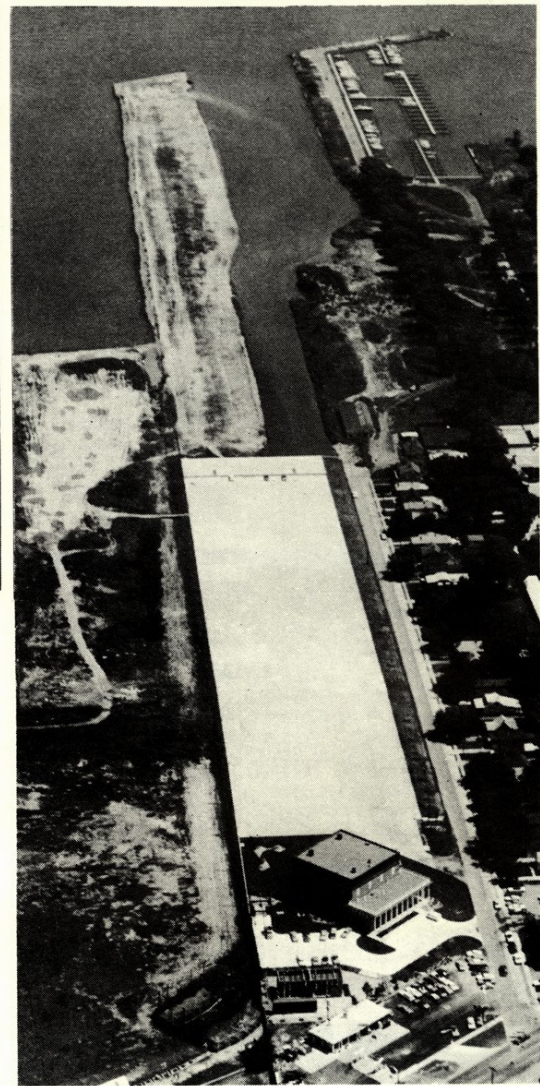




Macomb County Public Works Summer 2018

Candice S. Miller, Commissioner



HHH and the Chapaton

The late Vice President Hubert H. Humphrey, joyous as always, is shown in a 1968 photograph dedicating one of Macomb County's largest flood control and pollution abatement facilities, the Chapaton Pumping Station, pictured on the right. The facility was constructed by the Public Works Office at the foot of Nine Mile Road and Lake St. Clair. It annually prevents a billion gallons of combined storm water and sewage from backing up into the basements of homes in St. Clair Shores and East Detroit.

A news clipping from 1968 highlights the dedication ceremony of the Chapaton Pump Station and Retention Basin in St. Clair Shores, which turns 50 years old this summer. The Macomb County Office of Public Works is developing a master plan to allow the facility to work more efficiently and better protect Lake St. Clair and the Great Lakes as a whole.



Cleaning up our local waterways

- Improving Quality of Life
- Protecting Rivers & Lakes
- Fostering Economic Prosperity



Message from the Commissioner

Dear Neighbors,

If 2017 was, by necessity, our year to be reactive, 2018 has been the year for the Macomb County Public Works Office to be proactive. Last year, we were forced by circumstances beyond our control to operate in a reactive mode as we responded to the sinkhole crisis along 15 Mile Road on the border between Fraser and Clinton Township. While I am proud of the work our team did on that job, the projects we are working on now are the reasons I ran for this office in the first place.



We have two simple goals: Clean Water and Clean Government. Anything that does not further one of these goals is cast aside. Anything that violates one of these principles is fixed, **IMMEDIATELY**.

On the Clean Water front, we have engaged in a comprehensive master planning process to examine all of our sanitary and storm water systems. This process, which will take most of this year and some of 2019, allows us to look at how our systems need to evolve to continue to support the growing economic activities of Macomb County while also making changes to the system that enhance the quality of life in our community today. We are committed to reducing and, if possible, eliminating the combined sewer overflows that take place after heavy rain falls or major snow melts.

After very intense rainfalls, our two county retention basins, Chapaton and Martin in St. Clair Shores, discharge treated sewer overflows. This happens about 10 times per year. Although the discharges are 98% storm water, some is sewage. The choice we face is either to release the combined overflow in to the lake or to let it back up into people's basements. The latter is not acceptable — but neither is shrugging our shoulders and doing nothing.

We are looking at several ways to retain additional storm water and reduce these overflows. While we are highly cognizant of the financial costs of additional storm water retention, we cannot let another generation pass without changing this system.

Earlier this year, we engaged a talented team of consultants to examine possible options to address this problem. We believe that over the next several years, through detailed planning and creative thinking, we can reduce CSOs in Macomb County.

While we are working on the master plan, we continue to seek ways to enhance the efficiency of our office that allow us to better serve our communities and to reduce our costs. Through the generous support of the Macomb County Board of Commissioners, we launched a 50-percent match program with Macomb County municipalities to clean up drains in the communities. In most cases, this means sending out our crew to remove logs, woody debris, invasive species and trash from our open drains. Elsewhere, we've sent people, cameras, even sonar gear, down into our massive drain pipes to inspect the pipes and schedule preventative maintenance where needed. Our office continues to actively seek out grants, partnerships and cooperative arrangements at every level, all in an effort to provide a better product at a better price for our residents.

As we engage in these and other projects, communicating with our residents is foundational to my belief in clean, open and transparent government. If you ever have any questions, please do not hesitate to contact my office at (586) 469-6100 or email us at publicworks@macombgov.org.

It is an honor to serve as your Macomb County Public Works Commissioner.

Candice S. Miller

Say Hello to Ellie



The MCPWO has been working with the Huron-Clinton Metropark Authority and other agencies to improve water quality at the beach at Lake St. Clair Metropark. We are working on improving testing protocols, eliminating pollution outfalls and reducing goose droppings on the beach. Our primary partner in this last task is Ellie, a border collie who works with the firm GooseBusters. Several times a day, Ellie chases geese off the beach, giving beach-goers a cleaner place to walk and reducing the amount of E.coli in the water at the shoreline. While utilizing Ellie may take a couple of seasons to get the full effect, eliminating droppings from entering the sand and washing in to Lake St. Clair is a major step toward a more safe and healthy lake.

GLRI Projects Benefit Macomb County



The McBride Drain in Macomb Township.

Improving the Spillway, McBride & Gloede

Finishing touches on three major drain improvements in Macomb County are now being completed.

Utilizing funding provided by the federal Great Lakes Restoration Initiative, the Macomb County Public Works Office has nearly finished wildlife restoration, bank stabilization and soil erosion measures on the three drains – the Clinton River Spillway in Clinton and Harrison townships; the Gloede Drain in Clinton Township; and the McBride Drain in Macomb Township. Work on the three drains represents more than \$8 million in GLRI funding managed by MCPWO.

Along the north bank of the Clinton River Spillway, a series of tidal ponds were created, allowing for a natural filtration of sediments to occur before the water in the Spillway reaches Lake St. Clair. The ponds also serve as excellent habitat areas for turtles, water fowl and a wide variety of fish. Anecdotal reports from local fishermen suggest that walleye fishing in the Spillway is the best as it has ever been in recent memory. The Spillway is managed by an authority made up of the drain commissioners of Macomb, Oakland, Lapeer and St. Clair counties, along with a representative of the state.

MCPWO is the project manager for the Spillway enhancement efforts, which were funded by grants from the federal Environmental Protection Agency and the National Oceanic and Atmospheric Administration. The project included the creation of a new fishing pier in the Spillway at the Harper Road crossing.

Both the Gloede and McBride drains are the direct responsibility of the MCPWO. Using GLRI funding, the banks of these drains were reconstructed in several areas to control sediment from entering the drain. Both projects saw the planting of more than 300 trees each, which not only helps to absorb storm water, but greatly enhances the natural beauty of the drain.

The McBride Drain includes a large pond on the grounds of the Macomb Township Hall. This pond was essentially dead prior to this project. Today, the pond serves as the home of many ducks and other birds; and fish and turtles again swim in its waters.

The MCPWO will continue to seek to work with federal partners such as NOAA and the EPA to preserve, protect and enhance the waters in and adjacent to Macomb County.

Work Begins On Sterling Relief

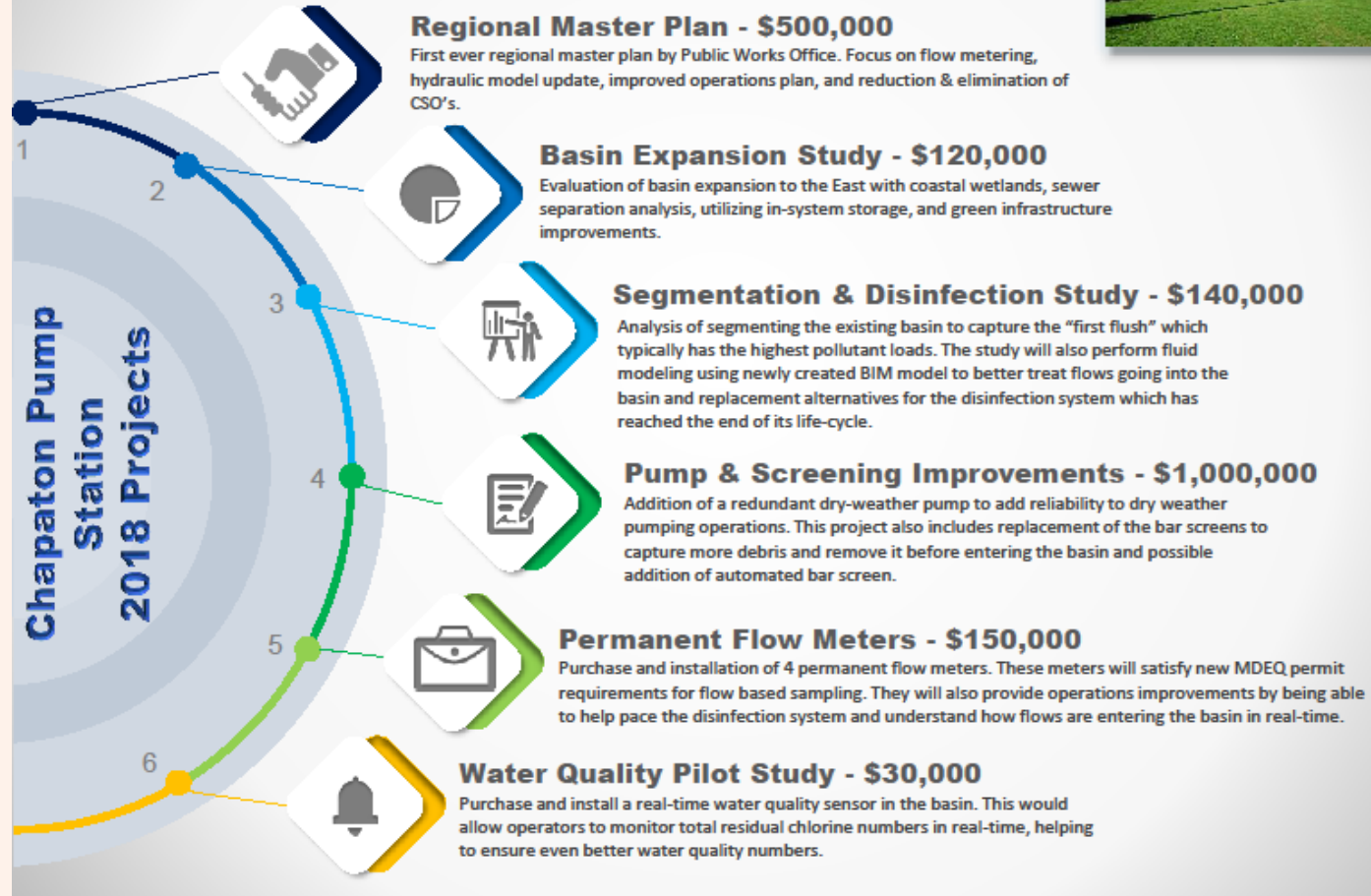
Running east-west for the entire width of Sterling Heights between 15 Mile Road and Metro Parkway, the Sterling Relief Drain plays a key role in the quality of life in Macomb County's second-largest community. Utilizing a \$1.25 million grant from the Environmental Protection Agency, the Macomb County Public Works Office will begin work in late summer 2018 to "daylight" a one-mile stretch of the drain, between Dodge Park and Van Dyke. Daylighting will convert a number of feed lines into the Sterling Relief from underground pipes to an open system that will appear more like a series of small streams or creeks.

The change to a daylighted system will allow nature to perform its role as a sponge to better filter storm water runoff before it begins its journey out to Lake St. Clair. This natural system will better remove sediments and roadway pollutants from the lake. In addition to the daylighting, 1,000 trees will be planted in the drain over the next two years. The trees and other vegetation, coupled with the daylighting, will greatly enhance the ability of the drain to handle additional water flows, reducing the possibility of flooding or basement backups. As an additional benefit, the natural beauty of the area should be greatly improved.

In partnership with the Macomb Dept. of Planning & Economic Development, MCPWO is currently seeking a second grant for an additional \$1.25 million to continue this work on a second one-mile section of the Sterling Relief Drain.

Primary Objectives

Reduce Combined Sewer Overflows
Improve Water Quality
Reduce Beach Closures



Change Agenda Underway at 'The Basin'

The Chapaton Pump Station in St. Clair Shores was a facility ahead of its time in 1968 when it first opened. Utilizing a 28 million gallon underground storage system, "the basin," as we refer to it at MCPWO, and its smaller cousin, the 10-million-gallon Martin Retention Basin, allowed the communities of Roseville, St. Clair Shores and Eastpointe to grow rapidly during the Baby Boom era. These facilities remove storm water from the communities, ensuring basements don't back up and roadways don't flood out.

While the facilities can hold a tremendous volume of water, no retention basin can ever be large enough to handle the heaviest rain falls. When those times occur — on average of about 10 times per year — storm water in the system, mixed with small amounts of sanitary sewage, is captured and treated with a chlorine bleach solution before spilling in to Lake St. Clair. While these facilities — and the dedicated employees who staff them — do much to protect our environment and ensure the economic viability of our communities, the times, and the technology

available to us, have changed.

Previous leadership at the MCPWO did little to upgrade or improve operations at Chapaton and Martin in past decades. That is no longer the case today. The chart above outlines the major operations which are now underway to improve our capacity to significantly reduce these Combined Sewer Overflows and move us closer to the day when we can eliminate them completely.

We've already implemented some small changes that are improving operations, including a thorough cleaning of the Martin basin that has returned the system to full storage capacity. Previous inattention to this detail had reduced capacity by nearly 1 million gallons.

Commissioner Miller has already met with various federal partner agencies about potential funding assistance to address the needed changes to enhance the system. Upgrades will be balanced against fiscal realities, but under Commissioner Miller's leadership, to simply do nothing is no longer an option.

2018 Highlights



Problem Found — Problem Fixed

During the Christmas holidays, a resident reported a sheen on the Red Run Drain with an odd odor. Working closely with the City of Warren, we tracked the source back to a business that was unknowingly dumping its raw sewage into a storm drain, rather than a sanitary drain. Within a week of the initial report, the problem was fixed. The Public Works Office has worked with fire departments and other agencies to create a new protocol to deal with spills in the drains or other emergencies. To report an issue, call our 24-hour hotline: **877-679-4337**



Public Education Campaign Continues

Begun in 2017, we continue our work to educate the public about the challenges that can be created by flushing disposable wipes and other items down the toilet. These wipes are not biodegradable and can wind around sew-

age pumps causing significant damage — ultimately raising your rates. Only waste and toilet paper should be flushed.

This year, we are working with the Great Lakes Water Authority and others to put out the word: **WIPES CLOG PIPES!**



MCPWO Wins Honors

Our successful efforts to repair the 15 Mile Road Sewer Interceptor Collapse has been recognized by the American Public Works Association as their 2017 national disaster response of the year. The county Board of Commissioners recently recognized this and several state-level awards won by the MCPWO.



AIR POWER?

DRAIN POWER!

This spring the MCPWO partnered with the 127th Civil Engineer Squadron to improve several drains at Selfridge Air National Guard Base to ensure proper drainage around the runway.

What Your Public Works Office Does

The Macomb County Office of Public Works plays a key role in the quality of life in Macomb County. Among the office's chief responsibilities are maintaining local waterways to prevent flooding and ensuring

that the waterways are protected so that they can be enjoyed not only by today's residents but also by generations yet to come. Through the leadership of Commissioner Candice Miller, the office

has made improving the overall health of Lake St. Clair an overarching priority in all of the office's activities.

Public Works activities can be grouped into four basic categories:

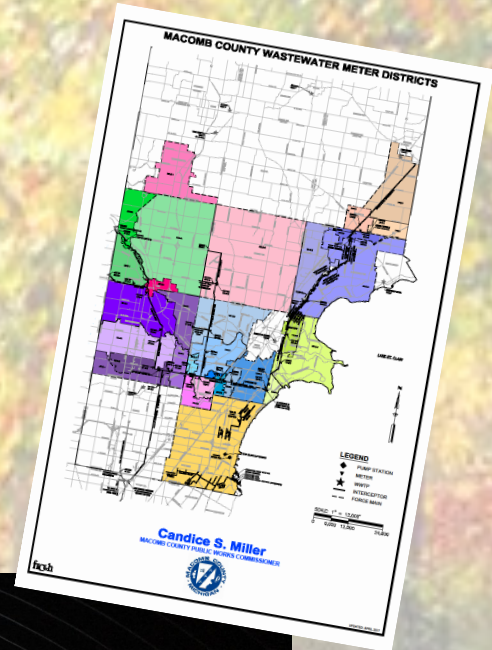
Wastewater Services

The Office of Public Works oversees two multi-community systems that collect sanitary sewage and deliver it to the Great Lakes Water Authority wastewater treatment plant in Detroit. The two systems – the Macomb Interceptor Drain Drainage District and the 8 ½ Mile Relief Drain Drainage District – serve well over half a million people in 13 Macomb County communities. Following the completion of repairs on the 15 Mile Sewer Collapse in the MIDD system, a plan of preventative maintenance actions for the system has been developed. This fall, a number of manholes and drop shafts in the system will be rebuilt or replaced to help ensure the efficient operation of the system. A portion of the MIDD system will also receive a new pipe liner to extend the life of the pipe. This department is leading the effort of our master planning process, which will foster long-term economic viability in our communities.



Engineering, Plan Review, Soil Erosion & Inspections

The office restructured the review process for building plans, streamlining the process and reducing waiting times for developers. The office has improved its operations to give contractors, governmental agencies and other organizations a single point of contact for all initial inquiries. In January, this department published the first comprehensive overall review of policies, procedures and fees in more than a decade. This review allows for more streamlined operations for developers while still ensuring all environmental and drainage laws are followed. To facilitate the proper operations of our open drains, this department conducts more than 13,000 soil erosion inspections every year. This department is also leading an effort with other southeast Michigan counties and communities to standardize procedures to the extent possible to further spur economic development in our community and across the region.



Administration, Financial & Education

Charged with the day-to-day operations of the MCPWO, this department reviews budgets, coordinates the meetings of various drain boards and maintains high levels of customer service throughout the office. As part of an ongoing review of all contracts and agreements in place at the MCPWO, the department oversaw the re-financing of an existing bond for sewer operations in Lenox Township. Through a re-financing arrangement, the MCPWO will be saving Lenox Township sewer customers almost \$750,000 over the next 13 years. This department is overseen by Commissioner Miller's Chief Deputy, **Brian Baker**, pictured.

Drain Maintenance

The Public Works Office manages about 900 drains in the county. About half of these are open drains – some appearing as small creeks or streams, others are ditches that only fill after a rainfall. The other half are enclosed drains — underground pipes generally found in older communities. All of these storm drains eventually transfer water to Lake St. Clair. The Public Works Office has launched a new drain maintenance program to remove beaver dams, trash and other debris from the open drains, in order to allow water flow to move without hindrance. This effort reduces soil erosion and reduces localized flooding. In the enclosed drains, inspection and testing efforts are ensuring the integrity of the pipes and making certain that sanitary sewage is not entering the drain – and ultimately ending up in Lake St. Clair.