

Miller
Santo
VanSyckel

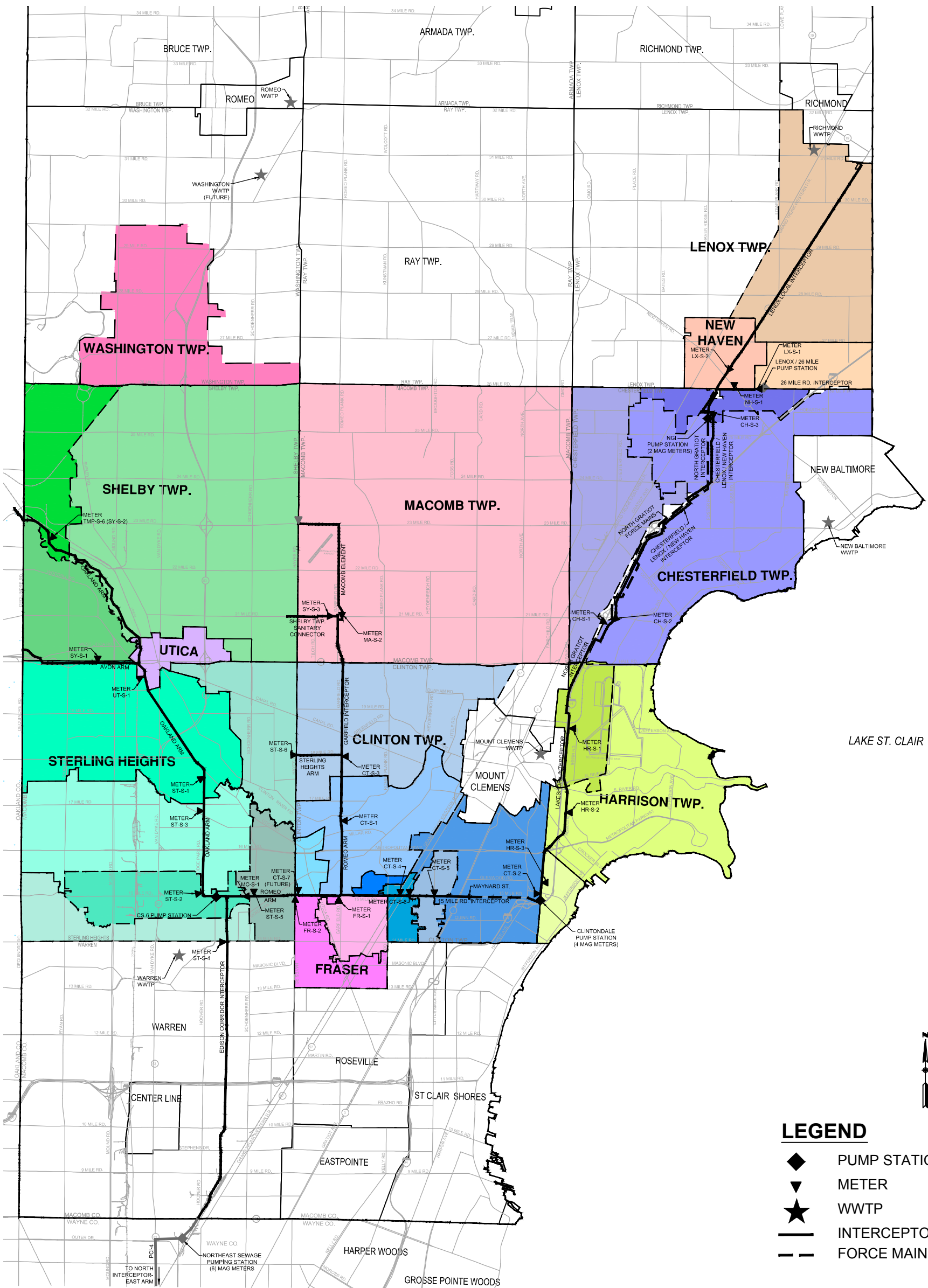
MACOMB INTERCEPTOR DRAIN
INTRA-COUNTY DRAINAGE BOARD
FEBRUARY 14, 2022
10:45 A.M.
AGENDA

**NOTE: THIS MEETING WILL BE HELD IN PERSON WITH TELECONFERENCE
OPTION FOR PUBLIC**

**Call in Number: 1-971-770-2471
Access Code: 669 029 760**

	Page
1. Call of meeting to order and roll call	
2. Approval of Agenda for February 14, 2022	
3. Approval of Minutes for January 10, 2022	3
4. Public Participation	
5. Project Updates – Stephen Downing	6
6. Correspondence: Meter Data Review Platform – Vince Astorino	24
7. Consideration for approval of invoices (see attached)	29
8. Financial Report – Bruce Manning	31
9. Adjourn	

MACOMB INTERCEPTOR DRAIN DRAINAGE DISTRICT



Candice S. Miller

MACOMB COUNTY PUBLIC WORKS COMMISSIONER



UPDATED: FEBRUARY 2017

An adjourned meeting of the Intra-County Drainage Board for the **MACOMB INTERCEPTOR DRAIN** was held in the Office of the Macomb County Public Works Commissioner, 21777 Dunham Clinton Township, Michigan on January 10, 2022, at 11:07 A.M.

PRESENT: Candice Miller, Chair
Bryan Santo, Member
Don VanSyckel, Member

ALSO PRESENT: Dan Acciavatti, Deputy Government Relations; Vince Astorino, Operations & Flow Manager; Brian Baker, Chief Deputy; Jeff Bednar, Environmental Resources Manager; Stephen Downing, Construction & Maintenance Manager; Norb Franz, Communications Manager; Bruce Manning, Financial Manager; Tom Stockel, Construction Supervisor; Madison Tanghe, Administrative Coordinator

The meeting was called to order by the Chair, Candice Miller. A motion was made by Mr. Santo, supported by Mr. VanSyckel to approve the agenda as presented.

Adopted: YEAS: 3
NAYS: 0

Minutes of the meeting of December 13, 2021 were presented. A motion was made by Mr. Van Syckel, supported by Mr. Santo to approve the minutes as presented.

Adopted: YEAS: 3
NAYS: 0

The meeting was opened to public participation, then closed, there being no comments from the public.

Mr. Downing updated the board on Segment 5. During the past month the crew was able to complete excavation of the CS-12 Shaft. They have now transitioned into prep work for construction of the permanent structure of the lower portion of the CS-12 Shaft. We are continuing to work down near the 8 foot section of pipe at Fontana and Hayes. They will be working to complete the half height bulk head on the upstream section and they'll be setting up the bypass pumping equipment within the next two weeks so that they can start the spray lining activity. The project is moving along pretty much on schedule.

Mr. Downing stated that we will be sending a letter out to the Eberlien residents to explain the work near their street.

Mr. Downing next addressed the maintenance grouting effort that we refer to as Phase II Grouting. Doetsch is continuing grouting to the Garfield Interceptor, the work is occurring during the evening and overnight hours due to flow storage during normal working hours. They took a pause during the month of December to facilitate work in a couple different locations with competing flow control requirements. They were also hit with COVID much like everyone else. They'll be starting back up with the next week hopefully. He wanted to point out that we still have a budget of about \$236,000 left, they did not invoice in December yet, so he will be coming to the February board with a change order to increase the contract.

Mr. Downing continued with an update on the Meter Facility Rehabilitation and said we are pretty much wrapping up with that and completed a punch list walk through in mid-December. The contractor has been working to take care of all the minor items on the punch list to move the project to a close out status. The hope is that we will bring the balance and change order to the February board. We are still within our budget.

Mr. Downing then went on to discuss Segment 6 Rehabilitation. Ric-Man Construction was able to complete the excavation at the CS-13 Shaft prior to the holidays and get the mud mat placed. Mr. Downing presented some photos of the Shaft and the Concrete Mud Mat. They have started to receive Hobas pipe on site as of last Tuesday.

Mr. VanSyckel commented on one of the photos asking if it's an access port? Mr. Downing isn't sure and will get an answer for him. Mr. Downing noted 6 of the 20 Hobas sticks on the first shipment were damaged or defective during transit. We've notified Hobas and the cost is to them. The original change order included whatever shipping cost was 4 months ago, and that any savings would be passed on to the owner and any additional would be taken on by Hobas, and/or the contractor. We noted that some of these sticks of pipe were being loaded onto gooseneck trailers and being towed by essentially F-350's. The stuff that came via standard tractor/trailer that they've used previously was received undamaged. Just wanted to note that we are paying attention and doing our due diligence to make sure that we get a superior product installed.

Mr. Santo asked if Hobas has evaluated the sticks yet, curious if they would fix them in the field or replace them. Mr. Downing told him not yet, but he will keep them informed of the outcome once Hobas has evaluated the damage and decides on a solution.

Mr. Downing then transitioned into the last item, the Interceptor Inspection Program. They're continuing to work their way down the Garfield Interceptor floating the camera system through there. We are really getting towards the end of this project, coordinating again with access to the Interceptor with other projects. We're putting together a completion schedule for this because we are getting to that area of Garfield where storing behind CS-3 on a daily basis will impact our ability to finish. He's asked them to put together a schedule to tell us what they need so we can help facilitate that and get this project closed out. Then we can start prioritizing the maintenance repairs discovered during this inspection. He also noted that Doetsch did not submit a pay application for the month of December.

He also mentioned a project of note that will be coming onto this report soon, will be the Odor Corrosion Facility Project. We have reached the 90% milestone late December and met with Tetra-Tech to go over design, they are moving toward 100% design, going out to bid February 1st for construction of those facilities.

A motion was made by Mr. VanSyckel, supported by Mr. Santo to receive and file the project updates by Mr. Downing.

Adopted: YEAS: 3
NAYS: 0

The Chair presented the invoices totaling \$2,278,640.26 to the board for review and approval.

A motion was made by Mr. Santo, supported by Mr. VanSyckel to approve the invoices as presented.

Adopted: YEAS: 3
NAYS: 0

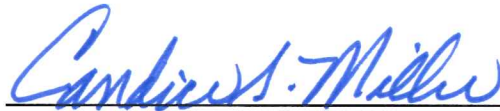
A motion to receive and file the financial report given by Mr. Manning was made by Mr. VanSyckel and supported by Mr. Santo.

Adopted: YEAS: 3
NAYS: 0

There being no further business, it was moved by Mr. Santo, supported by Ms. Miller, that the meeting of the Macomb Interceptor Drain Board be adjourned.

Adopted: YEAS: 3
NAYS: 0

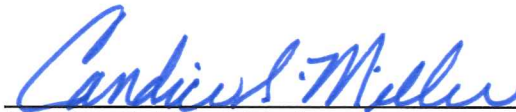
The meeting was adjourned at 11:29 a.m.



Candice S. Miller, Chair
Macomb County Public Works Commissioner

STATE OF MICHIGAN
COUNTY OF MACOMB

I certify that the foregoing is a true and correct copy of proceedings taken by the Intra-County Drainage Board for the Drainage District shown on the attached set of minutes, on January 10, 2022 the original of which is on file in the Public Works Commissioner's Office. Public notice of the meeting was given pursuant to Act No. 267, Public Acts of Michigan, 1975, including, in the case of a special or rescheduled meeting or a meeting secured for more than 36 hours, notice by posting at least 18 hours prior to the time set for the meeting.



Candice S. Miller, Chair
Macomb County Public Works Commissioner

DATED: 01/10/22



Candice S. Miller

Public Works Commissioner
Macomb County

To: Macomb Interceptor Drain Drainage District Board Members

CC: File

From: Stephen Downing, Construction & Maintenance Manager

Date: February 14, 2022

Subject: Construction Projects Status Updates for February 2022 Board Meeting

The following provides a status update for construction work performed within the Macomb Interceptor Drain Drainage District for the previous month.

Segment 5 Rehabilitation

Contractor: Oscar Renda

Engineering Consultant: FK Engineering

Project Description:

The Segment 5 reach of the Romeo Arm Interceptor is approximately 8,300 linear feet; it runs along 15 Mile Road starting at the ITC Corridor and extends east to approximately Hayes Road. The first 7,000 linear feet is 11-foot diameter non-reinforced concrete pipe, and the next 1,300 linear feet is 8-foot diameter steel reinforced concrete pipe. The rehabilitation consists of debris removal, cleaning, and inspection of the pipe's invert. Next, HOBAS pipe will be used to slip line 7,000 linear feet of the 11-foot diameter sewer and the 1,300 linear feet section of 8-foot diameter pipe will be coated with a corrosion resistant geo-polymer spray applied coating. To facilitate this work, a new control structure and access shaft is under construction in the ITC Corridor. The new control structure will provide the contractor access to the sewer to facilitate the work and will also serve as a dewatering pump station to draw down the upstream water level in the sewer.

Significant project tasks that have occurred over the past month:

1. Continued development, review, and approval of the required construction submittals.
2. Ground dewatering well maintenance and monitoring.
3. Completed placement of the lower concrete mud mat in the CS-12 Structure.
4. Started construction of the permanent CS-12 Structure which includes:
 - o Re-steel placement
 - o Concrete formwork

5. Continued preparation work prior to starting the spray-lining activity between Fontana and Hayes, including:
 - Completed installation and testing of the temporary half-height bulk heads at the manholes both upstream and downstream of the area to be spray-lined.
 - Preparation for the temporary by-pass pumping operation at 15 Mile & Hayes.
6. Started excavation for the MCC enclosure concrete pad and underground conduits.
7. Installation of the Portal Beams for the finished structure.

Construction Costs:

	Date (if applicable)	
Original Contract Amount	10/21/2020	\$28,807,500.00
Current Contract Amount	1/31/2022	\$30,672,248.32
Total Spent to Date	1/31/2022	\$10,531,864.11
Remaining Budget	1/31/2022	\$20,140,384.21

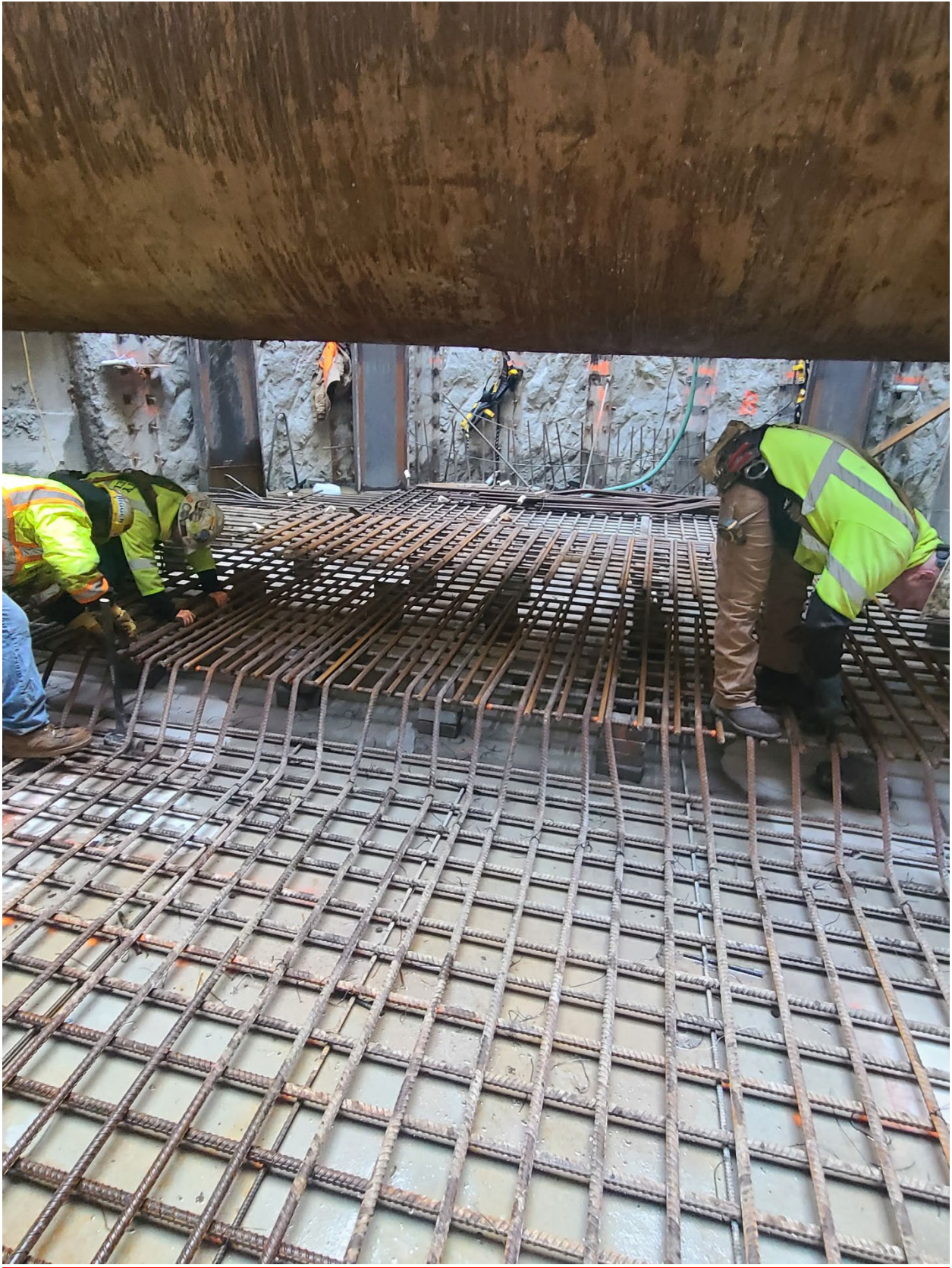


Figure 1 – Excavation for Electrical Pad & Conduit Runs

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ENGINEERING • Phone: 586-469-5910 • Fax: 586-469-7693 ♦ **SOIL EROSION** • Phone: 586-469-5327 • Fax 586-307-8264



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Figure 5 - Installation of Rebar for the Base Slab of the Finished Structure



Figure 6 - Aerial View of Rebar Installation

Phase II Grouting

Contractor: Doetsch Environmental Services, Inc.

Engineering Consultant: AEW

Project Description:

The Phase II Grouting project was awarded to Doetsch Environmental during summer 2020. The work includes chemical grouting of the sewer and manholes where infiltration is present. The work is planned in all reaches of the system not included in the Segment 5 or portion of the Romeo Arm rehabilitated during the 2016 Interceptor Collapse. The main areas of work include the Romeo Arm along Garfield Road between 15 Mile and Clinton River Roads, the Garfield Interceptor between Clinton River and 21 Mile Roads, and the Lakeshore Interceptor between the Clintondale Pump Station at 15 Mile and Union Lake and Joy Boulevard in Harrison Township. The chemical grouting is aimed to stop all active infiltration within the system in advance of future rehabilitation and maintenance projects.

Significant project tasks that have occurred over the past month:

1. The crew continued work in the Garfield Interceptor between M-59 and 21 Mile.
2. There will be a change order presented to the Board this month to increase the budget for this project.
3. The work has been slowed this month due to the cold temperatures causing the hoses to freeze from time to time.

Construction Costs:

	Date (if applicable)	
Original Contract Amount	6/24/2020	\$3,000,000.00
Total Spent to Date	1/31/2022	\$3,045,321.40
Remaining Budget	1/31/2022	\$(45,321.40)

*The negative balance will be updated upon approval of the change order.

Meter Facility Rehabilitation

Contractor: Weiss Construction

Engineering Consultant: HRC

Project Description:

The project includes the rehabilitation of three sewerage meter facilities; work includes removal and application of concrete surface repairs and protective coatings, televising, cleaning, and spray-lining the existing influent and effluent connecting sewers; rehabilitation existing adjacent sanitary manholes; improving access and safety features for maintenance personnel; and replacing existing electrical systems.

The sites, SY-S-1 and SY-S-2 are in Shelby Township and WA-S-1 is in Washington Township. The meter facilities are the point of transition of sewerage flow from the local systems into the MIDDD Interceptors. Each of the metering facilities provides the critical flow data required to allocate the billing apportionment for each of the MIDDD member communities.

The Shelby Township meter facilities, originally constructed by DWSD, have reached the end of their useful life and are need of rehabilitation. The MCPWO previously rehabilitated several of the older metering facilities in the system, which were also constructed by DWSD.

The Washington Township meter facility is currently owned by Washington Township, which is a unique situation in the MIDDD system. Typically, the MIDDD assumes ownership of the billing meter facilities, which includes operation and maintenance activity. As such, the MCPWO negotiated a transfer agreement with Washington Township to transfer ownership of this asset to the MIDDD. The two entities agreed to equitable cost sharing terms within the agreement.

The project was designed by Hubbell, Roth and Clark and the construction contract was awarded to Weiss Construction. The total construction cost for the project is \$857,159.00. The work started in April 2021.

Significant project tasks that have occurred over the past month:

1. The Contractor is finalizing the closeout documents.
2. The Owner, Engineer & Contractor conducted the punch list walk-thorough, the Contractor is performing the required work to fulfill the punch list.
3. The final balancing change order will be finalized in February for consideration during the March Board meeting.

Construction Costs:

	Date (if applicable)	
Original Contract Amount	12/3/2020	\$857,159.00
Current Contract Amount	12/31/2021	\$863,168.85
Total Spent to Date	12/31/2021	\$770,291.64
Remaining Budget	12/31/2021	\$92,877.21

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Segment 6 Rehabilitation

Contractor: Ric-Man Construction

Engineering Consultant: FK Engineering

Project Description:

The Segment 6 Rehab project includes the rehabilitation of these main elements:

1. Cleaning and slip-lining (Hobas) of the 5-foot diameter 15 Mile Interceptor from MH-01 at Garfield Road and 15 Mile to MH-04 approximately 2200 feet east along 15 Mile.
2. Cleaning and slip-lining (Hobas) the 1400 linear feet 11-foot diameter Romeo Arm Interceptor sewer between CS-3 on 15 Mile Road and CS-2 on Garfield north of 15 Mile Road.
3. Rehabilitation of the Meter Facility FR-S-1 on Garfield south of 15 Mile Road.
4. Rehabilitation and spray-lining of the CS-2 and CS-3 control structure facilities. These concrete structures have been damaged by H2S damage over time and need repair.
5. Installation of an air-jumper to be incorporated into the existing Biofilter facility. This is being done to address the high level of odor issues that have resulted over the years from the intersection of 15 Mile and Garfield.
6. Installation of a new gate control structure on the 15 Mile Interceptor. This will allow for the rehabilitation of the MH-01 structure and provide future storage options within that interceptor.

The project started in August 2021 and be completed in March 2023.

Significant project tasks that have occurred over the past month:

1. The Contractor continues to develop and submit the required submittals to the Engineer & Owner for review.
2. Sawcut and removed the top of the Interceptor at the CS-13 Shaft.
3. Constructed a temporary cover for the Interceptor during non-working hours.
4. Started construction of the jacking frame to facilitate the Hobas slip lining operation.

Construction Costs:

	Date (if applicable)	
Original Contract Amount	5/1/2021	\$13,541,545.00
Change Order No. 1	8/1/2021	\$132,664.70
Total Spent to Date	1/31/2022	\$2,318,795.48
Remaining Budget	1/31/2022	\$11,355,414.22



Figure 7 – CS-13 Shaft after the Interceptor Top is Removed

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Figure 8 – Steel Internal Bracing prior to Saw Cutting the Interceptor



Figure 9 - Removed Section of Interceptor



Figure 10 - Interceptor Demolition

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Figure 11 - Temporary Cover for Interceptor

Interceptor Inspection Program

Contractor: Doetsch Environmental Services, Inc.

Engineering Consultant: Fishbeck

Project Description:

The 2020 sewer inspection program was awarded to Doetsch Environmental Services in November 2020. The inspection program includes inspection of approximately 26 miles of sanitary sewer, 360 manholes and other aspects of the sanitary sewage infrastructure across multiple drainage districts, including the MIDDD.

The MIDDD portion of the inspection program includes 101,335 linear feet (19.25 miles) of pipe ranging in diameter from 24" to 132" and 145 manhole structures. Additionally, inspection of 8 junction chambers and 8 Drop Shaft/Connecting sewers will be performed.

The inspection interval for the entire system is based on a 3-year cycle, where non-reinforced concrete pipe is inspected every 3 years and reinforced concrete pipe is inspected every 6 years. The 2020 inspection program is the largest ever performed by the Macomb County Public Works Office. The project started in May 2021 and is expected to be completed in May 2022.

Significant project tasks that have occurred over the past month:

1. The Contractor did not submit a pay application for the months of December and January.
2. The Contractor resumed inspection in the Garfield and Lakeshore Interceptors.
3. The Owner's Representatives, Engineering Consultant and Contractor are working to coordinate completion of the remaining areas to be inspected.

Construction Costs:

	Date (if applicable)	
Original Contract Amount	1/19/2021	\$280,034.00
Total Spent to Date	11/1/2021	\$62,703.85
Remaining Budget	11/1/2021	\$217,330.15

***This Table reflects the MIDDD costs only.**

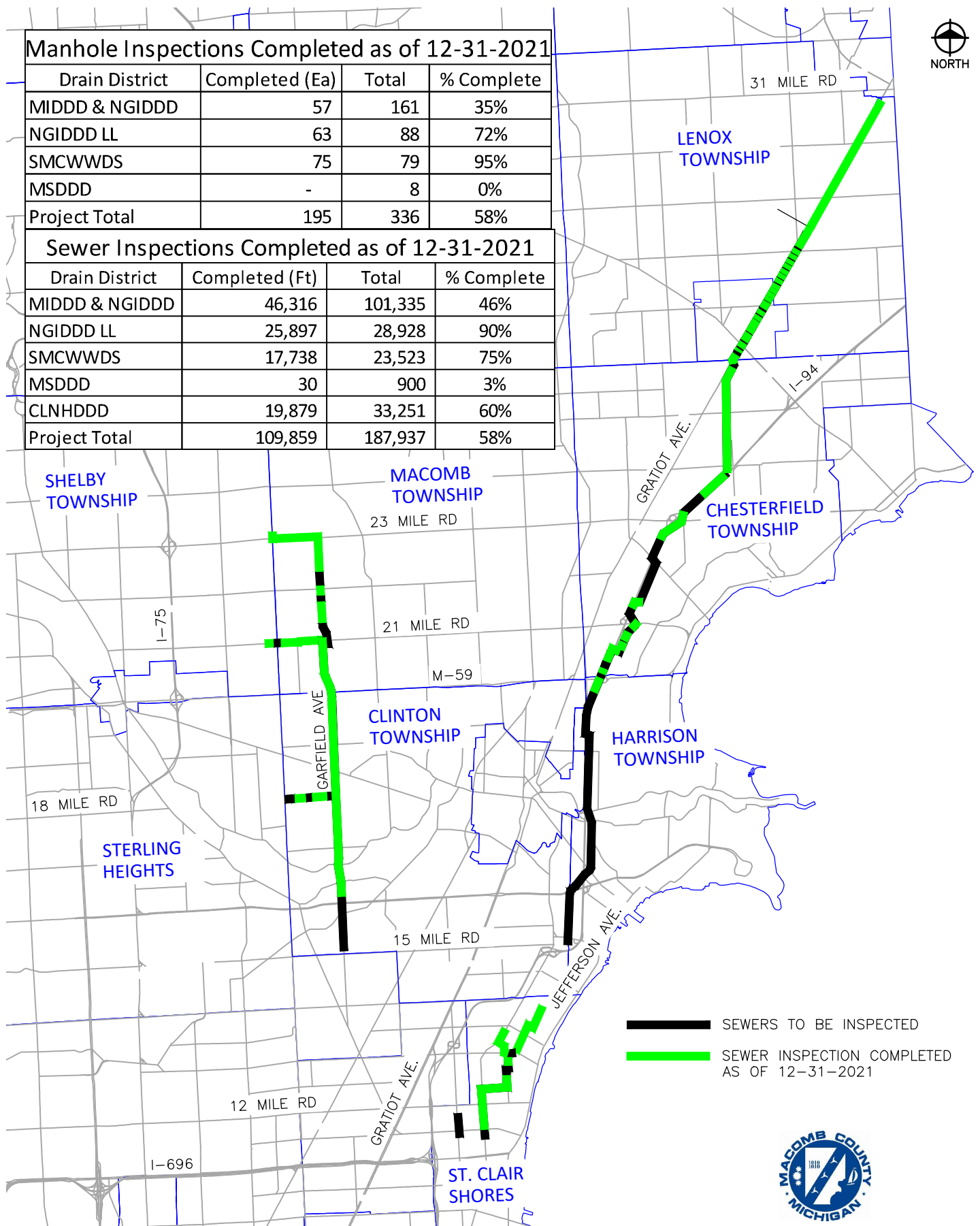


Manhole Inspections Completed as of 12-31-2021

Drain District	Completed (Ea)	Total	% Complete
MIDDD & NGIDDD	57	161	35%
NGIDDD LL	63	88	72%
SMCWWDs	75	79	95%
MSDDD	-	8	0%
Project Total	195	336	58%

Sewer Inspections Completed as of 12-31-2021

Drain District	Completed (Ft)	Total	% Complete
MIDDD & NGIDDD	46,316	101,335	46%
NGIDDD LL	25,897	28,928	90%
SMCWWDs	17,738	23,523	75%
MSDDD	30	900	3%
CLNHDDD	19,879	33,251	60%
Project Total	109,859	187,937	58%



SEWERS TO BE INSPECTED
 SEWER INSPECTION COMPLETED AS OF 12-31-2021



Candice S. Miller
MACOMB COUNTY PUBLIC WORKS COMMISSIONER



Emily Engelmann <emily.engelmann@macombgov.org>

MIDDD Data Review Tool

Emily Engelmann <emily.engelmann@macombgov.org>

Mon, Feb 7, 2022 at 3:58 PM

To: Mike Moore <mmoore@sterling-heights.net>, Michael Taylor <mctaylor@sterling-heights.net>, Mark Vanderpool <mvanderpool@sterling-heights.net>

Cc: Vincent Astorino <Vincent.Astorino@macombgov.org>, Steve Rozycki <steve.rozycki@macombgov.org>

Mayor Taylor, Mr. Vanderpoole & Mr. Moore,

The Macomb Interceptor Drain Drainage District (MIDDD) maintains the sanitary billing meters from each of the community connections. Recently, on behalf of the MIDDD, the Macomb County Public Works Office (MCPWO) embarked on a project to create a web-based platform to store, manage, and certify data from the sanitary billing meters, called ACE. Although this program contains data from all 11 MIDDD communities, a custom web portal was created for each community individually.

MCPWO is reaching out to each of the MIDDD communities to provide access to their sanitary billing meter platform. Please see the attached brochure, highlighting some of the key features of the ACE program. If you or other members would like to have access to the ACE program, please reach out to our engineer in charge of the project at steve.rozycki@macombgov.org and he will set up user credentials. Once access has been provided, he would also like to provide the opportunity to set up a video conference where he can demonstrate the tools and abilities of ACE.

Please let me know if you have any questions or would like additional information.

Emily Engelmann

Community Services Manager

Macomb County Public Works Commissioner Candice S. Miller

21777 Dunham Road, Clinton Township, MI 48036

Office: 586.469.6101 | Cell: 586.230.9815 | Emily.Engelmann@macombgov.org

publicworks.macombgov.org

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 **Sterling Heights.pdf**
1804K



Community Access Features

- Live Data Access
- Dashboard Overview
 - Data Insights
 - Data Quality
 - High Flow Alerts
 - Capacity Information
- Plotting Module
 - Raw & Certified Meter Data
 - Rain Gauge Data
 - Data Download
- Analytics
 - Monthly Reports
 - Annual Reports
 - Community and/or Meter Reports
 - Long Term Reports
- Long Term Data Export

Provided on the subsequent pages are screenshot examples of some of the key features of ACE. Access will be provided to each MIDDD community and MCPWO will provide demonstrations of the ACE program along with support.

OVERVIEW

The Macomb County Public Works Office (MCPWO) maintains thirty (30) sanitary sewer outlet meter facilities for eleven (11) communities in the Macomb Interceptor Drain Drainage District (MIDDD). These meter facilities continuously monitor and collect data on the sanitary sewage, which in turn is used for community billing volumes. Previously, MCPWO was utilizing a program called McMARS for quality assurance / quality control (QA/QC) review of the meter data. McMARS was originally developed in the late 1990's and was significantly outdated and was nearly an unsupportable software. In 2018, MCPWO contracted Aquasight to develop a comprehensive, cloud based meter data management and processing tool, subsequently named ACE, to replace McMARS and improve the meter data QA/QC process.

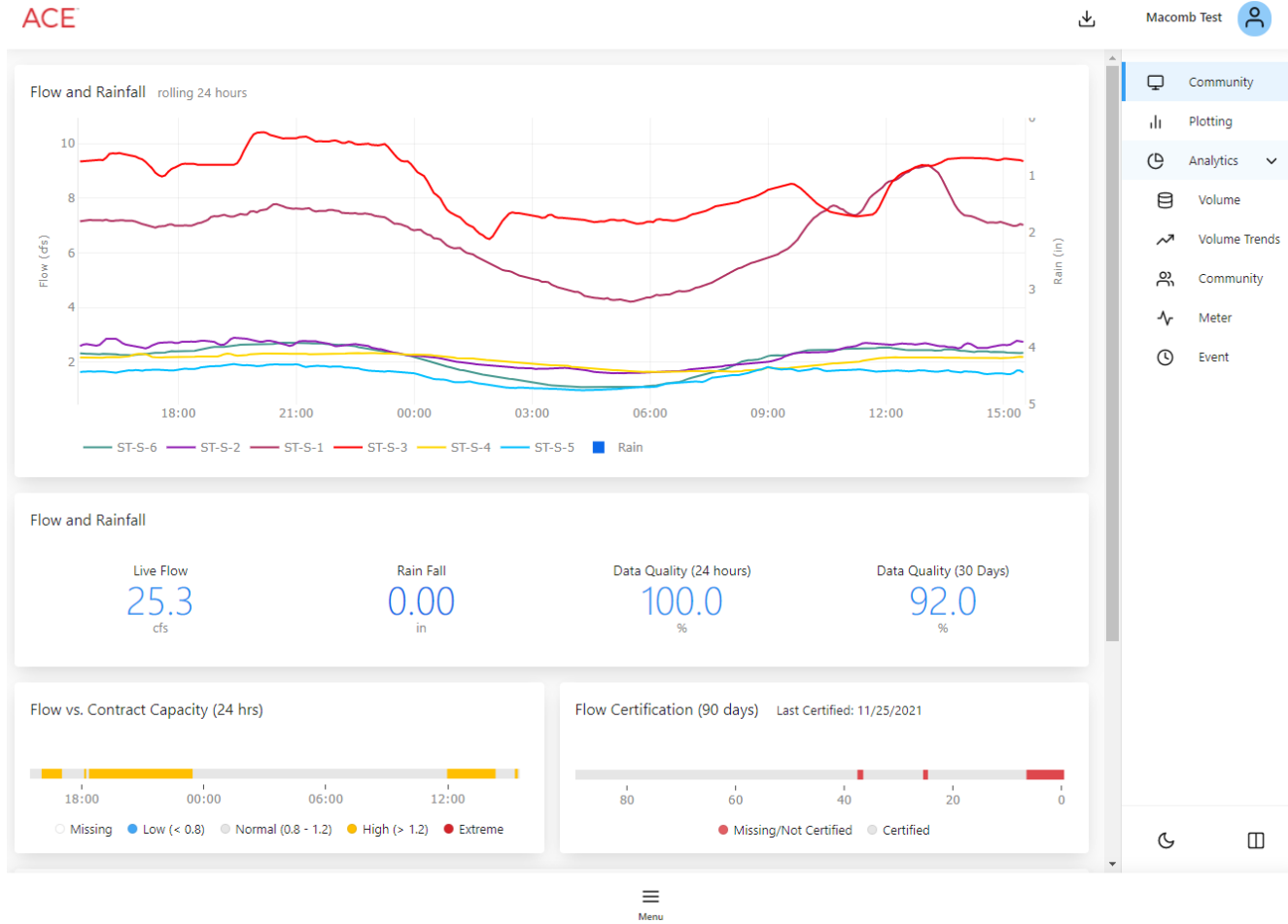
ACE FEATURES

The primary objective of the ACE program is to ingest real-time sanitary sewage meter data, present the data in a user-friendly format, provide the ability to review and edit erroneous data, and to summarize data analytics as automatically generated reports. In addition to the sanitary sewage meter data, ACE is also equipped to provide the same features for MCPWO's rain gauge network. Provided below is a brief summary of some of ACE's key features.

- **Meter Data QA/QC Process:** All sanitary sewage flow meters are reviewed on a frequent basis. Data from each meter is checked for reliability, quality, anomalies, etc. The MCPWO will determine if the recorded data is accurate and certify the data for billing purposes. Any data determined to be erroneous will be removed from the billing data set and replaced with; a historical average dry weather flow pattern, linear trend, or historical correlation to similar sanitary sewage meters. These analytical tools allow for the best representative data to be generated in replacement of erroneous data.
- **Rain Gauge QA/QC Process:** Similar to the sanitary sewer meter data, rain gauge data are reviewed on a frequent basis. Any erroneous data will be removed from the data set.
- **Reports:** Once all data have been reviewed and certified, reports will be generated for individual meters and communities as a whole on a monthly, annual, and long term basis. The primary use of reports is for annual billing volumes.
- **Plotting & Export:** All data can be plotted and exported as a figure or as a .csv file.
- **Asset Metadata:** Historical information for each sanitary sewage meter and rain gauge is stored within ACE, including; device type, make, model, install date, location, data calculation equations, etc.



COMMUNITY DASHBOARD

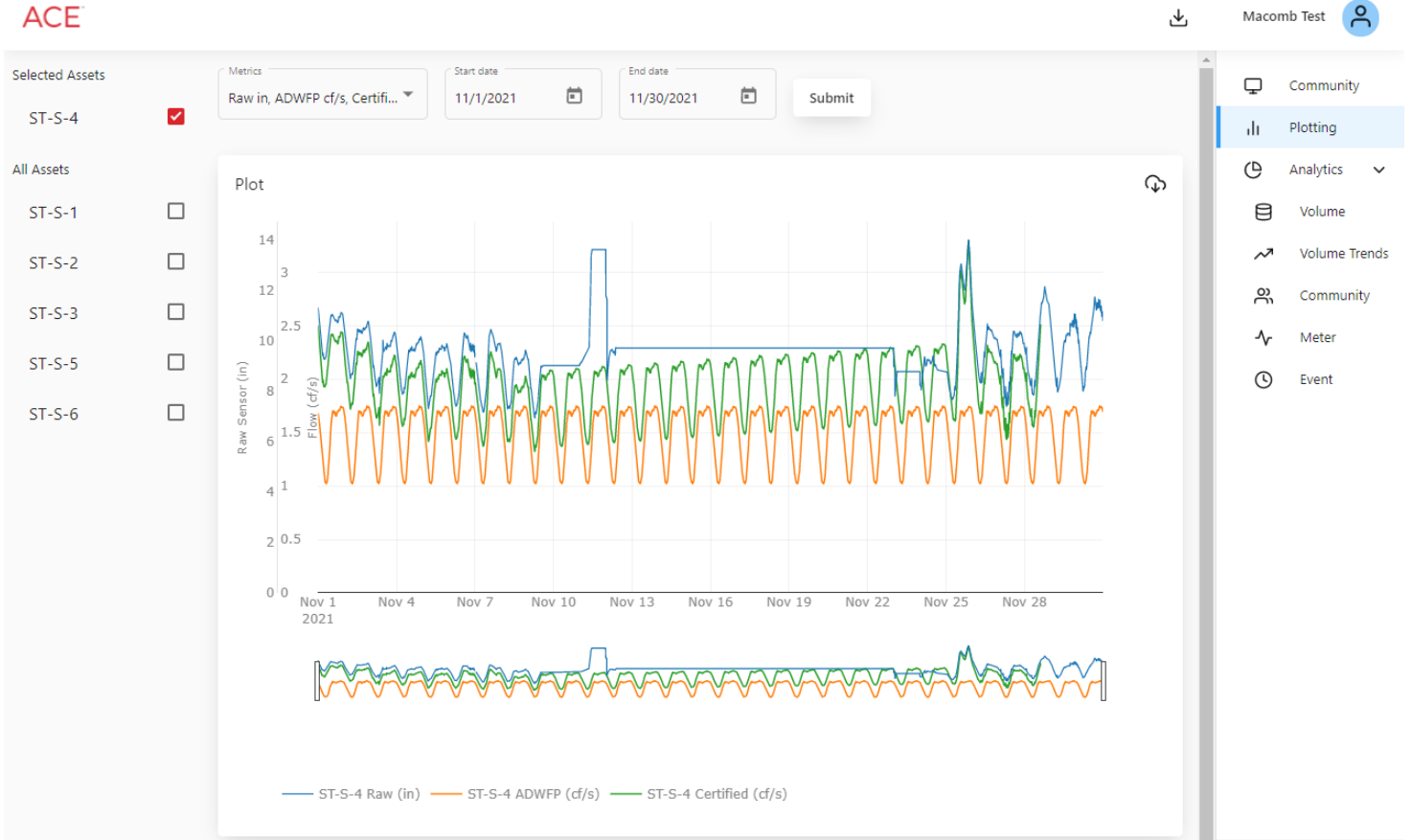


Community dashboard is intended to provide a quick live snapshot of community sanitary sewage flow meters.

Key features include:

- 24-hour interactive trend of all sanitary sewage flow meters
- 24-hour rainfall totals
- Data quality (sanitary sewage flow meter uptime percentage)
- 24-hour analytics on low, normal, and high flows
- 90-day certification history; as reviewed and certified by MCPWO

PLOTTING & DOWNLOAD MODULE



Plotting module is intended to provide communities access to view, trend, and download all data feeds, including raw data, calibrated data, certified data, rain gauge data, and Average Dry Weather Flow (ADWF) as an interactive tool.

Data displayed in the plotting module can be exported as a .pdf or as a .csv file for external data use, which is nearly an instantaneous process.

Long-term data exports can also be scheduled for download that may take several minutes to compile and made available for download.

ANALYTICS & REPORTS

Long Term Volume Trends For An Year



MACOMB COUNTY PUBLIC WORKS OFFICE
WASTEWATER SERVICES - METER DATA REPORT
LONG TERM VOLUME TRENDS: 2020



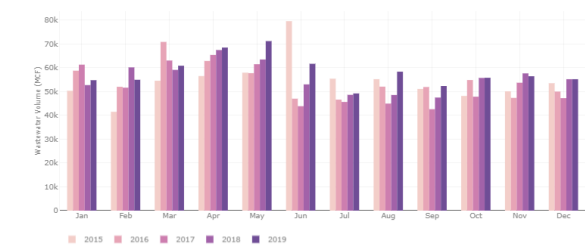
Meter/Community	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average	Total
Sterling Heights														
ST-S-1	22,912	16,545	16,677	15,875	17,077	13,940	13,451	13,863	14,162	12,835	12,439	13,630	15,284	183,406
ST-S-2	7,368	5,166	5,775	4,791	5,602	4,390	4,803	5,068	4,618	4,308	4,430	4,733	5,088	61,052
ST-S-3	24,155	19,131	19,718	16,020	19,178	17,588	17,881	18,507	18,150	17,374	17,261	18,977	18,662	223,940
ST-S-4	6,156	4,367	5,128	4,536	5,108	3,922	4,271	4,535	4,090	3,912	4,021	4,248	4,525	54,294
ST-S-5	5,475	3,533	4,048	3,820	4,369	3,530	4,095	4,119	3,562	3,203	3,353	3,531	3,887	46,638
ST-S-6	6,381	5,376	5,497	5,371	5,685	5,221	5,399	5,538	5,399	5,257	5,100	5,185	5,451	65,409
Total	72,447	54,118	56,843	50,413	57,019	48,591	49,900	51,630	49,981	46,889	46,604	50,304	52,895	634,739
TOTALS	72,447	54,118	56,843	50,413	57,019	48,591	49,900	51,630	49,981	46,889	46,604	50,304	52,895	634,739

An example of an annual volume summary is provided above. Other similar reports can be generated on a monthly basis, single sanitary sewage flow meter, or other sample sizes. Note: Report will not be available until all data has been reviewed and certified by MCPWO for the sampling period.

Long Term Volume Trends For Community



MACOMB COUNTY PUBLIC WORKS OFFICE
WASTEWATER SERVICES - METER DATA REPORT
STERLING HEIGHTS LONG TERM VOLUME TRENDS: 2015-2019



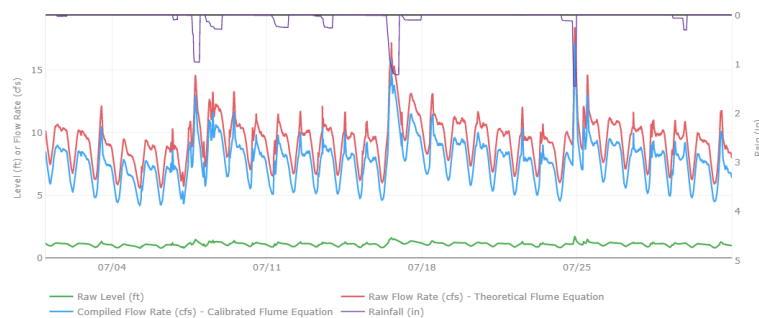
Month	2015	2016	2017	2018	2019	Average	Total
Jan	50,318	58,747	61,276	62,710	64,757	55,582	277,808
Feb	41,487	51,985	51,622	60,149	54,939	52,036	260,182
Mar	54,622	70,830	63,027	59,092	60,831	61,680	308,302
Apr	56,497	62,834	65,366	67,417	68,459	64,115	310,573
May	57,910	57,725	61,478	63,445	71,171	62,346	311,729
Jun	79,526	46,994	43,844	53,005	61,847	57,003	285,016
Jul	55,386	46,602	45,624	48,616	49,201	49,086	245,429
Aug	55,194	52,047	44,846	48,555	58,335	51,815	259,077
Sep	51,086	51,901	42,580	47,483	52,313	49,073	245,363
Oct	48,140	54,819	47,837	55,708	55,772	51,455	262,276
Nov	50,092	47,333	53,703	57,629	56,431	53,038	265,188
Dec	53,483	49,999	47,227	55,182	55,183	52,215	261,074
Totals	653,641	651,816	628,530	668,991	699,039	660,403	3,302,017



MACOMB COUNTY PUBLIC WORKS OFFICE
WASTEWATER SERVICES - METER DATA REPORT
ST-S-1: JULY 2021



Meter Name	Location	Meter Type	Flume Equation	Data Patched
ST-S-1	40440 Utica Rd, Sterling Heights, MI 48313	36-inch Parshall Flume	Theoretical: Flow Rate(cfs) = 8.0*(Level(ft))^1.549 Calibrated: Flow Rate(cfs) = 6.411*(Level(ft))^1.825	Time: 00:00 (H:M) % of Period: 0%



Note No.	Description	Period	Billed Volume (MCF)	Difference (MCF)	Difference (%)
		Current Month	20772	—	—
		Previous Month	16063	4709	29.32
		Previous Year Month	13451	7321	54.43

Monthly detailed reports for individual sanitary sewage flow meters with analytics and data quality annotations.

Historical volume trend comparisons by community or individual sanitary sewage flow meter.

MACOMB INTERCEPTOR DRAIN
01.11.22 - 02.08.22

<u>Funding Source</u>	<u>Apportionment</u>	<u>Manager</u>	<u>Vendor</u>	<u>Amount</u>	<u>Invoice Detail</u>	<u>Project Summary</u>	<u>Project Balance</u>
Macomb Interceptor Drain	Chapter 20 Chesterfield – 7.3432% Clinton – 21.3460% Fraser – 4.1370% Harrison – 6.4221% Lenox – 1.0652% Macomb – 13.9284% New Haven – .8271% Shelby – 9.7757% Sterling Heights – 30.7833% Utica – 1.6268% Washington – 2.7451%	Downing	Anderson, Eckstein & Westrick	\$ 17,787.85	Invoice #135001 - 01.06.22	MID Grouting Program	\$ 66,387.10
		Downing	Anderson, Eckstein & Westrick	\$ 10,535.90	Invoice #135001 - 01.06.22	MID Grouting Program - 12.20.21 - 01.16.22	\$ 55,851.20
		Astorino	Anderson, Eckstein & Westrick	\$ 18,762.40	Invoice #134819 - 12.14.21	MID Grouting Program	\$ 84,174.95
		Astorino	Aquasight	\$ 146,038.00	Invoice #000676 - 01.10.22	COVID 19 - Monitoring - (Grant Funded)	\$ 916,752.00
		Astorino	City of Mt. Clemens	\$ 17,026.15	Invoice #28003988 - 01.11.22	Monthly Utilities - November 2021	
		Downing	Doetsch	\$ 281,425.75	Invoice #71920 - 01.30.22	Phase 2 Grouting through 01.30.22	
		Astorino	DTN, LLC	\$ 819.00	Invoice #6071410 - 01.21.22	Storm Sentry Weather Service	
		Astorino	Fishbeck	\$ 2,550.00	Invoice #407242 - 12.29.21	GLWA Assistance through 12.24.21	
		Astorino	Fishbeck	\$ 7,082.00	Invoice #407316 - 12.28.21	Confied Space/LOTO Program	\$ 47,594.38
		Downing	Fishbeck	\$ 12,046.88	Invoice #407322 - 12.28.21	2020 Inspection Program	\$ 196,621.04
		Astorino	Fishbeck	\$ 4,042.50	Invoice #408250 - 01.26.22	Wastewater Master Plan - through 01.26.22	\$ 386,605.49
		Downing	FK Engineering Associates	\$ 115,821.18	Invoice #20-152-013 - 12.21.22	Segment 5 - Romeo Arm - 11.21.21 - 12.18.21	\$ 1,247,482.14
		Downing	FK Engineering Associates	\$ 75,234.65	Invoice #20-058-019 - 01.10.22	Segment 6 - Structural Rehabilitation	\$ 1,502,044.30
		Downing	FK Engineering Associates	\$ 63,380.08	Invoice #20-058-020 - 01.22.22	Segment 6 - Structural Rehabilitation	\$ 1,438,664.22
		Downing	FK Engineering Associates	\$ 105,944.26	Invoice #20-152-014 - 01.28.22	Segment 5 - Romeo Arm - 12.19.21 - 01.22.22	\$ 1,141,537.88
		Astorino	KHVPE PLC	\$ 3,341.25	Invoice #47582 - 12.01.21	General Matters - November 2021	
		Manning	Macomb County Treasurer	\$ 1,304.79	Invoice #22-009 - 12.01.22	Segment 5 Sewer Rehabilitation	
		Astorino	METCO Consulting Services	\$ 7,702.36	Invoice #1717-29 - 01.03.22	Flow Control Services	\$ 66,188.02
		Astorino	METCO Consulting Services	\$ 10,415.56	Invoice #1717-30 - 02.01.22	Flow Control Services 01.01.22 - 01.30.22	\$ 55,772.46
		Downing	Oscan Renda Contracting	\$ 502,420.44	Invoice #WO19024 Est #17	Segment 5 Lining - through 01.31.22	\$ 20,140,384.21
		Downing	Ric-Man Construction	\$ 282,016.42	Invoice #WO21026 Est #5 - 01.25.22	Segment 6 Services 01.01.22 - 01.31.22	\$ 11,355,414.22
		Astorino	TBM Property Management LLC	\$ 750.00	Invoice #640 - 01.03.22	Storage Rent - October 2021 - December 2021	
		Downing	Tetra Tech, Inc.	\$ 76,688.75	Invoice #51839270 - 01.03.22	Odor & Corrosion Control through 12.31.21	\$ 215,966.77
		Astorino	Tom's Auto Glass	\$ 1,150.00	Invoice #98962 - 01.27.22	Tool Box (21-468)	
		Astorino	Verizon	\$ 1,075.38	Invoice #9895768838 - 12.23.21	Monthly Cellular - 11.24.21 - 12.23.21 (Eq. Fund)	
		Astorino	Verizon	\$ 1,502.86	Invoice #9895768838 - 12.23.21	Monthly Cellular - 11.24.21 - 12.23.21	

MACOMB INTERCEPTOR DRAIN
01.11.22 - 02.08.22

<u>Funding Source</u>	<u>Apportionment</u>	<u>Manager</u>	<u>Vendor</u>	<u>Amount</u>	<u>Invoice Detail</u>	<u>Project Summary</u>	<u>Project Balance</u>
<u>Biofilter</u>		Astorino	Active Tree Experts, Inc.	\$ 3,200.00	Invoice #4955 - 01.10.22	Tree Removal (16510 15 Mile, Clinton Township)	
		Astorino	KERR Pump	\$ 3,071.00	Invoice #INV211321 - 12.29.21	Sub Dewater Pump	
<u>CPS</u>		Astorino	Clinton Township Treasurer	\$ 3,232.29	Invoice #22-004 - 12.31.21	Monthly Utilities - 11.20.21 - 12.27.21	
		Astorino	De-Cal, Inc.	\$ 966.20	Invoice #WO90021091-4 - 01.06.22	4th Quarter PM - Filters and Belts	
		Astorino	DTE Energy	\$ 28,112.85	Invoice #SCFZL-FKK0S - 01.03.22	Monthly Electric - 12.02.21 - 01.03.22	
		Astorino	Duperon Corporation	\$ 8,040.83	Invoice #23567 - 12.22.21	Automated Bar Screen Repair	
		Astorino	GALCO	\$ 918.66	Invoice #AL01504 - 01.20.22	Two Filter Fans	
		Astorino	Motor City Electric Technologies	\$ 720.00	Invoice #94220 - 01.28.22	Pressure Calibration on Pumps 1-4 - 01.18.22	
		Astorino	Sunbelt Rentals	\$ 795.30	Invoice #120967420-0001 - 12.21.21	Single Manlift Rental - 12.16.21 - 12.17.21	
	<u>Meters</u>		Astorino	Aquasight	\$ 22,596.00	Invoice #00673 - 01.10.22	ACE Phase 3 - Part 6 of 6
<u>NGI</u>		Astorino	DTE Energy	\$ 1,178.70	Invoice #22-011 - 01.03.22	Monthly Electric - December 2021	
		Astorino	Motor City Electric Technologies	\$ 720.00	Invoice #94125 - 12.02.21	Install West Pressure Gauges and Est Valving/Transducer/Gauges	
<u>OMID</u>		Downing	Oakland County Treasurer	\$ 4,259,286.67	Invoice #SDS0008045 - 01.04.22	Sewer Disposal - December 2021	
		Downing	Oakland County Treasurer	\$ 4,259,286.67	Invoice #SDS0008099 - 02.03.22	Sewer Disposal - January 2022	
<u>SCADA</u>		Astorino	Access Interactive LLC	\$ 654.68	Invoice #INV000108395 - 01.10.22	SCADA Maintenance	\$ 95,089.00
Total				\$ 10,359,644.26			

Budget to Actual
MIDD
As of Jan 31, 2022 = 58%

DESCRIPTION	2022 FINAL BUDGET	ENCUMBERED	ACTUAL	REMAINING BUDGET	PCT UTILIZED
REVENUE ACCOUNTS					
GLWA-OMID	47,284,425		27,585,180	19,699,245	58.3%
OMID O&M	3,827,015		2,232,425	1,594,590	58.3%
Settlement	100,000		427,693	(327,693)	427.7%
Reimbursements	200,000		67,291	132,709	33.6%
PY Revenue-Fund Balance	10,370,340			10,370,340	0.0%
Washington Twp Meter Project	47,470			47,470	0.0%
Reimb-Local Communities	16,476,210		9,611,123	6,865,088	58.3%
COVID Grant	-		770,196		
Interest	60,000		10,046	49,954	16.7%
Total Revenue Accounts	78,365,460	-	40,703,954	38,431,702	51.9%
EXPENSE ACCOUNTS					
GLWA-OMID	47,284,425		27,585,180	19,699,245	58.3%
OMID O&M	3,827,015		2,232,425	1,594,590	58.3%
Public Works Wastewater Disposal Division	1,702,960		807,329	895,631	47.4%
Office Operations/Insurance	332,250		110,229	222,021	33.2%
SCADA	280,490		50,096	230,394	17.9%
Engineering					
Replenish reserve from CPS refunding	618,680			618,680	0.0%
Segment 5(Paid from const/ eng reserve)	-		3,918,138	(3,918,138)	0.0%
Segment 6(lawsuit Settlement)	-		2,231,469	(2,231,469)	
GLWA Assistance	40,000		15,525	24,475	38.8%
Repair work stemming from inspection program/Phase III Grout	3,200,000			3,200,000	0.0%
Segment 6 Construction Admin	1,500,000		146,874	1,353,126	9.8%
Odor and Control Construction	6,000,000			6,000,000	0.0%
General Construction/Engineering Contingency-All Projects	225,000			225,000	0.0%
Aquasight-On going improvements to program	175,000		125,884	49,116	71.9%
As Needed Applied Science	25,000			25,000	0.0%
As Needed FK Engineering	60,000			60,000	0.0%
As Needed FTCH	50,000		22,815	27,185	45.6%
As Needed Metco	90,000		27,596	62,404	30.7%
As Needed Wade Trim	70,000		674	69,326	1.0%
Level Sensors/Pressure/H2S-Meters	214,200			214,200	0.0%
Meter Dye Testing(Part of carryforward below)	38,600		69,996	(31,396)	181.3%
Odor and Control-Construction	1,000,000			1,000,000	0.0%
Odor and Corrosion Design	375,260		375,375	(115)	100.0%
COVID Monitoring -Reimburse from grant	-		770,196	(770,196)	100.0%
Phase II Grouting	2,000,000		666,563	1,333,437	33.3%
Phase III Grouting	325,000			325,000	0.0%
Segment 6 Construction Administration	1,503,560			1,503,560	0.0%
SY-S-1, SY-S-2, & WA-S-1 Meter Const Admin/Rehab	1,804,590		565,359	1,239,231	31.3%
Wastewater Master Plan/Contract Capacity	330,050		18,958	311,092	5.7%
Data Review-Aquasight	24,090		22,596	1,494	93.8%
Legal Services	150,000		7,135	142,865	4.8%
Clintondale PS O&M	580,000		162,793	417,207	28.1%
NGI O&M	225,000		65,081	159,919	28.9%
Meters O&M	190,970		38,895	152,075	20.4%
CS-3 O&M	216,000		4,026	211,974	1.9%
Biofilter O&M	26,000		7,725	18,275	29.7%
Contribution Life Cycle Reserve	171,700			171,700	0.0%
Interceptor O&M	1,738,450		41,178	1,697,272	2.4%
Stormwater Pump Stations	91,000		53,083	37,917	58.3%
Sewage Disposal Charges - Mt. Clemens	200,000		92,854	107,146	46.4%
Debt Service - Revenue Bonds	1,680,170		980,099	700,071	58.3%
Total Expense Accounts	78,365,460	-	41,216,147	37,149,313	52.6%

	O&M Balance 6/30/2021	O&M	Total 1/31/2022
Cash - Operating	37,753,257	(512,193)	37,241,064
Accounts Receivable			0
Assets			0
Liabilities			0
Revenues		40,703,954	40,703,954
Expenditures		41,216,147	41,216,147
			0
Equity*	37,753,257		37,241,064

Detail of 2021 Equity*

Projected reserve at 6/30/2021	8,749,004
Projected Construction/ Engineering Reserve	28,001,153
Life Cycle Reserve	1,003,100