

July 2023

OPERATIONS' DEPARTMENT MONTHLY REPORT

PUMPAGE	HIGH LIFT		LOW LIFT		2023 VS 2022
	2022	2023	2022	2023	
Total in MG	419,312	418,208	425,837	428,557	HL -0.26%
Daily Average (MG)	13,526	13,506	13,737	13,824	
Max. Day (MG)	17,388	15,498	17,630	15,748	2023 VS 2021
					HL
Gal/KwH	1,323	1,169	4,931	4,826	-1.12%
ELECTRICAL COSTS					
	2022		2023		
A. Pumping:	KwH	\$	KwH	\$	
High Lift	310,922	\$25,097.75	349,365	\$30,536.85	
Low Lift	85,914	\$6,935.01	86,921	\$7,597.51	
Wash Pump 1	2,800	\$226.02	1,680	\$146.84	
Georgia St. Bstr.	53,100	\$5,446.78	57,600	\$6,509.80	
Wilgus Ave. Bstr.	3,100	\$416.38	3,000	\$427.23	
EE Pit / Bstr.	5,009	\$645.00	4,632	\$634.15	
Erie Ave. Bstr.	16,400	\$2,446.02	14,000	\$2,511.33	
Sub Total	477,245	\$41,212.96	517,198	\$48,363.72	\$/KwH 8.3%
B. Treat./Fiscal/Misc.	KwH	\$	KwH	\$	
Office & Maint. Bldg.	8,900	\$1,119.09	9,891	\$1,335.13	
Filter Plant / Pump Station / 2nd Service	96,164	\$8,358.48	50,634	\$5,036.46	
Sub Total	105,064	\$9,477.57	60,525	\$6,371.59	\$/KwH 16.7%
C. Distribution:	KwH	\$	KwH	\$	
Taylor Hill Tank	399	\$67.66	406	\$71.79	
Kohler Meter Pit	0	\$0.00	0	\$0.00	
EE Tower	1,058	\$151.82	1,024	\$155.66	
Washington (PRV) Pit	254	\$51.77	164	\$41.03	
Sub Total	1,711	\$271.25	1,594	\$268.48	\$/KwH
Total Electrical Costs	584,020	\$50,961.78	579,317	\$55,003.79	8.8%
Electrical Cost / MG		\$121.54		\$131.37	
	2022		2023		
NATURAL GAS COSTS	CCF Used	Cost	CCF Used	Cost	
Production Facility	195	\$198.90	1,272	\$660.75	
South Basin	54	\$185.50	1	\$163.25	
Georgia St. Bstr.	29	\$41.84			
Erie Ave. Bstr.	0	\$29.59			
Wilgus Ave. Bstr.	0	\$17.33	0	\$15.65	
Office & Maint. Bldg.	307	\$220.39	337	\$196.44	
Total Natural Gas Costs	585	\$693.55	1,610	\$1,036.09	\$/CCF -45.7%
Natural Gas Cost / MG		\$1.65		\$2.47	
	2022		2023		
CHEMICAL COSTS	Lbs. Used	Cost	Lbs. Used	Cost	
Alum	41,199	\$7,477.62	41,197	\$8,301.20	11.0%
Carbon	0	\$0.00	0	\$0.00	#DIV/0!
Chlorine	8,014	\$11,860.72	8,383	\$17,017.49	37.2%
Fluoride	2,046	\$2,843.94	1,876	\$3,792.33	45.4%
KMnO4	0	\$0.00	282	\$1,030.98	#DIV/0!
Cationic Polymer	0	\$0.00	0	\$0.00	#DIV/0!
Liquid Phosphate	5,135	\$8,103.03	5,106	\$15,619.25	93.9%
Total Chemical Costs		\$30,285.31		\$45,761.25	51.1%
Chemical Cost / MG		\$72.23		\$109.30	
Grand Total		\$81,940.64		\$101,801.13	24.24%
Total Cost / MG		\$195.42		\$243.14	24.42%

YTD HL 2023 vs 2022	-1.13%	YTD HL HIGH DAY PUMPAGE	15,876	June 21, 2023
YTD HL 2023 vs 2021	-0.37%	YTD HL LOW DAY PUMPAGE	9,294	January 1, 2023

NOTE:

2023 Electrical costs include an Alliant Energy 8.3% rate increase approved by PSC.

	YTD HL Ave Day
2023	12.199
2022	12.235
2021	12.252

COMPARATIVE SUMMARY OF PLANT OPERATIONS

July 2022

vs

July 2023

Pumping Record

High Lift

Low Lift

	2022	2023	Diff.		2022	2023	Diff.
Tot. Water in MG	419.312	418.208	-0.26%	Tot. Water in MG	425.837	428.557	0.64%
Daily Average	13.526	13.506	-0.15%	Daily Average	13.737	13.824	0.63%
Maximum Day	17.388	15.498	-10.87%	Maximum Day	17.630	15.748	-10.67%
Minimum Day	10.032	10.936	9.01%	Minimum Day	10.294	11.422	10.96%
By Natural Gas	7.813	10.353	32.51%	By Natural Gas	2.173	9.048	316.38%
Power in KWH	310,922	349,365	12.36%	Power in KWH	85,914	86,921	1.17%
Gals. per KWH	1,323	1,169	-11.66%	Gals. per KWH	4,931	4,826	-2.12%
Power \$ / KWH	\$0.08072	\$0.08741	8.28%	Power \$ / KWH	----	----	----
Power \$ / MG	\$59.85	\$72.93	\$13.08	Power \$ / MG	\$16.29	\$17.73	\$1.44
Tot. Power \$/MG	\$121.86	\$131.71	\$9.85	Tot. Power \$/MG	----	----	----

Treatment Chem.

Lbs. Used

Cost

	2022	2023	Diff.		2022	2023	Diff.
Total Lbs.				Total Cost			
Alum	41,199	41,197	0.00%	Alum	\$7,477.62	\$8,301.20	\$823.58
Carbon			#DIV/0!	Carbon	\$0.00	\$0.00	\$0.00
Chlorine	8,014	8,383	4.60%	Chlorine	\$11,860.72	\$17,017.49	\$5,156.77
KMnO4		282	#DIV/0!	KMnO4	\$0.00	\$1,030.98	\$1,030.98
Polymer			#DIV/0!	Polymer	\$0.00	\$0.00	\$0.00
Liquid Phosphate	5,135	5,106	-0.56%	Liquid Phosphate	\$8,103.03	\$15,619.25	\$7,516.22
Lb/ MG:				Cost / MG:			
Alum	96.7	96.1	-0.64%	Alum	\$17.56	\$19.37	\$1.81
Carbon	0.0	0.0	#DIV/0!	Carbon	#DIV/0!	#DIV/0!	#DIV/0!
Chlorine	18.8	19.6	3.94%	Chlorine	\$27.85	\$39.71	\$11.86
KMnO4	0.0	0.7	#DIV/0!	KMnO4	#DIV/0!	\$2.41	#DIV/0!
Liquid Phosphate	12.1	11.9	-1.20%	Liquid Phosphate	\$19.03	\$36.45	\$17.42
Fluoride:				Fluoride:			
Total Lbs.	2,046	1,876	-8.31%	Cost	\$2,843.94	\$3,792.33	\$948.39
mg/l applied as F	0.72	0.70		Cost/MG	\$6.79	\$9.07	\$2.28
Av. Res. Plt. Tap	0.70	0.75					

Water Quality:

Raw

TAP

	2022	2023		2022	2023
Turbidity	1.00	1.30		Turbidity	0.066
pH	8.35	8.32		pH	7.74
Alkalinity	108.6	108.3		Alkalinity	102.7
MF (E-Coli)	0.3	14.0		Plate Count	0.00
Temperature	50.1	53.7		Colilert	0
Wash-H2O % /LL	2.02	2.09		Temp.	52.8
Av. Flt. Run/hrs	112.7	91.0		Cl Res.	0.89
Av. ROF / MG	1.40	1.48			

Natural Gas:

	2022	2023		2022	2023	Diff.
Nat. Gas Heating	0	-342	Plant & South Basin	\$959.01	(\$14.92)	(\$973.93)
Nat. Gas Pumping	785	1,615		\$463.44	\$838.92	\$375.48

	CCF	Cost	Natural Gas Cost	Natural Gas CCF
#3 Gas Pump	124.0	\$64.41	\$824.00	1,273
#4 Gas Pump	760.5	\$395.05		
#7 Gas Pump	422.5	\$219.47		
Electric Generator	308.0	\$159.99		
Pumping totals	1615.0	\$838.92		

July 2023

		8/1/2023	7/1/2023	
% Run	Elapsed Time:			
85.1%	No. 6 Pump	73,631.6	72,998.6	633.0
3.48%	Wash Pump Meter	5,798.84	5,772.96	25.88
2.3%	No. 7 Pump	828.8	811.9	16.9
0.0%	No. 8 Pump	59,540.3	59,540.3	0.0
98.0%	No. 9 Pump	29,807.0	29,078.0	729.0
1.3%	Wash Pump 2	139	129	10
	No. 1 Prime Pump	1,052.8	1,051.9	0.9
	No. 2 Prime Pump	1,132.5	1,131.1	1.4

		8/1/2023	7/1/2023	
Kw/Hr run	Wattour Meters:			
64.9	Wash Pump 1	1310.1	1307.7	1,680
56.2	No. 9 Pump	6122.11	6081.11	41,001
#DIV/0!	No. 8 Pump	6837.1	6837.1	0
72.5	No. 6 Pump	2196.2	2032.2	45,920
128.0	Wash Pump 2	14.559	13.492	1,280
539.4	No. 1 Pump	9776.959	9644.404	132,555
239.0	No. 2 Pump	4932.928	4931.494	1,434
293.0	No. 3 Pump	853.451	821.609	31,842
#DIV/0!	No. 4 Pump			0
479.9	No. 5 Pump	12,171.350	11,987.816	183,534

Garage (MWatt/Hrs.)	1,102.91	1,101.22	1,690
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Power Co. (Step #3)	41,523	41,115	489,600
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Left Meter - OUTSIDE

Volume Used:

Nat. Gas (Correct)	45,999,606	45,898,797	126,717
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		8/1/2023	7/1/2023	
% Run	Elapsed Time:			
33.0%	Emer. Generator	1,107.5	1,092.1	15.4
0.8%	No. 1 Pump	18,130.1	17,884.3	245.8
14.6%	No. 2 Pump	21,043.22	21,037.22	6.00
0.5%	No. 3 Elec. Pump	2,914.1	2,805.4	108.7
0.0%	No. 3 Nat. Gas Pump	586.5	582.5	4.0
2.3%	No. 4 Elec. Pump	0.00	0.00	0.0
51.4%	No. 4 Nat. Gas Pump	97.6	80.7	16.9
0.1%	No. 5 Pump	25,445.450	25,063.000	382.450
	UV Building Generator	150.2	149.2	1

		8/1/2023	7/1/2023	
SLUDGE No. 1 Hour Meter		0.0	0.0	0
SYSTEM No. 2 Mag Meter		9,267,230	9,040,340	226,890
Recycle Meter (Reset to zero each month)				226,890

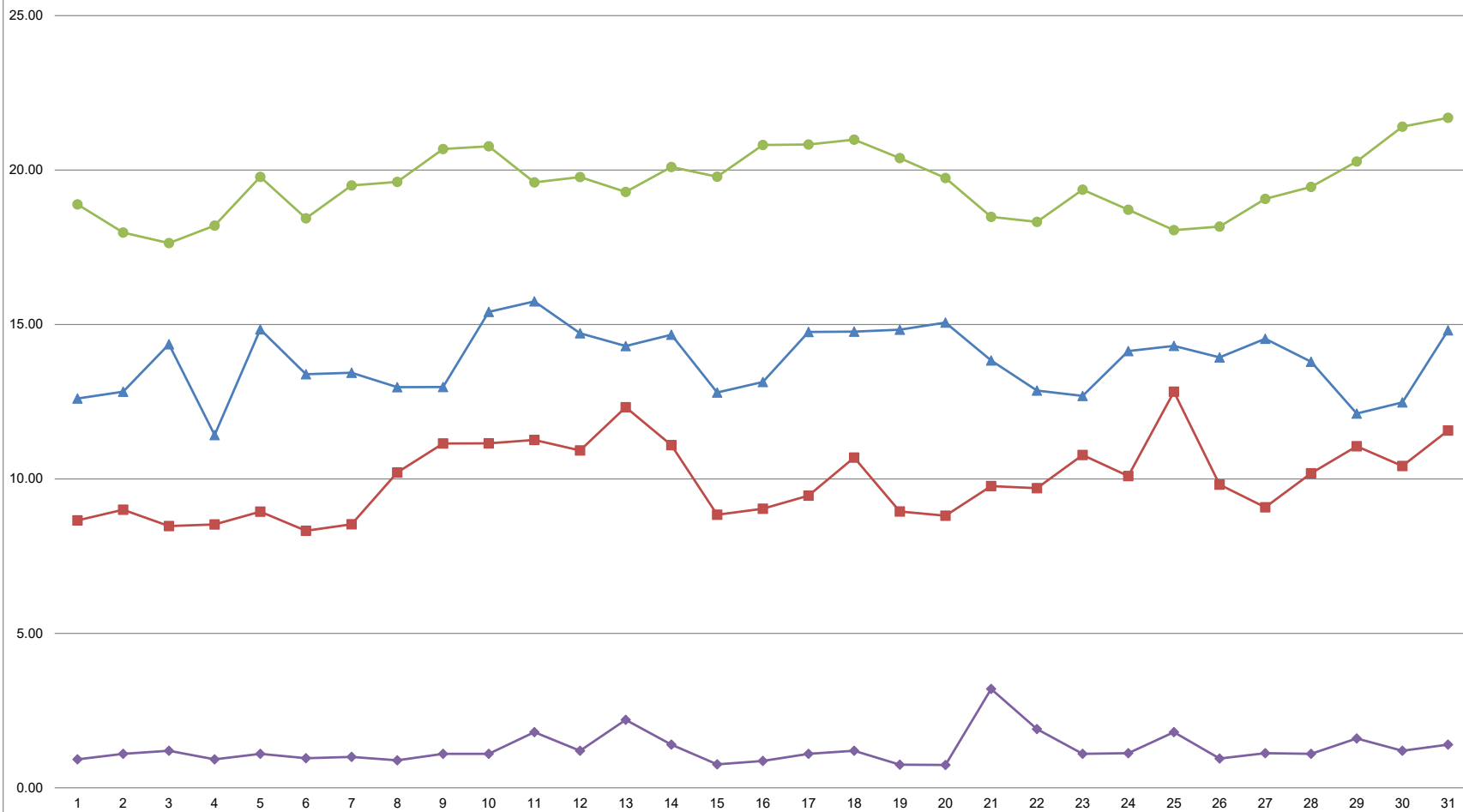
Power Cost	\$0.0874067	Bill >>>>	\$40,172.13
	0.52334	KWH >>>	459,600
Init. Chg.	\$42,794.33		
	\$	KWH	
Kohler Pit			
Horizon	\$139.52	853	
Taylor	\$71.79	406	
ALT. 72 Park	\$523.34	1,000	
Geo. Ave.	\$6,509.80	57,600	
Wilgus Ave.	\$427.23	3,000	
EE Pit	\$634.15	4,632	
EE Tower	\$155.66	1,024	
Washington	\$41.03	164	
Office	\$1,335.13	9,891	
Erie Ave.	\$2,511.33	14,000	
Total	\$55,143.31	582,170	

Low L. KWH	86,921
L.L. Cost \$	\$7,597.51
High L. KWH	349,365
H.L. Cost \$	\$30,536.85
Total Cost	\$38,134.36
Plant Costs	\$5,036.46

SUMMARY

	HIGH LIFT		LOW LIFT	
	2022	2023	2022	2023
Tot. Pump	419,312	418,686	425,837	428,557
Daily Ave.	13,526	13,506	13,737	13,824
Max. Day	17,388	15,498	17,630	15,748
Min. Day	10,032	10,936	10,294	11,422
By Nat. Gas	7,813	10,353	2,173	9,048
Power KWH	310,922	349,365	85,914	86,921
Gals/KWH	1323	1169	4931	4826
Cost/KWH	\$0.08072	\$0.08741	*****	*****
Cost/MG	\$59.85	\$72.93	\$16.29	\$17.73
Tot. Cost/MG	\$121.86	\$131.71	*****	*****

July 2023: Sheboygan Water Utility Plant Operations Summary

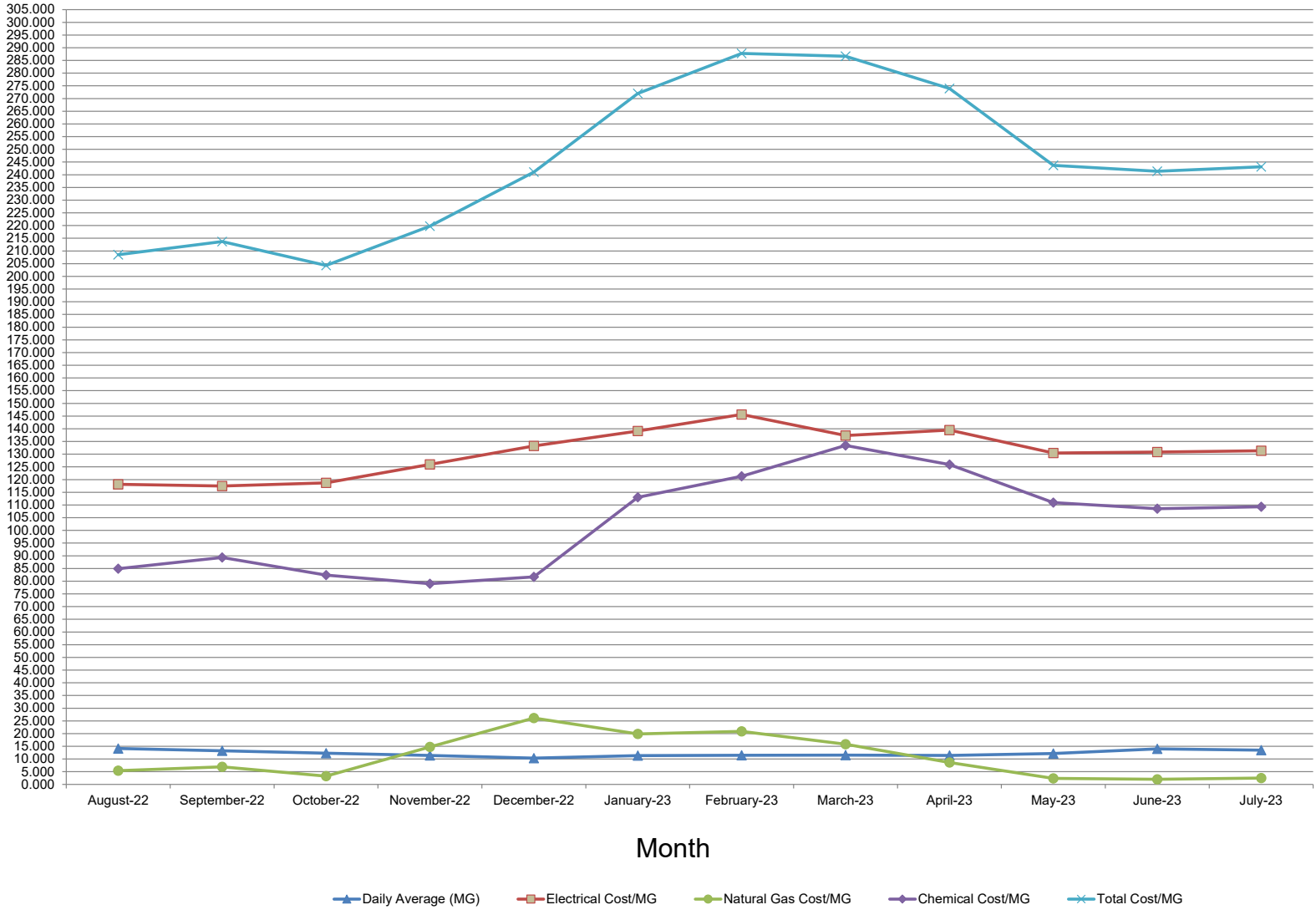


Days

Flow(MGD) Alum(lbs/MG) CL2(lbs/MG) Raw Turbidity(NTU's)

Scaling
Alum(X.10)

Plant Operations: Expense Report



Filter Plant Maintenance Completed For July 2023

Subject	StartDate	EndDate	Description
Dan 2nd shift for Glen	1-Jul-23	5-Jul-23	Dan covering 2nd shift for Glen
Josh 3rd shift for Jeff	3-Jul-23	6-Jul-23	Josh Covering 3rd shift for Jeff
July 4th Holiday	4-Jul-23		July 4th Holiday
Observed utility Holiday	4-Jul-23		Observed utility holiday
Dan off for coverage	5-Jul-23	6-Jul-23	Dan off for coverage
Joshua off for Coverage	6-Jul-23	7-Jul-23	Joshua off for 3rd shift coverage.
Dan 1st shift for Glen	7-Jul-23	10-Jul-23	Dan covering 1st shift for Glen
Dan off for coverage	10-Jul-23	10-Jul-23	Dan off for coverage
Gas Engine 3	10-Jul-23		Check and fill pump bearing; 1 quart low.
Clevis Bracket	10-Jul-23		Install new clevis storage bracket.
Secondary Clearwell Controller	10-Jul-23		Move East flow meter and mount new clear well control head.
Ortho Floor	10-Jul-23		Scraped, vacuumed, degreased, and rinse floor.
South Side Emergency Response	10-Jul-23		Respond to large system loss caused by 16I hydrant lateral damaged by contractor.
Taylor Hill	10-Jul-23		Install new battery backup, replace PLC heater, check reagents, and walk grounds.
Monday Meeting	10-Jul-23		Topics include coverage, raw water improvement project, bulk ortho storage upgrade, Taylor hill battery backup, website upgrades, CDM filter concrete analyses, etc.
Erie Ave.	11-Jul-23		Clean NTU meter, flush lines, walk grounds, and check reagents.
Tap NTU Feed Line	11-Jul-23		Begin installing new ½ I PVC hard line for NTU meter feed.
East Basin	11-Jul-23		Replace door handle, repair striker, and install trim.
Menards	11-Jul-23		Purchase door handle, trim, and 3/16I bits.
Sample Sinks	12-Jul-23		Heavy scrub and flush.
Laboratory Tap Sample Line	12-Jul-23		Trace lines, apply regulated vibration, and flush.
Laboratory Sample Closet	12-Jul-23		Continue upgrading sample lines.
Lab NTU Meter	12-Jul-23		Heavy clean and flush.
Ortho Room	12-Jul-23		1st coat of paint on floor.
Ortho Room	12-Jul-23		Apply second coat of gray paint.
Menards	13-Jul-23		Purchase paint supplies and new sprinkler head.
Erie Ave. NTU	13-Jul-23		Install a known good/used head and change alarm setpoint.
West Sample Pump	13-Jul-23		Repair West pump leak: upper fitting was cracked.
Georgia Ave. x 3	13-Jul-23		Multiple trips for pump 3 base repair.
Georgia Ave.	14-Jul-23		Finish rust scaling, degrease motor, and scrub pump/floor.
Post Hypo Feed	14-Jul-23		Diagnose poor residual and replace post hypo feed hose.
South Basin Bathroom	14-Jul-23		Clean stool and sink.
Garbage	14-Jul-23		Throw away garbage and recycling.
Truck 6	14-Jul-23		Vacuum, wash outside, and clean interior.
Josh 3rd shift for Wayne	17-Jul-23	24-Jul-23	Josh covering 3rd shift for Wayne
Dan 2nd shift for Jeff	18-Jul-23	19-Jul-23	Dan covering 2nd shift Jeff
Dan on vacation	19-Jul-23	30-Jul-23	Dan on vacation
Joshua off for Coverage	24-Jul-23	25-Jul-23	Joshua off for 3rd shift coverage.
H.L. Bolt Bin	26-Jul-23		Begin organizing/sorting H.L. bolt inventory.
H.L. 3	26-Jul-23		Begin diagnosing bearing oil leak.
Plant Vacuum	26-Jul-23		Disassemble and clean vacuum.
2nd Floor Furnace	26-Jul-23		Check operation and replace air filter.
Front Hall, Laboratory, Lunch room, and C	26-Jul-23		Vacuum floor and cobwebs.
Garbage	26-Jul-23		Discard plant garbage and recycling.
Josh 1st shift for Tyler	27-Jul-23	1-Aug-23	Josh covering 1st shift for Tyler
Menards	31-Jul-23		Menards for filter plant maintenance items
Lead Copper door tags bottles	31-Jul-23		Dropped off lead and copper door tags and sample bottles
Taylor Hill	31-Jul-23		Walk grounds, check Hypo residual, empty dehumidifier, and check reagents.
Sheboygan Servo	31-Jul-23		Pickup 3 motors and acquire tax i.d.
South basin exhaust motor	31-Jul-23		Started putting together south basin exhaust vent motors
UV Reference Check	31-Jul-23		Perform UV reference check on East train: slot 1 is poor.
UV Generator	31-Jul-23		Diagnose heating issue, look up parts, and order replacement unit from Amazon.
Laboratory Furnace	31-Jul-23		Check over and install new filter.