

Developed Condition:
 Total Site Area= 45.77 Acres
 Land use: Apartment Complex

Developed Drainage Calculations

Drainage Area	Area, ac	Tc, min	C2	C5	C10	C50	C100	1/100	Remark
A	15.91	25.0	0.69	1.69	0.72	2.15	0.77	2.53	0.81 3.37 0.84 3.73 Area Draining in to Pond 1
B	6.95	15.8	0.70	1.69	0.73	2.15	0.79	2.53	0.83 3.37 0.86 3.73 Area Draining in to Pond 2
C	7.21	16.2	0.70	1.69	0.73	2.15	0.79	2.53	0.83 3.37 0.86 3.73 Area Draining in to Pond 3
D	6.49	15.2	0.70	1.69	0.73	2.15	0.79	2.53	0.83 3.37 0.86 3.73 Area Draining in to Pond 4
E	9.22	16.8	0.69	1.69	0.70	2.15	0.75	2.53	0.80 3.37 0.82 3.73 Area Draining in to Pond 5

Critical Duration for peak flow=60 mins

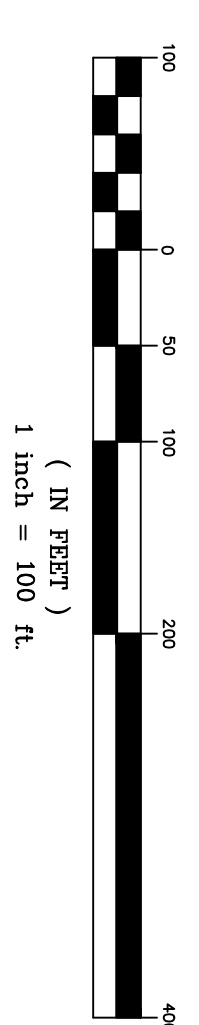
Drainage Area	Developed Q, cfs	Q out, cfs	Remark
A	18.88	24.97	31.36 43.95 50.38 10.02 10.59 10.78 11.56 11.94 Detention in Pond 1
B	8.37	11.06	14.06 19.67 22.53 11.58 12.03 12.29 12.60 12.71 Detention in Pond 1+2
C	8.68	11.47	14.58 20.41 23.38 5.93 6.72 7.17 7.22 8.12 Detention in Pond 3
D	7.81	10.33	13.13 18.37 21.04 10.62 11.29 11.86 12.87 13.51 Detention in Pond 1+2+3+4
E	10.94	14.07	17.70 25.15 28.50 18.58 22.77 25.90 31.42 35.29 Detention in Pond 1+2+3+4+5

Summary of Channel Protection and Water Quality Volume calculations for future use

Pond	Drainage Area	Water Volume, Ac-ft	Water Quality, WQV	Channel Protection, CPV	Water Elevation	Water Quality, WQV
1	15.910	1.41	0.956	210.28	209.21	
2	6.950	0.63	0.504	207.47	206.97	
3	7.210	0.66	0.523	198.76	198.40	
4	6.490	1.11	0.930	197.24	196.83	
5	9.220	0.31	0.256	193.30	193.13	

Note:
 Site drainage calculations are developed using the Rational Method for peak runoff. C & T values are established from the City of Wichita Design Criteria.

Detentions are achieved in detention basins 1,2,3,4 and 5 by outlet structures as shown in plan.



**Stoney Pointe Addition
 Developed Drainage Plan
 Wichita, Kansas**

PROJECT NUMBER

KEM NO. 100083	FILE. drainage	DATE. 11/2010	SHEET 1 OF 1
DESIGN GP	DRWN GP	REVISED. 11/25/2010	

kemiller
engineering
 516 S. Main
 Wichita, KS 67202
 316/264-0242