

CITY OF ST. JOSEPH WATER FILTRATION PLANT
OPERATIONAL REPORT
JANUARY 2015



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 REPORT-JANUARY 2015

Water demand in January was down by 15,762,171 gallons or 15% from last year. This year 89,867,686 gallons were delivered which compares to 105,629,857 gallons delivered in January of 2014. Some of the disparity in the numbers is due to the fact that the January 2014 pumpage reflects the water lost from the main break on Lakeshore Drive and Lakeview last year which resulted in an estimated 5.2 million gallon loss. The January 2015 pumpage ranks 28th in the 30 year tabulation dating back to 1986.

GENERAL ACTIVITIES

Strategic Capital Improvement Plan

The SCIP project is complete. The report was presented to the Water Services Joint Operating Board on January 21, 2015 and will be presented to the City Commission during their March study session. Both boards received the executive summary in December. The St. Joseph SCIP is timely since we learned in October that the Michigan Department of Environmental Quality will be requiring all water supplies to submit capital improvement plans by January 1, 2016.

Water Plant Security

Installation of the security system is nearly complete. Two weather rated high resolution cameras were received on January 14th and will be installed once a service date can be scheduled with the vendor. Plant staff and Mead & White began running conduit and cable in August and worked with Simplex Grinnell and Double K Enterprises to install the card readers, cameras and monitoring equipment. The system is now on line and operating.

Process Chlorination

In light of the elevated disinfection byproducts results obtained in September and October plant staff is working to reduce their formation by shifting chlorination in the process. One of the treatment strategies available to reduce DBP's is the reduction of chlorine feed in the clarifiers prior to sedimentation. By reducing the chlorine dose in the wetwell and proportionately increasing it in the applied prior to filtration we hope to achieve lower DBP formation. In consultation with MDEQ and CH2M Hill and upon close review of treatment records we initiated this process in early December and took a conservative approach by establishing a setpoint on the applied water feed and adjusting the chlorine dose to the raw water as needed. This approach has resulted in an effective shift of dose from approximately 90/10 to 50/50 (Raw/Applied). Plant staff is also monitoring chlorine contact time to assure optimum disinfection. This operational strategy is working well and has probably let to the improved D/DBP results obtain in January.

Shoreline Protection

Lake Michigan is up 35 inches since its record low in November of 2012. Staff is closely monitoring the condition of the shoreline protection for the facility. The City of St. Joseph has always been diligent in protecting the water plant from shoreline erosion. Shore protection was fortified in 1929, 1952, 1974 and most recently 2008. In 2008, the USACE and the City participated in a \$600,000 Section 14 Project to replace 325 ft. of rip rap extending from the northerly boundary of the plant south. The protection consisted of a geotextile fabric layer followed by a layer of small mattress stone. On top of the mattress zone large granite rock weighing from 4,000-6,000 lbs. per piece was placed by means of a heavy excavator. The stone was trucked in from a quarry in Wisconsin and the contractor was Luedke Marine of Frankfort, MI. A section of the stone was moved temporarily to facilitate construction of the shorewell in 2011.

USACE returned to inspect the project to assure that the reconstructed shore protection met USACE standards. The City is required to perform annual inspections. In spite of the size of the rock, its cumulative weight and the engineered design, it is expected to degrade over time. In light of this eventual reality and the fact that the protection for the remainder of the facility dates back to the 1970's replacement has been funded in the SCIP. In light of the heavy October storms, we requested a courtesy inspection by USACE which was conducted on December 16th. USACE engineers discovered three areas of minor damage. They recommended that the replacement of the geotextile fabric, bedding stone and armor stone in the affected areas. Undamaged rock may be reused. They estimated two truckloads of rock would be needed. Staff contacted the quarry that supplied the 2008 stone and received a quote of \$1,700 per truck load. A local contractor could be used to place the stone and the City could provide engineering in house. The project would cost in the range of \$15,000 to \$20,000 by my estimate and would be done in the Spring weather permitting. The USACE written report was received on January 15th. Some thought is being given to the idea that animals particularly ground hogs which have been sighted at the plant are responsible for damage to the geotextile fabric. Staff is working through the MDEQ and DNR to address the problem.

Cross Connection Control Inspections

Hydro Designs completed 20 inspections in the City during the week of November 17th. The total number of contract inspections completed during the year was 311. There are currently 22 accounts that are in non-compliance. The majority of these involve backflow prevention devices that have not been tested by a licensed plumber and the remainder require correction of the plumbing/device. These customers were notified by mail and will be called. If they do not comply they will be shut off. Seven shut off notices were sent in December. The three year contract with Hydro Designs will be brought before the City Commission on February 9th for renewal.

D/DBPR Stage 2 January Authority Monitoring

Laboratory analysis of the October sample taken on the 15th revealed a HAA5 result of 105 ppb. This posed a concern since the running annual average must not exceed 60 ppb. A second sample was taken on October 31st in which a result of 38 ppb was found. Given the low levels of HAA5 found throughout the year we expect to remain in compliance. Nonetheless, plant staff is actively exploring measures to improve HAA5 reduction through treatment, on-line laboratory analysis and diligent flushing of the distribution system. The City has undertaken unidirectional flushing this fall in the City service area and will resume in the spring.

On January 14th, the quarterly sample was taken and rushed to the laboratory in South Bend for analysis. We are very pleased to report that a HAA5 result of 9.3 ppb at site #2. This brings our running annual average down to 44.7 ppb. At this point it is too early to determine to what extent better raw water quality and/or the process shift in chlorination played a role in the improvement.

Travel & Training

Mark Thornton and Jeff Peden attended the Michigan Section AWWA/MWEA Joint Expo in Lansing on February 4th.

I am scheduled to make a presentation on the Intake/Shorewell project at the Michigan Section AWWA Regional Meeting in Kalamazoo in April and at the Michigan Section Annual Meeting in Sault Ste. Marie in September.

Tony Myers of CH2M Hill who developed our Strategic Capital Improvement Plan will make a presentation featuring St. Joseph at the Michigan Section Annual Meeting in Sault Ste. Marie in September.

Water Plant Operator

The open operator position was posted internally in December and was advertised during the week of January 12th. A total of seventeen applications were received. Several strong applications were received. Interviews are scheduled for the week of February 17th.

Fairplain Interconnects

Staff met with Alan Smaka of Wightman & Associates representing St. Joseph Charter Township and Stewart Beach, Benton Harbor Utility Services Department Director on January 9th and January 22nd to select a suitable meter and vault detail and review plans. In addition, Wightman field crews conducted field inspections of the existing interconnections in the Fairplain service area. Benton Charter Township Distribution Foreman Mike Baldwin attended the earlier meeting. The disposition of the various interconnects between jurisdictions was discussed. All interconnections that are retained with the shared system will be metered as required in the St. Joseph rules and regulations. Interconnections that are not needed will be capped. The project to install meters and cap will be advertised to bid in late mid to late February. These interconnections provide a means to obtain water from another water supply in the event of an emergency. The St. Joseph/Benton Harbor interconnection on M-63 has proved itself to be a vital source of water since its installation in 1950. Most recently, the interconnects in Fairplain located along Colfax at Napier, Elmside and Nickerson assured uninterrupted water supply to Benton Township customers in January of 2013 when the control board battery backup failed at the water plant.

Berrien County Water Superintendents Meeting

Staff met with Superintendents from Benton Charter Township and Lake Charter Township. The planned exercising of the interconnect valve with Lake Township was moved up to March at the township's request due to the upcoming painting project on their water tower which is scheduled to begin in April.

South Intake

Plant staff took the North intake and Shorewell out of service during the week of January 26th for routine spring cleaning and maintenance. The work was successfully completed. Staff removed a considerable amount of sea grass and leaves from the screens. Very little sand was found on the floor of the wetwell while most of the material was alum from reclaim which had accumulated around the inlet chamber pipe in 4'-6" level. The plan upon successful completion of the work was to stay on the South intake for one to two weeks. However, within a couple of days, the operational staff reported abnormally low water levels in the south wet-well. In an attempt to correct the situation, the traveling screen was run. Temporary relief was afforded by this measure but the levels soon began to drop again. The decision was then made to go back to the North intake. The working theory at this point is that the problem is either an ice buildup on the structures in the lake or heavy sand accumulation. Given, that this intake provides a raw water source that enables the backflushing of the North intake in the event of frazil ice we are working to find the problem. The good news is that the North intake which was placed into service in 2011 is deeper and therefore much less vulnerable to icing.

Monthly Maintenance Notes

January 2015

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. Snow Removal at Plant, Booster Stations and Water Towers
01/05/15	D.A. Dodd - Installed (2) new manual and (2) new air operated ball valves on chlorine feed lines to the wet well and intake in the South Low Service Building
01/07/15	Cleaned and flushed turbidimeter supply lines for Filters 1-4
01/09/15	Installed New Battery Backup Unit (UPS) for Main Control Panel
01/12/15	D.A. Dodd - Annual Inspection and Service on South Boiler
01/13/15	Installed new lights in lower maintenance shop
01/14/15	
01/20/15	Wiltse Fence - Reprogrammed remote gate controls to hold gates open. Installed remote reader on east gate
01/22/15	D.A. Dodd - Annual Inspection and Service on North Boiler
01/22/15	Installed new unit heaters by alum tanks and in rapid mix room
01/27/15	Installed New Containment Pallet and Stand for Fluoride Day Tank. Also installed new supply and discharge hose on day tank
01/28/15	Switched over to South Low Service Station and Cleaned North Wet Well in North Low Service Station
01/29/15	Cleaned South Wet Well and Intake Chamber in North Low Service Station
01/30/15	Switched back over to North Low Service Station (South Low Service wet well level dropping uncharacteristically)
01/30/15	Mead & White - Installed New Temperature probe and conduit in North Low Service Intake Chamber

**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 2015

DISTRIBUTION:	
Total Gallons	89,867,686
Average Day	2,898,958
Maximum Day	3,539,342
Minimum Day	2,559,148

TREATMENT:	
Total Low Service	92,958,324
Wash Water Gals.	1,081,745
Wash Water %	1.19%
Plant Use Gals.	1,619,619
Plant Use %	1.75%

FILTRATION:		
Ave. Filter Run	64.7	hours
Ave. Filter Rate	2.01	g/sqft/min
Filter Eff. Index	331.0	
Ave. Loss of Head	1.1	feet
Plant Sewer Usage 720 \$ 1,591.91		

LABORATORY REPORT		
Average of	Raw	Tap
Chlorides mg/L	21.9	19.2
Fluoride mg/L	0.14	0.87
Alkalinity mg/L	121	105
Hardness mg/L	153	149
pH	8.1	7.3
Calcium mg/L	43	42
Magnesium mg/L	12	11
Turbidity NTU	1.97	0.04
Temperature °F	34	
Total Coliform		0.0
Chlorine Residual mg/L Free		
Mixing Basin		0.97
Applied		1.74
Tap		1.81
Distribution		1.34

TREATMENT CHEMICAL SUMMARY:					
	Applied mg/L	Total Lbs.	Cost	Inventory lbs.	Days Supply
		CHEMICAL			
Alum (Al ⁺³)	1.90	1,471	\$4,281.53	5,884	124
Chlorine (Cl ₂)	2.92	2,259	\$587.34	8,226	113
Fluoride (F ₂)	0.88	683	\$2,048.01	1,765	80

			REMARKS:			
Total Cost all Chemicals		\$6,916.88				
Chemical Cost per Mil. Gallon Treated		\$74.41				
Chemical Cost per Mil. Gallon Delivered		\$76.97				
PLANT UTILITIES SUMMARY						
Electric:						
Total KWH		5,440	***includes measure of melted snow			
Total Power Cost		\$426.06	visit the City of Saint Joseph's Home page at www.sjcity.com			
Power Cost per Million Gallon Treated		\$148.31	e-mail comments to either: operator@sjcity.com or galimenti@sjcity.com			
Power Cost per Million Gallon Delivered		\$181.33	WEATHER CONDITIONS AT THE PLANT		Air Temp. °F	
Gallons Pumped per KWH		16520	SJWW Weather Computer		Avg.	26.6
			Rain Guage, Inches	0.89	Max.	42.9
			days it rained***	4	Min.	-0.6
Natural Gas:			Wind Speed, Avg	10.5	Lake Temp. °F	
Metered Cubic Feet		8386	Wind Speed, Max	56	Avg.	34.2
Natural Gas Cost		\$5,932.10	Prevailing Wind Dir.	SSE	Max	37.7
Emergency Power Diesel Fuel Inv., Gals.	Full	2400	Lake Level (USACE)	579.04	Min	31.2
	3/4 Full	620				

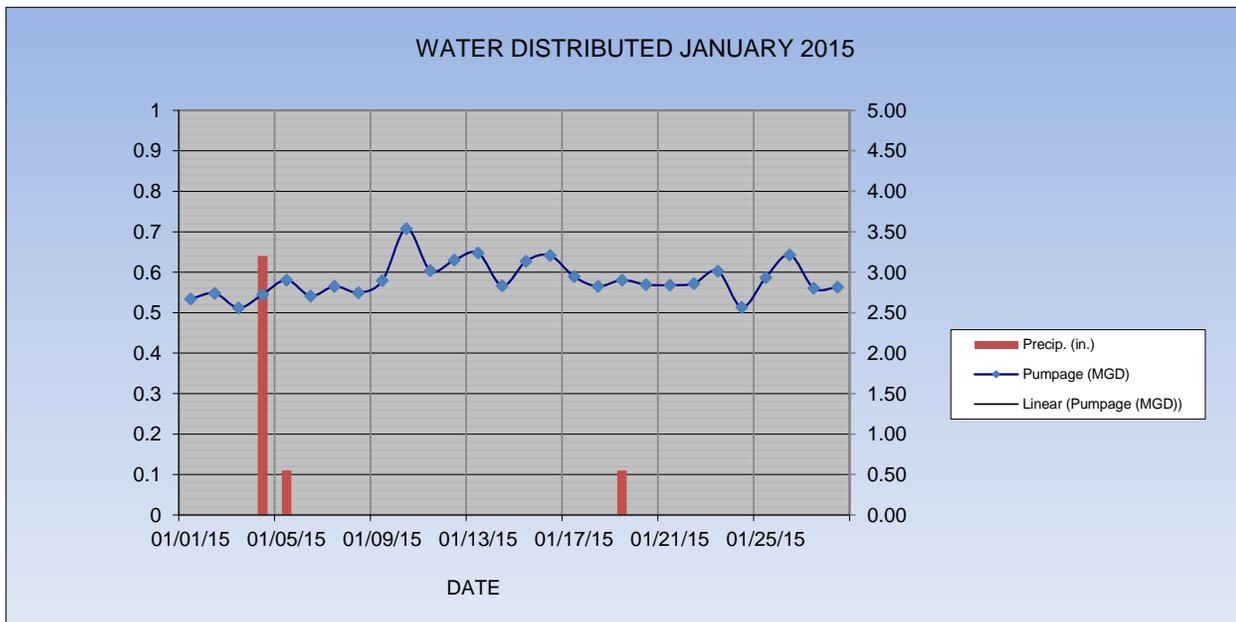
**ST JOSEPH WATER PLANT PUMPAGE-WATER DELIVERED/RAINFALL
JANUARY 2015**

DATE	PUMPAGE (gallons)	PUMPAGE (MGD)	*RAINFALL (in)	Day to Day Comparison 2015/2014	
				2015	2014
01/01/15	2,670,867	2.67	0	2,670,867	2,900,257
01/02/15	2,739,873	2.74	0	2,739,873	2,849,424
01/03/15	2,559,148	2.56	0	2,559,148	3,080,789
01/04/15	2,725,100	2.73	0.64	2,725,100	3,154,585
01/05/15	2,905,056	2.91	0.11	2,905,056	3,183,428
01/06/15	2,706,409	2.71	0	2,706,409	3,346,544
01/07/15	2,826,619	2.83	0	2,826,619	3,803,504
01/08/15	2,748,030	2.75	0	2,748,030	3,478,317
01/09/15	2,896,033	2.90	0	2,896,033	3,523,639
01/10/15	3,539,342	3.54	0	3,539,342	3,785,692
01/11/15	3,021,685	3.02	0	3,021,685	3,817,075
01/12/15	3,149,298	3.15	0	3,149,298	4,138,686
01/13/15	3,237,113	3.24	0	3,237,113	4,019,267
01/14/15	2,831,639	2.83	0	2,831,639	3,886,814
01/15/15	3,137,471	3.14	0	3,137,471	3,809,059
01/16/15	3,206,231	3.21	0	3,206,231	3,442,000
01/17/15	2,945,341	2.95	0	2,945,341	3,614,593
01/18/15	2,825,092	2.83	0	2,825,092	3,587,052
01/19/15	2,903,758	2.90	0.11	2,903,758	3,232,718
01/20/15	2,847,311	2.85	0	2,847,311	3,262,518
01/21/15	2,839,979	2.84	0	2,839,979	3,227,524
01/22/15	2,861,017	2.86	0	2,861,017	3,381,870
01/23/15	3,014,855	3.01	0	3,014,855	3,674,374
01/24/15	2,567,054	2.57	0	2,567,054	3,147,286
01/25/15	2,933,369	2.93	0	2,933,369	3,144,226
01/26/15	3,215,197	3.22	0	3,215,197	3,097,522
01/27/15	2,803,736	2.80	0	2,803,736	3,155,483
01/28/15	2,816,407	2.82	0	2,816,407	3,567,601
01/29/15	2,843,267	2.84	0.03	2,843,267	3,411,644
01/30/15	2,700,381	2.70	0	2,700,381	3,208,981
01/31/15	2,851,009	2.85	0	2,851,009	2,697,384
TOTAL	89,867,686	89.87	0.89	89,867,686	105,629,857

Monthly Average/Max Day/Minimum Day

Average Day	2,898,958
Maximum Day	3,539,342
Minimum Day	2,559,148

*Includes measure of melted snow.

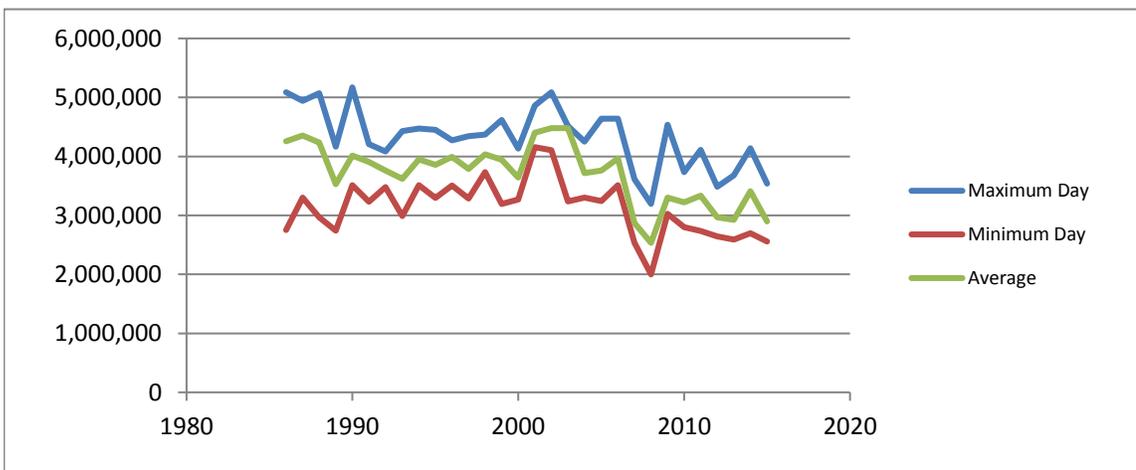


ST. JOSEPH WATER PLANT PUMPAGE-WATER DELIVERED

JANUARY 2015

Year	Average	Maximum Day	Minimum Day	Monthly Total
1986	4,254,145	5,085,700	2,749,200	131,878,500
1987	4,351,994	4,941,900	3,301,500	134,911,800
1988	4,233,552	5,069,900	2,967,000	131,240,100
1989	3,530,145	4,163,100	2,741,800	109,434,500
1990	4,012,513	5,170,800	3,514,500	124,387,900
1991	3,904,890	4,208,600	3,231,700	121,051,600
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

Rank	Year	Monthly Total
1	2002	138,861,500
2	2001	136,408,100
3	1987	134,911,800
4	1986	131,878,500
5	1988	131,240,100
6	1998	125,096,450
7	1990	124,387,900
8	1996	123,812,100
9	2006	122,997,040
10	1994	122,395,700
11	1999	122,340,100
12	1991	121,051,600
13	1995	119,652,600
14	1997	117,452,250
15	2005	116,513,490
16	1992	116,504,800
17	2004	115,175,650
18	2003	113,163,010
19	2000	112,860,500
20	1993	112,289,300
21	1989	109,434,500
22	2014	105,629,857
23	2011	103,434,507
24	2009	102,390,440
25	2010	99,907,060
26	2012	91,985,729
27	2013	90,638,675
28	2015	89,867,686
29	2007	89,045,500
30	2008	78,582,500



CLEVELAND BOOSTER STATION

HILLTOP BOOSTER STATION

BOTH

DATE	MGD TREATED	FEED METER GAL	CHL LBS/DAY	CHLORINE APPLIED mg/l	Cl ₂ RES PRE mg/l	Cl ₂ RES POST mg/l	Cl ₂ RES MON mg/l	MGD TREATED	FEED METER GAL	CHL LBS/DAY	CHLORINE APPLIED mg/l	Cl ₂ RES PRE mg/l	Cl ₂ RES POST mg/l	Cl ₂ RES MON mg/l	MGD TREATED BOTH	
1-Jan	0.577	32	4.5	0.9				1.060	15	2.13	0.24				1.637	
2-Jan	0.577	32	4.5	0.9	1.80	1.75	1.77	1.060	15	2.13	0.24	2.14	1.93	2.00	1.637	
3-Jan	0.589	33	4.7	1.0				1.168	0	0.04	0.00				1.757	
4-Jan	0.589	33	4.7	1.0				1.168	0	0.04	0.00				1.757	
5-Jan	0.589	33	4.7	1.0	1.61	1.53	1.55	1.168	0	0.04	0.00	1.63	1.63	1.64	1.757	
6-Jan	0.000	0	0.0	0.0	1.39	1.41	1.43	1.680	34	4.82	0.34	2.20	1.91	1.97	1.680	
7-Jan	0.000	2	0.3	0.0	1.81	1.41	1.83	1.691	18	2.55	0.18	2.40	2.19	2.27	1.691	
8-Jan	0.000	0	0.0	0.0	1.59	1.39	1.55	1.708	18	2.55	0.18	2.17	1.97	2.04	1.708	
9-Jan	1.748	78	11.1	0.8	2.20	2.04	2.00	0.000	0	0.00	0.00	1.63	1.61	1.79	1.748	
10-Jan	0.685	21	3.0	0.5				1.155	4	0.57	0.06				1.840	
11-Jan	0.685	21	3.0	0.5				1.155	4	0.57	0.06				1.840	
12-Jan	0.685	21	3.0	0.5	1.46	1.48	1.48	1.155	4	0.57	0.06	1.98	1.75	1.80	1.840	
13-Jan	1.933	78	11.1	0.7	1.98	1.96	2.04	0.000	0	0.00	0.00	1.69	1.66	1.71	1.933	
14-Jan	0.000	0	0.0	0.0	1.87	1.97	1.92	1.762	7	0.99	0.07	1.63	1.60	1.75	1.762	
15-Jan	1.774	81	11.5	0.8	1.82	1.89	2.01	0.000	1	0.14	0.00	1.41	1.65	1.62	1.774	
16-Jan	0.000	0	0.0	0.0	1.69	1.71	1.76	1.787	33	4.68	0.31	2.13	1.99	1.92	1.787	
17-Jan	0.891	5	0.7	0.1				0.931	16	2.27	0.29				1.822	
18-Jan	0.891	5	0.7	0.1				0.931	16	2.27	0.29				1.822	
19-Jan	0.891	5	0.7	0.1				0.931	16	2.27	0.29				1.822	
20-Jan	0.891	5	0.7	0.1	1.56	1.57	1.61	0.931	16	2.27	0.29	2.18	2.11	1.92	1.822	
21-Jan	1.578	70	9.9	0.8	2.14	1.91	2.10	0.000	0	0.00	0.00	1.88	1.81	1.87	1.578	
22-Jan	0.000	0	0.0	0.0	1.91	1.85	2.01	1.742	23	3.26	0.22	1.97	1.76	1.80	1.742	
23-Jan	1.768	79	11.2	0.8	1.84	1.97	2.04	0.000	0	0.00	0.00	1.42	1.63	1.70	1.768	
24-Jan	1.212	55	7.8	0.8				0.591	6	0.85	0.17				1.803	
25-Jan	1.212	55	7.8	0.8				0.591	6	0.85	0.17				1.803	
26-Jan	1.212	55	7.8	0.8	1.99	1.92	2.12	0.591	6	0.85	0.17	1.67	1.88	2.04	1.803	
27-Jan	0.000	0	0.0	0.0	1.90	1.87	2.05	1.651	14	1.98	0.14	1.78	1.64	1.78	1.651	
28-Jan	1.846	84	11.9	0.8	1.80	1.86	1.91	0.000	0	0.00	0.00	1.68	1.59	1.71	1.846	
29-Jan	0.000	0	0.0	0.0	1.79	1.78	1.91	1.615	32	4.54	0.34	1.76	1.68	1.84	1.615	
30-Jan	1.674	68	9.6	0.7	1.54	1.49	1.68	0.000	0	0.00	0.00	1.71	1.65	1.81	1.674	
31-Jan	0.601	29	4.1	0.8				1.252	19	2.69	0.26				1.853	
TOTAL	25.097	980	138.9					29.476	324	45.92					54.573	
AVE DAY	0.810		4.5	0.5	1.78	1.74	1.84	0.951		1.48	0.14	1.85	1.78	1.85	1.760	
MAX	1.933		11.9	1.0	2.20	2.04	2.12	1.787		4.82	0.34	2.4	2.19	2.27	1.933	
MIN	0.000		0.0	0.0	1.39	1.39	1.43	0.000		0	0.00	1.41	1.59	1.62	1.578	
MONTHLY TOTALS:	Cleveland	Total MG Treated	25.097	SJCT EAST					Hilltop	Total MG Treated	29.476	Cleveland Pump Station:				25.097
		Untreated	0.000	TOTAL MONTH			5.475				29.476	Hilltop Pump Station:			29.476	
Total Authority Flow:	59.808			AVE DAY		0.1767					0.000	TOTAL AUTHORITY (Trted.)			54.573	

DISTRIBUTION REPORT
For the Month of January 2015

Activity	Number	Description
Water Main Breaks	11	
MISS DIGS	75	
Delinquent Shut Off	12	(LCT)
Delinquent Shut Off (Broken Payment Plans)	0	
Hydrants (Repaired/Replaced)	0	
Valves	1	10" Valve replacement (Hawthorne & Lake Shore Dr-SJC) (Outsourced to B&Z)
Taps (1")	2	2651 Jefferson Drive (LCT) New const
Cross Connection Control (Hydro Designs)		
Service Work (system valves)		
Water Service Repairs	1	Hit by boring co. for cable repair. Billed to them. Replace service line main to curb box. 4373 Stewart Way (LCT)
Repair of Curb box/Shut-Off Valves		
Water Quality Complaint(s)	0	
Unidirectional Flushing Program (City)		
Hydrant Flushing to maintain water quality		
Hydrant Flushing (Stage 2 City-December)		
Customer Break-Water Loss	500,000	211 Hilltop (SJCT). Fire line break inside building.
Staff Education/Training	0	
Overtime-Total	347.5	(Including Sanitary and Storm)
Turn Off	26	(Note: This number does not include delinquent Shut off)
Turn On	10	
Finals	68	
Meter Repair	1	
Meter Repair/Replacement		Verify Read 1
Per detail		New Installation
Meter leaking	5	New Installation-Benton Harbor 1
Stopped Meter	14	Replaced/various reasons 4
Faulty Register	8	Rockwell Replacement
Frozen Meter		Mxu Replaced 9
Move Meter Inside		Sprinkler meter removed/line capped 3
Hard to read	2	Removals
Replace/Adding Sprinkler Meter		Curb box location
Damage to Trt		Broken Remote
New Plumbing		Noisy Meter
New siding	1	Upgrade 5/8" to 3/4" 1
Meter sent out for testing		Meter Change/Benton Harbor

CITY OF ST. JOSEPH WATER MAIN BREAK REPORT

For the Month/Year of: January 2015

#	Date	Location	Main Size	Gallons Lost	Break Type	Valves Turned	City Twp	Labor	Remarks
1	1/3/2015	4791 S. Cedar Trail	8	6,000	Circumferential	3	LCT	25	Sandy soil, surrounding pipe good condition
2	1/4/2015	2024 Hawthorne Avenue	10	12,000	Circumferential	6	SJCT	28	Broke 10" valve while shutting down.
3	1/7/2015	2520 Donna Drive	4	3,600	Circumferential	2	City	3	Crack. Main badly pitted.
4	1/7/2015	2520 Donna Drive	4	0	Circumferential	2	City	0	Second break 4' from initial break
5	1/9/2015	3147 Lake Shore Drive	12	54,000	Circumferential	4	SJCT	20	Crack. Protracted wait for locators
6	1/11/2015	2720 Willa Drive	6	54,000	Hole	3	City	28	Bad pipe in area. Clay
7	1/12/2015	Niles at Lane & Hutchinson	6	18,000	Circumferential	2	City	36	Clay soil, Other breaks on Niles in past nearby
8	1/13/2015	John Beers Rd at St. Joseph Ave	6	60,000	Crack	3	LCT	30	B&Z repair, sandy soil
9	1/14/2015	Willa Drive at Highland	6	36,000	Circumferential	2	City	15.0	Replaced 9' of pipe. Preexisting multiple repairs
10	1/15/2015	2308 Mount Curve	6	3,600	Circumferential	2	City	26.0	Crack. Second break on 2/2 two houses away
11	1/15/2015	211 Hilltop Road	10	12,000	Circumferential	2	City	30.0	
12	1/16/2015	Botham Avenue at Thayer	6	3,000	Circumferential	4	City	20.0	Soil clay
		Total Gallons Lost		262,200					

MONTHLY CLIMATOLOGICAL SUMMARY

January

2015

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	27.7	26	32.7	11:00p	33	51	1952	24.3	6:00a	19	-10	1964	47	0	0	29.9	50	2:00a	WSW
2	33	26	34.3	5:00p	33	50	1950	32	10:00p	19	0	1968	49.2	0	0	6.2	31	1:00a	NW
3	34.1	26	35.8	12:00m	33	66	1950	32.2	1:00a	18	-3	1979	51.8	0	0.64	1.4	15	10:00a	E
4	30.7	26	35.9	1:00a	33	59	1997	19.1	12:00m	18	-2	1979	40.5	0	0.11	17.3	47	10:00p	NW
5	12.8	26	19.5	1:00a	33	62	1997	9.1	8:00p	18	-15	1999	39.6	0	0	18.3	43	1:00a	WNW
6	16.6	26	20.5	11:00p	33	55	1998	10.1	1:00a	18	-2	1979	55.6	0	0	18.2	46	12:00m	WNW
7	14.1	26	19.6	1:00a	33	51	1965	11.1	9:00p	18	-10	1988	63.2	0	0	24.3	56	2:00p	NW
8	8.6	25	21.5	12:00m	33	62	1965	-0.6	10:00a	18	-13	1988	55.9	0	0	17.7	55	10:00p	S
9	13.9	25	21	1:00a	33	61	1965	10.8	5:00p	17	-1	1979	48.8	0	0	24.5	54	1:00a	WNW
10	13.8	25	21.2	12:00m	33	60	1975	6.3	9:00a	17	-7	1962	33.2	0	0	11.1	36	2:00p	S
11	26.8	25	30.1	4:00p	32	59	1975	21.1	1:00a	17	-10	1962	27.2	0	0	6.4	25	2:00a	SSW
12	26.7	25	30.8	5:00a	32	58	1960	18.4	12:00m	17	-1	1997	27.9	0	0	11.7	34	1:00p	N
13	15.7	25	21.9	4:00p	32	59	1950	9.7	10:00a	17	-7	1977	25.4	0	0	2	12	12:00p	E
14	13.1	25	18.8	6:00p	32	53	1950	6.5	8:00a	17	-1	1988	32.6	0	0	6.2	19	2:00p	SSE
15	23.1	25	32.9	11:00p	31	60	1949	12.7	2:00a	17	-7	1972	41.7	0	0	11.8	29	1:00p	SSE
16	31.7	25	33.5	3:00a	31	60	1949	29	12:00m	17	-17	1994	40	0	0	6.9	25	1:00a	NNE
17	35.8	25	42.9	3:00p	31	59	1952	28.1	4:00a	17	-7	1957	42.7	0	0.04	10.2	32	3:00p	SSW
18	36.1	24	39.1	4:00p	31	57	1996	35.2	4:00a	17	-7	1994	45	0	0	11.3	36	6:00a	W
19	35.6	24	36.4	4:00p	31	57	1996	34.2	10:00a	16	-17	1994	37.7	0	0.01	2.4	14	1:00a	WSW
20	36.3	24	37.3	3:00p	31	52	1954	35.7	11:00p	16	-10	1985	37.3	0	0.01	2.3	12	12:00p	E
21	34.7	24	36.1	10:00a	31	50	1957	32.7	11:00p	16	-13	1984	48	0	0.03	4.8	18	8:00p	N
22	33.1	24	34.1	1:00p	31	56	1957	32.3	7:00a	16	-9	1970	52.4	0	0.01	7.8	23	6:00a	NW
23	31.3	24	32.7	1:00a	31	56	1967	30.4	10:00p	16	-4	1963	50	0	0	15	30	6:00a	SW
24	34.5	24	36.3	7:00p	31	64	1967	31	1:00a	16	-6	1963	53	0	0	9.5	26	4:00a	SW
25	32.1	24	36.9	4:00a	31	68	1950	24.3	12:00m	16	-8	1961	42.2	0	0.01	4	19	12:00p	NE
26	25	24	28	12:00m	31	66	1950	22.3	10:00a	16	-5	1987	45.4	0	0	1.7	11	1:00a	ENE
27	27.7	24	29.1	2:00p	32	54	1973	25.9	10:00a	16	2	1986	53.5	0	0	3	15	4:00p	NNE
28	28.4	25	33	4:00p	32	52	1970	23.7	9:00a	16	-7	1977	61	0	0	4.2	21	10:00p	SSE
29	34.2	25	35.6	11:00a	32	49	1975	30.3	12:00m	16	-8	1955	51.3	0	0.03	15	46	12:00m	N
30	27.4	25	31.2	1:00a	32	56	1988	24.7	12:00m	16	-8	1949	40.2	0	0	13.3	44	1:00a	N
31	29.4	25	34.2	3:00p	32	62	1989	23.6	2:00a	16	-3	1949	36	0	0	6.1	22	11:00a	SSE
AVE	26.6												44.4	0.0	0.0	10.5	30.5		SSE
MAX	36.3	26	42.9			68		35.7		19	2		63.2	0	0.64	29.9	56.0		
MIN	8.6	24	18.8					-0.6		16	-17		25.4	0	0	1.4	11		
TOTAL															0.89				

Max Rain: 0.64 ON 01/03/15
 Days of Rain: 5 (>.01 in) 2 (>.1 in) 0 (>1 in)

STAGE 2 D/DBPR MONITORING-TTHM

JANUARY 2015

WSSN 3726

Date	04/10/14	04/10/14
Site	Lincoln Twp Hall (DBP-1)	Dane (DBP-2)
Bromodichloromethane	8.5	9.7
Bromoform	<0.5	<0.5
Chloroform	32	32
Dibromochloromethane	1.4	2.4
<i>Total Trihalomethanes</i>	41.9	44.1

Date	07/09/14	07/09/14
Site	Lincoln Twp Hall (DBP-1)	Dane (DBP-2)
Bromodichloromethane	10	12
Bromoform	<0.5	<0.5
Chloroform	25	39
Dibromochloromethane	4.9	5.4
<i>Total Trihalomethanes</i>	39.9	56.4

Date	10/15/14	10/31/14	10/15/14
Site	Lincoln Twp Hall (DBP-1)	Lincoln Twp Hall (DBP-1)	Dane (DBP-2)
Bromodichloromethane	16	11	9.6
Bromoform	<0.5	<0.5	<0.5
Chloroform	69	34	54
Dibromochloromethane	2.5	3.4	1.6
<i>Total Trihalomethanes (by sample)</i>	87.5	48.4	65.2
<i>Total Trihalomethanes (month)</i>		68.0	65.2

Date	01/16/15	01/16/16
Site	Lincoln Twp Hall (DBP-1)	Dane (DBP-2)
Bromodichloromethane	5.6	10
Bromoform	<0.5	<0.5
Chloroform	6.2	24
Dibromochloromethane	3.1	3.4
<i>Total Trihalomethanes</i>	14.9	37.4

	Lincoln Twp Hall (DBP-1)	Dane (DBP-2)
RAA (ppb)	41.2	50.8

STAGE 2 D/DBPR MONITORING-HALOACETIC ACIDS

JANUARY 2015

WSSN 3726

Date	04/10/14	04/10/14
Site	Lincoln Twp Hall (DBP-1)	Dane (DBP-2)
Dibromoacetic acid	<1	<1
Dichloroacetic acid	25	22
Monobromoacetic acid	<1	<1
Monochloroacetic acid	5	5.1
Trichloroacetic acid	42	31
Total HAA5	72	58.1

Date	07/09/14	07/09/14
Site	Lincoln Twp Hall (DBP-1)	Dane (DBP-2)
Dibromoacetic acid	1.2	<1
Dichloroacetic acid	15	10
Monobromoacetic acid	<1	<1
Monochloroacetic acid	<2	<2
Trichloroacetic acid	9.6	12
Total HAA5	25.8	22.0

Date	10/15/14	10/31/14	10/15/14
Site	Lincoln Twp Hall (DBP-1)	Lincoln Twp Hall (DBP-1)	Dane (DBP-2)
Dibromoacetic acid	<1	<1	<1
Dichloroacetic acid	43	20	4.8
Monobromoacetic acid	<1	<1	<1
Monochloroacetic acid	4.6	<2	<2
Trichloroacetic acid	57	19	17
Total HAA5 (by sample)	104.6	39.0	21.8
Total HAA5 (month)		71.8	21.8

Date	01/16/15	01/16/15
Site	Lincoln Twp Hall (DBP-1)	Dane (DBP-2)
Dibromoacetic acid	<1	<1
Dichloroacetic acid	5.1	15
Monobromoacetic acid	<1	<1
Monochloroacetic acid	<2	<2
Trichloroacetic acid	4.2	13
Total HAA5	9.3	28.0

	Lincoln Twp Hall (DBP-1)	Dane (DBP-2)
RAA (ppb)	44.7	32.5