



# MILL POND APARTMENTS O'FALLON, MISSOURI



**Summary of Drainage Calculations (TR55):**

Drainage Area: 3.54 Acres  
Soil Type: Hydrologic Soil Group D  
Pre-Development CN: 78  
Post-Development CN: 86

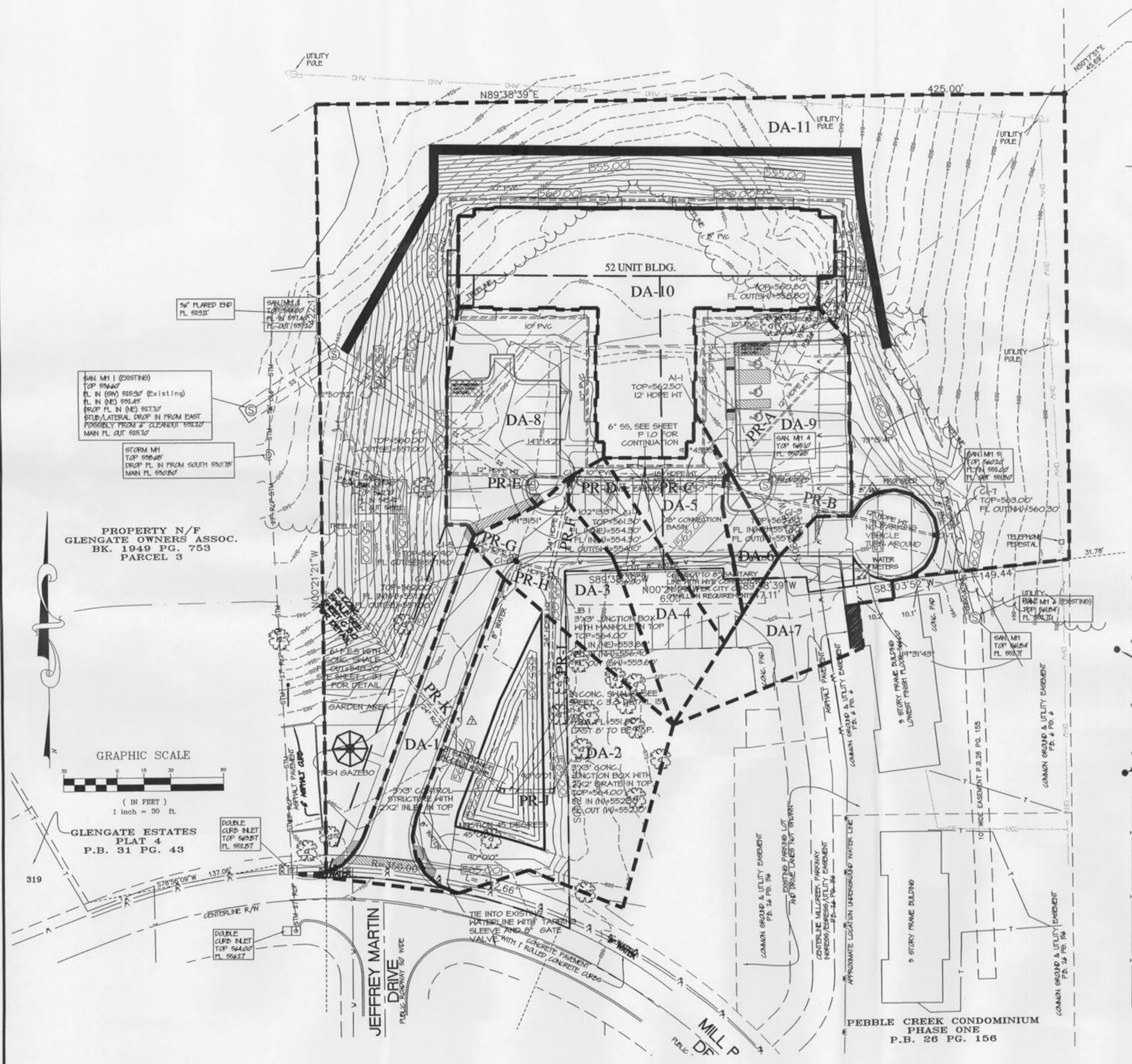
Design Storm (year)	Pre-Development Discharge (cfs)	Post-Development Discharge (cfs)	Required Detention Basin Size (CF)
2	1.50	2.10	10,200
5	2.21	2.91	13,200
10	2.80	3.56	15,600
25	3.40	4.22	18,200
100	4.66	5.56	23,100

Total Basin Volume - 34,000 CF

**Pipe Sizing - Rational Method (15 yr. 20 min Storm):**

Drainage Area	Total Area (Ac)	Impervious Area (Ac)	Pervious Area (Ac)	PI (rs)	Q(cfs)
DA-1	0.12	0.12	0.00	3.30	0.40
DA-2	0.38	0.00	0.38	1.87	0.71
DA-3	0.12	0.08	0.04	3.30	0.40
DA-4	0.10	0.07	0.03	3.30	0.33
DA-5	0.10	0.08	0.02	3.30	0.33
DA-6	0.03	0.02	0.01	3.30	0.10
DA-7	0.18	0.13	0.05	3.30	0.59
DA-8	0.22	0.15	0.07	3.30	0.73
DA-9	0.22	0.18	0.04	3.30	0.73
DA-10	0.38	0.38	0.00	3.30	1.25
DA-11	1.69	0.00	1.69	1.87	3.16

Pipe Run	Pipe Size (in)	Material	Manning's n	Length(ft)	Slope(%)	Capacity (cfs)	Flow (cfs)	Remaining Capacity (cfs)
A	12	HDPE	0.010	101	1.0	4.63	0.73	3.90
B	12	HDPE	0.010	121	1.5	5.67	0.59	5.08
C	18	HDPE	0.010	45	4.4	28.64	1.42	27.22
D	18	HDPE	0.010	41	4.4	28.64	3.00	25.64
E	12	HDPE	0.010	68	5.5	10.86	0.73	10.13
F	24	HDPE	0.010	50	1.0	29.41	4.06	25.35
G	12	HDPE	0.010	25	1.3	4.06	0.40	3.66
H	12	HDPE	0.010	19	1.3	4.06	0.80	3.26
I	24	HDPE	0.010	127	1.0	29.41	4.86	24.55
J	24	HDPE	0.010	19	1.6	37.20	4.86	32.34
K	24	RCP	0.013	134	1.0	22.60	5.57	17.03



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