ASHFORD PLACE 4-27-94
DETENTION REPORT

Total Area of Tract - 45.48 Ac

Differential Run-off =

15yr. - (2.64 - 1.87) 45.48 = 35.02 c.f.s.

25yr. - (3.26 - 2.31) 45.48 = 43.21 c.f.s.

Total Q to Basin = 15yr. - 137.74 c.f.s.

25yr. - 169.90 c.f.s.

Allowable Discharge =

15yr. - 137.74 - 35.02 = 102.72 c.f.s.

25yr. - 169.90 - 43.21 = 126.69 c.f.s.

Outfall Structure - 5'x5' overflow w/ Low Flow slot 36"w x 42"h @ 492.00 ft
Top of Structure will be 498.36 with slots 1.7 feet wide on each side 497.53

Results: (See attached print-out)

15yr. - Peak outflow of 99.93 c.f.s. @ Elev. 497.53

25yr. - Peak outflow of 126.38 c.f.s. @ Elev. 498.36

100yr - Peak outflow of 170.92 c.f.s. @ Elev. 499.24

Top of Berm = 499.24 + 1 = 500.24
Sediment Storage = 100 x 42.30 x 2 = 8,460 Cu. Ft.
Detention Storage Req'd. = (43.21 x 30 x 60) + 8,460 = 86,238 Cu. Ft.
Storage Provided @ 498.18 = 87,337 Cu. Ft.

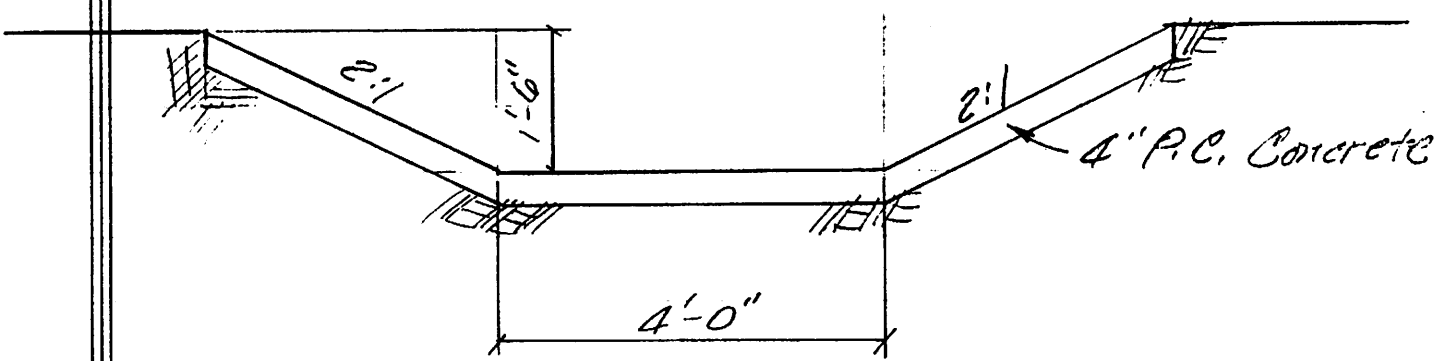
ASHFORD PLACE

1-22-94

To determine the size of the paved ditch in the detention basin, we are providing you with routing information for the following storms: 2yr, 5yr, 10yr, 15yr., 25yr, 100yr, 10yr undeveloped, 15yr undeveloped and 25yr undeveloped.

The storm which allowed the closest resemblance to a straight-thru flow was the 10 year undeveloped. The peak discharge is 68.91 c.f.s. and the inflow is 69.80 c.f.s.

Using 69.80 c.f.s. as the Demand Q, the following ditch was determined



$d = 1.5$ $n = .015$ $S_o = .01$

$a = 8.125$ $wp = 9.59$

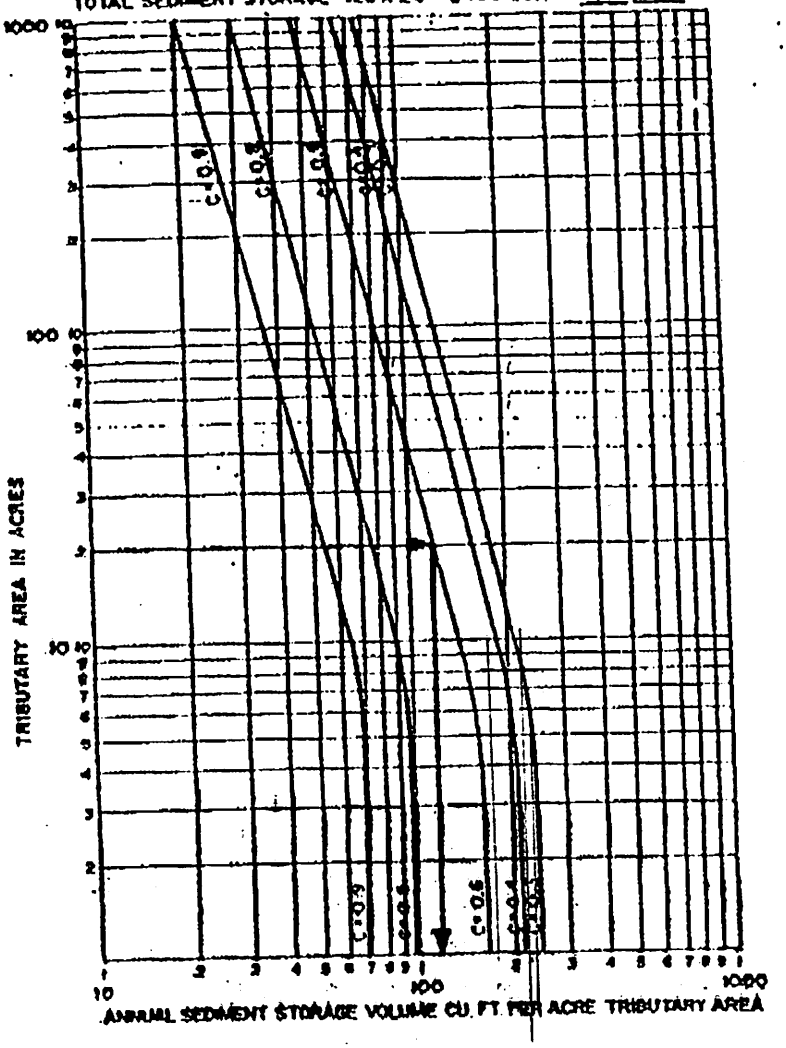
$$Q = \frac{1.486}{.015}\left(\frac{8.125}{9.59}\right)^{2/3}(.01)^{1/2}(8.125)$$

$$= 72.07$$

ORIGINAL

2 YEAR SEDIMENT STORAGE REQUIRED

EXAMPLE:
TRIBUTARY AREA = 20 ACRES
RATIONAL 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.



ANNUAL SEDIMENT STORAGE

FIG. 6

Overflow Structure 124 - BUOYANCY FACTOR

3 Walls @ 23.22 cu. ft. Concrete @ 155 lb. = 10,797 lb.

1 Wall @ 16.18 cu. ft Concrete @ 155 lb = 2,508 lb.

Bottom @ 26.93 cu. ft Concrete @ 155 lb = 4,174 lb.

3 Walls @ 137.5 Lin ft #4 Bars @ 0.668 lb/Lin ft = 276 lb.

1 Wall @ 82.5 Lin ft. #4 Bars @ 0.668 lb/Lin ft = 55 lb.

Bottom @ 156 Lin ft. #4 Bars @ 0.668 lb/Lin ft = 104 lb.

TOP @ 156 Lin ft #4 Bars @ 0.668 lb/Lin ft. = 104 lb

Total weight of O.S. 124 = 18,018 lbs.

Water Displacement:

222.28 cu. ft. @ 62.4 lb./cu ft. = 13,870 lbs.

2 yr Developed

```
*****************************************
*                                       *
* RECTANGULAR ORIFICE                   *
*   36 in W X 42 in H   ELEV= 492       *
*                                       *
* Outlet Pipe -  73 ft - 48 in pipe     *
* UFL= 490.78  LFL= 489.32   n= .013     *
*                                       *
*****************************************
```

ASHFORD PLACE 6/17/94 SUBMITTAL DATE:

MIN	INFLOW	STORAGE	OUTFLOW	NET DET.	ELEV.
1	553.00	553.00	0.00	553.00	492.15
2	1106.00	1659.00	26.24	1632.76	492.43
3	1659.00	3291.76	133.13	3158.63	492.84
4	2212.00	5370.63	358.20	5012.43	493.33
5	2765.00	7777.43	716.04	7061.39	493.87
6	3318.00	10379.39	1197.32	9182.08	494.13
7	3871.00	13053.08	1456.53	11596.55	494.33
8	4424.00	16020.55	1660.65	14359.90	494.55
9	4977.00	19336.90	1904.97	17431.93	494.80
10	4977.00	22408.93	2189.37	20219.56	495.02
11	4977.00	25196.56	2458.64	22737.92	495.23
12	4977.00	27714.92	2710.68	25004.24	495.41
13	4977.00	29981.24	2944.38	27036.87	495.57
14	4977.00	32013.87	4162.77	27851.10	495.64
15	4977.00	32828.10	4237.13	28590.97	495.70
16	4977.00	33567.97	4303.61	29264.36	495.75
17	4977.00	34241.36	4363.22	29878.14	495.80
18	4977.00	34855.14	4416.87	30438.27	495.85
19	4977.00	35415.27	4465.24	30950.03	495.89
20	4977.00	35927.03	4509.00	31418.03	495.93
21	4424.00	35842.03	4548.64	31293.40	495.92
22	3871.00	35164.40	4538.13	30626.27	495.86
23	3318.00	33944.27	4481.36	29462.91	495.77
24	2765.00	32227.91	4380.65	27847.26	495.64
25	2212.00	30059.26	4236.79	25822.47	495.47
26	1659.00	27481.47	3030.33	24451.14	495.36
27	1106.00	25557.14	2886.74	22670.40	495.22
28	553.00	23223.40	2703.80	20519.60	495.05
29	0.00	20519.60	2488.23	18031.37	494.85

PEAK OUTFLOW= 75.81 CFS AT 21 MINUTES

year Developed

```
*****************************************
*                                       *
*  RECTANGULAR ORIFICE                  *
*   36 in W X 42 in H   ELEV= 492       *
*                                       *
*  Outlet Pipe -  73 ft - 48 in pipe    *
*  UFL= 490.78  LFL= 489.32   n= .013   *
*                                       *
*****************************************
```

ASHFORD PLACE 6/17/94 SUBMITTAL DATE:

MIN	INFLOW	STORAGE	OUTFLOW	NET DET.	ELEV.
1	695.67	695.67	0.00	695.67	492.18
2	1391.33	2087.00	37.03	2049.98	492.54
3	2087.00	4136.98	187.28	3949.70	493.05
4	2782.67	6732.37	500.85	6231.52	493.65
5	3478.33	9709.85	992.56	8717.29	494.09
6	4174.00	12891.29	1418.29	11473.00	494.32
7	4869.67	16342.67	1650.00	14692.66	494.58
8	5565.33	20257.99	1935.12	18322.87	494.87
9	6261.00	24583.87	2274.29	22309.58	495.19
10	6261.00	28570.58	2667.21	25903.37	495.48
11	6261.00	32164.37	3038.88	29125.49	495.74
12	6261.00	35386.49	4351.00	31035.50	495.89
13	6261.00	37296.50	4516.27	32780.24	496.02
14	6261.00	39041.24	4646.90	34394.34	496.10
15	6261.00	40655.34	4723.29	35932.06	496.17
16	6261.00	42193.06	4794.95	37398.11	496.24
17	6261.00	43659.11	4862.27	38796.84	496.30
18	6261.00	45057.84	4925.64	40132.20	496.36
19	6261.00	46393.20	4985.39	41407.81	496.42
20	6261.00	47668.81	5041.80	42627.01	496.48
21	5565.33	48192.35	5095.15	43097.20	496.50
22	4869.67	47966.87	5115.56	42851.31	496.49
23	4174.00	47025.31	5104.91	41920.40	496.45
24	3478.33	45398.73	5064.29	40334.44	496.37
25	2782.67	43117.11	4994.37	38122.74	496.27
26	2087.00	40209.74	4895.20	35314.54	496.14
27	1391.33	36705.87	4766.29	31939.58	495.97
28	695.67	32635.25	4592.42	28042.82	495.65
29	0.00	28042.82	4254.47	23788.36	495.31

PEAK OUTFLOW= 85.26 CFS AT 22 MINUTES

ASHFORD PLACE 6/17/94 SUBMITTAL DATE:

ELEVATION	AREA	VOLUME	CUM. VOLUME
492.00	0		
		7550	7550
494.00	7550		
		24793	32343
496.00	17243		
		42893	75236
498.00	25650		
		57425	132661
500.00	31775		

10 yr Developed

```
*******************************************
*                                         *
*  RECTANGULAR ORIFICE                    *
*   36 in W X 42 in H   ELEV= 492         *
*                                         *
*  Outlet Pipe -  73 ft - 48 in pipe      *
*  UFL= 490.78  LFL= 489.32   n= .013     *
*                                         *
*******************************************
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ASHFORD PLACE 6/17/94 SUBMITTAL DATE:

MIN	INFLOW	STORAGE	OUTFLOW	NET DET.	ELEV.
1	792.53	792.53	0.00	792.53	492.21
2	1585.07	2377.60	45.02	2332.58	492.62
3	2377.60	4710.18	227.31	4482.87	493.19
4	3170.13	7653.00	605.64	7047.37	493.87
5	3962.67	11010.04	1193.74	9816.30	494.18
6	4755.20	14571.50	1509.30	13062.20	494.44
7	5547.73	18609.93	1788.86	16821.07	494.75
8	6340.27	23161.34	2131.76	21029.58	495.09
9	7132.80	28162.38	2538.80	25623.58	495.46
10	7132.80	32756.38	3009.35	29747.03	495.79
11	7132.80	36879.83	4405.46	32474.37	496.01
12	7132.80	39607.17	4632.29	34974.88	496.12
13	7132.80	42107.68	4750.46	37357.22	496.23
14	7132.80	44490.02	4860.39	39629.63	496.34
15	7132.80	46762.43	4962.98	41799.45	496.44
16	7132.80	48932.25	5058.99	43873.26	496.54
17	7132.80	51006.06	5149.09	45856.97	496.63
18	7132.80	52989.77	5233.82	47755.95	496.72
19	7132.80	54888.75	5313.66	49575.10	496.80
20	7132.80	56707.90	5389.05	51318.85	496.88
21	6340.27	57659.12	5460.32	52198.80	496.93
22	5547.73	57746.54	5495.95	52250.59	496.93
23	4755.20	57005.79	5498.04	51507.76	496.89
24	3962.67	55470.43	5467.99	50002.44	496.82
25	3170.13	53172.58	5406.81	47765.97	496.72
26	2377.60	50143.57	5314.09	44829.48	496.58
27	1585.07	46414.55	5190.11	41224.44	496.41
28	792.53	42016.98	5033.74	36983.24	496.22
29	0.00	36983.24	4843.31	32139.93	495.98

PEAK OUTFLOW= 91.63 CFS AT 23 MINUTES

[redacted] 4-27-93 SUBMITTAL DATE: ASHFORD PLACE 15 yr.

ELEVATION	AREA	VOLUME	CUM. VOLUME
492.00	0		
		7550	7550
494.00	7550		
		24793	32343
496.00	17243		
		42893	75236
498.00	25650		
		57425	132661
500.00	31775		

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++++++++++++++++++++++++++++++++++++++++
+                                      +
+  RECTANGULAR ORIFICE                 +
+   36 in W X 42 in H   ELEV= 492      +
+                                      +
+  Outlet Pipe -  73 ft - 48 in pipe   +
+  UFL= 490.79  LFL= 489.32   n= .013  +
+                                      +
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[redacted] 4-27-93 SUBMITTAL DATE:

MIN	INFLOW	STORAGE	OUTFLOW	NET DET.	ELEV.
1	918.27	918.27	0.00	918.27	492.24
2	1836.53	2754.80	56.15	2698.65	492.71
3	2754.80	5453.45	282.87	5170.58	493.37
4	3673.07	8843.65	750.20	8093.44	494.04
5	4591.33	12684.77	1367.45	11317.33	494.30
6	5509.60	16826.93	1676.59	15150.34	494.62
7	6427.87	21618.21	1980.55	19637.66	494.98
8	7346.13	26983.79	2401.58	24582.21	495.37
9	8264.40	32846.61	2900.39	29946.22	495.81
10	8264.40	38210.62	4422.78	33787.84	496.07
11	8264.40	42052.24	4694.75	37357.50	496.23
12	8264.40	45621.90	4860.42	40761.48	496.39
13	8264.40	49025.88	5013.31	44012.57	496.54
14	8264.40	52276.97	5155.09	47121.88	496.69
15	8264.40	55386.28	5287.15	50099.13	496.83
16	8264.40	58363.53	5410.58	52952.96	496.96
17	8264.40	61217.36	5526.29	55691.08	497.09
18	8264.40	63955.48	5635.07	58320.41	497.21
19	8264.40	66584.81	5737.61	60847.20	497.33
20	8264.40	69111.60	5834.43	63277.17	497.44
21	7346.13	70623.31	5926.07	64697.24	497.51
22	6427.87	71125.11	5978.98	65146.13	497.53
23	5509.60	70655.73	5995.60	64660.13	497.51
24	4591.33	69251.46	5977.59	63273.87	497.44
25	3673.07	66944.94	5925.95	61020.99	497.34
26	2754.80	63775.79	5841.04	57934.75	497.19
27	1836.53	59771.28	5722.70	54048.59	497.01
28	918.27	54966.86	5570.07	49396.78	496.80
29	0.00	49396.78	5381.69	44015.09	496.54

PEAK OUTFLOW= 99.93 CFS AT 23 MINUTES

ASHFORD PLACE 25yr.

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++++++++++++++++++++++++++++++++++++++++
+                                      +
+ RECTANGULAR ORIFICE                  +
+  36 in W X 42 in H   ELEV= 492       +
+                                      +
+ Outlet Pipe -  73 ft - 42 in pipe    +
+ UFL= 490.78  LFL= 489.72   n= .013   +
+                                      +
+ Overflow Structure -  Box Structure  +
+ PERIMETER= 6.8 ft/SILL ELEV= 497.53  +
+                                      +
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ASHFORD PLACE 4-27-94 SUBMITTAL DATE:

MIN	INFLOW	STORAGE	OUTFLOW	NET DET.	ELEV.
1	1132.67	1132.67	0.00	1132.67	492.30
2	2265.33	3398.00	76.92	3321.08	492.88
3	3398.00	6719.08	386.18	6332.90	493.68
4	4530.67	10863.57	1916.88	8946.69	494.19
5	5663.33	15510.02	1511.93	13998.19	494.52
6	6796.00	20794.19	1872.37	18921.82	494.92
7	7928.67	26850.49	2331.97	24518.52	495.37
8	9061.33	33579.85	2893.74	30686.11	495.87
9	10194.00	40880.11	4486.48	36393.63	496.19
10	10194.00	46587.63	4816.24	41771.39	496.44
11	10194.00	51965.39	5057.78	46907.61	496.68
12	10194.00	57101.61	5278.14	51823.47	496.91
13	10194.00	62017.47	5480.77	56536.70	497.13
14	10194.00	66730.71	5668.24	61062.46	497.34
15	10194.00	71256.46	5842.61	65413.85	497.54
16	10194.00	75607.95	6006.95	69600.91	497.74
17	10194.00	79794.91	6264.62	73530.29	497.92
18	10194.00	83724.29	6580.57	77143.72	498.07
19	10194.00	87337.72	6871.39	80466.33	498.18
20	10194.00	90660.33	7145.22	83515.11	498.29
21	9061.33	92576.11	7411.37	85165.06	498.35
22	7928.67	93093.73	7550.27	85543.46	498.36
23	6796.00	92339.46	7582.60	84756.86	498.33
24	5663.33	90420.19	7515.67	82904.53	498.27
25	4530.67	87435.21	7338.68	80096.53	498.17
26	3398.00	83494.53	7098.61	76395.93	498.04
27	2265.33	78661.25	6819.67	71842.58	497.84
28	1132.67	72975.25	6437.35	66537.91	497.59
29	0.00	66537.91	6064.86	60473.05	497.31

PEAK OUTFLOW= 126.38 CFS AT 23 MINUTES

ASHFORD PLACE 100 yr

```
********************************************
*                                          *
* RECTANGULAR ORIFICE                      *
*  36 in W X 42 in H   ELEV= 492           *
*                                          *
* Outlet Pipe -  73 ft - 18 in pipe        *
* UFL= 490.78  LFL= 489.[illegible]  n= .013  *
*                                          *
* Overflow Structure  1 -  Box Structure   *
* PERIMETER= 6.8 ft/SILL ELEV= 497.53      *
*                                          *
* Overflow Structure  2 -  Box Structure   *
* PERIMETER= 13.2 ft/SILL ELEV= 498.36     *
*                                          *
********************************************
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ASHFORD PLACE 4-27-9[illegible] SUBMITTAL DATE:

MIN	INFLOW	STORAGE	OUTFLOW	NET DET.	ELEV.
1	1449.87	1449.87	0.00	1449.87	492.38
2	2899.73	4349.60	111.39	4238.21	493.12
3	4349.60	8587.81	556.73	8031.08	494.04
4	5799.47	13830.55	1362.43	12468.12	494.40
5	7249.33	19717.45	1736.50	17980.96	494.84
6	8699.20	26680.16	2241.57	24438.60	495.36
7	10149.07	34587.67	2885.45	31702.22	495.95
8	11598.93	43301.15	4572.54	38728.62	496.30
9	13048.80	51777.42	4922.58	46854.85	496.68
10	13048.80	59903.65	5275.94	54627.71	497.04
11	13048.80	67676.51	5593.09	62083.42	497.39
12	13048.80	75133.22	5881.23	69251.99	497.72
13	13048.80	82299.79	6239.71	76060.08	498.03
14	13048.80	89108.89	6795.17	82313.69	498.25
15	13048.80	95361.49	7291.07	88071.42	498.45
16	13048.80	101120.20	7816.00	93304.22	498.63
17	13048.80	106353.00	8325.49	98027.54	498.79
18	13048.80	111076.40	8815.27	102261.10	498.94
19	13048.80	115309.90	9269.47	106040.40	499.07
20	13048.80	119089.20	9695.80	109402.40	499.19
21	11598.93	121001.40	10091.21	110920.10	499.24
22	10149.07	121069.20	10255.11	110814.10	499.24 ←
23	8699.20	119517.30	10247.90	109270.40	499.19
24	7249.33	116519.70	10066.24	106453.50	499.09
25	5799.47	112253.00	9741.24	102511.70	498.95
26	4349.60	106861.30	9296.22	97565.08	498.78
27	2899.73	100464.80	8756.24	91708.58	498.57
28	1449.87	93158.44	8164.59	84993.86	498.34
29	0.00	84993.26	7535.74	77458.13	498.08

PEAK OUTFLOW= 170.92 CFS AT 22 MINUTES

ASHFORD PLACE 6/20/94 SUBMITTAL DATE:

ELEVATION	AREA	VOLUME	CUM. VOLUME
492.00	0		
		7550	7550
494.00	7550		
		24793	32343
496.00	17243		
		42893	75236
498.00	25650		
		57425	132661
500.00	31775		

```
*******************************************
*                                         *
*  RECTANGULAR ORIFICE                    *
*   36 in W X 42 in H   ELEV= 492         *
*                                         *
*  Outlet Pipe -  73 ft - 48 in pipe      *
*  UFL= 490.78  LFL= 489.32   n= .013     *
*                                         *
*******************************************
```

10 yr, Undeveloped

ASHFORD PLACE 6/20/94 SUBMITTAL DATE:

MIN	INFLOW	STORAGE	OUTFLOW	NET DET.	ELEV.
1	465.33	465.33	0.00	465.33	492.12
2	930.67	1396.00	20.25	1375.74	492.36
3	1396.00	2771.74	102.96	2668.78	492.71
4	1861.33	4530.11	278.19	4251.92	493.13
5	2326.67	6578.59	559.44	6019.15	493.59
6	2792.00	8811.15	942.27	7868.88	494.03
7	3257.33	11126.21	1349.33	9776.89	494.18
8	3722.67	13499.56	1505.98	11993.58	494.36
9	4188.00	16181.58	1695.07	14486.51	494.56
10	4188.00	18674.51	1916.41	16758.10	494.74
11	4188.00	20946.10	2125.87	18820.23	494.91
12	4188.00	23008.23	2322.17	20686.06	495.06
13	4188.00	24874.06	2504.70	22369.36	495.20
14	4188.00	26557.36	2673.26	23884.10	495.32
15	4188.00	28072.10	2828.05	25244.05	495.43
16	4188.00	29432.05	2969.49	26462.57	495.53
17	4188.00	30650.57	4109.51	26541.06	495.53
18	4188.00	30729.06	4116.85	26612.21	495.54
19	4188.00	30800.21	4123.47	26676.74	495.54
20	4188.00	30864.74	4129.45	26735.29	495.55
21	3722.67	30457.96	4134.89	26323.06	495.51
22	3257.33	29580.40	4096.46	25483.94	495.45
23	2792.00	28275.94	2994.67	25281.27	495.43
24	2326.67	27607.94	2973.41	24634.52	495.38
25	1861.33	26495.85	2905.82	23590.03	495.29
26	1396.00	24986.03	2797.79	22188.25	495.18
27	930.67	23118.92	2654.97	20463.94	495.04
28	465.33	20929.27	2482.74	18446.54	494.88
29	0.00	18446.54	2286.17	16160.37	494.69

PEAK OUTFLOW= 68.91001 CFS AT 21 MINUTES

ASHFORD PLACE 6/17/94 SUBMITTAL DATE:

ELEVATION	AREA	VOLUME	CUM. VOLUME
492.00	0		
		7550	7550
494.00	7550		
		24793	32343
496.00	17243		
		42893	75236
498.00	25650		
		57425	132661
500.00	31775		

15 yr. - Undeveloped

```
*******************************************
*                                         *
*  RECTANGULAR ORIFICE                    *
*   36 in W X 42 in H   ELEV= 492         *
*                                         *
*  Outlet Pipe -  73 ft - 48 in pipe      *
*  UFL= 490.78  LFL= 489.32   n= .013     *
*                                         *
*******************************************
```

ASHFORD PLACE 6/17/94 SUBMITTAL DATE:

MIN	INFLOW	STORAGE	OUTFLOW	NET DET.	ELEV.
1	527.33	527.33	0.00	527.33	492.14
2	1054.67	1582.00	24.43	1557.57	492.41
3	1582.00	3139.57	124.03	3015.54	492.80
4	2109.33	5124.87	334.14	4790.74	493.27
5	2636.67	7427.41	669.08	6758.33	493.79
6	3164.00	9922.33	1121.06	8801.27	494.10
7	3691.33	12492.60	1425.18	11067.42	494.28
8	4218.67	15286.09	1615.17	13670.91	494.49
9	4746.00	18416.91	1843.03	16573.88	494.73
10	4746.00	21319.88	2108.61	19211.27	494.94
11	4746.00	23957.27	2360.06	21597.21	495.13
12	4746.00	26343.21	2595.48	23747.74	495.31
13	4746.00	28493.74	2814.01	25679.73	495.46
14	4746.00	30425.73	3015.29	27410.44	495.60
15	4746.00	32156.44	4197.08	27959.36	495.65
16	4746.00	32705.36	4246.95	28458.41	495.69
17	4746.00	33204.41	4291.79	28912.62	495.72
18	4746.00	33658.62	4332.18	29326.44	495.76
19	4746.00	34072.44	4368.67	29703.77	495.79
20	4746.00	34449.77	4401.70	30048.07	495.81
21	4218.67	34266.74	4431.60	29835.14	495.80
22	3691.33	33526.47	4413.13	29113.35	495.74
23	3164.00	32277.35	4349.93	27927.42	495.64
24	2636.67	30564.09	4244.05	26320.04	495.51
25	2109.33	28429.37	4096.18	24333.20	495.35
26	1582.00	25915.20	2874.50	23040.70	495.25
27	1054.67	24095.37	2741.52	21353.85	495.11
28	527.33	21881.18	2571.13	19310.05	494.95
29	0.00	19310.05	2369.65	16940.40	494.76

PEAK OUTFLOW= 73.86 CFS AT 21 MINUTES

25 yr. - Undeveloped

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**********************************************
*                                            *
*  RECTANGULAR ORIFICE                       *
*   36 in W X 42 in H   ELEV= 492            *
*                                            *
*  Outlet Pipe -  73 ft - 48 in pipe         *
*  UFL= 490.78  LFL= 489.32   n= .013        *
*                                            *
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ASHFORD PLACE 6/17/94 SUBMITTAL DATE:

MIN	INFLOW	STORAGE	OUTFLOW	NET DET.	ELEV.
1	651.40	651.40	0.00	651.40	492.17
2	1302.80	1954.20	33.54	1920.66	492.51
3	1954.20	3874.86	169.84	3705.02	492.98
4	2605.60	6310.62	455.06	5855.56	493.55
5	3257.00	9112.56	904.12	8208.44	494.05
6	3908.40	12116.84	1376.77	10740.07	494.26
7	4559.80	15299.87	1587.22	13712.65	494.50
8	5211.20	18923.85	1846.75	17077.10	494.77
9	5862.60	22939.70	2155.85	20783.85	495.07
10	5862.60	26646.45	2514.38	24132.08	495.34
11	5862.60	29994.68	2853.69	27140.99	495.58
12	5862.60	33003.59	4172.35	28831.24	495.72
13	5862.60	34693.84	4324.97	30368.87	495.84
14	5862.60	36231.47	4459.29	31772.18	495.95
15	5862.60	37634.78	4578.40	33056.38	496.03
16	5862.60	38918.98	4660.06	34258.92	496.09
17	5862.60	40121.52	4716.92	35404.60	496.14
18	5862.60	41267.20	4770.49	36496.71	496.19
19	5862.60	42359.31	4820.97	37538.35	496.24
20	5862.60	43400.96	4868.65	38532.30	496.29
21	5211.20	43743.50	4913.73	38829.77	496.30
22	4559.80	43389.57	4927.12	38462.45	496.29
23	3908.40	42370.85	4910.56	37460.29	496.24
24	3257.00	40717.29	4865.11	35852.18	496.16
25	2605.60	38457.78	4791.25	33666.53	496.06
26	1954.20	35620.73	4688.99	30931.74	495.89
27	1302.80	32234.54	4507.45	27727.09	495.63
28	651.40	28378.49	4225.92	24152.57	495.34
29	0.00	24152.57	2855.80	21296.77	495.11

PEAK OUTFLOW= 82.12 CFS AT 22 MINUTES

SCALE: 1"= 60'

RECV'D '94'

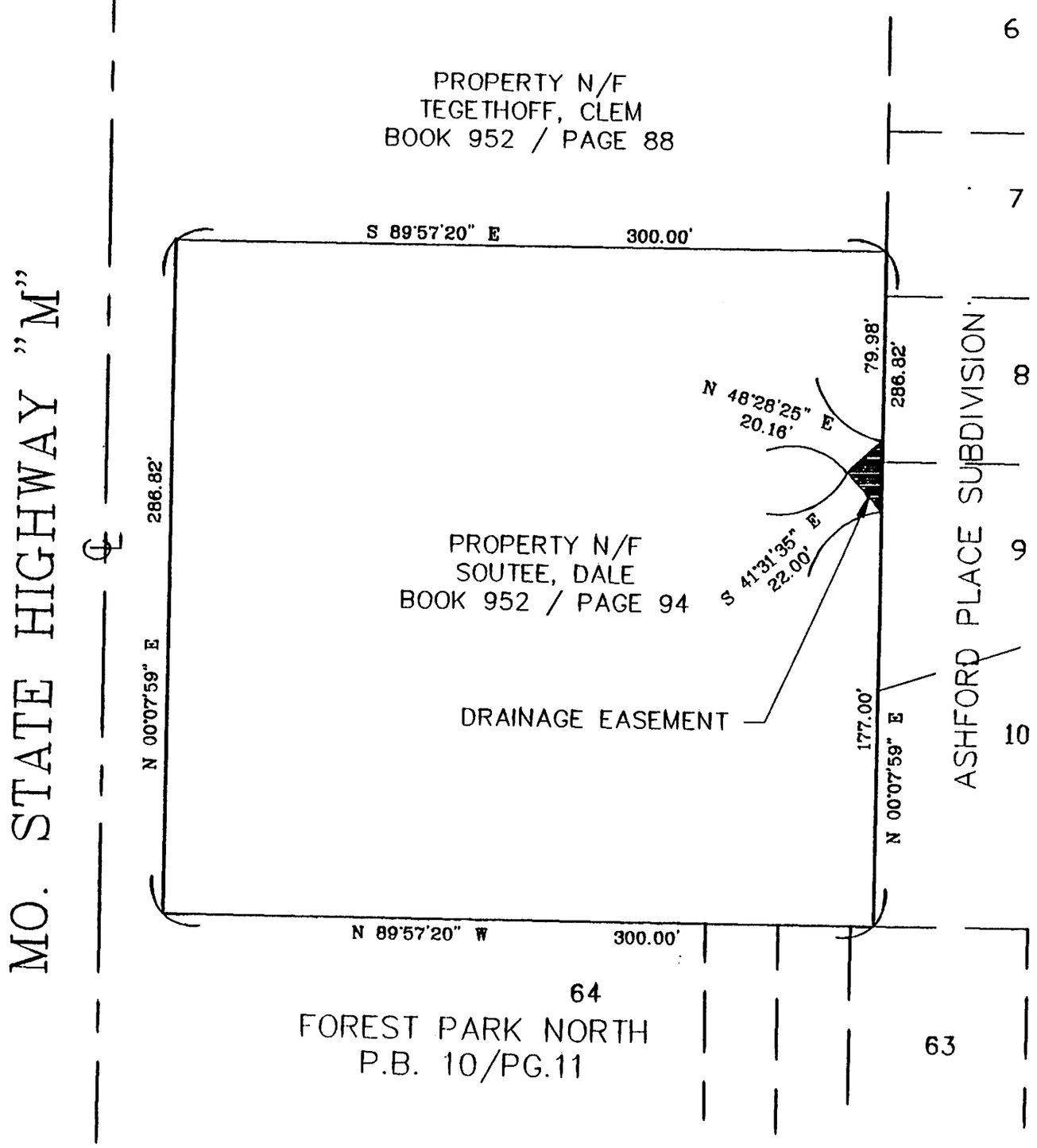

EXHIBIT "A"

INITIAL:

EASEMENT PLAT
A TRACT OF LAND IN FRACTIONAL SECTION 16
TOWNSHIP 47 N., RANGE 3 E.
ST. CHARLES COUNTY, MISSOURI