

CITY OF ST. JOSEPH WATER FILTRATION PLANT
OPERATIONAL REPORT
JANUARY 2021



Mission Statement

WSJOB- The City and Authority working together to provide safe drinking water of the highest quality to all of our customers at the lowest possible price.

WATER PLANT/DISTRIBUTION REPORT- JANUARY 2021

Water demand in January was up by 7.7 million gallons representing a 9% increase from 2020. This year 85,545,876 gallons were delivered which compares to 78,500,621 gallons in 2020. The January 2021 pumpage ranks 28th in the thirty year tabulation dating back to 1992.

GENERAL ACTIVITIES

SW Michigan Emergency Warning System for Drinking Water Plants

Plant staff attended a virtual meeting hosted by EGLE to learn more about and to discuss ways to improve the early warning system that is currently in place to communicate threats to the raw water intake in Lake Michigan presented by spills, releases or other incidents. The southwest Michigan surface water treatment plants from New Buffalo to Benton Charter Township were in attendance along with the Berrien County Sheriff Department emergency coordinator.

NPDES COC Permit Renewal

The drinking water additives section of the permit was completed in January. The permit term is five years. In addition, staff will be submitting an application for an alternate supplier in February. This is necessary in order to obtain authorization to discharge through the approved outfalls at the water plant water containing chemical residuals other than those approved in the COC. These discharges include the finished water reservoirs, low service pump station wetwell flush discharges, reclaim overflow and the emergency overflow for clarifiers #2 and #3.

Travel and Training

AWWA in conjunction with AWWA hosted a virtual presentation of Operator's Day attended by plant staff. Presentations included: MIOSHA Compliance Training by Dave Maloney of CGS Safety Training, Innovation Through People and Technology by Mike Lunn of Primodal USA, On-Site Sodium Hypochlorite Generation by Tom Caulfield of UGSI Solutions, Using the Sewer System to Help Predict Viral Outbreaks by Dr. Irene Xagorarakis of Michigan State University, SCADA-Best Practices for Equipment Maintenance by Chris Tury Jr. of Outbound Technologies, MISS DIG 811 Program Updates 2021 by Eric Urbain of MISS DIG 811 and Secure Your Legacy by Creating an Asset Management Program for Water & Wastewater Systems by Wayne Pratt of Wachs Water Services.

Dave Maloney fresh off of his presentation at Operator's Day on Tuesday traveled to St. Joseph to provide forklift training for plant staff. Dave works for CGS Safety Training which conducts scheduled safety training for the City of St. Joseph and Benton Charter Township water plants. The cost is shared between the two municipalities.

Corrosion Study

Staff met with EGLE to discuss potential approaches to a corrosion study that was recommended by the department. Engineering firms were consulted based on EGLE's recommendations as well. Consideration was given as to whether a table top study would suffice and provide the information needed. At this time staff is giving further consideration to a pipe loop study which may be the more cost effective approach given EPA's recent LCR (Lead and Copper Rule) revisions. Under the new rule a pipe loop study will be required if a trigger level of 10 ppb is reached in the LCR compliance monitoring. A desktop study would not be accepted and could not be applied to a pipe loop study.

Staff Position Changes

Water Plant Operator Kevin Kelly applied was awarded the position of meter reader in the distribution department. Kevin will replace Deb Collins who retired. The vacant water plant position will be posted on 2/12/2021.

Water Plant Operator Shift Schedule

The water plant operational staff was moved from the 8 hour rotating shift to a modified 12 hour shift back in April in order to minimize contact due to Covid. Given new guidance in consultation with the Berrien County Health Department the decision was made to reinstate the 8-hour shift as soon as was feasible in February.

EGLE Distribution Operator Certifications

Last Fall Josh Bailey achieved his S-2 and Brandon Grosvenor achieved his S-4.

Sedimentation Basin Separation

The old sedimentation basin which is no longer in use was physically isolated from the treatment train by means of permanent flow plugs in the connecting pipes. EGLE recommended the removal of the sedimentation basins altogether. Physically plugging the connecting lines was intended as an immediate cost effective solution to the cross connection hazard while an appeal to obtain approval is in process. Plugs were also installed in the influent lines for Filters 1-4 which were permanently taken out of service as part of the SCIP (Strategic Capital Improvement Project).

Monthly Maintenance Notes

January 2021

Normal PM Maint. done Monthly	Check all High Service and Low Service Pumps, BPS pumps, Service BPS Chlorinators, Change out air filters on VFD Drives and Air Handlers. Grounds work at Plant, Booster Stations and Water Towers
01/05/21	West Michigan - Corrected SCADA Issues and Adjusted Alum Pumps for correct scaling and dosage calculations
01/06/21	Repaired roof leak above operators desk
01/07/21	Cummins Bridgeway - Service and Inspection of Generators at the Hilltop and Cleveland BPS per maintenance agreement
01/08/21	Cummins Bridgeway - Service and Inspection of Generators for the Plant and Low Service Buildings per maintenance agreement
01/12/21	Filled Clarifier # 3, back in Service
01/15/21	Repaired Blow off on Clarifier # 3
01/19/21	Repaired Bleach and Fluoride Dosing pump issues, lost power to PLC Card controlling signals to pumps.
01/20/21	Shut down and started to Drain Clarifier # 2 for yearly service work
1/21 & 1/22/21	DVT Electric - Installed new light fixtures in Alum Storage/Garage area. Also installed new EXIT signs (3)
1/25 to 1/26/21	Cleaned Clarifier # 2
01/27/21	Andy Egan - Installed isolation plugs on old settling basin influent line and filters 1-4 influent line per EGLE recommendations

ST. JOSEPH WATER FILTRATION PLANT
1701 LIONS PARK DRIVE
SAINT JOSEPH, MI. 49085

By: Greg Alimenti
 St. Joseph Water Plant
 700 Broad St.
 Saint Joseph, MI. 49085-1276
 (269) 983-1240

January 2021

DISTRIBUTION:	
Total Gallons	85,545,876
Average Day	2,759,544
Maximum Day	3,154,981
Minimum Day	2,382,104

TREATMENT:	
Total Low Service	85,700,738
Wash Water Gals.	421,859
Wash Water %	0.48%
Plant Use Gals.	83,375
Plant Use %	0.10%

FILTRATION:		
Ave. Filter Run	72.0	hours
Ave. Filter Rate	1.62	g/sqft/min
Filter Eff. Index	500.3	
Ave. Loss of Head	1.0	feet
Plant Sewer Usage		

LABORATORY REPORT		
Average of	Raw	Tap
Chlorides mg/L	16.5	16.9
Fluoride mg/L	0.14	0.69
Alkalinity mg/L	122	108
Hardness mg/L	155	149
pH	8.1	7.5
Calcium mg/L	42	41
Magnesium mg/L	12	11
Turbidity NTU	0.82	0.04
Temperature °F	38	
Total Coliform		0.0
Chlorine Residual		
		mg/L Free
Mixing Basin		0.81
Applied		0.80
Tap		1.11
Distribution		1.19

TREATMENT CHEMICAL SUMMARY:					
	Applied mg/L	Total Lbs.	Cost	Inventory lbs.	Days Supply
		CHEMICAL			
Alum (Al ⁺³)	19.68	14,072	\$4,589.69	65,577	70
Chlorine (Cl ₂)	2.03	1,454	\$1,085.44	6,446	137
Fluoride (F ₂)	0.62	444	\$777.32	31,950	424

		REMARKS:			
Total Cost all Chemicals	\$6,452.46				
Chemical Cost per Mil. Gallon Treated	\$75.29				
Chemical Cost per Mil. Gallon Delivered	\$75.43				
PLANT UTILITIES SUMMARY					
Electric:					
Total KWH	184,200	***includes measure of melted snow			
Total Power Cost	\$ 12,894.00	visit the City of Saint Joseph's Home page at www.sjcity.com			
Power Cost per Million Gallon Treated	\$ 150.45	e-mail comments to either: operator@sjcity.com or galiment@sjcity.com			
Power Cost per Million Gallon Delivered	\$ 180.40	WEATHER CONDITIONS AT THE PLANT		Air Temp. °F	
Gallons Pumped per KWH	396	SJWW Weather Computer		Avg.	31.4
		Rain Guage, Inches	0.58	Max.	44.5
		days it rained***	9	Min.	17.7
Natural Gas:		Wind Speed, Avg	8.2	Lake Temp. °F	
Metered Cubic Feet	5764	Wind Speed, Max	40	Avg.	38.1
Natural Gas Cost	\$2,463.88	Prevailing Wind Dir.	SSE	Max	39.6
Emergency Power Diesel Fuel Inv., Gals.	North 600	Lake Level (USACE)	580.74	Min	36.0
	South 1800				

DISTRIBUTION REPORT

For the Month of January 2021

Activity	Number/Description
Water Main Breaks	8
MISS DIGS	232
Delinquent Shut Off	0 No delinquent shut off's per Governor Exeuctive Order
Hydrants (Repaired/Replaced)	1 Investigated hydrant at Water and State that had been out of service
Valve Turning	
Valves	1 Replaced broken valve on Ridge & Johnson (LCT) Repaired valve at Sunset & Marion (City)
Taps (1")	7 4132 S. Royal Curve (RCT). New home in old development. 4970 Notre Dame (LCT) Failed well 4230 Lincoln Ave (SJCT) Homeowner requested City water 4216 Hart (RCT) Failed well 3564 Martin Path (SJCT) New home in old development 2661 Heritage Way (LCT) New home in old development 4774 Lisa Ct. (RCT). New home in Royalton Township
Cross Connection Control	
Service Retirement	
Service Replacement (Lead)	2 2616 Botham Court (City). Due to main break 539 Madison (City) Due to customer doing sewer work.
Service Repair	
Frozen services	0
Repair of Curb box/Shut-Off Valves	6 Various; froze up, bent curb box, rod broken, adjust.
Replace Curb box	12
Meter pit/service replacement	0
Water Quality complaints	8 Water quality/pressure
Hydrant flushing to maintain water quality	0
Service line complaints (customer side)	6 leaks, high water use, misreported stormwater, snowbirds, low pressure
Private Service break	0
Staff Education/Training	0 No training in January
Overtime-Total	160.5

Meter Service Report-A detailed meter report for January 2021 will be provided at a later date.

Turn Off	Defective meter
Turn On	Sensors bad
Finals	Downsize meter
Meter Repair/Replacement	TRT missing
Meter Repair	Audit Meter
Per detail	Verify Read
Meter leaking	Move Mxu Box
Stopped Meter	New Installation
Faulty Register	
Frozen Meter	Replaced/various reasons (e.g.,downsize, defective)
Move Meter Inside	Rockwell Replacement
Hard to read	Mxu Replaced
Replace/Adding Sprinkler Meter	Sprinkler meter removed/line capped
Damage to Meter/TRT/wire damaged	Removals/demo
New Plumbing	Curb box location
New siding	Broken Remote
Lead services	Noisy Meter
	Upgrade 5/8" to 3/4" (upgrade to 1")

CITY OF ST. JOSEPH WATER MAIN BREAK REPORT-January 2021

Date	Location	Main Size	Gallons Lost	Break Type	Valves Turned	City Twp	Labor	Remarks
1/4/2021	185 Anchors Way	10	44,317	Circumferential	2	City	17	4 ft. deep, rubbish, loamy soil, no cathodic.
1/25/2021	2008 Sunset Dr.	6	17,475	Circumferential	3	City	9	5 ft. deep, clay, no cathodic
1/26/2021	1310 Lewis	6	40,840	Circumferential	3	City	19	4.5 ft deep, clay, no cathodic
1/27/2021	2839 Kimmel	6	50,000	Circumferential	3	LCT	21	6 ft. deep, sand, Village of Stevensville
1/29/2021	Hawthorn & Cleveland	10	76,575	Circumferential	4	SJCT	22	6.5 ft. deep, St. Joseph Township West
1/30/2020	5506 Ridge Rd.	6	20,000	Circumferential	3	LCT	24	6.5 ft. sand Village of Stevensville
1/31/2021	1680 Sun Prairie	6	80,000	Circumferential	1	SJCT	39	9 ft sand. Difficult due to depth
1/31/2021	Dennis & John Beers	6	90,000	Circumferential	2	LCT	21	6 ft. deep, sand
TOTALS			419,207					

DATE	FLOW MGD	FEED GAL	CHL LBS/DAY	CHLORINE APPLIED mg/l	Cl ₂ PRE mg/l	Cl ₂ POST mg/l	Cl ₂ MON mg/l	FLOW MGD	FEED GAL	CHL LBS/DAY	CHLORINE APPLIED mg/l	Cl ₂ PRE mg/l	Cl ₂ POST mg/l	Cl ₂ MON mg/l	BOOSTER MGD
1-Jan	1.074	173	24.53	2.74				0.820	92	13.04	1.91				1.894
2-Jan	1.074	173	24.53	2.74				0.820	92	13.04	1.91				1.894
3-Jan	1.074	173	24.53	2.74				0.820	92	13.04	1.91				1.894
4-Jan	1.074	173	24.53	2.74	1.36	1.09	1.07	0.820	92	13.04	1.91	1.12	1.71	1.20	1.894
5-Jan	0.000	0	0.00	0.00	1.17	0.99	0.91	1.909	96	13.61	0.85	1.01	1.03	1.04	1.909
6-Jan	1.971	346	49.06	2.98	1.06	1.02	0.85	0.000	0	0.00	0.00	0.77	0.99	0.94	1.971
7-Jan	0.000	0	0.00	0.00	1.15	0.97	0.97	1.938	189	26.80	1.66	1.29	1.24	1.23	1.938
8-Jan	1.391	234	33.18	2.86	2.10	1.94	1.30	0.502	50	7.09	1.69	1.40	1.31	1.37	1.893
9-Jan	1.330	205	29.06	2.62				0.678	61	8.65	1.53				2.008
10-Jan	1.330	205	29.06	2.62				0.678	61	8.65	1.53				2.008
11-Jan	1.330	205	29.06	2.62	0.98	1.04	1.03	0.678	61	8.65	1.53	0.80	0.94	0.86	2.008
12-Jan	0.000	0	0.00	0.00	1.22	0.98	0.82	1.987	189	26.80	1.62	1.06	1.06	1.01	1.987
13-Jan	1.986	330	46.79	2.82	1.00	1.07	1.03	0.000	0	0.00	0.00	1.45	1.42	0.90	1.986
14-Jan	0.000	0	0.00	0.00	1.39	1.01	0.75	1.868	156	22.12	1.42	1.19	1.03	1.06	1.868
15-Jan	1.901	109	15.45	0.97	1.16	1.09	0.88	0.000	0	0.00	0.00	1.16	1.11	1.02	1.901
16-Jan	0.904	25	3.54	0.47				0.978	85	12.05	1.48				1.882
17-Jan	0.904	25	3.54	0.47				0.978	85	12.05	1.48				1.882
18-Jan	0.904	25	3.54	0.47				0.978	85	12.05	1.48				1.882
19-Jan	0.904	25	3.54	0.47	0.87	0.94	0.99	0.978	85	12.05	1.48	0.98	1.53	1.21	1.882
20-Jan	0.000	0	0.00	0.00	0.80	0.92	0.92	1.937	170	24.10	1.49	0.89	0.89	0.96	1.937
21-Jan	1.910	293	41.54	2.61	1.23	1.00	1.06	0.000	0	0.00	0.00	0.76	0.89	0.90	1.910
22-Jan	0.000	0	0.00	0.00	1.30	1.05	0.99	1.925	167	23.68	1.47	1.12	1.19	1.16	1.925
23-Jan	1.295	183	25.95	2.40				0.664	52	7.37	1.33				1.959
24-Jan	1.295	183	25.95	2.40				0.664	52	7.37	1.33				1.959
25-Jan	1.295	183	25.95	2.40	1.34	1.07	1.11	0.664	52	7.37	1.33	0.95	1.04	1.02	1.959
26-Jan	0.000	0	0.00	0.00	1.60	1.02	1.02	1.929	166	23.54	1.46	1.08	1.12	1.13	1.929
27-Jan	1.834	256	36.30	2.37	1.19	1.00	0.98	0.000	0	0.00	0.00	1.29	1.23	1.14	1.834
28-Jan	0.000	0	0.00	0.00	1.02	1.04	0.88	2.036	171	24.24	1.43	1.25	1.20	1.25	2.036
29-Jan	1.814	259	36.72	2.43	1.13	1.05	1.01	0.000	0	0.00	0.00	1.14	1.48	1.40	1.814
30-Jan	0.653	98	13.89	2.55				1.398	120	17.01	1.46				2.050
31-Jan	0.653	98	13.89	2.55				1.398	120	17.01	1.46				2.050
TOTAL	29.901	3,979	564.1					30.044	2,641	374.44					59.944
AVE DAY	0.965		18.2	1.61	1.2	1.1	1.0	0.9691		12.1	1.23	1.09	1.18	1.09	1.934
MAX	1.986		49.1	2.98	2.1	1.9	1.3	2.0356		26.8	1.91	1.45	1.71	1.4	2.050
MIN	0.000		0.0	0.00	0.8	0.9	0.8	0.0000		0.0	0.00	0.76	0.89	0.86	1.814
MONTHLY TOTALS:	Cleveland Total MG				SJCT EAST			Hilltop Total MG				Cleveland Pump Station:			29.901
	Chl Add 29.901				Average Day 0.1374			Chl Add 30.044				Hilltop Pump Station:			30.044
Total Authority Flow:	59.945	No Cl Add	0.000	Month Total 4.258			No Cl Add 0.000				TOTAL AUTHORITY (Trted.)			59.945	

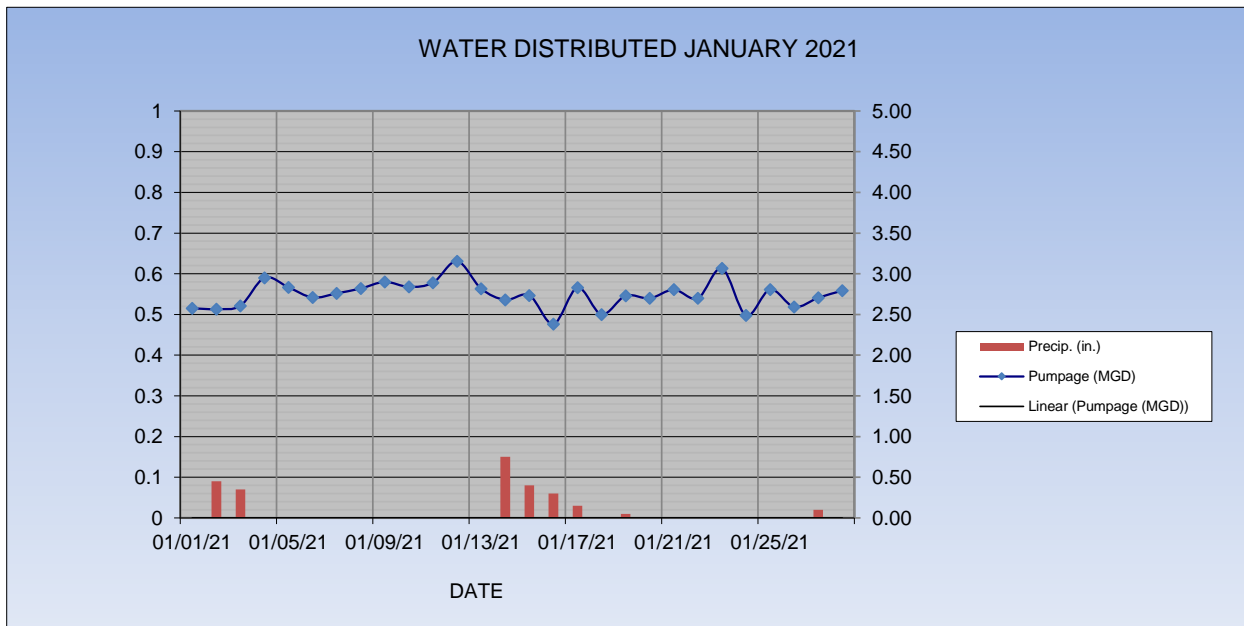
**ST JOSEPH WATER PLANT PUMPAGE-WATER DELIVERED/RAINFALL
JANUARY 2021**

DATE	PUMPAGE (gallons)	PUMPAGE (MGD)	*RAINFALL (in)	Day to Day Comparison 2021/2020	
				2021	2020
01/01/21	2,575,411	2.58	0	2,575,411	2,346,727
01/02/21	2,566,022	2.57	0.09	2,566,022	2,933,599
01/03/21	2,607,020	2.61	0.07	2,607,020	1,720,516
01/04/21	2,950,989	2.95	0	2,950,989	1,850,721
01/05/21	2,832,564	2.83	0	2,832,564	2,113,328
01/06/21	2,708,130	2.71	0	2,708,130	2,227,333
01/07/21	2,759,255	2.76	0	2,759,255	2,295,412
01/08/21	2,819,778	2.82	0	2,819,778	2,094,962
01/09/21	2,900,191	2.90	0	2,900,191	2,603,080
01/10/21	2,838,567	2.84	0	2,838,567	2,117,154
01/11/21	2,890,788	2.89	0	2,890,788	2,613,342
01/12/21	3,154,981	3.15	0	3,154,981	2,119,256
01/13/21	2,816,756	2.82	0	2,816,756	2,019,783
01/14/21	2,679,382	2.68	0.15	2,679,382	2,144,533
01/15/21	2,734,395	2.73	0.08	2,734,395	2,219,615
01/16/21	2,382,104	2.38	0.06	2,382,104	2,394,030
01/17/21	2,828,957	2.83	0.03	2,828,957	2,833,019
01/18/21	2,500,454	2.50	0	2,500,454	2,688,002
01/19/21	2,730,282	2.73	0.01	2,730,282	2,819,447
01/20/21	2,698,309	2.70	0	2,698,309	2,910,942
01/21/21	2,805,472	2.81	0	2,805,472	2,882,257
01/22/21	2,699,216	2.70	0	2,699,216	3,318,465
01/23/21	3,066,493	3.07	0	3,066,493	2,731,866
01/24/21	2,489,159	2.49	0	2,489,159	2,805,102
01/25/21	2,806,644	2.81	0	2,806,644	2,564,292
01/26/21	2,592,010	2.59	0	2,592,010	2,966,060
01/27/21	2,705,529	2.71	0.02	2,705,529	3,097,949
01/28/21	2,792,557	2.79	0	2,792,557	2,524,990
01/29/21	2,886,326	2.89	0	2,886,326	2,823,930
01/30/21	2,708,678	2.71	0	2,708,678	3,026,652
01/31/21	3,019,455	3.02	0.07	3,019,455	2,694,257
TOTAL	85,545,876	85.55	0.58	85,545,876	78,500,621

Monthly Average/Max Day/Minimum Day

Average Day	2,759,544
Maximum Day	3,154,981
Minimum Day	2,382,104

*Includes measure of melted snow.

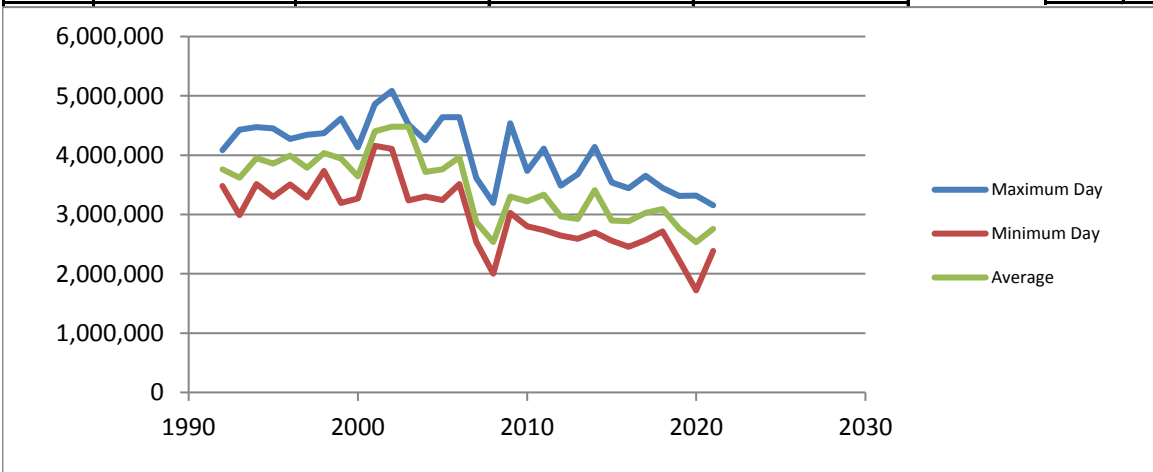


ST. JOSEPH WATER PLANT PUMPAGE-WATER DELIVERED

January 2021

Year	Average	Maximum Day	Minimum Day	Monthly Total
1992	3,758,219	4,084,500	3,481,100	116,504,800
1993	3,622,235	4,431,700	2,990,500	112,289,300
1994	3,948,248	4,470,100	3,510,400	122,395,700
1995	3,859,761	4,448,700	3,299,200	119,652,600
1996	3,993,939	4,272,000	3,505,300	123,812,100
1997	3,788,782	4,344,400	3,286,700	117,452,250
1998	4,035,369	4,369,050	3,735,900	125,096,450
1999	3,946,455	4,616,550	3,193,000	122,340,100
2000	3,640,661	4,130,300	3,267,250	112,860,500
2001	4,400,261	4,858,780	4,157,200	136,408,100
2002	4,479,403	5,084,950	4,107,000	138,861,500
2003	4,479,403	4,514,060	3,238,250	113,163,010
2004	3,715,344	4,250,750	3,301,000	115,175,650
2005	3,758,500	4,641,410	3,240,000	116,513,490
2006	3,967,646	4,638,500	3,513,500	122,997,040
2007	2,872,435	3,614,000	2,534,000	89,045,500
2008	2,534,919	3,195,250	1,999,500	78,582,500
2009	3,302,903	4,536,750	3,024,250	102,390,440
2010	3,222,808	3,731,500	2,802,510	99,907,060
2011	3,336,597	4,108,987	2,735,414	103,434,507
2012	2,967,282	3,484,780	2,645,356	91,985,729
2013	2,923,828	3,681,495	2,588,294	90,638,675
2014	3,407,415	4,138,686	2,697,384	105,629,857
2015	2,898,958	3,539,342	2,559,148	89,867,686
2016	2,884,653	3,443,767	2,455,434	89,424,242
2017	3,027,535	3,650,980	2,569,355	93,853,596
2018	3,089,481	3,449,069	2,712,610	95,773,901
2019	2,764,300	3,312,744	2,226,281	85,693,311
2020	2,532,278	3,318,465	1,720,516	78,500,621
2021	2,759,544	3,154,981	2,382,104	85,545,876

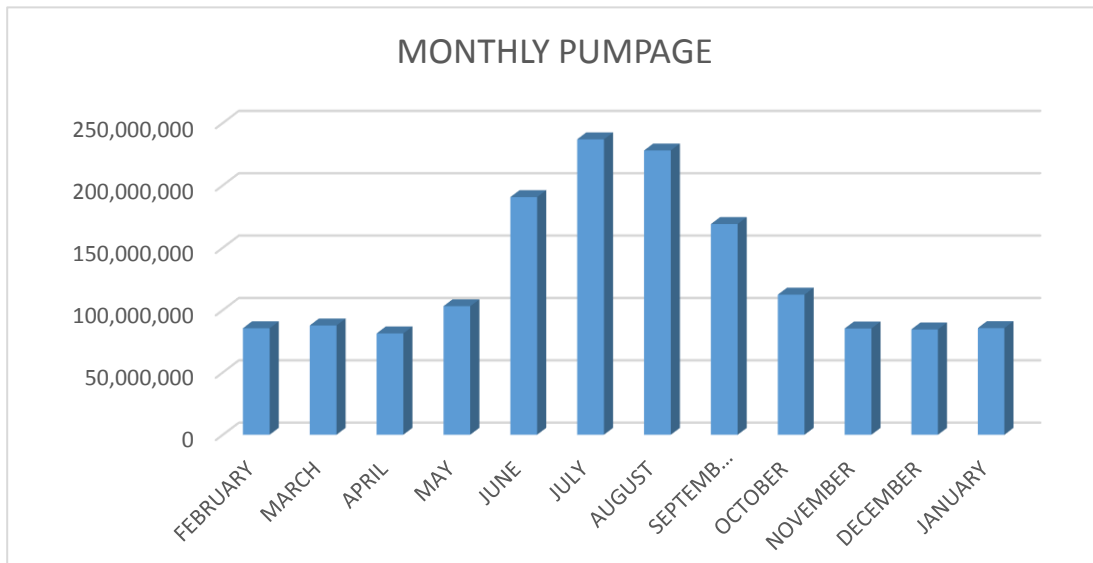
Rank	Year	Monthly Total
1	2002	138,861,500
2	2001	136,408,100
3	1998	125,096,450
4	1996	123,812,100
5	2006	122,997,040
6	1994	122,395,700
7	1999	122,340,100
8	1995	119,652,600
9	1997	117,452,250
10	2005	116,513,490
11	1992	116,504,800
12	2004	115,175,650
13	2003	113,163,010
14	2000	112,860,500
15	1993	112,289,300
16	2014	105,629,857
17	2011	103,434,507
18	2009	102,390,440
19	2010	99,907,060
20	2018	95,773,901
21	2017	93,853,596
22	2012	91,985,729
23	2013	90,638,675
24	2015	89,867,686
25	2016	89,424,242
26	2007	89,045,500
27	2019	85,693,311
28	2021	85,545,876
29	2008	78,582,500
30	2020	78,500,621



ST. JOSEPH WATER PLANT-YEAR TO DATE PUMPAGE

January 2021

	Pumpage Month	Pumpage FISCAL YTD	By Quarter
FEBRUARY	85,381,530		
MARCH	87,660,793		173,042,323
APRIL	81,275,185		
MAY	103,081,905		
JUNE	190,552,034		374,909,124
JULY	236,887,854	236,887,854	
AUGUST	227,968,057	464,855,911	
SEPTEMBER	168,999,470	633,855,381	1,335,599,146
OCTOBER	112,348,772	746,204,153	
NOVEMBER	85,192,969	831,397,122	
DECEMBER	84,424,836	915,821,958	281,966,577
JANUARY	85,545,876	1,001,367,834	
TOTAL	1,463,773,406		



	TOC Compliance								
	Treated	Source	Formula		Req. TOC	Actual	Alternative	Compl. Perf.	
	Tap	Tap	Ratio	Alka- linity	Removal	Ratio/ Remov	Criteria Complied Y/N		
February	1.73	2.29	24.5	128	15	1.63	N(Removal)	1.63	2/19/2020
March	1.74	2.07	15.9	137	15	1.06	N(Removal)	1.06	3/18/2020
Qtr Average						1.35			
April	1.70	1.93	11.9	113	25	0.48	Yes	1.00	4/15/2020
May	1.60	1.97	18.8	110	25	0.75	Yes	1.00	5/20/2020
June	1.44	1.72	16.3	112	25	0.65	Yes	1.00	6/17/2020
Qtr Average						0.63			
July	1.65	1.92	14.1	109	25	0.56	Yes	1.00	7/15/2020
August	1.72	2.01	14.4	109	25	0.58	Yes	1.00	8/6/2020
September	1.49	1.83	18.6	110	25	0.74	Yes	1.00	9/16/2020
Qtr Average						0.63	Yes		
October	1.47	1.98	25.8	131	15	1.72	N(Removal)	1.72	10/19/2020
November	1.42	1.77	19.8	112	25	0.79	Yes	1.00	11/10/2020
December	1.57	1.98	20.7	116	25	0.83	Yes	1.00	12/8/2020
Qtr Average						1.11			
January	1.40	1.99	29.6	110	25	1.19	N(Removal)	1.19	1/20/2021
Qtr Average						1.19			
Annual Avg.	1.58	1.96				0.98		1.13	

STAGE 2 D/DBPR MONITORING-TTHM

JANUARY 2021

WSSN 3726

Date	04/15/20	04/15/20
Site	Lincoln Twp Hall (DBP-1)	JR Automation (DBP-2)
Bromodichloromethane	12	13
Bromoform	<0.5	<0.5
Chloroform	39	50
Dibromochloromethane	2.6	2.8
<i>Total Trihalomethanes</i>	53.6	65.8

Date	07/15/20	07/15/20
Site	Lincoln Twp Hall (DBP-1)	JR Automation (DBP-2)
Bromodichloromethane	10	17
Bromoform	<0.5	<0.5
Chloroform	29	62
Dibromochloromethane	3.7	5.3
<i>Total Trihalomethanes</i>	42.7	84.3

Date	10/02/20	10/02/20
Site	Lincoln Twp Hall (DBP-1)	JR Automation (DBP-2)
Bromodichloromethane	15	15
Bromoform	<0.5	<0.5
Chloroform	44	43
Dibromochloromethane	6.4	6.5
<i>Total Trihalomethanes</i>	65.4	64.5

Date	01/13/21	01/13/21
Site	Lincoln Twp Hall (DBP-1)	JR Automation (DBP-2)
Bromodichloromethane	14	13
Bromoform	<0.5	<0.5
Chloroform	39	36
Dibromochloromethane	6.5	6
<i>Total Trihalomethanes</i>	59.5	55

	Lincoln Twp Hall (DBP-1)	Dane (DBP-2)
RAA (ppb)	55.3	67.4

Samples were collected at nearby hydrants.
 Access was denied due to Executive Order 2020-15 Covid 19.

STAGE 2 D/DBPR MONITORING-HALOACETIC ACIDS

JANUARY 2021

WSSN 3726

Date	04/15/20	04/15/20
Site	Lincoln Twp Hall (DBP-1)	JR Automation (DBP-2)
Dibromoacetic acid	<1	<1
Dichloroacetic acid	14	19
Monobromoacetic acid	<1	<1
Monochloroacetic acid	<2	2
Trichloroacetic acid	17	23
Total HAA5	31	44.0

Date	07/15/20	07/15/20
Site	Lincoln Twp Hall (DBP-1)	JR Automation (DBP-2)
Dibromoacetic acid	<1	<1
Dichloroacetic acid	14	9.5
Monobromoacetic acid	<1	<1
Monochloroacetic acid	<2	<2
Trichloroacetic acid	10	16
Total HAA5	24	25.5

Date	10/02/20	10/02/20
Site	Lincoln Twp Hall (DBP-1)	JR Automation (DBP-2)
Dibromoacetic acid	<1	<1
Dichloroacetic acid	3.1	2.9
Monobromoacetic acid	<1	<1
Monochloroacetic acid	<2	<2
Trichloroacetic acid	8	4.2
Total HAA5	11.1	7.1

Date	01/13/21	01/13/21
Site	Lincoln Twp Hall (DBP-1)	JR Automation (DBP-2)
Dibromoacetic acid	<1	<1
Dichloroacetic acid	7	7.5
Monobromoacetic acid	<1	<1
Monochloroacetic acid	<2	<2
Trichloroacetic acid	9.4	11
Total HAA5	16.4	18.5

	Lincoln Twp Hall (DBP-1)	Dane (DBP-2)
RAA (ppb)	20.6	23.8

MONTHLY CLIMATOLOGICAL SUMMARY

January

2021

NAME: sjwwweather

St. Joseph Water Plant - 1701 Lions Park Drive - St. Joseph, MI

DAY	MEAN TEMP	NORM MEAN TEMP	HIGH TEMP	TIME	NORM HIGH TEMP	REC HIGH TEMP	YEAR	LOW TEMP	TIME	NORM LOW TEMP	REC LOW TEMP	YEAR	HEAT DEG DAYS	COOL DEG DAYS	RAIN	AVG WIND SPEED	HIGH	TIME	DOM DIR
1	29.2	26	33.9	7:00p	33	51	1952	23.2	2:30a	19	-10	1964	35.8	0	0	3.7	19	2:30p	ENE
2	33.7	26	35.7	11:30a	33	50	1950	32.2	1:30a	19	-1.5	2018	31.3	0	0.09	2.4	16	12:30a	E
3	34.5	26	36.8	6:00p	33	66	1950	32.6	8:00a	18	-3	1979	30.5	0	0.07	4.2	17	10:00p	ENE
4	32.2	26	35.5	4:30p	33	59	1997	29.2	9:00a	18	-2	1979	32.8	0	0	5.9	22	9:30p	S
5	36.1	26	37.7	2:00p	33	62	1997	31.9	1:00a	18	-15	1999	28.9	0	0	11.9	24	1:00a	WNW
6	37.9	26	41	2:30p	33	55	1998	35.5	12:00m	18	-2	1979	27.1	0	0	2.6	15	2:00a	NE
7	35.5	26	39.2	1:00p	33	53	2019	31	11:30p	18	-10	1988	29.5	0	0	2.8	14	12:00p	ENE
8	29.8	25	33	4:30p	33	62	1965	24.6	12:00m	18	-13	1988	35.2	0	0	6.2	24	4:00p	NNE
9	26.3	25	32.8	7:30p	33	61	1965	19.6	8:00a	17	-1	1979	38.7	0	0	2.9	10	2:30p	N
10	29.7	25	34.2	6:00p	33	60	1975	24.6	4:00a	17	-7	1962	35.3	0	0	6.7	22	7:00p	SSE
11	29	25	33	12:30a	32	59	1975	25.5	12:00p	17	-10	1962	36	0	0	15.4	34	10:00p	SW
12	32.9	25	37.4	5:00p	32	58	1960	28.7	7:30a	17	-1	1997	32.1	0	0	12.5	29	4:30a	SW
13	37.9	25	40.9	9:00p	32	59	1950	34	7:30a	17	-7	1977	27.1	0	0	7.6	24	10:00a	S
14	39.3	25	44.5	2:30p	32	53	1950	34.6	8:30a	17	-1	1988	25.7	0	0.15	5	21	12:00m	SSE
15	34.8	25	38.6	12:30a	31	60	1949	30.2	11:30p	17	-7	1972	30.2	0	0.08	3.7	20	1:30a	SSE
16	33.6	25	38	3:30p	31	60	1949	29.8	1:00a	17	-17	1994	31.4	0	0.06	8.9	32	7:00p	SSE
17	34.5	25	36.8	12:30a	31	59	1952	32.4	10:00p	17	-7	1957	30.5	0	0.03	12.4	25	12:30a	SW
18	32.2	24	33.9	1:30a	31	57	1996	30.3	11:00p	17	-7	1994	32.8	0	0	15.9	28	9:00p	W
19	30.9	24	32.8	9:00p	31	57	1996	29.8	4:00a	16	-17	1994	34.1	0	0.01	18.6	34	8:00p	W
20	27.7	24	36.3	12:00m	31	52	1954	23.7	10:30a	16	-10	1985	37.3	0	0	14.5	39	2:30a	S
21	37.5	24	39.8	4:00p	31	62	2017	36.2	12:30a	16	-13	1984	27.5	0	0	22.7	40	1:00a	SW
22	25.6	24	36.2	12:30a	31	56	1957	21.7	7:00p	16	-9	1970	39.4	0	0	18.6	37	1:00a	WNW
23	27	24	32.7	4:00p	31	56	1967	23.5	12:30a	16	-4	1963	38	0	0	4.8	20	1:00a	SSE
24	30.2	24	32.9	4:30p	31	64	1967	25.9	12:30a	16	-6	1963	34.8	0	0	2.7	18	10:00a	ESE
25	32.1	24	34.1	3:00p	31	68	1950	30.8	12:00m	16	-8	1961	32.9	0	0	3.9	18	7:00p	NE
26	29.9	24	31.8	7:00p	31	66	1950	27.3	12:00m	16	-5	1987	35.1	0	0	8.2	29	11:30p	NNE
27	25.8	24	30.6	1:30p	32	54	1973	19.5	8:30a	16	2	1986	39.2	0	0.02	7.8	30	8:30p	ENE
28	24.6	25	27.2	3:00p	32	52	1970	22.7	8:30a	16	-7	1977	40.4	0	0	6.3	22	11:30a	WNW
29	25	25	33.6	3:30p	32	49	1975	17.7	8:00a	16	-8	1955	40	0	0	3.1	12	10:00a	ESE
30	28.6	25	32.8	2:00p	32	56	1988	25.2	3:30a	16	-8	1949	36.4	0	0	4.9	25	6:30p	ESE
31	30.4	25	33.5	12:00p	32	62	1989	27.1	12:30a	16	-9.1	2019	34.6	0	0.07	6.9	22	3:00a	NNE
AVE	31.4	24.9											33.6	0.0	0.0	8.2	23.9		SSE
MAX	39.3	26	44.5			68		36.2		19	2		40.4	0	0.15	22.7	40.0		
MIN	24.6	24	27.2					17.7		16	-17		25.7	0	0	2.4	10		
TOTAL															0.58				

Max Rain: 0.15 ON 01/14/21
 Days of Rain: 8 (>.01 in) 1 (>.1 in) 0 (>1 in)