

Elevation (ft)	Planimeter (sq. in.)	Area (sq. ft)	A1+A2+sq(A1+A2) (sq. ft)	Volume (cubic-ft)	Volume Sum (cubic-ft)
522.00	24.865	0	0	0	0
524.00	32.029	32.029	85.115	56.743	56.743
526.00	40.303	40.303	100.261	72.174	128.917
528.00	49.557	49.557	134.551	89.701	218.618
530.00	58.904	58.904	162.490	108.327	326.944
532.00	70.019	70.019	193.144	128.760	455.707
534.00	81.182	81.182	226.595	151.062	606.771
536.00	96.180	96.180	265.725	177.150	783.921
538.00	111.677	111.677	311.496	207.664	991.585
539.00	125.071	125.071	354.932	241.311	1,199.896

***** CHADWYCK DETENTION *****

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

Elevation (ft)	Q (cfs)	Contributing Structures
534.00	0.0	
534.20	106.5	
534.40	205.5	
534.60	307.6	
534.80	402.8	
535.00	500.0	
535.20	600.0	
535.40	700.0	
535.60	800.0	
535.80	900.0	
536.00	1000.0	
536.20	1100.0	
536.40	1200.0	
536.60	1300.0	
536.80	1400.0	
537.00	1500.0	
537.20	1600.0	
537.40	1700.0	
537.60	1800.0	
537.80	1900.0	
538.00	2000.0	
538.20	2100.0	
538.40	2200.0	
538.60	2300.0	
538.80	2400.0	
539.00	2500.0	

***** CHADWYCK DETENTION *****

Min. Elev. (ft) = 534 Max. Elev. (ft) = 539 Incr. (ft) = .2

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

***** SYSTEM CONNECTIVITY *****

Structure	No.	0 Table	1 Table
DRIFICE	2	->	2
WEIR-VR	1	->	1

***** CHADWYCK DETENTION *****

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

DRIFICE
Drifce - Based on Area and Datum Elevation

E1 elev. (ft)	E2 elev. (ft)	Drifce coeff. 1	Invert elev. (ft)	Datum elev. (ft)	Drifce area (sq. ft)
537	539.001	6	535	536	54

***** CHADWYCK DETENTION *****

DETECTION SUMMARY

Project Name: CHADWYCK
Project No.: 95-08-193

Site Acreage = 79.04 Acres
Design Storm = 25 Year
Design Period = 20 Minutes

Return Frequency (Years)	Unimproved P.I. (50)	Improved P.I. (400)	Differential Runoff
2	1.17	1.64	0.47
5	1.48	2.08	0.60
15	1.87	2.64	0.77
25	2.31	3.26	0.95
100	2.95	4.17	1.22

Incremental volume computed by the Conc Method for Reservoir Volumes:
Volume = (1/3) * (EL2-EL1) * (Area1 + Area2 + sq. rt. (Area1*Area2))
where EL1, EL2 = Lower and upper elevations of the increment
Area1, Area2 = Areas computed for EL1, EL2, respectively
Volume = Incremental volume between EL1 and EL2

***** CHADWYCK DETENTION *****

***** CHADWYCK DETENTION *****

***** CHADWYCK DETENTION *****

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

WEIR-VR
Weir - Vertical Rectangular

E1 elev. (ft)	E2 elev. (ft)	Weir coefficient	Weir elev. (ft)	Length (ft)	Contracted/Suppressed (C/S)
535	537	3	535	27	S

Direct Runoff Tributary to the Basin
129.83 Ac. Tributary to Basin On-Site - Off-Site

Return Frequency	Unimproved P.I. (50)	Improved P.I. (400)	Differential Runoff
2	1.17	1.64	0.47
5	1.48	2.08	0.60
15	1.87	2.64	0.77
25	2.31	3.26	0.95
100	2.95	4.17	1.22



Total Detention Required For Chadwyck

Return Frequency	Unimproved P.I. (50)	Improved P.I. (400)	Differential Runoff
2	1.17	1.64	0.47
5	1.48	2.08	0.60
15	1.87	2.64	0.77
25	2.31	3.26	0.95
100	2.95	4.17	1.22

---INITIAL CONDITIONS---
Elevation = 535.00 ft
Outflow = 0.00 cfs
Storage = 691,596 cu-ft

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Elevation = 535.00 ft
Outflow = 0.00 cfs
Storage = 691,596 cu-ft

GIVEN POND DATA

ELEVATION (ft)	OUTFLOW (cfs)	STORAGE (cu-ft)
534.00	0.0	606.7701
534.20	0.0	623.1520
534.40	0.0	639.8239
534.60	0.0	656.7820
534.80	0.0	674.0400
535.00	0.0	691.5964
535.20	7.2	709.4520
535.40	20.5	727.6111
535.60	37.6	746.0680
535.80	58.0	764.8400
536.00	81.0	783.9210
536.20	106.5	803.3070
536.40	134.2	822.9950
536.60	163.9	842.9790
536.80	195.6	863.2750
537.00	228.8	883.8790
537.20	264.0	904.7920
537.40	301.6	926.0180
537.60	341.9	947.5520
537.80	384.9	969.4090
538.00	430.7	991.5950
538.20	479.2	1,014.1130
538.40	529.3	1,037.0680
538.60	581.0	1,060.4690
538.80	634.3	1,085.3150
539.00	689.3	1,109.6060

INTERMEDIATE ROUTING COMPUTATIONS

25/1 (cfs)	25/1 + 0 (cfs)
20225.6	20225.6
20771.7	20771.7
21327.4	21327.4
21892.7	21892.7
22468.0	22468.0
23053.2	23053.2
23648.4	23648.4
24253.6	24253.6
24868.9	24868.9
25494.6	25494.6
26130.6	26130.6
26776.9	26776.9
27433.1	27433.1
28099.3	28099.3
28775.8	28775.8
29462.6	29462.6
30159.7	30159.7
30867.2	30867.2
31585.0	31585.0
32313.6	32313.6
33052.8	33052.8
33802.7	33802.7
34573.0	34573.0
35363.2	35363.2
36173.7	36173.7
36994.5	36994.5

GIVEN POND DATA

ELEVATION (ft)	OUTFLOW (cfs)	STORAGE (cu-ft)
534.00	0.0	606.7701
534.20	0.0	623.1520
534.40	0.0	639.8239
534.60	0.0	656.7820
534.80	0.0	674.0400
535.00	0.0	691.5964
535.20	7.2	709.4520
535.40	20.5	727.6111
535.60	37.6	746.0680
535.80	58.0	764.8400
536.00	81.0	783.9210
536.20	106.5	803.3070
536.40	134.2	822.9950
536.60	163.9	842.9790
536.80	195.6	863.2750
537.00	228.8	883.8790
537.20	264.0	904.7920
537.40	301.6	926.0180
537.60	341.9	947.5520
537.80	384.9	969.4090
538.00	430.7	991.5950
538.20	479.2	1,014.1130
538.40	529.3	1,037.0680
538.60	581.0	1,060.4690
538.80	634.3	1,085.3150
539.00	689.3	1,109.6060

INTERMEDIATE ROUTING COMPUTATIONS

25/1 (cfs)	25/1 + 0 (cfs)
20225.6	20225.6
20771.7	20771.7
21327.4	21327.4
21892.7	21892.7
22468.0	22468.0
23053.2	23053.2
23648.4	23648.4
24253.6	24253.6
24868.9	24868.9
25494.6	25494.6
26130.6	26130.6
26776.9	26776.9
27433.1	27433.1
28099.3	28099.3
28775.8	28775.8
29462.6	29462.6
30159.7	30159.7
30867.2	30867.2
31585.0	31585.0
32313.6	32313.6
33052.8	33052.8
33802.7	33802.7
34573.0	34573.0
35363.2	35363.2
36173.7	36173.7
36994.5	36994.5

GIVEN POND DATA

ELEVATION (ft)	OUTFLOW (cfs)	STORAGE (cu-ft)
534.00	0.0	606.7701
534.20	0.0	623.1520
534.40	0.0	639.8239
534.60	0.0	656.7820
534.80	0.0	674.0400
535.00	0.0	691.5964
535.20	7.2	709.4520
535.40	20.5	727.6111
535.60	37.6	746.0680
535.80	58.0	764.8400
536.00	81.0	783.9210
536.20	106.5	803.3070
536.40	134.2	822.9950
536.60	163.9	842.9790
536.80	195.6	863.2750
537.00	228.8	883.8790
537.20	264.0	904.7920
537.40	301.6	926.0180
537.60	341.9	947.5520
537.80	384.9	969.4090
538.00	430.7	991.5950
538.20	479.2	1,014.1130
538.40	529.3	1,037.0680
538.60	581.0	1,060.4690
538.80	634.3	1,085.3150
539.00	689.3	1,109.6060

INFLOW HYDROGRAPH

TIME (min)	INFLOW (cfs)
1.0	342.74
2.0	342.74
3.0	342.74
4.0	342.74
5.0	342.74
6.0	342.74
7.0	342.74
8.0	342.74
9.0	342.74
10.0	342.74
11.0	342.74
12.0	342.74
13.0	342.74
14.0	342.74
15.0	342.74
16.0	342.74
17.0	342.74
18.0	342.74
19.0	342.74
20.0	342.74
21.0	0.00
22.0	0.00
23.0	0.00
24.0	0.00
25.0	0.00
26.0	0.00
27.0	0.00
28.0	0.00
29.0	0.00
30.0	0.00
31.0	0.00
32.0	0.00

ROUTING COMPUTATIONS

TIME (min)	INFLOW (cfs)	25/1 (cfs)	25/1 + 0 (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
1.0	342.74	23053.2	0.00	535.00	
2.0	342.74	23726.6	8.99	535.23	
3.0	342.74	24400.1	24.07	535.44	
4.0	342.74	24959.5	41.93	535.64	
5.0	342.74	25522.7	61.23	535.83	
6.0	342.74	26084.4	80.88	536.00	
7.0	342.74	26630.4	100.75	536.15	
8.0	342.74	27175.9	119.87	536.30	
9.0	342.74	27725.1	138.22	536.43	
10.0	342.74	28275.1	155.67	536.54	
11.0	342.74	28825.4	172.22	536.65	
12.0	342.74	29375.4	187.90	536.75	
13.0	342.74	29925.4	206.36	536.83	
14.0	342.74	30475.4	222.74	536.91	
15.0	342.74	31025.4	244.12	536.97	
16.0	342.74	31575.4	262.07	537.02	
17.0	342.74	32125.4	267.61	537.06	
18.0	342.74	32675.4	272.70	537.10	
19.0	342.74	33225.4	277.58	537.14	
20.0	342.74	33775.4	282.06	537.18	
21.0	0.00	34325.4	286.13	537.21	
22.0	0.00	29075.4	243.01	536.97	
23.0	0.00	28683.0	229.46	536.83	
24.0	0.00	28318.3	216.73	536.72	
25.0	0.00	27985.6	204.77	536.62	
26.0	0.00	27680.4	193.59	536.52	
27.0	0.00	27403.3	183.07	536.43	
28.0	0.00	27148.2	173.26	536.35	
29.0	0.00	26913.7	164.20	536.28	
30.0	0.00	26698.3	155.83	536.21	
31.0	0.00	26499.3	148.11	536.14	
32.0	0.00	26315.5			