

EIGHT AND ONE-HALF MILE RELIEF DRAIN  
INTRA-COUNTY DRAINAGE BOARD  
JULY 10, 2023  
10:15 A.M.  
AGENDA

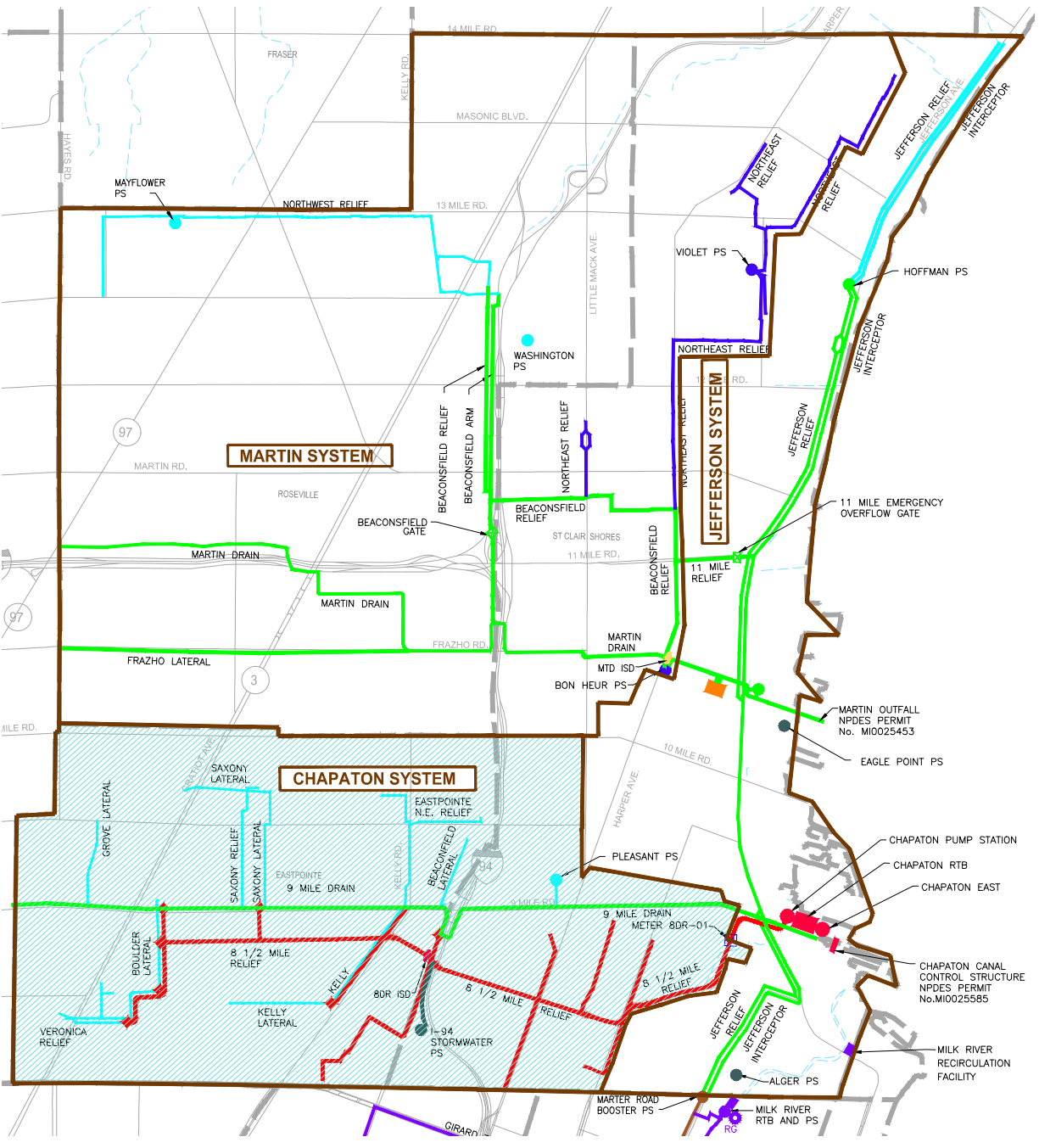
**NOTE: THIS MEETING WILL BE HELD IN PERSON WITH TELECONFERENCE  
OPTION FOR PUBLIC**

**Call in Number: 1-224-990-0182  
Access Code: 927 405 823**

	Page
1. Call of meeting to order and roll call	
2. Approval of Agenda for July 10, 2023	
3. Approval of Minutes for June 12, 2023	3
4. Public Participation	
5. Project & Operational Updates – Vince Astorino	6
6. Chapaton Electrical Upgrades CCA Recommendation – Vince Astorino	18
Motion: To approve the proposal from Tetra Tech for an amount not to exceed \$714,080 for Construction Contract Administration services for the Canal Electrical Upgrades project and approve Change Order No. 1 for \$644,080.	
7. Consideration for approval of invoices (see attached)	31
8. Financial Report – Bruce Manning	32
9. Adjourn	

Hard copy is intended to be 8.5"x11" when plotted. Scale(s) indicated and graphic quality may not be accurate for any other size.

**CHAPATON SYSTEM MAP**  
Macomb County, MI  
**Southeast Macomb Sanitary District  
Wastewater Master Plan**



**SYSTEM LEGEND**  
(AS OF DATE OF PUBLICATION)

- SYSTEM BOUNDARY

**DISTRICT LEGEND**  
(AS OF DATE OF PUBLICATION)

- 8 1/2 MILE RELIEF DRAIN DRAINAGE DISTRICT
- SOUTHEAST MACOMB COUNTY WASTEWATER DISPOSAL SYSTEM
- MARTIN SANITARY DIVERSION DISTRICT
- SOUTHEAST MACOMB SANITARY DISTRICT
- NORTHEAST SEWAGE DISPOSAL SYSTEM
- MILK RIVER INTERCOUNTY DRAIN DRAINAGE DISTRICT
- LOCAL MUNICIPALITY
- OTHER

**ASSET LEGEND**

- PUMP STATION
- FLOW CONTROL STRUCTURE
- RTB
- GRAVITY INTERCEPTOR
- IN-SYSTEM STORAGE DEVICE
- OVERFLOW POINT
- LEVEL SENSOR
- RAIN GAUGE
- FLOW METER

PROJECT NO.  
181053

**3.6**

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 June 12, 2023, at 10:25 A.M.

PRESENT: Candice S. Miller, Chair  
Sarah Lucido, Member  
Bryan Santo, Member

ALSO PRESENT: Daniel Acciavatti, Deputy Government Relations; Vince Astorino, Operations & Flow Manager; Brian Baker, Chief Deputy; Stephen Downing, Construction and Maintenance Manager; Norb Franz, Communications Manager; Bruce Manning, Finance Manager; Pam Sonnenberg, Administrative Assistant; Tom Stockel, Construction Supervisor; Don VanSyckel, Board of Commissioners

PRESENT VIA TELECONFERENCE: Mary Shepherd, Environmental and Safety Services Supervisor City of Sterling Heights

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

Adopted: YEAS: 3  
NAYS: 0

Minutes of the meeting of May 15, 2023, were presented. A motion was made by Ms. Lucido, 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. Astorino said there were no wet weather events for the past month. The Chapaton In-System Storage project is still progressing. They are working on the control building. We are also working on the venting sites at Kelly and Gaukler. He presented pictures of Weiss digging under the pipe and pouring concrete. They are nearing completion of that and then will start to frame the walls.

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

Adopted: YEAS: 3  
NAYS: 0

Mr. Astorino presented on the Canal Rehabilitation project including construction of a new outfall structure that opens from the top down, raising the sides of the canal above the 500-year flood elevation, installation of a direct flushing pipe to the lake to reduce treatment costs of lake water, and proper abandonment of the Nine Mile drain adjacent to the canal. The storage will increase from 3 million gallons to 13 million gallons. We have worked with EGLE, the US Army Corps of Engineers, and the City of St. Clair Shores to ensure that the design is compliant and permitted. We received 2 bids. Z Contractors, Inc. at \$27,374,710 and Kokosing Industrial, Inc. for \$38,507,000. We met with Z

Contractors and talked through the contract and are confident that they will be able to complete this project. They are based in Macomb County. Ms. Miller added that we had received \$25 million in State ARPA funds and have \$2 million in the State budget from last year so we have \$27 million to cover most of the cost, and we have the permits. The boat launch will be closed for 2 years and we have letters ready to go out and we will meet with residents to discuss aesthetics. The project is about stopping basement flooding, improving water quality, and the rehabilitation of antiquated infrastructure. The percentage of reduction of CSO's is also a huge benefit to water quality.

A motion was made by Ms. Lucido, supported by Mr. Santo to award the bid for Chapaton RTB Canal Rehabilitation Construction to Z Contractors, Inc. in the amount of \$27,374,710.

Adopted: YEAS: 3  
NAYS: 0

Mr. Astorino said that Wade Trim Associates Inc, the designer of the project has prepared a proposal for construction contract administration services to perform full time inspection and administer the project from start to finish. County staff will work in coordination with them throughout the process. We have been negotiating with them and they have brought their price down.

A motion was made by Mr. Santo, supported by Ms. Lucido to approve the proposal from Wade Trim Associates, Inc. for an amount not to exceed \$1,999,930 for Construction Contract Administration services for the Canal Rehabilitation project.

Adopted: YEAS: 3  
NAYS: 0

Mr. Astorino presented the Chapaton Electrical Upgrades Construction award recommendation. In the past 4 years we have had 3 electrical fires. This project will add generators to the facility which will give us another layer of redundancy. It will also replace all of the main switch gear, replace the starters for the 3 large pumps and rebuild storm pump #2. We started this bid with installing five 2MW generators and all associated synchronous gear, new motor starters for each of the three stormwater pumps, new 15kV switchgear to replace the obsolete unit, and a complete motor rebuild for storm pump 2. We had 3 bidders and the costs were very close among Rauhorn, Shaw Electric, and Rotor Electric. After review of the bids, MCPWO met with the apparent low bidder, Rotor Electric to discuss the project and make sure they are comfortable with their number and overall schedule. MCPWO is confident that Rotor Electric can perform the job and that Alternate 1 can be safely accepted while still providing the needed electrical redundancy to the Chapaton Pump Station to meet firm capacity. By accepting this deduct, the project will be within the acceptable project budget which is being covered by State and County ARPA funds.

A motion was made by Ms. Lucido, supported by Mr. Santo to award the bid for Chapaton Electrical upgrades to Rotor Electric for an amount not to exceed \$14,650,000.

Adopted: YEAS: 3  
NAYS: 0

Mr. Astorino stated that the Chapaton Pump Station needs to be painted and that we have three bids. GVC Painting Co. came in with the lowest bid of \$37,210 and they are confident that they can get the painting work done within the quoted amount.

A motion was made by Mr. Santo, supported by Ms. Lucido to approve the quote from GVC Painting Co. Inc. for painting of the Chapaton Pump Station two lower levels for an amount not to exceed \$37,210.

The Chair presented the invoices totaling \$1,360,676.26 to the board for review and approval.

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

Adopted: YEAS: 3  
NAYS: 0

There being no further business, it was moved by Mr. Santo, supported by Ms. Lucido, 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 10:50 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 June 12, 2023, 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: 06/12/23



**Candice S. Miller**

Public Works Commissioner  
Macomb County

To: 8 ½ Mile Relief Drain Drainage District Board Members

CC: File

From: Vincent Astorino, Operations Director

Date: July 10, 2022

Subject: Construction Projects Status Updates for the July 2023 Board Meeting

The following provides a status update for construction work completed within the 8 ½ Mile Relief Drain Drainage District (8MRDDD) for the previous month.

## Wet Weather Operations

No wet weather events for the past month.

## Chapaton In-System Storage Project

**Contractor:** Weiss Construction

**Engineering Consultant:** Tetra Tech

### **Project Description:**

The primary focus of the project is the construction of an access shaft and installation of the In-System Storage Device at Beaconsfield and Oak in Eastpointe. This project will achieve an additional 3.5 million gallons of storage within the 8.5 Mile Relief tunnel.

### **Significant project tasks that have occurred over the past month:**

1. Submittals are being received and processed by the engineering team.
2. Construction Activities per Update Period:
  - Continued staging construction materials delivered & stored along Beaconsfield greenbelt.
  - Maintained secured work site with swing gates and privacy fence screening at construction sites.
  - Continued Beaconsfield site vibration and sensor monitoring and documentation during and shaft construction as required.

- Continued dewatering and maintaining adequate working conditions within the interior of the Beaconsfield shaft as necessary.
- Removed temporary support timbers under 11ft tunnel at east and west walls and placed low strength concrete mats as required.
- Set concrete foundation forms in place and installed reinforcing steel, dowels, and water stop as designed to be encased in concrete foundations.
- Per 11ft tunnel undermining sequence schedule, poured in place high strength concrete foundation sections 4, 5, and 6 supporting tunnel at the Beaconsfield site as designed. *East and West Tunnel Support Foundations Completed.*
- Layout and set in place concrete wall forms for 11ft tunnel emergency bypass within the Beaconsfield shaft as designed.
- Excavated and installed Concrete Vault for Carbon Canister Odor Control Unit at Kelly work site as required.
- Performed necessary steps and layout for installing mechanical damper, pipes, fittings, and equipment required for Carbon Odor Control Unit at Kelly worksite as designed.

3. Construction Look Ahead:

- Continue deliveries of construction materials along Beaconsfield greenbelt.
- Continue Beaconsfield site vibration monitoring & documentation.
- Remove temporary timber supports under existing 11ft tunnel between East and West foundations and replace low strength flowable-fill grout as required within the Beaconsfield shaft.
- Continue to set concrete wall forms for 11ft tunnel bypass and place high strength concrete walls as designed in the Beaconsfield shaft work site.
- Complete installation of required lamp-post vents and necessary components for carbon odor control unit at the Kelly Road worksite.
- Excavate and install required pipe, fittings, and vent at the Gaulker Road work site as designed.
- Install CMU block and brick veneer for the proposed inflatable dam Control Building at Beaconsfield as designed.

**Construction Costs:**

	Date (if applicable)	Amount
Original Contract Amount		\$9,673,200.00
Change Order #1	9/15/22	\$269,666.49
Revised Contract Amount		\$9,942,866.49
Total Spent to Date	Pay Apps. #1 - 15	\$4,786,411.92
Remaining Budget		\$5,156,454.57

Figure 1 – Odor Control Vault Excavation @ Kelly Rd.



**OFFICE LOCATION:** 21777 Dunham Road, Clinton Township, Michigan 48036 • Phone: 586-469-5325 • Fax: 586-469-5933  
**ENGINEERING** • Phone: 586-469-5910 • Fax: 586-469-7693 ♦ **SOIL EROSION** • Phone: 586-469-5327 • Fax 586-307-8264



Figure 2 – Odor Control Vault Installation @ Kelly Rd.



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Figure 3 – Odor Control Vault Installation @ Kelly Rd.



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Figure 4 – Odor Control Vent Pipe Excavation @ Kelly Rd.



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*Figure 5 – Tunnel Undermining @ West Wall of Beaconsfield Shaft*



Figure 6 – Reinforcing Steel for New Foundation @ West Wall of Beaconsfield Shaft



Figure 7 – New Concrete Foundation Support @ West Wall of Beaconsfield Shaft



*Figure 8 – Placing Concrete Foundation via Pump @ East Wall of Beaconsfield Shaft*



*Figure 9 – Placing Concrete Foundation via Pump @ East Wall of Beaconsfield Shaft*





*Figure 10 – Drone Aerial at 100 FT*



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**Candice S. Miller**

Public Works Commissioner  
Macomb County

To: 8 ½ Mile Drain Drainage District Board Members

CC: File

From: Vincent Astorino, Operations Director

Date: June 23, 2023

Subject: Chapaton Electrical Upgrades CCA Recommendation

The Chapaton Pump Station (PS) was constructed in 1968 and the majority of the equipment within the facility is original to the facility and has reached the end of its useful life. As part of the MCPWO planning process a capital improvement plan (CIP) was developed several years ago and one of the key projects identified was to replace the main electrical switchgear and storm pump electrical starters within the building. In the past 4 years of operation there have been 3 electrical fires at the Chapaton PS and therefore this project was elevated to the number one priority project.

Tetra Tech was awarded the design contract for the Chapaton Electrical Improvements project in which they completed on time and well under budget. Of the \$225,000 design cost it is projected that they will have approximately \$70,000 remaining.

The construction contract was awarded to Rotor Electric in the June board meeting for \$14,650,000. Instead of bringing the CCA recommendation at that time, MCPWO wanted to meet with Tetra Tech and Rotor and review the contractors preliminary schedule so that a more defined CCA proposal could be provided.

Tetra Tech has provided the attached CCA proposal in the NTE amount of \$714,080 which is approximately 5% of the construction contract. Due to the design being under budget, that estimated \$70,000 will be deducted from the \$714,080 which will bring the proposed change order #1 to \$644,080.

MCPWO staff is recommending to approve Change Order #1 to Tetra Tech for the Chapaton Electrical Improvements project for the NTE amount of \$644,080

Attachment: Tetra Tech CCA Proposal Dated 6-22-23  
Change Order #1



**TETRA TECH**

June 22, 2023

Mr. Vince Astorino  
Operations Director  
Macomb County Public Works Commissioner Candice S. Miller  
23001 E. Nine Mile Road  
St. Clair Shores, MI 48080

**RE: Eight and One-Half Mile Drain Relief Drain  
Chapaton Pump Station Electrical Improvements  
Construction Phase Services**

Dear Mr. Astorino:

Tetra Tech appreciates the opportunity to perform design and bidding services for the above project. On May 31, 2023, bids were received and the contract has been awarded by the Board. While the lead time for electrical equipment will cause most of the work to be completed in 2025 and 2026, planning for the work including submittal review will soon begin. Tetra Tech has completed this proposal to assist with administering the construction.

**SCOPE OF WORK**

We propose the following scope of work:

1. Lead progress meetings including a preconstruction meeting. We have assumed approximately forty (40) meetings will be held and that some may be held electronically. As we discussed, there will only be periodic meetings (perhaps one per quarter) during procurement.
2. Review submittals for materials to be used on the project.
3. Review Pay Applications and advise Macomb County on the reasonableness.
4. Review Requests for Information submitted by the Contractor. We have assumed approximately forty (40) of these.
5. Review requests for changes and provide a recommendation on reasonableness to Macomb County.
6. Prepare record drawings upon project completion.
7. Update Macomb County's asset inventory for the new equipment being added and replaced.
8. Because heavy equipment will be mobilized and placed on the Chapaton RTP top slab, we feel monitoring the basin before and during work is critical to protecting this important asset. We will subcontract with FK Engineering to install strain monitors

**Tetra Tech, Inc.**  
1136 Oak Valley Drive, Suite 100, Ann Arbor, MI 48108  
Tel 734.665.6000 [www.tetrattech.com](http://www.tetrattech.com)



and analyze the results. A more detailed scope of work is included as an attachment and includes some assistance from Macomb County to access the structure.

9. We will provide a resident project representative to observe work. We have assumed 1,500 hours for this work. In addition, we will have an electrical engineer assist during start-up of key equipment with an estimated 40 hours in the field.
10. We have included an allowance of \$30,000 for survey layout and material testing (parking lot area).

### **ASSUMPTIONS**

The following assumptions have been made:

- The effort expended by Tetra Tech is dependent upon the cooperation and execution of the Contractor. If the Contractor does not execute this work efficiently (for instance by preparing submittals that require rereviews), the budgets contained in this proposal may not be adequate.
- Tetra Tech is under budget on design and bidding and will be able to use remaining funds during construction
- The field work will largely be continuous (i.e., few starts and stops) at the end of the construction period. We understand that is the Contractor's plan.
- Services beyond those described in the proposal will not be performed

### **SCHEDULE**

We are prepared to begin work immediately as required by the construction contract.

### **EXECUTION**

We understand that the Drainage District will execute an amendment to current design contract to cover this work.

### **CLOSING**

Tetra Tech appreciates the opportunity to assist on this critical project and looks forward to a successful construction project.

Sincerely,

A handwritten signature in black ink that reads "Brian M. Rubel".

Brian M. Rubel, PE  
Sr. Vice President



30425 Stephenson Highway  
Madison Heights, Michigan 48071  
Phone: 248-817-2946

Mr. Brian Rubel, P.E.  
Tetra Tech  
1136 Oak Valley Drive, Suite 100  
Ann Arbor, MI 48108

June 16, 2023  
FKE Proposal No. 23-099

RE: Proposal for Structural Monitoring Services  
Chapaton Pump Station Electrical Upgrades  
Saint Clair Shores, Michigan

Dear Mr. Rubel:

As discussed, FK Engineering (FKE) is pleased to present this proposal to perform structural monitoring and engineering services for the above project. Details regarding our proposal are presented as follows including project background information, our anticipated scope of services, and associated professional fees.

## **PROJECT BACKGROUND**

The Chapaton Pump Station Electrical Upgrades project generally consists of making several modifications to the existing Chapaton Basin. The project includes removing existing solar panels and accessories; removing concrete and asphalt pavement in various locations; construction of generators, fuel tanks, mechanical and electrical accessories; and replacement of various pavements at the site. These upgrades to the site will require heavy equipment to be actively working on top of the roof of the basin, and are expected to impose long term increased loading on the existing structure. Proposed work is shown on project Plan Sheet C-101 through C-102A.

There are currently no provisions for monitoring the existing Chapaton Basin structure included in the project plans. Therefore, as you requested, we are proposing to perform various services in order to monitor the basin including condition surveys, and installation and monitoring of structural instrumentation.

## **SCOPE OF SERVICES**

Based on the project background discussed above, we propose to provide structural engineering and monitoring services in order to monitor for potential overstressing, and damage to the existing basin. Our assumptions, exclusions, and contractor responsibilities are described in further sections.

### **Pre and Post Condition Surveys**

FKE will provide pre and post condition surveys of the existing basin roof from the top of the roof and of the inside of the basin including columns and visual observation of the roof of the basin. FKE will perform confined space entry equipment to facilitate the condition surveys although some support may be required from the owner. The condition survey will be performed using GoPro 360 high-definition cameras. FKE field engineers will narrate observed defects in the basin structure and measure dimensions of defects that are within arm's reach. Our proposal assumes the owner will provide access to the underside of the basin roof from inside the basin. FKE will prepare a report which summarizes the observed condition of the basin within the affected area (where proposed generators and fuel tanks will be installed). The post-condition survey will be performed after the proposed generators and fuel tanks have been in place for 3 months and identify any observed defects in the affected area that were not identified in the pre-condition survey.

### **Installation and Monitoring of Strain Gauges**

FKE will develop a monitoring plan to measure increased loading on the basin structure, specifically the columns supporting the roof slab. This plan will be submitted to Tetra Tech for approval from the project owner.

We envision this monitoring plan will include installing and monitoring strain gauges on the basin columns. There appear to be 30 columns that are located underneath the proposed locations of generators or fuel tanks. We have assumed monitoring of all 30 affected columns will consist of 2 vibrating wire strain gauges per column (60 total). The strain gauges will be installed by FKE and will be anchored into the columns using rebar mounting blocks with epoxy. The strain gauges will measure strain within each column which can be used to estimate loading impacts on the basin from the generators and fuel tanks. We have assumed that the strain gauges will be wired through an existing access hatch and into a data logger on top of the basin. We have assumed that the data logger will be programmed to collect data every 12 hours. This data will be collected and plotted once per week by FKE. A monitoring report showing the raw data and

relevant plots of the data from the strain gauges will be sent to Tetra Tech. We have included weekly monitoring support for 1 month in this proposal.

**CLARIFICATIONS AND EXCLUDED ITEMS**

The following will provide clarifications and describe items excluded from our proposal:

- Installation efforts and support performed by FK Engineering staff will be considered professional services and not subject to prevailing wages or union requirements.
- Occasional assistance from small backhoes, air compressors, etc. will be required that we assume will be provided by the owner.
- We have not included costs for replacement/repair of damaged/stolen equipment, which we suggest be made the responsibility of the owner.
- Abandonment of instrumentation after project completion is NOT included in this proposal.

**PROFESSIONAL FEES AND GENERAL CONDITIONS**

Professional fees for our services will be in accordance with the following:

Task 1 Pre and Post Condition Surveys	Lump Sum	\$ 13,500
Task 2 Installation and Monitoring	Lump Sum	\$ 54,500
<b>Total Tasks 1-2</b>		<b>\$ 68,000</b>

General Conditions for our services will be in accordance with our attached General Conditions. Work performed beyond the scope described herein will be performed on a time and materials basis and will be invoiced in accordance with the attached 2023 Fee Schedule.

We appreciate this opportunity to submit this proposal for your consideration. Should you have any questions regarding this proposal, please call.

Sincerely,

FK Engineering, Inc.

  
 Duncan McLean, P.E.  
 Senior Project Engineer

  
 Fritz Klingler, P.E.  
 President



## 2023 Standard Fee and Rate Schedule

Fees for services will be charged on an hourly basis according to the following schedule:

<b><u>Personnel Title</u></b>	<b><u>Hourly Rate</u></b>
<b>Principal</b>	\$263.00
<b>Principal Engineer/Officer</b>	\$221.00
<b>Senior Project Engineer/Geologist</b>	\$184.00
<b>Project Engineer/Geologist</b>	\$173.00
<b>Assistant Project Engineer/Geologist</b>	\$158.00
<b>Senior Staff Engineer/Geologist/CADD Operator</b>	\$147.00
<b>Staff Engineer/Geologist</b>	\$126.00
<b>Senior Technician</b>	\$89.00
<b>Field Technician</b>	\$82.00
<b>Document Control Specialist</b>	\$76.00
<b>Senior Engineering Intern</b>	\$68.00
<b>Engineering Intern/Tech 3</b>	\$68.00
<b>Engineering Intern/Tech 2</b>	\$63.00
<b>Engineering Intern/Tech 1</b>	\$58.00

Field Technician over-time will be billed at 1.3 x the hourly rate.

Fees for other standard expenses will be charged on a unit rate basis as follows:

<b><u>Item</u></b>	<b><u>Rate</u></b>
Standard Company Vehicle Mileage Rate	1.10 cents per mile
Company Vehicle Usage	\$95 per day/\$435 per week/\$1545 per month up to 50 miles/day included - additional mileage charged at Standard Company Vehicle Mileage Rate
ATV Usage	\$75 per day/\$1,000 per month
B&W Copies (over 50 sheets/day)	\$0.12 per sheet
Color Copies (over 15 sheets/day)	\$0.60 per sheet
Plotter Copies	\$0.50 per sq. ft.
Subcontractors	Cost plus 12%
Direct Expenses	Cost plus 10%
Per diem	Breakfast: \$8.00/day, Lunch: \$10.00/day, Dinner: \$20.00/day

### **Other Terms**

- 1) Invoices are due upon receipt. Invoices greater than 15 days old will be assessed a late fee of 1.5% per month for each 1-30 day period beyond 15 days.
- 2) Hourly rates for expert testimony will be charged at 1.40 times the standard rates indicated above.
- 3) Proposal fees are valid for 30 days.
- 4) FKE maintains the right to increase fees annually for projects lasting more than one year during period where the annual inflation rates exceed 5%. Any increase in such cases will be limited to the rate of inflation as determined by the Consumers Price Index.
- 5) For projects involving field work where staff are called off on the same day as scheduled work (weekends), the client will be charged a \$55.00 fee, which covers the \$50.00 call-off reimbursement to the employee, plus markup.





## Standard Terms and Conditions for Engineering Services

These Standard Terms and Conditions for Engineering Services (hereafter referred to as “Terms and Conditions”) shall apply to and govern the agreement entered into between FK Engineering Associates (hereafter referred to as “Consultant”) and the party engaging Consultant to provide services under the aforementioned agreement (hereafter referred to as “Client”). All engineering services, design services, detail drawing services, consulting and training services, construction engineering, construction contract administration, and inspection and analysis services by Consultant (collectively referred to herein as “Engineering Services”) are subject to these Terms and Conditions. All written proposals or quotations referencing and incorporating these Terms and Conditions (hereafter referred to as “Proposal”) issued by Consultant are an offer to provide for the agreed-upon fee, Engineering Services pursuant to these Terms and Conditions, and subject to all the provisions of the Proposal. No waiver or modification of these Terms and Conditions shall be binding on Consultant unless authorized and agreed to in writing by Consultant. Client’s acceptance of the Proposal (hereafter referred to as “Authorization”) shall be in written form referencing the Proposal and defining any additional modifications to the proposal, including any modifications to these Terms and Conditions. Any such modifications must be agreed to in writing by the Consultant and the Client, for such modifications to be binding. Collectively, the Proposal and Client’s Authorization are hereafter included in these Terms and Conditions all of which are referred to as the “Agreement”.

1. **SCOPE.** The scope of work for the Engineering Services to be provided to Client (hereafter referred to as “Scope of Services”) is specifically set forth in the Proposal submitted to Client by Consultant. If Client requests a change in the Scope of Services to be provided, Consultant reserves the right to revise delivery schedules and make an equitable adjustment to the price. Client acknowledges and agrees that Consultant is providing the Engineering Services only and is not providing or participating in the provision of any product(s). Consultant will not be obligated to provide any services which are (a) outside of the Scope of Services defined in the applicable documentation; (b) outside its area of expertise; or (c) in violation of any applicable laws, codes or regulations.
2. **PROJECT INFORMATION.** Client shall make available in a timely manner at no charge to Consultant all drawings, technical data, measurements, or other information and resources reasonably required by Consultant for the performance of the Engineering Services. The Consultant shall be entitled to rely on the accuracy and completeness of services and information furnished by the Client, including services and information provided by other design professionals or consultants directly to the Client. These services and information include, but are not limited to, surveys, tests, reports, diagrams, drawings and legal information. Client shall issue a written Authorization specifically referencing the Proposal.
3. **PRICES/TAXES.** Prices for the Engineering Services are subject to escalation in the event of an increase in any direct reimbursable costs associated with the project. Unless otherwise stated or agreed, Consultant’s prices do not include sales, use, or similar taxes.
4. **PAYMENT TERMS.** Standard payment terms are net 30 days from the date of the invoice unless modified in the Proposal. Fees will be accrued in accordance with the Consultants’ Standard Fee and Rate Schedule, or as stated otherwise in the Proposal. If the services are provided for a period exceeding 30 days, progress payments will normally be required.
5. **STANDARD OF CARE.** Consultant will provide the Engineering Services in accordance with generally accepted standard professional engineering practice normally exercised in the location and at the time the Engineering Services are provided to Client using reasonable care and skill consistent with that ordinarily exercised by members of the profession under similar conditions. However, Consultant does not guarantee the success of Client’s project. As such, except as set forth in this Section, Consultant makes no warranties or guarantees, whether express, implied, or statutory, regarding or relating to the Engineering Services furnished under this Agreement. Consultant specifically disclaims all implied warranties of merchantability and fitness for a particular purpose with respect to the Engineering Services.
6. **LIMITATION OF LIABILITY.** Consultant’s liability for a claim of any kind arising out of the Engineering Services provided pursuant to this Agreement shall in no case exceed the price paid by Client or \$25,000, whichever is greater and will apply to all contractual and tort obligations. In no event shall Consultant be liable for any special, indirect, incidental or consequential damages, including loss of profits or business interruption or loss of use of equipment, however caused arising from the Engineering Services provided pursuant to this Agreement.
7. **WAIVER OF CONSEQUENTIAL DAMAGES.** The Consultant and Client waive consequential damages for claims, disputes or other matters in question arising out of or relating to this Agreement. This mutual waiver is applicable, without limitation, to all consequential damages due to either party’s termination of this Agreement.
8. **DELIVERY/FORCE MAJUERE.** Consultant shall have no liability for delays or any other breach of its obligations resulting from an Act of God, pandemics, war, riot, explosion, accident, act of government, work stoppage, default of subcontractor or supplier of materials, or any other cause beyond the reasonable control of Consultant.
9. **CANCELLATION, SUSPENSION OR DELAY.** Client may cancel the Agreement upon written notice to Consultant and payment of an agreed upon cancellation charge, which shall include all costs incurred by Consultant prior to the cancellation plus a reasonable profit. The Engineering Services may be suspended or delayed by Client with Consultant’s prior written consent. If Consultant agrees to a suspension or delay, Client shall reimburse Consultant for all costs incurred up to the date of such suspension or delay, plus a reasonable profit. All other costs related to and risks incidental to resumption of the Engineering Services shall be borne by Client.

## FK Engineering Associates

10. **CONSULTANT'S PROPERTY.** Except as otherwise specifically set forth in the scope of work provided as part of the proposal or quotation, all documents, including drawings, specifications, computer files, electronic media, data, engineering calculations, notes, and other documents and instruments prepared or furnished by Consultant (collectively the "Documentation") are the property of Consultant. Consultant shall retain all common law, statutory and other reserved rights, including copyright, applicable to the Documentation. The Documentation is not intended or represented to be suitable for use on any other project. Any reuse of the Documentation without written verification or adaptation by Consultant for the specific purpose intended is prohibited and will be at Client's sole risk and without liability or legal exposure to Consultant. Client agrees to defend, indemnify and hold Consultant harmless against all claims, damages, losses, and expenses (including reasonable attorneys' fees) arising from or in any way connected with the unauthorized use or modification of the Documentation by Client or any person or entity that acquires or obtains the Documentation from or through Client without the written authorization of Consultant.
11. **INTELLECTUAL PROPERTY RIGHTS.** Each party shall retain ownership of all intellectual property it had prior to commencement of the Engineering Services. However, Consultant shall own exclusively all rights in any ideas, inventions, or works of authorship created in or resulting from the Engineering Services, including but not limited to all patent rights, copyrights, moral rights, rights in proprietary information, trademark rights and other intellectual property rights, and Client will execute assignments as necessary to achieve that result.
12. **CERTIFICATIONS.** If the Client requests the Consultant to execute certificates, the proposed language of such certificates shall be submitted to the Consultant for review at least 14 days prior to the requested dates of execution. The Consultant shall not be required to execute certificates that would require knowledge, services or responsibilities beyond the scope of the agreement, nor shall any certificates be construed as a warranty or guarantee by the Consultant.
13. **UNAUTHORIZED CHANGES.** Consultant shall have no liability to Client or others for changes made to the Documentation by Client without Consultant's prior written approval.
14. **INDEMNITY.** Client will defend, indemnify, and hold Consultant harmless from all claims, damages, losses, and expenses (including reasonable attorneys' fees) arising out of the provision of the Engineering Services by Consultant under this Agreement, including claims related to Consultant's use of Client supplied drawings, measurements, data, or any other information provided by Client that is used in performing the Engineering Services, and including any third party claims. However, in no event shall Client be liable under this provision for claims arising out of and to the extent of the negligence or willful misconduct of Consultant. Consultant will indemnify, and hold Client harmless from all damages, liabilities, and expenses (including reasonable attorneys' fees) to the extent of the Consultant's negligent performance of the Engineering Services under this Agreement, including the Consultant's employees and others for whom the Consultant is legally liable.
15. **COMPLIANCE WITH LAWS.** The parties agree to comply with all applicable federal, state, or local laws in connection with the Engineering Services being provided pursuant to this Agreement.
16. **ASSIGNMENT.** Client may not assign the Agreement between Consultant and Client without the prior written consent of Consultant. Likewise, Consultant may not assign the Agreement between Consultant and Client without the prior written consent of Client.
17. **THIRD-PARTY BENEFICIARIES.** Nothing contained in this Agreement shall create a contractual relationship with or a cause of action in favor of a third party against Consultant. Consultant's Engineering Services are being performed solely for Client's benefit, and no party or entity shall have any claim against Consultant because of this Agreement or the performance or nonperformance of the Engineering Services.
18. **INDEPENDENT CONTRACTORS.** Each party will be and act as an independent contractor and not as an agent or partner of, or joint venture with, the other party for any purpose related to this Agreement or the transactions contemplated by this Agreement, and neither party by virtue of this Agreement will have any right, power, or authority to act or create any obligation, expressed or implied, on behalf of the other party.
19. **CONSTRUCTION PHASE.** The Consultant shall not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the construction work on any project, nor shall the Consultant be responsible for the contractor's failure to perform the construction work in accordance with the requirements of the plans and specifications prepared by Consultant. The Consultant shall not have control over or charge of, and shall not be responsible for, acts or omissions of the contractor or of any other persons or entities performing portions of the construction work. In addition, the Consultant shall have no control over, charge of, or have responsibility for, any temporary structures built or used by the Contractor during the course of construction. It is understood and agreed that the Consultant shall have no power, authority, right or obligation to furnish or erect or cause to be furnished or erected any scaffolding, hoists, stays, ladders, slings, hangers, blocks, pulleys, braces, irons, ropes or other related devices or equipment. To the extent the Consultant makes any observations of the site as required under the terms of this Agreement, such observations shall not include observations of any scaffolding, hoists, stays, ladders, slings, hangers, blocks, pulleys, braces, irons, ropes, temporary structures or other related devices or equipment.
20. **CONTRACTOR SUBMITTALS.** The Consultant shall review the contractor's submittals such as shop drawings, product data and samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the plans and specifications issued by the Consultant. Review of such submittals is not for the purpose of determining the accuracy and completeness of other information such as dimensions, quantities, and installation or performance of equipment or systems, which are the contractor's responsibility. The Consultant's review

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shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Consultant, of any construction means, methods, techniques, sequences or procedures. The Consultant's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

21. **CONSTRUCTION OBSERVATION.** If requested, the Consultant shall visit the project construction site to generally observe the construction work and answer any questions that the Client may have. However, the Consultant shall not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the construction work, or to determine whether the construction work is being constructed in accordance with the Contract Documents. If the Client desires the Consultant to perform more frequent or comprehensive observations of the construction work, this Agreement shall be amended to specifically state the additional scope of service, along with the additional compensation to be paid to the Consultant for performing such service.
22. **JOBSITE SAFETY.** Neither the performance of the services by the Consultant, nor the presence of the Consultant at a project construction site, shall impose any duty on the Consultant, nor relieve the construction contractor of its obligations, duties and responsibilities including, but not limited to, construction means, methods, sequence, techniques or procedures necessary for performing, superintending and coordinating the construction work in accordance with the plans and specifications and any health or safety precautions required by any regulatory agencies or applicable law. The Consultant and its personnel have no authority to exercise any control over any construction contractor or its employees in connection with their work or any health or safety programs or procedures. The Client agrees that the construction contractor shall be solely responsible for jobsite and worker safety.
23. **RESPONSIBILITY FOR CONSTRUCTION.** Evaluations of the Client's project budget, the preliminary estimate (opinion) of construction cost and detailed estimates (opinions) of construction cost, if any, prepared by the Consultant, represent the Consultant's judgment as a design professional familiar with the construction industry. It is recognized, however, that neither the Consultant nor the Client has control over the cost of labor, materials or equipment, over the contractor's methods of determining bid prices, or over competitive bidding, market or negotiating conditions. Accordingly, the Consultant cannot and does not warrant or represent that bids or negotiated prices will not vary from the Client's project budget or from any estimate (or opinion) of construction cost or evaluation prepared or agreed to by the Consultant.
24. **MERGER.** This Agreement shall not be terminated by the merger or consolidation of either party into or with any other entity.
25. **INSURANCE.** The Consultant will carry commercial general liability insurance and professional liability insurance relative to the Scope of Service under the Agreement. Specific limits, terms, and additional insured parties must be provided to the Consultant by the Client and agreed upon by the parties in advance of execution of the agreement.
26. **WAIVER OF SUBROGATION.** The Consultant and Client waive all rights against each other and any of their contractors, subcontractors, consultants, agents and employees, each of the other, for damages caused by fire or other causes of loss to the extent covered by property insurance obtained pursuant to a written contract or other property insurance applicable to the construction work. The Consultant and Client, as appropriate, shall require of their contractors, subcontractors, consultants, agents and employees, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policy shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.
27. **SUCCESSORS AND ASSIGNS.** All of the provisions of this Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective heirs, if any, successors, and assigns.
28. **CHOICE OF LAW.** The laws of the state of Michigan shall govern this Agreement, the construction of its terms and the interpretation of the rights and duties of the parties hereto.
29. **ARBITRATION.** Any controversies arising out of the terms of this Agreement or its interpretation shall be settled in Oakland County, Michigan in accordance with the rules of the American Arbitration Association, and the judgment upon award may be entered in any court having jurisdiction thereof.
30. **HEADINGS.** Section headings are not to be considered a part of this Agreement and are not intended to be a full and accurate description of the contents hereof.
31. **WAIVER.** Waiver by one party hereto of breach of any provision of this Agreement by the other shall not operate or be construed as a continuing waiver.
32. **NOTICES.** Any and all notices, demands, or other communications required or desired to be given hereunder by any party shall be in writing and shall be validly given or made to another party if personally served, or if deposited in the United States mail, certified or registered, postage prepaid, return receipt requested. If such notice or demand is served personally, notice shall be deemed constructively made at the time of such personal service. If such notice, demand or other communication is given by mail, such notice shall be conclusively deemed given five days after deposit thereof in the United States mail addressed to the party to whom such notice, demand or other communication is to be given. Any party hereto may change its address for purposes of this paragraph by written notice.
33. **ENTIRE AGREEMENT.** These terms and Conditions together with the Proposal and Authorization constitute the entire understanding and agreement of the parties, and any and all prior agreements, understandings, and representations are hereby terminated and canceled in their entirety and are of no further force and effect. The Agreement may be amended

## **FK Engineering Associates**

only by written instrument signed by both Client and Consultant.

34. **UNENFORCEABILITY OF PROVISIONS.** If any provision of the Agreement or of these Terms and Conditions as incorporated into the Agreement, or any portion thereof, is held to be invalid and/or unenforceable, then the remainder of the Agreement and related Terms and Conditions shall nevertheless remain in full force and effect.

<b>Price Proposal</b>		Revision Date:												Price Summary / Totals					
<b>Macomb Chapaton Electrical</b>		Jun 21, 2023												Task Pricing Totals		714,080			
																0			
Bill Rate > 265.00    250.00    110.00    110.00    175.00    220.00    140.00    200.00    140.00 Proj Area >												<b>Total Price</b>		<b>714,080</b>					
Contract Type: T&M												Pricing by Resource							
Project Phases / Tasks	Schedule			Total Labor Hrs	Senior Project Manager (Brian Rubel)	Senior Engineer Mechanical (Bill Paison)	Junior CADD (Vickie Melling)	Jr Administrator (Cindy Weston)	Project Engineer Civil (Daniel Warren)	Senior Engineer Structural (Moussa Sissoko)	Project Engineer Mechanical (Jeff Johnston)	CCA (Tim Ard)	RPR (Dave Weiss)	Labor	Subs	Travel	Task Pricing Totals		
	From	Thru	Months																
<b>1. Precon/contracts/conforming</b>				<b>48</b>	<b>4</b>	<b>12</b>	<b>16</b>	<b>8</b>				<b>8</b>		<b>8,300</b>			<b>8,300</b>		
<b>2. CCA</b>				<b>1,412</b>	<b>160</b>	<b>428</b>	<b>80</b>	<b>80</b>	<b>52</b>	<b>136</b>	<b>24</b>	<b>452</b>	-	<b>299,780</b>	<b>74,800</b>	<b>2,000</b>	<b>376,580</b>		
Progress Meetings (40)	08/01/23	06/01/26	33.4	320	80	80						160		73,200		1,000	74,200		
Submittal Reviews	08/01/23	06/01/26	33.4	408	24	160		80	40	80	24			83,120			83,120		
Pay application	08/01/23	06/01/26	33.4	100								100		20,000			20,000		
RFIs	08/01/23	06/01/26	33.4	196	8	60			12	16		100		42,740			42,740		
Change order review	08/01/23	06/01/26	33.4	92	8	24						60		20,120			20,120		
Record drawings	08/01/23	06/01/26	33.4	72	8	24	40							12,520			12,520		
Database	08/01/23	06/01/26	33.4	48	8		40							6,520			6,520		
Start-up		06/01/26		104	8	80						16		25,320		1,000	26,320		
Geotechnical Instrumentation				72	16					40		16		16,240	74,800		91,040		
<b>3. RPR</b>				<b>1,880</b>	<b>80</b>	-	-	-	-	-	-	<b>300</b>	<b>1,500</b>	<b>291,200</b>	<b>33,000</b>	<b>5,000</b>	<b>329,200</b>		
Assume 1500 hours field plus management	09/01/24	06/01/26	20.6	1,880	80							300	1,500	291,200		5,000	296,200		
Survey and material testing				-											33,000		33,000		
<b>Totals</b>	<b>08/01/23</b>	<b>06/01/26</b>	<b>33.4</b>	<b>3,340</b>	<b>244</b>	<b>440</b>	<b>96</b>	<b>88</b>	<b>52</b>	<b>136</b>	<b>24</b>	<b>760</b>	<b>1,500</b>	<b>0.00%</b>	<b>599,280</b>	<b>107,800</b>	<b>7,000</b>	<b>-</b>	<b>714,080</b>



EIGHT AND ONE-HALF MILE RELIEF  
06/20/2023 - 07/05/2023

<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% St. Clair Shores – 25.13%						
		Astorino	Amazon	\$ 2,489.28	Invoice #1CQH-W9ML-1XM1 - 06.15.23	Window Shutters	
		Astorino	Anderson, Eckstein & Westrick	\$ 12,264.07	Invoice #144415 - 06.13.23	Gate Rehabilitation Project - 5/8/23 - 6/4/23	\$ 43,800.25
		Astorino	City of St. Clair Shores Treasurer	\$ 35,764.00	Invoice #23-352 - 06.12.23	Chapaton Canal Rehab Permits	
		Astorino	Cummins Sale & Service	\$ 1,832.28	Invoice #S6-8047	PM Load Bank Test	
		Astorino	De-Cal, Inc.	\$ 4,476.00	Invoice #WO9222866 - 01.05.23	Boiler Repair	
		Astorino	DTE Energy	\$ 583.59	Invoice #23-336 - 05.31.23	Monthly Electric - 05.01.23 - 05.31.23	
		Astorino	DTE Energy	\$ 6,776.40	Invoice #23-359 - 06.12.23	Monthly Electric - 05.09.23 - 06.07.23	
		Astorino	KHVPF	\$ 1,235.00	Invoice #49729 - 06.01.23	Contract Review - ISS	
		Astorino	KHVPF, PLC	\$ 1,390.00	Invoice #49730 - 06.01.23	Chapaton Use Agreement	
		Downing	Marino's Landscape	\$ 1,156.00	Invoice #22193 - 05.31.23	Lawn Care May 2023	
		Astorino	METCO Consulting Services	\$ 3,240.00	Invoice #2207A-01 - 06.13.23	Chapaton PS HVAC Analysis	\$ 96,760.00
		Manning	Nickel & Saph, Inc.	\$ 19,743.69	Invoice #22589 - 04.12.23	Insurance Renewal - 04.26.23 - 04.26.24	
		Astorino	NTH Consultants, Ltc.	\$ 6,225.78	Invoice #633012 - 06.09.23	9 Mile Emergency Bypass Rehab - Design	\$ 99,386.17
		Astorino	NTH Consultants, Ltc.	\$ 672.00	Invoice #633013 - 06.05.23	2023 Interceptor Inspection Program - Design	\$ 47,570.72
		Astorino	Tetra Tech, Inc.	\$ 31,310.56	Invoice #52081586 - 06.13.23	In-System Storage CCA	\$ 465,459.68
		Astorino	Tetra Tech, Inc.	\$ 11,315.88	Invoice #52081587 - 06.13.23	Chapaton Electrical/Generator Design	\$ 114,632.29
		Astorino	Transformer Inspection Retrofill	\$ 550.00	Invoice #I230211-1 - 06.27.23	Service Inspection - Transformer	
		Astorino	Wade Trim	\$ 26,327.51	Invoice #2027813 - 06.30.23	Chapaton RTB Canal Rehab - Design	\$ 16,868.24
		<b>Total</b>			\$ 167,352.04		

**Budget to Actual**  
**8.5 Mile Relief**  
**As of June 30, 2023 =75%**

DESCRIPTION	2023		ACTUAL	REMAINING BUDGET	PCT UTILIZED
	FINAL BUDGET	ENCUMBERED			
<b>REVENUE ACCOUNTS</b>					
Interest Earned	20,000		216,556	(196,556)	1082.8%
Other Revenue	5,000		158,516	(153,516)	3170.3%
State Grant-Electrical and Canal Rehab	-		662,287	-	100.0%
8.5 O&M/Charge Required Revenue	5,003,220		5,003,220	-	100.0%
PY Revenue-Fund Balance	4,412,010			4,412,010	0.0%
Use of Reserve from prior contributions	3,738,110			3,738,110	0.0%
Use of Reserve(Flow Meters)	350,000			350,000	0.0%
Use of SCADA Reserve	64,750			64,750	0.0%
Use of Surplus from past collections	1,051,830		-	1,051,830	0.0%
<b>Total Revenue Accounts</b>	<b>14,644,920</b>	<b>-</b>	<b>6,040,579</b>	<b>9,266,628</b>	<b>41.2%</b>
<b>EXPENSE ACCOUNTS</b>					
Application/Permit Fee	6,000		6,000	-	100.0%
Dues, Training, Conf, Subs.	17,010		1,590	15,420	9.3%
<b>Engineering</b>					
Sluice & Dewatering Gates Rehab/Replacement Project	1,974,340		23,561	1,950,779	1.2%
Canal Rehab Design	320,000		274,029	45,971	85.6%
8.5 Mile Inspection Project	500,000		19,992	480,008	4.0%
9 Mile Drain & Dewater Accusonic Flow Meters	350,000		247,208	102,792	70.6%
9 Mile Emergency Bypass Structural Rehab	3,000,000		17,701	2,982,299	0.6%
Flushing	1,895,660		1,534	1,894,126	0.1%
Chapaton Electrical Upgrades (ARPA Funds)	-		110,369	(110,369)	100.0%
Canal Rehab (ARPA Funds)	-		154,938	(154,938)	100.0%
As needed Engineering	39,110		27,511	11,599	70.3%
Sluice and Dewatering Gates Rehab/Replace Project (Was 9 Mile PS)	2,025,660		67,738	1,957,922	3.3%
Cost Share Army Corp Grant-Green Infrastructure Project	162,500			162,500	0.0%
9 Mile Bypass Pipe Structural Repairs-Construction/CA	308,010		1,491	306,519	0.5%
Chapaton Improvements-Office Space Downstairs	100,000		1,231	98,769	1.2%
In-System Storage-Construction Admin and Construction (County ARPA)	1,659,410		2,364,248	(704,838)	142.5%
New Equipment	3,000			3,000	0.0%
Office Supplies	500			500	0.0%
Operating Supplies	81,800		63,401	18,399	77.5%
Other Professional Svcs	42,500		31,106	11,394	73.2%
Personnel Services	1,135,790		614,093	521,697	54.1%
Repair & Maintenance	246,000		65,329	180,671	26.6%
Contribution to Reserve	288,240			288,240	0.0%
Scada System	199,390		41,239	158,151	20.7%
Utilities	290,000		232,339	57,661	80.1%
<b>Total Expense Accounts</b>	<b>14,644,920</b>	<b>-</b>	<b>4,366,648</b>	<b>10,278,272</b>	<b>29.8%</b>

	O&M Balance 9/30/2022	O&M	Total 6/30/2023
Cash - Operating	9,802,509	1,673,931	11,476,440
Accounts Receivable			0
Assets			0
Liabilities			0
Revenues		6,040,579	6,040,579
Expenditures		4,366,648	4,366,648
			0
Equity*	9,802,509		11,476,440

**Detail of 2022 Equity\***

9 Mile Bypass Struct Rprs-Const/CA	292,264	Capital Reserve	953,047
As-Needed Engineering	48,544	Contribution from Macomb Cty	2,000,000
Chapaton Improvements-Lab/Office Space	173,347	In System Contrib from SEMSD	1,351,239
Chlorine storage tank #3 relining	7,500	LSCWWI 04B Transfer	738,112
Cost Share Army corp Grant-Green Infrastructure Project	162,500	SCADA Reserve	155,140
Fiber Optic Improvements	16,130	SRF Replacement Reserve	2,592,140
Firewall Hardware Design/Config	12,900	Painting	25,000
In-System Storage Design/Const Admin/Const	116,276	SolarWind -Network Mgmt Softwar	9,670
Obsolete Wireless backhaul replacement links	16,120	Storm PLC Replacments	30,000
Sluice & Dewatering Gates Rehab/Replace Proj(Was 9 Mile PS)	1,102,581		