CITY OF FINDLAY

WATER POLLUTION

CONTROL CENTER

Introduction

The annual report of operations of the Water Pollution Control Center for the year ending December 31, 2019 is respectfully submitted herein. We wish to acknowledge the initiative and cooperation exhibited by those employees listed below in their outstanding operation and maintenance of the wastewater system throughout the year 2019.

The Water Pollution Control Center (WPCC) is comprised of three departments, Water Pollution Control, Sewer Maintenance, and Stormwater Maintenance. Each department operates under separate budgets and are all under the direction of Dave Beach, Superintendent of the Water Pollution Control Center (WPCC).

The Key Processes of Operations at the WPCC include:

- Provide Wastewater Treatment that Meets or Exceeds our National Pollutant Discharge Elimination System (NPDES) Permit
- Meet Regulatory Reporting Requirements Set Forth in NPDES
- Ensure Reliable and Valid Analytical Lab Data
- Operation and Maintenance of Wastewater Collection System
- Maintain Stormwater Collection System
- Operation and Maintenance of Sanitary & Storm Pumping Stations
- Condition and Dispose of Biosolids
- Floodwater Management

Water Pollution Control Employees:

- Raul Amesquita
- Joel Borer
- Seth Cole
- James Fox
- Dave Frantz
- Joshua Gearing
- Gary Hayden
- Savannah Kline
- Tom Moses
- Werner Roesch
- Seth Rosselit
- Samuel Schroeder
- Todd Ward
- Gavin Wilson
- Jason Wolfarth

Sewer Maintenance Employees:

- Levi Bishop
- Jordan Barton
- Bob Courtney
- Parker Dukes
- Chase Glick
- Dan Gonzalez
- Chris Kolhoff
- Bryce Nickols
- Michael Stillberger
- Brent Vaughan

Stormwater Employees:

- Dana Cramer
- George Elston

The WPCC employs many staff members that are licensed with the State of Ohio in wastewater treatment and collection. To keep their licensure they must participate in continuing education and continually meet the standards set forth by the Ohio EPA.

The following employees are licensed by the Ohio Environmental Protection Agency:

Waste Water Operator Licenses:

Dave Beach	Class 4	Werner Roesch	Class 2
Jason Wolfarth	Class 4	Seth Rosselit	Class 2
David Frantz	Class 3	Joel Borer	Class 1
Raul Amesquita	Class 3	Josh Gearing	Class 1
Seth Cole	Class 3		

Waste Water Collection Licenses:

Robert Courtney	Class 2	Mike Stillberger	Class 1
Chris Kolhoff	Class 1		

2019 Annual Report
Water Pollution Control

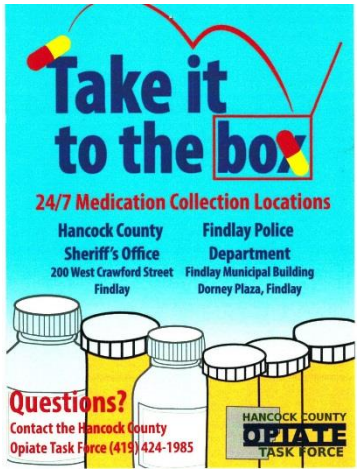
In the year 2019, the City of Findlay WPCC completed its eighty-sixth year of operation by treating 4.700 billion gallons of sewage, which was 148 million gallons more than 2018. The average daily total for sewage treated was 12.93 million gallons per day which increased from 2018's daily average of 12.52 million gallons per day. Additional flow data can be found in the graphs included with this report.

The WPCC has an approved Ohio Environmental Protection Agency Sludge Management Plan and continues to meet all state and federal regulatory requirements for disposal in a landfill. The wastewater biosolids (sludge) generated at the WPCC is conditioned on four belt filter presses located in the Solids Processing Building. 2000.56 dry tons of biosolids were treated and disposed of at the Hancock County Landfill in 2019.

In an effort to preserve equipment and cut down on repairs, the City invested in a bar screen that went into operation on August 4, 2015 at the Water Pollution Control Center. In 2019, it removed 11, 209 pounds total or 30.71 pounds of debris per day from the raw wastewater entering the WPCC.

WPC Plant maintenance made several improvements throughout 2019. Lake Cascades pump station was upgraded with two (2) new pumps, a control panel and discharge piping. They also replaced the pump guide rails in RAS/WAS wet wells # 1 and #2 and made various improvements throughout the WPC facility.

The City of Findlay WPCC continues to partner with Marathon Petroleum Corporation on a ground-mounted 975.88 kilowatt (kW) solar energy facility composed of four sub array systems. The project was constructed as a research and development project to better understand the potential advantages and disadvantages of solar energy. The electrical power it generates is donated to the Water Pollution Control Center. Over 6,000 solar panels were used to complete the project including tracking and fixed solar panels from both SHARP and KYOCERA brands. The facility went on line on November 5, 2012 and in its seven years of operation it has generated 5,452,224 kilowatt hours (kWh) of electrical power with an estimated retail value of $464,238. The solar panels generated 664,421 kWh this year, which is about 1/8th of the total kWh used by the plant in 2019.



The WPC once again partnered with the Hancock County Board of Alcohol, Drug Addiction, and Mental Health Services, The University of Findlay, the Findlay Police Department, and Rader Environment Services to hold semi-annual drive-up collections of prescription drugs. In addition to these events, there are also permanent collection boxes at the Hancock County Sheriff's Office and the City of Findlay Police Department, which were installed in 2011 to allow the citizens of Findlay and Hancock County an alternative to disposing of their unwanted prescription drugs by flushing them down their toilets. In 2019, 484.25 pounds of medical collection drugs were destroyed. We are pleased with the success of these efforts and will continue to promote proper disposal of these common contaminants.

The WPCC staff continues to conduct tours for school age children, citizen groups, and University of Findlay students who are interested in wastewater management. These tours provide a general overview of the treatment process and focus on pollution prevention as well as ways that we can keep our storm water system cleaner. In 2019, the University of Findlay, students from Liberty Benton schools, and members of Hancock County Leadership group toured the plant and listened to a brief presentation.

Laboratory testing, to assure compliance with the NPDES permit limits, is performed at the WPCC and several outside laboratories. Two full-time laboratory technicians are required to monitor the specified parameters. The WPCC is pleased to report that our laboratory, once again, received an acceptable rating on all parameters that were tested as part of the annual DMR-QA (Discharge Monitoring Report & Quality Assurance) study. This study involves purchasing samples with unknown values and running the tests through our lab. The results are then sent back to the company for evaluation and the evaluation is then forwarded to the USEPA.

There were no violations of the WPCC NPDES permit during 2019.

The Water Pollution Control Center also has an approved Ohio Environmental Protection Agency Industrial Pretreatment Program to regulate the disposal of industrial wastewater into the sanitary wastewater collection system. The Water Pollution Control Center is the legal authority responsible for the management, testing, and record keeping of the program. Audits of the program and inspections are performed annually by the Northwest District Office of the Ohio EPA and tri-annually by the State Office of the Ohio EPA. Inspection reports from all EPA agencies have been above average and the City of Findlay is meeting all federal requirements at this time. The WPCC works closely with local industries in the pretreatment of their individual discharges and has developed an excellent cooperative spirit to ensure compliance with the pretreatment program.

In looking ahead to next year, we continue to focus on meeting our key processes while working towards the 2020 objectives of:

- Continued compliance on the Combined Sewer Overflow Long Term Control Plan
- Continue the Annual Sewer and Manhole Lining Program
- Annual Sewer Televising
- UV System Upgrade Phase 2
- Clarifier 3 & 4 Rehab

2019

ANNUAL SUMMARY OF OPERATIONS

MONTH	FLOW (MILLION GALLONS)		
	TOTAL	*AVG/DAY*	*PEAK*
JANUARY	456.053	14.711	35.077
FEBRUARY	533.070	19.038	35.277
MARCH	440.596	14.213	35.303
APRIL	552.605	18.420	35.769
MAY	462.105	14.907	26.800
JUNE	500.972	16.699	31.574
JULY	326.750	10.540	20.500
AUGUST	316.897	10.222	29.978
SEPTEMBER	304.186	10.140	14.496
OCTOBER	282.866	9.125	20.886
NOVEMBER	238.860	7.962	14.879
DECEMBER	285.619	9.214	23.279
2019 TOTAL	**4,700.579**		
2019 AVERAGE	**391.715**	**12.933**	**26.985**
2018 TOTAL	4,552.233		
2018 AVERAGE	379.353	12.521	25.338
2017 TOTAL	3,829.408		
2017 AVERAGE	319.117	10.497	22.177

2019

ANNUAL SUMMARY OF OPERATIONS

MONTH	SUSPENDED SOLIDS MG/L		5-DAY CBOD MG/L		AMMONIA MG/L	
	RAW	*FINAL*	*RAW*	*FINAL*	*RAW*	*FINAL*
JANUARY	129	4.74	88	2.48	10.7	0.030
FEBRUARY	79	4.50	63	2.30	7.0	0.040
MARCH	128	4.57	91	2.24	10.2	0.040
APRIL	121	3.59	75	2.45	8.1	0.030
MAY	155	2.04	78	2.17	8.2	0.030
JUNE	110	2.65	71	1.70	7.8	0.030
JULY	142	2.61	111	2.91	13.0	0.060
AUGUST	146	1.82	128	1.77	14.8	0.040
SEPTEMBER	143	1.33	140	1.19	18.7	0.050
OCTOBER	137	1.91	133	1.22	18.1	0.020
NOVEMBER	181	2.81	122	2.00	16.7	0.030
DECEMBER	166	1.95	134	2.36	16.9	0.010
NPDES LIMIT (SUMMER)	5/01-10/31	14	N/A	10	N/A	0.91
NPDES LIMIT (WINTER)	11/01-4/30	18	N/A	13	N/A	3.5
2019 AVERAGE	**136**	**2.88**	**103**	**2.07**	**12.5**	**0.034**
2018 AVERAGE	132	3.16	104	2.20	12.3	0.036
2017 AVERAGE	127	2.66	101	2.15	12.9	0.036

2019

ANNUAL SUMMARY OF OPERATIONS

MONTH	TOTAL PHOSPHORUS MG/L		COD MG/L	E. COLI #/100ML
	RAW	*FINAL*	*FINAL*	*FINAL*
JANUARY	2.6	0.65	10	
FEBRUARY	1.6	0.50	15	
MARCH	2.7	0.49	32	
APRIL	2.3	0.52	13	
MAY	2.7	0.60	12	6
JUNE	2.0	0.71	10	11
JULY	2.9	0.84	14	11
AUGUST	3.5	0.74	13	19
SEPTEMBER	3.9	0.84	10	25
OCTOBER	4.0	0.88	11	35
NOVEMBER	4.1	0.72	12	
DECEMBER	4.0	0.81	13	
NPDES LIMIT	***N/A***	***1***	***N/A***	***126/100ML***
2019 AVERAGE	3.03	0.69	13.75	17.83
2018 AVERAGE	3.07	0.70	10.25	40.83
2017 AVERAGE	3.04	0.71	10.25	80.17

2019

ANNUAL SUMMARY OF OPERATIONS

MONTH	DISSOLVED OXYGEN (PPM)		
	FINAL EFFLUENT	*BLANCHARD RIVER ABOVE*	*BLANCHARD RIVER BELOW*
JANUARY	9.2	7.4	7.9
FEBRUARY	9.2	12.6	12.4
MARCH	9.4	13.5	12.8
APRIL	8.7	9.9	9.7
MAY	8.2	9.5	9.4
JUNE	7.8	6.5	6.4
JULY	7.6	7.3	6.7
AUGUST	7.5	6.9	6.9
SEPTEMBER	7.6	7.9	6.9
OCTOBER	7.8	7.5	7.0
NOVEMBER	8.3	10.6	9.3
DECEMBER	8.8	11.8	10.9
NPDES PERMIT (SUMMER) 5/01-10/31	6.7		
NPDES PERMIT (WINTER) 11/01-4/30	5.3		
2019 AVERAGE	8.3	9.3	8.9
2018 AVERAGE	8.3	9.8	9.5
2017 AVERAGE	8.3	9.4	9.2

2019

SOLIDS PROCESSING

ANNUAL REPORT

MONTH	OPERATING HOURS				TOTAL OPERATING
	1	2	3	4	HOURS
JANUARY	71.00	147.75	140.25	71.75	430.75
FEBRUARY		125.25	118.00	112.00	355.25
MARCH		164.00	156.00	147.50	467.50
APRIL	19.75	121.00	135.00	128.50	404.25
MAY		174.25	166.00	157.00	497.25
JUNE	122.50		116.00	115.50	354.00
JULY	125.75	85.50	115.50	27.50	354.25
AUGUST	128.75	111.00	117.25		357.00
SEPTEMBER	106.75	104.00	100.25		311.00
OCTOBER	114.25	111.25	107.50		333.00
NOVEMBER	107.50	102.25		96.75	306.50
DECEMBER	152.75	146.00		135.25	434.00
TOTAL	949.00	1,392.25	1,271.75	991.75	4,604.75
AVERAGE	79.08	116.02	105.98	82.65	383.73

2019

SOLIDS PROCESSING

ANNUAL REPORT

MONTH	AVERAGE COST $/TON	POLYMER COST TOTAL,$	POLYMER USAGE GALLONS	AVERAGE SOLIDS CAPTURE, %
JANUARY	25.16	4,573.11	372.10	0.98
FEBRUARY	28.42	3,908.47	318.02	0.98
MARCH	22.79	4,609.49	375.06	0.98
APRIL	21.10	3,940.66	320.64	0.98
MAY	24.08	5,573.76	453.52	0.99
JUNE	21.29	3,920.14	318.97	0.98
JULY	16.86	3,143.29	255.76	0.99
AUGUST	17.55	2,692.62	219.09	0.95
SEPTEMBER	22.52	2,920.84	237.66	0.99
OCTOBER	24.40	3,022.85	245.96	0.99
NOVEMBER	24.58	2,856.69	232.44	0.98
DECEMBER	28.24	3,910.30	318.17	0.97
TOTAL		45,072.22	3,667.39	
AVERAGE	23.08			0.98

Polymer cost/gal *$12.29*

2019

SOLIDS PROCESSING ANNUAL REPORT

MONTH	TOTAL SLUDGE DEWATER & SUPNT. GALLONS	DEWATERED SLUDGE GALLONS	SUPERNANT GALLONS	DEWATERED SLUDGE DRY TONS	AVG. SOLIDS FEED %	AVG. SOLIDS CAKE %
JANUARY	8,097,222	5,194,440	2,902,782	175.88	0.92	15.70
FEBRUARY	6,413,369	4,064,300	2,349,069	143.47	0.96	16.10
MARCH	9,077,700	5,528,600	3,549,100	206.61	1.00	15.70
APRIL	8,423,683	5,238,500	3,185,183	193.54	1.05	16.90
MAY	8,875,541	5,688,300	3,187,241	238.22	1.13	19.10
JUNE	7,330,366	4,494,400	2,835,966	187.61	1.18	19.60
JULY	7,989,329	4,739,100	3,250,229	180.66	1.08	18.60
AUGUST	8,231,922	4,838,600	3,393,322	150.26	0.87	16.40
SEPTEMBER	7,077,571	4,252,800	2,824,771	131.15	0.93	16.50
OCTOBER	7,535,451	4,341,900	3,193,551	124.57	0.86	15.50
NOVEMBER	6,104,062	3,592,300	2,511,762	118.08	0.91	15.20
DECEMBER	7,178,502	4,576,300	2,602,202	150.51	0.98	15.30
TOTAL	92,334,718	56,549,540	35,785,178	2,000.56		
AVERAGE	7,694,560	4,712,462	2,982,098	166.71	0.99	16.72

2018-2019

COMPARISON OF OPERATIONS

REMOVAL OF SUSPENDED SOLIDS	
2018 *RAW TO FINAL*	*2019* *RAW TO FINAL*
97.61%	97.89%

REMOVAL OF 5-DAY C.B.O.D.	
(Carbonaceous Biochemical Oxygen Demand)	
2018 *RAW TO FINAL*	*2019* *RAW TO FINAL*
97.88%	97.99%

REMOVAL OF AMMONIA	
2018 *RAW TO FINAL*	*2019* *RAW TO FINAL*
99.71%	99.73%

REMOVAL OF TOTAL PHOSPHORUS	
2018 *RAW TO FINAL*	*2019* *RAW TO FINAL*
77.20%	77.13%

COST OF OPERATION		
	2019	*2018*
PAYROLL & BENEFITS	$1,377,605	$1,302,579
UTILITIES (electric, water & sewage)	$481,863	$598,278
CHEMICALS	$63,470	$59,371
EQUIPMENT MAINTENANCE	$82,934	$105,091
MISCELLANEOUS	$252,554	$257,778
CAPITAL EQUIPMENT	$39,930	$175,036
OPERATING COST TRANSFER	$637,543	$645,069
TOTAL	**$2,935,899**	**$3,152,201**
COST PER MILLION GALLONS	$625	$692

Weather Data

On September 19, 1934 the Sewage Treatment Works became a National Weather Service station for the City of Findlay and that tradition continues today at the Water Pollution Control Center. Weather records are on file dating back to 1894 for temperature, precipitation amounts, wind direction, and sky conditions. River levels are also monitored and supplied to the news media when they pose a threat to the community.

The average temperature for the year 2019 was 51. 3°F which was 1.3 °F above the historical average of 50.4°F. The lowest temperature of the year was -12°F recorded on January 30th. There was a total of five (5) days at 0°or below this year. The highest temperature of the year was recorded twice when the mercury reached 94°F both in July. There was one (1) record highs set or tied throughout the year and three (3) record lows. The year 2019 recorded a total of twelve (12) days at or above 90°F but failed to reach 100°F even once. The historical record low temperature of minus 21° was recorded on January 13, 1912 and February 20, 1929. The highest temperature on record was 109° recorded on July 24, 1934.

Total precipitation for 2019 was 41.17 inches, which was 5.08 inches above the one hundred- and twenty-four-year average of 36.09 inches. June had the greatest amount of monthly precipitation at 5.86 inches and November had the least at 0.63 inches. No rainfall records were tied or broken in 2019. August 22nd recorded the largest single day rainfall at 2.78 inches and was one of the six days of the year in which we received more than one inch of rain. The Blanchard River did exceed flood stage of 11 foot twice in 2019, in April and June. The WPCC recorded 189 days with precipitation. Out of those 189 days, 133 days had measurable amounts of precipitation of more than 0.01".

The year 2019 recorded a total annual snowfall of 26.6 inches, which is 0.10 inches below the one hundred- and twenty-four-year average of 26.5 inches. The month of January was the snowiest month with 10.6 inches recorded. There were no snowfall records set in 2019.

2018-2019
TEMPERATURE AND PRECIPITATION DATA

MONTH	*AVERAGE TEMPERATURE* *(DEGREES)*				*PRECIPITATION* *(INCHES)*			
	2018		*2019*		*RAINFALL*		*ANNUAL SNOWFALL*	
	MAX	*MIN*	*MAX*	*MIN*	*2018*	*2019*	*2018*	*2019*
JANUARY	27.5	8.8	55	-12	1.99	2.30	7.9	10.6
FEBRUARY	27.7	11.4	57	5	3.81	3.10	4.8	4.6
MARCH	41	22.2	66	6	2.73	3.31	3.1	4.9
APRIL	61.1	39.5	75	21	2.66	5.81	1	T
MAY	72.8	50.9	86	40	2.52	4.00	0	0
JUNE	81.2	62	92	48	4.72	5.86		
JULY	78.8	59.7	94	58	1.82	4.03		
AUGUST	81.5	62.1	90	54	5.25	4.86		
SEPTEMBER	74.6	53.4	91	48	2.26	1.72		
OCTOBER	61.4	42.7	90	34	3.74	3.33	0	T
NOVEMBER	43.5	28.2	57	6	3.61	0.63	3.2	3.9
DECEMBER	39.4	27.3	63	7	2.88	2.22	T	2.6
TOTAL					**37.99**	**41.17**	**17.8**	**26.6**
AVERAGE	**57.5**	**39.0**	**76.3**	**26.3**				
YEARLY AVERAGE	**48.3**		**51.3**					
HISTORICAL AVERAGE	50.4				36.09		26.5	

2019 Annual Report
Sewer Maintenance Department

The Sewer Maintenance department maintains a sanitary sewer system that reaches far outside the City of Findlay corporation limits. The sanitary sewer system has over 16,999 customers and is estimated to consist of three hundred and four (304) miles of sewers and several thousand manholes. They also maintain 15.1 miles of sanitary force mains from various pump stations located both within the City of Findlay corporation limits and in the outlying area. Located on these force mains are 36 air relief valves that require weekly maintenance and replacement as needed to ensure efficient pumping and proper flows from the lift stations to the plant.

A total of one hundred and thirty (130) reports of sewer problems were investigated in the year 2018. About two percent (w%) of the reports were due to a problem within the City's sewer system while the remaining ninety-eight percent (98%) were determined to be in the homeowner's sewer. Ten percent (10%) of the 130 calls were received during nonscheduled work hours and required employees to be called in to work.

As part of a preventive maintenance program, all City sanitary sewers are cleaned every eight (8) years and those areas that historically have sewer problems are monitored and cleaned more often. In 2019, a total of 30.5 miles of sanitary sewer were cleaned by a high-pressure water sewer cleaner and vacuum truck called the sanitary vactor. This cleaning removed 293 cubic feet of debris from the City's sanitary system. The sanitary and storm vactors are often used to help other City departments with cleaning projects. The Water Treatment Plant, Water Pollution Control facility and even the City swimming pool have all utilized the vactor for the cleaning of tanks, basins, wet wells, or drains. In 2019, the vactor crews also assisted various contractors with hydro-excavation on several city related sewer repair issues during business hours.

Vactor

Additional preventative efforts included the application of grease treatment to 1,940 feet of sanitary sewer to decrease grease build up and treatment of 5,420 feet of sanitary sewer by private contractor to decrease the effect of tree root intrusion on the sewers. The root treatment process involves the spraying of foam on the roots within the sewer system which kills the roots without harming the tree. This helps to reduce sewer blockages within the lines and cuts down on the frequency that cleaning is required. A rat control maintenance program is also in place for the City sewers.

Throughout the year, twenty-six (26) sanitary sewer pipes and twenty-two (22) storm sewer pipes were repaired which had either collapsed or were damaged. The Sewer Maintenance Department also repaired manholes, constructed new manholes, adjusted castings to grade, and conducted dye tests.

The Sewer Maintenance Department, along with the Water Distribution Department, is required to locate and mark sewers and related structures as part of the Ohio Utilities Protection Service. During 2019, there were eight thousand one hundred and eight two (8, 182) requests for sewer locates. This is up from the previous years high in 2018 of seven thousand our hundred and forty-five (7, 445).

As required by OSHA and the City of Findlay's confined space entry policy, all confined space entries must be documented. During 2019, we had seven (7) entries that were required by maintenance personnel to the sewer system. The Sewer Maintenance Department uses an enclosed trailer to allow the confined space equipment to be readily available at the job site. This reduces entry time and provides a safer entry procedure with all equipment close at hand.

In 2019, forty-six thousand nine hundred and sixty (46, 957) feet of sanitary sewer and thirty thousand and sixty (30,060) feet of storm sewer were televised and assigned a rating based on their condition.

The televising program has allowed us to determine the sewers most in need of attention as we plan our sewer lining project. Sewer lining literally creates a "pipe" within the existing pipe and it restores the structural integrity of the original sewer line without digging it up. It is a cost effective alternative to sewer replacement that prevents root intrusion, stops infiltration and leaks into the sewer, increases flow rates, and is corrosion resistant to the hydrogen sulfide gas which is created within the sanitary sewer system. The sewer lining project for 2019 is ongoing in 2020 and is expected to continue in 2021 as well.

The Sewer Maintenance and the Water Pollution Control Departments play an integral role in keeping the residents of Findlay safe when the Blanchard River nears and exceeds flood stage. They worked tirelessly along with the authorities to barricade and close flooded streets as well as responding to an increased number of sewer concerns during flood events.

Installation of flap gates on all Combined Sewer Overflows has also continued to prevent surcharging of the sewer system during flood conditions. Additional flap gates are installed on storm sewers to help minimize street flooding during high water levels of the Blanchard River and its tributaries.

During 2019, approximately forty percent (40%) of the Sewer Maintenance Unit man-hours were spent maintaining sanitary sewers, forty percent (40%) on storm collection system and the remaining twenty percent (20%) on building and equipment maintenance, vacation, sick leave, confined space entry training and equipment use and various other safety training.

2019
SEWER MAINTENANCE
ANNUAL REPORT OF OPERATIONS

MONTH	CLEANING									CATCH BASINS		CONFINED SPACE ENTRIES	MANHOLES ADJUSTED #	SEWER CALLS #	ISSUE WITH CITY SEWER #	TELEVISED	
	BUCKET		VACTOR						JET								
	SANITARY FEET	STORM FEET	SANITARY FEET	DEBRIS REMOVED FT3	STORM FEET	DEBRIS REMOVED FT3	BASINS #	DEBRIS REMOVED FT3	FLUSHING FEET	REPAIRED #	PATCHED #					SANITARY FEET	STORM FEET
JANUARY	0	0	9,995	15	1,310	5	104	808	0	1	9	0	0	17	0	1,844	2,143
FEBRUARY	3,200	0	1,715	52	1,455	24	4	0	0	1	2	1	0	3	0	3,849	1,582
MARCH	0	0	20,165	23	750	1	194	1,313	0	2	12	1	1	17	0	5,533	5,411
APRIL	0	0	24,745	26	485	6	195	1,616	0	4	9	0	3	24	2	8,385	4,926
MAY	0	0	14,798	18	0	0	143	1,212	0	2	23	0	0	19	0	3,439	6,503
JUNE	0	0	14,830	12	1,325	4	108	707	0	3	18	3	3	15	0	3,981	3,801
JULY	0	0	2,315	0	0	0	56	404	0	1	4	0	1	5	0	3,216	0
AUGUST	0	0	19,390	48	0	0	429	2,929	0	0	24	0	2	5	0	1,189	839
SEPTEMBER	0	0	27,236	54	625	1	253	1,717	0	3	10	2	2	4	0	3,038	1,026
OCTOBER	0	0	15,459	17	84	1	138	1,010	0	0	21	0	1	3	0	4,429	1,451
NOVEMBER	0	0	7,415	8	0	0	161	1,313	0	1	2	0	2	3	0	3,472	1,298
DECEMBER	0	0	3,040	20	340	1	34	202	0	0	11	0	1	15	1	4,582	1,080
TOTAL	3,200	0	161,103	293	6,374	43	1,819	13,231	0	18	145	7	16	130	3	46,957	30,060
2018 TOTAL	3,200	0	209,581	563	2,130	11	2,889	20,705	0	25	125	22	38	148	6	103,733	21,051

SEWER MAINTENANCE
COST OF OPERATION

	2019	2018
PAYROLL & BENEFITS	$734,409	$721,520
UTILITIES (electric, water & sewage)	$19,798	$17,707
WATER & SEWER LINE MAINTENANCE	$43,558	$27,359
VEHICLE & EQUIPMENT MAINTENANC	$34,776	$31,785
FUEL	$27,053	$22,847
MISCELLANEOUS	$31,720	$25,643
CAPITAL EQUIPMENT	$54,989	$8,500
TOTAL	**$946,303**	**$855,360**

Stormwater Maintenance Department

The Stormwater Maintenance Department works in a combined effort with Sewer Maintenance to maintain and repair the storm sewer system within the City of Findlay corporation limits. The collection system consists of approximately six thousand four hundred (6,400) catch basins connected by an unknown amount of sewer line and manholes. Throughout the year, one thousand eight hundred and nineteen (1, 819) catch basins along with six thousand three hundred and seventy-four (6,374) feet of storm sewer were cleaned. These efforts removed thirteen thousand two hundred and seventy-four (13,274) cubic feet of debris from the stormwater collection system. A total of one hundred forty-five (145) were patched.

In an effort to decrease stormwater pollution, the Public Works department removed 1,040 cubic yards of debris from the streets by street sweeping and prevented this pollution from entering into the storm sewer system and then flowing into the receiving stream.

With Ordinance 2015-37 and 2015-38 concerning illicit discharge, illegal connection control, drainage, and erosion and sediment control in place, Mitchell Heacock, in the Engineering Department has been able to put the Storm Water Management Plan (MS4) into action.
The plan addresses the following six minimum controls which were set forth by the OEPA:

- Public Education and Outreach
- Public Participation and Involvement
- Illicit Discharge Detection and Elimination
- Construction Site Runoff Control
- Post Construction Storm Water Management
- Pollution Prevention and Good Housekeeping

Each of these controls have BMPs (Best Management Practices) or activities which have measurable goals. Each of these goals have an implementation schedule to track the progress of the activities that are being achieved.

All City departments submitted their of Municipal Operations Pollution Prevention/Good Housekeeping reports which require each city department to complete quarterly non-stormwater inspections during dry weather, semi-annual stormwater inspections during rain events, and an annual site inspection report each year that sums up all findings from the year and explains the actions taken to correct any problems. There were again no significant issues found from this reporting.

Continued outreach to the public through the distribution of fliers in the water and sewer bills helps to alert residents of the hazards of storm water pollution and how they can prevent it. Educational materials were also provided during field trips and tours given at the WPCC.

STORMWATER MAINTENANCE
COST OF OPERATION

	2019	2018
PAYROLL & BENEFITS	$153,130	$147,898
WATER LINE, SEWER LINE, & CATCH BASIN MAINTENANCE	$17,636	$9,467
VEHICLE & EQUIPMENT MAINTENANC	$44,157	$41,763
STREET SWEEPING	$28,070	$40,611
MISCELLANEOUS	$5,173	$7,083
CAPITAL EQUIPMENT	$0	$0
TOTAL	**$248,167**	**$246,822**