

SAINT FRANCIS **PUBLIC WORKS**



4058 Saint Francis Boulevard NW
Saint Francis, Minnesota 55070

2022 ANNUAL REPORT

TABLE OF CONTENTS

OVERVIEW.....	3
PARKS.....	4
SEWIK PARK.....	6
RECYCLING.....	7
STORMWATER.....	8
STREETS.....	10
WATER & WASTEWATER.....	15
THANK YOU.....	31

PUBLIC WORKS

DIRECTOR'S OVERVIEW



The City staff has seen a lot of changes in 2022 with a new Administrator, Community Development Director, and Public Works Director. The Public Works Department has also seen a few changes this year including Brian Reeder's retirement, the addition of two new crew members, and some internal restructuring. The department is getting on track with trainings and have added some special certifications. Jen Gulbrandson is now our stormwater inspector and Colin McDonagh is now our playground inspector. John Maki and Wyatt Huberty have both received their Class D Wastewater licenses as well.

2022 has not however been without it's challenges. The greatest challenge this year was trying to manage the price increases caused by the inflation rates. The unprecedented increases in fuel, parts, and services have caused budgetary turmoil and will require special attention in 2023 planning. The second snowiest December on record was also very challenging. The credit truly goes to Parish and Jeremy for their planning and their ability to adapt to diverse situations and continue to help the Public Works Department be successful at serving the residents of St. Francis. The recycling program has also seen its share of price increases in 2022. The recycling coordinator, Tom Koep, made the decision to host all events at Public Works. The events were very successful and the benefit outweighed the cost.

Our greatest asset is our staff and I would like to thank them for their support as I have changed my role here at the City of St. Francis. There is truly nothing we cannot accomplish in Public Works with the talents and expertise of the people I work with every day.



STREETS & PARKS ANNUAL REPORT

Mayor and Council,

Another year is in the books for Public Works. We have had many changes in the department this past year. Brian Reeder retired this year. Paul Carpenter is our new director. Nate Hanson is our new streets and parks worker. Wyatt Huberty is our new water and wastewater operator. Jen Gulbrandson is our new storm water specialist. Colin McDonagh is our new playground equipment inspector. Everyone seems to be settling in quite nicely and each bringing new things to the department.

This year has been challenging with Covid-19 still lingering in the shadows. Certain things still have long lead times (supply chain issues) and inflation is at an all-time high. Not sure if things will go back to normal or this will be the new normal. Whichever direction it goes, we will just have to adapt to it.

One thing worth mentioning is the weather this winter. I will have to say in the 19 years of snow plowing this has by far been the most challenging yet. With the amount of snowfall to having every season in the month of December. It has been very taxing on staff and the equipment, to say the least. I know we will be able to look back and say we remember the winter of 2022-2023.

I would lastly like to say thank you to The Public Works team, you guys and gals truly make this an awesome place to work.

Sincerely,

Jeremy Shook
Streets and Parks Supervisor

ST. FRANCIS PARKS 2022

Something new for this year is working with Eagle Scouts on their projects that need to be completed by their 18th birthdays. This gives them the opportunity to plan, develop and give leadership to others. The first project was a bat house created by Nathan Zandlo. There are five of these placed in different parks through the city. The reason Nathan chose bat houses for his project was to give bats a place to live instead of people's homes. Bat population has been on the decline for years. Creating more places for them to live is important as they play a very important role in our ecosystem consuming up to a 1000 mosquitoes an hour. The second project was created by Jonah Deschenes. He chose to make wood duck houses which are placed throughout our city near bodies of water.



Unfortunately, staff has spent 14 hours cleaning up dumping, damage, and or vandalism to our community over this past year.



Exciting news, there's a new park in town called Siwek Park!



Bike Fix-it Station installed at Community Park paid for by Anoka County Ship Grant.



New benches and stamped concrete pads at Woodbury Park.

RECYCLE 2022 PROGRAM STATS

- 4 Recycle Events & 1 Hazardous Waste Event.
- 539 Vehicles Drive Through - Our Highest Yet!
- 2021 had 530 Vehicles.
- Organics Drop-off, 63 People have signed up.
- Over 11,700lbs of Mattresses recycled.
- 463 Tires
- Over 10 Tons of Scrap Metal collected.
- New Trash & Recycling Receptacles placed at Deer Creek & Seelye Brook Parks.
- New Enclosure for the Trash/Recycling Receptacles at Community Park.



Deer Creek 2nd Park



Community Park

STORMWATER 2022

As most of you know, the City of St. Francis has been implementing the stormwater permit requirements and regulations since obtaining our MS4 Permit in 2016. The program has grown since it was first implemented, as well as the regulations and requirements involved.

Jen Gulbrandson assumed the duties of a Stormwater Inspector for the City of St. Francis in late June/early July 2022. She has been officially certified for stormwater inspection since 08/15/22.

Jen now approves most of the Erosion Control Plans (Hakanson handles the Commercial Properties) for our Residential or New Construction Permits that come in for approval when they submit their building permits.

2022 MS4 Inspection Violations – Jen personally handled about 8 properties (New Construction) since taking over the stormwater duties; which means there are at least 2-3 inspection notices or more, for each property, in the property files.

Annual MS4 Training – All Public Works employees have taken the Smart Salting Refresher Course through MPCA (08/15/22). Jen has taken Stormwater Certification Training (08/15/22), Construction Site Management Training (November 2 & 3, 2022) and will be taking a SWPPP Design Training in the near future (January 2023). Our Building Inspector, Phil Dahlheimer, took the Construction Site Management Training in November 2022, as well.



Siwek Park storm sewer installation.



Annually, our PW Crew cleans out storm drains that have any debris or vegetation coming out of them.

Large Storm Weir or Stormceptor on River Drive — Cleaned out! We retrieved over one ton of sediment and debris while cleaning this stormceptor alone! We had about three tons from all the other storm drains we cleaned in the city as well.



We have Six Best Management Practices that we are required to fulfill every year. They are as follows:

Public Education and Outreach – *The City of St. Francis tries to get the stormwater information (via articles, social media posts, and our website, on subjects like dog waste, deicing materials, construction run off and illicit discharge) out there to the public to ensure that they understand what stormwater is, what they can do to minimize the stormwater runoff on their residential/commercial properties, and what damage chlorides (salt usage) and construction activities (sediment) can do to our water supply. - Compliant Articles, once each year on: pet waste, deicing materials, illicit discharge and construction runoff concerns. - **Compliant***

Public Involvement – *Must Have One Activity each year – We usually do a Hazardous Waste Event in conjunction with Anoka County. Other examples for the future would be: rain barrel distribution event, rain garden workshop, cleanup event, storm drain stenciling, volunteer water quality monitoring, adopt a storm drain program, and household hazardous waste collection day.*

Illicit Discharge Detection and Elimination – *We added the Pet Waste Ordinance before last year’s deadline. We have proper Salt Storage that is required by MPCA. - **Compliant***

Construction Site Stormwater Runoff Control – *In the past, Hakanson has created maps for high and low priority areas. - **Compliant***

Post Construction Stormwater Management – *Must document all inspections for post construction sites. - **Compliant***

Pollution/Prevention/Good Housekeeping – *We have to document all MS4 training, annually. - **Compliant***

STREET PROJECTS 2022

Sealcoating and Crack Sealing was completed this year in our District which included:

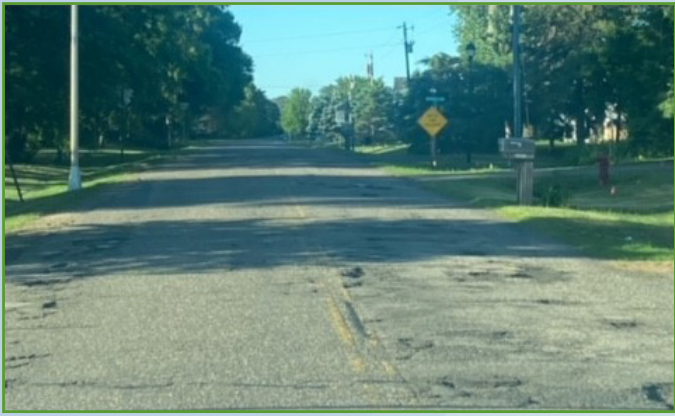


- Variolite Street
- Osmium Street
- Salish Street
- Quicksilver Street
- 241st Avenue
- 232nd Avenue
- 245th Avenue
- Cobalt Street
- 235th Avenue
- Neon Street
- Dysprosium Street
- Oneida Street
- Iodine Street
- 242nd Avenue
- 234th Court
- 244th Court
- Erkium Street
- 233rd Lane
- 236th Avenue
- Yakima Street
- 233rd Court
- Magnesium Street
- 241st Court
- 239th Lane



Mill and Overlay were completed this year on Roanoke Street, 239th Avenue, and Xavis Street.





Reconstruction was completed on Poppy Street.



Wood chips being blown in at Community Park (176 yards).



Re-ditching took place on Nacre Street.



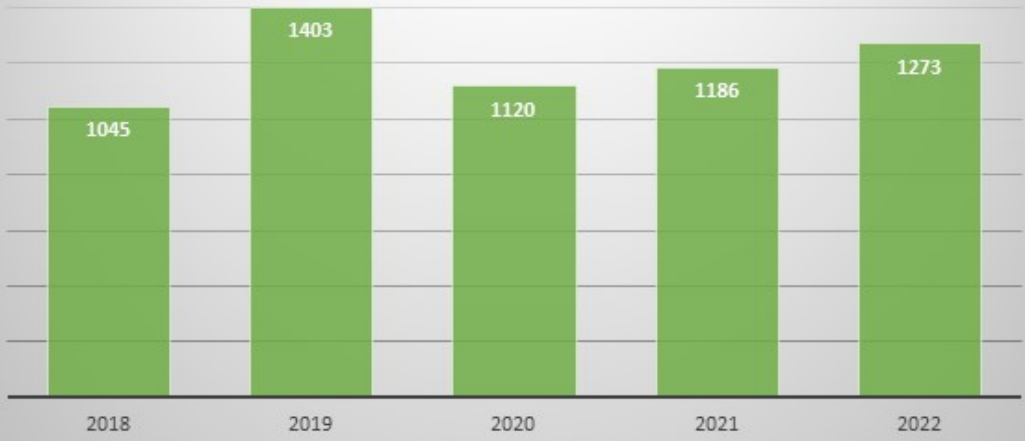
- Equipment repair 522 hours, equipment maintenance 410 hours.
- Building maintenance 453 hours.
- There was roughly 4,000 pounds of fertilizer spread on city parks.



- 53 call-outs which include anything outside normal working hours. 24 streets, 14 parks, 5 recycling, 2 water, and 8 sewer call-outs.
- 192 events in our parks this past year.

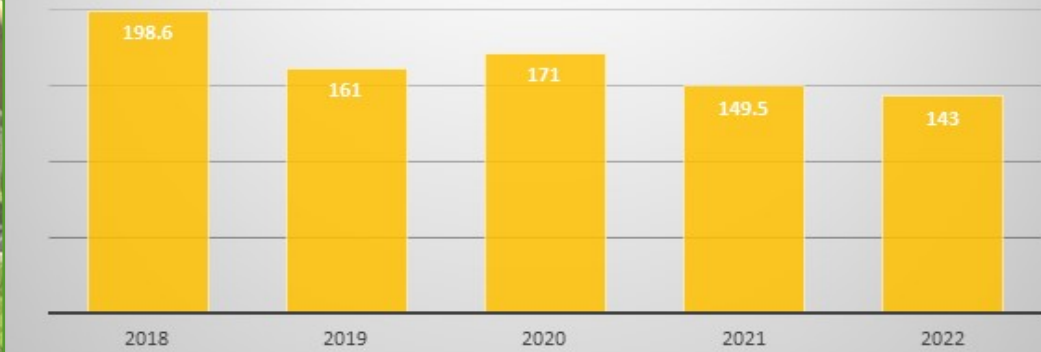


Acres of Grass Mowed

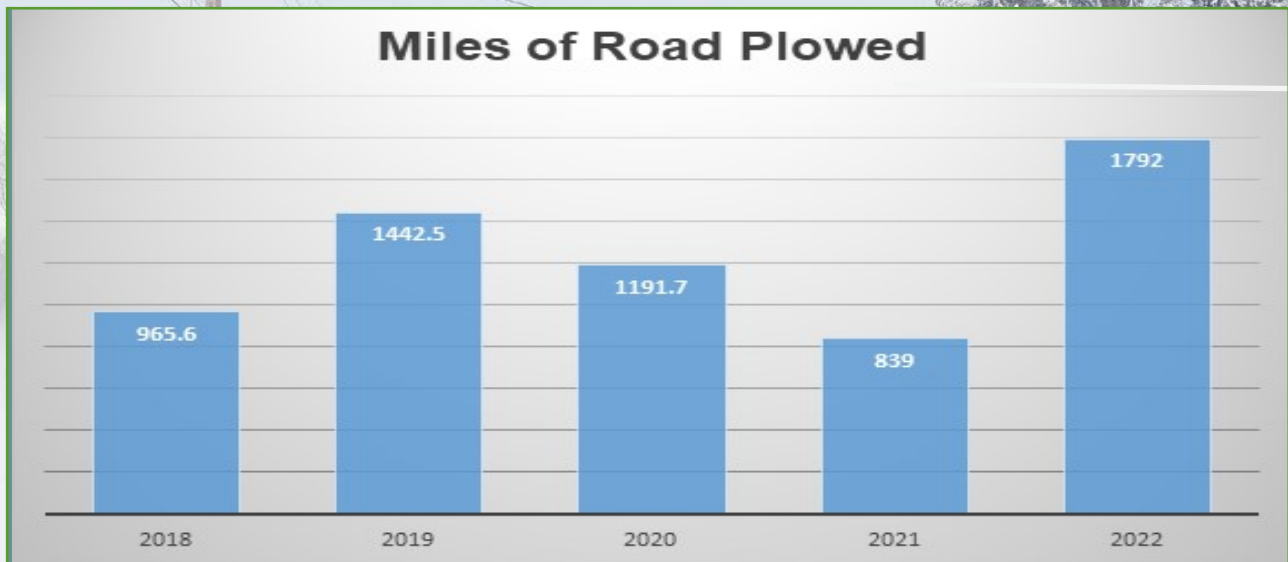


There are a few different aspects of mowing that Public Works deals with besides mowing parks. That's trailside mowing and ditch mowing. 128 miles of ditch mowing along with 294 miles of trail mowing was completed in 2022.

Miles of Road Graded



Miles of Road Plowed



Snow plowing is one of Public Works main activities in the winter months. This winter has been an interesting one to say the least. We have plowed as much in the month of December has we did in January, February, March, and November combined. Along with 1078 cul-de-sacs, 118 parking lots, and 510.5 miles of trails/sidewalks. There has also been 35.1 tons or 70,200 pounds of granite chips applied to gravel roads. Interesting fact about granite chips is they're the leftover sweepings from our chips seal so we are getting a second use out of them. For our asphalt road there has been 653 tons or 1,306,000 pounds of salt applied.

Preparation for the bio solids pad.



New rock was installed in areas of the Police and Public Works not only for curb appeal, but do make mowing more efficient.



Pictured Above: Jetting culverts is something from time to time that needs to be done. This is caused from rapid thaw in the spring and the culvert is still frozen solid with ice.



WATER & WASTEWATER ANNUAL REPORT

Honorable Mayor and Council,

I am pleased to present our water and wastewater final report for 2022. Staff continued to achieve high standards for Public Works. Couple of highlights of the year include implementing new summer hours for water and wastewater staff. We started working four-nines and a four. Previously, we worked four-tens. We are hoping to provide better service coverage not only to our customers but also for the contractors during construction season and from all accounts, we were successful in doing that... Staff also really loved the new hours too!

This year we completed asset management inspection for district two. Staff excelled in utilizing our new RTK locator with GPS capability with this work. A new project that was possible because of the new locator work was creating a new in-house GIS platform using a free software to host the data collected from the fieldwork. For the first time, we have GPS coordinates of all curb stops, gate valves and manholes from Hwy 47, west through the Deer Creek Development. Team member John Maki lead this project and with help from Mike Harris, have done a great job! More details on this project further in the report.

We added a new member to our team this year. Wyatt Huberty started in October, and continues to learn about St. Francis utilities and is doing a good job! Welcome aboard, Wyatt! I would like to say congratulations to Paul Carpenter on his new position. Paul has taken the job head-on and is doing well!

In October, The City of Bethel asked us if we would be their temporary wastewater plant operators due to a staff retirement. Our staff has enjoyed helping out the city of Bethel and learning how their wastewater pond system works.

Respectfully,

Parish Barten
Water and Wastewater Supervisor

WATER TREATMENT FACILITY AND WELL HOUSE

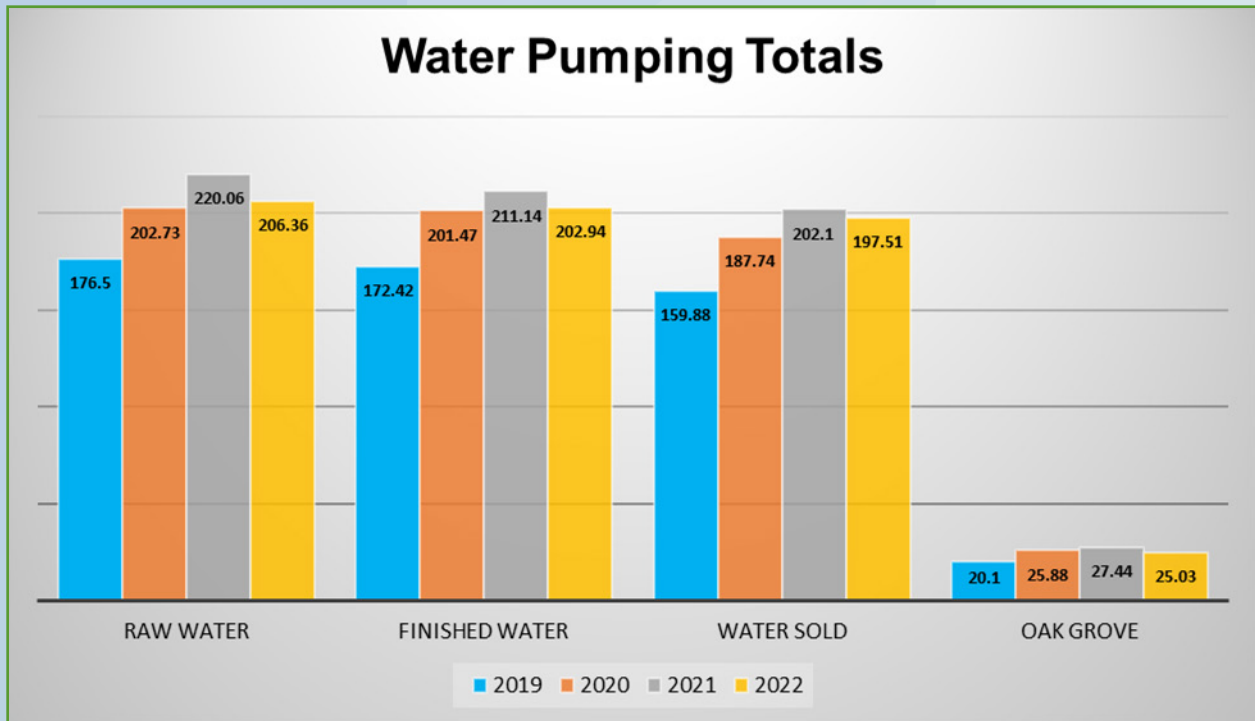
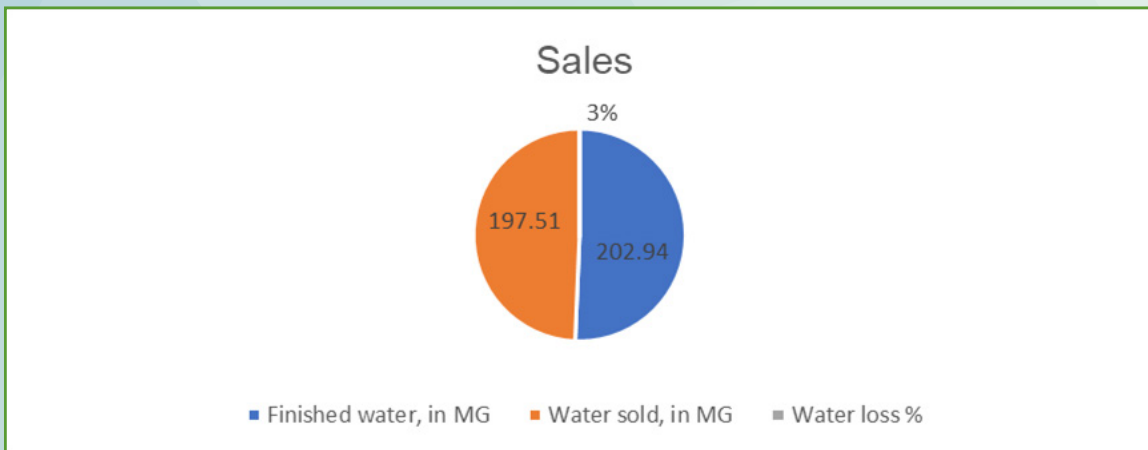


Figure 1: comparison of pumping totals and water sold, in MG.

As you can see from the figure 1, our pumping numbers have decreased for 2022. We saw a 7% reduction for raw water and 8% reduction for Finished water. Something to keep an eye on as we roll into spring next year is drought conditions. We are currently in a “Moderate” drought classification for our area, even after all the moisture that we have received this fall and winter. This condition could improve or get worse and we will continue to monitor as we go along.

The goal of any municipality is to have a water loss value of less than 10% between finished water and water sold. Our Final percent Water loss for 2022 is 3%.



Common reasons for water loss include leaks and other non-metered usage.

WATER QUALITY ASSURANCE AND TESTING

The drinking water in St. Francis has over sixty quality and assurance tests performed annually by a certified lab. We met all of the required limits established by the Minnesota Department of Health. Those results are made available each July in our Consumer Confidence Report (CCR). In order to achieve limits set forth by the Minnesota Department of Health, the facility uses four different treatment aids to help treat the water.

WATER TREATMENT AIDS

This year we used 39,404 lbs. of sodium permanganate, 1,789 lbs. of chlorine gas, 356 gallons of fluoride, and 373 gallons of orthophosphate.

Below, is a list of all tasks completed for the Water Treatment Facility, Well House and Distribution System for 2022.

<u>Drinking Water</u>	<u>Task</u>	<u>Description</u>	<u>Quantity</u>	<u>Units</u>
Water	Inspect Facility Daily	Facility Inspection	234	Inspections
Water	Operational Hours	Hours spent at facility	468	Hours
Water	Calculate Influent and Effluent	Calculate gallons pumped for both influent and effluent.	Daily	Calculation
Water	Calculate Chemicals	Calculate treatment chemicals used daily.	Daily	Calculations
Water	Chemical Adjustment	Adjust chemicals based on lab testing results.	As Needed	Chemical Adjustments
Water	Daily Labs	Perform lab on chlorine, fluoride, orthophosphate, iron, and manganese.	264	Labs
Water	Well House	Inspect daily, take readings, drawdowns, and pump runtimes.	Daily	Inspections
Water 2022 In-House Lab Results and Flow Totals				
		Average Chlorine	.82	Mg/l
		Average Raw Iron	1.0	Mg/l
		Average Raw Manganese	.092	Mg/l
		Average Fluoride	.71	Mg/l
		Iron Removal	99	%
		Manganese Removal	82.5	%

Water Treatment Facility, Well House and Distribution System Projects

WTP and Well House	Yearly Maintenance	Change oil, grease and inspect packing glands.	7	Motors
Well House	Annual VFD Inspection	Check voltage and amps on all units. Tighten lugs.	3	VFD's
Distribution System- Water	Hydrant Flushing	Ensure each hydrant is working order. Clean sediment from mains.	357	Hydrants
Distribution System- Water	Hydrant Maintenance	Pump down non-draining hydrants	81	Hydrants
Distribution System- Water	Yearly RPZ Testing	Test all RPZ's and anti-siphon devices at WTP and parks.	10	Units
Water Treatment Facility	Annual VFD Inspection	Check voltage and amps on all units. Tighten lugs.	4	VFD's
Water Treatment Facility	Minnesota Department of Health- Routine Sampling	MDH collected some routine water quality samples- No Deficiencies	3	Samples
Water Treatment Facility	Minnesota Department of Health- Sanitary Inspection	District engineer inspects all water facilities for deficiencies. None to report.	3	Hours
Water Treatment Facility	Generator Exercising	The generator is tested each week to ensure unit will run when needed.	52	Exercises
Water Treatment Facility	Detention Tank	Drain and clean out iron deposits	1	Day

GREAT NEWS... Back in April, the city of St. Francis was selected for sampling of PFAS in our drinking water. Here is an email from the Department of Health with the results.

DATE: October 28, 2022

TO: Saint Francis

FROM: Steve Robertson Supervisor, Source Water Protection Unit

SUBJECT: Statewide Perfluoroalkyl Substances (PFAS) Monitoring Project

Below please find your system's sampling results for the Statewide PFAS Monitoring Project.

Sampling was conducted on 4/11/22.

Sampling Results

**There were no PFAS compounds detected in the samples. No additional action is needed at this time.*

About the Project

The Minnesota Department of Health (MDH) has been studying the potential health impacts of PFAS in groundwater in Minnesota since 2002. This project is part of a larger effort at MDH to sample all community water systems (CWSs) for PFAS. MDH aims to cover 90% of CWS customers under its PFAS monitoring program by 2025. The project has been made possible through funding from the Clean Water Fund and U.S. Environmental Protection Agency. Sampling results from all systems that participated in the study will be included in an interactive mapping application on the MDH website.

PFAS are a family of manmade chemicals that have been widely used for decades. PFAS are extremely stable and do not breakdown in the environment.



WASTEWATER TREATMENT FACILITY

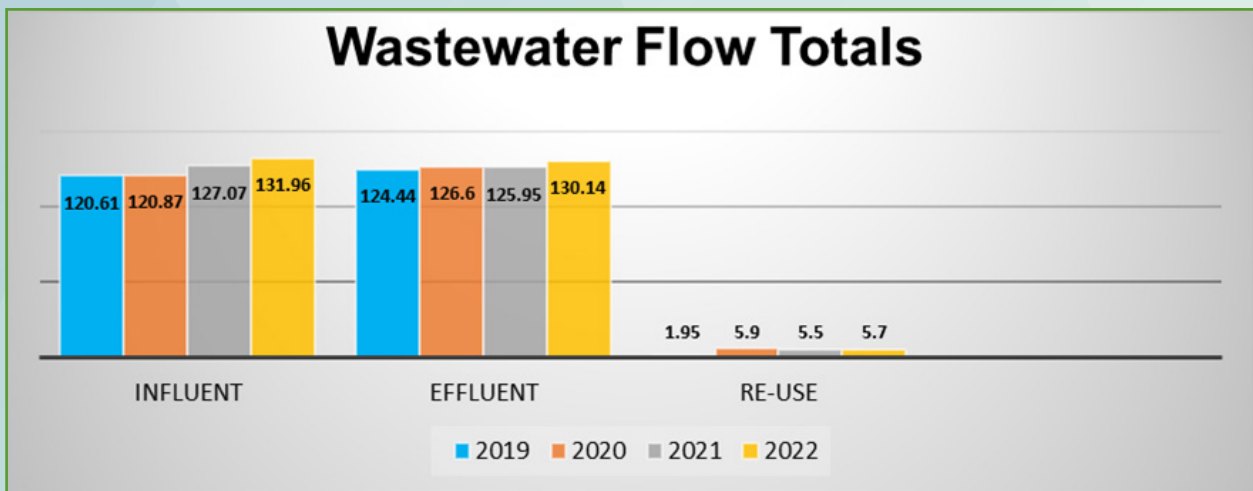


Figure Above: Flow data for the last four years in million gallons.

Wastewater Treatment Facility statistics and maintenance completed by staff for 2022.

Wastewater 2022 Yearly Statistics				
Wastewater	Monthly Sampling	Perform required monthly sampling: 8 Influent 30 Constituents); 8 Effluent (40 Constituents:	840	Constituents
Wastewater	Operational Hours	Hours spent at facility.	1892	Hours
Wastewater	Inspect Operations Building	Daily inspection of building.	216	Inspections
Wastewater	Inspect Pre-treatment Building	Daily inspection of building.	216	Inspections
Wastewater	Inspect Tertiary Building	Daily inspection of building.	216	Inspections
Wastewater	D.O Readings	Take Required D.O Readings.	365	D.O Readings
Wastewater	pH Readings	Take Required pH Readings.	365	pH Readings
Wastewater	Inspections	Inspect 8 lift stations daily and calculate pump runtimes.	1872	Lift Station Inspections
Wastewater	Daily Lab	Process Control Test	960	Tests

2022 Wastewater Projects Completed

Wastewater	Biosolids Processing	Fergus power pump processed 945,000 gallons of liquid biosolids.	3	Weeks
Wastewater	Biosolids Processing	Land apply processed solids on permitted sites.	500	Wet Tons
Wastewater	Clarifier Maintenance	Grease Clarifier	2	Clarifier
Wastewater	UV System	Each year, the UV system is taken out of service for cleaning and inspection.	1	Week
Wastewater	UV System	Put UV system back in service for Wastewater Disinfection.	5	Banks (120 Bulbs)
Wastewater	Rapid Mixer Maintenance	Oil change and inspect for wear.	3	Mixer
Wastewater	HVAC Maintenance	Change and inspect filters for Makeup Air Units.	8	Units
Wastewater	Wastewater Meters	MPCA requires semi-yearly testing of flow meters.	6	Meters`
Wastewater	Annual RPZ and Vacuum Breaker Testing	Check all RPZ and vacuum breakers to ensure working order	17	Backflow Devices
Wastewater	Rapid Infiltration Basin Maintenance	Disk/till-up Rapid Infiltration Basins	3	Basins
Wastewater	Aeration Basins	Drain and Clean Aeration Basin # 2	4	Days
Wastewater	Monitoring Well Testing	Three times a year, the four monitoring wells need to be sampled and tested.	3	Wells
Wastewater	Backwash Tank Cleaning	The backwash tank is cleaned of solids from filter backwashing.	1	Day
Wastewater	Blower Maintenance	Change oil, replace belts and inspect blowers.	8	Blowers
Wastewater	Annual VFD Inspection	Check voltage and amps on all units. Tighten lugs.	35	VFD's
Wastewater	Generator Exercising	The generator is tested each week to ensure unit will run when needed.	52	Exercises

Required State Agency Reports:

Wastewater	Discharge Monitoring Report (DMR) (MPCA)	Required by our NPDES permit, each month, staff has to submit the DMR.	12	Reports
Wastewater	Reuse Report (MPCA)	Required by our NPDES permit, this report list all reuse activities and results for the year	1	Report
Wastewater	Biosolids Report (MPCA)	Required by our NPDES permit, this report lists all results and site application activity.	1	Report
Wastewater	Fluoride Report	This report lists all fluoride used, results and location of test	12	Reports
WWTP and Well House	Department of Natural Resources, Water Use Report. (DNR)	Required by the DNR, this report list all water pumped and water sold.	1	Report
Water Treatment Facility	Consumer Confidence Report or CCR. (MDH)	Required by the MDH, the city has to publish all Drinking water results for public viewing.	1	Report
Distribution System	Chlorine Residual Report (MDH)	Required by the MDH, this report includes our bacteria results chlorine test results.	12	Reports

Lift Stations				
All Lift Stations	Wash Downs	Wash out grease accumulations	12	Lift stations
All Lift Stations	Vac Out Lift Stations	Vac out sediments and grease	12	Lift Stations
All Lift Stations	Yearly Maintenance	Change oil, inspect wear rings.	23	Lift Stations
Main Lift Station (WWTP)	Pull Pumps	Pull pumps due to plugging	0	Pumps
DL-6 Lift station	Pull Pumps	Pull pumps due to plugging	6	Pumps
Rivers Edge lift station	Pull Pumps	Pull pumps due to plugging	0	Pumps
Turtle run lift station	Pull Pumps	Pull pumps due to plugging	6	Pumps
Ambassador lift station	Pull Pumps	Pull pumps due to plugging	1	Pumps
River shores lift station	Pull Pumps	Pull pumps due to plugging	2	Pumps
Deer Creek Lift station	Pull Pumps	Pull pumps due to plugging	2	Pumps
Dellwood Lift Station	Pull Pumps	Pull pumps due to plugging	1	Pumps
Royal Oaks Lift station	Pull Pumps	Pull pumps due to plugging	1	Pumps
*Total man hours for plugged pumps			38	

Lift Station Issues

The never-ending battle with “Flushable wipes” never ends! When we say that a pump is plugged, the image to the right is what we are referring to. Wipes and other debris wind up within the impeller, which can cause a drastic pumping deficiency. Most of the time, staff can free the plug loose by pulling on it. Other times require a cutting device, a pry bar, and channel locks.

When the impeller becomes too entangled with rags, it causes the amps to rise, which can lead to the pump tripping out the breaker or in some complete pump failure.



2022 PROJECTS

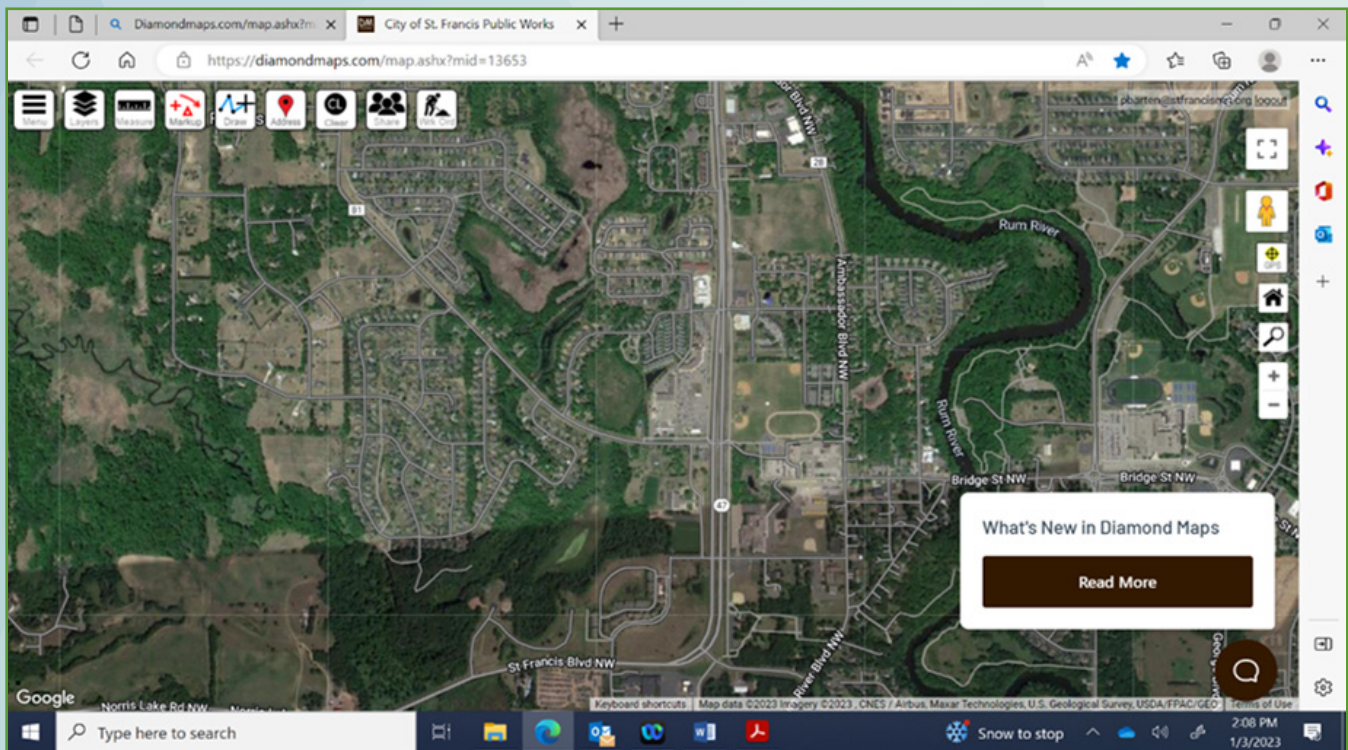
Locating and GIS

As I mentioned in the intro, one of the projects we were able to start and complete this year was collecting GPS coordinates of our utility assets in District # 2, which goes from Hwy 47 and goes west through Deer Creek Development.

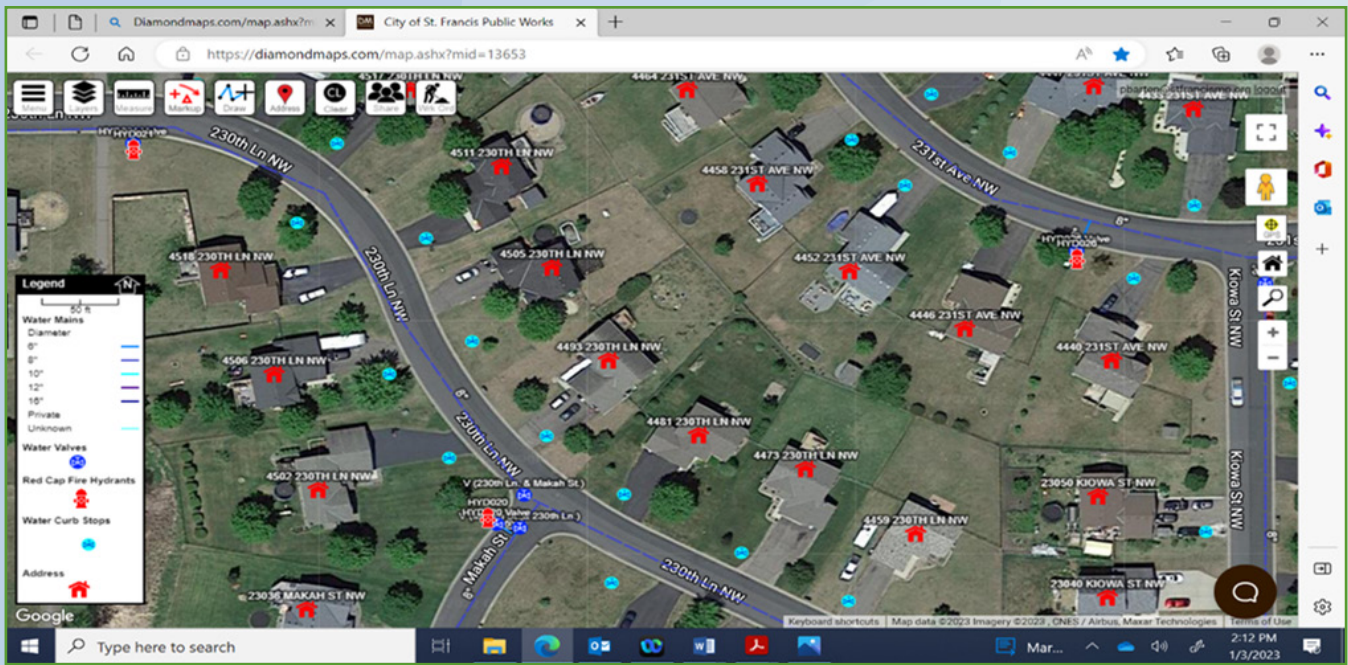


The picture to the left shows the interface of the RTK locator and the data it collects. The problem that we had was what to do with the data after collecting it.

Staff found a cloud-based GIS software called Diamond Maps. This software allows staff to upload our data directly to it from the RTK and auto populate the map automatically. The other great thing is that staff can make changes and edit on the go.



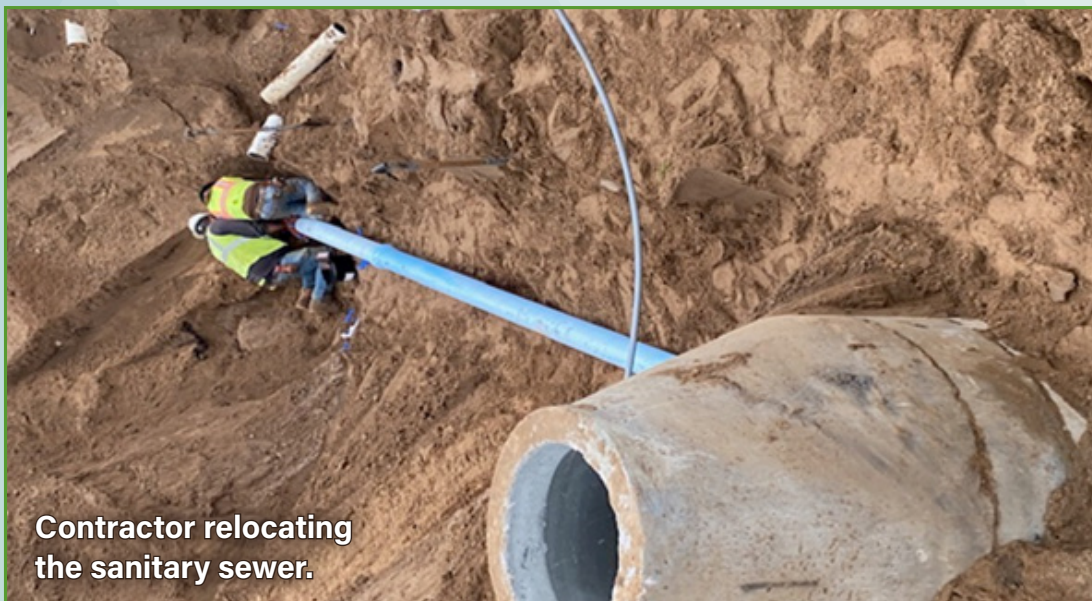
This is the base map of the town with no data.



This is a portion of Deer Creek on Diamond maps populated with the data that we collected from the RTK. After spending some time, using and navigating the software we decided to go a couple steps further and include all of our utility assets on it including gate valves and hydrants. Staff has really enjoyed creating our own GIS system using both the RTK and Diamond maps. The creation of this GIS system will better help staff in locating assets faster when asked for information regarding the assets especially in an emergency like customer service leaks. This year we will continue with this project in District #3.

Poppy Street Project

The Poppy Street reconstruct was completed this year. Work entailed replacing roughly 1000 feet of undersized water main, the addition of new gate valves and hydrants and the relocation of sanitary sewer. The other obvious benefit was the new roadway!



Contractor relocating the sanitary sewer.

Below, is the 6" pipe on the left, and the new 8" pipe on the right for the Poppy Street project.



The picture above is the 4" temporary water line that supplied the water to the development during the installation of water main. Early on, we did experience one fail with a slip joint creating no water for residents. The contractor was on-site and had it repaired in a timely manner.

This slip joint failed and the two wires that held it together broke.

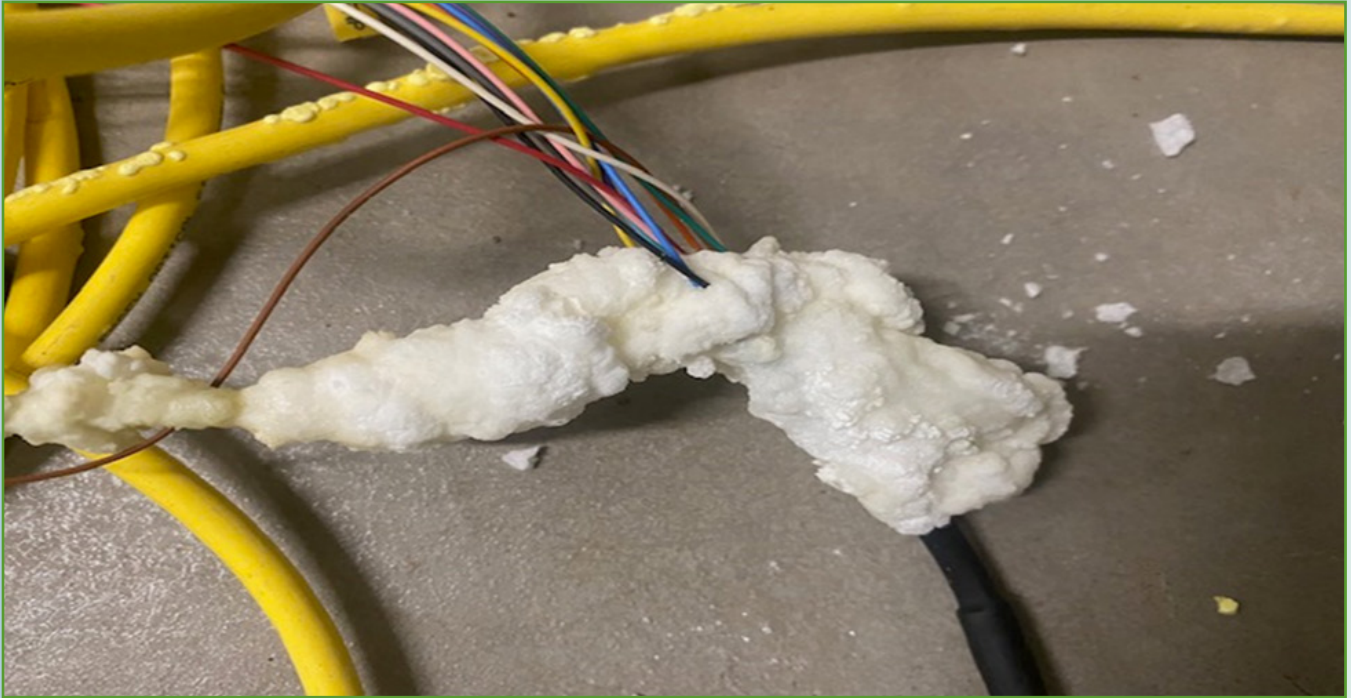


The Poppy Street before and after taken in roughly the same location! What a difference!

Wastewater Treatment Facility Fiber Replacement

Staff along with our SCADA integrator replaced the fiber optic cable that completes a loop between all facility buildings. Water had infiltrated the sheathing and was causing a calcium like material to wick out from the cable. The fear was that it would eventually snap the fiber causing complete failure.

The new upgraded fiber has much thicker sheathing.



Although the fiber never completely failed, we did experience connection issues that were causing intermittent communication disruptions between the buildings.

*In closing, I would like to say thank you to Staff for their dedication and hard work.
I would also like to thank Administration and City Council for their continued support.*

Bring on 2023!





*On Behalf of the Director and Staff at Public Works,
thank you for your continued support!*

It is an honor to serve the City of St. Francis and it's residents.

THANK YOU!

See you in 2023!



Saint Francis Public Works

4058 Saint Francis Boulevard NW

Saint Francis, Minnesota 55070

763-233-5200