CITY OF ST. JOSEPH WATER FILTRATION PLANT

OPERATIONAL REPORT

SEPTEMBER 2014

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-SEPTEMBER 2014

Water demand in September was down by 44,800,000 gallons or 26% from last year. This year 131,258,890 gallons were delivered which compares to 176,060,131 gallons delivered in September of 2013. Interestingly, while down from 2014 this usage is very close to that seen in 2012 when 130,000,000 gallons was delivered. The 2014 September pumpage ranked 28th in the 30 year tabulation dating back to 1985.

GENERAL ACTIVITIES

Water Plant Security

Simplex Grinnell was approved to install security cameras and card access at the water plant. The camera equipment and access readers were received and will be installed once the conduit and wiring is complete. Water Plant staff is running the conduit with the assistance of Mead & White. Staff will mount the cameras and readers as directed by Simplex Grinenell. Installation should be complete by the end of the month.

Strategic Capital Improvement Plan

The SCIP project is nearly complete. CH2M Hill will meet with plant staff on October 9th to review water demand forecasts and on October 14th to rank projects and complete the SCADA review. The meetings had been planned in Milwaukee at staff request to facilitate tours of the Oak Creek and Milwaukee Water Plants. However, due to scheduling conflicts and the ongoing UDF program the meetings were moved to St. Joseph. At this point the preliminary findings are that chemical feed will be ranked high and recommended to the board in the coming fiscal year. It is also apparent that the old section of the water plant is in poor condition, provides marginal treatment utility and presents a significant vulnerability in so far as the piping located under the floor is inaccessible. The rerating of filters 5-12 and the shifting of high service suction and discharge to a new pump station will be recommended in the report. In addition, the changeout of the clarifiers to plate settler technology once the service life of the existing steel is reached in about eight to ten years will be recommended. In light of the recent FEMA Floodplain revisions, an option to raise the new pump station will be included as well.

Cross Connection Control Inspections

Hydro Designs completed 32 inspections in the City during the weeks of August 4th and 11th. I accompanied the inspector on several inspections in the field including the new Harbor Village, Azul Restaurant, City Hall and the Joint Wastewater Plant. They will return during the week of November 17th to complete the annual round of inspections. The address listing was updated in October as well.

High Service #3

On August 1st, High Service #3 failed. Specifically the babbit bearing in the motor seized. The motor was last rebuilt in 2002. Peerless Midwest was called in to pull the motor. Competitive bids were solicited for the replacement of the motor and base from two suppliers. A recommendation was presented to the WSJOB on September 17th and the St. Joseph City Commission on September 22nd. The recommendation which was approved by both boards was to accept the proposal from Peerless Midwest to furnish and install a U.S. Motor brand motor with a matching motor mount. The other competitive bid included a motor manufactured in Brazil by Wegg. Wegg is the largest electrical motor supplier in all of Latin America. Staff preferred the U.S. Motor since several of the motors at the water plant and in the Authority boosters were made by U.S. and have provided good service over the last several years. High Service #3 is rated at 4 MGD. The total high service capacity of the St. Joseph Water Plant is 24 MGD. The new motor was ordered on September 23rd and should be installed by the end of November.

Reclaim Pump #2
Reclaim Pump #2 was installed on August 28th and is performing satisfactorily.

Reclaim Pump Check Valve
One of the reclaim check valves failed in October. D.A. Dodd checked into the availability of a replacement valve and found that the manufacturer had gone out of business. Comparable valves were found that would fit. However, the cost of an AWWA approved valve was $1,000 more than a unapproved valve. Given the function of this valve and the fact that it does not come in contact with potable water it was decided go with lower cost valve. The total cost for the replacement of the valve with labor and an additional valve to be stocked as a spare would be $4,210. The valves are on order.

Reclaim Basin Cleaning
Staff is currently planning to clean the reclaim basin. The basin has not been cleaned for several years. While down it will be inspected.

South Reservoir Cleaning and Inspection
In late October the South Reservoir will be drained, cleaned and inspected. It was last inspected in 1987. Due to the inoperability of the influent and effluent isolation valves, inflatable plugs and blind flanges will be utilized to stop inflow of water during the work. You may recall that our North Reservoir was drained for the installation of baffle walls in 2009. This project will be conducted in the same manner and with the same equipment given the experience gained at that time. The South Reservoir was constructed in 1955 when plant capacity was increased from 4 MGD to 8 MGD. The inflatable plugs were purchased by the City directly from Petersen Products and will be maintained in the plant inventory for future work as needed.

Intake Sampling Screen Inspection/Cleaning of the Y.
Seabrex Marine inspected the recently installed sample line screen and cleaned the branches (referred to and the 'Y') of the north intake. The pipe was approximately one third full of sand which tapered off in the main line to the plant.

Benton Harbor/St. Joseph Emergency Interconnect Agreement
The Cities of St. Joseph and Benton Harbor approved the interconnect agreement in September.

Monthly Maintenance Notes

SEPTEMBER 2014

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. Mow and Grounds Maintenance at Plant, Booster Stations and Towers
9/2 to 9/3/14	Cummins Bridgeway - Full Service and Inspection per service agreement on South Plant Generator and North Low Service Generator. (Replace Relay for Fuel Solenoid on North Low Service Generator)
8/29,9/3 &9/4/14	Schneider Electric - Installed New VFD in existing cabinet for High Service # 5 Pump.
09/04/14	Hesco - Service call for Lake Twp. Interconnect Meter, Determined that the battery had gone out prematurely and that a lot of condensation was evident inside the meter. (no silicone gel pack was present)
9/5 to 9/16/14	D A Dodd - Annual Testing of Backflow Devices
09/15/14	Eaton - Inspected and serviced VFD for # 3 High Service Pump after motor failure
09/15/14	Installed New Battery Back-up power supply for control cabinet at City Tower
09/16/14	D A Dodd - Installed and New Backflow Preventer for High Service Pump Packing water supply lines
09/22/14	Installed New sample pump for 36" Raw Water Line
9/23 & 9/24/14	D A Dodd - Installed New Valves for Surface Wash on Filters 10 & 12: (2) valves on Filter # 10 and (1) valve on Filter # 12
09/24/14	Cummins Bridgeway - Full Service and Inspection per service agreement on Cleveland and Hilltop BPS Service Generators. (Also Reprogramed Gen set panels in the control room for Plant Generators to show faults and Generator warnings)
09/29/14	Installed new GFI outlet for Applied Sample Pump in Garage
09/29/14	Changed Oil and Filters in Vacuum Primer Pumps

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

September 2014

DISTRIBUTION:	
Total Gallons	131,258,890
Average Day	4,375,296
Maximum Day	5,362,360
Minimum Day	3,377,456

TREATMENT:	
Total Low Service	135,207,377
Wash Water Gals.	2,250,932
Wash Water %	1.68%
Plant Use Gals.	1,522,991
Plant Use %	1.14%

FILTRATION:		
Ave. Filter Run	108.0	hours
Ave. Filter Rate	1.77	g/sqft/min
Filter Eff. Index	154.4	
Ave. Loss of Head	3.7	feet
Plant Sewer Useage	$2,985	1,351 ccf

LABRATORY REPORT		
Average of	Raw	Tap
Chlorides mg/L	19.6	21.0
Fluoride mg/L	0.11	1.02
Alkalinity mg/L	109	100
Hardness mg/L	141	140
pH	7.9	7.3
Calcium mg/L	39	38
Magnesium mg/L	11	11
Turbidity NTU	2.40	0.03
Temperature `F	68	
Total Coliform		0.0
Chlorine Residual		mg/L Free
Mixing Basin		1.55
Applied		1.75
Tap		1.52
Distribution		0.87

TREATMENT CHEMICAL SUMMARY:

	Applied mg/L	Total Lbs.	Cost	Inventory lbs.	Days Supply
		CHEMICAL			
Alum (Al^{+3})	1.64	1,841	$5,358.24	5,499	90
Chlorine (Cl_2)	3.44	3,878	$1,008.28	8,227	64
Fluoride (F_2)	0.75	840	$2,518.83	5,575	199

Total Cost all Chemicals	$8,885.35
Chemical Cost per Mil. Gallon Treated	$65.72
Chemical Cost per Mil. Gallon Delivered	$67.69

PLANT UTILITIES SUMMARY

Electric:		
Total KWH		5,440
Total Power Cost		$426.06
Power Cost per Million Gallon Treated		$114.21
Power Cost per Million Gallon Delivered		$127.53
Gallons Pumped per KWH		24128
Natural Gas:		
Metered Cubic Feet		0
Natural Gas Cost		-
Emergency Power Diesel Fuel Inv. Gals. South	Full	3200
Emergency Power Diesel Fuel Inv. Gals. North	3/4 Tank	620

REMARKS:

***includes measure of melted snow
visit the City of Saint Joseph's Home page at www.sjcity.com
e-mail comments to either: operator@sjcity.com or alimenti@sjcity.com

WEATHER CONDITIONS AT THE PLANT		Air Temp. 'F		
SJWW Weather Computer		Avg.	64.2	
Rain Guage, Inches	2.99	Max.	80.3	
days it rained***	12	Min.	50.7	
Wind Speed, Avg	6.2	Lake Temp.'F		
Wind Speed, Max	65	Avg.	67.7	
Prevailing Wind Dir.	SSE	Max	75.9	
Lake Level (USACE)	579.23	Min	53.9	

WSSN 3726

September 2014

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-Sep	3.142	142	20.1	0.77					0.111	3	0.4	0.46				3.252
2-Sep	3.142	142	20.1	0.77	1.77	1.63	1.71		0.111	3	0.4	0.46	1.19	1.25	1.23	3.252
3-Sep	2.470	101	14.3	0.70	1.41	1.76	1.83		1.060	25	3.5	0.40	1.37	1.80	1.93	3.530
4-Sep	2.551	109	15.5	0.73	1.74	1.71	1.71		1.385	21	3.0	0.26	2.11	1.59	1.65	3.936
5-Sep	1.080	36	5.1	0.57	1.35	1.61	1.75		0.988	9	1.3	0.15	1.33	1.42	1.50	2.068
6-Sep	2.209	78	11.1	0.60					0.739	6	0.9	0.14				2.948
7-Sep	2.209	78	11.1	0.60					0.739	6	0.9	0.14				2.948
8-Sep	2.209	78	11.1	0.60	1.45	1.41	1.38		0.739	6	0.9	0.14	1.47	1.49	1.59	2.948
9-Sep	1.537	48	6.8	0.53	1.43	1.88	1.91		0.877	18	2.6	0.35	1.38	1.58	1.66	2.414
10-Sep	2.052	74	10.5	0.61	1.83	1.61	1.67		0.598	13	1.8	0.37	2.01	1.49	1.45	2.649
11-Sep	1.405	49	6.9	0.59	1.74	1.51	1.76		1.017	19	2.7	0.32	2.17	1.31	1.42	2.421
12-Sep	1.370	35	5.0	0.43	1.29	1.55	1.65		1.142	27	3.8	0.40	1.35	1.64	1.78	2.511
13-Sep	1.487	51	7.2	0.58					0.835	13	1.8	0.26				2.322
14-Sep	1.487	51	7.2	0.58					0.835	13	1.8	0.26				2.322
15-Sep	1.487	51	7.2	0.58	1.39	1.64	1.73		0.835	13	1.8	0.26	1.41	1.79	1.87	2.322
16-Sep	1.135	32	4.5	0.48	1.89	1.54	1.56		0.941	23	3.3	0.42	2.11	1.66	1.76	2.076
17-Sep	1.061	34	4.8	0.54	1.26	1.65	1.77		0.923	19	2.7	0.35	1.29	1.64	1.80	1.984
18-Sep	1.663	58	8.2	0.59	1.41	1.73	1.78		1.259	23	3.3	0.31	1.39	1.76	1.80	2.922
19-Sep	1.143	34	4.8	0.51	1.64	1.53	1.55		0.813	21	3.0	0.44	2.49	1.77	1.90	1.956
20-Sep	1.516	51	7.2	0.57					1.079	16	2.3	0.25				2.596
21-Sep	1.516	51	7.2	0.57					1.079	16	2.3	0.25				2.596
22-Sep	1.516	51	7.2	0.57	1.61	1.58	1.57		1.079	16	2.3	0.25	2.44	1.60	1.78	2.596
23-Sep	1.662	76	10.8	0.78	1.30	1.62	1.77		1.392	12	1.7	0.15	1.23	1.78	2.07	3.054
24-Sep	1.617	88	12.5	0.92	1.72	1.56	1.59		0.399	13	1.8	0.55	2.70	1.94	2.52	2.016
25-Sep	1.976	103	14.6	0.89	1.72	1.68	1.64		0.913	26	3.7	0.48	2.30	2.10	2.19	2.890
26-Sep	1.290	20	2.8	0.26	1.38	1.94	1.98		0.992	27	3.8	0.46	2.60	1.76	1.85	2.282
27-Sep	2.211	121	17.2	0.93					1.125	24	3.4	0.36				3.336
28-Sep	2.211	121	17.2	0.93					1.125	24	3.4	0.36				3.336
29-Sep	2.211	121	17.2	0.93	1.27	1.28	1.30		1.125	24	3.4	0.36	2.13	1.44	1.64	3.336
30-Sep	2.160	110	15.6	0.87	1.91	1.74	1.86		1.394	33	4.7	0.40	2.80	1.76	2.01	3.554
TOTAL	54.724	2,194	311.1						27.650	512	72.6					82.374
AVE DAY	1.824		10.4	0.65	1.55	1.63	1.69		0.9217		2.4	0.33	1.87	1.65	1.78	2.746
MAX	3.142		20.1	0.93	1.91	1.94	1.98		1.3940		4.7	0.55	2.8	2.1	2.52	3.936
MIN	1.061		2.8	0.26	1.26	1.28	1.3		0.1109		0.4	0.14	1.19	1.25	1.23	1.956

MONTHLY TOTALS:	Cleveland	Total MG	54.724	SJCT EAST		Hilltop	Total MG	27.650	Cleveland Pump Station:	54.724
		Cl_2 Add	54.724	Total Month	5.561		Cl_2 Add	27.650	Hilltop Pump Station:	27.65
Total Authority Flow:	87.531	No Cl_2	0.000	Average Day	0.185		No Cl_2	0.000	TOTAL AUTH (Cl_2 Added)	82.374

DISTRIBUTION REPORT ***For the Month of September 2014***

Activity	Number	Description
Water Main Breaks	1	
MISS DIGS	424	
Delinquent Shut Off	15	City of St. Joseph, Royalton Township
Delinquent Shut Off (Broken Payment Plans)	3	
Hydrants (Repaired/Replaced)	14	Frozen caps, leaking, will not open, etc.
Valves	1	Replaced 6" at 2885 Veronica (City). Broken Valve
Taps (1")	8	393 E. John Beers Road (RCT) New house
		1473 Kristen Path (SJCT) New house
		1431 Stone Creek Ct. (LCT) New house
		6716 Stevensville/Baroda Rd (LC Well bad
		2143 Winters Way (RCT) Well bad
		5038 Dickenson Court RCT New house
		4048 Silver Oaks Drive (RCT) New house
Service Work	0	5000 Pheasant Way (LCT) New house
Water Service Repairs	1	2" (Hit by soil boring company, improp marked by PS)
		2627 Niles Ave (City)
Repair of Curb box/Shut-Off Valves	1	819 Wisconsin (Repaired curb stop). Broken
Water Quality Complaint(s)	0	
Hydrant Flushing to maintain water quality	0	
Staff Education/Training	0	
Overtime-Total	55	(Including Sanitary and Storm)
Turn Off	13	(Note: This number does not include delinquent Shut off)
Turn On	4	
Finals	113	
Meter Repair		
Meter Repair/Replacement	34	Verify Read
Per detail		New Installation 15
Meter leaking		New Installation-Benton Harbor
Stopped Meter		Replaced/various reasons
Faulty Register		Rockwell Replacement
Frozen Meter		Mxu Replaced
Move Meter Inside		Sprinkler meter removed/line capped
Hard to read		Removals 4
Replace/Adding Sprinkler Meter		Curb box location
Damage to Trt		Broken Remote
New Plumbing		Noisy Meter
New siding		Upgrade 5/8" to 3/4"
Meter sent out for testing		Meter Change/Benton Harbor

CITY OF ST. JOSEPH WATER MAIN BREAK REPORT

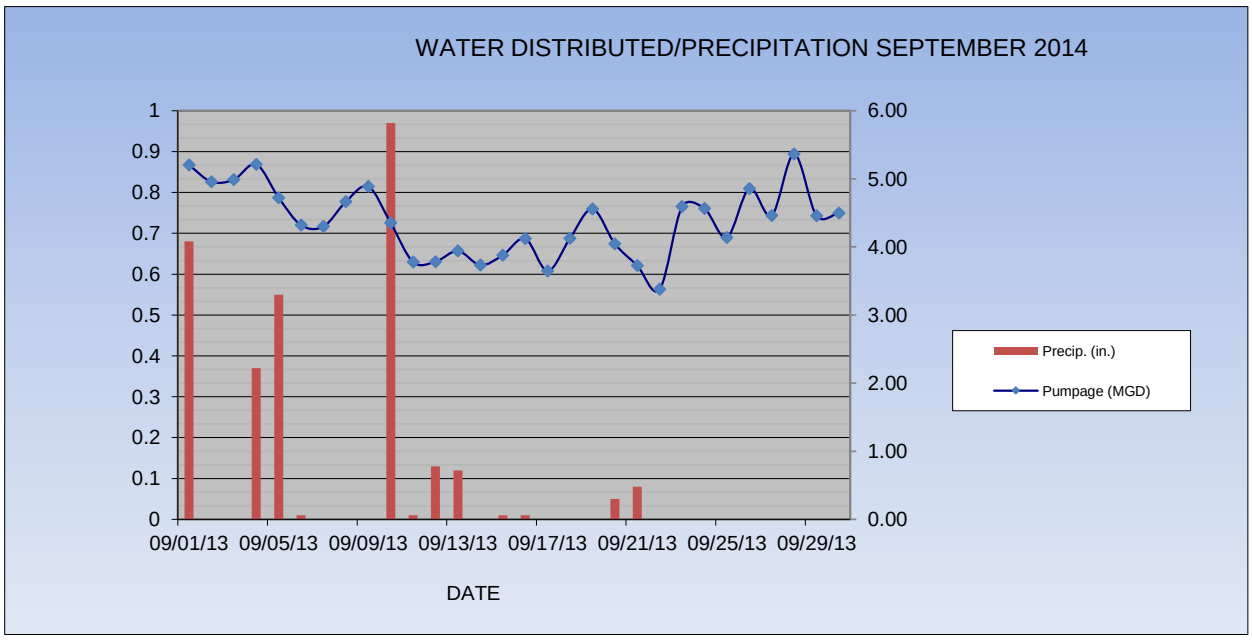
For the Month/Year of: September 2014

#	Date	Location	Main Size	Gallons Lost	Break Type	Valves Turned	City Twp	Labor	Remarks
1	9/10/2014	Wayne (Between Ship and Port)	10	40,000	Crack	5	City	40	Longitudinal crack. DIPRA inspected-corrosion
2									
3									
4									
5									
6									
		Total Gallons Lost		40,000					

ST JOSEPH WATER PLANT PUMPAGE-WATER DELIVERED/RAINFALL
SEPTEMBER 2014

				Day to Day Comparison 2014/2013	
DATE	PUMPAGE (gallons)	PUMPAGE (MGD)	RAINFALL (in)	2014	2013
09/01/13	5,202,181	*5.20*	0.68	5,202,181	6,166,092
09/02/13	4,957,129	*4.96*	0	4,957,129	6,513,923
09/03/13	4,988,568	*4.99*	0	4,988,568	6,276,800
09/04/13	5,213,256	*5.21*	0.37	5,213,256	6,647,171
09/05/13	4,721,970	*4.72*	0.55	4,721,970	6,836,640
09/06/13	4,320,290	*4.32*	0.01	4,320,290	7,071,360
09/07/13	4,299,928	*4.30*	0	4,299,928	6,773,921
09/08/13	4,665,284	*4.67*	0	4,665,284	5,819,771
09/09/13	4,886,757	*4.89*	0	4,886,757	7,011,592
09/10/13	4,351,998	*4.35*	0.97	4,351,998	7,634,417
09/11/13	3,778,840	*3.78*	0.01	3,778,840	7,128,131
09/12/13	3,784,105	*3.78*	0.13	3,784,105	6,942,396
09/13/13	3,941,723	*3.94*	0.12	3,941,723	6,428,314
09/14/13	3,732,863	*3.73*	0	3,732,863	6,868,537
09/15/13	3,879,058	*3.88*	0.01	3,879,058	5,559,583
09/16/13	4,122,916	*4.12*	0.01	4,122,916	5,797,641
09/17/13	3,647,570	*3.65*	0	3,647,570	5,276,250
09/18/13	4,126,638	*4.13*	0	4,126,638	5,222,745
09/19/13	4,557,434	*4.56*	0	4,557,434	4,468,930
09/20/13	4,047,040	*4.05*	0.05	4,047,040	4,175,035
09/21/13	3,724,759	*3.72*	0.08	3,724,759	4,804,064
09/22/13	3,377,456	*3.38*	0	3,377,456	4,115,276
09/23/13	4,593,479	*4.59*	0	4,593,479	4,956,418
09/24/13	4,563,453	*4.56*	0	4,563,453	5,185,342
09/25/13	4,138,464	*4.14*	0	4,138,464	5,492,574
09/26/13	4,857,269	*4.86*	0	4,857,269	5,574,225
09/27/13	4,461,167	*4.46*	0	4,461,167	5,825,261
09/28/13	5,362,360	*5.36*	0	5,362,360	5,462,698
09/29/13	4,458,035	*4.46*	0	4,458,035	4,837,879
09/30/13	4,496,899	*4.50*	0	4,496,899	5,187,145
TOTAL	131,258,890	131.26	2.99	131,258,890	176,060,131

Average Day	**4,375,296**
Maximum Day	**5,362,360**
Minimum Day	**3,377,456**

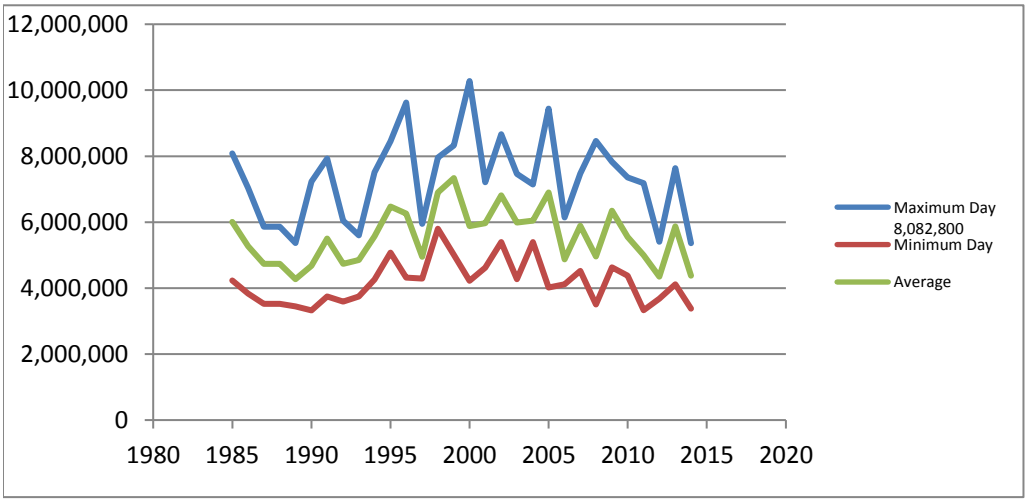


ST. JOSEPH WATER PLANT PUMPAGE-WATER DELIVERED

SEPTEMBER 2014

Year	Average	Maximum Day	Minimum Day	Monthly Total
1985	6,010,117	8,082,800	4,227,500	180,303,500
1986	5,272,460	7,033,200	3,832,200	158,173,800
1987	4,739,067	5,865,900	3,526,600	142,172,000
1988	4,739,067	5,865,900	3,526,600	142,172,000
1989	4,271,113	5,368,300	3,450,800	128,133,400
1990	4,676,653	7,229,900	3,325,000	140,299,600
1991	5,502,837	7,930,800	3,743,200	165,085,100
1992	4,733,427	6,050,100	3,590,400	142,002,800
1993	4,853,200	5,596,400	3,751,200	145,596,000
1994	5,568,387	7,512,800	4,264,800	167,051,600
1995	6,472,583	8,451,550	5,076,500	194,177,500
1996	6,259,632	9,624,850	4,321,200	187,788,950
1997	4,952,985	5,948,300	4,287,100	148,589,550
1998	6,902,892	7,962,050	5,800,250	207,086,750
1999	7,336,767	8,327,900	5,011,800	220,103,000
2000	5,881,432	10,278,600	4,218,550	176,442,950
2001	5,965,884	7,213,500	4,621,540	178,976,510
2002	6,816,819	8,670,050	5,394,500	204,504,580
2003	5,990,605	7,463,190	4,273,450	179,718,150
2004	6,050,319	7,144,670	5,396,500	181,509,570
2005	6,900,181	9,446,000	4,014,000	207,005,420
2006	4,875,917	6,143,500	4,117,750	146,277,500
2007	5,886,785	7,470,800	4,525,000	176,603,560
2008	4,955,846	8,465,750	3,500,570	148,675,370
2009	6,349,200	7,827,500	4,630,930	190,476,740
2010	5,552,512	7,354,162	4,381,232	166,575,350
2011	4,999,212	7,178,146	3,326,840	149,976,363
2012	4,344,215	5,408,899	3,676,975	130,326,456
2013	5,868,671	7,634,417	4,115,276	176,060,131
2014	4,375,296	5,362,360	3,377,456	131,258,890

Ranking	Year	Monthly Total
1	1999	220,103,000
2	1998	207,086,750
3	2005	207,005,420
4	2002	204,504,580
5	1995	194,177,500
6	2009	190,476,740
7	1996	187,788,950
8	2004	181,509,570
9	1985	180,303,500
10	2003	179,718,150
11	2001	178,976,510
12	2007	176,603,560
13	2000	176,442,950
14	2013	176,060,131
15	1994	167,051,600
16	2010	166,575,350
17	1991	165,085,100
18	1986	158,173,800
19	2011	149,976,363
20	2008	148,675,370
21	1997	148,589,550
22	2006	146,277,500
23	1993	145,596,000
24	1987	142,172,000
25	1988	142,172,000
26	1992	142,002,800
27	1990	140,299,600
28	**2014**	**131,258,890**
29	2012	130,326,456
30	1989	128,133,400



MONTHLY CLIMATOLOGICAL SUMMARY **SEPTEMBER 2014**

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	74.7	67	**76.9**	4:00p	78	98	1953	**73**	1:00p	55	42	1970	0	10	**0.68**	**9.3**	**29**	1:00p	SW
2	74	67	**76.2**	4:00p	78	98	1953	**72.3**	12:00m	55	41	1994	0	9.3	**0**	**3.2**	**22**	1:00a	W
3	74.1	67	**78.2**	7:00p	78	94	1953	**71**	8:00a	55	40	1974	0	9.6	**0**	**3.3**	**16**	4:00a	SSE
4	75	67	**79.4**	5:00p	78	91	1964	**71.7**	10:00a	55	37	1997	0	10.5	**0.37**	**4.2**	**22**	9:00a	S
5	75.9	66	**80.3**	4:00p	77	92	1959	**70.1**	12:00m	54	40	1984	0	10.2	**0.55**	**8.5**	**65**	5:00p	SW
6	67.9	66	**70.2**	1:00a	77	96	1954	**65.1**	12:00m	54	37	1962	0	2.6	**0.01**	**12.5**	**27**	8:00a	N
7	67.1	66	**71.6**	4:00p	77	96	1960	**60.6**	7:00a	54	36	1988	0	1.1	**0**	**3**	**9**	7:00a	SSE
8	68.6	66	**72.4**	3:00p	77	95	1960	**63.9**	7:00a	54	34	1951	0	3.2	**0**	**1.8**	**14**	2:00p	SSE
9	70.7	65	**77**	5:00p	76	93	1955	**65.8**	7:00a	53	40	1951	0	6.4	**0**	**3**	**15**	12:00p	SSE
10	70.6	65	**75.7**	6:00p	76	93	1983	**62**	12:00m	53	39	1988	0	3.8	**0.97**	**10.3**	**44**	8:00p	SSE
11	57.7	65	**62**	1:00a	76	91	1952	**55.7**	12:00m	53	40	1958	6.1	0	**0.01**	**17**	**35**	2:00a	N
12	55.6	65	**58.8**	2:00p	76	92	1952	**52.7**	7:00a	53	33	1964	9.3	0	**0.13**	**3**	**19**	12:00p	ENE
13	55.4	64	**57.2**	6:00p	75	92	1962	**54.2**	5:00a	52	32	1985	9.3	0	**0.12**	**10.3**	**37**	4:00a	N
14	56.5	64	**61.8**	6:00p	75	92	1962	**50.7**	6:00a	52	33	1985	8.8	0	**0**	**4.8**	**21**	2:00p	ESE
15	57.8	64	**61.5**	3:00p	75	90	1991	**54.2**	6:00a	52	34	1966	7.1	0	**0.01**	**6.6**	**25**	8:00p	SSE
16	58	63	**61.7**	4:00p	74	89	1948	**53.7**	7:00a	51	35	1986	7.3	0	**0.01**	**4**	**16**	1:00p	ESE
17	58.7	63	**64**	4:00p	74	91	1955	**52.4**	7:00a	51	32	1990	6.8	0	**0**	**4.7**	**14**	1:00p	SSE
18	59.7	63	**64.6**	4:00p	74	90	1955	**53.9**	6:00a	51	36	1959	5.8	0	**0**	**4.1**	**16**	4:00p	SE
19	63.2	62	**71**	5:00p	73	88	1978	**56.9**	7:00a	51	37	1981	1	0	**0**	**3.3**	**17**	1:00p	S
20	67.7	62	**72.5**	1:00p	73	88	1978	**62.2**	2:00a	50	36	1956	0	2.4	**0.05**	**9.3**	**31**	11:00a	SSW
21	62.1	62	**70.2**	2:00a	73	90	1970	**56.3**	12:00m	50	30	1991	1.8	0	**0.08**	**25.6**	**45**	2:00p	N
22	56	61	**59.6**	6:00p	72	87	1959	**51.5**	7:00a	50	34	1999	9.5	0	**0**	**6.5**	**34**	1:00a	N
23	59.1	61	**64.6**	4:00p	72	86	1959	**53.1**	7:00a	49	31	1954	6.2	0	**0**	**4.3**	**14**	1:00p	SSE
24	62.7	61	**67.4**	4:00p	71	86	1960	**57.1**	7:00a	49	28	1989	2.8	0	**0**	**1.9**	**13**	4:00p	ESE
25	63.6	60	**66.7**	5:00p	71	86	1986	**59.7**	7:00a	49	29	1989	1.8	0	**0**	**1.4**	**10**	4:00p	E
26	64.7	60	**69.4**	6:00p	71	92	1998	**60.2**	8:00a	48	36	1962	0.2	0	**0**	**2.9**	**13**	1:00p	ESE
27	65.1	60	**68.2**	5:00p	70	92	1998	**61.5**	8:00a	48	23	1989	0.2	0	**0**	**2.4**	**13**	4:00p	ESE
28	65.1	59	**67.7**	5:00p	70	86	1952	**61.6**	7:00a	48	24	1991	0.4	0	**0**	**1.3**	**11**	6:00a	ESE
29	64.1	59	**71.7**	6:00p	70	96	1953	**58**	12:00m	47	29	1991	0.2	0	**0**	**7**	**31**	10:00p	SW
30	56	59	**58**	1:00a	69	93	1953	**54.5**	8:00a	47	27	1984	8.8	0	**0**	**7**	**30**	1:00a	NNE
31																			
AVE	64.2	63.3	68.6										**3.1**	**2.3**	**0.1**	**6.2**	**23.6**		SSE
MAX	**75.9**	**67**	**80.3**			**98**		**73**		**55**	**42**		**9.5**	**10.5**	**0.97**	**25.6**	**65.0**		
MIN	**55.4**	**59**	**57.2**					**50.7**		**47**	**23**		**0**	**0**	**0**	**1.3**	**9**		
TOTAL															**2.99**				

Max Rain: 0.97 ON 09/10/14
Days of Rain: 8 (>.01 in) 6 (>.1 in) 0 (>1 in)