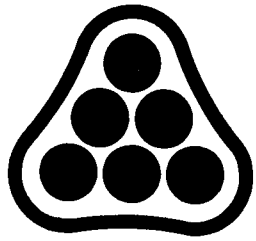

PROFESSIONAL
ENGINEERING
CONSULTANTS
PROFESSIONAL ASSOCIATION

DRAINAGE PLAN

AND

SUPPORTING CALCULATIONS

FOR

POLO CLUB OFFICE PARK

AN ADDITION TO WICHITA, SEDGWICK COUNTY, KANSAS

PREPARED BY

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.

ENGINEERS

WICHITA, KANSAS

JUNE 16, 1989

1440 EAST ENGLISH
WICHITA, KANSAS 67211
(316) 262-2691

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Project Polo Club Office Park

Item Drainage Plan

ELEV	STAGE	(SF) AREA	(Ac) AREA	Δd	Ac-Ft Δ Vol	Σ Vol
177.75	0	16,762	0.385	0	0	0
178.0	0.25	16,762	0.385	0.25'	0.096	0.096
180.0	2.25	16,762	0.385	2.00	0.770	0.866
180.5	2.75	17,740	0.407	0.50	0.198	1.064
181.0	3.25	18,749	0.430	0.50	0.209	1.273
181.5	3.75	22,723	0.522	0.50	0.238	1.511
182.0	4.25	30,888	0.709	0.50	0.307	1.818
182.5	4.75	48,283	1.108	0.50	0.451	2.269

BASED ON SITE GRADING PLAN ENCLOSED.

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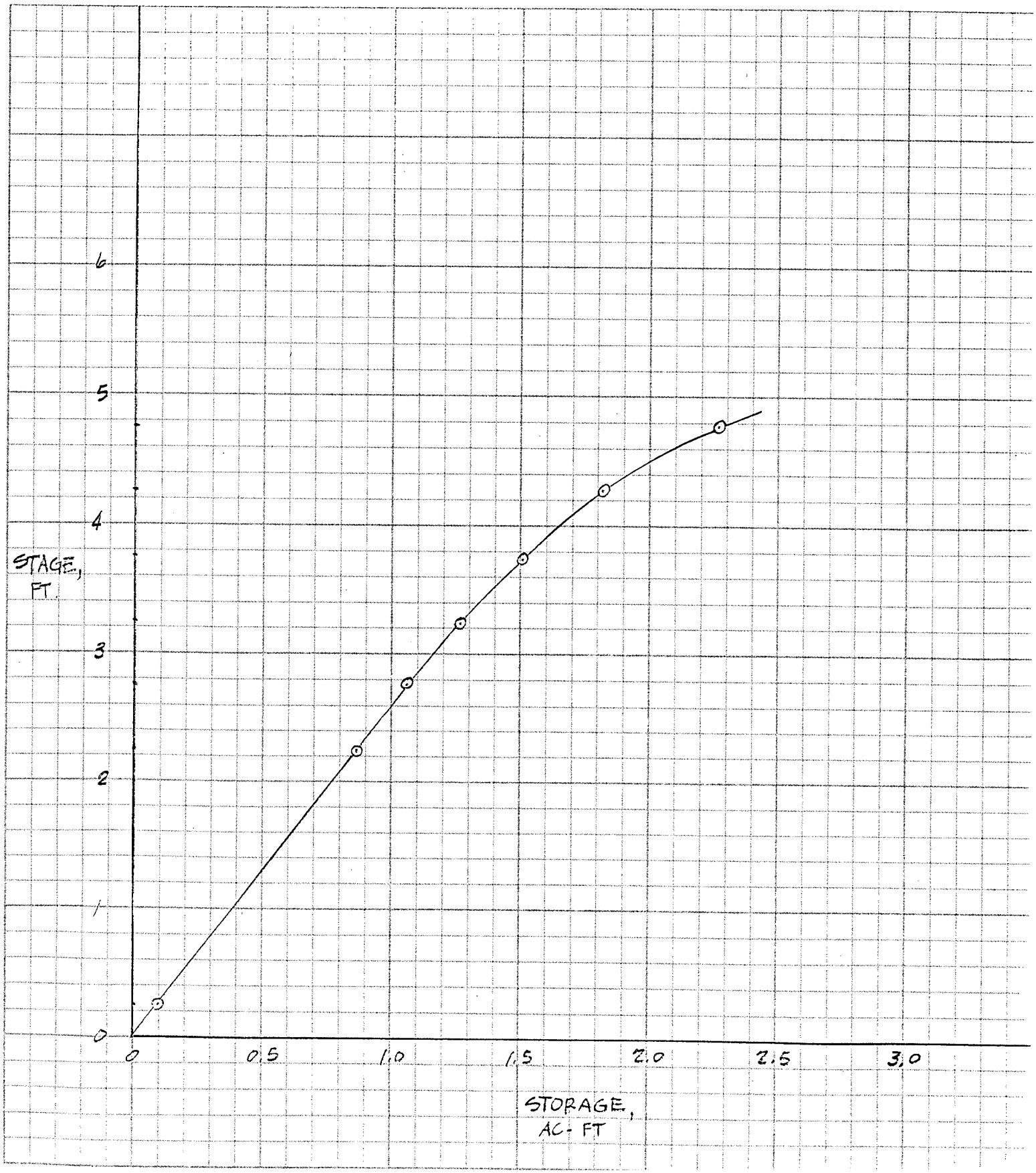
Item Drainage Plan



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Item Drainage Plan

STAGE	ELEV	STORAGE S (AC-FT)	STORAGE S (AC-IN)	OUTFLOW O (CFS) *	2S	$\frac{2S}{\Delta T}$	$\frac{2S}{\Delta T} + O$
0	177.75	0	0	0	0	0	0
1	178.75	0.34	4.08	9	8.16	98	107
2	179.75	0.76	9.12	26	18.24	219	245
3	180.75	1.17	14.04	44	28.08	337	381
4	181.75	1.65	19.80	57	39.60	475	532
5	182.75	2.52	30.24	69	60.48	726	795

ΔT = 5 Min = 0.0833 hr.

* See Fairfield Drainage Plan (11.5.85)

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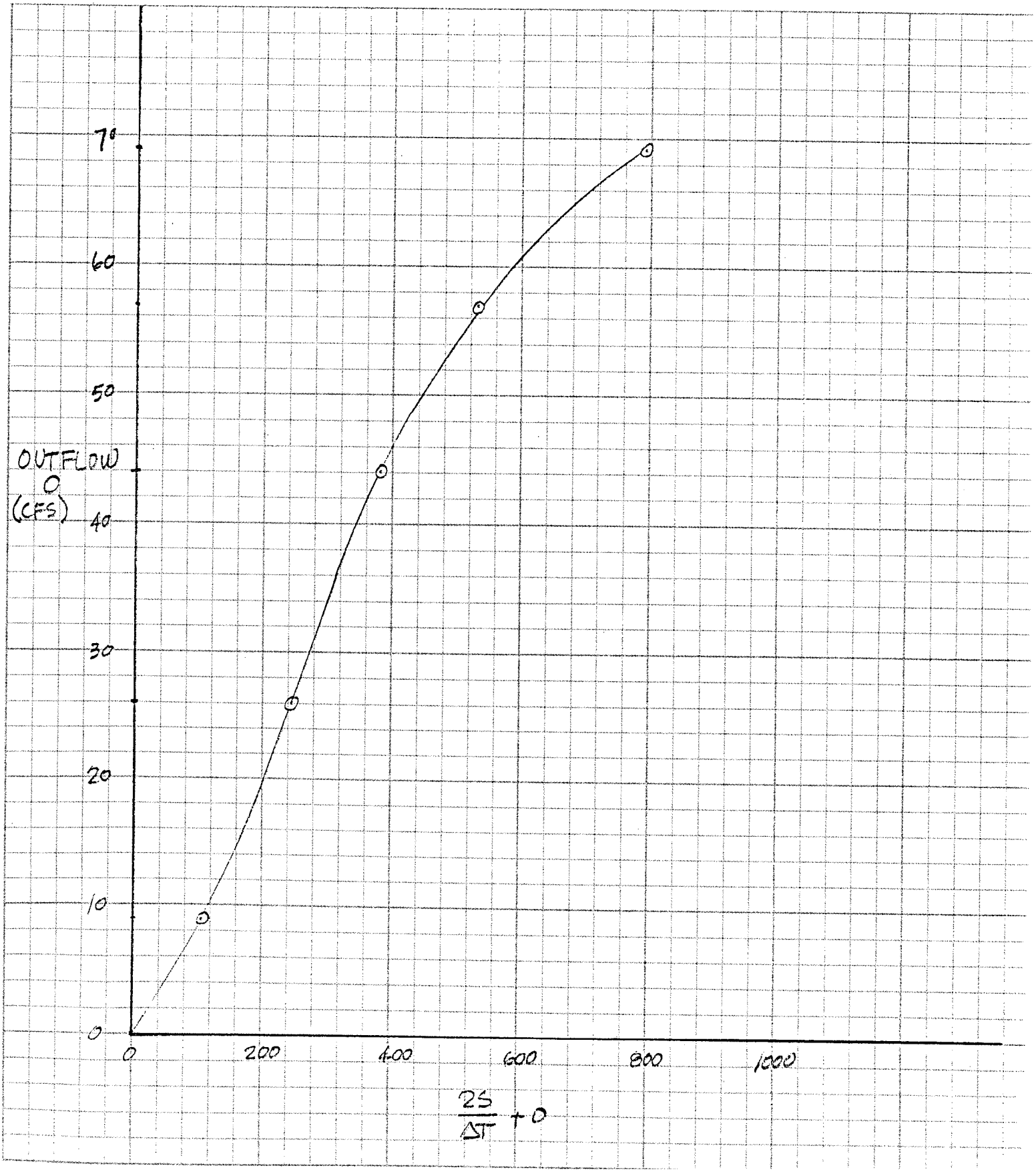
Item Drainage Plan



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Item Drainage Plan

Time (Hr)	In (cfs)	$I_n + I_{n+1}$ (cfs)	$\frac{2S}{\Delta T} - O$	$\frac{2S}{\Delta t} + O$	O (cfs)	HW (FT)	ELEV.
0	0	62	0	0	0	0	177.7
0.083	62	186	52	62	5	0.8	178.5
0.167	124	309	188	238	25	2.0	179.7
0.250	185	329	389	497	54	3.7	181.4
0.333	144	248	586	718	66	4.7	182.4
0.417	104	167	694	834	70	4.9	182.6
0.500	63	85	721	861	70	4.9	182.6
0.583	22	22	668	806	69	4.8	182.5
0.666	0	0	560	690	65	4.6	182.3
0.750	0	0	444	560	58	4.1	181.8
0.833	0	0	344	444	50	3.5	181.2
0.916	0	0	264	344	40	2.8	180.5
1.000	0	0	206	264	29	2.2	179.9
1.083	0	0	166	206	20	1.7	179.4
1.167	0	0	136	166	15	1.3	179.0
1.250	0	0	112	136	12	1.1	178.8
1.333	0	0	94	112	9	1.0	178.7
1.417	0	0	78	94	8	0.9	178.6
1.500	0	0	64	78	7	0.8	178.5
1.583	0	0	54	64	5	0.6	178.3
1.666	0	0	44	54	5	0.6	178.3

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Item Drainage Plan

1.750	0	6	36	44	4	0.5	178.2
1.833	0	0	30	36	3	0.3	178.0
1.916	0	0	24	30	3	0.3	178.0
2.000	0	0	20	24	2	0.2	177.9
2.083	0	0	16	20	2	0.2	177.9
2.167	0	0	12	16	2	0.2	177.9
2.250	0	0	10	12	1	0.1	177.8
2.333	0	0	8	10	1	0.1	177.8
2.416	0	0	6	8	1	0.1	177.8
2.500	0	0	4	6	1	0.1	177.8
2.583	0	0	2	4	1	0.1	177.8
2.666	0	0	0	2	1	0.1	177.8
2.750	0	0	0	0	0	0.0	177.7

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Project Polo Club Office Park

Item Drainage Plan

SUMMARY

Q_{100} (Existing) = 70 cfs
Q_{100} (Proposed) = 185 cfs
Before Detention

} See Fairfield Drainage Plan (dated Nov. 8, 1985)

Q_{100} (Proposed) = 70 cfs
After Detention

Pond Data: Static Pool = 177.7 ±

DWS_{100} = 182.6 ±

Volume = 2.4 Ac'Ft ±
(Includes Storage on Parking Lot)