Drinking Voiter Quality Report for the Saginaw Region

Albee Township
Village of Birch Run
Birch Run Township
Blumfield Reese Water Authority
Bridgeport Charter Township
Buena Vista Charter Township
Carrollton Township

Frankenlust Township
City of Frankenmuth
Frankenmuth Township
James Township
Kochville Township
Saginaw Charter Township
City of Saginaw

Village of St. Charles
Spaulding Township
Swan Creek Township
Taymouth Township
Thomas Township
Tittabawassee Township
City of Zilwaukee

Chances are, you turn on a water tap several times a day. It could be for showering, doing dishes, or filling a sports bottle with drinking water. No matter the reason for needing clean water, you expect it to be available on demand. Drinking water professionals refer to this as "reliability" and they take several steps to help assure an ongoing supply of drinking water. A few of these steps are discussed in this report: proactive equipment and facility maintenance, ongoing replacement of outdated pipes, and planning ahead for future state and federal requirements. The next time you turn on a water tap, we hope you will take a moment to think of all the work and all the people needed to deliver reliable water to you.

El informe contiene informacion importate sobre la calidad del agua en su comunidad. Traduzcalo o hable con alquien que lo entienda bien.

Lead Line Replacement

The State of Michigan is taking a strong stand against lead in drinking water. In fact, the State's recently revised Lead and Copper Rule (LCR) is the strictest in the country until the federal rule changes in 2025. Eventually, all lead service lines in the State will be replaced, but the exact date depends on the size of the community. One of the first hurdles to overcome is verifying materials used in older, under-documented service lines. If the service line is found to contain lead or galvanized materials, it must be replaced.

Communities with newer water distribution systems may have records to confirm that all service lines are free of lead and galvanized materials. Take a look at the Community-Specific Results table (page 7) to see if your community has lead service lines or any with unknown materials. The State of Michigan has given each community a deadline to verify materials used in service lines, and this work is currently underway in the City of Saginaw and other communities.

When you look at the lead and copper test results on the Community-Specific Results table (page 7), it is important to note that these levels may not reflect conditions within your home or at any specific faucet. Lead and copper levels vary depending on the type of plumbing and fixtures inside your home as well as the type of materials used in service lines. Therefore, all customers are advised to perform these routine practices,

which can have a significant effect on reducing the potential for lead and

copper in your water:

DAILY: Before using water for drinking or cooking, flush the line for 30 seconds to 2 minutes or until it is as cold as possible. If you know you have a lead service line, flush the line for at least 5 minutes.

MONTHLY: Run the cold water on all faucets at the same time for at least 5 minutes to fully flush your pipes. Rinse out any debris from your faucet aerators (screens) and replace when clogged.

ONGOING: Review the information about replacing pre-2014 plumbing fixtures and using/properly maintaining a filter certified for lead removal at: www.michigan.gov/documents/deg/degodwma-water-cdwu-reoccupy-your-home 524539 7.pdf

If you remain concerned about lead in your water, visit www. saginaw-mi.com/lead or contact your community (see last page).



Locating customer service lines to verify material type. All lead and galvanized service lines in the State of Michigan will be replaced by local water systems in the coming years.

No matter what type of service line you have, flush the tap until it is as cold as possible (30 seconds to five minutes) before drinking or cooking



Continuously Improving Your Water System Ask your local water utility about additional projects completed in the regional distribution system in 2021.



Kochville Pump Station Storage Cell "Before"

Drained the east water storage cell to remove sediment and material accumulated over 20 years



Gratiot Station Storage Tank Maintenance

Power washing tanks preserves the painted finish and provides a grime- and algae-free appearance



Kochville Pump Station Masonry Repairs

Replaced broken bricks, added expansion joints, and repaired doorway lintels



Kochville Pump Station Storage Cell "After"

Ready to store 90 million gallons of raw water from Lake Huron for treatment at the Water Plant



Electric Generator Engine Maintenance

Replaced or rebuilt pistons, rings, heads, injectors, fuel lines, and connecting rod bearings



Centralized Compressed Air System

A new centralized system at the Water Plant replaces localized units in service for 50 years



The sources of drinking water (both tap 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 – in some cases radioactive materials – and can pick up substances resulting from the presence of animals or human activity. 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 occur naturally or 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, urban stormwater runoff, and residential uses
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems
- Radioactive contaminants, which can be naturally occurring or the result of oil and gas production and mining activities

To ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration's regulations establish limits for contaminants in bottled water, which must provide similar public health protection.

Some people may be more vulnerable to certain contaminants in drinking water than the general population. Immuno-compromised persons such as those undergoing chemotherapy, those who have undergone organ transplants, those with HIV/AIDS or other immune system disorders, and some elderly and infants can be particularly at risk from infections. These people should seek advice about their drinking water from their health care providers.

Federal guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are available at <u>www.epa.gov/sdwa/drinking-water-contaminant-human-health-effects-information</u> or EPA's Safe Drinking Water Hotline, 800.426.4791.

Contaminants tested for in 2021 with results BELOW THE LIMIT of detection

Nitrate; Nitrite; 1,1 Dichloroethane; 1,1 Dichloroethylene; 1,1 Dichloropropene; 1,1,1 Trichloroethane; 1,1,2 Tetrachloroethane; 1,2-Dichloroethane; 1,2-Dichloroethane; 1,2-Dichloroethane; 1,2-Dichloroethane; 1,2-Dichloroethane; 1,2-Dichlorobenzene; 1,2-Dichlorobenzene; 1,3-Dichlorobenzene; Dichlorodifluoromethane; 1,1-Dichloroethylene; 1,3-Dichloroethylene; 1,3-Dichloropropane; 1,3-D

Regulatory News

Cyanotoxins from Algal Blooms: In 2021, the City of Saginaw completed voluntary cyanotoxin monitoring on its tap water at the State's request. Cyanotoxins were not detected.

Cryptosporidium and Giardia: Historical sampling of these two pathogens consistently revealed that neither were present in our treated drinking water. As a result, Saginaw is no longer required to test for these microbes.

Lead and Copper Rule: The City of Saginaw and its wholesale customers have worked tirelessly to meet the new the requirements of Michigan's revised Lead and Copper Rule: www.michigan.gov/egle/0,9429,7-135-3313_3675_76638---,00.html. This includes preparing for a more stringent Action Level for lead starting in 2025, when it will drop from 15 to 12 ppb.

Pharmaceuticals in Water: As EPA continues to study the impact of pharmaceuticals in water supplies, please be sure to properly dispose of all medications. To find a collection center near you, call your local police department or the Drug Enforcement Agency (800.882.9539). You can also visit www.saginawpublichealth.org/programs-services/environmental-health/solid-and-hazardous-waste/ for a list of pharmaceutical drop boxes.



Service line replacement work required by the State's Lead and Copper Rule

Per- and Polyfluoroalkyl Substances (PFAS): Michigan established regulatory levels for seven different PFAS in August 2020. Even prior to the State's regulations, Saginaw began testing for PFAS, including PFOS and PFOA. All results have been non-detect or below the limit of detection, including in 2021, except for a single sample in 2019 which was subjected to an alternate testing method intended for raw water applications. The amount in that single flagged detection was 3 parts per trillion (0.003 ng/L) for PFOS + PFOA, well below the new standards. See a summary of results at: water_quality.php and visit www.michigan.gov/pfasresponse/0,9038,7-365-95571_99970---,00.html to learn more about Michigan's rule. EPA does not currently regulate PFAS, but does maintain a federal lifetime health advisory (LHA) level of 70 ppt and will monitor PFAS as part of the Unregulated Contaminant Monitoring Rule (UCMR). In the upcoming UCMR5, EPA will require testing for 29 different PFAS.

Source Water Assessment

Your drinking water comes from Lake Huron, one of the largest and highest quality sources of fresh water in the world. The raw water intake is near Whitestone Point, a location selected in the 1940s after an engineering study showed that water at this location was typical of deep Lake Huron currents, and relatively free from influences from Saginaw Bay and nearby on-shore sources of contamination. Raw water is purchased from the Saginaw-Midland Municipal Water Supply Corporation (jointly owned by the Cities of Saginaw and Midland), and travels 65 miles through reinforced concrete and ductile iron pipe to the Saginaw Water Treatment Plant for processing.

In June 2004, the State of Michigan completed its assessment of our Lake Huron raw water supply and issued a Source Water Assessment report. This assessment determined our raw water supply's susceptibility to contamination. The State used a seven-tiered susceptibility rating scale from "very low" to "very high" based primarily on geologic sensitivity, water chemistry, and contaminant sources.

The susceptibility of our raw water was rated "moderately low." Although the threat of contamination still exists, this rating is the best a surface water source can achieve. The forethought used in selecting the location of the intake helped our raw water supply achieve its "moderately low" susceptibility rating. If you would like to review a copy of the Source Water Assessment report, or have questions about it, please contact the Saginaw Water Treatment Plant at 989.759.1640.

PFAS and cyanotoxins were
NOT detected in Saginaw's drinking water in 2021

2021 Water Quality Test Results

Below are the water quality test results from the Saginaw Water Treatment System during 2021, unless otherwise noted. Our water was produced in accordance with all state and federal regulations. The State allows us to monitor for certain contaminants less than once per year because their concentrations are not expected to change year-to-year.

parameter	test date	unit	avg	range	MRDL	MRDLG	violation	likely sources
Regula	ted Inorganio	c Param	eters (sa	ampled in th	e distribu	tion syste	em)	
Chlorine	2021	ppm	0.99	0.89-1.17	4	4	no	Water additive used to control microbials
parameter	test date	unit	avg	range	MCL	MCLG	violation	likely sources
Regula	ted Inorganio	c Param	eters (sa	ampled at th	e plant's f	finished v	vater tap)	
-luoride ¹	2021	ppm	0.67	na	4	4	no	Water additive to promote strong teeth
Bari <mark>um</mark>	2014	ppm	0.28	na	2	2	no	Erosion of natural deposits
ppm; rang	ie=0.10–0.77 j	ŏрт́						
ppm; rang	e=0.10–0.77 p	ррт. ´						oling. Results in 2021 were: average=0.6
ppm; rang Regula	e=0.10-0.77	opm. logical		ters (sampled				
ppm; rang Regula	ie=0.10–0.77 j	ррт.						ence)
Regulation Regulation Regulation Regulation Regulation Regulation Regulation Regularization Regu	te=0.10–0.77 p ted Microbio 2021 ine that our traded 1 NTU, and	opm. logical NTU eatment d must n	Paramet 0.06 process of ot exceed	ters (sampled 0.05-0.18 is working effe	d in the file TT ectively, turnore than t	Itered wannone rbidity in s	nter conflu no ystems tha	
Regulation	tee=0.10–0.77 p ted Microbio 2021 ine that our tr ined 1 NTU, and ur samples act	opm. logical NTU eatment d must n	Paramet 0.06 process of ot exceed	ters (sampled 0.05-0.18 is working effe d 0.3 NTU in n	d in the fill TT ectively, tur nore than : 021.	Itered wannone rbidity in s	nter conflu no ystems tha ily samples	s ence) Soil runoff, suspended matter in lake wat t provide filtration, like Saginaw, must
Regular Furbidity ² 2. To determinever exceed 100% of operations	ted Microbio 2021 ine that our tried 1 NTU, and ur samples acc	opm. logical NTU eatment d must n hieved th	Paramet 0.06 process of ot exceed nese requi	ters (sampled 0.05-0.18 is working effe d 0.3 NTU in n iirements in 20	d in the file TT ectively, ture more than 19021. MCL/	Itered wa none bidity in s 95% of da	nter conflu no ystems tha ily samples violation	s ence) Soil runoff, suspended matter in lake water in the suspended matter in lake water in the suspended matter in lake water in provide filtration, like Saginaw, must in any month to remain in compliance.
Regular Furbidity ² 2. To determinever exceed 100% of operameter	ted Microbio 2021 ine that our tried 1 NTU, and ur samples acc	opm. logical NTU eatment d must n hieved th	Paramet 0.06 process of ot exceed nese requi	ters (sampled 0.05-0.18 is working effe d 0.3 NTU in n irements in 20 range	d in the file TT ectively, ture more than 19021. MCL/	none bidity in s 95% of da (MCLG	nter conflu no ystems tha ily samples violation	s ence) Soil runoff, suspended matter in lake water in the suspended matter in lake water in the suspended matter in lake water in provide filtration, like Saginaw, must in any month to remain in compliance.

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 to control microbial contaminants.

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.

Parts per million (ppm), billion (ppb), and trillion (ppt) One ppm can be equated to four teaspoons of salt in a standard 24-foot backyard pool. One ppb is like one teaspoon of salt in an Olympic-sized pool.

Maximum Contaminant Level (MCL) The highest level of a contaminant allowed in drinking water. MCLs are set as close to MCLGs as feasible, using the best available treatment technology. MCLs are set at very stringent levels by the state and federal government.

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.

Nephelometric Turbidity Unit (NTU) - A measure of clarity based on how much light is scattered by suspended matter in the water. The lower the NTU, the less cloudy the water.

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

Terminology

Total Trihalomethanes (TTHM) and Haloacetic Acids (HAA5) - Byproducts of drinking water disinfection.

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

nd/na - Not detected/not applicable or not available.

Total Coliform Bacteria One sample tested positive for total coliform bacteria in the greater distribution system in 2021. Immediate retesting at the same site, as well as sites upstream and downstream, was negative so there was no contamination or violation and no need to boil water.

Delivering reliable drinking water includes preparing for future state and federal regulations

Regulated Parameters (sampled in INDIVIDUAL COMMUNITY DISTRIBUTION SYSTEMS)

	Albee Twp	Birch Run Twp	Village of Birch Run ^a	Blumfield/Reese	Bridgeport Twp	Buena Vista Twp ^b	Carrollton Twp	Frankenlust Twp	City of Frankenmuth	Frankenmuth Twp	James Twp	Kochville Twp	City of Saginaw	Saginaw Twp	Village of St Charles	Spaulding Twp	Swan Creek Twp ^c	Taymouth Twp	Thomas Twp	Tittabawassee Twp	City of Zilwaukee
TTHM (ppb)	57	57	46	53	63	46	47	57	53	56	56	59	53	60	54	47	55	57	58	58	52
Low	40	38	30	29	43	27	24	26	36	37	30	43	22	29	33	25	32	35	32	27	33
High	79	79	74	74	77	66	77	69	83	87	74	64	70	97	70	81	72	94	88	69	73
Violations?							Ther	e wei	re no	TTHN	/I or F	HAA5	MCL	viola	tions						
HAA5 (ppb)	26	30	26	35	29	21	22	29	29	28	28	34	20	25	24	26	25	28	29	36	26
Low	17	15	15	21	2	14	12	11	17	18	13	27	13	16	17	12	13	14	14	17	19
High	36	27	29	42	40	29	33	34	33	37	31	35	29	34	25	31	31	34	33	40	32
Copper (ppm)	0.3	0.3	0.2	0.2	0.3	0.2	0.3	0.3	0.2	0.3	0.2	0.3	0.2	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.2
Range low/high	0.1/0.3	0.1/0.3	0.1/0.2	0.1/0.2	0/0.4	0/0.3	0/0.3	0/0.3	0.1/0.4	0.1/0.3	0.1/0.3	0/0.5	0/0.3	0/0.3	0/0.2	0.1/0.2	0.1/0.2	0.1/0.4	0/0.2	0/0.4	0.1/0.3
Sites above AL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Violations?	There were no Lead or Copper AL violations																				
Lead (ppb)	1	1	1	3	2	3	3	3	3	1	4	1	5	2	2	2	1	2	1	1	2
Range low/high	0/1	0/4	0/2	0/3	0/11	0/4	0/3	0/9	0/4	0/2	0/6	0/3	0/22	0/6	0/5	0/2	0/2	0/2	0/3	0/2	0/3
Sites above AL	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
Lead Serv. Lines	0	0	0	0	0	0	0	0	0	0	0	0	2424ª	0	0	0	0	0	0	0	0
Unkno. Material	0	0	0	0	0	2107	2421	0	0	0	0	845	17094ª	0	866	0	0	730	0	0	54
Total No. Lines	156	881	459	1446	4262	2673	2423	1097	2364	490	836	845	29337ª	15421	867	774	1008	730	4588	2746	769

TTHM MCL=80 ppb MCLG=none HAA5 MCL=60 ppb MCLG=none Lead AL=15 ppb MCLG=0 Copper AL=1.3 ppm MCLG=1.3 ppm

Stage 2 Disinfection Byproducts (TTHM and HAA5) Results above are the highest locational running annual averages calculated quarterly for each community. The range shows the single highest and lowest detections during 2021 compliance monitoring. *Likely source*: TTHM and HAA5 are byproducts created when drinking water disinfectants react with organics in the water.

Lead and Copper The figures above are from the 2021 coordinated test and ongoing inventory of service line materials (see page 2). Lead and copper compliance is based on the 90th percentile, where nine out of ten samples must be at or below the Action Level (AL). Of the **300**+ reportable samples for lead compliance in the regional service area, only **two** exceeded the AL (down from six in 2020). No sites exceeded the AL for copper. To ensure that drinking water is non-corrosive, the Saginaw Treatment Plant uses corrosion control techniques and monitoring to prevent the chemical reaction between water and plumbing that causes metal release. *Likely sources*: Lead and copper occur due to the corrosion of household plumbing including fittings and fixtures. Lead also occurs due to the presence of lead service lines, which the City is in the process of replacing. Lead and copper are not naturally present in our water. www.saginaw-mi.com/lead

Infants and children are considered a vulnerable subpopulation if elevated levels of lead are present in drinking water. Elevated levels of lead can cause serious health problems, especially for pregnant women, infants, and children. Infants and children who drink water containing lead could experience delays in their physical or mental development. Children could show slight deficits 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 service lines and home plumbing and fixtures. Before using water for drinking or cooking, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes or until it is as cold as possible. If you have a lead service line, it is recommended that you run your water for at least 5 minutes to flush water from both your home plumbing and the lead service line. If you are concerned about lead, you may wish to have your water tested and your plumbing inspected since levels vary depending on a variety of factors. See page 2 for more information or contact your local water utility for details. To minimize exposure, follow the steps at water.epa.gov/drink/info/lead or call the Safe Drinking Water Hotline at 800.426.4791.

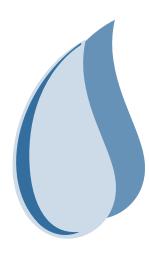
Reporting Violations Two communities had reporting violations in 2021: Saginaw Charter Township submitted a cross connection report late and Frankenlust Township did not notify lead and copper sample sites of the results within 30 days. Reporting violations are clerical errors and do not impact the quality of drinking water.

Community-Specific Results

a. These figures are based on refinements to the 2019 Preliminary Distribution System Materials Inventory and actual field verification of materials in use. Of the City's 29,337 service lines, the material used in 12,243 have been verified: 9,423 with no lead (copper/HDPE) and 2,424 with lead. Since 2019, the City has replaced a total of 2,276 lead/galvanized water service connections and extensions combined. Verification of materials in the remaining 17,094 lines must be completed before 2025 as part of the City's multi-decade program to replace all lead service lines.

To learn more or comment on the decisions affecting your drinking water, please consider attending meetings locally and with the City of Saginaw. Meeting times are shown below, along with the person to contact if you have questions about this report or local water projects.

Water Supplier	Meeting Schedule/Time/Location	Water Utility Contact
Albee Township	Second Tuesday, 8:00 pm, 10645 East Road	Mark Jebb, 989.770.4844
Birch Run Township	Second Tuesday, 7:00 pm, 8411 Main Street	Brad Thomas, 989.624.9773
Village of Birch Run	Fourth Monday, 7:00 pm, 12060 Heath Street	Marty Hauck, 989.624.9856
Blumfield/Reese	Third Monday, 7:00 pm, 12810 E. Washington, Reese	Tim Sheridan, 989.868.9940
Bridgeport Township	First Tuesday, 6:00 pm, 6740 Dixie Highway	Ruthann Evans, 989.777.0974
Buena Vista Township	Fourth Monday, 6:00 pm, 1160 S. Outer Drive	Charles Suchodolski 989.754.6536
Carrollton Township	Second/Last Monday, 5:30 pm, 1645 Mapleridge Road	Don Sumption, 989.754.4611 x110
Frankenlust Township	Varies, please call 989.684.3883, 3933 Patterson Road	Trevor Jacobs, 989.439.7237
City of Frankenmuth	First Tuesday, 7:00 pm, 240 W. Genesee Street	Ken O'Brien, 989.652.8987
Frankenmuth Township	Third Monday, 7:00 pm, 240 W. Genesee Street	Ken O'Brien, 989.652.8987
James Township	Second Monday, 7:30 pm, 6060 Swan Creek Road	Mark Jebb, 989.781.1353
Kochville Township	Third Monday, 7:00 pm, 3265 Kochville Road	Trish Foerster 989.792.7596 x120
City of Saginaw	Mondays, twice monthly, call 989.759.1480 for details	Ted Bomba, 989.759.1640
Saginaw Township	Second/Fourth Mondays, 5:30 pm, 4980 Shattuck Road	Daryl Gotham, 989.791.9870
Village of St. Charles	Second Wednesday, 7:00 pm, 110 W. Spruce Street	Don Ackerman, 989.865.8287
Spaulding Township	Third Tuesday, 6:00 pm, 5025 East Road	Matt Tanner, 989.777.0950
Swan Creek Township	Second Monday, 7:00 pm, 11415 Lakefield Road	Mark Jebb, 989.865.6251
Taymouth Township	Second Wednesday, 6:00 pm, 4343 Birch Run Road	A.J. Nowak, 989.624.4159
Thomas Township	First Monday, 7:00 pm, 8215 Shields Drive	Rick Hopper, 989.781.0150
Tittabawassee Township	Second Tuesday, 5:30 pm, 145 S. Second Street	Ed Brown, 989.695.6517
City of Zilwaukee	Last Monday, 3:30 pm, 319 Tittabawassee Road	Eric Mahan, 989.755.0931



About the Saginaw Water Treatment Plant

You receive your water from the Saginaw Water Treatment Plant, which is a not-for-profit department of the City of Saginaw, governed by Saginaw City Council. We encourage your interest in the decisions pertaining to your drinking water. Meetings are held on Mondays, twice monthly. For details or to register as a speaker, please contact the City Clerk's office at 989.759.1480.

Brenda Moore, Mayor

Michael Balls, Mayor Pro Tem

Council Members: Annie Boensch George Copeland Jr. Michael Flores Monique Lamar-Silvia Bill Ostash Autumn Scherzer Reggie Williams II

Tim Morales, City Manager

Phillip Karwat, PE, Public Services Director

Paul Reinsch, Director of Water and Wastewater Treatment Services

Ted Bomba, Superintendent, City of Saginaw Water Treatment Plant

Josh Hoffman, Superintendent, City of Saginaw Maintenance & Service Division

Contact Information