

EIGHT AND ONE-HALF MILE RELIEF DRAIN  
INTRA-COUNTY DRAINAGE BOARD  
SEPTEMBER 12, 2022  
10:15 A.M.  
AGENDA

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

**Call in Number: 1-385-645-1319  
Access Code: 310 230 337**

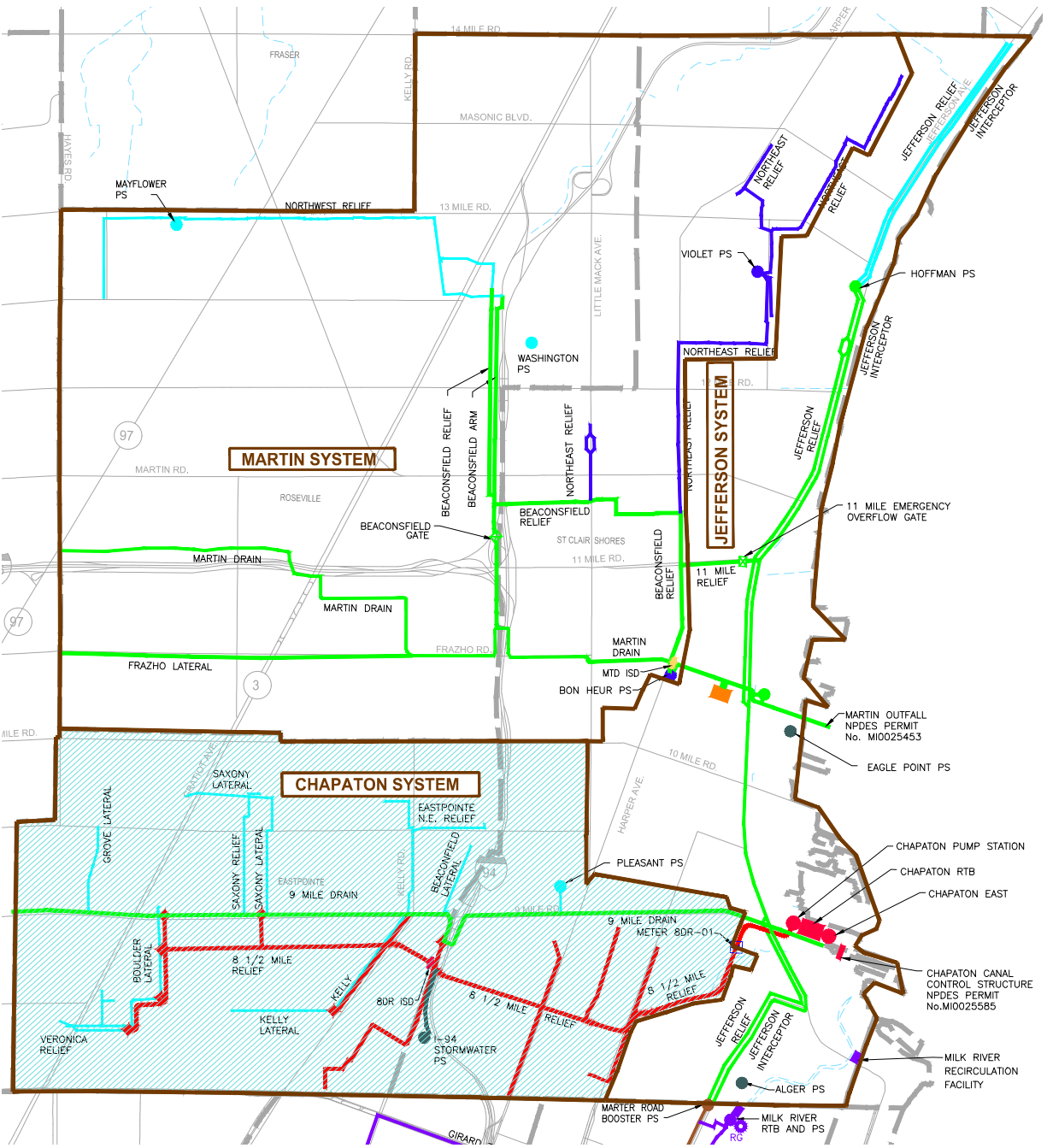
	Page
1. Call of meeting to order and roll call	
2. Approval of Agenda for September 12, 2022	
3. Approval of Minutes for August 08, 2022	3
4. Public Participation	
5. Project & Operational Updates – Vince Astorino	6
6. 8 ½ Mile Relief In-System Storage – Change Order No. 1 – Vince Astorino	18
Motion: To approve Change Order No.1 with Weiss Construction for a net increase of \$269,666.49 and an additional 70 days for the In-System Storage project.	
7. Consideration for approval of invoices (see attached)	141
8. Financial Report – Bruce Manning	277
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 August 8, 2022, at 10:48 A.M.

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

ALSO PRESENT: Vince Astorino, Operations & Flow Manager; Brian Baker, Chief Deputy; Stephen Downing, Construction and Maintenance Manager; Norb Franz, Communications Manager; Denise Harwood, Financial Analyst; Bruce Manning, Financial Manager; Pam Sonnenberg, Administrative Assistant; Tom Stockel, Construction Supervisor; Don VanSyckel, Macomb County Board of Commissioners

PRESENT VIA TELECONFERENCE: Mary Shepard, 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. Klinefelt, supported by Mr. Santo to approve the agenda as presented.

Adopted: YEAS: 3  
NAYS: 0

Minutes of the meeting of July 11, 2022 were presented. A motion was made by Mr. Santo, supported by Ms. Klinefelt 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 updated on the Chapaton Basin and said there had been no wet weather events for the past month. There is finally a contract signed by D'Agostini for Chapaton expansion joint repairs. The contract includes a liquidated damages clause of a \$1,000 per day with a final completion date of October 1, 2022.

The work for Chapaton In-System Storage project will be taking place next week to get all of the poles relocated. We gave the approval for Weiss to shut down Beaconsfield and Oak. Beaconsfield Road is closed right now. We have a new letter on our website and a detour map as well. All of the residents received letters early on in the project. Mr. Astorino presented pictures at Gaukler and Kelly of them capping the top of the interceptor, putting in rebar and putting in the venting cap in the center of the pipe. Those vents are for potential emergencies with the inflatable bladder. They are also doing prep work for the placement of the shaft at Beaconsfield and Oak. We worked with Eastpointe because the water main needed to be relocated. Consumers came out to relocate the natural gas. We started taking delivery of the steel. The office trailers are out there now and will be there for around 18 months. The project is moving well and Mr. Astorino is contemplating bringing a change order to the board next month for extra DTE costs, increase in schedule, and a few other minor things that he wanted to package all in one change order. Ms. Miller asked Ms. Klinefelt if she is getting any

complaints from residents about the project and Ms. Klinefelt responded that she is hearing no complaints. Mr. Astorino added that they have received no complaints as well.

Ms. Miller proceeded to explain that due to the high bid cost received for the Nine Mile Pump Station, efforts have been redirected to various Station and Basin electrical redundancy and rehabilitation projects. She said at this time, we have shelved this project.

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

Adopted: YEAS: 3  
NAYS: 0

Mr. Baker presented the In System Storage Petition Project – Computation of Cost Resolution. It is the last step in the petition process and would normally result in a special assessment. However we have the funding so there is no special assessment and no additional cost to the district. It was advised by our attorney to update as a final step and show on Exhibit A, a breakdown of the cost showing that there is no special assessment.

A motion was made by Ms. Klinefelt, supported by Mr. Santo to approve the Computation of Costs Resolution for the 8 ½ Mile In-System Storage Project.

Adopted: YEAS: 3  
NAYS: 0

Mr. Baker then updated on the Proposed 2022/23 Budget. The community contribution is 4.9%, slightly less than the projected 5% increase provided earlier this year. Eastpointe and St. Clair Shores received the budget early last week. There were no questions. The budget assumes no assessment for the In-System Storage project. There is also no district funds needed for the Canal Rehab Project. There are 4 new projects funded as noted on page 14 of the packet.

A motion was made by Mr. Santo, supported by Ms. Klinefelt to approve the 2022/23 Eight and One Half Mile Relief Drain budget and revenue requirement for the fiscal year beginning October 1, 2022.

Adopted: YEAS: 3  
NAYS: 0

It was noted by Ms. Miller how incredible the progress has been in terms of CSO reductions at Chapaton. She stated that it is unbelievable but we still have a long way to go. Ms. Klinefelt added that it is impressive as we have had “some severe downpours!”

The Chair presented the invoices totaling \$928,231.94 to the board for review and approval.

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

Adopted: YEAS: 3  
NAYS: 0

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

Adopted: YEAS: 3  
NAYS: 0

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

Adopted: YEAS: 3  
NAYS: 0

The meeting was adjourned at 11:10 A.M.

  
\_\_\_\_\_  
Candice S. Miller, Chair  
Macomb County Public Works Commissioner

STATE OF MICHIGAN  
COUNTY OF MACOMB

I certify that the foregoing is a true and correct copy of proceedings taken by the Intra-County Drainage Board for the Drainage District shown on the attached set of minutes, on August 8, 2022 the original of which is on file in the Public Works Commissioner's Office. Public notice of the meeting was given pursuant to Act No. 267, Public Acts of Michigan, 1975, including, in the case of a special or rescheduled meeting or a meeting secured for more than 36 hours, notice by posting at least 18 hours prior to the time set for the meeting.

  
\_\_\_\_\_  
Candice S. Miller, Chair  
Macomb County Public Works Commissioner

DATED: 8/08/22



**Candice S. Miller**

Public Works Commissioner  
Macomb County

To: 8 ½ Mile Relief Drain Drainage District Board Members

CC: File

From: Vincent Astorino, Operations & Flow Manager

Date: September 12, 2022

Subject: Construction Projects Status Updates for the September 2022 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 this past month.

There was a fire on 9/2/22 in which the St. Clair Shores Fire Department was mobilized. This occurred around midnight and it is believed to be caused by DTE. After troubleshooting the issue it was found that there was a ground fault on the main power feed to the building which then caused damage to the power control transformer on Storm Pump #3. MCPWO had a spare on the shelf and was able to have Colville replace the unit by the next afternoon. The last time this occurred Storm Pump #1 was out of service for over 6-months.

### Chapaton Basin and 9 Mile Drain Structural Repairs Project

**Contractor:** Pullman / L. D'Agostini & Sons

**Engineering Consultant:** NTH

#### **Project Description:**

This project consists of performing concrete repairs within the Chapaton RTB (constructed in 1968) and the 9-Mile Drain (constructed in 1926). Recent inspections were performed and various types of repairs in numerous locations were noted in the reports. Repairs primarily consist of chipping away damaged concrete, prepping the reinforcing steel and remaining concrete surfaces, and installing a specialized concrete product flush to adjacent surfaces.

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

1. NTH Consultants providing limited construction contract administration for this additional work.
  - Majority of project management performed by MCPWO staff.
  - Submittals are being received and processed by the engineering team.
  
2. Construction activities per Update Period:
  - Install temporary supports for existing flushing pipe as directed.
  - Remove existing I-beam flushing pipe supports and delaminated concrete at expansion joints.
  - Complete concrete repairs and I-beam modifications as required.
  - Contractor has completed 7 of the 8 scheduled concrete repairs located at expansion joints on the north wall of the Chapaton RTB.
  
3. Construction look ahead:
  - Continue to complete repairs on the north wall of the RTB, then move forward with required repairs on the south wall of the Chapaton RTB.

**Construction Costs:**

	Date (if applicable)	Amount
Pullman Final Amount		\$474,913.50
LDS Contract Amount		\$258,050.00
	Pay App #1	\$85,140.00
Remaining Budget		\$172,910.00

*Figure 1- Temporary Pipe Supports*

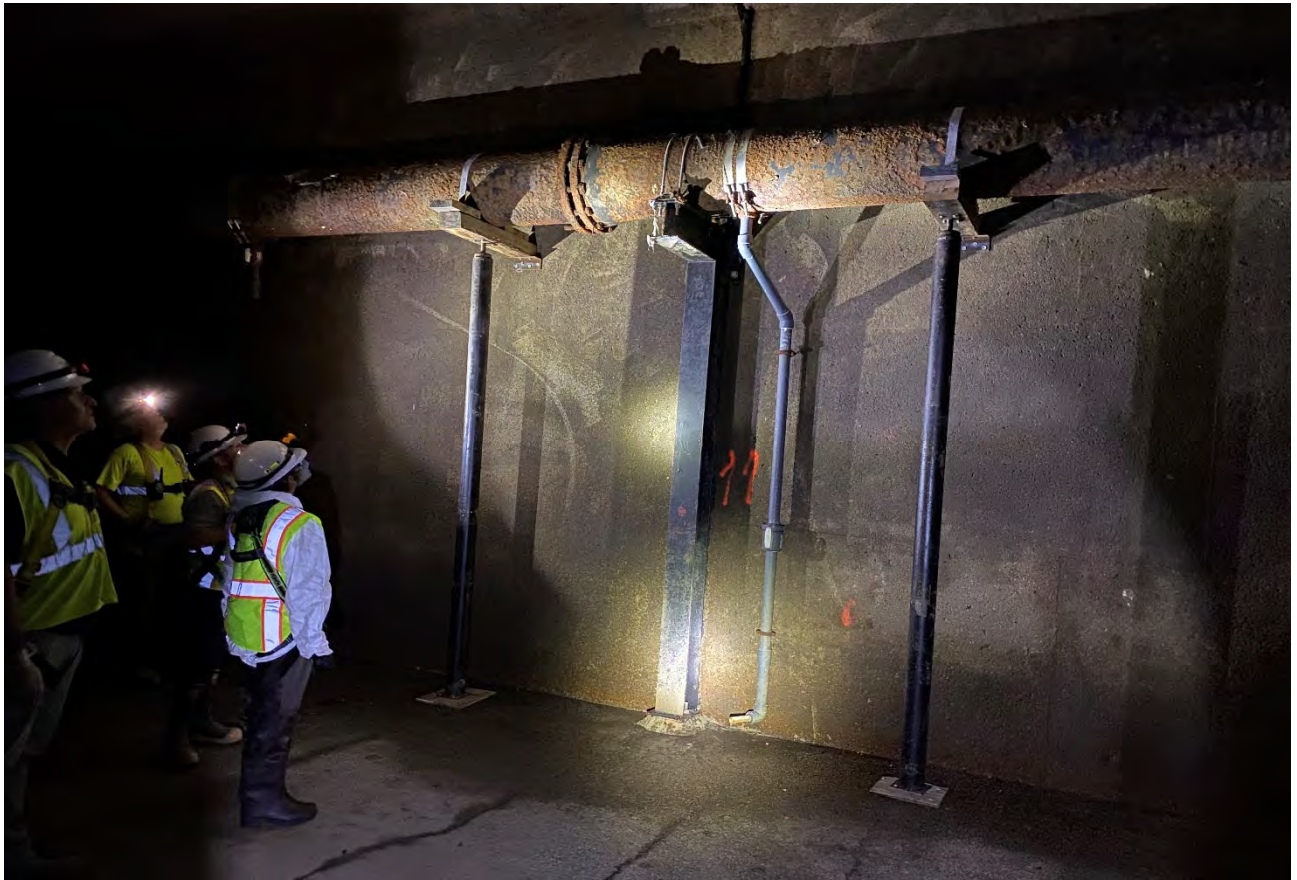




Figure 2 - Preparing Joint for Concrete Fill

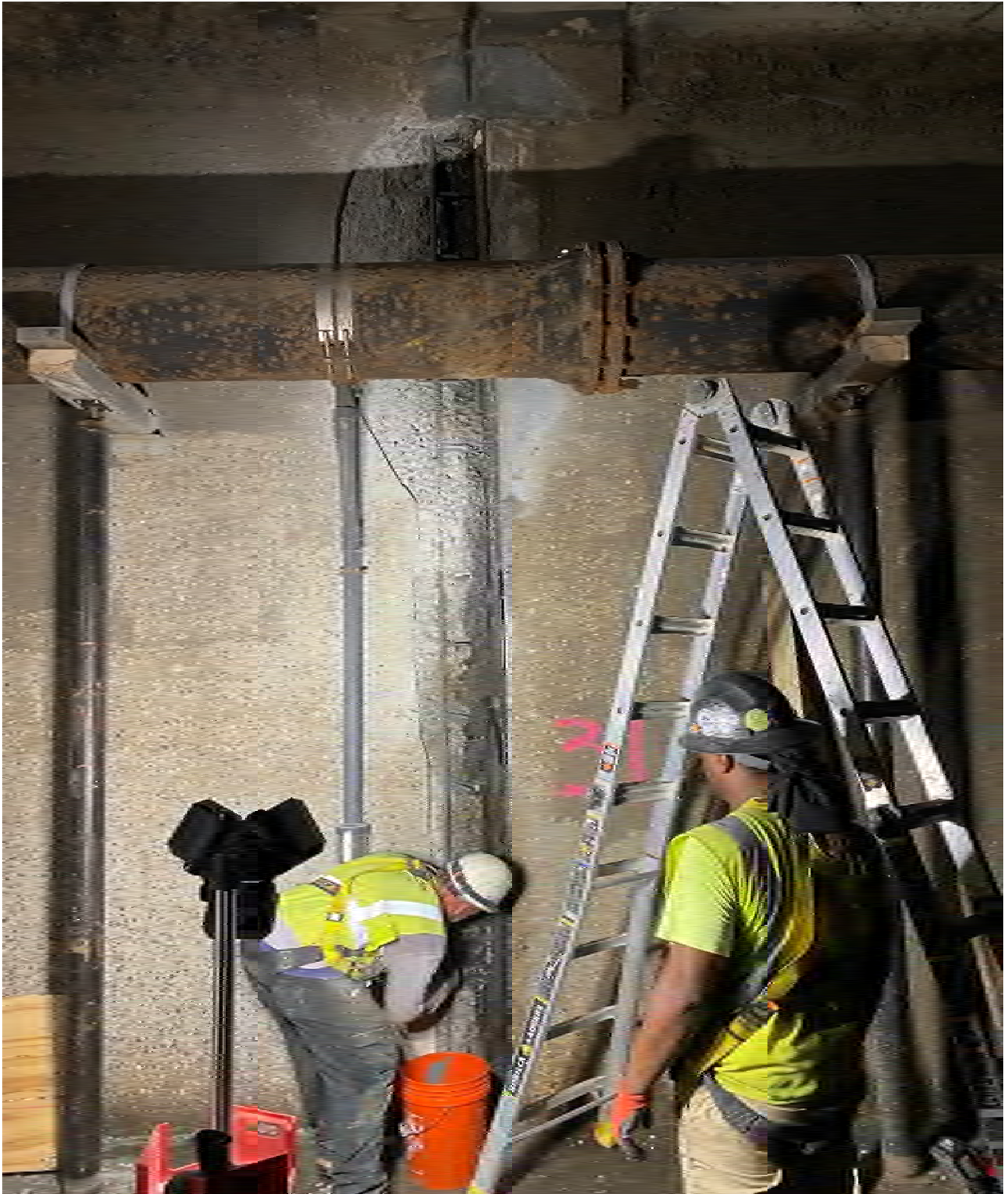


Figure 3 - Forming Joint for Concrete Fill

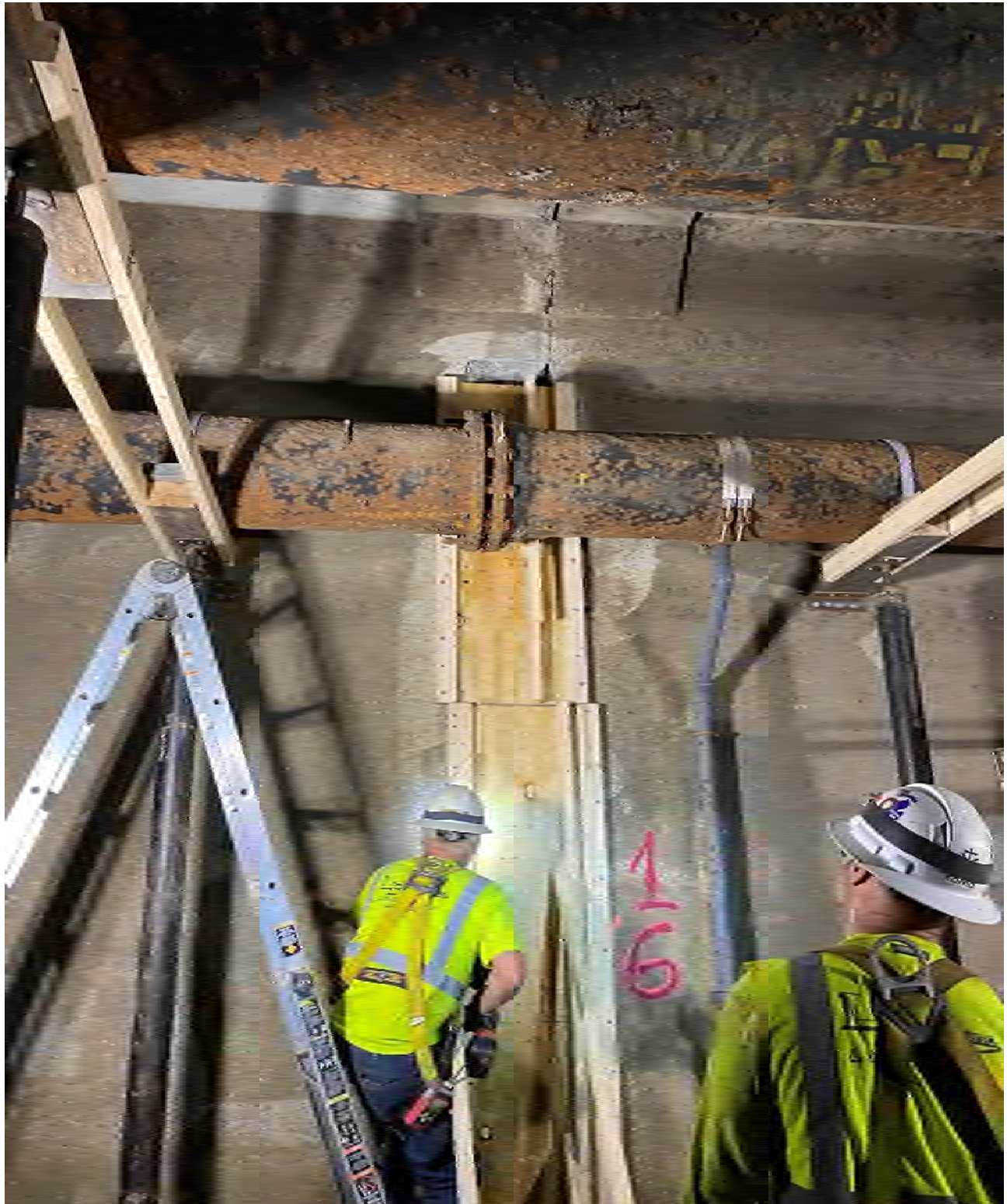
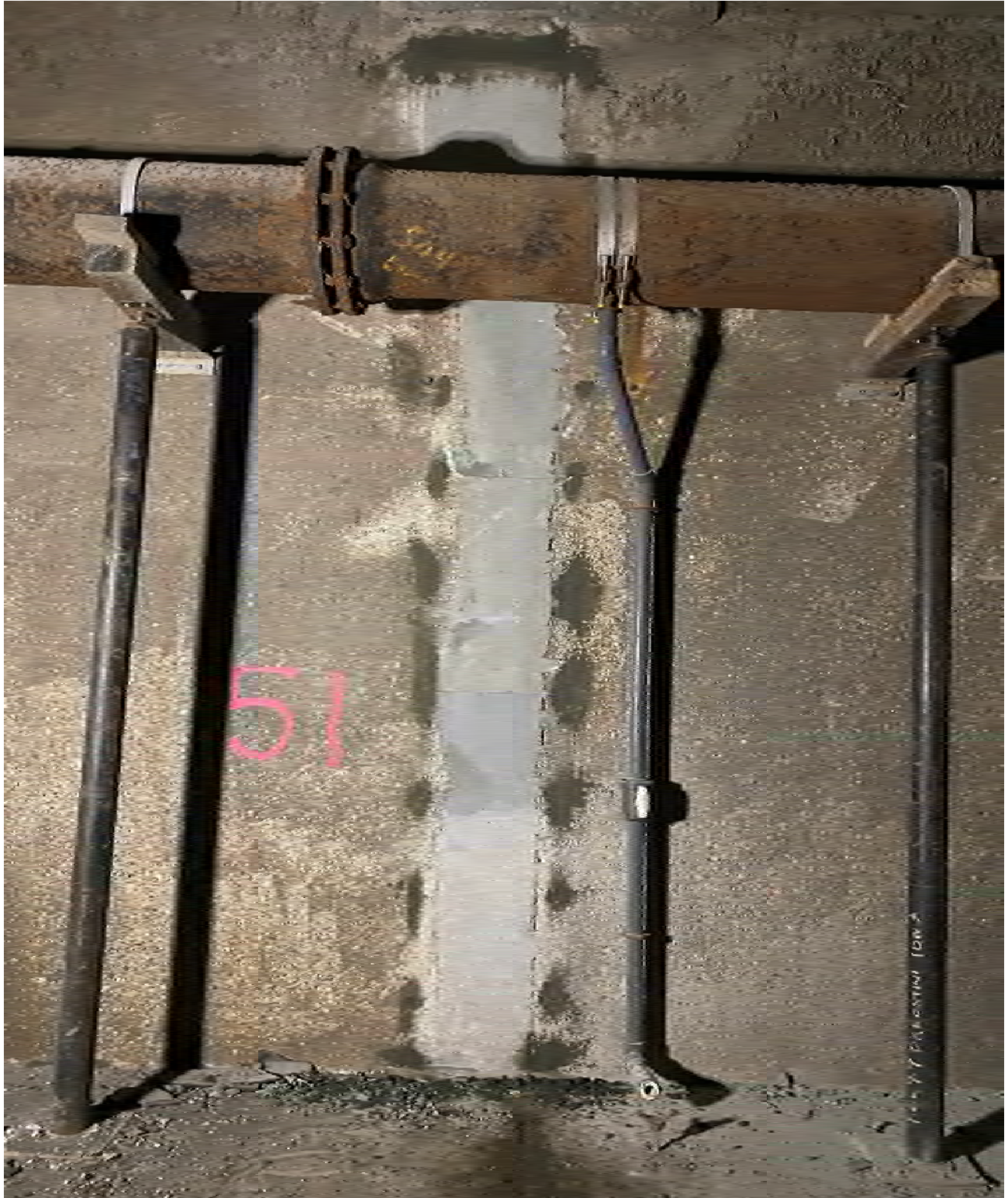


Figure 4 - Concrete Patch Repair



*Figure 5 – Installed Slotted Beams*



# 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 of steel and other construction materials deliver & stored along Beaconsfield greenbelt.
  - Secured work site with swing gates and privacy fence screening.
  - Completed water main service activities for Eastpointe residents as required.
  - DTE temporary power activities completed by DTE subcontractor Extreme Power.
  - Contractor installed steel support ribs in 11-foot tunnel as planned.
  - Site monitoring equipment and sensors installed prior to pile installation as req'd.
  - Contractor removed existing concrete at Oak and Beaconsfield intersection.
3. Construction look ahead:
  - Beaconsfield & Oak: Continue deliveries of steel and other construction materials along Beaconsfield greenbelt.
  - Excavation & soldier pile installation at Beaconsfield scheduled September 6th.
  - Site vibration monitoring & documentation.

**Construction Costs:**

	Date (if applicable)	Amount
Original Contract Amount		\$9,673,200.00
Total Spent to Date	Pay Apps. 1 - 5	\$1,353,007.93
Remaining Budget		\$8,320,192.07

*Figure 1 – Relocating Existing Power Lines*



*Figure 2 – Fencing Installed at Construction Site*



**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 3 – New Water Main and Gate Well Valve*



*Figure 4 – Installed Steel Bracing Ribs in 11FT Tunnel*



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*Figure 5 – Removed Concrete at Oak & Beaconsfield Intersection*



*Figure 6 – Site Survey & Soldier Pile Layout*



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*Figure 7 – Aerial Drone Image from 200 feet*



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**Candice S. Miller**

Public Works Commissioner  
Macomb County

To: 8-1/2 Mile Relief Drain Drainage District Board Members

CC: FILE

From: Vince Astorino, Operations & Flow Manager

Date: September 12, 2022

Subject: 8-1/2 Mile Relief In-System Storage – Change Order No. 1

The purpose of this memorandum is to present Change Order No. 1 from Weiss Construction regarding the 8-1/2 Mile Relief In-System Storage project.

On January 30, 2022, Weiss Construction was provided with the notice to proceed for the 8-1/2 Mile Relief In-System Storage project, with a contract amount of \$9,673,200.00 and a substantial completion date of September 23, 2023.

Over the course of the contract, several changes have arose. See below for a summary of changes with the associated dollar amount and/or time extension.

1. DTE Power Relocation: As part of the design, an allowance of \$100,000 was included in the construction contract to temporarily relocate DTE power lines, to accommodate construction activities. This effort was discussed with the design team and DTE during the design phase to determine this allowance. After construction commenced, there were many additional items required by DTE that were not identified during design. These changes resulted in an increase of **\$190,864.90** for the temporary relocation of the power lines and temporary easement that was required. As a result of the delays caused by DTE, Weiss is requesting an additional **70 days** to be added to the construction project.
2. Inflatable Bladder: The design team worked with an overseas company, Floecksmuhle, to design the inflatable bladder. Over the course of the final design and issuance of the construction contract to Weiss, the inflatable bladder cost was increased by **\$123,500.00** due to various global supply chain issues as well as the Russia – Ukraine conflict.
3. Gaukler Site: The ventilation and odor control facility at Gaukler St., near Greater Mack, was originally designed with a carbon canister and vent stack fenced in and above ground. After discussions with St. Clair Shores, they requested to not have the carbon canister above ground. MCPWO worked with Weiss to obtain costs to bury the canister and that cost was \$335,766.06. Therefore, the decision was made to remove the carbon canister. The site will now only have a vent stack that will activate only if there is an emergency which resulted in a credit to the contract of **(\$35,686.93)**.

4. Malvern Site: The ventilation site was originally designed with a decorative vent stack resembling a nautical theme. After comments from St. Clair Shores, this was changed out to a standard green vent stack, resulting in a credit to the contract of **(\$9,011.48)**.

The recommendation is that the 8-1/2 Mile Drain Drainage District Board approve Weiss Change Order No. 1 for the net increase of \$269,666.49 and the addition of 70 days to the construction schedule.

Attachments: Weiss Change Order No. 1 with backup and Construction Administration Notes

**CHANGE ORDER NO.: 001**

Owner:	Macomb County, MI	Owner's Project No.:	WWS-2019-003
Engineer:	Tetra Tech Inc.	Engineer's Project No.:	200-16347-19001
Contractor:	Weiss Construction Co LLC	Contractor's Project No.:	
Project:	8-1/2 Mile In-System Storage		
Contract Name:	8-1/2 Mile Relief Drain Drainage District In-System Storage		
Date Issued:		Effective Date of Change Order:	Upon Approval

The Contract is modified as follows upon execution of this Change Order:

Description:

**Additional cost due to unanticipated DTE costs and easements.**

**Additional cost due to increase in materials from the inflatable weir supplier**

**Additional Cost due to local authority changes to the Gaukler and Malvern sites**

**Additional time due to extensive coordination with and time delays by DTE**

Attachments:

**Summary of Changes (Table)**

**Letter from Contractor outlining additional costs from DTE**

**Letters from Contractor and Engineer outlining additional costs for inflatable weir**

**Proposals from Contractor for credits at Gaukler and Malvern sites**

**Letter and schedule from Contractor outlining need for additional time**

**Email from Contractor describing anomalies in the schedule**

Change in Contract Price	Change in Contract Times [State Contract Times as either a specific date or a number of days]
Original Contract Price: \$ <u>9,673,200.00</u>	Original Contract Times: Substantial Completion: <u>09/23/2023</u> Ready for final payment: <u>11/22/2023</u>
<b>Change</b> from previously approved Change <b>NONE</b> \$ <u>0.00</u>	<b>Change</b> from previously approved Change Orders <b>NONE</b> Substantial Completion: <u>0 days</u> Ready for final payment: <u>0 days</u>
Contract Price prior to this Change Order: \$ <u>9,673,200.00</u>	Contract Times prior to this Change Order: Substantial Completion: <u>09/23/2023</u> Ready for final payment: <u>11/22/2023</u>
<b>Increase</b> this Change Order: \$ <u>269,666.49</u>	<b>Increase</b> this Change Order: Substantial Completion: <u>70 Days</u> Ready for final payment: <u>72 Days</u>
Contract Price incorporating this Change Order: \$ <u>9,942,866.49</u>	Contract Times with all approved Change Orders: Substantial Completion: <u>12/02/23*</u> Ready for final payment: <u>02/02/2024**</u>

\*See Notes Next Page





## CHANGE ORDER SUMMARY

**OWNER:** Macomb County, Michigan      **Project:** 8-1/2 Mile In-System Storage

**CHANGE ORDER NO.:** 1

Description	Add/ Deduct	Amount +(-)
DTE and Easements	Add	\$190,864.90
Inflatable Weir (Floecksruhe)	Add	\$123,500.00
Gaukler Site Changes	Deduct	(\$35,686.93)
Malvern Site Changes	Deduct	(\$9,011.48)
<b>TOTAL THIS CHANGE ORDER</b>	<b>Add</b>	<b>\$269,666.49</b>

Due to proposed changes to contract and work. Please see supporting documentation attached hereto.

Current Contract Amount		\$9,673,200.00
Amount this Change Order	Add	\$269,666.49
New Contract Amount		\$9,942,866.49



**WEISS CONSTRUCTION CO. LLC**

41001 Grand River Ave.  
Novi, MI 48375  
(313) 567-4500

Wednesday, July 20, 2022

Mr. Timothy Ard  
Construction Manager  
Tetra Tech  
710 Avis Drive, Suite 100  
Ann Arbor, MI 48108  
Via- Electronic Delivery (Email)

RE: Tetra Tech 200-16347-19001: Macomb WWS-2021-006; Weiss WC22-01

Subject: DTE Update 7/6/2022 – CE-01R3 – DTE Changes Including Easement Payment and Street Lighting

Dear Mr. Ard-

Please consider this letter a formal update to our letters dated 4/25/2022, 7/1/2022, and 7/8/2022. Weiss continues to track this issue under Change Event 1 (CE-01). **Weiss specifically requests additional funds for the direct DTE costs to perform the relocation work and permanent new service (allowance work) as well as additional funds for work DTE has excluded as part of their fees (underground electrical by Weiss and Weiss subcontractor Rotor). Weiss has removed its OHP on the actual construction costs changes, Rotor’s OHP remains. Additionally, MCPWC has requested that Weiss make payment to the True Church Ministries located at 21801 Beaconsfield for settlement of the DTE temporary easement. Finally on 7/14/2022, Weiss was contacted by DTE’s Community Lighting (Street Lighting) division (Chris Mira) and notified additional funds would be due to this division. Weiss was not contacted or informed of this cost prior to this date.**

The base contract contains an allowance of \$100,000 to pay for the temporary relocation work as well as the new service up to the service switch (located on the control building). It is our understanding this amount was an estimate based upon the number of poles to be relocated (as shown on the plans).

Temporary Relocation Cost:	\$173,000.00
Permanent New Commercial Service Cost:	\$ 21,440.06
Street Lighting Relocation	\$ 8,470.42
<u>Payment to True Church Ministries</u>	<u>\$ 6,000.00</u>
Total Fund Requested for Immediate Authorization:	\$208,910.48

Base Bid Allowance	\$100,000.00
<b><u>Additional Required for DTE/Easement Costs(no OHP)</u></b>	<b><u>\$ 108,910.48</u></b>

**Total Direct Construction Costs** **\$ 81,954.42**

**Total Cost Above and Beyond Allowance** **\$ 190,864.90**

Weiss requests funding to complete the underground electrical working feeding the new ISS control building. Originally, this work was shown to be overhead. DTE has demanded this service work must be performed at the same time as all other relocation work. As such, it must be moved underground to facilitate construction activities in accordance with MISOHA regulations (as explained in previous correspondence). Weiss has worked with DTE, Consumers Energy, and the City of Eastpointe over the last few weeks to finalize this plan of work as shown on the attached marked-up utility plan.



**WEISS CONSTRUCTION CO. LLC**

41001 Grand River Ave.  
Novi, MI 48375  
(313) 567-4500

Wednesday, July 20, 2022

The attached quote summarizes these direct construction costs for the conduit ductbank (by Rotor) as well as all excavation, backfill, and resident concrete replacement (by Weiss) for a **REVISED** total of: **\$81,954.42 (Weiss OHP removed).**

This quote excludes any work on the 2" water main servicing the two homes on the South side of Oak (should be able maintain service) outside of our contract work required during the 8" watermain relocation.


Weiss is also requesting reimbursement for payment to be made to True Church Ministries (Gregory Tukes) located at 21801 Beaconsfield pursuant to conversations 7/7/2022. This payment is **\$6,000** and does not include any additional terms other than the agreement between DTE and True Church Ministries.

Various fiber optic/telecom companies (WOW and Eversteam) have been contacted through DTE's shared use program for all the aforementioned poles affected. None have indicated cost for the work or issues with scheduling within the projects approximate timeframe but nonetheless we must exclude these costs at this time.

DTE has verbally committed this work to a tentative schedule of 6-8 weeks post approval and continuously notes they are working to expedite. Until this date is firm and work is scheduled, the project schedule impact cannot be fully ascertained. Per conversations 7/7/2022, it appears DTE is hoping to start this work on 7/29/2022. We are preparing a schedule update with conservative assumptions in place.

Weiss hereby continues to reserve its rights for additional contract time and increased cost associated with this change. Weiss has worked to minimize general conditions impacts by delaying full mobilization to the Beaconsfield site.

Sincerely,



Zachary Zechmeister  
Project Manager

CC Weiss: Joe Mulville  
CC Macomb: Vincent Astorino, Steve Rozycki, Steven Wagner, Jeremy Jarinski  
CC Tetra Tech: Brian Rubel, David Weiss





Description	Qty	Unit	Lab Unit	Labor Total	Mat Unit	Material	Equip Unit	Equipment	Subcontractor	Sales Tax
<b>215 lineal ft duct bank</b>										
<b>Labor</b>										
1 ea. Carp Foreman	40	hr	\$ 70.95	\$ 2,838.00	\$ -	\$ -	\$ -	\$ -		\$ -
1 ea. Laborer	40	hr	\$ 50.48	\$ 2,019.20	\$ -	\$ -	\$ -	\$ -		\$ -
2 ea. Operator	80	hr	\$ 70.36	\$ 5,628.80	\$ -	\$ -	\$ -	\$ -		\$ -
<b>Material</b>										
Dirt out - spoils for open cut plus	98.00	yard	0.00	\$ -	15.00	\$ 1,470.00	\$ -	\$ -		\$ 88.20
Sand in	127.00	ton	0.00	\$ -	20.00	\$ 2,540.00				\$ 152.40
Concrete Encasement	20.00	yd		\$ -	180.00	\$ 3,600.00				\$ 216.00
Resteel #4x4 at 215 plus ties	0.60	ton		\$ -	1,400.00	\$ 840.00				\$ 50.40
<b>Equipment</b>										
Mini Excavator - 11,000 lb	1	week	0.00	\$ -	\$ -	\$ -	1,315.00	\$ 1,315.00		\$ -
Skid Steer - mid size	1	week		\$ -		\$ -	585.00	\$ 585.00		\$ -
Foreman Pickup	40	hr		\$ -		\$ -	10.00	\$ 400.00		\$ -
- Mobe and Demobe Large Equipment	4	LS	0.00	\$ -	\$ -	\$ -	500.00	\$ 2,000.00		\$ -
<b>Sidewalk R&amp;R - Assumed 4"</b>										
<b>Labor</b>										
1 ea. Carp Foreman	16	hr	\$ 70.95	\$ 1,135.20	\$ -	\$ -	\$ -	\$ -		\$ -
2 ea. Laborer	32	hr	\$ 50.48	\$ 1,615.36	\$ -	\$ -	\$ -	\$ -		\$ -
1 ea. Operator	16	hr	\$ 70.36	\$ 1,125.76	\$ -	\$ -	\$ -	\$ -		\$ -
<b>Material</b>										
Concrete and Base Out	12.00	yard		\$ -	15.00	\$ 180.00	\$ -	\$ -		\$ 10.80
Sand in	5.00	ton		\$ -	20.00	\$ 200.00				\$ 6.00
4" sidewalk, 602 sf	10.00	yd		\$ -	180.00	\$ 1,800.00				\$ 108.00
Misc Edge Form	1.00	LS		\$ -	1,500.00	\$ 1,500.00				\$ 90.00
Concrete	8.00	yard		\$ -	180.00	\$ 1,440.00				\$ 86.40
<b>Equipment</b>										
Skid Steer - mid size	1	week		\$ -		\$ -	585.00	\$ 585.00		\$ -
Foreman Pickup	16	hr		\$ -		\$ -	10.00	\$ 160.00		\$ -
<b>Approach R&amp;R - Assumed 6"</b>										
<b>Labor</b>										
1 ea. Carp Foreman	4	hr	\$ 70.95	\$ 283.80	\$ -	\$ -	\$ -	\$ -		\$ -
2 ea. Laborer	8	hr	\$ 50.48	\$ 403.84	\$ -	\$ -	\$ -	\$ -		\$ -
<b>Material</b>										
Concrete and Base Out	8.00	yard		\$ -	15.00	\$ 120.00	\$ -	\$ -		\$ 7.20
Sand in	4.00	ton		\$ -	20.00	\$ 80.00				\$ 4.80
6" pavement, 208 sf	5.00	yd		\$ -	180.00	\$ 900.00				\$ 54.00
Misc Edge Form	1.00	LS		\$ -	500.00	\$ 500.00				\$ 30.00
Concrete	4.00	yard		\$ -	180.00	\$ 720.00				\$ 43.20
<b>Equipment</b>										
Skid Steer - mid size - INC ABOVE	1	week		\$ -		\$ -	\$ -	\$ -		\$ -
Foreman Pickup	4	hr		\$ -		\$ -	10.00	\$ 40.00		\$ -
<b>Resident Lawn Restoration</b>										
<b>Labor</b>										
1 ea. Carp Foreman	8	hr	\$ 70.95	\$ 567.60	\$ -	\$ -	\$ -	\$ -		\$ -
2 ea. Laborer	16	hr	\$ 50.48	\$ 807.68	\$ -	\$ -	\$ -	\$ -		\$ -
1ea Laborer to water daily, 4 weeks	20	hr	\$ 51.48	\$ 1,029.60						\$ -
<b>Material</b>										
Topsail	22.00	yard	0.00	\$ -	25.00	\$ 550.00	\$ -	\$ -		\$ 33.00
Seed and Mulch Blankets	1.00	LS		\$ -	1,500.00	\$ 1,500.00				\$ 90.00
<b>Equipment</b>										
Skid Steer - mid size	1	week		\$ -		\$ -	585.00	\$ 298.35		\$ -
Foreman Pickup	8	hr		\$ -		\$ -	10.00	\$ 80.00		\$ -
<b>Rotor Electric Duct Bank</b>										
Rotor Electric Duct Bank - see quote - sub OHP remains										\$ 40,125.83
<b>Summary</b>										
Subtotal Construction Costs ONLY				\$ 17,454.84		\$ 17,840.00		\$ 5,463.35	\$ 40,125.83	\$ 1,070.40
OHP - REMOVED R1				0%		0%		0%	0%	0%
OHP - Construction Costs ONLY - REMOVED R1				\$ -		\$ -		\$ -	\$ -	\$ -
Total Including - Construction Costs ONLY										
Grand Total - Construction Costs ONLY				\$ 17,454.84		\$ 17,840.00		\$ 5,463.35	\$ 40,125.83	\$ 1,070.40
<b>Quote Grand Total - Construction Costs ONLY</b>				<b>\$ 81,954.42</b>						
<b>Allowance Work</b>										
DTE Temporary Relocation Work				\$ 173,000.00						
DTE Perm.Work				\$ 21,440.06						
Church Easement - Request from Pastor				\$ 6,000.00						
DTE Lighting Rec 7.14.2022				\$ 8,470.42						
Total Allowance Work				\$ 208,910.48						
Base Bid Allowance				\$ 100,000.00						
<b>Allowance Shortfall</b>				<b>\$ 108,910.48</b>						
<b>Total Including Construction Add (Amount above and beyond allowance)</b>				<b>\$ 190,864.90</b>						



Description	Qty	Unit	Lab Unit	Labor Total	Mat Unit	Material	Equip Unit	Equipment	Subcontractor	Sales Tax
<b>215 lineal ft duct bank</b>										
<b>Labor</b>										
1 ea. Carp Foreman	40	hr	\$ 70.95	\$ 2,838.00	\$ -	\$ -	\$ -	\$ -		\$ -
1 ea. Laborer	40	hr	\$ 50.48	\$ 2,019.20	\$ -	\$ -	\$ -	\$ -		\$ -
2 ea. Operator	80	hr	\$ 70.36	\$ 5,628.80	\$ -	\$ -	\$ -	\$ -		\$ -
<b>Material</b>										
Dirt out - spoils for open cut plus	98.00	yard	0.00	\$ -	15.00	\$ 1,470.00	\$ -	\$ -		\$ 88.20
Sand in	127.00	ton	0.00	\$ -	20.00	\$ 2,540.00				\$ 152.40
Concrete Encasement	20.00	yd		\$ -	180.00	\$ 3,600.00				\$ 216.00
Resteel #4x4 at 215 plus ties	0.60	ton		\$ -	1,400.00	\$ 840.00				\$ 50.40
<b>Equipment</b>										
Mini Excavator - 11,000 lb	1	week	0.00	\$ -	\$ -	\$ -	1,315.00	\$ 1,315.00		\$ -
Skid Steer - mid size	1	week		\$ -		\$ -	585.00	\$ 585.00		\$ -
Foreman Pickup	40	hr		\$ -		\$ -	10.00	\$ 400.00		\$ -
- Mobe and Demobe Large Equipment	4	LS	0.00	\$ -	\$ -	\$ -	500.00	\$ 2,000.00		\$ -
<b>Sidewalk R&amp;R - Assumed 4"</b>										
<b>Labor</b>										
1 ea. Carp Foreman	16	hr	\$ 70.95	\$ 1,135.20	\$ -	\$ -	\$ -	\$ -		\$ -
2 ea. Laborer	32	hr	\$ 50.48	\$ 1,615.36	\$ -	\$ -	\$ -	\$ -		\$ -
1 ea. Operator	16	hr	\$ 70.36	\$ 1,125.76	\$ -	\$ -	\$ -	\$ -		\$ -
<b>Material</b>										
Concrete and Base Out	12.00	yard		\$ -	15.00	\$ 180.00	\$ -	\$ -		\$ 10.80
Sand in	5.00	ton		\$ -	20.00	\$ 200.00				\$ 6.00
4" sidewalk, 602 sf	10.00	yd		\$ -	180.00	\$ 1,800.00				\$ 108.00
Misc Edge Form	1.00	LS		\$ -	1,500.00	\$ 1,500.00				\$ 90.00
Concrete	8.00	yard		\$ -	180.00	\$ 1,440.00				\$ 86.40
<b>Equipment</b>										
Skid Steer - mid size	1	week		\$ -		\$ -	585.00	\$ 585.00		\$ -
Foreman Pickup	16	hr		\$ -		\$ -	10.00	\$ 160.00		\$ -
<b>Approach R&amp;R - Assumed 6"</b>										
<b>Labor</b>										
1 ea. Carp Foreman	4	hr	\$ 70.95	\$ 283.80	\$ -	\$ -	\$ -	\$ -		\$ -
2 ea. Laborer	8	hr	\$ 50.48	\$ 403.84	\$ -	\$ -	\$ -	\$ -		\$ -
<b>Material</b>										
Concrete and Base Out	8.00	yard		\$ -	15.00	\$ 120.00	\$ -	\$ -		\$ 7.20
Sand in	4.00	ton		\$ -	20.00	\$ 80.00				\$ 4.80
6" pavement, 208 sf	5.00	yd		\$ -	180.00	\$ 900.00				\$ 54.00
Misc Edge Form	1.00	LS		\$ -	500.00	\$ 500.00				\$ 30.00
Concrete	4.00	yard		\$ -	180.00	\$ 720.00				\$ 43.20
<b>Equipment</b>										
Skid Steer - mid size - INC ABOVE	1	week		\$ -		\$ -	\$ -	\$ -		\$ -
Foreman Pickup	4	hr		\$ -		\$ -	10.00	\$ 40.00		\$ -
<b>Resident Lawn Restoration</b>										
<b>Labor</b>										
1 ea. Carp Foreman	8	hr	\$ 70.95	\$ 567.60	\$ -	\$ -	\$ -	\$ -		\$ -
2 ea. Laborer	16	hr	\$ 50.48	\$ 807.68	\$ -	\$ -	\$ -	\$ -		\$ -
1ea Laborer to water daily, 4 weeks	20	hr	\$ 51.48	\$ 1,029.60						\$ -
<b>Material</b>										
Topsail	22.00	yard	0.00	\$ -	25.00	\$ 550.00	\$ -	\$ -		\$ 33.00
Seed and Mulch Blankets	1.00	LS		\$ -	1,500.00	\$ 1,500.00				\$ 90.00
<b>Equipment</b>										
Skid Steer - mid size	1	week		\$ -		\$ -	585.00	\$ 298.35		\$ -
Foreman Pickup	8	hr		\$ -		\$ -	10.00	\$ 80.00		\$ -
<b>Rotor Electric Duct Bank</b>										
Rotor Electric Duct Bank - see quote - sub OHP remains										\$ 40,125.83
<b>Summary</b>										
Subtotal Construction Costs ONLY				\$ 17,454.84		\$ 17,840.00		\$ 5,463.35	\$ 40,125.83	\$ 1,070.40
OHP - REMOVED R1				0%		0%		0%	0%	0%
OHP - Construction Costs ONLY - REMOVED R1				\$ -		\$ -		\$ -	\$ -	\$ -
Total Including - Construction Costs ONLY										
Grand Total - Construction Costs ONLY				\$ 17,454.84		\$ 17,840.00		\$ 5,463.35	\$ 40,125.83	\$ 1,070.40
<b>Quote Grand Total - Construction Costs ONLY</b>				<b>\$ 81,954.42</b>						
<b>Allowance Work</b>										
DTE Temporary Relocation Work				\$ 173,000.00						
DTE Perm.Work				\$ 21,440.06						
Church Easement - Request from Pastor				\$ 6,000.00						
DTE Lighting Rec 7.14.2022				\$ 8,470.42						
Total Allowance Work				\$ 208,910.48						
Base Bid Allowance				\$ 100,000.00						
<b>Allowance Shortfall</b>				<b>\$ 108,910.48</b>						
<b>Total Including Construction Add (Amount above and beyond allowance)</b>				<b>\$ 190,864.90</b>						



July 1, 2022

Weiss Construction  
41001 Grand River Ave  
Novi, MI 48375  
Attn: Zach Zechmeister

RE: 8 ½ Mile Relief Drain Drainage District  
Rotor Job No. 722014  
Correspondence #0001 - RFC-22621 – DTE UG Duct bank Revision 1

Zach Zechmeister,

Rotor Electric is pleased to provide this quotation in the amount of \$40,125.83 for the work indicated below:

**Scope:**

1. Provide and install (2) 4" PVC Conduit with associated duct bank chairs for the DTE incoming feed across Beaconsfield. Included in this cost is (1) set of (3) 1/c 15kv, #2 Aluminum conductors the same length of the conduit.
2. Provide and install (1) 4" PVC Conduit with associated ductbank chairs for the Internet incoming service. Included in this cost is an underground rated, Category 6 cable. If a 4" is not needed per internet provider recommendations, we will downsize to smaller conduit.
3. Rotor Electric assumes DTE will provide the necessary Stress Cones and termination labor required.
4. Rotor Electric assumes Comcast or some other Internet Service Provider will include the necessary terminations and associated paraphernalia needed to make the connections.

**Clarifications:**

1. This work is anticipated to take place after July 1, 2022 and before July 1, 2023 so a 5% labor escalation cost is included in this quotation. If the work is delayed to after July 1, 2023, an additional labor rate increase will need to be addressed.
2. The Material pricing is based on the current commodity pricing. Rotor Electric will procure the material as soon as this quotation is approved to mitigate any material escalation charges.
3. All work is performed during normal working hours.
4. Excavation, Concrete, Reinforcement, backfill are excluded.
5. This quotation is valid for 30 days. After which time revised pricing for material escalation will need to be provided.

Should you have any questions or concerns, please don't hesitate to contact us at (313) 468-3751.

Sincerely,

ROTOR ELECTRIC COMPANY OF MICHIGAN, LLC

Ben Calandrino  
Project Manager

Enclosures: Estimate Print

	Description	Quantity	Net Cost	Unit	Total Material	Labor	Unit	Total Hours
1	4" LOCKNUT - STEEL	6	1,041.46	C	62.49	80.00	C	4.80
2	4" CONDUIT - PVC40	630	220.11	C	1,386.69	21.88	C	137.84
3	4 x 24" RAD ELBOW 90 DEG - PVC40	6	4,812.55	C	288.75	180.00	C	10.80
4	4" COUPLING - PVC	10	413.00	C	41.30	5.00	C	0.50
5	4" ADAPTER MALE - PVC	6	615.16	C	36.91	120.00	C	7.20
6	4 x 3" BASE SPACER	158	267.04	C	421.92	30.00	C	47.40
7	4 x 3" INTERMEDIATE SPACER	158	257.70	C	407.17	30.00	C	47.40
8	# 2/1C 15KV SHLD 100%	630	5,000.00	M	3,150.00	39.00	M	24.57
9	#18 RG6/U MATV CABLE	210	0.00	M	0.00	0.00	M	0.00
	Totals	1,814			5,795.23			280.51

	Labor Type	Crew	Hours	Rate \$	Total
1	FOREMAN	1.00	140.26	94.32	13,229.32
2	JOURNEYMAN	1.00	140.26	85.65	12,013.27
	Totals	2.00	280.52	89.98	25,242.59

	Escalation Period	Description	% of Contract	Labor Hours	Escalation %	Escalation \$
1	Entire PProject	Work in next Labor Period	100.000	280.52	5.000	4.50
	Totals		100.000	280.52		

	Escalation Period	Total
1	Entire PProject	1,262.34
	Totals	1,262.34

	General Expenses	Quantity	Field	Duration	Cost/Unit	Total Cost
18	Safey	280.52	DirLb Hours	1.00	2.25	631.17
	Totals					631.17

	Equipment	Quantity	Field	Duration	Cost/Unit	Total
26	SErvice Truck	280.52	DirLb Hours	0.50	11.50	1,612.99
	Totals					1,612.99

	Final Pricing	Modified (%)	Modified (\$)
	Database Material (Extension)		2,645.23
	Quoted Material (Extension)		3,150.00
	Material Tax	6.000	347.71
	Material Total		6,142.94
	Direct Labor		25,242.59
	Labor Escalation		1,262.34
	Labor Total		26,504.93
	General Expenses		631.17
	Equipment		1,612.99
	Total Cost		34,892.03
	Adjustment Markup	15.000	5,233.80
	Total Markup	15.000	5,233.80
	Selling Price		40,125.83
	Final Price		40,125.83







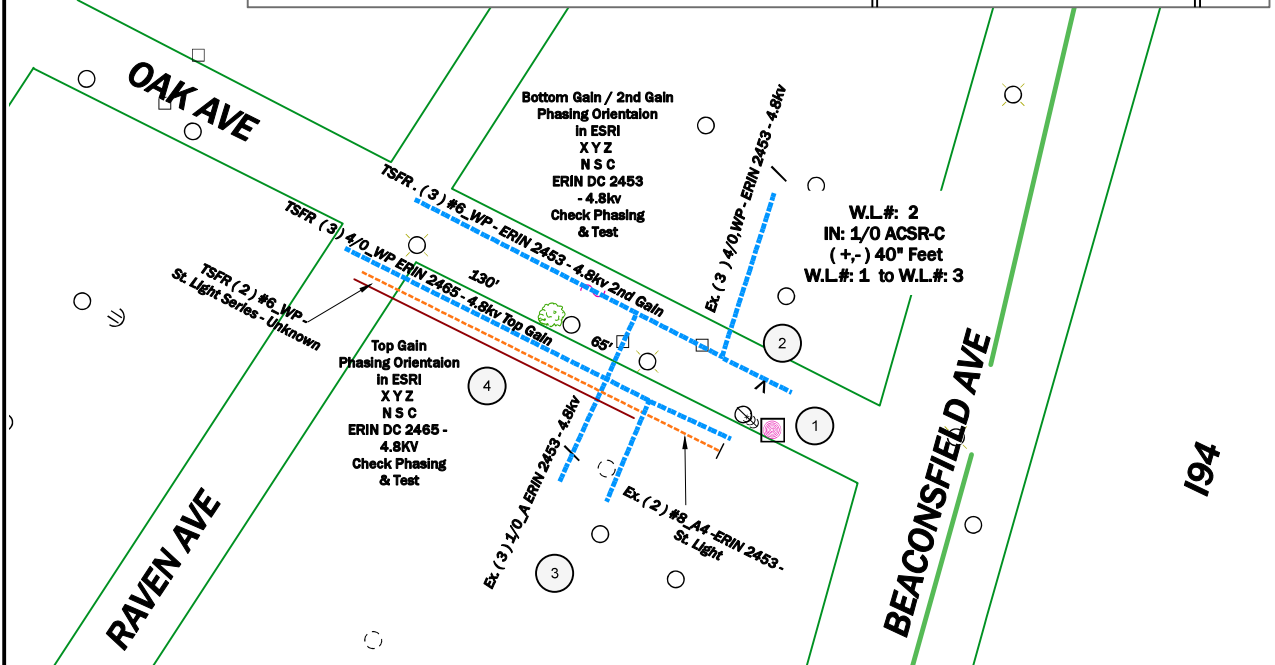
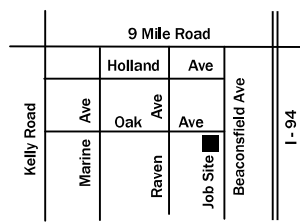




# DTE OVERHEAD TO DROP POLE - NEW COMMERCIAL SERVICE

**The Purpose of Work:**  
 Macomb County Public Works is Installing a Storage Facility at the Intersection of Oak Ave & Beaconsfield Ave.  
 Install Cable Pole to FEED Storage Facility Sub-Station.

**The Work to be Performed:**  
 W.L.#: 1 Installing Pole for Cable Pole. B-8870  
 W.L.#: 3 Upgrading Crossarm  
 W.L.#: 2 Install 3 Phase Primary fom W.L.#: 3 - W.L.#: 1

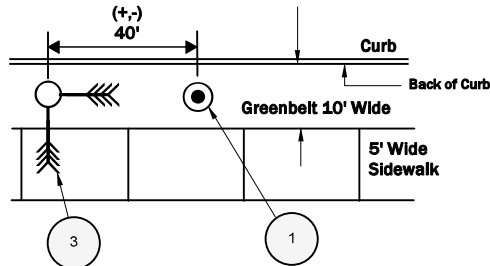


**W.L.#: 1**  
 gln#: 380151-353572  
 IN: 50 3 PINE  
 IN: SSS-DET 282  
 IN DET 25X33A S 96 - ( Second Gain ERIN DC 2453 - 4.8kv )  
 IN: DET 2023A  
 IN: ( 3 ) 100A S&C  
 IN: ( 3 ) UNIV1 40K  
 Cable Pole: CF B-8870  
 Location: LS Oak Ave., PW Beaconsfield Ave.  
 TRANSFER OWN EQUIPMENT  
 SAPCompany: South Lake Public School  
 SAPCode#: 1000660

**W.L.#: 2**  
 IN: ( 3 ) 1/0\_ACSR | ( +,- ) 40" Feet | W.L.#: 1 to W.L.#: 3

**W.L.#: 3**  
 gln#: 380140-353604  
 50 3 PINE - 2005  
 RM: DET 13X33/BG DBL 96LT - ( Second Gain ERIN DC 2453 - 4.8kv )  
 IN: DET 25X35A S 96

Call Miss Dig | Phone 811 | MD#: 64984546  
 ( +,- ) 150' Feet West of Centerline of Beaconsfield Ave.  
 ( +,- ) 25' Feet South of Centerline of Oak Ave.



**LEGEND**

- EXISTING DECO POLE
- PROPOSED POLE
- FOREIGN POLE
- EXISTING ANCHOR
- PROPOSED ANCHOR
- TREE
- 120/240 V LINE
- 4.8 KV LINE
- 13.2 KV LINE
- 40 KV LINE

**CONSTRUCTION NOTES**

- BUILT AS DESIGNED
- SEE NOTED CHANGES FROM DESIGN SKETCH

NAME-ID# \_\_\_\_\_

DATE \_\_\_\_\_

CREW LEADER SIGNATURE \_\_\_\_\_

<b>DTE</b> DTE Electric - Distribution Engineering and Planning					
Service Planner: <b>Steven J. Eriguez</b>   Work Order Description: <b>Macomb Public Work Project OH CP B8870 @ 21914 Beaconsfield Ave.</b>					
Work Order # <b>64984533</b>	GIS-DSN <b>64984540</b>	COH <b>64984551</b>	CUL <b>85440097</b>	CUG <b>85440098</b>	PLC <b>64984548</b>
Phone <b>810.338.8793</b>	Circuit #1 <b>ERIN DC 2453 - 4.8kv</b>	Circuit #2 <b>ERIN DC 2465 - 4.8kv</b>	PH <b>64984547</b>	SCMA <b>64984550</b>	County <b>Macomb County</b>
Supervisor <b>Ron Cleveland</b>	Worksite City <b>Eastpointe - St. Clair Shores</b>	Worksite Twp <b>Macomb</b>	JU Work to be Performed <b>Transfer OWN Cable to NEW Pole</b>		
Phone <b>586.783.1956</b>	JU Company <b>So Lake Public Schools</b>	Contact <b>35</b>	Email <b>64984555</b>	JU Company <b>So Lake Public Schools</b>	
Phone <b>35</b>	JU Company <b>So Lake Public Schools</b>	Contact <b>35</b>	Email <b>64984555</b>	JU Company <b>So Lake Public Schools</b>	
Phone <b>35</b>	JU Company <b>So Lake Public Schools</b>	Contact <b>35</b>	Email <b>64984555</b>	JU Company <b>So Lake Public Schools</b>	
CUE Number <b>1285569</b>	Ver <b>1</b>	Plot Date <b>6/16/2022</b>	Scale <b>NTS</b>	Town <b>NTS</b>	Range <b>NTS</b>



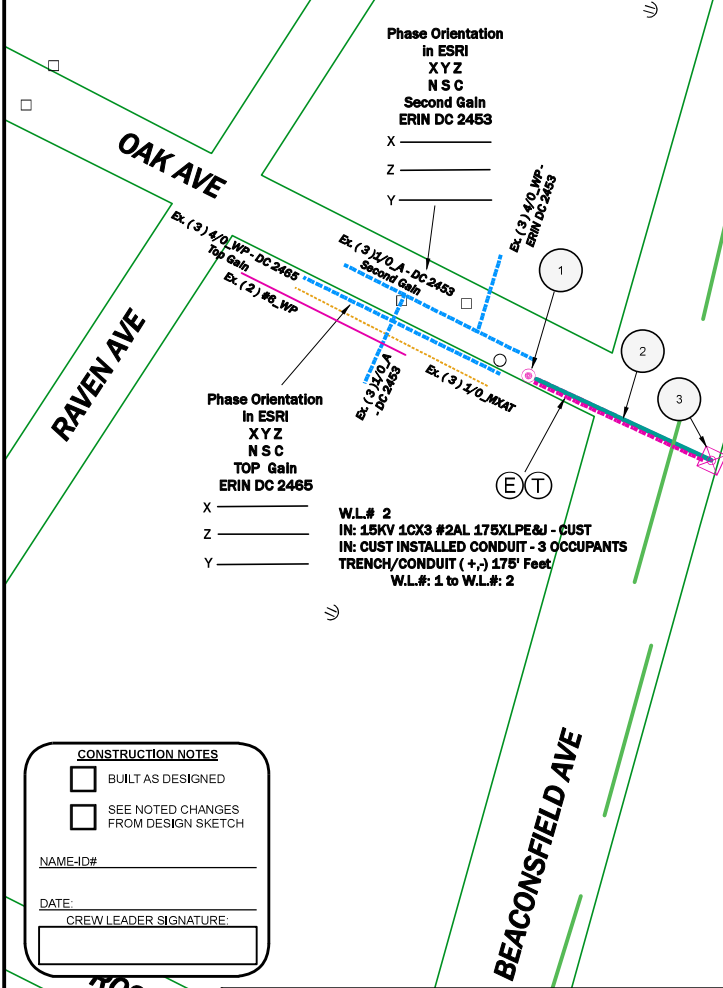
Feeder Number <b>B8870</b>		Attachment "A" Agreement Number:					
DTE Energy - DTE Electric Company - Service Planning							
URD Operating Map #	Transformer GLN # <b>380321 - 353488</b>	Primary Cable Size & Type <b>#2_AL 1C X XLPE</b>	Stock Number <b>713-3096</b>	Trench <b>175'</b>	Make-Up <b>40'</b>	Total <b>215'</b>	
Name <b>Macomb County Public Works Project 8 1/2 Mile Beaconsfield Ave</b>	Secondary Cable Size & Type <b>L_3/OA L_3/OA L_3/OA N_3/OA</b>	Length <b>20'</b>	No. Sets <b>1</b>	Customer <b>X</b>	DTE Electric		
Address <b>21914 Beaconsfield Ave.</b>		Transformer Spec. Number <b>1-217-270</b>	Transformer Connection Page <b>17224B</b> Conn. <b>18</b>				
County <b>Macomb</b>	City/Village/Township <b>Eastpointe - St. Clair Shores</b>	Section Number	Mun. Code	Transformer Mat Page <b>3-6-3</b>	Detail <b>1-56-102A</b>	Gd. Spec <b>3-6-9</b>	
Distribution Circuit & Voltage <b>ERIN DC 2453 - 4.8kv</b>		Transformer 1 Phase 3 Phase <b>X</b> Size <b>75kva</b>	Stock Number <b>4.8kv - 277/480v</b>	Customer <b>3-6-9</b> DTE Electric <b>X</b>			
Primary Trench Length <b>175'</b>	Customer <b>X</b>	DTE Electric	Secondary Trench Length	Customer <b>X</b>	DTE Electric	Cable Pole Fuse <b>X 40k Y 40k Z 40k</b> Detail <b>2023</b> Quad. <b>SE</b> Term. <b>1-52-321</b> Gd. Spec. <b>1-15-209</b>	
Primary Conduit Size, Type & Length <b>4" Electrical Sched 40 PVC</b>	Length <b>175'</b>	Fish Line <b>X</b>	Customer <b>X</b>	DTE Electric	Neut. Height	R.O.W. Approved Date:	
Secondary Conduit Size & Type <b>4" Electrical Sched 40 PVC</b>	Length <b>20'</b>	Customer <b>X</b>	DTE Electric	Service Planner <b>S. Eriquez</b>	Date:	Date:	
As Installed:	Duct	Cable Length	On Public Property		In Service Date:	Tech.	
LEGEND		SINGLE DUCT-TO BLIND END FOR FUTURE USE		CUSTOMER CONTRACTOR NOTE:			
SET NEW POLE	CABLE POLE / RISER	POSITION OF SWEEP UP CABLE POLE	BURIED PRIMARY CABLE (ALL VOLTAGES)	BURIED SECONDARY CABLE	SINGLE DUCT OCCUPIED	DOUBLE DUCT 1 - OCCUPIED	
PAD-MOUNTED TRANSFORMER	DIRECTION OF TRANSFORMER DOOR OPENING	GUARD POST	P.S.C	S.C.C	SEPARABLE CONNECTION CABINET		
<input type="checkbox"/> Continuous Steel Conduit To Building - DO NOT Ground At Transformer		<input type="checkbox"/> NOT Continuous Steel Conduit - Ground At Transformer		Trench To Be Joint Yes <input type="checkbox"/> No <input type="checkbox"/> With: _____ Utility _____ Scale: 1" = _____			
OK To Construct and Energize Wanted Date: _____ Service Planner: _____				Open Trench Inspection Required Notify DTE Electric Service Planner Telephone #: _____ Before Backfilling			



**The Purpose of Work:**  
Macomb County Public Works is installing a Blader intersection of Beaconsfield Ave. & Oak Ave. Transformer to feed Station on Eastside of Beaconsfield Ave.

Refer to Overhead Cable Pole W.O.#: 64984533

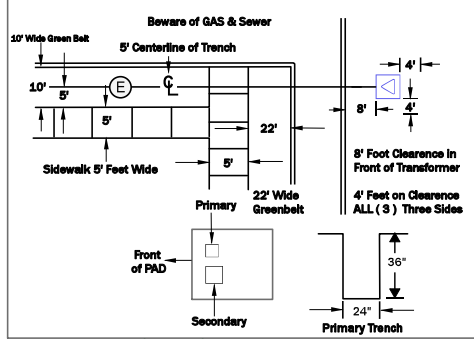
Beware of GAS, Water, & Sewer



**W.L.# 1**  
gln#: 380151-353572  
IN: 50 3 PINE  
IN: SSS-DET 282  
IN: DET 25X33A S 96 - ( Second Gain ERIN DC 2453 - 4.8kv )  
IN: DET 2023A  
IN: ( 3 ) 100A S&C  
IN: ( 3 ) UNIV1 40K  
IN: 3PH 5IN UGUARD 2 A  
IN: UGARD ADPT 5 TO 3.5  
Cable Pole: CF-B8870  
Location: LS Oak Ave., PE Beaconsfield Ave

**W.L.# 2**  
IN: 15KV 1CX3 #2AL 175XLPE&J - CUST  
IN: CUST INSTALLED CONDUIT - 3 OCCUPANTS  
TRENCH/CONDUIT (+,-) 175' Feet  
W.L.#: 1 to W.L.#: 2

**W.L.# 3**  
gln#: 380321-353488  
IN: DET 17270  
IN: DUAL 480/277V 75  
XFMR NUMBER: B8870  
IN: RADIAL DF 2  
IN: CUSTOMER INSTALLED GROUND  
IN: PAD PROVIDED BY CUSTOMER  
Location: LE Beaconsfield Ave., Southside of Oak Ave.  
Address: 21914 Beaconsfield Ave.



**CONSTRUCTION NOTES**

BUILT AS DESIGNED

SEE NOTED CHANGES FROM DESIGN SKETCH

NAME-ID# \_\_\_\_\_

DATE: \_\_\_\_\_

CREW LEADER SIGNATURE: \_\_\_\_\_

Work Order # <b>65440058</b>	Work Order Description <b>Macomb County Public Works Project at 21914 Beaconsfield Ave.</b>	GIS-PSN <b>65440058</b>	SRW	RSD	PH <b>64984547</b>	PLC
Service Center <b>MTSC</b>	Circuit #1 <b>ERIN DC 2453 - 4.8kv</b>	Circuit #2 <b>ERIN DC 2465 - 4.8kv</b>	COH <b>64984551</b>	COS	CUG <b>65440098</b>	CUL <b>65440098</b>
Worksite City <b>City of Eastpointe &amp; St. Clair Shores</b>	Worksite P.O.	Worksite County <b>Macomb County</b>	Worksite County <b>Macomb County</b>	SCMAT <b>654400995</b>		
Town	Range	Section	Qtr	Planner Name <b>Steven J. Eriquez</b>	Mobile#: <b>810.338.8793</b>	CUE Request # <b>1278804</b>
				Version <b>1</b>	Plot Date <b>6/17/2022</b>	Scale <b>NTS</b>

43230 Elizabeth Rd  
Clinton Township, MI 48036



Friday, June 17, 2022

Macomb County Public Works  
Zach Zechmeister  
41001 Grand River Ave  
Novi, MI 48375

**Regarding: 21914 Beconsfield Ave., St. Clair Shores, City St. Clair Shores Township**

Enclosed are two (2) copies each of the Line Extension Agreement and the Electrical Drawing for the address referenced above. Please make sure that the information on these documents agrees with the information in your building plans. When you are satisfied that the information is correct, please sign one (1) copy of each.

Also included for your signature are the Certificate of Grade documents. Please note that **two** (2) copies of the Certificate of Grade document are required. Return the signed documents to me along with a check payable to DTE Energy for \$21,440.06. To ensure proper credit of your payment, the contract number should be indicated on your remitted check. Keep the "Customer Copy" documents for your records.

When we receive the signed documents and your check, we will proceed to schedule the work necessary to provide electric service to your development. If you have any questions regarding this job, please feel free to contact me at the phone number or e-mail address indicated below.

Sincerely,

A handwritten signature in black ink that reads "Steven J. Eriquez".

Steven Eriquez  
Planner  
586.783.2024  
steven.eriquez@dteenergy.com

Enclosures:

- Two copies of the Line Extension Agreement
- Two copies of the Electrical Layout (Attachment A)
- Three copies of the Certificate of Grade



**Line Extension Agreement for  
Commercial or Industrial Customers  
No. 1448302800**

**"DTE Energy" and "Customer" make this agreement for consideration of the promises in the Agreement.**

**"DTE Energy" is:**

The DTE Energy Company  
43230 Elizabeth Rd  
Clinton Township, MI 48036

**"Customer" is:**

Macomb County Public Works  
Zach Zechmeister  
41001 Grand River Ave  
Novi, MI 48375

**Background Statement:** Customer requests DTE Energy to install a 277/480 volt ac, three phase electric service at 21914 Beconsfield Ave., St. Clair Shores, Michigan in City St. Clair Shores Township, for a Macomb County Public Works Project 8.5 (SIC Code Water, sewer, and utility lines 1623) business. To do this, DTE Energy must construct a "Line Extension" shown on Attachment A, DTE Energy electrical layout No. 654400858 dated 06/17/2022 (which is part of this Agreement). Under Michigan Public Service Commission rules, DTE Energy is permitted to require payment before constructing the Line Extension.

**DTE Energy and Customer agree to the following terms:**

**See details of this contract under the Terms and Conditions section**

**Payment Breakdown** - There are standard (fixed and variable) costs involved each time construction of a System is planned. DTE Energy calculates standard costs, which are divided into two categories:

A) Non-Refundable Costs and B) Refundable Construction Advance. If required, additional costs for upgrading the system to accommodate the new load of the customer are included as: C) System Work.

**A. Non-Refundable Costs**

1. 175 trench feet x \$4.30	\$	752.50	
2. 75 transformer kVA x \$7.50	\$	562.50	
3. Acquiring Permits/Rights-of-Way	\$	0.00	
4. Underground vs. Overhead Costs for Perimeter/Offsite Extensions	\$	0.00	
5. Winter Construction Costs 0 feet x \$1.00	\$	0.00	
6. Unusual Construction Costs	\$	0.00	
7. Total Non-Refundable Costs			\$ 1,315.00

**B. Refundable Construction Advance**

1. Estimated Cost of Construction	\$	21,858.90	
2. Non-Refundable Contribution	\$	(1,315.00)	
3. Standard Allowance (2 year Distribution Tariff Credit) Version 5 <small>(Note: See Attachment C if this project involves more than one customer to be immediately served upon completion of this extension.)</small>	\$	(418.84)	
4. Total Refundable Construction Advance			\$ 20,125.06

**C. System Work**

1. System Modification	\$	0.00	
2. Remaining Standard Allowance	\$	0.00	
3. Total System Work			\$ 0.00

**Total Payment Due** \$ 21,440.06

**DTE Energy:(sign)** Ronarro L Cleveland /s/ **Title:** Supervisor **Date:** 6-17-2022  
Ronarro L Cleveland

**Customer:(sign)** \_\_\_\_\_ **(print)** \_\_\_\_\_ **Date:** \_\_\_\_\_  
**(sign)** \_\_\_\_\_ **(print)** \_\_\_\_\_ **Date:** \_\_\_\_\_

## Terms and Conditions

### Line Extension Agreement for Commercial or Industrial Customers

1. **MPSC Rules** - This Agreement is subject to the Michigan Public Services Commission ("MPSC") Rules, including but not limited to, Rule C6.1, "Extension of Service", Rule C6.2, "Overhead Extension Policy", Rule C6.3, "Underground Distribution Systems" and if applicable C6.4 "Underground Service Connections" which are incorporated herein by reference.
2. **Underground Installation** - DTE Energy or one of its contractors shall install the underground electric service and, if applicable, the meter and transformer, referred to herein, collectively, as (the "Work"). DTE Energy will only install electric service and is not responsible for any other utility service including, but not limited to, cable television, and telephone or internet service. Customer shall contact those companies responsible for installation of services other than electrical service.
3. **Customer Obligations** - Customer agrees to provide the following on Customer's property:
  - a. all necessary trenching, backfilling, conduits, and manholes, and
  - b. suitable space and necessary foundations for pad-mounted transformers, primary switching equipment and all other above-grade equipment. If a Certificate of Grade is required, then Customer shall not make any changes in the ground surface elevation of more than the limits prescribed in the Certificate of Grade unless DTE Energy has consented in writing.
4. **Customer Staking Requirements**
  - a. Customer shall visually identify, by either exposing or clearly staking through the use of flags or other appropriate identification device, all private underground property, including but not limited to:
    - a. private electrical lines
    - b. sprinkler systems
    - c. invisible fences
    - d. swimming pool hardware
    - e. septic tanks and fields
    - f. fiber optic lines
    - g. security systems
    - h. heated sidewalk and driveway equipment
    - i. burial sites of pets
    - j. geothermal systems
    - k. private water mains and lines
    - l. solar power equipment
    - m. privately owned gas
    - n. propane and petroleum lines
    - o. any other underground equipment not previously listed.
  - b. If Customer refuses the route suggested by DTE Energy for the Work and requests an alternative route, which is mutually agreed to by Customer and DTE Energy, Customer shall stake the alternative route as provided in paragraph 4(a) above.
  - c. If Customer fails to clearly stake all private underground property, then Customer releases DTE Energy from any and all liability for property damage related to the installation, operation or maintenance of the Work, including, but not limited to, loss of trees, shrubs or other landscape.
5. **Damage to the Work** - If Customer, its contractors, agents, and/or employees cause damage to the Work, then Customer shall reimburse DTE Energy for all costs related to damage to the installation, operation or maintenance of the Work.
6. **Total Payment** - By executing this Agreement, Customer agrees to pay DTE Energy the "Total Payment" calculated on page 1 of this Agreement. Total Payment consists of:
  - a. **Standard Allowance** - The Standard Allowance amount is calculated as follows: two (2) times the estimated annual revenue anticipated to be collected from Customer. This credit is based on a distribution tariff revenue. This is a standard amount that DTE Energy agrees to contribute to the servicing of a customer. This amount is seen as a credit and deducted from the "Estimated Cost of Construction" total as calculated on page 1 of this Agreement.
  - b. **Non-Refundable Costs** - The Customer agrees to contribute a portion of the cost needed to construct the Work. This amount is included in the "Estimated Cost of Construction" total and is calculated on page 1 of this Agreement. The "Non-Refundable Contribution" is calculated separately (in Payment Breakdown) on page 1 of this Agreement and then deducted from the "Refundable Construction Advance".
  - c. **Refundable Construction Advance** - The Customer pays an upfront portion of the cost to construct the Work, a portion of which may be refundable. (Refer to Refunds section.)
7. **Refunds** - At the end of the first complete twelve (12) month period immediately following the date of completion of the Work, DTE Energy will compute the actual revenue provided during the previous twelve (12) months. If the actual annual revenue multiplied by two (2) exceeds DTE Energy's estimated annual revenue, this amount will be refunded to the original Customer. Refunds will also be paid for additional new customers directly connected to the financed Work during the refund period and calculated as follows: the amount of any such Refund shall be equal to two (2) times the actual annual revenue or \$500.00 (whichever is greater) for each customer who is subsequently connected directly to the Work financed by the original Customer. Directly connected commercial and industrial customers are those who do not require payment of a Refundable Construction Advance. The total Refund shall not exceed the total Refundable Construction Advance. DTE Energy will retain any portion of the Refundable Construction Advance that has not been refunded within five (5) years after completion of the Work.

- 8. Easements** - Customer shall provide DTE Energy with a ten (10) foot wide, or wider if required by field conditions, easement for the Work.
- 9. Right-of-Way** - Before DTE Energy constructs the Work, Customer shall provide DTE Energy, at no cost to DTE Energy, all right-of-way and line clearance permits required for the Work. DTE Energy will assist Customer in this process by giving Customer the appropriate land owner's names, the right-of-way forms for signatures and a sketch of the proposed Work route. If customer cannot obtain the right-of-way, DTE Energy will determine an alternate route, which may result in additional costs to Customer. If an alternate route is required, this agreement shall be cancelled and DTE Energy and Customer may enter into a new Agreement. Any amounts already paid under this Agreement shall be applied to the new Agreement or refunded, less all reasonable costs incurred by DTE Energy, if a new Agreement is not executed.
- 10. Termination prior to Commencement of Work** - If the Customer fails to complete any obligations under this Agreement within twelve (12) months from the date DTE Energy executes this Agreement, then upon ten (10) days written notice, DTE Energy may cancel this Agreement and a refund may be issued, to the Customer, less all reasonable costs incurred by DTE Energy.
- 11. Failure to Execute Agreement; Changes to Agreement** - If the Customer fails to execute this Agreement and pay the Total payment due to DTE Energy within six (6) months of the date of this Agreement, then this Agreement shall become null and void. Further, Customer shall not make any changes to this Agreement, including but not limited to handwritten changes or striking any language. In the event Customer makes any changes to this Agreement then this Agreement shall become null and void.
- 12. Damages and Limitation on Liability** - If Customer, its contractors, agents, and/or employees cause damage to the Work, then Customer shall reimburse DTE Energy for all costs related to that damage. DTE Energy reserves the right to retain portions of the Refundable Construction Advance to offset such damages.  
DTE Energy's sole liability to Customer, its employees, agents, subcontractors and to all other persons arising out of or related to the performance of the Work, whether in contract, under any claims warranty, in tort, or otherwise shall be limited to either DTE Energy repairing or replacing the Work at its own expense or, at DTE Energy's option, refund the money paid for the Work. The foregoing shall be Customer's sole remedy. In no event will DTE Energy or its contractors be liable under this Agreement or under any cause of action relating to the subject matter of this Agreement, whether based on contract, warranty, tort (including negligence), strict liability, indemnity or otherwise, for any incidental or consequential damages including but not limited to loss of use, interest charges, inability to operate full capacity, lost profits or other similar claims of Customer.
- 13. Set Off** - DTE Energy shall be entitled at any time to set off any sums owing by Customer or any of Customer's affiliated companies with common ownership, to DTE Energy or any of DTE Energy's affiliated companies, against sums payable by DTE Energy.
- 14. Construction Postponement** - Scheduling of construction shall be done on a mutually agreeable basis to DTE Energy and the Customer. However, if DTE Energy believes that all of the customers on which the Standard Allowance is based, will not be prepared to receive electric service on the expected construction completion date, then DTE Energy may notify Customer in writing of the postponement of the construction start date and delay when electric service will be available to Customer. DTE Energy will begin to construct the Work when all of the customers of the project are prepared to receive electric service on the anticipated date of completion of the Work construction.
- 15. Assignment and Notices** - Customer shall not assign this Agreement without DTE Energy's prior written consent. All notices required by this Agreement must be in writing and sent by U.S. mail or delivered in person to the addresses listed on page 1 of this Agreement.
- 16. Saving Clause** - Each term and condition of this Agreement is deemed to have an independent effect and the invalidity of any partial or whole paragraph or section shall not invalidate the remaining paragraphs or sections. The obligation to perform all of the terms and conditions shall remain in effect regardless of the performance of any invalid term by the other party.
- 17. Governing Law and Jurisdiction** - This Agreement shall be construed in accordance with the law of the State of Michigan, without regard to conflict of law principals. The parties agree that any action with respect to this Agreement shall be brought in a court of competent jurisdiction located in the State of Michigan and the parties hereby submit themselves to the exclusive jurisdiction and venue of such court for the purpose of such action.
- 18. Entire Agreement** - This Agreement together with the Electrical Service Installation Guide, the DTE Energy Rate Book on file with the MPSC ("Rate Book") which is available at:

[www.dteenergy.com/businessCustomers/buildersContractors/electricService/standards.html](http://www.dteenergy.com/businessCustomers/buildersContractors/electricService/standards.html)

and the Commercial and Industrial Customers Requirements, referred to herein, collectively, as (the "Contract Documents") constitutes the entire Agreement between the parties regarding this transaction. Any agreements, negotiations or understanding of the parties prior to or contemporaneous to the date of the Agreement, whether written or oral, are superseded hereby. In the event of a conflict between the Contract Documents, then the Contract Document shall control in the order stated above.





**Line Extension Agreement for  
Commercial or Industrial Customers  
No. 1448302800**

"DTE Energy" and "Customer" make this agreement for consideration of the promises in the Agreement.

**"DTE Energy" is:**

The DTE Energy Company  
43230 Elizabeth Rd  
Clinton Township, MI 48036

**"Customer" is:**

Macomb County Public Works  
Zach Zechmeister  
41001 Grand River Ave  
Novi, MI 48375

**Background Statement:** Customer requests DTE Energy to install a 277/480 volt ac, three phase electric service at 21914 Beconsfield Ave., St. Clair Shores, Michigan in City St. Clair Shores Township, for a Macomb County Public Works Project 8.5 (SIC Code Water, sewer, and utility lines 1623) business. To do this, DTE Energy must construct a "Line Extension" shown on Attachment A, DTE Energy electrical layout No. 654400858 dated 06/17/2022 (which is part of this Agreement). Under Michigan Public Service Commission rules, DTE Energy is permitted to require payment before constructing the Line Extension.

**DTE Energy and Customer agree to the following terms:**

**See details of this contract under the Terms and Conditions section**

**Payment Breakdown** - There are standard (fixed and variable) costs involved each time construction of a System is planned. DTE Energy calculates standard costs, which are divided into two categories:

A) Non-Refundable Costs and B) Refundable Construction Advance. If required, additional costs for upgrading the system to accommodate the new load of the customer are included as: C) System Work.

**A. Non-Refundable Costs**

1. 175 trench feet x \$4.30	\$	752.50	
2. 75 transformer kVA x \$7.50	\$	562.50	
3. Acquiring Permits/Rights-of-Way	\$	0.00	
4. Underground vs. Overhead Costs for Perimeter/Offsite Extensions	\$	0.00	
5. Winter Construction Costs 0 feet x \$1.00	\$	0.00	
6. Unusual Construction Costs	\$	0.00	
7. Total Non-Refundable Costs			\$ 1,315.00

**B. Refundable Construction Advance**

1. Estimated Cost of Construction	\$	21,858.90	
2. Non-Refundable Contribution	\$	(1,315.00)	
3. Standard Allowance (2 year Distribution Tariff Credit) Version 5 <small>(Note: See Attachment C if this project involves more than one customer to be immediately served upon completion of this extension.)</small>	\$	(418.84)	
4. Total Refundable Construction Advance			\$ 20,125.06

**C. System Work**

1. System Modification	\$	0.00	
2. Remaining Standard Allowance	\$	0.00	
3. Total System Work			\$ 0.00

**Total Payment Due** \$ 21,440.06

DTE Energy:(sign) Ronarro L Cleveland /s/ Title: Supervisor Date: 6-17-2022  
Ronarro L Cleveland

Customer:(sign) \_\_\_\_\_ (print) \_\_\_\_\_ Date: \_\_\_\_\_  
(sign) \_\_\_\_\_ (print) \_\_\_\_\_ Date: \_\_\_\_\_

Line Extension Agreement for Commercial or Industrial Customers

1. **MPSC Rules** - This Agreement is subject to the Michigan Public Services Commission ("MPSC") Rules, including but not limited to, Rule C6.1, "Extension of Service", Rule C6.2, "Overhead Extension Policy", Rule C6.3, "Underground Distribution Systems" and if applicable C6.4 "Underground Service Connections" which are incorporated herein by reference.
2. **Underground Installation** - DTE Energy or one of its contractors shall install the underground electric service and, if applicable, the meter and transformer, referred to herein, collectively, as (the "Work"). DTE Energy will only install electric service and is not responsible for any other utility service including, but not limited to, cable television, and telephone or internet service. Customer shall contact those companies responsible for installation of services other than electrical service.
3. **Customer Obligations** - Customer agrees to provide the following on Customer's property:
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4. **Customer Staking Requirements**
  - a. Customer shall visually identify, by either exposing or clearly staking through the use of flags or other appropriate identification device, all private underground property, including but not limited to:
    - a. private electrical lines
    - b. sprinkler systems
    - c. invisible fences
    - d. swimming pool hardware
    - e. septic tanks and fields
    - f. fiber optic lines
    - g. security systems
    - h. heated sidewalk and driveway equipment
    - i. burial sites of pets
    - j. geothermal systems
    - k. private water mains and lines
    - l. solar power equipment
    - m. privately owned gas
    - n. propane and petroleum lines
    - o. any other underground equipment not previously listed.
  - b. If Customer refuses the route suggested by DTE Energy for the Work and requests an alternative route, which is mutually agreed to by Customer and DTE Energy, Customer shall stake the alternative route as provided in paragraph 4(a) above.
  - c. If Customer fails to clearly stake all private underground property, then Customer releases DTE Energy from any and all liability for property damage related to the installation, operation or maintenance of the Work, including, but not limited to, loss of trees, shrubs or other landscape.
5. **Damage to the Work** - If Customer, its contractors, agents, and/or employees cause damage to the Work, then Customer shall reimburse DTE Energy for all costs related to damage to the installation, operation or maintenance of the Work.
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- 8. Easements** - Customer shall provide DTE Energy with a ten (10) foot wide, or wider if required by field conditions, easement for the Work.
- 9. Right-of-Way** - Before DTE Energy constructs the Work, Customer shall provide DTE Energy, at no cost to DTE Energy, all right-of-way and line clearance permits required for the Work. DTE Energy will assist Customer in this process by giving Customer the appropriate land owner's names, the right-of-way forms for signatures and a sketch of the proposed Work route. If customer cannot obtain the right-of-way, DTE Energy will determine an alternate route, which may result in additional costs to Customer. If an alternate route is required, this agreement shall be cancelled and DTE Energy and Customer may enter into a new Agreement. Any amounts already paid under this Agreement shall be applied to the new Agreement or refunded, less all reasonable costs incurred by DTE Energy, if a new Agreement is not executed.
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- 11. Failure to Execute Agreement; Changes to Agreement** - If the Customer fails to execute this Agreement and pay the Total payment due to DTE Energy within six (6) months of the date of this Agreement, then this Agreement shall become null and void. Further, Customer shall not make any changes to this Agreement, including but not limited to handwritten changes or striking any language. In the event Customer makes any changes to this Agreement then this Agreement shall become null and void.
- 12. Damages and Limitation on Liability** - If Customer, its contractors, agents, and/or employees cause damage to the Work, then Customer shall reimburse DTE Energy for all costs related to that damage. DTE Energy reserves the right to retain portions of the Refundable Construction Advance to offset such damages.  
DTE Energy's sole liability to Customer, its employees, agents, subcontractors and to all other persons arising out of or related to the performance of the Work, whether in contract, under any claims warranty, in tort, or otherwise shall be limited to either DTE Energy repairing or replacing the Work at its own expense or, at DTE Energy's option, refund the money paid for the Work. The foregoing shall be Customer's sole remedy. In no event will DTE Energy or its contractors be liable under this Agreement or under any cause of action relating to the subject matter of this Agreement, whether based on contract, warranty, tort (including negligence), strict liability, indemnity or otherwise, for any incidental or consequential damages including but not limited to loss of use, interest charges, inability to operate full capacity, lost profits or other similar claims of Customer.
- 13. Set Off** - DTE Energy shall be entitled at any time to set off any sums owing by Customer or any of Customer's affiliated companies with common ownership, to DTE Energy or any of DTE Energy's affiliated companies, against sums payable by DTE Energy.
- 14. Construction Postponement** - Scheduling of construction shall be done on a mutually agreeable basis to DTE Energy and the Customer. However, if DTE Energy believes that all of the customers on which the Standard Allowance is based, will not be prepared to receive electric service on the expected construction completion date, then DTE Energy may notify Customer in writing of the postponement of the construction start date and delay when electric service will be available to Customer. DTE Energy will begin to construct the Work when all of the customers of the project are prepared to receive electric service on the anticipated date of completion of the Work construction.
- 15. Assignment and Notices** - Customer shall not assign this Agreement without DTE Energy's prior written consent. All notices required by this Agreement must be in writing and sent by U.S. mail or delivered in person to the addresses listed on page 1 of this Agreement.
- 16. Saving Clause** - Each term and condition of this Agreement is deemed to have an independent effect and the invalidity of any partial or whole paragraph or section shall not invalidate the remaining paragraphs or sections. The obligation to perform all of the terms and conditions shall remain in effect regardless of the performance of any invalid term by the other party.
- 17. Governing Law and Jurisdiction** - This Agreement shall be construed in accordance with the law of the State of Michigan, without regard to conflict of law principals. The parties agree that any action with respect to this Agreement shall be brought in a court of competent jurisdiction located in the State of Michigan and the parties hereby submit themselves to the exclusive jurisdiction and venue of such court for the purpose of such action.
- 18. Entire Agreement** - This Agreement together with the Electrical Service Installation Guide, the DTE Energy Rate Book on file with the MPSC ("Rate Book") which is available at:

[www.dteenergy.com/businessCustomers/buildersContractors/electricService/standards.html](http://www.dteenergy.com/businessCustomers/buildersContractors/electricService/standards.html)

and the Commercial and Industrial Customers Requirements, referred to herein, collectively, as (the "Contract Documents") constitutes the entire Agreement between the parties regarding this transaction. Any agreements, negotiations or understanding of the parties prior to or contemporaneous to the date of the Agreement, whether written or oral, are superseded hereby. In the event of a conflict between the Contract Documents, then the Contract Document shall control in the order stated above.

CUSTOMER COPY

43230 Elizabeth Rd  
Clinton Township, MI 48036



Friday, June 17, 2022

Macomb County Public Works  
Zach Zechmeister  
41001 Grand River Ave  
Novi, MI 48375

## Certificate of Grade

**W.O. 65440088**

**Subject: Macomb County Public Works Project 8.5**

I/We, the undersigned, hereby certify to the DTE Energy Company that all grading in utility easements and/or the routes of the underground facilities for the above subject development have been completed within four (4) inches of the final grade.

I/We, further agree that a stake will be placed at the location for each piece of above grade equipment, indicating the final grade to be achieved. A copy of the DTE Energy underground construction Drawing No. 654400858 for this development is in our possession and will be used for this purpose.

Approval:

\_\_\_\_\_  
Name and Date (Print)

\_\_\_\_\_  
Name and Date (Print)

\_\_\_\_\_  
Signature and Date

\_\_\_\_\_  
Signature and Date

\_\_\_\_\_  
Title and Company (Print)

\_\_\_\_\_  
Title and Company (Print)

43230 Elizabeth Rd  
Clinton Township, MI 48036



Friday, June 17, 2022

Macomb County Public Works  
Zach Zechmeister  
41001 Grand River Ave  
Novi, MI 48375

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Signature and Date

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Signature and Date

\_\_\_\_\_  
Title and Company (Print)

\_\_\_\_\_  
Title and Company (Print)

43230 Elizabeth Rd  
Clinton Township, MI 48036



Friday, June 17, 2022

Macomb County Public Works  
Zach Zechmeister  
41001 Grand River Ave  
Novi, MI 48375

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\_\_\_\_\_  
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\_\_\_\_\_  
Signature and Date

\_\_\_\_\_  
Signature and Date

\_\_\_\_\_  
Title and Company (Print)

\_\_\_\_\_  
Title and Company (Print)

CUSTOMER COPY



# DTE- TEMP RELOCATION WORK

43230 Elizabeth Rd  
Clinton Township, MI 48036



Thursday, June 23, 2022

Macomb County Public Works  
Zach Zechmeister  
41001 Grand River Ave  
Novi, MI 48375

**Regarding: Beaconsfield Ave & Oak Ave., Eastpointe St. Clair Shores, Erin Township**

Enclosed are two (2) copies of the Temporary or Permanent Line Relocation Agreement for your signature. The payment for this work is \$173,000.00 for a Temporary Relocation based on: DTE will Temporary relocate the existing Lead DC 2465 ERIN onto the Parking Lot of Beaconsfield Baptist Church After the Macomb Public Works Project is completed. Overhead Lead with of DC 2465 ERIN will be relocated on the Westside of Beaconsfield Ave South of Oak Ave. In Road Right of Way-Green Belt Area between the Sidewalk & Curb. Customer is responsible to aid DTE in acquiring easements from property owner were DTE facilities must be installed in order to relocate Overhead Lead. In

Please return the signed document to me with a check made payable to DTE Energy. To ensure proper credit, the contract number should be indicated on your remitted check. Keep the "Customer Copy" document for your records. When we receive the signed document and your check, we will proceed to schedule the work.

If you have any questions regarding this job, please feel free to contact me at the phone number or e-mail address indicated below.

Sincerely,  
*Steven J. Enriquez*  
Steven Enriquez  
Planner  
586.783.2024  
steven.eriquez@dteenergy.com

enclosures:

Two copies of the Temporary or Permanent Line Relocation Agreement





**Agreement for  
Temporary or Permanent Line Relocation  
No. 65441273**

**"DTE Energy" and "Customer" make this agreement for consideration of the promises in the Agreement.**

**"DTE Energy" is:**

The DTE Energy Company  
43230 Elizabeth Rd  
Clinton Township, MI 48036

**"Customer" is:**

Macomb County Public Works  
Zach Zechmeister  
41001 Grand River Ave  
Novi, MI 48375

**Background Statement:** Customer agrees to reimburse DTE Energy for temporary relocation of equipment in the vicinity of Beaconsfield Ave & Oak Ave., Eastpointe St. Clair Shores. To do this, DTE Energy requires that payment be made in the amount indicated below. Under Michigan Public Service Commission rules, DTE Energy is permitted to require payment before performing this work.

**DTE Energy and Customer agree to the following terms:  
See details of this contract under the Terms and Conditions section**

Payment for the temporary relocation is \$173,000.00.

The type of work to be performed:

DTE will Temporary relocate the existing Lead DC 2465 ERIN onto the Parking Lot of Beaconsfield Baptist Church After the Macomb Public Works Project is completed. Overhead Lead with of DC 2465 ERIN will be relocated on the Westside of Beaconsfield Ave South of Oak Ave. In Road Right of Way-Green Belt Area between the Sidewalk & Curb. Customer is responsible to aid DTE in acquiring easements from property owner were DTE facilities must be installed in order to relocate Overhead Lead. In

In return for the above reimbursement payment, The DTE Energy Company agrees to perform the requested work, providing all necessary permits and rights-of-way can be secured. This job will not be scheduled until DTE Energy receives full payment for the above work. The price quoted on this agreement shall be in effect for a period of six (6) months from the date hereof.

Notwithstanding anything herein to the contrary, the installation, ownership, and maintenance of electric services and the rates, fees, and charges to be made shall be subject to and in accordance with the orders and rules and regulations adopted and approved from time to time by the Michigan Public Service Commission. The above charge covers only the removal/relocation of **DTE Energy owned** equipment.

It is the customer's responsibility to contact other companies (usually telephone, cable TV) that have equipment on the pole (or in the trench) to determine whether additional charges may incur from this move. **Payment for these charges is the customer's responsibility and will be made by separate agreement between the customer and the other companies.**

DTE Energy:(sign) Ronarro L Cleveland /s/ Title: Supervisor Date: 6-23-2022  
Ronarro L Cleveland

Customer:(sign) \_\_\_\_\_ (print) \_\_\_\_\_ Date: \_\_\_\_\_  
(sign) \_\_\_\_\_ (print) \_\_\_\_\_ Date: \_\_\_\_\_

### Agreement for Temporary or Permanent Line Relocation

- 1. MPSC Rules** - This Agreement is subject to the Michigan Public Services Commission ("MPSC") Rules, including but not limited to, Rule C6.1, "Extension of Service"; Rule C6.2, "Overhead Extension Policy"; Rule C6.3, "Underground Distribution Systems"; and Rule C6.5 "Miscellaneous Customer Requests", which are incorporated herein by reference.
- 2. Description of Work** - DTE Energy or one of its contractors shall install the underground or overhead conductors and any associated overhead or underground equipment required for the line relocation, (collectively, the "Work"). DTE Energy will only install electric service and is not responsible for any other utility service including, but not limited to, cable television, or other communication services. Customer shall contact those companies responsible for the installation of services other than electrical service.
- 3. Customer Staking Requirements**
  - a. Prior to commencement of the Work, Customer shall visually identify, by either exposing or clearly staking through the use of flags or other appropriate identification device, all private underground property, including but not limited to:
    - a. private electrical lines
    - b. sprinkler systems
    - c. invisible fences
    - d. swimming pool hardware
    - e. septic tanks and fields
    - f. fiber optic lines
    - g. security systems
    - h. heated sidewalk and driveway equipment
    - i. burial sites of pets
    - j. geothermal systems
    - k. private water mains and lines
    - l. solar power equipment
    - m. privately owned gas
    - n. propane and petroleum lines
    - o. any other underground equipment not previously listed.
  - b. If Customer refuses the route suggested by DTE Energy for the Work and requests an alternative route, which is mutually agreed to by Customer and DTE Energy, Customer shall stake the alternative route as provided in paragraph 3(a) above.
  - c. If Customer fails to clearly stake all private underground property, then Customer releases DTE Energy from any and all liability for property damage related to the installation, operation or maintenance of the Work, including, but not limited to, loss of trees, shrubs or other landscape.
- 4. Total Payment** - By executing this Agreement, Customer agrees to pay DTE Energy the "Total Payment" calculated on page 1 of this Agreement.
- 5. Termination prior to Commencement of Work** - If Customer fails to complete any obligations under this Agreement within six (6) months from the date DTE Energy receives full payment or the Total payment, then, upon written notice, DTE Energy may cancel this Agreement and a refund may be issued to Customer, less all reasonable costs incurred by DTE Energy.
- 6. Failure to Execute Agreement; Changes to Agreement** - If the Customer fails to execute this Agreement and pay the Total payment due to DTE Energy within six (6) months of the date of this Agreement, then this Agreement shall become null and void. Further, Customer shall not make any changes to this Agreement, including but not limited to handwritten changes or striking any language. In the event Customer makes any changes to this Agreement without the specific written consent of DTE Energy, then this Agreement shall become null and void.
- 7. Damages and Limitation on Liability** - If Customer, its contractors, agents, and/or employees cause damage to the Work, then Customer shall reimburse DTE Energy for all costs related to that damage.

DTE Energy's sole liability to Customer, its employees, agents, subcontractors and to all other persons arising out of or related to the performance of the Work, whether in contract, under any claims warranty, in tort, or otherwise shall be limited to either DTE Energy repairing or replacing the Work at its own expense or, at DTE Energy's option, refund the money paid for the Work. The foregoing shall be Customer's sole remedy. In no event will DTE Energy or its contractors be liable under this Agreement or under any cause of action relating to the subject matter of this Agreement, whether based on contract, warranty, tort (including negligence), strict liability, indemnity or otherwise, for any incidental or consequential damages including but not limited to loss of use, interest charges, inability to operate full capacity, lost profits or other similar claims of Customer.
- 8. Set Off** - DTE Energy shall be entitled at any time to set off any sums owing by Customer or any of Customer's affiliated companies with common ownership, to DTE Energy or any of DTE Energy's affiliated companies, against sums payable by DTE Energy.
- 9. Assignment and Notices** - Customer shall not assign this Agreement without DTE Energy's prior written consent. All notices required by this Agreement must be in writing and sent by U.S. mail or delivered in person to the addresses listed on page 1 of this Agreement.
- 10. Saving Clause** - Each term and condition of this Agreement is deemed to have an independent effect and the invalidity of any partial or whole paragraph or section shall not invalidate the remaining paragraphs or sections. The obligation to perform all of the terms and conditions shall remain in effect regardless of the performance of any invalid term by the other party.
- 11. Governing Law and Jurisdiction** - This Agreement shall be construed in accordance with the law of the State of Michigan, without regard to conflict of law principals. The parties agree that any action with respect to this Agreement shall be brought in a court of competent

jurisdiction located in the State of Michigan and the parties hereby submit themselves to the exclusive jurisdiction and venue of such court for the purpose of such action.

**12. Entire Agreement** - This Agreement together with the DTE Energy Rate Book on file with the MPSC, the Electrical Service Installation Guide, which is available at:

[www.dteenergy.com/businessCustomers/buildersContractors/electricService/standards.html](http://www.dteenergy.com/businessCustomers/buildersContractors/electricService/standards.html)

and, if applicable, the Certificate of Grade (referred to herein collectively, as the "Contract Documents") constitutes the entire Agreement between the parties regarding this transaction. Any agreements, negotiations or understanding of the parties prior to or contemporaneous to the date of the Agreement, whether written or oral, are superseded hereby. In the event of a conflict between the Contract Documents, then the Contract Document shall control in the order stated above.



Agreement for  
Temporary or Permanent Line Relocation  
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DTE Energy:(sign) Ronarro L Cleveland /s/ Title: Supervisor Date: 6-23-2022  
Ronarro L Cleveland

Customer:(sign) \_\_\_\_\_ (print) \_\_\_\_\_ Date: \_\_\_\_\_  
(sign) \_\_\_\_\_ (print) \_\_\_\_\_ Date: \_\_\_\_\_

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    - i. burial sites of pets
    - j. geothermal systems
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    - l. solar power equipment
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DTE Energy's sole liability to Customer, its employees, agents, subcontractors and to all other persons arising out of or related to the performance of the Work, whether in contract, under any claims warranty, in tort, or otherwise shall be limited to either DTE Energy repairing or replacing the Work at its own expense or, at DTE Energy's option, refund the money paid for the Work. The foregoing shall be Customer's sole remedy. In no event will DTE Energy or its contractors be liable under this Agreement or under any cause of action relating to the subject matter of this Agreement, whether based on contract, warranty, tort (including negligence), strict liability, indemnity or otherwise, for any incidental or consequential damages including but not limited to loss of use, interest charges, inability to operate full capacity, lost profits or other similar claims of Customer.
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jurisdiction located in the State of Michigan and the parties hereby submit themselves to the exclusive jurisdiction and venue of such court for the purpose of such action.

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[www.dteenergy.com/businessCustomers/buildersContractors/electricService/standards.html](http://www.dteenergy.com/businessCustomers/buildersContractors/electricService/standards.html)

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CUSTOMER COPY



July 14, 2022

## Removal and Installation of Streetlight Equipment Billing Agreement

I/We, the undersigned, hereby agree to reimburse DTE the sum of \$8,470.42. This reimbursement will be made prior to the actual start of construction.

In return for the above, DTE agrees to remove one streetlight pole and associated equipment near the intersection of Beaconsfield and Oak in Eastpointe, and re-feed six other streetlights north of that intersection.

Requested work to be performed on Work Order 65770056. When direct construction costs exceed those estimated due to unforeseen difficulties, the Customer will be invoiced for the difference.

Notwithstanding anything herein to the contrary, the installation, ownership and maintenance of electric services and the rates, fees and charges to be made shall be subject to and in accordance with the orders, rules and regulations adopted and approved by the Michigan Public Service Commission.

Please sign and return this agreement along with payment. You will be mailed back a copy of this agreement after the document has been counter-signed by DTE supervision.

Accepted (Customer)

Accepted (DTE)

Weiss Construction on behalf of Macomb County Public Works`

Signature Zachary Zechmeister

Signature \_\_\_\_\_

Name Zachary Zechmeister

Name \_\_\_\_\_

Date 7/18/2022

Date \_\_\_\_\_



**WEISS CONSTRUCTION CO. LLC**

41001 Grand River Ave.  
Novi, MI 48375  
(313) 567-4500

Monday, May 16, 2022

Mr. Timothy Ard  
Construction Manager  
Tetra Tech  
710 Avis Drive, Suite 100  
Ann Arbor, MI 48108  
Via- Electronic Delivery (Email)

Tetra Tech 200-16347-19001: Macomb WWS-2021-006; Weiss WC22-01  
Subject: Formal Notice - Floecksmuhle GmbH ISG Package – Cost Increase - CLAIM

Dear Mr. Ard-

Please consider this letter formal notice pursuant to paragraph 18.01 A.3 of the Prime Contract that the sole supplier for the Inflatable Sewer Gate Package (ISG) – “Floecksmuhle GmbH” has notified Weiss that their proposal for the base bid work has been revised to reflect price escalation increases. Weiss has fully executed a purchase order to Floecksmuhle for a revised amount to maintain forward progress.

Weiss first notified the Owner/Engineer of this cost increase on 4/13/2022. Weiss first became aware of this price change on 4/7/2022 after a contract negotiation meeting lasting over 3 hours with Floecksmuhle. Weiss considered this a request for change order under paragraph 11.01 1 C (submitted within the specified 30 day timeline).

On 4/18/2022, the Engineer responded to Weiss’ letter stating the Owner will not accept added cost for the equipment. The basis for this argument is such that Weiss did not issue a PO timely to Floecksmuhle.

Weiss stands firm that Floecksmuhle gave zero indication that this increase was forthcoming. Weiss issued Floecksmuhle an intent to award via email on 12/28/2021, including the Owner’s “Notice to Award”. Floecksmuhle acknowledged receipt of this notice and its intent on 12/30/2021. In other words, Floecksmuhle knew, beyond a reasonable doubt, that it would receive the Contract for the ISG package. Weiss was in contact in the weeks and months following including notifying Floecksmuhle that the Owner had issued the NTP and meetings for the Contract had started.

Furthermore, Floecksmuhle’s first proposal sent to all bidders states:

“Our offer is calculated on a current cost basis, excluding VAT, and is valid for orders placed by 31/01/2022 and complete Equipment latest delivery date by 1/10/2022. It will be necessary to request an extension and to negotiate new pricing and delivery terms for orders placed after the “order place by date”

In summary, an order must be placed by 1/31/2022. Order placed means the Contract executed, shop drawings reviewed, and components released for fabrication for a 10/1/2022 delivery.

As you are also aware, Weiss is required by the order of the Prime Contract to include flowdown documentation with subcontractors/suppliers amongst other requirements to ensure compliance with the Contract documents. Floecksmuhle’s Purchase Order required substantial explanation of these requirements, specifically in regard to quality control, performance, training, warranty, integration, as

CC Weiss: Joe Mulville

CC Macomb: Vincent Astorino, Steve Rozycki, Steven Wagner, Jeremy Jarinski

CC Tetra Tech: Brian Rubel, David Weiss





**WEISS CONSTRUCTION CO. LLC**

41001 Grand River Ave.  
Novi, MI 48375  
(313) 567-4500

Monday, May 16, 2022


well as commercial terms regarding payment and risk. Furthermore, a substantial difference of contractual norms required extensive negotiation.

Over the time period in question by the Engineer, a substantial world changing event (the 2022 Russian Invasion of Ukraine) accelerated. The effects of said event are certainly felt more seriously abroad in Europe where most of the ISG system is produced by various sub-suppliers as Floecksmuhle denotes in its letter (and sub supplier letters).

Notwithstanding, Weiss has executed a Purchase Order on agreeable terms with Floecksmuhle on 4/27/2022. **Floecksmuhle decreased the price increase to a lump sum of \$123,500 (decreased from \$141,000)**, as incorporated into the Purchase Order.

**Please consider this letter official notice of Claim Pursuant to Article 12 of the Contract.** This letter has been issued within 30 days from Tetra Tech’s rejection letter dated 4/18/2022 of our initial notice and thus the claim shall enter further review. In the event mutual agreeable negotiations do not proceed (or no response is received within 90 days), the Contract defines a process for denial of claims. Weiss will track this timeline accordingly.

Sincerely,



Zachary Zechmeister  
Project Manager

Attachments: Floecksmuhle Proposal (original), Floecksmuhle Letter (including sub-supplier backup)

CC Weiss: Joe Mulville

CC Macomb: Vincent Astorino, Steve Rozycki, Steven Wagner, Jeremy Jarinski

CC Tetra Tech: Brian Rubel, David Weiss

Weiss Construction Co., LLC  
 41001 Grand River Ave.  
 Novi, MI 48375

Bachstr. 62-64  
 D-52066 Aachen  
 Telefon: +49 241/94986 6  
 Telefax: +49 241/94986-12  
 Email: [mareike.kessels@floecksmuehle.com](mailto:mareike.kessels@floecksmuehle.com)  
 Internet: [www.floecksmuehle.com](http://www.floecksmuehle.com)

Ihre Nachricht vom	unser Zeichen	Durchwahl	Datum
		-32	22.04.2022

**770 Beaconsfield: notification of price increase due to additional costs.**

Dear Mr. Mulville,

As you are probably experiencing yourself, material and energy costs are currently rising considerably, which have resulted in cost and price increases for us and our suppliers.

In the case of the ISG Beaconsfield gate, the most recent offers from our suppliers show a significant price increase when compared to our offer of November 2021. These increases look as follows:

- Bladder +12%
- Fixing System +40%
- Control System +5%
- Transport +20%

Letters by our suppliers can be found attached to this letter to substantiate the increases.

Based on these increases, we cannot maintain the price level of our November 2021 offer that expired on 31<sup>st</sup> January 2022. We must therefore make the following pricing adjustments:

	Nov. 2021	April 2022
ISG Package – Material and Equipment	<b>\$ 898,000</b>	<b>\$1,021,500</b>
Installation Advisory Services	<b>\$ 42,136</b>	<b>\$ 42,136</b>

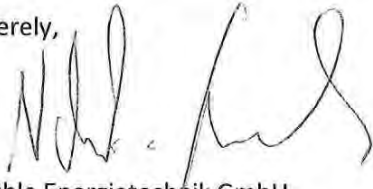
The offer validity of our suppliers is currently only a few days, which means that we will need your acceptance by **27.04.2022** at the latest.

We are naturally very sorry to have to send you such a communication, given that it is not our normal way of conducting business but at the same time we are sure you understand things are not normal at the moment and external factors are forcing us to take this step.

If for whatever reason prices are shown to dramatically decrease, we agree to lower our prices accordingly to meet such a change.

Further to you informing us that you will have to put in a request with the owner for a price adjustment, we remain at your disposal if additional information is needed to support you. We shall do our best to supply such information upon request.

Yours sincerely,



Floeksmühle Energietechnik GmbH



OMP Engineering Inc.

Mark S. Rapf, P.E.  
Principal Engineer

1 Hillcrest Place  
Sheridan, WY 82801 USA  
(307) 672-6783  
ompeng@wyoming.com

April 19, 2022

Norbert Kessels  
Floeksmühle Energietechnik GmbH  
Bachstrasse 62-64  
D-52066 Aachen  
Germany

Dear Mr. Kessels:

We regret to inform you that the prices we quoted to you in November 2021 for control equipment must be increased by 5.06%. This price increase is based on cost increases from our suppliers, as a consequence of ongoing global supply chain issues. The 5.06% has been added directly to the price of the equipment with no additional margins.

We apologise in advance for any inconvenience that this may cause. Unfortunately, this situation is beyond our control, and we are forced to take this step.

Regards,

*Mark S. Rapf*

Mark S. Rapf, P.E.

# Rubena

Your letter from:

Our remark: TERS

Contact person/phone: Sava Terova

Velké Poříčí: 20<sup>th</sup> April 2022

Subject: ISG membrane price increase

Floecksmühle Energietechnik GmbH

Attn.: Mr. Norbert Kessels

Dear Mrs. Kessels

We thank for your inquiry of ISG membrane, unfortunately we have to inform you that our offer from November 2021 is no longer valid.

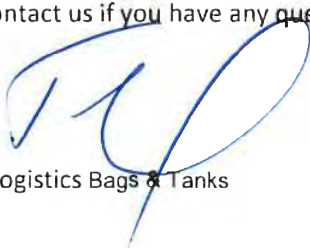
From the reason of the EPDM, other raw material and energy price increase the final membrane product price is by 12 % higher. This price increase is valid till the end of April. Currently we are expecting further price increase of raw material and components in May, but we are unable to specify even the estimated percentage of such growth.

Please be informed that the EPDM material is limited on the market, therefore delivery time may be longer too. To avoid any delay, please send us your order as soon as possible.

Don't hesitate to contact us if you have any questions.

Best regards

Sáva Térová  
Head of Sales and Logistics Bags & Tanks  
Rubena, s.r.o.



 **Rubena**

Rubena, s.r.o.

Českých bratří 338, 547 01 Náchod

IČ: 09725351, DIČ: CZ09725351

Bags & Tanks / Vaky & nádrže - 02

Náchodská 449, 549 32 Velké Poříčí

Rubena, s.r.o.

Českých Bratří 338, 547 01 Náchod

Plant: Náchodská 449, 547 32 Velké Poříčí, CZ

Date of Incorporation: Section C, File 46769, the Regional Court 61 Hradec Králové

IČ: 09725351

DIČ: CZ09725351

**GIESSEREI**  
für Stahlguss,  
hochlegierte Stähle  
und Sonderlegierungen



**FONDERIE D'ACIERS**  
moulés,  
d'aciers hautement alliés  
et de fontes spéciales

**STAALGIETERIJ**  
voor hoog- en  
laaggelegeerde staalsoorten  
en speciale legeringen

**FOUNDRY**  
for cast steels,  
high alloyed steels  
and special alloys

Sehr geehrte Damen und Herren,

wir bedanken uns für Ihre Anfrage und müssen Ihnen aufgrund der erheblich gestiegenen Kosten für Material und Energie mitteilen, dass die Preise für die von uns angebotenen Befestigungsbauteile:

- Ober- und Unterschienen nach Ihren Zeichnungen aus Werkstoff 1.4312 / 1.4408

um 40,3 % (Material 1.4408) teurer sind als im Nov.2021. Der Preisanstieg in diesem Fall liegt zu ca. 63% an den gestiegenen Rohmaterialkosten (Legierung) und zu ca. 37% an den gestiegenen Energie-, Modell- und Fertigungskosten (Sande, Bindemittel, Schleifmittel, etc.).

Bitte beachten Sie, dass die aktuellen Preise nicht als stabil betrachtet werden können, insbesondere bei den Legierungsbestandteilen Cr & Ni. Auch können wir keine Prognose bzgl. der Preisentwicklung von Gas und Strom treffen, hier müssen wir uns an Tagespreise bedienen. Daher ist der vorstehend beschriebene Aufschlag auch nur bis zum 27.4.2022 gültig.

Bitte beachten Sie zudem, dass die Verfügbarkeit für das Rohmaterial schwieriger geworden ist und sich daraus eine mögliche Verlängerung der Lieferzeit ergeben könnte.

Trotz dieser erschwerten Situation hoffen wir dennoch, dass unser Angebot Ihr Interesse weckt und würden uns über Ihren Auftrag freuen.

SAVIMETAL

Dear Sir or Madam,

Thank you for your enquiry. Due to the considerable increase in material and energy costs, we have to inform you that the prices for the fastening components offered by us:

- Top and bottom rails according to your drawings made of material 1.4312 / 1.4408

are 40.3% (material 1.4408) more expensive than in Nov.2021. The price increase in this case is due to approx.63% of the increased raw material costs (alloy) and approx. 37% of the increased energy, pattern and production costs (sands, binders, abrasives, etc.).

Please note that the current prices cannot be considered stable, especially for the alloy components Cr & Ni. We are also not able to make a forecast regarding the price development of gas and electricity, here we have to use daily prices. Therefore, the surcharge described above is only valid until 27.4.2022.

Please also note that the availability of raw material has become more difficult and this could result in a possible extension of the delivery time.

Despite this more difficult situation, we nevertheless hope that our offer will arouse your interest and would be pleased to receive your order.

Translated with [www.DeepL.com/Translator](http://www.DeepL.com/Translator) (free version)

Floecksmühle Energietechnik GmbH  
Bachstr. 62-64,  
  
52066 Aachen  
  
z. Hd. Herr Kessels

Es schreibt Ihnen:  
Petra Jesnowski  
  
Tel.: +49 2102 7145-114  
Fax.: +49 2102 7145-100  
EMail: petra\_jesnowski@zieglergroup.com

Datum: 22/ April 2022

Unser Angebot von November 2022 40' Container DAD von Aachen nach Macomb County Michigan

Sehr geehrte Damen und Herren,

Ihre Anfrage für die Aktualisierung des Angebotes aus November 2021 haben wir erhalten. Aufgrund der erheblich gestiegenen Kosten für Treibstoff und Bunkerkosten müssen den Angebotspreis um 23% erhöhen. Zu Ihrer Information, beträgt die Kostensteigerung bei Treibstoff z.Z. 20 % und bei den Frachtraten / Bunkerkosten Preisanstieg 50 %.

Unsere Angabe zum Preisanstieg müssen wir auf eine Gültigkeit von 4 Wochen befristen, aktuell sind keine konstanten oder gar sinkende Kosten erkennbar.

Gerne unterbreiten wir Ihnen ein aktuelles Angebot zum Zeitpunkt zum Zeitpunkt der Frachtübernahme.

Mit freundlichen Grüßen

ZIEGLER GmbH

I.A. Petra Jesnowski



Ziegler

Our offer of November 2022 for a 40' Container DAD form Aachen to Macomb County Michigan

Dear Sir or Madam,

We received your request to update our November 2021 quote. Due to the significant increase in fuel and bunker vessel costs, we must increase the quoted price by 23%. For your information, the cost increase for fuel is currently 20% and for the freight rate/ bunker vessel costs the price has increased by 50%.

We must limit our price increase to a validity of 4 weeks, currently no constant or even decreasing costs can be seen.

We would be pleased to submit you a current offer at the time of freight acceptance.

With kind regards,

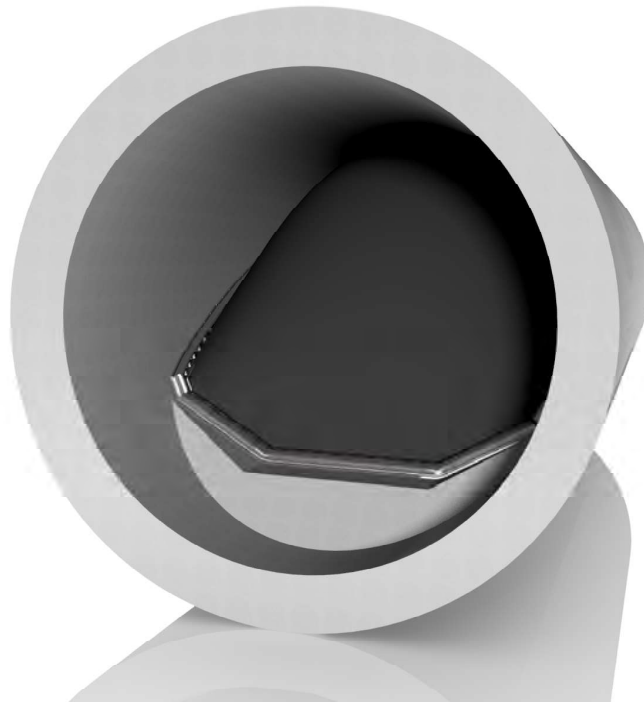
ZIEGLER GmbH

\*\*\* Translated with [www.DeepL.com/Translator](http://www.DeepL.com/Translator) (free version) \*\*\*

# FLOECKSMÜHLE PROPOSAL FOR 8-1/2 MILE RELIEF DRAIN DRAINAGE DISTRICT IN-SYSTEM STORAGE

Inflatable Sewer Gate  
Project No. WWS-2019-003

FLEXIBLE FLOW MANAGEMENT SOLUTIONS



Floecksmühle Energietechnik GmbH  
Bachstrasse 62-64, D-52066 Aachen, GERMANY

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## **1. PARTNERS**

Below is a list of the partner companies involved in the design and supply of the Inflatable Sewer Gate (ISG). It should be noted however, that in the event of a contract, it would be signed between the Buyer and Floecksmühle for the engineering and the entire inflatable sewer gate materials scope of supply.

### **1.1 FLOECKSMÜHLE ENERGIETECHNIK GMBH**

Floeksmühle has been designing, supplying and installing air-filled and water-filled rubber gates since 1984, using the highest-grade rubber and internationally recognised quality components, exceeding materials used elsewhere in the industry. These advantages combined with the inherent simplicity of the design and unrivalled intelligent control systems, flow controls and advanced failsafe systems; make Floecksmühle's rubber gate technology the new standard of today.

### **1.2 MÉCAN HYDRO**

Mécan Hydro are Floecksmühle's representatives and installation site advisors (M2i Division) covering Rubber Dams and Inflatable Sewer Gates in North America and Canada. They have installed over 120 rubber gates to date.

Mécan Hydro were Bridgestone reps between 1994-2008 and have been Floecksmühle's representatives since Bridgestone exited the business in 2008.

### **1.3 RUBENA (FORMERLY TRELLEBORG)**

Rubena are world leaders in the manufacture of engineered polymer solutions. They have been manufacturing inflatable rubber gates since 1963 and have been supplying Floecksmühle with bladders since 2011.

### **1.4 OMP ENGINEERING**

OMP are aboveground and in-tunnel Rubber Dam and ISG control equipment suppliers and installation advisors. They have been Floecksmühle's partners since 2009. OMP installed all Bridgestone's Expan Gate control systems in North America and a large number of their above ground and in-tunnel Rubber Dams.

## **2. PROJECT DETAILS**

### **2.1 INTRODUCTION**

The ISG is to be installed in a combined sewage system at Beaconsfield (I-94), primarily for storing storm water. The pipe is unreinforced, however according to Macomb County, the pipe is reported to be in good condition given its age.

The main purpose of the ISG is to close off the pipe and store water in a surcharged condition until the storm is over and then use the gate to throttle the return flow.

## 2.2 BEACONSFIELD (I-94)

Pipe Size/ Shape:	Ø11.5'/ Circular
Maximum upstream surcharge:	2.5' above crown of pipe
Downstream Surcharge:	0 to 2'
Required plinth/ bench:	1.5'
Invert:	El. 559.7' – 559.83'
Size of ISG:	10.0' H x 33.0' L

## 3. ISG TECHNICAL DETAILS

### 3.1 INTRODUCTION

This proposal includes engineering, manufacturing and supply of all equipment, as detailed in this offer, delivered up to DDP Beaconsfield site (Incoterms 2020).

The ISG is designed for temporary full closure. Some water leakages can be expected.

Refer to Annex 1 for in-tunnel scope

### 3.2 BLADDER MATERIAL

The Floeksmühle designed ISG bladder is produced by Rubena in the Czech Republic, formerly part of the Trelleborg Group. Rubena is a world leader in the manufacture of engineered polymer solutions. The combination of EPDM (Ethylene Propylene Diene Monomer), SBR (Styrene Butadiene Rubber) and NR (Natural Rubber) give the bladder its high resistance to the elements encountered in in-tunnel sewer environments and a long design life. The polyester reinforcement cord layers give the bladder its high tensile strength.

Bladder Manufacturer:	Rubena (formerly Trelleborg)
Bladder design:	Floeksmühle (Germany)
Filling medium:	Air
Bladder design pressure:	4.0 psi
Bladder maximum inner pressure:	4.3 psi
Rubber material:	EPDM/SBR/NR

Size of “upper” sheet:	5,980 mm x 10,750 mm (opened out flat)
Size of packaged bladder (shipping format):	≤ 1,100 mm x 6,600 mm
Weight of packaged bladder (shipping format):	~ 2,495 Kg

For installation, membrane needs to be unrolled at site and then re-rolled lengthwise.

Total thickness “upper”:	18 ± 2 mm
- Outer cover:	3 mm
- Inner layers:	12 mm
- Innermost layer:	3 mm
Reinforcement fabric material:	Polyester

Minimum reinforcement fabric cord layers: Eight (8)  
 Cord breaking strength per layer:  $\geq 190$  N/mm

Size of lower sheet: 5,980 mm x 10,750 mm (opened out flat)  
 Size of packaged bladder (shipping format):  $\leq 1,100$  mm x 6,600 mm  
 Weight of packaged bladder (shipping format):  $\sim 921$  Kg

For installation, membrane needs to be unrolled at site and then re-rolled lengthwise.

Total thickness:  $8 \pm 2$  mm  
 Reinforcement fabric material: Polyester  
 Reinforcement fabric layers: Two (2)

Surcharging: 14,0' (3.96 m) from base of tunnel (invert)  
 Max. WL under which ISG can be inflated: 7,5' (2.29 m) from base of tunnel (invert)  
 Max. USWL sustained by ISG: 14.0'

Bladder Safety Factor:  $\geq 4$   
 Bladder design life: 25-30 years, depending on site conditions and how ISG is operated and maintained

Bladder physical properties:

Test	Standard	Requirement
Shore-A-Hardness	DIN ISO 7619-1	Manuf. Inform. $\pm 5$
Tensile strength	DIN 53504 (sample S2)	$\geq 15$ N/mm <sup>2</sup>
Elongation at break	DIN 53504 (sample S2)	$\geq 300$ %
Adhesion between outer rubber layer and cord	DIN EN ISO 252	$\geq 6$ N/mm
Full thickness tensile strength	DIN EN ISO 283 (EN ISO 13934-1)	According to proj. design data
Density	DIN EN ISO 1183-1	Manuf. Inform. $\pm 0,02$ g/cm <sup>3</sup>
Abrasion	DIN ISO 4649	$\leq 150$ mm <sup>3</sup>
<b>Accelerated ageing 7d/70°C</b>	DIN 53508	
Change of Shore-A-Hardness	DIN ISO 7619-1	$\leq 8$
Tensile strength	DIN 53504 (sample S2)	$\geq 13,5$ N/mm <sup>2</sup>
Elongation at break	DIN 53504 (sample S2)	$\geq 300$ %
Full thickness tensile strength	DIN EN ISO 283 (EN ISO 13934-1)	$\leq -20$ %
Adhesion between outer rubber layer and cord	DIN EN ISO 252	$\geq 4,5$ mm

Full thickness tensile strength shall be tested in accordance with EN ISO 283 for membranes with fabric reinforcement. Full thickness tensile strength for membranes reinforced by cord fabric may be derived from the single layer tensile strength, tested in accordance with EN ISO 13934-1. Tested strength shall be sufficient to provide the required safety factor.

### 3.3 SPACER SYSTEM (air evacuation/ lay flat)

The spacer system is attached to the lower bladder sheet. Its purpose is to stop the upper rubber layer from sticking to the bottom one and forming air pockets. The standalone spacer assists in channelling the evacuating air to the supply/exhaust flange.

### 3.4 ANCHORING SYSTEM

The anchoring system proposed will ensure a complete sealing of the bladder.

- Lower plates

Plate production:	Industrial foundry
Country of origin:	Germany
Type:	H6
Material:	Stainless Steel casting
Plate length:	Refer to Annex 2
Number of plates:	Refer to Annex 3

- Clamping plates

Plate production:	Industrial foundry
Country of origin:	Germany
Type:	H3
Material:	Stainless Steel casting
Plate length:	Refer to Annex 2
Number of plates:	Refer to Annex 3

Factor of safety tensile strength:	$\geq 3$
Factor of safety yield strength:	$\geq 1.67$



Figure 1: ISG upper and lower fixing plates



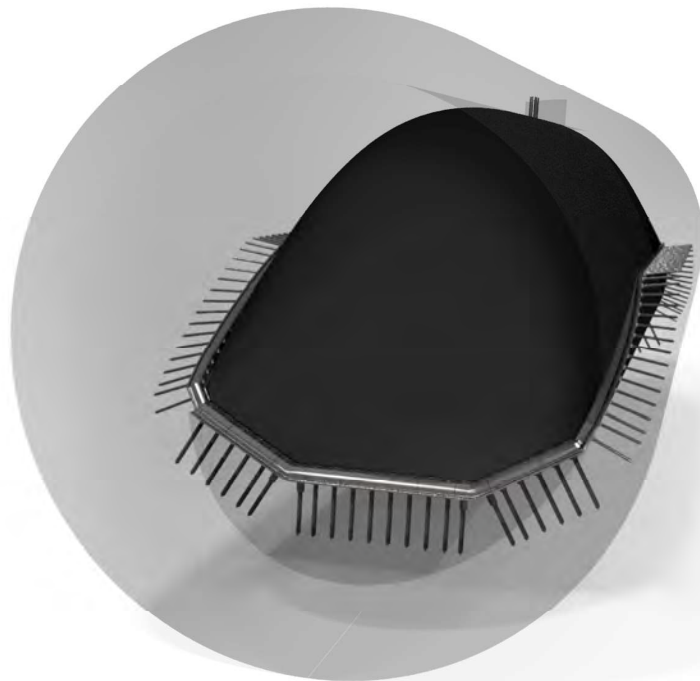
- Anchor bolts, nuts and washers

Anchor bolt production:	Standard industrial
Origin:	Germany
Type:	Resin Anchor
Material:	Stainless steel SUS 316
Bolt size and quantity:	1 ½" (Base anchors) x 48 pcs 1" (Sidewall anchors) x 108 pcs
Bolt length:	~1'-6" (Base anchors)/ ~1'-2" (Sidewall anchors) Refer to Annex 4
Allowable pull-out strength base anchors:	> 60,000 N
Allowable pull-out strength sidewall anchors:	> 54,000 N
Factor of safety tensile strength:	≥3
Factor of safety yield strength:	≥2
Core-drill depth:	Refer to Annex 4
Nut size:	See bolt size
Material:	Stainless steel SUS 316

*Resin/grout for setting anchor bolts and plates not included in supplier's scope*

- Washers

Washer size:	See bolt size (Standard washers)
Material:	Stainless steel SUS 316



**Figure 2:** ISG anchoring system

### 3.5 AIR SUPPLY/ EXHAUST, PRESSURE MEASURING & DRAINAGE PIPES

The air supply/ exhaust and pressure measuring pipe scope is limited to the control room. Piping between Floecksmühle supplied equipment is not included. Condensate drainage pipes are not included in the scope.

- Pipe sizes (not included in scope)

Air supply/ exhaust pipe:	Ø 4"
Pressure measuring pipe:	Ø 2"
Pneumatic pipes:	2 x Ø 1"
Pipe material:	According to tender specifications

### 3.6 FLANGES

Special air supply/exhaust, pressure measuring and condensate drainages flanges installed inside the ISG are included in the scope.

Flange production:	Standard industrial
Origin:	Germany
Type:	Floecksmühle Design
Material:	Stainless steel SUS 304

Refer to Annex 1 for full scope of flanges

### 3.7 CONDENSATE DRAINAGE SYSTEM

The condensate drainage system (drainage box) included in the scope is to be installed inside of the bed / plinth beneath the ISG. It consists of a pneumatically and a manually actuated butterfly valve to automatically evacuate the condensate accumulated inside of the bladder to the downstream side. This is a fully automated system and without the need of any operator intervention.

Drainage box body and cover:	Stainless steel SUS 316
Cover hardware:	Stainless steel SUS 316
Valves and piping inside drainage box:	Stainless steel
Piping:	Stainless steel SUS 316

### 3.8 OVER PRESSURE RELIEF VALVE

The mechanical over pressure relief valve limits the bladder inner pressure to ensure that it does not exceed the maximum allowable pressure. It provides additional protection to the bladder and is supplied to guarantee that the bladder does not suffer from any over pressure in case of a power and/ or system failure.

Manufacturer:	Kunkle 337 Pressure Relief Valve
Origin:	USA
Connection diameter:	2"
Design pressure:	10.0 psi

### 3.9 AUTOMATIC INFLATION & DEFLATION VALVES

The automatic air supply and exhaust valves shall be as follows:

Manufacturer:	Automax
Origin:	USA
Valve type:	B100S10/ B85D & B100D - Butterfly
Nominal diameter:	2"/ 3" & 4"

### 3.10 MANUALLY OPERATED MAINTENANCE VALVES

Manufacturer:	Duravalve
Origin:	USA
Valve type:	WFB6000
Material:	Brass
Number of valves:	Three (3)
Diameter air supply/ exhaust valve:	2"
Diameter pressure measuring valve:	1"

### 3.11 WATER LEVEL TRANSDUCER

To be supplied by others

### 3.12 PRESSURE TRANSDUCER

Manufacturer:	Flowline
Model:	LD30-S001
Origin:	USA
Accuracy:	+/- 0.10%
Measuring range:	4-20 mA, 0-15 psi

### 3.13 BLOWERS

Number:	Two (2)
Manufacturer:	Fuji
Model:	2VFB60-11.5-7W
Type:	Regenerative
Origin:	USA
Power rating:	230/460VAC, 3 Phase, 60 Hz, 11.5 HP
Inflation time:	Approx. 20-30 min.
Deflation time:	Approx. 20-30 min.

### 3.14 VACUUM PUMP & SOLENOID VALVE (Condensate drainage system)

A vacuum pump is included in the scope to assist with the deflation process, ensuring the removal of the last 0.5 psi, as well as helping the bladder lay flat.

- Vacuum blower

Type:	Vacuum blower
Model:	Fuji VFC300A-7W Compressor
Origin:	USA
Power rating:	480VAC, 3 Phase

- Solenoid valve

Type:	Solenoid valve
Model:	ASCO
Origin:	USA
Power rating:	24 VDC

### 3.15 UPS

The UPS back up system is sized to run the control panel, valves, water level measuring devices and pressure transducers for up to 2 hours. The UPS will deflate the ISG in the event of power loss and high water. Valves are also setup to fail open. So long as there is power, the valves will remain closed, unless they are being opened for water level control. In the event of power loss, the valves will automatically open and deflate the ISG.

Type:	Extreme Power
Model:	T91-1500 Online UPS
Origin:	USA
Power rating:	1500 VA, 120:120 VAC

Type:	Extreme Power
Model:	Conversion Extended Run Battery Pack
Origin:	USA

### 3.16 CONTROL SYSTEM SCOPE (FULL LIST)

Refer to Annex 5 for P&ID

Two (2) Fuji 2VFB60-11.5-7W - Regenerative Blower 11.5HP,3/60/230/460 VAC

Four (4) Fuji FS-230P-200 - Inlet Filter Silencer, 2" NPT w/ paper element

Two (2) Fuji VFC300A-7W – Ring Compressor, 0.5 HP, 480VAC, 3PH, 60 Hz

Three (3) Proco 2x6 240-AV/EE – 2" Single Spherical Expansion Joint, EPDM, ANSI 125/150# floating flanges, drilled through holes

Two (2) U.S. Valve 09-3-3SPE – 2" Wafer Check Valve, Brass Body and Internals, EPDM Seal

One (1) Kunkle 337 – 2" Pressure Relief Valve with bronze disk and nozzle, set to release at 10.0psi

One (1) Fisher 289H NPT Pressure Relief Valve - 2", 1.75-7.0 psig spring range

One (1) Fisher 289H NPT Pressure Relief Valve - 1", 1.0-4.5 psig spring range

- Two (2) 4" Triac OSB-W1-0400-ESB-HE - Butterfly Valve with 316SS undercut disc, EPDM seat and handle
- One (1) Gardner Denver VR5-8 Reciprocating Air Compressor with 80 gallon tank, motor starter panel, coalescing filter
- Two (2) Automax B100S10 2" pneumatic actuator, fail open, spring return, w/ XNWS2RRU2MG-14 limit switch package, Pharos indicator, and ASCO EF8551A001MS solenoid (24VDC) mounted on 2" Triac OSB-W1-0200ESB-HE butterfly valve w/ EPDM body and 316SS disc and stem
- Four (4) Automax B85D 3" pneumatic actuator, double acting, w/ XNWS2RRU2MG-14 limit switch package, Pharos indicator, and ASCO EF8551A001MS solenoid (24VDC) mounted on 3" Triac OSB-W1-3200ESB-HE butterfly valve w/ EPDM body and 316SS disc and stem
- One (1) Automax B100D 4" pneumatic actuator, double acting, w/ XNWS2RRU2MG-14 limit switch package, Pharos indicator, and ASCO EF8551A001MS solenoid (24VDC) mounted on 4" Triac OSB-W1-0400ESB-HE butterfly valve w/ EPDM body and 316 SS disc and stem
- One (1) Apollo70-608-01 2" Three Way Ball Valve, Brass, L configuration, 1.5" port
- One (1) Duravalue WFB6000- 2" Ball Valve, Brass, Full Port
- Two (2) Duravalue WFB6000- 1" Ball Valve, Brass, Full Port
- Four (4) Duravalue WFB6000- 1/4" Ball Valve, Brass, Full Port
- One (1) Twist Claw Hose Coupling – 1" NPTM, Brass
- One (1) AT Controls 88-TX-100/S23S4-XX – 1" 3 piece threaded end full port ball valve in 316SS complete with Triac S2-083SR Stainless Steel Spring return fail closed actuator sized for 60 PSI supply air.
- One (1) AT Controls D9-F1-0100-XX 150# 3 piece threaded full port ball valve in 316SS with lever handle
- One (1) ASCO 8210G94 Brass Solenoid Valve, 1/2", 24VDC solenoid
- One (1) ASCO EF8320G202 3-way solenoid valve, 24VDC, 1/4" NPT in stainless Steel
- One (1) Flowline LD30-S001 Pressure Transmitter, 0-15psi, 1/4" NPT, 9' Cable, 4-20mA
- One (1) Ascroft 2 1/2" Low Pressure Diaphragm Gauge, Series 1490, 1/4in. NPT lower connection, 0-5 psi
- One (1) Ascroft 2 1/2" Low Pressure Diaphragm Gauge, Series 1490, 1/4in. NPT lower connection, 0-15 psi
- Three (3) Dungs GAO-A4-4-8 Pressure Switch
- One (1) Extreme Power T91-1500 Online UPS, 1500VA, 120:120 VAC

One (1) Extreme Power T91-BP36A Conversion Extended Run Battery Pack

One (1) Custom IS Gate Control Panel – Fabricate System 6 control panel w/ Allen Bradley CompactLogix PLC and PanelViewPlus HMI as per drawing set #XXXX. UL certified.

One (1) Engineering Services and CAD, except commissioning

Refer to Annex 6 for the control room layout drawing

### **3.17 OTHERS**

A comprehensive Installation and Operation & Maintenance manual shall be supplied in English.

## **4. DOCUMENTATION**

Documentation to be provided in the event of an order:

- Inflatable sewer gate general assembly drawings with main dimensions and illustrations of all technical equipment forming part of the scope. The installation drawings will be prepared according to the tender specification drawings. The scope does not include taking on-site measurements.
- Assembly drawings representing all system pipelines.
- Production and assembly quality and acceptance protocols.
- Installation drawings
- Fixing system load details
- Detailed operation and maintenance manual

## **5. INSTALLATION, OPERATION & MAINTENANCE**

### **5.1 INSTALLATION WORKS**

The installation of the ISG is not included in the Supplier's equipment scope and should be carried out by experienced technicians.

### **5.2 INSTALLATION ADVISORY SERVICES**

It is estimated that our partners, Mécan Hydro (M2i Division), shall be required on site for approximately twenty-five (25) man days of installation advisory services, which are not included in the scope. Installation advisory services consider the pre-installation meeting and providing advice during the gate installation, including the bladder. Refer to Annex 7 for M2i's rates.

It is estimated that our partners, OMP Engineering, shall be required on site for approximately five (5) man days of installation advisory services, which are not included in the scope. Control equipment installation advisory services consider the control panel, electro-mechanical equipment, commissioning, operator training, inspection of the complete gate system and functional testing. Refer to Annex 7 for OMP's rates.

Additional support provided by Floecksmühle that is not included in the scope shall be charged as per their standard rates detailed in Annex 7.

Note that the installation site advisor provides advice on the best practices and installation techniques but does not physically carry out the work himself.

The Buyer shall give written notification 6 weeks in advance of when the installation advisory services are required on site and confirm that any building work is far enough advanced to permit the installation to begin at the appointed time.

### **5.3 ADDITIONAL INSTALLATION ADVISORY SERVICES**

Any services rendered and additional site visits required as and above those described in the scope of this proposal, which have been requested by the buyer or that become necessary due to deviations from the agreed technical conditions, shall be charged according to the supplier's enclosed rates.

Refer to Annex 7

The construction must be ready for the assembly work to commence when the installation advisors arrive at site. Waiting times that are not the fault of the supplier shall be invoiced according to the rates in Annex 7.

A responsible site manager must request overtime exceeding the 10<sup>th</sup> daily work hour, as well as work on Saturdays, Sundays and Public Holidays, if deemed necessary. Overtime in this context will be charged separately.

## **6. PENDING**

If successfully awarded the contract, the following points need to be clarified by the General Contractor prior to moving to the next stage:

- Provide details of the job schedule.

## **7. COMMERCIAL**

Note that this entire offer and all its attachments are private and confidential. It is not permitted to copy, transfer or to transmit any parts of the offer without the explicit permission of the Seller in writing.

## 7.1 BASE PRICE

The base offer price is on engineering and supply only basis of one (1) fully equipped ISG, as described in this offer, delivered up to DDP Beaconsfield site (Incoterms 2020). Unloading at site not included.

IS Gate 10.0' H x 33.0' L: **US\$ 898,000.00**

## 7.2 PAYMENT SCHEDULE

Payment tranches shall be as follows:

- 10% down payment upon signing of order
- 20% upon delivery of preliminary engineering drawings
- 20% upon presentation of embedded items shipping documents
- 30% upon presentation of rubber bladder and ancillary items shipping documents
- 10% upon presentation of CMR of control equipment delivery
- 10% upon presentation of commissioning protocol/ certificate but no later than three (3) months after receipt of final shipment.

All bank transfer fees, if any, shall be for the account of the Buyer.

## 7.3 PAYMENT TERMS

Payment is to be affected by telegraphic transfer up to 30 days following receipt of invoice, without any discount.

## 7.4 OFFER VALIDITY

Our offer is calculated on a current cost basis, excluding VAT, and is valid for orders placed by 31/01/2022 and complete Equipment latest delivery date by 1/10/2022. It will be necessary to request an extension and to negotiate new pricing and delivery terms for orders placed after the "order place by date".

## 7.5 DELIVERY TERMS

DDP Macomb County Beaconsfield Site, MI (USA) (Incoterms 2020)

## 7.6 DELIVERY & INSTALLATION SCHEDULE

The delivery time depends on the order signing date, what is in production at time of order and upon clarification of all outstanding technical issues, receipt of works schedule and final drawing approval.

### 7.6.1 DELIVERY

Following Buyer's notification to Seller to proceed with the construction



- 2 weeks for signing of purchase order.
- 6 months for the complete system production time (following placement of order). This includes engineering, rubber bladder, fixings and controls.
- 1 month for shipping time
- 1-2 weeks customs clearance and delivery to site (inland transportation)

### **7.6.2 INSTALLATION**

The ISG installation time depends on the site conditions and the general contractor's experience at site.

4-5 weeks for in-tunnel works: marking, core drilling and placement of anchoring system, placement of air supply/ exhaust, pressure measuring and condensate drainage piping (excluding cut-outs), installation of condensate drainage system, placement of lower bladder sheet, placement of air evacuation spacer system, placement of upper bladder sheet, clamping of bladder and tightness tests. Note that the estimated time for this phase includes the construction of the bench.

1 week for installation of control equipment in the control building or vault.

1 week for OMP controls verification, start-up and complete system commissioning.

A total of 6-8 weeks is estimated for the entire installation of the ISG, if all goes well.

Schedule terms:

- A binding delivery and installation schedule is to be drawn up in consultation with the supplier.
- Waiting times may occur in the event that a schedule or times have not been arranged prior in consultation with the supplier.
- The buyer's appointed site manager or his deputy must always make appointments in writing.
- In case of overlapping deadlines with different construction sites, the deadline that has been fixed the longest and confirmed by the supplier shall be met.

### **7.7 TRANSFER OF RISK**

The transfer of risk occurs when "Equipment" is ready to be unloaded at "Site".

### **7.8 TRANSFER OF OWNERSHIP**

The transfer of ownership to the client takes place exclusively upon receipt of full payment for the goods and services covered by this offer, including all additional orders and supplements.

## **7.9 RETENTION OF TITLE**

The extended reservation of title according to the general terms of delivery for products and services relating to the electrical industry shall apply.

## **7.10 COPYRIGHT**

This entire offer and all enclosed documents are protected by copyright, according to DIN 34. The passing on, in part or in full, and the reproduction of these documents, and the exploitation and communication of their contents are strictly prohibited unless expressly permitted by the supplier. Compensation will be due for not abiding by these terms. All rights are reserved in the event of patent and utility model and trademark registration. The use of these documents is limited exclusively to the offered project. In the case of other projects, the supplier will be pleased to prepare the corresponding documents.

## **7.11 CHANGES TO SCOPE**

In the event that the buyer wishes to make changes to the constructional or mechanical scope, resulting in the contracting of additional services and/or materials, these costs shall be invoiced separately. Such requests for change of order can only be made with the express agreement of the supplier in writing.

The supplier, Floecksmühle, has priced these works based on receiving a purchase order and a signed contract with no additional Conditions of Contract (no Z Clauses). Should additional Conditions of Contract be required, the supplier's price will be subject to change.

## **7.12 WARRANTY GENERAL TERMS**

The Supplier offers a warranty of twenty-four (24) months from the date of commissioning or twenty-seven (27) months from the date of shipment, namely the date of the Contract for the International Carriage of Goods by sea (BOL), whichever occurs sooner.

The Warranty covers the equipment by the supplier only and no other items. The Warranty is valid providing the ISG is and remains fully deflated during a high water and/ or flooding events exceeding the before mentioned limits and no modifications are made to the system without the prior consent of the Supplier.

Deliberate damage, extraordinary loads and operating errors are not covered by the limited warranty.

Had any problems arise during the warranty period in connection with the in-tunnel equipment supplied, the supply and placing of the stop logs and the water diversion, as well as any lifting equipment, if required, shall be arranged by and for the account of the Buyer.

The warranty begins on the day of commissioning but no later than one month after receipt of the final delivery if commissioning is not carried out for reasons for which the supplier is not responsible.

Refer to Annex 8 for the Floecksmühle Standard Letter

### **7.13 FORCE MAJEURE**

If, due to causes of force majeure which arise during the industrial manufacture, transport, construction, assembly and operational and performance testing of the equipment, the Buyer or the Seller is unable to fulfil the contractual obligations, he shall be temporarily exonerated from responsibility once the cause indicated has been proven; when the cause has disappeared, the responsibilities under the Contract will be re-established as effective.

Causes of force majeure shall be considered to be all unforeseeable, uncontrollable events which are independent of the will of the parties, such as, but without this list being limitative: governmental acts, wars, revolutions, terrorist acts, insurrections, vandalism, military mobilization, atomic explosions and similar, earthquakes, volcanic eruptions, storms in general, manifestations of nature of a destructive order, strikes, lockouts, blackouts, pandemics, epidemics, including those events similar to those listed which are outside the control of both, the Buyer and the Seller as appropriate.

### **7.14 COVID-19**

The supplier, Floecksmühle Energietechnik, has no other choice than to accept the position of its suppliers concerning the COVID-19 virus, which is that Floecksmühle cannot be held responsible and will not be liable for any damage or loss due to a shortcoming in the fulfillment of its obligations if the shortcoming is connected to COVID-19 related circumstances. Exceeding the delivery time and / or execution period does not in any way entitle the client to terminate the agreement.

### **7.15 INCIDENTALS**

The Seller, its subcontractors and/ or affiliates do not accept liability for any consequential/ incidental damages or losses in connection with this offer or in the event of a future contract.

### **7.16 APPLICABLE LAW**

The general conditions for supply and installation of plant machinery in EU are applicable (LMW 188A, 188B UN Economic Commission).

## **8. ONSITE SERVICES**

These services are not included in the supplier's scope of delivery and are therefore to be provided by the buyer:

### **8.1 ORGANIZATION AND COORDINATION**

- The Buyer will appoint a supervisor who will be responsible for the entire works and will be the spokesperson for the Seller's engineers. He will be responsible for coordinating the works of both parties and for resolving any issues during the installation process. The supervisor will also be responsible for commissioning, staff training, technical and final approval, safety and all procedures necessary for carrying out the works.

- All site construction drawings associated with the ISG and of the general site layout, such as but not limited to the tunnel construction, dimensions of the sidewalls, piping system and of the control house etc., are to be presented to the Seller as early as possible in AutoCAD .dwg or .dxf format for the Seller to study prior to starting with the ISG system design work.
- Once the ISG drawings have been submitted, they shall be checked and approved by the Buyer before starting with the manufacturing of the ISG bladder.

## 8.2 CIVIL WORKS & BLADDER INSTALLATION

The Seller will not be responsible for any civil works or for the bladder installation. However, as M2i (Mécán Hydro) will be involved in the installation on an advisory level, the Buyer is responsible for but not limited to the following:

- Preparation of the site, ensuring that it is safe for the installation of the ISG bladder.
- The tunnel in which the ISG is to be installed should have a smooth finish. It might be necessary to smoothen some areas or to carry out minor repair work, if deemed necessary.
- Cleaning and repairing the tunnel surfaces as per Seller's recommendations, if any, for installation of the ISG bladder.
- Static calculations and analysis, civil works drawings and any other civil works, if any.
- A complete work's schedule, taking into account the Seller's delivery times and the availability of the M2i installation site advisor to go to site. The Seller should be kept up to date of any changes.

## 9. INSTALLATION EQUIPMENT

- All means necessary for carrying out the installation will be provided by the Buyer, such as but not limited to personnel work teams, cranes and the rest of the heavy equipment. This includes standard work tools and those necessary for the installation, as well as the materials for any repair work to the tunnel and necessary construction work etc.
- It will be the Buyer's responsibility to make available the necessary cranes and equipment for raising and manoeuvring the bladder for installation, including the unrolling bar, slings, chains and clamps etc. and equipment for moving the other ancillary components to their installation location.

## 10. SAFETY

The Buyer shall be responsible for but not limited to the following safety considerations:

- Installing safety barriers, alarms and safety warning signs for civilians etc., such as required by state or federal laws.
- Installing safety structures and equipment necessary for protecting any persons that might be on the upstream and downstream sides of the tunnel during installation works.

- The Buyer should confirm their conformity to operate the ISG and to assure the Seller that they are in full compliance with state and federal laws, confirmed by the issuance of an approval certificate to be issued by the authorities prior to commissioning.

## **11. TRANSPORTATION, STORAGE & EQUIPMENT**

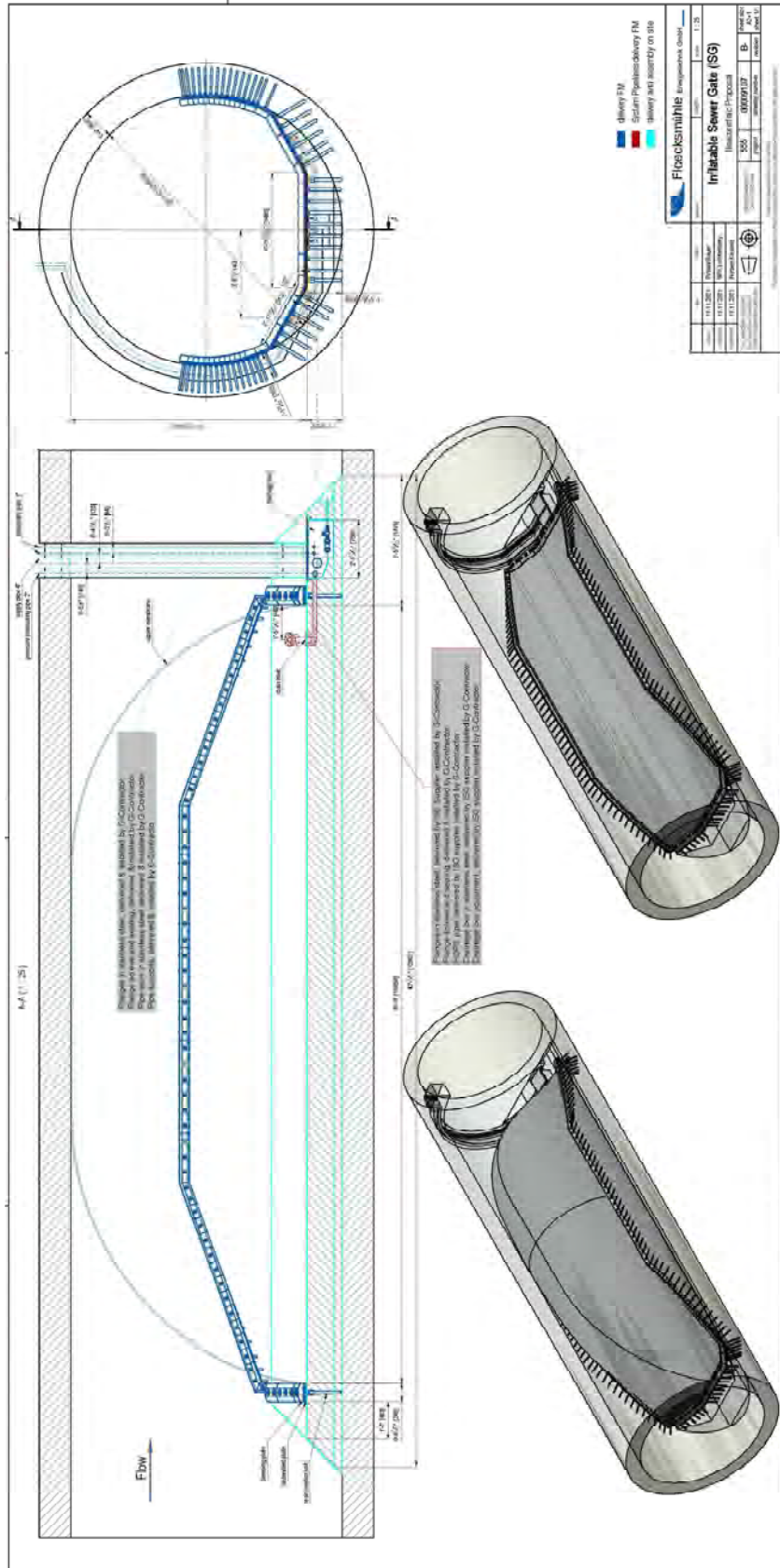
The Buyer shall be responsible for but not limited to the following transportation, storage and equipment considerations:

- Organize a secure warehouse or a suitable location to house the Seller's equipment, ensuring that it is kept safe and dry until installed at site.
- Making available any lifting equipment, including beams and slings to fit and manoeuvre the bladder and other component parts at the work site.

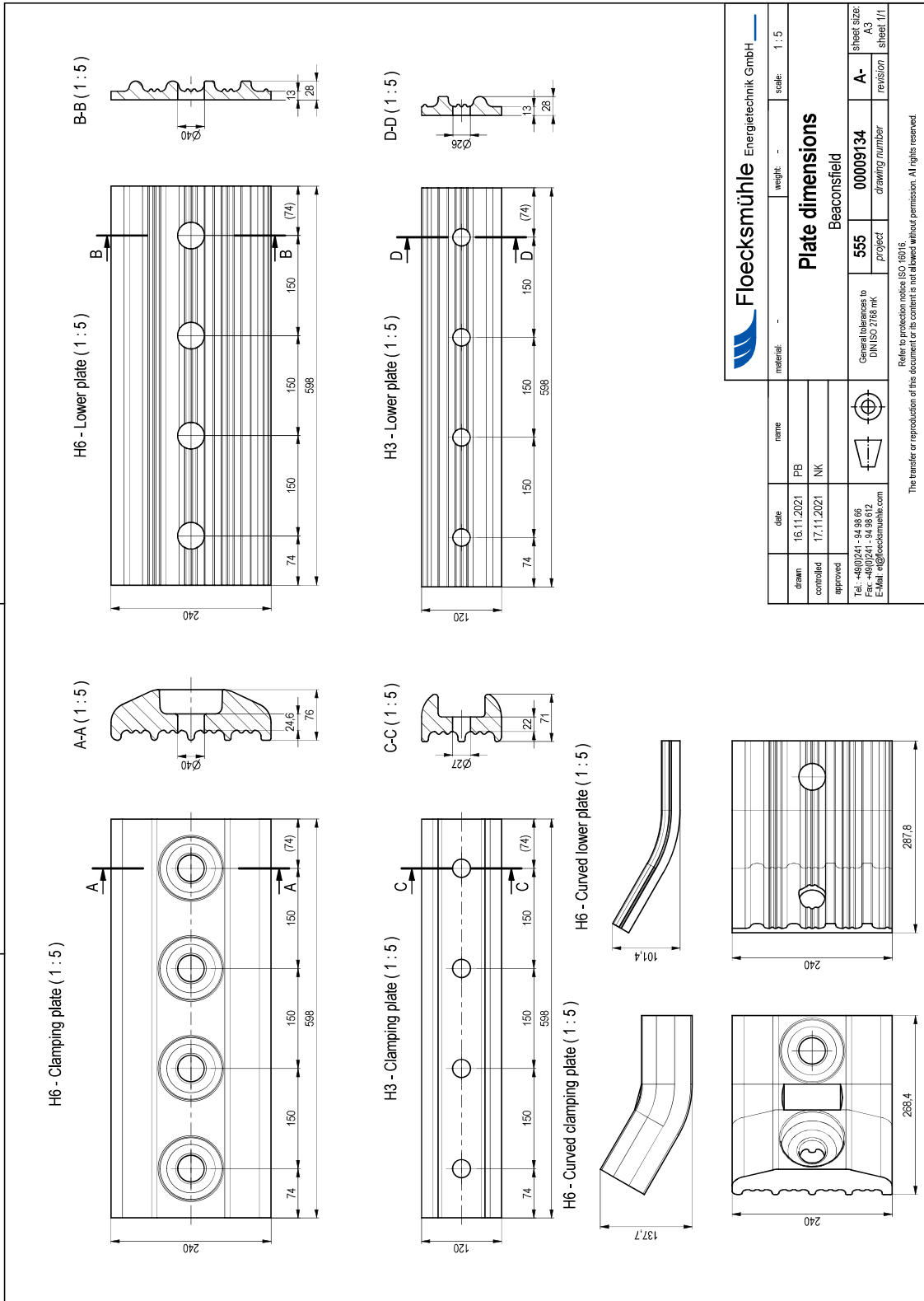
## **12. ANNEXES**

- Annex 1: In-tunnel scope
- Annex 2: Plate dimensions
- Annex 3: Number of Plates
- Annex 4: Anchor core drill depth
- Annex 5: P&ID
- Annex 6: Control room layout drawing
- Annex 7: Daily and hourly rates
- Annex 8: Floecksmühle Standard Warranty Letter

# ANNEX 1 – IN-TUNNEL SCOPE



# ANNEX 2 – PLATE DIMENSIONS

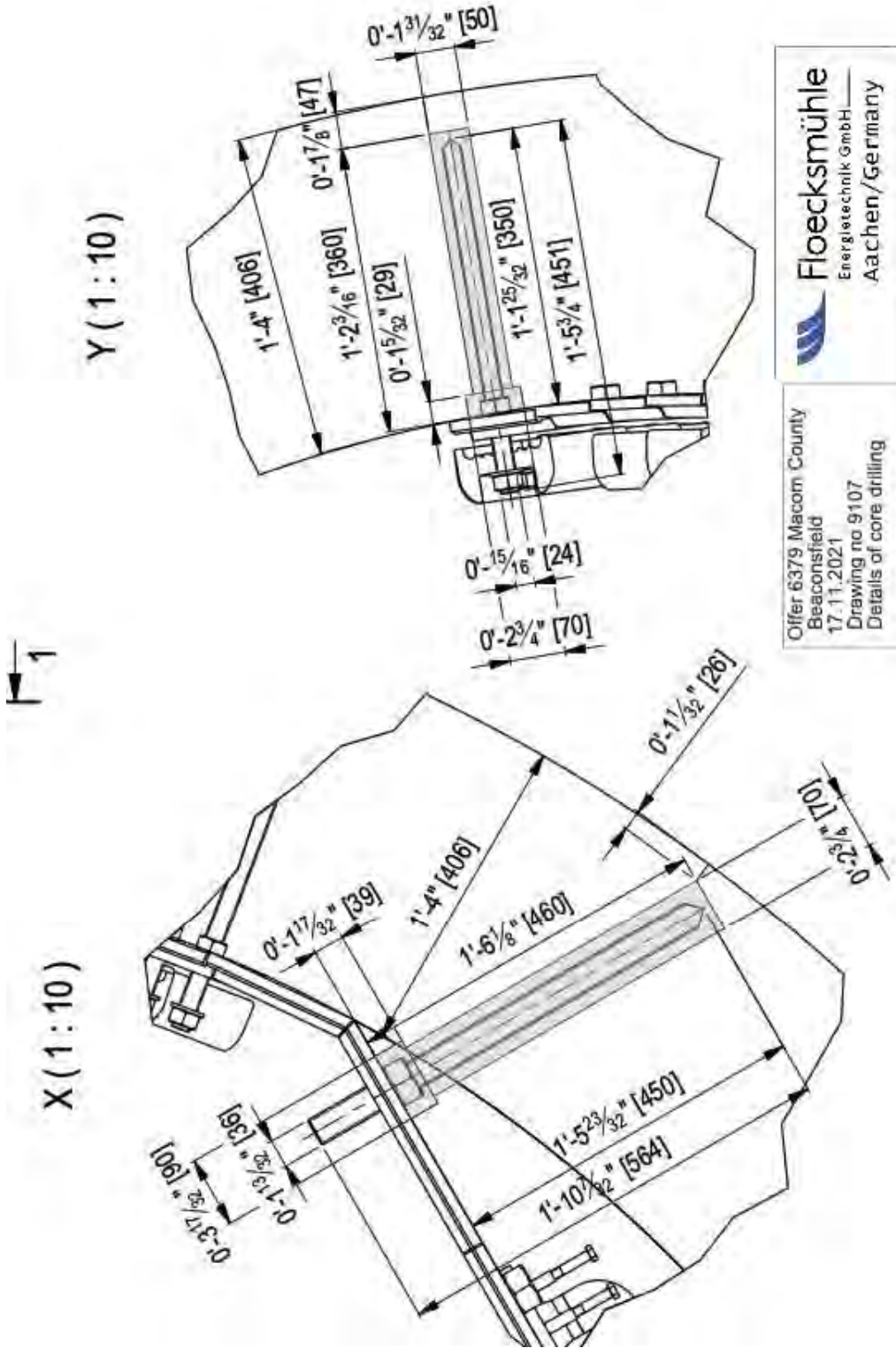


Floecksmühle Energietechnik GmbH		material:	weight:	scale:	1:5
Plate dimensions Beaconsfield					
drawn	date	name			
controlled	16.11.2021	FPB			
approved	17.11.2021	NK			
Tel.: +48(0)241 - 94 98 65 Fax: +48(0)241 - 94 98 612 E-Mail: <a href="mailto:info@floecksmuehle.com">info@floecksmuehle.com</a>				sheet size: A3	
		General reference to DIN/ISO 2768 mk	555 project	00009134 drawing number	A- revision
The transfer or reproduction of this document or its content is not allowed without permission. All rights reserved.					





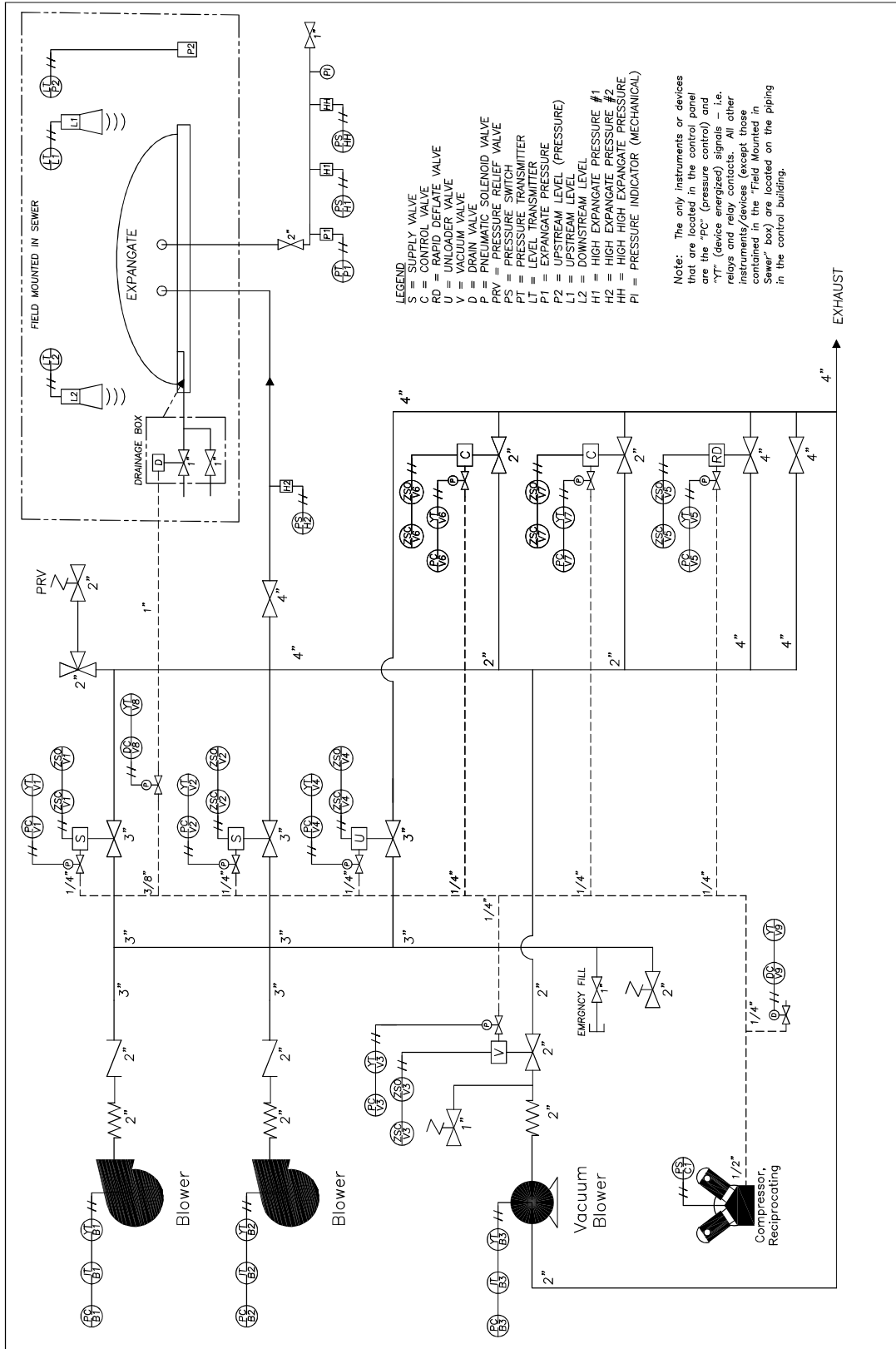
## ANNEX 4 – ANCHOR CORE-DRILL DEPTH



Floecksmühle  
Energietechnik GmbH  
Aachen/Germany

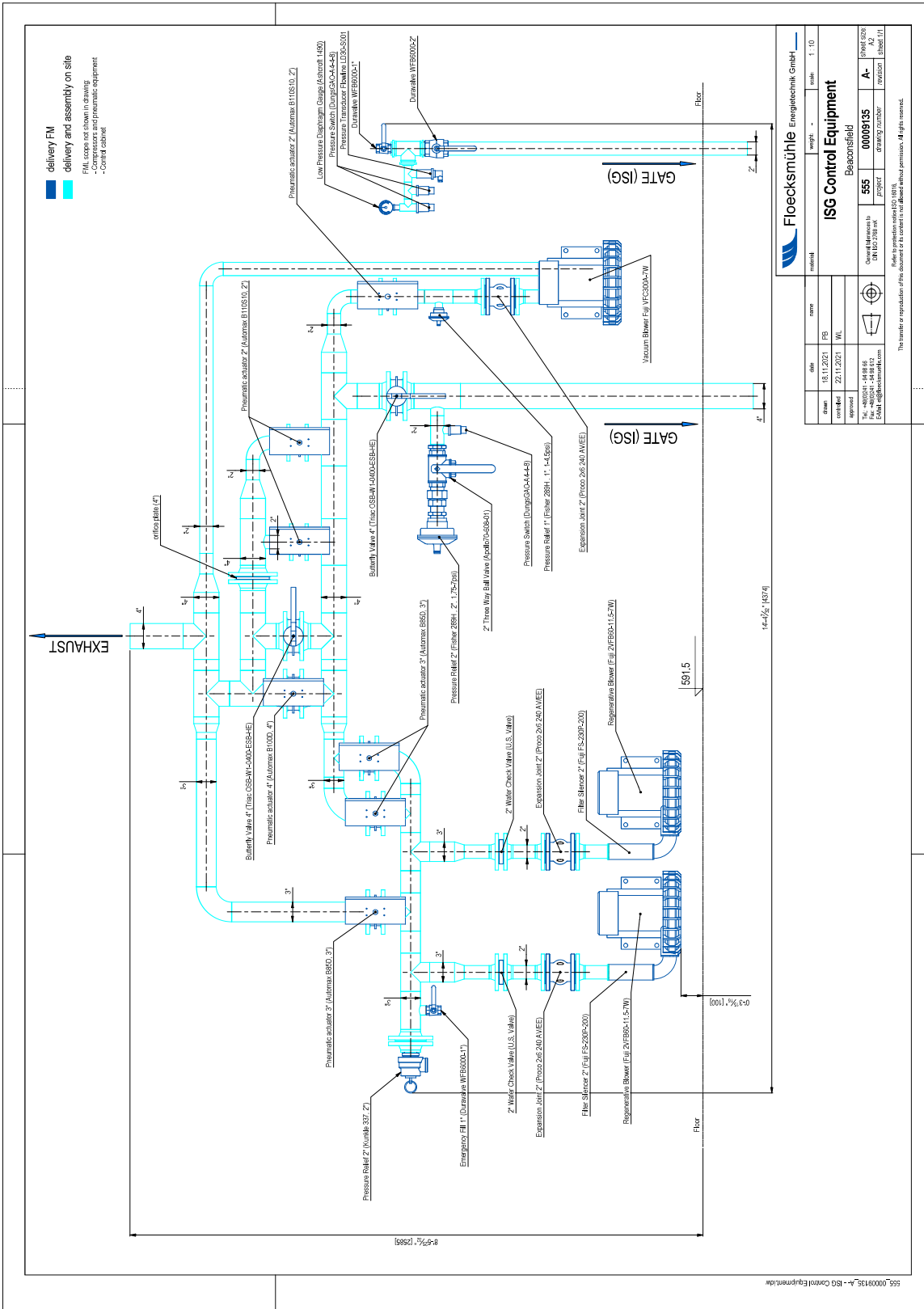
Offer 6379 Macom County  
Beaconsfield  
17.11.2021  
Drawing no 9107  
Details of core drilling

# ANNEX 5 – PIPING & INSTRUMENTATION DIAGRAM



<b>OMP ENGINEERING INC.</b> 1 HILLCREST PLACE, SHERIDAN, WY 82801, USA * TELEPHONE (307) 672-6783 * FAX (307) 672-6793 *	DRAWN BY: MS RAPF DATE: 09/11/21	CHK'D DATE	TITLE BEACONSFIELD EXPANGATE P&ID	DWG. NO. <b>BCNSFLD-P&amp;ID</b>	REV <b>2</b>
	APP'D DATE	PROJECT BCNSFLD P&ID	FILENAME P&ID	SHEET 1 OF 1	
<b>ARCON OVERSEAS LIMITED</b>					

# ANNEX 6 - CONTROL ROOM LAYOUT



## ANNEX 7 – DAILY AND HOURLY RATES

### Hourly rates and unit prices 2021

#### Floecksmühle Energietechnik GmbH

Engineer	98,97 €
Advisor	98,97 €
Electrician	87,96 €
Production	64,98 €
Phone calls	At cost
Drawings	10,00 €/pcs
Copies	0,13 €/pcs
Color copies / Prints	1,10 €/pcs

Regular working times:  
38.0 h/week - 8.0 h/day

25 % surcharge for the 9th and 10th working hour

50 % surcharge for each additional working hour and on Sundays and holidays

100 % surcharge for night work and on sundays and public holidays

#### Expenses

Company car	0,51 €/km
Company truck	0,80 €/km
Daily expenses with overnight stay	51,00 €
Accommodation costs	At cost

Assembly preparation and travel times will be charged at the above rates.

Incidental costs will be invoiced according to expenditure. All prices are subject to the statutory value-added tax applicable at the time of the final invoice. This information is valid until 30.12.2021.

Thereafter, we reserve the right to increase the rates in accordance with the development of standard wages and other costs.

## OMP RATE LIST

Daily rate – travel	\$480/ day
On site days	\$960/ day
Travel expenses (hotel, rental car and subsistence)	at cost plus 15%
Return flight	at cost plus 15%

## M2i RATE LIST

### RATE LIST US\$ – 2022

The current rates for work on site, after sale services or maintenance services are as follows:

- **Office Work**

DESCRIPTION	TIME	RATES
Intern	Regular	\$ 78.00 / hr
	Overtime (1.5X)	\$ 101.40 / hr
Buyer	Regular	\$ 104.40 / hr
	Overtime (1.5X)	\$ 135.60 / hr
Concept Engineer	Regular	\$ 189.00 / hr
	Overtime (1.5X)	\$ 246,00 / hr
Project Engineer	Regular	\$ 220.20 / hr
	Overtime (1.5X)	\$ 286.80 / hr
Project Manager	Regular	\$ 137.40 / hr
	Overtime (1.5X)	\$ 178.20 / hr

- **Site Work**

DESCRIPTION	TIME	RATES
Foreman	Regular	\$ 120,60 / hr
	Overtime (2x)	\$ 217.20 / hr
Millwrights/ Iron Workers/ Welders	Regular	\$ 99.60 / hr
	Overtime (2x)	\$ 174.00 / hr
Supervisor/ Service Technician	Regular	\$ 128.40 / hr
	Overtime (1.5x)	\$ 180,00 / hr
Technician Quality Control	Regular	\$ 138.60 / hr
	Overtime (1.5x)	\$ 194.40 / hr
Site Manager	Regular	\$ 153.60 / hr
	Overtime (1.5x)	\$ 214.80 / hr

- **Rates definition for office work**

- Regular: From Monday to Friday on an 8 hours/day basis.
- Overtime: All hours above 8 hours/day from Monday to Friday, Saturday and Sunday all day. All Civic Holidays such as Christmas, New Year's Day, Easter, St-Jean Baptist, Confederation, Labour Day as well as emergency service calls out of Regular Time.

- **Rate definition for site work**

- Regular: From Monday to Friday on an 8 hours/day basis or Monday to Thursday on an 10 hours/day basis.
- Travel: Traveling is always charged in regular time but is still part of the calculation for the total worked time throughout that day.
- Overtime: All hours above 8/10 hours/day from Monday to Thursday, Friday, Saturday and Sunday all day. All Civic Holidays such as Christmas, New Year's

Day, Easter, St- Jean Baptist, Confederation, Labour Day as well as emergency service calls out of Regular Time.

- **Expenses**

- Mileage: \$0.54/mi for Company car/ Minivan
- Mileage: \$0.64/mi for Company truck
- Mileage: \$0.18/mi for Tool trailer
- Meals per diem: \$78 / day
- Transport (air tickets, rental car, etc.), Living expenses, consumables and other expenses: At Cost +15 % on presentation of supporting documents.

- **Conditions**

- Services will be invoiced on a weekly basis and payable net 30 days.

**Tools & Equipment on site**

DESCRIPTION	RATES
Pick up	127.20\$/ Day
Minivan	96\$/ Day
Tool Container/ Service truck (incl. bobcat 225 gas welding machine)	174\$/ Day
Tool trailer	127.20\$/ Day
Greenly (job box) with tools	60\$/ Day

## ANNEX 8 – FLOECKSMÜHLE STANDARD WARRANTY LETTER

Floecksmühle Energietechnik GmbH, hereinafter called “Supplier”, warrants the Inflatable Sewer Gate (ISG), hereinafter called “Component Parts”, supplied to XXXXXXXX, hereinafter called “Purchaser”, as described in Contract no. XXXX-XXXX and under the following conditions:

### 1. SCOPE OF WARRANTY

This Warranty shall be limited to the Components Parts supplied by the Supplier.

- a. ISG Bladder(s)
- b. Spacer system
- c. Fixing system
- c. Control equipment

This Warranty covers defects in materials and workmanship only.

This Warranty shall not cover any installation work or other work pertinent to the said Component Parts and shall not to be applied to any other goods or materials.

### 2. CONDITIONS OF WARRANTY

This Warranty is in effect only as long as the Component Parts are stored, handled, installed/ assembled, operated and maintained under the conditions described in Contract no. XXXX-XXXX, installation, operation and maintenance manuals, and as shown in the Supplier’s drawings. The following additional conditions apply to this Warranty:

- a. That the Supplier shall be notified in writing within thirty (30) days of the date of completion of installation of the Component Parts.
- b. That the Supplier shall be given a reasonable period to inspect said defective or failed Component Parts.
- c. That any claim under this Warranty shall be lodged with the Supplier within thirty (30) days after discovery of any defect or failure. The Purchaser must describe the discovery of any defect or failure in detail. Additional information in connection with the ISG, the control system, the weather and the hydraulic conditions at/ near to the tunnel and the weir, prior to, during and after the detection of the claim, can be requested by the Supplier, including but not limited to photographs and sketches.

### 3. WARRANTY PERIOD

The Components Parts are warranted for twenty-four (24) months from the date of commissioning or twenty-seven (27) months from the date of shipment, namely the date of the Contract for the International Carriage of Goods by Sea (BOL), whichever occurs sooner.

### 4. MANUFACTURER’S LIMITATION OF LIABILITY

The Supplier is liable only for repair or replacement, at its discretion, of the Component Parts described above. The Supplier’s aggregate liability shall be limited to the amount of the Component Parts actually shipped by it, calculated on the contracted INCOTERMS 2020 basis and shall exclude any incidental or consequential damages or losses.



## 5. EXEMPTIONS

In addition to those limitations specified above, the Supplier is free from liability in the following cases:

- a. Damage to Component Parts resulting from incorrect installation and/ or operation by Purchaser and End User.
- b. Damage resulting from Force Majeure.
- c. Change in appearance of the product, which does not affect its performance. This includes but is not limited to discoloration or corrosion of steel parts.
- d. Damage to Component Parts resulting from modification by the Purchaser or other Party.
- e. Damage to Component Parts caused by any third party.
- f. Damage to Component Parts caused by water borne debris.
- g. Damage to Component Parts caused by lightning and over voltage.

## 6. EXTENSION/ PROLONGATION OF WARRANTY

If the Purchaser requests an extension/ prolongation of the standard two (2) year warranty, and it is agreed by the Supplier and is specified in the Contract; any valid claim made under the Warranty will be granted on the basis that the utilization of the damaged Component Parts are charged for their time in service.

Value of time in service = value of repairing x (time in service/ design life)

In the case of a Warranty claim, the Purchaser will be responsible for the cost of the “value of time in service”.

The Warranty is deemed to have been made in Aachen and shall apply and be construed in accordance with German Law.

Floecksmühle Energietechnik GmbH  
Bachstrasse 62-64, D-52066 Aachen, GERMANY  
Managing Director: Norbert Kessels  
Registered Office: Aachen HRB 4726  
Tax Id. No. DE 811 414 684  
Tel. +49 241 949 8620  
Fax: +49 241 949 8612  
E-Mail: [et@floecksmuehle.com](mailto:et@floecksmuehle.com)  
URL: [www.floecksmuehle.com](http://www.floecksmuehle.com)



**TETRA TECH**

June 30, 2022

Mr. Zachary Zechmeister  
Weiss Construction Co. LLC  
Novi, MI 48375

**Re: Formal Notice of Claim, Floecksmuhle Cost Increase Letter from Weiss Construction, May 16, 2022, Response.**

Dear Mr. Zechmeister:

As you've been made aware via email, the Owner has decided to bear the entire added cost from Floecksmuhle of \$123,500.00. Note that the Owner does not feel it is their responsibility to provide added compensation for this work. It is clear based on our research and the communication provided by Weiss and between Weiss and Floecksmuhle that Weiss did not meet the January 31, 2022 deadline to provide a signed Contract with Floecksmuhle. This single error is the cause of the escalated cost and should be borne by the Contractor. Nevertheless, the Owner wishes to demonstrate good faith effort, maintain a good working relationship with Weiss, and move forward.

Please understand that this is a one-time exception and does not set a precedent, nor does it negate the Owner's rights under the Contract nor sever any part of the agreement. The cost of any other errors on the Contractor's part that may be discovered as the project progresses will be borne by the Contractor.

As previously requested by the Owner, please prepare a single Request for Change that includes all changes, such as the smaller site modifications, DTE costs, and this cost, for presentation to the board.

We consider this Claim to be closed.

Sincerely,

Timothy W. Ard,  
Construction Manager, Tetra Tech

copy: Vincent Astorino, MCPWO  
Steven Wanger, MCPWO  
Steve Rozycki, MCPWO  
Jeremy Jarinski, MCPWO  
Joe Mulville, Weiss Construction  
Brian Rubel, Tetra Tech  
David Weiss, Tetra Tech

**Tetra Tech, Inc.**  
710 Avis Drive, Suite 100, Ann Arbor, MI 48108  
Tel 734.665.6000 Fax 734.213.3002 [www.tetrattech.com](http://www.tetrattech.com)



**WEISS CONSTRUCTION CO. LLC**

41001 Grand River Ave.  
Novi, MI 48375  
(313) 567-4500

Thursday, August 25, 2022

Mr. Timothy Ard  
Construction Manager  
Tetra Tech  
710 Avis Drive, Suite 100  
Ann Arbor, MI 48108  
Via- Electronic Delivery (Email)

RE: Tetra Tech 200-16347-19001: Macomb WWS-2021-006; Weiss WC22-01

Subject: PR-C - Gaukler Site Modifications

Dear Mr. Ard-

Please find the attached quote for Weiss CE-08 in response to PR-C (Gaukler site modifications). We note this includes a revised credit from the carbon cannister supplier (ECS) beyond their first offer of \$12,500.

Please review and let us know any concerns. There are no schedule impacts associated with this change as the Gaukler site is not on the critical path and this change was noted early.

Sincerely,



Zachary Zechmeister  
Project Manager

CC Weiss: Joe Mulville  
CC Macomb: Vincent Astorino, Steve Rozycki, Steven Wagner, Jeremy Jarinski  
CC Tetra Tech: David Weiss



CE 08 - Gaulker PR-C - Delete Carbon Can., Slab Mods, Process Changes, Site Changes

Description	Qty	Unit	Lab Unit	Labor Total	Mat Unit	Material	Equip Unit	Equipment	Subcontractor	Sales Tax
<b>Process CREDITS - SEE DETAILED BREAKDOWN AT MCAA RATES</b>										
<i>Labor - Plumber Straight Time</i>										
Deleted Pipe and Cann. Portions ONLY	-150.9	hr	\$ 82.23	\$ (12,408.51)						
Pipe Support BASE BID ONLY	-14.0	hr	\$ 82.23	\$ (1,151.22)						
<b>Material</b>										
Core and Main - partial items	-1	LS		\$ 11,110.25	\$	(11,110.25)				\$ (666.62)
Etna	-1	LS		\$ 591.00	\$	(591.00)				\$ (35.46)
Carbon Cannister - ECS Quote	-1	LS		\$ 18,500.00	\$	(18,500.00)				\$ (1,110.00)
<b>Credit for SOG Pad Size Reduction (15x15 to 14x14)</b>										
<b>Labor</b>										
1 ea. Carp Foreman	-4	hr	\$ 70.95	\$ (283.80)	\$	-	\$	-		\$ -
2 ea. Laborer	-8	hr	\$ 50.48	\$ (403.84)	\$	-	\$	-		\$ -
<b>Material</b>										
Concrete - Class A	-5	yard		\$ 180.00	\$	(900.00)	\$	-		\$ -
Resteel -Nucor-Harris see quote	-1	LS		\$ 675.00	\$	(675.00)				\$ (40.50)
<b>Credit for Oct. Tank Pad</b>										
<b>Labor</b>										
1 ea. Carp Foreman	-8	hr	\$ 70.95	\$ (567.60)	\$	-	\$	-		\$ -
1 ea. Laborer	-8	hr	\$ 50.48	\$ (403.84)	\$	-	\$	-		\$ -
<b>Material</b>										
Concrete - Class A	-3	yard		\$ 180.00	\$	(540.00)	\$	-		\$ -
<b>Misc Credit</b>										
Fence DELETE	-1				\$	1,000.00	\$	(1,000.00)	\$	(6,000.00)
Stone DELETE	-1				\$	1,000.00	\$	(1,000.00)	\$	(6,000.00)
Grand Total - CREDIT ONLY				\$ (15,218.81)	\$	(33,316.25)	\$	-	\$	(1,852.58)
<b>Quote Grand Total CREDIT ONLY</b>				<b>\$ (56,387.63)</b>						
<b>Process ADDS - SEE DETAILED BREAKDOWN AT MCAA RATES</b>										
<i>Labor - Plumber Straight Time</i>										
New Pipe Support	40.0	hr	\$ 82.23	\$ 3,289.20						\$ -
<b>Material</b>										
PWC Quote -PWC - NET ON QUOTE	1	LS		\$ 12,761.41	\$	12,761.41				INC
<b>Misc Landscaping</b>										
Mulch ADD	5	yd		\$ 40.00	\$	200.00				\$ -
Emerald Green Arborvitae ADD	10			\$ 175.00	\$	1,750.00				\$ -



CE 08 - Gaulker PR-C - Delete Carbon Can., Slab Mods, Process Changes, Site Changes

Description	Qty	Unit	Lab Unit	Labor Total	Mat Unit	Material	Equip Unit	Equipment	Subcontractor	Sales Tax
Totals Pre OHP - ADDS ONLY				\$ 3,289.20		\$ 14,711.41		\$ -	\$ -	
OHP Calculations - ADDS ONLY				15%		15%		15%	5%	15%
OHP - ADDS ONLY				\$ 493.38		\$ 2,206.71		\$ -	\$ -	\$ -
Total Including - ADDS ONLY										
Grand Total - ADDS ONLY				\$ 3,782.58		\$ 16,918.12		\$ -	\$ -	\$ -
<b>Quote Grand Total ADDS ONLY</b>				<b>\$ 20,700.70</b>						
<b>TOTAL NET CREDIT</b>				<b>\$ (35,686.93)</b>						



**ECS**  
MUNICIPAL

## 8 ½ Mile Relief Drain Drainage District In-System Storage

### *Scope of Supply*

Macomb County Public Works

**ECS Project #: 6113**  
**Date: August 9, 2022**

**ECS Municipal**  
2201 Taylors Valley Road  
Belton, Texas 76513

**Office (254) 933-2270**  
**Fax (254) 933-2212**

**I. EQUIPMENT REMOVED FROM THIS DEDUCTIVE CHANGE ORDER**

- Gaukler odor control unit
- Deduct from contract - \$18,500
  
- **Terms of payment per original contract**



Nucor Harris Rebar Midwest LLC

Change Order No.:  
**CO-0002**

# CHANGE ORDER

**Sent To Customer**

<b>Bid Item No.:</b> 001	<b>Job No.:</b> 07621192	<b>Job Description:</b> Macomb 8-1/2 Mile Relief Drain	<b>Original C/O Date:</b> 08/02/22	<b>Revised C/O Date:</b>
-----------------------------	-----------------------------	---	---------------------------------------	--------------------------

<b>Sell To:</b> W10887 Weiss Construction Co LLC Email: accounting@weiss-construction.com	
---	--

<b>Change Order Description:</b> DEDUCT - GAULKLER SLAB
--

Description	Type	Quantity	Unit Price	Line Amount
Rebar Grade 60 Black	Deduct	-1 LS	\$675.00	\$-675.00

CHANGE DESCRIPTION:DEDUCT - GAULKLER SLAB  
 AUTHORIZED BY: ZACHARY ZECHMEISTER  
 DESIGN DRAWINGS AFFECTED: 35-S-101 DATED: 7/22/22  
 HARRIS DRAWINGS AFFECTED: R09 DATED: 08-02-2022  
 ADDITIONAL REGULAR DETAILING HOURS: 3  
 Revisions to Gaulker Slab, after several changes Net Deduct .4 Ton

**Total: \$-675.00**

**Deletion To Contract  
Tax: Michigan -Extra**

**Issued By:** Jason Barnstable

**Accepted By: Name:** \_\_\_\_\_

(Please Print)

(Signature)

**Date:** \_\_\_\_\_

**Nucor Harris Rebar Midwest LLC**

1501 East Jolly Road, Lansing, MI 48910, USA T. 517-393-2780 F. 517-393-6427

**Customer Copy**

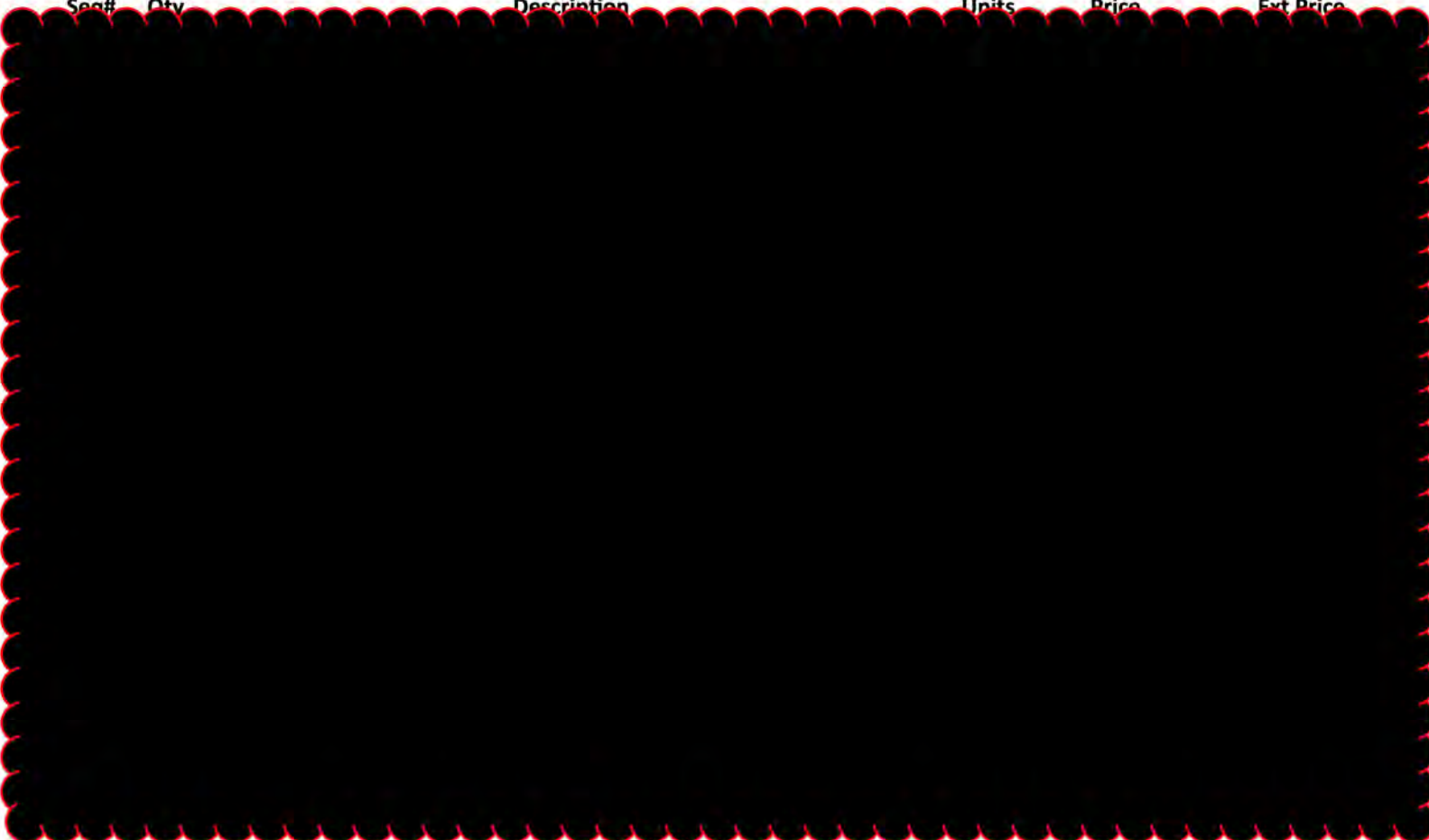




Bid Proposal for Import Weiss 8.5 Mile ISS Updated Bid

Bid #: 2314824

Seq# Qty Description Units Price Ext Price



Seq#	Qty	Description	Units	Price	Ext Price
1580		<b>GAUKLER</b>			
1590	1	24 FLGXPE DI PIPE PR 7' PRIMED IMP NO LENGTH GIVEN	EA	3,055.44	3,055.44
1610	1	24X10 FLG TEE C110 USA IMPORT QUOTED NOT DOM	EA	3,103.66	3,103.66
1630	1	24 FLGXFLG DI PIPE PR 2'6" PRIMED IMP	EA	2,487.10	2,487.10
1640	1	24 MJ TEE C153 IMP	EA	2,104.67	2,104.67
1650	1	24 FLGXPE DI PIPE PR 7' PRIMED IMP	EA	3,055.44	3,055.44
1660	1	24 FLG 90 C110 PR IMP	EA	2,823.34	2,823.34
1670	1	24 FLGXPE DI PIPE PR 7' PRIMED IMP NO LENGTH GIVEN	EA	3,055.44	3,055.44
1690	1	24X10 MJ RED C153 IMP	EA	1,962.79	1,962.79
				<b>SUBTOTAL</b>	<b>21,647.88</b>



**In-System Storage Process Piping Changes**

<u>Qty</u>	<u>Size</u>	<u>Materials</u>	<u>Labor Ea</u>	<u>Lbr Total</u>	<u>Matl Ea</u>	<u>Matl Total</u>	<u>Mat'l Source</u>	<u>Hours to credit</u>
1.0	1ft	24" flanged DI Spool piece	12.10	12.1		\$2,487.10	DELETE	12.1
1.0	24"	Flanged DI 90 elbow	14.86	14.9		\$2,823.34	DELETE	14.9
1.0	24"	Flanged DI TEE	19.49	19.5		\$2,104.67	DELETE	19.5
1.0	24"x10"	flanged reducing tee di 24"x10"	17.09	17.1		\$3,103.66	DELETE	17.1
							DELETE	
21.0	10"	PVC SCH 80 pipe	0.33	6.9		\$200.00	DELETE	6.9
2.0	10"	PVC #150 flange SW	3.98	8.0		\$141.48	DELETE	8.0
1.0	10"	PVC SCH 80 45 elbow	4.16	4.2		\$125.00	DELETE	4.2
1.0	10"	PVC SCH 90 elbow SW	4.26	4.3		\$125.00	DELETE	4.3
								0.0
1.0	ea	set canister	32.00	32.0			Delete	32.0
1.0	ea	fill canister	32.00	32.0			Delete	32.0
								0.0
1.0	ea	SS pipe support	14.00	14.0			CREDIT HOURS	150.9
							CREDIT - MODIFY	
					Mat Tot	\$11,110.25		



**Public Works Constructors, LLC**  
**48485 485<sup>th</sup> Ave.**  
**Ashton, NE 68817**  
**(P): (308) 738-2241**  
**(F): (308) 738-2243**  
**E-Mail: zdouthit@pwc-llc.com**

**CR#:02 – Pipe Stand Change**

**Project Name: 8-1/2 Mile Relief Drain Drainage District – In – System Storage**  
**PWC Job No.: WC22-01-PO-19**  
**Customer: Weiss Construction Company, LLC**  
**Owner: 8-1/2 Mile Relief Drain Drainage District; Macomb County Public Works Commission**  
**Engineer: Tetra Tech of Michigan**  
**Drawings: Rev.05 00-D-002, Rev.04 35-C-103, Rev.04 35-C-104, Rev.04 35-D-101, Rev.05 35-S-101, & Rev.05 35-S-103**  
**Specifications: 05 12 00 – Structural Steel**  
**Quote Date: 08/15/2022**

**Description of CR: This quote includes detailing, fabrication, and (1) delivery to the jobsite of the following Miscellaneous Metals items:**

**Add:**

- **(1 EA) Galvanized revised Vent Pipe Support, field welded by others, consisting of the following:**
  - **(4 EA) HSS6x6x5/16x6'-2"**, approximant, HDG posts W/ PL1/4x7 1/2x0'-7 1/2" cap plate, shop welded, PL1/4x11x0'-11", base plate, shop welded, **(16 EA) AB3/4x0'-8"**, HDG Anchor Rods, F1554, Grade 55, Weldable, **(32 EA) NU 3/4 DIA, HDG, A563 Heavy Hex Nuts** includes leveling nuts for posts, **(16 EA) 3/4 DIA, HDG, F436 Hard Flat Washers**, **(3 EA) Injectable Mortar Hilti HY 200-R V3 330/1/WH Epoxy**, and **(1 EA) Round Brush HIT-RB 3/4 hole cleaning brush.**
  - **(4 EA) HSS6x6x5/16x4'-4 1/2"**, approximant, HDG struts.

<b><u>Subtotal</u></b>	<b><u>Tax 7%</u></b>
<b>\$13,015.72</b>	<b>\$911.10</b>



**Deduct:**

- (1 EA) 10" RSJK # U9210 Adjustable Stainless Steel, SS304, Pipe Saddle Support W/ C/L = 8'-9" Ref. A/35-D-101, & 90-D-500 Gaulker.

<b><u>Subtotal</u></b>	<b><u>Tax 7%</u></b>
(\$1,089.17)	(\$76.24)

**Furnish Only: \$11,926.55**  
**Sales Tax 7%: \$834.86**  
**Total: \$12,761.41**

**Exceptions:**

- The HSS6x6x5/16 is being quoted instead of the HSS5 1/2x5 1/2x5/16 due to material availability.

**Exclusions:**

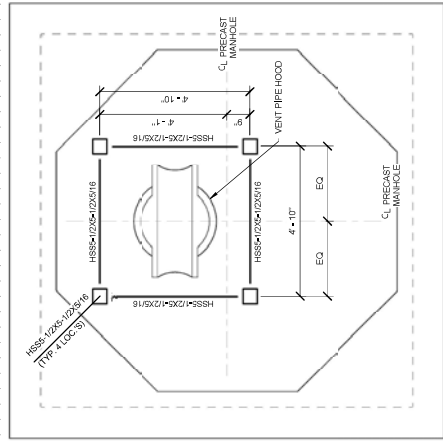
- Erection.
- Engineering/Design Calculations.
- Shop painting over galvanized members.
- Any item or service not listed on quotation.

Zane R. Douthit

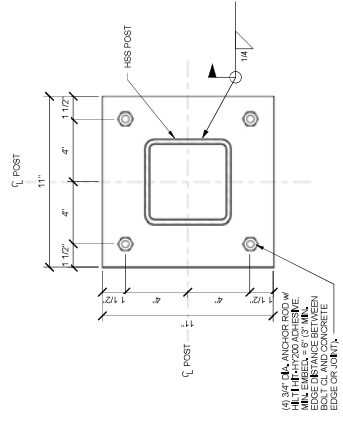
A handwritten signature in black ink that reads 'Zane R. Douthit'.

08/15/2022

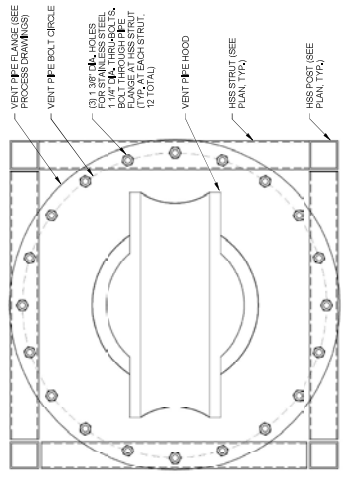




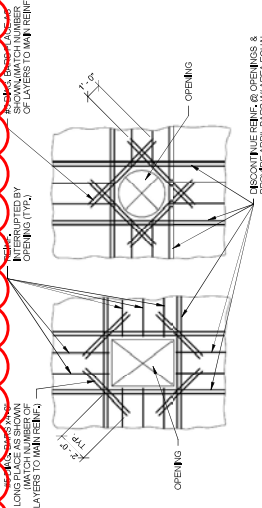
1 VENT PIPE SUPPORT FRAMING PLAN SCALE: 1/2" = 1'-0"



2 VENT PIPE SUPPORT BASEPLATE DETAIL SCALE: 3/8" = 1'-0"



3 VENT PIPE FLANGE CONNECTION TO SUPPORT SCALE: 1" = 1'-0"



4 CONC REINF. AT OPENINGS DETAIL SCALE: 1/4" = 1'-0"

**Add: CR#02 - Pipe Stand Change:**  
 (1 EA) Vent Pipe Support, HDG, field welded assembly by others. Due to material availability the HSS5 1/2x5 1/2x5/16 is being quoted as HSS6x6x5/16.  
 Zane R. Douthit, PWC, Project Engineer/Estimator 08/15/2022

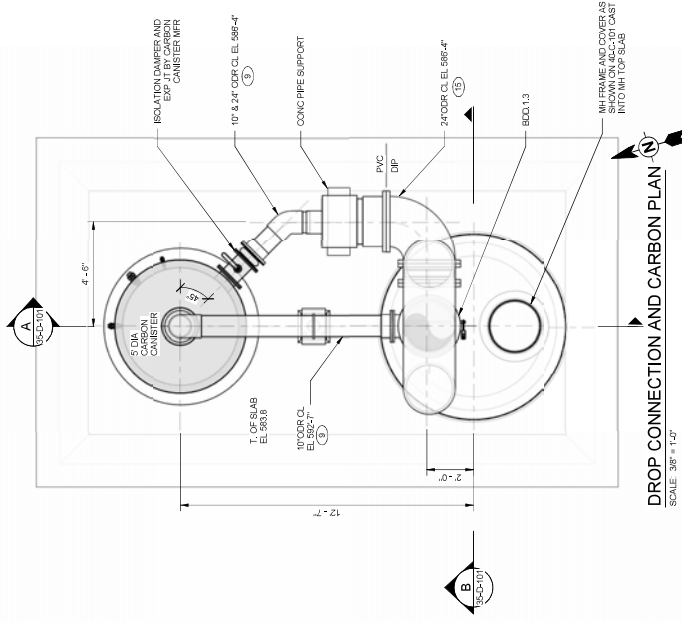
NOTE: WHERE REINFORCING BARS ARE NOT POSSIBLE TO PROVIDE AT CORNERS, PROVIDE STANDARD END HOOK.

PROVIDE REINFORCING BARS (HSS & PRECAST) AND BARS (W/ARE REINFORCING) TO INTERRUPT REINFORCING PLATE (1/2 EA, SEE CR#02), 4 BARS (1/4")

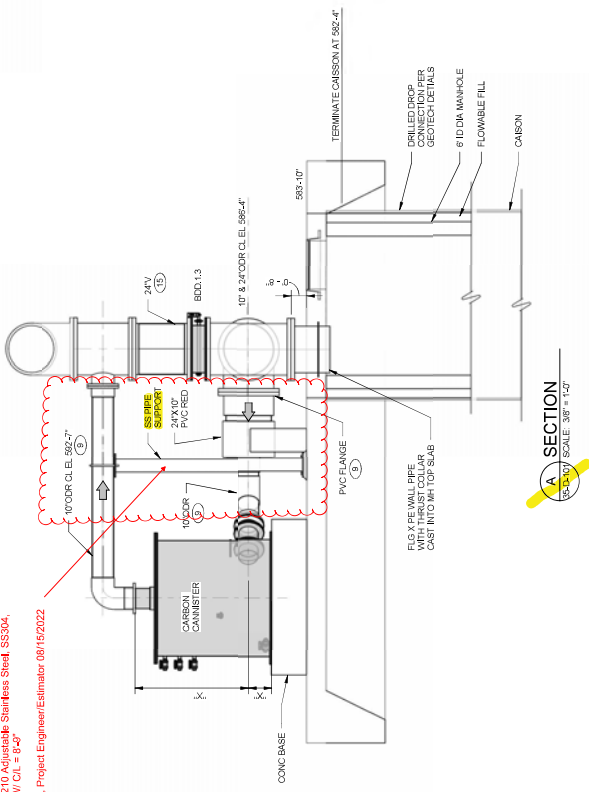
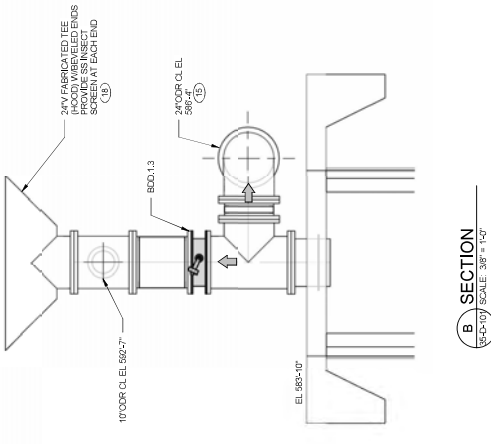
LONG PLACES AS SHOWN TO BE INTERRUPTED BY OPENING (1/4")

REINFORCING BARS (HSS & PRECAST) AND BARS (W/ARE REINFORCING) TO INTERRUPT REINFORCING PLATE (1/2 EA, SEE CR#02), 4 BARS (1/4")

GAULKER REBAR SECTIONS	
8+1/2 MILE RELIEF DRAIN DRAINAGE DISTRICT IN-SYSTEM STORAGE 25, 26th Street, Michigan	
MACOMB COUNTY PUBLIC WORKS COMMISSIONER <b>CANDICE S. MILLER</b> 21777 Dunham Road, Clinton Township, MI 48808	
ENGINEER	TETRA TECH fishbeck FKE ECT
REV#	DATE DESCRIPTION
1	08/15/2022 ORIGINAL REQUEST FOR CASH INFRA VAILT
2	08/15/2022 PROPOSED REQUEST C
3	07/22/22 PROPOSED REQUEST C
PROJECT NO.	WWIS-2021-006
SHEET NO.	35-S-103
SCALE	As indicated

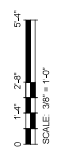


- NOTES:
1. SEE CIVIL DRAWINGS FOR ORIENTATION OF EQUIPMENT AND PIPING AT THE GAULKER.
  2. 5000 PSI GGS SHALL BE USED METER BOX.
  3. 1.5\"/>



Deduct: CR#02 - Pipe Stand Change:  
 (1 EA) 10' RS/JK #L0210 Adjustable Stainless Steel, SSS04,  
 Pipe Saddle Support W/ CL = 8'0\"/>  
 Zanic R, Douthett, PWC, Project Engineer/Estimator 08/15/2022

GULKER PLAN AND SECTIONS	
8+1/2 MILE RELIEF DRAIN DRAINAGE DISTRICT IN-SYSTEM STORAGE	
MACOMB COUNTY PUBLIC WORKS COMMISSIONER <b>CANDICE S. MILLER</b> 21777 Dunham Road, Clinton Township, MI 48038	
ENGINEER	TETRA TECH fishbeck PKE ECT
REV#	DATE
1	MDS 11/15/21
2	RDK 07/27/22
DESCRIPTION	
1 SHEET ISSUED AS PART OF ADDENDUM NO. 1	
2 ISSUED FOR CONSTRUCTION	
PROJECT NO.	WWS-2021-005
SHEET NO.	387 of 1-07
SCALE: 3/8" = 1'-0"	



**B SECTION**  
 3/8" = 1'-0"

**A SECTION**  
 3/8" = 1'-0"

## Adjustable Pipe Saddle Support w/ U-Bolt

The U9210 is a full circle saddle clamps support with u-bolt. This clamp is designed to fit ductile iron pipe but will pull down tight and work on standard iron pipe.

Comes complete with base plate.  
Available in sizes 2' through 36".

### MATERIAL

Saddle and U-Bolt: ASTM A36 Carbon Steel

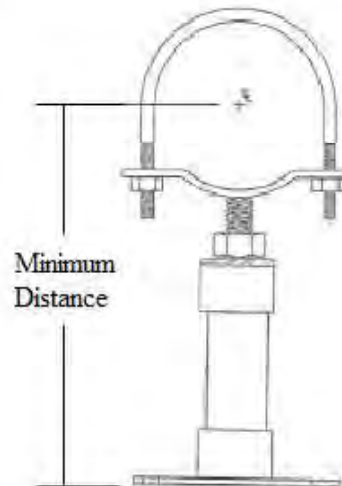
Collar / Base Cup: ASTM A53 D.O.M. Tubing

Threaded Stud: ASTM A36 Rolled Thread  
Grade ASTM A307

Base Plate: ASTM A36 Sheet Steel - 1/4" Plate

Finishes / Material: Plain, HDG, 304SS & 316SS

Special fabrication is available to meet your requirements.



Support Size	Pipe O.D.	Strap Size	Threaded Stud	Base Plate	Extension Pipe Required	Minimum Distance to Floor
2"	2.50"	3/8" x 2"	1" x 6"	4"x6"x1/4"	2" Sch. 40	7"
2 1/2"	3.00"	3/8" x 2"	1" x 6"	4"x6"x1/4"	2" Sch. 40	7"
3"	3.96"	3/8" x 2"	1" x 6"	4"x6"x1/4"	2" Sch. 40	7"
4"	4.80"	1/2" x 2"	1" x 6"	8"x8"x1/4"	2" Sch. 40	7"
6"	6.90"	1/2" x 2"	1" x 6"	8"x8"x1/4"	2" Sch. 40	7"
8"	9.05"	1/2" x 2"	1" x 6"	8"x8"x1/4"	2" Sch. 40	7"
10"	11.10"	1/2" x 2"	1" x 6"	8"x8"x1/4"	2" Sch. 40	7"
12"	13.20"	1/2" x 2"	1" x 6"	8"x8"x1/4"	2" Sch. 40	7"
14"	15.30"	5/8" x 3"	1 1/2" x 6"	8"x8"x1/2"	3" Sch. 40	9 1/2"

Deduct: CR#02 - Pipe Stand Change:

(1 EA) 10" RSJK # U9210 Adjustable Stainless Steel, SS304,  
Pipe Saddle Support W/ C/L = 8'-9"

Zane R. Douthit, PWC, Project Engineer/Estimator 08/15/2022





**WEISS CONSTRUCTION CO. LLC**

41001 Grand River Ave.  
Novi, MI 48375  
(313) 567-4500

Wednesday, August 31, 2022

Mr. Timothy Ard  
Construction Manager  
Tetra Tech  
710 Avis Drive, Suite 100  
Ann Arbor, MI 48108  
Via- Electronic Delivery (Email)

RE: Tetra Tech 200-16347-19001: Macomb WWS-2021-006; Weiss WC22-01

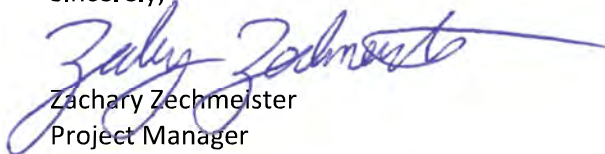
Subject: PR-B - CE-05 Malvern Site Modifications

Dear Mr. Ard-

Please find the attached quote for Weiss CE-05 in response to PR-B (Malvern site modifications). This is a net credit for the deletion of 2 galvanized pipes with miscellaneous fabrication for nautical detailing. This change does not result in a credit for equipment/operator labor as we are still required to use the equipment to set the work remaining. The paint credit from Signature is provided based on verbal correspondence (they lost power 8/30 and did not send a formal quote). Signature is still required to paint the remaining pipe (still containing multiple trips for applicable coats for specified system).

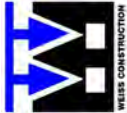
Please review and let us know any concerns. There are no schedule impacts associated with this change as the Malvern site is not on the critical path and this change was noted early.

Sincerely,



Zachary Zechmeister  
Project Manager

CC Weiss: Joe Mulville  
CC Macomb: Vincent Astorino, Steve Rozycki, Steven Wagner, Jeremy Jarinski  
CC Tetra Tech: David Weiss



CE 05 - Malvern PR-C - Delete 2 Decorative Pipes and Nautical Detailing

Description	Qty	Unit	Lab Unit	Labor Total	Mat Unit	Material	Equip Unit	Equipment	Subcontractor	Sales Tax	
<b>Process CREDIT</b>											
<b>Labor - Plumber Straight Time</b>											
Deleted Setting Pipe Inc. Grouting Base	-10.0	hr	\$ 82.23	\$ (822.30)							
Deleted Rope/Misc Decorative Work	-10.0	hr	\$ 82.23	\$ (822.30)							
Deleted Misc Fab Work	-5.0	hr	\$ 82.23	\$ (411.15)							
<b>Material</b>											
14" galv pipe	-1	LS	\$ 1,946.49	\$ (1,946.49)						\$ (116.79)	
16" galv pipe	-1	LS	\$ 2,410.80	\$ (2,410.80)						\$ (144.65)	
Connections/misc material	-1	LS	\$ 250.00	\$ (250.00)						\$ (15.00)	
Misc Mat (rope, HW)	-1	LS	\$ 1,200.00	\$ (1,200.00)						\$ (72.00)	
<b>Subcontractor</b>											
Signature - Paint delete on 14" and 16" only	-1	LS							\$ (800.00)		
Grand Total - CREDIT ONLY				\$ (2,055.75)		\$ (5,807.29)		\$ -	\$ (800.00)	\$ (348.44)	
<b>Quote Grand Total CREDIT ONLY</b>				<b>\$ (9,011.48)</b>							
<b>Misc</b>											
Totals Pre OHP - ADDS ONLY				\$ -		\$ -		\$ -	\$ -	\$ -	
OHP Calculations - ADIDS ONLY				15%		15%		15%	5%	15%	
OHP - ADDS ONLY				\$ -		\$ -		\$ -	\$ -	\$ -	
Total Including - ADDS ONLY				\$ -		\$ -		\$ -	\$ -	\$ -	
Grand Total - ADDS ONLY				\$ -		\$ -		\$ -	\$ -	\$ -	
<b>Quote Grand Total ADDS ONLY</b>				<b>\$ -</b>							
<b>TOTAL NET CREDIT</b>				<b>\$ (9,011.48)</b>							



**WEISS CONSTRUCTION CO. LLC**

41001 Grand River Ave.  
Novi, MI 48375  
(313) 567-4500

Friday, August 26, 2022

Mr. Timothy Ard  
Construction Manager  
Tetra Tech  
710 Avis Drive, Suite 100  
Ann Arbor, MI 48108  
Via- Electronic Delivery (Email)

RE: Tetra Tech 200-16347-19001: Macomb WWS-2021-006; Weiss WC22-01

Subject: DTE Update 8/26/2022 and Schedule Extension Request

Dear Mr. Ard-

Please consider this letter a formal update to our letters dated 4/25/2022, 7/1/2022, 7/8/2022, and 7/20/2022. Weiss has tracked the cost and time related this issue under Change Event 1 (CE-01). The final cost was previously established in CE01 R3 dated 7/20/2022 (detailing direct costs captured by the allowance as well as costs exceeding the allowance). This letter will address the time impact directly attributed to the DTE delay.

As an overview, Weiss initiated contact with DTE and tracked the planning activities as noted in our summary dated 5/13/2022 (attached for reference). After this summary was issued, a meeting was held with DTE 6/1/2022 at the Chapaton Pump Station/RTB. DTE provided commitments to review the work and implement the plans within 8 weeks of this meeting (7/29/2022 +/-).

As the project currently stands, DTE actually started work 8/15/2022 and set the poles within the church parking lot on 8/16/2022. The 13kV primary lines were removed overhead from the project site 8/25/2022. DTE's street lighting division and 2 network providers (WOW and Everstream) should be completing their work by 9/2/2022 based upon verbal correspondence.

This tracks with our current scheduling of our subcontractor, Rohrscheib Sons Caissons, to begin drilling work for the soldier piles on 9/6/2022.

In our baseline schedule submitted on 4/5/2022, reviewed FAC on 5/10/2022, the following activities/dates were established to meet the contractual substantial date of 9/23/2022.

1. BCV-1020 – Relocation of Utilities by Others Complete
  - a. Baseline schedule assumed completion of 6/22/2022
  - b. Currently scheduled 9/2/2022
  - c. **A delay of 69 days per our most recent schedule update (July 31<sup>st</sup> R2)**

This assumed date specifically impacts the critical path as related to starting soldier pile work (clearing overhead power lines/obstructions to maintain MIOSHA specified clearances). This drives completing the excavation, concrete structure, and thus the installation of the ISG system.



**WEISS CONSTRUCTION CO. LLC**

41001 Grand River Ave.  
Novi, MI 48375  
(313) 567-4500

Friday, August 26, 2022

As such, the below dates are proposed for schedule extension via change order.

<b>Substantial Completion</b>	<b>09/23/2023</b>	<b>extended to 12/02/2023</b>
<b>Final Completion</b>	<b>11/22/2023</b>	<b>extended to 02/02/2024</b>

We also request the terms of final completion be modified to specifically exclude site restoration (landscaping) as the time of year will not be in proper season for site restoration. We will complete all training, closeout documentation, and interior punchlist. Please advise the contract mechanics of documenting this exception for Spring 2024.

Finally, we must assert the caveat that this schedule extension has the potential to modify the operational demonstration and thus substantial completion of the project. Our baseline schedule assumed 2 rain events (each greater than 0.5" of rain) for activities CLO-1070 and CLO-1080. This determined a window of time from 8/25/2023 through 9/23/2023 that two events were probable based upon NOAA historical data for this month timeframe in September. The operational demonstration has now shifted into November/December and thus the probability of meeting 2 rain events of 0.5" has changed (generally speaking, is less likely).

Weiss intends on providing an operational system ready for beneficial use (including training, manuals, simulation/pre-testing as far as possible) prior to this November/December date (on about 11/2/2023).

**Weiss reserves its right for a subsequent schedule extension should the project not experience wet weather of adequate intensity and duration (2 rain events producing rainfall greater than 0.5" each) after the system is completed and ready for beneficial use.**

Sincerely,

Zachary Zechmeister  
Project Manager

CC Weiss: Joe Mulville  
CC Macomb: Vincent Astorino, Steve Rozycki, Steven Wagner, Jeremy Jarinski  
CC Tetra Tech: Brian Rubel, David Weiss



**WEISS CONSTRUCTION CO. LLC**

41001 Grand River Ave.  
Novi, MI 48375  
(313) 567-4500

Friday, May 13, 2022

RE: Tetra Tech 200-16347-19001: Macomb WWS-2021-006; Weiss WC22-01

Subject: RE : DTE Delay – Further Breakdown to Supplement 4/25/2022 Letter

12/23/2021 - Weiss receives DTE contact information from Tetra Tech (after pre-award meeting)

12/29/2021 – Weiss initiates contact with DTE

01/03/2022 – DTE responds, various staff out of office due to Holidays

01/11/2022 – DTE (Steve Eriquez) starts contact (assigned planner)

01/12/2022 – Weiss provides overview of work with excerpt of Contract drawings

01/18/2022 – DTE (Steve Eriquez), Macomb (Steve Wagner), and Weiss (Zach Zechmeister) meet onsite

01/19/2022 – Weiss asked DTE to confirm voltages for determining working clearances per MIOSHA  
DTE reponds same day (below):

- Cross Streets: **Oak Ave & Beaconsfield Ave** | Overhead ( 3 ) 336 Primary Conductor, 3 Phase, Voltage 4.8kv
- Cross Street: **Greater Mach Ave & Gaukler Street** | Overhead Primary going EAST ( 2 ) #6\_WP | Secondary ( 3 ) #2\_WP | ( WP ) means Weatherproof, Cover Conductor
- Secondary on the Westside of the Vacant Property Running North & South ( 4 ) 1/0\_A Covered

01/25/2022 – Weiss tracking down street lighting contact as Steve Eriquez is not responsible  
Started chasing down with Darin at Eastpointe DPW

02/11/2022 – DTE provides first preliminary drawing showing rough layout but no detailed dimensions  
See file W.O.#60792406\_1\_OverheadElectric

02/15/2022 – Second Field Meeting with DTE (Steve Eriquez + assistants) and Weiss (Zach Zechmeister)  
At this point DTE noted relocation and new permanent service must be performed in one workflow (thus new OH for permanent service would remain OH across Beaconsfield at the SOE). Options discussed for moving the NEW permanent service underground ONLY but leaving relocation OH as shown on the plans

02/22/2022 – DTE provides plan for reroute (OH) and new feed (underground). Weiss starts procuring cost backup for ductbank for new scope gap (underground across Beaconsfield

See file W.O.#60792406\_1A\_OverheadElectric  
See file W.O.#64490107\_1b\_UndergroundElectric

In reviewing these plans, note the new permanent service is fed from a same circuit that the OH that must be relocated. This is critical for later discussions.

03/01/2022 – Weiss was relayed contact information for street lighting courtesy of Eastpointe

03/02/2022 – DTE (Steve Eriquez) now notes he can pickup the streetlighting work

03/03/2022 – Cost discussion is ongoing for the 02/22/2022 plans

03/07/2022 – DTE request for Easement documents and request agreement from DTE

03/07/2022 – Weiss is making final checks on DTE layout provide 2/22/2022 and realizes DTE’s proposed pole placement (keeping their OH within ROW) will NOT allow for clearances per MIOSHA. Weiss directs DTE to explore more options. Discussions occurring verbally with Steve about moving underground for all the work around the SOE.

03/30/2022 – DTE issues revised W.O.#64490107\_Preliminary\_2.



**WEISS CONSTRUCTION CO. LLC**

41001 Grand River Ave.  
Novi, MI 48375  
(313) 567-4500

Friday, May 13, 2022

This plan completely changes to underground for the entire area around the corner of Oak/Beaconsfield. It also denotes (see email from Steve on 3/30/2022) the various different circuits, the creation of a double circuit underground, and added complexity. No cost given at this time. Shared update with Owner/Engineer.

04/04/2022 – Weiss shares draft Consumers Energy plan with DTE for coordination efforts. Shared with Owner/Engineer 4/6/2022. Verbal conversations occur through 4/18/2022

04/18/2022 – Weiss receives email from DTE about status to proceed. DTE not releasing cost estimate.

04/22/2022 – Weiss requests quote and timeline is of critical nature

04/22/2022 – Weiss receives verbal cost ROM of \$500k (DTE) and immediately notifies Owner/Engineer

04/22/2022 – Weiss receives and forwards quote with timeline attached

04/25/2022 – Weiss issues letter for potential delay

04/26/2022 – DTE issues 4.26.2022 Propose Relocate Beaconsfield Oak after meeting with Weiss

This plan routes lines behind the homes on existing easement and to the church parking lot. Leaving new service as directional bored underground from Oak pole.

Outline is diagrammatic in nature, not engineered plan. DTE investigating feasibility.

05/05/2022 – DTE slow to respond, DTE engineer out of office until 5/26/2022

05/09/2022 – DTE changes engineer (see email). DTE visiting site 5/12/2022

05/13/2022 – DTE provides understanding of new plan and scope (no drawings)

**Current plan 5/13/2022 with new DTE engineer (Marc Maidaniuc), same DTE planner (Steve Eriquez)**

1. Relocate existing “backbone” to deep easement behind homes (temporary only and must eventually be relocated to the relocation plan on the drawings, once construction is complete)
2. Pull new feeder off the other circuit and direction bore into the site. Will also serve as construction power.

**BACKGROUND ON MISOHA STANDARDS-**

See attached PDF part 10c. Also see DTE overlay sheet for appx layout when everything was overhead.

Page 15 – 1926.1407(a) – Grounding line is not allowable per DTE. Option 2 is 20ft. Option 3 is a table. Per the table, under 50kV, minimum clearance is 10ft. No closer for Contractors.

Under option 2 or 3, additional measurements must be taken to prevent encroachment per 1926.1407(b). Again, this requires minimum distance of 10ft. No provisions exist for clearances closer than 10ft.

CC Weiss: Joe Mulville

CC Macomb: Vincent Astorino, Steve Rozycki, Steven Wagner, Jeremy Jarinski

CC Tetra Tech: Brian Rubel, David Weiss



**WEISS CONSTRUCTION COMPANY, LLC.**

**Presents the following**

**JULY 31, 2022 R2 – SCHEDULE UPDATE**

**8.5 MILE RELIEF DRAIN DRAINAGE DISTRICT**

**PREPARED WITH THE ASSISTANCE OF:**



## SCHEDULE NARRATIVE

### 8.5 MILE RELIEF DRAIN DRAINAGE DISTRICT

July 31, 2022 R2 (UPD-01) Schedule Update

#### EXECUTIVE OVERVIEW

Weiss Construction Company LLC (“Weiss”) presents the following July 31, 2022 R2 - Schedule Update for the 8.5 Mile Relief Drain Drainage District project. The July 31, 2022 - Project Schedule is a Critical Path Method (“CPM”) schedule in Primavera P6 format version 15.1.

#### MILESTONES / COMPLETION DATES

<u>MILESTONES</u>	<u>CONTRACT</u>	<u>ACTUAL</u>	<u>PROJECTED</u>
NTP (01/31/2022)	01/31/2022	01/31/2022	-
KICKOFF MEETING HELD	-	02/07/2022	-
DRY WEATHER FLOW ACHIEVED	-	-	8/28/2023
SUBSTANTIAL COMPLETION (600 D AFTER CCD = 9/23/2023)	9/23/2023	-	12/1/2023
FINAL COMPLETION (660 CD AFTER CCD = 11/22/2023)	11/22/2023	-	02/2/2024

The 8.5 Mile Relief Drain Drainage District - July 31, 2022 R2 (UPD-01) Schedule Update indicates that Substantial Completion is projected for December 1, 2023, which is sixty-nine (69) calendar days beyond the contract required Substantial Completion Date September 23, 2023. Final Completion is projected for February 2, 2024, which is seventy-two (72) calendar days beyond the contract required Final Completion Date of November 22, 2023.

SCHEDULE UPDATE	SCD	TOTAL FLOAT	VARIANCE
BASELINE SCHEDULE	9/23/2023	0	0
JULY 31, 2022 R2 (UPD-01)	12/1/2023	-69	--69

#### GENERAL SEQUENCE / WBS

**Milestones**  
**Submittals**



## **Construction**

Preliminary Construction

Primary Sites

Mobilize

Kelly Site

Gaukler Site

Beaconsfield

Malvern Site

Secondary Sites

Eastlawn Site

Greatermack Site

Edgewood Site

O'Connor Site

## **Closeout**

Closeout Required for Substantial Completion

Scada Development / Testing & Commissioning

Closeout Required for Final Completion

## **CRITICAL PATH**

In the 8.5 Mile Relief Drain Drainage District - July 31, 2022 R2 (UPD-01) Schedule Update, the critical path is driven by the estimated time required for DTE / CONSUMERS to complete the utility relocation work, and continues with the Beaconsfield Main Site Civil work, and the Beaconsfield Main Site Structural work. The critical path concludes with the Beaconsfield ISG Bladder, Bladder Checkout, SCADA Testing & Commissioning, Substantial Completion, Punchlist & Demobilization, Final Completion, and ends with Site Restoration (Post Final Completion).

Substantial Completion (activity MS-1030) is projected for December 1, 2023.

Final Completion (activity MS-1040) is projected for February 2, 2024.

Refer to the Critical Path Bar Chart for the detailed listing and sequence of the critical path.

## **SCHEDULE FILE INFORMATION**

The 8.5 Mile Relief Drain Drainage District - July 31, 2022 R2 (UPD-01) Schedule Update was created by making a copy of the previously submitted 8.5 Mile Relief Drain Drainage District - Baseline Schedule (Filename: 8.5 MILE-BASE). The schedule data date was adjusted to August 1, 2022, and schedule progress was incorporated through July 31, 2022. Weiss then made the following changes to the schedule:

- Added & Deleted Activities: New schedule activities were added by Weiss to track and record the additional time (beyond June 22, 2022) required for DTE / Consumers to complete the utility relocation work at the Beaconsfield Site Main Site. Weiss also added new schedule activities to track and record progress on resubmittals.
- Added & Deleted Activity Relationships: Due to the referenced changes above, the July 31, 2022 includes changes to activity predecessor and successor relationships. Additionally, in the July 31, 2022 Schedule Update, Weiss corrected out of sequence schedule logic for activities adversely affecting the critical path
- Constraint Changes: Since the Owner agreed to allow site restoration work to occur post Final Completion, the Must Finish By Constraint was removed from the project. The Substantial Completion and Final Completion finish constraints remain the same. Weiss also added a Start On or After 01-APR-23 constraint to the Beaconsfield Control Bldg. CMU / BRICKWORK.

For the complete and detailed listing of all changes made to the schedule, refer to the PDF report titled “8.5 MILE RELIEF DRAIN DRAINAGE DISTRICT - JULY 31 2022 R2 - SCHEDULE COMPARISON” included with the Schedule Update.

#### DELAYS / ISSUE

- In the Baseline Schedule developed by Weiss, Weiss anticipated that DTE / Consumers would complete their utility relocation work (which is required for Weiss to begin construction) at the Beaconsfield Main Site no later than June 22, 2022. Based on the current available information, the utility relocation work is not anticipated to be complete until September 2, 2022, resulting in a schedule slippage of seventy (70) calendar days. In order to track and record this ongoing delay, Weiss added new two (2) new schedule activities. REL-1033 “ADDITIONAL TIME REQ. FOR DTE / CONSUMERS TO RELOCATE UTILITY 6-23 TO 7-29” tracks the actual delay which has occurred beginning June 23, 2022 and ending July 29, 2022. REL-1035 “EST. REMAINING TIME REQ. FOR DTE / CONSUMERS TO RELOCATE UTILITY 7-30 TO 9-2” forecasts the additional delay which is anticipated based on the current available information. Following completion of the utility relocation work by DTE / CONSUMERS, Weiss will submit a formal request for time extension.

#### CALENDARS

The schedule contains the following calendars:

- 7-DAY – Seven-day calendar, no days are blocked out.

- 5-DAY H – Saturdays, Sundays, and Government holidays are blocked out as non-workdays.
- 5-DAY W - Saturdays, Sundays, Government holidays and Weather days per NOAA/Historical data\* are blocked out as non-workdays. This calendar is used for all activities with the potential for delay due to inclement weather. Additionally, the NOAA/Historical data was used by Weiss to determine the duration required for Testing & Commissioning activities CLO-1070, and CLO-1080. Testing & Commissioning requires two storm events with greater than a .5” of precipitation, therefore the anticipated duration required for two storm events of this magnitude is 30 calendar days.

#### ACTIVITY CODES

Includes:

- Responsibility Coding
- Site Coding
- Trade Coding

#### SUBMITTED FILES

- P6 .XER File (Ver. 15.1)
- Schedule Narrative (PDF)
- All Activities Bar Chart (PDF)
- Critical Path Bar Chart (PDF)
- Remaining Activities Bar Chart (PDF)
- Summary Schedule Bar Chart (PDF)

8.5 MILE - SUMMARY BAR CHART

ACTIVITY ID	ACTIVITY NAME	ORIG DUR	REM DUR	% COMP	ACTUAL START	ACTUAL FINISH	EARLY START	EARLY FINISH	LATE START	LATE FINISH	TF	CALENDAR
<b>8.5 MILE RELIEF DRAIN DRAINAGE DISTRICT - IN SYSTEM STORAGE</b>												
<b>MILESTONES</b>												
MIL-1000	NOTICE TO PROCEED DATE (NTP DATE = JANUARY 31, 2022)	540	412	23.7%	29-Dec-21		01-Aug-22	21-Mar-24	26-May-22	21-Mar-24	0	2023 A S O N D J F M A M J J A S O N D J F M A
MIL-1010	KICKOFF MEETING HELD	426	142	66.87%	31-Jan-22		28-Aug-23	21-Mar-24	26-Jun-23	21-Mar-24	0	2024 J F M A M J J A S O N D J F M A
MIL-1020	DRY WEATHER FLOW ACHIEVED	1	0	100%	31-Jan-22							
MIL-1030	SUBSTANTIAL COMPLETION DATE (600 CD AFTER CONTRACT COMMENCEMENT DATE = 9/23/2023)	0	0	0%	07-Feb-22	07-Feb-22						
MIL-1040	FINAL COMPLETION DATE (660 CD AFTER CONTRACT COMMENCEMENT DATE = 11/22/2023)	0	0	0%								
MIL-1050	RESTORATION COMPLETION DATE (PERMITTED TO OCCUR AFTER FINAL COMPLETION DATE)	0	0	0%								
<b>SUBMITTALS</b>												
		330	202	38.79%	31-Jan-22		01-Aug-22	19-May-23	07-Jun-22	04-Feb-24	176	
<b>CONSTRUCTION</b>												
		540	412	23.7%	29-Dec-21		01-Aug-22	21-Mar-24	26-May-22	21-Mar-24	0	
<b>PRELIMINARY CONSTRUCTION</b>												
		230	25	89.13%	29-Dec-21		01-Aug-22	02-Sep-22	26-May-22	27-Jun-22	-47	
<b>PERMITS</b>												
		50	0	100%	09-Mar-22	05-Jul-22						
<b>UTILITY RELOCATION</b>												
		230	25	89.13%	29-Dec-21		01-Aug-22	02-Sep-22	26-May-22	27-Jun-22	-48	
<b>PRIMARY SITES</b>												
		540	412	23.7%	27-Apr-22		01-Aug-22	21-Mar-24	24-Jun-22	21-Mar-24	0	
<b>MOBILIZE</b>												
		366	336	8.2%	07-Jul-22		01-Aug-22	01-Dec-23	24-Jun-22	22-Sep-23	-47	
<b>KELLY SITE</b>												
		211	99	53.08%	27-Apr-22		01-Aug-22	13-Jan-23	28-Jul-23	22-Sep-23	154	
<b>CIVIL</b>												
		142	30	79.15%	27-Apr-22		01-Aug-22	16-Sep-22	28-Jul-23	22-Sep-23	224	
<b>PROCESS EQUIPMENT</b>												
		70	70	0%			16-Sep-22	13-Jan-23	14-Aug-23	22-Sep-23	154	
<b>GAULKER SITE</b>												
		201	75	62.94%	27-Apr-22		31-Aug-22	05-Jan-23	08-Jul-22	10-Oct-23	170	
<b>CIVIL</b>												
		145	18	87.54%	27-Apr-22		31-Aug-22	30-Sep-22	08-Jul-22	22-Sep-23	216	
<b>PROCESS EQUIPMENT</b>												
		25	25	0%			23-Nov-22	05-Jan-23	31-Aug-23	10-Oct-23	170	
<b>BEACONSFIELD SITE</b>												
		529	387	26.84%	27-Apr-22		02-Sep-22	21-Mar-24	27-Jun-22	21-Mar-24	0	
<b>BEACONSFIELD - MAIN SITE</b>												
		529	387	26.84%	27-Apr-22		02-Sep-22	21-Mar-24	27-Jun-22	21-Mar-24	0	
<b>BEACONSFIELD - CONTROL BLDG</b>												
		247	247	0%			14-Oct-22	09-Oct-23	25-Apr-23	17-Aug-23	-36	
<b>BEACONSFIELD - ISG - BLADDER</b>												
		47	47	0%			10-Aug-23	28-Oct-23	01-Jun-23	17-Aug-23	-42	
<b>MALVERN SITE</b>												
		78	78	0%			19-Jun-23	24-Oct-23	16-May-23	10-Oct-23	-8	
<b>CIVIL</b>												
		78	78	0%			19-Jun-23	24-Oct-23	16-May-23	22-Sep-23	-19	
<b>ARCHITECTURAL</b>												
		5	5	0%			24-Aug-23	30-Aug-23	28-Aug-23	01-Sep-23	2	
<b>PROCESS EQUIPMENT</b>												
		14	14	0%			31-Aug-23	22-Sep-23	05-Sep-23	28-Sep-23	2	
<b>ELECTRICAL</b>												
		9	9	0%			25-Sep-23	08-Oct-23	28-Sep-23	10-Oct-23	2	
<b>SECONDARY SITES</b>												
		194	194	0%			01-Aug-22	16-Jun-23	29-Jun-22	15-May-23	-19	
<b>EASTLAWN SITE</b>												
		115	115	0%			01-Aug-22	09-Feb-23	29-Jun-22	09-Jan-23	-19	
<b>GREATERMACK SITE</b>												
		31	31	0%			10-Feb-23	28-Mar-23	10-Jan-23	28-Feb-23	-19	
<b>EDGEWOOD SITE</b>												
		31	31	0%			30-Mar-23	18-May-23	01-Mar-23	18-Apr-23	-19	
<b>O'CONNOR SITE</b>												
		17	17	0%			19-May-23	16-Jun-23	20-Apr-23	15-May-23	-19	
<b>CLOSEOUT</b>												
		319	319	0%			24-Oct-22	02-Feb-24	28-Jul-23	22-Nov-23	-47	
<b>CLOSEOUT REQUIRED FOR SUBSTANTIAL COMPLETION</b>												
		277	277	0%			24-Oct-22	01-Dec-23	28-Jul-23	17-Oct-23	-30	
<b>CLOSEOUT REQUIRED FOR FINAL COMPLETION</b>												
		66	66	0%			28-Oct-23	02-Feb-24	25-Sep-23	22-Nov-23	-47	

Page 1 of 1

TASK filter: All Activities

Actual Work █ Critical Remaining Work ◆  
 Remaining Work █ Milestone

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ACTIVITY ID	ACTIVITY NAME	ORIG DUR	REM DUR	% COMP	START	FINISH	IF	CALENDAR
MIL-1030	SUBSTANTIAL COMPLETION DATE (600 CD AFTER CONTRACT COMMENCEMENT DATE = 9/23/2023)	0	0	0%	01-Dec-23*	-69		2024 Jan F M A M J J A S O N D
MIL-1040	FINAL COMPLETION DATE (660 CD AFTER CONTRACT COMMENCEMENT DATE = 11/22/2023)	0	0	0%	02-Feb-24*	-72		2023 A S O N D J F M A M J J A S O N D
MIL-1050	RESTORATION COMPLETION DATE (PERMITTED TO OCCUR AFTER FINAL COMPLETION DATE)	0	0	0%	21-Mar-24	0		

### 8.5 MILE RELIEF DRAIN DRAINAGE DISTRICT - IN SYSTEM STORAGE - JULY 31 2022 SCHEDULE UPDATE

ACTIVITY ID	ACTIVITY NAME	ORIG DUR	REM DUR	% COMP	START	FINISH	IF	CALENDAR
REL-1035	EST. REMAINING TIME REQ. FOR DTE / CONSUMERS TO RELOCATE UTILITY 7-30 TO 9-2	53	33	37.74%	30-Jul-22 A	02-Sep-22	-67	

### CONSTRUCTION

#### PRELIMINARY CONSTRUCTION

#### UTILITY RELOCATION

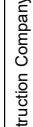
REL-1035	EST. REMAINING TIME REQ. FOR DTE / CONSUMERS TO RELOCATE UTILITY 7-30 TO 9-2	53	33	37.74%	30-Jul-22 A	02-Sep-22	-67	
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#### PRIMARY SITES

#### BEACONSFIELD - MAIN SITE

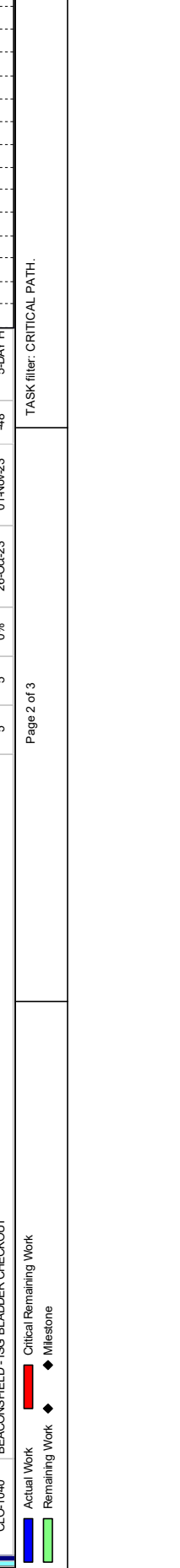
#### CIVIL

BCV-1020	RELOCATION OF UTILITIES BY OTHERS COMPLETE	0	0	0%	02-Sep-22	-67		
BCV-1030	REMOVE 12" STORMWATER SEWER	2	2	0%	06-Sep-22	07-Sep-22	-42	
BCV-1040	REMOVE & CAP 1.25' GAS MAIN	3	3	0%	06-Sep-22	08-Sep-22	-42	
BCV-1100	REMOVE 8" WATER MAIN (2 LOCATIONS)	3	1	66.67%	19-Jul-22 A	09-Sep-22	-42	
BCV-1050	REMOVE 24" STORMWATER SEWER	2	2	0%	08-Sep-22	09-Sep-22	-42	
BCV-1110	REMOVE ABANDONED 6" GAS MAIN	3	3	0%	12-Sep-22	15-Sep-22	-42	
BCV-1120	REMOVE EXISTING SEWER MANHOLE	1	1	0%	16-Sep-22	16-Sep-22	-42	
BCV-1130	MOBILIZE ROHRSHEIB FROM GAUKLER	2	2	0%	19-Sep-22	20-Sep-22	-42	
BCV-1140	INSTALL RIB & BOARD (6 LOCATIONS) - ENTRY WEATHER DEPENDANT	5	5	0%	19-Sep-22	26-Sep-22	-42	
BCV-1150	SOLDIER PILES	11	11	0%	27-Sep-22	13-Oct-22	-42	
BCV-1160	COMPLETE CONCRETE PAVEMENT REMOVAL TO LIMITS REQUIRED	5	5	0%	14-Oct-22	21-Oct-22	-42	
BCV-1170	ERECT HANDRAIL, PREP ACCESS	3	3	0%	24-Oct-22	26-Oct-22	-42	
BCV-1180	EXCAVATE GRADE 591 TO 588	5	5	0%	27-Oct-22	03-Nov-22	-42	
BCV-1190	TERS INSTALL 591 (LEVEL 1 OF 3)	3	3	0%	04-Nov-22	09-Nov-22	-42	
BCV-1200	EXCAVATE 588 TO 580	5	5	0%	10-Nov-22	18-Nov-22	-42	
BCV-1210	TERS INSTALL 581.5 (LEVEL 2 OF 3)	5	5	0%	21-Nov-22	29-Nov-22	-42	
BCV-1220	EXCAVATE 580 TO 573 - TOP OF PIPE	5	5	0%	30-Nov-22	06-Dec-22	-42	
BCV-1230	TERS INSTALL 573 (LEVEL 3 OF 3)	5	5	0%	08-Dec-22	15-Dec-22	-42	
BCV-1240	EXCAVATE TIGHT SIDE CROWN TO SPRING	5	5	0%	16-Dec-22	22-Dec-22	-42	
BCV-1250	GROUT TUNNEL EYES AT TERS	5	5	0%	16-Dec-22	22-Dec-22	-42	
BCV-1260	EXCAVATE WIDE SIDE CROWN TO SPRING	5	5	0%	27-Dec-22	03-Jan-23	-42	
BCV-1270	EXCAVATE TIGHT SIDE SPRING TO MUDLINE	10	10	0%	04-Jan-23	19-Jan-23	-42	
BCV-1280	EXCAVATE WIDE SIDE SPRING TO MUDLINE	10	10	0%	20-Jan-23	03-Feb-23	-42	
BCV-1290	UNDERMINE & CRIB SEWER AT 50C	20	20	0%	06-Feb-23	07-Mar-23	-42	
BCV-1300	POUR MUDMAT	3	3	0%	09-Mar-23	13-Mar-23	-42	
BCV-1310	BACKFILL - FLOW FILL UP TO 573	3	3	0%	02-Jun-23	06-Jun-23	-42	
BCV-1320	TERS REMOVAL 573 (1 OF 3)	2	2	0%	08-Jun-23	09-Jun-23	-42	



8.5 MILE - CRITICAL PATH

ACTIVITY ID	ACTIVITY NAME	ORIG DUR	REM DUR	% COMP	START	FINISH	IF	CALENDAR
BCV-1330	FILL BOXOUTS AT 573	2	2	0%	12-Jun-23	13-Jun-23	-42	2023 A S O C T N D J J F M A M J J A S O C T N D J J A M J
BCV-1340	BACKFILL-FLOW FILL TO 577	3	3	0%	15-Jun-23	19-Jun-23	-42	2024 J J A M J
BCV-1350	BACKFILL 577 TO 581	5	5	0%	18-Jul-23	25-Jul-23	-42	
BCV-1360	TERS REMOVAL 581.5 (2OF3)	2	2	0%	27-Jul-23	28-Jul-23	-42	
BCV-1370	FILL BOXOUTS AT 581.5	2	2	0%	31-Jul-23	01-Aug-23	-42	
BCV-1380	BACKFILL 581.5 TO 587 - JUST BELOW FINISH GRADE, STEP / PROTECT	5	5	0%	02-Aug-23	08-Aug-23	-42	
BCV-1400	PREP / INSPECT TO CONNECT TO LIVE SEWER (SAWCUT ENTRY)	0	0	0%	08-Aug-23	08-Aug-23	-42	
<b>STRUCTURAL</b>								
BST-1000	3' BASE SLAB AT SEWER STRUCTURES	7	7	0%	14-Mar-23	23-Mar-23	-42	
BST-1020	SEWER STRUCTURE WALLS TO 577 - TIGHT SIDE - FORM TIE POUR STRIP	12	12	0%	24-Mar-23	11-Apr-23	-42	
BST-1030	SEWER STRUCTURE WALLS TO 577 - TUNNEL PENS. FORM TIE POUR STRIP	7	7	0%	13-Apr-23	24-Apr-23	-42	
BST-1040	SEWER STRUCTURE WALLS TO 577 - OPEN SIDE - FORM TIE POUR STRIP	10	10	0%	25-Apr-23	08-May-23	-42	
BST-1050	GATE STRUCTURE WALLS - MASS - FORM TIE POUR STRIP	10	10	0%	25-Apr-23	08-May-23	-42	
BST-1070	FORM DECK AT 577 - NOTE - CRITICAL SHORING ABOVE PIPE	7	7	0%	09-May-23	19-May-23	-42	
BST-1080	TIE, POUR, CURE DECK AT 577 - RETAIN SHORING	7	7	0%	22-May-23	01-Jun-23	-42	
BST-1120	SEWER STRUCTURE WALLS 577 TO 587 FTPS	7	7	0%	20-Jun-23	29-Jun-23	-42	
BST-1130	STRIP 577 LEVEL CLEAR, RESHORE IF NECESSARY FOR 587 DECK	7	7	0%	30-Jun-23	11-Jul-23	-42	
BST-1140	587 DECK SLAB - FTPS	3	3	0%	13-Jul-23	17-Jul-23	-42	
<b>LANDSCAPING</b>								
BLA-1000	INSTALL SHRUBS / TREES	15	15	0%	05-Feb-24	27-Feb-24	0	
BLA-1010	INSTALL GRASS PAVERS	5	5	0%	28-Feb-24	05-Mar-24	0	
BLA-1020	INSTALL SHREDDED HARDWOOD MULCH	5	5	0%	07-Mar-24	14-Mar-24	0	
BLA-1030	INSTALL BLACK STEEL EDGING	5	5	0%	15-Mar-24	21-Mar-24	0	
<b>BEACONSFIELD - ISG - BLADDER</b>								
ISG-1010	MAKE ENTRY TO SEWER, SANDBAG, SUPPORT SAWCUT	5	5	0%	10-Aug-23	17-Aug-23	-42	
ISG-1020	SAWCUT - ALL ACTIVITY BELOW 577 NOW LIVE SEWER-CONFINED SPACE	5	5	0%	18-Aug-23	25-Aug-23	-42	
ISG-1030	TEMP WEIR INSTALLATION- ROUTING INTO BYPASS	5	5	0%	28-Aug-23	01-Sep-23	-42	
ISG-1040	CONCRETE PREP WORK FOR BLADDER / ISG (CRACK REPAIR, SMOOTH WALLS)	5	5	0%	05-Sep-23	11-Sep-23	-42	
ISG-1050	PARTIAL DEMO / HYDRODEMO OF PIPE WALL FOR INF / DEF / VENT	10	10	0%	01-Sep-23	18-Sep-23	-42	
ISG-1060	POUR CONCRETE BENCH	4	4	0%	12-Sep-23	18-Sep-23	-42	
ISG-1070	DRAINAGE BOX INSTALLATION	2	2	0%	15-Sep-23	18-Sep-23	-42	
ISG-1080	ISG - FLOECSMUHLE ONSITE	0	0	0%	19-Sep-23		-42	
ISG-1090	LAYOUT FOR ANCHORS - CORES	2	2	0%	19-Sep-23	21-Sep-23	-42	
ISG-1100	CORING FOR ANCHORS	10	10	0%	22-Sep-23	06-Oct-23	-42	
ISG-1110	INSTALL ANCHORS	5	5	0%	09-Oct-23	16-Oct-23	-42	
ISG-1120	LOWER BLADDER INTO POSITION	1	1	0%	17-Oct-23	17-Oct-23	-42	
ISG-1130	INSTALL BLADDER / CLAMP / TORQUE TO SPEC	2	2	0%	19-Oct-23	20-Oct-23	-42	
ISG-1140	INFLATE & LEAK TEST 24-48HRS	3	3	0%	23-Oct-23	25-Oct-23	-42	
<b>CLOSEOUT</b>								
<b>CLOSEOUT REQUIRED FOR SUBSTANTIAL COMPLETION</b>								
<b>SCADA DEVELOPMENT / TESTING &amp; COMMISSIONING</b>								
CLO-1040	BEACONSFIELD - ISG BLADDER CHECKOUT	5	5	0%	26-Oct-23	01-Nov-23	-48	





ACTIVITY ID	ACTIVITY NAME	ORIG DUR	REM DUR	% COMP	ACTUAL START	ACTUAL FINISH	EARLY START	EARLY FINISH	LATE START	LATE FINISH	IF	CALENDAR
MIL-1000	NOTICE TO PROCEED DATE (NTP DATE = JANUARY 31, 2022)	0	0	100%	31-Jan-22							7 DAY
MIL-1010	KICKOFF MEETING HELD	1	0	100%	07-Feb-22	07-Feb-22						5-DAY H
MIL-1020	DRY WEATHER FLOW ACHIEVED	0	0	0%				28-Aug-23		28-Jun-23	-43	5-DAY H
MIL-1030	SUBSTANTIAL COMPLETION DATE (600 CD AFTER CONTRACT COMMENCEMENT DATE = 9/23/2023)	0	0	0%				01-Dec-23		23-Sep-23	-69	7 DAY
MIL-1040	FINAL COMPLETION DATE (660 CD AFTER CONTRACT COMMENCEMENT DATE = 11/22/2023)	0	0	0%				02-Feb-24		22-Nov-23	-72	7 DAY
MIL-1050	RESTORATION COMPLETION DATE (PERMITTED TO OCCUR AFTER FINAL COMPLETION DATE)	0	0	0%				21-Mar-24		21-Mar-24	0	7 DAY

**SUBMITTALS**

**DIVISION 00 & 01 - GENERAL REQUIREMENTS**

DNV01-0001	SUBMIT BONDS & INSURANCE	5	0	100%	31-Jan-22	04-Feb-22						5-DAY H
DNV01-1040	PREPARE & SUBMIT - SUBMITTAL SCHEDULE	15	0	100%	16-Mar-22	16-Mar-22						5-DAY H
DNV01-1000	PREPARE & SUBMIT - HEALTH & SAFETY PLAN	15	0	100%	05-Apr-22	05-Apr-22						5-DAY H
DNV01-1020	PREPARE & SUBMIT - PRELIMINARY SCHEDULE	10	0	100%	05-Apr-22	05-Apr-22						5-DAY H
DNV01-1050	PREPARE & SUBMIT - BASELINE SCHEDULE	5	0	100%	05-Apr-22	05-Apr-22						5-DAY H
DNV01-1080	REVIEW & APPROVE - SUBMITTAL SCHEDULE	21	0	100%	17-Mar-22	06-Apr-22						7 DAY
DNV01-1060	PREPARE & SUBMIT - SCHEDULE OF VALUES	15	0	100%	11-Apr-22	11-Apr-22						5-DAY H
DNV01-1070	REVIEW & APPROVE - SCHEDULE OF VALUES	21	0	100%	12-Apr-22	02-May-22						7 DAY
DNV01-1010	REVIEW & APPROVE - HEALTH & SAFETY PLAN	21	0	100%	10-May-22	10-May-22						7 DAY
DNV01-1030	REVIEW & APPROVE - PRELIMINARY SCHEDULE	21	0	100%	10-May-22	10-May-22						7 DAY
DNV01-1090	REVIEW & APPROVE - BASELINE SCHEDULE	21	0	100%	10-May-22	10-May-22						7 DAY
DNV01-1100	PREPARE & SUBMIT - COMMISSIONING PLAN	15	15	0%			01-Aug-22	19-Aug-22	04-May-23	24-May-23	190	5-DAY H
DNV01-1110	REVIEW & APPROVE - COMMISSIONING PLAN	21	21	0%			20-Aug-22	09-Sep-22	25-May-23	14-Jun-23	278	7 DAY
DNV01-1120	PREPARE & SUBMIT - TRAINING PLAN	15	15	0%			12-Sep-22	30-Sep-22	15-Jun-23	06-Jul-23	190	5-DAY H
DNV01-1130	REVIEW & APPROVE - TRAINING PLAN	21	21	0%			01-Oct-22	21-Oct-22	07-Jul-23	27-Jul-23	279	7 DAY

**DIVISION 03 - CONCRETE**

DNV03-1040	PREPARE & SUBMIT - CONCRETE MIX DESIGNS	15	0	100%	01-Jun-22	01-Jun-22						5-DAY H
DNV03-1060	PREPARE & SUBMIT - MANHOLE CASTINGS	15	0	100%	01-Jun-22	01-Jun-22						5-DAY H
DNV03-1050	REVIEW & APPROVE - CONCRETE MIX DESIGNS	21	0	100%	10-Jun-22	10-Jun-22						7 DAY
DNV03-1070	REVIEW & APPROVE - MANHOLE CASTINGS	21	0	100%	10-Jun-22	10-Jun-22						7 DAY
DNV03-1000	PREPARE & SUBMIT - PRECAST RISERS - KELLY / GAUKLER	15	8	50%	11-Jul-22		01-Aug-22	10-Aug-22	07-Jun-22	16-Jun-22	-38	5-DAY H
DNV03-1020	PREPARE & SUBMIT - PRECAST VAULTS - KELLY / MALVERN	15	15	0%			01-Aug-22	19-Aug-22	04-Apr-23	24-Apr-23	168	5-DAY H
DNV03-1010	REVIEW & APPROVE - PRECAST RISERS - KELLY / GAUKLER	21	21	0%			10-Aug-22	31-Aug-22	17-Jun-22	07-Jul-22	-55	7 DAY
DNV03-1030	REVIEW & APPROVE - PRECAST VAULTS - KELLY / MALVERN	21	21	0%			20-Aug-22	09-Sep-22	25-Apr-23	15-May-23	248	7 DAY

**DIVISION 04 - MASONRY**

DNV04-1000	PREPARE & SUBMIT - MASONRY PRODUCT DATA & SHOP DRAWINGS	20	20	0%			01-Aug-22	26-Aug-22	02-Mar-23	29-Mar-23	145	5-DAY H
DNV04-1010	REVIEW & APPROVE - MASONRY PRODUCT DATA & SHOP DRAWINGS	21	21	0%			27-Aug-22	16-Sep-22	30-Mar-23	19-Apr-23	215	7 DAY
DNV04-1020	FABRICATE & DELIVER - UNIT MASONRY	42	42	0%			17-Sep-22	28-Oct-22	20-Apr-23	31-May-23	215	7 DAY

**DIVISION 05 - METALS**

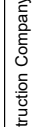
DNV05-1000	PREPARE & SUBMIT - LADDERS	40	40	0%			01-Aug-22	26-Sep-22	05-Apr-23	31-May-23	169	5-DAY H
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Actual Work █ Critical Remaining Work  
 Remaining Work █ Milestone ◆









8.5 MILE - ALL ACTIVITIES BAR CHART

ACTIVITY ID	ACTIVITY NAME	ORIG DUR	REM DUR	% COMP	ACTUAL START	ACTUAL FINISH	EARLY START	EARLY FINISH	LATE START	LATE FINISH	TF	CALENDAR
PER-1020	PREPARE & SUBMIT - SESS PERMIT	50	0	100%	04-Apr-22	08-Apr-22						5-DAY H
PER-1010	PREPARE & SUBMIT - EASTPOINTE PERMIT	50	0	100%	09-Mar-22	02-Jun-22						5-DAY H
PER-1000	PREPARE & SUBMIT - ST CLAIR SHORES PERMIT	50	0	100%	20-Apr-22	05-Jul-22						5-DAY H
<b>UTILITY RELOCATION</b>												
REL-1000	WEISS SUBMITS REQUESTS FOR UTILITY RELOCATION - DTE / CONSUMERS	10	0	100%	29-Dec-21	29-Dec-21						5-DAY H
REL-1030	DTE / CONSUMERS - EST. DATE OF UTILITY RELOCATION	92	0	100%	30-Dec-21	22-Jun-22						5-DAY H
REL-1045	WEISS SUBMITS REQUEST WATERMAIN RELOCATION - EASTPOINTE	10	0	100%	07-Jul-22	13-Jul-22						5-DAY H
REL-1033	ADDITIONAL TIME REQ. FOR DTE / CONSUMERS TO RELOCATE UTILITY 6-23 TO 7-29	37	0	100%	23-Jun-22	29-Jul-22						7-DAY
REL-1080	EASTPOINTE - EST. DATE OF WATERMAIN RELOCATION	92	1	98.91%	19-Jul-22		01-Aug-22	01-Aug-22	27-Jun-22	27-Jun-22	-24	5-DAY H
REL-1035	EST. REMAINING TIME REQ. FOR DTE / CONSUMERS TO RELOCATE UTILITY 7-30 TO 9-2	53	33	37.74%	30-Jul-22		01-Aug-22	02-Sep-22	26-May-22	27-Jun-22	-67	7-DAY
<b>PRIMARY SITES</b>												
<b>MOBILIZE</b>												
MOB-1010	MOBILIZE / SET JOBSITE TRAILER	10	0	100%	07-Jul-22	07-Jul-22						5-DAY H
MOB-1000	SUBMIT PRE-CONSTRUCTION PHOTOGRAPHS & VIDEO RECORDING	10	0	100%	07-Jul-22	14-Jul-22						5-DAY H
MOB-1030	PERFORM DETAILED SITE SURVEY & ESTABLISH CONTROL POINTS	10	10	0%	01-Aug-22	12-Aug-22	01-Aug-22	12-Aug-22	24-Jun-22	08-Jul-22	-25	5-DAY H
MOB-1040	INSTALL OF GEOTECHNICAL MONITORING (BY OTHERS AT GAUKLER & KELLY)	10	10	0%	01-Aug-22	12-Aug-22	01-Aug-22	12-Aug-22	24-Jun-22	08-Jul-22	-25	5-DAY H
MOB-1020	NOTIFY RESIDENTS OF UTILITY OUTAGES & SHUTDOWNS (ONGOING)	306	336	0%	07-Jul-22		01-Aug-22	01-Dec-23	24-Jun-22	22-Sep-23	-47	5-DAY H
<b>UTILITY SITE</b>												
<b>CIVIL</b>												
KCV-1000	PROBE LOCATING - KELLY SITE	5	0	100%	27-Apr-22	27-Apr-22						5-DAY W
KCV-1040	INSTALL E&S CONTROL	2	0	100%	23-May-22	23-May-22						5-DAY W
KCV-1020	KELLY SITE - PRELIM UTILITY LOCATIONS	5	0	100%	02-Jun-22	02-Jun-22						5-DAY W
KCV-1010	MOBILIZE & INSTALL MOT TRAFFIC CONTROL PLAN	1	0	100%	03-Jun-22	03-Jun-22						5-DAY W
KCV-1060	SHAFT DRILLING & CASING	5	0	100%	08-Jun-22	08-Jun-22						5-DAY W
KCV-1080	CONFINED SPACE ACCESS PROVISIONS	2	0	100%	09-Jun-22	09-Jun-22						5-DAY W
KCV-1090	GROUT ANNULAR SPACE	2	0	100%	09-Jun-22	09-Jun-22						5-DAY W
KCV-1100	DEMOLISH ROHRSCHEIB SONS	5	0	100%	10-Jun-22	10-Jun-22						5-DAY W
KCV-1110	HANDMINE TO TOP OF PIPE	5	0	100%	10-Jun-22	11-Jun-22						5-DAY W
KCV-1120	PREP RING, TIE STEEL	2	0	100%	11-Jun-22	11-Jun-22						5-DAY W
KCV-1130	POUR RING + CURE TIME	5	0	100%	08-Jul-22	15-Jul-22						5-DAY W
KCV-1050	INSTALL TREE PROTECTION FENCE	1	1	0%	01-Aug-22	01-Aug-22	01-Aug-22	01-Aug-22	21-Sep-23	21-Sep-23	251	5-DAY W
KCV-1150	CONFIRM DEPTH MEASUREMENT & FIELD CUT BOTTOM IF NECESSARY	2	2	0%	01-Aug-22	02-Aug-22	01-Aug-22	02-Aug-22	31-Jul-23	01-Aug-23	219	5-DAY W
KCV-1070	REMOVE & REPLACE TREE (2" DEC TREE)	1	1	0%	02-Aug-22	02-Aug-22	02-Aug-22	02-Aug-22	22-Sep-23	22-Sep-23	251	5-DAY W
KCV-1030	UNLOAD PRECAST RISERS	1	1	0%	31-Aug-22	01-Sep-22	01-Sep-22	01-Sep-22	28-Jul-23	28-Jul-23	199	5-DAY W
KCV-1140	CORE PIPE	2	2	0%	01-Sep-22	06-Sep-22	01-Sep-22	06-Sep-22	31-Jul-23	01-Aug-23	199	5-DAY W
KCV-1160	INSTALL PRECAST RISERS	2	2	0%	06-Sep-22	08-Sep-22	06-Sep-22	08-Sep-22	02-Aug-23	03-Aug-23	199	5-DAY W
KCV-1170	EXCAVATE & INSTALL CARBON CANISTER VAULT	2	2	0%	08-Sep-22	12-Sep-22	08-Sep-22	12-Sep-22	10-Aug-23	11-Aug-23	202	5-DAY W
KCV-1180	GROUT PRECAST CASING ANNULAR SPACE	5	5	0%	08-Sep-22	16-Sep-22	08-Sep-22	16-Sep-22	04-Aug-23	11-Aug-23	199	5-DAY W
<b>PROCESS EQUIPMENT</b>												
KPR-1000	INSTALL 4" DRAIN LINE	3	3	0%	16-Sep-22	22-Sep-22	16-Sep-22	22-Sep-22	14-Aug-23	17-Aug-23	199	5-DAY W
KPR-1010	INSTALL 18" VENT LINE	5	5	0%	22-Sep-22	30-Sep-22	22-Sep-22	30-Sep-22	18-Aug-23	25-Aug-23	199	5-DAY W

Actual Work █ Critical Remaining Work  
 Remaining Work █ Milestone ◆

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8.5 MILE - ALL ACTIVITIES BAR CHART

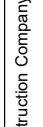
ACTIVITY ID	ACTIVITY NAME	ORIG DUR	REM DUR	% COMP	ACTUAL START	ACTUAL FINISH	EARLY START	EARLY FINISH	LATE START	LATE FINISH	TF	CALENDAR
<b>BEACONSFIELD - MAIN SITE</b>												
<b>CIVIL</b>												
BCV-1000	PROBE LOCATING - BEACONSFIELD SITE	5	0	100%	27-Apr-22	29-Apr-22						5-DAY W
BCV-1010	MAKE ENTRY - BEACONSFIELD - SUBMITTAL VERIFICATION	10	0	100%	11-Jul-22	11-Jul-22						5-DAY W
BCV-1020	RELOCATION OF UTILITIES BY OTHERS COMPLETE	0	0	0%			02-Sep-22			27-Jun-22	-67	7 DAY
BCV-1030	REMOVE 12" STORMWATER SEWER	2	2	0%			06-Sep-22	28-Jun-22	28-Jun-22	29-Jun-22	-42	5-DAY W
BCV-1040	REMOVE & CAP 1.25" GAS MAIN	3	3	0%			06-Sep-22	28-Jun-22	28-Jun-22	30-Jun-22	-42	5-DAY W
BCV-1100	REMOVE 8" WATER MAIN (2 LOCATIONS)	3	1	66.67%	19-Jul-22		09-Sep-22	01-Jul-22	01-Jul-22	01-Jul-22	-42	5-DAY W
BCV-1050	REMOVE 24" STORMWATER SEWER	2	2	0%			08-Sep-22	30-Jun-22	30-Jun-22	01-Jul-22	-42	5-DAY W
BCV-1060	CONFIRM BEACONSFIELD LAYOUT	5	5	0%			06-Sep-22	12-Sep-22	11-Jul-22	18-Jul-22	-34	5-DAY W
BCV-1070	ESTABLISH BEACONSFIELD TEMP POWER	5	5	0%			06-Sep-22	12-Sep-22	30-Jun-22	07-Jul-22	-40	5-DAY W
BCV-1080	BEACONSFIELD MOT - LONG TERM TRAFFIC CONTROL	5	5	0%			06-Sep-22	12-Sep-22	11-Jul-22	18-Jul-22	-34	5-DAY W
BCV-1090	SITE FENCING & SITE LAYDOWN MOBE	5	5	0%			06-Sep-22	12-Sep-22	11-Jul-22	18-Jul-22	-34	5-DAY W
BCV-1110	REMOVE ABANDONED 6" GAS MAIN	3	3	0%			12-Sep-22	15-Sep-22	05-Jul-22	07-Jul-22	-42	5-DAY W
BCV-1120	REMOVE EXISTING SEWER MANHOLE	1	1	0%			16-Sep-22	16-Sep-22	08-Jul-22	08-Jul-22	-42	5-DAY W
BCV-1130	MOBILIZE ROHRSHIEB FROM GAUKLER	2	2	0%			19-Sep-22	20-Sep-22	11-Jul-22	12-Jul-22	-42	5-DAY W
BCV-1140	INSTALL RIB & BOARD (6 LOCATIONS) - ENTRY WEATHER DEPENDANT	5	5	0%			19-Sep-22	26-Sep-22	11-Jul-22	18-Jul-22	-42	5-DAY W
BCV-1150	SOLDIER PILES	11	11	0%			27-Sep-22	13-Oct-22	19-Jul-22	04-Aug-22	-42	5-DAY W
BCV-1160	COMPLETE CONCRETE PAVEMENT REMOVAL TO LIMITS REQUIRED	5	5	0%			14-Oct-22	21-Oct-22	05-Aug-22	12-Aug-22	-42	5-DAY W
BCV-1170	ERECT HANDRAIL - PREP ACCESS	3	3	0%			24-Oct-22	26-Oct-22	15-Aug-22	18-Aug-22	-42	5-DAY W
BCV-1180	EXCAVATE GRADE 581 TO 588	5	5	0%			27-Oct-22	03-Nov-22	19-Aug-22	26-Aug-22	-42	5-DAY W
BCV-1190	TERS INSTALL 591 (LEVEL 1 OF 3)	3	3	0%			04-Nov-22	09-Nov-22	29-Aug-22	31-Aug-22	-42	5-DAY W
BCV-1200	EXCAVATE 588 TO 580	5	5	0%			10-Nov-22	18-Nov-22	01-Sep-22	08-Sep-22	-42	5-DAY W
BCV-1210	TERS INSTALL 581.5 (LEVEL 2 OF 3)	5	5	0%			21-Nov-22	29-Nov-22	09-Sep-22	16-Sep-22	-42	5-DAY W
BCV-1220	EXCAVATE 580 TO 573 - TOP OF PIPE	5	5	0%			30-Nov-22	06-Dec-22	19-Sep-22	26-Sep-22	-42	5-DAY W
BCV-1230	TERS INSTALL 573 (LEVEL 3 OF 3)	5	5	0%			08-Dec-22	15-Dec-22	27-Sep-22	04-Oct-22	-42	5-DAY W
BCV-1240	EXCAVATE TIGHT SIDE CROWN TO SPRING	5	5	0%			16-Dec-22	22-Dec-22	05-Oct-22	11-Oct-22	-42	5-DAY W
BCV-1250	GROUT TUNNEL EYES AT TERS	5	5	0%			16-Dec-22	22-Dec-22	05-Oct-22	11-Oct-22	-42	5-DAY W
BCV-1260	EXCAVATE WIDE SIDE CROWN TO SPRING	5	5	0%			27-Dec-22	03-Jan-23	13-Oct-22	20-Oct-22	-42	5-DAY W
BCV-1270	EXCAVATE TIGHT SIDE SPRING TO MIDLINE	10	10	0%			04-Jan-23	19-Jan-23	21-Oct-22	04-Nov-22	-42	5-DAY W
BCV-1280	EXCAVATE WIDE SIDE SPRING TO MIDLINE	10	10	0%			20-Jan-23	03-Feb-23	07-Nov-22	23-Nov-22	-42	5-DAY W
BCV-1290	UNDERMINE & CRIB SEWER AT 5' OC	20	20	0%			06-Feb-23	07-Mar-23	28-Nov-22	29-Dec-22	-42	5-DAY W
BCV-1300	POUR MIDWAT	3	3	0%			09-Mar-23	13-Mar-23	30-Dec-22	04-Jan-23	-42	5-DAY W
BCV-1310	BACKFILL - FLOW FILL UP TO 573	3	3	0%			02-Jun-23	06-Jun-23	27-Mar-23	29-Mar-23	-42	5-DAY W
BCV-1320	TERS REMOVAL 573 (1 OF 3)	2	2	0%			08-Jun-23	09-Jun-23	30-Mar-23	31-Mar-23	-42	5-DAY W
BCV-1330	FILL BOXOUTS AT 573	2	2	0%			12-Jun-23	13-Jun-23	03-Apr-23	04-Apr-23	-42	5-DAY W
BCV-1340	BACKFILL-FLOW FILL TO 577	3	3	0%			15-Jun-23	19-Jun-23	06-Apr-23	10-Apr-23	-42	5-DAY W
BCV-1350	BACKFILL 577 TO 581	5	5	0%			19-Jul-23	25-Jul-23	09-May-23	15-May-23	-42	5-DAY W
BCV-1360	TERS REMOVAL 581.5 (2 OF 3)	2	2	0%			27-Jul-23	28-Jul-23	16-May-23	18-May-23	-42	5-DAY W
BCV-1370	FILL BOXOUTS AT 581.5	2	2	0%			31-Jul-23	01-Aug-23	19-May-23	22-May-23	-42	5-DAY W
BCV-1380	BACKFILL 581.5 TO 587 - JUST BELOW FINISH GRADE, STEP / PROTECT	5	5	0%			02-Aug-23	08-Aug-23	23-May-23	31-May-23	-42	5-DAY W
BCV-1390	CUT OFF SOLIDER PILES 5' BELOW GRADE, LAGGING	5	5	0%			02-Aug-23	08-Aug-23	12-Jun-23	19-Jun-23	-31	5-DAY W

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Actual Work █ Remaining Work █ Critical Remaining Work █ Milestone ◆

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8.5 MILE - ALL ACTIVITIES BAR CHART

ACTIVITY ID	ACTIVITY NAME	ORIG DUR	REM DUR	% COMP	ACTUAL START	ACTUAL FINISH	EARLY START	EARLY FINISH	LATE START	LATE FINISH	TF	CALENDAR
BCV-1400	PREP / INSPECT TO CONNECT TO LIVE SEWER (SAWCUT ENTRY)	0	0	0%			08-Aug-23	31-May-23			-42	5-DAY W
BCV-1410	INSTALL ADAPLATES (2 LOCATIONS)	5	5	0%	10-Aug-23		17-Aug-23	27-Jun-23	20-Jun-23	27-Jun-23	-31	5-DAY W
BCV-1420	INSTALL PERMANENT EASEMENT	5	5	0%	18-Aug-23		25-Aug-23	05-Jul-23	28-Jun-23	05-Jul-23	-31	5-DAY W
BCV-1430	INSTALL BOLLARDS	5	5	0%	28-Aug-23		01-Sep-23	13-Jul-23	06-Jul-23	13-Jul-23	-31	5-DAY W
BCV-1440	INSTALL SCREEN FENCE	5	5	0%	05-Sep-23		11-Sep-23	21-Jul-23	14-Jul-23	21-Jul-23	-31	5-DAY W
BCV-1450	REMOVE & REPLACE CURB AND GUTTER	5	5	0%	12-Sep-23		19-Sep-23	31-Jul-23	24-Jul-23	31-Jul-23	-31	5-DAY W
BCV-1460	REMOVE & REPLACE CONCRETE SIDEWALK / PAVEMENT	5	5	0%	21-Sep-23		28-Sep-23	22-Sep-23	15-Sep-23	22-Sep-23	-3	5-DAY W
<b>SITE UTILITIES</b>												
BSI-1000	INSTALL 3/4" GENERATOR GAS SERVICE	5	5	0%	21-Sep-23		28-Sep-23	07-Aug-23	01-Aug-23	07-Aug-23	-31	5-DAY W
BSI-1010	INSTALL 3/4" COPPER WATER SERVICE	5	5	0%	29-Sep-23		05-Oct-23	15-Aug-23	08-Aug-23	15-Aug-23	-31	5-DAY W
<b>STRUCTURAL</b>												
BSI-1000	3' BASE SLAB AT SEWER STRUCTURES	7	7	0%	14-Mar-23		23-Mar-23	17-Jan-23	05-Jan-23	17-Jan-23	-42	5-DAY W
BSI-1010	18" SLAB AT BYPASS STRUCTURE	5	5	0%	24-Mar-23		30-Mar-23	17-Mar-23	10-Mar-23	17-Mar-23	-9	5-DAY W
BSI-1020	SEWER STRUCTURE WALLS TO 577 - TIGHT SIDE - FORM TIE POUR STRIP	12	12	0%	24-Mar-23		11-Apr-23	18-Jan-23	18-Jan-23	03-Feb-23	-42	5-DAY W
BSI-1030	SEWER STRUCTURE WALLS TO 577 - TUNNEL PENS - FORM TIE POUR STRIP	7	7	0%	13-Apr-23		24-Apr-23	16-Feb-23	06-Feb-23	16-Feb-23	-42	5-DAY W
BSI-1040	SEWER STRUCTURE WALLS TO 577 - OPEN SIDE - FORM TIE POUR STRIP	10	10	0%	25-Apr-23		08-May-23	17-Feb-23	17-Feb-23	02-Mar-23	-42	5-DAY W
BSI-1050	GATE STRUCTURE WALLS - MASS - FORM TIE POUR STRIP	10	10	0%	25-Apr-23		08-May-23	17-Feb-23	17-Feb-23	02-Mar-23	-42	5-DAY W
BSI-1060	BYPASS STRUCTURE WALLS - FORM TIE POUR STRIP	5	5	0%	09-May-23		16-May-23	24-Mar-23	20-Mar-23	24-Mar-23	-33	5-DAY W
BSI-1070	FORM DECK AT 577 - NOTE - CRITICAL SHORING ABOVE PIPE	7	7	0%	09-May-23		19-May-23	14-Mar-23	03-Mar-23	14-Mar-23	-42	5-DAY W
BSI-1080	TIE, POUR, CURB DECK AT 577 - RETAIN SHORING	7	7	0%	18-May-23		30-May-23	25-Apr-23	14-Apr-23	25-Apr-23	-42	5-DAY W
BSI-1100	INSTALL VENT STACK SLAB	5	5	0%	31-May-23		06-Jun-23	02-May-23	26-Apr-23	02-May-23	-21	5-DAY W
BSI-1110	LAYOUT PIPE PENETRATIONS, SLEEVES ETC AT 587	1	1	0%	20-Jun-23		20-Jun-23	21-Apr-23	21-Apr-23	21-Apr-23	-36	5-DAY W
BSI-1120	SEWER STRUCTURE WALLS 577 TO 587 FTPS	7	7	0%	20-Jun-23		29-Jun-23	11-Apr-23	11-Apr-23	21-Apr-23	-42	5-DAY W
BSI-1130	STRIP 577 LEVEL CLEAR, RESHORE IF NECESSARY FOR 587 DECK	7	7	0%	30-Jun-23		11-Jul-23	02-May-23	24-Apr-23	02-May-23	-42	5-DAY W
BSI-1140	587 DECK SLAB - FTPS	3	3	0%	13-Jul-23		17-Jul-23	05-May-23	03-May-23	05-May-23	-42	5-DAY W
<b>MECHANICAL</b>												
BME-1000	INSTALL SLUICE GATES	5	5	0%	18-Jul-23		25-Jul-23	09-Jun-23	02-Jun-23	09-Jun-23	-27	5-DAY W
BME-1010	INSTALL INSTRUMENTATION	3	3	0%	27-Jul-23		31-Jul-23	15-Jun-23	12-Jun-23	15-Jun-23	-27	5-DAY W
BME-1020	INSTALL CARBON CANISTER	3	3	0%	01-Aug-23		03-Aug-23	20-Jun-23	16-Jun-23	20-Jun-23	-27	5-DAY W
BME-1030	INSTALL 24" VENT LINES BETWEEN STORAGE STRUCTURE AND VENT STACK	5	5	0%	04-Aug-23		11-Aug-23	28-Jun-23	22-Jun-23	28-Jun-23	-27	5-DAY W
BME-1040	INSTALL 1" VENT / 1" A / 2" CS / 4" IF / DF LINE	5	5	0%	14-Aug-23		21-Aug-23	06-Jul-23	29-Jun-23	06-Jul-23	-27	5-DAY W
BME-1050	INSTALL 10" ODR LINE	5	5	0%	22-Aug-23		29-Aug-23	14-Jul-23	07-Jul-23	14-Jul-23	-27	5-DAY W
BME-1060	INSTALL PIPE SUPPORTS	5	5	0%	30-Aug-23		06-Sep-23	17-Jul-23	17-Jul-23	24-Jul-23	-27	5-DAY W
BME-1070	PRESSURE TEST LINES	5	5	0%	07-Sep-23		14-Sep-23	01-Aug-23	25-Jul-23	01-Aug-23	-27	5-DAY W
BME-1080	TIE-IN COMPLETE	5	5	0%	15-Sep-23		22-Sep-23	08-Aug-23	02-Aug-23	08-Aug-23	-27	5-DAY W
BME-1090	TESTING / STARTUP OF EQUIPMENT	5	5	0%	25-Sep-23		02-Oct-23	17-Aug-23	10-Aug-23	17-Aug-23	-27	5-DAY W
<b>ELECTRICAL</b>												
BEL-1000	SET GENERATOR	5	5	0%	18-Jul-23		25-Jul-23	12-Jun-23	05-Jun-23	12-Jun-23	-26	5-DAY W
BEL-1010	INSTALL DUCTBANK FROM GENERATOR PAD TO MAIN SITE	10	10	0%	27-Jul-23		10-Aug-23	28-Jun-23	13-Jun-23	28-Jun-23	-26	5-DAY W
BEL-1020	INSTALL INSTRUMENTS / EQUIPMENT	5	5	0%	11-Aug-23		18-Aug-23	06-Jul-23	29-Jun-23	06-Jul-23	-26	5-DAY W
BEL-1030	INSTALL PUSHBUTTON STATION FOR GATE ACTUATORS	5	5	0%	21-Aug-23		28-Aug-23	14-Jul-23	07-Jul-23	14-Jul-23	-26	5-DAY W

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TASK filter: All Activities

Actual Work █ Critical Remaining Work █  
 Remaining Work █ Milestone ◆

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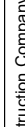
ACTIVITY ID	ACTIVITY NAME	ORIG DUR	REM DUR	% COMP	ACTUAL START	ACTUAL FINISH	EARLY START	EARLY FINISH	LATE START	LATE FINISH	TF	CALENDAR
BEL-1040	INSTALL CONDUITS	5	5	0%	29-Aug-23	05-Sep-23	29-Aug-23	05-Sep-23	17-Jul-23	24-Jul-23	-26	5-DAY W
BEL-1050	PULL POWERAND CONTROL WIRING	5	5	0%	06-Sep-23	12-Sep-23	06-Sep-23	12-Sep-23	25-Jul-23	01-Aug-23	-26	5-DAY W
BEL-1060	TERMINATE POWER AND CONTROL WIRING	5	5	0%	14-Sep-23	21-Sep-23	14-Sep-23	21-Sep-23	02-Aug-23	08-Aug-23	-26	5-DAY W
BEL-1070	TESTING OUT OF THE ELECTRICAL SYSTEM	5	5	0%	22-Sep-23	29-Sep-23	22-Sep-23	29-Sep-23	10-Aug-23	17-Aug-23	-26	5-DAY W
<b>LANDSCAPING</b>												
BLA-1000	INSTALL SHRUBS / TREES	15	15	0%	05-Feb-24	27-Feb-24	05-Feb-24	27-Feb-24	05-Feb-24	27-Feb-24	0	5-DAY W
BLA-1010	INSTALL GRASS PAVERS	5	5	0%	28-Feb-24	05-Mar-24	28-Feb-24	05-Mar-24	28-Feb-24	05-Mar-24	0	5-DAY W
BLA-1020	INSTALL SHREDDED HARDWOOD MULCH	5	5	0%	07-Mar-24	14-Mar-24	07-Mar-24	14-Mar-24	07-Mar-24	14-Mar-24	0	5-DAY W
BLA-1030	INSTALL BLACK STEEL EDGING	5	5	0%	15-Mar-24	21-Mar-24	15-Mar-24	21-Mar-24	15-Mar-24	21-Mar-24	0	5-DAY W
<b>BEACONSFIELD - CONTROL BLDG</b>												
<b>STRUCTURAL</b>												
CST-1000	CONTROL BUILDING DRILLED PIERS (10X 30"), BACKFILL W/PEASTONE - TEMP	8	8	0%	14-Oct-22	26-Oct-22	14-Oct-22	26-Oct-22	25-Apr-23	04-May-23	115	5-DAY W
CST-1010	EXCAVATE, SUBGRADE PREP	2	2	0%	27-Oct-22	28-Oct-22	27-Oct-22	28-Oct-22	05-May-23	08-May-23	115	5-DAY W
CST-1020	STRIP FOOTINGS - RPTS	5	5	0%	31-Oct-22	07-Nov-22	31-Oct-22	07-Nov-22	09-May-23	16-May-23	115	5-DAY W
CST-1030	GRADE BEAMS / WALLS - FTPS	5	5	0%	09-Nov-22	17-Nov-22	09-Nov-22	17-Nov-22	18-May-23	25-May-23	115	5-DAY W
CST-1040	UNDERGROUND WITHIN / OUTSIDE BUILDING FOOTPRINT (DRAIN, UTILITIES, ELECTRICAL)	5	5	0%	09-Nov-22	17-Nov-22	09-Nov-22	17-Nov-22	18-May-23	25-May-23	115	5-DAY W
CST-1050	SOG PREP & POUR	3	3	0%	18-Nov-22	22-Nov-22	18-Nov-22	22-Nov-22	26-May-23	31-May-23	115	5-DAY W
CST-1060	EQUIPMENT PADS	2	2	0%	12-May-23	15-May-23	12-May-23	15-May-23	27-Jul-23	28-Jul-23	44	5-DAY W
CST-1070	INSTALL 8" ROOF DRAIN CONNECTION TO MH	5	5	0%	12-May-23	19-May-23	12-May-23	19-May-23	08-Aug-23	15-Aug-23	52	5-DAY W
<b>ARCHITECTURAL</b>												
CAR-1000	INSTALL CMU / BRICKWORK (**START ON OR AFTER 01-APR-23**)	15	15	0%	03-Apr-23	26-Apr-23	03-Apr-23	26-Apr-23	01-Jun-23	26-Jun-23	36	5-DAY W
CAR-1010	INSTALL DOORS / LOUVERS / GLASS BLOCK	2	2	0%	27-Apr-23	28-Apr-23	27-Apr-23	28-Apr-23	27-Jun-23	28-Jun-23	36	5-DAY W
CAR-1020	INSTALL ROOF TRUSSES	3	3	0%	01-May-23	03-May-23	01-May-23	03-May-23	29-Jun-23	03-Jul-23	36	5-DAY W
CAR-1030	INSTALL ROOFING SYSTEM	5	5	0%	04-May-23	11-May-23	04-May-23	11-May-23	05-Jul-23	11-Jul-23	36	5-DAY W
<b>PROCESS EQUIPMENT</b>												
CPR-1000	INSTALL HPU	3	3	0%	16-May-23	18-May-23	16-May-23	18-May-23	31-Jul-23	02-Aug-23	52	5-DAY H
CPR-1010	INSTALL VACUUM BLOWERS	3	3	0%	19-May-23	23-May-23	19-May-23	23-May-23	03-Aug-23	07-Aug-23	52	5-DAY H
CPR-1020	INSTALL INFLATION BLOWERS	3	3	0%	24-May-23	26-May-23	24-May-23	26-May-23	08-Aug-23	10-Aug-23	52	5-DAY H
CPR-1030	INSTALL AIR COMPRESSORS	3	3	0%	30-May-23	01-Jun-23	30-May-23	01-Jun-23	11-Aug-23	15-Aug-23	52	5-DAY H
CPR-1040	TIE-IN YARD PIPING TO EQUIPMENT	2	2	0%	06-Oct-23	09-Oct-23	06-Oct-23	09-Oct-23	16-Aug-23	17-Aug-23	-36	5-DAY H
<b>MECHANICAL</b>												
CME-1000	INSTALL FLOOR DRAINS	2	2	0%	23-Nov-22	28-Nov-22	23-Nov-22	28-Nov-22	12-Jul-23	13-Jul-23	157	5-DAY H
CME-1010	INSTALL CLEANOUTS	2	2	0%	12-May-23	15-May-23	12-May-23	15-May-23	12-Jul-23	13-Jul-23	41	5-DAY H
CME-1030	INSTALL 2" SANITARY LINE	3	3	0%	12-May-23	16-May-23	12-May-23	16-May-23	14-Jul-23	18-Jul-23	43	5-DAY H
CME-1020	INSTALL HOSE BIB	1	1	0%	16-May-23	16-May-23	16-May-23	16-May-23	14-Jul-23	14-Jul-23	41	5-DAY H
CME-1040	INSTALL WATER METER	2	2	0%	17-May-23	18-May-23	17-May-23	18-May-23	17-Jul-23	18-Jul-23	41	5-DAY H
CME-1050	INSTALL 1.25" NG LINE	3	3	0%	19-May-23	23-May-23	19-May-23	23-May-23	19-Jul-23	21-Jul-23	41	5-DAY H
CME-1060	INSTALL 3/4" DOW LINE	3	3	0%	24-May-23	26-May-23	24-May-23	26-May-23	24-Jul-23	26-Jul-23	41	5-DAY H
CME-1070	INSTALL DUCTWORK	4	4	0%	30-May-23	02-Jun-23	30-May-23	02-Jun-23	27-Jul-23	01-Aug-23	41	5-DAY H
CME-1080	INSTALL EXHAUST FAN	1	1	0%	05-Jun-23	05-Jun-23	05-Jun-23	05-Jun-23	02-Aug-23	02-Aug-23	41	5-DAY H
CME-1090	INSTALL INLINE FAN	3	3	0%	05-Jun-23	07-Jun-23	05-Jun-23	07-Jun-23	08-Aug-23	10-Aug-23	45	5-DAY H
CME-1100	INSTALL LOUVER / DAMPERS	3	3	0%	05-Jun-23	07-Jun-23	05-Jun-23	07-Jun-23	08-Aug-23	10-Aug-23	45	5-DAY H

Legend: Actual Work (Red), Remaining Work (Green), Critical Remaining Work (Red with diamond), Milestone (Green diamond)

TASK filter: All Activities

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8.5 MILE - ALL ACTIVITIES BAR CHART

ACTIVITY ID	ACTIVITY NAME	ORIG DUR	REM DUR	% COMP	ACTUAL START	ACTUAL FINISH	EARLY START	EARLY FINISH	LATE START	LATE FINISH	TF	CALENDAR
CME-1110	INSTALL DAMPERS	4	4	0%	06-Jun-23		06-Jun-23	09-Jun-23	03-Aug-23	08-Aug-23	41	5-DAY H
CME-1120	INSTALL UNIT HEATER (UH-1)	2	2	0%	12-Jun-23		12-Jun-23	13-Jun-23	09-Aug-23	10-Aug-23	41	5-DAY H
CME-1130	INSTALL HVAC CONTROLS	5	5	0%	14-Jun-23		14-Jun-23	20-Jun-23	11-Aug-23	17-Aug-23	41	5-DAY H
CEL-1000	ELECTRICAL ROUGHIN	10	10	0%	27-Apr-23		27-Apr-23	10-May-23	17-Jul-23	28-Jul-23	55	5-DAY H
CEL-1010	INSTALL PANELBOARDS / CONTROL PANELS/ATS	3	3	0%	11-May-23		11-May-23	15-May-23	31-Jul-23	02-Aug-23	55	5-DAY H
CEL-1020	INSTALL LIGHTING PANELS, CONDUITS AND CABLES	3	3	0%	16-May-23		16-May-23	18-May-23	03-Aug-23	07-Aug-23	55	5-DAY H
CEL-1030	INSTALL POWER CONDUITS AND CABLES	3	3	0%	19-May-23		19-May-23	23-May-23	08-Aug-23	10-Aug-23	55	5-DAY H
CEL-1040	TERMINATE ELECTRICAL - INTERNAL RING OUT; TEST	5	5	0%	08-Jun-23		08-Jun-23	14-Jun-23	11-Aug-23	17-Aug-23	45	5-DAY H
<b>BEACONSFIELD - ISG - BLADDER</b>												
ISG-1000	GATE FRAME INSTALLATION	5	5	0%	10-Aug-23		10-Aug-23	17-Aug-23	10-Aug-23	17-Aug-23	0	5-DAY W
ISG-1010	MAKE ENTRY TO SEWER, SANDBAG, SUPPORT SAWCUT	5	5	0%	10-Aug-23		10-Aug-23	17-Aug-23	01-Jun-23	08-Jun-23	-42	5-DAY W
ISG-1020	SAWCUT- ALL ACTIVITY BELOW 577 NOW LIVE SEWER CONFINED SPACE	5	5	0%	18-Aug-23		18-Aug-23	25-Aug-23	09-Jun-23	16-Jun-23	-42	5-DAY W
ISG-1030	TEMP WEIR INSTALLATION- ROUTING INTO BYPASS	5	5	0%	28-Aug-23		28-Aug-23	01-Sep-23	19-Jun-23	26-Jun-23	-42	5-DAY W
ISG-1040	CONCRETE PREP WORK FOR BLADDER / ISG (CRACK REPAIR, SMOOTH WALLS)	5	5	0%	05-Sep-23		05-Sep-23	11-Sep-23	27-Jun-23	03-Jul-23	-42	5-DAY W
ISG-1050	PARTIAL DEMO / HYDRODEMO OF PIPE WALL FOR INF / DEF / VENT	10	10	0%	01-Sep-23		01-Sep-23	18-Sep-23	26-Jun-23	10-Jul-23	-42	5-DAY W
ISG-1060	POUR CONCRETE BENCH	4	4	0%	12-Sep-23		12-Sep-23	18-Sep-23	05-Jul-23	10-Jul-23	-42	5-DAY W
ISG-1070	DRAINAGE BOX INSTALLATION	2	2	0%	15-Sep-23		15-Sep-23	18-Sep-23	07-Jul-23	10-Jul-23	-42	5-DAY W
ISG-1080	ISG - FLOECKSMUHLER ONSITE	0	0	0%	19-Sep-23		19-Sep-23		11-Jul-23		-42	5-DAY W
ISG-1090	LAYOUT FOR ANCHORS - CORES	2	2	0%	19-Sep-23		19-Sep-23	21-Sep-23	11-Jul-23	13-Jul-23	-42	5-DAY W
ISG-1100	CORING FOR ANCHORS	10	10	0%	22-Sep-23		22-Sep-23	06-Oct-23	14-Jul-23	31-Jul-23	-42	5-DAY W
ISG-1110	INSTALL ANCHORS	5	5	0%	09-Oct-23		09-Oct-23	16-Oct-23	01-Aug-23	07-Aug-23	-42	5-DAY W
ISG-1120	LOWER BLADDER INTO POSITION	1	1	0%	17-Oct-23		17-Oct-23	17-Oct-23	08-Aug-23	08-Aug-23	-42	5-DAY W
ISG-1130	INSTALL BLADDER / CLAMP / TORQUE TO SPEC	2	2	0%	19-Oct-23		19-Oct-23	20-Oct-23	10-Aug-23	11-Aug-23	-42	5-DAY W
ISG-1140	INFLATE & LEAK TEST 24-48HRS	3	3	0%	23-Oct-23		23-Oct-23	25-Oct-23	14-Aug-23	17-Aug-23	-42	5-DAY W
<b>MALVERN SITE</b>												
<b>CIVIL</b>												
MCV-1000	COMPLETE SUBMITTALS & CONFIRM MATERIAL IN HAND (ALL)	1	1	0%	19-Jun-23		19-Jun-23	19-Jun-23	16-May-23	16-May-23	-19	5-DAY W
MCV-1010	MOBILIZE MOT, CONFIRM REQUIREMENTS WITH SCS	2	2	0%	20-Jun-23		20-Jun-23	22-Jun-23	18-May-23	19-May-23	-19	5-DAY W
MCV-1020	UTILITY LOCATION	5	5	0%	23-Jun-23		23-Jun-23	29-Jun-23	22-May-23	30-May-23	-19	5-DAY W
MCV-1030	RELOCATE WATERMAIN - COORDINATE WITH SCS	10	10	0%	30-Jun-23		30-Jun-23	17-Jul-23	31-May-23	15-Jun-23	-19	5-DAY W
MCV-1040	SAWCUT & DEMO CONCRETE PAVEMENT	1	1	0%	18-Jul-23		18-Jul-23	18-Jul-23	16-Jun-23	16-Jun-23	-19	5-DAY W
MCV-1050	START EXCAVATION FOR VAULT & SITE UTILITIES	2	2	0%	20-Jul-23		20-Jul-23	21-Jul-23	19-Jun-23	20-Jun-23	-19	5-DAY W
MCV-1060	CONFIRM LAYOUT & ELEVATION / SLOPES OF UTILITIES	2	2	0%	24-Jul-23		24-Jul-23	25-Jul-23	22-Jun-23	23-Jun-23	-19	5-DAY W
MCV-1070	SET VAULT	1	1	0%	27-Jul-23		27-Jul-23	27-Jul-23	26-Jun-23	26-Jun-23	-19	5-DAY W
MCV-1080	CONFINED SPACE ENTRY TO MANHOLE - INSTALL PROTECTION / LAYOUT CORES	10	10	0%	28-Jul-23		28-Jul-23	11-Aug-23	27-Jun-23	11-Jul-23	-19	5-DAY W
MCV-1090	CORE EXISTING MANHOLE STRUCTURE	3	3	0%	14-Aug-23		14-Aug-23	17-Aug-23	13-Jul-23	17-Jul-23	-19	5-DAY W
MCV-1100	COMPLETE 24" VENT, 6" VENT, & 4" DRAIN FROM VAULT TO MANHOLE	3	3	0%	18-Aug-23		18-Aug-23	22-Aug-23	18-Jul-23	21-Jul-23	-19	5-DAY W
MCV-1110	INSPECTION - SCS, MCPWC, TETRA TECH	1	1	0%	24-Aug-23		24-Aug-23	24-Aug-23	24-Jul-23	24-Jul-23	-19	5-DAY W
MCV-1120	BACKFILL TRENCHES / VAULT, PREP PAVEMENT SUBGRADE	5	5	0%	25-Aug-23		25-Aug-23	31-Aug-23	25-Jul-23	01-Aug-23	-19	5-DAY W
MCV-1130	INSPECTION - SCS, MCPWC, TETRA TECH - TEST SUBGRADE	5	5	0%	01-Sep-23		01-Sep-23	08-Sep-23	02-Aug-23	08-Aug-23	-19	5-DAY W
MCV-1140	POUR PAVEMENT	5	5	0%	11-Sep-23		11-Sep-23	18-Sep-23	10-Aug-23	17-Aug-23	-19	5-DAY W

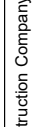
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TASK filter: All Activities

Actual Work █ Remaining Work █ Critical Remaining Work █ Milestone ◆

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8.5 MILE - ALL ACTIVITIES BAR CHART

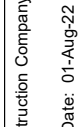
ACTIVITY ID	ACTIVITY NAME	ORIG DUR	REM DUR	% COMP	ACTUAL START	ACTUAL FINISH	EARLY START	EARLY FINISH	LATE START	LATE FINISH	TF	CALENDAR
MCA-1160	RESTORE SITE	5	5	0%	19-Sep-23	26-Sep-23	19-Sep-23	26-Sep-23	15-Sep-23	22-Sep-23	-2	5-DAY W
MCA-1160	PAVEMENT - CURE	22	22	0%	19-Sep-23	24-Oct-23	19-Sep-23	24-Oct-23	18-Aug-23	22-Sep-23	-19	5-DAY W
<b>ARCHITECTURAL</b>												
MAR-1000	INSTALL 3-PIPE VENT STACK	2	2	0%	24-Aug-23	25-Aug-23	24-Aug-23	25-Aug-23	28-Aug-23	29-Aug-23	2	5-DAY W
MAR-1010	PAINTING & COATING	3	3	0%	28-Aug-23	30-Aug-23	28-Aug-23	30-Aug-23	30-Aug-23	01-Sep-23	2	5-DAY W
<b>PROCESS EQUIPMENT</b>												
MPR-1000	INSTALL CARBON CANISTER	1	1	0%	31-Aug-23	31-Aug-23	31-Aug-23	31-Aug-23	05-Sep-23	05-Sep-23	2	5-DAY W
MPR-1010	INSTALL PIPE SUPPORTS	1	1	0%	01-Sep-23	01-Sep-23	01-Sep-23	01-Sep-23	06-Sep-23	06-Sep-23	2	5-DAY W
MPR-1020	INSTALL 4" / 6" ODR LINES	2	2	0%	05-Sep-23	06-Sep-23	05-Sep-23	06-Sep-23	07-Sep-23	08-Sep-23	2	5-DAY W
MPR-1030	INSTALL 4" / 1.5" DRAIN LINES	1	1	0%	07-Sep-23	07-Sep-23	07-Sep-23	07-Sep-23	11-Sep-23	11-Sep-23	2	5-DAY W
MPR-1040	INSTALL 24" VENT LINE	2	2	0%	08-Sep-23	11-Sep-23	08-Sep-23	11-Sep-23	12-Sep-23	14-Sep-23	2	5-DAY W
MPR-1050	INSTALL VALVES AND ACCESSORIES	1	1	0%	12-Sep-23	12-Sep-23	12-Sep-23	12-Sep-23	15-Sep-23	15-Sep-23	2	5-DAY W
MPR-1060	PRESSURE TEST PIPES	1	1	0%	14-Sep-23	14-Sep-23	14-Sep-23	14-Sep-23	18-Sep-23	18-Sep-23	2	5-DAY W
MPR-1070	TESTING & INSPECT OF PROCESS EQUIPMENT	5	5	0%	15-Sep-23	22-Sep-23	15-Sep-23	22-Sep-23	19-Sep-23	26-Sep-23	2	5-DAY W
<b>ELECTRICAL</b>												
MEL-1000	INSTALL NEW ACOUSONIC METER SENSORS	1	1	0%	25-Sep-23	25-Sep-23	25-Sep-23	25-Sep-23	28-Sep-23	28-Sep-23	2	5-DAY W
MEL-1010	REMOUNT CELL MODEM IN PANEL 456RD	1	1	0%	26-Sep-23	26-Sep-23	26-Sep-23	26-Sep-23	29-Sep-23	29-Sep-23	2	5-DAY W
MEL-1020	RELOCATE FIT AND TERMINAL STRP	1	1	0%	28-Sep-23	28-Sep-23	28-Sep-23	28-Sep-23	02-Oct-23	02-Oct-23	2	5-DAY W
MEL-1030	REPLACE LOAD CENTER WITH DINRAIL MOUNTED CIRCUIT BREAKERS	1	1	0%	29-Sep-23	29-Sep-23	29-Sep-23	29-Sep-23	03-Oct-23	03-Oct-23	2	5-DAY W
MEL-1040	INSTALL CABLE MODEM, FIREWALL AND SWITCH	1	1	0%	02-Oct-23	02-Oct-23	02-Oct-23	02-Oct-23	04-Oct-23	04-Oct-23	2	5-DAY W
MEL-1050	CONNECT SIGNALS / POWER FEED TO NEW ACOUSONIC TRANSMITTER	1	1	0%	03-Oct-23	03-Oct-23	03-Oct-23	03-Oct-23	05-Oct-23	05-Oct-23	2	5-DAY W
MEL-1060	TEST AND INSPECT ELECTRICAL SYSTEM	3	3	0%	04-Oct-23	06-Oct-23	04-Oct-23	06-Oct-23	06-Oct-23	10-Oct-23	2	5-DAY W
<b>SECONDARY SITES</b>												
<b>EASTLAWN SITE</b>												
EAS-1000	EXPLORATORY WORK - CONFIRM MEASUREMENTS	5	5	0%	01-Aug-22	05-Aug-22	01-Aug-22	05-Aug-22	29-Jun-22	06-Jul-22	-19	5-DAY W
EAS-1010	PANEL SUBMITTALS	50	50	0%	08-Aug-22	27-Oct-22	08-Aug-22	27-Oct-22	07-Jul-22	27-Sep-22	-19	5-DAY W
EAS-1020	ACCESS REQUEST TO MCPWC TO MODIFY HW & SCADA	20	20	0%	28-Oct-22	02-Dec-22	28-Oct-22	02-Dec-22	29-Sep-22	28-Oct-22	-19	5-DAY W
EAS-1030	DEMOLISH RECEPTACLE, INSTALL SHELF FOR CELLULAR MODEM AND FIREWALL	2	2	0%	05-Dec-22	06-Dec-22	05-Dec-22	06-Dec-22	31-Oct-22	01-Nov-22	-19	5-DAY W
EAS-1040	INSTALL DINRAIL MOUNTED SWITCH	1	1	0%	08-Dec-22	08-Dec-22	08-Dec-22	08-Dec-22	03-Nov-22	03-Nov-22	-19	5-DAY W
EAS-1050	REPLACE LEVEL TRANSMITTER	1	1	0%	09-Dec-22	09-Dec-22	09-Dec-22	09-Dec-22	04-Nov-22	04-Nov-22	-19	5-DAY W
EAS-1060	REPLACE SEAL AND CONDUIT UP TO PANEL	1	1	0%	12-Dec-22	12-Dec-22	12-Dec-22	12-Dec-22	07-Nov-22	07-Nov-22	-19	5-DAY W
EAS-1070	COMMISSION	5	5	0%	13-Dec-22	20-Dec-22	13-Dec-22	20-Dec-22	09-Nov-22	17-Nov-22	-19	5-DAY W
EAS-1080	MCPWC TEST LIT IN ACTUAL CONDITIONS	30	30	0%	21-Dec-22	09-Feb-23	21-Dec-22	09-Feb-23	18-Nov-22	09-Jan-23	-19	5-DAY W
<b>GREATERMACK SITE</b>												
MAK-1000	CONFIRM BARRICADING / PERMIT / CONCRETE / MANHOLE DETAILS WITH SCS	5	5	0%	10-Feb-23	17-Feb-23	10-Feb-23	17-Feb-23	10-Jan-23	18-Jan-23	-19	5-DAY W
MAK-1010	CONFIRM ALLOWABLE CLOSURE WITH BUILDING OCCUPANTS	5	5	0%	10-Feb-23	17-Feb-23	10-Feb-23	17-Feb-23	10-Jan-23	18-Jan-23	-19	5-DAY W
MAK-1020	DEMOLISH CONCRETE PER ST. CLAIR SHORES STANDARD	1	1	0%	20-Feb-23	20-Feb-23	20-Feb-23	20-Feb-23	19-Jan-23	19-Jan-23	-19	5-DAY W
MAK-1030	NEW CASTING W/ 8DR-MH-16	1	1	0%	21-Feb-23	21-Feb-23	21-Feb-23	21-Feb-23	20-Jan-23	20-Jan-23	-19	5-DAY W
MAK-1040	POUR CONCRETE	1	1	0%	22-Feb-23	22-Feb-23	22-Feb-23	22-Feb-23	23-Jan-23	23-Jan-23	-19	5-DAY W
MAK-1050	CURE	22	22	0%	23-Feb-23	28-Mar-23	23-Feb-23	28-Mar-23	24-Jan-23	27-Feb-23	-19	5-DAY W
MAK-1060	REMOVE BARRICADES, CLEANUP	1	1	0%	29-Mar-23	29-Mar-23	29-Mar-23	29-Mar-23	28-Feb-23	28-Feb-23	-19	5-DAY W

Page 10 of 11

Legend:  
█ Actual Work  
█ Remaining Work  
█ Critical Remaining Work  
◆ Milestone

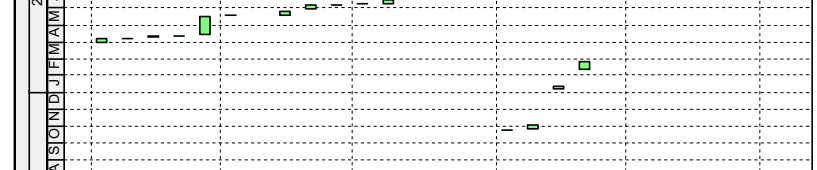
TASK filter: All Activities

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8.5 MILE - ALL ACTIVITIES BAR CHART

ACTIVITY ID	ACTIVITY NAME	ORIG DUR	REM DUR	% COMP	ACTUAL START	ACTUAL FINISH	EARLY START	EARLY FINISH	LATE START	LATE FINISH	TF	CALENDAR
<b>EDGEWOOD SITE</b>												
EDG-1000	CONFIRM BARRICADING / PERMIT / CONCRETE / MANHOLE DETAILS WITH SCS	5	5	0%			30-Mar-23	06-Apr-23	01-Mar-23	07-Mar-23	-19	5-DAY W
EDG-1010	DEMOLISH CONCRETE PER ST. CLAIR SHORES STANDARD	1	1	0%			07-Apr-23	07-Apr-23	09-Mar-23	09-Mar-23	-19	5-DAY W
EDG-1020	NEW CASTING W/ 8DR-MH-08	1	1	0%			10-Apr-23	10-Apr-23	10-Mar-23	10-Mar-23	-19	5-DAY W
EDG-1030	POUR CONCRETE	1	1	0%			11-Apr-23	11-Apr-23	13-Mar-23	13-Mar-23	-19	5-DAY W
EDG-1040	CURE	22	22	0%			13-Apr-23	16-May-23	14-Mar-23	17-Apr-23	-19	5-DAY W
EDG-1050	REMOVE BARRICADES, CLEANUP	1	1	0%			18-May-23	18-May-23	18-Apr-23	18-Apr-23	-19	5-DAY W
<b>O'CONNOR SITE</b>												
CON-1000	CONFIRM BARRICADING / PERMIT / MANHOLE DETAILS WITH SCS	5	5	0%			19-May-23	26-May-23	20-Apr-23	26-Apr-23	-19	5-DAY W
CON-1010	CONFIRM ACCESS WITH NEIGHBORING PROPERTIES	5	5	0%			30-May-23	05-Jun-23	27-Apr-23	03-May-23	-19	5-DAY W
CON-1020	TRIM AND REMOVE EXISTING SHRUBS	1	1	0%			06-Jun-23	06-Jun-23	04-May-23	04-May-23	-19	5-DAY W
CON-1030	REPLACE MANHOLE 8DR-MH-007	1	1	0%			08-Jun-23	08-Jun-23	05-May-23	05-May-23	-19	5-DAY W
CON-1040	RESTORE DISTURBED AREA W/ 3" TOPSOIL, SEED AND MULCH	5	5	0%			09-Jun-23	16-Jun-23	08-May-23	15-May-23	-19	5-DAY W
<b>CLOSEOUT</b>												
<b>CLOSEOUT REQUIRED FOR SUBSTANTIAL COMPLETION</b>												
<b>SCADA DEVELOPMENT / TESTING &amp; COMMISSIONING</b>												
CLO-1000	SCADA PRELIMINARY MEETING & DEVELOPMENT KICKOFF	1	1	0%			24-Oct-22	24-Oct-22	28-Jul-23	28-Jul-23	190	5-DAY H
CLO-1010	KELLY - COMMISSION & TEST	5	5	0%			27-Oct-22	03-Nov-22	11-Oct-23	17-Oct-23	239	5-DAY H
CLO-1020	GAUKLER - COMMISSION & TEST	5	5	0%			06-Jan-23	12-Jan-23	11-Oct-23	17-Oct-23	194	5-DAY H
CLO-1030	AUX / SUPPORT SITES COMPLETE. TEST BACK TO SCADA	10	10	0%			10-Feb-23	23-Feb-23	31-Jul-23	11-Aug-23	119	5-DAY H
CLO-1050	MALVERN - COMMISSION & TEST	5	5	0%			09-Oct-23	13-Oct-23	11-Oct-23	17-Oct-23	2	5-DAY H
CLO-1060	BEACONSFIELD - HYDROGATE - COMMISSION & TEST	5	5	0%			10-Oct-23	16-Oct-23	18-Aug-23	24-Aug-23	-36	5-DAY H
CLO-1040	BEACONSFIELD - ISG BLADDER CHECKOUT	5	5	0%			26-Oct-23	01-Nov-23	18-Aug-23	24-Aug-23	-48	5-DAY H
CLO-1070	PERFORM OPERATION DEMONSTRATION - STORM EVENT 2 (> .5" OF PRECIPITATION)	15	15	0%			02-Nov-23	16-Nov-23	25-Aug-23	08-Sep-23	-69	7-DAY
CLO-1080	PERFORM OPERATION DEMONSTRATION - STORM EVENT 1 (> .5" OF PRECIPITATION)	15	15	0%			17-Nov-23	01-Dec-23	09-Sep-23	23-Sep-23	-69	7-DAY
<b>CLOSEOUT REQUIRED FOR FINAL COMPLETION</b>												
CLO-2000	PROVIDE CLOSEOUT DOCUMENTS	25	25	0%			26-Oct-23	04-Dec-23	18-Oct-23	22-Nov-23	-6	5-DAY H
CLO-2010	PERFORM PUNCH LIST & DEMOBILIZE	42	42	0%			04-Dec-23	02-Feb-24	25-Sep-23	22-Nov-23	-47	5-DAY H



**From:** [Zachary Zechmeister](#)  
**To:** [Ard, Timothy](#)  
**Subject:** RE: Schedule  
**Date:** Thursday, September 1, 2022 8:48:14 AM  
**Attachments:** [image002.png](#)  
[image005.png](#)  
[image006.png](#)  
[image007.png](#)

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Tim-

Explanation as follows:

“Regarding your question as to why the Late Start & Late Finish dates appear earlier than the Early Start & Early Finish dates (for activities with negative float\*), below is a brief explanation:

- Early Dates are calculated using the forward pass. Late Dates are calculated using the backwards pass.
- For nearly all contracts, the backwards pass calculation begins with Final Completion.
- When the Final Completion date is mandated by the terms of the contract, a finish-on-or-before constraint is added to the schedule to reflect this contractual requirement.
- Due to the constraint on Final Completion, the backwards pass will never calculate a Late Start or Late Finish date which is beyond the constrained date since the constrained date.

Hope that makes sense. If not, let me know and I'll provide additional detail.

It just boils down to having the constraint in the schedule. Notice how activity MIL-1050 doesn't have negative float? It's because there's no constraint on that activity.”

In summary, note the LATE finish on MIL 1030 (substantial) vs the EARLY. The EARLY is now the projected (negative float 69 days = our days of delay).

Same with MIL 1040 (final)

1050 is NOT the same because we did not constrain it.



Call if we need to discuss. I'm in the office today.

Thanks,

**Zach Zechmeister**

Project Manager

Weiss Construction Company, LLC  
41001 Grand River Ave  
Novi, MI 48375  
Cell: (586) 596-3199  
Office: (313) 567-4500 x 108  
[www.weiss-construction.com](http://www.weiss-construction.com)

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**From:** Zachary Zechmeister  
**Sent:** Thursday, September 1, 2022 8:18 AM  
**To:** 'Ard, Timothy' <Timothy.Ard@tetrattech.com>  
**Subject:** RE: Schedule

Tim-

Schedule will not be changing. I will have a short response shortly on the negative float and why it occurs in our particular condition.

**Zach Zechmeister**

Project Manager

Weiss Construction Company, LLC

41001 Grand River Ave  
Novi, MI 48375  
Cell: (586) 596-3199  
Office: (313) 567-4500 x 108  
[www.weiss-construction.com](http://www.weiss-construction.com)

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**From:** Zachary Zechmeister  
**Sent:** Monday, August 29, 2022 2:58 PM  
**To:** Ard, Timothy <[Timothy.Ard@tetratech.com](mailto:Timothy.Ard@tetratech.com)>  
**Subject:** RE: Schedule

I'm on it the detailed explanation. Its closer than it was.

And OK on the restoration. Agreed.

**Zach Zechmeister**  
Project Manager

Weiss Construction Company, LLC  
41001 Grand River Ave  
Novi, MI 48375  
Cell: (586) 596-3199  
Office: (313) 567-4500 x 108  
[www.weiss-construction.com](http://www.weiss-construction.com)

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**From:** Ard, Timothy <[Timothy.Ard@tetratech.com](mailto:Timothy.Ard@tetratech.com)>  
**Sent:** Monday, August 29, 2022 2:43 PM  
**To:** Zachary Zechmeister <[zzechmeister@weiss-construction.com](mailto:zzechmeister@weiss-construction.com)>  
**Subject:** Schedule

Zach,

There are still many entries that show the early start/finishing occurring after the late start/finish. I believe you said those entries are to indicate lost time and zero float. If so, please provide a description/reason so the board has an explanation.

Some items are still out of sequence. Item CST 1050 SOG is still showing completion prior to CME 1000, floor drains. I know that's microscopic in the scheme of things, but it's representative of corrections that need to be made. Please scan and make corrections where needed.

The Post-Final Completion date of March 24 for restoration is too early. The Contract requires growing vegetation prior to closeout. I am going to put this at June 1, which should provide plenty of time if properly maintained.

Tim

**Timothy Ard** | Construction Manager  
Main: 734.665.6000 | Direct: 734.213.4022 | Cell: 734.216.9280  
[tim.ard@tetratech.com](mailto:tim.ard@tetratech.com)

*While we are operating remotely in response to COVID-19, Tetra Tech teams remain fully connected and hard at work servicing our clients and ongoing projects. We also would like to wish health and wellness to you and your family.*

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