

KELLOGG (US Highway 54) S 89°55'46" E 2649.83'

Offsite:  
Area=1.59 acres  
Q5 =4.61 cfs  
Q100 =8.65 cfs

KELLOGG (Access Road)

Ex. Davis-Moore  
Mazda

15' Water Line  
Easement

Chateau

moved 5' south

Offsite(Cul-de-sac):  
Area=1.32 acres  
Q5 =3.83 cfs  
Q100 =7.18 cfs

Lot 3

Regrade this area

Ex. Pond

100-yr WS=1324.08

RESERVE A

20' Utility Easement

KANSAS TURNPIKE AUTHORITY (I-35)

Resize the opening of the ex. weir structure, See sheet 0.0 for detail.

Drainage Area	Acres	Post-developed			Pre-developed			Volume needs to be detained, CPV, ac-ft
		24 hr 1 yr Storm	C-factor	Water Volume (ac-ft)	24 hr 1 yr Storm	C-factor	Water Volume (ac-ft)	
Entire Site	19.90	2.88	0.66	3.15	2.88	0.26	1.24	1.91

Extended Detention Time for 1-yr storm = 32.1 hrs (through 4" orifice)

Calculation for water quality volume (WQv=P*Rv*A/12)		Soil Group 'B'	
85th percentile storm event (1.2 inches), P=	1.2	Calculation of Rv	
Total area, A=	19.90 acres	Coeff. for undisturbed	0.05
Rainfall Coef, Rv=	0.74 cf	Coeff. for turf	0.25
Required Vol. for Water	1.47 ac-ft	Coeff. for impervious area	0.95
		Weighted, Rv=	0.74

Elevation	Area		Storage (ac-ft)	Cumulative Storage (ac-ft)
	Sq Ft	Acres		
1343	13400	0.31		
1344	17952	0.41	0.36	0.360
1345	22632	0.52	0.47	0.826
1346	27440	0.63	0.57	1.400
1347	32376	0.74	0.69	2.087
1348	37440	0.86	0.80	2.888
1349	42632	0.98	0.92	3.808
1350	47952	1.10	1.04	4.847
1351	53400	1.23	1.16	6.011

Min. Pool Elev. for Water Quality=	1346.11
Pool Elev. of Ex. Storage Pond=	1351.00

Block #	Acres	Tc	C5	I5	C100	I100	Q5	Q100
Proposed Lot	27.19	47 min	0.33	2.54	0.63	4.30	22.79cfs	73.66cfs
Adjacent ROW	2.91	47 min	0.33	2.54	0.63	4.30	2.44cfs	7.88cfs
Total Runoff=							25.23cfs	81.54cfs

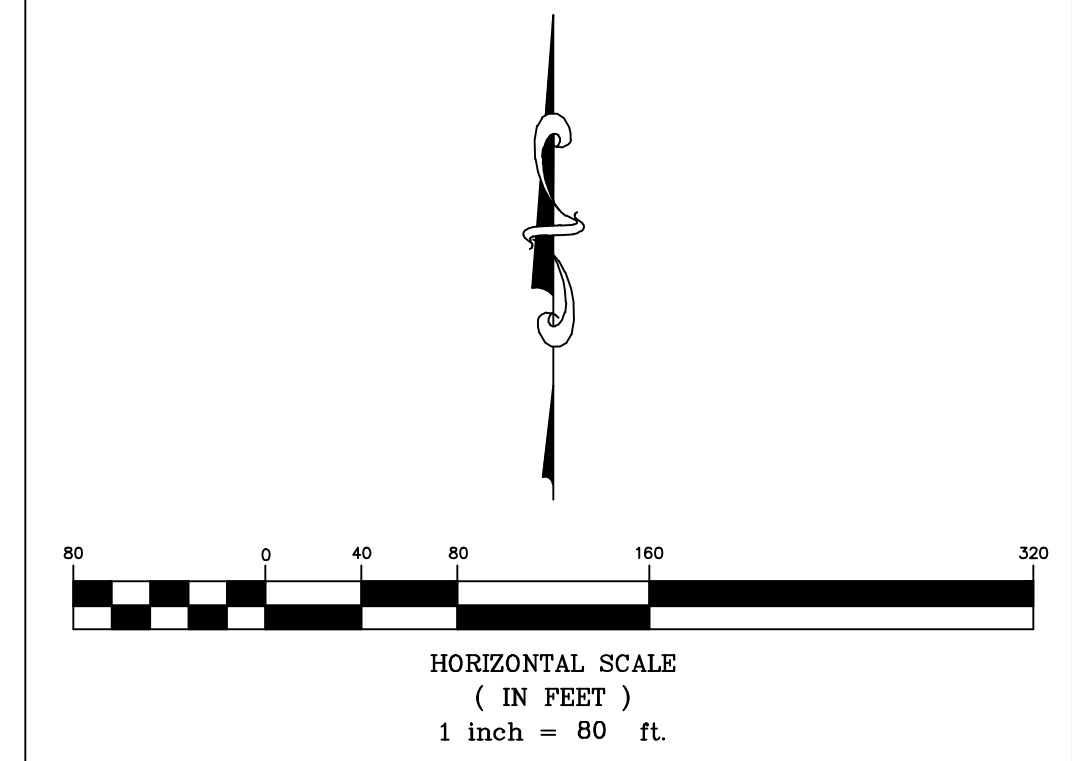
Block #	Acres	Tc	C5	I5	C100	I100	Q5	Q100
Proposed Lot	27.19	18 min	0.69	4.20	0.80	6.80	78.80cfs	147.91cfs
Adjacent ROW	2.91	18 min	0.69	4.20	0.80	6.80	8.43cfs	15.83cfs
Total Runoff=							87.23cfs	163.74cfs
Detention Pond Runoff=							24.26cfs	80.37cfs



- LEGEND
- Cedar Tree
  - Fire Hydrant
  - Light Pole
  - Manhole
  - Power Pole
  - Sign
  - Tree
  - Water Valve
  - Kansas Gas Service Line
  - Sanitary Sewer
  - Fence
  - 1/2" Rebar (found) PEC LS #65
  - 1/2" Rebar (found)
  - 5/8" Rebar (found)
  - 3/4" Iron Pipe (found)
  - 3/4" Pinched Iron Pipe (found)

OWNER: DAVIS-MOORE INC.  
AREA: 28.1 acres (On Site)

Note: Chateau will drain to the pond in reserve A and an easement for drainage will be dedicated by separate instrument.



**Drainage Improvement Plan**

PROJECT NUMBER

KEM NO. 10152	FILE	DATE 02/25/2011
DESIGN KM	DRAWN NS	REVISED