

CHERRYWOOD PARC PHASE 5- Detention Report

Date: 03/12

Basin

Allowable Discharge:

	Acres	PI	Q
Upstream Basin - Peak Outflow 2 yr			2.94
Q(offsite 15 yr):	1.745	1.77	3.09
Q(onsite 15 yr):	15.953	1.26	20.10
Q(Bypass 15 yr):	0.933	1.77	-1.65
Q(allow 15 yr):			24.48

Upstream Basin - Peak Outflow 5 yr			8.18
Q(offsite 25 yr):	1.745	2.18	3.80
Q(onsite 25 yr):	15.953	1.55	24.73
Q(Bypass 25 yr):	0.933	2.18	-2.03
Q(allow 25 yr):			34.68

Upstream Basin - Peak Outflow 15 yr			9.22
Q(offsite 15 yr):	1.745	2.64	4.61
Q(onsite 15 yr):	15.953	1.87	29.83
Q(Bypass 15 yr):	0.933	2.64	-2.46
Q(allow 15 yr):			41.20

Upstream Basin - Peak Outflow 25 yr			20.64
Q(offsite 25 yr):	1.745	3.26	5.69
Q(onsite 25 yr):	15.953	2.31	36.85
Q(Bypass 25 yr):	0.933	3.26	-3.04
Q(allow 25 yr):			60.14

Upstream Basin - Peak Outflow 100 yr			37.06
Q(offsite 100 yr):	1.745	4.17	7.28
Q(onsite 100 yr):	15.953	2.95	47.06
Q(Bypass 100 yr):	0.933	4.17	-3.89
Q(allow 100 yr):			87.51

Peak Q's to Basin:

	PI	Q
Upstream Basin - Peak Outflow 2 yr		2.94
Q(offsite 15 yr):	1.745	3.09
Q(onsite 15 yr):	15.953	28.24
Q(peak 15 yr):		34.27

Upstream Basin - Peak Outflow 5 yr		8.18
Q(offsite 25 yr):	1.745	3.80
Q(onsite 25 yr):	15.953	34.78
Q(peak 25 yr):		46.76

Upstream Basin - Peak Outflow 15 yr		9.22
Q(offsite 15 yr):	1.745	4.61
Q(onsite 15 yr):	15.953	42.12
Q(peak 15 yr):		55.94

Upstream Basin - Peak Outflow 25 yr		20.64
Q(offsite 25 yr):	1.745	5.69
Q(onsite 25 yr):	15.953	52.01
Q(peak 25 yr):		78.34

Upstream Basin - Peak Outflow 100 yr		37.06
Q(offsite 100 yr):	1.745	7.28
Q(onsite 100 yr):	15.953	66.52
Q(peak 100 yr):		110.86

Outlet Pipe:

Length:	50.57
U.F.L.	548.70
L.F.L.	547.80
% Slope	1.78
Diameter (in):	36
Type:	RCP

Time of Concentration:	20
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Overflow Structure:

Type:	Rectangular
Perimeter:	10 ft
Office Elev:	548.70
Office Type:	Rectangular 12"X24"
Sill Elev.:	553.59

2 YR Routed Peak:	13.12
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5 YR Routed Peak:	15.65
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15 YR Routed Peak:	17.14
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25 YR Routed Peak:	26.49
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100 YR High Water Elev.:	554.72
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Basin Dimensions

Elev	Area (ft)
548.70	0
550.00	10,564
552.00	14,833
554.00	18,557
556.00	22,508

24R

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*
* RECTANGULAR ORIFICE
* 12 in W X 24 in H ELEV= 548.7
*
* Outlet Pipe - 50.57 ft - 36 in pipe
* UFL= 548.7 LFL= 547.8 n= .013
*
* Overflow Structure - Box Structure
* PERIMETER= 10 ft/SILL ELEV= 553.59
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CHERRYWOOD PARC SUBMITTAL DATE:

MIN	INFLOW	STORAGE	OUTFLOW	NET DET.	ELEV.
1	102.81	102.81	0.00	102.81	548.72
2	205.62	308.43	0.42	308.01	548.76
3	308.43	616.44	2.20	614.24	548.82
4	411.24	1025.48	6.18	1019.30	548.89
5	514.05	1533.35	13.23	1520.12	548.99
6	616.86	2136.98	24.08	2112.90	549.10
7	719.67	2832.57	39.47	2793.10	549.23
8	822.48	3615.58	59.99	3555.59	549.37
9	925.29	4480.88	86.16	4394.72	549.53
10	1028.10	5422.82	118.40	5304.43	549.70
11	1130.91	6435.34	157.00	6278.34	549.89
12	1233.72	7512.06	202.15	7309.91	550.03
13	1336.53	8646.44	240.60	8405.84	550.12
14	1439.34	9845.18	264.31	9580.87	550.21
15	1542.15	11123.02	290.54	10832.49	550.31
16	1644.96	12477.45	319.37	12158.08	550.42
17	1747.77	13905.85	350.88	13554.97	550.53
18	1850.58	15405.55	385.15	15020.40	550.64
19	1953.39	16973.79	422.21	16551.58	550.76
20	2056.20	18607.78	605.56	18002.22	550.88
21	1953.39	19955.61	637.28	19318.33	550.98
22	1850.58	21168.91	664.75	20504.16	551.07
23	1747.77	22251.93	688.56	21563.37	551.16
24	1644.96	23208.33	709.14	22499.18	551.23
25	1542.15	24041.33	726.86	23314.47	551.30
26	1439.34	24753.81	741.95	24011.87	551.35
27	1336.53	25348.40	754.60	24593.80	551.40
28	1233.72	25827.52	765.01	25062.52	551.43
29	1130.91	26193.43	773.29	25420.14	551.46
30	1028.10	26448.24	779.54	25668.70	551.48
31	925.29	26593.99	783.87	25810.12	551.49
32	822.48	26632.60	786.32	25846.28	551.49
33	719.67	26565.95	786.94	25779.01	551.49
34	616.86	26395.87	785.77	25610.10	551.48
35	514.05	26124.15	782.86	25341.29	551.45
36	411.24	25752.53	778.18	24974.35	551.43
37	308.43	25282.78	771.74	24511.04	551.39
38	205.62	24716.66	763.53	23953.13	551.35
39	102.81	24055.94	753.55	23302.39	551.29
40	0.00	23302.39	741.72	22560.67	551.24

24R

54R

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* UFL= 548.7 LFL= 547.8 n= .013
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* Overflow Structure - Box Structure
* PERIMETER= 10 ft/SILL ELEV= 553.59
*
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CHERRYWOOD PARC SUBMITTAL DATE:

MIN	INFLOW	STORAGE	OUTFLOW	NET DET.	ELEV.
1	140.28	140.28	0.00	140.28	548.73
2	280.56	420.84	0.67	420.17	548.78
3	420.84	841.01	3.50	837.51	548.86
4	561.12	1398.63	9.85	1388.78	548.96
5	701.40	2090.18	21.03	2069.15	549.09
6	841.68	2910.83	38.25	2872.58	549.24
7	981.96	3854.54	62.56	3791.98	549.42
8	1122.24	4914.22	94.89	4819.33	549.61
9	1262.52	6081.85	135.96	5945.89	549.83
10	1402.80	7348.69	186.31	7162.38	550.02
11	1543.08	8705.46	237.47	8467.99	550.13
12	1683.36	10151.35	265.67	9885.68	550.24
13	1823.64	11709.32	297.47	11411.85	550.36
14	1963.92	13375.77	333.03	13042.74	550.49
15	2104.20	15146.94	372.46	14774.48	550.62
16	2244.48	17018.96	415.91	16603.05	550.77
17	2384.76	18987.81	606.70	18381.11	550.91
18	2525.04	20906.15	645.30	20260.85	551.05
19	2665.32	22926.17	683.74	22242.43	551.21
20	2805.60	25048.03	722.03	24326.00	551.37
21	2665.32	26991.32	760.24	26231.08	551.52
22	2525.04	28756.12	793.56	27962.56	551.66
23	2384.76	30347.32	822.67	29524.65	551.78
24	2244.48	31769.13	848.07	30921.06	551.89
25	2104.20	33025.26	870.16	32155.10	551.99
26	1963.92	34119.02	889.22	33229.80	552.06
27	1823.64	35053.44	902.01	34151.43	552.11
28	1683.36	35834.79	912.52	34922.27	552.16
29	1543.08	36465.35	921.20	35544.15	552.20
30	1402.80	36946.95	928.16	36018.79	552.22
31	1262.52	37281.31	933.42	36347.89	552.24
32	1122.24	37470.13	937.06	36533.08	552.26
33	981.96	37515.04	939.10	36575.94	552.26
34	841.68	37417.62	939.57	36478.05	552.25
35	701.40	37179.45	938.49	36240.96	552.24
36	561.12	36802.08	935.87	35866.21	552.22
37	420.84	36287.05	931.74	35355.32	552.19
38	280.56	35635.88	926.04	34709.84	552.15
39	140.28	34850.12	918.82	33931.31	552.10
40	0.00	33931.31	910.02	33021.29	552.05

15 yr

 *
 * RECTANGULAR ORIFICE *
 * 12 in W X 24 in H ELEV= 548.7 *
 *
 * Outlet Pipe - 50.57 ft - 36 in pipe *
 * UFL= 548.7 LFL= 547.8 n= .013 *
 *
 * Overflow Structure - Box Structure *
 * PERIMETER= 10 ft/SILL ELEV= 553.59 *
 *

CHERRYWOOD PARC SUBMITTAL DATE:

MIN	INFLOW	STORAGE	OUTFLOW	NET DET.	ELEV.
1	167.82	167.82	0.00	167.82	548.73
2	335.64	503.46	0.88	502.58	548.80
3	503.46	1006.04	4.58	1001.46	548.89
4	671.28	1672.74	12.88	1659.86	549.01
5	839.10	2498.96	27.48	2471.48	549.17
6	1006.92	3478.40	49.93	3428.47	549.35
7	1174.74	4603.21	81.58	4521.63	549.56
8	1342.56	5864.19	123.55	5740.64	549.79
9	1510.38	7251.02	176.76	7074.26	550.02
10	1678.20	8752.46	235.60	8516.86	550.13
11	1846.02	10362.88	266.75	10096.13	550.25
12	2013.84	12109.97	302.30	11807.67	550.39
13	2181.66	13989.33	342.45	13646.88	550.53
14	2349.48	15996.36	387.43	15608.93	550.69
15	2517.30	18126.23	437.42	17688.81	550.85
16	2685.12	20373.93	630.55	19743.38	551.01
17	2852.94	22596.32	673.37	21922.95	551.19
18	3020.76	24943.71	716.00	24227.71	551.37
19	3188.58	27416.29	758.48	26657.81	551.56
20	3356.40	30014.21	800.83	29213.39	551.76
21	3188.58	32401.97	843.08	31558.89	551.94
22	3020.76	34579.65	880.06	33699.58	552.09
23	2852.94	36552.52	907.38	35645.14	552.20
24	2685.12	38330.26	929.28	37400.98	552.31
25	2517.30	39918.28	948.60	38969.68	552.40
26	2349.48	41319.16	965.54	40353.62	552.48
27	2181.66	42535.28	980.24	41555.04	552.56
28	2013.84	43568.88	992.82	42576.06	552.62
29	1846.02	44422.08	1003.39	43418.69	552.67
30	1678.20	45096.89	1012.04	44084.85	552.71
31	1510.38	45595.23	1018.82	44576.41	552.74
32	1342.56	45918.97	1023.80	44895.17	552.76
33	1174.74	46069.91	1027.00	45042.91	552.77
34	1006.92	46049.83	1028.49	45021.34	552.76
35	839.10	45860.44	1028.27	44832.17	552.75
36	671.28	45503.46	1026.37	44477.09	552.73
37	503.46	44980.55	1022.79	43957.76	552.70
38	335.64	44293.40	1017.53	43275.88	552.66
39	167.82	43443.70	1010.58	42433.12	552.61
40	0.00	42433.12	1001.92	41431.20	552.55

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* Overflow Structure - Box Structure
* PERIMETER= 10 ft/SILL ELEV= 553.59
*
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25 YEAR SUBMITTAL DATE:

MIN	INFLOW	STORAGE	OUTFLOW	NET DET.	ELEV.
1	235.00	235.00	0.00	235.00	548.74
2	470.00	705.00	1.46	703.54	548.83
3	705.00	1408.54	7.58	1400.96	548.97
4	940.00	2340.96	21.31	2319.65	549.14
5	1175.00	3494.65	45.40	3449.25	549.35
6	1410.00	4859.25	82.32	4776.93	549.60
7	1645.00	6421.93	134.16	6287.77	549.89
8	1880.00	8167.77	202.62	7965.15	550.09
9	2115.00	10080.15	254.68	9825.47	550.23
10	2350.00	12175.47	296.11	11879.36	550.39
11	2585.00	14464.36	344.18	14120.18	550.57
12	2820.00	16940.18	399.31	16540.87	550.76
13	3055.00	19595.87	605.31	18990.56	550.95
14	3290.00	22280.56	658.01	21622.55	551.16
15	3525.00	25147.55	710.29	24437.27	551.38
16	3760.00	28197.27	762.22	27435.05	551.62
17	3995.00	31430.05	813.91	30616.14	551.87
18	4230.00	34846.14	865.38	33980.76	552.10
19	4465.00	38445.76	910.58	37535.19	552.32
20	4700.00	42235.19	950.06	41285.13	552.54
21	4465.00	45750.13	990.02	44760.11	552.75
22	4230.00	48990.11	1025.65	47964.46	552.94
23	3995.00	51959.46	1057.44	50902.03	553.12
24	3760.00	54662.03	1085.77	53576.26	553.28
25	3525.00	57101.26	1110.94	55990.33	553.42
26	3290.00	59280.33	1133.17	58147.16	553.55
27	3055.00	61202.16	1152.67	60049.49	553.66
28	2820.00	62869.49	1202.40	61667.10	553.76
29	2585.00	64252.10	1301.37	62950.73	553.84
30	2350.00	65300.73	1400.07	63900.67	553.90
31	2115.00	66015.68	1486.33	64529.35	553.93
32	1880.00	66409.35	1545.75	64863.60	553.95
33	1645.00	66508.60	1583.30	64925.30	553.96
34	1410.00	66335.30	1589.47	64745.83	553.95
35	1175.00	65920.83	1571.45	64349.38	553.92
36	940.00	65289.38	1528.38	63760.99	553.89
37	705.00	64465.99	1473.56	62992.43	553.84
38	470.00	63462.43	1406.16	62056.27	553.78

39	235.00	62291.27	1329.58	60961.69	553.72
40	0.00	60961.69	1253.22	59708.47	553.64

PEAK OUTFLOW= 26.49 CFS AT 34 MINUTES

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*
*  RECTANGULAR ORIFICE
*  12 in W X 24 in H  ELEV= 548.7
*
*  Outlet Pipe - 50.57 ft - 36 in pipe
*  UFL= 548.7  LFL= 547.8  n= .013
*
*  Overflow Structure - Box Structure
*  PERIMETER= 10 ft/SILL ELEV= 553.59
*
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100 YEAR SUBMITTAL DATE:

MIN	INFLOW	STORAGE	OUTFLOW	NET DET.	ELEV.
1	332.60	332.60	0.00	332.60	548.76
2	665.20	997.80	2.47	995.33	548.89
3	997.80	1993.13	12.76	1980.37	549.07
4	1330.40	3310.77	35.82	3274.96	549.32
5	1663.00	4937.96	76.16	4861.80	549.62
6	1995.60	6857.40	137.77	6719.64	549.97
7	2328.20	9047.84	223.84	8824.00	550.15
8	2660.80	11484.80	273.55	11211.25	550.34
9	2993.40	14204.65	328.28	13876.37	550.55
10	3326.00	17202.37	393.17	16809.20	550.78
11	3658.60	20467.80	611.30	19856.49	551.02
12	3991.20	23847.69	675.65	23172.04	551.28
13	4323.80	27495.84	739.33	26756.51	551.57
14	4656.40	31412.91	802.51	30610.41	551.87
15	4989.00	35599.41	865.29	34734.12	552.15
16	5321.60	40055.72	919.09	39136.63	552.41
17	5654.20	44790.83	967.33	43823.51	552.69
18	5986.80	49810.31	1016.17	48794.14	552.99
19	6319.40	55113.54	1065.52	54048.02	553.30
20	6652.00	60700.02	1115.32	59584.71	553.64
21	6319.40	65904.11	1181.70	64722.41	553.94
22	5986.80	70709.21	1569.12	69140.10	554.17
23	5654.20	74794.31	2023.57	72770.75	554.35
24	5321.60	78092.35	2499.41	75592.94	554.48
25	4989.00	80581.94	2887.64	77694.30	554.59
26	4656.40	82350.71	3206.97	79143.73	554.66
27	4323.80	83467.53	3435.98	80031.54	554.70
28	3991.20	84022.74	3572.25	80450.50	554.72
29	3658.60	84109.10	3637.42	80471.68	554.72
30	3326.00	83797.68	3640.75	80156.93	554.71
31	2993.40	83150.32	3591.70	79558.62	554.68
32	2660.80	82219.43	3499.37	78720.05	554.64
33	2328.20	81048.25	3358.81	77689.46	554.59
34	1995.60	79685.06	3206.23	76478.82	554.53
35	1663.00	78141.82	3010.85	75130.97	554.46
36	1330.40	76461.37	2824.60	73636.78	554.39
37	997.80	74634.57	2609.67	72024.90	554.31
38	665.20	72690.10	2375.19	70314.91	554.23

39	332.60	70647.51	2150.09	68497.43	554.14
40	0.00	68497.43	1943.11	66554.31	554.04

PEAK OUTFLOW= 60.68 CFS AT 30 MINUTES

