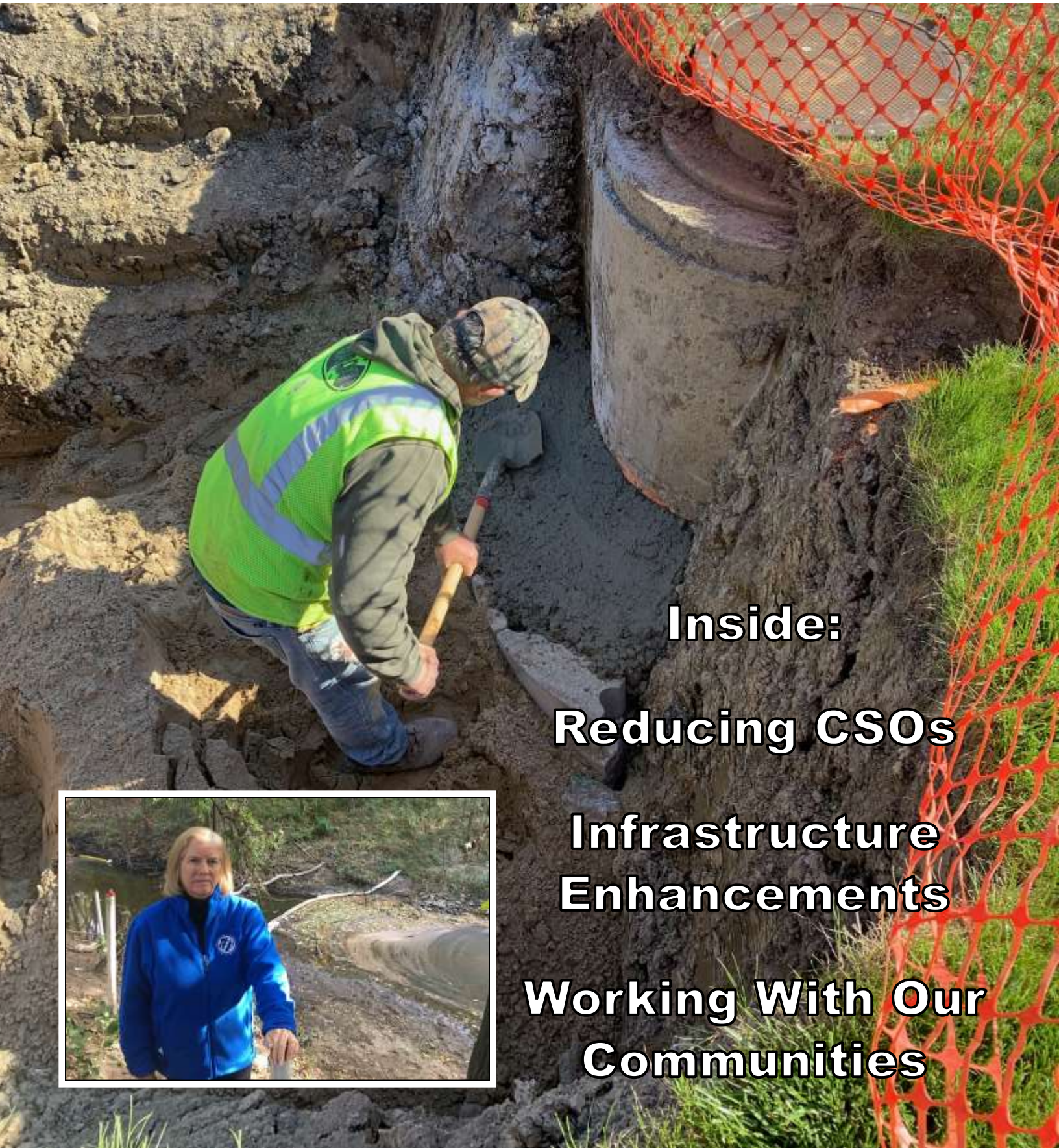




Macomb County Public Works Summer 2020

Candice S. Miller, Commissioner



Inside:

Reducing CSOs

**Infrastructure
Enhancements**

**Working With Our
Communities**



Message from the Commissioner

My entire life, I have been proud to be a native and resident of Macomb County. I am proud to be associated with people who build things. Here, we're known mostly for cars and trucks, but there's plenty of defense materials, aerospace and smaller-run products too numerous to mention. Our homebuilders and related trades are second to none.

When it comes time to relax, the recovery of our Clinton River is an ever-increasing success story and I feel like I scarcely need to mention my affinity for Lake St. Clair and our magnificent Great Lakes.

And who doesn't enjoy a fresh, crisp Macomb County-grown apple or peach?

Even as we live in changing and challenging times, the things that define us remain. The Macomb County Public Works Office is committed to continuing to do its part to support our community. Since day one, my goals for this office have remained consistent: to enhance the quality of life for our residents and to serve as a critical component of the economic vitality in our communities.

How do we accomplish this? There are several ways:

- We have greatly expanded our drain maintenance program. You can see more details about this on Page 6. Through this program, we not only improve the operations of the drains, but in many cases are able to enhance the natural beauty of the drain. Much of the work we do improves the habitat for birds, animals and fish that live in and around the drains.
- Wherever possible, when we do work in our drains, we put down a seed mix that includes a number of native pollinator plants. This supports habitat for butterflies and other pollinators. The prime example of this is our new "butterfly flyway" along the Sterling Relief Drain in Sterling Heights. There, we planted thousands of pollinators and hundreds of trees along an almost-2.5 mile stretch of the drain to support a habitat for Monarch butterflies and to enhance the esthetic for people who live in the area of the drain.
- Throughout the pandemic challenge, our inspectors



and plans review team have continued to work. It is our goal to ensure that construction projects are able to move forward without delay. There is no reduction in standards and we want to ensure that there is also no unwarranted lag time in the ability for private industry to continue to operate.

- To this end, we have continued to upgrade and expand our technological capabilities to best allow our team to continue to work and operate in as safe a manner as possible, while still providing necessary services to our community.

I want to also take this opportunity to publicly thank my staff for their professionalism, flexibility and dedication to public service over the past several months. I cannot express my appreciation enough for the work that the team has done during this challenging time and their willingness to go above and beyond in so many instances, large and small. Thank you.

As we move forward, let me encourage you to first visit our web site, publicworks.macombgov.org should you need to conduct business with our office. There, you will find many resources to help you. Of course, we are always available by email, public.works@macombgov.org, or phone, (586) 469-6101.

Sincerely,

Candice S. Miller



On the cover

Along Kelly Road in Eastpointe, road construction gave us the opportunity to do a little preventative maintenance on the Stephens Relief Drain. The county drain receives storm water from city storm drains, which enter the county drain at five different locations or "taps." While the road construction was ongoing, Macomb County Public Works Office took the opportunity to add new cement collars to those taps, to add to the useful lives of the tap. The project was an opportunity to be proactive and work in tandem with one of our municipal partners.



Out in the Drains

In partnership with the Michigan Dept. of Transportation, the Macomb County Public Works Office is working to improve the Green Drain along M-59 near Jimmy Johns Field in Utica. Improvements were needed in order to alleviate hazardous flooding that has been occurring on M-59 at the Utica Road underpass. The drain is now able to handle more flow, which will prevent further flooding. In the inset photo, a couple of cranes stopped by the worksite to do a little fishing.



We Find ‘Em — But There’s No Fixing This!

When we posted this photo back in February 2020, we heard from you Macomb County! This remnant of an old vehicle was found along the Deer Creek drain in Chesterfield Township. We initially thought it was part of an old Ford Model A pickup truck. This turned out to be one of our most commented upon posts of all time as hundreds of people weighed in on what type of vehicle they thought this had once been. Whatever it is or was, it had no place rusting away in a county drain. About that, there can be no debate. Normally, we say We Find ‘Em, We Fix ‘Em, but there was no fixing this old truck! We did, however, get it out of the drain.

We Find ‘Em We Fix ‘Em



Along the Schoenherr Relief Drain in Warren, near the source of a petroleum spill in early January 2020.

MCPWO’s 24-hour pollution response

Just a few days after Christmas, when most people were still on holiday break, a call came in to the Public Works Office.

For Public Works staffers, it was an unfortunately familiar call — it looked like a rainbow was floating along the top of the Clinton River. That meant somewhere upstream, a petroleum-based product had leaked, spilled or been dumped into the river or one of the drains that empty into it. As is often the case, this one required some detective work.

The call had first come in from a resident in Harrison Township. Two MCPWO staff were dispatched, found

the sheen and worked quickly to get booms in place. Calls were put in to municipal DPW crews upstream and the MCPWO staffers went on a little road trip — checking everywhere the river crosses a road. They were looking for where the sheen first started. Eventually, the sheen was traced back to a location along the Schoenherr Relief Drain in Warren, though the exact source was never determined. Making the investigation more challenging was that the day after the sheen was first reported, a heavy truck was involved in an accident along Schoenherr Road. In the case of the truck, however, Warren FD moved

**24-hour hotline:
877-679-4337**

quickly to control a fuel spill.

Working with local fire departments, departments of public works and other partners, the MCPWO is committed to not only finding spills and other problem spots, but fixing them as well.

MCPWO maintains a 24-hour hotline for pollution in the drains or other problem areas and counts on local citizens to help serve as the stewards of our environmental resources.



The Chapaton Retention Basin in St. Clair Shores, is seen from the east. To the left of the photo is a canal that connects the basin to Lake St. Clair. The building in the foreground is where combined sewer overflow is treated with a heavy commercial bleach solution to kill contaminants. Behind that building is what appears to be a parking deck. The 28-million-gallon basin is under the deck. The pump station building is in the far background of the photo.

Chapaton In-System Storage moves forward

MCPWO is currently in the design phase of a project to install control structures within existing underground storm pipes to detain wastewater during wet weather events. The proposed control devices will likely consist of inflatable circular dams that, when activated during wet-weather events, will store flow behind them. After the event has subsided and the downstream sewer levels have returned to normal the dams will be deflated and flow will be slowly discharged.

MCPWO has also begun a project to install a third intermediate pump and to replace the bar screens at the Chapaton Pumping Station in St. Clair Shores. The pump station currently consists of one 1,100 gpm (gallons per minute) dry-weather pump, two 6,000 gpm intermediate pumps, and three variable pitch 231,000 gpm storm pumps.

The addition of a redundant intermediate pump will add reliability to dry-weather pumping operations and provide flexibility during dewatering sequences associated with the In-System Storage Project after wet-weather events.

Together, these two projects will allow MCPWO to store about 10 mil-



An example of an inflatable bladder that may be used to support an In-System Storage Project.

lion gallons of combined sewage, in addition to the 30 million gallon capacity already at Chapaton, that would not need to be released into Lake St. Clair during heavy rain or snow melts. The

two projects have a combined price of about \$15 million. The pump upgrade work has already begun. Construction on the In-System Storage Project is scheduled to begin in early 2021.



Priming the Pump Station

The Hildebrandt Pump Station is located near 18 Mile and Hayes Road in Sterling Heights. This pump station keeps basements dry and roadways clear of flooding in that neighborhood and it was time for a renovation of that system, installed several decades ago. The project is scheduled to be completed this summer. The project consists primarily of installation of a new wet-well structure, two new storm water pumps, electrical upgrades, removal of existing pumps, abandoning the existing wet-well structure, and fencing upgrades along Hayes Road. Our critical infrastructure work continues to ensure the quality of life for our residents.

50/50 match targets community priorities

Thanks to ongoing support from the Macomb County Board of Commissioners, the Macomb County Public Works Office operates a 50/50 match program. Under the program, MCPWO works with local units of governments to target smaller drain improvement projects that are a priority in that particular community. In 2019, MCPWO completed about 40 projects under the program.

MCPWO contacts each township supervisor, city manager and village president each year to chart out a plan of work to tackle small blockages or areas of local flooding.

“Local government leaders know their own areas of concern and may have



Along the Deer Creek in Lenox Township.

issues that we wouldn't otherwise be aware of. This program lets our dollars go farther by sharing costs between MCWPO and the community as we address those issues,” said Commissioner Candice Miller.



What's a hydrodynamic separator?

Hydrodynamic Separators (HDS) are a type of oil and grit separator (OGS) used to remove trash from storm drains. Like any OGS, they utilize gravity and spill capture to separate heavier materials (like road debris and sand) and floatable material (like trash, plastic bags, oils and grease) from the flow of storm water before it heads into an open body of water.

MCPWO is working to install an HDS in the 11 1/2 Mile Drain in St. Clair Shores, where the drain empties in to Lake St. Clair. This pilot project will allow MCPWO to judge the effectiveness of this tool and its possible use on other county drains in the future.

Typically HDS's are cylindrical in shape and they rotate the flow in a swirling manner so the larger, heavier particles are separated from the main flow and fall out of suspension. Floatable materials are trapped in a baffled area above the outlet of the device.

HDS's are usually flow through structures that do not affect the flow carrying ability of the stormwater system, so they are a good choice for retrofit applications where maintaining original hydraulic capacity is important.

MCPWO launches Covid tracking pilot project

The Macomb County Public Works Office has launched a pilot project to determine the effectiveness of sampling and studying sewage in an effort to trace hotspots for Covid-19. The sampling process was scheduled to begin in June 2020.

MCPWO is working with Oakland and Michigan State universities on the project and will be providing the data to the Macomb County Health Department for review.

The project's ultimate goal is to provide an online public dashboard, to allow local residents to see the data for themselves.

"Providing information not only to our medical professionals, but to the public as well, is foundational to fighting this disease. We believe there is a real opportunity here to be a part of the solution and we are working as quickly as we can toward that goal," said Commissioner Candice Miller.

The project, which is being funded by monies the county received via the federal CARES Act, is creating seven sample collection sites in Clinton Township. The samples will be specially packaged and sent to Oakland and/or Michigan

State for testing. Assuming the pilot project proves successful, Miller said the project can be easily expanded to include other areas throughout the county.

"Through this, we hope we can identify if certain neighborhoods or parts of a community where there is a hot spot. Our goal is to provide that information to the Health Department, so they can better target their contact tracing or other actions they may be able to take to reduce the community risk," Miller said.

The initial pilot project is to run throughout summer 2020 and then be evaluated for any potential modifications and then further expansion.

"Obviously, this isn't something our engineers ever thought they would be working on, but our team jumped on this right away and put together a solid plan, utilizing the expertise of our local universities. We believe this project can provide critically needed information to our health care professionals," Miller said.

Grouting project expands life cycle for MIDD system

As part of an ongoing infrastructure maintenance plan, MCPWO has been administering a grouting program within the 60-foot-deep Romeo Arm Interceptor under 15 Mile Road in Clinton Township, Fraser and Sterling Heights.

The work was programmed after a series of inspections in the Macomb Interceptor Drain Drainage District (MIDD) ordered by Commissioner Miller following the 2016-2017 sewer collapse in that area.

The grouting is part of a preliminary measure for additional work in which that segment of the underground pipe will receive an additional liner. The pipe is up to 11 feet in diameter in that area.

The work involves drilling fill-ports into the side of the concrete interceptor and injecting an acrylamide chemical grout. The purpose is to fill cracks in the pipe to prevent the infiltration of groundwater and the migration of surrounding soils into the pipe. The program has been effective and the areas of previously observed infiltration have been successfully sealed. Future



Drilling a hole to insert grout into the Romeo Arm pipe under 15 Mile Road.

grouting programs are planned that will target additional areas where the pipe passes beneath critical infrastructure, such as the Clinton River.

The project is expected to wrap up late this year. The total project cost is \$2.8 million.



Our local waterways have always been an important part of Macomb County. From the dawn of time, the Clinton River has been our major thoroughfare. Over the years, as society has changed, so too has the river. In the late 19th and early 20th centuries, the river became a center for entertainment. The Leap the Dips rollercoaster in Mount Clemens was located on the east bank of the river, approximately 1909-1923. Pleasure craft of all types have long been a presence on the river, including the day cruiser Foam, seen in this 1895 photo. In the middle portion of the 20th century, the Clinton River served as a dumping grounds of sorts. Today, the Macomb County Public Works Office, along with many other governmental and nonprofit agencies, works to ensure our river has a healthy future. (Photos from the Mount Clemens Public Library electronic collection.)

Publicworks.macombgov.org

