

**City of Findlay**  
**Water Treatment Plant**  
**&**  
**Supply Reservoir**



**2019 Annual Report**



### Annual Report for 2019

The annual report of the operations of the Water Treatment Plant and Supply Reservoir for the year ending December 31, 2019 is respectfully submitted herewith.

The City of Findlay Water Treatment Plant provides the citizens of Findlay and the surrounding area with high quality, pleasant tasting drinking water that meets or exceeds the parameters set by the Ohio EPA. The consumer costs have not increased on water since 2011.

The raw water supply for the City of Findlay is one of the most outstanding in the State of Ohio. The Water Department spends a great deal of time and resources monitoring the water quality in the reservoir. The quality of water is the primary focus of the treatment plant.

The following list highlights just a few of the changes within the Water Treatment Plant and Supply Reservoir in 2019.

1. I received my Class IV
2. Began work on the corrosion plan for OEPA
3. Recoated floor in Chemical building
4. Washed out and repaired the South Tower
5. Put a Man Down system in place on the water department campus
6. Had the stock pile of lime hauled and spread from lime beds
7. Purchased a small slope mower for the reservoir dikes
8. 6 high school students interned within the water department
9. Had an eagle scout project completed installation of signs and benches at reservoir
10. Completed phase I and II of roof replacement project
11. Continued to monitor for MIB/ Geosmin saw no adverse treatment effects
12. Installed data Sonde to analyze water at reservoir in real time
13. Furthered training and sampling of algae study and analysis working towards more in-house monitoring

The City of Findlay is blessed with a very dedicated and well-educated staff who work diligently to ensure that the water quality is of the highest caliber. The following is the list of the current staff of the Water Treatment Plant and Supply Reservoir.

**Water Treatment Plant Employees**

<b>Name:</b>	<b>Position</b>	<b>Year Hired</b>
Jason Phillips	Superintendent, Class IV	2017
Brett Young	Supervisor, Class III	2000
Tim Foust	Operator, Class I	2000
Tim Couch	Operator, Class III	2003
Matt Karl	Operator, Class I	2012
Jeremy Carter	Operator, Class III	2013
Dan Ward	Operator, Class II	2015
Ray Stelmaszak	Operator, Class I	2016
Mat Otto	Operator, Class I	2017
Rick Parker	Lab Tech I, Class III	2001
Dean Hoge	Assistant Operator	1989
Brian Egts	Maintenance Mechanic V	1990
Brad Eblen	Maintenance Mechanic I	1991
Randy Zacharias Sr.	Maintenance Mechanic III	2011
Jennifer Niederkoehr	Administrative Asst.	2011
<b><u>Supply Reservoir</u></b>		
Rich Cap	Maintenance Mechanic III	2001

The water treatment plant began taking steps to further monitor and complete in-house analysis of algae with the help of the engineering firm Hazen and sawyer. These changes will allow for more flexibility in coverage and an opportunity for the younger staff to begin to learn and grow. The following is a breakdown of just some of the accomplishments that occurred in 2019 by the Treatment Plant and Supply Reservoir personnel. Compliments go out to the staff on their determination and creativity in accomplishing so much.

**Lab Items:**

- Tested 246 additional bacteria samples for other public water systems, private individuals, new mains, new fire lines, and customer concerns
- Tested 720 bacteria samples for compliance with current OEPA requirements
- Collected 50 samples for algae analysis
- Collected 13 QPCR samples for HAB screening
- Collected 17 samples for microcystin analysis
- Collected 30 lead and copper samples
- Collected 17 copper tap samples due to copper treatment at reservoir
- Collected 31 MIB and Geosmin samples
- Completed all weekly, monthly, and annual quality control checks on analytical equipment as well as verifications of all inline meters throughout the Treatment Plant

**Maintenance Items:**

- ❖ Installed the remaining new HVAC units around plant
- ❖ Installed new drinking fountain system
- ❖ Installed new air conditioning system in chemical building office
- ❖ Repaired VFD on high service #5 and updated VFD software
- ❖ Installed stationary data sonde
- ❖ Installed man down system on water department campus
- ❖ Worked with Computer Services on SCADA project

- ❖ Changed 2020 valve actuator
- ❖ Installed new flow meters
- ❖ Replaced backwash coupler and aligned pumps
- ❖ Worked on data collection for asset hierarchy at treatment plant
- ❖ Worked with Mosser and TJD on filter #9 and #12 repairs
- ❖ Helped with the installation of scale at lime pile
- ❖ Hauled 1182 loads of lime to drying beds and 103 loads directly to fields

#### Reservoir Items:

- Treated reservoir #1 with 3100 lbs. and reservoir #2 with 4650 lbs. copper sulfate
- Treated reservoir #1 with 1500 lbs. and reservoir #2 with 4500 lbs. Green Clean Pro
- Treated transfer with 3000 lbs. of Green Clean Pro and 5,632 lbs. of PAC for MIB/ Geosmin
- Repaired docks
- Worked with lab on sampling and algae control
- Monitored river water quality and filled reservoirs
- Cleaned up graffiti
- Compiled Sonde data to trend algae growth
- Repaired reservoir house hot water heater for tenant
- Repaired fence and replaced manhole lids at reservoir #1 discharge
- Training on new slope mower
- Added 4,573.42 tons of rip rap to reservoir#2
- Topped reservoir #1 with 992.72 tons of crushed stone
- Pumped in 1,948.93 MG into the reservoirs
- Treated 2,261.99 MG of water

## Goals for 2019

- 🔧 Complete rehab of transfer line between Reservoir 1 and 2
- 🔧 Replace 2-CO2 tanks
- 🔧 Rehabilitate basement floor, work area, and tunnel floor
- 🔧 Continue GIS data collection at treatment plant
- 🔧 Utilize drone to optimize the chemical application in the reservoirs
- 🔧 Upgrade the Treatment Plant SCADA system
- 🔧 Repair filter drain area for filter #8, #9, #10, #11, and #13
- 🔧 Start the Master Plan for water system
- 🔧 Begin utilizing data from sonde for predictive treatment
- 🔧 Further training on algae identification
- 🔧 Begin filter turbidity meter replacement
- 🔧 Repair concrete and paint catwalks at reservoir
- 🔧 Paint lime and soda ash silos

It is an honor to work with the dedicated staff of the Water Department. Their commitment to the City of Findlay and to water quality is greatly appreciated as well as their countless hours of service. None of this would be possible without the support of City Council and the Mayor and her administration. Their continued confidence in the Water Department makes it a pleasure to serve the City of Findlay.

Respectfully Submitted

Jason W. Phillips

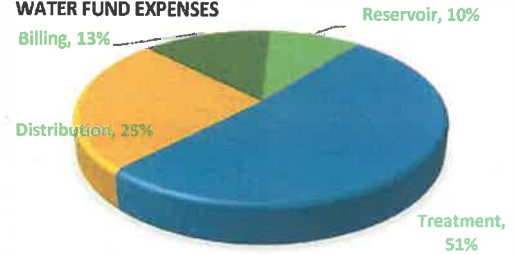
Water Treatment Plant Superintendent

FINANCIAL DIVISION	BUDGET		2017 actual	2018 actual	2019 projection	Original 2019 request	2020 request	\$ change from 2019 request to 2020 request	% change from 2019 request to 2020 request
	Other	\$ 275,462	\$ 323,921	\$ 532,490	\$ 523,923	\$ 566,171	\$ 42,248	8.06%	
	Water Treatment	Personal Services	\$ 1,107,774	\$ 1,137,463	\$ 1,293,323	\$ 1,319,818	\$ 1,501,015	\$ 181,197	13.73%
	Other	\$ 947,960	\$ 1,162,235	\$ 2,486,102	\$ 2,510,524	\$ 2,247,722	\$ (262,802)	-10.47%	
	Water Distribution	Personal Services	\$ 1,019,847	\$ 1,038,957	\$ 1,099,357	\$ 1,208,692	\$ 1,243,920	\$ 35,228	2.91%
	Other	\$ 432,379	\$ 611,694	\$ 552,095	\$ 659,891	\$ 610,362	\$ (49,529)	-7.51%	
	Utility Billing	Personal Services	\$ 632,083	\$ 703,213	\$ 651,107	\$ 695,457	\$ 644,433	\$ (51,024)	-7.34%
	Other	\$ 171,375	\$ 198,371	\$ 229,851	\$ 244,205	\$ 325,107	\$ 80,902	33.13%	

**BUDGET HIGHLIGHTS**

- Lime hauling and cleaning up spent lime beds
- Additional chemical for algae control
- Additional chemicals for taste and odor
- Riprap at the reservoir
- Fire hydrant painting
- 1.61% wage increase

**WATER FUND EXPENSES**



STAFFING	2016	2017	2018	2019	2020
Reservoir	1	1	1	1	1
Water Treatment	14	14	15	15	16
Water Distribution	14	14	14	15	15
Utility Billing	9	9	9	9	9

**OPERATIONAL 2019 CAPITAL IMPROVEMENT HIGHLIGHTS**

- WD - Received Hydro excavator
- WT - Repaired concrete and repainted clear well vents
- SR - New slope mower with ruff cut deck

**2019 ACHIEVEMENTS**

- Replace roof over two sections of Water Treatment
- Upgrade to new stationary data sonde at reservoir to provide real-time data
- Continued to replace lead service lines and update service line information
- Replaced waterlines in troubled areas
- Hauled and spread stock lime pile
- Repaired and repainted Chemical building floor
- Installed stationary data sonde on discharge of reservoir #1
- Added 4,574 tons of Rip Rap to reservoir #2

**2020 OBJECTIVES**

- Utilize drone to better treat reservoir for algae
- Continue painting fire hydrants
- Continue waterline replacement
- Complete overflow and rehab work at reservoir
- Rate study update
- Master Plan for the Water Treatment plant
- Start meter replacement program
- Install new Utility Billing Software
- Have plans for Billing/Distribution building renovations
- Replace CO2 tanks

OPERATIONAL  
DIVISIONS  
AND

Water Treatment Expenses

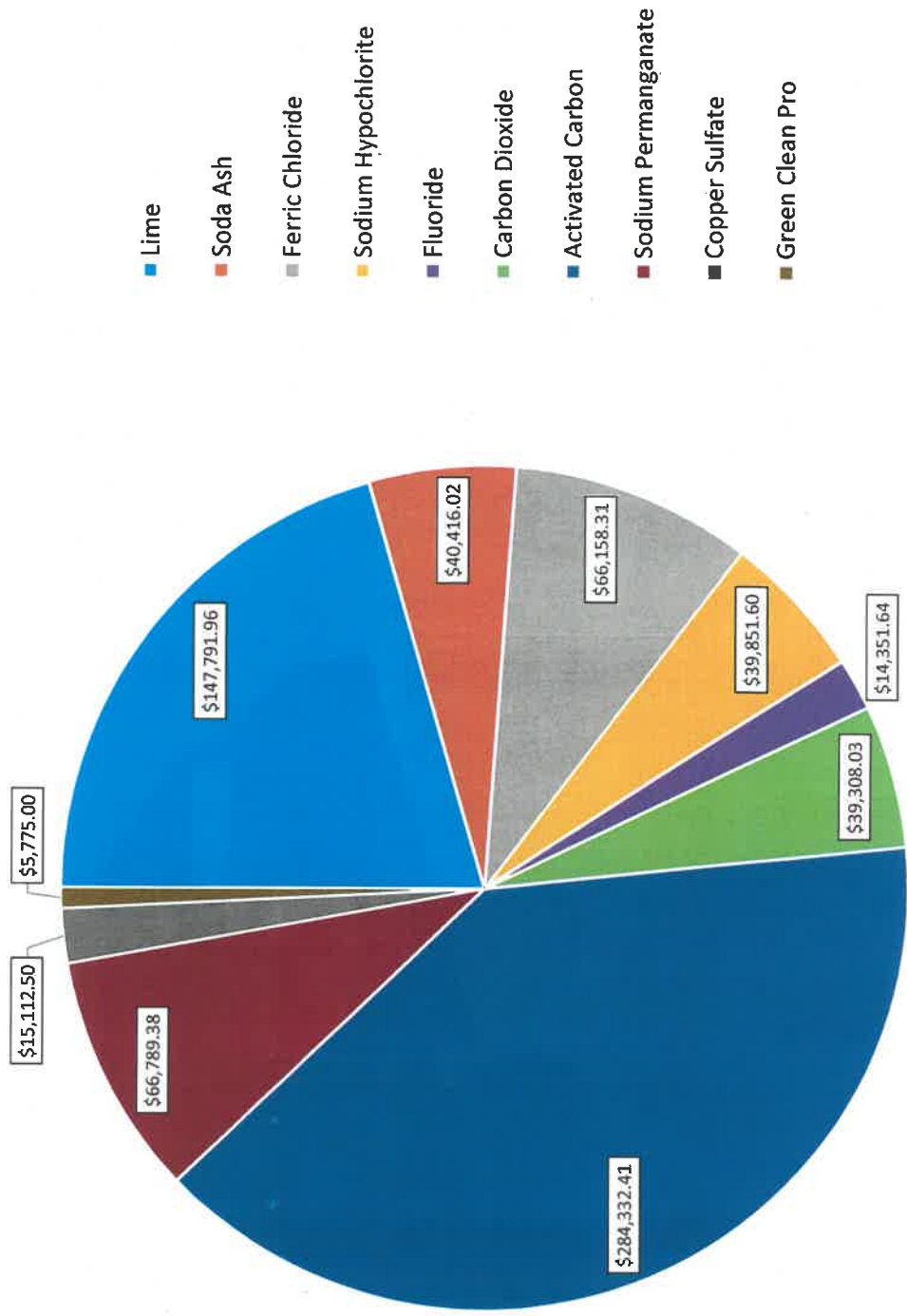
	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
Wages	\$ 717,150.00	\$ 688,792.00	\$ 707,021.00	\$ 762,139.00	\$ 805,434.00	\$ 813,694.00	\$ 872,909.00
Retirement Settlements							
Benefits	\$ 329,426.00	\$ 253,925.00	\$ 231,284.00	\$ 242,246.00	\$ 307,431.00	\$ 329,385.00	\$ 385,547.00
Operating	\$ 351,698.00	\$ 445,237.00	\$ 361,512.00	\$ 461,188.00	\$ 513,688.00	\$ 647,146.00	\$ 1,646,163.00
Maintenance	\$ 95,083.00	\$ 151,228.00	\$ 120,859.00	\$ 122,317.00	\$ 126,823.00	\$ 192,013.00	\$ 403,924.00
Utilities	\$ 225,925.00	\$ 282,724.00	\$ 255,431.00	\$ 310,500.00	\$ 273,163.00	\$ 282,035.00	\$ 251,925.00
Capital		\$ 50,756.00	\$ 59,045.00	\$ 40,127.00	\$ 7,390.00	\$ 7,035.00	\$ 140,091.00
Others	\$ 91,654.00	\$ 35,689.00	\$ 84,060.00	\$ 59,286.00	\$ 38,831.00	\$ 44,495.00	\$ 25,955.00
<u>Total</u>	<u>\$ 1,810,936.00</u>	<u>\$ 1,908,351.00</u>	<u>\$ 1,819,212.00</u>	<u>\$ 1,997,803.00</u>	<u>\$ 2,072,760.00</u>	<u>\$ 2,315,803.00</u>	<u>\$ 3,726,514.00</u>

Supply Reservoir Expenses

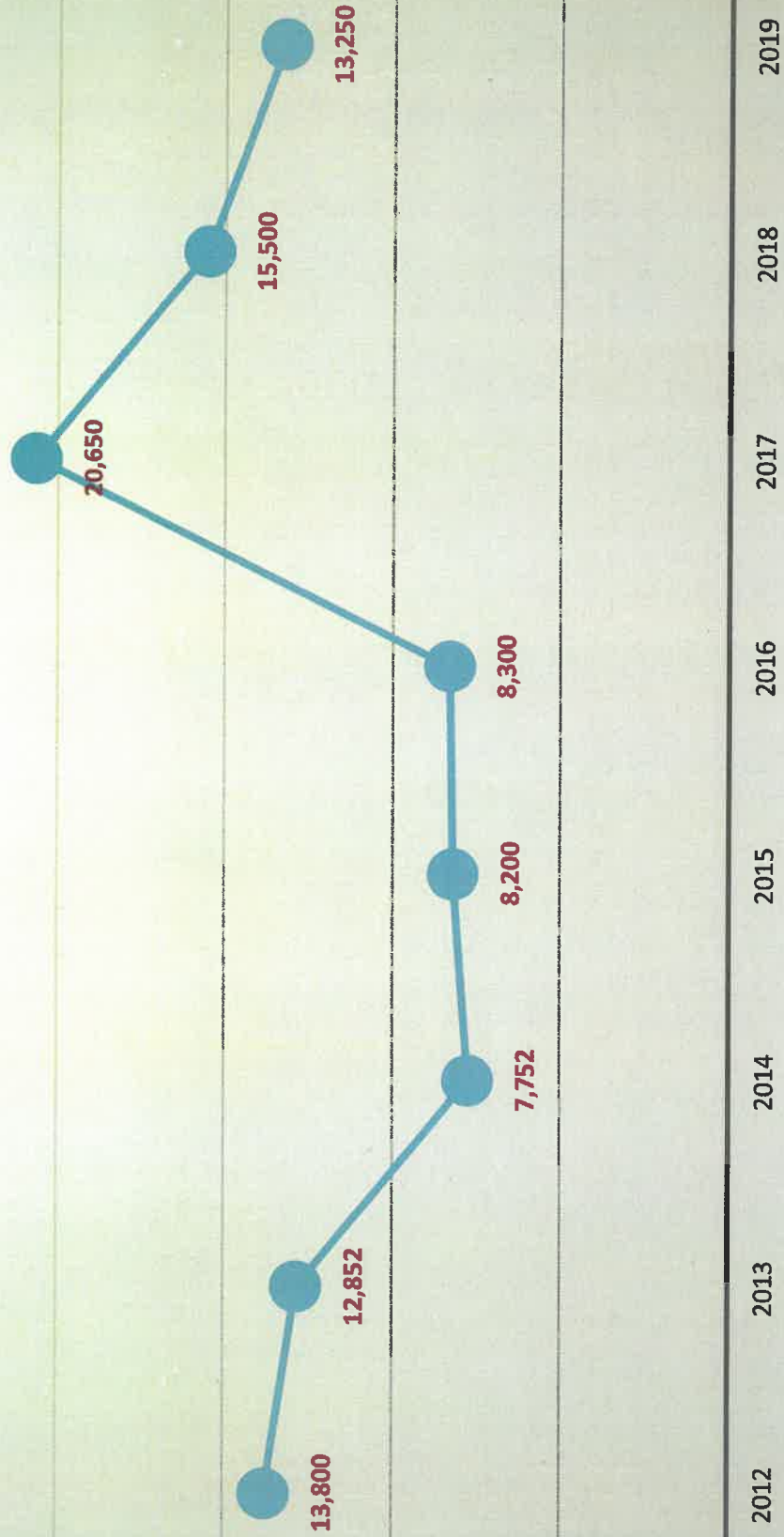
Wages	\$ 49,664.00	\$ 50,056.00	\$ 54,539.00	\$ 57,098.00	\$ 56,118.00	\$ 60,165.00	\$ 74,505.00
Retirement Settlements							
Benefits	\$ 33,212.00	\$ 23,693.00	\$ 23,561.00	\$ 22,451.00	\$ 28,482.00	\$ 27,608.00	\$ 33,307.00
Operating	\$ 130,931.00	\$ 67,175.00	\$ 79,228.00	\$ 77,864.00	\$ 133,767.00	\$ 76,263.00	\$ 124,262.00
Maintenance	\$ 57,816.00	\$ 28,314.00	\$ 6,107.00	\$ 27,543.00	\$ 25,057.00	\$ 126,065.00	\$ 196,349.00
Utilities	\$ 96,982.00	\$ 90,257.00	\$ 99,524.00	\$ 104,233.00	\$ 109,637.00	\$ 113,672.00	\$ 90,932.00
Capital	\$ 5,812.00			\$ 51,011.00	\$ 26,226.00	\$ 193,708.00	\$ 54,673.00
Others	\$ 12,342.00	\$ 21,852.00	\$ 10,544.00	\$ 10,118.00	\$ 7,563.00	\$ 8,270.00	\$ 2,347.00
<u>Total</u>	<u>\$ 386,759.00</u>	<u>\$ 281,347.00</u>	<u>\$ 273,503.00</u>	<u>\$ 350,318.00</u>	<u>\$ 386,850.00</u>	<u>\$ 605,751.00</u>	<u>\$ 576,375.00</u>



# 2019 Chemical Usage Costs

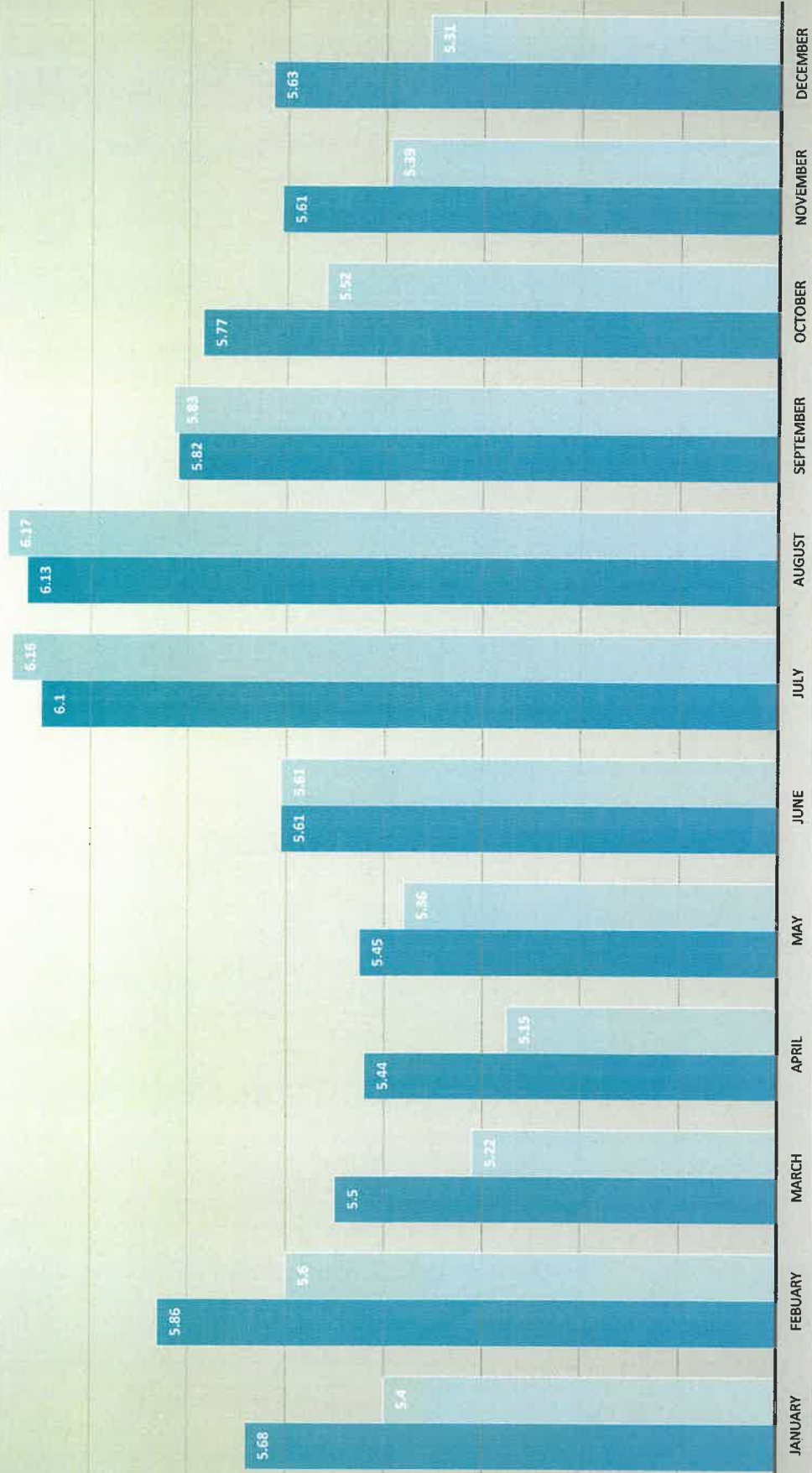


# Algaecide Applied to Reservoir Waters (in lbs)

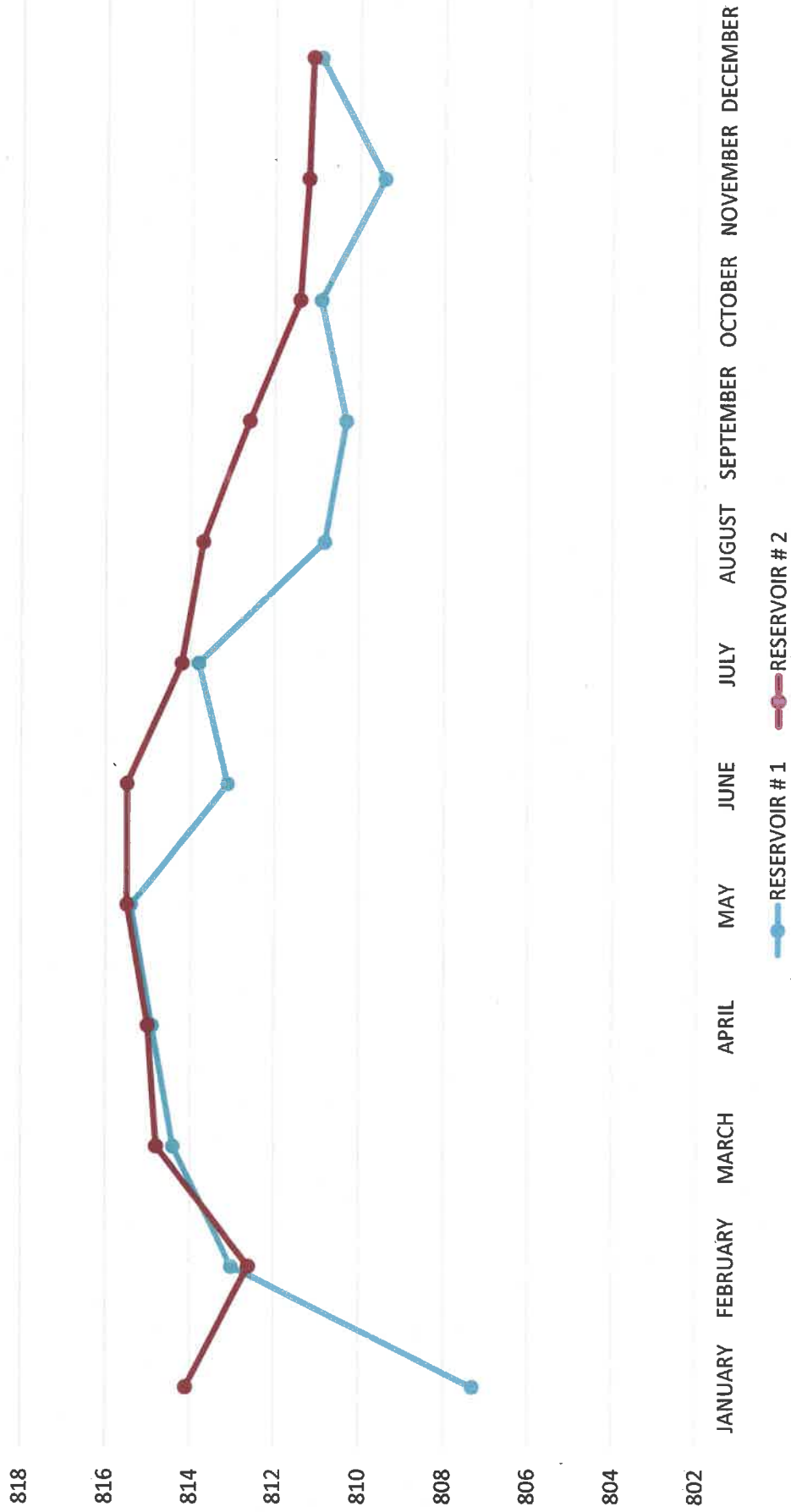


# 2019 Treated vs Pump Flows (Daily Avg - in Million Gallons)

■ Treated Daily   ■ Pumped Daily



# 2019 Reservoir Levels





## City of Findlay Water Department Drinking Water Consumer Confidence Report For 2018

**Superintendent  
Jason Phillips**

**Mayor  
Christina Muryn**

**Service Director  
Brian A. Thomas**

### **Introduction**

The following report has been prepared to provide information to you, the consumer, on the quality of our drinking water. Included within this report is general health information, water quality test results, how to participate in decisions concerning your drinking water and water system contacts.

### **Source water information and assessment**

Our water source is surface water pumped from the Blanchard River into the Findlay Reservoir, which is located three miles southeast of the water treatment plant. For the purpose of source water assessments, in Ohio all surface waters are considered susceptible to contamination. By their nature, surface waters are readily accessible and can be contaminated by chemicals and pathogens, which may rapidly arrive at the public drinking water intake with little warning or time to prepare. The City of Findlay's drinking water source protection area contains potential contaminant sources such as agricultural runoff, industrial storm water, gas station runoff, home construction, animal feed lot runoff, gas lines and gas and oil wells, wastewater treatment discharges, cemeteries, airports, silage, farm machinery repair, pesticide/fertilizer/petroleum storage areas, pasture, closed and inactive landfills, roadways and railways.

We treat your water using lime/soda softening, coagulation, sedimentation, stabilization, fluoridation, disinfection, and filtration to remove or reduce harmful contaminants in the source water; however, no single treatment technique can address all potential contaminants. The potential for water quality impacts can be further decreased by implementing measures to protect the Blanchard River. Information that is more detailed is in the City of Findlay's Drinking Water Source Assessment Report, which can be obtained by calling the Findlay Water Department at 419-424-7193.

### **Sources of contamination to drinking water**

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include: (A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife; (B) Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming; (C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses; (D) Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems; (E) Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, USEPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (1-800-426-4791).

## Who needs to take special precautions?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infection. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

## About your drinking water

The EPA requires regular sampling to ensure drinking water safety. Our water department conducted sampling for bacteria, inorganic, synthetic organic, and volatile organic contaminants during 2018. Samples were collected for 58 different contaminants, most of which were not detected in the City of Findlay water supply. In 2018, we tested Raw water for microcystins and had no detections. The Ohio EPA requires us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though accurate, are more than one year old.

Listed below is information on those contaminants that were found in the City of Findlay drinking water.

Contaminants (Units)	MCLG	MCL	Level Found	Range of Detections	Violation	Sample Year	Typical Source of Contaminants
<b>Bacteriological</b>							
Total Organic Carbon (ppm)	NA	TT	2.4	2.1-3.4	NO	2018	Naturally present in the environment.
<i>The value reported under "Level Found" for Total Organic Carbon (TOC) is the lowest ratio between percentage of TOC actually removed to the percentage of TOC required to be removed. A value of greater than one (1) indicates that the water system is in compliance with TOC removal requirements. A value of less than one (1) indicates a violation of the TOC removal requirements.</i>							
Turbidity (NTU)	NA	TT	0.11	0.03 – 0.11	NO	2018	Soil runoff.
Turbidity (% meeting standard)	NA	TT	100%	100% – 100%	NO	2018	
<i>Turbidity is a measure of the cloudiness of water and is an indication of the effectiveness of our filtration system. The turbidity limit set by the EPA is 0.3 NTU in 95% of the daily samples and shall not exceed 1 NTU at any time. As reported above, the Findlay Water Department's highest recorded turbidity result for 2018 was 0.16 NTU and lowest monthly percentage of samples meeting the turbidity limits was 100%.</i>							
<b>Inorganic Contaminants</b>							
Barium (ppm)	2	2	0.010	NA	NO	2018	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Fluoride (ppm)	4	4	0.93	0.79 – 1.07	NO	2018	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate (ppm)	10	10	1.07	<0.10 – 1.07	NO	2018	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
<b>Disinfection Byproducts</b>							
Haloacetic Acids (HAA5) (ppb)	NA	60	20.7	11.4 – 30.4	NO	2018	By-product of drinking water chlorination.
Total Trihalomethane (TTHM) (ppb)	NA	80	62.8	28.7 – 93.5	NO	2018	By-product of drinking water chlorination.
<b>Residual Disinfectants</b>							
Total Chlorine (ppm)	MRDLG = 4	MRDL = 4	1.6	1.4 – 1.8	NO	2018	Water additive used to control microbes.
<b>Lead and Copper</b>							
<b>Contaminants (Units)</b>	<b>Action Level (AL)</b>	<b>Individual Results over the AL</b>	<b>90% of test levels were less than</b>	<b>Violation</b>	<b>Sample Year</b>	<b>Sources of Contamination</b>	
Lead (ppb)	15	NA	2.3	NO	2018	Corrosion of household plumbing systems; Erosion of natural deposits.	
Zero out of 30 samples have lead levels that exceeded the Action Level of 15 ppb.							
Copper (ppm)	1.3	NA	0.12	NO	2018	Corrosion of household plumbing systems; Erosion of natural deposits.	
Zero out of 30 samples have copper levels that exceeded the Action Level of 1.3 ppm.							

## Lead Educational Information

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Findlay Water Department is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at 800-426-4791 or at <http://www.epa.gov/safewater/lead>.

## License to Operate (LTO) Information

In 2018 we had an unconditioned license to operate our water system.

## How do I participate in decisions concerning my drinking water?

If you have any questions about this report or concerning your water utility, please contact Jason Phillips by calling (419) 424-7193 or by writing to 110 North Blanchard Street, Findlay, OH 45840. We want our valued customers to be informed about their water utility. You can attend regular public meetings on the first and third Tuesday of each month, at 7:30 p.m., in Council Chambers in the Municipal Building, at 318 Dorney Plaza.

## Definitions of some terms contained within this report

- Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
- Maximum Contaminant level (MCL): The highest level of contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
- Parts per Million (ppm) or Milligrams per Liter (mg/L) are units of measure for concentration of a contaminant. A part per million corresponds to one second in a little over 11.5 days.
- Parts per Billion (ppb) or Micrograms per Liter (µg/L) are units of measure for concentration of a contaminant. A part per billion corresponds to one second in 31.7 years.
- Picocuries per Liter (pCi/L): A measure of radioactivity.
- Nephelometric Turbidity Unit (NTU): A measure of water cloudiness.
- Not Applicable (NA)
- Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.
- Maximum Residual Disinfectant Level Goal (MRDLG): The level of drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
- Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
- The "<" symbol: A symbol which means less than. A result of <5 means that the lowest level that could be detected was 5 and the contaminant in that sample was not detected.
- Microcystins: Liver toxins produced by a number of cyanobacteria. Total microcystins are the sum of all the variants/congeners (forms) of the cyanotoxin Microcystin.

For information regarding backflow prevention, visit our web page at:

<http://www.findlayohio.com/government/city-departments/utilities/water-distribution/backflow-prevention-program/>