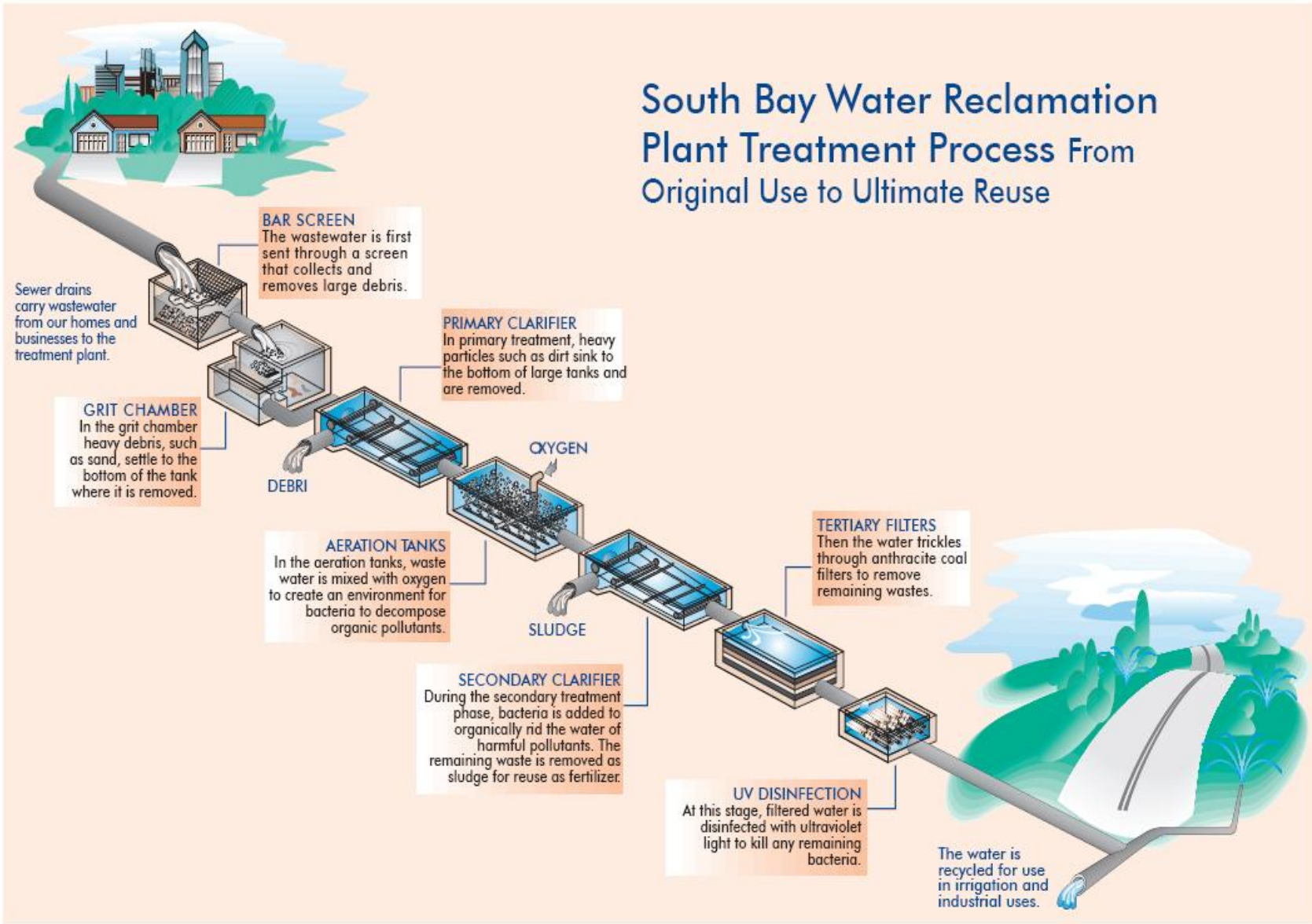


III. Plant Operations Summary

- A. Flows
- B. Rain Days
- C. Chemical Report
- D. Facilities Out of Service Report

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South Bay Water Reclamation Plant Treatment Process From Original Use to Ultimate Reuse



Overview of the Wastewater Treatment Process

Please see the treatment process flow diagram on the preceding page.

Debris, large particulates, and sand are removed in the headworks by mechanical bar-screens and aerated grit removal systems. The process then consists of classical primary sedimentation and secondary treatment by activated sludge. While secondary effluent may be discharged directly to the ocean outfall the usual process directs the treated secondary effluent to reclamation and beneficial reuse by tertiary treatment and disinfection. Even if not beneficially reused, most of the flow goes through tertiary treatment. Tertiary treatment consists of filtration through Anthracite Coal Beds followed by disinfection with high intensity UV (ultraviolet) light. At this stage the "reclaimed" water meets State Title 22 full body contact requirements.

Untreated wastewater (Influent) enters the plant's Headworks from the South Bay region. In the Headworks, the wastewater passes through large, rake-like Bar Screens to remove solid debris and floating material (called "Rags") such as cloth, wood, and plastic material. These "rags" are dewatered and trucked to a landfill.

Following the headworks, the screened wastewater then passes through aerated Grit Chambers where heavier solids such as sand, gravel, coffee grounds and eggshells settle out and are removed. The grit is then dewatered and taken to landfills.

Wastewater then flows into the Primary Sedimentation Basins where the sedimentation process starts. Solids sink to the bottom of the tanks and "scum" (grease and cooking oils) float to the surface. "Raw Sludge" which has settled to the bottom of the basins is returned to the sewer system and sent to the Point Loma Wastewater Treatment Plant. Similarly, the scum is skimmed from the surface and returned to the sewer system.

The wastewater then enters Anoxic Zone Chambers that are oxygen depleted. The wastewater mixes with bacteria ("Bugs") that eat soluble organic material. The wastewater then flows into Aeration Basins where diffused air is pumped into the water. Here, the bugs begin to ingest and digest the organic solids while increasing in number and density.

Wastewater flows from the Aeration Basin into the Secondary Clarifiers where the bacteria and digested solids settle to the bottom as "Secondary Sludge." Some of this Sludge and any remaining scum are removed and returned to the sewer system for treatment at the Point Loma Wastewater Treatment Plant. The remaining sludge is returned to the Anoxic Basins and again mixed with the wastewater.

The water, now treated to a Secondary Treatment level, can either be discharged into the ocean through the South Bay Ocean Outfall or moved on to Tertiary Treatment for reclaimed water applications and beneficial reuse⁵.

In Tertiary Treatment, the treated wastewater (effluent) flows into Anthracite Coal Beds where it is filtered of remaining solids as it passes through the coal medium. The filtered water then passes through chambers where it is disinfected through exposure to high-intensity UV (ultraviolet) light.

⁵ The Recycled Water Users Summary Report as described in Permit No. 2000-203 is submitted separately.

SBWRP Annual Monitoring Report
2012 Flow Report

(Million Gallons / Day)

Mon	Influent	Outfall	Secondary Effluent	South Metro Interceptor Return	Recycled Production	Distributed Recycled	Dilution Water Added Recycled	Recycled Plant Internal use
01	7.95	4.59	2.37	1.29	5.20	1.96	.00	1.02
02	8.01	5.11	3.00	1.13	4.68	1.72	.00	.84
03	8.26	5.15	3.09	1.13	4.77	1.89	.00	.82
04	8.25	4.25	2.95	1.30	4.85	2.65	.00	.93
05	8.25	2.68	2.05	1.22	5.78	4.29	.00	.85
06	8.01	1.42	.74	1.28	6.82	5.22	.00	.92
07	8.03	1.00	.60	1.48	6.83	5.51	.00	.93
08	8.16	1.22	.06	1.42	7.55	5.50	.00	.89
09	8.00	1.64	.00	1.38	7.50	4.96	.00	.91
10	7.86	2.54	.10	1.35	7.19	3.91	.00	.83
11	7.80	3.78	1.25	1.33	5.89	2.62	.00	.74
12	7.86	5.81	2.06	1.38	5.01	.60	.00	.66
avg	8.04	3.27	1.52	1.31	6.01	3.40	.00	.86

(Million Gallons / Month)

Mon	Influent	Outfall	Secondary Effluent	South Metro Interceptor Return	Recycled Production	Distributed Recycled	Dilution Water Added Recycled	Recycled Plant Internal use
01	246.37	142.30	73.57	39.89	161.13	60.89	.00	31.52
02	232.34	148.23	86.94	32.77	135.64	49.86	.00	24.44
03	255.96	159.77	95.88	35.07	147.95	58.57	.00	25.50
04	247.63	127.44	88.53	38.85	145.35	79.57	.00	27.92
05	255.73	83.23	63.59	37.78	179.08	133.13	.00	26.28
06	240.34	42.53	22.10	38.46	204.51	156.46	.00	27.61
07	248.99	30.92	18.69	45.83	211.67	170.66	.00	28.86
08	253.09	37.84	2.00	44.08	234.10	170.64	.00	27.70
09	239.93	49.24	.00	41.36	225.02	148.67	.00	27.23
10	243.73	78.89	2.97	41.98	223.03	121.36	.01	25.81
11	234.04	113.33	37.37	39.75	176.66	78.50	.02	22.27
12	243.51	180.13	63.96	42.78	155.36	18.60	.00	20.56
avg	245.14	99.49	46.30	39.88	183.29	103.91	.00	26.31
sum	2941.66	1193.85	555.60	478.60	2199.50	1246.91	.03	315.70

A. Flows

Effluent flows (mgd) 2012

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1	6.66	4.03	6.76	3.81	6.11	1.75	0.92	0.20	0.17	2.47	1.04	6.30	
2	5.46	3.94	7.15	4.37	5.90	1.52	2.10	1.81	1.42	1.77	1.04	6.24	
3	7.21	3.84	6.83	4.86	2.82	1.42	2.51	0.43	1.83	1.79	2.21	5.63	
4	5.68	6.54	7.04	4.00	2.38	1.40	2.54	0.15	2.06	1.55	4.96	6.52	
5	6.31	5.17	7.09	3.92	1.91	1.56	2.87	0.10	1.90	1.39	2.63	4.72	
6	4.29	3.75	7.10	3.93	4.37	1.63	1.96	0.09	1.74	1.36	2.31	5.55	
7	2.88	6.85	6.78	3.89	5.53	1.52	2.05	0.09	1.62	2.72	3.25	4.75	
8	6.19	4.25	7.00	3.48	4.97	0.63	2.51	0.11	1.43	1.71	1.36	6.74	
9	5.98	3.24	4.17	4.94	2.91	0.77	1.74	1.67	1.68	1.61	5.55	6.13	
10	3.67	2.98	2.80	3.95	2.96	1.06	0.98	0.85	1.24	1.69	6.58	6.73	
11	3.34	2.45	2.80	3.49	2.98	1.41	0.17	0.10	0.63	1.63	5.19	3.96	
12	3.81	5.85	3.70	2.58	2.93	1.48	0.17	3.61	1.87	1.84	5.76	2.87	
13	1.21	7.12	3.94	2.85	2.64	2.50	1.28	1.43	2.10	4.92	5.58	2.73	
14	1.42	3.13	2.88	3.45	2.49	1.39	1.31	1.34	1.97	6.21	5.08	6.42	
15	1.60	5.05	2.37	6.81	2.19	1.65	0.95	0.45	2.67	2.96	6.40	6.37	
16	1.58	7.07	1.99	6.09	1.99	1.58	0.17	0.12	4.00	1.84	3.23	6.00	
17	1.88	6.86	1.74	2.38	2.02	1.34	0.52	0.12	2.32	1.29	2.13	6.56	
18	1.99	6.92	1.89	2.40	2.00	1.21	1.15	0.95	1.63	1.64	5.42	6.55	
19	6.08	6.70	4.18	3.46	1.95	1.76	0.61	4.77	1.71	1.10	2.94	6.57	
20	2.63	6.67	7.01	2.99	1.88	1.87	0.11	1.67	0.54	2.29	3.21	6.25	
21	5.27	6.37	5.04	3.05	1.86	1.21	0.11	1.31	0.14	5.91	2.75	6.48	
22	6.11	7.21	6.88	4.13	1.84	0.90	0.15	2.10	0.14	2.53	3.82	6.34	
23	4.39	3.65	5.34	3.44	1.82	1.01	0.12	1.21	3.17	6.68	2.54	6.56	
24	6.83	4.87	6.78	6.54	1.76	2.00	2.69	1.32	1.47	2.55	3.77	6.10	
25	5.64	6.64	7.19	3.37	1.60	1.82	0.11	1.27	2.76	1.27	6.08	5.85	
26	5.08	3.30	7.18	6.05	1.42	1.52	0.10	1.29	0.26	1.43	3.96	5.53	
27	6.92	2.63	7.19	4.46	1.31	1.36	0.11	2.98	1.14	2.54	3.45	6.25	
28	4.93	4.69	4.89	6.93	1.80	1.37	0.12	1.71	1.16	5.88	2.24	6.62	
29	5.62	6.46	6.01	7.20	1.76	0.99	0.14	1.83	0.46	2.34	3.33	6.53	
30	6.82		4.19	4.62	1.76	0.90	0.10	1.85	4.01	2.97	5.52	5.89	
31	4.82		3.86		3.37		0.55	0.91		1.01		4.39	Annual Summary
Average	4.52	5.11	5.15	4.25	2.68	1.42	1.00	1.22	1.64	2.54	3.78	5.81	3.26
Minimum	1.21	2.45	1.74	2.38	1.31	0.63	0.10	0.09	0.14	1.01	1.04	2.73	0.09
Maximum	7.21	7.21	7.19	7.20	6.11	2.50	2.87	4.77	4.01	6.68	6.58	6.74	7.21
Total	142.30	148.23	159.77	127.44	83.23	42.53	30.92	37.84	49.24	78.89	113.33	180.13	1,194

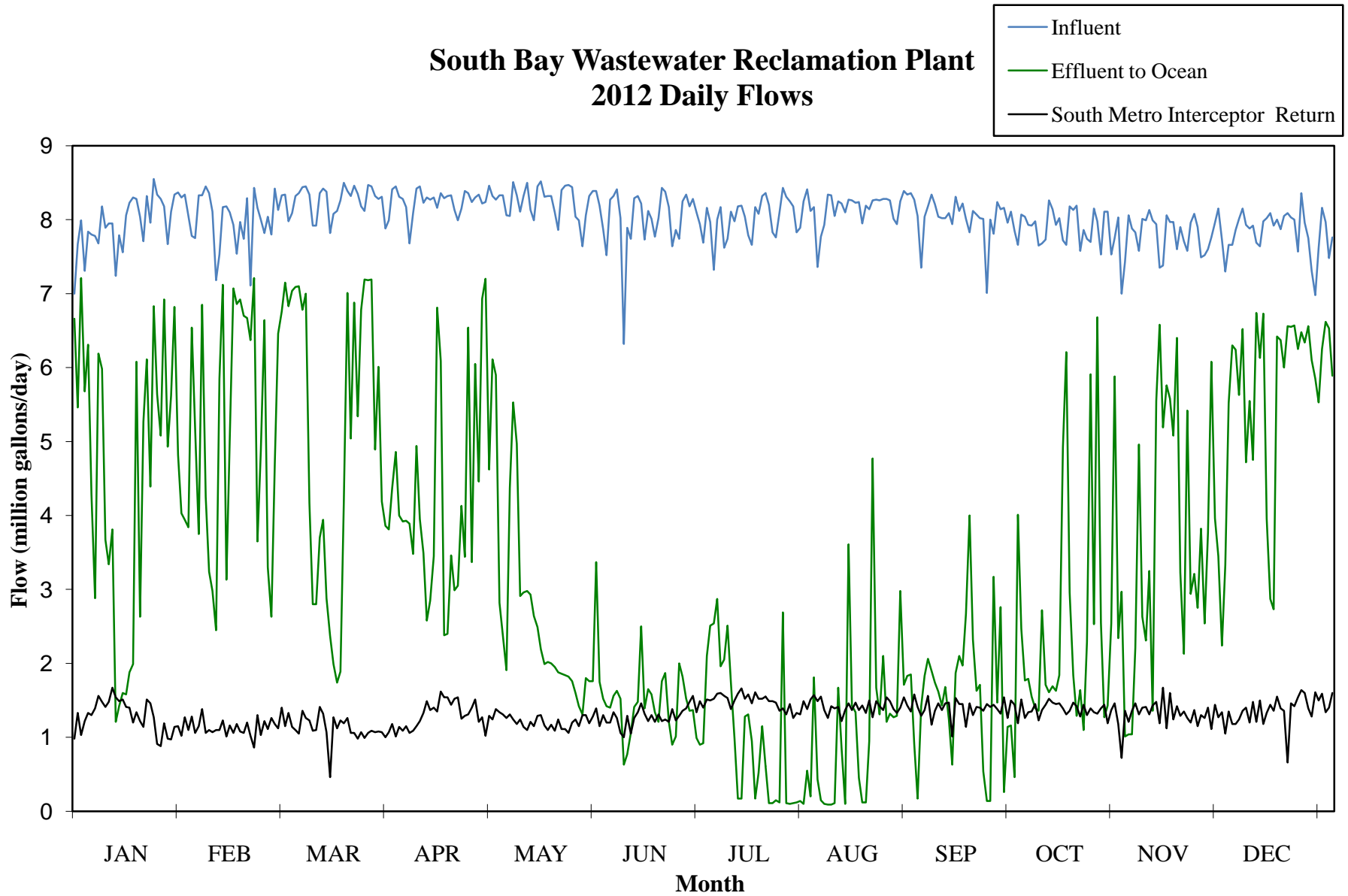
Influent Flows (mgd) 2012

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1	7.00	8.30	8.33	7.99	8.32	8.19	7.69	8.12	8.05	8.07	8.06	7.66	
2	7.67	8.34	8.34	8.41	8.27	7.87	8.16	8.17	7.35	8.04	7.88	7.86	
3	7.99	8.05	7.98	8.45	8.33	7.52	7.97	7.36	8.04	7.93	7.83	8.01	
4	7.31	7.78	8.09	8.31	8.33	8.27	7.32	7.77	8.18	7.92	7.58	8.15	
5	7.84	7.75	8.32	8.28	8.06	8.32	8.00	7.93	8.34	7.98	8.01	7.93	
6	7.80	8.33	8.36	8.17	8.05	8.41	8.17	8.34	8.21	7.65	7.99	7.88	
7	7.78	8.33	8.44	7.68	8.51	8.02	7.62	8.33	8.04	7.68	8.13	7.92	
8	7.68	8.45	8.45	8.09	8.33	6.32	7.74	8.05	8.02	7.73	7.99	7.69	
9	8.18	8.36	8.34	8.42	8.11	7.89	8.11	8.25	8.02	8.26	7.94	7.64	
10	7.89	8.11	7.92	8.45	8.32	7.74	7.98	8.22	8.09	8.14	7.35	7.98	
11	7.95	7.18	7.92	8.23	8.50	8.29	8.18	8.10	7.94	7.93	7.38	8.02	
12	7.95	7.53	8.36	8.30	8.13	8.32	8.19	8.27	8.31	8.02	8.06	8.09	
13	7.24	8.17	8.42	8.27	7.99	8.22	8.04	8.26	8.12	7.72	7.97	7.92	
14	7.79	8.18	8.38	8.30	8.45	7.73	7.79	8.23	8.22	7.66	7.97	8.00	
15	7.56	8.10	7.82	8.16	8.52	8.12	7.66	8.24	8.01	8.18	7.60	7.87	
16	8.06	7.93	8.08	8.36	8.31	8.01	8.17	7.95	7.83	8.13	7.90	8.05	
17	7.29	5.79	8.12	8.29	8.32	7.77	8.08	8.19	8.12	8.19	7.71	8.09	
18	8.30	7.97	8.26	8.32	8.32	8.02	8.32	8.14	8.07	7.58	7.58	8.03	
19	8.28	7.74	8.50	8.33	8.10	8.43	8.36	8.26	8.02	7.86	7.96	8.00	
20	8.04	8.29	8.39	8.13	7.86	8.38	8.20	8.27	8.01	7.74	8.08	7.57	
21	7.71	7.11	8.32	7.99	8.40	8.17	7.83	8.26	7.01	7.70	7.90	8.36	
22	8.32	8.43	8.46	8.15	8.46	7.64	7.76	8.28	8.00	8.15	7.49	7.96	
23	7.96	8.16	8.35	8.39	8.47	7.86	8.10	8.28	7.81	7.98	7.52	7.75	
24	8.55	8.00	8.18	8.36	8.44	7.74	8.43	8.26	8.24	7.53	7.60	7.31	
25	8.34	7.82	8.12	8.24	8.04	8.25	8.31	8.01	8.14	8.11	7.76	6.98	
26	8.28	8.04	8.47	8.30	7.99	8.34	8.25	7.94	8.16	8.11	7.96	7.62	
27	8.18	7.80	8.45	8.34	7.64	8.18	8.18	8.25	7.96	7.53	8.15	8.16	
28	7.67	8.42	8.32	8.22	8.06	8.28	7.83	8.39	8.11	7.75	7.73	7.97	
29	8.11	8.13	8.28	8.24	8.32	8.10	7.89	8.34	7.85	8.03	7.30	7.48	
30	8.34		8.31	8.46	8.39	7.94	8.25	8.36	7.66	7.00	7.66	7.76	
31	8.37		7.88		8.39		8.41	8.27		7.43		7.80	Annual Summary
Average	7.92	7.95	8.26	8.25	8.25	8.01	8.03	8.16	8.00	7.86	7.80	7.86	8.03
Minimum	7.00	5.79	7.82	7.68	7.64	6.32	7.32	7.36	7.01	7.00	7.30	6.98	5.79
Maximum	8.55	8.45	8.50	8.46	8.52	8.43	8.43	8.39	8.34	8.26	8.15	8.36	8.55
Total	245.43	230.59	255.96	247.63	255.73	240.34	248.99	253.09	239.93	243.73	234.04	243.51	2,939

Blended Sludge Discharge to South Metro Interceptor (mgd) 2012

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1	0.98	1.02	1.40	1.07	1.24	1.15	1.40	1.51	1.41	1.51	1.21	1.18	
2	1.33	1.27	1.15	1.18	1.38	1.30	1.51	1.57	1.29	1.26	1.36	1.18	
3	1.03	1.10	1.33	1.01	1.34	1.20	1.50	1.49	1.37	1.34	1.46	1.24	
4	1.22	1.28	1.14	1.14	1.31	1.20	1.52	1.55	1.56	1.35	1.31	1.36	
5	1.33	1.06	1.10	1.09	1.26	1.34	1.59	1.37	1.17	1.45	1.40	1.40	
6	1.30	1.15	1.05	1.15	1.31	1.26	1.60	1.26	1.36	1.23	1.41	1.20	
7	1.39	1.38	1.36	1.06	1.24	1.06	1.56	1.42	1.46	1.37	1.31	1.48	
8	1.56	1.06	1.26	1.09	1.18	1.00	1.53	1.39	1.37	1.44	1.43	1.21	
9	1.48	1.10	1.23	1.15	1.24	1.29	1.38	1.41	1.46	1.52	1.48	1.50	
10	1.41	1.07	1.09	1.22	1.14	1.05	1.50	1.22	1.47	1.47	1.19	1.18	
11	1.48	1.10	1.10	1.33	1.10	1.26	1.59	1.37	1.01	1.45	1.67	1.33	
12	1.67	1.10	1.41	1.49	1.21	1.34	1.66	1.46	1.53	1.46	1.12	1.44	
13	1.54	1.23	1.32	1.37	1.15	1.46	1.52	1.37	1.45	1.39	1.60	1.36	
14	1.49	1.01	1.07	1.40	1.29	1.32	1.58	1.47	1.45	1.31	1.24	1.55	
15	1.51	1.16	0.46	1.35	1.30	1.22	1.46	1.37	1.14	1.36	1.42	1.39	
16	1.41	1.06	1.27	1.62	1.16	1.30	1.61	1.43	1.46	1.47	1.29	1.36	
17	1.40	1.18	1.12	1.54	1.10	1.21	1.52	1.33	1.30	1.42	1.35	0.66	
18	1.20	1.08	1.23	1.54	1.17	1.31	1.52	1.50	1.41	1.28	1.26	1.46	
19	1.34	1.06	1.19	1.44	1.09	1.22	1.55	1.27	1.40	1.44	1.20	1.42	
20	1.22	1.20	1.26	1.52	1.24	1.24	1.49	1.49	1.36	1.30	1.37	1.54	
21	1.14	1.02	1.06	1.54	1.11	1.21	1.49	1.42	1.45	1.39	1.15	1.64	
22	1.51	0.86	1.06	1.25	1.11	1.38	1.47	1.37	1.41	1.34	1.30	1.60	
23	1.46	1.30	0.98	1.29	1.06	1.23	1.36	1.54	1.44	1.32	1.26	1.39	
24	1.27	1.03	1.07	1.31	1.20	1.29	1.39	1.49	1.38	1.39	1.40	1.28	
25	0.91	1.22	0.99	1.40	1.24	1.36	1.31	1.38	1.32	1.44	1.11	1.61	
26	0.88	1.11	1.06	1.51	1.15	1.39	1.45	1.33	1.54	1.19	1.44	1.50	
27	1.19	1.26	1.09	1.21	1.30	1.48	1.26	1.40	1.26	1.37	1.27	1.59	
28	0.98	1.18	1.07	1.27	1.30	1.56	1.33	1.54	1.50	1.46	1.34	1.34	
29	0.97	1.12	1.08	1.02	1.19	1.34	1.31	1.43	1.44	1.18	1.05	1.40	
30	1.14		1.07	1.29	1.28	1.49	1.49	1.35	1.19	0.72	1.35	1.60	
31	1.15		1.00		1.39		1.38	1.58		1.36		1.39	Annual Summary
Average	1.29	1.13	1.13	1.30	1.22	1.28	1.48	1.42	1.38	1.35	1.33	1.38	1.31
Minimum	0.88	0.86	0.46	1.01	1.06	1.00	1.26	1.22	1.01	0.72	1.05	0.66	0.46
Maximum	1.67	1.38	1.41	1.62	1.39	1.56	1.66	1.58	1.56	1.52	1.67	1.64	1.67
Total	39.89	32.77	35.07	38.85	37.78	38.46	45.83	44.08	41.36	41.98	39.75	42.78	479

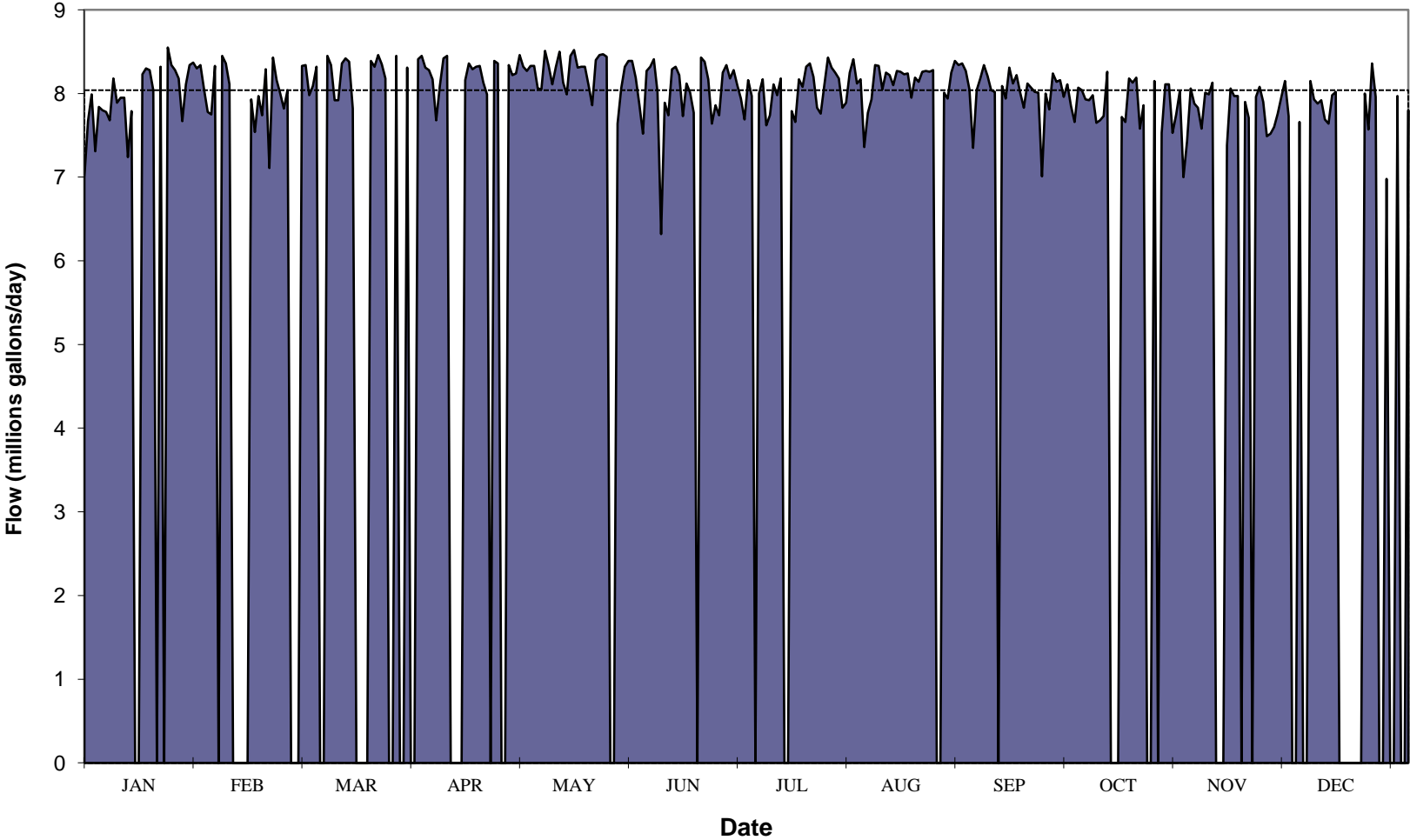
South Bay Wastewater Reclamation Plant 2012 Daily Flows



South Bay Water Reclamation Plant Influent Dry Weather Flows (mgd) 2012

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1	7.00	8.30	8.33		8.32	8.19	7.69	8.12	8.05	8.07	8.06	7.66	
2	7.67	8.34	8.34	8.41	8.27	7.87	8.16	8.17	7.35	8.04	7.88		
3	7.99	8.05	7.98	8.45	8.33	7.52	7.97	7.36	8.04	7.93	7.83		
4	7.31	7.78	8.09	8.31	8.33	8.27		7.77	8.18	7.92	7.58	8.15	
5	7.84	7.75	8.32	8.28	8.06	8.32	8.00	7.93	8.34	7.98	8.01	7.93	
6	7.80	8.33		8.17	8.05	8.41	8.17	8.34	8.21	7.65	7.99	7.88	
7	7.78			7.68	8.51	8.02	7.62	8.33	8.04	7.68	8.13	7.92	
8	7.68	8.45	8.45	8.09	8.33	6.32	7.74	8.05	8.02	7.73		7.69	
9	8.18	8.36	8.34	8.42	8.11	7.89	8.11	8.25		8.26		7.64	
10	7.89	8.11	7.92	8.45	8.32	7.74	7.98	8.22	8.09			7.98	
11	7.95		7.92		8.50	8.29	8.18	8.10	7.94		7.38	8.02	
12	7.95		8.36		8.13	8.32		8.27	8.31		8.06		
13	7.24		8.42		7.99	8.22		8.26	8.12	7.72	7.97		
14	7.79		8.38		8.45	7.73	7.79	8.23	8.22	7.66	7.97		
15			7.82	8.16	8.52	8.12	7.66	8.24	8.01	8.18			
16		7.93		8.36	8.31	8.01	8.17	7.95	7.83	8.13	7.90		
17	8.23	7.54		8.29	8.32	7.77	8.08	8.19	8.12	8.19	7.71		
18	8.30	7.97		8.32	8.32		8.32	8.14	8.07	7.58			
19	8.28	7.74		8.33	8.10	8.43	8.36	8.26	8.02	7.86	7.96	8.00	
20	8.04	8.29	8.39	8.13	7.86	8.38	8.20	8.27	8.01		8.08	7.57	
21		7.11	8.32	7.99	8.40	8.17	7.83	8.26	7.01		7.90	8.36	
22	8.32	8.43	8.46		8.46	7.64	7.76	8.28	8.00	8.15	7.49	7.96	
23		8.16	8.35	8.39	8.47	7.86	8.10		7.81		7.52		
24	8.55	8.00	8.18	8.36	8.44	7.74	8.43		8.24	7.53	7.60		
25	8.34	7.82				8.25	8.31	8.01	8.14	8.11	7.76	6.98	
26	8.28	8.04				8.34	8.25	7.94	8.16	8.11	7.96		
27	8.18		8.45	8.34	7.64	8.18	8.18	8.25	7.96	7.53	8.15		
28	7.67			8.22	8.06	8.28	7.83	8.39	8.11	7.75	7.73	7.97	
29	8.11			8.24	8.32	8.10	7.89	8.34	7.85	8.03			
30	8.34		8.31	8.46	8.39	7.94	8.25	8.36	7.66	7.00			
31	8.37				8.39		8.41	8.27		7.43		7.80	Annual Summary
Average	7.97	8.03	8.26	8.27	8.27	8.01	8.05	8.16	8.00	7.85	7.85	7.84	8.05
Minimum	7.00	7.11	7.82	7.68	7.64	6.32	7.62	7.36	7.01	7.00	7.38	6.98	6.32
Maximum	8.55	8.45	8.46	8.46	8.52	8.43	8.43	8.39	8.34	8.26	8.15	8.36	8.55
Total	215	161	165	182	240	232	225	237	232	196	181	126	2391

South Bay Wastewater Reclamation Plant 2012 Daily Influent Dry Weather Flows

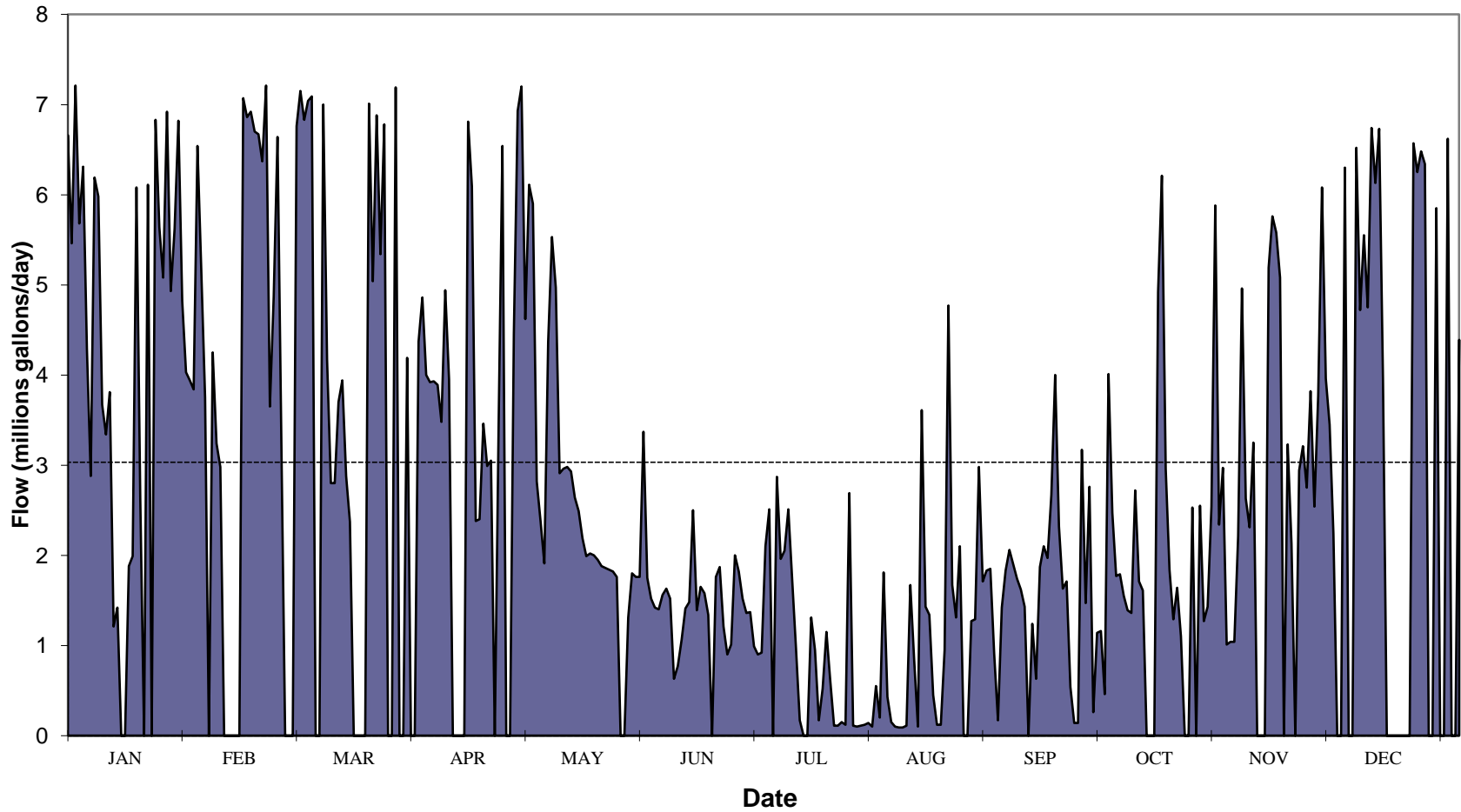


..... Flow average

South Bay Water Reclamation Plant Effluent Dry Weather Flows (mgd) 2012

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
1	6.66	4.03	6.76		6.11	1.75	0.92	0.20	0.17	2.47	1.04		6.30	
2	5.46	3.94	7.15	4.37	5.90	1.52	2.10	1.81	1.42	1.77	1.04			
3	7.21	3.84	6.83	4.86	2.82	1.42	2.51	0.43	1.83	1.79	2.21			
4	5.68	6.54	7.04	4.00	2.38	1.40		0.15	2.06	1.55	4.96		6.52	
5	6.31	5.17	7.09	3.92	1.91	1.56	2.87	0.10	1.90	1.39	2.63		4.72	
6	4.29	3.75		3.93	4.37	1.63	1.96	0.09	1.74	1.36	2.31		5.55	
7	2.88			3.89	5.53	1.52	2.05	0.09	1.62	2.72	3.25		4.75	
8	6.19	4.25	7.00	3.48	4.97	0.63	2.51	0.11	1.43	1.71			6.74	
9	5.98	3.24	4.17	4.94	2.91	0.77	1.74	1.67		1.61			6.13	
10	3.67	2.98	2.80	3.95	2.96	1.06	0.98	0.85	1.24				6.73	
11	3.34		2.80		2.98	1.41	0.17	0.10	0.63		5.19		3.96	
12	3.81		3.70		2.93	1.48		3.61	1.87		5.76			
13	1.21		3.94		2.64	2.50		1.43	2.10	4.92	5.58			
14	1.42		2.88		2.49	1.39	1.31	1.34	1.97	6.21	5.08			
15			2.37	6.81	2.19	1.65	0.95	0.45	2.67	2.96				
16		7.07		6.09	1.99	1.58	0.17	0.12	4.00	1.84	3.23			
17	1.88	6.86		2.38	2.02	1.34	0.52	0.12	2.32	1.29	2.13			
18	1.99	6.92		2.40	2.00		1.15	0.95	1.63	1.64				
19	6.08	6.70		3.46	1.95	1.76	0.61	4.77	1.71	1.10	2.94		6.57	
20	2.63	6.67	7.01	2.99	1.88	1.87	0.11	1.67	0.54		3.21		6.25	
21		6.37	5.04	3.05	1.86	1.21	0.11	1.31	0.14		2.75		6.48	
22	6.11	7.21	6.88		1.84	0.90	0.15	2.10	0.14	2.53	3.82		6.34	
23		3.65	5.34	3.44	1.82	1.01	0.12		3.17		2.54			
24	6.83	4.87	6.78	6.54	1.76	2.00	2.69		1.47	2.55	3.77			
25	5.64	6.64				1.82	0.11	1.27	2.76	1.27	6.08		5.85	
26	5.08	3.30				1.52	0.10	1.29	0.26	1.43	3.96			
27	6.92		7.19	4.46	1.31	1.36	0.11	2.98	1.14	2.54	3.45			
28	4.93			6.93	1.80	1.37	0.12	1.71	1.16	5.88	2.24		6.62	
29	5.62			7.20	1.76	0.99	0.14	1.83	0.46	2.34				
30	6.82		4.19	4.62	1.76	0.90	0.10	1.85	4.01	2.97				
31	4.82				3.37		0.55	0.91		1.01			4.39	Annual Summary
Average	4.79	5.20	5.35	4.44	2.77	1.42	0.96	1.22	1.64	2.35	3.44	5.87		3.03
Minimum	1.21	2.98	2.37	2.38	1.31	0.63	0.10	0.09	0.14	1.01	1.04	3.96		0.09
Maximum	7.21	7.21	7.19	7.20	6.11	2.50	2.87	4.77	4.01	6.21	6.08	6.74		7.21
Total	129.5	104.0	107	98	80.2	41.3	26.9	35.3	47.6	58.9	79.2	93.9		901

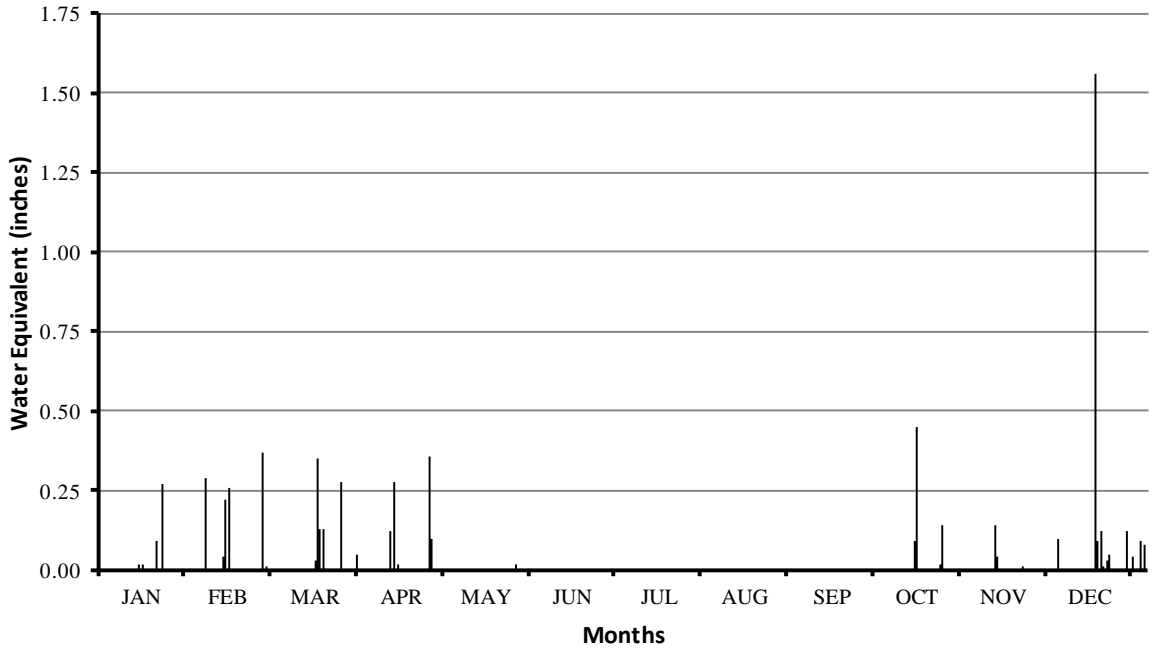
South Bay Wastewater Reclamation Plant 2012 Daily Effluent to Ocean Dry Weather Flows



..... Flow average

B. Rain Days

**San Diego Precipitation -2012
Daily Rainfall - Lindbergh Field**



San Diego Precipitation – 2012 Daily Rainfall – Lindbergh Field

Total Annual Precipitation=13.67

Maximum=1.56

Trace=0

First Quarter		Second Quarter		Third Quarter		Fourth Quarter	
Date	Rain	Date	Rain	Date	Rain	Date	Rain
15-Jan-12	0.02	1-Apr-12	T	4-Jul-12	T	10-Oct-12	T
16-Jan-12	0.02	11-Apr-12	0.12	12-Jul-12	T	11-Oct-12	0.09
21-Jan-12	0.09	12-Apr-12	T	13-Jul-12	T	12-Oct-12	0.45
23-Jan-12	0.27	13-Apr-12	0.28	23-Aug-12	T	20-Oct-12	0.02
7-Feb-12	0.29	14-Apr-12	0.02	24-Aug-12	T	21-Oct-12	0.14
11-Feb-12	T	22-Apr-12	T	9-Sep-12	T	23-Oct-12	T
12-Feb-12	T	25-Apr-12	0.36			8-Nov-12	0.17
13-Feb-12	0.04	26-Apr-12	0.1			9-Nov-12	0.04
14-Feb-12	0.22	25-May-12	0.02			10-Nov-12	T
15-Feb-12	0.26	26-May-12	7			15-Nov-12	T
27-Feb-12	0.37	18-Jun-12	T			18-Nov-12	0.01
28-Feb-12	0.01					29-Nov-12	T
29-Feb-12	T					30-Nov-12	0.1
6-Mar-12	T					2-Dec-12	T
7-Mar-12	T					3-Dec-12	T
16-Mar-12	0.03					12-Dec-12	T
17-Mar-12	0.35					13-Dec-12	1.56
18-Mar-12	0.13					14-Dec-12	0.09
19-Mar-12	0.13					15-Dec-12	0.12
25-Mar-12	0.28					16-Dec-12	0.01
26-Mar-12	T					17-Dec-12	0.03
28-Mar-12	T					18-Dec-12	0.05
29-Mar-12	T					23-Dec-12	T
31-Mar-12	0.05					24-Dec-12	0.12
						26-Dec-12	0.04
						27-Dec-12	T
						29-Dec-12	0.09
						30-Dec-12	0.08
TOTALS	2.56		7.9		0		3.21

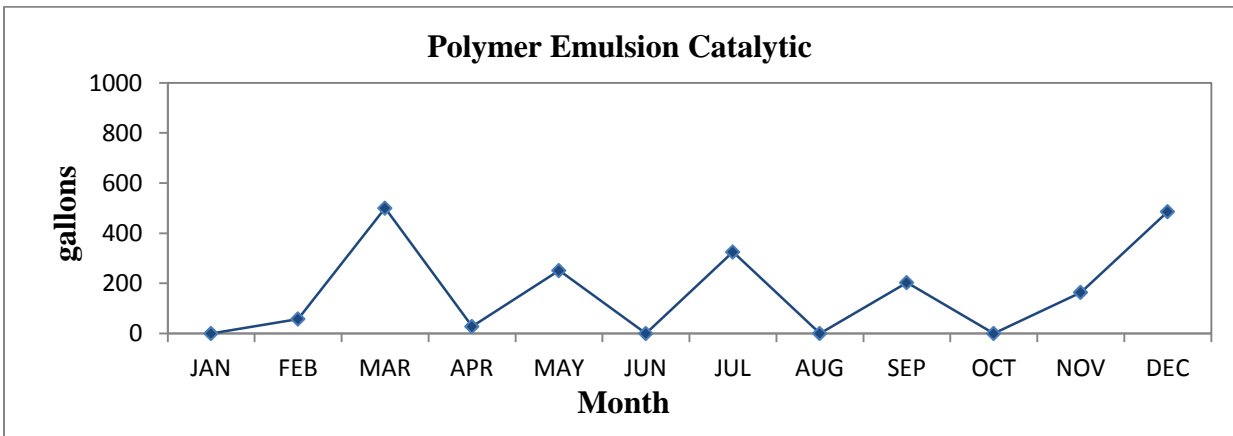
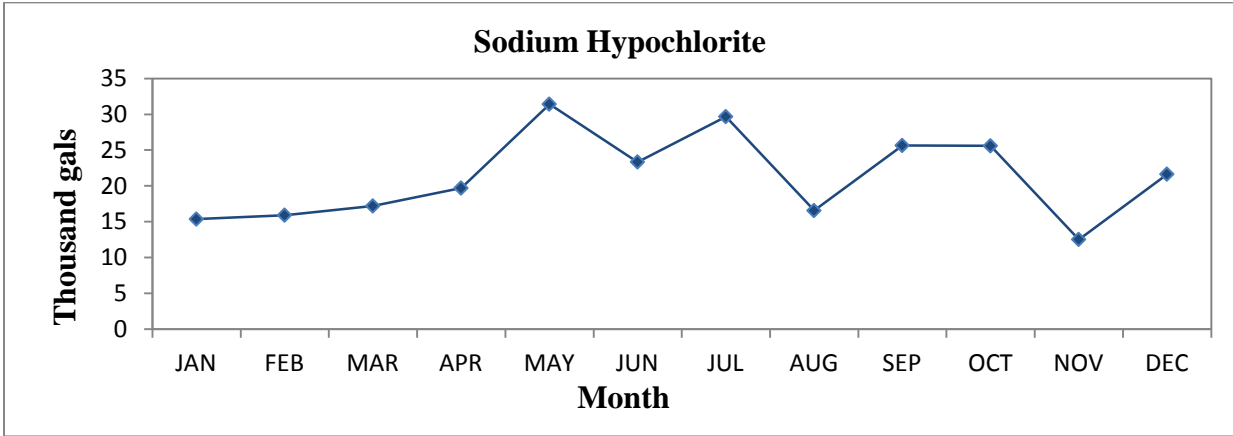
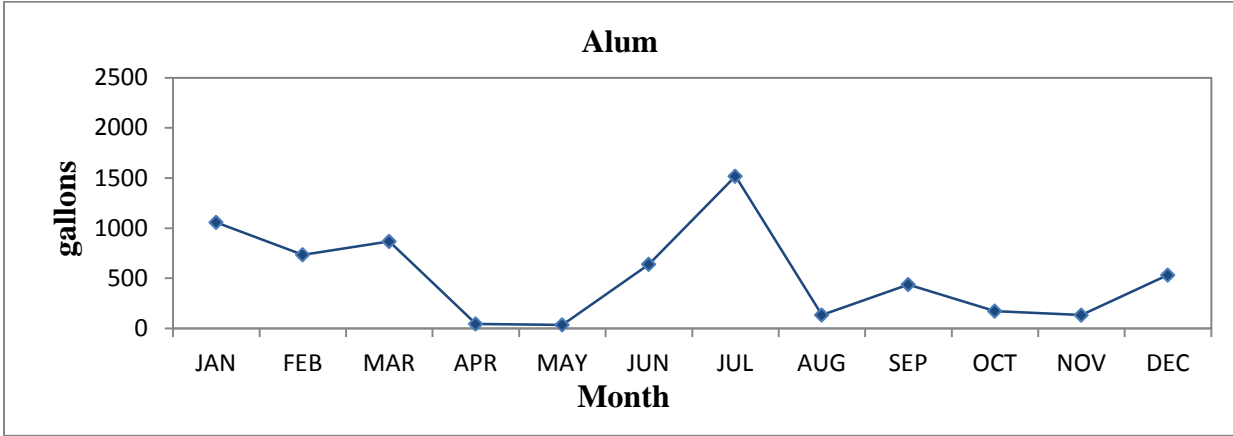
C. Chemical Report

South Bay Water Reclamation Plant - Annual Chemical Usage Report

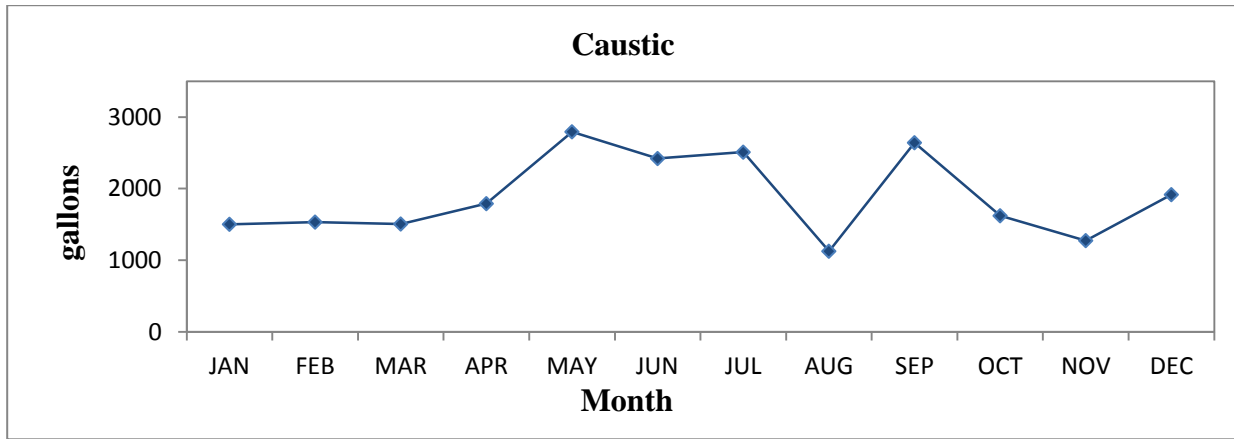
2012

Date	Hypochlorite Gallons	Alum Chloride Gallons	Polymer Catalytic Gallons	Sodium Hydroxide Gallons
Jan-12	15,363	1,058	0	1,503
Feb-12	15,914	735	58	1,534
Mar-12	17,198	868	500	1,507
Apr-12	19,698	45	28	1,791
May-12	31,414	36	251	2,794
Jun-12	23,346	640	0	2,421
Jul-12	29,672	1,518	325	2,510
Aug-12	16,556	134	0	1,127
Sep-12	25,647	438	203	2,642
Oct-12	25,590	173	0	1,622
Nov-12	12,527	133	164	1,275
Dec-12	21,639	532	486	1,917
AVG	21,214	526	168	1,887
SUM	254,564	6,310	2015	22,643

**South Bay Water Reclamation Plant
2012 Monthly Chemical Usage**



**South Bay Water Reclamation Plant
2012 Monthly Chemical Usage**



D. Facilities Out of Service Report

2012 SBWRP FACILITIES OUT OF SERVICE REPORT

FACILITIES OOS BY DATE

Barscreens

	FROM	TO	REASON
Barscreen 1	1/10/2012	1/20/2012	Screen #1 is not in service but it keeps giving us fail to park alarms.
Barscreen 1	4/17/2012	5/2/2012	Screen #1 keeps giving up a fail to park alarm.
Barscreen 1	5/9/2012	5/11/2012	Troubleshoot and repair intermittent failure to park screen
Barscreen 1	5/15/2012	6/8/2012	Troubleshoot intermittent fail to park alarm when screen is not on line and not running.
Barscreen 1	5/22/2012	5/22/2012	Screen #1 Over Torque alarm, will not clear. Troubleshoot/repair as needed.
Barscreen 1	6/14/2012	6/21/2012	#1 Barscreen stopped raking. Taken offline, placed #2 Barscreen in service. Please investigate and repair as needed.
Barscreen 1	6/14/2012	6/20/2012	#1 Barscreen stopped raking. Taken offline, placed #2 Barscreen in service. Need PT to investigate and repair as needed.
Barscreen 1	6/22/2012	6/22/2012	Please assist in removing grease buildup from screens from cleaning of pump stations.
Barscreen 1	11/1/2012	11/1/2012	Raked stopped at half staff, motor could be locked.
Barscreen 1	11/26/2012	11/26/2012	#1 Bar Screen, no Control Power.
Barscreen 2	4/23/2012	4/23/2012	BAR SCREEN #2 RAKE IS BROKEN. INVESTIGATE AND REPAIR AS NECESSARY
Barscreen 2	4/23/2012	10/23/2012	South bay, Bar screen #2, Headworks, Please press wiper to its original angle.
Barscreen 2	9/24/2012	9/25/2012	#2 Bar Screen, during PM bar screen motor brake failed to stop when initiated. Request electrician to check, troubleshoot /repair as necessary.
Barscreen 2	9/25/2012	9/25/2012	#2 Barscreen needs PT to assist electrician during brake adjustment.

Primary Sedimentation

	FROM	TO	REASON
Pri Sed Tank 1	1/25/2012	1/26/2012	Tank is filled with debris from repair and rain water. Clean out, vacuumed via vacor truck and prepare for normal operation.
Pri Sed Tank 1	8/31/2012	9/5/2012	Ring and worm gears for scum trough are worn and require replacement. Cannot properly adjust trough rotation as doing so worm gear skips on worn area

			of ring gear. Tank #2 draw off valve MOV must first be repaired prior to taking down tank #1.
Pri Sed Tank 1	10/18/2012	10/25/2012	#1 Primary Sed Tank, sprayers have no flow. Solenoid valve may not be opening. Please repair as needed.
Pri Sed Tank 2	1/4/2012	1/4/2012	Trench between Pri Sed Tank 2 and 3 deck drain plugged up, conduct CSE to clean trench and drain rain water.
Pri Sed Tank 2	1/31/2012	3/28/2012	Tank 2 Draw off valve 10-MOV-7041 keeps failing to close causing strategy to fail.
Pri Sed Tank 2	2/21/2012	2/21/2012	X CONNECT VALVE (10-MOV-7043) REPEATEDLY GEN- FAIL. PLEASE INVESTIGATE AND REPAIR AS NECESSARY
Pri Sed Tank 2	9/4/2012	9/6/2012	DRAW OFF VALVE for Primary Tank #2 10-MOV-7041 alarms fail to close every cycle. We reset it and it clears. Please investigate and repair as needed.
Pri Sed Tank 2	11/20/2012	11/21/2012	#2 Primary Sed Tank, while conducting corrective maintenance on MOV shaft gear, found scum trough barrel frozen. Request mechanical maintenance crew to dislodge barrel and freed from tilting.
Pri Sed Tank 3	2/17/2012	2/17/2012	#3 TANK DRAWOFF VALVE 10-MOV-7051 REPEATEDLY GEN- FAIL. PLEASE INVESTIGATE AND REPAIR AS NECESSARY
Pri Sed Tank 3	2/21/2012	2/21/2012	#3 DRAWOFF VALVE(10-MOV-7051) REPEATEDLY GEN - FAIL, PLEASE INVESTIGATE AND REPAIR AS NECESSARY
Pri Sed Tank 3	10/18/2012	1/31/2013	#3 Primary Sed Tank, sprayer valve solenoid not opening. Please repair as needed.
Pri Sed Tank 4	8/6/2012	8/7/2012	Spray valve 10SV540 is not working. Please investigate and repair as necessary.
Pri Sed Tank 4	10/18/2012	1/31/2013	#4 Primary Sed Tank, sprayer valve solenoid not opening. Please repair as needed.
Pri Sed Tank 5	5/7/2012	5/9/2012	Scum Sprayers not working. Solenoid says open on DCS but we have no flow.
Pri Sed Tank 5	5/9/2012	5/9/2012	Electrical Solenoid valve wiring submerged in water, request electrician to investigate and repair scum sprayer solenoid.

Aeration Basins

	FROM	TO	REASON
Aer. Basin 1	4/25/2012	4/25/2012	Please check Flow Control Valves in Aeration Basins for Job numbers (serial numbers 98045) on casing of valve to make sure for new VFD modifications.
Aer. Basin 1	10/1/2012	10/3/2012	Tank has been out of service, Clean, inspect and return to service.
Aer. Basin 1	10/11/2012	10/11/2012	Aeration basin #1 air flow meter is not indicating air

			flow, Verified by area operator that there is air going in the bubbler. Pls. calibrate air flow meter
Aer. Basin 2	4/10/2012	4/10/2012	Replace mixer Zone 1
Aer. Basin 2	4/10/2012	4/11/2012	Mixer in zone 1 operates locally but not on DCS, troubleshoot and repair.
Aer. Basin 2	5/10/2012	5/10/2012	Please calibrate DO probes for this tank.
Aer. Basin 2	5/8/2012	5/11/2012	Troubleshoot and repair SB15FCV330 failed pinion gear and key.
Aer. Basin 3	5/8/2012	5/8/2012	Need electrician to disconnect valve actuator from SB15FCV330 so valve gearing can be repaired. Please re-connect as requested by PT.
Aer. Basin 3	5/8/2012	5/17/2012	Need electrician to disconnect valve actuator from SB15FCV330 so valve gearing can be repaired. Please re-connect as requested by PT.
Aer. Basin 3	5/22/2012	5/23/2012	DO sensor for Aeration Basin 3 Zone 2 is reading low. Inspect, clean and calibrate DO sensor.
Aer. Basin 5	9/18/2012	9/19/2012	BASIN 5 D.O. PROBES - local reading not matching actual DO and/or DCS values. Please Trouble shoot.
Aer. Basin 5	10/11/2012	10/11/2012	Aeration basin #5 D/O zone#4, Is not meeting set point pls. troubleshoot.
Aer. Basin 6	5/24/2012	5/24/2012	DO sensor for Aeration Basin 6 Zone 2 is reading low. Inspect, clean, calibrate DO sensor and repair as necessary.
Aer. Basin 6	9/25/2012	10/1/2012	#6 Aeration Basin, the DO Probes in this tank are reading low. Please investigate and troubleshoot. We have cleaned the probes multiple times. We had problems last week with unit that has the readout on it. The settings were wrong according to Rudy.
Aer. Basin 6	10/23/2012	10/24/2012	Aeration Basin #6 - flow control valve not reacting based on zone 4 DO. We are not getting proper DO. James Feathers says that the programming for this tank is the same for all the other tanks. He suggests looking into the local control box.
Aer. Basin 6	11/13/2012	11/14/2012	Air Flow Control Valve is not tracking properly. When it is called to open a little it opens 100% This started happening 10/24/2012 the same day we had the power shutdowns. Please repair as needed.

Secondary Clarifiers

	FROM	TO	REASON
Sec Clar 1	1/17/2012	1/17/2012	No.1 secondary clarifier gearbox sludge drive has no power. Troubleshoot and repair.
Sec Clar 1	11/21/2012	11/21/2012	please troubleshoot slip and misalignment alarms
Sec Clar 1	8/14/2012	8/27/2012	Secondary Tank #1Scum Sequence keeps failing. Repair as needed.
Sec Clar 1	8/22/2012	8/22/2012	Need the trough to be greased
Sec Clar 1	8/28/2012	8/30/2012	Secondary tank #1 is again failing on scum sequence. Please troubleshoot and repair this problem

Sec Clar 1	11/28/2012	11/28/2012	Secondary Tank #1, please adjust tilt on scum actuator. Please see Doyle when adjusting.
Sec Clar 2	8/7/2012	8/7/2012	Secondary Sed Tank #2 Scum Collector failed. Will not reset, it appears to be no power in the actuator. Pls. check and repair as needed.
Sec Clar 3	5/17/2012	5/22/2012	Actuator needs adjustment (I&C).
Sec Clar 3	6/5/2012	6/5/2012	Secondary Tank #3 - Scum trough actuator failing on high torque. Repair as needed.
Sec Clar 4	1/31/2012	3/16/2012	Worm gear worn and shaft needs to be replaced with stainless steel material.
Sec Clar 4	2/1/2012	2/17/2012	Fabricate stainless steel shaft and associated hardware per example from SBWRP. Worm gear worn and shaft needs to be replaced with stainless steel material.
Sec Clar 4	2/2/2012	2/27/2012	Procure ring gear and associated part for scum trough ring mod.
Sec Clar 4	3/19/2012	3/28/2012	Worm gear and shaft had been replaced, align and calibrate accordingly.
Sec Clar 5	8/17/2012	8/17/2012	Secondary Tank 5 - scum trough alarming on fail up. Locally it is reading 52-54%. Pls. repair as needed.
Sec Clar 6	4/2/2012	4/2/2012	SEC CLTR 6 does not tilt enough to scum. Please adjust as needed.
Sec Clar 7	1/31/2012	2/2/2012	Display on panel not working properly, troubleshoot and repair.
Sec Clar 7	3/19/2012	3/20/2012	Worm gear and shaft had been repaired, align and calibrate accordingly.
Sec Clar 7	5/14/2012	5/14/2012	Scum Trough for Secondary #7 actuator needs to be adjusted. Not able to leave in strategy or it will stay under water.
Sec Clar 8	3/19/2012	3/20/2012	Actuator need to be adjusted. The tilt is not sufficient for scumming in either direction.
Sec Clar 9	5/1/2012	9/14/2012	Scum trough ring gear worn out causing trough to slip and seize to tilt. Modify and fabricate ring gear, South Bay will provide saddle and parts.
Sec Clar 9	5/2/2012	5/9/2012	Procure parts, CSF to modify/fabricate ring gear.
Sec Clar 9	11/1/2012	11/1/2012	Secondary Tank #9 scum trough not scumming in strategy. In manual the actuator is acting strange - when you press forward then press stop it will stop but then all of a sudden it starts going forward again. You have to press stop again to make it stop or it will continue to go all the way forward then stop.
Sec Clar 10	8/14/2012	8/27/2012	Secondary Tank #1Scum Sequence keeps failing. Repair as needed.
Sec Clar 10	8/22/2012	8/22/2012	Need the trough to be greased

Tertiary Filters

	FROM	TO	REASON
Ter Filter 1	5/15/2012	1/15/2013	Filter 1 FLE valve S25FCV213 continues to give a GEN FAIL alarm and a DEVIATION alarm. Please troubleshoot and repair.
Ter Filter 2	8/8/2012	8/15/2012	VALVE 25-MOV-225 FILTER 2 WW Valve is leaking by. Please adjust.
Ter Filter 2	8/8/2012	8/13/2012	VALVE 25-MOV-225 FILTER 2 WW Valve is leaking by. Please assist I&C in troubleshooting/repair as needed.
Ter Filter 3	9/5/2012	9/6/2012	Filter 3 FLI valve S25UAO232 has a GEN FAIL that will not clear. Please troubleshoot and repair.
Ter Filter 6	3/27/2012	3/27/2012	Remove plant growth from filter media.
Ter Filter 6	4/16/2012	4/17/2012	WW VALVE (25 MOV 265) REPEATEDLY FAIL TO CLOSE. WHICH CAUSE THE BACK WASH STRATEGY TO FAIL. PLEASE INVESTIGATE AND REPAIR AS NECESSARY.
Ter Filter 6	5/1/2012	5/1/2012	Please troubleshoot intermittent signal for filter #6
Ter Filter 6	5/2/2012	5/2/2012	Please troubleshoot bubbler system.
Ter Filter 6	5/16/2012	5/23/2012	Filter 6 FLI Valve 25MOV262 leaks by after stopping. Please adjust the stop set point.
Ter Filter 6	5/17/2012	5/21/2012	Check Filter 6 FLI Valve 25MOV262 leaks by after stopping. Repair as needed.
Ter Filter 6	6/14/2012	6/27/2012	Remove valve actuator motor from Valve 25MOV262 and install it to Valve 10FCV800 so it can put back in service as requested by Doyle Shankle. A new motor was purchased from Valve Automation & Control to replace the motor from Valve 25MOV262, lead time is 2 weeks.
Ter Filter 6	7/11/2012	7/11/2012	Valve 25 MOV 262, filter 6 FLI valve getting gen fail alarms, please repair.
Ter Filter 6	7/24/2012	8/6/2012	Waste Valve 25-MOV-265 is not seating. You can close it by hand but not by the actuator, causing Pumps to run 24/7. Please repair as needed.
Ter Filter 6	7/24/2012	8/6/2012	Waste Valve 25-MOV-265 is not seating. Electrician adjusted valve limit position but did not correct problem. Need PT to check/repair valve as needed.

FACILITIES OOS BY PROCESS

Bar Screens

	FROM	TO
Barscreen 1	1/10/2012	1/20/2012
	4/17/2012	5/2/2012
	5/9/2012	5/11/2012
	5/15/2012	6/8/2012
	5/22/2012	5/22/2012
	6/14/2012	6/21/2012
	6/14/2012	6/20/2012

	6/22/2012	6/22/2012
	11/1/2012	11/1/2012
	11/26/2012	11/26/2012
Barscreen 2	4/23/2012	4/23/2012
	4/23/2012	10/23/2012
	9/24/2012	9/25/2012
	9/25/2012	9/25/2012

Primary Sedimentation

	FROM	TO
Pri Sed Tank 1	1/25/2012	1/26/2012
	8/31/2012	9/5/2012
	10/18/2012	10/25/2012
Pri Sed Tank 2	1/4/2012	1/4/2012
	1/31/2012	3/28/2012
	2/21/2012	2/21/2012
	9/4/2012	9/6/2012
	11/20/2012	11/21/2012
Pri Sed Tank 3	2/17/2012	2/17/2012
	2/21/2012	2/21/2012
	10/18/2012	1/31/2013
Pri Sed Tank 4	8/6/2012	8/7/2012
	10/18/2012	1/31/2013
Pri Sed Tank 5	5/7/2012	5/9/2012
	5/9/2012	5/9/2012

Aeration Basins

	FROM	TO
Aer. Basin 1	4/25/2012	4/25/2012
	10/1/2012	10/3/2012
	10/11/2012	10/11/2012
Aer. Basin 2	4/10/2012	4/10/2012
	4/10/2012	4/11/2012
	5/10/2012	5/10/2012
	5/8/2012	5/11/2012
Aer. Basin 3	5/8/2012	5/8/2012
	5/8/2012	5/17/2012
	5/22/2012	5/23/2012
Aer. Basin 5	9/18/2012	9/19/2012
	10/11/2012	10/11/2012
Aer. Basin 6	5/24/2012	5/24/2012
	9/25/2012	10/1/2012
	10/23/2012	10/24/2012
	11/13/2012	11/14/2012

Secondary Clarifiers

	FROM	TO
Sec Clar 1	1/17/2012	1/17/2012
	11/21/2012	11/21/2012
	8/14/2012	8/27/2012
	8/22/2012	8/22/2012
	8/28/2012	8/30/2012
	11/28/2012	11/28/2012
Sec Clar 2	8/7/2012	8/7/2012
Sec Clar 3	5/17/2012	5/22/2012
	6/5/2012	6/5/2012
Sec Clar 4	1/31/2012	3/16/2012
	2/1/2012	2/17/2012
	2/2/2012	2/27/2012
	3/19/2012	3/28/2012
Sec Clar 5	8/17/2012	8/17/2012
Sec Clar 6	4/2/2012	4/2/2012
Sec Clar 7	1/31/2012	2/2/2012
	3/19/2012	3/20/2012
	5/14/2012	5/14/2012
Sec Clar 8	3/19/2012	3/20/2012
Sec Clar 9	5/1/2012	9/14/2012
	5/2/2012	5/9/2012
	11/1/2012	11/1/2012
Sec Clar 10	8/14/2012	8/27/2012
	8/22/2012	8/22/2012

Tertiary Filters

	FROM	TO
Ter Filter 1	5/15/2012	1/15/2013
Ter Filter 2	8/8/2012	8/15/2012
	8/8/2012	8/13/2012
Ter Filter 3	9/5/2012	9/6/2012
Ter Filter 6	3/27/2012	3/27/2012
	4/16/2012	4/17/2012
	5/1/2012	5/1/2012
	5/2/2012	5/2/2012
	5/16/2012	5/23/2012
	5/17/2012	5/21/2012
	6/14/2012	6/27/2012
	7/11/2012	7/11/2012
	7/24/2012	8/6/2012
	7/24/2012	8/6/2012

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