53	0.00	0.05
11.50	20.00	1.51	0.00	0.07
11.60	20.00	1.49	0.00	0.02
11.70	40.00	0.95	0.00	0.05
14.10	20.00	1.35	0.00	0.02
14.40	20.00	0.78	0.00	0.00
16.00	20.00	1.28	0.00	0.01
17.20	20.00	1.23	0.00	0.01
17.30	20.00	1.22	0.00	0.01
19.00	20.00	1.15	0.00	0.00
19.80	20.00	0.09	0.00	0.00
19.90	20.00	1.11	0.00	0.01
20.60	20.00	1.09	0.00	0.01
21.20	20.00	1.06	0.00	0.00
21.90	20.00	1.03	0.00	0.00

THE MAXIMUM DISCHARGE FROM CROSS SECTION 5 IS: 456.50 CFS  
 AT TIME: 4.54 HOURS  
 THE TOTAL VOLUME OF DISCHARGE IS: 23.31 AF

HYDROGRAPH AND AVERAGE FLOODPLAIN HYDRAULICS FOR CROSS SECTION NO: 5

TIME (HRS)	TOPWID (FT)	DEPTH (FT)	VELOCITY (FPS)	DISCHARGE (CFS)
3.60	60.00	0.05	0.03	0.10
3.70	40.00	0.05	0.04	0.07
3.80	200.00	0.06	0.10	1.07
3.90	380.00	0.06	0.12	2.84
4.00	400.00	0.06	0.10	2.61
4.10	60.00	0.07	0.09	0.35
4.20	140.00	0.05	0.05	0.37
4.30	120.00	0.05	0.05	0.31
4.40	420.00	0.24	1.02	100.63
4.50	420.00	0.56	1.87	441.26
4.60	420.00	0.56	1.88	444.32
4.70	420.00	0.52	1.73	376.86
4.80	440.00	0.45	1.58	312.21
4.90	420.00	0.42	1.44	253.30
5.00	420.00	0.38	1.31	207.59
5.10	420.00	0.34	1.19	170.17
5.20	420.00	0.31	1.03	135.21
5.30	400.00	0.30	0.89	105.75
5.40	400.00	0.26	0.79	81.27
5.50	340.00	0.25	0.71	60.74
5.60	320.00	0.21	0.63	42.93
5.70	300.00	0.17	0.54	28.10
5.80	280.00	0.16	0.42	18.11
5.90	240.00	0.14	0.35	11.72
6.00	260.00	0.10	0.25	6.85
6.10	160.00	0.10	0.23	3.64
6.20	80.00	0.09	0.19	1.38
6.30	60.00	0.10	0.14	0.85
6.40	20.00	0.13	0.14	0.37
6.50	20.00	0.08	0.10	0.17
6.60	20.00	0.05	0.07	0.07
8.80	20.00	0.05	0.03	0.03

**THE MAXIMUM DISCHARGE FROM CROSS SECTION 6 IS: 219.93 CFS**  
**AT TIME: 4.53 HOURS**  
**THE TOTAL VOLUME OF DISCHARGE IS: 9.83 AF**

HYDROGRAPH AND AVERAGE FLOODPLAIN HYDRAULICS FOR CROSS SECTION NO: 6

TIME (HRS)	TOPWID (FT)	DEPTH (FT)	VELOCITY (FPS)	DISCHARGE (CFS)
3.90	320.00	0.11	0.04	1.61
4.00	360.00	0.15	0.15	8.49
4.10	100.00	0.39	0.17	6.78
4.20	100.00	0.37	0.16	6.02
4.30	60.00	0.55	0.12	3.93
4.40	120.00	0.77	1.22	113.34
4.50	160.00	0.77	1.76	216.82
4.60	160.00	0.81	1.67	215.99
4.70	160.00	0.74	1.48	176.09
4.80	100.00	1.03	1.29	132.81
4.90	100.00	0.90	1.09	98.47
5.00	100.00	0.80	0.93	73.99
5.10	100.00	0.70	0.77	53.81
5.20	100.00	0.60	0.63	37.93
5.30	100.00	0.51	0.47	24.23
5.40	100.00	0.45	0.31	13.82
5.50	100.00	0.39	0.21	8.32
5.60	100.00	0.35	0.15	5.17
5.70	100.00	0.33	0.09	2.97
5.80	60.00	0.49	0.06	1.72
5.90	60.00	0.45	0.03	0.92
6.00	60.00	0.44	0.02	0.53
6.10	40.00	0.59	0.01	0.28
6.20	40.00	0.55	0.01	0.14
6.30	40.00	0.51	0.00	0.08
6.40	40.00	0.49	0.00	0.06
6.50	40.00	0.48	0.00	0.01

**THE MAXIMUM DISCHARGE FROM CROSS SECTION 7 IS: 311.45 CFS**  
**AT TIME: 4.54 HOURS**  
**THE TOTAL VOLUME OF DISCHARGE IS: 12.74 AF**

HYDROGRAPH AND AVERAGE FLOODPLAIN HYDRAULICS FOR CROSS SECTION NO: 7

TIME (HRS)	TOPWID (FT)	DEPTH (FT)	VELOCITY (FPS)	DISCHARGE (CFS)
3.90	160.00	0.08	0.11	1.53
4.00	160.00	0.15	0.26	6.34
4.10	120.00	0.17	0.25	4.90
4.20	100.00	0.19	0.29	5.45
4.30	80.00	0.22	0.33	5.71
4.40	80.00	0.52	0.14	5.93
4.50	160.00	1.05	1.77	298.36
4.60	160.00	1.06	1.78	300.56
4.70	160.00	0.98	1.59	250.77
4.80	160.00	0.88	1.35	189.86
4.90	160.00	0.77	1.10	135.91
5.00	160.00	0.70	0.87	97.70
5.10	140.00	0.71	0.69	67.85
5.20	140.00	0.62	0.51	44.22
5.30	120.00	0.63	0.38	28.86
5.40	120.00	0.54	0.25	16.35
5.50	80.00	0.70	0.17	9.77
5.60	80.00	0.62	0.13	6.34
5.70	80.00	0.54	0.09	4.07
5.80	80.00	0.49	0.08	3.02
5.90	60.00	0.50	0.06	1.82
6.00	60.00	0.39	0.05	1.22
6.10	60.00	0.30	0.04	0.82
6.20	60.00	0.17	0.09	0.96
6.30	40.00	0.20	0.17	1.35
6.40	40.00	0.20	0.13	1.03
6.50	40.00	0.20	0.11	0.89
6.60	40.00	0.16	0.08	0.52
6.70	20.00	0.20	0.09	0.34
6.80	20.00	0.16	0.07	0.21
6.90	20.00	0.12	0.07	0.16
7.00	20.00	0.10	0.07	0.12
7.10	20.00	0.08	0.07	0.11
7.20	20.00	0.07	0.07	0.10
7.30	20.00	0.05	0.03	0.03
7.40	20.00	0.05	0.04	0.04

THE MAXIMUM DISCHARGE FROM CROSS SECTION 8 IS: 390.05 CFS  
 AT TIME: 4.58 HOURS  
 THE TOTAL VOLUME OF DISCHARGE IS: 30.16 AF

HYDROGRAPH AND AVERAGE FLOODPLAIN HYDRAULICS FOR CROSS SECTION NO: 8

TIME (HRS)	TOPWID (FT)	DEPTH (FT)	VELOCITY (FPS)	DISCHARGE (CFS)
3.60	80.00	0.04	0.03	0.10
3.70	100.00	0.05	0.04	0.18
3.80	140.00	0.11	0.05	0.74
3.90	180.00	0.26	0.06	2.70
4.00	180.00	0.30	0.17	9.35
4.10	80.00	0.61	0.19	9.29
4.20	140.00	0.43	0.47	28.09
4.30	160.00	0.41	0.60	38.79
4.40	160.00	0.66	1.17	124.59
4.50	200.00	0.79	2.33	369.60
4.60	200.00	0.80	2.32	369.99
4.70	200.00	0.77	2.15	332.22
4.80	200.00	0.73	1.89	276.04
4.90	200.00	0.70	1.70	237.32
5.00	180.00	0.72	1.53	199.12
5.10	180.00	0.70	1.39	175.32
5.20	180.00	0.64	1.28	148.66
5.30	180.00	0.62	1.24	139.02
5.40	180.00	0.60	1.18	127.00
5.50	180.00	0.57	1.11	114.31
5.60	180.00	0.55	1.07	105.77
5.70	180.00	0.53	1.01	97.12
5.80	180.00	0.52	0.98	90.54
5.90	180.00	0.51	0.90	82.41
6.00	160.00	0.54	0.85	72.86
6.10	160.00	0.51	0.83	67.08
6.20	160.00	0.49	0.78	60.99
6.30	160.00	0.43	0.56	38.66
6.40	160.00	0.41	0.53	34.53
6.50	160.00	0.39	0.48	30.24
6.60	160.00	0.38	0.44	26.94
6.70	160.00	0.37	0.41	24.13
6.80	120.00	0.47	0.39	21.95
6.90	60.00	0.88	0.38	20.26
7.00	100.00	0.54	0.33	17.85
7.10	60.00	0.86	0.31	15.70
7.20	60.00	0.84	0.28	14.40
7.30	20.00	2.37	0.26	12.59
7.40	20.00	2.34	0.24	11.30
7.50	20.00	2.30	0.21	9.87
7.60	20.00	2.25	0.19	8.67
7.70	20.00	2.20	0.17	7.58
7.80	20.00	2.15	0.15	6.42
7.90	20.00	2.15	0.14	5.87
8.00	20.00	2.12	0.13	5.37
8.10	20.00	2.11	0.12	5.15
8.20	20.00	2.09	0.12	4.85
8.30	20.00	2.05	0.10	4.19
8.40	20.00	2.04	0.09	3.79

8.50	20.00	2.02	0.09	3.57
8.60	20.00	1.99	0.08	3.18
8.70	20.00	1.98	0.08	2.99
8.80	20.00	1.97	0.07	2.87
8.90	20.00	1.96	0.07	2.64
9.00	20.00	1.94	0.06	2.43
9.10	20.00	1.92	0.06	2.19
9.20	20.00	1.90	0.05	1.97
9.30	20.00	1.88	0.05	1.74
9.40	20.00	1.86	0.04	1.58
9.50	40.00	0.94	0.04	1.42
9.60	20.00	1.84	0.04	1.29
9.70	20.00	1.82	0.03	1.15
9.80	20.00	1.80	0.03	0.99
9.90	20.00	1.77	0.02	0.80
10.00	20.00	1.78	0.02	0.66
10.10	20.00	1.79	0.01	0.47
10.20	20.00	1.79	0.01	0.46
10.30	20.00	1.78	0.01	0.44
10.40	20.00	1.78	0.01	0.42
10.50	20.00	1.76	0.01	0.35
10.60	40.00	0.90	0.01	0.35
10.70	20.00	1.74	0.01	0.30
10.80	20.00	1.73	0.01	0.28
10.90	20.00	1.73	0.01	0.27
11.00	20.00	1.73	0.01	0.27
11.10	20.00	1.72	0.01	0.25
11.20	20.00	1.71	0.01	0.22
11.30	20.00	1.71	0.01	0.21
11.40	20.00	1.70	0.01	0.20
11.50	20.00	1.70	0.01	0.19
11.60	20.00	1.69	0.00	0.16
11.70	20.00	1.68	0.00	0.15
11.80	20.00	1.67	0.00	0.13
11.90	20.00	1.67	0.00	0.12
12.00	20.00	1.66	0.00	0.11
12.10	20.00	1.65	0.00	0.10
12.20	20.00	1.64	0.00	0.08
12.30	20.00	1.63	0.00	0.07
12.40	20.00	1.62	0.00	0.06
12.50	20.00	1.62	0.00	0.05
12.60	20.00	1.59	0.00	0.04

THE MAXIMUM DISCHARGE FROM CROSS SECTION 9 IS: 141.40 CFS  
 AT TIME: 4.55 HOURS  
 THE TOTAL VOLUME OF DISCHARGE IS: 9.41 AF

HYDROGRAPH AND AVERAGE FLOODPLAIN HYDRAULICS FOR CROSS SECTION NO: 9

TIME (HRS)	TOPWID (FT)	DEPTH (FT)	VELOCITY (FPS)	DISCHARGE (CFS)
3.70	40.00	0.05	0.00	0.01
3.80	20.00	0.05	0.08	0.08
3.90	160.00	0.05	0.10	0.88
4.00	160.00	0.06	0.11	1.03
4.10	20.00	0.13	0.08	0.22
4.20	60.00	0.16	0.32	3.11
4.30	40.00	0.28	0.74	8.18
4.40	40.00	0.39	1.93	30.15
4.50	40.00	0.85	3.90	133.40
4.60	40.00	0.89	3.92	138.82
4.70	40.00	0.81	3.89	126.06
4.80	40.00	0.77	3.53	109.14
4.90	40.00	0.69	3.22	89.03
5.00	40.00	0.66	3.05	80.63
5.10	40.00	0.62	2.77	68.35
5.20	40.00	0.58	2.68	61.67
5.30	40.00	0.54	2.35	51.17
5.40	40.00	0.50	2.11	41.89
5.50	40.00	0.46	1.96	36.04
5.60	40.00	0.43	1.80	30.85
5.70	40.00	0.37	1.58	23.53
5.80	40.00	0.35	1.24	17.38
5.90	40.00	0.31	1.01	12.63
6.00	40.00	0.28	0.71	7.77
6.10	40.00	0.23	0.40	3.75
6.20	20.00	0.36	0.34	2.40
6.30	40.00	0.32	1.08	13.71
6.40	40.00	0.29	0.94	10.82
6.50	40.00	0.27	0.71	7.84
6.60	40.00	0.27	0.61	6.71
6.70	40.00	0.26	0.48	5.06
6.80	40.00	0.23	0.39	3.60
6.90	40.00	0.21	0.34	2.94
7.00	20.00	0.35	0.33	2.26
7.10	20.00	0.30	0.29	1.77
7.20	20.00	0.27	0.26	1.42
7.30	20.00	0.24	0.24	1.13
7.40	20.00	0.22	0.24	1.06
7.50	20.00	0.22	0.23	1.01
7.60	20.00	0.20	0.19	0.76
7.70	20.00	0.20	0.12	0.50
7.80	20.00	0.18	0.10	0.36
7.90	20.00	0.14	0.08	0.21
8.00	20.00	0.11	0.07	0.15
8.10	20.00	0.09	0.06	0.12
8.20	20.00	0.08	0.06	0.10
8.30	20.00	0.06	0.05	0.07
8.40	40.00	0.05	0.01	0.01
10.10	40.00	0.05	0.02	0.04

11.20	20.00	0.05	0.00	0.00
11.40	20.00	0.05	0.07	0.07
12.60	20.00	0.05	0.01	0.01

**THE MAXIMUM DISCHARGE FROM CROSS SECTION 10 IS: 130.97 CFS**  
**AT TIME: 4.55 HOURS**  
**THE TOTAL VOLUME OF DISCHARGE IS: 8.99 AF**

HYDROGRAPH AND AVERAGE FLOODPLAIN HYDRAULICS FOR CROSS SECTION NO: 10

TIME (HRS)	TOPWID (FT)	DEPTH (FT)	VELOCITY (FPS)	DISCHARGE (CFS)
3.70	20.00	0.05	0.06	0.06
3.80	20.00	0.05	0.02	0.02
3.90	80.00	0.05	0.05	0.22
4.00	80.00	0.05	0.13	0.52
4.10	20.00	0.05	0.20	0.20
4.20	40.00	0.07	0.84	2.49
4.30	20.00	0.26	1.15	6.00
4.40	60.00	0.20	2.56	30.98
4.50	60.00	0.54	3.87	124.26
4.60	60.00	0.55	3.91	129.08
4.70	60.00	0.52	3.81	118.83
4.80	60.00	0.51	3.39	103.19
4.90	60.00	0.47	3.01	85.00
5.00	60.00	0.44	2.94	77.40
5.10	60.00	0.40	2.76	66.11
5.20	60.00	0.37	2.65	59.43
5.30	60.00	0.38	2.21	49.81
5.40	60.00	0.34	2.05	41.28
5.50	60.00	0.31	1.93	35.93
5.60	60.00	0.29	1.78	30.74
5.70	60.00	0.21	1.81	23.05
5.80	60.00	0.18	1.61	17.37
5.90	20.00	0.36	1.78	12.88
6.00	20.00	0.27	1.13	6.02
6.10	20.00	0.20	0.89	3.57
6.20	20.00	0.14	0.91	2.58
6.30	20.00	0.36	1.85	13.33
6.40	20.00	0.31	1.79	11.11
6.50	20.00	0.25	1.77	8.87
6.60	20.00	0.27	1.19	6.54
6.70	20.00	0.23	1.12	5.17
6.80	20.00	0.20	0.89	3.55
6.90	20.00	0.17	0.87	3.02
7.00	20.00	0.13	0.94	2.36
7.10	20.00	0.09	1.02	1.85
7.20	20.00	0.07	1.11	1.47
7.30	20.00	0.05	1.16	1.16
7.40	20.00	0.05	1.07	1.07
7.50	20.00	0.05	1.03	1.03
7.60	20.00	0.05	0.84	0.84
7.70	20.00	0.05	0.45	0.45
7.80	20.00	0.05	0.37	0.37
7.90	20.00	0.05	0.25	0.25
8.00	20.00	0.05	0.18	0.18
8.10	20.00	0.05	0.14	0.14
8.20	20.00	0.05	0.11	0.11
8.30	20.00	0.05	0.09	0.09
8.40	40.00	0.05	0.09	0.18
8.50	20.00	0.05	0.03	0.03

8.60	20.00	0.05	0.02	0.02
8.70	20.00	0.05	0.01	0.01
9.00	20.00	0.05	0.03	0.03
11.20	20.00	0.05	0.07	0.07
12.60	20.00	0.05	0.12	0.12

THE MAXIMUM DISCHARGE FROM CROSS SECTION 11 IS: 126.79 CFS  
 AT TIME: 4.55 HOURS  
 THE TOTAL VOLUME OF DISCHARGE IS: 8.86 AF

HYDROGRAPH AND AVERAGE FLOODPLAIN HYDRAULICS FOR CROSS SECTION NO: 11

TIME (HRS)	TOPWID (FT)	DEPTH (FT)	VELOCITY (FPS)	DISCHARGE (CFS)
3.70	20.00	0.05	0.02	0.02
3.80	20.00	0.05	0.12	0.12
3.90	60.00	0.05	0.10	0.32
4.00	60.00	0.07	0.13	0.51
4.10	20.00	0.06	0.17	0.22
4.20	20.00	0.20	0.52	2.10
4.30	40.00	0.21	0.82	6.88
4.40	40.00	0.35	2.01	27.87
4.50	40.00	0.76	3.97	120.37
4.60	40.00	0.77	4.05	125.03
4.70	40.00	0.74	3.90	115.52
4.80	40.00	0.64	3.95	101.43
4.90	40.00	0.59	3.53	83.79
5.00	40.00	0.58	3.31	76.98
5.10	40.00	0.54	3.07	65.85
5.20	40.00	0.51	2.88	59.26
5.30	40.00	0.51	2.41	49.72
5.40	40.00	0.47	2.16	41.09
5.50	40.00	0.42	2.14	36.11
5.60	40.00	0.37	2.07	30.92
5.70	40.00	0.33	1.89	25.22
5.80	40.00	0.34	1.29	17.43
5.90	40.00	0.31	1.12	13.68
6.00	40.00	0.21	0.93	7.96
6.10	40.00	0.15	0.69	4.03
6.20	20.00	0.20	0.66	2.63
6.30	40.00	0.30	1.10	13.27
6.40	40.00	0.27	1.03	11.35
6.50	40.00	0.24	0.93	8.83
6.60	40.00	0.20	0.76	6.13
6.70	40.00	0.17	0.75	5.22
6.80	40.00	0.14	0.68	3.86
6.90	40.00	0.13	0.58	3.07
7.00	20.00	0.20	0.63	2.53
7.10	20.00	0.20	0.57	2.26
7.20	20.00	0.20	0.37	1.47
7.30	20.00	0.17	0.34	1.18
7.40	20.00	0.16	0.33	1.07
7.50	20.00	0.16	0.32	1.02
7.60	20.00	0.14	0.30	0.86
7.70	20.00	0.11	0.24	0.52
7.80	20.00	0.09	0.22	0.40
7.90	20.00	0.07	0.19	0.27
8.00	20.00	0.06	0.17	0.19
8.10	20.00	0.05	0.15	0.15
8.20	20.00	0.05	0.13	0.13
8.30	20.00	0.05	0.11	0.11
8.40	20.00	0.05	0.09	0.09
9.00	40.00	0.05	0.06	0.11

**FPXSEC.DAT (INPUT FILE FOR CROSS SECTION  
LOCATIONS WITHIN EFFECTIVE FLO-2D MODEL)**

P 1

X 4 22 227 264 302 342 386 431 478 529 583 641 699 760 823 889 957 1028 1101 1177 1255 1335 1417 1501

X 8 12 151 183 216 253 291 331 375 420 467 518 572 630

X 7 9 790 729 670 614 558 506 457 412 369

X 4 18 8244 8245 8246 8247 8248 8249 8250 8251 8252 8253 8254 8255 8256 8257 8258 8259 8260 8261

X 8 13 1925 2027 2133 2241 2351 2463 2576 2690 2807 2925 3044 3165 3287

X 4 20 1906 1907 1908 1909 1910 1911 1912 1913 1914 1915 1916 1917 1918 1919 1920 1921 1922 1923 1924  
1925

X 4 10 507 561 619 677 738 801 867 935 1006 1079

X 7 5 504 455 410 367 325

X 7 3 409 366 324

X 8 14 1079 1155 1233 1313 1395 1479 1566 1655 1747 1842 1941 2043 2149 2257

X 8 11 944 1015 1088 1164 1242 1322 1404 1488 1575 1664 1756

## Cross Section for Spur Cross Rd at WS Wash proposed

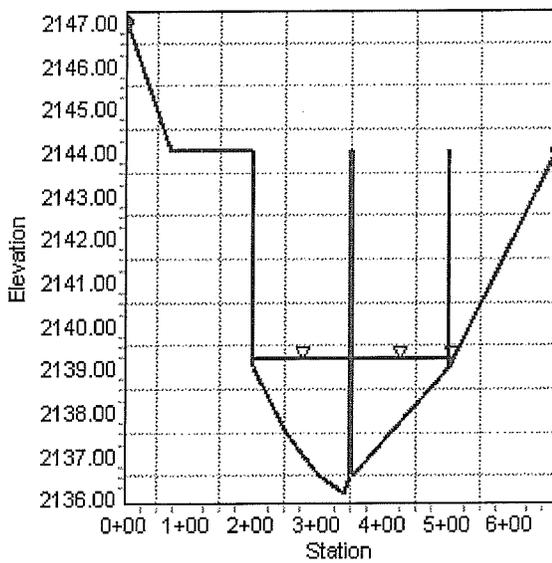
### Project Description

Friction Method                      Manning Formula  
Solve For                                Normal Depth

### Input Data

Channel Slope    0.02400    ft/ft  
Normal Depth    3.10        ft  
Discharge    4800.00   ft<sup>3</sup>/s

### Cross Section Image





---

## Worksheet for Spur Cross Rd at WS Wash proposed

---

### Results

Flow Area	519.40	ft <sup>2</sup>
Wetted Perimeter	311.85	ft
Top Width	305.78	ft
Normal Depth	3.10	ft
Critical Depth	3.39	ft
Critical Slope	0.01479	ft/ft
Velocity	9.24	ft/s
Velocity Head	1.33	ft
Specific Energy	4.43	ft
Froude Number	1.25	
Flow Type	Supercritical	

---

### GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

---

### GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	3.10	ft
Critical Depth	3.39	ft
Channel Slope	0.02400	ft/ft
Critical Slope	0.01479	ft/ft





## Cross Section for School House Rd at Ocotillo Wash proposed

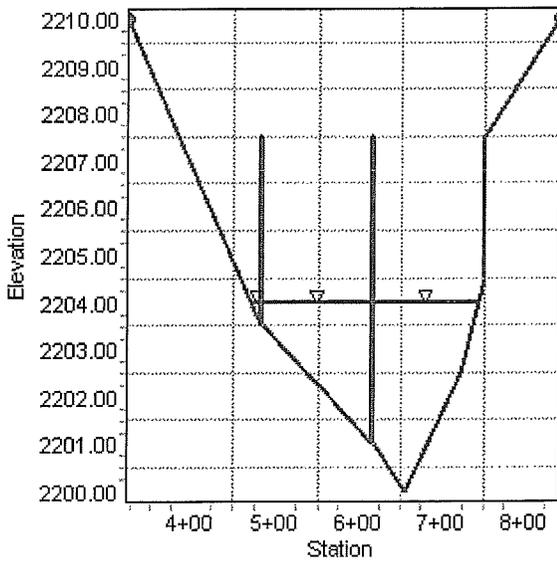
### Project Description

Friction Method                      Manning Formula  
Solve For                                Normal Depth

### Input Data

Channel Slope                              0.01500    ft/ft  
Normal Depth                                3.97        ft  
Discharge                                    4630.00    ft<sup>3</sup>/s

### Cross Section Image



## Worksheet for School House Rd at Ocotillo Wash proposed

**Project Description**

Friction Method                      Manning Formula  
 Solve For                              Normal Depth

**Input Data**

Channel Slope    0.01500    ft/ft  
 Discharge    4630.00    ft<sup>3</sup>/s  
 Section Definitions

Station (ft)	Elevation (ft)
3+20	2210.00
4+82	2203.50
4+82	2207.50
4+83	2207.50
4+83	2203.50
6+15	2201.00
6+15	2207.50
6+16	2207.50
6+16	2201.00
6+55	2200.00
7+20	2202.50
7+50	2204.50
7+50	2207.50
8+40	2210.00

**Roughness Segment Definitions**

Start Station	Ending Station	Roughness Coefficient
(3+20, 2210.00)	(8+40, 2210.00)	0.035

**Results**

Normal Depth    3.97    ft  
 Elevation Range                                        2200.00 to 2210.00 ft  
 Flow Area    557.91    ft<sup>2</sup>  
 Wetted Perimeter                                        276.75    ft

---

## Worksheet for School House Rd at Ocotillo Wash proposed

---

### Results

Top Width	269.73	ft
Normal Depth	3.97	ft
Critical Depth	4.00	ft
Critical Slope	0.01446	ft/ft
Velocity	8.30	ft/s
Velocity Head	1.07	ft
Specific Energy	5.04	ft
Froude Number	1.02	
Flow Type	Supercritical	

---

### GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

---

### GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	3.97	ft
Critical Depth	4.00	ft
Channel Slope	0.01500	ft/ft
Critical Slope	0.01446	ft/ft

## Cross Section for School House Rd at Rowe Wash proposed

Project Description

Friction Method

Manning Formula

Solve For

Normal Depth

### Input Data

Channel Slope

0.02500 ft/ft

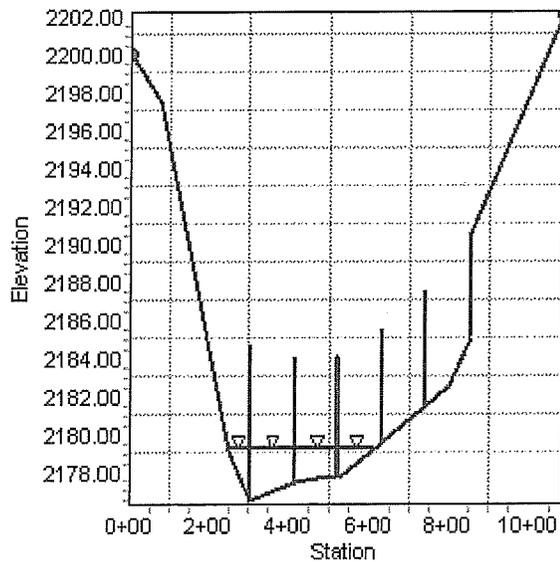
Normal Depth

2.76 ft

Discharge

5094.00 ft<sup>3</sup>/s

### Cross Section Image





## Worksheet for School House Rd at Rowe Wash proposed

### Input Data

Station (ft)	Elevation (ft)
10+80	2202.00

### Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 2200.00)	(10+80, 2202.00)	0.035

### Results

Normal Depth	2.76	ft
Elevation Range	2176.50 to 2202.00 ft	
Flow Area	570.69	ft <sup>2</sup>
Wetted Perimeter	372.16	ft
Top Width	359.91	ft
Normal Depth	2.76	ft
Critical Depth	3.04	ft
Critical Slope	0.01546	ft/ft
Velocity	8.93	ft/s
Velocity Head	1.24	ft
Specific Energy	4.00	ft
Froude Number	1.25	
Flow Type	Supercritical	

### GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

### GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	2.76	ft

---

## Worksheet for School House Rd at Rowe Wash proposed

---

### GVF Output Data

Critical Depth	3.04	ft
Channel Slope	0.02500	ft/ft
Critical Slope	0.01546	ft/ft

## Cross Section for School House Rd at Galloway Wash proposed

Project Description

Friction Method

Manning Formula

Solve For

Normal Depth

Input Data

Channel Slope

0.03000 ft/ft

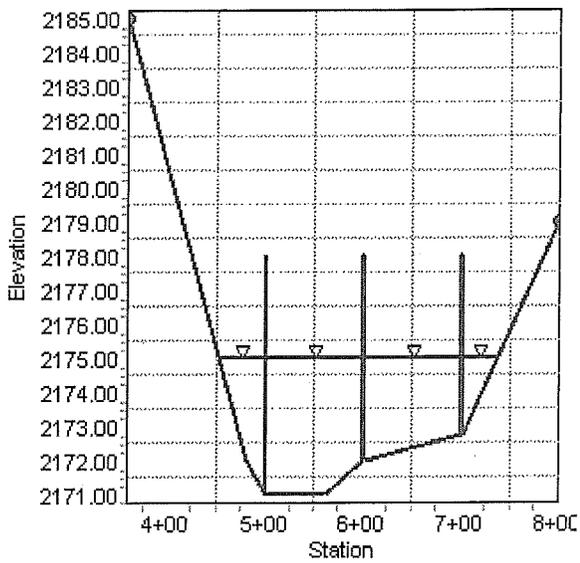
Normal Depth

3.99 ft

Discharge

10908.00 ft<sup>3</sup>/s

Cross Section Image





---

## Worksheet for School House Rd at Galloway Wash proposed

---

### Results

Flow Area	781.98	ft <sup>2</sup>
Wetted Perimeter	299.31	ft
Top Width	280.68	ft
Normal Depth	3.99	ft
Critical Depth	4.87	ft
Critical Slope	0.01310	ft/ft
Velocity	13.95	ft/s
Velocity Head	3.02	ft
Specific Energy	7.02	ft
Froude Number	1.47	
Flow Type	Supercritical	

---

### GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

---

### GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	3.99	ft
Critical Depth	4.87	ft
Channel Slope	0.03000	ft/ft
Critical Slope	0.01310	ft/ft

# Culvert Calculator Report

## UCT NORTH BRANCH AT CAVE CREEK ROAD <1252 cfs>

Solve For: Headwater Elevation

Culvert Summary			
Allowable HW Elevation	2,036.57 ft	Headwater Depth/Height	1.40
Computed Headwater Elev.	2,034.59 ft	Discharge	1,252.00 cfs
Inlet Control HW Elev.	2,034.59 ft	Tailwater Elevation	2,030.00 ft
Outlet Control HW Elev.	2,034.46 ft	Control Type	Inlet Control

Grades			
Upstream Invert	2,029.00 ft	Downstream Invert	2,026.50 ft
Length	150.00 ft	Constructed Slope	0.016667 ft/ft

Hydraulic Profile			
Profile	CompositeS1S2	Depth, Downstream	1.98 ft
Slope Type	Steep	Normal Depth	1.77 ft
Flow Regime	N/A	Critical Depth	3.12 ft
Velocity Downstream	15.82 ft/s	Critical Slope	0.003218 ft/ft

Section			
Section Shape	Box	Mannings Coefficient	0.013
Section Material	Concrete	Span	10.00 ft
Section Size	10 x 4 ft	Rise	4.00 ft
Number Sections	4		

Outlet Control Properties			
Outlet Control HW Elev.	2,034.46 ft	Upstream Velocity Head	1.56 ft
Ke	0.50	Entrance Loss	0.78 ft

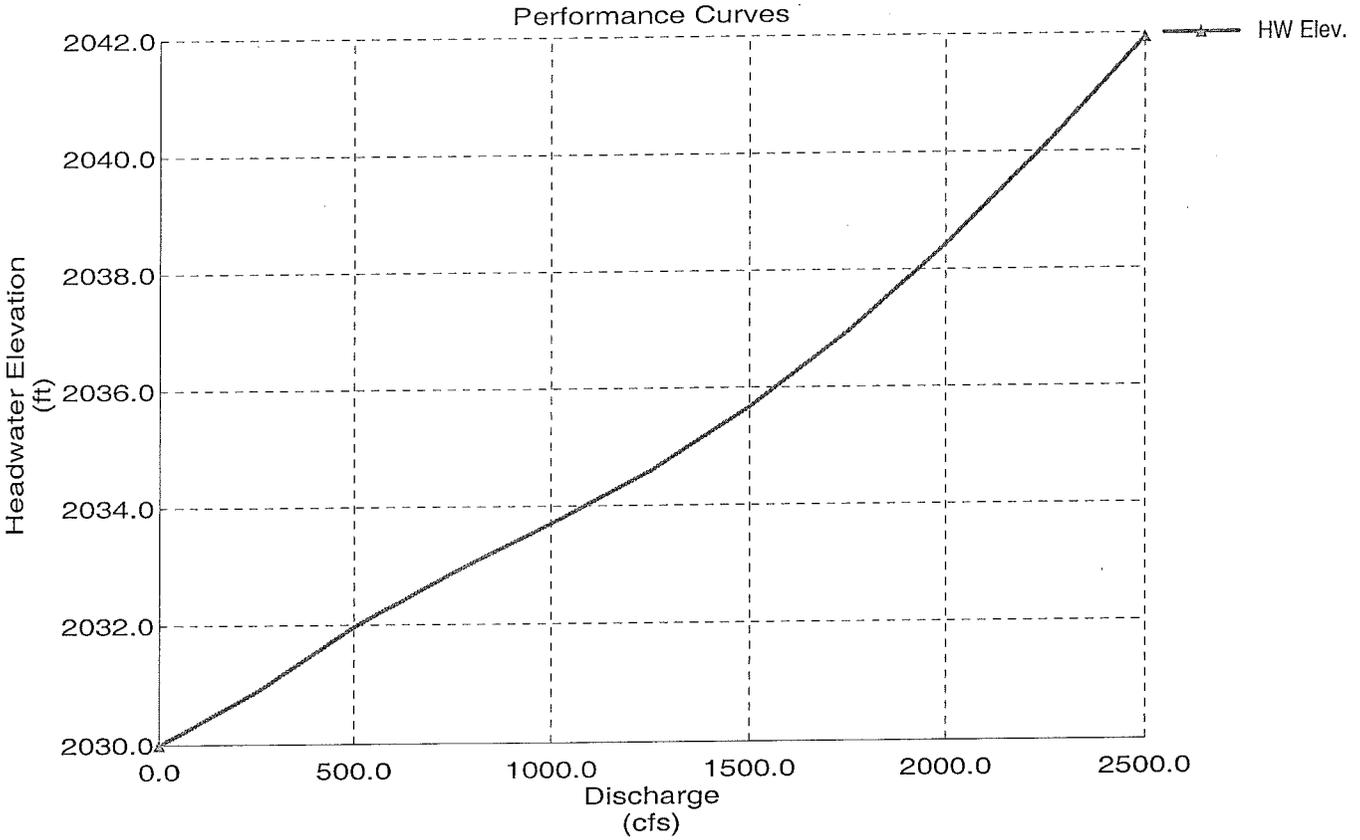
Inlet Control Properties			
Inlet Control HW Elev.	2,034.59 ft	Flow Control	N/A
Inlet Type	90 and 15° wingwall flares	Area Full	160.0 ft <sup>2</sup>
K	0.06100	HDS 5 Chart	8
M	0.75000	HDS 5 Scale	2
C	0.04000	Equation Form	1
Y	0.80000		

# Performance Curves Report

## UCT NORTH BRANCH AT CAVE CREEK ROAD <1252 cfs>

Range Data:

	Minimum	Maximum	Increment
Discharge	0.00	2,500.00	250.00 cfs



# Culvert Calculator Report

## UCT SOUTH BRANCH AT CAVE CREEK ROAD <911 cfs>

Solve For: Headwater Elevation

### Culvert Summary

Allowable HW Elevation	2,044.00 ft	Headwater Depth/Height	1.47
Computed Headwater Elev.	2,042.92 ft	Discharge	911.00 cfs
Inlet Control HW Elev.	2,042.62 ft	Tailwater Elevation	2,040.00 ft
Outlet Control HW Elev.	2,042.92 ft	Control Type	Entrance Control

### Grades

Upstream Invert	2,038.50 ft	Downstream Invert	2,037.00 ft
Length	150.00 ft	Constructed Slope	0.010000 ft/ft

### Hydraulic Profile

Profile	CompositeS1S2	Depth, Downstream	3.00 ft
Slope Type	Steep	Normal Depth	1.75 ft
Flow Regime	N/A	Critical Depth	2.53 ft
Velocity Downstream	7.59 ft/s	Critical Slope	0.003473 ft/ft

### Section

Section Shape	Box	Mannings Coefficient	0.013
Section Material	Concrete	Span	8.00 ft
Section Size	8 x 3 ft	Rise	3.00 ft
Number Sections	5		

### Outlet Control Properties

Outlet Control HW Elev.	2,042.92 ft	Upstream Velocity Head	1.26 ft
Ke	0.50	Entrance Loss	0.63 ft

### Inlet Control Properties

Inlet Control HW Elev.	2,042.62 ft	Flow Control	Submerged
Inlet Type	10 - 45° skewed headwall	Area Full	120.0 ft <sup>2</sup>
K	0.49800	HDS 5 Chart	11
M	0.66700	HDS 5 Scale	4
C	0.03270	Equation Form	2
Y	0.75000		

# Performance Curves Report

## UCT SOUTH BRANCH AT CAVE CREEK ROAD <911 cfs>

Range Data:

	Minimum	Maximum	Increment
Discharge	0.00	1,800.00	180.00 cfs

