

Lindebak, Scott

From: Lindebak, Scott
Sent: Tuesday, November 03, 2009 4:39 PM
To: tkurth@baughmanco.com; bwooten@baughmanco.com
Cc: Carrier, Christopher; Pajor, Joseph; Weber, Jim; Taylor, Paul
Subject: Dugan West Kellogg Commercial Addition
Attachments: Correspondence.pdf

Sensitivity: Private

Trevor/Brent:

In addition to comment five outlined in the City's October 1, 2009 email memo for Dugan West Kellogg Commercial, the discharge from the proposed detention pond shall not exceed the following criteria:

2- year runoff rates: 0.17 cfs/ac

5-year runoff rates: 0.34 cfs/ac

The HEC-HMS model was updated to include more frequent storm events. The prior email is attached for your reference.

Please let me know if you have any questions.

Thanks!

Scott C. Lindebak, P.E., CFM
Storm Water Engineer
City of Wichita, Kansas

Street	STA	10 year	50 year	100 year	500 year
Kellogg (DS)	12883.12	2374.53	4078.72	4860.45	6558.93
Pawnee (DS)	18662.39	2374.53	4078.72	4860.45	6558.93
upstream, Pawnee	25313.67	661.63	1192.76	1440.89	1952.16

		Q/Acre-10	Q/Acre-50	Q/Acre-100	Q/Acre - 500	
Kellogg (DS)	12883.12	0.49	0.83	0.99	1.34	cfs/acre
Pawnee (DS)	18662.39	0.57	0.98	1.16	1.57	cfs/acre
upstream, Pawnee	25313.67	0.60	1.09	1.31	1.78	cfs/acre

DA (acres)

4885	(US of Kellogg)
4178	
1099	

Kellogg (DS of bridge) 11836.73

storm event- yr	pre- cfs	increase cfs	post- cfs
2	817.1	144.5	961.6
5	1678	233.1	1911.1
10	2374.53	325.27	2699.8
50	4078.72	516.58	4595.3
100	4860.45	689.15	5549.6
500	6558.93	693.47	7252.4

Pre		
Q/Acre (2)	0.17	cfs/acre
Q/Acre (5)	0.34	cfs/acre
Q/Acre (10)	0.49	cfs/acre
Q/Acre (50)	0.83	cfs/acre
Q/Acre (100)	0.99	cfs/acre
Q/Acre (500)	1.34	cfs/acre

Post		
Q/Acre (2)	0.20	cfs/acre
Q/Acre (5)	0.39	cfs/acre
Q/Acre (10)	0.55	cfs/acre
Q/Acre (50)	0.94	cfs/acre
Q/Acre (100)	1.14	cfs/acre
Q/Acre (500)	1.48	cfs/acre

Caltskin Creek Future Flows Comparison

River Station	Storm Event	Q Existing (cfs)	W.S. Elevation Existing (ft)	Top Width Existing (ft)	Q Increase Future (cfs)	Elevation Increase Future (ft)	Top Width Increase Future (ft)	Description
19001.35	2	748.2	1330.23	750.06	162.4	0.17	27	South of Pawnee Bridge
	5	1524	1331.05	863.46	279.7	0.2	39.33	
	10	2141.85	1331.54	948.11	378.75	0.24	22.1	
	50	3699.72	1332.38	1035.7	626.68	0.31	25.83	
	100	4435.68	1332.79	1070.5	814.42	0.41	74.6	
500	5969.42	1333.63	1364.5	887.68	0.29	111.73		
7966.48	2	783	1315.64	519.91	114	0.22	85.47	West of 119th Street, North Fork Confluence
	5	1657.1	1317.15	1738.17	222.8	0.36	292.41	
	10	2405.01	1318.21	2390.24	307.49	0.31	177.48	
	50	4178.41	1321.21	3074.63	455.49	0.71	57.48	
	100	4985.85	1322.36	3217.36	646.45	0.76	216.22	
500	6803.98	1324.29	3735.51	736.32	0.82	107.03		
4731.27	2	1629.2	1313.89	122.3	239.3	0.4	209.96	At Valley High Ct.
	5	3694.8	1316.1	558.67	541.2	0.45	19.07	
	10	5481.32	1317.35	745.04	670.38	0.68	112.74	
	50	11112.27	1321.01	1209.75	1772.13	0.73	43.39	
	100	14096.7	1322.19	1273.77	2283.4	0.76	22.82	
500	20565.29	1324.12	1333.14	3200.71	0.82	40.67		
3117.74	2	1628.9	1313.27	195.39	239	0.34	15.3	West of Hidden Valley Drive
	5	3716.4	1315.22	332.51	543.6	0.44	79.12	
	10	5514.5	1316.35	505.09	1271.2	0.75	22.96	
	50	11170.45	1320.27	758.22	1783.45	0.73	21.52	
	100	14172.94	1321.45	792.02	2280.16	0.74	21.54	
500	20660.78	1323.26	931.92	3189.72	0.83	56.42		
14911.41	2	817.1	1323.72	734.97	144.5	0.18	73.88	Upstream of Kellogg St. Bridge
	5	1678	1324.67	965.52	233.1	0.22	16.11	
	10	2374.53	1325.3	1004.73	325.27	0.27	38.66	
	50	4078.72	1326.57	1134.45	516.58	0.3	51.19	
	100	4860.45	1326.96	1204.86	689.15	0.4	48.89	
500	6558.93	1328.71	1484.9	693.47	-0.25	-23.38		
11836.73	2	817.1	1319.17	861.57	144.5	0.16	121.06	Downstream of Kellogg St. Bridge
	5	1678	1319.91	1222.52	233.1	0.14	35.1	
	10	2374.53	1320.34	1336.15	325.27	0.17	19.49	
	50	4078.72	1321.72	1801.99	516.58	0.55	202.59	
	100	4860.45	1322.64	2107.51	689.15	0.69	73.38	
500	6558.93	1324.42	2487.53	693.47	0.79	78.12		

Street	STA	10 year	50 year	100 year	500 year	DA (acres)
Kellogg (D5 12883.12		2374.53	4078.72	4860.45	6558.93	4910
Pawnee (D: 18662.39		2374.53	4078.72	4860.45	6558.93	4178
upstream, 25313.67		661.63	1192.76	1440.89	1952.16	1099

Q/Acre-10	Q/Acre-50	Q/Acre-100	Q/Acre - 500	
0.48	0.83	0.99	1.34	cfs/acre
0.57	0.98	1.16	1.57	cfs/acre
0.60	1.09	1.31	1.78	cfs/acre
<i>sp</i>	<u>1.09</u>	<u>1.31</u>		
	<i>.9</i>	<i>1.0</i>		

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