

EIGHT AND ONE-HALF MILE RELIEF DRAIN  
INTRA-COUNTY DRAINAGE BOARD  
FEBRUARY 12, 2018  
10:00 A.M.  
AGENDA

	Page
1. Call of meeting to order and roll call	
2. Approval of Agenda for February 12, 2018	
3. Approval of Minutes for January 8, 2018	3
4. Public participation	
5. Recommendation to Award Contract for Chapaton RTB Expansion Study – Vince Astorino	5
<p>Motion: To award the contract for the Chapaton RTB Expansion Study to Tetra Tech at a cost not-to-exceed \$113,580.00 and authorize Candice S. Miller to sign necessary contract document</p>	
6. Consideration for approval of invoices (see attached)	24
7. Financial Report – Bruce Manning	47
8. Adjourn	



An adjourned meeting of the Intra-County Drainage Board for the **EIGHT AND ONE-HALF MILE RELIEF DRAIN** was held in the Office of the Macomb County Public Works Commissioner, 21777 Dunham, Clinton Township, Michigan, on January 8, 2018, at 10:01 A.M.

PRESENT: Candice Miller, Chair  
Bryan Santo, Member  
Veronica Klinefelt, Member

ALSO PRESENT: Robert Mijac, Macomb County Board of Commissioners; Brian Baker, Chief Deputy, Karen Czernel, Deputy, Vincent Astorino, Operations & Flow Manager, Evans Bantios, P.E., Construction and Maintenance Manager, Dan Heaton, Public Relations Manager, Bruce Manning, Financial Manager, Tamara Keskeny, Property Manager, Barbara Delecke, Administrative Services, Macomb County Public Works; John Walters, Controller, Patrick McGlinch, Municipal Inspector, Brian Campbell, Municipal Inspector, City of Roseville

The meeting was called to order by the Chair, Candice Miller. The agenda was approved as presented.

Minutes of the meeting of December 12, 2017 were presented. A motion was made by Ms. Klinefelt, 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.

The Governor's office is putting together a pilot program to include all assets in the State of Michigan. Moving forward, if a road needs replacement, the data base will show that the underground infrastructure also needs replacement. Macomb County will provide its data to the State. The agreement protects Macomb County against unauthorized release of the data and is being coordinated through SEMCOG.

A motion was made by Ms. Klinefelt; supported by Mr. Santo to approve the Data Sharing Agreement with the State of Michigan as part of the State's pilot infrastructure coordination program.

Adopted: YEAS: 3  
NAYS: 0

The Chair presented the invoices totaling \$3,124.58 to the board for review and approval.

A motion was made by Mr. Santo, supported by Ms. Klinefelt 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 Ms. Klinefelt and supported by Mr. Santo.

Adopted: YEAS: 3  
NAYS: 0

There being no further business, it was moved by Mr. Santo, supported by Ms. Klinefelt, that the meeting of the Eight and One-Half Mile Relief Drain Board be adjourned.

Adopted: YEAS: 3  
NAYS: 0

The meeting was adjourned at 10:10 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 8, 2018 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: 1/9/18

9075.bd



**Candice S. Miller**

Public Works Commissioner  
Macomb County

From: Macomb County Public Works Office

Date: 2-2-2018

To: 8 ½ Mile Relief Drain Board

Copy: File  
Evaluation Committee

RE: Proposal Evaluation Project Award Recommendation  
MCPWO RFP No.: **MCPWO-WWS-2018-RFP-004**  
MCPWO Proposal Name: **Chapaton Expansion Study**

This is an open competitive contract. The Request for Proposals (RFP) was advertised from 12-14-17 to 1-29-18 on the Michigan Inter-Governmental Trade Network (MITN) website. Sixty-Two (62) solicitations were sent out via MITN and Sixty-One (61) firms downloaded the RFP.

Three (3) Addendums were issued during the course of the RFP. The Addendums provided responses to vendor questions submitted during the question period.

On 1-29-18, proposals were received from 7 firms. Each member of the Evaluation Committee independently reviewed and scored the proposals in accordance with MCPWO's policy. The possible range of scores was from 0 to 100%. The proposers were ranked as follows:

<b>Firm</b>	<b>Score</b>	<b>Proposed Cost</b>
Tetra Tech	95%	\$113,580
NTH	83%	\$114,910
Wade Trim	83%	\$105,000
HRC	78%	\$63,100
DLZ	75%	\$118,000
AEW	67%	\$84,845
Alfred Benesch	0%	N/A


The Evaluation Committee recommends that **Tetra Tech**, the number one ranked proposer, be named as the consultant for the above referenced Project.

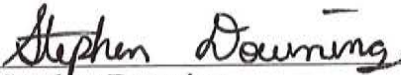
Please be advised the Alfred Benesch was disqualified due to improper submission of cost documents.

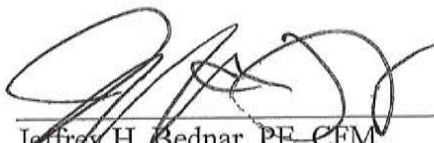
On behalf of the Board please indicate your approval of this recommendation by signing below. Thank you for consideration of this recommendation.

  
\_\_\_\_\_  
Vince Astorino  
Operations & Flow Manager  
MCPWO Engineering-Wastewater Services

  
\_\_\_\_\_  
Evans Bantos, PE  
Construction & Maintenance Manager  
MCPWO Engineering-Wastewater Services

  
\_\_\_\_\_  
Steve Rozycki, PE  
Engineer II  
MCPWO Engineering-Wastewater Services

  
\_\_\_\_\_  
Stephen Downing  
Engineer II  
MCPWO Engineering-Wastewater Services

  
\_\_\_\_\_  
Jeffrey H. Bednar, PE, CFM  
Environmental Engineer  
MCPWO Engineering

Approved: \_\_\_\_\_

Not Approved: \_\_\_\_\_

Hold: \_\_\_\_\_

\_\_\_\_\_  
Authorized Board Member Signature  
Board Name

\_\_\_\_\_  
Authorized Board Member Name (print)



**Candice S. Miller**

Public Works Commissioner  
Macomb County

From: Macomb County Public Works Office

Date: 2-2-18

To: 8 1/2 Mile Relief Drain Board


Copy: File

RE: Proposal Evaluation Committee Recommendation  
MCPWO RFP No.: **MCPWO-WWS-2018-RFP-004**  
MCPWO Proposal Name: **Chapaton Expansion Study**

The following staff members are recommended for the Proposal Evaluation Committee for the above mentioned project.

Name	Group
Vince Astorino	MCPWO
Evans Bantios	MCPWO
Steven Rozycki	MCPWO
Stephen Downing	MCPWO
Jeffrey Bednar	MCPWO

On behalf of the Board please indicate your approval of this recommendation by signing below.

  
 Stephen Downing  
 Engineer II  
 MCPWO Engineering – Wastewater Services

I Concur: \_\_\_\_\_

Approved: \_\_\_\_\_

Not Approved: \_\_\_\_\_

\_\_\_\_\_  
 Authorized Board Member Signature  
 Board Name

\_\_\_\_\_  
 Authorized Board Member Name (print)



January 26, 2018

Eight and One-Half Mile Drainage District  
ATTN: Madison Tanghe, Senior Secretary  
21777 Dunham Road  
Clinton Township, MI 48036  
**Re: Chapaton Expansion Study - MCPWO-WWS-2018-RFP-004**

Dear Sir/Madam:

Since 1968, Macomb County and Tetra Tech (formerly McNamee, Porter & Seeley) have been hard at work to develop the communities of Macomb County, while protecting Lake St. Clair.

In 1968, Tetra Tech completed the design of the Chapaton Pumping Station and Retention Basin. Soon thereafter, United States Vice President Hubert Humphrey cut the ribbon to open the facility. We have appreciated the additional opportunities since to improve and update the facility so it can serve additional generations of Macomb County residents.

Tetra Tech's last major effort began in 1994 and was completed in 2007 which resulted in a Chapaton facility that continues to meet Michigan's water quality standards. This project resulted in extensive improvements to the facility's aeration system. Additionally, Tetra Tech identified significant conveyance restrictions along the Jefferson Interceptor that resulted in sewer improvements which have eliminated billions of gallons of combined sewage from reaching Lake St. Clair.

Yet, Macomb County's dedication to improving water quality is ever increasing. The County desires to complete a study that further evaluates the opportunities and costs to further control discharges to Lake St. Clair. Tetra Tech is prepared again to assist Macomb County with this important evaluation. The headings below describe some of the attributes that make us uniquely qualified to lead this evaluation for Macomb County.

**NATIONAL EXPERTS, FACILITY EXPERTS, LOCAL TEAM**

The Tetra Tech team is unmatched in our credentials. We bring national combined sewer control experts who bring lessons-learned from combined sewer overflow control projects in such places as Seattle, Omaha, Louisville, Detroit and Lansing to Macomb County. Yet, our team members have over 20 years of experience with the Chapaton facility including three staff members who created the computer model that will be of great value to this study. Lastly, the work will be completed by national experts who live in southeastern Michigan. This ensures that the knowledge learned on this study does not leave the state after completion of this project.

Tetra Tech has teamed with local firms all who have the expertise to complete the project and have experience serving Macomb County. Our team and roles include:

- FK Engineering** – Will complete a stability evaluation of the Chapaton canal
- ASTI** – Will complete a feasibility evaluation for wetland treatment including enhancing recreational opportunities
- ASI**- Will assist in evaluating alternatives to reduce the volume of combined sewage overflow entering the lake





### INNOVATIVE APPROACHES

Tetra Tech's work plan meets the requirements of the RFP but also goes outside the box to arrive at innovative methods to further control overflows. Some of the ideas that Tetra Tech will bring to the project include:

- **Real-time Control (RTC)** – RTC uses active flow control devices (such as gates or inflatable dams) to both maximize treatment capacity and maximize in-system storage. These systems have proven to reduce the annual average volume of CSO with a cost effective investment. The Louisville MSD estimates that Tetra Tech's work has controlled overflows while saving them over \$200 million.
- **CSO Volume Reduction** – Along with facility improvements, controlling the volume of combined sewage generated should be studied. Sewer separation is one approach whose cost will be estimated. Green methods to reduce stormwater runoff and thus combined sewer flow have shown to be cost effective, long-term approaches to reducing combined sewage overflow. The Detroit Water & Sewerage Department has retained Tetra Tech to lead their program to accomplish this objective. These same staff are available to Macomb County on the Chapaton project.

Tetra Tech is eager for you to read the other ideas contained within our proposal. We look forward to the opportunity to protect Lake St. Clair for future generations of Macomb County residents.

We acknowledge addenda Nos. 1 through 3.

Sincerely,

Tetra Tech of Michigan, PC

A handwritten signature in blue ink, appearing to read 'Ken E. Kingsley'.

Ken E. Kingsley, PE  
*Client Representative*

A handwritten signature in blue ink, appearing to read 'Brian M. Rubel'.

Brian M. Rubel, PE, PMP  
*Project Manager*

## Work Plan

### Project Understanding

Macomb County is continuing a leadership role in protecting its most important natural resource, Lake St. Clair. In 1968, the County was a national and Michigan leader in conceiving the Martin and Chapaton basins. In 1994, the County was again a leader in investing in the basins to further improve water quality. In 2018, the County is further investing in an engineering study to control overflows from the Chapaton Basin.

We understand that the basin overflows are currently meeting state and federal water quality standards. However, the County's senior officials wish to investigate the feasibility of further reducing or eliminating overflows to provide additional protection to Lake St. Clair.

### RFP Request

The Public Works Office has issued an RFP that outlines the following major tasks:

*Task 1 - Evaluate three alternatives to provide additional storage volume to Chapaton through the following:*

- ▶ Expand the concrete structure to the south on area occupied by a parking lot.
- ▶ Expand the storage area to the east through the construction of wetland storage (much of this land is the spoils from the original basin construction). This option would require relocation of the control gates and a boat launch. The County also desires this option to be evaluated for expansion of the concrete structure.
- ▶ Combination of the two alternatives above.

*Task 2 - Perform a stabilization study to control erosion occurring along the existing canal*

- ▶ The County desires this work to be summarized in conceptual sketches and costs to be evaluated over both 20- and 50-year life cycles.

### Going Beyond the RFP

Since the overall objective of this study is to identify means to reduce the overflow from the Chapaton basin and improve the quality of the overflow, Tetra Tech proposes to look at more than simply expanding the existing basin. To that end, Tetra Tech's work plan identifies several alternative approaches to the RFP scope that will assist Macomb County in identifying the least cost efforts to control overflows.

Tetra Tech's plan will address the following challenges, not specifically mentioned in the RFP:

**Flow Records** – The basin influent is not currently measured between the Eight and 1/2 Mile Drain input and the Nine Mile Drain input. Total volume received can be estimated from basin volume and pump curves. An approximation of effluent flow and rate can be estimated from depth over the effluent weir. The study approach must account for these flow metering limitations.

**Sewage Transportation Limitations** – The overflow from Chapaton is inversely related to the amount of flow that can be conveyed to Wayne County. The Jefferson Interceptor is prone to solids deposition and the current condition should be evaluated.

**Source Reduction** – Overflows can also be reduced through the reduction of combined sewage generation. The Tetra Tech approach will provide the County with conceptual costs for reducing overflows by controlling the generation of combined sewage.



## Work Plan

### Scope of Work

Tetra Tech proposes the following scope of work.

#### 1. MEETINGS

Tetra Tech proposes three to four meetings at the following milestones:

- ▶ **Kickoff** – Tetra Tech believes a kickoff meeting to confirm the goals and approach to any project is absolutely critical to its success. The Tetra Tech team will meet with the County's leadership to outline the project course and to introduce our team to yours. Such things as communication protocols and data needs will be outlined.
- ▶ **Progress** – Meetings at one or two interim steps will assist both Tetra Tech and Macomb County. Tetra Tech will present interim results which will enable the County to provide Tetra Tech with valuable feedback on the direction of the project. These meetings will also enable the County staff to educate senior leadership and elected officials on the project's progress.
- ▶ **Draft Report** – A meeting to review the results of the draft report will be held. Comments from this meeting will be incorporated into the final report.

#### 2. OVERFLOW CONTROL

The control strategy of combined sewer overflows can use one or a combination of the following three approaches:

- ▶ **Transport and Treat** – Transport the generated combined sewage to treatment
- ▶ **Source Reduction** – Reduce the volume generated of combined sewage
- ▶ **Storage** – Construct new storage or maximize the use of existing storage until treatment capacity becomes available

Tetra Tech's work plan follows these three categories to outline our approach to conducting this study.

On the following page is a graphic that depicts our approaches to protecting Lake St. Clair. The system optimization/Real-Time Control (RTC) works with each of these approaches to maximize performance. We have chosen to present RTC within the Transport and Treat strategy.



RTC Level Sensor

### Transport and Treat

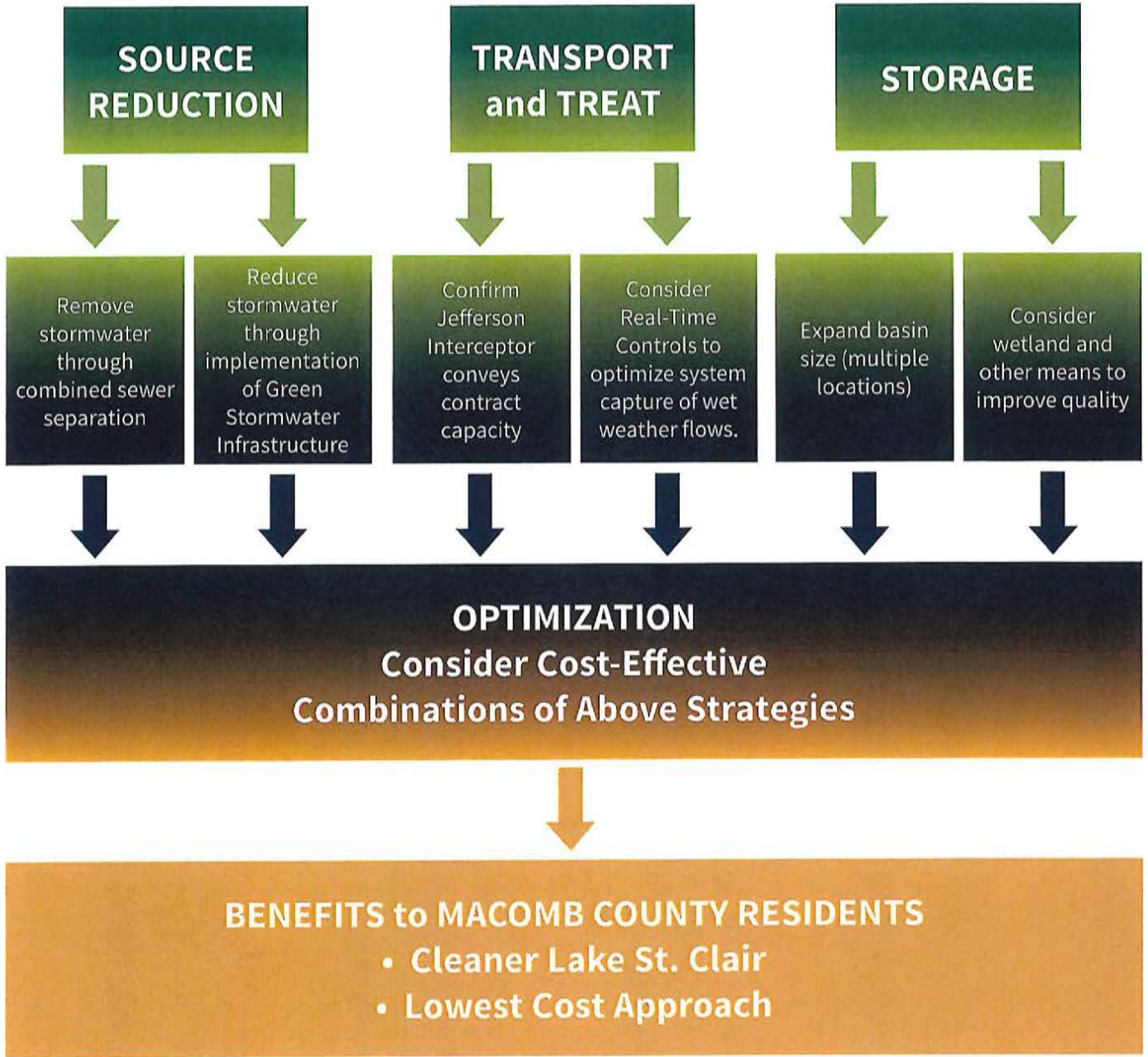
Transport and Treat consists of maximizing the combined sewage that can reach Wayne County and eventually the Great Lakes Water Authority for treatment. Two options will be explored to ensure this is being maximized.

### Jefferson Interceptor Capacity

In 1995, Tetra Tech identified that the Jefferson Interceptor capacity had been reduced from 30 to 40 mgd (approximately half of its capacity). Subsequent sewer televising revealed that the Interceptor was approximately 50 percent full of debris such as concrete and other construction materials. A subsequent cleaning operation restored the sewer to its design capacity. The 1996 study also identified the need to construct a parallel interceptor to ensure the full 102 cfs of contract capacity at Marter Road could be conveyed.

We recommend that concurrent with this study, the Jefferson Interceptor be inspected to assess its current condition. In the 23 years since the major cleaning operation, it is probable that the interceptor has returned to a partial obstructed condition. Based on field observations of the interceptor condition, Tetra Tech can use the computer model (SWMM) to estimate the impact of any obstructions on the Chapaton and Nine Mile Drain overflow volume. Based on the 1995 work, it was estimated that the partially blocked Jefferson Interceptor may cause 50 million gallons or more of CSO annually to reach Lake St. Clair. Thus, another major cleaning could significantly reduce the overflow volumes reported to the public each year.

# Tetra Tech's Macomb County Basin Overflow Reduction Strategy



## Work Plan

Tetra Tech developed the Southeast Macomb Sanitary District (SEMSD) computer model and it is still in our files. We will use this model to estimate the impact of reducing obstructions on reducing overflows reaching Lake St. Clair.

### System Optimization/Real-Time Control (RTC)

System optimization/RTC involves the use of dynamic controls to maximize the amount of water that is transported to treatment or stored in the system to minimize the volume that overflows to surface waters. For instance, the connections to the Jefferson Interceptor from sewers such as the Martin Drain and Nine Mile Drain involve simple weir and orifice structures. Part of this would involve assessing the frequency and duration of the interceptor using its maximum capacity in current conditions, the deliverable product would be an assessment of the volume, frequency, and duration of overflow reduction if that

interceptor were fully utilized, any data needs for a more comprehensive analysis and where major control points would likely need to be installed.

At times when the Jefferson Interceptor has available capacity, the amount of flow delivered to the interceptor should be increased.

However, the existing control structures are not able to properly adjust the flow sent to the interceptor.

RTC would use the installation of dynamic structures such as control gates that can be opened or closed based on the level

in Jefferson Interceptor. The completed hydraulic model that Tetra Tech possesses will allow us to estimate the volume reduction achievable by RTC. Thus, a large increase in treated volume (and reduction in overflow) can be achieved for minimal capital cost.

“Real-Time Control is an important component of MSD’s long-term plan to mitigate untreated combined sewer overflows into Beargrass Creek and the Ohio River. It is a cost effective management strategy to help sustain the resources of our community.”

Angela Akridge, Chief Engineer of the Louisville Metropolitan Sewer District



#### LEGEND

- |                                    |                                       |
|------------------------------------|---------------------------------------|
| 8-1/2 MILE DRAINAGE DISTRICT       | MICHIGAN DEPARTMENT OF TRANSPORTATION |
| SOUTHEAST MACOMB SANITARY DISTRICT | LOCAL MUNICIPALITY                    |
| MACOMB COUNTY PUBLIC WORKS         | RELIEF SEWER                          |
|                                    | COMMUNITY BOUNDARY                    |

Chapaton RTB Service Area

## Work Plan

Additionally, unused storage that may exist in large pipes (such as the Eight 1/2 Mile Drain) can be forced to flow full and effectively increase the useable storage in the system.

### Source Reduction

Source reduction involves the reduction of the combined sewage volume generated. Two strategies and costs will be evaluated.

### Combined Sewer Separation

The Chapaton RTB serves the Eight 1/2 Mile Drainage District that covers all of Eastpointe and the southern part of St. Clair Shores as shown in the figure on the previous page. The Eight 1/2 Mile Drainage District is part of the Southeast Macomb Sanitary District (SEMSD). The SEMSD outlets into the Wayne County Northeast Sewage Disposal System (NESDS) at the County line on Marter Road.

There are two main combined sewers systems in the Eight 1/2 Mile Drainage District: the Nine Mile Drain and the Eight 1/2 Mile Relief Drain. The Nine Mile Drain is older and shallower and runs west to east along Nine Mile Road. This combined sewer ends at a regulator chamber at Nine Mile and Jefferson and carries most of the sanitary wastewater from the Eight 1/2 Mile Drainage District.

The Eight 1/2 Mile Relief Drain also runs from the west to the east and ends at the Chapaton Pump Station (PS). In dry weather, the Chapaton PS lifts wastewater from the Eight 1/2 Mile Relief Drain into a discharge conduit. In wet weather, gates are operated to discharge wastewater from the Chapaton PS into the RTB.

In Eastpointe, the Eight 1/2 Mile Relief Drain is interconnected with the Nine Mile Drain. The Nine Mile Drain overflows into the Eight 1/2 Mile Relief Drain during wet weather at these interconnections.

In St. Clair Shores, the storm drainage system discharges directly into the Eight 1/2 Mile Relief Drain and the sanitary sewers discharge to the Nine Mile Drain.



Tetra Tech team installing a sluice gate

Sewer separation is an alternative to expanding the Chapaton RTB. With sewer separation, the Nine Mile Drain would become a sanitary sewer and the Eight 1/2 Mile Relief drain would become a storm sewer. The Chapaton RTB would become a sanitary equalization storage basin that, with the stormwater input removed, would rarely (if ever) overflow to Lake St. Clair. The stormwater would be pumped from the Eight 1/2 Mile Relief Drain and would be screened, skimmed, and discharged to Lake St. Clair through a new wetlands treatment zone.

For the sewer separation alternative, new sanitary or storm sewers could be built in Eastpointe and both options will be evaluated. It is most likely that it will be more cost-effective to build new storm sewers since it is difficult to locate all the existing sanitary connections. Also, most of the homes/businesses in Eastpointe were built prior to 1970 when footing drains were commonly connected to the sanitary

# Work Plan

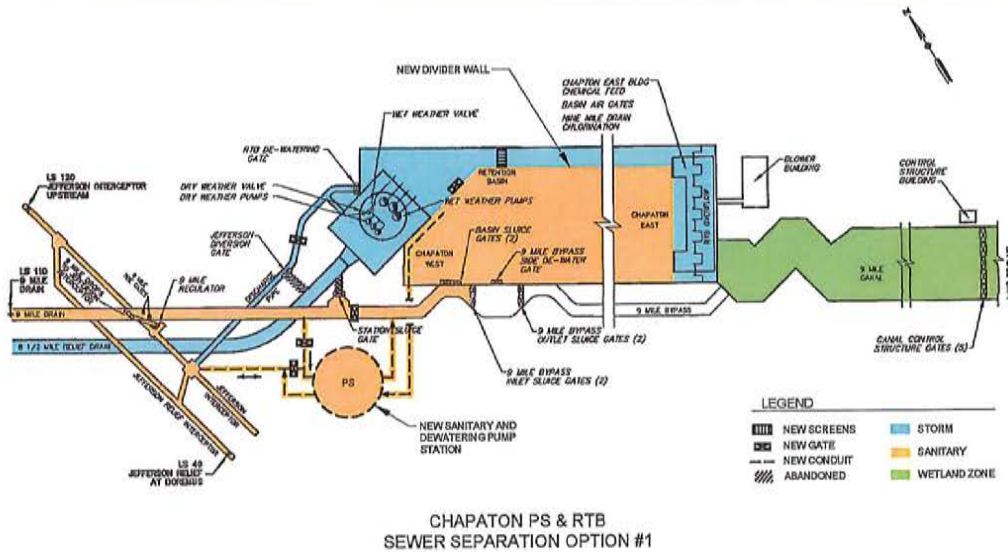


Figure A

sewers, therefore the infiltration/inflow (I/I) flow component in the sanitary wastewater is expected to be significant and important to estimate correctly in the design of new sanitary sewers. If new storm sewers are built, they will be shallower and will pick up the street, parking lot and site drainage. It is more straightforward to locate the storm drainage connections.

For the part of St. Clair Shores in the Eight 1/2 Mile Drainage District, most of the City of St. Clair Shores sanitary sewers are already connected to the Nine Mile Drain and most of the storm sewers are connected to the Eight 1/2 Mile Relief Drain. The St. Clair Shores sanitary and storm sewer maps will

be reviewed to identify any St. Clair Shores sanitary and storm sewers that need to be re-routed to completely accomplish the sewer separation.

The sewer separation alternative would require work at the Chapaton PS and RTB. Two options will be developed and evaluated as shown on Figures A and B. Option #1 utilizes the existing Chapaton PS as the stormwater pump station.

A divider wall would be built inside the RTB to create a stormwater channel and a sanitary basin. New screens would be built in the stormwater channel. Stormwater would discharge over the existing end weir and the downstream Nine Mile canal would

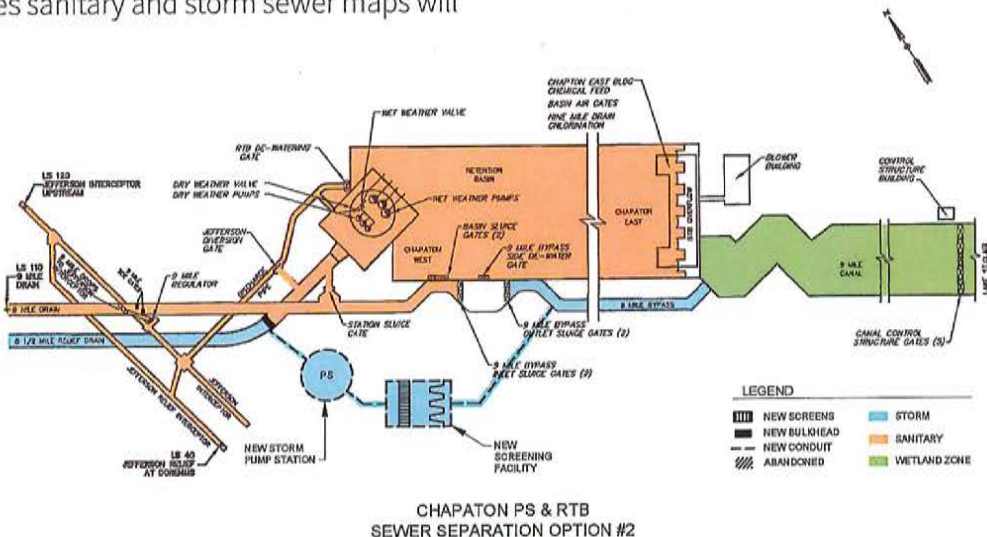


Figure B

## Work Plan

be converted to a wetlands treatment zone. A new sanitary PS would be built to lift the sanitary wastewater into the sanitary basin when filling by gravity is not possible. The sanitary PS also would be used to dewater the sanitary basin.

Option #2 for sewer separation includes bulkheading the Eight 1/2 Mile Relief Drain just upstream of the Chapaton PS and building a new stormwater PS. A new screening facility would be built downstream of the stormwater PS and would discharge to the new wetlands treatment zone. The entire Chapaton PS and RTB would be converted to a sanitary basin.

The pollutant concentrations and loadings from the Chapaton RTB CSO discharges have been estimated in the past. This data will be used to estimate the average annual loadings for existing conditions and for the RTB expansion alternatives. The pollutant concentrations of stormwater have been estimated in the past for the Clinton River Watershed (including Lake St. Clair) and the Rouge River Watershed. Data will be used to estimate the average annual loadings from the stormwater discharges to Lake St. Clair with the sewer separation alternative. The effectiveness of a wetlands treatment zone also will be estimated and will reduce these loadings to Lake St. Clair.

Tetra Tech completed a nearly identical evaluation in the 1996 Overflow Control Plan. Applied Science will use this evaluation as a head start in completing the current evaluation.

### **Green Stormwater Infrastructure**

Green stormwater infrastructure (GSI) will promote more stormwater to be infiltrated to the groundwater so less combined flow is generated. Detroit has elected to invest over \$20 million in green solutions to avoid much higher investments in storage (i.e., grey solutions). MDEQ has indicated that implementation of GSI in combined sewer areas should be considered as one approach to reducing the amount of discharge from existing CSO facilities.

Tetra Tech will perform a high-level evaluation to estimate what reductions may be possible for the Southeast Macomb System using green solutions in the combined areas.



Tetra Tech team constructing green infrastructure in the City of Detroit.

The hydraulic model will allow us to quantify what the impact will have on the overflow volume.

### **Storage Improvements**

Storage improvements will follow the RFP and are briefly discussed below:

#### *AREA 1 – Expansion to the South*

Expansion to the south has the potential to add 25 to 30-mg to the existing 28-mg basin. Chapaton operational records will be used to estimate the additional capture and thus, volume reduction which can be achieved. However, due to some uncertainties in accuracy of these records, we recommend also using the Tetra Tech model, which was shown to accurately represent the system to provide this estimate.

Providing an accurate construction cost for this work is a task that Tetra Tech will excel at. In particular, our design and construction work at the Milk River CSO Retention basin just a few miles south of Chapaton will provide excellent budgetary numbers for a large project such as this.



Milk River CSO Retention Basin



## Work Plan

One key to providing an accurate budgetary cost is identifying all of the appurtenances needed to successfully operate a combined sewage detention basin. Such items as flushing, chlorination, dechlorination (perhaps), lighting, and restoration (including the displaced parking lot) need to be included.

Another consideration will be the basin foundation and design to accommodate what would essentially be construction within the lake. The design details cannot all be identified in this conceptual study, but Tetra Tech's experience with basins and FK's geotechnical expertise can provide an accurate budgetary amount for this study.

Geotechnical considerations will include test borings or related subsurface investigation information related to the Chapaton Basin and any obtainable information for adjacent infrastructure. We expect that sufficient geotechnical information exists to perform the concept-level analysis necessary for this study, although we have also included in our scope of services, gathering some confirmatory information. This additional testing will be focused on determining (confirming) long-term drained soil strength parameters, which will be important for the analysis.

FK Engineering will perform site reconnaissance, where the conditions within and adjacent to Areas 1 and 2 are physically observed. Services to be performed will include observation of slopes and shore reinforcement features (sheet piling, rip rap, etc.), cursory observations around the perimeter of the basin, control structure, park, and canal. The target deliverable will be identification of significant geotechnical and construction challenges to the proposed expansion options.

To supplement the historical information review, we propose to perform a limited geotechnical investigation involving one to two test borings in the proposed expansion area near the canal. Test boring depth(s) for the study phase will be limited to about 40 feet. Samples will be recovered using the Standard Penetration Testing (SPT) method where we obtain split spoon samples at 2.5 feet on center

within the upper 10 feet, and then at 5 feet below that depth. The purpose of this investigation is to provide current/relevant subsurface information, including drained strength parameters that can be used in our preliminary geotechnical/constructability analysis.

### *AREA 2 – Expansion to the East (Wetland)*

#### **Wetland Treatment**

The construction of a wetland to the east to manage CSOs should be considered a treatment polishing step and not a capture step. Although, a portion of the CSO could be captured and pumped back to treatment.



Wetland Cleanup

Human pathogens and nutrients are a normal component of domestic wastewater. Treatment wetlands have been shown to successfully remove, attenuate or transform these constituents to improve water quality prior to its release into a receiving water body. For human pathogens, research suggests that vegetated wetlands with alternating zones of open water and emergent vegetation reduce the pathogen load better than deep open water ponds. For additional nutrient treatment removal, the efficacy of removal or attenuation depends on the particular constituents of concern, the residence time of water treatment, water depth, amount of vegetation present, amount of dissolved oxygen present in the water column, and water temperature related to season.

To achieve these goals, ASTI will work with the project team to identify the water quality goals for a wetland to polish Chapaton CSO to provide basic modeling to determine likely treatment efficiencies, design (conceptual) a treatment wetland system, and provide a cost estimate for construction. Issues including widely fluctuating water levels of Lake St. Clair and climate change will be addressed during the conceptual design phase.

Since the area where treatment wetland construction is desired is adjacent to Lake St. Clair, permitting is an important project consideration.

## Work Plan



Wildlife found in and around Lake St. Clair

Receipt of wetland permits from both the MDEQ and the US Army Corps of Engineers will be necessary to construct the desired improvements. ASTI proposes to meet with both agencies during a pre-application meeting to introduce the project, its goals, and the proposed construction design. The desired outcome of the meeting is to determine the likelihood of a successful permit application, should the project move to construction, and ensure that all agency concerns are addressed in a future wetland permit application submittal.

The newly designed treatment wetland will also provide a unique opportunity to provide additional coastal wildlife habitat along Lake St. Clair. Along with improved habitat for birds, herpetofauna, and aquatic invertebrates, the wetland may provide much-needed new fish spawning areas for the Lake St. Clair fishery. These habitat improvements may help the project qualify for state and federal grant funding.

Therefore, ASTI will incorporate habitat components into the wetland design as appropriate, without impacting the treatment removal capacity. Since wildlife can contribute to the potential pathogen (total coliform) load of the wetland system, consideration must be given to how increased wildlife usage may impact desired treatment. ASTI will also provide a list of potential grant funding, including entity, application dates, amount of funding available, and likelihood of eligibility.

Finally, the created wetland system will allow for potential recreational opportunities, ranging from bird watching, to fishing to a new boat launch. ASTI will determine along with the project team what amenities are desirable and will then incorporate them into the wetland development plans.



Recreational Fishing

### Concrete Storage

Estimating the impact of cost of a concrete basin expansion to the east follows the same approach as described in Area 1 above. However, there are some items unique to this option.

Chapaton's control gate is an important element to ensure a dissolved oxygen sag does not occur in the water of the state. However, such a gate may not be needed if the discharge is moved to the lake. As Tetra Tech found at the Martin outfall, a discharge at the lake provides more mixing of the effluent with the lake water and dissolved oxygen sags were not recorded. A conceptual cost for a gate will be included for budgetary purposes.

Additionally, expansion to the east would displace a boat launch which is a critical element for the residents. A future expansion in this direction would need to be accompanied with a new launch on or near the proposed structure.



Public boat launch

### Water Quality Assessment

For each of the alternatives discussed above, Tetra Tech will provide estimates for impact upon water quality. With the reductions in volumes estimated by both records and the model, the volume impact will be well quantified. These will be combined with measurements of water quality (primarily TSS) to estimate water quality improvements to

be obtained. Typically the pollutant of concern is bacteria, although conceivably the disinfection system addresses that pollutant.

Computer modeling to assess water quality improvements do not appear to fit the County's budget and can be deferred to a future phase.

## Work Plan

### Chemically-Enhanced Primary Treatment

The impact of CSOs in the lake quality can be reduced by additional treatment of the overflow. This high-rate treatment (also referred to as Chemically-Enhanced Primary Treatment or CEPT) is an emerging technology in the industry. CEPT could be considered for the facility as a way to further remove pollutant mass within the existing basin. Tetra Tech's approach will provide a conceptual cost and benefit that may be realized by high-rate treatment of overflows.

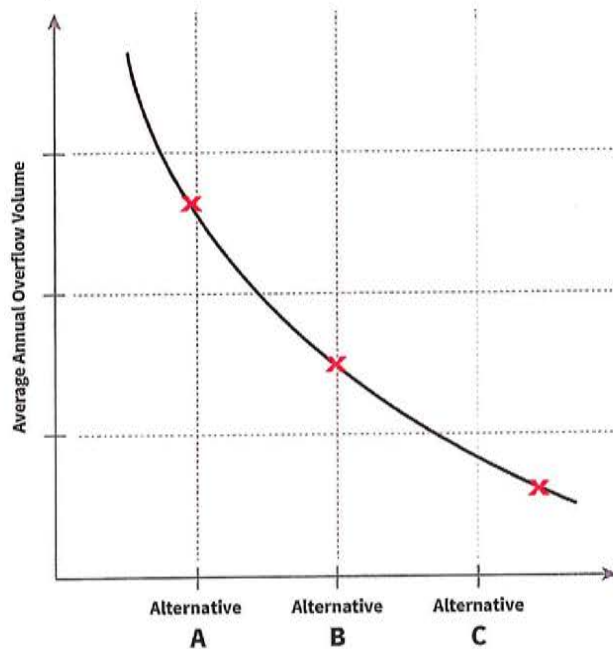


Tetra Tech team monitoring water quality

### Deliverables

The primary deliverable will be a draft and final report summarizing the above work. We have budgeted for approximately ten (10) copies of each.

The reports will fully describe the approach and results of the evaluations. A primary objective will be to communicate the cost and benefits of each alternative on overflow volume. One method we may choose to demonstrate this is a simple curve



of cost versus overflow volume such as included in this proposal. Such a curve may be useful to communicate the cost and benefit to elected officials, regulators and the public.

As requested in the RFP, we will present capital costs, 20-year life cycle costs, and 50-year life cycle costs. Tetra Tech will provide opinions on the feasibility to get any alternative permitted by the MDEQ and US Army Corps of Engineers.

Tetra Tech will also deliver a one-page monthly report that summarizes the project's progress. Most clients find this report helpful to communicate project progress to senior management and the public.

### Stabilization Study

We envision the following scope of services are necessary to complete the canal stability analysis:

- ▶ We will perform this analysis using SEEP/W (GeoStudio) and SLOPE/W (GeoStudio) software. We expect to perform our analyses on one cross-section on each side of the canal (east and west of the existing discharge structure).
- ▶ ASTI's skills at vegetative stability options will supplement's FK's structural stability analysis.
- ▶ Develop an "Options Analysis" matrix to be used to make reasonable alternative options comparisons. This matrix stability (both structural and non-structural options) alternatives for Areas 1 and 2, assessments for construction feasibility, preliminary cost considerations, significant geotechnical engineering challenges, and possible construction schedule considerations.

## Work Plan

### Assumptions

The following assumptions are made in this proposal. Tetra Tech can modify our scope and fee to accommodate any requested changes to these assumptions.

- ▶ Inspections of the Jefferson Interceptor, if desired, will be performed by Macomb County under separate contract or could be added to the proposed Tetra Tech scope.
- ▶ Public meetings will not be conducted nor will meetings with adjacent properties be held
- ▶ Alternatives will be conceptual in nature. Preliminary design and final design of any alternative will be needed before construction.
- ▶ New model calibration will not be performed.

### Project Schedule

Our proposed schedule is provided below.

Task	Month Following Notice-To-Proceed					
	1	2	3	4	5	6
Kick-Off Meeting	▲					
Gather Data	■					
Alternative Evaluation - CSO		■	■			
Canal Stability	■	■				
Progress Meeting			▲			
Complete Evaluation - CSO			■	■		
Draft Report				■	■	
Draft Report Review					▲	
Finalize Report					■	■
Final Report						▲

**Note:** Schedule could be expanded if Jefferson Interceptor Condition Assessment is performed



**TETRA TECH**

January 26, 2018

Eight and One-Half Mile Drainage District  
ATTN: Madison Tanghe, Senior Secretary  
21777 Dunham Road  
Clinton Township, MI 48036  
**Re: Chapaton Expansion Study - MCPWO-WWS-2018-RFP-004**

Dear Sir/Madam:

Please find attached our fee submittal that accompany the work plan and assumptions listed in our Technical Proposal. We welcome the opportunity to discuss any part of this proposal at your request.

Should you have any questions about our submittal, please feel free to give us a call at (734) 213 – 4081.

Sincerely,

Tetra Tech of Michigan, PC

Ken E. Kingsley, PE  
*Client Representative*

Brian M. Rubel, PE, PMP  
*Project Manager*

Eight and One-Half Mile  
Drainage District

Proposal No. MCPWO-WWS-2018-RFP-004

**PROPOSAL FORM**

Proposal No. \_\_\_\_\_ Proposer: Tetra Tech of Michigan, PC  
(print or type company name)

OWNER \_\_\_\_\_  
OWNER \_\_\_\_\_ (313) 964 - 0790  
(Telephone Number)

MACOMB COUNTY  
MT. CLEMENS, MICHIGAN 48043

**BASE PROPOSAL**

The undersigned Proposer, having carefully examined the RFP Documents and the Scope of Work, the requirements of the Request for Proposal and all subsequent Addenda, all as issued by the Owner, and being familiar with all conditions and requirements of the Scope of Work, hereby proposes and agrees to furnish all material, labor, equipment, tools and supervision; and to furnish all services necessary to complete the Work required in accordance with the RFP Documents for the following projects, in the following amount:

One hundred thirteen thousand five hundred eighty Dollars \$ 113,580.00  
(Sum to be written out)

Respectfully submitted this 16 day of January, 2018.

By: Tetra Tech of Michigan, PC  
(Name of proposing firm or corporation)

By: Brian M. Rubel  
(Signature)

Brian M. Rubel, PE, PMP  
(Type or print name)

Title: Vice President  
(Owner/Partner/President/Vice Pres.)

Address: 65 Cadillac Square, Ste. 3610, Detroit, MI

Phone: (313) 964 - 0790

License: 800980847 - MI Corporation ID

Federal ID No.: 20 - 2471521

(Affix Corporate Seal Here)

Witness:

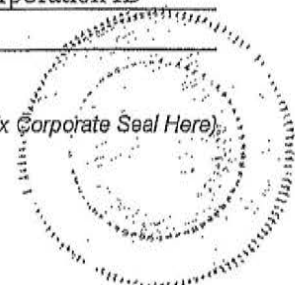
Attest: James Rydquist  
(Signature)

By: James Rydquist  
(Type or print name)

Title: President and Secretary  
(Corporate Secretary or Assistant Secretary Only)

Tetra Tech of Michigan, PC  
Company Name

Brian M. Rubel, PE, PMP  
Company Representative  
Vice President  
Title  
1/16/2018  
Date



<b>Price Proposal</b> <b>Macomb County Chapaton Study</b>		Labor Plan																		Task Pricing Totals			
		18 Resource																		Labor	Subs	Totals	
Bill Rate >	Proj Area >	200.00	200.00	200.00	150.00	550.00	150.00	198.00	100.00	200.00	175.00	120.00	115.00	200.00	170.00	140.00	190.00	130.00	90.00				
Contract Type: T&M	Submitted to: Macomb County Chapaton Study	Program Manager (Ken Kingsley)	Program Manager (Carol Huhngel)	Program Manager (Brian Rubel)	Project Engineer 1 (Justin Voss)	Sr Engineer 1 (Roger Kallman)	Project Engineer 1 (Krisa Takacs)	Sr Engineer 2 (Dan Christian)	Project Administrator (Admin)	Sr Project Manager (Dana Tao)	Sr Project Manager (Karen Ridgway)	Project Manager 1 (John Michalski)	Engineer 2 (MSI)	Sr Project Manager (Fritz Klingler)	Engineer 3 (Zach Carr)	Engineer 2 (K Geotech)	Dianne Martin (Dianne Martin)	Paul Rentschler (Paul Rentschler)	ASTI CAD (ASTI CAD)				
Total Labor Hrs		6	8	40	140	48	48	40	38	4	8	30	108	3	3	44	28	104	40	111,980	2,200	113,580	
Project Phases / Tasks		760																					
1 OVERFLOW EVALUATION		696																					
1 Meetings		52	4	16	12	8	8																
2 Alternatives		500																					
1 Transport and Treat		48																					
Jefferson Evaluation		26																					
RTC		22																					
2 Source Reduction		202																					
Separation		147																					
Green Stormwater Infrastructure		55																					
3 Storage		250																					
Expansion		71																					
Treatment Controls		179																					
3 Report		144																					
Draft		115																					
Final		29																					
2 STABILIZATION ALTERNATIVES		64																					
1 Geotech Investigation		14																					
2 Analysis		12																					
3 Alternative Evaluation		38																					
<b>Totals</b>		<b>760</b>	<b>6</b>	<b>8</b>	<b>40</b>	<b>140</b>	<b>48</b>	<b>48</b>	<b>40</b>	<b>38</b>	<b>4</b>	<b>8</b>	<b>30</b>	<b>108</b>	<b>14</b>	<b>12</b>	<b>44</b>	<b>28</b>	<b>104</b>	<b>40</b>	<b>111,980</b>	<b>2,200</b>	<b>113,580</b>

8 1/2 MILE RELIEF DRAIN - 2/12/18

<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>		
8 1/2 Mile Relief	Chapter 20 State of MI - 16.04% County of Macomb - 2.25% Dept. of Roads - 2.25% Eastpointe - 54.33%	Astorino	Central Oil	\$ 1,235.05	Invoice #175947 - 1/23/18	Oil Changes for SWFs			
		Astorino	Consumers Energy	\$ 630.32	Monthly Gas - 12/22/17 - 1/23/18	Service Garage			
		Astorino	Consumers Energy	\$ 566.17	Monthly Gas - 11/19/17 - 12/21/17	Chapaton East			
		Astorino	Consumers Energy	\$ 943.93	Monthly Gas - 12/22/17 - 1/23/18	Chapaton East			
		Astorino	Consumers Energy	\$ 733.01	Monthly Gas - 11/19/17 - 12/21/17	Chapaton West			
		Astorino	Consumers Energy	\$ 1,176.33	Monthly Gas - 12/22/17 - 1/23/18	Chapaton West			
		Astorino	Cummins Bridgeway	\$ 604.66	Invoice #006-56956 - 12/28/17	Repair low voltage fault on generator			
		Astorino	DE-CAL, Inc.	\$ 1,055.00	Invoice #WO17220491 - 6/21/17	Repair leak on condenser coil			
		Astorino	DTE Energy	\$ 7,952.14	Monthly Electrical - 11/8/17 - 12/7/17	Stormwater Pumps			
		Astorino	DTE Energy	\$ 7,300.41	Monthly Electrical - 12/8/17 - 1/9/18	Stormwater Pumps			
		Astorino	Fishbeck, Thompson, Carr & Huber, Inc.	\$ 3,888.00	Invoice #371975 - 1/8/18 Engineering Services - ending 12/29/17	As-needed Engineering Services			
		Astorino	Jones Chemicals, Inc.	\$ 4,084.96	Invoice #746362 - 1/25/18	Hypochlorite Solution - 4,515 gallons			
		Astorino	Jones Chemicals, Inc.	\$ 4,036.36	Invoice #746451 - 1/26/18	Hypochlorite Solution - 4,461 gallons			
		Astorino	Kone, Inc.	\$ 604.95	Invoice #949683491 - 8/1/17	Quarterly Maintenance - Elevator			
		Astorino	Kone, Inc.	\$ 604.95	Invoice #949757014 - 11/1/17	Quarterly Maintenance - Elevator			
		Astorino	Macomb County Treasurer	\$ 39,164.00	Invoice #7751-2018 - 1/2/18	Reimbursement for Accounting & Administrative Services			
		Astorino	Motor City Electric Technologies, Inc.	\$ 511.81	Invoice #91407 - 11/9/17	Symantec Anti-Virus Renewal			
		Astorino	Motor City Electric Technologies, Inc.	\$ 712.00	Invoice #91463 - 11/29/17	Firewall Configurations; move services to primary Comcast line			
		Astorino	St. Clair Shores	\$ 3,315.69	Water - 9/13/17 - 12/15/17	Chapaton RTB			
		Astorino	Tremco	\$ 2,250.00	Invoice #95139397 - 11/15/17	Roofing Warranty for Chapaton Buildings			
		<b>Total</b>				\$ 81,369.74			



# CENTRAL OIL

Voice: 586-445-2583

Fax: 586-445-9889

www.centraloil.net

ISO 9001:2000

ISO 14001

# INVOICE

Invoice Number: 175947

Invoice Date: Jan 23, 2018

Page: 1

Duplicate

30759 Edison Dr.  
Roseville, MI 48066  
USA



**RECEIVED**  
JAN 26 2018

<b>Bill To:</b>	<b>BY:</b>	<b>Ship to:</b>
MACOMB COUNTY OPW 21777 DUNHAM CLINTON TWP, MI 48036		JEFFERSON PUMP STATION 23001 E 9 MILE ST. CLAIR SHORES 48080

<b>Customer ID</b>	<b>Customer PO</b>	<b>Payment Terms</b>	
CYMAOP	18-9321	2% 10, Net 30 Days	
<b>Sales Rep ID</b>	<b>Shipping Method</b>	<b>Ship Date</b>	<b>Due Date</b>
	Box Truck		2/22/18

Quantity	Item	Description	Unit Price	Amount
5.00	IEAW68D	EMERSON HYDRAULIC AW 68 DRUM	222.01	1,110.05
5.00	DRUMDEP	DRUM DEPOSIT	25.00	125.00

chg: 8 1/2 Mile

Date 1-26-18

Chief Deputy \_\_\_\_\_

Engineer(s) \_\_\_\_\_

Manager(s) JA

Coordinator(s) BD

Finance Officer blm

**PA038455 93000**

Staff 2-6-18  
Board 2-12-18

Please Remit payment to: 23936 Industrial Park Dr.  
Farmington Hills, Michigan 48335

Invoice Subtotal	1,235.05
Sales Tax	
Total Invoice Amount	1,235.05
Payment/Credit Applied	
<b>TOTAL</b>	<b>1,235.05</b>

<b>Credit Card Type</b>	
<b>Check #</b>	

**Thank You. We really appreciate your business!**

TERMS: Net 30. All invoices not paid in 45 days are subject to FINANCE CHARGE of 1-1/2% per month. (ANNUAL RATE of 18%) and collection expenses. \$35 fee on all returned checks.

SECURITY INTEREST: PLEASE NOTE THAT CENTRAL OIL LLC RETAINS TITLE TO ALL MERCHANDISE SOLD ON CREDIT UNTIL PAID FOR IN FULL. PAYMENTS RECEIVED ON ACCOUNT ARE APPLIED TO THE OLDEST SALES FIRST.

Seller makes no representation or warranty, express or implied, as to the above material, except that same is of the quality and grade shown above. Buyer shall examine and test such material immediately, and failure of Buyer to make claim within 30 days after delivery shall be a waiver by Buyer of all claims with respect thereto. Buyer assumes all risk and liability for the results obtained by the use of the material in manufacturing processes. NO claim of any kind shall be greater than the purchase price of the material in respect of which such claim is made.

Account: **1000 0754 2333**



**RECEIVED**  
JAN 31 2018  
MIT

**Questions:**  
Visit: [ConsumersEnergy.com](http://ConsumersEnergy.com)  
Call us: 800-805-0490

Amount Due: **\$630.32**  
Please pay by: **February 19, 2018**

**MACOMB COUNTY DRAIN COMMISSION**  
21777 DUNHAM RD  
CLINTON TOWNSHIP MI 48036-1005

▶ **Thank You** - We received your last payment of **\$421.11** on **January 10, 2018**

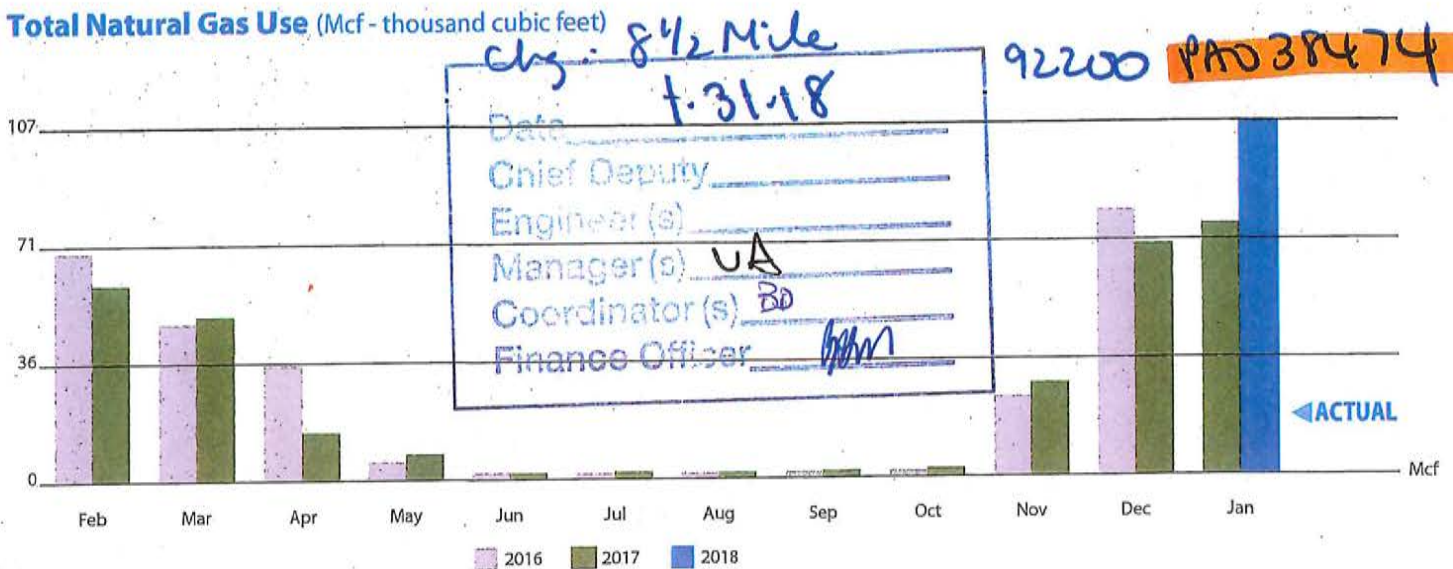
▶ **Service Address:**  
22999 E 9 MILE RD  
SAINT CLAIR SHORES MI  
48080-0000



**January Energy Bill**

Service dates: December 22, 2017 - January 23, 2018 (33 days)

**Total Natural Gas Use** (Mcf - thousand cubic feet)



**January Natural Gas Use**

**107.0 Mcf**  
January 2017 use: 76 Mcf

Cost per day: **\$19.10**

Mcf per day: **3.242**

Prior 12 months of gas use: **345 Mcf**

Staff 2.6.18  
Board 2.12.18

**STAY SAFE:** Call 9-1-1 and 800-477-5050. We'll respond day or night.



**Downed power lines.**  
Stay 25 feet away. Call from a safe location.



**If you smell natural gas.**  
If the "rotten egg" odor of gas is apparent, call from a safe location.



**A New Energy Future for Michigan**

Consumers Energy is creating a cleaner, leaner vision to serve our customers.

Our Integrated Resource Plan will imagine Michigan's energy landscape in the next five, 10 and 15 years.

We're gathering input at two public open houses:

**Jan. 29** - 4 p.m. to 7 p.m. at the Kellogg Hotel and Conference Center, 219 S Harrison Rd., East Lansing, MI 48824

**Feb. 12** - 4 p.m. to 7 p.m. at the John G. Russell Leadership Training Center, 120 Front Ave. SW, Grand Rapids, MI 49504

Learn more at <http://bit.ly/michiganenergyfuture>



**Questions:**  
Visit: **ConsumersEnergy.com**  
Call us: **800-805-0490**

Amount Due: **\$566.17**  
Please pay by: **January 16, 2018**

ATTN PUBLIC WORKS  
MACOMB COUNTY  
21777 DUNHAM RD  
CLINTON TOWNSHIP MI 48036-1005

**RECEIVED**  
**JAN 02 2018**  
BY: **MH**

**Thank You** - We received your last payment of **\$65.18** on **December 11, 2017**

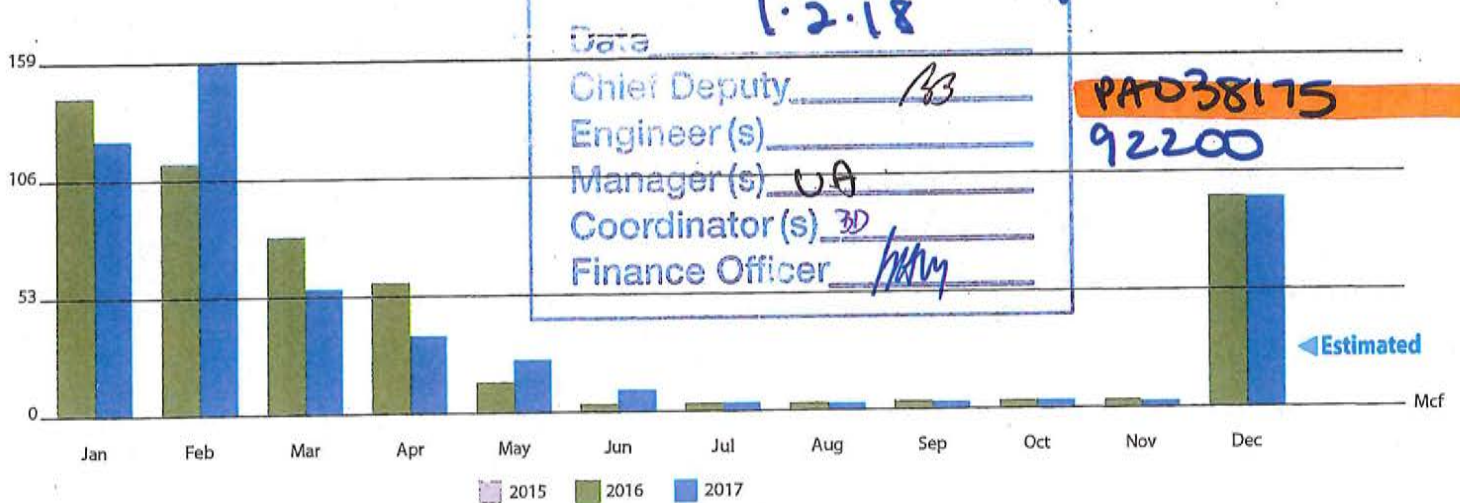
**Service Address:**  
23301 E 9 MILE RD  
SAINT CLAIR SHORES MI  
48080-0000

**December Energy Bill**

Service dates: **November 19, 2017 - December 21, 2017 (33 days)**

**Total Natural Gas Use** (Mcf - thousand cubic feet)

*Chg: 8 1/2 Mile Rly*



Date: *1-2-18*

Chief Deputy: *AB*

Engineer(s): \_\_\_\_\_

Manager(s): *UA*

Coordinator(s): *BD*

Finance Officer: *hmy*

**PA038175**  
**92200**

**December Natural Gas Use**

**95.1 Mcf**  
December 2016 use: 95 Mcf

Cost per day:

**\$17.16**

Mcf per day:

**2.882**

Prior 12 months of gas use:

**523 Mcf**

**STAY SAFE:** Call 9-1-1 and 800-477-5050. We'll respond day or night.



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Discover the many ways your business can save, or tell us a little about your business to find the solutions best suited to you.



Get started  
[www.ConsumersEnergy.com/startsaving](http://www.ConsumersEnergy.com/startsaving)

*Staff 1-9-18*  
*Board 2-12-18*



**Questions:**  
Visit: [ConsumersEnergy.com](http://ConsumersEnergy.com)  
Call us: **800-805-0490**

Amount Due: **\$943.93**  
Please pay by: **February 20, 2018**

ATTN PUBLIC WORKS  
MACOMB COUNTY  
21777 DUNHAM RD  
CLINTON TOWNSHIP MI 48036-1005

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FEB 01 2018  
MH

▶ **Thank You** - We received your last payment of **\$566.17** on **January 10, 2018**

▶ **Service Address:**  
23301 E 9 MILE RD  
SAINT CLAIR SHORES MI  
48080-0000

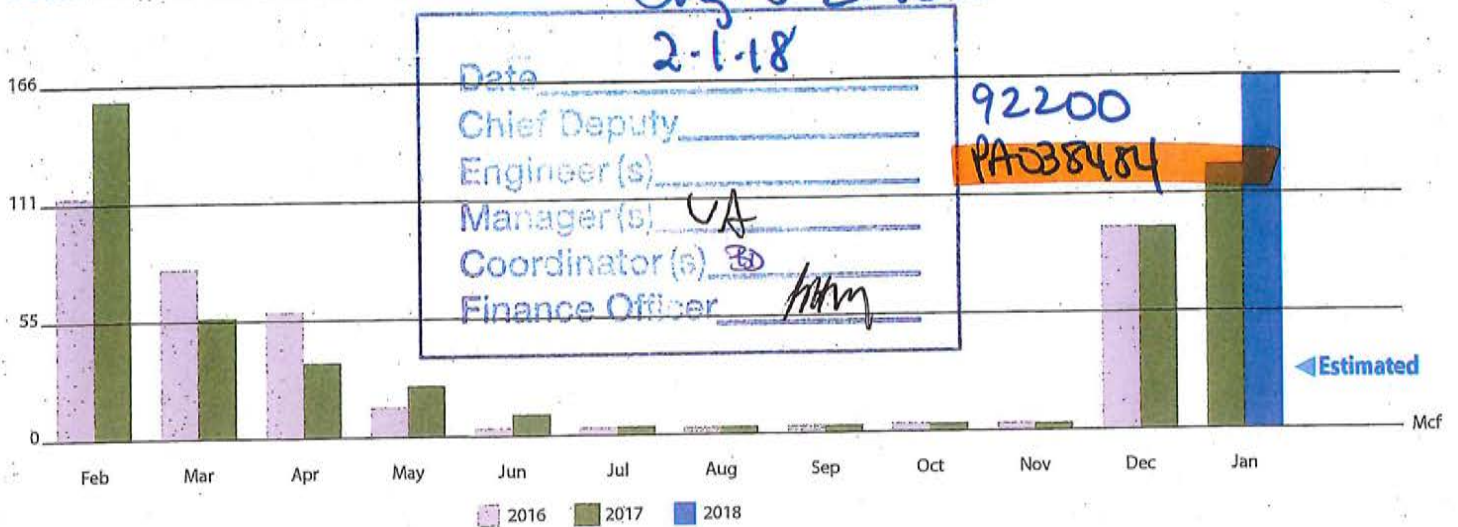


**January Energy Bill**

Service dates: **December 22, 2017 - January 23, 2018 (33 days)**

**Total Natural Gas Use** (Mcf - thousand cubic feet)

*Chy: 8 1/2 Mile*



**January Natural Gas Use**

**166.2 Mcf**  
January 2017 use: 124 Mcf

Cost per day: **\$28.60**

Mcf per day: **5.036**

Prior 12 months of gas use: **564 Mcf**

*Staff 2-6-18*  
*Douva 2-12-18*

**STAY SAFE:** Call 9-1-1 and 800-477-5050. We'll respond day or night.



**Downed power lines.** Stay 25 feet away. Call from a safe location.



**If you smell natural gas.** If the "rotten egg" odor of gas is apparent, call from a safe location.



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**Feb. 12** - 4 p.m. to 7 p.m. at the John G. Russell Leadership Training Center, 120 Front Ave. SW, Grand Rapids, MI 49504

28 Learn more at <http://bit.ly/michiganenergyfuture>



**Questions:**  
 Visit: [ConsumersEnergy.com](http://ConsumersEnergy.com)  
 Call us: 800-805-0490

Amount Due: **\$733.00**  
 Please pay by: **January 12, 2018**

CHAPTON PUMPING STATION  
 MACOMB CO DRAIN COMM  
 21777 DUNHAM RD  
 CLINTON TOWNSHIP MI 48036-1005

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 BY: MH

**Thank You** - We received your last payment of **\$354.69** on **December 11, 2017**

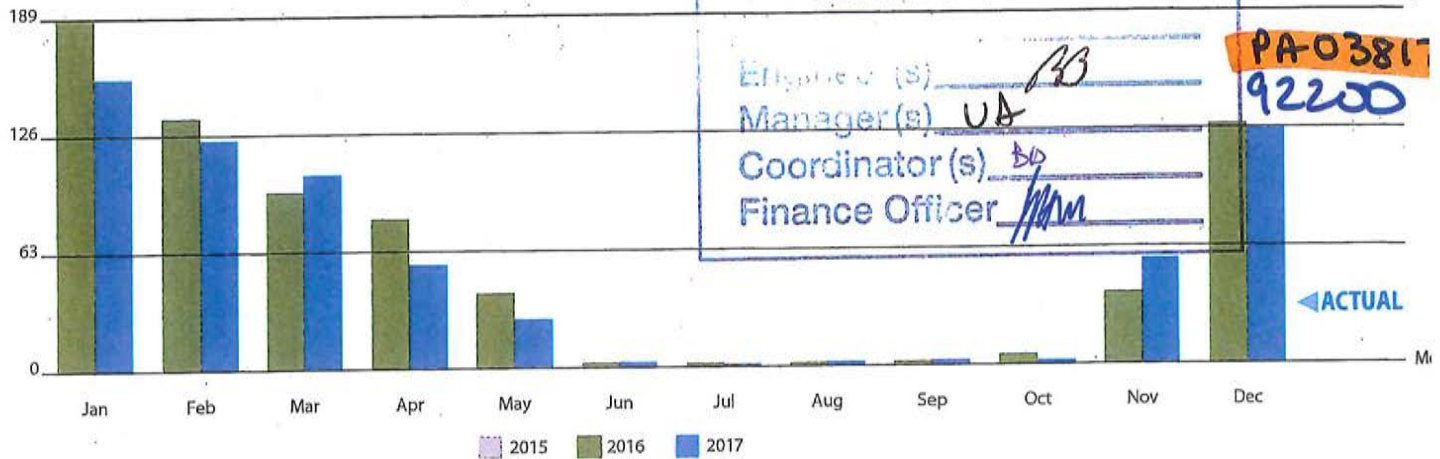
**Service Address:**  
 23001 E 9 MILE RD  
 SAINT CLAIR SHORES MI  
 48080-1576



**December Energy Bill**

Service dates: November 19, 2017 - December 21, 2017 (33 days)

**Total Natural Gas Use** (Mcf - thousand cubic feet)



*Chg: 8 1/2 Mile*  
 Date 1.2.18  
 Employee(s) AB  
 Manager(s) UA  
 Coordinator(s) BD  
 Finance Officer MM

**PA-03817**  
**92200**

**December Natural Gas Use**  
**126.1 Mcf**  
 December 2016 use: 128 Mcf

**Cost per day:**  
**\$22.21**

**Mcf per day:**  
**3.821**

**Prior 12 months of gas use:**  
**662 Mcf**

**STAY SAFE:** Call 9-1-1 and 800-477-5050. We'll respond day or night.



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 Stay 25 feet away. Call from a safe location.



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Discover the many ways your business can save, or tell us a little about your business to find the solutions best suited to you.

**Get started**  
[www.ConsumersEnergy.com/startsaving](http://www.ConsumersEnergy.com/startsaving)

*Staff 1-9-18*  
*Board 2.12.18*



Questions:  
Visit: [ConsumersEnergy.com](http://ConsumersEnergy.com)  
Call us: 800-805-0490

Amount Due: **\$1,176.33**  
Please pay by: **February 20, 2018**

**RECEIVED**  
FEB 01 2018  
BY: *MT*

Thank You - We received your last payment of \$733.01 on January 10, 2018

Service Address:  
23001 E 9 MILE RD  
SAINT CLAIR SHORES MI  
48080-1576

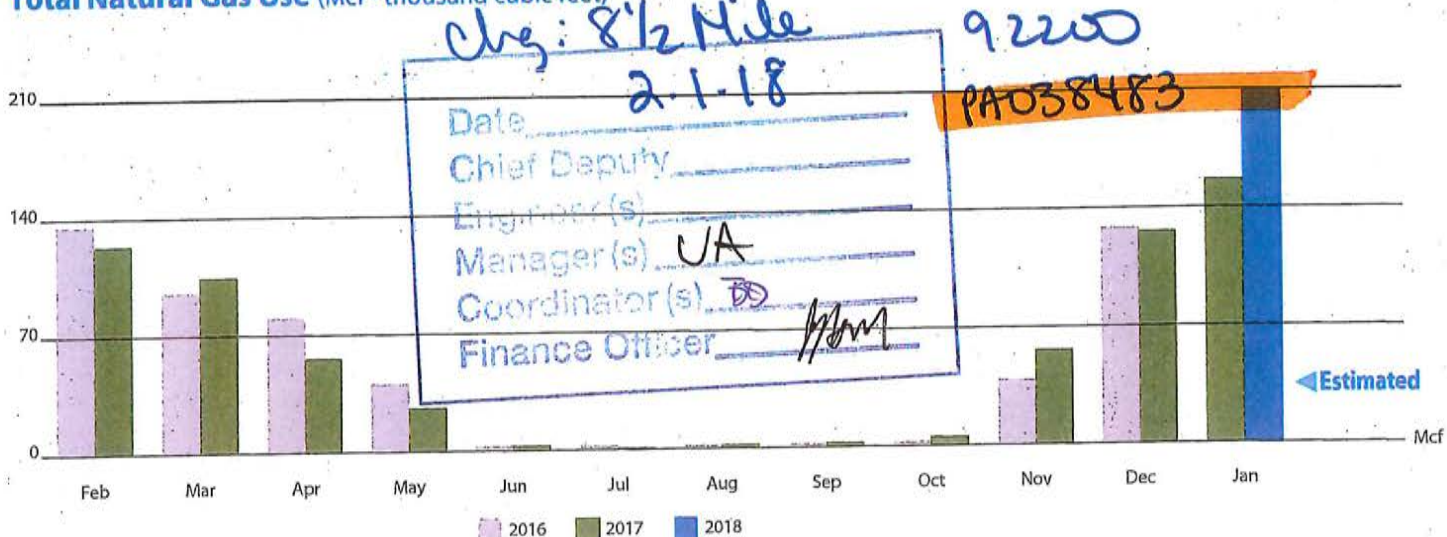
CHAPTON PUMPING STATION  
MACOMB CO DRAIN COMM  
21777 DUNHAM RD  
CLINTON TOWNSHIP MI 48036-1005



### January Energy Bill

Service dates: December 22, 2017 - January 23, 2018 (33 days)

#### Total Natural Gas Use (Mcf - thousand cubic feet)



#### January Natural Gas Use

**209.8 Mcf**  
January 2017 use: 157 Mcf

Cost per day:

**\$35.65**

Mcf per day:

**6.358**

Prior 12 months of gas use:

**715 Mcf**

*Staff 2-6-18  
Board 2-12-18*

**STAY SAFE:** Call 9-1-1 and 800-477-5050.  
We'll respond day or night.



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**Feb. 12** - 4 p.m. to 7 p.m. at the John G. Russell Leadership Training Center, 120 Front Ave. SW, Grand Rapids, MI 49504

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# Sales and Service

NEW HUDSON  
54250 Grand River Avenue  
New Hudson, MI 48165-  
(248)573-1900

**RECEIVED**  
JAN 09 2018  
BY: MH

Payment terms are 30 days from invoice date unless otherwise agreed upon in writing.

Remit to: #774494  
4494 Solutions Center  
Chicago, IL 60677-4004

\$604.66

INVOICE NO
006-56956
Remit to: #774494 4494 Solution Ctr. Chicago, IL 60677

### BILL TO

MACOMB COUNTY DPW  
21777 DUNHAM ROAD  
CLINTON TWP., MI 48036-

### OWNER

MACOMB COUNTY OPW  
23001 9 MILE RD  
ST CLAIR SHORES, MI 48080-  
CHRIS - 586 772-3425

PAGE 1 OF 2

\*\*\* CHARGE \*\*\*

DATE	CUSTOMER ORDER NO.	DATE IN SERVICE	ENGINE MODEL	PUMP NO.	EQUIPMENT MAKE
28-DEC-2017			GFGA		ONAN
CUSTOMER NO.	SHIP VIA	FAIL DATE	ENGINE SERIAL NO.	CPL NO.	EQUIPMENT MODEL
133741		28-DEC-2017	HM08H31673201		GEN SET
REF. NO.	SALESPERSON	PARTS DISP.	MILEAGE/HOURS	PUMP CODE	UNIT NO.
183252	905				CHAPATAN

QUANTITY ORDERED	BACK ORDERED	QUANTITY SHIPPED	PART NUMBER	DESCRIPTION	PRODUCT CODE	UNIT PRICE	AMOUNT
------------------	--------------	------------------	-------------	-------------	--------------	------------	--------

OSN/MSN/VIN HM08H31673201

COMPLAINT LOW VOLTAGE FAULT.  
GEN RUNS AFTER MANUAL START FOR ONE MIN. THEN SHUTS DOWN.

CORRECTION P.O.C. CHRIS (586) 772-3425  
DROVE TO SITE GAINED ACCESS TO GENERATOR. STARTED THE UNIT AND LET RUN, NO ISSUE FOUND, WENT TO THE ANNUCIATOR AND FOUND NO LIGHTS ON, TECHNICIAN PULLED IT OFF THE WALL AND TIGHTENED WIRES AND WORKED PROPERLY. THE BATTERIES ARE 4 YEARS OLD AND NEED TO BE REPLACED, THE CUTOMER ALSO WANTS A LOAD BANK DONE AFTER THE NEW YEAR.

*Chs: 8 1/2 Miles*

THANK YOU FOR CHOOSING CUMMINS SALES AND SERVICE

Date	<u>1.10.18</u>
Chief Deputy	<u>M</u>
Engineer(s)	
Inspector(s)	<u>UB</u>
Coordinator	<u>BD</u>
Finance Officer	<u>bmm</u>

PA038305 93000

PARTS:	0.00
PARTS COVERAGE CREDIT:	0.00 CR
TOTAL PARTS:	0.00
SURCHARGE TOTAL:	0.00
LABOR:	567.00
LABOR COVERAGE CREDIT:	0.00 CR
TOTAL LABOR:	567.00
MISC.:	37.66
MISC. COVERAGE CREDIT:	0.00 CR
TOTAL MISC.:	37.66
SHOP SUPPLIES	45.36
ROAD MILEAGE FS PG	58.00
PM CREDIT- LABOR	65.70

TAX EXEMPT NUMBERS:

LOCAL 0.00

*Staff 1-19-18*

Billing Inquiries? Call 877-480-6970 or email CBSBridgeway.Receivables@cummins.com

THERE ARE ADDITIONAL CONTRACT TERMS ON THE REVERSE SIDE OF THIS DOCUMENT, INCLUDING LIMITATION ON WARRANTIES AND REMEDIES, WHICH ARE EXPRESSLY INCORPORATED HEREIN AND WHICH PURCHASER ACKNOWLEDGES HAVE BEEN READ AND FULLY UNDERSTOOD.

*Board 2-12-18*

AUTHORIZED BY (print name)

31 SIGNATURE

DATE



**DE-CAL, Inc.**  
 24659 Schoenherr Rd.  
 Warren, MI 48089-4775  
 Service Phone: 586-619-0281  
 Service Fax: 586-486-5242

**RECEIVED**  
 JAN 02 2018  
 BY: ML

**Service Invoice**

Invoice #: WO17220491

Date: 06/21/2017

**Billed To:** Macomb County Chapaton  
 23001 E. 9 Mile Rd.  
 St. Clair Shores MI 48080  
 Attn: Accounts Payable

**Location:** Macomb Chapaton Pumping  
 23001 E. 9 Mile Rd.  
 St. Clair Shores MI 48080

**Client PO#:** \_\_\_\_\_ **Employee:** John Burns **Due Terms:** 30DY

Assembly#	Part#	Description	Quantity	Price	Ext Price	Sales Tax
		See Attached	1.0000	1,055.000000	1,055.00	N

**Notes:**  
 See work order for details

*Chg: 8 1/2 Mile Ref*

Date 1-2-18  
 Chief Deputy AB  
 Engineer (s) \_\_\_\_\_  
 Manager (s) UA  
 Coordinator (s) BO  
 Finance Officer MM

**PAID 38151 77500**

De-Cal Service Group is a division of De-Cal, Inc.

Please Make Checks Payable to: De-Cal, Inc.

Thank you for your prompt payment!

Amount Due: \$ **1,055.00**

*State 1-9-18  
 Board 2-12-18*



# Account Information

MACOMB COUNTY  
MACOMB COUNTY DRAIN COMM  
21777 DUNHAM RD  
CLINTON TWP, MI 48036

17-606

**RECEIVED**  
DEC 15 2017  
BY: MH

Account Number **9100-0005-3785**

DTE-Energy Federal ID No. 38-3217752

Programs you are enrolled in:

How to contact us:

Power Outage See Detail Charges  
Billing Inquiry 1-734-397-4309

Please make any inquiry or complaint about this bill to DTE Energy before the Due Date.  
DTE Energy is regulated by the Michigan Public Service Commission, Lansing, Michigan

# Important Information

Chg: 8 1/2 Mile Ref

Date	<u>12.15.17</u>
Chief Deputy	<u>AO</u>
Engineer(s)	<u>UA</u>
Manager(s)	<u></u>
Coordinator(s)	<u>BO</u>
Finance Officer	<u>HM</u>

PA038072 92300



Staff 1-9-18  
Board 2-12-18



# Detail Charges

For Service at: 23001 E 9 Mile Rd, St Clair Shores, MI 48082

Outage Contact Number: 1-313-235-1300

Invoice: 200000503511

Billing Period: 11/08/2017 through 12/07/2017

Days Billed: 30

## Metering Information

Meter Number	Start Date	Start Read	Stop Date	Stop Read	Read Difference	Units Multiplier	Usage Used	Type
6321448	11/08	236.9A	12/07	241.8A	4.9	6,400.0000	31,360.0	P - In-V
6321448	11/08	281.1A	12/07	288.4A	7.3	6,400.0000	46,720.0	P - In-W
6321449	11/08	0.0A	12/07	0.0A	0.0	- 6400.0000	0.0	P - Out-W
6321449	11/08	0.7A	12/07	0.7A	0.0	- 6400.0000	0.0	P - Out-V
6321451	11/08	0.4A	12/07	0.4A	0.0	6,400.0000	0.0	P - In-V
6321451	11/08	0.4A	12/07	0.4A	0.0	6,400.0000	0.0	P - In-W
<b>Total KVARH</b>							<b>31,360.00</b>	
<b>Total KWH</b>							<b>46,720.00</b>	

Invoice: 200000503511 Service Name: Chapaton Pumping Station  
 Item: 7004376662 Cycle: 05

General Service Municipal Pumping-Net Metering

## Billing Status Information

1	On-peak Billing Demand	220	KW	ESTABLISHED	11/22/2017	13:00
3	65% High OP Bill Dmd June-Oct prec 11 mths	1697	KW	ESTABLISHED	09/19/2017	15:30
8	Highest Single Billing Demand	1848	KW	ESTABLISHED	11/18/2017	16:00
A	Current PV High Monthly Demand	1848	KW	ESTABLISHED	11/18/2017	16:00
B	50% of the Contract Capacity for PV	0	KW			
C	Primary Voltage Maximum Demand	4101	KW	ESTABLISHED	08/28/2017	21:00
	Contract Capacity for Location	6738	KW	ESTABLISHED	08/16/2016	05:00
	Power Factor (ratio) for all voltages	83	PCT			
	Total Number of days in the Billing Period	30	DAYS			
	Avg Kilowatthours Used Per Day This Period	1557	KWH			
	Avg Kilowatthours Used Per Day A Year Ago	1081	KWH			
	kWh percentage change from a year ago	44	PCT			
	Metered outflow	0	KWH			
	Net Delivery Billed (inflow)	46720	KWH			
	Net Inflow (In - Out)	46720	KWH			

## Charges for 11/08/2017 through 12/07/2017

### Power Supply Charges:

Power Supply Energy:						
Power Supply Energy Charge	46,720	KWH	@ \$	0.0774300	Per Total KWH	3,617.53
Surcharges:						
Power Supply Cost Recovery Factor	46,720	KWH	@ \$	-0.0023300	Per Total KWH	- 108.86
<b>Sub Total:</b>						<b>3,508.67</b>

### Delivery Charges:

Service Charge						11.25
Distribution:						
Distribution Energy	46,720	KWH	@ \$	-0.0392000	Per Total KWH	1,831.42
Surcharges:						
Transitional Recovery Mechanism	46,720	KWH	@ \$	0.0013560	Per Total KWH	63.35
U-18255 IS	46,720	KWH	@ \$	0.0032520	Per Total KWH	151.93
Nuclear Surcharge	46,720	KWH	@ \$	0.0007280	Per Total KWH	34.01
U-18014 SIR	46,720	KWH	@ \$	-0.0045020	Per Total KWH	- 210.33
Energy Optimization Surcharge	2	MTR	@ \$	29.9900000		59.98
LIEAF Factor	2	MTR	@ \$	0.9300000		1.86
<b>Sub Total:</b>						<b>1,943.47</b>
Special Facilities Charge						2,500.00

### Invoice Subtotal

Michigan State Sales Tax On Taxable Portion

7,952.14

0.00

### Invoice Total

\$7,952.14

# Account Information

MACOMB COUNTY  
MACOMB COUNTY DRAIN COMM  
21777 DUNHAM RD  
CLINTON TWP, MI 48036

**RECEIVED**  
JAN 16 2018  
BY: MH

**Account Number** 9100-0005-3785

DTE-Energy Federal ID No. 38-3217752

**Programs you are enrolled in:**

**How to contact us:**

18-040

Power Outage See Detail Charges  
Billing Inquiry 1-734-397-4309

Please make any inquiry or complaint about this bill to DTE Energy before the Due Date.  
DTE Energy is regulated by the Michigan Public Service Commission, Lansing, Michigan

# Important Information

Beginning with the January 2018 billing cycle, the Power Supply Cost Recovery (PSCR) factor will increase to a credit of (0.087) cents per kWh. The PSCR factor allows DTE Electric to recover its actual fuel and billed to customers without any profit or markup.

Chg: 8 1/2 Mile

Date	<u>1-17-18</u>
Chief Deputy	<u>BS</u>
Engineer(s)	<u></u>
Manager(s)	<u>VA</u>
Coordinator(s)	<u>30</u>
Finance Officer	<u>dtm</u>

PAD38343 92300



Staff 1-19-18  
Board 2-12-18



# Detail Charges

For Service at: 23001 E 9 Mile Rd, St Clair Shores, MI 48082

Outage Contact Number: 1-313-235-1300

Invoice: 200060553878

Billing Period: 12/08/2017 through 01/09/2018

Days Billed: 33

## Metering Information

Meter Number	Start Date	Start Read	Stop Date	Stop Read	Read Difference	Units Multiplier	Usage Used	Type
6321448	12/08	241.8A	01/09	246.1A	4.3	6,400.0000	27,520.0	P - In-V
6321448	12/08	288.4A	01/09	294.5A	6.1	6,400.0000	39,040.0	P - In-W
6321449	12/08	0.0A	01/09	0.0A	0.0	- 6400.0000	0.0	P - Out-W
6321449	12/08	0.7A	01/09	0.7A	0.0	- 6400.0000	0.0	P - Out-V
6321451	12/08	0.4A	01/09	0.4A	0.0	6,400.0000	0.0	P - In-V
6321451	12/08	0.4A	01/09	0.4A	0.0	6,400.0000	0.0	P - In-W
<b>Total KVARH</b>							<b>27,520.00</b>	
<b>Total KWH</b>							<b>39,040.00</b>	

Invoice: 200060553878 Service Name: Chapaton Pumping Station

Item: 7004376662 Cycle: 05

General Service Municipal Pumping-Net Metering

## Billing Status Information

1	On-peak Billing Demand	97	KW	ESTABLISHED	01/04/2018	17:30
3	65% High OP Bill Dmd June-Oct prec 11 mths	1697	KW	ESTABLISHED	09/19/2017	15:30
8	Highest Single Billing Demand	97	KW	ESTABLISHED	01/04/2018	17:30
A	Current PV High Monthly Demand	97	KW	ESTABLISHED	01/04/2018	17:30
B	50% of the Contract Capacity for PV	0	KW			
C	Primary Voltage Maximum Demand	4101	KW	ESTABLISHED	08/28/2017	21:00
	Contract Capacity for Location	6738	KW	ESTABLISHED	08/16/2016	05:00
	Power Factor (ratio) for all voltages	81	PCT			
	Total Number of days in the Billing Period	33	DAYS			
	Avg Kilowatthours Used Per Day This Period	1183	KWH			
	Avg Kilowatthours Used Per Day A Year Ago	1544	KWH			
	kWh percentage change from a year ago	-23	PCT			
	Metered outflow	0	KWH			
	Net Delivery Billed (inflow)	39040	KWH			
	Net Inflow (In - Out)	39040	KWH			

## Charges for 12/08/2017 through 01/09/2018

### Power Supply Charges:

Power Supply Energy:						
Power Supply Energy Charge	39,040	KWH	@ \$	0.0774300	Per Total KWH	3,022.87
Surcharges:						
Power Supply Cost Recovery Factor	39,040	KWH	@ \$	-0.0008700	Per Total KWH	- 33.96
<b>Sub Total:</b>						<b>2,988.91</b>

### Delivery Charges:

Service Charge						11.25
Distribution:						
Distribution Energy	39,040	KWH	@ \$	0.0392000	Per Total KWH	1,530.37
Surcharges:						
Transitional Recovery Mechanism	39,040	KWH	@ \$	0.0013560	Per Total KWH	52.94
U-18255 IS	39,040	KWH	@ \$	0.0032520	Per Total KWH	126.96
Nuclear Surcharge	39,040	KWH	@ \$	0.0007280	Per Total KWH	28.42
Energy Waste Reduction	2	MTR	@ \$	29.8500000		59.70
LIEAF Factor	2	MTR	@ \$	0.9300000		1.86
<b>Sub Total:</b>						<b>1,811.50</b>
Special Facilities Charge						2,500.00

### Invoice Subtotal

Michigan State Sales Tax On Taxable Portion

7,300.41

0.00

### Invoice Total

**\$7,300.41**





Fishbeck, Thompson, Carr & Huber, Inc.  
engineers | scientists | architects | constructors

Federal I.D. No. 38-1841857 | Incorporated

**RECEIVED**  
JAN 09 2018  
BY: MH

Attention: Mr Vincent Astorino  
Macomb County Public Works Commissioner  
21777 Dunham Road  
Clinton Township, MI 48036  
United States

**Payment Options**

Remit Wire/ACH payments to Acct: 100094457 ABA: 072413829  
Remit checks to: 1515 Arboretum Drive, SE | Grand Rapids, Michigan 49546

**Invoice : 371975**

**Invoice Date : 1/8/2018**

**Project : 130622**

**Project Name : Macomb Co PW/As-needed Assist**

**Bill Term : 1**

**For Professional Services Rendered Through 12/29/2017**

B - MCPWC/As Needed Eng Assistance

Work included updating SEMSD Map to include Milk River System, developing the Draft "One District" Report, attending meetings at MCPWO to develop SEMSD metering plan, and generating Chapaton Overflow Volume Ratio Calculations

Rate Labor 3,888.00

**Current Billings**

3,888.00

**Current Billings**

3,888.00

**Amount Due This Bill**

3,888.00

Chg: 8 1/2 Mile

Date	<u>1-9-18</u>
Chief Deputy	<u>AS</u>
Engineer(s)	<u></u>
Manager(s)	<u>J.S</u>
Coordinator(s)	<u>BD</u>
Finance Officer	<u>MM</u>

PA 038364 80300

Staff 1-19-18

09-0014-22

Board 2-12-18



www.jcichemicals.com

**INVOICE**

Inv Date	Invoice #
01/25/2018	746362
Date Shipped	Order/BOL #
01/25/2018	549507

\*\*\* ORIGINAL \*\*\*  
 JCI JONES CHEMICALS, INC..  
 RIVERVIEW BRANCH LOCATION  
 18000 PAYNE AVENUE  
 RIVERVIEW , MI 48192  
 Phone: (734) 283-0677  
 Fax: (734) 283-0979  
 email: cs@jci chem.com

Customer Number  
 21543215

S MACOMB COUNTY  
 O ATTN: ACCTS PAYABLE  
 L 23001 9 MILE ROAD  
 D Saint Clair Shores , MI 48080-  
 T USA  
 O

S ID #: 1  
 H  
 I CHAPATON PUMPING STATION  
 P 23001 NINE MILE RD  
 ST CLAIR SHORES , MI 48080-  
 T USA  
 O

Customer PO #	FOB Remark	Freight Terms	Sales ID
VBL-PETE TROMBLEY	Destination	Delivered	NORTH
Release #	Ship Via	Terms	Due Date
	JCI	N 30	02/24/2018
Discount Due Date	2/24/2018		
Units	Package	Product Name	Total Quantity
4,515.00	1 Gal Bulk	HYPOCHLORITE SOLUTION, SS150 1201-001 BULK (\$85 Stop Fee) (+ fsc)	4,515.0000/Gal
			0.9000 /Gal
			4,063.50
General Remarks:		<> EMAIL INVOICE TO: michelle.houvener@macombgov.org <> OUTSIDE CARRIER: HAROLD MARCUS NET WEIGHT: 45560 FSC	
		Fuel Surcharge	21.46
<p><i>Chg: 8 1/2 Mile Ref</i></p> <p>Date <u>1.29.18</u></p> <p>Chief Deputy _____</p> <p>Engineer(s) _____</p> <p>Manager(s) <u>WA</u></p> <p>Coordinator(s) <u>DS</u></p> <p>Finance Officer <u>bmm</u></p> <p><b>PA038429 74200</b></p>			

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

Total: **4,084.96**

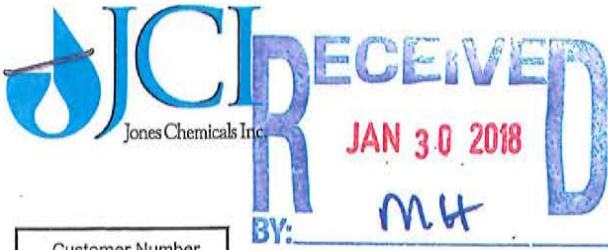
Remit To: **JCI Jones Chemicals, Inc.**  
**PO Box 31542**  
**Tampa, FL 33631-3542 USA**

PLEASE PAY  
 THIS AMOUNT



*Staff 2.6.18*  
*Board 2.12.18*

\*JCI Welcomes payments via **ACH, EFT and WIRE\***



www.jcichemicals.com

INVOICE

Inv Date	Invoice #
01/26/2018	746451
Date Shipped	Order/BOL #
01/26/2018	549672

\*\*\* ORIGINAL \*\*\*  
 JCI JONES CHEMICALS, INC..  
 RIVERVIEW BRANCH LOCATION  
 18000 PAYNE AVENUE  
 RIVERVIEW , MI 48192  
 Phone: (734) 283-0677  
 Fax: (734) 283-0979  
 email: cs@jcichem.com

Customer Number  
 21543215

S MACOMB COUNTY  
 O ATTN: ACCTS PAYABLE  
 L 23001 9 MILE ROAD  
 D Saint Clair Shores, MI 48080-  
 T USA  
 O

S ID #: 1  
 H CHAPATON PUMPING STATION  
 I 23001 NINE MILE RD  
 P ST CLAIR SHORES , MI 48080-  
 T USA  
 O

Customer PO #	FOB Remark	Freight Terms	Sales ID
VERBAL-CHRIS	Destination	Delivered	NORTH
Release #	Ship Via	Terms	Due Date
	JCI	N 30	02/25/2018
Discount Due Date	2/25/2018		
Units	Package	Product Name	Total Quantity
4,461.00	1 Gal Bulk	HYPOCHLORITE SOLUTION, SS150 1201-001 BULK (\$85 Stop Fee) (+ fsc)	4,461.0000/Gal
			0.9000 /Gal
			4,014.90
General Remarks:		<> EMAIL INVOICE TO: michelle.houvener@macombgov.org <> OUTSIDE CARRIER: HAROLD MARCUS NET WEIGHT: 44.980 FSC	
		Fuel Surcharge	21.46
<p>Chg: 8 1/2 Mile Rly</p> <p>Date <u>1-30-18</u></p> <p>Chief Deputy _____</p> <p>Engineer (s) _____</p> <p>Manager (s) <u>JA</u></p> <p>Coordinator (s) <u>3</u></p> <p>Finance Officer <u>hkm</u></p> <p><b>PA038428 74200</b></p>			

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

Total: **4,036.36**

Remit To: JCI Jones Chemicals, Inc.  
 PO Box 31542  
 Tampa, FL 33631-3542 USA

PLEASE PAY THIS AMOUNT



Staff 2.6.18  
 Board 2.12.18

\*JCI Welcomes payments via ACH, EFT and WIRE\*

# INVOICE

**RECEIVED**  
JAN 24 2018  
MT

<b>Invoice number:</b> 949683491 <b>Invoice Date:</b> 08/01/2017 <b>Customer PO No:</b> <b>KONE Order No:</b> N40092539 <b>Billing Type:</b> YMIO <b>Date work performed:</b> 10/31/2017	<b>Area Office:</b> DETROIT - 190 11864 Belden Ct Livonia MI 48150-1459 Ph: 734-513-6944 Fax: 734-513-6948	<b>KONE Inc., Federal</b> 36 2357423
<b>Bill To:</b> MACOMB COUNTY PUBLIC WORKS 23001 9 MILE RD SAINT CLAIR SHORES MI 48080 USA	<b>Location/Project:</b> VARIOUS LOCATIONS	
<b>Payment Terms:</b> Net 10		

This invoice is for maintenance coverage per your agreement with KONE Inc. Billing period is 08/01/2017 to 10/31/2017.

<b>Contract# N40092539 CHAPATON RETENTION BASIN</b> CHAPATON RETENTION BASIN 23001 9 MILE RD SAINT CLAIR SHORES MI 48080 USA	<b>604.95</b>
--	---------------

<b>Contract# N40092539 VIOLET PUMP STATION</b> VIOLET PUMP STATION 30801 GREATER MACK AVE SAINT CLAIR SHORES MI 48082 USA	<b>161.31</b>
---	---------------

<b>Subtotal</b>	<b>\$ 766.26</b>
<b>Total Invoice Amount</b>	<b>\$ 766.26</b>

Chg: 8 1/2 Mile

Date 1-24-18

Chief Deputy \_\_\_\_\_

Engineer(s) \_\_\_\_\_

Manager(s) UA

Coordinator(s) BD

Finance Officer [Signature]

PA038425 77500

Invoices not paid within 30 days are subject to a service charge of 1.5% per month, or the maximum permitted by law

Please return this portion with your payment

### PAYMENT ADVICE

We also accept VISA/Mastercard or EFT payments

<b>Payer:</b> MACOMB COUNTY PUBLIC WORKS 23001 9 MILE RD SAINT CLAIR SHORES MI 48080 USA	<b>Invoice number:</b> 949683491 <b>Invoice Date:</b> 08/01/2017 <b>Customer Number:</b> N273080 <b>KONE Order No:</b> N40092539 <b>Area Office No:</b> U190 <b>Billing Type:</b> YMIO
	<b>Remit to:</b> KONE Inc P O BOX 3491 CAROL STREAM, IL 60132-3491

Use this address for payments only. Direct calls and area correspondence to our area office above.

Staff 2-6-18

Board 2-12-18



# INVOICE

<b>Invoice number:</b> 949757014 <b>Invoice Date:</b> 11/01/2017 <b>Customer PO No:</b> <b>KONE Order No:</b> N40092539 <b>Billing Type:</b> YMIO <b>Date work performed:</b> 01/31/2018	<b>Area Office:</b> KONE Inc., Federal DETROIT - 190 11864 Belden Ct Livonia MI 48150-1459 Ph: 734-513-6944 Fax: 734-513-6948
<b>Bill To:</b> MACOMB COUNTY PUBLIC WORKS 23001 9 MILE RD SAINT CLAIR SHORES MI 48080 USA	<b>Location/Project:</b> VARIOUS LOCATIONS <div style="text-align: right; border: 1px solid black; padding: 5px;"> <b>RECEIVED</b>          JAN 24 2018          BY: mit       </div>
<b>Payment Terms:</b> Net 10	

This invoice is for maintenance coverage per your agreement with KONE Inc.  
 Billing period is 11/01/2017 to 01/31/2018.

<b>Contract# N40092539 CHAPATON RETENTION BASIN</b> CHAPATON RETENTION BASIN 23001 9 MILE RD SAINT CLAIR SHORES MI 48080 USA	<b>604.95</b>
--	---------------

<b>Contract# N40092539 VIOLET PUMP STATION</b> VIOLET PUMP STATION 30801 GREATER MACK AVE SAINT CLAIR SHORES MI 48082 USA	<b>161.31</b>
---	---------------

<b>Subtotal</b>	<b>\$ 766.26</b>
<b>Total Invoice Amount</b>	<b>\$ 766.26</b>

Chg: 8 1/2 Mile

Date 1-24-18

Chief Deputy \_\_\_\_\_

Engineer (a) \_\_\_\_\_

Manager (b) JA \$ 766.26

Coordinator (s) BD \$ 766.26

Finance Officer *[Signature]*

PA038427 77500

Invoices not paid within 30 days are subject to a service charge of 1.5% per month, or the maximum permitted by law

Please return this portion with your payment

## PAYMENT ADVICE

We also accept VISA/Mastercard or EFT payments

<b>Payer:</b> MACOMB COUNTY PUBLIC WORKS 23001 9 MILE RD SAINT CLAIR SHORES MI 48080 USA	<b>Invoice number:</b> 949757014 <b>Invoice Date:</b> 11/01/2017 <b>Customer Number:</b> N273080 <b>KONE Order No:</b> N40092539 <b>Area Office No:</b> U190 <b>Billing Type:</b> YMIO
<b>Remit to:</b> KONE Inc P O BOX 3491 CAROL STREAM, IL 60132-3491	<b>Amount paid if different than invoice amount:</b> \$ <b>INVOICE AMOUNT:</b> \$ <b>766.26</b>

Use this address for payments only. Direct calls and area correspondence to our area office above.

Staff 2-6-18  
 Board 2-12-18

**RECEIVED**  
**JAN 02 2018**  
 BY: MH

**CANDICE S. MILLER**  
**MACOMB COUNTY PUBLIC WORKS COMMISSIONER**  
 21777 Dunham  
 Clinton Twp., Michigan 48036  
 Phone: (586) 469-5325

Invoice No. 7751-2018

**INVOICE**

**Customer**

Name 8.5 Mile Pump Station

Address \_\_\_\_\_

City \_\_\_\_\_

Date 1/2/2018

Description	TOTAL
Reimbursement to Macomb County Public Works General Fund(10144101) by 8.5 Mile for accounting and administrative services October 1, 2017-September 30, 2018	
<b>10144101-60737 (Fees - Accounting/Audit)</b>	\$6,336.00
<b>10144101-60799 (Fees - Other)</b>	\$32,828.00
<b>PLEASE MAKE CHECK PAYABLE TO: Macomb County Treasurer</b>	
<b>TOTAL</b>	<b>\$39,164.00</b>

For Office Use Only:

Date Received \_\_\_\_\_

Amount Received \_\_\_\_\_

Check No. \_\_\_\_\_

Deposit Date \_\_\_\_\_

Receipt No. \_\_\_\_\_

Voucher No./Date \_\_\_\_\_

Due Upon Receipt

Date 1-2-18

Chief Deputy BB

Engineer(s) \_\_\_\_\_

Manager(s) UA

Coordinator(s) BD

Finance Officer HAM

BY: Bruce Manning  
 Bruce Manning Financial Manager

**PA038152 801.00**

Staff 1-9-18  
 Board 2-12-18



**MOTOR CITY ELECTRIC TECHNOLOGIES INC.**  
AUTOMATION AND CONTROLS SOLUTIONS  
 9440 GRINNELL  
 DETROIT, MI 48213-1151  
 PHONE (313) 921-5300 FAX (313) 921-5310  
 \*AN EQUAL OPPORTUNITY EMPLOYER\*

**RECEIVED**  
**DEC 18 2017**  
 BY: MIT

**INVOICE**

Job Number	918500	Sub Job	0	Contract Number	001	Date Performed	11/9/2017	Application Date	12/14/2017	Application Number	91407
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Customer PO Number  
 MACOMB COUNTY PUBLIC WORKS  
 21777 DUNHAM ROAD  
 CLINTON TOWNSHIP, MI 48036

JOE BETZ

Item No	Description of Work	Contract Amount	Previous Billings	Current Amount	To Date Complete & Stored	Balance To Finish	Current Retainage
001	MACOMB COUNTY T&M	\$1,190.25		\$1,190.25	\$1,190.25		
<b>Totals:</b>		\$1,190.25		\$1,190.25	\$1,190.25		
<b>Less Retained:</b>							
<b>Invoice Total:</b>				\$1,190.25			

43

AS NEEDED ELECTRICAL AND ENGINEERING SERVICE  
 SEE ATTACHED INVOICE SUMMARY AND FIELD REPORT

MID - 43% = \$511.81

CHAPATON - 43% = \$511.81

OMID - 14% = \$166.63

Chg: 8 1/2 M. De Vey

Date	12-18-17
Chief Deputy	AB
Engineer(s)	VA
Manager(s)	
Coordinator(s)	SD
Finance Officer	MM

PA038080 80700

Staff 1-9-18

complete electrical construction

2-12-18

"We hereby certify that the articles and services covered by this invoice were produced and performed in compliance with all applicable requirements of Section 6, 7 and 12 of the Fair Labor Standards Act, as amended, and of regulations and orders of the United States Department of Labor issued under Section 14 thereof."



**MOTOR CITY ELECTRIC TECHNOLOGIES INC.**  
AUTOMATION AND CONTROLS SOLUTIONS  
 9440 GRINNELL  
 DETROIT, MI 48213-1151  
 PHONE (313) 921-5300 FAX (313) 921-5310  
 \*AN EQUAL OPPORTUNITY EMPLOYER\*

**INVOICE**

**RECEIVED**  
**JAN 22 2018**  
 BY: **MH**

13030 MACOMB COUNTY PUBLIC WORKS  
 21777 DUNHAM ROAD  
 CLINTON TOWNSHIP, MI 48036

JOE BETZ

Job Number 918500	Sub Job 0	Contract Number 001	Date Performed 11/29/2017	Date 1/19/2018	Application Number 91463
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Item No	Description of Work	Contract Amount	Previous Billings	Current Amount	To Date Complete & Stored	Balance To Finish	Current Retainage
001	MACOMB COUNTY T&M	\$712.00	-	\$712.00	\$712.00	-	-
<b>Totals:</b>		\$712.00		\$712.00	\$712.00		
Less Retained:							
Invoice Total:				\$712.00			

44

AS NEEDED ELECTRICAL AND ENGINEERING SERVICE

SEE ATTACHED INVOICE SUMMARY AND FIELD REPORT

CHAPATON - 100% = \$712.00

*Chg: 8 1/2 Mile*

Date	1-22-18
Chief Deputy	
Engineer(s)	
Material	VA
Coordinator(s)	BD
Finance Officer	AKM

PA 038381 80700

*Staff 2-6-18*  
*Card 2-12-18*  
 complete electrical construction

"We hereby certify that the articles and services covered by this invoice were produced and performed in compliance with all applicable requirements of Section 6, 7 and 12 of the Fair Labor Standards Act, as amended, and of regulations and orders of the United States Department of Labor issued under Section 14 thereof."





TREMCO  
3735 GREEN ROAD, BEACHWOOD, OH 44122-5730 (216)292-5000

ACCOUNT NUMBER 6054709

SHIP TO

COUNTY OF MACOMB  
PUBLIC WORKS COMMISSION  
LAKE SAINT CLAIR CLEAN WATER INITIA  
CHAPATON EAST/WEST & SERVICE GARAGE  
23001 EAST NINE MILE ROAD  
SAINT CLAIR SHORES MI 48080

CHARGE TO

COUNTY OF MACOMB  
PUBLIC WORKS COMMISSION  
LAKE SAINT CLAIR CLEAN WATER INITIATIVE  
23001 EAST NINE MILE ROAD  
ST CLAIR SHORES MI 48080

INVOICE NO. <b>95139397</b>	INVOICE DATE 11/15/2017	DUE DATE 12/15/2017
CUST. P.O. RENEWAL - YEARS 6-10		
ORDER NUMBER 30025454		
TERMS Net 30		
SHIPPED FROM	SHIP DATE 11/15/2017	
ROUTING - IF SPECIFIED		DELIVERY NO.

(PLEASE MAKE ANY CORRECTIONS TO ABOVE INFORMATION)  
NO RETURN MERCHANDISE UNLESS AUTHORIZED BY OUR REPRESENTATIVE

REPRESENTATIVES Srbu, Earl

FREIGHT (F.O.B.: SHIPPING POINT)  
PPA PREPAID AND ADD

QTY	FORMULA NO. AND DESCRIPTION	UNIT	QTY	PRICE	AMOUNT
1	TREMCARE PB BILLING PLAN - TREMCARE PLATINUM COUNTY OF MACOMB PUBLIC WORKS COMMISSION - CHAPATON EAST - CHAPATON WEST - SERVICE GARAGE JOB/AGREEMENT NUMBER: 138882  COUNTY OF MACOMB-138882	EA	1	2,250.00	2,250.00

*Chg: 8 1/2 Mile*

Date 1-2-18

Chief Deputy AS

Engineer(s) \_\_\_\_\_

Manager(s) UA

Coordinator(s) BS

Finance Officer BTM

**PA038145**      **77500**

If you would prefer to receive your invoices by email or fax, please contact Customer Service.

LOCAL TAX 0.00			COUNTY TAX 0.00	STATE TAX 0.00	SUBTOTAL	2,250.00
					SALES TAX	0.00
					SHIPPING	0.00
					<b>TOTAL DUE</b>	<b>2,250.00</b>

PLEASE RETURN THIS PORTION WITH YOUR REMITTANCE

COUNTY OF MACOMB  
PUBLIC WORKS COMMISSION  
LAKE SAINT CLAIR CLEAN WATER INITIATIVE  
23001 EAST NINE MILE ROAD  
ST CLAIR SHORES MI 48080

ACCOUNT NUMBER: 6054709  
CUST. P.O.: RENEWAL - YEARS 6-10  
TERMS: Net 30

INVOICE NO. 95139397	INVOICE DATE 11/15/2017
-------------------------	----------------------------

SUBTOTAL 2,250.00  
SALES TAX 0.00  
SHIPPING 0.00  
**TOTAL DUE 2,250.00 USD**

IF THIS ORDER IS SALES TAX EXEMPT AND WE HAVE CHARGED SALES TAX, MARK BOX AND RETURN A COMPLETED, SIGNED SALES TAX EXEMPTION CERTIFICATE WITH YOUR REMITTANCE. THANK YOU.

COMMENTS:

Mail check to address shown or call to pay by ACH or wire transfer.  
Credit card accepted at time of purchase.

Thank you for your payment. <sup>46</sup> We appreciate your business.

RECEIPT OF THIS ORDER SHALL BE ACCEPTANCE OF ALL TERMS AND CONDITIONS CONTAINED ON THE FRONT AND BACK HEREOF. (V 6.20A1)

YARDIA

Tremco/Weatherproofing Technologies, Inc.  
P.O. BOX 93111  
CLEVELAND, OH 44193-0511

*Staff 1-9-18*  
*Boara 2-12-18*

**Income Statement**  
**8.5 Mile Relief**  
**As of January 31, 2018**

	9-30-2017 Total Fund	10-1-17 to 1-31-18 O&M
<b>Revenues</b>		1,313,336
<b>Expenditures</b>		123,497
<b>Equity**</b>	3,105,754	1,189,839

**NOTES**

Reserves as of Sept 30, 2017	600,000
Required SRF repair & replacement reserve balance 9/30/17	1,308,558
Total	1,908,558

\*\* Broken out as follows:

Engineering carryover balance at 9/30/2017	356,050
Repair and Maintenance carryover at 9/30/2017	422,000
SCADA reserve at 9/30/2017	40,000
Equipment carryover balance at 9/30/2017	131,800
Required SRF repair & replacement reserve balance 9/30/17	1,308,558
Emergency Reserve	600,000