



Department of Natural Resources and Parks Wastewater Treatment Division

May 12, 2017

West Point Treatment Plant Restoration Routine Effluent Quality Monitoring Data

This file contains a compilation of King County's influent and effluent water quality monitoring data that is being collected at the West Point wastewater treatment plant. This file contains data for parameters that are routinely collected on a frequent basis (i.e., daily, weekly, monthly) in the West Point influent and effluent, as required by the National Pollutant Discharge Elimination System (NPDES) permit for West Point. These frequently measured parameters include flows, rainfall, total suspended solids, biochemical oxygen demand, pH, residual chlorine, fecal coliform bacteria, and nutrients. The attached files contain updated draft data collected under the NPDES permit for the April 2017 monthly reporting period and partial data through May 9, 2017.

While repairs have been underway to repair the treatment processes that were damaged in the flooding on February 9, 2017, the reduced level of treatment has resulted in changes in the concentrations of certain parameters that are not being removed at the same level of performance that occurs under normal West Point operations. The following notes provide information on the current status of treatment-affected parameters:

- During the early part of April, repairs to West Point progressed but removal of total suspended solids and biochemical oxygen demand was still reduced. For the month of April, monthly average effluent limitations for total suspended solids and biochemical oxygen demand were not met.
- The generally higher suspended solids concentrations resulted in additional demand for chlorine disinfection and dechlorination process chemical additions. Additionally, the flows that continued to be variable with storm events, and variable solids concentrations, made it challenging to closely control the chemical additions. In April, the effluent exceeded the monthly average limit for total residual chlorine as well as exceeding the maximum daily chlorine limit on a single day, primarily as a result of higher levels in the first weeks of the month.
- By the end of April, steady progress on plant repairs resulted in the secondary treatment process being restored to full production. Removal of suspended solids and biochemical oxygen demand improved substantially in the latter part of April and early May, as well as control of the chlorine disinfection process.

The "Preliminary Draft Data" watermark refers to analyses completed and validated by King County; however, submittal of the final data to Ecology is pending completion of all sampling and analysis within these monthly reporting periods.

If you have questions about this document, contact Jeff Lafer at 206-477-6315, or email him at jeff.lafer@kingcounty.gov.

Alternative Formats Available
206-477-5371, TTY Relay: 711

Day of the Month	Influent						Effluent							
	Weekly	Weekly	Daily	Daily	Daily	Daily	CONT MEASURE	Daily COMP	Daily CALC	Monthly CALC	Daily COMP	Daily CALC	Monthly CALC	
	COMP	CALC	COMP	CALC	COMP	CALC	MGD	MG/L	LBS/DAY	% REMOVAL	MG/L	LBS/DAY	% REMOVAL	
	MG/L	LBS/DAY	MG/L	LBS/DAY	MG/L	LBS/DAY								
05/01/17	204	141383	184	127522	189	130987	83.10	23	15,940	87.5	48	33,267	74.6	
05/02/17	233	158372	200	135942	196	133223	81.50	21	14,274	89.5	43	29,228	78.1	
05/03/17	188	214225	166	189156	182	207388	136.63	24	27,348	85.5	42	47,859	76.9	
05/04/17	223	219980	187	184467	224	220966	118.28	22	21,702	88.2	41	40,445	81.7	
05/05/17					241	287301	142.94				21	25,035	91.3	
05/06/17					215	212572	118.55				21	20,763	90.2	
05/07/17					200	140779	84.40				18	12,670	91.0	
05/08/17					250	174473	83.68				19	13,260	92.4	
05/09/17					358	238858	80.00				23	15,346	93.6	
05/10/17														
05/11/17														
05/12/17														
05/13/17														
05/14/17														
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05/30/17														
05/31/17														

Frequency	Effluent											Emerg. Bypass Hours	Emerg. Bypass MG
	CONT MEASURE	CONT MEASURE	CONT MEASURE	Daily Grab	Monthly COMP	Monthly CALC	Monthly COMP	Monthly MEASURE	Monthly COMP	Monthly MEASURE	Monthly MEASURE		
	STANDARD UNITS	STANDARD UNITS	µg/L	#/100 ML	MG/L-N	LBS/DAY	MG/L-N	MG/L-N	MG/L-P	MG/L-P	MG/L-P		
Day of the Month	pH, Daily Minimum	pH, Daily Maximum	CHLORINE RESIDUAL (after dechlor.)	FECAL COLIFORM	TOTAL AMMONIA	TOTAL AMMONIA	NITRATE-NITRITE	TOTAL KJELDAHL NITROGEN	TOTAL PHOSPHOROUS	ORTHO-PHOSPHATE	Duration (Hours)	Total Volume (MG)	Rainfall (Inch)
05/01/17	6.4	6.5	60	0	12.9	8,940				1.37			0.03
05/02/17	6.4	6.5	60	0	12.5	8,496							0.13
05/03/17	6.3	6.5	110	40									0.25
05/04/17	6.3	6.5	80	0									0.29
05/05/17	6.1	6.6	280	0									0.01
05/06/17	6.1	7.4	70	20									0.09
05/07/17	6.4	6.5	150	0	12.8	9,010		16.5	2.13	1.66			0.00
05/08/17	6.4	6.6	110	0									0.00
05/09/17	6.3	6.6	110	0									0.00
05/10/17													
05/11/17													
05/12/17													
05/13/17													
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05/15/17													
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05/28/17													
05/29/17													
05/30/17													
05/31/17													

Day of the Month	Influent							Effluent						
	Weekly	Weekly	Daily	Daily	Daily	Daily	CONT	Daily	Daily	Monthly	Daily	Daily	Monthly	
	COMP	CALC	COMP	CALC	COMP	CALC	MEASURE	COMP	CALC	CALC	COMP	CALC	CALC	
	MG/L	LBS/DAY	MG/L	LBS/DAY	MG/L	LBS/DAY	MGD	MG/L	LBS/DAY	%	MG/L	LBS/DAY	%	
Units							REMOVAL							
	BOD 5-DAY	BOD 5-DAY	CBOD5	CBOD5	TSS	TSS	FLOW	CBOD 5-DAY	CBOD 5-DAY	CBOD 5-DAY	TSS	TSS	TSS	
04/01/17	154	124493	142	114792	129	104283	96.93	60	48,504	57.7	42	33,953	67.4	
04/02/17	198	175767	153	135820	194	172216	106.44	69	61,252	54.9	54	47,936	72.2	
04/03/17	187	146632	162	127029	142	111346	94.02	70	54,889	56.8	44	34,502	69.0	
04/04/17	182	139007	144	109984	154	117622	91.58	74	56,520	48.6	51	38,953	66.9	
04/05/17	119	162952	111	151997	152	208140	164.19	74	101,332	33.3	94	128,718	38.2	
04/06/17	134	156626	123	143769	140	163639	140.15	58	67,793	52.8	73	85,326	47.9	
04/07/17	126	152435	116	140337	122	147596	145.06	76	91,945	34.5	77	93,155	36.9	
04/08/17	121	124356	107	109968	116	119218	123.23	56	57,553	47.7	81	83,247	30.2	
04/09/17	155	120363	132	102503	166	128905	93.11	56	43,486	57.6	83	64,453	50.0	
04/10/17	129	149792	94	109151	78	90572	139.23	86	99,861	8.5	112	130,052	-43.6	
04/11/17	196	155781	148	117631	166	131937	95.30	54	42,919	63.5	60	47,688	63.9	
04/12/17	107	166045	92	142768	142	220359	186.07	77	119,490	16.3	112	173,804	21.1	
04/13/17	119	161285	96	130112	106	143665	162.51	71	96,229	26.0	76	103,005	28.3	
04/14/17	166	146003	141	124015	150	131930	105.46	60	52,772	57.4	77	67,724	48.7	
04/15/17	175	137412	152	119352	158	124063	94.15	50	39,261	67.1	74	58,106	53.2	
04/16/17	159	120247	130	98315	158	119491	90.68	54	40,839	58.5	71	53,695	55.1	
04/17/17	190	140633	183	135452	168	124349	88.75	63	46,631	65.6	66	48,852	60.7	
04/18/17	189	149666	154	121950	190	150458	94.95	56	44,345	63.6	79	62,559	58.4	
04/19/17	163	149468	136	124710	212	194400	109.95	81	74,276	40.4	112	102,702	47.2	
04/20/17	155	166228	120	128693	150	160866	128.59	65	69,709	45.8	111	119,041	26.0	
04/21/17			165	118675	176	126587	86.24	51	36,681	69.1	50	35,962	71.6	
04/22/17	138	101879	132	97450	159	117383	88.52	110	81,208	16.7	128	94,497	19.5	
04/23/17	177	151884	142	121851	152	130432	102.89	118	101,256	16.9	127	108,979	16.4	
04/24/17	172	129777	148	111669	168	126759	90.47	56	42,253	62.2	65	49,044	61.3	
04/25/17	207	142530	200	137710	182	125316	82.56	40	27,542	80.0	22	15,148	87.9	
04/26/17	182	156342	156	134007	214	183830	103.00	28	24,053	82.1	36	30,925	83.2	
04/27/17	205	165909	184	148914	170	137583	97.04	15	12,140	91.8	29	23,470	82.9	
04/28/17	177	122936	182	126409	180	125020	83.28	16	11,113	91.2	37	25,699	79.4	
04/29/17	192	126565	166	109426	184	121292	79.04	16	10,547	90.4	39	25,709	78.8	
04/30/17	226	151918	206	138474	187	125702	80.60	19	12,772	90.8	30	20,166	84.0	

Frequency Type Units Day of the Month	Effluent											Emerg. Bypass Hours	Emerg. Bypass MG	Duration (Hours)	Total Volume (MG)	Rainfall (Inch)	
	CONT MEASURE STANDARDS UNITS	CONT MEASURE STANDARDS UNITS	CONT MEASURE µg/L	Daily Grab #/100 ML	Monthly COMP MG/L-N	Monthly CALC LBS/DAY	Monthly COMP MG/L-N	Monthly MEASURE MG/L-N	Monthly COMP MG/L-P	Monthly MEASURE MG/L-P	Monthly MEASURE MG/L-P						
	pH, Daily Minimum	pH, Daily Maximum	CHLORINE RESIDUAL (after dechlor.)	FECAL COLIFORM	TOTAL AMMONIA	TOTAL AMMONIA	NITRATE-NITRITE	TOTAL KJELDAHL NITROGEN	TOTAL PHOSPHOROUS	ORTHO-PHOSPHATE							
04/01/17	6.7	7.0	40	0													0.00
04/02/17	6.7	6.9	20	800	15.2	13,493		24.2	3.45	1.64							0.09
04/03/17	6.7	6.8	50	20													0.00
04/04/17	5.9	7.6	80	40													0.09
04/05/17	6.7	7.3	80	1,700													0.46
04/06/17	6.6	7.1	40	70													0.12
04/07/17	6.6	7.3	90	230													0.46
04/08/17	6.6	6.8	80	20													0.02
04/09/17	6.5	6.7	100	0	12.0	9,318		20.6	3.62	2.33							0.01
04/10/17	6.3	6.8	220	800													0.40
04/11/17	6.4	6.6	110	0													0.01
04/12/17	6.2	7.2	140	900													0.71
04/13/17	6.4	7.4	150	20													0.05
04/14/17	6.4	6.7	240	40													0.00
04/15/17	6.4	7.6	80	40													0.00
04/16/17	6.4	6.7	80	0	8.6	6,504		18.2	2.91	1.71							0.00
04/17/17	6.3	6.6	210	0													0.01
04/18/17	6.3	6.5	70	40													0.11
04/19/17	6.3	6.6	320	0													0.37
04/20/17	6.2	6.7	630	130	7.2	7,722											0.00
04/21/17	6.5	6.9	260	0													0.00
04/22/17	6.4	6.8	210	20													0.15
04/23/17	6.5	6.9	420	20	13.9	11,928		23.8	2.85	1.28							0.19
04/24/17	6.7	7.0	230	20			2.15										0.01
04/25/17	6.6	6.8	90	0													0.01
04/26/17	6.4	6.7	130	20													0.08
04/27/17	6.4	6.7	50	0													0.04
04/28/17	6.5	6.6	20	0													0.00
04/29/17	6.5	7.5	80	0													0.02
04/30/17	6.4	6.7	120	0	12.9	8,671		20.7	2.78	1.75							0.01