Monthly Operating Report

April: 2020

So. Sangamon Water Commission

May 18th, 2020

SSWC

9199 Buckhart Rd Rochester IL 62563

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EXECUTIVE SUMMARY

Safety. Safety is the number one priority at South Sangamon. We have instituted a monthly safety meeting for operations staff at the plant. There were no lost time accidents in the month of March 2020.

Compliance. The finished water quality was within regulatory limits and all reporting and sampling requirements were met for the month. A copy of the Operations Report submitted to the Illinois Environmental Protection Agency is available at **www.sswc.us**.

During the month of April 2020, the plant pumped 41.889 million gallons from the well field and 32.939 million gallons of finished water. This is 4.521 million gallons more than April of 2019.

The SSWC plant has been placed on Critical Review status. Systems on Critical Review will be evaluated for sufficient capacity before issuance of water main extension permits. The Critical Review is currently under evaluation.

Operations. There was 2 emergency call-outs for the month. There was 2 customer inquiry for the month.

Maintenance and Repair. For the month of April 2020, there were 30 inspections, 3 preventative and 3 corrective maintenance activity completed.

Budget. Passed at May 20th 2019 meeting.

Capital Planning.

BOP CPU replacement

Chloramines Project

New Berlin Meter relocation.

Well Rehabilitation Project

1. SAFETY

1.1 SAFETY TRAINING

At South Sangamon we strive to provide a safe working environment for all employees. This is accomplished with daily safety meetings and open communication.

1.2 LOST TIME ACCIDENTS

There were 0 lost time accidents in the month of April 2020.

1.3 SAFETY AUDIT

No safety audits to date.

1.4 MISCELLANEOUS SAFETY

No usable Fall Arrestors for aerator on premises

2. COMPLIANCE, FLOWS AND LOADINGS

2.1 COMPLIANCE

The finished water quality was within regulatory limits and all Bacteriological testing was completed for the month of April. A copy of the Operations Report to the Illinois Environmental Protection Agency (IEPA) is available on the SSWC website.

2.2 INFLUENT FLOWS AND LOADINGS

The total gallons pumped from the well field were 41.889 MG. The influent parameters were all within the normal range.

The influent flow and loadings are summarized below in Table 2.2

Table 2.2 Influent Concentrations and Flow

	pH	Temp	Iron	Manganese	Fluoride	Hardness	Alkalinity	Well Flow Gals (MGD).
Max.	7.9	15.8	2.41	.381	-	362	300	1.73
Min.	7.4	13.5	.45	.181	-	320	270	1.24
Avg.	7.8	14.6	.96	.267	-	350	277	1.40
Total	-	-	-	-	-	-	-	41.889

2.3 EFFLUENT CONCENTRATIONS

The facility filtered 38.157 MG during the month with a daily average of 1.272 MG and a min/max 1.0/ 1.6 MG.

Table 2.3 Finished Water Quality

	Free CL2	Total CL2	pH	Temp	Iron	Manganese	Fluoride	Hardness	Alkalinity	Phosphate
Max.	2.1	2.4	8.4		0.03	0.05	1.3	130	290	1.84
Min.	1.0	1.5	8.2		0.01	0.001	0.45	90	260	1.07
Avg.	1.8	1.9	8.3		0.02	0.02	0.72	107	274	1.58
MCL	-	-	-	-	1.00	-	4.00	-	-	-
SMCL	-	-	-	-	0.30	0.050	2.00	-	-	-

Finished Water Flow Comparison for FY 2019-20

Time Period	2019-2020	2018-2019	2017-2018
May 2019-Apr 2020	361,605,768	388,304,693	395,309,812
Increase for the same period last year		-26.7 MG	

FINISHED WATER PUMPING HISTORY						
	2019-20	2018-19	2017-18	2016-17	2015-16	2014-15
May	33,045,927	33,304,196	32,120,873	33,349,391	33,371,016	31,157,411
June	33,460,303	34,040,000	39,931,402	41,541,321	31,092,539	38,462,951
July	23,742,374	41,178,722	42,164,927	35,378,396	33,123,375	38,674,894
Aug	25,018,633	35,176,238	38,760,634	35,401,490	38,109,133	33,748,543
Sept	34,234,782	34,754,000	39,896,986	36,325,215	36,546,171	29,763,075
Oct	30,769,238	30,353,482	33,506,605	34,374,820	34,783,455	28,803,052
Nov	30,877,400	30,464,000	28,617,333	30,478,309	27,217,293	28,426,579
Dec	29,703,954	31,930,000	28,808,037	32,525,530	27,788,637	28,656,869
Jan	30,073,516	28,823,375	30,556,824	30,449,215	28,510,121	30,346,721
Feb	28,797,693	28,625,431	25,617,914	27,373,232	26,095,228	26,336,077
Mar	30,339,298	31,237,000	28,217,699	30,068,363	27,851,811	28,729,919
Apr	31,542,650	28,418,249	27,110,578	29,625,797	29,292,618	29,270,184
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Totals	361,605,768	388,304,693	395,309,812	396,891,079	373,781,397	372,376,275
Avg	.988 MGD	1.06 MGD	1.08 MGD	1.09 MGD	1.02 MGD	1.02 MGD

2.4 LAGOON DISCHARGE CONCENTRATIONS

The results for the NPDES lagoon discharge permit are summarized below.

Table 2.4 Weekly Grab Sample Analysis Results

Lagoon Effluent Results						
Date	**Fe (mg/l)**	**Mn (mg/l)**	**Chloride (mg/l)**	**Cl^2 (mg/l)**	**pH (S.U.)**	**TSS (mg/l)**
April, 21st 2020	.13	.144	200	0.03	8.2	4.4
Minimum	.13	.144	200	0.03	8.2	4.4
Maximum	.13	.144	200	0.03	8.2	4.4
Average	.13	.144	200	0.03	8.2	4.4
Monthly Avg Limit	***2.000***	***1.000***				***15***
Daily Limit	***4.000***	***2.000***	***500***	***0.05***	***6.0-9.0***	***30***

The Chloride sample for the month, performed by the Springfield Metropolitan Sanitary District, was below 30,000 mg/l for the month of April 2020. The limit for chloride discharge to the sanitary district is 30,000 mg/L.

3. OPERATIONS

3.1 EVENTS IMPACTING OPERATIONS

There were 2 incidents impacting plant operations for the month of April. On April 24th the SCADA lost the detention tank level. This caused the ultrafilter to shut down to protect the pumps.

On April 28th the was a power outage at the plant that caused the SSWC plant to shut down and caused numerous faults.

Neither incidents impacted water quality or our customers.

3.2 EMERGENCY & SERVICE CALLS

Service Calls:

- There were 1 emergency call outs for the month.

3.3 EMERGENCY CALL-OUTS

There was 2 emergency call-out for the month requiring operational personnel at the plant after normal business hours

3.4 CUSTOMER INQUIRIE

There was 2 customer inquiry.

OTHER WORK PERFORMED
Trouble shooting of new train
Trouble shooting of CIP skid and CIP procedure
Repaired chlorination system
Repaired Train 1
Inspected distribution mains

On April 24th, the plant emergency shut down protocal engaged shutting the Low Service Pumps down and locking them out. Upon inspection it is found that the detention tank level sensor is not working. The sensor was telling the SCADA that the detention tank is empty tbus locking out the puimps. Plant personel called our electrical contractor to test the sensor and the pathway. After testing it was found that the PLC node is bad. This realization required SSWC to call AAC to remote in and add a value to the SCADA to trick the SCADA into thinking there is a reading from the detention tank sensor. This is a temporary fix. The PLC data node is the last point on that card. This means a new card must be purchased and installed. I have AAC researching this card and have asked for a quote.

On April 28th Asst. Operator Katie Krall was working the second shift when the plant had a power outage which caused the plant to shutdown and caused numerous faults through the plant. I was on the way to the plant to help Katie when Kevin arrived at the plant to help Katie bring the plant back on line.

4. MAINTENANCE AND REPAIR

4.1 PREVENTATIVE AND PREDICTIVE MAINTENANCE

For the month of April 2020, there were 30 inspections, 12 preventative and 3 corrective maintenance activity completed.

4.2 CORRECTIVE REPAIR

Pulling and cleaning pre filters on all 3 filter trains on weekly basis

CIP train 1,2 and 3

Repaired Train 1

Repaired detention tank level sensor

Repaired lagoon effluent pump

5. PROJECT MANAGEMENT & SUPPORT

5.1 STAFFING & TRAINING

- With the addition of a new staff member training has been continuous and ongoing.
- Operator and Asst. Operator have been studying for EPA licensing test.

5.2 OPERATIONAL SUPPORT

The following individuals, either on-site or remotely, provided assistance in operation and/or maintenance of the plant during the month of April 2020.

- Kevin Canham
- Stephen Bivin
- Katie Krall
- Paul Hedstrom (AAC)
- Joe Lee (electrician)

5.3 BUDGET

Table 5.3 Operating Budget

Table 5.3 Budget Table

Budget Category	Month Budget	Month Actual	YTD Budget	YTD Actual	Annual Budget
Labor (D.L. + OH)	$13,909.06	?	$68237	$70128	$163,768
Utilities	$8,306.30		$40,750	$36,019	$97,800
Chemicals	$22,421		$110,000	$74,593	$264,000
Maintenance & Repair	$13,668.62		$67,056	$56,429	$160,937*
Chloride	$13,160		$65,800	$58,080	$157,920
Lab Supplies and Equipment	$1,918.09		$9,410	$5,987	$22,584
Office Supplies	$220.14		$1080	$627	$2,592
Miscellaneous Expenses*	$41		$123	?	$500
Other Operating Costs	$1398	?	$6990	$6107	$16,776
Engineering Fees	$2,500		**$7500**	**$5950**	$30,000
Office Equipment rental	$65		$542	$325	$780
Locates	$378	0	$1890	`$2,758	$4536
Truck	$3,333	0	$33,333	$35,560	$40,000
Total	**$81,318.21**	**$37337.12**	**$377,488**	**$349,805**	**$962193**

*as of September 30 2019

6. CAPITAL PLANNING

6.1 APPROVED CIP PROJECTS CURRENT STATUS

Chloramine conversion project- SSWC has received repaired Chloramine analyzer from Hach. Staff has decided to push back the commissioning of the analyzer due to Covid 19 and the social distancing requirements.

New Berlin Meter master meter relocation project is commencing. Engineering and relocation plans have been finalized. Awaiting ground breaking.

Well rehabilitation project. Bids have been received. Awaiting approval by board.

Pigging project construction complete. Awaiting first pigging before completely releasing contractor.

BOP CPU replace is in the planning phase

6.2 DRAFT CAPITAL IMPROVEMENT PLAN

The CIP is a planning document that includes all projects anticipated to exceed $5,000 in cost over the next five years. The CIP is an ongoing process and will be refined from time to time as projects are completed and new issues are identified.

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

DIVISION OF PUBLIC WATER SUPPLIES

MONTHLY IRON REMOVAL AND ION EXCHANGE SOFTENING REPORT

South Sangamon Water Commission - IL 1670080

APRIL 2020

Date	Time Meter Read	Pumping Totals: Hours Filter Ran	Raw Well Prod. (M gal)	UF Filtered (M gal)	Plant Water (M gal)	HS Pumpage (M gal)	Lagoon Effluent Pumpage (M gal)	Chemicals Applied: Sodium Permanganate Am't Used lbs.	Sodium Permanganate Calc mg/l as NaMnO4	Sodium Bisulfite BW Am't Used lbs.	Sodium Bisulfite BW Calc mg/l	Sodium Hypochlorite Am't Used lbs.	Sodium Hypochlorite Calc mg/l as Cl	Ammonium Sulfate Am't Used lbs.	Ammonium Sulfate Calc mg/l as NH3	Fluorosilicic Acid Am't Used lbs.	Fluorosilicic Acid Calc mg/l as F
1	7:00	15.6	1.353	1.231	0.007	1.044	0.090	24	0.43	0	0.00	230	2.80	0	0.00	26	0.57
2	7:00	15.3	1.332	1.163	0.008	1.035	0.092	26	0.47	0	0.00	236	3.04	0	0.00	27	0.59
3	7:00	16.0	1.347	1.246	0.011	1.068	0.080	24	0.43	0	0.00	216	2.60	0	0.00	25	0.53
4	7:00	15.2	1.347	1.181	0.000	1.060	0.104	26	0.46	0	0.00	240	3.05	0	0.00	28	0.60
5	7:00	14.7	1.335	1.256	0.016	1.057	0.082	25	0.45	0	0.00	229	2.73	0	0.00	27	0.58
6	7:00	15.8	1.395	1.259	0.010	1.177	0.096	28	0.48	0	0.00	257	3.06	0	0.00	30	0.58
7	7:00	17.0	1.462	1.266	0.009	1.066	0.090	25	0.41	0	0.00	233	2.76	0	0.00	27	0.58
8	7:00	15.8	1.403	1.330	0.011	1.162	0.093	26	0.44	0	0.00	238	2.68	0	0.00	27	0.53
9	7:00	15.9	1.406	1.330	0.012	1.121	0.093	28	0.48	0	0.00	244	2.75	0	0.00	29	0.59
10	7:00	17.0	1.451	1.310	0.010	1.121	0.103	25	0.41	0	0.00	243	2.78	0	0.00	27	0.55
11	7:00	15.6	1.391	1.310	0.007	1.090	0.103	25	0.43	0	0.00	218	2.49	0	0.00	25	0.52
12	7:00	15.9	1.376	1.245	0.013	1.131	0.075	34	0.59	0	0.00	332	4.00	0	0.00	38	0.77
13	7:00	17.2	1.455	1.275	0.000	1.075	0.101	20	0.33	0	0.00	180	2.12	0	0.00	21	0.45
14	7:00	15.6	1.374	1.275	0.018	1.074	0.087	24	0.42	0	0.00	215	2.53	0	0.00	25	0.53
15	7:00	15.4	1.310	1.138	0.003	1.022	0.089	25	0.46	0	0.00	242	3.19	0	0.00	28	0.62
16	7:00	16.0	1.287	1.138	0.011	0.997	0.093	24	0.45	0	0.00	207	2.73	0	0.00	25	0.57
17	7:00	17.2	1.377	1.263	0.011	1.121	0.083	25	0.44	0	0.00	215	2.55	0	0.00	27	0.55
18	7:00	15.1	1.321	1.164	0.003	1.003	0.098	22	0.40	0	0.00	195	2.51	0	0.00	25	0.57
19	7:00	15.4	1.314	1.219	0.018	1.117	0.081	24	0.44	0	0.00	221	2.72	0	0.00	28	0.57
20	7:00	17.2	1.345	1.153	0.007	0.925	0.089	24	0.43	0	0.00	241	3.13	0	0.00	25	0.62
21	7:00	16.3	1.413	1.315	0.004	1.210	0.104	34	0.58	0	0.00	331	3.77	0	0.00	37	0.70
22	7:00	19.2	1.726	1.315	0.016	1.349	0.095	24	0.33	0	0.00	244	2.78	0	0.00	28	0.47
23	7:00	16.0	1.449	1.571	0.008	1.135	0.109	23	0.38	0	0.00	265	2.53	0	0.00	29	0.58
24	7:00	16.3	1.473	1.305	0.008	1.093	0.096	25	0.41	0	0.00	240	2.76	0	0.00	26	0.54
25	7:00	13.6	1.240	1.030	0.011	0.913	0.068	29	0.56	0	0.00	280	4.07	0	0.00	30	0.75
26	7:00	14.8	1.287	1.069	0.006	0.986	0.080	27	0.50	0	0.00	244	3.42	0	0.00	28	0.65
27	7:00	17.7	1.446	1.323	0.008	1.193	0.089	26	0.43	0	0.00	226	2.56	0	0.00	25	0.48
28	7:00	21.2	1.660	1.559	0.013	1.311	0.113	28	0.40	0	0.00	236	2.27	0	0.00	27	0.47
29	7:00	16.0	1.329	1.559	0.011	1.078	0.109	29	0.52	0	0.00	249	2.39	0	0.00	30	0.63
30	7:00	18.4	1.485	1.359	0.010	1.205	0.103	26	0.42	0	0.00	234	2.58	0	0.00	26	0.49
31									#DIV/0!		#DIV/0!		#DIV/0!		#DIV/0!		#DIV/0!
Total		488.4	41.889	38.157	0.280	32.939	2.788	775	#DIV/0!	0	#DIV/0!	7181	#DIV/0!	0	#DIV/0!	826	#DIV/0!
Ave.		16.3	1.396	1.272	0.009	1.098	0.093	25.8	#DIV/0!	0	#DIV/0!	239	#DIV/0!	0	#DIV/0!	27.5	#DIV/0!
Max		21.2	1.726	1.571	0.018	1.349	0.113	34.0	#DIV/0!	0	#DIV/0!	332	#DIV/0!	0	#DIV/0!	38	#DIV/0!
Min		13.6	1.240	1.030	0.000	0.913	0.068	20.0	#DIV/0!	0	#DIV/0!	180	#DIV/0!	0	#DIV/0!	21	#DIV/0!

Date	Phosphate Am't Used lbs.	Phosphate Calc mg/l as PO4	Sodium Bisulfite Pond Am't Used lbs.	Sodium Bisulfite Pond Calc mg/l	UF Filters: Hours since previous backwash, Bank # 1	Bank # 2	Bank # 3		Wash Water Gal. (M gal)	Softeners: Water Softened Gal. (M gal)	Water Bypassed Gal (M gal)	Each day indicate total number of hours since previous regeneration. If regeneration at mid-day, indicate hours previous/hours following. 1	2	3	4	Regeneration: Salt Used lbs.	Washed Water Gal.
1	7	0.27	14	7.46	0.66	0.66	0.66		0.080	0.805	0.426	55.0		39.0		4562	21700
2	10	0.38	23	11.99	0.66	0.66	0.66		0.078	0.760	0.403		43.0	35.0	41.0	6843	32550
3	8	0.30	15	8.99	0.66	0.66	0.66		0.080	0.814	0.432					0	0
4	13	0.49	18	8.30	0.66	0.66	0.66		0.085	0.772	0.409	66.0	42.0	43.0	41.0	9124	43400
5	12	0.45	18	10.53	0.66	0.66	0.66		0.072	0.821	0.435		26.0		32.0	4562	21700
6	14	0.47	18	8.99	0.66	0.66	0.66		0.086	0.823	0.436		34.0	38.0		4562	21700
7	21	0.78	18	9.59	0.66	0.66	0.66		0.076	0.827	0.439	74.0		33.0	38.0	6843	32550
8	36	1.23	16	8.25	0.66	0.66	0.66		0.083	0.869	0.461		40.0		33.0	4562	21700
9	52	1.84	19	9.80	0.66	0.66	0.66		0.083	0.869	0.461	45.0		32.0		4562	21700
10	51	1.80	12	5.59	0.66	0.66	0.66		0.089	0.856	0.454		34.0	37.0	39.0	6843	32550
11	1	0.04	21	9.78	0.66	0.66	0.66		0.089	0.856	0.454		41.0	32.0	35.0	6843	32550
12	13	0.45	25	15.99	0.66	0.66	0.66		0.075	0.814	0.431					0	0
13	9	0.33	14	6.65	0.66	0.66	0.66		0.082	0.833	0.442	95.0	38.0	43.0	40.0	9124	43400
14	11	0.41	18	9.92	0.66	0.66	0.66		0.082	0.833	0.442		36.0			2281	10850
15	13	0.50	16	8.62	0.66	0.66	0.66		0.079	0.744	0.394			43.0	41.0	4562	21700
16	4	0.16	15	7.74	0.66	0.66	0.66		0.079	0.744	0.394	76.0	40.0		36.0	6843	32550
17	6	0.21	28	16.18	0.66	0.66	0.66		0.078	0.825	0.438			43.0		2281	10850
18	8	0.32	15	7.34	0.66	0.66	0.66		0.079	0.761	0.403	41.0	41.0	37.0	38.0	9124	43400
19	8	0.28	15	8.88	0.66	0.66	0.66		0.076	0.797	0.422		35.0			2281	10850
20	11	0.47	3	1.62	0.66	0.66	0.66		0.079	0.754	0.399			39.0	43.0	4562	21700
21	18	0.59	4	1.84	0.66	0.66	0.66		0.085	0.859	0.456	75.0	35.0	29.0	28.0	9124	43400
22	22	0.65	0	0.00	0.66	0.66	0.66		0.085	0.859	0.456		36.0		33.0	4562	21700
23	45	1.57	1	0.44	0.66	0.66	0.66		0.099	1.027	0.544	48.0		38.0		4562	21700
24	49	1.77	7	3.50	0.66	0.66	0.66		0.086	0.853	0.452		43.0		37.0	4562	21700
25	2	0.09	1	0.71	0.66	0.66	0.66		0.063	0.673	0.357			37.0		2281	10850
26	9	0.36	0	0.00	0.66	0.66	0.66		0.066	0.699	0.370		47.0	38.0	38.0	6843	32550
27	10	0.33	0	0.00	0.66	0.66	0.66		0.079	0.865	0.458	95.0			31.0	4562	21700
28	14	0.42	38	16.13	0.66	0.66	0.66		0.099	1.019	0.540		34.0	40.0	33.0	6843	32550
29	21	0.77	26	11.44	0.66	0.66	0.66		0.099	1.019	0.540	48.0	42.0			4562	21700
30	29	0.95	18	8.38	0.66	0.66	0.66		0.093	0.888	0.471			41.0	36.0	4562	21700
31		#DIV/0!		#DIV/0!	0.66	0.66	0.66				0.000						
Total	527	#DIV/0!	436	#DIV/0!					2.464	24.938	13.219	718	687	717	693	152827	726950
Ave.	17.6	#DIV/0!	14.5	#DIV/0!	0.66	0.66	0.66	#DIV/0!	0.082	0.831	0.426	65.3	38.2	37.7	36.5	5094.23	24231.7
Max	52	#DIV/0!	38	#DIV/0!	0.66	0.66	0.66	0	0.099	1.027	0.544	95.0	47.0	43.0	43.0	9,124	43,400
Min	1	#DIV/0!	0	#DIV/0!	0.66	0.66	0.66	0	0.063	0.673	0.000	41.0	26.0	29.0	28.0	0	0

1	20	% Sodium Permanganate	Pre-aerator
2	40	% BisulfiteSolution	Membrane Backwash
3	12.5	% Sodium Hypochlorite Solution	Post Softener
4	20	% Ammonium Sulfate Solution	Post Softener
5	19	% Fluorosilicic Acid Solution	Post Clearwell
6	33	% Phosphate Solution	Post Clearwell
7	40	% BisulfiteSolution	Lagoon Effluent

CHLORINATION

Type of Chlorine Used: Sodium Hypochlorite 12.5 %

Chlorine Analyzers Used: Hach CL17 (2) & 5500sc

FLUORIDATION

Type of Fluoride Used: Hydrofluosilicic Acid 19% F

Fluoride Analyzer Used: Hach 2200, SPADNS method

I certify that the information in this report is complete and accurate to the best of my knowledge.

Reported by:

Illinois Operator Certification ID: 253419999

Date: 5/6/2020

Date Bacterials Ser 4/8/2020

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF PUBLIC WATER SUPPLIES

South Sangamon Water Commission - IL1670080

APRIL 2020

Physical and Chemical Tests

	Raw						Pre UF Membrane				Post UF Membrane			Post IEX				Finished														Membrane Integrity Post Filter		
			Total	Total	Total	Total	Turbidity	Total	Total	Soluble	Total	Total	Turbidity	1	2	3	4		Turbidity	Total	Total	Total	Total	Fluoride	Ortho	Free	Mono-	Chlorine						
Date	pH	Temp	Alk.	Hard.	Fe	Mn		Fe	Mn	Mn	Fe	Mn		Chloride				pH		Alk.	Hard.	Fe	Mn	F	Phosphate	Ammonia	Chloramine	F	T	Distribution				
		deg. C	mg/L	mg/L	mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L		NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/l	mg/l	mg/l	mg/L	F	T	Bank 1	Bank 2	Bank 3
			as CaCO3																	as CaCO3										mg/l	mg/L	psi	psi	psi
1	7.90	13.6	270	352	1.09	0.220			0.367	0.056	0.72	0.067	0.25					8.40	0.27	270	100	0.02	0.027	0.66	1.51	0.05	0.00	1.65	1.77					
2	7.90	13.6	270	355	1.03	0.181			0.345	0.051	0.85	0.052	0.25					8.30	0.25	270	100	0.02	0.020	0.59	1.55	0.01	0.00	1.34	1.68					
3	7.90	14.2	280	350	1.12	0.204			0.337	0.032	0.74	0.041	0.24					8.40	0.37	280	102	0.01	0.010	0.73	1.68	0.02	0.00	1.58	1.71					
4	7.70	14.4	272	340	0.88	0.215			0.381	0.076	0.03	0.047	0.29					8.40	0.25	276	120	0.02	0.014	0.66	1.58	0.01	0.00	1.48	1.52					
5	7.80	13.9	272	346	0.90	0.211			0.362	0.064	0.02	0.049	0.24					8.40	0.25	270	100	0.01	0.010	0.76	1.73	0.02	0.00	1.79	1.97					
6	7.90	13.5	275	350	0.62	0.227			0.401	0.081	0.64	0.441	0.40					8.30	0.21	275	102	0.01	0.023	0.63	1.56	0.02	0.00	1.60	1.61					
7	7.80	14.6	270	356	0.79	0.214			0.348	0.071	0.01	0.070	0.28					8.40	0.38	270	120	0.02	0.013	0.75	1.54	0.06	0.04	1.53	1.55					
8	7.80	15.5	270	346	0.85	0.215			0.358	0.077	0.03	0.067	0.40					8.40	0.25	268	96	0.01	0.010	0.64	1.07	0.05	0.02	1.66	1.81					
9	7.80	14.8	270	355	0.98	0.260			0.419	0.116	0.73	0.094	0.34					8.40	0.22	270	100	0.02	0.022	0.79	1.53	0.03	0.00	2.13	2.10					
10	7.80	13.8	275	362	0.65	0.268			0.412	0.139	0.69	0.117	0.38			45.8	26.2	8.30	0.20	275	108	0.02	0.026	1.31	1.84	0.00	0.00	1.02	2.16					
11	7.90	13.6	275	360	0.55	0.269			0.407	0.123	0.56	0.105	0.30					8.30	0.22	270	100	0.02	0.028	0.91	1.60	0.00	0.00	1.98	2.06					
12	7.90	13.6	275	362	0.81	0.263			0.421	0.140	0.62	0.122	0.32	23.4	36.2			8.30	0.24	270	115	0.02	0.036	0.45	1.65	0.00	0.00	1.77	2.21					
13	7.90	14.3	278	360	0.88	0.223			0.354	0.088	0.01	0.085	0.27					8.20	0.29	280	130	0.02	0.001	0.70	1.64	0.00	0.00	1.62	1.64					
14	7.90	15.8	275	320	0.72	0.265			0.439	0.122	0.68	0.102	0.27					8.30	0.26	275	100	0.01	0.022	0.74	1.53	0.02	0.00	1.88	1.94			pass		
15	7.90	14.5	275	335	0.71	0.231			0.345	0.113	0.64	0.113	0.29	22.6	108.5	120.7	41.8	8.20	0.22	275	98	0.01	0.015	1.19	1.51	0.01	0.00	1.97	2.15					
16	7.90	14.5	280	350	1.30	0.197			0.388	0.090	0.95	0.120	0.25					8.20	0.27	282	110	0.02	0.035	0.68	1.45	0.01	0.00	1.69	1.70				pass	pass
17	7.90	14.4	280	352	0.72	0.237			0.372	0.128	0.68	0.119	0.28					8.20	0.26	280	115	0.01	0.034	0.69	1.67	0.00	0.00	1.66	1.77					
18	7.80	14.1	276	348	0.80	0.190			0.322	0.035	0.01	0.112	0.33					8.40	0.30	276	96	0.02	0.011	0.67	1.42	0.00	0.00	1.74	1.87					
19	7.90	14.6	280	350	1.48	0.224			0.374	0.048	0.01	0.126	0.29					8.30	0.28	282	100	0.02	0.015	0.71	1.62	0.00	0.00	1.81	1.96					
20	7.80	14.3	280	362	1.00	0.202			0.335	0.040	0.01	0.083	0.29					8.30	0.39	290	96	0.01	0.019	0.56	1.51	0.01	0.09	1.89	1.92					
21	7.90	14.1	280	350	2.41	0.337			0.452	0.161	1.84	0.133	0.29					8.30	0.27	260	130	0.02	0.036	0.61	1.59	0.02	0.00	1.96	2.09			pass		
22	7.90	14.3	280	355	1.30	0.333			0.479	0.201	0.94	0.122	0.34					8.30	0.32	270	120	0.02	0.035	0.57	1.48	0.02	0.00	2.01	2.41				pass	pass
23	7.90	15.1	280	350	0.97	0.354			0.461	0.200	0.77	0.106	0.20					8.40	0.21	275	100	0.02	0.027	0.64	1.84	0.01	0.00	1.97	2.19					
24	7.90	15.1	280	352	0.60	0.352			0.446	0.185	0.65	0.112	0.29					8.30	0.23	275	100	0.02	0.029	0.79	1.61	0.03	0.00	1.80	2.01					
25	7.80	15.5	280	350	0.90	0.331			0.426	0.189	0.78	0.117	0.30					8.30	0.25	275	105	0.03	0.022	0.57	1.56	0.03	0.00	1.47	1.50					
26	7.90	15.6	280	350	1.13	0.379			0.484	0.179	1.05	0.097	0.32	27.1	94.2	59.7	72.5	8.30	0.22	275	115	0.02	0.054	0.81	1.75	0.03	0.00	1.86	1.87					
27	7.40	15.0	272	352	1.05	0.367			0.416	0.368	0.02	0.177	0.28					8.40	0.30	280	130	0.02	0.003	0.78	1.49	0.02	0.00	2.00	2.04					
28	7.50	15.3	300	330	0.44	0.323			0.376	0.385	0.01	0.177	0.32					8.40	0.33	260	90	0.02	0.016	0.67	1.61	0.01	0.00	1.95	2.04					
29	7.40	15.4	270	350	0.85	0.381			0.471	0.253	0.91	0.139	0.35					8.40	0.30	270	100	0.02	0.029	0.71	1.62	0.00	0.00	1.78	1.89			pass		
30	7.90	15.6	275	352	0.89	0.329			0.491	0.257	0.87	0.128	0.30					8.30	0.28	280	105	0.02	0.034	0.66	1.57	0.00	0.00	1.87	1.94				pass	
31																																	
Ave.	7.82	14.6	277	350	0.95	0.267	#DIV/0!	#DIV/0!	0.400	0.136	0.55	0.115	0.30	24.4	79.6	75.4	46.8	8.33	0.27	274	107	0.02	0.023	0.72	1.58	0.02	0.01	1.75	1.90	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Max	7.90	15.8	300	362	2.41	0.381	0.00	0.00	0.491	0.385	1.84	0.441	0.40	27	109	121	73	8.40	0.39	290	130	0.03	0.054	1.31	1.84	0.06	0.09	2.13	2.41	0.00	0.00	0.00	0.00	0.00
Min	7.40	13.5	270	320	0.44	0.181	0.00	0.00	0.322	0.032	0.01	0.041	0.20	23	36	46	26	8.20	0.20	260	90	0.01	0.001	0.45	1.07	0.00	0.00	1.02	1.50	0.00	0.00	0.00	0.00	0.00

Lagoon Effluent Tests		pH	Temp	T Chlor	Mn	Fe	Chloiride	TSS
Monthly			°C	mg/l	mg/l	mg/l	mg/L	mg/L
Date	4/21/2020	8.2	16.4	0.03	0.144	0.13	200	4.4

Distribution Stability Tests		pH	Temp	TDS	Alkalinity	Calcium	Chloiride	Sulfate
Every Two Weeks			°C	mg/L	mg/L as CaCO3		mg/L	mg/L
Date	4/14/2020	8.2	15.4	430	280		31	56
Date								
Date								

Remarks:
From March 20th to April 20th residential services used
191,573 gals of water