

**O'FALLON CENTER
DETENTION REPORT
JUNE 6, 1996 - 96-0185**

Lot 1 is divided into two watersheds with 0.62 acres draining to the North and 1.45 acres draining to the South along with Lot 2 (0.77 acres) to Belleau Creek under existing conditions.

Resulting in: (Lot 1) 0.62 acres (1.87) = 1.16 c.f.s. to the North
(Lot 1) 1.45 acres (1.87) = 2.71 c.f.s. to the South
(Lot 2) 0.77 acres (1.87) = 1.44 c.f.s. to the South

15 yr.

Proposed Development Will Result In:

(Lot 1) 0.01 acres (3.85) = 0.04 c.f.s. to the North
(Lot 1) 2.06 acres (3.85) = 7.93 c.f.s. to the South
(Lot 2) 0.77 acres (3.85) = 2.96 c.f.s. to the South
(Off-site) 0.06 acres (3.85) = 0.23 c.f.s. to the South
w/1.85 acres (3.85) = 7.12 c.f.s. to the detention basin

A detention basin has been provided at the Northeast corner of Lot 1 (Basin 1) and also at the Northeast corner of Lot 2 (Basin 2) and has been designed to provide detention for the 100 yr. storm.

DETENTION BASIN

Detention Required

15 yr. = 0.62 acres (3.85) = 2.39 c.f.s.
2.22 acres (3.85 - 1.87) = 4.40 c.f.s.
6.79 c.f.s. Exist. Runoff

100 yr. = 0.62 acres (6.08) = 3.77 c.f.s.
2.22 acres (6.08 - 2.95) = 6.95 c.f.s.
10.72 c.f.s. Exist. Runoff

Detention Provided

15 yr. = Qin to Basin #1 = 7.12 c.f.s.
Qin to Basin #2 = 2.19 c.f.s.
9.31 c.f.s.
Qout from Basin #2 = 1.60 c.f.s. (See Routing)
7.71 c.f.s. Differential
(See Hydrograph For Basin 1 Qout)

100 yr. = Qin to Basin #1 = 11.25 c.f.s.
Qin to Basin #2 = 3.47 c.f.s.
14.72 c.f.s. (See Routing)
Qout from Basin #2 = 1.80 c.f.s.
12.92 c.f.s. Differential
(See Hydrograph For Basin 1 Qout)

OVERFLOW STRUCTURE**BASIN #1**

Standard Area Inlet (Precast Concrete with 4 sides open) with a rectangular orifice 4" W x 8" H at 538.50 (Low Flow) with the sill at 541.86 (100 yr. Highwater).

15 yr. Routing (Attached) 540.94
 100 yr. Routing (Attached) 541.86

100 yr. Low Flow Blocked

$$3(11.67)h^{3/2} = 11.25 \quad 541.86 \text{ (100 yr. Highwater)}$$

$$h = 0.47 \quad \underline{0.47}$$

$$542.33$$

Min. Top of Berm - 542.33 (100 yr. Low Flow Blocked)
1.00 (Freeboard)
 543.33

Actual Top of Berm- 543.50

BASIN #2

Standard Area Inlet (Precast Concrete with 4 sides open) with a rectangular orifice 4" W x 8" H at 529.00 (Low Flow) with the sill at 532.25 (100 yr. Highwater)

15 yr. Routing (Attached) 531.52
 100 yr. Routing (Attached) 532.25

100 yr. Low Flow Blocked

$$3(11.67)h^{3/2} = 14.72 \quad 532.25 \text{ (100 yr. Highwater)}$$

$$h = 0.56 \quad \underline{0.56}$$

$$532.81$$

Min. Top of Berm - 532.81 (100 yr. Low Flow Blocked)
1.00 Freeboard
 533.81

Actual Top of Berm = 534.10

SEDIMENT STORAGE**BASIN #1**

Actual Top of Berm = 543.50
 Min. Top of Berm = 543.33
 0.17 feet for sediment storage

The area of storage at 543.33 = 7,094 sq. ft. x 0.17 feet = 1,206 cu. ft. of sediment storage provided with only 304 cu. ft. of sediment storage required.

BASIN #2

Actual Top of Berm = 534.10

Min. Top of Berm = 533.81

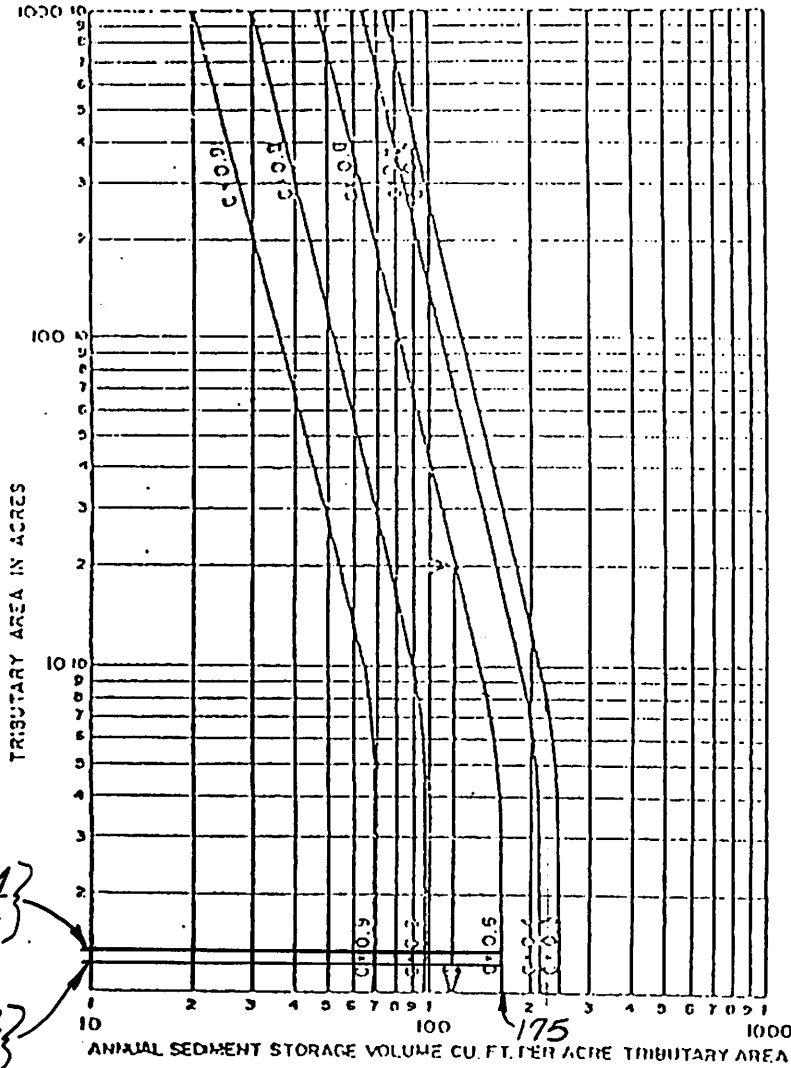
0.29 feet for Sediment Storage

The area of storage at 533.81 = 3,612 sq. ft. x 0.29 feet = 1,047 cu. ft. of sediment storage provided with only 206 cu. ft. of sediment storage required.

Paved swale in detention basins are to be 4' wide and 6" deep.

2yr Storage Required

EXAMPLE:
 TRIBUTARY AREA = 20 ACRES
 NATIONAL METHOD RUNOFF COEFFICIENT "C" = 0.6
 SEDIMENT STORAGE = 120 CU. FT. PER ACRE PER YEAR
 TOTAL SEDIMENT STORAGE = 120 X 20 = 2400 CU. FT. PER YEAR.



BASIN #1
 $0.87 \text{ AE} \times 175 \times 2 \text{ yr}$
 304 cu. ft. REQUIRED

BASIN #2
 $0.59 \text{ AE} \times 175 \times 2 \text{ yr}$
 206 cu. ft. REQUIRED

ANNUAL SEDIMENT STORAGE

FIG. 1

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* O'FALLON CENTER
* 100 YR. STORM
* SECOND BASIN
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Inflow Hydrograph: G:\PONDPACK\CALCS\OFALCEN1.HYD
 Rating Table file: G:\PONDPACK\CALCS\OFALCEN1.PND

----INITIAL CONDITIONS----
 Elevation = 529.00 ft
 Outflow = 0.00 cfs
 Storage = 0 cu-ft

GIVEN POND DATA

ELEVATION (ft)	OUTFLOW (cfs)	STORAGE (cu-ft)
529.00	0.0	0
529.50	0.4	116
530.00	0.9	541
530.50	1.1	1,106
531.00	1.4	1,801
531.50	1.6	2,637
532.00	1.7	3,629
532.50	1.9	4,792
533.00	2.0	6,144
533.50	2.2	7,698

INTERMEDIATE ROUTING
 COMPUTATIONS

2S/t (cfs)	2S/t + 0 (cfs)
0.0	0.0
3.9	4.3
18.0	18.9
36.9	38.0
60.0	61.4
87.9	89.5
120.9	122.6
159.7	161.6
204.8	206.8
256.5	258.7

Time increment (t) = 1.0 min.

Pond File: G:\PONDPACK\CALCS\OFALCEN1.PND
 Inflow Hydrograph: G:\PONDPACK\CALCS\OFALCEN1.HYD
 Outflow Hydrograph: G:\PONDPACK\CALCS\OUT.HYD

INFLOW HYDROGRAPH

TIME (min)	INFLOW (cfs)
0.0	0.00
1.0	3.94
2.0	4.24
3.0	4.42
4.0	4.53
5.0	4.62
6.0	4.70
7.0	4.76
8.0	4.82
9.0	4.88
10.0	4.93
11.0	4.98
12.0	5.03
13.0	5.08
14.0	5.10
15.0	5.12
16.0	5.15
17.0	5.17
18.0	5.21
19.0	5.25
20.0	5.30
21.0	1.84

ROUTING COMPUTATIONS

I1+I2 (cfs)	2S/t - 0 (cfs)	2S/t + 0 (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
3.9	0.0	0.0	0.00	529.00
8.2	3.2	3.9	0.37	529.46
8.7	10.1	11.4	0.64	529.74
8.9	17.0	18.8	0.89	529.99
9.2	24.0	25.9	0.97	530.18
9.3	31.0	33.1	1.05	530.37
9.5	38.1	40.3	1.13	530.55
9.6	45.1	47.5	1.22	530.70
9.7	52.0	54.7	1.31	530.86
9.8	58.9	61.7	1.40	531.01
9.9	65.9	68.8	1.45	531.13
10.0	72.8	75.8	1.50	531.26
10.1	79.7	82.8	1.55	531.38
10.2	86.6	89.8	1.60	531.50
10.3	93.5	96.8	1.62	531.61
10.4	100.4	103.7	1.64	531.71
10.5	107.4	110.7	1.66	531.82
10.6	114.3	117.7	1.69	531.93
10.6	121.3	124.7	1.71	532.03
7.1	128.3	131.8	1.75	532.12
	135.2	138.8	1.78	532.21
	138.8	142.4	1.80	532.25

***** SUMMARY OF ROUTING COMPUTATIONS *****

Pond File: G:\PONDPACK\CALCS\OFALCEN1.PND
Inflow Hydrograph: G:\PONDPACK\CALCS\OFALCEN1.HYD
Outflow Hydrograph: G:\PONDPACK\CALCS\OUT .HYD

Starting Pond W.S. Elevation = 529.00 ft

***** Summary of Peak Outflow and Peak Elevation *****

Peak Inflow	=	5.30 cfs
Peak Outflow	=	1.80 cfs
Peak Elevation	=	532.25 ft

***** Summary of Approximate Peak Storage *****

Initial Storage	=	0 cu-ft
Peak Storage From Storm	=	4,218 cu-ft
Total Storage in Pond	=	----- 4,218 cu-ft

Warning: Inflow hydrograph truncated on right side.

Pond File: G:\PONDPACK\CALCS\OFALCEN1.PND
Inflow Hydrograph: G:\PONDPACK\CALCS\OFALCEN1.HYD
Outflow Hydrograph: G:\PONDPACK\CALCS\OUT .HYD

Peak Inflow = 5.30 cfs
Peak Outflow = 1.80 cfs
Peak Elevation = 532.25 ft

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* O'FALLON CENTER
* 100 YR. STORM
* FIRST BASIN
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Inflow Hydrograph: G:\PONDPACK\CALCS\OFALCEN .HYD
 Rating Table file: G:\PONDPACK\CALCS\OFALCEN .PND

----INITIAL CONDITIONS----
 Elevation = 538.50 ft
 Outflow = 0.00 cfs
 Storage = 0 cu-ft

GIVEN POND DATA

ELEVATION (ft)	OUTFLOW (cfs)	STORAGE (cu-ft)
538.50	0.0	0
539.00	0.4	176
539.50	0.9	1,252
540.00	1.2	3,085
540.50	1.4	5,116
541.00	1.6	7,364
541.50	1.7	9,838
542.00	1.9	12,547
542.50	2.0	15,502

INTERMEDIATE ROUTING
 COMPUTATIONS

2S/t (cfs)	2S/t + 0 (cfs)
0.0	0.0
5.9	6.3
41.7	42.6
102.8	104.0
170.5	171.9
245.4	247.0
327.9	329.6
418.1	420.0
516.6	518.6

Time increment (t) = 1.0 min.

Pond File: G:\PONDPACK\CALCS\OFALCEN .PND
 Inflow Hydrograph: G:\PONDPACK\CALCS\OFALCEN .HYD
 Outflow Hydrograph: G:\PONDPACK\CALCS\OUT .HYD

INFLOW HYDROGRAPH

ROUTING COMPUTATIONS

TIME (min)	INFLOW (cfs)	I1+I2 (cfs)	2S/t - 0 (cfs)	2S/t + 0 (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
0.0	0.00	---	0.0	0.0	0.00	538.50
1.0	11.25	11.3	10.3	11.3	0.47	539.07
2.0	11.25	22.5	31.3	32.8	0.77	539.37
3.0	11.25	22.5	51.9	53.8	0.95	539.59
4.0	11.25	22.5	72.3	74.4	1.06	539.76
5.0	11.25	22.5	92.5	94.8	1.15	539.92
6.0	11.25	22.5	112.5	115.0	1.23	540.08
7.0	11.25	22.5	132.4	135.0	1.29	540.23
8.0	11.25	22.5	152.2	154.9	1.35	540.37
9.0	11.25	22.5	171.9	174.7	1.41	540.52
10.0	11.25	22.5	191.5	194.4	1.46	540.65
11.0	11.25	22.5	210.9	214.0	1.51	540.78
12.0	11.25	22.5	230.3	233.4	1.56	540.91
13.0	11.25	22.5	249.6	252.8	1.61	541.04
14.0	11.25	22.5	268.8	272.1	1.63	541.15
15.0	11.25	22.5	288.0	291.3	1.65	541.27
16.0	11.25	22.5	307.2	310.5	1.68	541.38
17.0	11.25	22.5	326.3	329.7	1.70	541.50
18.0	11.25	22.5	345.3	348.8	1.74	541.61
19.0	11.25	22.5	364.2	367.8	1.78	541.71
20.0	11.25	22.5	383.1	386.7	1.83	541.82
21.0	0.00	11.3	390.6	394.3	1.84	541.86

***** SUMMARY OF ROUTING COMPUTATIONS *****

Pond File: G:\PONDPACK\CALCS\OFALCEN .PND
Inflow Hydrograph: G:\PONDPACK\CALCS\OFALCEN .HYD
Outflow Hydrograph: G:\PONDPACK\CALCS\OUT .HYD

Starting Pond W.S. Elevation = 538.50 ft

***** Summary of Peak Outflow and Peak Elevation *****

Peak Inflow = 11.25 cfs
Peak Outflow = 1.84 cfs
Peak Elevation = 541.86 ft

***** Summary of Approximate Peak Storage *****

Initial Storage = 0 cu-ft
Peak Storage From Storm = 11,777 cu-ft

Total Storage in Pond = 11,777 cu-ft

Pond File: G:\PONDPACK\CALCS\OFALCEN .PND
Inflow Hydrograph: G:\PONDPACK\CALCS\OFALCEN .HYD
Outflow Hydrograph: G:\PONDPACK\CALCS\OUT .HYD

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Peak Inflow = 11.25 cfs
Peak Outflow = 1.84 cfs
Peak Elevation = 541.86 ft

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* O'FALLON CENTER
* 15 YR. STORM
* SECOND BASIN
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Inflow Hydrograph: G:\PONDPACK\CALCS\OFACEN2 .HYD
 Rating Table file: G:\PONDPACK\CALCS\OFALCEN1.PND

----INITIAL CONDITIONS----
 Elevation = 529.00 ft
 Outflow = 0.00 cfs
 Storage = 0 cu-ft

GIVEN POND DATA

ELEVATION (ft)	OUTFLOW (cfs)	STORAGE (cu-ft)
529.00	0.0	0
529.50	0.4	116
530.00	0.9	541
530.50	1.1	1,106
531.00	1.4	1,801
531.50	1.6	2,637
532.00	1.7	3,629
532.50	1.9	4,792
533.00	2.0	6,144
533.50	2.2	7,698

INTERMEDIATE ROUTING
 COMPUTATIONS

2S/t (cfs)	2S/t + 0 (cfs)
0.0	0.0
3.9	4.3
18.0	18.9
36.9	38.0
60.0	61.4
87.9	89.5
120.9	122.6
159.7	161.6
204.8	206.8
256.5	258.7

Time increment (t) = 1.0 min.

Pond File: G:\PONDPACK\CALCS\OFALCEN1.PND
 Inflow Hydrograph: G:\PONDPACK\CALCS\OFACEN2.HYD
 Outflow Hydrograph: G:\PONDPACK\CALCS\OUT.HYD

INFLOW HYDROGRAPH

TIME (min)	INFLOW (cfs)	I1+I2 (cfs)	2S/t - 0 (cfs)	2S/t + 0 (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
0.0	0.00	---	0.0	0.0	0.00	529.00
1.0	2.60	2.6	2.1	2.6	0.24	529.30
2.0	2.79	5.4	6.5	7.5	0.51	529.61
3.0	2.97	5.8	10.9	12.2	0.67	529.77
4.0	3.11	6.1	15.3	17.0	0.83	529.93
5.0	3.17	6.3	19.7	21.6	0.93	530.07
6.0	3.23	6.4	24.2	26.1	0.98	530.19
7.0	3.29	6.5	28.7	30.7	1.02	530.31
8.0	3.35	6.6	33.2	35.3	1.07	530.43
9.0	3.40	6.8	37.7	39.9	1.12	530.54
10.0	3.43	6.8	42.1	44.5	1.18	530.64
11.0	3.47	6.9	46.5	49.0	1.24	530.74
12.0	3.50	7.0	50.9	53.5	1.30	530.83
13.0	3.54	7.0	55.2	57.9	1.36	530.93
14.0	3.57	7.1	59.5	62.3	1.41	531.02
15.0	3.60	7.2	63.8	66.7	1.44	531.09
16.0	3.63	7.2	68.1	71.1	1.47	531.17
17.0	3.66	7.3	72.4	75.4	1.50	531.25
18.0	3.69	7.4	76.7	79.8	1.53	531.33
19.0	3.72	7.4	81.0	84.1	1.56	531.40
20.0	3.75	7.5	85.3	88.5	1.59	531.48
21.0	1.57	5.3	87.4	90.6	1.60	531.52

ROUTING COMPUTATIONS

***** SUMMARY OF ROUTING COMPUTATIONS *****

Pond File: G:\PONDPACK\CALCS\OFALCEN1.PND
Inflow Hydrograph: G:\PONDPACK\CALCS\OFACEN2 .HYD
Outflow Hydrograph: G:\PONDPACK\CALCS\OUT .HYD

Starting Pond W.S. Elevation = 529.00 ft

***** Summary of Peak Outflow and Peak Elevation *****

Peak Inflow = 3.75 cfs
Peak Outflow = 1.60 cfs
Peak Elevation = 531.52 ft

***** Summary of Approximate Peak Storage *****

Initial Storage = 0 cu-ft
Peak Storage From Storm = 2,670 cu-ft

Total Storage in Pond = 2,670 cu-ft

Warning: Inflow hydrograph truncated on right side.

Pond File: G:\PONDPACK\CALCS\OFALCEN1.PND
Inflow Hydrograph: G:\PONDPACK\CALCS\OFACEN2 .HYD
Outflow Hydrograph: G:\PONDPACK\CALCS\OUT .HYD

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Peak Inflow = 3.75 cfs
Peak Outflow = 1.60 cfs
Peak Elevation = 531.52 ft


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* O'FALLON CENTER
* 15 YR. STORM
* FIRST BASIN
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Inflow Hydrograph: G:\PONDPACK\CALCS\OFACEN15.HYD
 Rating Table file: G:\PONDPACK\CALCS\OFALCEN .PND

----INITIAL CONDITIONS----
 Elevation = 538.50 ft
 Outflow = 0.00 cfs
 Storage = 0 cu-ft

GIVEN POND DATA

ELEVATION (ft)	OUTFLOW (cfs)	STORAGE (cu-ft)
538.50	0.0	0
539.00	0.4	176
539.50	0.9	1,252
540.00	1.2	3,085
540.50	1.4	5,116
541.00	1.6	7,364
541.50	1.7	9,838
542.00	1.9	12,547
542.50	2.0	15,502

INTERMEDIATE ROUTING
 COMPUTATIONS

2S/t (cfs)	2S/t + 0 (cfs)
0.0	0.0
5.9	6.3
41.7	42.6
102.8	104.0
170.5	171.9
245.4	247.0
327.9	329.6
418.1	420.0
516.6	518.6

Time increment (t) = 1.0 min.

Pond File: G:\PONDPACK\CALCS\OFALCEN .PND
 Inflow Hydrograph: G:\PONDPACK\CALCS\OFACEN15.HYD
 Outflow Hydrograph: G:\PONDPACK\CALCS\OUT .HYD

INFLOW HYDROGRAPH

ROUTING COMPUTATIONS

TIME (min)	INFLOW (cfs)	I1+I2 (cfs)	2S/t - 0 (cfs)	2S/t + 0 (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
0.0	0.00	-----	0.0	0.0	0.00	538.50
1.0	7.12	7.1	6.3	7.1	0.41	539.01
2.0	7.12	14.2	19.3	20.5	0.60	539.20
3.0	7.12	14.2	32.0	33.6	0.78	539.38
4.0	7.12	14.2	44.4	46.3	0.92	539.53
5.0	7.12	14.2	56.7	58.7	0.98	539.63
6.0	7.12	14.2	68.9	71.0	1.04	539.73
7.0	7.12	14.2	80.9	83.1	1.10	539.83
8.0	7.12	14.2	92.9	95.2	1.16	539.93
9.0	7.12	14.2	104.7	107.1	1.21	540.02
10.0	7.12	14.2	116.4	118.9	1.24	540.11
11.0	7.12	14.2	128.1	130.7	1.28	540.20
12.0	7.12	14.2	139.7	142.4	1.31	540.28
13.0	7.12	14.2	151.3	154.0	1.35	540.37
14.0	7.12	14.2	162.7	165.5	1.38	540.45
15.0	7.12	14.2	174.2	177.0	1.41	540.53
16.0	7.12	14.2	185.5	188.4	1.44	540.61
17.0	7.12	14.2	196.8	199.8	1.47	540.69
18.0	7.12	14.2	208.0	211.0	1.50	540.76
19.0	7.12	14.2	219.2	222.3	1.53	540.84
20.0	7.12	14.2	230.3	233.4	1.56	540.91
21.0	0.00	7.1	234.3	237.4	1.57	540.94

***** SUMMARY OF ROUTING COMPUTATIONS *****

Pond File: G:\PONDPACK\CALCS\OFALCEN .PND
Inflow Hydrograph: G:\PONDPACK\CALCS\OFACEN15.HYD
Outflow Hydrograph: G:\PONDPACK\CALCS\OUT .HYD

Starting Pond W.S. Elevation = 538.50 ft

***** Summary of Peak Outflow and Peak Elevation *****

Peak Inflow = 7.12 cfs
Peak Outflow = 1.57 cfs
Peak Elevation = 540.94 ft

***** Summary of Approximate Peak Storage *****

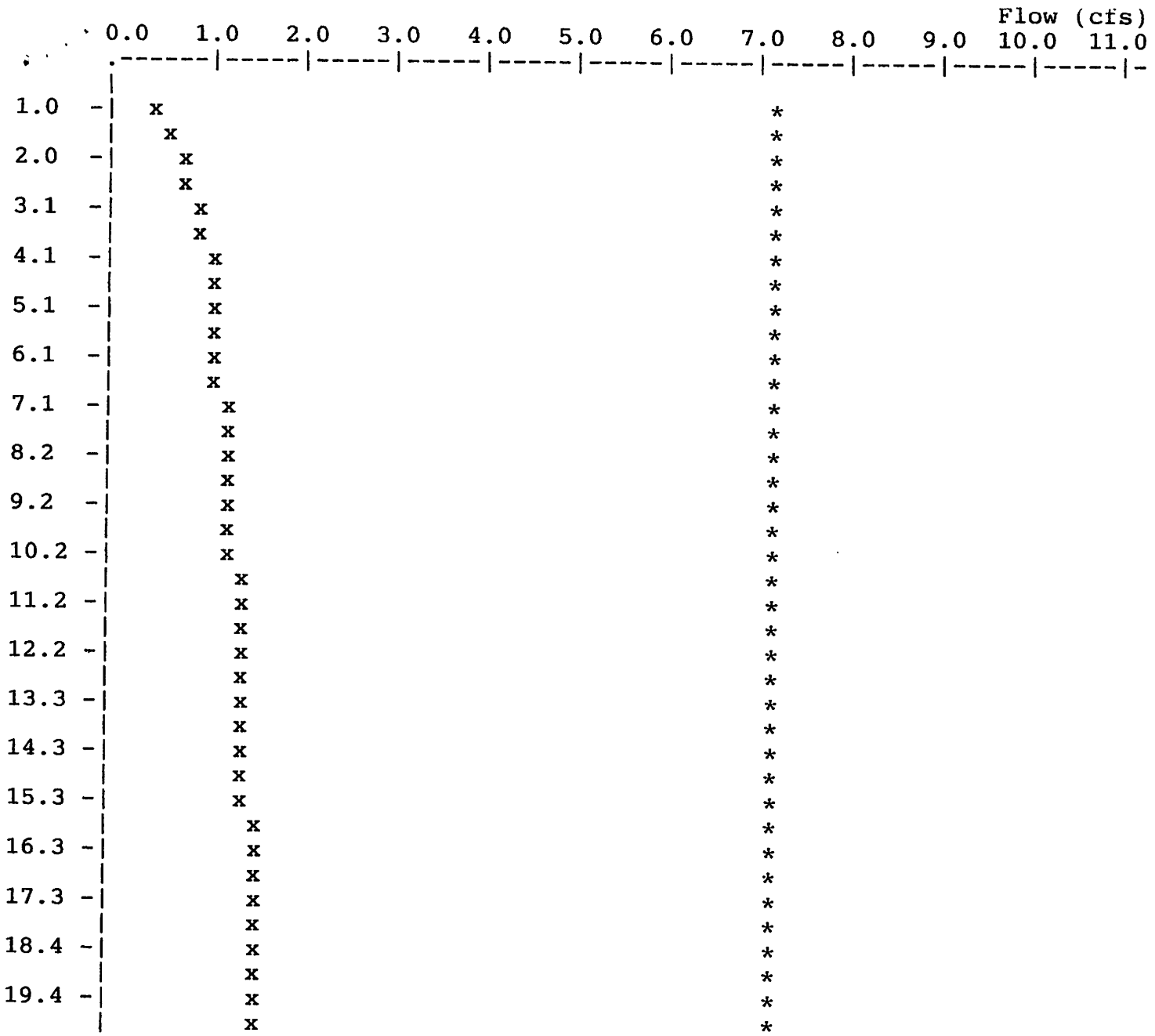
Initial Storage = 0 cu-ft
Peak Storage From Storm = 7,077 cu-ft

Total Storage in Pond = 7,077 cu-ft

Pond File: G:\PONDPACK\CALCS\OFALCEN .PND
Inflow Hydrograph: G:\PONDPACK\CALCS\OFACEN15.HYD
Outflow Hydrograph: G:\PONDPACK\CALCS\OUT .HYD

Peak Inflow = 7.12 cfs
Peak Outflow = 1.57 cfs
Peak Elevation = 540.94 ft

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x File: G:\PONDPACK\CALCS\OFACEN15.HYD Qmax = 1.6 cfs
 * File: G:\PONDPACK\CALCS\OUT.HYD Qmax = 7.1 cfs

Outlet Structure File: OFALCEN .STR

POND-2 Version: 5.17

S/N:

Date Executed:

Time Executed:

Outlet Structure File: G:\PONDPACK\CALCS\OFALCEN .STR
Planimeter Input File: G:\PONDPACK\CALCS\OFALCEN .VOL
Rating Table Output File: G:\PONDPACK\CALCS\OFALCEN .PND

Min. Elev.(ft) = 538.5 Max. Elev.(ft) = 543 Incr.(ft) = .5

Additional elevations (ft) to be included in table:
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SYSTEM CONNECTIVITY

Structure	No.	Q Table	Q Table
ORIFICE	2	->	2
WEIR-VR	1	->	1

Outflow rating table summary was stored in file:
G:\PONDPACK\CALCS\OFALCEN .PND

POND-2 Version: 5.17
 Date Executed:

S/N:
 Time Executed:

***** COMPOSITE OUTFLOW SUMMARY ****

Elevation (ft)	Q (cfs)	Contributing Structures
-----	-----	-----
538.50	0.0	1
539.00	0.4	1
539.50	0.9	2
540.00	1.2	2
540.50	1.4	2
541.00	1.6	2
541.50	1.7	2
542.00	1.9	2
542.50	2.0	2
543.00	0.0	

Outlet Structure File: OFALCEN .STR

POND-2 Version: 5.17

S/N:

Date Executed:

Time Executed:

>>>>> Structure No. 1 <<<<<<
(Input Data)

WEIR-VR

Weir - Vertical Rectangular

E1 elev.(ft)?	538.5
E2 elev.(ft)?	539.2
Weir coefficient?	3
Weir elev.(ft)?	538.5
Length (ft)?	.33
Contracted/Suppressed (C/S)?	S

Outlet Structure File: OFALCEN .STR

POND-2 Version: 5.17

S/N:

Date Executed:

Time Executed:

>>>>> Structure No. 2 <<<<<<
(Input Data)

ORIFICE

Orifice - Based on Area and Datum Elevation

E1 elev.(ft)?	539.2
E2 elev.(ft)?	543
Orifice coeff.?	.6
Invert elev.(ft)?	538.5
Datum elev.(ft) ?	538.83
Orifice area (sq ft)?	.222

Outlet Structure File: OFALCEN .STR

POND-2 Version: 5.17

S/N:

Date Executed:

Time Executed:

Outflow Rating Table for Structure #1
WEIR-VR Weir - Vertical Rectangular

***** INLET CONTROL ASSUMED *****

Elevation (ft)	Q (cfs)	Computation Messages
538.50	0.0	H =0.0
539.00	0.4	H =.5
539.50	0.0	E = or > E2=539.2
540.00	0.0	E = or > E2=539.2
540.50	0.0	E = or > E2=539.2
541.00	0.0	E = or > E2=539.2
541.50	0.0	E = or > E2=539.2
542.00	0.0	E = or > E2=539.2
542.50	0.0	E = or > E2=539.2
543.00	0.0	E = or > E2=539.2

C = 3 L (ft) = .33

H (ft) = Table elev. - Invert elev. (538.5 ft)

Q (cfs) = C * L * (H**1.5) -- Suppressed Weir

Outlet Structure File: OFALCEN .STR

POND-2 Version: 5.17

S/N:

Date Executed:

Time Executed:

Outflow Rating Table for Structure #2

ORIFICE Orifice - Based on Area and Datum Elevation

Elevation (ft)	Q (cfs)	Computation Messages
538.50	0.0	E < E1=539.2
539.00	0.0	E < E1=539.2
539.50	0.9	H =.67
540.00	1.2	H =1.17
540.50	1.4	H =1.67
541.00	1.6	H =2.17
541.50	1.7	H =2.67
542.00	1.9	H =3.17
542.50	2.0	H =3.67
543.00	0.0	E = or > E2=543

C = .6 A = .222 sq.ft.

H (ft) = Table elev. - Datum elev. (538.83 ft)

Q (cfs) = C * A * $\text{sqr}(2g * H)$

Outlet Structure File: OFALCEN1.STR

POND-2 Version: 5.17

S/N:

Date Executed:

Time Executed:

Outlet Structure File: G:\PONDPACK\CALCS\OFALCEN1.STR
Planimeter Input File: G:\PONDPACK\CALCS\OFALCEN1.VOL
Rating Table Output File: G:\PONDPACK\CALCS\OFALCEN1.PND

Min. Elev.(ft) = 529 Max. Elev.(ft) = 534 Incr.(ft) = .5

Additional elevations (ft) to be included in table:
* * * * *

SYSTEM CONNECTIVITY

Structure	No.	Q Table	Q Table
-----	---	-----	-----
ORIFICE	2		-> 2
WEIR-VR	1		-> 1

Outflow rating table summary was stored in file:
G:\PONDPACK\CALCS\OFALCEN1.PND

POND-2 Version: 5.17
 Date Executed:

S/N:
 Time Executed:

***** COMPOSITE OUTFLOW SUMMARY *****

Elevation (ft)	Q (cfs)	Contributing Structures
-----	-----	-----
529.00	0.0	1
529.50	0.4	1
530.00	0.9	2
530.50	1.1	2
531.00	1.4	2
531.50	1.6	2
532.00	1.7	2
532.50	1.9	2
533.00	2.0	2
533.50	2.2	2
534.00	0.0	

Outlet Structure File: OFALCEN1.STR

POND-2 Version: 5.17

S/N:

Date Executed:

Time Executed:

>>>>> Structure No. 1 <<<<<<
(Input Data)

WEIR-VR

Weir - Vertical Rectangular

E1 elev.(ft)?	529
E2 elev.(ft)?	529.67
Weir coefficient?	3
Weir elev.(ft)?	529
Length (ft)?	.33
Contracted/Suppressed (C/S)?	S

Outlet Structure File: OFALCEN1.STR

POND-2 Version: 5.17

S/N:

Date Executed:

Time Executed:

>>>>> Structure No. 2 <<<<<<
(Input Data)

ORIFICE

Orifice - Based on Area and Datum Elevation

E1 elev.(ft)?	529.67
E2 elev.(ft)?	534
Orifice coeff.?	.6
Invert elev.(ft)?	529
Datum elev.(ft) ?	529.33
Orifice area (sq ft)?	.22

Outlet Structure File: OFALCEN1.STR

POND-2 Version: 5.17

S/N:

Date Executed:

Time Executed:

Outflow Rating Table for Structure #1
WEIR-VR Weir - Vertical Rectangular

***** INLET CONTROL ASSUMED *****

Elevation (ft)	Q (cfs)	Computation Messages
529.00	0.0	H =0.0
529.50	0.4	H =.5
530.00	0.0	E = or > E2=529.67
530.50	0.0	E = or > E2=529.67
531.00	0.0	E = or > E2=529.67
531.50	0.0	E = or > E2=529.67
532.00	0.0	E = or > E2=529.67
532.50	0.0	E = or > E2=529.67
533.00	0.0	E = or > E2=529.67
533.50	0.0	E = or > E2=529.67
534.00	0.0	E = or > E2=529.67

C = 3 L (ft) = .33

H (ft) = Table elev. - Invert elev. (529 ft)

Q (cfs) = C * L * (H**1.5) -- Suppressed Weir

Outlet Structure File: OFALCEN1.STR

POND-2 Version: 5.17

S/N:

Date Executed:

Time Executed:

Outflow Rating Table for Structure #2

ORIFICE Orifice - Based on Area and Datum Elevation

Elevation (ft)	Q (cfs)	Computation Messages
529.00	0.0	E < E1=529.67
529.50	0.0	E < E1=529.67
530.00	0.9	H =.67
530.50	1.1	H =1.17
531.00	1.4	H =1.67
531.50	1.6	H =2.17
532.00	1.7	H =2.67
532.50	1.9	H =3.17
533.00	2.0	H =3.67
533.50	2.2	H =4.17
534.00	0.0	E = or > E2=534

C = .6 A = .22 sq.ft.

H (ft) = Table elev. - Datum elev. (529.33 ft)

Q (cfs) = C * A * $\sqrt{2g * H}$