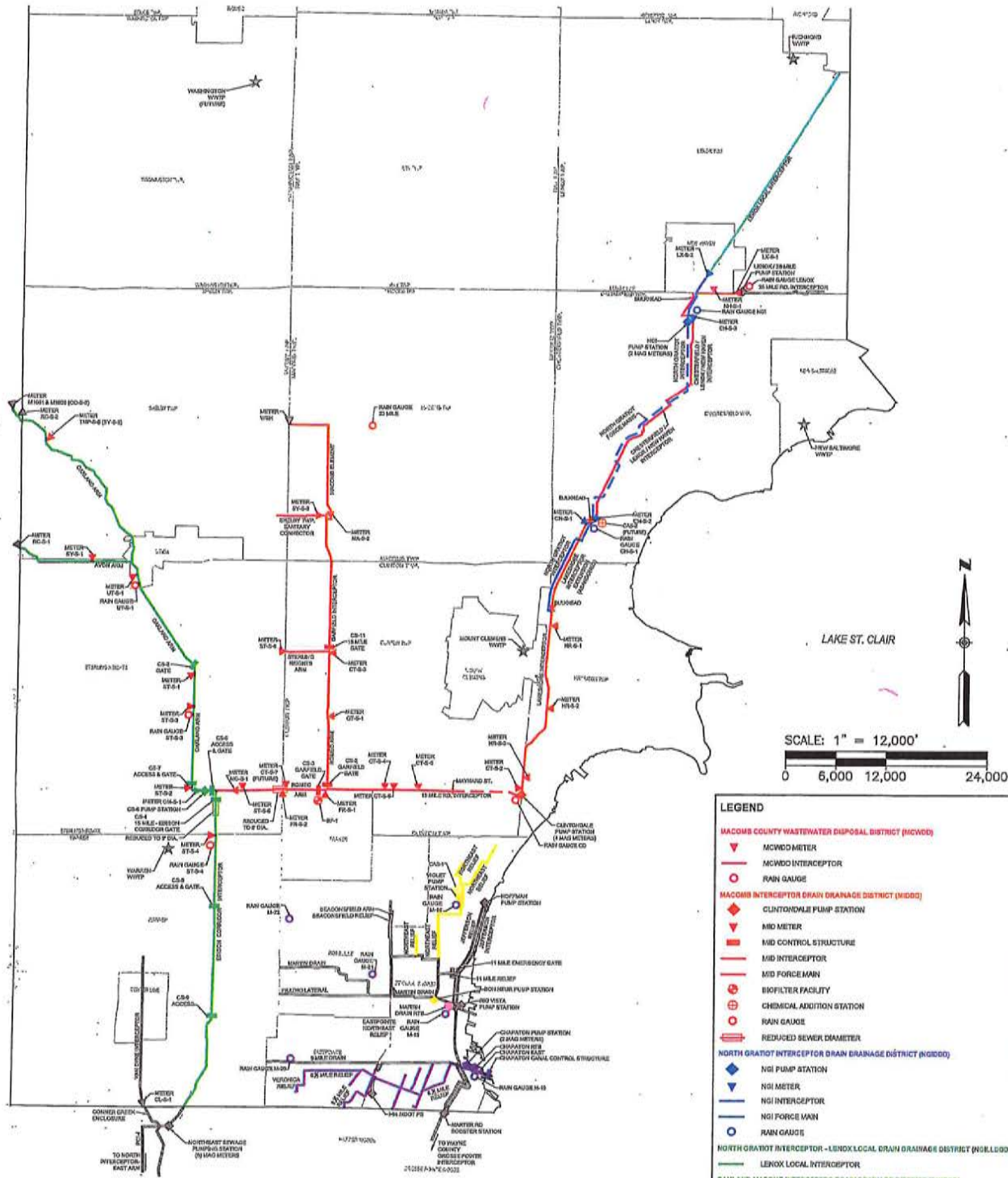


EIGHT AND ONE-HALF MILE RELIEF DRAIN
INTRA-COUNTY DRAINAGE BOARD
JANUARY 14, 2019
10:00 A.M.
AGENDA

	Page
1. Call of meeting to order and roll call	
2. Approval of Agenda for January 14, 2019	
3. Approval of Minutes for December 10, 2018	3
4. Public participation	
5. Project Updates – Vince Astorino	
6. Chapaton Switchgear Preventative Maintenance – Vincent Astorino	5
Motion: To approve the proposal from Northern Electrical Testing, Inc. for preventative maintenance on the Chapaton RTB Switchgear for a not-to-exceed amount of \$41,979	
7. Engineering Services – Vincent Astorino	16
Motion: To approve the proposal from Fishbeck, Thompson, Carr & Huber, Inc. for as-needed engineering services, Chapaton Basin Structural Integrity Study and design of 9 Mile By-pass Repairs for a not-to-exceed amount of \$176,919	
8. Consideration for approval of invoices (see attached)	30
9. Financial Report – Bruce Manning	38
10. Adjourn	

MACOMB COUNTY WASTEWATER SYSTEMS



LEGEND

- MACOMB COUNTY WASTEWATER DISPOSAL DISTRICT (MCWDD)
 - MCWDD METER
 - MCWDD INTERCEPTOR
 - RAIN GAUGE
- MACOMB INTERCEPTOR DRAIN DRAINAGE DISTRICT (MIDD)
 - CLINTONDALE PUMP STATION
 - MID METER
 - MID CONTROL STRUCTURE
 - MID INTERCEPTOR
 - MID FORCE MAIN
 - BIOFILTER FACILITY
 - CHEMICAL ADDITION STATION
 - RAIN GAUGE
 - REDUCED SEWER DIAMETER
- NORTH GRATIOT INTERCEPTOR DRAIN DRAINAGE DISTRICT (NGIDD)
 - NGI PUMP STATION
 - NGI METER
 - NGI INTERCEPTOR
 - NGI FORCE MAIN
 - RAIN GAUGE
- NORTH GRATIOT INTERCEPTOR - LENOX LOCAL DRAIN DRAINAGE DISTRICT (NGLLDD)
 - LENOX LOCAL INTERCEPTOR
- DAWGLAND/MACOMB INTERCEPTOR DRAIN DRAINAGE DISTRICT (DMIDD)
 - CE-6 PUMP STATION
 - DMID METER
 - DMID CONTROL STRUCTURE
 - DMID INTERCEPTOR
 - REDUCED SEWER DIAMETER
- 8 1/2 MILE RELIEF DRAIN DRAINAGE DISTRICT
 - CHAPATON WEST PUMP STATION
 - CHAPATON RETENTION TREATMENT BASIN
 - CHAPATON CANAL CONTROL GATE
 - 8 1/2 MILE INTERCEPTOR
 - RAIN GAUGE
- SEMIWAS DRAINAGE DISTRICT (SEMIWAS)
 - SEMIWAS PUMP STATION
 - CHEMICAL ADDITION STATION
 - SEMIWAS INTERCEPTOR
- MARTIN SANITARY DIVERSION DRAINAGE DISTRICT (MSDD)
 - MARTIN DRAIN RETENTION TREATMENT BASIN
- OTHER SYSTEMS
 - PUMP STATION
 - METER
 - WWTP
 - INTERCEPTOR

Candice S. Miller
 MACOMB COUNTY PUBLIC WORKS COMMISSIONER



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 December 10, 2018, at 10:08 A.M.

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

ALSO PRESENT: Brian Baker, Chief Deputy, Karen Czernel, Deputy, Evans Bantios, P.E., Construction and Maintenance Manager, Jeff Bednar, P.E., Environmental Resources Manager, Bruce Manning, Financial Manager, Steven Rozycki, Engineer II, Tom Stockel, Construction Engineer, Dan Heaton, Public Relations Manager, Barbara Delecke, Administrative Services, Macomb County Public Works (MCPW), Patti Dibb, Chief of Staff, Mike Keys, Legislative Assistant, Macomb County Board of Commissioners

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

Minutes of the meeting of November 19, 2018 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.

Bids are due on December 11, 2018 for as-needed engineering services. The bids for the expansion of the 9 Mile Canal are due on January 15, 2019. The real-time Total Residual Chlorine (TRC) unit was tested at Chapaton and compares favorably with the current methods of testing. Request for Proposals (RFP) will be sent out later this month on the design of the in-system storage gates. A progress meeting was held on the first flush capture design. Anderson, Eckstein & Westrick, Inc. (AEW) is working on conceptual layouts for an outlet pipe down Frazho Road, which could potentially reduce the flow by diverting to the Rio Vista Pump Station.

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

Adopted: YEAS: 3
NAYS: 0

The Chair presented the invoices totaling \$24,047.37 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 Mr. Santo and supported by Ms. Klinefelt.

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

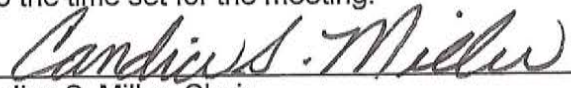
The meeting was adjourned at 10:22 a.m.



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 December 10, 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: 12/11/18

9567.bd



Candice S. Miller

Public Works Commissioner
Macomb County

To: Candice Miller, Macomb County Public Works Commissioner

CC: Brian Baker, Chief Deputy

From: Vincent Astorino, Operations & Flow Manager

Date: January 5, 2019

Subject: Chapaton Switchgear Preventive Maintenance Recommendation

The Chapaton Pump Station which was constructed in 1968 still has the original power switchgear that handles power distribution throughout the facility. It is recommended that this equipment goes through a full check every several years especially with the age of this equipment. This work has been budgeted in the overall amount of \$83,000.

With the electrical fire that occurred in early 2018 and the fact that this maintenance has not been performed since approximately 2013 it is critical that this is done immediately.

We reached out to multiple companies to provide a quote to perform this work and their not-to-exceed (NTE) numbers are below with the quotes attached.

- Norther Electrical Testing Inc. = \$41,979.00
- Rotor Electric Company of Michigan = \$48,000.00

After reviewing the proposals submitted, it is my recommendation that we move forward with Northern Electrical Testing Inc. with the NTE limit of **\$41,979.00**.

Attachments: Rotor Electric Company of Michigan Proposal – 12/12/18
Northern Electrical Testing Inc. Proposal – 12/17/18



**ROTOR ELECTRIC COMPANY
OF MICHIGAN, LLC**

9522 Grinnell
Detroit, MI 48213
TEL: 313-891-0331
FAX: 313-891-0511
www.rotorelectric.com

December 12, 2018

Brent Welser
SCADA System Manager
Macomb County Public Works
21777 Dunham Road
Clinton Township, MI 48036

Re: GBP 19-0480 Chapaton Sewage Pumping Station Switchgear Preventative
Maintenance, Testing and Inspection

Dear Mr. Welser,

The Rotor Electric Company is pleased to provide you with this detailed cost proposal to perform preventative maintenance and testing at the Chapaton Sewage Pumping Station. This proposal assumes that Rotor Electric will be contracted to perform all the listed services as equipment shutdowns impact multiple task items.

1: Primary Switchgear

Services provided in this proposal include:

Medium Voltage Air Circuit Breakers

Six (6) Westinghouse DH-750H 500E MV Air Circuit Breakers

A: Clean insulation system members

B: Visually inspect for tracking or signs of insulation system breakdown

C: Perform AS FOUND insulation resistance tests (phase to phase with breaker closed, phase to ground with breaker closed and line to load with the breaker open).

D: Perform AS FOUND contact resistance tests.

E: Check main contact gap and wipe and arcing contact gap and wipe. Adjust as necessary.

F: Clean main contact surfaces.

G: Lubricate breaker mechanism.

H: Perform AS LEFT contact resistance tests.

I: Perform AS LEFT insulation resistance tests (phase to phase with breaker closed, phase to ground with breaker closed and line to load with the breaker open).

ROTOR ELECTRIC COMPANY OF MICHIGAN, LLC

Protective Relays

- Five (5) Westinghouse CP Voltage Relays (Main 1 & 2, Pumps 1, 2 & 3)
- Nine (9) Westinghouse BL Thermal Relays (Pumps 1, 2 & 3)
- Three (3) Westinghouse CM Thermal Relays (Pumps 1, 2 & 3)
- Three (3) TK Reverse Flow Relays (Pumps 1, 2 & 3)
- Nine (9) CA Differential Relays (Pumps 1, 2 & 3)
- Three (3) CA-16 Differential Relays (Pumps 1, 2 & 3)
- Six (6) Westinghouse SV Voltage Relays (Main 1 & 2,)
- Nine (9) CO-8 Overcurrent Relays (Main 1 & 2, House XFMR)
- Two (2) MG-6 Auxiliary Relays (clean and operate only)

Perform pickup and timing tests using Advanced Visual Test Software

Medium Voltage Fused Load Break Switches

Two (2) SquareD Powerzone Model 233-51

A: Clean insulation system members

B: Visually inspect for tracking or signs of insulation system breakdown

C: Perform AS FOUND insulation resistance tests (phase to phase with switch closed, phase to ground with switch closed and line to load with the switch open).

D: Perform AS FOUND contact resistance tests.

1. Switch contacts
2. Fuses including holders
3. Complete pole assembly

E: Check blade penetration. Adjust as necessary.

F: Clean main contact surfaces.

G: Lubricate switch mechanism.

H: Perform AS LEFT contact resistance tests.

1. Switch contacts
2. Fuses including holders
3. Complete pole assembly

I: Perform AS LEFT insulation resistance tests (phase to phase with switch closed, phase to ground with switch closed and line to load with the switch open).

The cost for this service will be \$11,600.00

ROTOR ELECTRIC COMPANY OF MICHIGAN, LLC

Medium Voltage Switchgear – Elective / Optional Services

Services provided in this proposal include:

A: Three (3) Ground Detection Potential Transformer

1. Turns Ratio
2. Insulation Resistance

B: Nine (9) Potential Transformers (4.8kV Line Side – requires utility shutdown)

1. Turns Ratio
2. Insulation Resistance

C: Twelve (12) Current Transformers (4.8kV Line Side – requires utility shutdown)

1. Ratio
2. Insulation Resistance

D: Eight (8) MV Feeder Cables (2 Per Pump, 1 To LBS, 1 To Unit Sub Transformer)

E: Two (2) Panel Voltmeters

F: Six (6) Panel Ammeters

G: Three (3) DC Ammeters (Pumps 1, 2 & 3)

H: Three (3) DC Voltmeters (Pumps 1, 2 & 3)

I: Three (3) KW Meters AC

J: Three (3) Panel MW Meters AC

The cost for this elective / optional service will be \$9,800.00

2: Medium Voltage Motor Starters (Total Of 3)

Services provided in this proposal for each starter include:

One (1) Ampgaud LF-50-H-430 draw-out contactor and two (2) Ampgaud LF-50-H-420 bolt-in contactors.

A: Clean insulation system members

B: Visually inspect for tracking or signs of insulation system breakdown

C: Perform AS FOUND insulation resistance tests (phase to phase with contactor closed, phase to ground with contactor closed and line to load with the contactor open).

D: Perform AS FOUND contact resistance tests.

E: Clean main contact surfaces.

F: Lubricate contactor mechanism.

H: Perform AS LEFT contact resistance tests.

I: Perform AS LEFT insulation resistance tests (phase to phase with contactor closed, phase to ground with contactor closed and line to load with the contactor open).

ROTOR ELECTRIC COMPANY OF MICHIGAN, LLC

One (1) Auto Transformer

A: Turns Ratio – Each Transformer Half

B: Insulation Dielectric Absorption – Each Transformer Half

One (1) Control Power Transformer

1. Turns Ratio

2. Insulation Resistance

Three (3) CT's For Differential Protection

1. Ratio Test

Agastat Timers – Timer Test

Three (3) Thermal Over-load – Functional Test

The cost for this service will be \$5,800.00

3: Synchronous Pump Motors (Total Of 3)

Services provided in this proposal for each motor include:

Motor Winding Insulation Dielectric Absorption Test

Motor Dissipation Factor Test

Motor Armature Insulation Dielectric Absorption Test

The cost for this service will be \$6,800.00

4: Motor Field Cubicles (Total Of 3)

Services provided in this proposal for each Motor Field Cubicle include:

Three (3) CT's For Differential Protection

1. Ratio Test

Two (2) M510 Relays – Functional test coil and contact resistance test

One (1) M410 Relays – Functional test coil and contact resistance test

One (1) DP Damper Protection Relay (Test Using AVTS Software)

One (1) AZ-22 Relay – Functional test coil and contact resistance test

One (1) ASR115 Relay – Functional test coil and contact resistance test

One (1) AYC-315 Relay – Functional test coil and contact resistance test

One (1) PO-112XAX354 Relay – Functional test coil and contact resistance test

Three (3) Lightning Arrestor – Insulation resistance and Milli-watt Loss

Three (3) Surge Capacitors – Fuse resistance and capacitive tests

The cost for this service will be \$5,800.00

ROTOR ELECTRIC COMPANY OF MICHIGAN, LLC

5: Low Voltage Equipment

Services provided in this proposal include:

One (1) 500KVA Oil Filled Transformer

A: Pull liquid and dissolved gas analysis sample – send to lab for analysis

B: Winding resistance tests – in service tap only

C: Transformer turns ratio test (TTR) – in service tap only

D: Megger insulation resistance tests – in service tap only

E: Excitation tests

F: Power factor insulation resistance tests

Two (2) Westinghouse DB50 Breakers

A: Open and close breaker manually to confirm smooth operation. Trip breaker with push to trip button if so equipped. Close the breaker.

B: Perform AS FOUND contact resistance test.

C: Perform AS FOUND insulation resistance test (phase to phase & phase to ground) at 1000VDC.

D: Clean breaker, lubricate breaker, clean breaker cubicle interior and inspect arc chutes.

E: Perform primary injection testing of the trip unit for all protective functions.

E: Perform AS FOUND contact resistance test.

F: Perform AS FOUND insulation resistance test (phase to phase & phase to ground) at 1000VDC.

One (1) Westinghouse Dry Weather Pump, 125Hp (Dielectric Absorption)

One (1) Allis-Chalmers Dry Weather Pump 125Hp (Dielectric Absorption)

The cost for this service will be \$4,300.00

6: Motor Control Center (MCC)

Services provided in this proposal include:

Ten (10) Combination Starters

A: Apply Brady wire tags to all field conductors (if not present).

B: Remove starter bucket from MCC.

C: Perform control wiring insulation resistance tests.

D: Perform breaker insulation resistance (phase to ground breaker closed and line to load breaker open).

E: Breaker contact resistance tests – each phase.

F: Contactor contact resistance tests (use temporary power to energize contactor) – each phase.

G: Complete assembly resistance – each phase.

H: Re-install starter bucket, terminate and torque control wiring.

ROTOR ELECTRIC COMPANY OF MICHIGAN, LLC

Thirteen (13) Breaker Type Disconnects

A: Apply Brady wire tags to all field conductors (if not present).

B: Remove disconnect bucket from MCC.

C: Perform breaker insulation resistance (phase to ground breaker closed and line to load breaker open).

E: Breaker contact resistance tests – each phase.

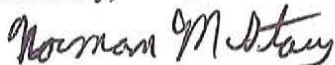
F: Re-install disconnect bucket, terminate and torque control wiring.

F: Perform AS FOUND insulation resistance test (phase to phase & phase to ground) at 1000VDC.

The cost for this service will be \$3,900.00

The Rotor Electric Company appreciates the opportunity to submit this proposal. Your consideration of this proposal will be greatly appreciated.

Sincerely,



Norman M. Stangis B.S.E.E.
Testing Service Manager



POWER SYSTEM SPECIALISTS®

1991 Woodslee Drive
Troy, MI 48083-2236
248-689-8980 (Office)
248-689-3418 (FAX)
www.NorthernTesting.com

PROPOSAL / WORK ORDER



DATE DECEMBER 17, 2018 NO 34734 REV 1
NET JOB NO
CUSTOMER P.O. NO
INVOICE TO MACOMB COUNTY O.P.W.
23001 WEST NINE MILE ROAD
ST. CLAIR SHORES, MI 48080
ATTENTION PETE TROMBLY
OFFICE 586-772-3425 CELL 586-557-1150
EMAIL Pete.Trombly@MacombGov.org
FAX 586-466-6824

CHAPATON PUMPING STATION
SWITCHGEAR PREVENTIVE MAINTENANCE

We propose to clean, test and calibrate the following equipment per customer furnished settings:

1. Primary Switchgear

- a. 6 - Westinghouse DH-750H 500E Air Circuit Breakers (Main 1 & 2, Pumps 1, 2 & 3, House Xfmr)
b. 5 - Westinghouse CP Voltage Relays (Main 1 & 2, Pumps 1, 2 & 3)
c. 9 - Westinghouse BL Thermal Relays (Pumps 1, 2 & 3)
d. 3 - Westinghouse CM Thermal Relays (Pumps 1, 2 & 3)
e. 3 - Westinghouse TK Reverse Flow Relays (Pumps 1, 2 & 3)
f. 9 - Westinghouse CA Differential Relays (Pumps 1, 2 & 3)
g. 3 - Westinghouse CA-16 Differential Relays (Pumps 1, 2 & 3)
h. 6 - Westinghouse SV Voltage Relays (Main 1 & 3, three phases each relay)
i. 9 - Westinghouse CO-8 Over-Current Relays (Main 1 & 2, House Xfmr)
j. 2 - Westinghouse MC-6 Auxiliary Relays (Clean and operate only)
k. 3 - Ground Detection Potential Transformers
l. 2 - Panel Voltmeters AC
m. 6 - Panel Ammeters AC
n. 3 - Panel Ammeters DC (Pumps 1, 2, 3)
o. 3 - Panel Voltmeters DC (Pumps 1, 2, 3)
p. 3 - Panel KW Meters AC
q. 3 - Panel MW meters AC
r. 9 - Potential Transformers 4.8kV - Line side
s. 2 - 5KV Fused Square D Loadbreak Disconnects (House Xfmr and Out-Bldg)
t. 8 - 4.8KV Primary Feeder Cables (2 per pump, 1 to LBDs, 1 to Xfmr)
u. 12 - Line side 4.8kV current transformers

PLEASE RESPOND TO: Lyle Detterman 248-528-7570; LDetterman@NorthernTesting.com

Page 1 of 3

NOTICE: This Proposal is subject only to Northern Electrical Testing, Inc.'s standard Proposal Terms and Conditions, on the back side of the original of this Proposal.
Acceptance by Customer: This Proposal is accepted in accordance with the scope of services outlined above; and in compliance with all terms and conditions on the reverse side of Northern Electrical Testing, Inc.'s original proposal.

SIGNATURE OF AUTHORIZED REPRESENTATIVE TITLE DATE
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FAX 586-466-6824

**CHAPATON PUMPING STATION
SWITCHGEAR PREVENTIVE MAINTENANCE**

2. Three Medium Voltage Starters

- a. 9 - Contactors (3 per pump)
- b. 3 - Auto Transformers
- c. 3 - Control Power Transformers
- d. 9 - Thermal Over-Loads
- e. 9 - CTs for Thermal over-loads
- f. 3 - Agastat Timers (for 2nd stage)
- g. 9 - CTs for Differential relay

3. Three 2750 Synchronous Pump Motors

- a) 3 - 2750HP Synchronous Motor Stator Windings (Winding Insulation, Diss. Factor/Tip-up test)
- b) 3 - 2750HP Synchronous Motor Field Windings (Dielectric Absorption)
- c) 3 - Excitors for above

4. Three Motor Field Cabinets

- a. 9 - CTs for Differential relay
- b. 6 - M510 Relays - Magnetic Contactor Type M - Direct Current
- c. 3 - M410 Relays - Magnetic Contactor Type M - Direct Current
- d. 3 - DP-1320764-G Relays - Damper protective relay
- e. 3 - AZ-22-S Relays
- f. 3 - ASR115 Relays - Synchronizing Relay DC Adjustable Time
- g. 3 - AYC-315 Relays - DC Magnetic Shunt Coil Relay
- h. 3 - PO-112XAX354 Relays
- i. 9 - Lightning Arrestors
- j. 9 - Surge Capacitors

PLEASE RESPOND TO: Lyle Detterman 248-528-7570; L.Detterman@NorthernTesting.com

Page 2 of 3

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OFFICE 586-772-3425 CELL 586-557-1150
EMAIL Pete.Trombly@MacombGov.org
FAX 586-466-6824

**CHAPATON PUMPING STATION
SWITCHGEAR PREVENTIVE MAINTENANCE**

5. Low Voltage Equipment

- a. 1 – 500 KVA, 4800-480volt, transformer
- b. 1 – Oil Quality and DGA tests for above
- c. 2 – 1600AF, D.O. LVACB, DB-50
- d. 2 – LV feeder cables
- e. 1 – Westinghouse Dry Weather Pump, 125HP (Dielectric Absorption)
- f. 1 – Allis-Chalmers Dry Weather Pump, 125HP (Dielectric Absorption)

6. Motor Control

- a. 15 – 15, 20, 30A Molded Case Circuit Breakers
- b. 6 – 40, 60, 70A Molded Case Circuit Breakers
- c. 1 – 100A Molded Case Circuit Breaker
- d. 1 – 225A Molded Case Circuit Breaker
- e. 2 – 400A Molded Case Circuit Breakers
- f. 12 – Motor Starter Over-Loads

The cost to perform the above services on a Straight-time basis will be \$41,979.00.

PLEASE RESPOND TO: Lyle Detterman 248-528-7570; LDetterman@NorthernTesting.com

Page 3 of 3

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PROPOSAL TERMS AND CONDITIONS

TECHNICAL SERVICES OFFERED

1. Acceptance Testing
2. Maintenance Testing
3. Field Testing, Repair, Modifications
4. Maintenance Contracts
5. Electrical Distribution System Studies
6. Laboratory Services
7. Equipment/Material Rental/Lease/Purchase
8. Customer Assistance

A. CUMULATIVE RIGHTS

The rights of NORTHERN ELECTRICAL TESTING, INC. under this agreement are cumulative and in addition to all rights provided at law or in equity.

B. PRICES

Prices are not to PURCHASER and are subject to change without notice. Prices quoted for a specific scope of services are firm, if accepted within 30 days of date of Proposal, for completed control performance within 210 days of date of Proposal.

C. PRICE POLICY

Prices are firm for all services which are performed within 30 days of signed acceptance of NORTHERN ELECTRICAL TESTING, INC.'s Proposal, or within dates specified in the Proposal. Services will be provided at NORTHERN ELECTRICAL TESTING, INC.'s price structure in effect at the time of performance of service for those services performed beyond dates established in the Proposal.

D. TAXES

The quoted price does not include any federal, state or local property tax, license, privilege, sales, use, excise, gross receipts or other like taxes, which may now or hereafter be applicable to, imposed by, or imposed upon, or with respect to the transaction of the property, its sale, its value or its use, or any services performed in connection therewith unless explicitly shown and stated as being included. PURCHASER agrees to pay or reimburse any such taxes which NORTHERN ELECTRICAL TESTING, INC. or its subcontractors or suppliers are required to pay.

E. TERMS OF PAYMENT

Standard terms of payment are net 30 days from date of invoice. For services of long duration, monthly progress payments will apply. Standard terms of payment for U.S. Government purchases for services performed within the continental United States are payment upon receipt of invoice. A service charge of 1.5% of the invoice amount per month, or portion thereof, will be charged to customers who do not pay all invoice charges within 30 days of invoice date.

F. PAYMENTS

NORTHERN ELECTRICAL TESTING, INC. reserves the right to require full or partial payment in advance at any time it is in its opinion, the financial condition and/or payment record of the PURCHASER does not justify the terms of payment specified. If work is delayed by the PURCHASER, NORTHERN ELECTRICAL TESTING, INC. also requires payment for all materials accumulated for performance of this order, including overhead and profit. Complete payment of contracted amounts and for late payment charges, must be made in form acceptable to NORTHERN ELECTRICAL TESTING, INC. prior to reports, test reports or waivers of lien being furnished to customer. If PURCHASER becomes insolvent, or is adjudged bankrupt or insolvent in its legal proceeding, or makes a general assignment for the benefit of creditors or if a receiver is appointed in any action, suit or proceeding by or against PURCHASER, NORTHERN ELECTRICAL TESTING, INC. reserves the right, at its election and throughout the period allowed in such proceeding for filing claims in PURCHASER'S bankruptcy case, to cancel the further performance under this Agreement, and any other orders, and to recover any amount due for work performed, materials ordered by NORTHERN ELECTRICAL TESTING, INC. from our vendors, plus termination charges, and cost of collection of unpaid amounts.

G. REPORTS

Written reports of results of inspection, testing, and calibration services performed will be furnished at the completion of all testing activity upon full prepayment for services rendered, and materials supplied by NORTHERN ELECTRICAL TESTING, INC. for NORTHERN ELECTRICAL TESTING, INC. is under no obligation to develop or provide any special reports, software, code, proprietary data, or other information developed by NORTHERN ELECTRICAL TESTING, INC. for its own use in performing the work under this agreement. All service charges caused by late payment by customer must also be paid in full prior to reports being forwarded.

H. LOSS, DAMAGE OR DELAY

NORTHERN ELECTRICAL TESTING, INC. shall not be liable for loss, damage, detention or delay resulting from any cause beyond its control including, but not limited to, fire, strike or other associated action of workers, act or omission of any governmental authority or of the PURCHASER, interruption or strike, embargo, war, or delay in transportation, or inability to obtain necessary labor, materials, or manufacturing facilities from NORTHERN ELECTRICAL TESTING, INC.'s usual sources, or in the event of delay due to any such causes. The date of services and project completion will be extended by such length of time as may be reasonably necessary to compensate for such delays. NORTHERN ELECTRICAL TESTING, INC. may require PURCHASER to pay for all materials accumulated, including overhead and profit, and work performed under this agreement, if NORTHERN ELECTRICAL TESTING, INC.'s performance or the work schedule is delayed by PURCHASER, Project Owner, or any other party from NORTHERN ELECTRICAL TESTING, INC.

I. LIMITATION OF LIABILITY

NORTHERN ELECTRICAL TESTING, INC. and its contractors and suppliers, at any level, shall not be liable under any legal theory, in contract, tort, including negligence, or otherwise for:

1. Damage to or loss of property or equipment, loss of opportunities, profit, revenue, or use of any equipment, power system, facility or for the cost of any substitutes therefor, or for the cost of capital, other charges, or the cost of purchased or replacement substitute power or temporary equipment, including additional expenses incurred in using existing facilities, for any incidental, direct or indirect, special or consequential damages of any type whatsoever;
2. Any other loss, damage or cost of other type, or for any claims against PURCHASER of any type under any legal theory in contract, tort, or otherwise, whether made by PURCHASER, customer, vendee, or customer's employees or by others; and
3. For the fault, negligence, malfeasance, omission, action or other wrongful acts of PURCHASER or PURCHASER'S employees, PURCHASER'S contractor or subcontractor, other contractors or supplier; and
4. PURCHASER specifically agrees that its remedies as set forth herein are exclusive and are limited as provided herein, and that the liability of NORTHERN ELECTRICAL TESTING, INC. as a result of any contract, or any action or omission in connection therewith, such as the performance or breach thereof, or from the manufacture, sale, delivery, receipt, installation or technical direction of installation, repair, use of any equipment, or any other service provided in connection therewith, under any legal theory in contract, tort, including negligence or otherwise, shall not, in the aggregate, exceed the total contract price set forth herein for work associated with this Agreement, plus the aggregate contract price agreed to by PURCHASER and NORTHERN ELECTRICAL TESTING, INC. for any additions to this Agreement.

J. DELIVERY - RISK OF LOSS

All transportation costs shall be for the account of the PURCHASER and shall be added to NORTHERN ELECTRICAL TESTING, INC.'s invoice. Any equipment sent to NORTHERN ELECTRICAL TESTING, INC. for repair shall be delivered by PURCHASER F.O.B. NORTHERN ELECTRICAL TESTING, INC. plant. Test equipment and other equipment or materials furnished by NORTHERN ELECTRICAL TESTING, INC. shall be delivered to PURCHASER F.O.B. NORTHERN ELECTRICAL TESTING, INC. plant. Title in and risk of loss or damage to any material or equipment furnished by NORTHERN ELECTRICAL TESTING, INC. under the Agreement shall pass to PURCHASER F.O.B. NORTHERN

ELECTRICAL TESTING, INC. plant. Risk of loss or change to PURCHASER'S material equipment shall be PURCHASER'S at all times, and PURCHASER shall insure against all such risks at his own cost.

K. NONWAIVER (REPEATED PERFORMANCE)

Any failure by NORTHERN ELECTRICAL TESTING, INC. to enforce or insist on performance at any time of any obligation of PURCHASER hereunder or of the occurrence or existence of any condition, or any other matter hereunder shall not act as a waiver of any of NORTHERN ELECTRICAL TESTING, INC.'s rights hereunder, or as a release of PURCHASER from its obligations hereunder. Further, the act of receipt and acceptance of any payment hereunder, shall not act as a waiver or release of any obligation of the PURCHASER hereunder, or act as a waiver of any of NORTHERN ELECTRICAL TESTING, INC.'s rights hereunder.

L. SCRAP MATERIALS

Any and all scrap materials removed by NORTHERN ELECTRICAL TESTING, INC. in the performance of the contract shall become the property of NORTHERN ELECTRICAL TESTING, INC. for use and/or disposal by NORTHERN ELECTRICAL TESTING, INC. at its sole discretion and for its sole benefit. Scrap materials do not include any hazardous materials, hazardous substances, or equipment containing detectable levels of hazardous substances, as those terms are defined in Federal, State or local laws, which may be contained in, part of, or on any scrap materials removed by NORTHERN ELECTRICAL TESTING, INC.

M. EQUIPMENT AND/OR MATERIAL RENTALS/LEASE/PURCHASE

PURCHASER is responsible for the proper legal safe operation, maintenance and security of all rented, leased and/or purchased equipment and materials purchased/leased/used from NORTHERN ELECTRICAL TESTING, INC. PURCHASER assumes all responsibility and liability for compliance with applicable codes. PURCHASER agrees to defend and hold harmless NORTHERN ELECTRICAL TESTING, INC. against any and all claims of whatever nature. PURCHASER is responsible to maintain all rented and/or leased equipment and material in the condition received, and to repair or replace, at the discretion of NORTHERN ELECTRICAL TESTING, INC. all damaged equipment and/or materials.

N. RE-SCHEDULING FEES: SCHEDULED WEEKEND & HOLIDAY WORK

The following fee schedule applies to work which is scheduled, delayed, or re-scheduled by the customer, owner, management company, their representative, or similar responsible party: Maximum 100% Rescheduling or Cancellation Fee, if less than 90 days advance written notice delivered to the manager of NORTHERN ELECTRICAL TESTING, INC. on the following holidays/weekends: Easter Weekend, Memorial Day and related Weekend, 4th of July and Weekend, Labor Day and related weekend, Christmas Eve through January 2nd. Other Service Holidays:

1. > 60 days: No Charge

2. 31 - 60 days: Maximum 5% of quoted service price, plus any additional cost from Northern's vendor, due to the rescheduling.

3. 22 - 30 days: Maximum 25% of quoted service price, plus any additional cost from Northern's vendor, due to the rescheduling.

4. 15 - 21 days: Maximum 40% of quoted service price, plus any additional cost from Northern's vendor, due to the rescheduling.

5. < 15 days: Maximum 50% of quoted service price, plus any additional cost from Northern's vendor, due to the rescheduling.

O. CANCELLATION

NORTHERN ELECTRICAL TESTING, INC. may cancel at any time following written notice to PURCHASER for any breach of the Agreement by PURCHASER.

P. TERMINATION

Any order or contract may be terminated by PURCHASER only upon receipt by NORTHERN ELECTRICAL TESTING, INC. of written notice, accompanied by payment of reasonable and proper termination charges, which PURCHASER and NORTHERN ELECTRICAL TESTING, INC. agree shall be for purposes of this Agreement, twenty-one (21%) percent of the total contract price of services deleted from this Agreement to cover intangibles in scheduling, planned production and other costs unless otherwise mutually agreed by PURCHASER and NORTHERN ELECTRICAL TESTING, INC. based upon expenses incurred and commitments made by NORTHERN ELECTRICAL TESTING, INC. or unless NORTHERN ELECTRICAL TESTING, INC.'s expenses incurred and cost of commitments made exceed twenty-five (25%) percent, in which case said termination charge shall be equal to such expenses, costs, proportion overhead and profit. The Agreement may be terminated by receipt of NORTHERN ELECTRICAL TESTING, INC. of said written notice accompanied by said twenty-one (21%) percent amount, and such additional amount due shall be paid by PURCHASER to NORTHERN ELECTRICAL TESTING, INC. within thirty (30) days of the date of notice of the same. The termination charges are liquidated damages and not a penalty.

Q. HIRING OF NORTHERN EMPLOYEES

Any order or contract may be terminated by PURCHASER only upon receipt by NORTHERN ELECTRICAL TESTING, INC. of written notice, accompanied by payment of reasonable and proper termination charges, which PURCHASER and NORTHERN ELECTRICAL TESTING, INC. agree shall be for purposes of this Agreement, twenty-one (21%) percent of the total contract price of services deleted from this Agreement to cover intangibles in scheduling, planned production and other costs unless otherwise mutually agreed by PURCHASER and NORTHERN ELECTRICAL TESTING, INC. based upon expenses incurred and commitments made by NORTHERN ELECTRICAL TESTING, INC. or unless NORTHERN ELECTRICAL TESTING, INC.'s expenses incurred and cost of commitments made exceed twenty-five (25%) percent, in which case said termination charge shall be equal to such expenses, costs, proportion overhead and profit. The Agreement may be terminated by receipt of NORTHERN ELECTRICAL TESTING, INC. of said written notice accompanied by said twenty-one (21%) percent amount, and such additional amount due shall be paid by PURCHASER to NORTHERN ELECTRICAL TESTING, INC. within thirty (30) days of the date of notice of the same. The termination charges are liquidated damages and not a penalty.

Customer and/or facility user acknowledges and agrees to the following terms and conditions:

1. NORTHERN ELECTRICAL TESTING, INC. ("NORTHERN"), invests significant time and resources to ensure that its employees are technically trained specifically for the services performed by NORTHERN, and are, therefore, difficult and costly for NORTHERN to replace.
2. NORTHERN will provide its employees to work on projects or jobs for customer and facility user.
3. Customer and/or facility user will not hire, employ or otherwise retain any NORTHERN employee, either directly or indirectly, during the period of the NORTHERN employee's assignment to the customer or facility user and for a period of two years after the NORTHERN employee's completion of work assigned by NORTHERN at the customer or facility user, not will customer and/or facility user refer to its subsidiary or related company a NORTHERN ELECTRICAL TESTING, INC. employee, for hire during the stated period.
4. In the event customer or facility user hires former, employees, or otherwise retains a NORTHERN employee, or makes a NORTHERN employee to a subsidiary or related company for hire, in violation of paragraph 3 above, customer and/or facility user will pay to NORTHERN ELECTRICAL TESTING, INC. a fee equal to the salary and benefits paid to the NORTHERN employee during the twenty-four (24) month period prior to his/her employment by customer and/or facility user.
5. Customer and/or facility user violating this agreement will be involved based on the fee stated in paragraph 4 above. Payment is due upon receipt of the invoice, with interest on the unpaid balance of 1.5% per month, beginning 30 days after invoice date.
6. Customer and/or facility user will pay any and all legal costs incurred by NORTHERN resulting from its enforcement of this Agreement.
7. NORTHERN'S customer assumes all responsibility of the facility user whenever NORTHERN'S customer is a vendor to the facility user/vendor.

R. WARRANTIES AND RELATED PROVISIONS

1. (APPLICABLE ONLY TO SERVICES 1, 2, 3, 4) NORTHERN ELECTRICAL TESTING, INC. warrants that technical services as described in this Agreement with PURCHASER and as performed by it will be performed in a good workman like manner to standards customary in the industry and that any recommendations made by its authorized representatives shall reflect their best technical judgment, under the conditions, facts and circumstances actually known and acknowledged at the time systems are reviewed. NORTHERN ELECTRICAL TESTING, INC. also warrants, to the extent applicable, that: (a) any specialized tools, equipment, test instruments for which a charge is made to the PURCHASER'S equipment shall be free from defects in workmanship, for 90 days after date of service.

2. (APPLICABLE ONLY TO SERVICE 8) NORTHERN ELECTRICAL TESTING, INC. warrants that power study work as described in this Agreement with PURCHASER and as performed by it will be performed in a good workman like manner to standards customary in the industry at the time of performance, and that any recommendations made by its authorized representatives shall reflect their best technical judgment.

3. (APPLICABLE TO SERVICES 6 AND 8) NORTHERN ELECTRICAL TESTING, INC. warrants that services as described in this Agreement and as performed by it will be performed in accordance with specific job specifications or as jointly determined with PURCHASER or PURCHASER'S representative.

4. (APPLICABLE ONLY TO SERVICES 1, 2, 3, 4, 7) All equipment, replacement parts or other materials furnished by NORTHERN ELECTRICAL TESTING, INC. shall be provided solely with the original equipment manufacturer's warranty, and no other warranties, express or implied, shall apply, except as specifically set forth hereunder.

5. WARRANTY NORTHERN ELECTRICAL TESTING, INC. will correct any failure to conform to the applicable foregoing warranties on new equipment, which may appear within a period of three (3) months or within 90 days for existing equipment after completion by NORTHERN ELECTRICAL TESTING, INC. of its work, only if PURCHASER promptly notifies NORTHERN ELECTRICAL TESTING, INC. in writing of such failure to conform and provided that NORTHERN ELECTRICAL TESTING, INC. receives written notice of failure and it is readily apparent, as solely determined by NORTHERN ELECTRICAL TESTING, INC. that any and all equipment and/or parts have been stored, installed, operated and maintained in accordance with recommendations of their original seller or manufacturer. Such correction shall, at the election of NORTHERN ELECTRICAL TESTING, INC. in the case of any equipment, replacement parts or other parts furnished, be limited to repair or replacement F.O.B. NORTHERN ELECTRICAL TESTING, INC. plant, or any defective part or parts furnished. In the case of any other breach of the foregoing warranty, NORTHERN ELECTRICAL TESTING, INC. shall furnish field technical services or specialized tools, equipment and instruments to the same extent as on the original work. It is understood and agreed that NORTHERN ELECTRICAL TESTING, INC. assumes no responsibility with respect to the ability of PURCHASER'S equipment, or with respect to latent defects in the same, or to any equipment replacement or other parts beyond the other limits of the above warranties. In no event shall NORTHERN ELECTRICAL TESTING, INC. be responsible for providing working access to any defect, including the removal, disassembly, replacement or reinstallation of any equipment, materials or structures to the extent necessary to permit NORTHERN ELECTRICAL TESTING, INC. to perform its warranty obligations, or transportation costs to and from NORTHERN ELECTRICAL TESTING, INC. to perform its warranty obligations, or transportation costs to and from NORTHERN ELECTRICAL TESTING, INC. nearest facility, or for damage to equipment components or parts resulting in whole or in part from improper maintenance, operation, or from their deteriorated condition. The conditions of any tests concerning such equipment, components or parts, or any part specified by NORTHERN ELECTRICAL TESTING, INC. and PURCHASER, NORTHERN ELECTRICAL TESTING, INC. shall be notified of, and may be present and witness all tests that may be made.

The above-stated warranties do not apply to products which have a life, under normal use, inherently shorter than three (3) months, or to cable, splice, or cable terminations, or to temporary repairs, and/or emergency repairs. NORTHERN ELECTRICAL TESTING, INC. shall have no liability with respect to any such equipment, replacement or other parts furnished by it regardless of whether or not the original equipment or part manufacturer provided a warranty.

All warranty work by NORTHERN ELECTRICAL TESTING, INC. shall be performed on a single shift, straight time, Monday through Friday, non-holiday basis. In the event that the product requires correction of warranty terms on an overtime schedule, the premium portion of such overtime shall be reimbursed by the purchaser at Northern's applicable current billing rate.

T. INFRINGEMENT NORTHERN ELECTRICAL TESTING, INC. shall not be liable for claims of infringement, or the like, with respect to goods furnished by it.

U. EXCLUSIVE WARRANTIES THE FOREGOING WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES WHETHER STATUTORY, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PURPOSE, OR USE AND ALL WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE, ALL OF WHICH ARE SPECIFICALLY EXCLUDED EXCEPT WARRANTY OF TITLE, SUBJECT TO THE PROVISIONS HEREOF.

V. PURCHASER'S REMEDIES The remedies provided herein above are PURCHASER'S sole remedies for any failure of NORTHERN ELECTRICAL TESTING, INC. to comply with its obligations. Correction of any nonconformity in the manner and for the period of time provided above shall constitute complete fulfillment of all liabilities and obligations of NORTHERN ELECTRICAL TESTING, INC. whether the claims of PURCHASER are based on any legal theory in contract, tort, including negligence, or otherwise, with respect to or arising out of the work performed hereunder. The liability of NORTHERN ELECTRICAL TESTING, INC. under the foregoing warranty, under any legal theory in contract, tort, including negligence, or otherwise, shall expire twelve (12) months after the substantial completion of the work and shall not, in any event, exceed the total amount to be paid by PURCHASER to NORTHERN ELECTRICAL TESTING, INC. hereunder for original scope of services rendered.

W. APPLICABLE LAW NORTHERN ELECTRICAL TESTING, INC. is a Michigan corporation. This agreement shall be construed and governed according to the laws of the State of Michigan.

X. PURCHASER'S RESPONSIBILITIES 1. PURCHASER must designate one (1) authorized and qualified person to represent PURCHASER'S interests while NORTHERN ELECTRICAL TESTING, INC. services personnel are working on PURCHASER'S premises or equipment.

2. NORTHERN ELECTRICAL TESTING, INC. personnel will not be responsible for power switching areas of others, or for damage or losses due to power switching performed by NORTHERN ELECTRICAL TESTING, INC. at the direction of others.

3. PURCHASER/Facility Owner shall arrange for and bear all costs for utility power outages/subdivisions. PURCHASER shall also provide working area lighting and test power, unless otherwise specifically provided in Northern's Proposal.

4. NORTHERN ELECTRICAL TESTING, INC. field service employees are IBEW Local 58 members. PURCHASER shall be responsible for all charges, wages, benefits, etc. and all other applicable costs in the event a time union jurisdictional dispute requires other union or non-union personnel to stand by as assist during performance of activities outlined in this Proposal. These costs are in addition to quoted costs shown in the Proposal.

Y. TECHNICAL STUDIES, DRAWINGS, REPORTS, SOURCE FILES, ETC. Data, drawing files, office and all field files, original and field data, documentation, technical information, calculations, plots, meeting notes, etc. are the sole property of NORTHERN ELECTRICAL TESTING, INC. All of the above documentation, programs, files, etc. shall remain the property of NORTHERN ELECTRICAL TESTING, INC. as excluded from the final report issued to the client, and are not supplied or available to anyone outside of NORTHERN ELECTRICAL TESTING, INC.



Candice S. Miller

Public Works Commissioner
Macomb County

From: Macomb County Public Works Office

Date: 1-2-19

To: 8 ½ Mile Relief Drain Board
Martin Sanitary Diversion Drain Board

Copy: File
Evaluation Committee

RE: Proposal Evaluation Project Award Recommendation
MCPWO RFP No.: **WWS-2019-RFP-001**
MCPWO Proposal Name: **As-Needed Engineering Services**

This is an open competitive contract for As-Needed Engineering Services for fiscal year 2019. The contract consists of the budgeted blanket As-Needed engineering contract and four specific budgeted projects required during the year. The selected firm will provide services for the 8 ½ Mile Relief Drain Drainage District, Martin Sanitary Diversion Drainage District and Southeast Macomb County Wastewater Disposal System through a single contract with the 8 ½ Mile Relief Drain Drainage District. The 8 ½ Mile Relief Drain Drainage District will be reimbursed for all work performed for the other two Districts.

The approved budget for this blanket As-Needed contract is \$100,000. We also included 4 budgeted projects to this scope of work and these will be awarded to the winning firm. The cost to perform those projects was negotiated with the recommended team and cost proposals have been submitted. Those projects and costs are as follows:

1. Chapaton Basin Structural Integrity Study (\$60,663.00 NTE)
2. 8 ½ Mile and 9 Mile Pipeline Repairs (\$16,256.00 NTE)
3. Martin RTB Basin Equipment Hatch Design (\$12,000.00 NTE)
4. Martin RTB Hydraulic Accumulator Replacement (\$10,000.00 NTE)

The Request for Proposals (RFP) was advertised from 11-2-18 to 12-11-18 on the Michigan Inter-Governmental Trade Network (MITN) website. Six-Hundred Forty-Two (642) solicitations were sent out via MITN and Seventy-Six (76) firms downloaded the RFP. Two (2) Addendums were issued during the course of the RFP. The Addendums answered questions to bidder submitted questions.

On 12-11-18, proposals were received from 5 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:

Firm	Technical Score
Alfred Benesch	60
Fishbeck, Thompson, Carr & Huber	100
GHD	70
Tetra Tech	80
Wade Trim	90
Maximum Possible Score	100

Each firm submitted rate sheets that were evaluated after the technical proposals were scored. All of the firms were similar in cost and therefore this did not make a significant change to the overall score.

The Evaluation Committee recommends that **Fishbeck, Thompson, Carr & Huber**, the number one ranked proposer, be named as the consultant for the above referenced Project at the total NTE value of \$198,919.00.

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

 Steve Rozycki, PE
 Engineer II
 MCPWO Engineering-Wastewater Services

 Pete Trombley
 CSO Operations Manager
 MCPWO Engineering-Wastewater Services

Approved: _____

Not Approved: _____

Hold: _____

 Authorized Board Member Signature

 Authorized Board Member Name (print)



Mr. Vincent Astorino
Operations and Flow Manager
Macomb County Public Works Office
21777 Dunham Road
Clintoni Township, Michigan 48036

January 10, 2019
NTH Project Number 61-190017-01A/B

RE: 8-1/2 Mile Relief Drain Drainage Districts As-Needed Engineering Services
Tasks 1A and 1B, Chapaton RTB Basin Condition Assessment
and 9-Mile Bypass Sewer Repairs
Macomb County, Michigan

Dear Mr. Astorino:

In accordance with your request, Fishbeck, Thompson, Carr & Huber, Inc. (FTCH) along with NTH Consultants, Ltd. (NTH) are pleased to provide this Scope of Services to be performed under the 8-1/2 Mile Relief Drainage District As-Needed Engineering Services Contract. Task 1A under this contract will include the Condition Assessment and Recommended Repairs for the Chapaton RTB Basin. Task 1B will include a supplemental Condition Assessment, Design, and Repairs to the 9 Mile Bypass Sewer located adjacent to the Chapaton RTB Basin.

Based on the information provided to us, the Chapaton Basin was last inspected during a repair project in 2007 by Anderson, Eckstein, and Westrick (AEW). Since that time, the station operators have observed concrete spalling and delaminating inside the basin, which has led to concerns about the structural condition of the basin. For this task, NTH will serve as the task lead, with support from AEW.

The 9-Mile bypass Sewer was assessed in 2017 by FTCH as part of the Stormwater, Asset Management, and Wastewater (SAW) Grant Program for the 8-1/2 Mile Relief Drain Drainage District. Results of this assessment indicated that repairs are required within the sewer to sustain the service life of the sewer. NTH will serve as task lead for the design of the required repairs, with support from FTCH.

The following sections will include our proposed Scope of Services and the estimated professional fees for each task

SCOPE OF SERVICES

Task 1A – Chapaton RTB Basin

Upon authorization, NTH and AEW will review the existing condition assessment data from the past inspections and develop a plan to perform a visual condition assessment of the interior of the concrete basin.



We will provide the necessary manpower and equipment to safely perform a Confined Space Entry (CSE) into the basin to perform the assessment. The visible defects will be documented in a letter report which will also provide repair recommendations and an engineer's estimate of probable repair costs. We anticipate 5 days for two crews to perform the CSE condition assessment.

Based on discussions with Mr. Pete Trombley of Macomb County, the Macomb County Public Works Office will provide CSE support including assistance with access into the basin, Lock-out / Tag-out of the necessary equipment prior to entry, and CSE stand-by rescue services. It should be noted that destructive testing will not be performed as part of this condition assessment.

Task 1B – Design of 9 Mile Bypass Repairs

NTH and FTCH will perform a manned-entry condition assessment within the 9-Mile Bypass Sewer to review and confirm the defects identified in the 2017 condition assessment by FTCH. After confirmation of the defects, NTH and FTCH will develop a bid package for procurement of the repairs to the sewer. The bid package will include repair drawings and specifications as required. We anticipate the majority of the specifications will be included as notes within the repair drawing set, with supplemental and front end specifications added as required. It is our understanding that a localized repair within the 8-1/2 Mile Relief Sewer is to be added to the repair drawings. This repair will be added based on existing inspection videos and notes; a manned entry into the 8-1/2 Mile Relief Sewer is not included in this Scope of Services.

After development of the bid documents, we will assist the County as required through the bid phase and also provide the necessary Construction Administration. The scope of these services will be developed in full after the repair documents are developed.

ASSUMPTIONS

FTCH / NTH / AEW will not include sheets for each individual component in the Chapaton Basin report but will identify the defects on 11X17 plans and tables to identify the areas and quantities of the defects. Photos will be included of general conditions, not of every defect identified.

FTCH / NTH will prepare 11X17 plans suitable for obtaining bids from repair contractors. The specifications will be included in the note sections of the plans where appropriate. If required, a supplemental specification section may be included with the front-end documents.

The estimated fees for the 9-Mile Bypass Repairs included in this document include the fees for the design phase only. The scope and fees for bidding assistance and construction administration will be developed as the design progresses.



PROFESSIONAL FEES

Task 1A – Chapaton RTB Basin

The FTCH / NTH / AEW team proposes to perform the condition assessment and develop the letter report for the Chapaton RTB Basin based on the following Not-to-Exceed Fees:

• FTCH Administration -	\$ 4,750
• AEW Condition assessment and report assistance -	\$23,100
• NTH Condition assessment and report -	<u>\$30,150</u>
TOTAL TASK 1A	\$58,000

Task 1B – Design of 9 Mile Bypass Repairs

The FTCH / NTH team will prepare the repair bid documents for the 9-Mile Bypass Sewer based on the following Not-to-Exceed Fees:

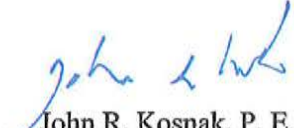
• FTCH -	\$ 6,690
• NTH -	<u>\$ 9,110</u>
TOTAL TASK 1B	\$15,800


Invoicing on the project will be in accordance with the terms and conditions of the 8-1/2 Mile Relief Drain As-Needed Engineering Contract.

We look forward to continuing to assist you with this project. Please contact us if you have any questions or require additional information.

Sincerely,

NTH Consultants, Ltd.
Fishbeck, Thompson, Carr & Huber, Inc.


John R. Kosnak, P. E. (NTH)


Maria E. Sedki, P.E. (FTCH)

JRK/MES/mam

by e-mail



Vincent Astorino <vincent.astorino@macombgov.org>

Tasks 1.A and 1.B As needed

1 message

Sedki, Maria E. <mesedki@ftch.com>

Thu, Jan 10, 2019 at 12:08 PM

To: "vincent.astorino@macombgov.org" <vincent.astorino@macombgov.org>

Vince

Attached is the proposal for Tasks 1.A and 1.B

Please note that per our discussion, FTCH will add a 5% markup on the sub invoices only. As a result, the totals for each task is as follows

Task 1.A

Budget	\$58,000
5% Markup	\$2,663
Total	\$60,663

Task 1.B

Budget	\$15,800
5% Markup	\$456
Total	\$16,256

Please let me know if that is acceptable.

Thanks you. Please call me if you want to discuss.

Maria E. Sedki P.E. | Associate | 248.324.1228 | www.ftch.com

Fishbeck, Thompson, Carr & Huber, Inc. | Engineers, Scientists, Architects, Constructors

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FISHBECK, THOMPSON, CARR & HUBER, INC.

8 1/2 MILE RELIEF DRAIN DRAINAGE DISTRICT

COST PROPOSAL FOR: AS-NEEDED ENGINEERING SERVICES
PROPOSAL NO. WWS-2019-RFP-001
DECEMBER 11, 2018



PROPOSAL FORM

Proposal No. _____ **Proposer:** Fishbeck, Thompson, Carr & Huber, Inc.
(print or type company name)

BASE PROPOSAL

The undersigned Proposer, having carefully examined the Proposal 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 Bidding Documents for the following projects, in the following amount: FTCH acknowledges receiving Addendum 1, dated November 15, 2018; and Addendum 2, dated December 4, 2018.

See attached fee schedules. _____ Dollars \$ _____
(Sum to be written out)

Respectfully submitted this 5th day of December, 2018

Witness: [Signature]

By: Fishbeck, Thompson, Carr & Huber, Inc.
(Name of bidding firm or corporation)

By: [Signature]
(Signature)

Attest: [Signature]
(Signature)

James A. Susan, PE
(Type or print name)

By: Stephen C. Nichols, PE
(Type or print name)

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

Title: Senior Vice President/Corporate Secretary
(Corporate Secretary or Assistant Secretary Only)

Address: 1515 Arboretum Drive, SE

Phone: 800.456.3824

License: 6201036610 (Michigan PE License)

Federal ID No.: 38-1841857

(Affix Corporate Seal Here)

Fishbeck, Thompson, Carr & Huber, Inc.
Company Name

[Signature]
Company Representative
William C. Gipson, CPA
Senior Vice President/Treasurer
Title

12/5/2018
Date

FTCH Cost Information

The following is FTCH's comprehensive schedule with hourly rates for each of the applicable staff classifications. The hourly rates include overhead and profit. These rates apply to all the engineering fields we are submitting on and will remain for the duration of the 1-year contract.

Category	Role	2018 Rate
Project Management	Project Manager	\$164
Engineering (Civil, Mechanical, Electrical, Structural, Process)	Senior Engineer	\$164
	Engineer	\$130
	Staff Engineer	\$110
Inspection	Senior Technician	\$115
	Technician	\$94
	Staff Technician	\$73
Surveying	Senior Surveyor	\$130
	Surveyor	\$115
	Survey Specialist	\$105
GIS Mapping/CADD	Senior Technician	\$136
	Technician	\$105
	Staff Technician	\$89
Environmental Scientist	Senior Environmental Specialist	\$157
	Environmental Specialist	\$115
	Staff Environmental Specialist	\$94
Specialist	Senior Engineering Specialist	\$152
	Senior Estimator	\$163
Architecture	Senior Architect	\$164
	Architect	\$130
	Staff Architect	\$110
Administrative	Principal	\$208
	Senior Associate	\$183
	Associate	\$164
	Clerical/Production Support	\$70



Invoices are rendered every four weeks and payment is due upon receipt.

Direct Expenses

Category	Rate
Mileage/Passenger Vehicles	\$0.70/mile
Field and Services Vehicles	\$0.95/mile (\$37/day minimum)
Global Positioning Unit	\$50/hour
Survey Robot	\$35/hour
Flow Monitor	\$650/month
Equipment Schedule	Separate Schedule
Expenses and Outside Services	Cost plus 10%



AEW Cost Information

HOURLY-BASE FEE SCHEDULE

PROFESSIONAL SERVICES

Where it is agreed that fees for services will be based upon the time worked on the project, such fees will be computed at the following rates:

<u>Classification Hourly Rate</u>	<u>2019 Rates</u>
Principal Engineer/Surveyor/Architect	\$171.00
Project Manager	\$167.50
Senior Project Engineer	\$157.00
Project Engineer/Project Surveyor/ Resident Project Representative	\$142.50
Operation and Maintenance Specialist	\$136.50
Graduate Engineer/Surveyor/Architect	\$117.50
Team Leader/Designer	\$117.50
Drafter/Technician	\$ 97.00
Clerical	\$ 47.00
One-person Survey Crew (Crew Chief) w/Truck and Equipment	\$167.50
Two-person Survey Crew (Crew Chief and Instrument Man w/Truck and Equipment)	\$229.50
Three-person Survey Crew (Crew Chief and Instrument Man and Assistant w/Truck and Equipment)	\$283.50
Three Person Sewer Crew	\$333.00
Four Person Sewer Crew	\$409.00
Construction Observer	\$ 97.00

If necessary, the Consultant would serve on litigation or as an expert witness at a rate of 1.5 times the current hourly rate.

These rates are inclusive of all overhead items that are normal business operations. No reimbursable for normal business operations will be allowed, i.e., mileage, faxes, phone bills, etc.

Hourly-Basis Fee Schedule to be adjusted beginning January 1, 2020.

Effective January 1, 2019.



2018* Hourly Labor Billing Rates

<u>Classification</u>	<u>Rate</u>
Principal Engineer	\$164.00 (Ridgway)
Senior Project Manager	\$135.00 - \$152.00 (Michalski, Curson, Minor)
Project Manager	\$121.00 (Szlaga, Wood)
Project Engineer	\$88.00 - \$99.00 (McCollum, Wiebe, Sting)
Staff Engineer	\$73.00 - \$85.00 (Campbell, Garza, Wahrman, Dandayudham, McConnell)
CADD	\$96.00 (Herold)
Technician	\$51.00 - \$82.00 (Kelly, Davis, Gorday)
Controller	\$119.00 (Capobres)
Clerical	\$62.00 (Lynn)

Overhead Rate = 145%

Profit = 15%

Mark-Up on Other Direct Costs = 5%

** Rate increase in March 2019*



// 2017 FEE AND RATE SCHEDULE PROFESSIONAL SERVICES

PERSONNEL

Fees for our services will be based upon the time worked on the project by professional, technical and clerical personnel according to the following schedule:

	PER HOUR
Technician I*	\$50
Word Processor*	\$55
Technician II*	\$60
Technician III*	\$70
Technician IV* / Lab Technician*	\$80
CADD Operator	\$85
Staff Professional	\$95
Senior Technician/Certified Welding Inspector*	\$90
Senior Staff Professional	\$115
Project Professional	\$125
Senior Project Professional	\$145
Principal Engineer	\$165
Senior Principal Engineer	\$185
Corporate Officer	\$215

**For these personnel, overtime work will be charged at a rate equal to 1.33 times the Standard Rate.*

A premium of 25 percent will be added to hourly rates for expert testimony and depositions, including preparation time.

NTH Consultants and Professionals include Engineers, Geologists, Environmental Specialists, Architects, Roofing Specialists, Industrial Hygienists, Environmental Health Specialists, Scientists, Asbestos Specialists, and Environmental Chemists. NTH Technicians include Engineering, Environmental, Construction Materials, and Environmental Health technical specialists.

NTH operates on a strong project management system, and a Project Manager is appointed for each project. Project Managers are selected from our staff of Senior Project Professionals, Principal Engineers and Senior Principal Engineers.

EXPENSES

The following expenses, when incurred in direct connection with the project, will be charged at the rate shown:

Transportation, Lodging and Subsistence for Travel	Cost + 10%
Printing, Reproduction, Photographs, Long Distance Telephone and Telecopier	
Charges, Shipping Charges and Material Purchases	Cost + 10%
Project Mileage for Company-Owned Vehicles	\$1.00 / Mile
Cellular Phone (Field Projects)	\$15 / Day
CADD Supply Charge	\$6 / Hour

Rental of Specialized Field, Laboratory or Monitoring Equipment will be billed as indicated on NTH Schedule of Equipment Usage Rates.

SUBCONTRACTORS / SUBCONSULTANTS

On projects requiring subcontractors or subconsultants, we will obtain the services of reputable contractors or consultants to perform such work. The fees of these contractors or consultants plus a 15% service charge will be added to our invoices.

INVOICES

Progress invoices will be submitted to the client monthly and a final bill will be submitted upon completion of our services. Invoices for cost plus and time and materials projects will show charges for different personnel and expense classifications. Each invoice is due on presentation and is past due thirty (30) days from invoice date. Client agrees to pay a finance charge of one percent (1%) per month on past due accounts. We reserve the right to suspend or terminate work under our agreement upon failure of the client to pay invoices when due.

INCREASES

Fee schedule increases made by our firm on an overall client basis will be applied to work on all projects as the increases become effective.

Hubbell, Roth & Clark, Inc.

2019 Estimated Hourly Rate Schedule

Prepared for:

Macomb County Public Works

<u>Category</u>	<u>Billable Rates</u>
Principal	191.00 - 191.00
Sr. Associate/Managing Engineer	170.00 - 191.00
Associate/Managing Engineer	138.00 - 169.00
Department Manager	127.00 - 164.00
Manager	126.00 - 130.00
Sr. Project Engineer/Architect	118.00 - 159.00
Project Engineer/Architect	99.00 - 141.00
Staff Engineer/Architect	95.00 - 115.00
Graduate Engineer/Architect I/II	84.00 - 99.00
Transportation Specialist	133.00 - 133.00
GIS Specialist	72.00 - 99.00
Right of Way Specialist	144.00 - 144.00
Environmental Analyst	80.00 - 104.00
Sr. Designer	130.00 - 159.00
Designer	93.00 - 135.00
Sr. Cadd Technician	97.00 - 111.00
Survey Office Supervisor	131.00 - 131.00
Registered Surveyor	107.00 - 107.00
Survey Technician	100.00 - 101.00
Survey Party Chief	81.00 - 116.00
Survey - Instrument Person	77.00 - 77.00
Survey - Survey Assistant	60.00 - 60.00
Supervisors- Construction Observation	112.00 - 117.00
Field Project Representatives	97.00 - 134.00
Construction - Office Technician	54.00 - 68.00
Sr. Construction Observer	78.00 - 95.00
Construction Observer I/II	46.00 - 80.00
Construction Engineer	97.00 - 141.00
Testing Technician	54.00 - 99.00
Administrative Support**	54.00 - 116.00

*Wage rates shown above are estimated for 2019.

Billable rates for Hubbell, Roth & Clark, Inc. include Unemployment and Payroll taxes, contributions for Social Security, Retirement benefits, Medical and Life insurance benefits, normal printing cost, telephones, fax, computer time, mileage, other overhead costs and profit.

Allowable Reimbursable expenses will be invoiced at our cost which is defined as the direct costs plus 5% .

** This Category includes Computer, Reproduction and Administrative Staff.



EIGHT AND ONE-HALF MILE RELIEF DRAIN - 1/14/19

Funding Source	Apportionment	Manager	Vendor	Amount	Invoice Detail	Project Summary	Project Balance
3 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	Consumers Energy	\$ 720.65	Monthly Gas - 11/10/18 - 12/11/18		
		Astorino	DTE Energy	\$ 7,525.12	Monthly Electric - 11/8/18 - 12/6/18 - SWPs		
		Astorino	Doetsch Environmental Services	\$ 52,708.58	Invoice #70464 - 11/29/18	Factor well	
		Astorino	Green for Life	\$ 1,772.15	Invoice #RS0002703923 - 11/25/18	Wet Well Cleaning - Debris taken to landfill	
		Astorino	Kennedy Industries	\$ 10,752.38	Invoice #607525 - 11/29/18	SWP Oil Changes (3)	
		Astorino	Wade Trim	\$ 18,558.75	Invoice #M2013208 - 12/3/18	Chapaton RTB Segmentation & Disinfection Study	\$ 47,457.50
				\$ 92,037.63			

5592.b4



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

Amount Due: **\$720.65**
Please pay by: **January 07, 2019**

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



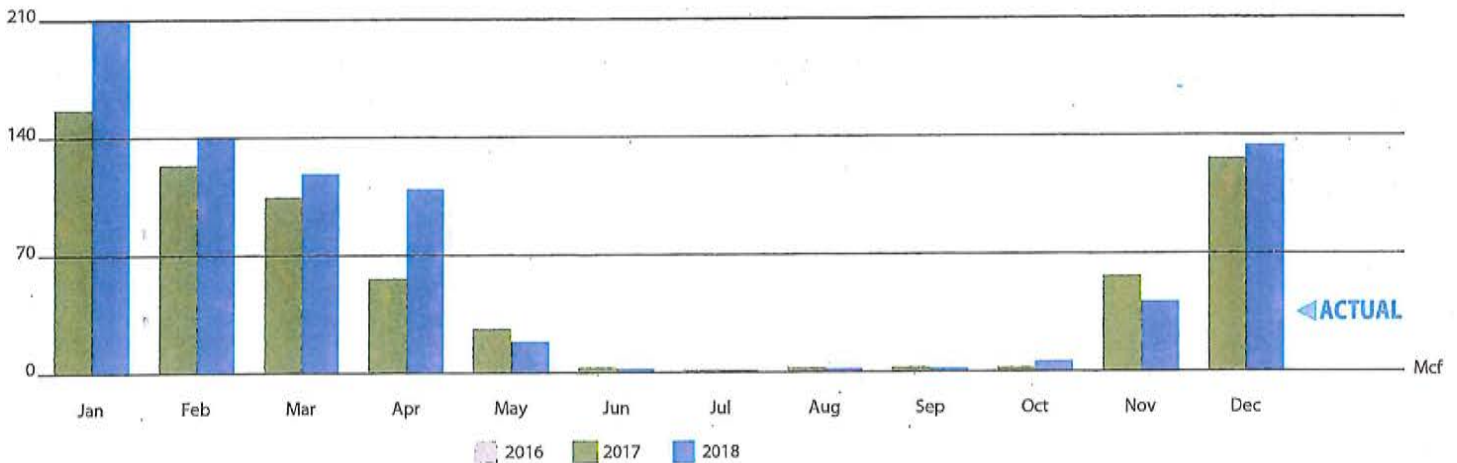
▶ **Thank You** - We received your last payment of **\$297.01** on **November 28, 2018**

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

December Energy Bill

Service dates: **November 10, 2018 - December 11, 2018 (32 days)**

Total Natural Gas Use (Mcf - thousand cubic feet)



December Natural Gas Use
134.2 Mcf

Cost per day:
\$25.28

Mcf per day:
4.194

Prior 12 months of gas use:
787 Mcf

For more information, visit ConsumersEnergy.com/waystopay

In person
Cash, check, card
or money order
Varies by authorized
payment location
Fee may apply



By mail
Check, money order
Consumers Energy
Payment Center
P.O. Box 740309
Cincinnati, OH 45274-0309



Same-day payment
866-329-9593
Discover® MasterCard®
or eCheck
or eCheck



Same-day payment
ConsumersEnergy.com
Discover® MasterCard®
or eCheck
or eCheck



eLockbox
via ACH
Secure electronic
payment with
emailed remittance



Auto-pay
Checking or savings
Discover® MasterCard®
or Visa®
(Eligibility varies)



Ways to pay your energy bill:

910000053785

00000752512 B



Payment Coupon

Account Number	910000053785
Due Date:	January 02, 2019
Total Due:	\$7,525.12

MACOMB COUNTY
 MACOMB COUNTY DRAIN COMM
 21777 DUNHAM RD
 CLINTON TWP MI 48036-1005

Mail Payments to:
 DTE Energy
 P.O. Box 630795
 Cincinnati OH 45263-0795

Please detach and return coupon with account number on check. Agencies are not authorized to accept payment of this bill.

Account Information

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

18.651

Account Number	9100-0005-3785
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DTE-Energy Federal ID No.	38-3217752
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Programs you are enrolled in:

SolarCurrents Program

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

Your electric bill includes the Transitional Recovery Mechanism (TRM) surcharge, which was approved by the Michigan Public Service Commission to recover a portion of the costs associated with expanding our distribution system to serve former City of Detroit Public Lighting Department customers. This charge is effective for six months.



Summary Of Charges

Account Number 9100-0005-3785

Previous Balance as of 11/12/2018	19,324.59
Payment(s) and Credit(s)	- 19,324.59
Remaining Balance	\$0.00

Current Charges

Service Location	Item	Service Type	Rate	Bill Period	Amount
23001 E 9 Mile Rd	7004376662	General Service Municipal Pumping-Net Metering Cat1	EFCND3_WP	11/08 - 12/06/18	7,525.12
		Taxes			0.00
		Miscellaneous Charges			0.00
		Current Bill			\$7,525.12

Amount Due on or before Due Date of 01/02/2019 \$7,525.12

Your current charges are due on January 2, 2019. A 2% late payment charge will be applied if paid after the due date.



DOETSCH

ENVIRONMENTAL SERVICES

21221 Mullin Ave. Warren, MI 48089
Phone: 586-755-2090 Fax: 586-755-2099
www.doetschenv.com

Bill To:

MACOMB COUNTY PUBLIC WORKS
 21777 DUNHAM RD
 CLINTON TOWNSHIP, MI 48036

Ship to:

CHAPATON PUMP STATION

INVOICE DATE	INVOICE NUMBER	CUSTOMER PO	PAYMENT TERMS
Nov 29, 2018	70464		Net 10 Days

10.50 VACTOR 2100	4,650.00 P/DAY	10/31 - Set up ½ day 11/7 - Set up/clean 11/8 - clean 11/9 - dump - ½ day 11/13 - clean 11/14 - clean 11/15 - clean 11/16 - clean 11/19 - clean 11/20 - no work 11/21 - clean 11/26 - Begin demob - dump ½ day 11/27 - screen cleaning ½ day 11/28 - screen cleaning ½ day	48,825.00
1.00 RENTAL EQUIPMENT	3,883.58 EACH		3,883.58

Total Invoice Amount	52,708.58
Payment/Credit Applied	
TOTAL	52,708.58

Check/Credit Memo



6200 ELMRIDGE • STERLING HEIGHTS, MI 48313
 PHONE: 844-464-3587
 WWW.GFLUSA.COM

CUSTOMER NO. 422012
INVOICE NO. RS0002703923
INVOICE DATE 11/25/2018
DUE DATE 11/25/2018
TOTAL AMOUNT DUE \$2,460.85

BILL TO: MACOMB COUNTY PUBLIC WORKS
 21777 DUNHAM ROAD
 CLINTON TOWNSHIP, MI 48036

AMOUNT OF REMITTANCE \$ 1772.15

0055475900000270392300422012000000002460859

DATE	DESCRIPTION	REFERENCE	RATE	QTY.	AMOUNT
	(0002) CHAPATON PUMP STATION 23001 E 9 MILE RD, ST CLAIR SHORES MI 48080 Serv #001 ROLLOFF WASTE TEMP 1 - 10YD				
19 - Nov	Switch W.O# 220846	PER ANTHONY	\$325.000	1.00	\$325.00
19 - Nov	Trash/Solid Waste - Roll Off Disposal Over 2.00 TN	17-1643891	\$35.000/TN	4.56TN	\$159.60
20 - Nov	Switch W.O# 221522	PER ANTHONY	\$325.000	1.00	\$325.00
20 - Nov	SPECIAL WASTE	13-1068180	\$0.000/TN	6.60TN	\$0.00
23 - Nov	Switch W.O# 222387	Per Anthony	\$325.000	1.00	\$325.00
23 - Nov	WASTE Disposal Over = 2.00 TN	13-1069010	\$35.000/TN	4.26TN	\$149.10
23 - Nov	Switch W.O# 222388	Per Anthony	\$325.000	1.00	\$325.00
23 - Nov	WASTE Disposal Over = 2.00 TN	13-1069076	\$35.000/TN	4.67TN	\$163.45

CURRENT \$ 2,460.85	31 - 60 DAYS \$ 0.00	61 - 90 DAYS \$ 0.00	OVER 90 DAYS \$ 0.00	ACCOUNT TOTAL \$ 2,460.85
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INVOICE TOTAL \$1,772.15



KENNEDY INDUSTRIES

INNOVATE
SOLVE
MONITOR
REPAIR

REMIT TO:
KENNEDY INDUSTRIES, INC.
P.O. BOX 930079
WIXOM, MI 48393

INVOICE		
DATE	NUMBER	PAGE
11/29/2018	607525	1 of 1

B MAC152
I MACOMB COUNTY PUBLIC WORKS
L 21777 DUNHAM RD.
L CLINTON TWP, MI 48036
T
O

S MACOMB COUNTY - CHAPATON PUMP
H 23001 E. 9 MILE RD
I ST. CLAIR SHORE, MI 48080
P
T
O

ATTENTION:
PETE TROMBLEY 586-772-3425 pete.trombley@macombgov.org

CUSTOMER REF/PO #	JOB #	JOB TITLE	SLP	SHIPPING TYPE
18-9331	0095045	CHAPATON PUMP STATION, FAIRBANKS MORSE, VERTICAL PUMP, FIELD SERVICE	KES/MDM	FIELD SERVICE

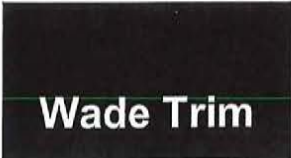
QUANTITY		PART NO.	DESCRIPTION	UNIT PRICE	EXTENDED
B/O	Ship				
0.00	16.25	MAC152CHAPATON	CHAPATON STATION KENNEDY INDUSTRIES PROVIDED (2) FIELD SERVICE TECHNICIAN(S) ONSITE ON 10/30/18.	\$125.00	\$2,031.25
0.00	13.25	MAC152CHAPATON	CHAPATON STATION KENNEDY INDUSTRIES PROVIDED (2) FIELD SERVICE TECHNICIAN(S) ONSITE ON 10/31/18.	\$125.00	\$1,656.25
0.00	24.00	* MAC152CHAPATON	CHAPATON STATION KENNEDY INDUSTRIES PROVIDED (3) FIELD SERVICE TECHNICIAN(S) ONSITE ON 11/20/18 AT STANDARD RATES.	\$125.00	\$3,000.00
0.00	8.75	MAC152CHAPATON	CHAPATON STATION KENNEDY INDUSTRIES PROVIDED (3) FIELD SERVICE TECHNICIAN(S) ONSITE ON 11/20/18 AT OVERTIME RATES.	\$172.50	\$1,509.38
0.00	17.50	MAC152CHAPATON	CHAPATON STATION KENNEDY INDUSTRIES PROVIDED (3) FIELD SERVICE TECHNICIAN(S) ONSITE ON 11/21/18. PLEASE SEE THE ATTACHED SERVICE REPORTS.	\$125.00	\$2,187.50
0.00	4.00	SERVICE TRUCK	TRAVEL CHARGE	\$92.00	\$368.00

This invoice is subject to and incorporates by reference Kennedy Industries, Inc.'s ("Kennedy") Terms & Conditions and Customer Warranty available at www.kennedyind.com which will be provided by email upon written request. Buyer expressly agrees to the provisions set forth in the Terms & Conditions and Customer Warranty posted on Kennedy's website.

***TERMS OF PAYMENT ARE NET 30 DAYS FROM DATE OF INVOICE**
***A 7% PER ANNUM SERVICE CHARGE SHALL BE APPLIED TO ANY BALANCE**
***CREDIT CARD PAYMENTS ARE SUBJECT TO AN ADDITIONAL 3% CHARGE**

SUBTOTAL: \$ 10,752.38
 TAX: \$ 0.00
 TOTAL: \$ 10,752.38

P.O. Box 930079 Wixom, MI 48393 - 4925 Holtz Drive Wixom, MI 48393 - Phone: 248-684-1200 - Fax: 248-684-6011



Wade Trim
 500 Griswold Street • Suite 2500 • Detroit, MI 48226
 313.961.3650 • FAX: 313.961.0898 • www.wadetrtrim.com
 Federal ID 38-1802386

INVOICE

Terms: Net 30 Days
 1.5% Per Month After 30 Days
 18% Annual Rate

W018332a

Macomb County Public Works
 P.O. Box 806
 Mt. Clemens, MI 48046-0806
 Attention: Stephen Downing
 Engineer II-Waste Water Services

Invoice Date : December 3, 2018
 Invoice # : M2013208
 Project # : MCW200401D

Remit payment to : Wade Trim
 500 Griswold Street
 Suite 2500
 Detroit, MI 48226

Re: Basin Segmentation/Disinfection Sys

For Professional Services rendered from 10/28/2018 through 11/24/2018

Chapaton RTB Segmentation and Disinfection

WWS 18-006

\$117,500 - Original Contract Amount
 \$ 9,275 - Change Order #1

\$126,775 - Current Contract Amount

Total Salaries	\$17,758.75
Total Expenses	\$800.00
Professional Services Rendered	\$18,558.75

Amount Due This Invoice **\$18,558.75**

Statement	
Prior Invoices	\$60,758.75
This Invoice	\$18,558.75
Total Invoiced	\$79,317.50
Paid to Date	\$60,758.75
Amount Outstanding	\$18,558.75

Fee Summary (Chapaton)	
Authorized Fee	\$126,775.00
Total Invoiced	\$79,317.50
Amount Remaining	\$47,457.50 ✓

Martin Balance \$8216.75 ✓

Budget to Actual
 8.5 Mile Relief
 As of Dec 31, 2018 = 25%

DESCRIPTION	2019 FINAL BUDGET	ENCUMBERED	ACTUAL	REMAINING BUDGET	PCT UTILIZED
REVENUE ACCOUNTS					
Interest Earned	26,000		14,237	11,763	54.8%
Other Revenue	1,500		9,058	(7,558)	603.9%
8.5 O&M/Charge Required Revenue	3,898,266		1,949,133	1,949,133	50.0%
PY Revenue-Fund Balance	1,946,000			1,946,000	0.0%
Rental Fee	15,360		2,561	12,799	16.7%
Total Revenue Accounts	5,887,126	-	1,974,989	3,912,137	33.5%
EXPENSE ACCOUNTS					
Application/Permit Fee	3,000			3,000	0.0%
Dues, Training, Conf, Subs.	5,750		745	5,005	13.0%
Engineering					
Chapaton East Disinfection System Improvement	50,000			50,000	0.0%
Various Design/Study projects	240,000		44,770	195,230	18.7%
Design of Improvements	50,000			50,000	0.0%
As Needed Engineering	75,000		1,933	73,067	2.6%
Chapaton Improvements-Office Space	250,000			250,000	0.0%
TRC Basin Equipment	100,000		990	99,010	1.0%
9 Mile & 8 1/2 Mile Rehab	100,000			100,000	0.0%
Basin Structural Integrity Study	60,000			60,000	0.0%
Basin Expansion Design	1,000,000		1,504	998,496	0.2%
In-System Storage Design(Gates on 8.5 Tunnel)	500,000			500,000	0.0%
New Equipment	161,500		550	160,950	0.3%
Office Supplies	750		10	740	1.3%
Operating Supplies	82,750		13,646	69,104	16.5%
Other Professional Svcs	47,920		26,246	21,674	54.8%
Personnel Services	875,405		2,822	872,583	0.3%
Repair & Maintenance	100,615		77,861	22,754	77.4%
Switch gear(Label and maintenance)	45,000			45,000	0.0%
Painting interior and garage facade	20,000			20,000	0.0%
Instrumentation all buildings	30,000			30,000	0.0%
Canal seawall sheeting	5,000			5,000	0.0%
Driveway grate	12,000			12,000	0.0%
Pumping and screening improvements	1,250,000			1,250,000	0.0%
CHA-EB Chem Flow Meter - Basin Gates (Pumps 4-5)	10,000			10,000	0.0%
Security Fence Structures Around Gate Actuators	60,000			60,000	0.0%
Electrical Upgrade Program	10,000			10,000	0.0%
Pump Station Exterior Wall Upgrades-Basin Kneewall	4,000			4,000	0.0%
9 Mile Dewatering Gate	5,000			5,000	0.0%
SRF Replacemnet Reserve	259,215			259,215	0.0%
Scada System	190,073		5,279	184,794	2.8%
Utilities	284,148		21,198	262,950	7.5%
Total Expense Accounts	5,887,126	-	197,554	5,689,572	3.4%

	O&M Balance 9/30/2018	O&M	Total 12/31/2018
Cash - Operating	4,445,246	1,863,085	6,308,331
Accounts Receivable			0
Assets			0
Liabilities		85,650	85,650
Revenues		1,974,989	1,974,989
Expenditures		197,554	197,554
			0
Equity*	4,445,246		6,222,681

Detail of 2018 Equity*

5 year maintenance of switchgear	38,000	Instrumentation all buildings	30,000
9 Mile Dewatering Gate	5,000	Outfall Gate Reserve	7,000
Canal seawall sheeting	5,000	Painting interior and garage facade	20,000
CHA-EB Chem Flow Meter - Basin Gates (Pumps 4-5)	10,000	Pump Station Exterior-Basin Kneewall	4,000
Chapaton East disinfection system improvement	50,000	Pumping and screening improvements	1,250,000
Design of Improvements	50,000	RTB/PS Ventilation Design	60,000
Disinfection Systems Improvement Study	120,000	Sampling Pumps	2,500
Driveway grate	12,000	Scada Reserve	80,000
Electrical Upgrade Program	10,000	Security Fence Structures -Gate Act	60,000
Emergency Reserve	818,956	Spare Rain Gauge	2,500
Flow Meter	150,000	SRF Replacement Reserve	1,555,290
HVAC design	60,000	Switch gear(Label and maintenance)	45,000