

HYDROLOGIC REPORT FOR

MONTICELLO ESTATES -2

DRY DETENTION BASIN

10 YEAR / 20 MIN. STORM

PRS NO. 91-030 /26890

PREPARED BY: JAN. 14, 1993

PICKETT RAY & SILVER, INC.

333 MID RIVERS MALL DRIVE

ST. PETERS, MD. 63376

DESIGNER: TANYA DIETZ

HYDROLOGIC REPORT

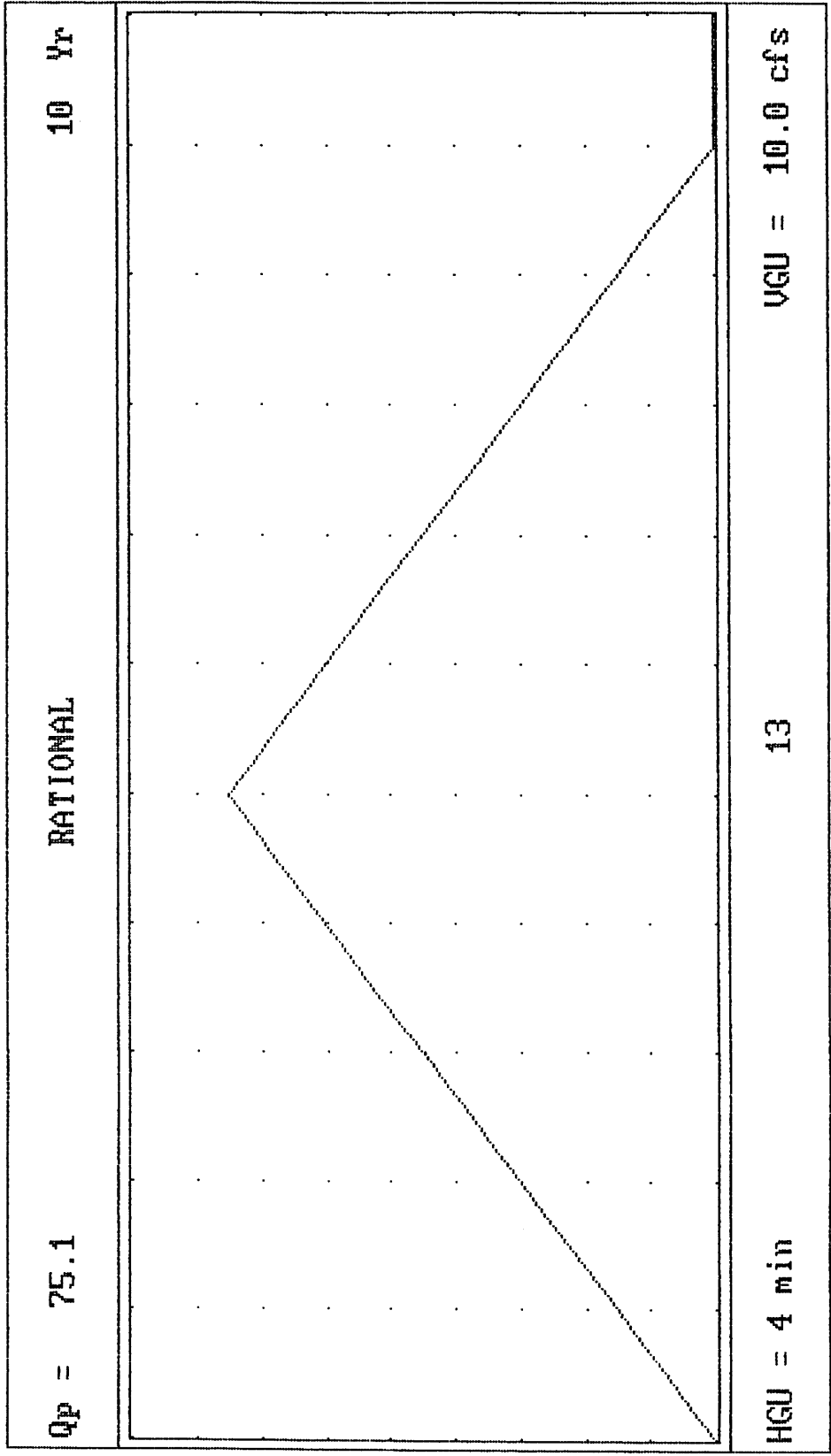
MONTICELLO ESTATES....
 DRY DETENTION.....
 INFLOW.....

Hyd. No. 13

Hydrograph type = RATIONAL	Peak discharge ^{INFLOW} = 75.14 cfs <i>Q15</i>
Storm frequency = 10 yr	Time interval = 1 min
Time of conc. = 20 min	Intensity = 4.33 in/hr
Runoff coeff. = .573	Basin area = 30.3 ac

HYDROGRAPH DISCHARGE TABLE

TIME--OUTFLOW		TIME--OUTFLOW		TIME--OUTFLOW		TIME--OUTFLOW	
(min	cfs)	(min	cfs)	(min	cfs)	(min	cfs)
1.00	3.76	2.00	7.51	3.00	11.27	4.00	15.03
5.00	18.79	6.00	22.54	7.00	26.30	8.00	30.06
9.00	33.81	10.00	37.57	11.00	41.33	12.00	45.09
13.00	48.84	14.00	52.60	15.00	56.36	16.00	60.11
17.00	63.87	18.00	67.63	19.00	71.39	20.00	75.14
21.00	71.39	22.00	67.63	23.00	63.87	24.00	60.11
25.00	56.36	26.00	52.60	27.00	48.84	28.00	45.09
29.00	41.33	30.00	37.57	31.00	33.81	32.00	30.06
33.00	26.30	34.00	22.54	35.00	18.79	36.00	15.03
37.00	11.27	38.00	7.51	39.00	3.76	40.00	0.00



④ $VOL = (\text{cuft/acft}) = 90172 / 2.070$

Reservoir: 2
 CULVERT STRUC A. $Q=C_oAC[2gh/k]^{.5}$

1. WIDTH (in)	= 24.
2. HEIGHT (in)	= 24.
3. No. BARRELS	= 1..
4. INVERT ELEV.	= 481.9....
5. $C_o = 0.60$	
6. CULVERT LENGTH (ft)	= 45..
7. CULVERT SLOPE (%)	= 2...
8. MANNING'S N-VALUE	= .013

CULVERT STRUC B. $Q=C_oAC[2gh/k]^{.5}$

9. WIDTH (in)	= 0..
10. HEIGHT (in)	= 0..
11. No. BARRELS	= 0..
12. INVERT ELEV.	= 0.....
13. $C_o = 0.60$	
14. CULVERT LENGTH (ft)	= 0...
15. CULVERT SLOPE (%)	= 0...
16. MANNING'S N-VALUE	= .013
17. MULTI-STAGE OPTION ? (Y/N)	N

 # WEIR STRUCTURE A. $Q=C_wLH^{EXP}$
 #
 # 18. CREST LENGTH (ft) = 0.....
 # 19. CREST ELEVATION = 0.....
 # 20. $C_w = 3.00$
 # 21. EXP = 1.50
 # 22. MULTI-STAGE OPTION ? (Y/N) N
 #
 #

WEIR STRUCTURE B. $Q=C_wLH^{EXP}$
 #
 # 23. CREST LENGTH (ft) = 0.....
 # 24. CREST ELEVATION = 0.....
 # 25. $C_w = 3.00$
 # 26. EXP = 1.50
 # 27. MULTI-STAGE OPTION ? (Y/N) N

 Change item number: 0 DY to cont

HYDROLOGIC REPORT

STAGE / STORAGE / DISCHARGE

RESERVOIR NUMBER = 2

RESERVOIR NAME = DET.BASIN...
STORAGE VALUES WERE INPUT MANUALLY

DISCHARGE VALUES: CULVERT STRUCT A. $Q = .6 * A * [2gh/k]^{.5} * 1$
 CULVERT STRUCT B. $Q = .6 * A * [2gh/k]^{.5} * 0$
 WEIR STRUCT A. $Q = 3 * 0 * H^{1.5}$
 WEIR STRUCT B. $Q = 3 * 0 * H^{1.5}$

ELEVATION	DISCHARGE (cfs)			
	CULVERT A	CULVERT B	WEIR A	WEIR B
481.90	0.00	0.00	0.00	0.00
482.00	0.07	0.00	0.00	0.00
484.00	15.86	0.00	0.00	0.00
485.00	21.92	0.00	0.00	0.00
486.00	26.63	0.00	0.00	0.00
487.00	30.63	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00

STAGE	ELEVATION	INC STOR cu ft	TOT STOR cu ft	OUTFLOW cfs
0.00	481.90	0	0	0.00
0.10	482.00	730	730	0.07
2.10	484.00	39848	40578	15.86
3.10	485.00	27371	67949	21.92
4.10	486.00	31629	99578	26.63
5.10	487.00	35887	135465	30.63
0.00	0.00	0	0	0.00
0.00	0.00	0	0	0.00
0.00	0.00	0	0	0.00
0.00	0.00	0	0	0.00
0.00	0.00	0	0	0.00

Storage values were input manually

Discharge values: Culvert struct A. $Q = .6 * A * [2gh/k]^{.5} * 1$
 Culvert struct B. $Q = .6 * A * [2gh/k]^{.5} * 0$
 Weir struct A. $Q = 3 * 0 * H ^ 1.5$
 Weir struct B. $Q = 3 * 0 * H ^ 1.5$

ELEVATION	DISCHARGE (cfs)					TOTAL
	CULVERT A		CULVERT B	WEIR A	WEIR B	
481.90	0.00		0.00 -	0.00	0.00	0.00
481.91	0.00	IC	0.00 -	0.00	0.00	0.00
481.92	0.01	IC	0.00 -	0.00	0.00	0.01
481.93	0.01	IC	0.00 -	0.00	0.00	0.01
481.94	0.01	IC	0.00 -	0.00	0.00	0.01
481.95	0.05	IC	0.00 -	0.00	0.00	0.05
481.96	0.06	IC	0.00 -	0.00	0.00	0.06
481.97	0.06	IC	0.00 -	0.00	0.00	0.06
481.98	0.06	IC	0.00 -	0.00	0.00	0.06
481.99	0.07	IC	0.00 -	0.00	0.00	0.07
482.00	0.07	IC	0.00 -	0.00	0.00	0.07

[PgDn]

[Esc] to exit

Storage values were input manually

Discharge values: Culvert struct A. $Q = .6 * A * [2gh/k]^{.5} * 1$
 Culvert struct B. $Q = .6 * A * [2gh/k]^{.5} * 0$
 Weir struct A. $Q = 3 * 0 * H ^ 1.5$
 Weir struct B. $Q = 3 * 0 * H ^ 1.5$

ELEVATION	DISCHARGE (cfs)					TOTAL
	CULVERT A		CULVERT B	WEIR A	WEIR B	
482.00	0.07	IC	0.00 -	0.00	0.00	0.07
482.20	0.87	IC	0.00 -	0.00	0.00	0.87
482.40	1.67	IC	0.00 -	0.00	0.00	1.67
482.60	3.58	IC	0.00 -	0.00	0.00	3.58
482.80	5.07	IC	0.00 -	0.00	0.00	5.07
483.00	6.72	IC	0.00 -	0.00	0.00	6.72
483.20	8.45	IC	0.00 -	0.00	0.00	8.45
483.40	11.15	IC	0.00 -	0.00	0.00	11.15
483.60	12.67	IC	0.00 -	0.00	0.00	12.67
483.80	14.65	IC	0.00 -	0.00	0.00	14.65
484.00	15.86	IC	0.00 -	0.00	0.00	15.86

[PgDn]

[Esc] to exit

Storage values were input manually

Discharge values: Culvert struct A. $Q = .6 * A * [2gh/k]^{.5} * 1$
 Culvert struct B. $Q = .6 * A * [2gh/k]^{.5} * 0$
 Weir struct A. $Q = 3 * 0 * H ^ 1.5$
 Weir struct B. $Q = 3 * 0 * H ^ 1.5$

ELEVATION	DISCHARGE (cfs)					TOTAL	
	CULVERT A	CULVERT B	WEIR A	WEIR B			
484.00	15.86	IC	0.00	-	0.00	0.00	15.86
484.10	16.57	IC	0.00	-	0.00	0.00	16.57
484.20	17.25	IC	0.00	-	0.00	0.00	17.25
484.30	17.90	IC	0.00	-	0.00	0.00	17.90
484.40	18.52	IC	0.00	-	0.00	0.00	18.52
484.50	19.13	IC	0.00	-	0.00	0.00	19.13
484.60	19.72	IC	0.00	-	0.00	0.00	19.72
484.70	20.29	IC	0.00	-	0.00	0.00	20.29
484.80	20.85	IC	0.00	-	0.00	0.00	20.85
484.90	21.39	IC	0.00	-	0.00	0.00	21.39
485.00	21.92	IC	0.00	-	0.00	0.00	21.92

[PgDn]

[Esc] to exit

Storage values were input manually

Discharge values: Culvert struct A. $Q = .6 * A * [2gh/k]^{.5} * 1$
 Culvert struct B. $Q = .6 * A * [2gh/k]^{.5} * 0$
 Weir struct A. $Q = 3 * 0 * H ^ 1.5$
 Weir struct B. $Q = 3 * 0 * H ^ 1.5$

ELEVATION	DISCHARGE (cfs)					TOTAL	
	CULVERT A	CULVERT B	WEIR A	WEIR B			
485.00	21.92	IC	0.00	-	0.00	0.00	21.92
485.10	22.43	IC	0.00	-	0.00	0.00	22.43
485.20	22.94	IC	0.00	-	0.00	0.00	22.94
485.30	23.43	IC	0.00	-	0.00	0.00	23.43
485.40	23.91	IC	0.00	-	0.00	0.00	23.91
485.50	24.39	IC	0.00	-	0.00	0.00	24.39
485.60	24.85	IC	0.00	-	0.00	0.00	24.85
485.70	25.31	IC	0.00	-	0.00	0.00	25.31
485.80	25.76	IC	0.00	-	0.00	0.00	25.76
485.90	26.20	IC	0.00	-	0.00	0.00	26.20
486.00	26.63	IC	0.00	-	0.00	0.00	26.63

[PgDn]

[Esc] to exit

Storage values were input manually

Discharge values: Culvert struct A. $Q = .6 * A * [2gh/k]^{.5} * 1$
 Culvert struct B. $Q = .6 * A * [2gh/k]^{.5} * 0$
 Weir struct A. $Q = 3 * 0 * H^{1.5}$
 Weir struct B. $Q = 3 * 0 * H^{1.5}$

ELEVATION	CULVERT A		DISCHARGE (cfs)			TOTAL
			CULVERT B	WEIR A	WEIR B	
486.00	26.63	IC	0.00 -	0.00	0.00	26.63
486.10	27.06	IC	0.00 -	0.00	0.00	27.06
486.20	27.48	IC	0.00 -	0.00	0.00	27.48
486.30	27.89	IC	0.00 -	0.00	0.00	27.89
486.40	28.30	IC	0.00 -	0.00	0.00	28.30
486.50	28.70	IC	0.00 -	0.00	0.00	28.70
486.60	29.09	IC	0.00 -	0.00	0.00	29.09
486.70	29.48	IC	0.00 -	0.00	0.00	29.48
486.80	29.87	IC	0.00 -	0.00	0.00	29.87
486.90	30.25	IC	0.00 -	0.00	0.00	30.25
487.00	30.63	IC	0.00 -	0.00	0.00	30.63

[PgDn]

[Esc] to exit

Storage values were input manually

Discharge values: Culvert struct A. $Q = .6 * A * [2gh/k]^{.5} * 1$
 Culvert struct B. $Q = .6 * A * [2gh/k]^{.5} * 0$
 Weir struct A. $Q = 3 * 0 * H^{1.5}$
 Weir struct B. $Q = 3 * 0 * H^{1.5}$

ELEVATION	CULVERT A		DISCHARGE (cfs)			TOTAL
			CULVERT B	WEIR A	WEIR B	
487.00	30.63	IC	0.00 -	0.00	0.00	30.63
0.00	0.00		0.00 -	0.00	0.00	0.00
0.00	0.00		0.00 -	0.00	0.00	0.00
0.00	0.00		0.00 -	0.00	0.00	0.00
0.00	0.00		0.00 -	0.00	0.00	0.00
0.00	0.00		0.00 -	0.00	0.00	0.00
0.00	0.00		0.00 -	0.00	0.00	0.00
0.00	0.00		0.00 -	0.00	0.00	0.00
0.00	0.00		0.00 -	0.00	0.00	0.00
0.00	0.00		0.00 -	0.00	0.00	0.00
0.00	0.00		0.00 -	0.00	0.00	0.00
0.00	0.00		0.00 -	0.00	0.00	0.00

[PgDn]

[Esc] to exit

M5 STAGE / STORAGE TABLE

: 1. RESERVOIR No = 2. 2. RESERVOIR NAME = DET.BASIN...
 : 3. S = Ks * Z^b
 : Ks = 0..... b = 0.....
 : START ELEV = 0..... INCREMENT = 0...

	STAGE ft	ELEVATION ft	CO AREA sq ft	INC STORAGE cu ft	TOT STORAGE cu ft
:	4	0.00	481.90.	0.....	0
:	5	0.10	482.00.	14605...	730
:	6	2.10	484.00.	25243...	39848
:	7	3.10	485.00.	29500...	27371
:	8	4.10	486.00.	33758...	31629
:	9	5.10	487.00.	38016...	35887
:	10	0.00	0.00.	0.....	0
:	11	0.00	0.00.	0.....	0
:	12	0.00	0.00.	0.....	0
:	13	0.00	0.00.	0.....	0
:	14	0.00	0.00.	0.....	0

R to reset

#####

Change item number: 0

DY to cont

Reservoir No. 2

STAGE / STORAGE / DISCHARGE

DET. BASIN...

Storage values were input manually

Discharge values: Culvert struct A. $Q = .6 * A * [2gh/k]^{.5} * 1$
 Culvert struct B. $Q = .6 * A * [2gh/k]^{.5} * 0$
 Weir struct A. $Q = 3 * 0 * H ^ 1.5$
 Weir struct B. $Q = 3 * 0 * H ^ 1.5$

STAGE	ELEVATION	INC STOR cu ft	TOT STOR cu ft	OUTFLOW cfs
0.00	481.90	0	0	0.00
0.01	481.91	73	73	0.00
0.02	481.92	73	146	0.01
0.03	481.93	73	219	0.01
0.04	481.94	73	292	0.01
0.05	481.95	73	365	0.05
0.06	481.96	73	438	0.06
0.07	481.97	73	511	0.06
0.08	481.98	73	584	0.06
0.09	481.99	73	657	0.07
0.10	482.00	73	730	0.07

[PgDn]

[Esc] to exit

Reservoir No. 2

STAGE / STORAGE / DISCHARGE

DET. BASIN...

Storage values were input manually

Discharge values: Culvert struct A. $Q = .6 * A * [2gh/k]^{.5} * 1$
 Culvert struct B. $Q = .6 * A * [2gh/k]^{.5} * 0$
 Weir struct A. $Q = 3 * 0 * H ^ 1.5$
 Weir struct B. $Q = 3 * 0 * H ^ 1.5$

STAGE	ELEVATION	INC STOR cu ft	TOT STOR cu ft	OUTFLOW cfs
0.10	482.00	73	730	0.07
0.30	482.20	3985	4715	0.87
0.50	482.40	3985	8700	1.67
0.70	482.60	3985	12684	3.58
0.90	482.80	3985	16669	5.07
1.10	483.00	3985	20654	6.72
1.30	483.20	3985	24639	8.45
1.50	483.40	3985	28624	11.15
1.70	483.60	3985	32608	12.67
1.90	483.80	3985	36593	14.65
2.10	484.00	3985	40578	15.86

[PgDn]

[Esc] to exit

Reservoir No. 2

STAGE / STORAGE / DISCHARGE

DET. BASIN...

Storage values were input manually

Discharge values: Culvert struct A. $Q = .6 * A * [2gh/k]^{.5} * 1$
 Culvert struct B. $Q = .6 * A * [2gh/k]^{.5} * 0$
 Weir struct A. $Q = 3 * 0 * H ^ 1.5$
 Weir struct B. $Q = 3 * 0 * H ^ 1.5$

STAGE	ELEVATION	INC STOR cu ft	TOT STOR cu ft	OUTFLOW cfs
2.10	484.00	3985	40578	15.86
2.20	484.10	2737	43315	16.57
2.30	484.20	2737	46052	17.25
2.40	484.30	2737	48789	17.90
2.50	484.40	2737	51526	18.52
2.60	484.50	2737	54264	19.13
2.70	484.60	2737	57001	19.72
2.80	484.70	2737	59738	20.29
2.90	484.80	2737	62475	20.85
3.00	484.90	2737	65212	21.39
3.10	485.00	2737	67949	21.92

[PgDn]

[Esc] to exit

Reservoir No. 2

STAGE / STORAGE / DISCHARGE

DET. BASIN...

Storage values were input manually

Discharge values: Culvert struct A. $Q = .6 * A * [2gh/k]^{.5} * 1$
 Culvert struct B. $Q = .6 * A * [2gh/k]^{.5} * 0$
 Weir struct A. $Q = 3 * 0 * H ^ 1.5$
 Weir struct B. $Q = 3 * 0 * H ^ 1.5$

STAGE	ELEVATION	INC STOR cu ft	TOT STOR cu ft	OUTFLOW cfs
3.10	485.00	2737	67949	21.92
3.20	485.10	3163	71112	22.43
3.30	485.20	3163	74275	22.94
3.40	485.30	3163	77438	23.43
3.50	485.40	3163	80601	23.91
3.60	485.50	3163	83763	24.39
3.70	485.60	3163	86926	24.85
3.80	485.70	3163	90089	25.31
3.90	485.80	3163	93252	25.76
4.00	485.90	3163	96415	26.20
4.10	486.00	3163	99578	26.63

[PgDn]

[Esc] to exit

Storage values were input manually

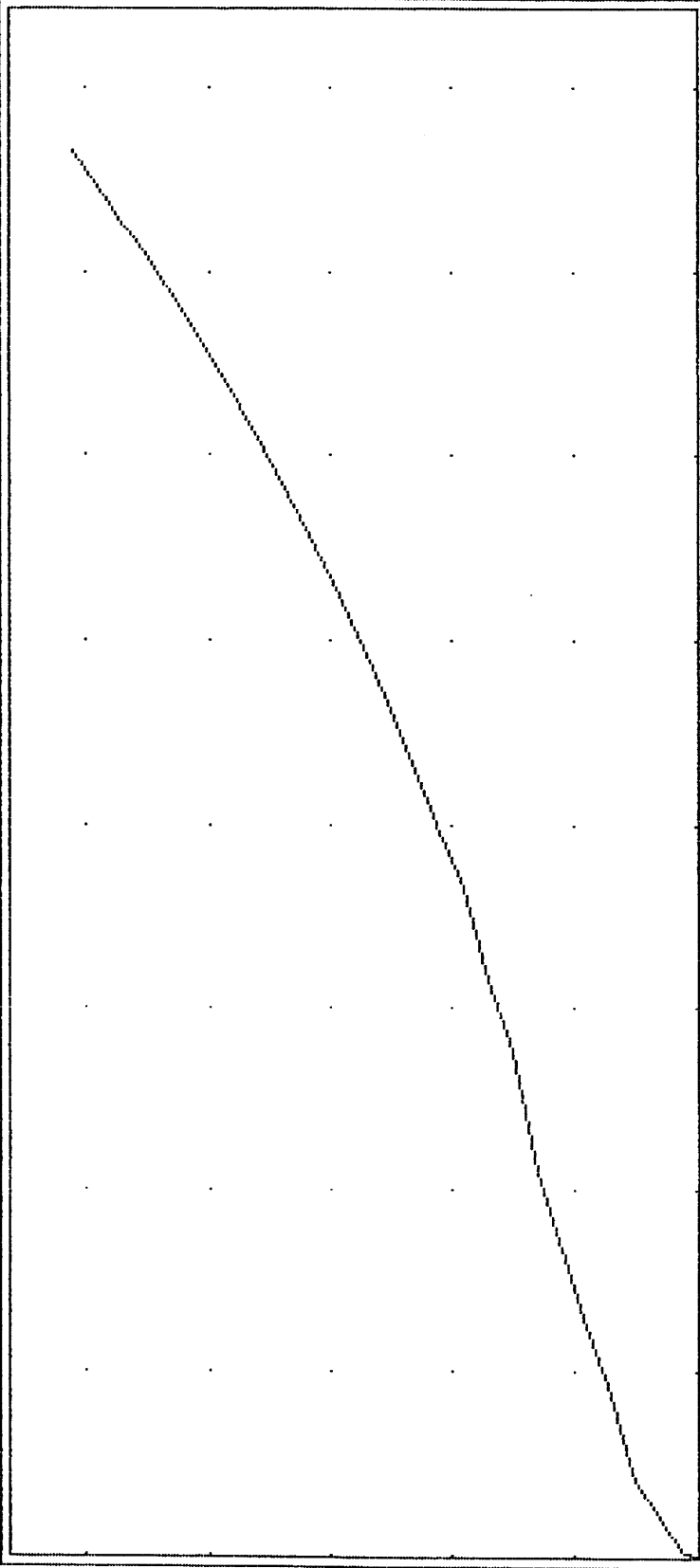
Discharge values: Culvert struct A. $Q = .6 * A * [2gh/k]^{.5} * 1$
 Culvert struct B. $Q = .6 * A * [2gh/k]^{.5} * 0$
 Weir struct A. $Q = 3 * 0 * H^{1.5}$
 Weir struct B. $Q = 3 * 0 * H^{1.5}$

STAGE	ELEVATION	INC STOR cu ft	TOT STOR cu ft	OUTFLOW cfs
4.10	486.00	3163	99578	26.63
4.20	486.10	3589	103167	27.06
4.30	486.20	3589	106755	27.48
4.40	486.30	3589	110344	27.89
4.50	486.40	3589	113933	28.30
4.60	486.50	3589	117522	28.70
4.70	486.60	3589	121110	29.09
4.80	486.70	3589	124699	29.48
4.90	486.80	3589	128288	29.87
5.00	486.90	3589	131876	30.25
5.10	487.00	3589	135465	30.63

[PgDn]

[Esc] to exit

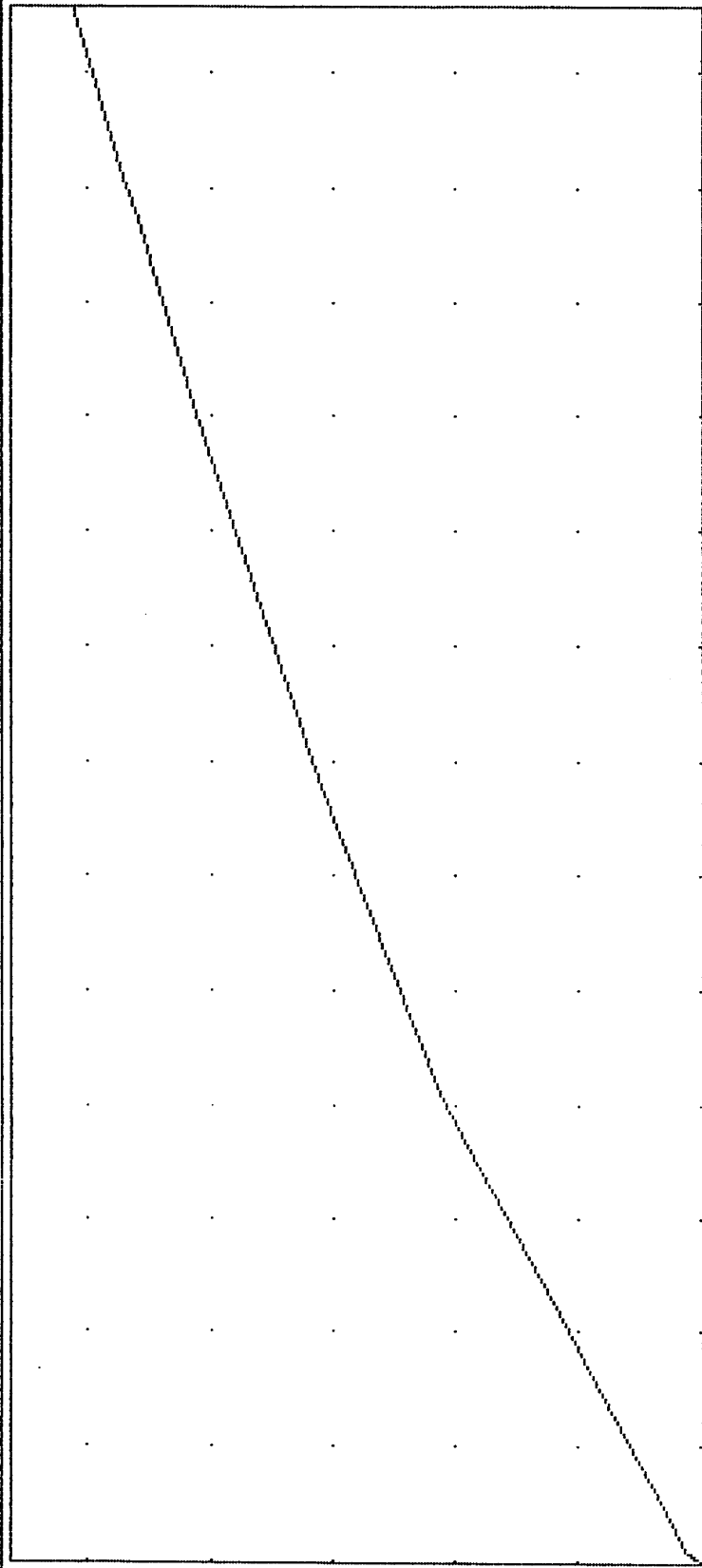
STAGE / DISCHARGE CURVE



HGU = 4.0 cfs

UGU = 1.0 ft

STAGE / STORAGE CURVE



HGU = 10000 cu ft

VGU = 1.0 ft

HYDROLOGIC REPORT

MONTICELLO ESTATES ...
 DRY DETENTION.....
 OUTFLOW.....

Hyd. No. 14

Hydrograph type = RESERVOIR ROUTE Peak discharge = 21.20 cfs
 Storm frequency = 10 yr Time interval = 1 min
 Inflow hyd. no. = 13 Reservoir no. = 2

HYDROGRAPH DISCHARGE TABLE

TIME min	INFLOW (i) cfs	INFLOW (j) cfs	2S/dt-0 (i) cfs	2S/dt+0 (j) cfs	OUTFLOW cfs
1.00	3.76	7.51	3.75	3.76	0.01
2.00	7.51	11.27	14.90	15.02	0.06
3.00	11.27	15.03	33.44	33.69	0.13
4.00	15.03	18.79	59.17	59.74	0.28
5.00	18.79	22.54	92.02	92.99	0.48
6.00	22.54	26.30	131.91	133.35	0.72
7.00	26.30	30.06	178.74	180.75	1.01
8.00	30.06	33.81	232.43	235.10	1.33
9.00	33.81	37.57	292.83	296.30	1.74
10.00	37.57	41.33	358.81	364.21	2.70
11.00	41.33	45.09	430.30	437.71	3.71
12.00	45.09	48.84	507.55	516.71	4.58
13.00	48.84	52.60	590.34	601.48	5.57
14.00	52.60	56.36	678.43	691.78	6.67
15.00	56.36	60.11	771.58	787.39	7.91
16.00	60.11	63.87	868.83	888.05	9.61
17.00	63.87	67.63	969.89	992.82	11.46
18.00	67.63	71.39	1075.99	1101.39	12.70
19.00	71.39	75.14	1186.28	1215.01	14.36
20.00	75.14	71.39	1301.73	1332.81	15.54
21.00	71.39	67.63	1415.31	1448.26	16.48
22.00	67.63	63.87	1519.81	1554.32	17.26
23.00	63.87	60.11	1615.42	1651.31	17.94
24.00	60.11	56.36	1702.31	1739.40	18.55
25.00	56.36	52.60	1780.64	1818.78	19.07

HYDROGRAPH DISCHARGE TABLE Cont'd

TIME min	INFLOW (i) cfs	INFLOW (j) cfs	2S/dt-0 (i) cfs	2S/dt+0 (j) cfs	OUTFLOW cfs
26.00	52.60	48.84	1850.54	1889.60	19.53
27.00	48.84	45.09	1912.14	1951.98	19.92
28.00	45.09	41.33	1965.55	2006.07	20.26
29.00	41.33	37.57	2010.89	2051.97	20.54
30.00	37.57	33.81	2048.26	2089.79	20.77
31.00	33.81	30.06	2077.76	2119.65	20.94
32.00	30.06	26.30	2099.48	2141.63	21.07
33.00	26.30	22.54	2113.52	2155.84	21.16
34.00	22.54	18.79	2119.97	2162.37	21.20 ←
35.00	18.79	15.03	2118.92	2161.30	21.19
36.00	15.03	11.27	2110.45	2152.73	21.14
37.00	11.27	7.51	2094.66	2136.75	21.05
38.00	7.51	3.76	2071.63	2113.45	20.91
39.00	3.76	0.00	2041.46	2082.90	20.72
40.00	0.00	0.00	2004.22	2045.21	20.50
41.00	0.00	0.00	1963.73	2004.22	20.25
42.00	0.00	0.00	1923.74	1963.73	19.99
43.00	0.00	0.00	1884.25	1923.74	19.75
44.00	0.00	0.00	1845.26	1884.25	19.49
45.00	0.00	0.00	1806.77	1845.26	19.24
46.00	0.00	0.00	1768.79	1806.77	18.99
47.00	0.00	0.00	1731.31	1768.79	18.74
48.00	0.00	0.00	1694.33	1731.31	18.49
49.00	0.00	0.00	1657.85	1694.33	18.24
50.00	0.00	0.00	1621.87	1657.85	17.99
51.00	0.00	0.00	1586.39	1621.87	17.74
52.00	0.00	0.00	1551.42	1586.39	17.49
53.00	0.00	0.00	1516.94	1551.42	17.24
54.00	0.00	0.00	1482.98	1516.94	16.98
55.00	0.00	0.00	1449.51	1482.98	16.73
56.00	0.00	0.00	1416.54	1449.51	16.48
57.00	0.00	0.00	1384.07	1416.54	16.23
58.00	0.00	0.00	1352.11	1384.07	15.98
59.00	0.00	0.00	1320.68	1352.11	15.71
60.00	0.00	0.00	1289.82	1320.68	15.43
61.00	0.00	0.00	1259.52	1289.82	15.15
62.00	0.00	0.00	1229.77	1259.52	14.88
63.00	0.00	0.00	1200.61	1229.77	14.58
64.00	0.00	0.00	1172.30	1200.61	14.15
65.00	0.00	0.00	1144.83	1172.30	13.74
66.00	0.00	0.00	1118.15	1144.83	13.34
67.00	0.00	0.00	1092.26	1118.15	12.95

HYDROGRAPH DISCHARGE TABLE Cont'd

TIME min	INFLOW (i) cfs	INFLOW (j) cfs	2S/dt-0 (i) cfs	2S/dt+0 (j) cfs	OUTFLOW cfs
68.00	0.00	0.00	1067.08	1092.26	12.59
69.00	0.00	0.00	1042.47	1067.08	12.30
70.00	0.00	0.00	1018.42	1042.47	12.02
71.00	0.00	0.00	994.92	1018.42	11.75
72.00	0.00	0.00	971.95	994.92	11.48
73.00	0.00	0.00	949.51	971.95	11.22
74.00	0.00	0.00	927.84	949.51	10.83
75.00	0.00	0.00	907.03	927.84	10.40
76.00	0.00	0.00	887.05	907.03	9.99
77.00	0.00	0.00	867.87	887.05	9.59
78.00	0.00	0.00	849.45	867.87	9.21
79.00	0.00	0.00	831.76	849.45	8.84
80.00	0.00	0.00	814.78	831.76	8.49
81.00	0.00	0.00	798.26	814.78	8.26
82.00	0.00	0.00	782.17	798.26	8.05
83.00	0.00	0.00	766.50	782.17	7.84
84.00	0.00	0.00	751.22	766.50	7.64
85.00	0.00	0.00	736.35	751.22	7.44
86.00	0.00	0.00	721.85	736.35	7.25
87.00	0.00	0.00	707.73	721.85	7.06
88.00	0.00	0.00	693.98	707.73	6.88
89.00	0.00	0.00	680.57	693.98	6.70
90.00	0.00	0.00	667.50	680.57	6.54
91.00	0.00	0.00	654.75	667.50	6.38
92.00	0.00	0.00	642.31	654.75	6.22
93.00	0.00	0.00	630.17	642.31	6.07
94.00	0.00	0.00	618.33	630.17	5.92
95.00	0.00	0.00	606.78	618.33	5.77
96.00	0.00	0.00	595.52	606.78	5.63
97.00	0.00	0.00	584.53	595.52	5.50
98.00	0.00	0.00	573.80	584.53	5.36
99.00	0.00	0.00	563.35	573.80	5.23
100.00	0.00	0.00	553.14	563.35	5.10
101.00	0.00	0.00	543.17	553.14	4.98
102.00	0.00	0.00	533.43	543.17	4.87
103.00	0.00	0.00	523.89	533.43	4.77
104.00	0.00	0.00	514.57	523.89	4.66
105.00	0.00	0.00	505.45	514.57	4.56
106.00	0.00	0.00	496.54	505.45	4.46
107.00	0.00	0.00	487.82	496.54	4.36
108.00	0.00	0.00	479.29	487.82	4.26
109.00	0.00	0.00	470.96	479.29	4.17

HYDROGRAPH DISCHARGE TABLE Cont'd

TIME min	INFLOW (i) cfs	INFLOW (j) cfs	2S/dt-0 (i) cfs	2S/dt+0 (j) cfs	OUTFLOW cfs
110.00	0.00	0.00	462.81	470.96	4.08
111.00	0.00	0.00	454.83	462.81	3.99
112.00	0.00	0.00	447.04	454.83	3.90
113.00	0.00	0.00	439.42	447.04	3.81
114.00	0.00	0.00	431.96	439.42	3.73
115.00	0.00	0.00	424.67	431.96	3.64
116.00	0.00	0.00	417.56	424.67	3.56
117.00	0.00	0.00	410.64	417.56	3.46
118.00	0.00	0.00	403.92	410.64	3.36
119.00	0.00	0.00	397.39	403.92	3.26
120.00	0.00	0.00	391.05	397.39	3.17
121.00	0.00	0.00	384.89	391.05	3.08
122.00	0.00	0.00	378.90	384.89	2.99
123.00	0.00	0.00	373.08	378.90	2.91
124.00	0.00	0.00	367.43	373.08	2.83
125.00	0.00	0.00	361.93	367.43	2.75
126.00	0.00	0.00	356.60	361.93	2.67
127.00	0.00	0.00	351.41	356.60	2.59
128.00	0.00	0.00	346.37	351.41	2.52
129.00	0.00	0.00	341.48	346.37	2.45
130.00	0.00	0.00	336.72	341.48	2.38
131.00	0.00	0.00	332.10	336.72	2.31
132.00	0.00	0.00	327.61	332.10	2.25
133.00	0.00	0.00	323.25	327.61	2.18
134.00	0.00	0.00	319.01	323.25	2.12
135.00	0.00	0.00	314.89	319.01	2.06
136.00	0.00	0.00	310.89	314.89	2.00
137.00	0.00	0.00	307.00	310.89	1.94
138.00	0.00	0.00	303.22	307.00	1.89
139.00	0.00	0.00	299.55	303.22	1.84
140.00	0.00	0.00	295.99	299.55	1.78
141.00	0.00	0.00	292.52	295.99	1.73
142.00	0.00	0.00	289.15	292.52	1.68
143.00	0.00	0.00	285.84	289.15	1.66
144.00	0.00	0.00	282.57	285.84	1.64
145.00	0.00	0.00	279.33	282.57	1.62
146.00	0.00	0.00	276.14	279.33	1.60
147.00	0.00	0.00	272.98	276.14	1.58
148.00	0.00	0.00	269.87	272.98	1.56
149.00	0.00	0.00	266.78	269.87	1.54
150.00	0.00	0.00	263.74	266.78	1.52
151.00	0.00	0.00	260.73	263.74	1.50

HYDROGRAPH DISCHARGE TABLE Cont'd

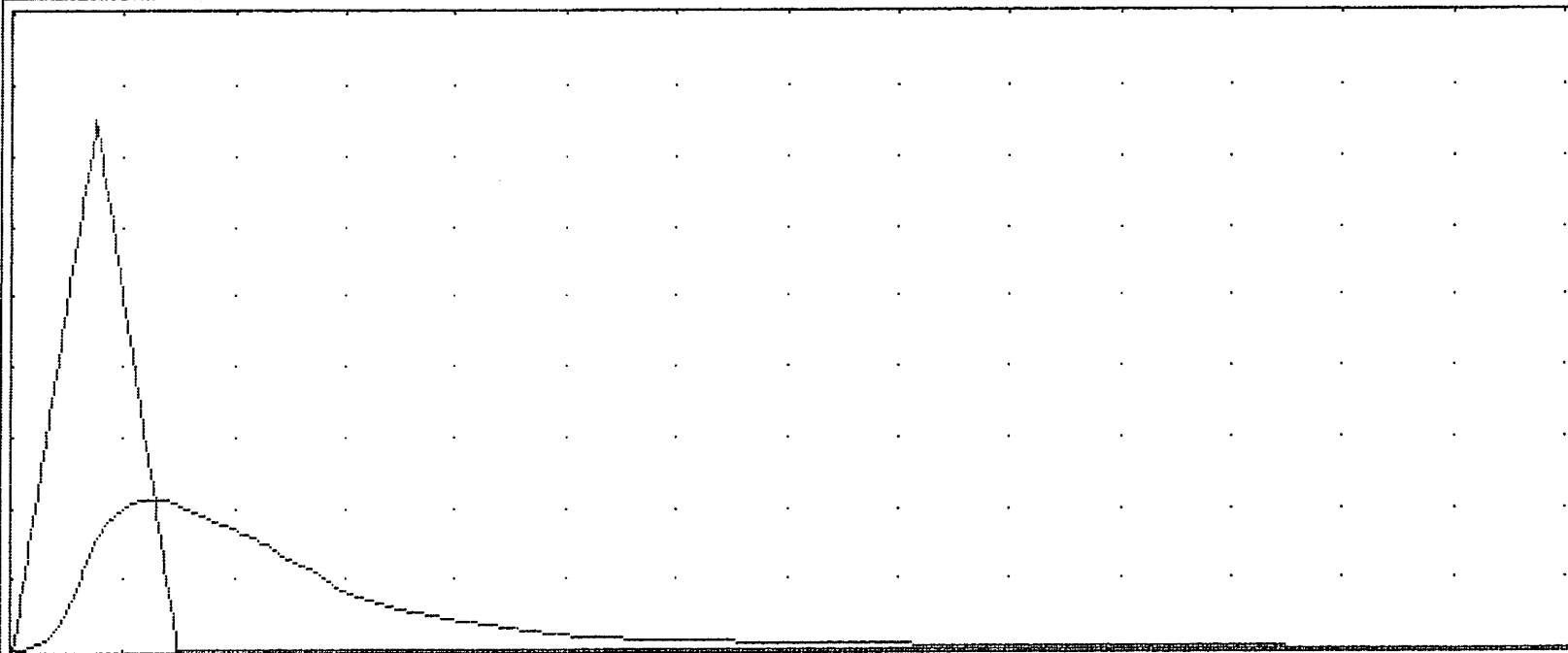
TIME min	INFLOW (i) cfs	INFLOW (j) cfs	2S/dt-0 (i) cfs	2S/dt+0 (j) cfs	OUTFLOW cfs
152.00	0.00	0.00	257.76	260.73	1.49
153.00	0.00	0.00	254.83	257.76	1.47
154.00	0.00	0.00	251.92	254.83	1.45
155.00	0.00	0.00	249.06	251.92	1.43
156.00	0.00	0.00	246.23	249.06	1.42
157.00	0.00	0.00	243.43	246.23	1.40
158.00	0.00	0.00	240.67	243.43	1.38
159.00	0.00	0.00	237.94	240.67	1.37
160.00	0.00	0.00	235.24	237.94	1.35
161.00	0.00	0.00	232.57	235.24	1.33
162.00	0.00	0.00	229.94	232.57	1.32
163.00	0.00	0.00	227.34	229.94	1.30
164.00	0.00	0.00	224.77	227.34	1.29
165.00	0.00	0.00	222.23	224.77	1.27
166.00	0.00	0.00	219.72	222.23	1.25
167.00	0.00	0.00	217.24	219.72	1.24
168.00	0.00	0.00	214.79	217.24	1.22
169.00	0.00	0.00	212.37	214.79	1.21
170.00	0.00	0.00	209.98	212.37	1.20
171.00	0.00	0.00	207.61	209.98	1.18
172.00	0.00	0.00	205.28	207.61	1.17
173.00	0.00	0.00	202.97	205.28	1.15
174.00	0.00	0.00	200.69	202.97	1.14
175.00	0.00	0.00	198.44	200.69	1.13
176.00	0.00	0.00	196.22	198.44	1.11
177.00	0.00	0.00	194.02	196.22	1.10
178.00	0.00	0.00	191.85	194.02	1.09
179.00	0.00	0.00	189.71	191.85	1.07
180.00	0.00	0.00	187.59	189.71	1.06
181.00	0.00	0.00	185.49	187.59	1.05
182.00	0.00	0.00	183.42	185.49	1.03
183.00	0.00	0.00	181.38	183.42	1.02
184.00	0.00	0.00	179.36	181.38	1.01

Maximum outflow (cfs) = 21.20
 Maximum storage (cu ft) = 64235
 Maximum elevation (ft) = 484.86

$Q_p = 21.2$

RESERVOIR ROUTE

10 Yr



HGU = 27 min

14

UGU = 10.0 cfs

MAX STORAGE = 64235

MAX ELEVATION = 484.86

HYDROLOGIC REPORT FOR

MONTICELLO ESTATES

DRY DETENTION BASIN

100 YEAR / 20 MIN. STORM *ok*

PRS NO. 91-030 /26890

PREPARED BY: JAN. 14, 1993

PICKETT RAY & SILVER, INC.

333 MID RIVERS MALL DRIVE

ST. PETERS, MO. 63376

DESIGNER: TANYA DIETZ

HYDROLOGIC REPORT

MONTICELLO ESTATES....
 DRY DETENTION.....
 INFLOW.....

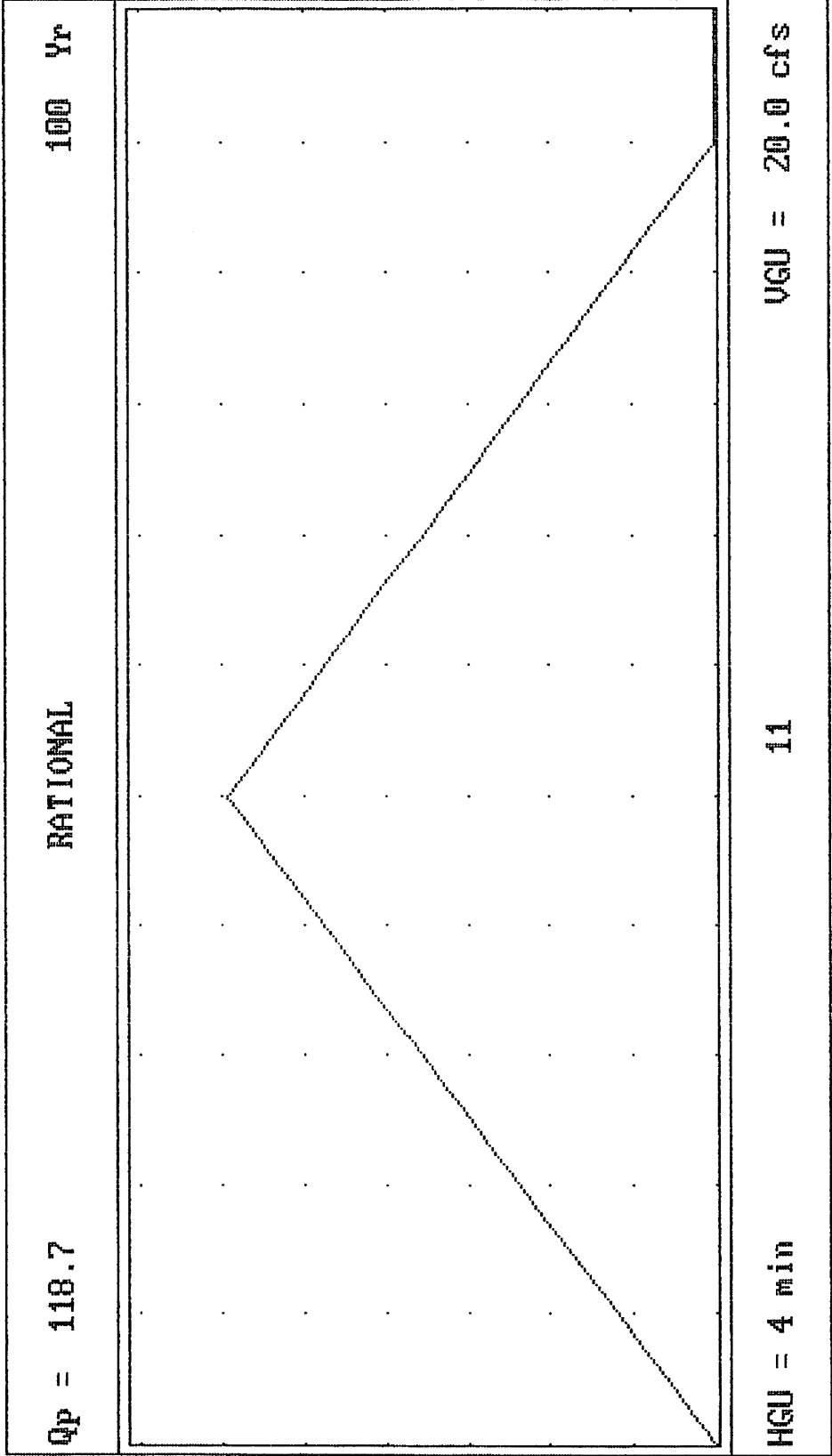
Hyd. No. 11

Hydrograph type = RATIONAL
 Storm frequency = 100 yr
 Time of conc. = 20 min
~~Runoff coeff. = .63255~~

Peak ^{INFLOW} ~~discharge~~ = 118.67 cfs
 Time interval = 1 min
 Intensity = 6.19 in/hr
 Basin area = 30.3 ac

HYDROGRAPH DISCHARGE TABLE

TIME--OUTFLOW		TIME--OUTFLOW		TIME--OUTFLOW		TIME--OUTFLOW	
(min	cfs)	(min	cfs)	(min	cfs)	(min	cfs)
1.00	5.93	2.00	11.87	3.00	17.80	4.00	23.73
5.00	29.67	6.00	35.60	7.00	41.53	8.00	47.47
9.00	53.40	10.00	59.33	11.00	65.27	12.00	71.20
13.00	77.13	14.00	83.07	15.00	89.00	16.00	94.93
17.00	100.87	18.00	106.80	19.00	112.73	20.00	118.67
21.00	112.73	22.00	106.80	23.00	100.87	24.00	94.93
25.00	89.00	26.00	83.07	27.00	77.13	28.00	71.20
29.00	65.27	30.00	59.33	31.00	53.40	32.00	47.47
33.00	41.53	34.00	35.60	35.00	29.67	36.00	23.73
37.00	17.80	38.00	11.87	39.00	5.93	40.00	0.00



② $VOL = (\text{cuft/acft}) = 142402 / 3.269$

Reservoir: 2
 CULVERT STRUC A. $Q=C_oA[2gh/k]^0.5$

1. WIDTH (in) = 24.
2. HEIGHT (in) = 24.
3. No. BARRELS = 1..
4. INVERT ELEV. = 481.9....
5. $C_o = 0.60$
6. CULVERT LENGTH (ft) = 45..
7. CULVERT SLOPE (%) = 2...
8. MANNING'S N-VALUE = .013

CULVERT STRUC B. $Q=C_oA[2gh/k]^0.5$

9. WIDTH (in) = 0..
10. HEIGHT (in) = 0..
11. No. BARRELS = 0..
12. INVERT ELEV. = 0.....
13. $C_o = 0.60$
14. CULVERT LENGTH (ft) = 0...
15. CULVERT SLOPE (%) = 0...
16. MANNING'S N-VALUE = .013
17. MULTI-STAGE OPTION ? (Y/N) N

:
 : WEIR STRUCTURE A. $Q=C_wLH^{EXP}$
 :
 : 18. CREST LENGTH (ft) = 0.....
 : 19. CREST ELEVATION = 0.....
 : 20. $C_w = 3.00$
 : 21. EXP = 1.50
 : 22. MULTI-STAGE OPTION ? (Y/N) N
 :
 :

WEIR STRUCTURE B. $Q=C_wLH^{EXP}$

23. CREST LENGTH (ft) = 0.....
24. CREST ELEVATION = 0.....
25. $C_w = 3.00$
26. EXP = 1.50
27. MULTI-STAGE OPTION ? (Y/N) N

 Change item number: 0 DY to cont

HYDROLOGIC REPORT

STAGE / STORAGE / DISCHARGE

RESERVOIR NUMBER = 2

RESERVOIR NAME = DET.BASIN...
STORAGE VALUES WERE INPUT MANUALLY

DISCHARGE VALUES: CULVERT STRUCT A. $Q = .6 * A * [2gh/k]^{.5} * 1$
 CULVERT STRUCT B. $Q = .6 * A * [2gh/k]^{.5} * 0$
 WEIR STRUCT A. $Q = 3 * 0 * H^{1.5}$
 WEIR STRUCT B. $Q = 3 * 0 * H^{1.5}$

ELEVATION	DISCHARGE (cfs)			
	CULVERT A	CULVERT B	WEIR A	WEIR B
481.90	0.00	0.00	0.00	0.00
482.00	0.07	0.00	0.00	0.00
484.00	15.86 ✓	0.00	0.00	0.00
485.00	21.92	0.00	0.00	0.00
486.00	26.63	0.00	0.00	0.00
487.00	30.63	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00

STAGE	ELEVATION	INC STOR cu ft	TOT STOR cu ft	OUTFLOW cfs
0.00	481.90	0	0	0.00
0.10	482.00	730	730	0.07
2.10	484.00	39848	40578	15.86
3.10	485.00	27371	67949	21.92
4.10	486.00	31629	99578	26.63
5.10	487.00	35887	135465	30.63
0.00	0.00	0	0	0.00
0.00	0.00	0	0	0.00
0.00	0.00	0	0	0.00
0.00	0.00	0	0	0.00
0.00	0.00	0	0	0.00

OK
FLOOD PLAIN
482.0 →

Storage values were input manually

Discharge values: Culvert struct A. $Q = .6 * A * [2gh/k]^{.5} * 1$
 Culvert struct B. $Q = .6 * A * [2gh/k]^{.5} * 0$
 Weir struct A. $Q = 3 * 0 * H ^ 1.5$
 Weir struct B. $Q = 3 * 0 * H ^ 1.5$

ELEVATION	DISCHARGE (cfs)					TOTAL
	CULVERT A		CULVERT B	WEIR A	WEIR B	
481.90	0.00		0.00 -	0.00	0.00	0.00
481.91	0.00	IC	0.00 -	0.00	0.00	0.00
481.92	0.01	IC	0.00 -	0.00	0.00	0.01
481.93	0.01	IC	0.00 -	0.00	0.00	0.01
481.94	0.01	IC	0.00 -	0.00	0.00	0.01
481.95	0.05	IC	0.00 -	0.00	0.00	0.05
481.96	0.06	IC	0.00 -	0.00	0.00	0.06
481.97	0.06	IC	0.00 -	0.00	0.00	0.06
481.98	0.06	IC	0.00 -	0.00	0.00	0.06
481.99	0.07	IC	0.00 -	0.00	0.00	0.07
482.00	0.07	IC	0.00 -	0.00	0.00	0.07

[PgDn]

[Esc] to exit

Storage values were input manually

Discharge values: Culvert struct A. $Q = .6 * A * [2gh/k]^{.5} * 1$
 Culvert struct B. $Q = .6 * A * [2gh/k]^{.5} * 0$
 Weir struct A. $Q = 3 * 0 * H ^ 1.5$
 Weir struct B. $Q = 3 * 0 * H ^ 1.5$

ELEVATION	DISCHARGE (cfs)					TOTAL
	CULVERT A		CULVERT B	WEIR A	WEIR B	
482.00	0.07	IC	0.00 -	0.00	0.00	0.07
482.20	0.87	IC	0.00 -	0.00	0.00	0.87
482.40	1.67	IC	0.00 -	0.00	0.00	1.67
482.60	3.58	IC	0.00 -	0.00	0.00	3.58
482.80	5.07	IC	0.00 -	0.00	0.00	5.07
483.00	6.72	IC	0.00 -	0.00	0.00	6.72
483.20	8.45	IC	0.00 -	0.00	0.00	8.45
483.40	11.15	IC	0.00 -	0.00	0.00	11.15
483.60	12.67	IC	0.00 -	0.00	0.00	12.67
483.80	14.65	IC	0.00 -	0.00	0.00	14.65
484.00	15.86	IC	0.00 -	0.00	0.00	15.86

[PgDn]

[Esc] to exit

Storage values were input manually

Discharge values: Culvert struct A. $Q = .6 * A * [2gh/k]^{.5} * 1$
 Culvert struct B. $Q = .6 * A * [2gh/k]^{.5} * 0$
 Weir struct A. $Q = 3 * 0 * H^{1.5}$
 Weir struct B. $Q = 3 * 0 * H^{1.5}$

ELEVATION	DISCHARGE (cfs)			TOTAL
	CULVERT A	CULVERT B	WEIR A	
484.00	15.86	IC	0.00 -	15.86
484.10	16.57	IC	0.00 -	16.57
484.20	17.25	IC	0.00 -	17.25
484.30	17.90	IC	0.00 -	17.90
484.40	18.52	IC	0.00 -	18.52
484.50	19.13	IC	0.00 -	19.13
484.60	19.72	IC	0.00 -	19.72
484.70	20.29	IC	0.00 -	20.29
484.80	20.85	IC	0.00 -	20.85
484.90	21.39	IC	0.00 -	21.39
485.00	21.92	IC	0.00 -	21.92

[PgDn]

[Esc] to exit

Storage values were input manually

Discharge values: Culvert struct A. $Q = .6 * A * [2gh/k]^{.5} * 1$
 Culvert struct B. $Q = .6 * A * [2gh/k]^{.5} * 0$
 Weir struct A. $Q = 3 * 0 * H^{1.5}$
 Weir struct B. $Q = 3 * 0 * H^{1.5}$

ELEVATION	DISCHARGE (cfs)			TOTAL
	CULVERT A	CULVERT B	WEIR A	
485.00	21.92	IC	0.00 -	21.92
485.10	22.43	IC	0.00 -	22.43
485.20	22.94	IC	0.00 -	22.94
485.30	23.43	IC	0.00 -	23.43
485.40	23.91	IC	0.00 -	23.91
485.50	24.39	IC	0.00 -	24.39
485.60	24.85	IC	0.00 -	24.85
485.70	25.31	IC	0.00 -	25.31
485.80	25.76	IC	0.00 -	25.76
485.90	26.20	IC	0.00 -	26.20
486.00	26.63	IC	0.00 -	26.63

[PgDn]

[Esc] to exit

Storage values were input manually

Discharge values: Culvert struct A. $Q = .6 * A * [2gh/k]^{.5} * 1$
 Culvert struct B. $Q = .6 * A * [2gh/k]^{.5} * 0$
 Weir struct A. $Q = 3 * 0 * H ^ 1.5$
 Weir struct B. $Q = 3 * 0 * H ^ 1.5$

ELEVATION	DISCHARGE (cfs)			TOTAL
	CULVERT A	CULVERT B	WEIR A	
486.00	26.63 IC	0.00 -	0.00	26.63
486.10	27.06 IC	0.00 -	0.00	27.06
486.20	27.48 IC	0.00 -	0.00	27.48
486.30	27.89 IC	0.00 -	0.00	27.89
486.40	28.30 IC	0.00 -	0.00	28.30
486.50	28.70 IC	0.00 -	0.00	28.70
486.60	29.09 IC	0.00 -	0.00	29.09
486.70	29.48 IC	0.00 -	0.00	29.48
486.80	29.87 IC	0.00 -	0.00	29.87
486.90	30.25 IC	0.00 -	0.00	30.25
487.00	30.63 IC	0.00 -	0.00	30.63

[PgDn]

[Esc] to exit

MM5 STAGE / STORAGE TABLE

:
 : 1. RESERVOIR No = 2. 2. RESERVOIR NAME = DET.BASIN...
 : 3. $S = K_s * Z^b$
 : $K_s = 0.....$ $b = 0.....$
 : START ELEV = 0..... INCREMENT = 0...

	STAGE ft	ELEVATION ft	CO AREA sq ft	INC STORAGE cu ft	TOT STORAGE cu ft
:	4	0.00	481.90.	0.....	0
:	5	0.10	482.00.	14605...	730
:	6	2.10	484.00.	25243...	39848
:	7	3.10	485.00.	29500...	67949
:	8	4.10	486.00.	33758...	99578
:	9	5.10	487.00.	38016...	135465
:	10	0.00	0.00.	0.....	0
:	11	0.00	0.00.	0.....	0
:	12	0.00	0.00.	0.....	0
:	13	0.00	0.00.	0.....	0
:	14	0.00	0.00.	0.....	0

R to reset

#####

Change item number: 0

DY to cont

Storage values were input manually

Discharge values: Culvert struct A. $Q = .6 * A * [2gh/k]^{.5} * 1$
 Culvert struct B. $Q = .6 * A * [2gh/k]^{.5} * 0$
 Weir struct A. $Q = 3 * 0 * H^{1.5}$
 Weir struct B. $Q = 3 * 0 * H^{1.5}$

STAGE	ELEVATION	INC STOR cu ft	TOT STOR cu ft	OUTFLOW cfs
0.00	481.90	0	0	0.00
0.01	481.91	73	73	0.00
0.02	481.92	73	146	0.01
0.03	481.93	73	219	0.01
0.04	481.94	73	292	0.01
0.05	481.95	73	365	0.05
0.06	481.96	73	438	0.06
0.07	481.97	73	511	0.06
0.08	481.98	73	584	0.06
0.09	481.99	73	657	0.07
0.10	482.00	73	730	0.07

[PgDn]

[Esc] to exit

Storage values were input manually

Discharge values: Culvert struct A. $Q = .6 * A * [2gh/k]^{.5} * 1$
 Culvert struct B. $Q = .6 * A * [2gh/k]^{.5} * 0$
 Weir struct A. $Q = 3 * 0 * H^{1.5}$
 Weir struct B. $Q = 3 * 0 * H^{1.5}$

STAGE	ELEVATION	INC STOR cu ft	TOT STOR cu ft	OUTFLOW cfs
0.10	482.00	73	730	0.07
0.30	482.20	3985	4715	0.87
0.50	482.40	3985	8700	1.67
0.70	482.60	3985	12684	3.58
0.90	482.80	3985	16669	5.07
1.10	483.00	3985	20654	6.72
1.30	483.20	3985	24639	8.45
1.50	483.40	3985	28624	11.15
1.70	483.60	3985	32608	12.67
1.90	483.80	3985	36593	14.65
2.10	484.00	3985	40578	15.86

[PgDn]

[Esc] to exit

Storage values were input manually

Discharge values: Culvert struct A. $Q = .6 * A * [2gh/k]^{.5} * 1$
 Culvert struct B. $Q = .6 * A * [2gh/k]^{.5} * 0$
 Weir struct A. $Q = 3 * 0 * H ^ 1.5$
 Weir struct B. $Q = 3 * 0 * H ^ 1.5$

STAGE	ELEVATION	INC STOR cu ft	TOT STOR cu ft	OUTFLOW cfs
2.10	484.00	3985	40578	15.86
2.20	484.10	2737	43315	16.57
2.30	484.20	2737	46052	17.25
2.40	484.30	2737	48789	17.90
2.50	484.40	2737	51526	18.52
2.60	484.50	2737	54264	19.13
2.70	484.60	2737	57001	19.72
2.80	484.70	2737	59738	20.29
2.90	484.80	2737	62475	20.85
3.00	484.90	2737	65212	21.39
3.10	485.00	2737	67949	21.92

[PgDn]

[Esc] to exit

Storage values were input manually

Discharge values: Culvert struct A. $Q = .6 * A * [2gh/k]^{.5} * 1$
 Culvert struct B. $Q = .6 * A * [2gh/k]^{.5} * 0$
 Weir struct A. $Q = 3 * 0 * H ^ 1.5$
 Weir struct B. $Q = 3 * 0 * H ^ 1.5$

STAGE	ELEVATION	INC STOR cu ft	TOT STOR cu ft	OUTFLOW cfs
3.10	485.00	2737	67949	21.92
3.20	485.10	3163	71112	22.43
3.30	485.20	3163	74275	22.94
3.40	485.30	3163	77438	23.43
3.50	485.40	3163	80601	23.91
3.60	485.50	3163	83763	24.39
3.70	485.60	3163	86926	24.85
3.80	485.70	3163	90089	25.31
3.90	485.80	3163	93252	25.76
4.00	485.90	3163	96415	26.20
4.10	486.00	3163	99578	26.63

[PgDn]

[Esc] to exit

Storage values were input manually

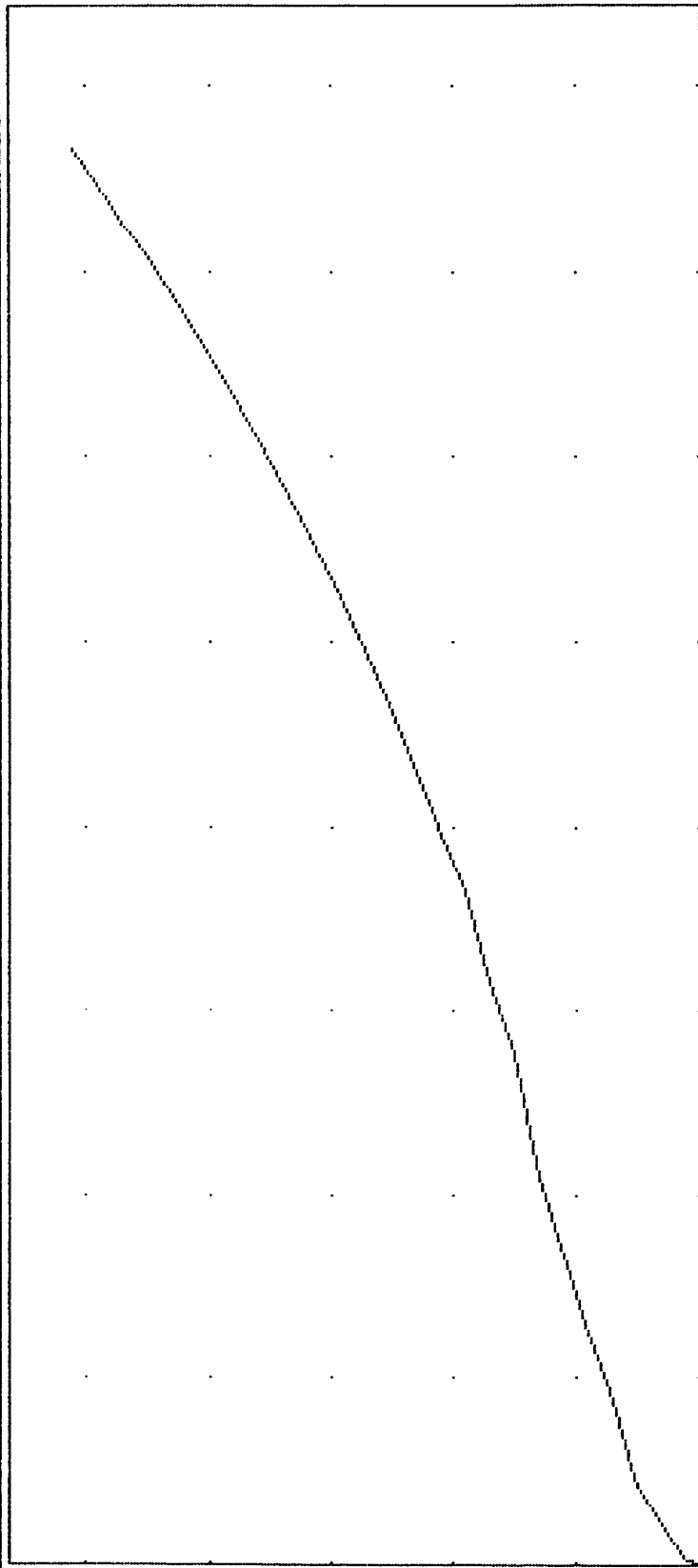
Discharge values: Culvert struct A. $Q = .6 * A * [2gh/k]^{.5} * 1$
 Culvert struct B. $Q = .6 * A * [2gh/k]^{.5} * 0$
 Weir struct A. $Q = 3 * O * H^{1.5}$
 Weir struct B. $Q = 3 * O * H^{1.5}$

STAGE	ELEVATION	INC STOR cu ft	TOT STOR cu ft	OUTFLOW cfs
4.10	486.00	3163	99578	26.63
4.20	486.10	3589	103167	27.06
4.30	486.20	3589	106755	27.48
4.40	486.30	3589	110344	27.89
4.50	486.40	3589	113933	28.30
4.60	486.50	3589	117522	28.70
4.70	486.60	3589	121110	29.09
4.80	486.70	3589	124699	29.48
4.90	486.80	3589	128288	29.87
5.00	486.90	3589	131876	30.25
5.10	487.00	3589	135465	30.63

[PgDn]

[Esc] to exit

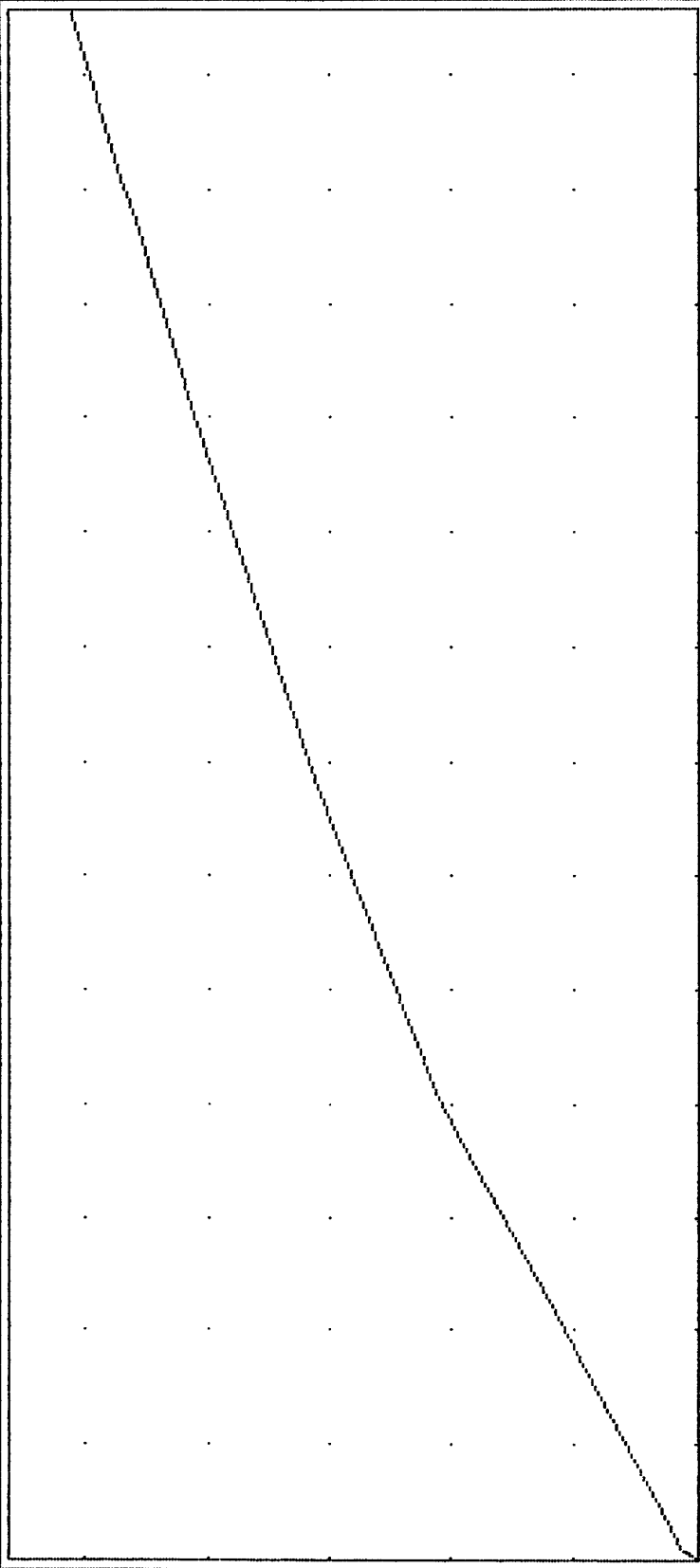
STAGE / DISCHARGE CURVE



HGU = 4.0 cfs

VGU = 1.0 ft

STAGE / STORAGE CURVE



HGU = 10000 cu ft

UGU = 1.0 ft

HYDROLOGIC REPORT

MONTICELLO ESTATES....
 DRY DETENTION.....
 OUTFLOW.....

Hyd. No. 12

Hydrograph type = RESERVOIR ROUTE Peak discharge = 27.40 cfs
 Storm frequency = 100 yr Time interval = 1 min
 Inflow hyd. no. = 11 Reservoir no. = 2

HYDROGRAPH DISCHARGE TABLE

TIME min	INFLOW (i) cfs	INFLOW (j) cfs	2S/dt-0 (i) cfs	2S/dt+0 (j) cfs	OUTFLOW cfs
1.00	5.93	11.87	5.91	5.93	0.01
2.00	11.87	17.80	23.57	23.71	0.07
3.00	17.80	23.73	52.75	53.24	0.24
4.00	23.73	29.67	93.31	94.28	0.49
5.00	29.67	35.60	145.10	146.71	0.80
6.00	35.60	41.53	208.00	210.37	1.18
7.00	41.53	47.47	281.87	285.14	1.63
8.00	47.47	53.40	365.28	370.87	2.80
9.00	53.40	59.33	458.11	466.15	4.02
10.00	59.33	65.27	560.46	570.84	5.19
11.00	65.27	71.20	671.87	685.06	6.59
12.00	71.20	77.13	791.99	808.34	8.18
13.00	77.13	83.07	919.02	940.33	10.65
14.00	83.07	89.00	1054.34	1079.23	12.44
15.00	89.00	94.93	1197.35	1226.41	14.53
16.00	94.93	100.87	1349.36	1381.28	15.96
17.00	100.87	106.80	1510.78	1545.16	17.19
18.00	106.80	112.73	1681.64	1718.45	18.40
19.00	112.73	118.67	1861.97	1901.18	19.60
20.00	118.67	112.73	2051.80	2093.38	20.79
21.00	112.73	106.80	2239.41	2283.20	21.90
22.00	106.80	100.87	2413.45	2458.95	22.75
23.00	100.87	94.93	2574.11	2621.12	23.51
24.00	94.93	89.00	2721.55	2769.91	24.18
25.00	89.00	83.07	2855.93	2905.49	24.78

HYDROGRAPH DISCHARGE TABLE Cont'd

TIME min	INFLOW (i) cfs	INFLOW (j) cfs	2S/dt-0 (i) cfs	2S/dt+0 (j) cfs	OUTFLOW cfs
26.00	83.07	77.13	2977.38	3028.00	25.31
27.00	77.13	71.20	3086.04	3137.58	25.77
28.00	71.20	65.27	3182.03	3234.38	26.17
29.00	65.27	59.33	3265.46	3318.50	26.52
30.00	59.33	53.40	3336.49	3390.06	26.79
31.00	53.40	47.47	3395.23	3449.22	27.00
32.00	47.47	41.53	3441.78	3496.10	27.16
33.00	41.53	35.60	3476.21	3530.78	27.28
34.00	35.60	29.67	3498.62	3553.35	27.36
35.00	29.67	23.73	3509.09	3563.89	27.40 ←
36.00	23.73	17.80	3507.71	3562.49	27.39
37.00	17.80	11.87	3494.55	3549.24	27.35
38.00	11.87	5.93	3469.69	3524.21	27.26
39.00	5.93	0.00	3433.23	3487.49	27.13
40.00	0.00	0.00	3385.24	3439.17	26.96
41.00	0.00	0.00	3331.70	3385.24	26.77
42.00	0.00	0.00	3278.56	3331.70	26.57
43.00	0.00	0.00	3225.85	3278.56	26.35
44.00	0.00	0.00	3173.57	3225.85	26.14
45.00	0.00	0.00	3121.73	3173.57	25.92
46.00	0.00	0.00	3070.32	3121.73	25.70
47.00	0.00	0.00	3019.35	3070.32	25.49
48.00	0.00	0.00	2968.81	3019.35	25.27
49.00	0.00	0.00	2918.70	2968.81	25.05
50.00	0.00	0.00	2869.03	2918.70	24.84
51.00	0.00	0.00	2819.79	2869.03	24.62
52.00	0.00	0.00	2770.99	2819.79	24.40
53.00	0.00	0.00	2722.62	2770.99	24.18
54.00	0.00	0.00	2674.68	2722.62	23.97
55.00	0.00	0.00	2627.18	2674.68	23.75
56.00	0.00	0.00	2580.11	2627.18	23.53
57.00	0.00	0.00	2533.48	2580.11	23.32
58.00	0.00	0.00	2487.28	2533.48	23.10
59.00	0.00	0.00	2441.51	2487.28	22.88
60.00	0.00	0.00	2396.18	2441.51	22.67
61.00	0.00	0.00	2351.28	2396.18	22.45
62.00	0.00	0.00	2306.82	2351.28	22.23
63.00	0.00	0.00	2262.79	2306.82	22.02
64.00	0.00	0.00	2219.23	2262.79	21.78
65.00	0.00	0.00	2176.17	2219.23	21.53
66.00	0.00	0.00	2133.62	2176.17	21.28
67.00	0.00	0.00	2091.56	2133.62	21.03

HYDROGRAPH DISCHARGE TABLE Cont'd

TIME min	INFLOW (i) cfs	INFLOW (j) cfs	2S/dt-0 (i) cfs	2S/dt+0 (j) cfs	OUTFLOW cfs
68.00	0.00	0.00	2050.01	2091.56	20.78
69.00	0.00	0.00	2008.96	2050.01	20.53
70.00	0.00	0.00	1968.41	2008.96	20.28
71.00	0.00	0.00	1928.36	1968.41	20.02
72.00	0.00	0.00	1888.81	1928.36	19.77
73.00	0.00	0.00	1849.77	1888.81	19.52
74.00	0.00	0.00	1811.22	1849.77	19.27
75.00	0.00	0.00	1773.18	1811.22	19.02
76.00	0.00	0.00	1735.64	1773.18	18.77
77.00	0.00	0.00	1698.60	1735.64	18.52
78.00	0.00	0.00	1662.06	1698.60	18.27
79.00	0.00	0.00	1626.03	1662.06	18.02
80.00	0.00	0.00	1590.49	1626.03	17.77
81.00	0.00	0.00	1555.46	1590.49	17.52
82.00	0.00	0.00	1520.93	1555.46	17.27
83.00	0.00	0.00	1486.90	1520.93	17.01
84.00	0.00	0.00	1453.37	1486.90	16.76
85.00	0.00	0.00	1420.34	1453.37	16.51
86.00	0.00	0.00	1387.82	1420.34	16.26
87.00	0.00	0.00	1355.80	1387.82	16.01
88.00	0.00	0.00	1324.30	1355.80	15.75
89.00	0.00	0.00	1293.37	1324.30	15.46
90.00	0.00	0.00	1263.01	1293.37	15.18
91.00	0.00	0.00	1233.20	1263.01	14.91
92.00	0.00	0.00	1203.94	1233.20	14.63
93.00	0.00	0.00	1175.53	1203.94	14.20
94.00	0.00	0.00	1147.96	1175.53	13.79
95.00	0.00	0.00	1121.20	1147.96	13.38
96.00	0.00	0.00	1095.22	1121.20	12.99
97.00	0.00	0.00	1069.97	1095.22	12.62
98.00	0.00	0.00	1045.29	1069.97	12.34
99.00	0.00	0.00	1021.18	1045.29	12.06
100.00	0.00	0.00	997.62	1021.18	11.78
101.00	0.00	0.00	974.59	997.62	11.51
102.00	0.00	0.00	952.08	974.59	11.25
103.00	0.00	0.00	930.31	952.08	10.88
104.00	0.00	0.00	909.41	930.31	10.45
105.00	0.00	0.00	889.33	909.41	10.04
106.00	0.00	0.00	870.06	889.33	9.64
107.00	0.00	0.00	851.55	870.06	9.25
108.00	0.00	0.00	833.78	851.55	8.89
109.00	0.00	0.00	816.72	833.78	8.53

HYDROGRAPH DISCHARGE TABLE Cont'd

TIME min	INFLOW (i) cfs	INFLOW (j) cfs	2S/dt-0 (i) cfs	2S/dt+0 (j) cfs	OUTFLOW cfs
110.00	0.00	0.00	800.15	816.72	8.28
111.00	0.00	0.00	784.01	800.15	8.07
112.00	0.00	0.00	768.29	784.01	7.86
113.00	0.00	0.00	752.97	768.29	7.66
114.00	0.00	0.00	738.05	752.97	7.46
115.00	0.00	0.00	723.51	738.05	7.27
116.00	0.00	0.00	709.35	723.51	7.08
117.00	0.00	0.00	695.55	709.35	6.90
118.00	0.00	0.00	682.11	695.55	6.72
119.00	0.00	0.00	669.00	682.11	6.56
120.00	0.00	0.00	656.21	669.00	6.40
121.00	0.00	0.00	643.73	656.21	6.24
122.00	0.00	0.00	631.56	643.73	6.09
123.00	0.00	0.00	619.68	631.56	5.94
124.00	0.00	0.00	608.10	619.68	5.79
125.00	0.00	0.00	596.80	608.10	5.65
126.00	0.00	0.00	585.78	596.80	5.51
127.00	0.00	0.00	575.03	585.78	5.38
128.00	0.00	0.00	564.54	575.03	5.24
129.00	0.00	0.00	554.31	564.54	5.12
130.00	0.00	0.00	544.32	554.31	5.00
131.00	0.00	0.00	534.54	544.32	4.89
132.00	0.00	0.00	524.98	534.54	4.78
133.00	0.00	0.00	515.64	524.98	4.67
134.00	0.00	0.00	506.50	515.64	4.57
135.00	0.00	0.00	497.56	506.50	4.47
136.00	0.00	0.00	488.82	497.56	4.37
137.00	0.00	0.00	480.27	488.82	4.27
138.00	0.00	0.00	471.91	480.27	4.18
139.00	0.00	0.00	463.74	471.91	4.09
140.00	0.00	0.00	455.75	463.74	4.00
141.00	0.00	0.00	447.93	455.75	3.91
142.00	0.00	0.00	440.29	447.93	3.82
143.00	0.00	0.00	432.82	440.29	3.74
144.00	0.00	0.00	425.51	432.82	3.65
145.00	0.00	0.00	418.37	425.51	3.57
146.00	0.00	0.00	411.43	418.37	3.47
147.00	0.00	0.00	404.69	411.43	3.37
148.00	0.00	0.00	398.14	404.69	3.28
149.00	0.00	0.00	391.77	398.14	3.18
150.00	0.00	0.00	385.59	391.77	3.09
151.00	0.00	0.00	379.58	385.59	3.00

HYDROGRAPH DISCHARGE TABLE Cont'd

TIME min	INFLOW (i) cfs	INFLOW (j) cfs	2S/dt-0 (i) cfs	2S/dt+0 (j) cfs	OUTFLOW cfs
152.00	0.00	0.00	373.74	379.58	2.92
153.00	0.00	0.00	368.07	373.74	2.84
154.00	0.00	0.00	362.56	368.07	2.76
155.00	0.00	0.00	357.21	362.56	2.68
156.00	0.00	0.00	352.00	357.21	2.60
157.00	0.00	0.00	346.95	352.00	2.53
158.00	0.00	0.00	342.04	346.95	2.46
159.00	0.00	0.00	337.26	342.04	2.39
160.00	0.00	0.00	332.63	337.26	2.32
161.00	0.00	0.00	328.12	332.63	2.25
162.00	0.00	0.00	323.75	328.12	2.19
163.00	0.00	0.00	319.49	323.75	2.13
164.00	0.00	0.00	315.36	319.49	2.07
165.00	0.00	0.00	311.34	315.36	2.01
166.00	0.00	0.00	307.44	311.34	1.95
167.00	0.00	0.00	303.65	307.44	1.90
168.00	0.00	0.00	299.97	303.65	1.84
169.00	0.00	0.00	296.39	299.97	1.79
170.00	0.00	0.00	292.91	296.39	1.74
171.00	0.00	0.00	289.54	292.91	1.69
172.00	0.00	0.00	286.22	289.54	1.66
173.00	0.00	0.00	282.94	286.22	1.64
174.00	0.00	0.00	279.70	282.94	1.62
175.00	0.00	0.00	276.51	279.70	1.60
176.00	0.00	0.00	273.34	276.51	1.58
177.00	0.00	0.00	270.22	273.34	1.56
178.00	0.00	0.00	267.14	270.22	1.54
179.00	0.00	0.00	264.09	267.14	1.52
180.00	0.00	0.00	261.08	264.09	1.51
181.00	0.00	0.00	258.10	261.08	1.49
182.00	0.00	0.00	255.16	258.10	1.47
183.00	0.00	0.00	252.26	255.16	1.45
184.00	0.00	0.00	249.39	252.26	1.43
185.00	0.00	0.00	246.55	249.39	1.42
186.00	0.00	0.00	243.75	246.55	1.40
187.00	0.00	0.00	240.98	243.75	1.38
188.00	0.00	0.00	238.25	240.98	1.37
189.00	0.00	0.00	235.55	238.25	1.35
190.00	0.00	0.00	232.88	235.55	1.33
191.00	0.00	0.00	230.24	232.88	1.32
192.00	0.00	0.00	227.63	230.24	1.30
193.00	0.00	0.00	225.06	227.63	1.29

HYDROGRAPH DISCHARGE TABLE Cont'd

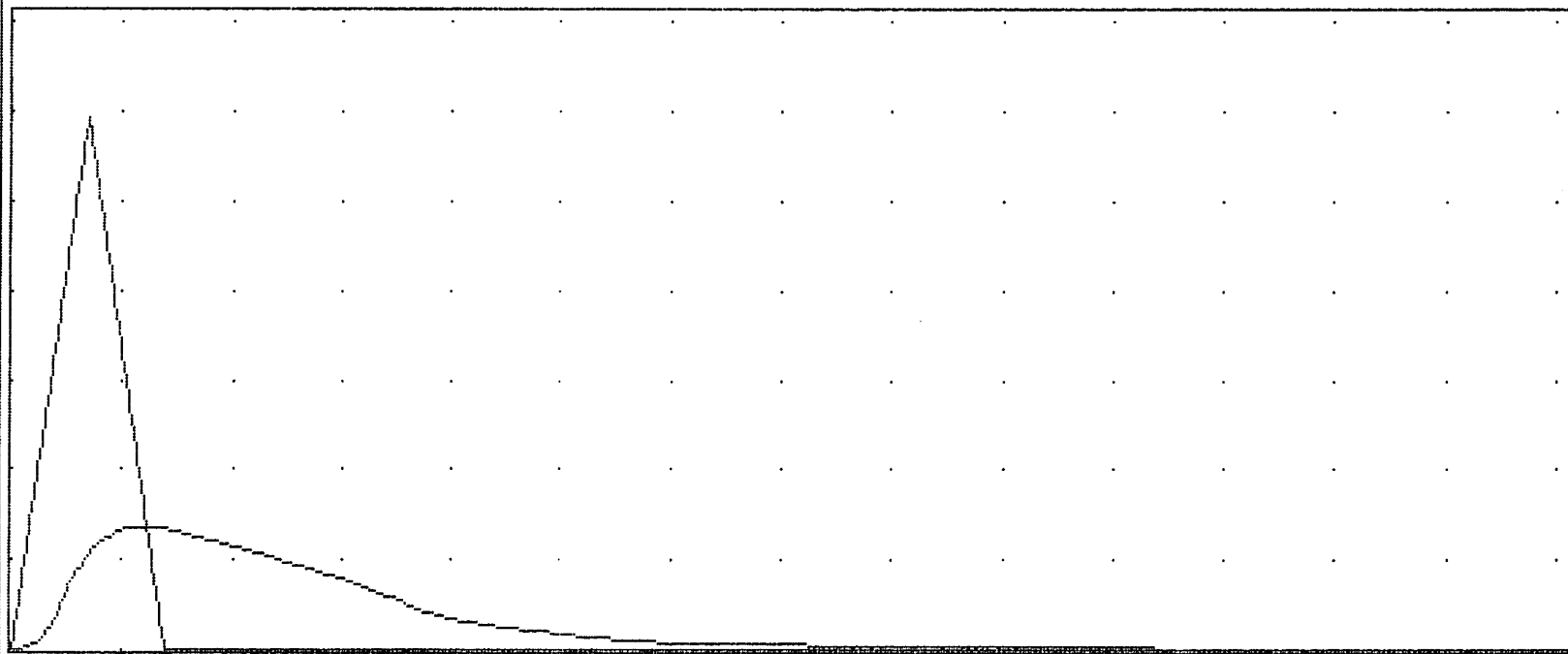
TIME min	INFLOW (i) cfs	INFLOW (j) cfs	2S/dt-0 (i) cfs	2S/dt+0 (j) cfs	OUTFLOW cfs
194.00	0.00	0.00	222.52	225.06	1.27
195.00	0.00	0.00	220.00	222.52	1.26
196.00	0.00	0.00	217.52	220.00	1.24
197.00	0.00	0.00	215.07	217.52	1.23
198.00	0.00	0.00	212.64	215.07	1.21
199.00	0.00	0.00	210.25	212.64	1.20
200.00	0.00	0.00	207.88	210.25	1.18
201.00	0.00	0.00	205.55	207.88	1.17
202.00	0.00	0.00	203.24	205.55	1.15
203.00	0.00	0.00	200.96	203.24	1.14
204.00	0.00	0.00	198.70	200.96	1.13
205.00	0.00	0.00	196.47	198.70	1.11
206.00	0.00	0.00	194.27	196.47	1.10
207.00	0.00	0.00	192.10	194.27	1.09
208.00	0.00	0.00	189.95	192.10	1.07
209.00	0.00	0.00	187.83	189.95	1.06
210.00	0.00	0.00	185.73	187.83	1.05
211.00	0.00	0.00	183.66	185.73	1.04
212.00	0.00	0.00	181.61	183.66	1.02
213.00	0.00	0.00	179.59	181.61	1.01

Maximum outflow (cfs) = 27.40
 Maximum storage (cu ft) = 106095
 Maximum elevation (ft) = 486.18

$Q_p = 27.4$

RESERVOIR ROUTE

100 Yr



HGU = 29 min

12

UGU = 20.0 cfs

MAX STORAGE = 106095

MAX ELEVATION = 486.18