

**Appendix 5-20:
Period-of-Record Inflow
and Outflow Flow-Weighted
Mean Concentrations, Inflow
Areal Loading Rates and k Values
for the STAs**

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Table 1. Period-of-record (POR) inflow and outflow flow-weighted mean concentrations for water quality variables monitored in the Stormwater Treatment Area (STA) flow-ways and treatment cells. All concentrations express as mg/L. The period-of-record for each STA includes the water years presented in Appendix 5-19.

STA	CELL	Alk		Ca		Cl		SRP		DOP	
		Inflow	Outflow	Inflow	Outflow	Inflow	Outflow	Inflow	Outflow	Inflow	Outflow
STA-1E	CELL 3	207.8	203.1	85.9	78.6	108.1	89.4	0.059	0.028	0.013	0.011
STA-1E	CELL 4N	203.1	149.2	78.6	56.9	89.4	89.9	0.028	0.004	0.011	0.008
STA-1E	CELL 4S	168.9	131.0	65.5	50.6	93.2	94.2	0.006	0.005	0.008	0.010
STA-1E	CELL 5	222.3	238.1	79.4	82.5	85.2	91.1	0.298	0.209	0.023	0.017
STA-1E	CELL 6	250.5	230.1	85.1	78.0	104.6	108.0	0.171	0.111	0.018	0.018
STA-1E	CELL 7	270.1	259.6	90.3	87.0	111.2	114.5	0.165	0.142	0.018	0.019
STA-1W	CELL 1	264.4	253.7	90.2	86.5	139.3	135.2	0.087	0.078	0.009	0.009
STA-1W	CELL 2	246.3	251.1	84.6	85.7	130.7	144.4	0.089	0.054	0.008	0.010
STA-1W	CELL 3	247.9	266.9	83.6	87.9	137.5	144.0	0.060	0.048	0.009	0.008
STA-1W	CELL 4	251.1	225.2	85.7	75.8	144.4	138.8	0.054	0.039	0.010	0.008
STA-1W	CELL 5	238.0	226.6	83.5	76.9	128.5	124.6	0.084	0.053	0.008	0.010
STA-2	CELL 1	339.1	294.1	100.3	79.2	167.4	191.5	0.065	0.006	0.007	0.002
STA-2	CELL 2	339.2	316.3	103.8	95.5	157.3	148.0	0.076	0.022	0.006	0.006
STA-2	CELL 3	331.2	268.1	100.4	75.9	157.9	156.1	0.067	0.006	0.007	0.003
STA-3/4	CELL 1A	304.0	270.2	106.5	99.8	99.7	86.2	0.065	0.025	0.010	0.013
STA-3/4	CELL 1B	269.8	259.7	99.6	87.8	86.1	87.7	0.025	0.004	0.013	0.007
STA-3/4	CELL 2A	246.0	246.8	100.9	100.8	82.5	83.0	0.054	0.014	0.011	0.009
STA-3/4	CELL 2B	246.3	196.7	100.0	74.3	83.8	79.8	0.014	0.004	0.009	0.005
STA-3/4	CELL 3	256.6	223.1	105.6	84.1	85.5	71.8	0.057	0.005	0.012	0.008
STA-5	North FW	162.3	144.1	64.5	55.5	55.3	46.7	0.090	0.075	0.014	0.011
STA-5	South FW	189.1	170.1	73.6	65.9	45.5	43.6	0.123	0.097	0.012	0.010
STA-6	CELL 3	265.7	239.4	99.9	90.3	79.0	66.8	0.011	0.010	0.008	0.006
STA-6	CELL 5	272.9	228.8	102.3	85.3	81.4	66.9	0.016	0.005	0.009	0.005

Table 1. Continued.

STA	CELL	PP		TP		NH4		NOx		TN	
		Inflow	Outflow	Inflow	Outflow	Inflow	Outflow	Inflow	Outflow	Inflow	Outflow
STA-1E	CELL 3	0.070	0.024	0.143	0.063	0.119	0.021	0.109	0.016	1.546	1.285
STA-1E	CELL 4N	0.024	0.019	0.063	0.032	0.021	0.019	0.016	0.012	1.285	1.338
STA-1E	CELL 4S	0.027	0.007	0.041	0.023	0.088	0.021	0.025	0.024	1.462	1.270
STA-1E	CELL 5	-0.039	0.038	0.283	0.265	0.066	0.111	0.169	0.018	2.366	2.310
STA-1E	CELL 6	0.033	0.031	0.221	0.161	0.129	0.079	0.100	0.203	2.681	2.899
STA-1E	CELL 7	0.079	0.028	0.262	0.189	0.384	0.143	0.682	0.161	4.082	2.954
STA-1W	CELL 1	0.065	0.057	0.161	0.145	0.593	0.256	0.679	0.521	3.857	3.349
STA-1W	CELL 2	0.082	0.077	0.179	0.141	0.518	0.126	0.723	0.594	3.894	3.119
STA-1W	CELL 3	0.039	0.020	0.108	0.076	0.128	0.086	0.389	0.117	2.971	2.270
STA-1W	CELL 4	0.077	0.026	0.141	0.074	0.126	0.074	0.594	0.359	3.119	2.575
STA-1W	CELL 5	0.063	0.039	0.155	0.103	0.444	0.141	0.708	0.382	3.719	2.794
STA-2	CELL 1	0.023	0.007	0.095	0.014	0.395	0.030	0.674	0.010	3.367	2.100
STA-2	CELL 2	0.030	0.004	0.112	0.033	0.383	0.046	0.787	0.168	3.623	2.412
STA-2	CELL 3	0.016	0.008	0.090	0.017	0.308	0.045	0.792	0.228	3.455	2.462
STA-3/4	CELL 1A	0.065	0.023	0.141	0.060	0.226	0.085	0.987	0.148	3.547	2.220
STA-3/4	CELL 1B	0.023	0.010	0.060	0.021	0.085	0.038	0.148	0.036	2.217	1.913
STA-3/4	CELL 2A	0.057	0.013	0.123	0.036	0.124	0.089	1.977	0.262	4.360	2.159
STA-3/4	CELL 2B	0.014	0.018	0.037	0.028	0.091	0.065	0.257	0.067	2.180	2.005
STA-3/4	CELL 3	0.035	0.010	0.105	0.023	0.112	0.055	1.849	0.025	4.282	1.982
STA-5	North FW	0.073	0.017	0.177	0.103	0.211	0.065	0.082	0.019	1.743	1.465
STA-5	South FW	0.102	0.002	0.237	0.110	0.174	0.042	0.062	0.013	1.645	1.346
STA-6	CELL 3	0.036	0.007	0.056	0.023	0.132	0.024	0.160	0.024	1.880	1.400
STA-6	CELL 5	0.061	0.008	0.086	0.018	0.194	0.043	0.191	0.007	1.995	1.486

Alk = alkalinity; Ca = calcium; Cl = chloride; SRP = soluble reactive phosphorus; DOP = dissolved organic phosphorus; TP = total phosphorus; NH4 = ammonia-nitrogen; NOx = nitrite+nitrate-nitrogen; TN = total nitrogen.

Table 2. Period-of-record inflow loading rates for water quality variables monitored in the STA flow-ways and treatment cells. All loading rates express as g/m²-yr. The POR for each STA includes the water years presented in Appendix 5-19.

STA	CELL	Alk	Ca	Cl	SRP	DOP	PP	TP	NH4	NOx	TN
STA-1E	CELL 3	2,795	1,155	1,454	0.796	0.181	0.946	1.922	1.60	1.46	20.78
STA-1E	CELL 4N	4,021	1,557	1,769	0.560	0.220	0.473	1.253	0.41	0.31	25.44
STA-1E	CELL 4S	3,881	1,504	2,142	0.135	0.190	0.625	0.950	2.02	0.58	33.60
STA-1E	CELL 5	4,941	1,764	1,893	6.631	0.518	-0.862	6.287	1.47	3.76	52.59
STA-1E	CELL 6	3,938	1,337	1,644	2.681	0.283	0.511	3.475	2.03	1.57	42.14
STA-1E	CELL 7	5,668	1,894	2,334	3.469	0.368	1.664	5.501	8.05	14.32	85.64
STA-1W	CELL 1	8,256	2,816	4,350	2.706	0.294	2.038	5.038	18.84	21.54	122.45
STA-1W	CELL 2	6,088	2,092	3,229	2.201	0.204	2.032	4.436	16.60	23.16	124.84
STA-1W	CELL 3	8,844	2,981	4,907	2.152	0.332	1.381	3.865	4.70	14.36	109.58
STA-1W	CELL 4	17,110	5,840	9,838	3.659	0.675	5.275	9.610	12.69	59.84	314.31
STA-1W	CELL 5	4,375	1,535	2,362	1.549	0.142	1.153	2.844	5.36	7.43	39.07
STA-2	CELL 1	3,439	1,018	1,698	0.657	0.072	0.231	0.959	4.01	6.83	34.16
STA-2	CELL 2	4,943	1,512	2,291	1.191	0.090	0.465	1.745	5.59	11.47	52.79
STA-2	CELL 3	4,767	1,445	2,273	1.042	0.100	0.241	1.383	4.43	11.39	49.73
STA-3/4	CELL 1A	4,491	1,573	1,472	0.966	0.155	0.959	2.080	3.33	14.57	52.39
STA-3/4	CELL 1B	3,985	1,472	1,271	0.364	0.191	0.333	0.888	1.25	2.18	32.74
STA-3/4	CELL 2A	2,954	1,212	991	0.650	0.137	0.685	1.471	1.48	23.73	52.35
STA-3/4	CELL 2B	2,859	1,161	973	0.160	0.102	0.162	0.425	1.06	2.98	25.31
STA-3/4	CELL 3	1,239	510	413	0.317	0.067	0.195	0.580	0.54	8.93	20.68
STA-5	North FW	2,129	846	725	1.174	0.190	0.953	2.317	2.77	1.08	22.85
STA-5	South FW	1,925	750	463	1.254	0.123	1.040	2.417	1.77	0.63	16.74
STA-6	CELL 3	5,826	2,191	1,732	0.243	0.183	0.793	1.218	2.89	3.50	41.24
STA-6	CELL 5	2,140	802	638	0.127	0.068	0.481	0.676	1.52	1.50	15.64

Alk = alkalinity; Ca = calcium; Cl = chloride; SRP = soluble reactive phosphorus; DOP = dissolved organic phosphorus; TP = total phosphorus; NH4 = ammonia-nitrogen; NOx = nitrite+nitrate-nitrogen; TN = total nitrogen.

Table 3. Period-of-record k values (first-order removal coefficients) for water quality variables monitored in the STA flow-ways and treatment cells. All k values express as m/yr. The POR for each STA includes the water years presented in Appendix 5-19.

STA	CELL	Alk	Ca	Cl	SRP	DOP	PP	TP	NH4	NOx	TN
STA-1E	CELL 3	0.41	1.56	3.35	12.99	3.30	18.96	14.31	30.92	34.08	3.25
STA-1E	CELL 4N	6.53	6.86	-0.14	41.49	5.94	4.52	14.64	1.34	4.99	-0.86
STA-1E	CELL 4S	5.43	5.52	-0.22	1.50	-3.90	28.57	12.96	30.15	0.86	3.01
STA-1E	CELL 5	-1.18	-0.65	-1.16	6.10	5.52		1.15	-8.86	38.92	0.42
STA-1E	CELL 6	1.53	1.57	-0.59	7.70	-0.51	0.93	5.76	8.84	-12.79	-1.42
STA-1E	CELL 7	0.87	0.81	-0.63	3.34	-1.47	22.54	7.16	21.56	31.61	7.06
STA-1W	CELL 1	1.20	1.23	0.86	2.97	-0.19	4.04	3.20	15.79	4.97	2.65
STA-1W	CELL 2	-0.29	-0.19	-1.48	7.47	-2.71	0.88	3.56	11.26	1.56	1.77
STA-1W	CELL 3	-2.44	-1.66	-1.53	7.47	6.28	21.55	11.72	8.74	26.37	5.90
STA-1W	CELL 4	4.77	5.39	1.74	13.92	7.39	47.73	28.55	13.10	12.26	4.67
STA-1W	CELL 5	0.72	1.20	0.46	6.70	-4.26	6.86	5.97	8.56	3.82	1.77
STA-2	CELL 1	1.39	2.31	-1.32	23.21	13.81	11.87	18.33	25.08	40.92	4.61
STA-2	CELL 2	0.93	1.12	0.81	18.38	-1.66	28.59	18.16	28.18	20.61	5.43
STA-2	CELL 3	2.80	3.71	0.15	35.00	10.52	10.86	24.59	25.49	16.51	4.49
STA-3/4	CELL 1A	1.86	1.02	2.30	15.32	-3.34	16.75	13.42	15.37	29.94	7.41
STA-3/4	CELL 1B	0.63	2.10	-0.31	28.41	10.97	12.96	17.10	13.51	23.50	2.44
STA-3/4	CELL 2A	-0.04	0.01	-0.07	16.78	3.57	17.98	15.22	4.05	25.15	8.75
STA-3/4	CELL 2B	2.92	3.87	0.63	14.75	7.03	-3.52	3.51	4.46	17.46	1.09
STA-3/4	CELL 3	0.66	1.07	0.82	15.09	2.74	7.30	9.13	3.30	20.19	3.61
STA-5	North FW	1.46	1.85	2.09	2.17	2.94	17.85	6.58	14.39	18.28	2.13
STA-5	South FW	0.87	0.92	0.35	1.94	1.22	31.83	6.35	11.68	12.57	1.65
STA-6	CELL 3	1.91	1.85	3.07	2.34	6.62	29.09	16.22	31.63	34.77	5.42
STA-6	CELL 5	1.24	1.28	1.37	7.65	4.26	14.09	10.83	10.63	23.29	2.07

Alk = alkalinity; Ca = calcium; Cl = chloride; SRP = soluble reactive phosphorus; DOP = dissolved organic phosphorus; TP = total phosphorus; NH4 = ammonia-nitrogen; NOx = nitrite+nitrate-nitrogen; TN = total nitrogen.