

PICKETT RAY & SILVER

333 Mid Rivers Mall Dr.
St. Peters, MD 83376

Civil Engineers
Planners
Land Surveyors

397-1211

PROJECT NAME _____

PROJECT #/JOB ORDER # 95-080C

DATE _____

DESIGNER _____

PAGE 2 of 11.

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*****
*                               *
* RECTANGULAR ORIFICE          *
* 24 in W X 12 in H   ELEV= 519 *
*                               *
* Outlet Pipe - 103 ft - 36 in pipe *
* UFL= 515.0801   LFL= 513.85   n= .013 *
*                               *
* Overflow Structure - Box Structure *
* PERIMETER= 24 ft/SILL ELEV= 522.5 *
*                               *
*****
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2YR./20MIN.

PRAIRIE VILLAGE "A" 6-18-97 SUBMITTAL DATE:

MIN	INFLOW	STORAGE	OUTFLOW	NET DET.	ELEV.
1	370.20	370.20	0.00	370.20	519.01
2	740.40	1110.60	0.14	1110.46	519.02
3	1110.60	2221.06	0.73	2220.33	519.04
4	1480.80	3701.13	2.07	3699.06	519.06
5	1851.00	5550.06	4.45	5545.61	519.09
6	2221.20	7766.81	8.18	7758.63	519.12
7	2591.40	10350.03	13.53	10336.50	519.16
8	2961.60	13298.10	20.80	13277.30	519.21
9	3331.80	16609.10	30.29	16578.81	519.26
10	3702.00	20280.81	42.27	20238.54	519.32
11	4072.20	24310.74	57.01	24253.73	519.39
12	4442.40	28696.13	74.78	28621.35	519.46
13	4812.60	33433.95	95.88	33338.07	519.53
14	5182.80	38520.87	120.52	38400.35	519.61
15	5553.00	43953.35	149.00	43804.36	519.70
16	5923.20	49727.56	181.54	49546.02	519.79
17	6293.40	55839.42	218.36	55621.06	519.88
18	6663.60	62284.66	259.74	62024.92	519.99
19	7033.80	69058.72	305.85	68752.87	520.08
20	7404.00	76156.87	446.29	75710.57	520.17
21	7033.80	82744.37	480.19	82264.18	520.25
22	6663.60	88927.78	510.07	88417.72	520.33
23	6293.40	94711.12	536.61	94174.50	520.41
24	5923.20	100097.70	560.31	99537.40	520.48
25	5553.00	105090.40	581.52	104508.90	520.55
26	5182.80	109691.70	600.51	109091.20	520.60
27	4812.60	113903.80	617.49	113286.30	520.66
28	4442.40	117728.70	632.64	117096.10	520.71
29	4072.20	121168.30	646.09	120522.20	520.75
30	3702.00	124224.20	657.95	123566.20	520.79
31	3331.80	126898.00	668.32	126229.70	520.83
32	2961.60	129191.30	677.26	128514.10	520.86
33	2591.40	131105.50	684.83	130420.60	520.88
34	2221.20	132641.90	691.08	131950.80	520.90
35	1851.00	133801.80	696.06	133105.70	520.92
36	1480.80	134586.50	699.80	133886.70	520.93
37	1110.60	134997.30	702.31	134295.00	520.93
38	740.40	135035.40	703.63	134331.80	520.94
39	370.20	134702.00	703.75	133998.20	520.93
40	0.00	133998.20	702.67	133295.60	520.92

PEAK OUTFLOW= 11.73 CFS AT 39 MINUTES.

PROJECT NAME VILLAGE@DARDENNE - PRAIRIE

PROJECT #/JOB ORDER # 95-080C

DATE 6-18-97

DESIGNER J. KENDRICK

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PICKETT RAY & SILVER

333 Mid Rivers Mall Dr.
St. Peters, MO 63376

Civil Engineers
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Land Surveyors

397-1211

*STORMWATER DETENTION "A"
DESIGN STORM: 5 YR. / 20 MIN.*

TOTAL AREA TO DISCHARGE POINT:

PRE-DEVELOPED:

ONSITE: 43.06 ACRES

OFFSITE: 1.09 ACRES (RESIDENTIAL)

25.82 ACRES (COMMERCIAL)

TOTAL: 69.97 ACRES

DEVELOPED:

ONSITE: 12.87 ACRES (RES.)

30.19 ACRES (VILLA)

OFFSITE: 25.41 ACRES (COMM.)

1.09 ACRES (RES.)

TOTAL: 69.56 ACRES

PRE-DEVELOPED CONDITIONS:

ONSITE: 43.06 AC. x 1.55 CFS/AC.

OFFSITE: 1.09 AC. x 2.18 CFS/AC.

25.82 AC. x 1.55 CFS/AC.

Q = 66.74 CFS

Q = 2.38 CFS

Q = 40.02 CFS

TQ = 109.14 CFS

DEVELOPED Q TO BASIN:

DIRECT RUNOFF: 0.46 AC. x 2.18 CFS/AC.

3.74 AC. x 2.70 CFS/AC.

Q = 1.00 CFS

Q = 10.10 CFS

VIA SEWERS:

ONSITE: 12.41 AC. x 2.18 CFS/AC.

26.45 AC. x 2.70 CFS/AC.

Q = 27.05 CFS

Q = 71.42 CFS

OFFSITE: 1.09 AC. x 2.18 CFS/AC.

25.41 AC. x 1.55 CFS/AC.

Q = 2.38 CFS

Q = 39.39 CFS

TQ = 151.34 CFS

DETENTION REQUIRED:

151.34 CFS - 109.14 CFS = 42.20 CFS

42.20 CFS x 30 MIN. x 60 SEC/MIN. = 75,960 CU. FT.

(ESTIMATED VOLUME)

ALLOWABLE RELEASE FROM BASIN:

151.34 CFS - 42.20 CFS

Q = 109.14 CFS

PEAK OUTFLOW:

13.29 CFS @ 39 MIN.

PROJECT NAME _____
 PROJECT #/JOB ORDER # 25-080C
 DATE _____
 DESIGNER _____
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PICKETT RAY & SILVER

333 Mid Rivers Mall Dr.
 St. Peters, MO 63376

Civil Engineers
 Planners
 Land Surveyors

397-1211

 * * * * *
 * RECTANGULAR ORIFICE *
 * 24 in W X 12 in H ELEV= 519 *
 * * * * *
 * Outlet Pipe - 103 ft - 36 in pipe *
 * UFL= 515.0801 LFL= 513.85 n= .013 *
 * * * * *
 * Overflow Structure - Box Structure *
 * PERIMETER= 24 ft/SILL ELEV= 522.5 *
 * * * * *

5YR./20MIN.

PRAIRIE VILLAGE "A" 6-18-97 SUBMITTAL DATE:

MIN	INFLOW	STORAGE	OUTFLOW	NET DET.	ELEV.
1	454.02	454.02	0.00	454.02	519.01
2	908.04	1362.06	0.19	1361.87	519.02
3	1362.06	2723.93	1.00	2722.94	519.04
4	1816.08	4539.02	2.81	4536.21	519.07
5	2270.10	6806.31	6.05	6800.26	519.11
6	2724.12	9524.38	11.11	9513.27	519.15
7	3178.14	12691.41	18.37	12673.04	519.20
8	3632.16	16305.20	28.25	16276.95	519.26
9	4086.18	20363.13	41.12	20322.01	519.32
10	4540.20	24862.21	57.35	24804.86	519.39
11	4994.22	29799.08	77.35	29721.73	519.47
12	5448.24	35169.97	101.46	35068.51	519.56
13	5902.26	40970.77	130.02	40840.75	519.65
14	6356.28	47197.03	163.42	47033.61	519.75
15	6810.30	53843.91	201.96	53641.96	519.85
16	7264.32	60906.28	245.99	60660.29	519.97
17	7718.34	68378.63	295.80	68082.82	520.07
18	8172.36	76255.18	442.88	75812.30	520.17
19	8626.38	84438.68	480.67	83958.02	520.28
20	9080.40	93038.42	517.51	92520.92	520.39
21	8626.38	101147.30	553.61	100593.70	520.49
22	8172.36	108766.10	585.60	108180.50	520.59
23	7718.34	115898.80	614.16	115284.70	520.69
24	7264.32	122549.00	639.74	121909.20	520.77
25	6810.30	128719.50	662.70	128056.90	520.85
26	6356.28	134413.10	683.31	133729.80	520.93
27	5902.26	139632.10	701.81	138930.30	521.00
28	5448.24	144378.50	718.34	143660.20	521.06
29	4994.22	148654.40	733.05	147921.40	521.11
30	4540.20	152461.60	746.06	151715.50	521.16
31	4086.18	155801.70	757.45	155044.20	521.21
32	3632.16	158676.40	767.32	157909.10	521.24
33	3178.14	161087.20	775.70	160311.50	521.28
34	2724.12	163035.60	782.66	162253.00	521.30
35	2270.10	164523.10	788.23	163734.90	521.32
36	1816.08	165550.90	792.47	164758.50	521.33
37	1362.06	166120.50	795.38	165325.10	521.34
38	908.04	166233.20	796.99	165436.20	521.34
39	454.02	165890.20	797.29	165092.90	521.34
40	0.00	165092.90	796.33	164296.60	521.33

PEAK ¹OUTFLOW= 13.29 CFS AT 39 MINUTES

PROJECT NAME _____

PROJECT #/JOB ORDER # 95-080C

DATE _____

DESIGNER _____

PAGE 6 of 11

PICKETT RAY & SILVER

Civil Engineers
Planners
Land Surveyors

333 Mid Rivers Mall Dr.
St. Peters, MO 63376

397-1211

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*                               *
* RECTANGULAR ORIFICE          *
* 24 in W X 12 in H  ELEV= 519 *
*                               *
* Outlet Pipe - 103 ft - 36 in pipe *
* UFL= 515.0801  LFL= 513.85  n= .013 *
*                               *
* Overflow Structure - Box Structure *
* PERIMETER= 24 ft/SILL ELEV= 522.5 *
*                               *
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15YR./20MIN.

PRAIRIE VILLAGE "A" 6-18-97 SUBMITTAL DATE:

MIN	INFLOW	STORAGE	OUTFLOW	NET DET.	ELEV.
1	552.00	552.00	0.00	552.00	519.01
2	1104.00	1656.00	0.26	1655.74	519.03
3	1656.00	3311.74	1.34	3310.40	519.05
4	2208.00	5518.40	3.77	5514.63	519.09
5	2760.00	8274.63	8.11	8266.52	519.13
6	3312.00	11578.52	14.88	11563.64	519.18
7	3864.00	15427.64	24.62	15403.02	519.25
8	4416.00	19819.02	37.85	19781.17	519.31
9	4968.00	24749.17	55.08	24694.09	519.39
10	5520.00	30214.09	76.83	30137.26	519.48
11	6072.00	36209.26	103.59	36105.67	519.57
12	6624.00	42729.67	135.85	42593.83	519.68
13	7176.00	49769.83	174.05	49595.78	519.79
14	7728.00	57323.78	218.69	57105.10	519.91
15	8280.00	65385.10	270.20	65114.90	520.03
16	8832.00	73946.90	427.49	73519.41	520.14
17	9384.00	82903.41	469.79	82433.62	520.26
18	9936.00	92369.62	510.81	91858.80	520.38
19	10488.00	102346.80	550.90	101795.90	520.51
20	11040.00	112835.90	590.22	112245.70	520.65
21	10488.00	122733.70	628.91	122104.80	520.78
22	9936.00	132040.80	663.37	131377.40	520.90
23	9384.00	140761.40	694.20	140067.20	521.01
24	8832.00	148899.20	721.90	148177.30	521.12
25	8280.00	156457.30	746.84	155710.50	521.21
26	7728.00	163438.50	769.26	162669.20	521.31
27	7176.00	169845.20	789.42	169055.80	521.39
28	6624.00	175679.80	807.48	174872.30	521.47
29	6072.00	180944.30	823.58	180120.70	521.53
30	5520.00	185640.70	837.84	184802.90	521.60
31	4968.00	189770.90	850.37	188920.50	521.65
32	4416.00	193336.50	861.23	192475.30	521.70
33	3864.00	196339.30	870.50	195468.80	521.74
34	3312.00	198780.80	878.22	197902.60	521.77
35	2760.00	200662.60	884.46	199778.10	521.79
36	2208.00	201986.10	889.23	201096.90	521.81
37	1656.00	202752.90	892.58	201860.30	521.82
38	1104.00	202964.30	894.50	202069.80	521.82
39	552.00	202621.80	895.03	201726.80	521.82
40	0.00	201726.80	894.17	200832.60	521.81

PEAK OUTFLOW= 14.92 CFS AT 39 MINUTES

PICKETT RAY & SILVER

333 Mid Rivers Mall Dr.
St. Peters, MO 63376

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397-1211

PROJECT NAME VILLAGE@DARDENNE-PRAIRIE
PROJECT #/JOB ORDER # 95-080C
DATE 6-18-97
DESIGNER V. KENDRICK
PAGE 7 of 11.

*STORMWATER DETENTION "A"
DESIGN STORM: 25 YR. / 20 MIN.*

TOTAL AREA TO DISCHARGE POINT:

PRE-DEVELOPED:

ONSITE: 43.06 ACRES
OFFSITE: 1.09 ACRES (RESIDENTIAL)
25.82 ACRES (COMMERCIAL)

TOTAL: 69.97 ACRES

DEVELOPED:

ONSITE: 12.87 ACRES (RES.)
30.19 ACRES (VILLA)
OFFSITE: 25.41 ACRES (COMM.)
1.09 ACRES (RES.)

TOTAL: 69.56 ACRES

PRE-DEVELOPED CONDITIONS:

ONSITE: 43.06 AC. x 2.31 CFS/AC.
OFFSITE: 1.09 AC. x 3.26 CFS/AC.
25.82 AC. x 2.31 CFS/AC.

Q = 99.47 CFS
Q = 3.55 CFS
Q = 59.64 CFS

TQ = 162.66 CFS

DEVELOPED Q TO BASIN:

DIRECT RUNOFF: 0.46 AC. x 3.26 CFS/AC.
3.74 AC. x 4.07 CFS/AC.

Q = 1.50 CFS
Q = 15.22 CFS

VIA SEWERS:

ONSITE: 12.41 AC. x 3.26 CFS/AC.
26.45 AC. x 4.07 CFS/AC.

Q = 40.46 CFS
Q = 107.65 CFS

OFFSITE: 1.09 AC. x 3.26 CFS/AC.
25.41 AC. x 2.31 CFS/AC.

Q = 3.55 CFS
Q = 58.70 CFS

TQ = 227.08 CFS

DETENTION REQUIRED:

227.08 CFS - 162.66 CFS = 64.42 CFS
64.42 CFS x 30 MIN. x 60 SEC./MIN. = 115,956 CU. FT.
(ESTIMATED VOLUME)

ALLOWABLE RELEASE FROM BASIN:

227.08 CFS - 64.42 CFS Q = 162.66 CFS

PEAK OUTFLOW:

16.61 CFS @ 39 MIN.

PICKETT RAY & SILVER

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St. Peters, MD 63376

Civil Engineers
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Land Surveyors

397-1211

PROJECT NAME _____
PROJECT #/JOB ORDER # 95-080C
DATE _____
DESIGNER _____
PAGE 8 of 11

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*****
*
* RECTANGULAR ORIFICE
* 24 in W X 12 in H ELEV= 519
*
* Outlet Pipe - 103 ft - 36 in pipe
* UFL= 515.0801 LFL= 513.85 n= .013
*
* Overflow Structure - Box Structure
* PERIMETER= 24 ft/SILL ELEV= 522.5
*
*****
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25 YR./10 MIN.

PRAIRIE VILLAGE "A" 6-18-97 SUBMITTAL DATE:

MIN	INFLOW	STORAGE	OUTFLOW	NET DET.	ELEV.
1	681.24	681.24	0.00	681.24	519.01
2	1362.48	2043.72	0.35	2043.37	519.03
3	2043.72	4087.09	1.83	4085.26	519.07
4	2724.96	6810.22	5.17	6805.05	519.11
5	3406.20	10211.25	11.12	10200.13	519.16
6	4087.44	14287.57	20.40	14267.17	519.23
7	4768.68	19035.85	33.74	19002.11	519.30
8	5449.92	24452.03	51.86	24400.17	519.39
9	6131.16	30531.33	75.46	30455.87	519.48
10	6812.40	37268.27	105.24	37163.03	519.59
11	7493.64	44656.67	141.84	44514.83	519.71
12	8174.88	52689.71	185.97	52503.74	519.84
13	8856.12	61359.86	238.20	61121.66	519.97
14	9537.36	70659.03	299.21	70359.81	520.10
15	10218.60	80578.43	454.34	80124.08	520.23
16	10899.84	91023.92	500.50	90523.42	520.36
17	11581.08	102104.50	545.41	101559.10	520.51
18	12262.32	113821.40	589.31	113232.10	520.66
19	12943.56	126175.70	632.45	125543.20	520.82
20	13624.80	139168.10	674.97	138493.10	520.99
21	12943.56	151436.60	716.97	150719.70	521.15
22	12262.32	162982.00	754.49	162227.50	521.30
23	11581.08	173808.60	788.17	173020.40	521.44
24	10899.84	183920.30	818.49	183101.80	521.57
25	10218.60	193320.40	845.83	192474.50	521.70
26	9537.36	202011.90	870.49	201141.40	521.81
27	8856.12	209997.50	892.68	209104.90	521.91
28	8174.88	217279.70	912.60	216367.10	522.01
29	7493.64	223860.80	930.11	222930.70	522.08
30	6812.40	229743.10	943.12	228800.00	522.14
31	6131.16	234931.10	954.59	233976.50	522.20
32	5449.92	239426.40	964.60	238461.80	522.24
33	4768.68	243230.50	973.20	242257.30	522.29
34	4087.44	246344.70	980.41	245364.30	522.32
35	3406.20	248770.50	986.27	247784.20	522.34
36	2724.96	250509.20	990.82	249518.40	522.36
37	2043.72	251562.10	994.05	250568.10	522.37
38	1362.48	251930.50	996.01	250934.50	522.38
39	681.24	251615.80	996.70	250619.10	522.38
40	0.00	250619.10	996.11	249623.00	522.36

PEAK OUTFLOW= 16.61 CFS AT 39 MINUTES

PROJECT NAME VILLAGE@DARDENNE - PRAIRIE
 PROJECT #/JOB ORDER # 95-080C
 DATE 6-18-97
 DESIGNER V. KENDRICK
 PAGE 9 of 11.

PICKETT RAY & SILVER

333 Mid Rivers Mall Dr.
 St. Peters, MO 63376

Civil Engineers
 Planners
 Land Surveyors

397-1211

*STORMWATER DETENTION "A"
 DESIGN STORM: 100 YR. / 20 MIN.*

TOTAL AREA TO DISCHARGE POINT:

PRE-DEVELOPED:

ONSITE: 43.06 ACRES
 OFFSITE: 1.09 ACRES (RESIDENTIAL)
25.82 ACRES (COMMERCIAL)
 TOTAL: 69.97 ACRES

DEVELOPED:

ONSITE: 12.87 ACRES (RES.)
 30.19 ACRES (VILLA)
 OFFSITE: 25.41 ACRES (COMM.)
1.09 ACRES (RES.)
 TOTAL: 69.56 ACRES

PRE-DEVELOPED CONDITIONS:

ONSITE: 43.06 AC. x 2.95 CFS/AC.	Q = 127.03 CFS
OFFSITE: 1.09 AC. x 4.17 CFS/AC.	Q = 4.55 CFS
25.82 AC. x 2.95 CFS/AC.	Q = 76.17 CFS
	<u>TQ = 207.75 CFS</u>

DEVELOPED Q TO BASIN:

DIRECT RUNOFF: 0.46 AC. x 4.17 CFS/AC.	Q = 1.92 CFS
3.74 AC. x 5.21 CFS/AC.	Q = 19.49 CFS
VIA SEWERS:	
ONSITE: 12.41 AC. x 4.17 CFS/AC.	Q = 51.75 CFS
26.45 AC. x 5.21 CFS/AC.	Q = 137.80 CFS
OFFSITE: 1.09 AC. x 4.17 CFS/AC.	Q = 4.55 CFS
25.41 AC. x 2.95 CFS/AC.	Q = 74.96 CFS
	<u>TQ = 290.47 CFS</u>

DETENTION REQUIRED:

$290.47 \text{ CFS} - 207.75 \text{ CFS} = 82.72 \text{ CFS}$
 $82.72 \text{ CFS} \times 30 \text{ MIN.} \times 60 \text{ SEC./MIN.} = 148,896 \text{ CU.FT.}$
 (ESTIMATED VOLUME)

ALLOWABLE RELEASE FROM BASIN:

$290.47 \text{ CFS} - 82.72 \text{ CFS} \quad Q = 207.75 \text{ CFS}$

PEAK OUTFLOW:

46.35 CFS @ 37 MIN.

PICKETT RAY & SILVER

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St. Peters, MD 63376

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397-1211

PROJECT NAME _____
PROJECT #/JOB ORDER # 95-080C
DATE _____
DESIGNER _____
PAGE 10 of 11.

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*****
*
* RECTANGULAR ORIFICE
* 24 in W X 12 in H ELEV= 519
*
* Outlet Pipe - 103 ft - 36 in pipe
* UFL= 515.0801 LFL= 513.85 n= .013
*
* Overflow Structure - Box Structure
* PERIMETER= 24 ft/SILL ELEV= 522.5
*
*****
    
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100YR. / 20MIN.

PRAIRIE VILLAGE "A" 6-18-97 SUBMITTAL DATE:

MIN	INFLOW	STORAGE	OUTFLOW	NET DET.	ELEV.
1	871.41	871.41	0.00	871.41	519.01
2	1742.82	2614.23	0.51	2613.72	519.04
3	2614.23	5227.95	2.64	5225.31	519.08
4	3485.64	8710.95	7.48	8703.47	519.14
5	4357.05	13060.52	16.08	13044.44	519.21
6	5228.46	18272.90	29.49	18243.41	519.29
7	6099.87	24343.28	48.80	24294.48	519.39
8	6971.28	31265.76	74.98	31190.78	519.50
9	7842.69	39033.47	109.08	38924.39	519.62
10	8714.10	47638.49	152.04	47486.45	519.76
11	9585.51	57071.96	204.88	56867.08	519.90
12	10456.92	67324.00	268.52	67055.50	520.06
13	11328.33	78383.82	437.62	77946.21	520.20
14	12199.74	90145.96	490.58	89655.38	520.35
15	13071.15	102726.50	541.81	102184.70	520.51
16	13942.56	116127.30	591.70	115535.60	520.69
17	14813.97	130349.60	640.61	129709.00	520.87
18	15685.38	145394.40	688.76	144705.60	521.07
19	16556.79	161262.40	736.26	160526.10	521.28
20	17428.20	177954.30	783.28	177171.10	521.50
21	16556.79	193727.90	829.86	192898.00	521.70
22	15685.38	208583.40	871.59	207711.80	521.90
23	14813.97	222525.70	909.15	221616.60	522.06
24	13942.56	235559.20	940.52	234618.60	522.20
25	13071.15	247689.80	965.84	246724.00	522.33
26	12199.74	258923.70	988.83	257934.90	522.45
27	11328.33	269263.20	1009.65	268253.50	522.57
28	10456.92	278710.50	1093.05	277617.40	522.67
29	9585.51	287202.90	1314.18	285888.70	522.75
30	8714.10	294602.80	1578.81	293024.00	522.83
31	7842.69	300866.70	1842.47	299024.20	522.90
32	6971.28	305995.50	2101.15	303894.30	522.95
33	6099.87	309994.20	2318.29	307675.90	522.99
34	5228.46	312904.40	2523.39	310381.00	523.02
35	4357.05	314738.00	2657.16	312080.90	523.04
36	3485.64	315566.50	2742.88	312823.60	523.04
37	2614.23	315437.80	2780.89	312657.00	523.04
38	1742.82	314399.80	2772.45	311627.30	523.03
39	871.41	312498.70	2719.81	309778.90	523.01
40	0.00	309778.90	2627.11	307151.80	522.98

PEAK OUTFLOW= 46.35 CFS AT 37 MINUTES

PROJECT NAME _____
 PROJECT #/JOB ORDER # 95-080C
 DATE _____
 DESIGNER _____
 PAGE 11 of 11.

PICKETT RAY & SILVER

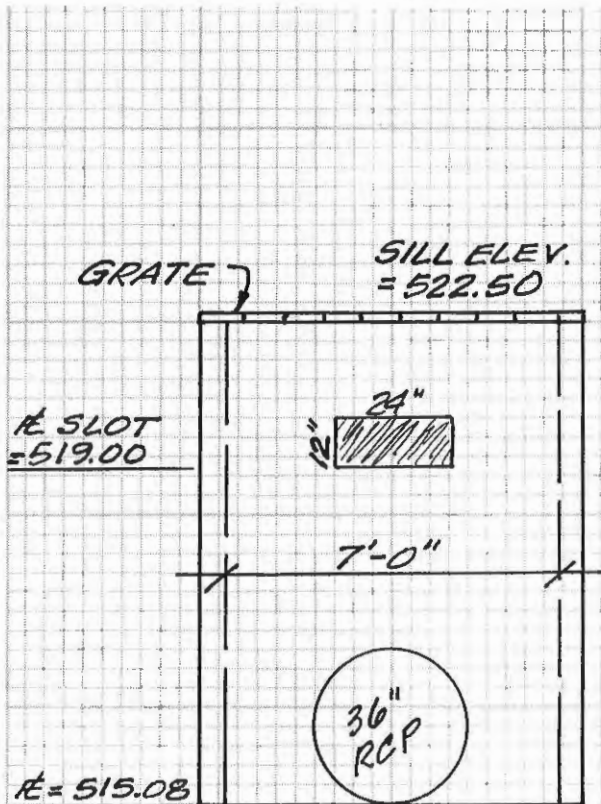
333 Mid Rivers Mall Dr.
 St. Peters, MO 63376

Civil Engineers
 Planners
 Land Surveyors

397-1211

BASIN "A"

ELEVATION	AREA	VOLUME	CUM. VOLUME
519.00	58436		
520.00	67270	62853	62853
522.00	85590	152860	215713
524.00	100355	185945	401658
525.00	109120	104737	506395
525.50	117063	56545	562941



CHECK LOWFLOW BLOCKED WEIR EQUATION:

(25YR./20MIN.)

$$Q = CLH^{3/2}$$

$$227.08 = (3.0)(24.0)(H^{3/2})$$

$$227.08 = (72)H^{3/2}$$

$$\left(\frac{227.08}{72}\right)^{2/3} = H$$

$$3.15^{2/3} = H$$

$$2.15' = H$$

$$522.50 (\text{SILL}) + 2.15 = 524.65$$

$$\text{DAM ELEV.} = 525.50$$

$$\text{NORMAL WATER LEVEL} = 519.0$$

$$25\text{YR. FREEBOARD (WEIR)} = 0.85'$$

$$25\text{YR. FREEBOARD (H.W.):}$$

$$525.50 - 522.38 = 3.12'$$

$$100\text{YR. FREEBOARD (H.W.):}$$

$$525.50 - 523.04 = 2.46'$$

O.S. #V8

N.T.S.

7' x 5' CONCRETE BOX
 W/GRATE ON SILL.