

AGENDA 7a-3
DATE 10-1-19

DEPARTMENT OF PUBLIC WORKS

CITY OF NORTON SHORES



FISCAL YEAR END REPORT – 2019
July 2018 – June 2019

The Department of Public Works respectfully submits this report to the City Council as an overall review of various activities handled by the Department during FY-2019 under the direction of Gerald A. Bartoszek. Administrative Assistant, Sarah Romine, is responsible for initial customer assistance and all department clerical duties.

The report will highlight activities deemed significant to the function of the Department and its role within the City organization. The report also recognizes the superintendents and supervisors within the Department and includes Supplemental Reports for each Division within the Department.

During FY-2019 the Public Works Department responded to 155 after hour calls/emergency calls and business hour calls; primarily consisting of 79 sewer lift station calls, followed by 37 water main and water and sewer service calls. Other calls included 25 in the street system, 13 Emergency Miss Dig requests, and one building and grounds call.

The Public Works Department is comprised of the following Divisions:

WATER & SEWER

Personnel - Matthew Anderson, Superintendent
Scott Houghtaling, Supervisor
Tara Smith, Administrative Assistant
Jamie Beach, Part Time Clerical
Nine Utility Workers

The Water & Sewer Division of the Department of Public Works has been in existence prior to the founding of the City. The Division is responsible for the operation and maintenance of the water distribution system and the sewage collection system, as well as utility billing. This report will relate to activities conducted by the Water & Sewer Division, including field operations and office functions. Matthew Anderson serves as Water & Sewer Superintendent for the Division; Scott Houghtaling is the Water & Sewer Supervisor. Administrative Assistant, Tara Smith, is responsible for water and sewer billing, scheduling appointments, and all other clerical activities in the Division.

STREETS AND DRAINAGE

Personnel - Bryan DeGroot, Superintendent
Gordie Anderson, Supervisor
Donna Holmberg, Administrative Assistant
Kim Simonelli, Part Time Clerical
Nine Streets and Drainage Maintenance Workers

Activities handled by this Division provide for the maintenance of streets and drains within the jurisdiction of the City. Specific areas of responsibility include street surfaces,

roadside areas, bridges, traffic signs, and traffic signal maintenance. In addition, the drainage system involves storm sewer, sub-drain and off-road outlet maintenance.

EQUIPMENT SERVICES

Personnel - Bryan DeGroot, Superintendent
Charles Borgman, Chief Mechanic
Two Mechanics

This activity provides for the maintenance of all equipment in the Equipment Fund. City personnel are responsible for preventive maintenance, as well as routine maintenance. Major repair work at times is contracted to specialists. Equipment Services recommends the specifications to be used to purchase new and replacement vehicles and other equipment, as well as preparation of the new equipment for use in the operations. This Division also decommissions the equipment being replaced and conducts the sale of the used equipment.

BUILDINGS AND GROUNDS

Personnel - Scott Ellison, Facilities Supervisor
Two Maintenance Workers

Maintenance and custodial responsibilities in City Hall and at the Library are the primary activity of this Division. Custodial duties of the DPW facility office area are also performed. Building and Grounds personnel also take care of various duties in support of the City Clerk's Office during elections. They maintain the heating and air conditioning systems in City Hall, the Library, and the Public Works facility on Mt. Garfield Road.

Another duty of Building and Grounds personnel is the care and grooming of the cemetery on Airport Road. Grass cutting, leaf removal, and general overall clean up and care to keep the property presentable at all times are primary activities. Additional duties dealing with the cemetery include the sale of grave sites as well as the preparation of graves for burial and the closure and restoration afterwards.

ENGINEERING SERVICES

Personnel - James R. Murphy, City Engineer

The City Engineer coordinates and oversees the development and construction of all of the City's major infrastructure improvements. Engineering Services provides the capability to respond to capital improvement requirements in our City, covering all aspects of growth in the public streets, drainage, water, and sewer systems. In addition, the division aids in the oversight of traffic signal and traffic control. Engineering Services also works towards the procurement of outside funding resources through grant application submission for public infrastructure projects. The Engineering Division also provides support to the site plan review process

required by the Zoning Ordinance for all non-residential projects, subdivisions, and site condominiums.

PLANNING

Personnel - Robert W. Bilkie, City Planner/Zoning Administrator (June 2018-June 2019)
Ted Woodcock, City Planner/Zoning Administrator (Hired June 2019)

The City Planner/Zoning Administrator is responsible for ordinance enforcement and site plan approval, as well as communications with the Michigan Department of Environment, Great Lakes, and Energy (EGLE, formally known as DEQ) related to critical dune issues. He also is staff representative to the Planning Commission and Zoning Board of Appeals.

WATER & SEWER DIVISION FY-2019 REVIEW

The following are activities conducted by the Water & Sewer Division, both in field operations and office functions:

Water Supply

The City purchases its water supply from the West Michigan Regional Water Authority which in turn purchases water on behalf of the City and Fruitport Charter Township from the City of Muskegon's Water Filtration Plant. Three large high service pumps, several miles of large transmission main, a booster station, and two water towers facilitate the delivery to the City's system.

Water Services

During FY-2019, Water & Sewer crews installed 33 water services ranging in size from 1" to 2". Service installations require the water main in the road right-of-way to be tapped under pressure and a copper service placed to the homeowner's property line, in addition to setting a water meter. Please see Attachment A for installation statistics since 2009. Repairs to 129 existing water services were also completed.

Sewer Connections

The Water & Sewer Supervisor approved the connections of 54 sewer services to the sanitary collection system. Inspections detail approved types of pipe, pipe size, connection fittings, grade, depth and pressure testing. See Attachment B.

Water Meter Program

During FY-2019, Water & Sewer personnel also conducted the meter change-out program with new meters being set. Throughout the city, a total of 646 residential

and/or commercial meters were replaced or set. The City has 10,321 meters in the replacement program and 332 in the testing and repairing program.

Additional meters for irrigation have been set for homeowners and businesses to eliminate sewer charges on irrigation water. A total of 41 additional meters were set in FY-2019.

Water Main Breaks

During FY-2019, crews responded to a total of five water main breaks throughout the distribution system. Repairs were made during regular hours and as after-hours emergencies.

Valve Maintenance

Once each year, all 1,457 mainline distribution valves are operated, recorded as being operable or inoperable, and repaired if necessary. The program has eliminated time consuming efforts to isolate portions of the distribution system during water main breaks, thus minimizing disruption of service to residents and businesses. During FY-2019, 1455 of the mainline water main valves were exercised, and repairs to 27 valves were completed. The remaining two valves were found broken open and they are scheduled to be replaced with the Phase II E. Broadway new water main project.

Large Meter Testing and Replacement

All large (1½" to 6") meters are periodically tested in place for accuracy depending on gallonage used per year, and size and age of the meter. One (1) new large meter was set in FY-2019, and crews completed 53 large meter tests. There is a total of 332 large meters in the system.

Meter Reading

The City of Norton Shores' metering structure consists of 10,321 water meters. Meters are read on a quarterly basis, within three billing districts. Each district is read four times for a total of 41,044 readings per year. In addition, a total of 3,327 work orders for final readings, meter leaks, etc., were processed and completed in FY-2019.

Senior Citizen Discount

This program offers a 25% discount off quarterly water usage to eligible senior residents. Eligibility requires the senior resident to own and occupy the residence, be at least 62 years old, and have a total annual household income of less than \$23,993.

Breakdown of senior discounts per billing district:

McCracken	28	Total gallonage 1,390,000
East Broadway	29	Total gallonage 1,288,000
Henry	43	Total gallonage 2,339,000

Lift Station Maintenance

Daily operations include scheduled preventative maintenance on a weekly rotational basis of all 43 sanitary sewer lift stations and one dewatering station. Each station is checked for normal operations weekly which include electrical readings, pump hour readings, and complete assessment for any abnormalities. Semi-annually, all lift station wet wells are cleaned, and sludge is removed by the sewer vacor truck. Pumps are then pulled and washed, oil is changed, and tolerances are checked for impeller clearance.

All lift station electrical usage is monitored for performance evaluation and weekly energy usage. See Attachment C.

City of Norton Shores Sewer Lift Stations by Address:

4316 Armstrong Road	2217 Lincoln Park Drive
874 Bradley Avenue	5395 Martin Road
3798 Brentwood Street	2117 Maryland Boulevard
1204 E. Broadway Avenue	3112 McCracken Street
1978 Channel Road	4049 Nob Hill Drive
1130 Edinborough Drive	2218 Norcrest Drive
351 Eric Avenue	2203 Norman Street
1070 Forest Park Road	3746 Norton Hills Drive
1310 Forest Park Road	3571 Peninsula Drive
1616 Forest Park Road	2369 Pleasant Hill
6239 Grand Haven Road	89 Pontaluna Road
6239-1/2 Grand Haven Road*	2195 Reneer Avenue
4341 Hackley Point Lane	4781 Rood Road
4162 Harbor Point Drive	1175 Seminole Road
3180 Henry Street	1797 Seminole Road
4210 Henry Street	2939 Sheffield Street
4993 Henry Street	1411 Sunbury Avenue
701 Lake Forest Drive	3797 Taylor Street
4461 Lake Harbor Road	4171 Treeline Drive
6260 Lake Harbor Road	3006 Valk Street
396 Lakshore Boulevard	418 Wellesley Drive
2830 Lincoln Street	861 Winslow Court

(*dewatering)

Consumer Confidence Reports

The annual drinking water Consumer Confidence Report was prepared and made available to all system customers. The Department of Environment, Great Lakes, and Energy (EGLE, formally known as DEQ) and the Environmental Protection Agency (EPA) require this report be made available to all water customers to provide information as to the quality of water they drink. A copy of this report is attached as Attachment D.

Infrastructure Locating

One of the responsibilities the City has in owning and operating utilities is that of locating water and sewer lines for contractors or homeowners that intend to dig within the city. The City is required to be a member of the Miss Dig System for organizing locating requests. Water & Sewer Division completed approximately 2,090 such requests during the FY-2019.

Mainline Sewer Cleaning

The mainline sewer cleaning program for FY-2019 consisted of cleaning approximately 139,199 ft. of pipe ranging in size from 6" to 36". The sewer Vactor truck cleans debris out of the sewer including sand, grease, roots and, occasionally, stones in an effort to eliminate sewage backups in the sewage collection system.

Bacteriological and Lead/Copper Sampling/System Review

This program, done once a week, includes collecting a total of eight (8) water quality samples throughout the water distribution system. Samples are analyzed for chlorine and fluoride residuals and taken to the Muskegon Water Treatment Plant for coliform bacteria testing.

Sampling is also performed on new construction of water mains before they are put into service using the same sampling procedure. Thirty-four (34) construction samples were taken in FY-2019.

The City has been on a reduced Lead and Copper Sampling schedule since 1996 that requires testing every three (3) years. The next sampling period is scheduled from June 1, 2020 to September 30, 2020.

Fire Hydrant Maintenance

This program maintains the reliability of fire hydrants throughout the water distribution system. Fire hydrants are operated annually to clean tuberculation from the water mains and to check for proper operation of the hydrants. The hydrants are then repaired, if necessary, and winterized for winter weather. During summer months, hydrants are sand blasted and painted. A total of 1,640 City owned and 59 private

hydrants were serviced during FY-2019, with 350 being painted and repairs made to 94 of them.

Cross Connection Control

This program is continuous throughout the year. It consists of inspecting all non-residential users (i.e., commercial, industrial, churches, schools and government users) connected to a City water supply for the possibility of internal plumbing cross connections. The severity of the cross connection may require backflow devices to protect the City's water distribution system from contamination. Testing of these devices is required annually and/or every three years depending on device type. Re-inspection of high hazard facilities are completed annually and the low hazard facilities every three years. The City has a total of 337 high hazard accounts and 404 low hazard accounts. EGLE also monitors this inspection process. See Attachment E.

Sewer Discharge Accountability

This program occurs monthly to monitor all billings from the Muskegon County Wastewater facility. The program is analyzed for extraordinary usages due to ground water infiltration or storm water discharge by City sewer customers. There have been incidents of users illegally discharging storm water to the sanitary sewer, thus raising monthly monitoring gallonage. These illegal connections are promptly removed. See Attachment F.

Water System Accountability

This program is done on a monthly basis to determine annual purchases and sales of water to Norton Shores customers. It also gives an indication of reliability for the water loss survey along with annual usages indicating growth in the community. See Attachments G and H.

Lift Station Telemetry

All lift stations are monitored through a telemetry Supervisory Control and Data Acquisition (SCADA) system. The unit is located at 1174 E. Mt. Garfield Road (Norton Shores garage), and after-hours monitoring is located at 3228 Glade Street. The system checks all 44 stations within two (2) minutes to determine the status of alarm conditions that may exist. The system is evaluated twice a year by simulating alarm conditions at the lift stations to test for reliability.

Office Billings

The following billing functions have been accomplished from July, 2018 through June, 2019.

- Processing of 3,327 work orders dealing with final readings, re-reads, turn-ons, turn-offs, leaks, frozen meters or services, high bills and new meter sets.
- Set up of 23 new accounts in the utility billing system.
- Mailing of 43,778 billings to customers, including past due notices, final billings and regular quarterly billings.

Michigan Department of Environmental Quality Certifications

Following is a list of Water & Sewer employees who are certified as Water Distribution System Operators. The Department of Environment, Great Lakes, and Energy (EGLE) recertifies operators every three (3) years. In order to be recertified, a certain number of training credit hours must be completed within the three-year period. Certified, competent and professional operators are very important to the delivery of safe drinking water to Norton Shores residents. These employees and the certification level are:

Matt Anderson	Certified S-1	June 2019-July 2022
Scott Houghtaling	Certified S-1	Jan. 2018-Jan. 2021
Craig Lehan	Certified S-1	Dec. 2016-Jan. 2020
Eric Beishuizen	Certified S-2	Nov. 2018-Jan. 2022
Brandon Wilburn	Certified S-2	Nov. 2018-Jan. 2022
Josh Connell	Certified S-3	Nov. 2017-Jan. 2021
Dustin Vanderputte	Certified S-3	Nov. 2018-Jan. 2022
Scott Hannahs	Certified S-4	Apr. 2018-July. 2021
Eric Mattson	Certified S-4	Apr. 2017-Apr. 2020
Jason Halter	Certified S-4	Nov. 2018-Jan. 2022

Classification of distribution systems:

Rule 1902. The following four classifications are assigned to distribution systems for type I public water supplies:

Class S-1: Distribution systems for type I public water supplies serving a population greater than 20,000.

Class S-2: Distribution systems for type I public water supplies serving a population from 4,000 to 20,000.

Class S-3: Distribution systems for type I public water supplies serving a population from 1,000 to 4,000.

Class S-4: Distribution systems for type I public water supplies serving a population of less than 1,000.

STREETS & DRAINAGE DIVISION FY-2019 REVIEW

Streets & Drainage Division personnel are kept busy throughout the year with a wide scope of tasks.

Street sweeping begins early in the spring and continues until the snow begins to fall. Road repair work is continuous throughout the year and includes pavement crack sealing, repairs to asphalt shoulders and utility cuts, and in areas where water main breaks have occurred. In the fall, equipment is readied for inclement weather when, from November through April, crews spend many hours clearing City roadways of ice and snow.

The de-icing system continues to work well, utilizing a pre-wet system, which activates the road salt with liquid calcium chloride. This method de-ices to lower temperatures, begins to work more quickly, and sticks to the roadway reducing waste that occurs when dry salt bounces off the road. As this method de-ices to lower temperatures, sand is rarely used which, in turn, keeps our roads and drainage systems cleaner.

Tree branches are routinely trimmed or removed to avoid obstructed vision at intersecting roads. Dead or damaged trees are removed from the right-of-way; many are replaced by the Streets Division, as well.

Gravel roadways are graded on a regular basis and three brining applications are completed through the summer on roads that have property owner participation; beginning in 2018 all gravel roads are being treated with brine.

Streets personnel also maintain many major and local street right-of-way areas with scheduled mowing. City drains and drainage ditches are monitored continuously and kept clean of debris.

The Streets Division provides attendant service at the Wood Road leaf site seven days a week in the spring and fall and on weekends through the summer months.

Traffic control devices, i.e., signs, barricades, etc. are provided by the Streets Division for special events including the Ross Park Arts and Drafts Festival and the Motorcycle Hill Climb. Additionally, the City's many street signs are maintained throughout the year with damaged signs being repaired or replaced.

The Director of Public Works and the Streets & Drainage Superintendent continue to be active in the Muskegon Area Municipal Storm Water Committee. This committee is working cooperatively on a regional basis to address the Environmental Protection Agency's Storm Water requirements.

The Streets & Drainage Division continues to be a vital part of the City's service program.

STREET SIGNS

Street sign maintenance including installation, repair, and replacement is a continual task for the Streets Division. During this reporting period, a total of 201 signs were replaced, repaired, or installed by the Department of Public Works.

FUEL DISPENSATION FY-2019

Following is an itemization of the fuel dispensation for FY-2019:

Administration	252.0 gallons
Building & Grounds	1,384.5 gallons
Fire	16,304.1 gallons
Police	23,838.0 gallons
Recreation	2,526.1 gallons
Streets & Drainage	27,611.5 gallons
Water & Sewer	11,330.4 gallons
Total Gallons Dispensed	83,246.6 gallons

MISS DIG MICHIGAN UTILITIES DAMAGE PREVENTION ASSOCIATION

The Department of Public Works logged 2,090 staking requests during the FY-2019. These staking requests were submitted by contractors as well as DTE Energy, Consumers Energy, Frontier, Comcast Cable, and residential homeowners. The Divisions of Streets and Drainage, and Water and Sewer placed 83 orders for City utility installation and maintenance.

The City receives Miss Dig requests via computer and then distributes the information to Water & Sewer personnel to physically locate and mark all water & sewer utilities and storm drain infrastructures. Blue flags signify water; brown flags denote sanitary sewer, and green flags represent storm water. After staking, the clerical staff is notified, and the information is recorded as a completed order. Various flag colors represent the following utilities:

Yellow	Oil and Gas
Orange	Telephone and CATV
Red	Electric
Blue	Water
Green	Storm Drain
Brown	Sewer
Pink	Surveying

WOOD ROAD AND ROSS PARK LEAF DISPOSAL SITES

Great Lakes Nursery Soils, Inc. removed a total of 1,276 tons of yard waste and 1,040 cubic yards of ground brush from the Wood Road and Ross Park leaf sites in FY-2019.

The following number of vehicles, by classification, was monitored at the Wood Road site:

Cars	3,394
Trailers	7,682
Pick-up trucks	<u>5,378</u>
Total	16,454

The total of all vehicles visiting Wood Road during FY-2019 was 16,454; the total counted during fiscal year 2018 was 15,529.

Vehicle counts are not recorded for the Ross Park site.

EQUIPMENT/MECHANICS DIVISION

The total number of vehicle services and repairs in FY-2019 was 962.

Following is a list of equipment purchased.

- 3- Police Utility vehicles
- 2-John Deere mowers
- 3-Chevrolet Silverados
- 1-Cimline asphalt sealer
- 1-Peco Cemetery leaf vac
- 1-Asphalt Box trailer

As a result of the City purchasing equipment at State and Oakland County pricing, used equipment has been successfully liquidated through internet resources.

Following is a list of equipment sold:

1-2008 New Holland Tractor	\$44,775.00
1-2010 KM8000 Asphalt melter	\$13,000.00
1-2003 Cimline asphalt sealer	\$10,000.00
1-2006 Chevrolet Silverado truck	\$ 6,054.34
1-2015 Ford Taurus	\$ 4,515.00
1-2010 GMC Canyon Pickup	\$ 3,622.50
1-2007 Chevrolet Silverado	\$ 2,625.00
1-2005 Ford Taurus	\$ 2,394.75

1-2008 Ford Crown Victoria	\$ 1,785.00
1-2006 John Deere tractor	\$ 812.00
1-1981 Dewatering trailer	\$ 313.00
1-Peco Trail-O-Matic leaf vac	\$ 180.00

TOTAL \$90,076.59

FY-2019 GRAND TOTALS

Miles of streets maintained		149
Number of times local streets/sidewalks were plowed during FY-2019		12/5
Tons of salt usage for FY-2019		1,886
Gallons of liquid calcium chloride (de-icer) applied		17,034
Tons of winter mix asphalt patch used		68
Tons of bituminous hot mix used		77
Miles of streets swept		453
Debris collected from sweeping operation (cu. yd.)		498
Number of times gravel-surfaced roads graded		30
Tons of road gravel leveled & used to maintain surface		145
Gallons of 38% calcium chloride (brine) applied		51,168
Number of trees removed		36
Number of trees planted		13
Residential use of County Landfill:	Cars	326
	Trucks/Trailers	301
	Total Vehicles	627
Storm drain/under drain footage cleaned		0
Pounds of crack sealant dispensed		36,015
Square feet of sidewalk replaced		1,035

Acreage mowed along off-road drainage courses & along road right-of-way	285
Fuel dispensed (gallons)	83,247
Vehicle services	962
Gravel Road Improvements: Tons of Gravel/Miles	5,006/1.59

**BUILDINGS & GROUNDS MAINTENANCE DIVISION
FY-2019 REVIEW**

Following is a listing of the Buildings and Grounds Maintenance Division activity beyond normal daily routines and minor maintenance.

CITY BUILDING

- Completed the replacement of all exit signs with new LED style signs
- New City Hall generator went into service
- Assembled new lockers in the Police Department garage
- Upgraded all outdoor lighting to LED
- Buried 50th Anniversary time capsule
- Set up new treadmill in weight room
- Replaced the water valve in the Police Department
- Delivered and picked up voting equipment
- Set up shelving in voting room
- Started on the berm removal for the Ginka Memorial area
- Window replacement in the Assessing Department was completed
- Trained new employee
- Worked on obtaining estimates for the FY-2020 capital improvements

LIBRARY

- Met with contractor regarding the new HVAC system
- Had boiler room tested for asbestos before old HVAC was removed
- Cleaned out boiler room to allow contractors to remove old HVAC system
- New HVAC system was placed into service
- Upgraded parking lot lights to LED
- Replaced Community Room, library, and library hour sign with LED lamps
- Assembled new chairs for the library service desk
- Worked with GVA to get touch pad online for the new HVAC system
- Worked on obtaining estimates for FY-2020 capital improvements

CEMETERY

- Graves sold: 48
- Pre-Paid burials sold: 8
- Full body burials: 19
- Cremain burials: 22
- Pre-Paid cremain burials sold: 0
- Cremain graves sold: 4
- Re-Deed: 16
- Installed foundations: 30
- Replaced irrigation parts
- Added top soil to the edge of the new pavement
- Moved two vaults to different graves per families request
- Repaired winter burial sites

- Started adding top soil to low areas in the west end of the cemetery
- Planted a new tree
- Worked on ground repair throughout cemetery

Old DPW Garage

- Repaired automatic gate
- Repaired automatic gate photo eye

**ENGINEERING
FY-2019 REVIEW**

2018 ADR/IRT Report:

Limits: City Wide
 Description: Submission to the State’s Asset Management Council a report of road work completed on City streets throughout the FY18.
 Consultant: City Staff
 Year’s Work: City Staff compiled and submitted required data for the annual report.
 Project Finished: December 21, 2018

2018 Sidewalk Project:

Limits: Pontaluna Road (Grand Haven Road to Schamber Drive)
 Lake Forest Drive (Seminole Road to Oakway Drive)
 Ellis Road (Harvey Street to US-31)
 Description: Construction of new sidewalk along the proposed routes.
 Consultant: City Staff
 Contractor: Epic Excavating, Grand Rapids, MI
 Year’s Work: City Staff designed and let the proposed sidewalks in FY18 and work was awarded to Epic Excavating by Council. The pre-construction meeting was held and installation of the sidewalks started in in July 2018. First, Lake Forest Drive sidewalk was completed; then followed by Ellis Road and finally Pontaluna Road. Staff was heavily involved in the construction of the project which was completed around Labor Day.
 Funding: Capital Improvement and TIFA Funds
 Start Date: July 9, 2018
 Project Finished: September 3, 2018

2019 CIPP Sewer Project:

Limits: Various locations throughout the city.
 Description: Replacement of existing sewer at Ellis Road near Stariha Drive, CIPP Lining of Forest Park Road sewer near Stryker Drive and CIPP Lining and shortening of Force Main along McCracken Sewer between Castle Court and railroad tracks to improve service and function of the system.

Consultant: City Staff
 Contractor: Jackson-Merkey Contractors, Inc.
 Year's Work: City Staff completed the plans and bid package and let the project in April. Jackson-Merkey was the sole bidder and approval from Council to award work was given in May 2019. A preconstruction meeting was held in May, but no exact schedule set for the CIPP work. City staff worked with Jackson-Merkey regarding work schedule, flow data and notifications to public.
 Funding: Sewer Funds
 Project Start: July 15, 2019
 Estimated Finish: September 2019

2019 Sidewalk Project:

Limits: Pontaluna Road (Railroad Crossing)
 Mount Garfield Road (Grand Haven Road to US -31)
 Mount Garfield Road (Harvey Street to Fairfield Inn)
 Grand Haven Road (Pontaluna Road to Gateway Blvd.)
 Gateway Blvd.
 Norton Center Drive
 North Gateway Drive
 Padelt Street
 Description: Construction of new sidewalk along the proposed routes.
 Consultant: ENG, Inc. of Grand Haven, MI
 Contractor: Anlaan Corporation, Grand Haven, Michigan
 Year's Work: Staff sought engineering proposals with ENG, Inc eventually being awarded the work by City Council. After the kick-off meeting, ENG, Inc. performed engineering survey work and design work for the proposed sidewalk route and plans. City staff obtained the necessary easements and permits for the project which was let in May 2019. The project was awarded to Anlaan. A preconstruction meeting was held on June 20th with work scheduled to start in August 2019. Staff worked on completing and submitting the necessary railroad agreements and permit applications.
 Funding: Capital Improvement and TIFA Funds
 Estimated Start: August of 2019
 Estimated Finish: Late October of 2019

2019 Water Main Project:

Limits: Various locations throughout the city.
 Description: Replacement of existing or placement of new water mains to improve service and function of the system.
 Consultant: Fleis & VandenBrink, Muskegon, Michigan
 Contractor: To be determined
 Year's Work: Fleis and VandenBrink was awarded the work in May 2019. A kick-off meeting with the consultant was held and surveying work and

preliminary design on the portion of the project to be done in 2019 was started.

Funding: Water Funds
Estimated Start: Fall 2019
Estimated Finish: Fall 2020

Airline Bridge Rehabilitation:

Limits: Airline Road between Shettler Road and Getty Street.
Description: Preventative maintenance and repairs to the bridge joints, deck, and piers.
Consultant: Fleis & VandenBrink, Grand Rapids, Michigan
Contractor: To be determined
Year's Work: This project was awarded to Fleis & VanderBrink in May 2019. A kick-off design meeting was held in June with staff providing as-built and history information to the Consultant.
Funding: MDOT Local Bridge Funds with local match
Estimated Start: Spring 2021
Estimated Finish: Summer 2021

APWA Snow Plow Roadeo

Description: Regional APWA sponsored gathering and education activity highlighting the local City's involvement in winter road maintenance and skills sets for snow plowing. Engineering staff laid out the plow course and assisted in the garage prep work, prep work and visitors to the event.
Year's Work: Meetings and planning for outreach of the event.
Date of Event: October 10, 2018

Black Lake Kayak Road:

Limits: Wilson Road near Campground to Launch
Description: Gravel resurfacing of existing roadway.
Consultant: City Staff
Contractor: City Staff
Year's Work: Aamazon Environment flagged the wetland areas to avoid during for road improvements with City Staff afterwards marking off the areas with more permanent wood stakes. City Street Crews then placed aggregate material on the sandy roadway to provide better access.
Project Start: May 6, 2019
Project Finish: May 24, 2019

Bridge and Street Asset Management Plan:

Limits: City Wide
Description: Asset management plan for both city bridges and roadways per state requirements.
Consultant: City Staff
Month's Work: City Staff started the bridge asset management plans and worked on completing the street PASER ratings for the roadway asset management

plans. Staff met with the State's TAMC manager to review both documents regarding format and requirements for submission.

Funding: Street Funds
Project Start: June 1, 2019
Estimated Finish: December 31, 2019

Broadway Avenue Reconstruction (Phase 1):

Limits: Bailey Street to US-31
Description: Reconstruction of existing roadway and water main along the proposed route.
Consultant: Prein & Newhof, Grand Rapids, MI
Contractor: Jackson-Merkey Contractor, Inc., Muskegon, MI
Year's Work: Work started in June 2018 with the removal of the existing roadway. The 16-inch water main was installed along Broadway and when all testing was successfully completed, the new main was placed into service, the old main abandoned and existing services switched over to the new main in August 2018. Work then shifted towards the completion of pavement and sidewalk. This included removal of the existing pavement, curbing and old sidewalks; grade work for the gravel road base; placement of the new concrete curb and gutter, sidewalk and ADA Ramp placement and finally road pavement. While the road work was being completed, an additional water main connection was made via a jack & bored under Broadway.
Funding: STIP with local matches
Project Start: June 18, 2018
Project Finish: October 5, 2019

Broadway Avenue Reconstruction (Phase 2):

Limits: Getty Street to Bailey
Description: Reconstruction of existing roadway and water main along the proposed route.
Consultant: Prein & Newhof, Grand Rapids, Michigan
Contractor: Brenner Excavating, Hopkins, Michigan
Year's Work: Preliminary design work started on this phase of the bike path and roadway and water main reconstruction project in the Fall of 2018 and plans were submitted to MDOT for a December 2018 Grade Inspection (GI) meeting. City staff obtained the necessary required easements and permits. With the design work completed for this phase of the roadway and water main reconstruction project, the package was submitted to MDOT for a May 3rd Bid Letting. City Staff and Consultant worked with MDOT in responding to question and clarification for project bid. Brenner Excavating was the project's low bidder and a preconstruction meeting was set up for early June. A preconstruction meeting on June 3rd was held. Notifications were sent out to affect property owners and the public during the month.

Funding: STIP Grants with local matches along with Water and WMRWA Funds
Estimated Start: July 8, 2019
Estimated Finish: Late October 2019

Forest Park Road Resurfacing, Phase 2, Stryker Drive to Lake Point Drive:

Limits: Stryker Drive to Lake Point Drive
Description: Resurfacing of existing roadway.
Consultant: City Staff
Contractor: Jackson-Merkey Contractor, Muskegon, Michigan
Year's Work: Jackson-Merkey was the low bidder and Council awarded them the contract. Work started May 28th with the lowering of manholes casting and milling of the pavement. The contractor proof-rolled the aggregate base and made repairs where needed. The road was then fine graded and ready for Pavement on June 1st. Final pavement, pavement markings and signage work completed and road opened to traffic prior to June 11th.

Funding: Capital Improvement Funds
Start Date: May 28, 2019
Finished Date: June 11, 2019

HIP/HMA Overlay Project 2018 (FY19)

Limits: Selected Streets
Description: Mill and Replacement of HMA surfaced roadways and Hot-in-Place recycling of existing asphalt pavements with the placement of HMA overlay.
Consultant: City Staff
Contractor: Gallagher Asphalt, Thornton, IL for Hot-in-Place Recycling
Michigan Pavement & Material, Comstock Park, MI for HMA Mill and Pavement and HIP Overlay.
Westshore Consulting, Surveying and Material Testing
Year's Work: With Staff completing the bid packages and the awarding of the work to the above-referenced contractors, a pre-construction meeting was held and public notification was sent to affected properties. Work to start in July 2018 with milling, installation of leaching basins and pavement work being completed by August 2018. Hot-in-place (HIP) pavement recycling was completed at the same time with HIP roads capped with ultra-thin pavement. The Streets Division worked on road shoulders and gravel driveways throughout the project once the paving was complete.

Funding: MRF and Capital Improvement Funds
Start Date: July 2, 2018
Finish Date: August 30, 2018

HIP/HMA Overlay Project 2019 (FY20):

Limits: Selected Streets
Description: Mill and Replacement of HMA surfaced roadways and Hot-in-Place recycling of existing asphalt pavements with the placement of HMA overlay.
Consultant: City Staff
Contractor: Gallagher Asphalt, Thornton, IL for Hot-in-Place Recycling
Michigan Pavement & Material, Comstock Park, MI for HMA Mill and Pavement and HIP Overlay.
ENG, Inc., Surveying and Material Testing
Year's Work: City Staff completed the design work on this project and with Council's approval the three contract items were let in the spring of 2019. Work to start in July 2019.
Funding: MRF and Capital Improvement Funds
Estimated Start: July 8, 2019
Estimated Finish: Late September 2019

Lake Harbor Bridge Repairs:

Limits: Lake Harbor Bridge over Mona Lake Channel
Description: Preventative maintenance and repairs to the bridge joints, deck, and piers.
Consultant: Fleis & VandenBrink, Grand Rapids, MI
Contractor: To be determined
Year's Work: Over the fall and winter, the City and its Consultant worked on preliminary plans and obtaining the necessary permits and environmental clearances for the bridge project. An MDOT Grade Inspection meeting was held in March 2019. By following up on MDOT review questions and comments, the Staff and Consultant worked with MDOT towards final plans for the MDOT letting.
Funding: MDOT Local Bridge Funds with local match
Estimated Start: Spring 2020
Estimated Finish: Summer 2020

MDOT Bridge Inspections:

Limits: The five roadway bridges under City's jurisdiction.
Description: Two-year inspection of the City's existing bridges as prescribed by State and Federal rule along with the required 5-year underwater inspection of the Henry Street Bridge.
Consultant: Brechting Bridge, Spring Lake, MI (above water inspections)
Great Lakes Engineering Group, Lansing, MI (Underwater inspections)
Year's Work: City Staff obtained proposals from Brechting Bridge for the 2-year Bridge inspections of the five bridges and also from Great Lakes Engineering Group who specialize in under water inspections for the Henry Street Bridge. Both inspections occurred during the late winter and spring of 2019. Brechting Bridge completed their inspection of the five bridges by

May 2019 (although review of the Airline Road bridge was completed in the first week of June because high water). Great Lakes Engineering Group performed their underwater inspection of the Henry Street Bridge in April 2019. The necessary calculations and required data for both the underwater and above-water inspections were completed in time in order to meet MDOT's submission deadline.

Funding: Road Funds
Start Date: April 1, 2019
Finish Date: June 5, 2019

Mona Shores Mid-Block Cross Walk (FY19):

Limits: Seminole Road and Padelt Street Intersection
Description: Placement of a mid-block crosswalk to service foot traffic to the high school.
Consultant: City Staff
Contractor: Severence Electric, Kalamazoo, Michigan
Year's Work: City Staff designed this project in-house after obtaining the field survey and submitted it to MDOT in December 2018 for their Grade Inspection (GI). City Staff completed the revision to the plans and bid specifications per MDOT Comments and resubmitted them to the State for their May 3rd bid letting. Severence Electric of Kalamazoo was the low bidder and a preconstruction meeting is scheduled for July 11th.

Funding: MRF and Capital Improvement Funds
Estimated Start: August 2019
Estimated Finish: September 2019

Speed Studies

Limits: City wide
Description: Perform speed study and establish speed limits per State Law and accepted methods.
Consultants: City Staff
Year's Work: Work on a number of speed studies to start getting speed limits on compliance with the new State law and results were presented to Council for their review and actions as they are completed. These roadways include:

- Churchill/West Byron Road, Henry Street to Martin Road
- Davis Road, Porter Road to Hendrick Road
- Davis Road, Porter Road to Mount Garfield Road
- Hendrick Road, Lake Harbor Road to Henry Street
- West Mount Garfield Road, Lake Harbor Road to Henry Street
- Padelt Street
- Norton Hills Road, Seminole to Norcrest
- Norcrest Drive and Dunes Parkway, Norton Hills to Forest Park
- Ellis Road, Grand Haven Road to Cul-de-Sac

- Mount Garfield Road, Grand Haven Road to Cul-de-Sac
- Plainfield Drive

Major Private or Other Projects:

<u>Project:</u>	<u>Address:</u>	<u>Developer/Owner:</u>
Blue Water Group	Grand Haven Road	Blue Water Group
Cancer Center at Hackley Lakes	Harvey Street	Doctor Campbell
Churchill Athletic Field Drive	Porter Road	West Michigan Storm
Cottages at Mona Kia	Seminole Road	Redstone Development
Eastowne Development	Seminole Road	Redstone Development
Atwater Springs	Harvey Street	David C. Bos Homes
Getty Street Railroad Crossing	Getty and Seaway	Michigan Shore Railroad
MDOT Railroad Inventory	City Wide	
Maranatha Sanitary Sewer	Maranatha Conf. Grounds	Maranatha Conf. Grounds
Mercy/Trinity Health	Old Kmart Site	Trinity Health
Mercy Hospital Drive	Sherman Boulevard	Mercy Hospital
Renishaw	Grand Haven Road	Westwind Construction
Smart Vision	Robert Hunter Drive	Smart Vision

**PLANNING
FY-2019 REVIEW**

PLANNING AND ZONING DIVISION

Analysis

The FY-2019 saw a modest drop in new residential development throughout the city with an additional 14 single-family housing units constructed primarily in existing subdivisions, a decrease from 19 in FY-2018. This drop is due largely to the lack of new residential lots available throughout the community.

Growth continued at a steady pace in the commercial and industrial sectors. Major commercial and office developments and site plans approved included a new 24,000 square foot industrial facility for Smart Vision on Robert Hunter Drive. Renishaw began construction on a 51,000 square foot new industrial facility near the Grand Haven Road and Devin Drive industrial area. A special use permit was issued for the Lakes Cancer Center on the corner of Hackley Health Boulevard and Harvey Street. AutoZone was approved to construct a new store on Harvey Street just north of the corner of Sternberg Road and Harvey Street. A 23,000 square foot industrial building on Enterprise Drive for Thirty-One & M-45, LLC, and a Chick-fil-A restaurant has been approved and will be at the former Johnny Carino’s site on Harvey Street. The Johnny Carino’s building will be demolished. A new maintenance garage was also approved at City Hall on Henry Street.

The most notable approved projects are the development at the old K-Mart location on Henry Street, as well as the Eastowne development at the corner of Seaway Drive and Seminole Road. The former K-Mart building will be demolished and Trinity Health will be building a 40,000 square foot building, and a 126-unit apartment complex will be built on the east end of the parcel. The Eastowne development was approved to have townhome style residences. Both projects have received Planning Commission and City Council approval.

There were some residential and mixed-use developments that received Planning Commission and City Council approval in FY-2019. Those include a 20-lot condominium development for Birchwood of Norton Shores, LLC on E. Pontaluna Road, and a 53-lot condominium development for David Bos Homes on the southern border of the City just north of Wilson Road, and east of US-31. The Cottages at Mona Kai, located just south of the Eastowne development, was approved for 36 detached condominiums.

Staff also administratively approved numerous other commercial, office and industrial site plans of a scope that did not require Planning Commission or City Council review, as well as 337 other site plans for improvements requiring building permits. These included new houses, additions, accessory buildings, fences, signs etc. Some commercial projects also received administrative site plan approval including an addition to Air Master Systems on Norton Center Drive, a parking lot addition for Prein & Newhof on Stariha Drive, a 3,200 square foot locker room addition for Cannon Muskegon, an accessory structure for St. Gregory’s Episcopal Church, a new entrance canopy for Folkert Community Hub on Seminole Road, and a 1,700 square foot addition to Non Ferrous Cast Alloys located on North Gateway Boulevard.

The staff participated in the City’s ongoing certification process for the Michigan Economic Development Corporation (MEDC) Redevelopment Ready Communities (RRC) program. Staff also presented updates to the City’s Bicycle & Pedestrian Plan as well as the Master Plan, both of which were adopted by the City Council. Finally, City staff has been working to ensure the 2020 Census goes smoothly by attending workshops and working on the Local Update of Census Addresses (LUCA). This list will provide the foundation for the distribution of census surveys in the coming year.

Activity Summary	2017	2018	2019
Administrative Site Plans	22	27	10
Land Divisions	3	3	6
Residential Lots Developed	0	0	0
Residential Site Plans	375	384	337
Site Plans	11	10	6
Special Use Permits	7	10	11
Variances	5	6	6
Zoning Ordinance Amendments	7	8	4
Zoning Ordinance Violations	38	45	39

TABLE A

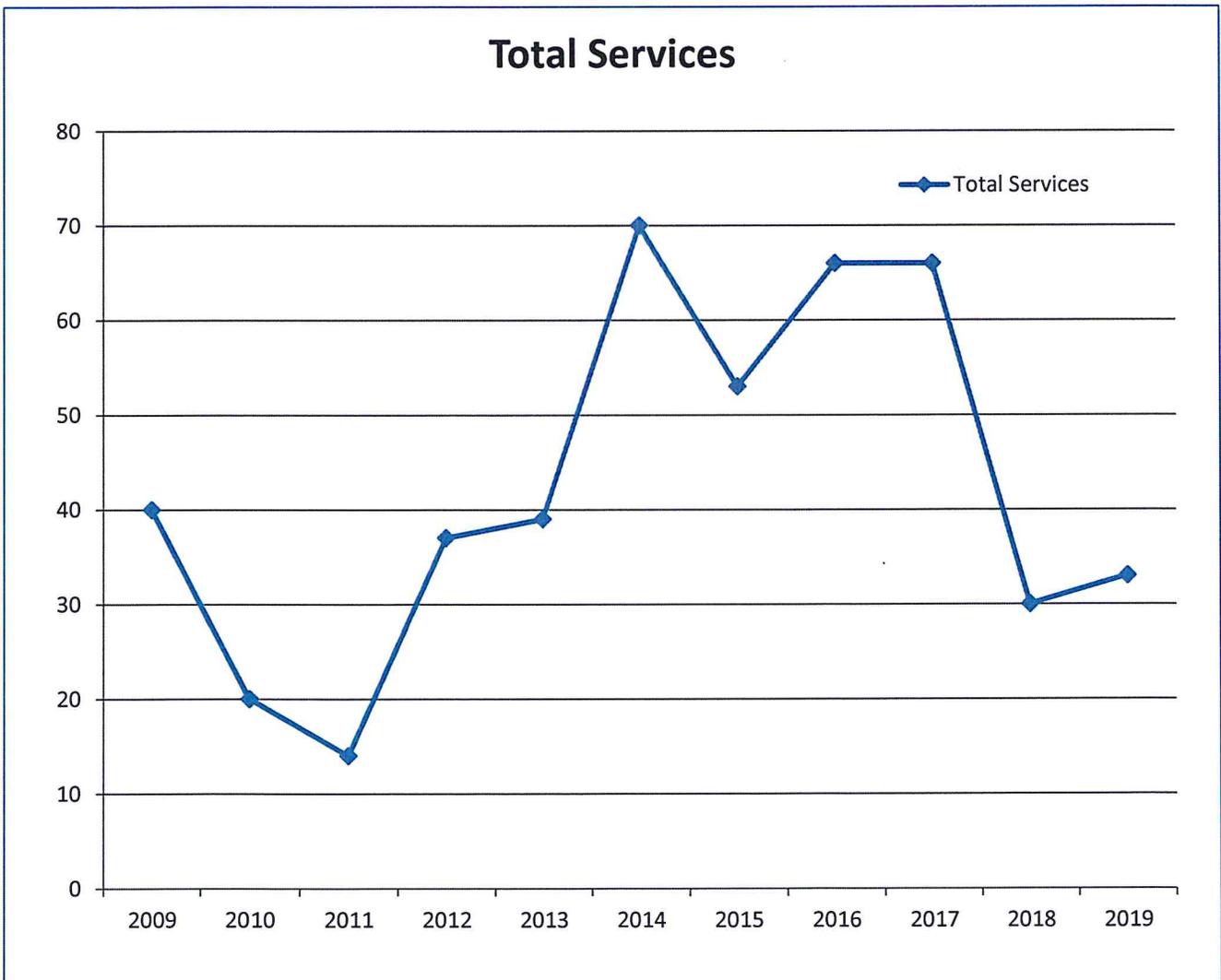
NOTABLE COMMERCIAL PROJECTS

1. Lakes Cancer Center	6425 S. Harvey Street
2. Chick-Fil-A	5607 S. Harvey Street
3. Smart Vision	5113 Robert Hunter Drive
4. Renishaw	5500 Grand Haven Road
5. Canon Muskegon Remodel	2875 Lincoln Street
6. Trinity Health	3570 Henry Street
7. Folkert Community Hub	640 Seminole Road
8. Thirty-One & M-45, LLC	7049 Enterprise Drive

NORTON SHORES ATTACHMENT A WATER SERVICE INSTALLATIONS

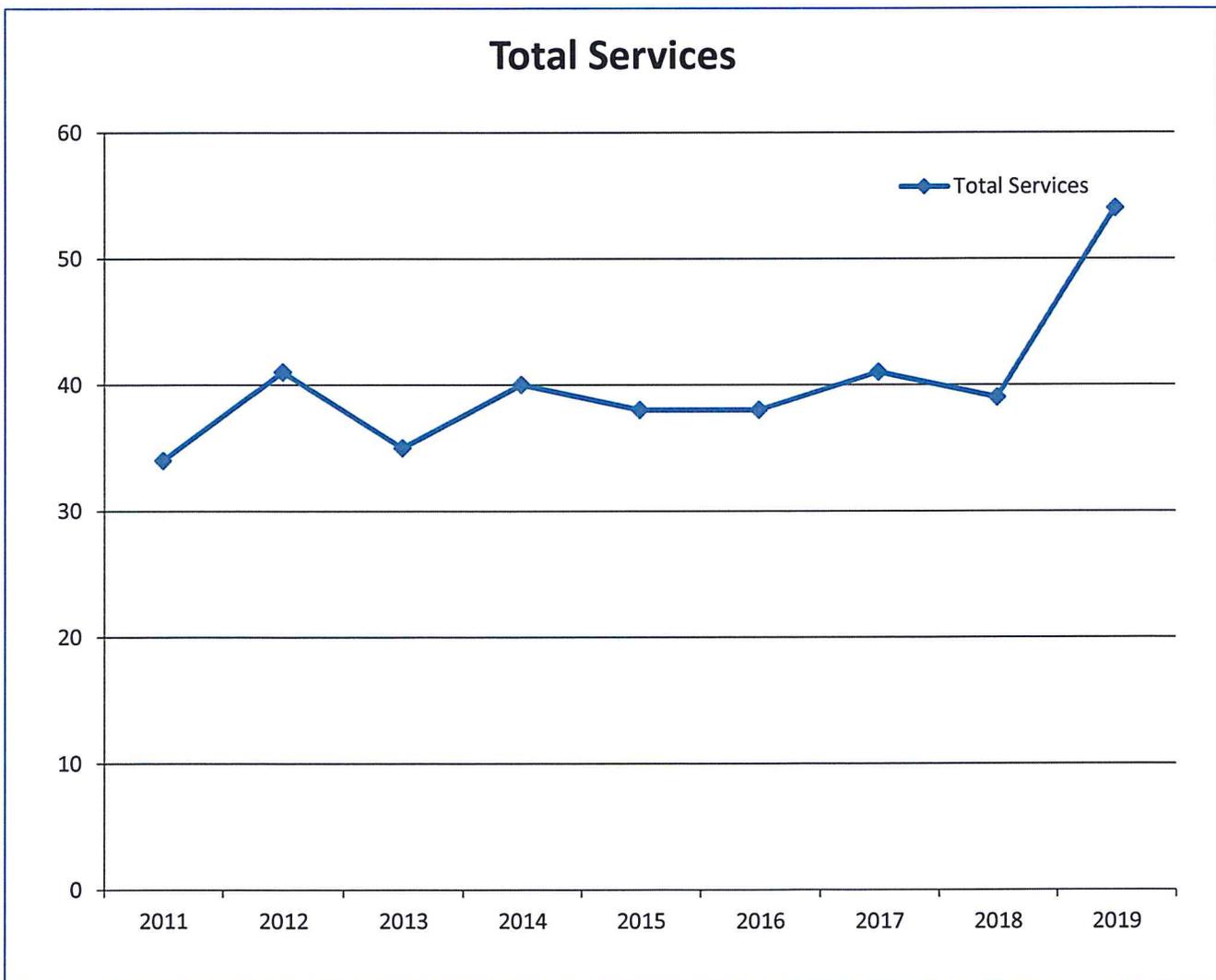
FISCAL YEAR **TOTAL SERVICES**

2009	40
2010	20
2011	14
2012	37
2013	39
2014	70
2015	53
2016	66
2017	66
2018	30
2019	33



NORTON SHORES ATTACHMENT B SANITARY SEWER INSPECTIONS

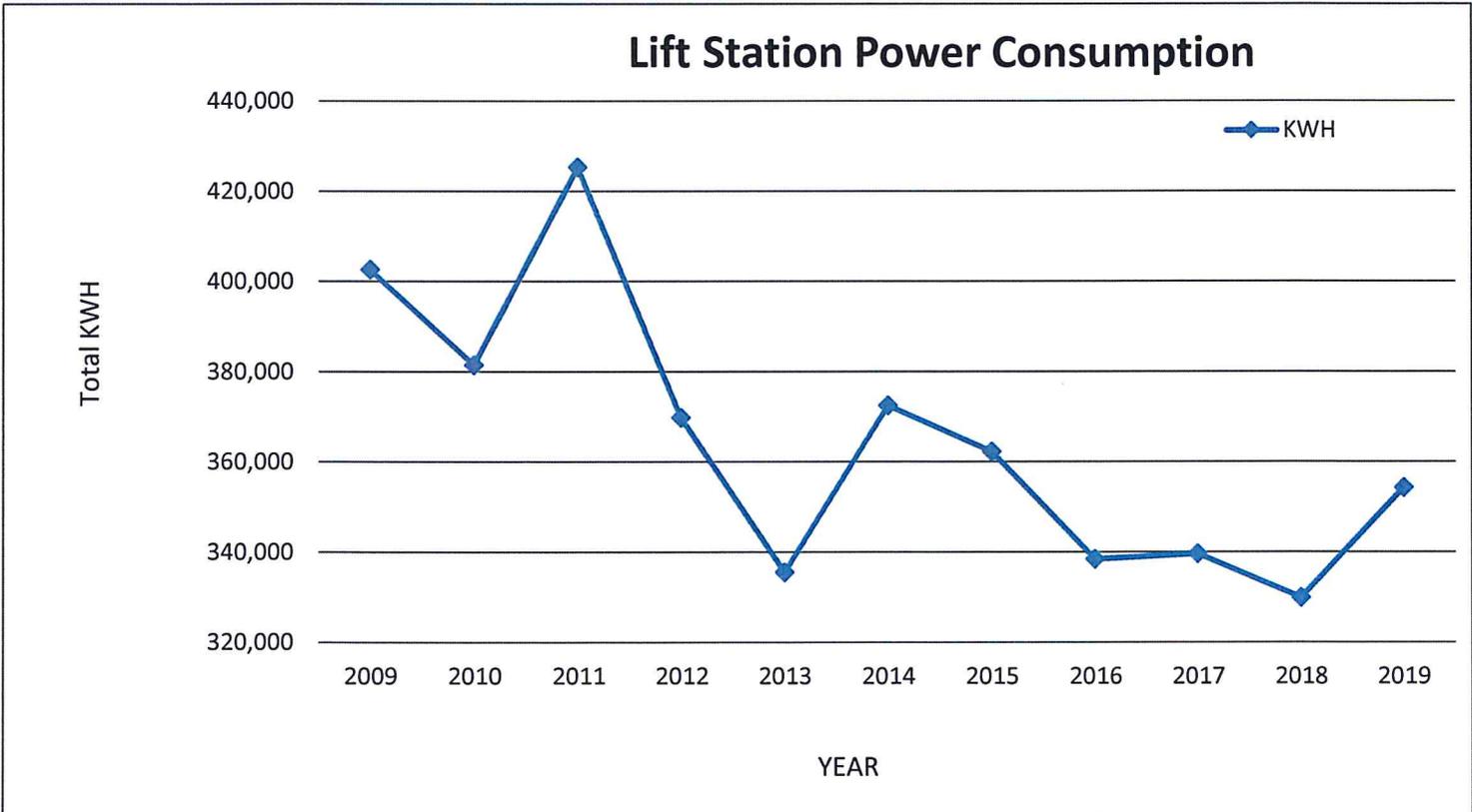
<u>FISCAL YEAR</u>	<u>TOTAL SERVICES</u>
2011	34
2012	41
2013	35
2014	40
2015	38
2016	38
2017	41
2018	39
2019	54



Attachment C
Lift Station Electrical
FY 2019

<u>Year</u>	<u>Usage</u>
2009	402,557
2010	381,430
2011	425,306
2012	369,789
2013	335,445
2014	372,454
2015	362,201
2016	338,340
2017	339,603
2018	329,831
2019	354,251

* In KWH



2018 Table of Contaminants
Regulated Monitoring at Treatment Plant

SUBSTANCE	UNITS	RANGE OF LEVELS DETECTED	HIGHEST LEVEL DETECTED	HIGHEST LEVEL ALLOWED MCL OR TT	IDEAL LEVELS MCLG	VIOLATION OR NUMBER OF SAMPLES EXCEEDING MCL	POSSIBLE SOURCES OF CONTAMINANT
Turbidity 2018	NTU	0.04 - 0.08	0.08	TT=1	n/a	0	Lake sediment
Total Organic Carbon	ppm	1.54 - 2.88	2.88	TT	n/a	0	Naturally present in the environment
Fluoride	ppm	0.12 - 0.73	0.85	4.00	n/a	0	Added to promote strong teeth
Barium	ppm	0.00 - 0.02	0.02	2.00	n/a	0	Discharge from drilling waste

Regulated Monitoring in the Distribution System

SUBSTANCE	UNITS	RANGE OF LEVELS DETECTED	HIGHEST LEVEL DETECTED	HIGHEST LEVEL ALLOWED MCL OR TT	IDEAL LEVELS MCLG	VIOLATION OR NUMBER OF SAMPLES EXCEEDING MCL	POSSIBLE SOURCES OF CONTAMINANT
Total Trihalomethanes	ppb	15 - 48	48	80	n/a	0	By-product of drinking water chlorination
Haloacetic Acids	ppb	11 - 36	36	60	n/a	0	By-product of drinking water chlorination
Chlorine	ppm	0.07 - 1.84	1.84	4	n/a	0	Drinking water chlorination

Regulated Monitoring in the Customer's Tap

SUBSTANCE	UNITS	RANGE OF LEVELS DETECTED	HIGHEST LEVEL DETECTED	HIGHEST LEVEL ALLOWED MCL OR TT	IDEAL LEVELS MCLG	VIOLATION OR NUMBER OF SAMPLES EXCEEDING MCL	POSSIBLE SOURCES OF CONTAMINANT
Copper**	ppb	0-42	100	90 th PERCENTILE	1300	0	Corrosion of household plumbing & erosion of natural deposits
Lead**	ppb	0-38	4	15	0	1	Corrosion of household plumbing & erosion of natural deposits

Unregulated/Special Monitoring

SUBSTANCE	UNITS	RANGE OF LEVELS DETECTED	HIGHEST LEVEL DETECTED	HIGHEST LEVEL ALLOWED MCL OR TT	IDEAL LEVELS MCLG	VIOLATION OR NUMBER OF SAMPLES EXCEEDING MCL	POSSIBLE SOURCES OF CONTAMINANT
Sodium	ppm	n/a	11	n/a	n/a		Emission of natural deposits, ice and snow removal
***Chlorate							Results of monitoring are available upon request
***Hexavalent Chromium							Results of monitoring are available upon request
***Total Strontium							Results of monitoring are available upon request
***Total Vanadium							Results of monitoring are available upon request
*** Total Molybdenum							Results of monitoring are available upon request

Microbial Monitoring

SUBSTANCE	UNITS	NUMBER OF POSITIVE SAMPLES DETECTED	HIGHEST LEVEL ALLOWED MCL OR TT	IDEAL LEVELS MCLG	VIOLATION OR NUMBER OF SAMPLES EXCEEDING MCL	POSSIBLE SOURCES OF CONTAMINANT
Total Coliform Bacteria	each	0	Less than 1 positive monthly sample or less than 5% of monthly samples positive	0	0	Naturally present in the environment
Fecal Coliform and E. coli	each	0	Routine and repeat sample total coliform positive, and one is also fecal or E. coli positive	0	0	Human and animal fecal waste

**Results computed using the 99th percentile level. Monitoring period January 1, 2018 - December 31, 2018
 *** Unregulated contaminants are those for which the EPA has not established drinking water standards. Monitoring helps EPA to determine where certain contaminants occur and whether it needs to regulate those contaminants.



ANNUAL CONSUMER CONFIDENCE REPORT

DEPARTMENT OF PUBLIC WORKS
WATER AND SEWER DIVISION

Matt Anderson, Superintendent
2018 Report

We are pleased to present you with the Annual Drinking Water Quality Report. This report is designed to inform you about the quality of the water delivered to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water. The Muskegon Water Filtration Plant treats water from one of the highest quality surface water sources in the world, Lake Michigan. The City of Norton Shores used over 959 million gallons of water in 2018.

Last year, as in years past, your tap water met all Environmental Protection Agency and State drinking water health standards. The Muskegon Filtration Plant and the Norton Shores Water Division vigilantly safeguards its water supply. We are pleased to report that our drinking water meets and exceeds Federal and State requirements.

This report is designed to give you detailed information which will assure you of the quality of your drinking water.

If you have any questions concerning this report or your water utility, please contact Water Superintendent, Matt Anderson, at (231) 799-6804. We want our valued customers to be informed about their water utility. If you want to learn more, please stop in our office, located at the Norton Shores City Hall, 4814 Henry Street.

The Muskegon Filtration Plant and the Norton Shores Water Division routinely monitor for contaminants in your drinking water according to, and in excess of, Federal and State laws. The following table shows the results of our monitoring for the period of January 1, 2018 through December 31, 2018. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants. It's important to remember that the presence of these contaminants does not necessarily pose a health risk. It is just as important to understand that a contaminant, as defined in this report, includes natural elements and compounds as well as man-made compounds manufactured every day, many of which we all use in our daily activities. Even distilled water is not "pure" water because most distilled water has very small quantities of "contaminants".

More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

What does all of this mean?

MCL's are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters per day for a lifetime to have a one-in-a-million chance of having the described health effect.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 infections. 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 microbiological contaminants are available from the Safe Drinking Water Hotline 1-800-426-4791.

The Department of Environmental Quality 2003 Source Water Assessment is completed. A copy of our Source Water Assessment Plan is available by contacting City of Norton Shores Water and Sewer Division at (231) 799-6804.

The source 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 can pick up substances resulting from the presence of animals or from human activity.

In our continuing efforts to maintain a safe and dependable water supply, it may be necessary to make improvements in your water system. The costs of these improvements will be reflected in the rate structure. Rate adjustments may be necessary in order to address these improvements.

Thank you for allowing us to continue providing your family with clean, quality water this year.

In order to assure that tap water is safe to drink, the EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Consumer Awareness of Lead

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight defects in attention span and learning abilities.

Adults who drink this water over many years could develop kidney problems or high blood pressure. Lead in drinking water is primarily from materials and components associated with home plumbing. City of Norton Shores 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 of 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 or at <http://www.epa.gov/safewater/lead>.

Please call our office at (231) 799-6804 if you have questions.

In the following table you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions.

Contaminants that may be present in source water include:

- **Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- **Inorganic contaminants**, such as salts and metals, which can be naturally occurring or can result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- **Pesticides and herbicides**, which may come from a variety of sources such as agriculture and residential uses.
- **Radioactive contaminants**, which are naturally occurring or a result of oil and gas production and mining activities.
- **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 stormwater runoff, and septic systems.

- **Not-Detected (ND)** - laboratory analysis indicates that the contaminant is not present.

- **Parts per million (ppm) or Milligrams per liter (mg/l)** - one part per million corresponds to one minute in two years or a single penny in \$10,000.

- **Parts per billion (ppb) or Micrograms per liter** - one part per billion corresponds to one minute in 2,000 years or a single penny in \$10,000,000.

- **Picocuries per liter (pCi/L)** - picocuries per liter is a measure of the radioactivity in water.

- **Nephelometric Turbidity Unit (NTU)** - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

- **Action Level (AL)** - the concentration of a contaminant which, if exceeded, triggers treatment of other requirements which a water system must follow.

- **Treatment Technique (TT)** - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

- **Turbidity** - is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

- **Maximum Contaminant Level (MCL)** - The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

- **Maximum Contaminant Level Goal** - The "Goal" (MCLG) is 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 Residual Disinfectant Level Goal (MRDLG)** - The level of a 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.





MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
DRINKING WATER AND MUNICIPAL ASSISTANCE DIVISION

2018 WATER SUPPLY CROSS CONNECTION REPORT

*Issued under authority of 1976 PA 399, as amended, MCL 325.1001 et seq., and its administrative rules.
Failure to submit this form is a violation of the Act and may subject the water supply to enforcement actions.*

Return the completed form by March 31, 2019 to the appropriate Department of Environmental Quality (DEQ) district office to comply with administrative Rule R 325.11405 that states "a water utility shall report annually to the department on the status of the cross connection control program on a form provided by the department." For district office addresses, visit <https://www.michigan.gov/deq> and click on Water>Drinking Water>Community Water Supply>District Offices Map and Contact Information.

WSSN: 4850

A. Name of water system: City of Norton Shores County: Muskegon

B. Year that the current written cross connection control program was approved by DEQ: 1981

C. Total number of industrial, commercial, institutional, residential, and governmental accounts that must be routinely reinspected for cross connections: 741

Of this number,

- How many are High Hazard accounts: 337 Frequency of Reinspection: Once per: Year

- How many are Low Hazard accounts: 404 Frequency of Reinspection: Once per: 3 Years

D. Number of accounts from line "C" that received an initial inspection in 2018: 2

E. Total number of reinspections required and completed in 2018 based on degree of hazard:

- High hazard reinspections required: 303 High hazard reinspections completed: 303

- Low hazard reinspections required: 71 Low hazard reinspections completed: 71

F. Number of accounts where a cross connection(s) was found to exist during inspections or reinspections in 2018: 49

G. Number of accounts from line "F" where corrective actions have been completed: 34

H. Total number of accounts from line "C" which are now in compliance with the local cross connection control program; H = C - (F - G): 726

I. Total number of backflow prevention devices in system requiring testing: 718

J. Number of backflow prevention devices tested in 2018: 636

Outline briefly any changes or significant findings since last reporting. Use additional sheets if necessary.

Narrative Description of Program:

See attached

Name: Matt Anderson 

Title: Water & Sewer Superintendent Date: 3/13/19

2018 Norton Shores WSSN 4850 Water Supply Cross Connection Report Narrative:

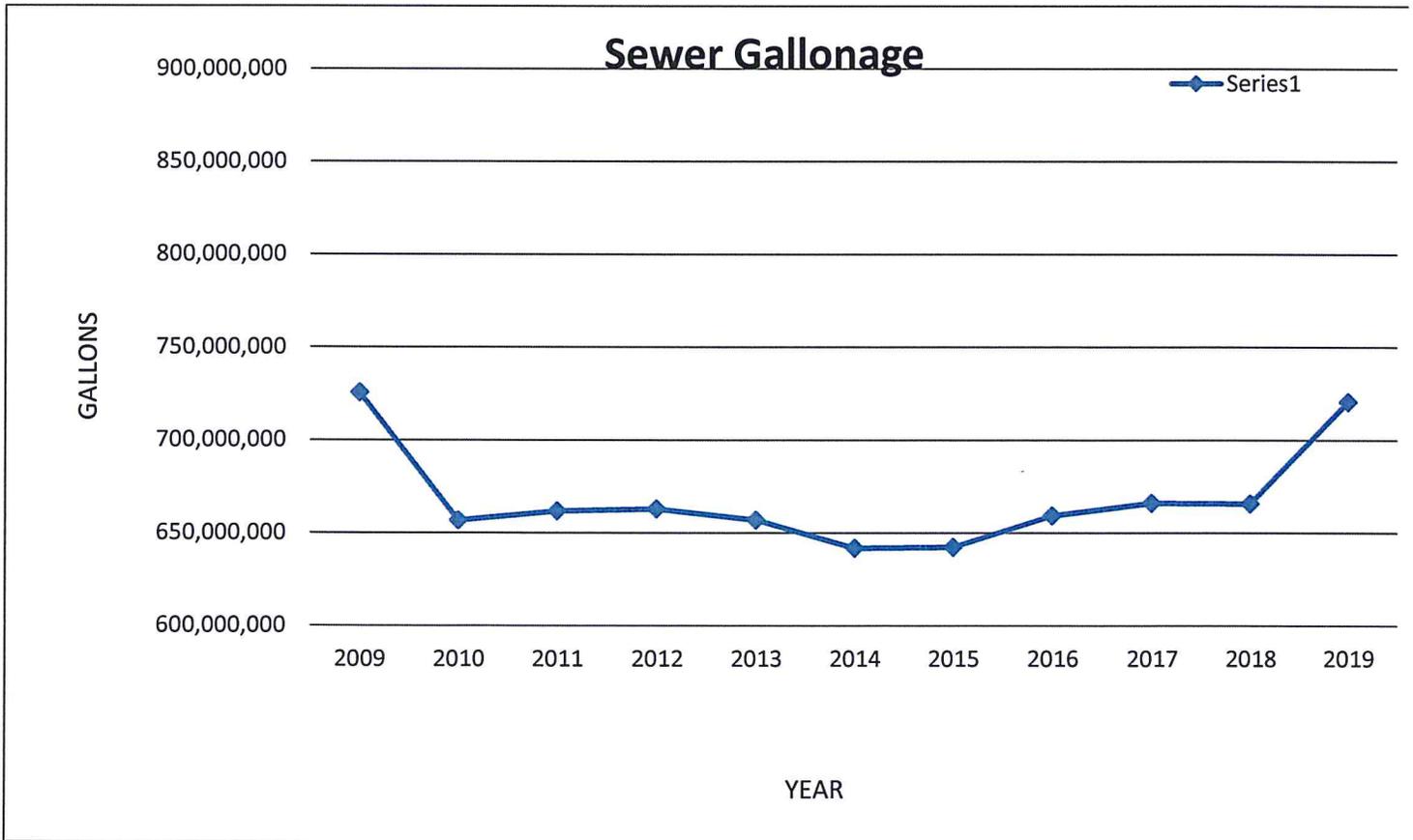
The City continued to inspect all non-single family residential accounts as outlined in the report. The City inspects its accounts towards the end of the calendar year, leaving corrections and re-inspections to be completed during the first quarter of the following year. Thirty-Four (34) of the Forty-Nine (49) accounts found during the 2018 calendar year having a cross connection violation have been addressed and approved. The remaining fifteen (15) accounts have had letters sent for re-inspections and enforcement of these remaining accounts will be completed during the first quarter of 2019. None of the violations posed an immediate health concern requiring immediate action or discontinuance of service.

All testable backflow devices that required testing during the 2018 calendar year were tested or the cross connection was physically removed along with the device.

Attachment F Sewer Gallonage FY 2019

2009	725,540,000
2010	656,730,000
2011	661,690,000
2012	662,750,000
2013	656,780,000
2014	641,690,000
2015	642,290,000
2016	659,160,000
2017	665,930,000
2018	665,640,000
2019	720,410,000

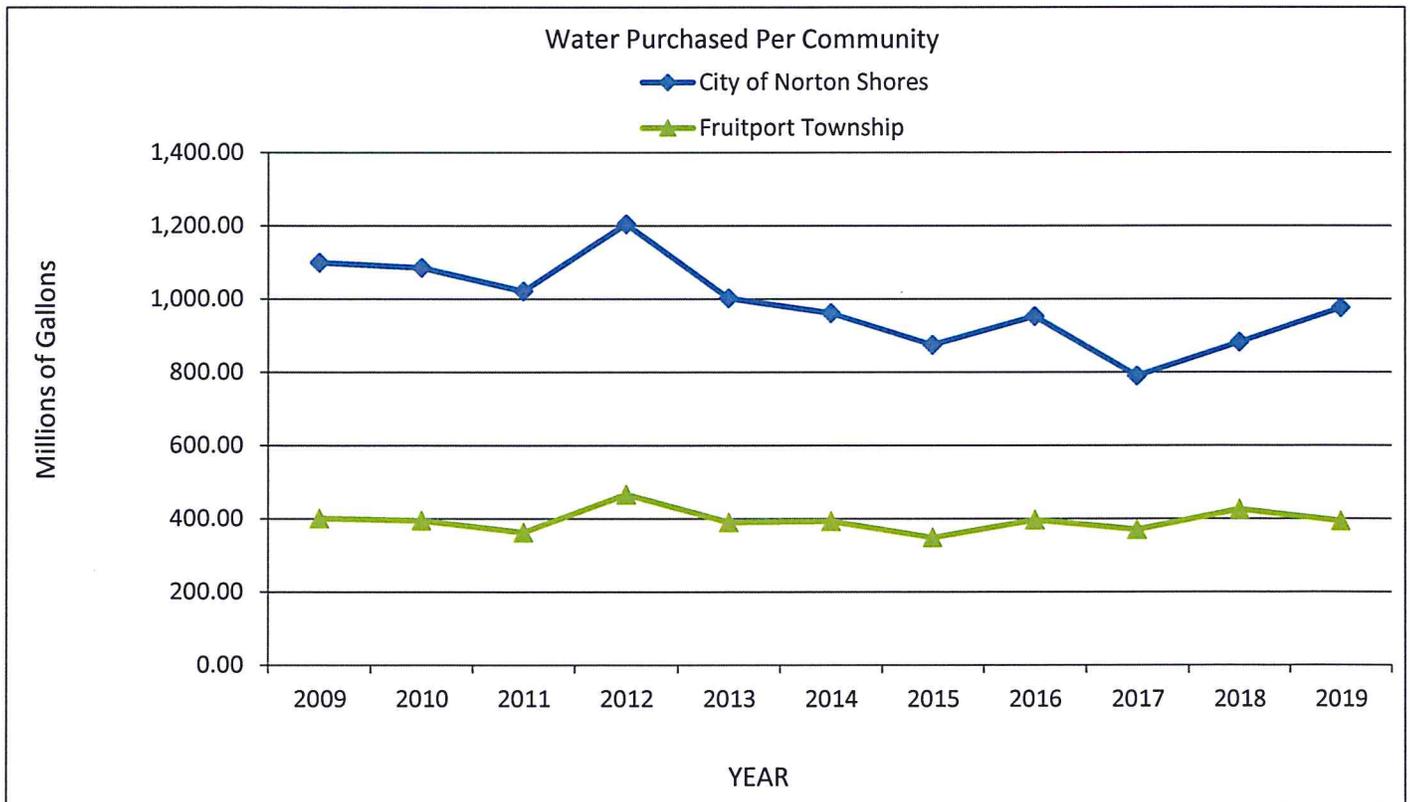
* In gallons



ATTACHMENT G COMMUNITY WATER PURCHASED

<u>YEAR</u>	<u>NORTON SHORES</u>	<u>FRUITPORT TOWNSHIP</u>
2009	1,098.47	400.23
2010	1,084.48	394.50
2011	1,020.83	362.00
2012	1,204.25	466.11
2013	1,001.61	390.35
2014	960.40	392.91
2015	873.22	347.89
2016	951.59	396.10
2017	789.59	369.98
2018	881.50	425.30
2019	975.13	393.74

*In Millions of Gallons

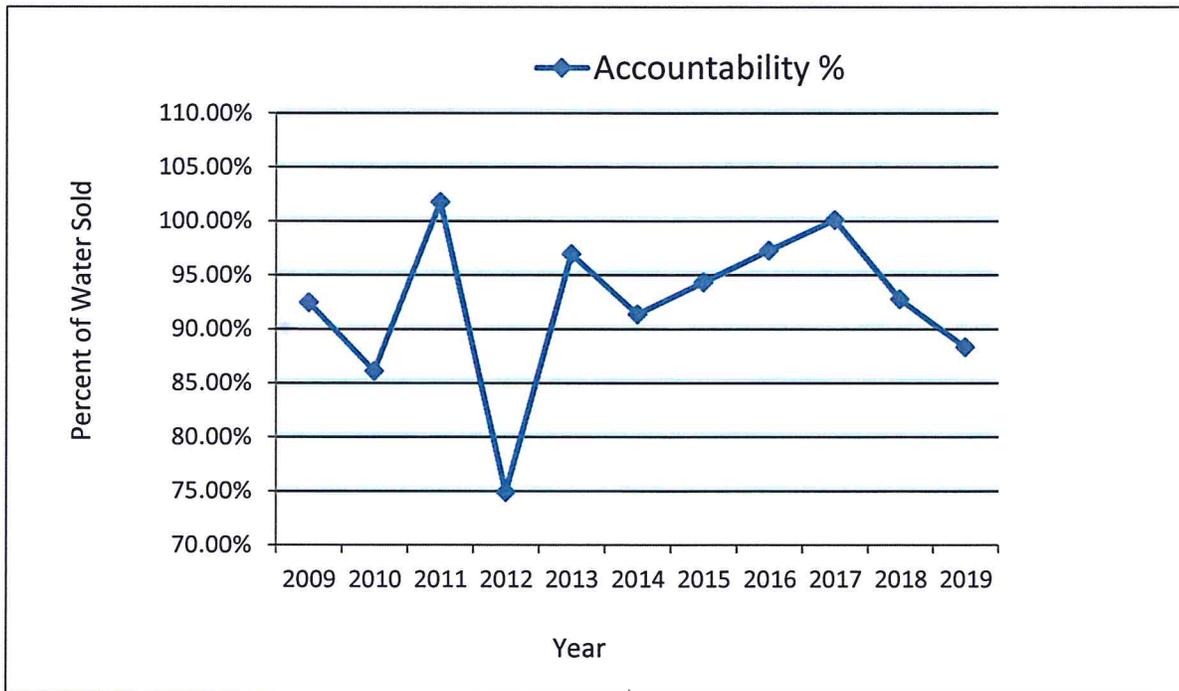


Attachement H Historical Water System Accountability

Norton Shores Only

<u>Year</u>	<u>Accountability %</u>	<u>Water Purchased</u>	<u>Water Sold</u>
2009	92.42%	1,022,085,000	944,657,000
2010	86.09%	1,084,483,000	933,643,000
2011	101.74%	967,402,000	984,234,000
2012	74.86%	1,085,715,000	812,815,000
2013	96.92%	1,001,437,000	970,631,000
2014	91.34%	960,402,000	877,235,050
2015	94.31%	873,219,000	823,533,800
2016	97.26%	955,517,000	929,288,895
2017	100.09%	914,041,000	914,823,160
2018	92.72%	961,624,000	891,660,200
2019	88.32%	975,130,000	861,261,500

*In Gallons



American Water Works Association (A.W.W.A.) standard for acceptable water system loss is 10% or accountability of between 90% and 100%.