



JOINT BOARD OF MANAGEMENT

Wednesday, September 21, 2022

9:00 AM

KINGSVILLE ARENA

1741 Jasperson Lane

AGENDA

A. Call to Order:

B. Disclosures of Pecuniary Interest:

C. Approval of Minutes:

Minutes of the meeting of the Union Water Supply System Joint Board of Management Meeting held Wednesday, July 20, 2022
Pages 3 - 8

D. Business Arising Out of the Minutes

E. Items for Consideration:

1. UW/17/22 dated September 16, 2022 re: Status Update of UWSS Operations & Maintenance Activities and Capital Works to September 16, 2022
Pages 7 - 44
2. UW/18/22 dated September 15, 2022 re: Adoption and Execution of Items Related to the Restructuring of the Union Water Supply System
Pages 45 - 48
 - Resolutions from Town of Essex, Town of Kingsville, Municipality of Lakeshore and the Municipality of Leamington supporting UWSS Business Case to transition UWSS to a Corporation
Pages 49 - 57
3. UW/19/22 dated September 16, 2022 re: Engineering and Design - New Reservoir and UV Disinfection Facility
Pages 58 - 66
4. Correspondence from Town of Kingsville dated August 10th, 2022 re: Committee and Board Appointments
Page 67

F. New Business:

G. Adjournment:

H. Date of Next Meeting: October 19, 2022, 1741 Jasperson Lane, Kingsville
Arena, 9:00 am

/kmj



MINUTES

Members Present Mayor MacDonald (Vice-chair); Deputy Mayor Verbeke, Councillors
Union Water Dunn, Hammond, Jones, Tiessen - Leamington
Supply System Deputy Mayor Queen, Councillor DeYong, Lucier (alternate)
 Patterson - Kingsville
 Councillor VanderDoelen - Essex
 Councillor Walstedt - Lakeshore

Also in Attendance: Rodney Bouchard, Union Water Supply System Manager
For UWSS Khristine Johnson, Recording Secretary

Municipal Staff Kevin Girard - Town of Essex
Present: Shaun Martinho - Town of Kingsville
 Albert Dionne - Municipality of Lakeshore
 Laura Rauch, Shannon Belleau - Municipality of Leamington

OCWA Staff Robin Trepanier
Present: Dave Jubenville

Call to Order: 9:02 am

Disclosure of Pecuniary Interest: none

Adoption of Board Minutes:

No. UW-31-22

Moved by: Councillor Tiessen

Seconded by: Deputy Mayor Queen

That the Minutes of the UWSS Joint Board of Management held Wednesday, June 15, 2022 are received; and

That the Minutes of the Special Meeting between the Union Water Supply System Joint Board of Management and the Windsor Utilities Commission held on Wednesday, July 15, 2022 at 10:30 am are received.

Carried

Business Arising out of Minutes:

There was none

Report UW/15/22 dated July 15, 2022 re: Status Update of UWSS Operations & Maintenance Activities and Capital Works to July 15, 2022

The Manager welcomes everyone back to Zoom and notes that this meeting will be quite short, therefore the reason for the Zoom virtual meeting, rather than in person.

He explains that activities around the treatment plant has been moving along very nicely. As mentioned at the last meeting, Reservoir #2 was suspected to be leaking, and had been inspected. Since then a remote camera inspection has taken place. A location of the suspected leak has been determined in the lateral pipes. Watech Services is scheduled to return in August to install sealant in/around the suspected area.

The Manager informs members of the Board of a watermain break on the 12" pipe on Country Road 34 on the long Canada Day weekend. This occurred at the corner of Graham and County Road 34. As it occurred on a holiday weekend it took slightly longer than usual as obtaining locates was a bit of a challenge. He also noted that as per usual along this particular pipe the breaks tend to be lateral in nature, which causes another challenge when making repairs. He also reminds members that this pipe does need attention sooner than later for replacement.

The High Lift pump #9 motor is scheduled for installation next week. This particular repair too longer than expected as it has been difficult to source some of the parts necessary. It is expected to be returned to service by the end of July 2022.

New air relief parts for main wash pump #2 have been received. OCWA staff have completed the installation and it has been returned to service. A new clear well 36" Gate Valve actuator has been received, with installation within the next week. This new actuator will allow for better operation of the clear well valve and improve water flow.

UWSS has received an inspection report for the Essex Water Distribution from the Ministry of Environment Conservation and Parks (MECP) for an unannounced inspection. This report did not identify any items of non-compliance. The rating will be provided at a later date.

The Manager notes that a new 30ft gantry crane has been purchased for use by OCWA Union Maintenance staff. This item will be utilized for the heavy items, such as pumps and valves. He also notes that two (2) additional OCWA maintenance staff members will be added in August 2022. He directs members to review the attached weekly report from the engineer.

The Manager provides an update on the DAF project. He notes that this project is now nearing completion with majority of the work completed. Preliminary testing will begin on August 8th, with the hope of having flow by mid-August to the WTP.

The flows to date are up over last year, but there have been no real issues.

Minutes of the Union Water Supply System Joint Board of Management

Date: July 20, 2022

Page 3

Mayor MacDonald asks the Manager to further explain the gantry crane purchase and the additional staff members and how this affects budget. The Manager explains that OCWA Operations Manager have a budget of \$150,000 for the year for minor capital purchases and the crane was purchased under that umbrella. The additional staff members were identified as necessary earlier in the year and should not be above what was approved.

Mayor MacDonald also noted that it might be pertinent to have a tour of the new DAF facility prior to election, as many members have been part of the process over the last several years and would like to see the project completed. The Manager agreed with this idea and believes a tour would be beneficial.

Councillor Walstedt notes that he lives near the end of the water lines for UWSS and commends UWSS for keeping his flows normal during a very high flow season. He does ask the Manager if lawn watering has been an issue. The Manager notes that the peak day for UWSS now seems to occur in June, so at this point things have been manageable.

Councillor DeYong asks the Manager to explain why flows drop when it is cloudy. The Manager indicates that all of the larger greenhouses are technically advanced with monitoring systems and these systems automatically increase or decrease the amount of water to individual plants based on the amount of sunshine and temperatures.

No. UW-32-22

Moved by: Councillor DeYong

Seconded by: Councillor Walstedt

That Report UW/15/22 dated July 15, 2022 re: Status Update of the UWSS Operations and Maintenance Activities and Capital Works to July 15, 2022 is received.

Carried (UW/15/22)

Report UW/16/22 dated July 13, 2022 re: UWSS Representative on the Essex Region Source Water Protection Committee

The Manager

No. UW-29-22

Moved by: Councillor DeYong

Seconded by: Councillor Dunn

That report UW/14/22 dated June 9, 2022 re: UWSS Restructuring to Municipal Services Corporation - Next Steps is received.

Carried (UW/14/22)

New Business:

The Chair welcomes Councillor Wilkinson back to the UWSS Board.

Adjournment:

No. UW-30-22

Moved by: Councillor VanderDoelen

Seconded by: Councillor Hammond

Time: 10:25 am

Date of Next Meeting: July 20th, 2022, with location to be determined.

/kmj

To: Chair and Members of the Union Water Supply
System Joint Board of Management

From: Rodney Bouchard, UWSS General Manager

Date: September 16, 2022

Re: Status Update of UWSS Operations & Maintenance Activities and Capital
Works to September 16, 2022



Aim:

To inform the UWSS Board about operational and maintenance activities and capital works projects for the Union Water Supply System since the last Board meeting on July 20, 2022.

Discussion:

The UWSS General Manager conducts regular meeting with OCWA Operations staff in regards to on-going operations and maintenance programs for the UWSS facilities. The following provides an update on UWSS operations, regular maintenance and major maintenance and Capital Works at UWSS facilities:

1. High Lift pump #9 motor was reinstalled by UWSS OCWA maintenance staff and put back into service on July 25th, following proper testing and disinfection.
2. In mid-July 2022, some leakage was noted to be coming out of the cement retaining wall outside the south end of the treatment plant truckway. The leakage was noted to be progressively worse during the beginning of the week of July 25th. It was suspected that this leakage was coming from the Clarifier #3 and #4 effluent line. DiMenna Excavating was retained to vacuum excavate the area to see where the leakage was coming from. This work was completed on July 28-29. The leak was identified at a connection of the Clarifier #3 and #4 effluent line as it came out of the treatment plant building. Repairs were completed by DiMenna and UWSS OCWA maintenance staff.
3. A Lake Erie “upwelling” event (aka lake turnover) occurred during the week of August 1st. The rapid temperature change, low dissolved oxygen, increased pH and algae associated with the event caused some havoc on UWSS treatment plant operations. However, the operators were able to manage with adjustments to pH control system, pre chlorine dosages and extra filter backwashes. The event subsided after 5-6 days.
4. DiMenna Excavating was retained to reroute the sump pump discharge line for the treatment plant reservoir perimeter drainage pipe from the storm drain to the waste station influent manhole. This work was completed the week of August 1st. This improvement will help UWSS OCWA operations minimize any chlorinated water going into the storm water system.
5. Watech Services was on site during the week of August 15 to pinpoint the leak’s location and try to stop the leak in reservoir #2. Dye was used to identify the

Re: UW/17/22 - Status Update of UWSS Operations & Maintenance Activities and Capital Works to September 16, 2022

area where some leakage was occurring. Temporary repairs were completed and these repairs have stemmed much of the leakage. Future repairs will be completed at a time when the reservoir can be taken out of service.

6. Watech services completed an inspection of the low lift water intakes during the week of August 15, 2022. The inspection indicated that some non-critical repairs are needed for one of the intake hatches. These repairs will likely be completed as part of the 2023 intake inspection work.
7. On August 11, 2022, SAI Global completed a Stage 1 external audit of the UWSS Drinking Water Quality Management System (DWQMS). This inspection consisted of a review of DWQMS documents via a virtual inspection with UWSS OCWA compliance staff. SAI Global issued a Stage 1 inspection report on August 12, 2022. The report did not identify any non-compliances associated with the UWSS DWQMS. The report also indicated that UWSS facilities and DWQMS system, as managed by UWSS OCWA staff on behalf of UWSS, were ready for a Stage 2 on-site inspection.

SAI Global complete the Stage 2 on-site DWQMS inspection on September 9th. This inspection was facilitated by UWSS OCWA compliance staff. Virtual interviews with operations staff are scheduled for September 19. It is anticipated that SAI Global will issue a Stage 2 DWQMS inspection report by the end of September 2022. The results of the inspection will be presented to the UWSS Board at a future Board meeting.

8. On June 21, 2022, the Ministry of Environment, Compliance and Parks (MECP) completed an inspection of the UWSS supplied Municipality of Leamington water distribution system. The MECP issued an inspection report on July 18, 2022. The inspection report did not identify any items of non-compliance and a 100% inspection rating was issued for the distribution system.
9. UWSS OCWA operations and maintenance staff identified that the protective membrane for the clear well underneath the truck way was in poor condition and needed to be rehabilitated to prevent any potential leakage of surface water into the clear well. Greenflag Coatings of Kingsville, ON has been retained to complete this work, which is scheduled for early October 2022.
10. UWSS had concrete pad work completed in the Cottam Booster System (CBS) building in preparation for installation of Variable Frequency Drives (VFDs) for CBS pumps. VFDs have been ordered and will be delivered and installed in October 2022.
11. UWSS OCWA maintenance/distribution staff have nearly completed the UWSS' transmission system valve exercising program for 2022.
12. DAF Phase 1 Update: The majority of the work for the DAF system has been completed. Testing of the individual DAF system components was completed between August 2nd and Aug 17th. Site Acceptance Testing (SAT) of the DAF

Re: UW/17/22 - Status Update of UWSS Operations & Maintenance Activities and Capital Works to September 16, 2022

system was initiated on August 18th and has been on-going to the date of this report. SAT and flow testing have been suspended on a few occasions to undertake modifications to the DAF system to address issues identified during the testing.

The work for next 4 weeks will focus on completion of the last remaining items as listed below:

- Completion of SAT and flow testing including any improvements needed as identified during testing;
- Completion of outdoor restoration work including sidewalks, landscaping, hydroseeding;
- Completion of any remaining electrical including installation of Automatic Transfer Switch;
- Completion of remaining non-critical components such as lighting, doors, etc.

A copy of the weekly progress report for the week ending September 9, 2022, prepared by UWSS' consultant (Associated Engineering) site inspector, is attached to this report.

The first chart shows comparative flows for 2018 through 2022 in Mega Litres (ML) and the second chart shows Millions of Imperial Gallons (MIG) for the period January 1st to September 15, 2022.

	2018	2019	2020	2021	2022
Flow to Date (ML)	12,507.95	12,691.53	14,530.21	15,193.94	15,790.50
Max Day (ML)	82.48	85.40	97.33	93.83	99.17
Min Day (ML)	23.56	20.13	25.44	26.74	27.58
Average Day (ML)	48.48	49.19	56.10	58.89	61.20
No of Days	258	258	259	258	258

	2018	2019	2020	2021	2022
Flow to Date (MG)	2751.42	2791.80	3196.26	3343.60	3474.16
Max Day (MGD)	18.14	18.79	21.41	20.64	21.81
Min Day (MGD)	5.18	4.43	5.60	5.88	6.07
Average Day (MGD)	10.66	10.82	12.34	12.96	13.47
No of Days	258	258	259	258	258

Flows to date are up 596.56 ML (130.56 MIG) or 3.9% from last year. The 2022 flows to date are up 15% over the previous 4 year average.

Re: UW/17/22 - Status Update of UWSS Operations & Maintenance Activities and
Capital Works to September 16, 2022

Recommendation:

That this report be received by the UWSS Board for information purposes.

Respectfully submitted,



Rodney Bouchard, General Manager
Union Water Supply System Joint Board of Management

/kmj

Filename: t:\union wtr\reports to board\2022\uw17-22 uwss operations report for sept 2022.docx

Prepared By:	Sommer Lee, SI/CA	Date:	2022-09-11	File:	2020-5461.05.05
		Report No.:	50	Proj. No.	2020-5461
		Report Period:	2022-09-05 to 2022-09-09		
		Client :	Union Water Supply System (UWSS)		
		Client Contact :	Rodney Bouchard		
		Project:	UWSS Ruthven WTP DAF Retrofit Project Phase 1		

PROGRESS REPORT

TOTAL DAYS ON SITE THIS WEEK	DAYS LOST TO WEATHER THIS WEEK	REMAINING DAYS TO CONTRACT COMPLETION
4	0	As of 2022-09-12 , -21 days to contract completion (Original Contract Completion 2022-05-17 → Revised Contract Completion of 2022-08-22)

KEY EQUIPMENT ON SITE

QTY.	NAME	USE	DAYS IN OPERATION
1	Crawler Loader	N/A	N/A
1	Crane	N/A	N/A
1	Skid Steer	N/A	N/A
1	Excavator	N/A	N/A
1	Plate Compactor	N/A	N/A
1	Jumping Jack Compactor	N/A	N/A
1	Bulldozer	N/A	N/A
1	Dump Truck	N/A	N/A
1	Mini Excavator	N/A	N/A
1	Telescopic Handler	General Cleaning/set-up	2022-09-06 to 2022-09-08
1	Vacuum Truck	N/A	N/A
1	Skyjack	N/A	N/A
1	Boomlift	N/A	N/A
	Miscellaneous Tools & Equipment		2022-09-06 to 2022-09-09

KEY DELIVERIES TO SITE

DATE	MATERIALS / EQUIPMENT DELIVERED	NOTES
2022-09-08	<ul style="list-style-type: none"> Auma Actuator (Troy Ontor) 	DAF No. 1 Influent Isolation Valve – loose connection rewired

WORK COMPLETED

DATE & WEATHER	SUMMARY OF WORK	ASSOCIATED PHOTOS
2022-09-05 Mostly Cloudy 24°C/18°C	<ul style="list-style-type: none"> No contractors or sub-contractors on site. 	N/A

<p>2022-09-06 Mostly Cloudy 23°C/14°C</p>	<ul style="list-style-type: none"> • Maple installing fire extinguishers in Auxiliary Equipment Building. • Maple working with OCWA to drain DAF No. 1 tank to just below the effluent troughs to prepare to implement corrections to effluent trough gaps per Napier Reid direction. • Maple Electric installing receptacles, conduit, and lighting in DAF No. 1 Blowdown Chamber. • Maple Electric continuing installing receptacles and lighting in Auxiliary Equipment Building. • 	<p>1 – 27</p>
<p>2022-09-07 Sunny 24°C/13°C</p>	<ul style="list-style-type: none"> • Maple and Ayr installing baffle plates with angle attached to the edges of the effluent troughs within DAF No. 1 tank (at the higher elevation to lower elevation location at the dome entrance area) per Napier Reid direction. • Maple and Ayr installing longer rubber blades at skimmers within DAF No. 1 tank. • Maple applying grout to close gaps further between effluent troughs and wall of DAF No. 1 tank. • Maple and Ayr installing new longer rubber to the skimmers within DAF No. 1 tank. • Maple Electric continuing installing receptacles and lighting in Auxiliary Equipment Building. • Maple Electric installing conduit and wiring the emergency lighting and smoke detectors for the Auxiliary Equipment Building. • Maple working with OCWA to fill the tank to above the effluent troughs to overflow waste. 	<p>28 – 47</p>
<p>2022-09-08 Sunny 27°C/11°C</p>	<ul style="list-style-type: none"> • Maple Electric continuing installing receptacles and lighting in DAF No. 1 Blowdown Chamber. • Maple Electric continuing wiring the emergency lighting and smoke detectors for the Auxiliary Equipment Building. • Maple Electric continuing exhaust fan switch and receptacles wiring within DAF No. 1 dome. • Maple Electric working with Troy-Ontor to install actuator for DAF No. 1 Influent Valve in Valve Room. • Maple completing miscellaneous deficiencies corrections (ceiling tiles installed in Ruthven WTP electrical room above switchgear, misc. grouting, filling bugholes in wall slabs of Blowdown Chamber, re-routing water line etc.). • Summa and Napier Reid remoting into the SCADA and PLC program to continue site acceptance testing with OCWA and Associated Engineering witnessing. • Maple in coordination with OCWA testing DAF No. 1 “in-service” mode to the filters at a flow of approximately 240 L/s. Contact between skimmer rubber and scum troughs/scum improved since last week prior to skimmer rubber and effluent trough adjustments. 	<p>48 – 78</p>

	Water observed flowing over the v-notch weirs during the switch from partial flow to flow to filters at a low DAF influent flow of approximately 130 L/s.	
2022-09-09 Sunny 26°C/17°C	<ul style="list-style-type: none"> Maple Electric continuing wiring the emergency lighting and smoke detectors for the Auxiliary Equipment Building. Maple Electric continuing exhaust fan switch and receptacles wiring within DAF No. 1 dome. Summa and Napier Reid remoting into the SCADA and PLC program to implement programming changes per the SAT conducted on 2022-09-08. Maple in coordination with OCWA to increase the DAF No. 1 flow (to ~280 L/s) to the filters. The skimmer rubber blades appear insufficient at removing the scum due to the lifting prior to touching the scum troughs. Scum appears black and flat. Maple in coordination with OCWA switching DAF No. 1 into partial flow (to overflow waste) for the weekend due to >1.5 NTU DAF effluent turbidity. 	79 – 105

KEY CONTRACTORS AND SUBCONTRACTORS ON SITE

- Maple Reinders Constructors Ltd. (Maple), 2022-09-06 to 2022-09-09
- Maple Electric, 2022-09-06 to 2022-09-09
- NJS Excavation (NJS), N/A
- Velez Construction (Velez), N/A
- Tarpon, N/A
- Lakeshore / Lake Erie Concrete Supply, N/A
- AGF, N/A
- KT Excavating, N/A
- Jake's Crane Service, N/A
- Moir Crane Service, N/A
- Tri County Crane & Machinery Moving, N/A
- Brevon Concrete Cutting and Coring, N/A
- Red Line Contracting, N/A
- Vito Masonry, N/A
- Cutting Edge Insulation, N/A
- Aluma Safway, N/A
- Napier Reid, N/A
- Greatario, N/A
- Prestressed Systems Incorporated (PSI), N/A
- Earl S Ross, N/A
- Stonhard, N/A
- Gillett Roofing, N/A
- Ayr Welding, 2022-09-07

- Cameron Crane, N/A
- Troy-Ontor, 2022-09-08
- Eaton, N/A
- Idea Networks, N/A
- Patrick Welding, N/A
- Insulcana Contracting Inc., N/A
- Grove Crane, N/A
- Lancaster Group Inc, N/A
- DXS Canada, N/A
- Precision, N/A
- Neufeld Construction, N/A
- Build Source, N/A
- DiMenna Excavating Contractors Inc. (Dimenna), N/A

VISITORS AND PURPOSE OF VISIT:

- None to note during this period.

REQUESTED REVISIONS OR INTERPRETATIONS, FIELD INSTRUCTIONS, CHANGE DIRECTIVES

- None to note during this period.

NONCONFORMING WORK REPORTED TO CONTRACTOR:

- DAF No. 1 Blowdown Chamber Light Switch Placed at Lower Elevation than Contract Drawings (2022-09-08)
- See "Attachments and other Inspection/Observation Reports"

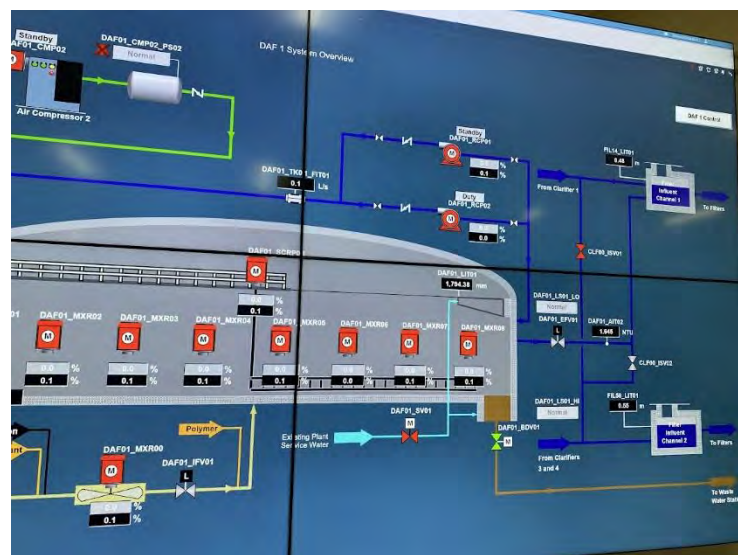
ISSUES THAT MAY LEAD TO DELAYS IN PROJECT DELIVERY:

- None to note during this period.

ATTACHMENTS AND OTHER INSPECTION/OBSERVATION REPORTS:

- SAT Deficiencies Report (Completed on 2022-09-08)

PHOTOS



1. SCADA Screen: DAF No. 1 Overview in Out of Service (2022-09-06)



2. Sidewalks (2022-09-06)



3. DAF No. 1 in Out of Service (2022-09-06)



4. DAF No. 1 in Out of Service (2022-09-06)



5. DAF No. 1 Blowdown Chamber: Water Service Line (2022-09-06)



6. DAF No. 1 Blowdown Chamber: Sludge Blowdown (2022-09-06)



7. Sidewalk (2022-09-06)



8. Auxiliary Building Entrance Pad (2022-09-06)

Progress Report

Submitted on 2022-09-12



9. Sidewalk (2022-09-06)



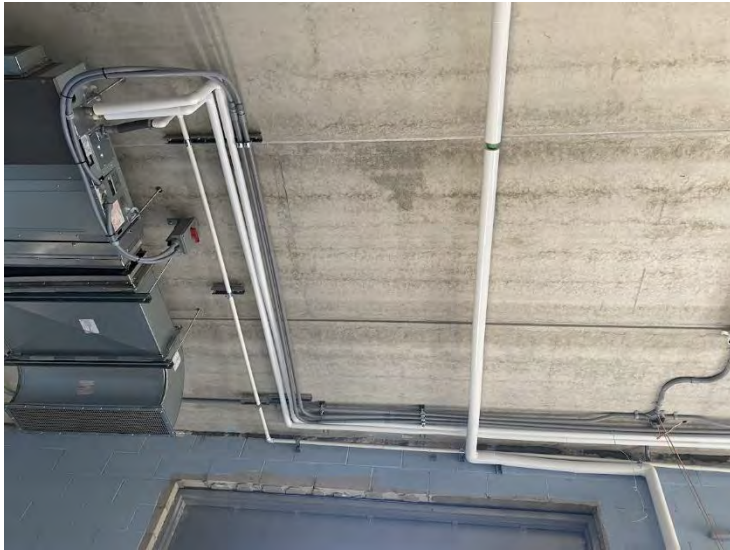
10. Sidewalk: Cracking (2022-09-06)



11. Sidewalk (2022-09-06)



12. Auxilairy Equipment Building: Lighting (2022-09-06)



13. Auxiliary Equipment Building: HVAC and Electrical Conduit (2022-09-06)



14. Auxiliary Equipment Building: Lighting Panel, Water Service Line and Fire Extinguisher (2022-09-06)



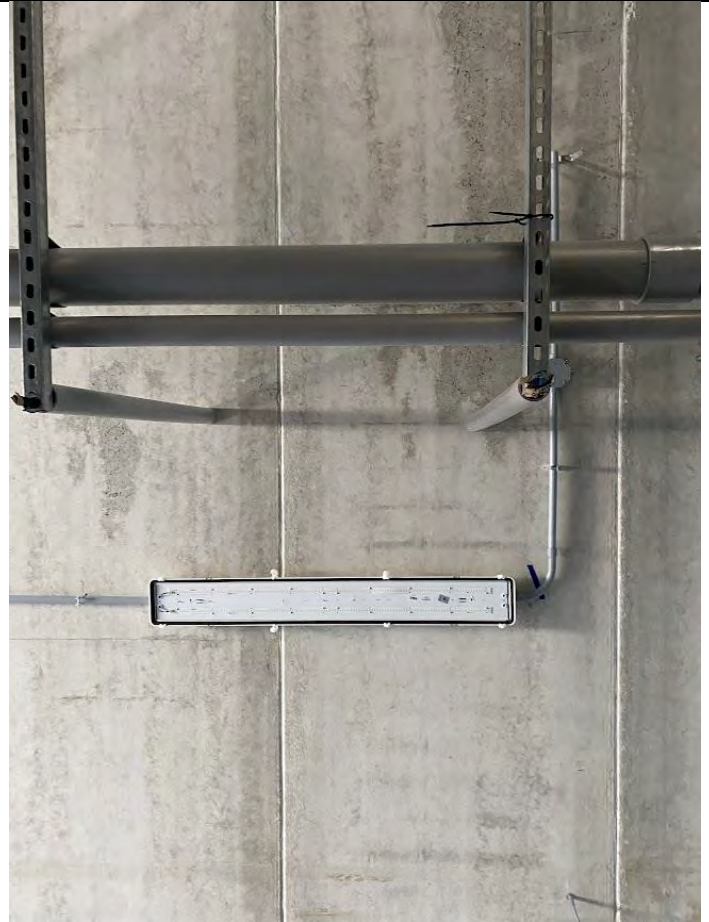
15. Auxiliary Equipment Building: Transformer and Lighting Panel (2022-09-06)



16. Auxiliary Equipment Building: Duplex Receptacle (2022-09-06)



17. Auxilairy Equipment Building: MCC Pending Modifications for ATS (2022-09-06)



18. Auxilairy Equipment Building: Lighting (2022-09-06)



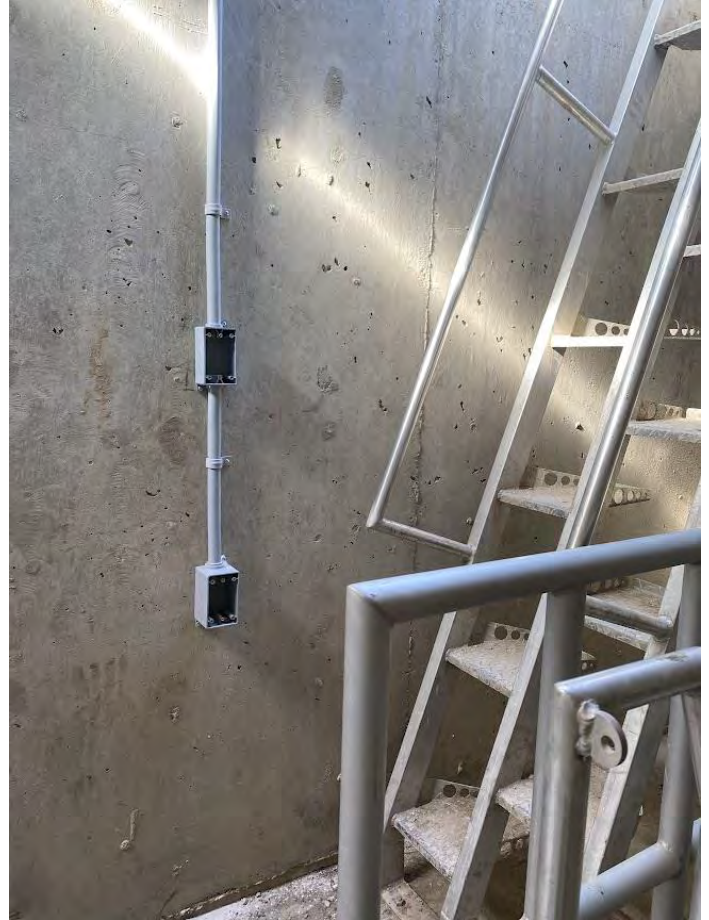
19. DAF No. 1 Tank: Slightly Drained to below Effluent Troughs (2022-09-06)



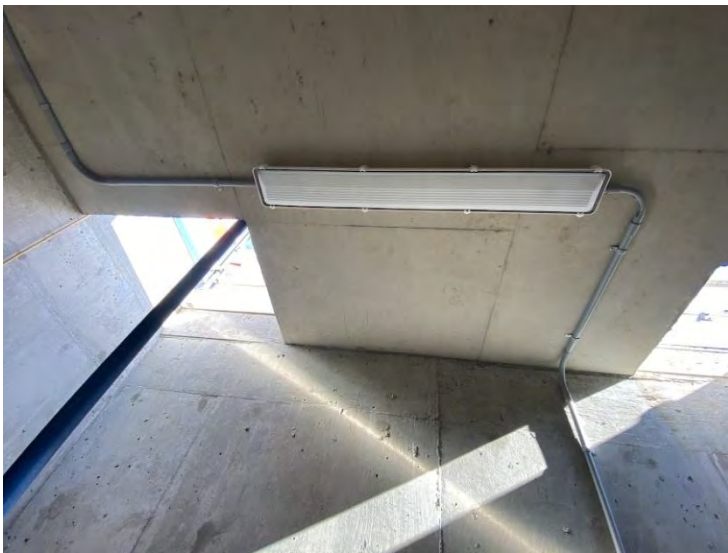
20. DAF No. 1 Entrance: Ceiling Mounted Light (2022-09-06)



21. DAF No. 1 Blowdown Chamber: Lighting (2022-09-06)



22. DAF No. 1 Blowdown Chamber: Electrical for Light Switch and Receptacle (2022-09-06) *Note – the light switch will be moved closer to the access hatch. See “Nonconforming Work Noted to Contractor”*



23. DAF No. 1 Blowdown Chamber: Lighting (2022-09-06)



24. DAF No. 1 Tank: Slightly Drained to below Effluent Troughs (2022-09-06)



29. Auxiliary Equipment Building (2022-09-07)



30. Auxiliary Equipment Building Ceiling Mounted Lighting and HVAC (2022-09-07)



31. Generator Quick Connect Panel and Bollards (2022-09-07)



32. Generator Quick Connect Panel (2022-09-07)

Progress Report

Submitted on 2022-09-12



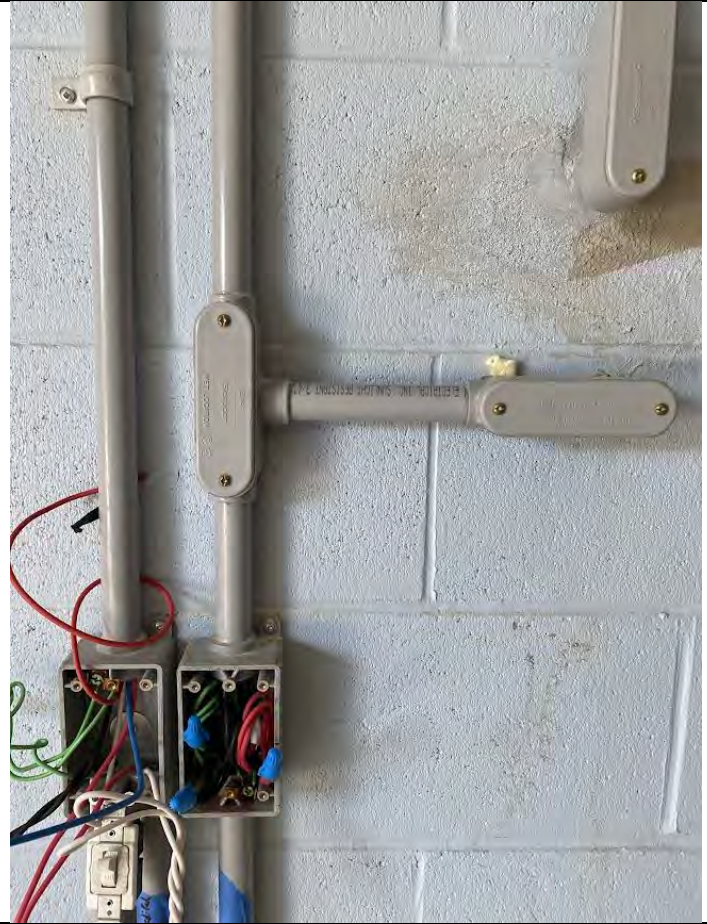
33. Generator Quick Connect Panel (2022-09-07)



34. Conduit Installation from DAF No. 1 Tank to Blowdown Chamber (2022-09-07)



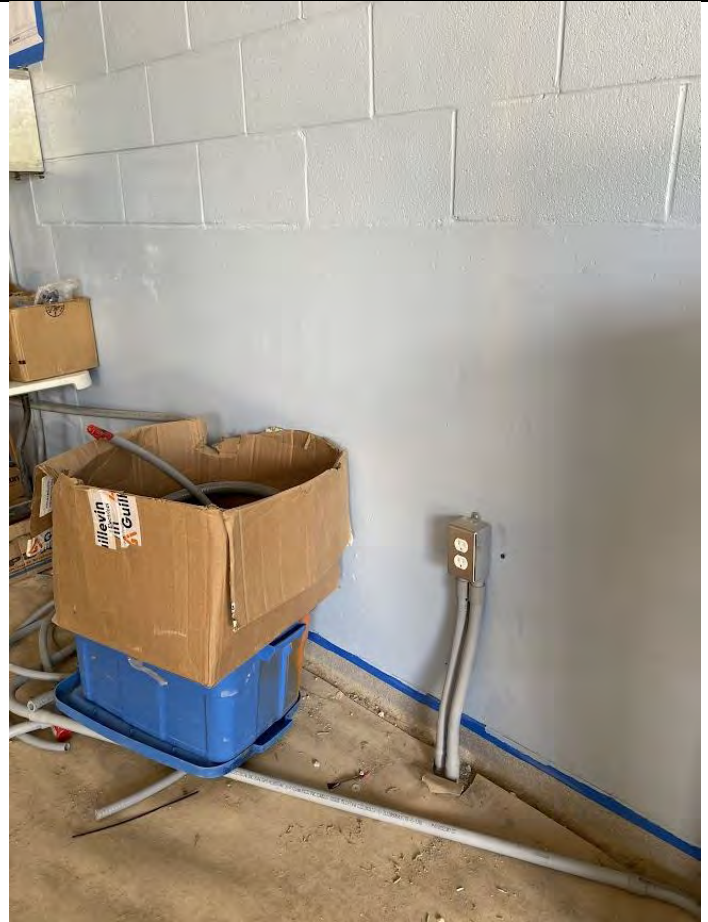
35. Auxiliary Equipment Building: Receptacle (2022-09-07)



36. Auxiliary Equipment Building: Receptacle & Light Switch (2022-09-07)



37. Auxiliary Equipment Building: Fire Extinguisher (2022-09-07)



38. Auxiliary Equipment Building: Receptacle (2022-09-07)



39. Auxiliary Equipment Building (2022-09-07)



40. DAF No. 1 Tank Drained Slightly for Skimmer & Trough Modifications (2022-09-07)



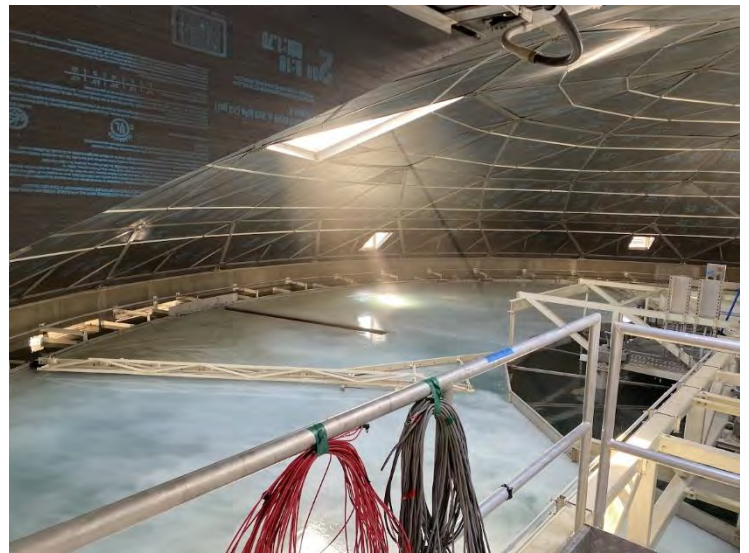
43. DAF No. 1 Tank: Effluent Trough Modifications (2022-09-07)



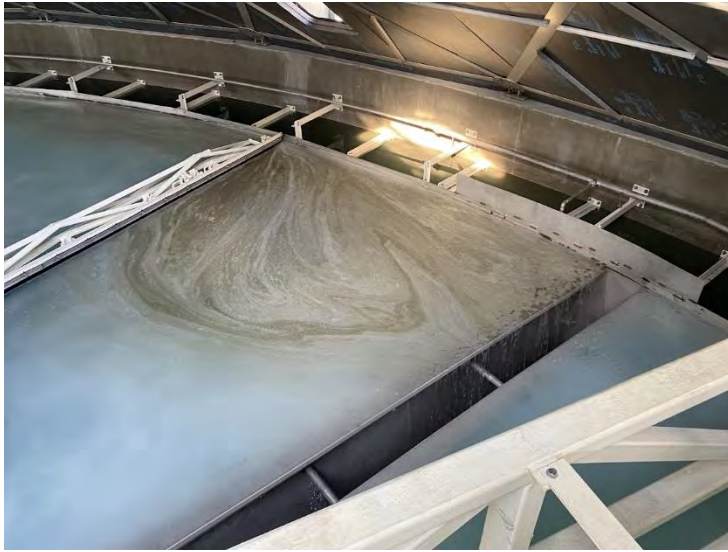
44. DAF No. 1 Tank: Partial Flow / Flow to Overflow Chamber (2022-09-07)



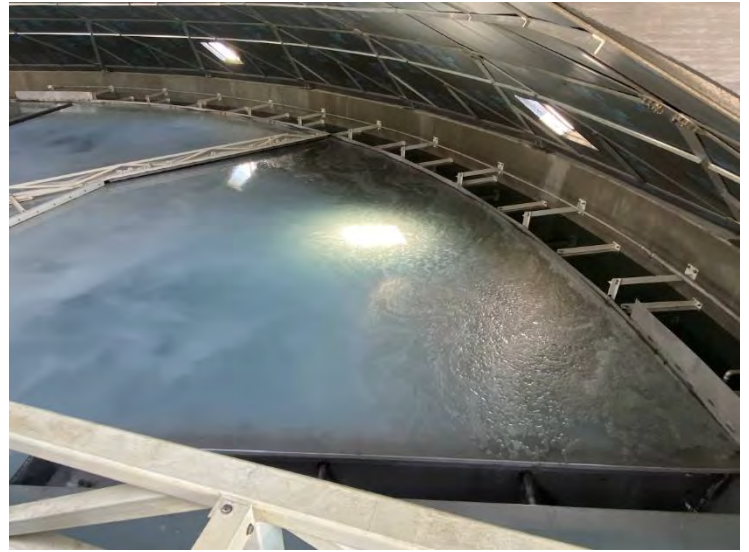
45. DAF No. 1 Tank: Partial Flow / Flow to Overflow Chamber (2022-09-07)



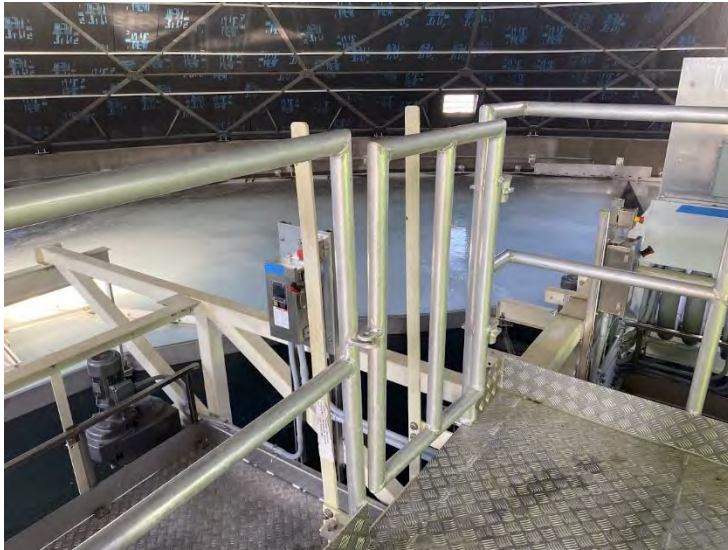
46. DAF No. 1 Tank: Partial Flow / Flow to Overflow Chamber (2022-09-07)



47. DAF No. 1 Tank: Partial Flow / Flow to Overflow Chamber (2022-09-07)



48. DAF No. 1 Tank: Partial Flow / Flow to Overflow Chamber (2022-09-08)



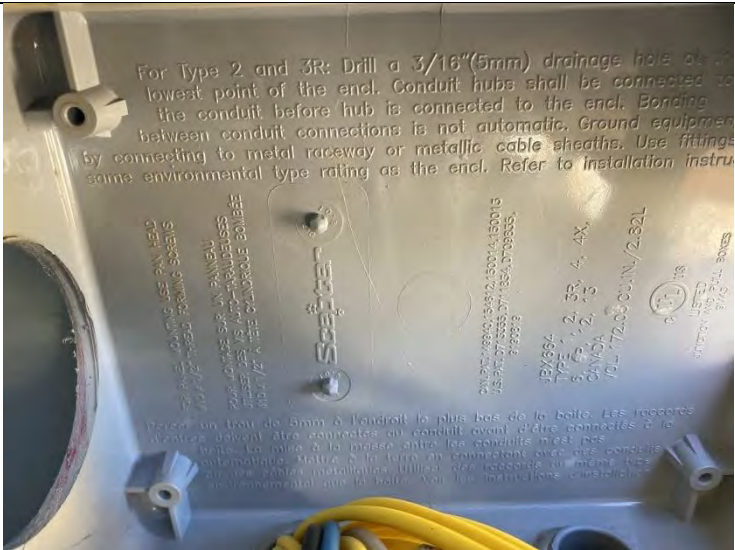
49. DAF No. 1: Lower Platform Gates Corrected (to align to close properly) (2022-09-08)



50. DAF No. 1: Lower Platform Gates Corrected (to align to close properly) (2022-09-08)



62. Generator Quick Connect Panel (2022-09-08)



63. Generator Quick Connect Panel (2022-09-08)



64. DAF No. 1 Tank to Blowdown Chamber Conduit (2022-09-08)



65. DAF No. 1 Tank: Switching from Partial Flow to Full Flow to Filters (2022-09-08)



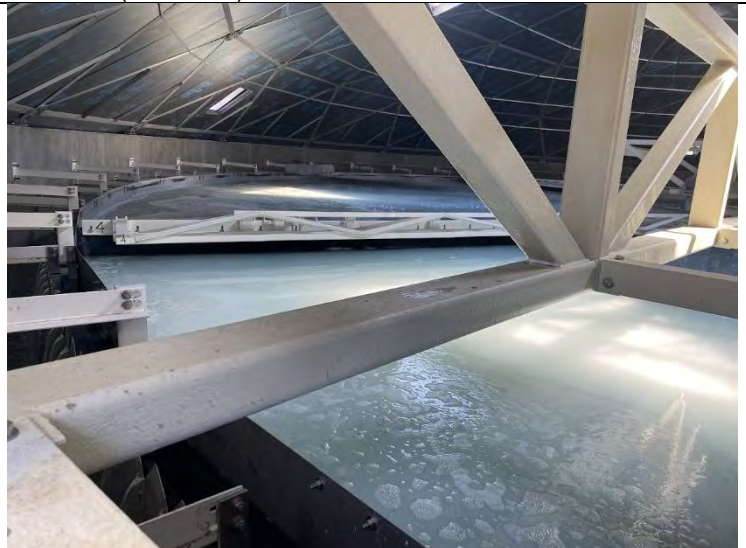
66. DAF No. 1 Tank: SAT for In-Service Mode / Full Flow to Filters (2022-09-08)



67. DAF No. 1 Tank Effluent Troughs: SAT for In-Service Mode / Full Flow to Filters (2022-09-08)



68. DAF No. 1 Tank Effluent Troughs: SAT for In-Service Mode / Full Flow to Filters (2022-09-08)



69. DAF No. 1 Tank: SAT for In-Service Mode / Full Flow to Filters (2022-09-08)



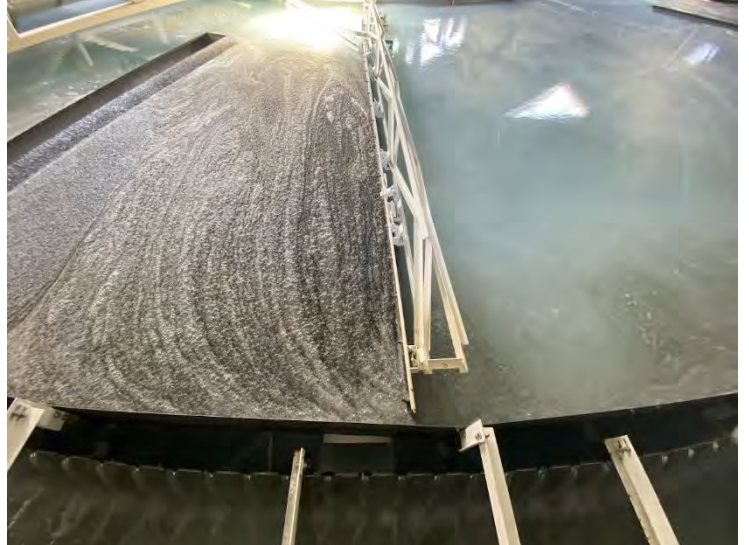
70. DAF No. 1 Tank Effluent Troughs: SAT for In-Service Mode / Full Flow to Filters (2022-09-08)



71. DAF No. 1 Tank: SAT for In-Service Mode / Full Flow to Filters (2022-09-08)



72. DAF No. 1 Tank: SAT for In-Service Mode / Full Flow to Filters (2022-09-08)



73. DAF No. 1 Tank: SAT for In-Service Mode / Full Flow to Filters (2022-09-08)



74. DAF No. 1 Tank: SAT for In-Service Mode / Full Flow to Filters (2022-09-08)



75. DAF No. 1 Tank: SAT for In-Service Mode / Full Flow to Filters (2022-09-08)



76. DAF No. 1 Scum Troughs Rinse: SAT for In-Service Mode / Full Flow to Filters (2022-09-08)



77. DAF No. 1 Tank Flocculation Well: SAT for In-Service Mode / Full Flow to Filters (2022-09-08)



82. DAF No. 1 Tank: Significant Scum/PAC Build Up In-Service Mode (2022-09-09)



83. DAF No. 1 Tank: Significant Scum/PAC Build Up In-Service Mode (2022-09-09)



84. DAF No. 1 Tank: Significant Scum/PAC Build Up In-Service Mode (2022-09-09)



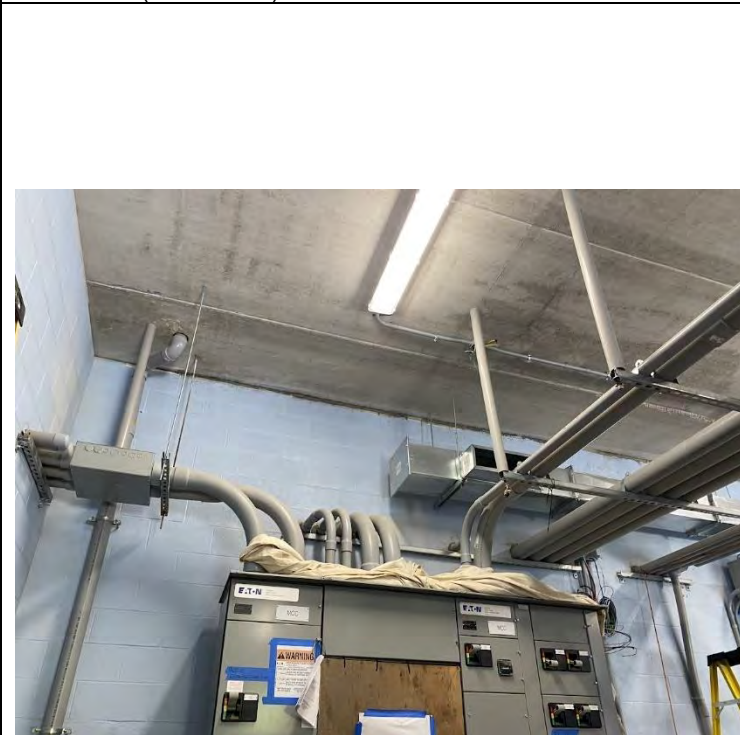
85. DAF No. 1 Tank: Dome Entrance Instrumentation and Lighting (2022-09-09)



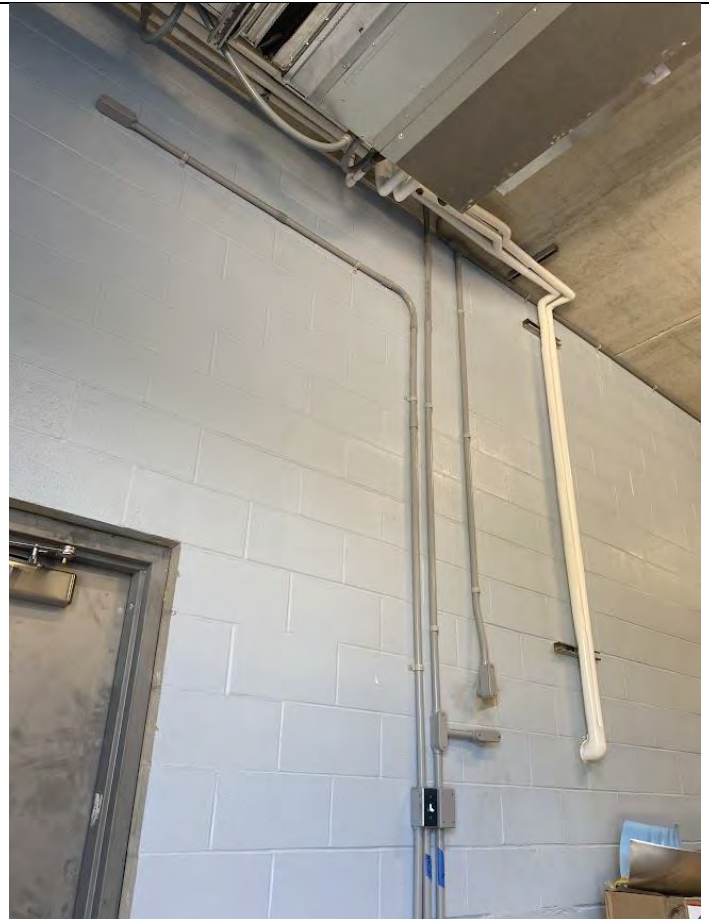
86. DAF No. 1 Tank: Dome Entrance Instrumentation and Lighting Switch (2022-09-09)



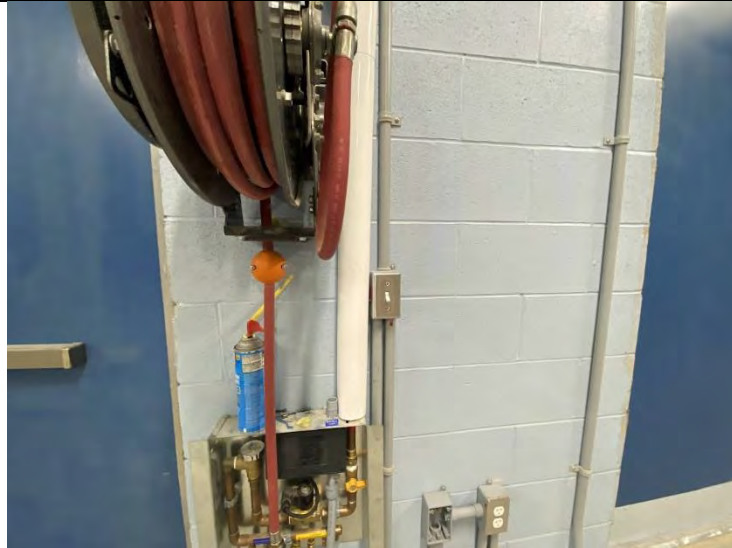
87. Auxiliary Equipment Building: Lighting Powered (2022-09-09)



88. Auxiliary Equipment Building: Lighting Powered (2022-09-09)



89. Auxiliary Equipment Building: Electrical and HVAC (2022-09-09)



90. Auxiliary Equipment Building: Electrical and HVAC (2022-09-09)



91. Auxiliary Equipment Building: Electrical and HVAC (2022-09-09)



92. Auxiliary Equipment Building: Lighting Powered (2022-09-09)



93. Auxiliary Equipment Building: Lighting Powered (2022-09-09)

UW/18/22

To: Chair and Members of the Union Water Supply System Joint Board of Management

From: Rodney Bouchard, Union Water Manager

Date: September 15, 2022

Re: Adoption and Execution of Items Related to the Restructuring of the Union Water Supply System



Recommendation:

It is recommended that:

1. This Board approves and adopts the “Proposed Business Case Study for Restructuring Union Water Supply System (UWSS) into a Municipal Service Corporation” dated March 28, 2018 (the “Business Case”), as previously presented to this Board.
2. This Board acknowledges the adoption of the Business Case, as previously presented to this Board, by The Corporation of the Municipality of Leamington, The Corporation of the Town of Lakeshore, The Corporation of the Town of Essex and The Corporation of the Town of Kingsville.
3. This Board authorizes the General Manager to execute, and authorizes the necessary filing, of the Articles of Incorporation for the municipal services corporation to be known as “Union Water Supply System Inc.” which Articles of Incorporation were previously presented to this Board in draft form.
4. This Board authorizes the General Manager to execute a Lease Agreement between the Corporation of the Town of Kingsville as Landlord and Union Water Supply System as Tenant for lease of the property municipally known as 52 Pulford Street, Kingsville, Ontario and legally described as LT 24-25 PL 1182 KINGSVILLE; PT BLK A PL 1182 KINGSVILLE AS IN TK7795 S/T TK7795; KINGSVILLE (PIN 75174-0105 (LT)).
5. This Board authorizes the General Manager to execute a Lease Agreement between the Corporation of the Town of Essex as Landlord and Union Water Supply System as Tenant for lease of the property municipally known as 162 Forest Avenue, Essex, Ontario and legally described as PT N ½ LT 283 CON STR INCLUDING BLOCKS 10 TO 17, 116 TO 122, B, C & D COLCHESTER AS IN R174555.

September 15, 2022 -UW/18/22

Re: Adoption and Execution of Items Related to the Restructuring of the Union Water Supply System

6. This Board authorizes the General Manager to execute such other documents and instruments as may be necessary in order to incorporate, establish and organize the municipal services corporation to be known as "Union Water Supply System Inc." in accordance with the Business Case.
7. The General Manager is hereby authorized for and on behalf of the Board to execute and deliver such other agreements, instruments and documents as may be necessary or desirable to give effect to these resolutions.
8. The General Manager is hereby authorized to do all such other acts and things as may be necessary or desirable to give effect to these resolutions.

Background:

At the June 15, 2022 UWSS Board meeting, the UWSS Board was provided a presentation by the UWSS General Manager on the updated Business Case to Restructure the Union Water Supply System into a Municipal Services Corporation. The UWSS Board also received report UW14-22 UWSS Restructuring to Municipal Services Corporation - Next Steps. This report included the following recommendation:

That the UWSS Board directs the UWSS General Manager to request audience with the Councils of the Municipality of Leamington, Town of Kingsville, Town of Essex and Municipality of Lakeshore, as owners in common of the Union Water Supply System, to present and seek Councils adoption of the Legal and Financial Business Case for Restructuring the UWSS into a Municipal Services Corporation.

The recommendation was adopted by the UWSS Board.

Discussion:

As per the UWSS Board's direction, the UWSS General Manager presented the updated UWSS Restructuring Business case to the Councils of the UWSS' owner municipalities. UWSS' delegations to municipal councils occurred on the following dates:

- August 2nd, 2022 - Delegation to Municipality of Leamington Council;
- August 8th, 2022 - Delegation to the Town of Kingsville Council;
- August 9th, 2022 - Delegation to the Municipality of Lakeshore Council;
- August 22nd, 2022 - Delegation to the Town of Essex Council;

The UWSS' delegation to municipal councils were supported by the UWSS Restructuring Team consultants including Mr. William Willis of Willis Business Law and Mr. Tom Garner representing PriceWaterhouse Coopers (PwC).

September 15, 2022 -UW/18/22

Re: Adoption and Execution of Items Related to the Restructuring of the Union Water Supply System

The UWSS presentations to Councils were followed up with municipal administration reports by each municipality recommending adoption of the UWSS Restructuring Business Case. It is to be noted that the UWSS Business Case to restructure into a Municipal Services Corporation was adopted by each of the four municipal councils.

The following next steps and timeline is proposed to move forward with the restructuring of the UWSS into a municipal services corporation.

September-October 2022

- Incorporation of UWSS Inc. by Incorporating Director (UWSS General Manager)
- Appointment of Interim UWSS Inc. Board of Directors (Mayors of Shareholder Municipalities)
- Appointment of UWSS Inc. CEO (UWSS General Manager)
- Initial Call to Financial Institutions to Secure Financing/Funds/Credit UWSS Inc.

October-December 2022

- Establish and implement billing and revenue recovery procedures between UWSS and municipalities
- Retain new accounting/bookkeeping services for UWSS Inc.
- Establish new HR related services for UWSS Inc.
- Complete Finance Raising

November-December 2022

- Municipal selection and appointment of Board of Directors

January-February 2023

- First meeting of the Full UWSS Inc. Board of Directors
- Appointment of UWSS Inc. Board of Director Chair and Vice Chair
- Implementation of the UWSS Inc. Financial Model/Plan
- Approval of the UWSS Inc. operations and capital budgets for 2023

March-June 2023

- Initial Draw on New Financing

Concluding Remarks:

With the adoption of the UWSS Restructuring Business Case by the UWSS owner municipalities of Leamington, Kingsville, Essex and Lakeshore, the UWSS Board is now in a position to move ahead with the restructuring of the UWSS into a municipal services corporation. In order to move forward with the restructuring and implementation of the next steps as presented in this report, the UWSS Board also needs to formally adopt the UWSS Restructuring Business Case. The UWSS General Manager recommends that the UWSS Board approves the UWSS Restructuring Business as well as the supporting recommendations as presented in this report.

September 15, 2022 -UW/18/22

Re: Adoption and Execution of Items Related to the Restructuring of the Union Water Supply System

Respectfully submitted,



Rodney Bouchard, General Manager
Union Water Supply System Joint Board of Management

rb/kmj

Filename: t:\union wtr\reports to board\2022\uw18-22 uwss restructuring to municipal services corporation-adoption of business case.docx

Resolution Number R22-08-505

Title: Rodney Bouchard, UWSS General Manager, Tom Garner, Price Waterhouse Coopers, and William Wills, Wills Business Law

Date: August 22, 2022



Moved By Councillor Garon

Seconded By Councillor Verbeek

That Agenda Item 10.1 be moved up to Agenda Item 8.3.1 as it relates to Union Water Supply System (UWSS).

Carried

Resolution Number R22-08-506

Title: Legal and Legislative Services-2022-35

Date: August 22, 2022



Moved By Councillor Vander Doelen

Seconded By Councillor Bowman

That Legal and Legislative Services Report-2022-35 entitled Union Water Supply System Restructuring prepared by Robert W Auger, Town Solicitor/Clerk dated August 22, 2022 be received; and

It is further recommended that Council:

1. Receive the Presentation entitled Union Water Supply System Restructuring Project Financial Presentation dated August, 2022;
2. Approve and adopt the Proposed Business Case Study for Restructuring Union Water Supply System (UWSS) into a Municipal Service Corporation dated March 28, 2018 (the "Business Case") as previously presented to this Council;
3. Approve and Adopt the Policy on Asset Transfers to Municipal Service Corporations;
4. Authorize the Mayor and the Municipal Clerk to execute and authorize the necessary filing, of Articles of Incorporation for the Municipal services corporation to be known as "Union Water Supply System Inc." in be in such form and manner satisfactory to the Town's Solicitor;
5. Authorize the Mayor and the Municipal Clerk to execute the By-Laws and organizing resolutions of the municipal service corporation to be known as the Union Water Supply System Inc. to be in such form and manner satisfactory to the Town Solicitor;
6. Authorize the Mayor and the Municipal Clerk to execute a Unanimous Shareholders Agreement, Water Services Agreement, Asset Transfer Agreement, Real Property Transfer Agreement and Municipal Access Agreement between the Corporation of the Town of Essex, the Municipality of Leamington, the Corporation of the Town of Kingsville, the Municipality of Lakeshore and the Union Water Supply System Inc. to be in such form and manner satisfactory to the Town Solicitor;
7. Authorize the Mayor and the Municipal Clerk to execute a Water Tower Lease Agreement (to be in such form and manner satisfactory to the Town Solicitor) between the Corporation as Landlord and Union Water Supply System Inc. as Tenant for a lease of the property municipally known as 162 Forest Avenue, Essex, Ontario and as therein legally described as PT N ½ LT 283 CON STR INCLUDING BLOCKS 10 TO 17, 116 TO 122, B, C & D COLCHESTER AS IN R174555;
8. Authorize the Mayor and the Municipal Clerk are hereby to execute and deliver such other agreements, instruments and documents as may be necessary or desirable to give effect to these authorizing resolutions, or in connection with the performance by the Town of its obligations pursuant to any of the documents referred to in these resolutions and to be in such form and manner satisfactory to the Town Solicitor; and
9. Appoint Councilor Chris Vander Doelen to serve as the Town's director on the Board of the municipal service corporation to be incorporated and known as Union Water Supply System Inc. for a term commencing on the date of incorporation thereof and ending upon the end of this current term of Council being November 15, 2022; and
10. Direct Administration to review and report and/or make recommendations to the 2022-2026 Town of Essex Council as to Council's options for appointing a Director to represent the Town of Essex on the Board of the municipal service corporation to be incorporated and known as Union Water Supply System Inc. and relating to the 2022-2026 next term of Council.

Carried



2021 Division Road North
Kingsville, Ontario N9Y 2Y9
Phone: (519) 733-2305
www.kingsville.ca
kingsvilleworks@kingsville.ca

August 22, 2022

Union Water Supply System
1615 Union Avenue
Ruthven, ON N0P 2G0

RE: UNION WATER SUPPLY SYSTEM RESTRUCTURING BUSINESS CASE

At its Regular Meeting held on August 8, 2022 Council of the Town of Kingsville passed the following Resolution:

"313-08082022

Moved By Councillor Tony Gaffan

Seconded By Councillor Thomas Neufeld

That Council:

1. **Approve and adopt the "Proposed Business Case Study for Restructuring Union Water Supply System (UWSS) into a Municipal Service Corporation" dated March 28, 2018 (the "Business Case");**
2. **Approve and adopt the "Policy on Asset Transfers to Municipal Service Corporations" (attached);**
3. **Authorize the Corporation's Chief Administrative Officer and the Director of Financial and IT Services to execute, and authorize the necessary filing, of the Articles of Incorporation for the municipal services corporation to be known as "Union Water Supply System Inc.", in a form satisfactory to the Town Solicitor;**
4. **Authorize the Corporation's Chief Administrative Officer and the Director of Financial and IT Services to execute the Bylaws and organizing resolutions of the municipal services corporation to be known as "Union Water Supply System Inc.", in a form satisfactory to the Town Solicitor;**
5. **Authorize the Corporation's Chief Administrative Officer and the Director of Financial and IT Services to execute a Unanimous Shareholders Agreement, Water Services Agreement, Asset Transfer Agreement, Real Property Transfer Agreement and Municipal Access Agreement between the Corporation and The Corporation of the Municipality of Leamington, The Corporation of the Town of Lakeshore, The Corporation of the Town of Essex and the Union Water Supply System Inc., in a form satisfactory to the Town Solicitor;**

6. **Authorize the Corporation's Chief Administrative Officer and the Director of Financial and IT Services to execute a Lease Agreement between the Corporation as Landlord and Union Water Supply System Inc. as Tenant for lease of the property municipally known as 52 Pulford Street, Kingsville, Ontario and legally described as LT 24-25 PL 1182 KINGSVILLE; PT BLK A PL 1182 KINGSVILLE AS IN TK7795 S/T TK7795; KINGSVILLE (PIN 75174-0105 (LT)), in a form satisfactory to the Town Solicitor;**
7. **Authorize the Corporation's Chief Administrative Officer and the Director of Financial and IT Services to execute and deliver such other agreements, instruments, and documents as may be necessary or desirable to give effect to these resolutions, or in connection with the performance by the Corporation of its obligations pursuant to any of the documents referred to in these resolutions, in a form satisfactory to the Town Solicitor;**
8. **Authorize and direct Administration to develop an application and post notice seeking persons to be appointed by Council to the Board of Directors of the new Union Water Supply System Inc.**

CARRIED"

If you have any questions, you may reach out to me at 519-733-2305 ext. 256.

Yours very truly,

A handwritten signature in black ink, appearing to read 'Paula Parker', with a stylized, flowing script.

Paula Parker
Town Clerk
Office of the CAO
pparker@kingsville.ca



RECEIVED

AUG 22 2022

Union Water Supply System

August 12, 2022

Union Water Supply System
1615 Union Ave. Box 340
Ruthven, ON
N0P 2G0

Attention: Rodney Bouchard, General Manager

Dear Mr. Bouchard:

RE: Union Water Supply System Restructuring

Please be advised that at its meeting held August 9, 2022, the Council of the Municipality of Lakeshore passed the following resolution:

#305-08-2022

Approve and adopt the "Proposed Business Case Study for Restructuring Union Water Supply System (UWSS) into a Municipal Service Corporation" dated March 28, 2018 as presented at the August 9, 2022 Council meeting and as further described in the "Union Water Supply System Restructuring Project Financial Presentation" presented at the August 9, 2022 Council Meeting to establish a municipal services corporation pursuant to section 203 of the *Municipal Act, 2001* and which shall be known as Union Water Supply System Inc.;

Authorize the Mayor to act as a first director for Lakeshore as a shareholder in the incorporation of the municipal services corporation; and

Authorize and direct the Mayor and Treasurer, in consultation with Lakeshore legal counsel, to execute such agreements, documents and instruments as may be necessary or desirable including, but not limited to, a Unanimous Shareholder Agreement, a Water Services Agreement, an Asset Transfer Agreement, a Real Property Transfer Agreement, and a Municipal Access Agreement to restructure, establish and organize the municipal services corporation and arrange for the services to be continued in accordance with the Business Case.

Carried Unanimously



Should you have any questions regarding the above noted resolution, please contact clerk@lakeshore.ca.

Regards,

Brianna Coughlin,
Division Leader – Civic Affairs
BC:rw



August 26, 2022

To Whom it May Concern:

Please be advised that the Council of The Corporation of the Municipality of Leamington, at its special meeting held Tuesday, August 2, 2022 enacted the following resolution:

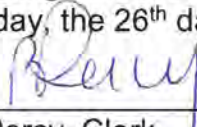
No. C-194-22

1. Council approve F06 – Policy on Asset Transfers to Municipal Service Corporations;
2. Council approve and adopt the “Proposed Business Case Study for Restructuring Union Water Supply System (UWSS) into a Municipal Service Corporation” dated March 28, 2018 as previously presented to this Council as well as the “Union Water Supply System Restructuring Project Financial Presentation dated August, 2022;”
3. Council authorizes the Corporation’s Chief Administrative Officer and the Director of Finance and Business Services to execute those documents and instruments as may be necessary in order to incorporate, establish and organize a municipal services corporation to be known as “Union Water Supply System Inc.” in accordance with the Business Case in a form satisfactory to the Municipality’s Solicitor;
4. Council authorizes the Corporation’s Chief Administrative Officer and the Director of Finance and Business Services to execute a Unanimous Shareholders Agreement, Water Services Agreement, Asset Transfer Agreement, Real Property Transfer Agreement and Municipal Access Agreement between the Municipality and a municipal service corporation to be incorporated and known as Union Water Supply System Inc. and other municipalities who are contemplated to be parties to these transactions in a form satisfactory to the Municipality’s Solicitor;

5. The Corporation's Chief Administrative Officer and the Director of Finance and Business Services are hereby authorized for an on behalf of the Municipality to execute and deliver such other agreements, instruments and documents as may be necessary or desirable to give effect to these resolutions, or in connection with the performance by the Municipality of its obligations pursuant to any of the documents referred to in these resolutions in a form satisfactory to the Municipality's Solicitor; and
6. Council directs Administration to develop an application and post notice seeking persons to be appointed by Council to the Board of Directors of a municipal service corporation to be incorporated and known as Union Water Supply System Inc. (Report CAO-11-22)

Carried

I certify the foregoing to be a true
and correct copy of Resolution No. C-194-22
passed by The Corporation of the Municipality of Leamington
at its meeting held the 2nd day of August 2022.
Dated today, the 26th day of August 2022.



Brenda Percy, Clerk
The Corporation of the Municipality of Leamington

UW/19/22

Report

**To: Chair and Members of the Union Water
Supply System Joint Board of Management**

From: Rodney Bouchard, Union Water Manager

Date: September 15, 2022

**Re: Engineering and Design - New Reservoir and UV Disinfection
Facility**

**Recommendation:**

That the UWSS Board approves a budget of \$250,000 for the undertaking of conceptual and indicative design for new reservoir #3 and ultraviolet (UV) system for primary disinfection with future expandability for Advanced Oxidation Processes (AOP) to mitigate taste and odour (T&O) and algal toxin issues;

And further, that the UWSS Board authorizes the UWSS General Manager to award a contract in the amount of \$194,600 to Associated Engineering for New Reservoir and UV Facility Conceptual and Indicative Design.

Background:

In 2016, the UWSS retained Associated Engineering to complete a Water Quality Master Plan (WQMP) for the UWSS facilities. The results of the WQMP were presented to the UWSS Board at the March 9, 2017 Special meeting of the UWSS Board. The results of WQMP indicated that implementation of additional primary disinfection processes would improve the efficiency of the Ruthven Water Treatment Plant, especially in regards to anticipated future growth in treated water demand. Through a triple bottom line evaluation, the WQMP identified the integration of an ultraviolet (UV) system for primary disinfection with future expandability for Advanced Oxidation Processes (AOP) as the preferred solution for additional primary disinfection.

At the October 21st, 2020 UWSS Board meeting, the UWSS Board approved the undertaking of the UWSS Infrastructure and Master Servicing Plan Review. UWSS retained the consultant team of Associated Engineering and C3 Water, Inc. to complete this work. The goals of the Infrastructure Review were to identify future water demands (5-year and 10-year) as based on anticipated growth in the UWSS serviced municipalities, and to identify infrastructure needs to accommodate the projected growth.

At the October, 20th, 2021 UWSS Board meeting, the consulting team presented the preliminary results for the Demand and Design Criteria for the Infrastructure Review to the UWSS Board. The presentation identified that UWSS treated water storage facilities

September 15, 2022 - UW/19/22

Re: Engineering and Design -New Reservoir and UV Disinfection Facility

would need to be expanded to meet both 5-year and 10-year projected growth related demands. A final version of the Technical Memorandum - Infrastructure Needs Study, Demand and Design Criteria, dated June 13, 2022 was submitted to UWSS.

Discussion:

Based on the results of the distribution system modelling completed as part of the on-going UWSS Infrastructure Needs Assessment Study, the UWSS currently has insufficient treated water storage capacity with a deficit of just over 10 megalitres (ML) in the south-east portion of the UWSS system. This deficit is projected to be approximately 20 ML by 2026 and up to 38 ML by 2031 (using a high growth rate of the greenhouse industry as detailed in the Demand and Design Criteria TM dated June 13, 2022). As such, it is vital for UWSS to increase storage capacity in its distribution system in the very short term.

It should be noted that UWSS annual treated water demand increased by approximately 29% between 2017 and 2021 and is projected to increase an additional 3% in 2022. Furthermore, daily treated water demand has increased as well during that time from a peak demand of 75.6 megaliters per day (MLD) in 2017 to 99.2 MLD in 2022. The peak daily demand for 2022 is still below the treatment plant capacity of 124.5 MLD.

Although total daily peak day treated water demand has increased significantly from 2017 to 2022, the main concern is the ability to meet the daytime hourly demands during summertime high demand days. As indicated previously, the current approved treatment plant capacity for the Ruthven Water Treatment Plant is 124.5 MLD. This is equivalent to roughly 1,441 litres per sec (L/sec). The approved treated output capacity is based on the UWSS' capability to meet "contact time" (aka CT) disinfection requirements under Ontario Regulations.

During the late June and early July hot weather period for the years 2020, 2021 and 2022, there were a number of days where daytime (i.e. afternoon) water demand exceeded plant hourly production capacity of the treatment plant by 100-200 L/sec. When hourly demand is greater than production capacity, this results in depletion of water stored in UWSS water towers and reservoirs. If this condition lasts for too many hours, then the ability to ensure enough water to meet system demand is at risk. Consequently, it is imperative that treated water storage capacity be increased in order to address the existing deficit in treated water storage capacity and to have the ability to meet storage capacity requirements based on projected future demands (5-year and 10-year), and also to mitigate risks associated with increasing peak daily demand during hot weather months.

Financial Impact:

The UWSS General Manager requested a proposal from Associated Engineering to provide project management, engineering and design services to develop a conceptual design and indicative design for implementation of a new 40 ML reservoir at the Ruthven Water Treatment Plant. This work would also include preliminary design for the implementation of a UV primary disinfection treatment system, with expansion capabilities

September 15, 2022 - UW/19/22

Re: Engineering and Design -New Reservoir and UV Disinfection Facility

to include Advance Oxidation Processes (AOP) for future Taste and Odour control and to assist with control of algal toxins. The new UV system chamber would be linked with the new reservoir. This proposal was solicited solely from Associated Engineering for the following reasons:

- Associated Engineering assisted UWSS with on-site studies for the residuals management system, the coagulant strategy and corrosion evaluation, CO2 pH adjustment system and Primary chlorine disinfection system improvements and implementation of the Dissolved Air Floatation (DAF) Phase 1. As such, Associated Engineering is very familiar with existing UWSS treatment operations & process and water quality concerns/issues.
- UWSS General Manager proposes to get this work initiated immediately with the intent of have the construction work break ground in late Summer/ early Fall 2023 with an anticipated completion date of May 2025. Due to their familiarity with the UWSS treatment system, Associated Engineering is best suited to help UWSS get this work completed within the proposed timeline.

Based on their September 8, 2022 Fee Letter/Proposal, Associated Engineering proposes to complete the design, engineering and project management services for the new reservoir #3 and UV primary disinfection system for a fee of \$194,600+ HST. A copy of Associated Engineering's Fee Letter/Proposal is attached to this report and provides detailed breakdown of Tasks, associated costs and project schedule.

As part UWSS approved of 2022 UWSS Capital Budget, a budget of \$80,000 was approved by the UWSS Board for preliminary engineering/design for new reservoir #3. However, the proposed scope of work now includes conceptual and indicative design for new reservoir #3 and the UV primary disinfection system. As such an increase in budget from \$80,000 to \$250,000 is recommended. The budget would be allocated as follows:

- Associated Engineering Design, Project and project management: \$194,600
- Third Party Contractor Costs (geotechnical, survey, etc): \$ 55,400

The UWSS has sufficient funds available in UWSS Reserves to accommodate the increase in budget.

Respectfully submitted,



Rodney Bouchard, General Manager
Union Water Supply System Joint Board of Management

rb/kmj

Filename: t:\union wtr\reports to board\2022\uw19-22 design, engineering and project management - new reservoir and uv disinfection facility.docx



Associated Engineering (Ont.) Ltd.
Suite 200, 165 Commerce Valley Drive West
Markham, ON L3T 7V8 Canada

TEL: 416.622.9502
FAX: 905.346.0992
www.ae.ca

September 8, 2022
File: P21-01536

Rodney Bouchard, P.Geo.
General Manager
Union Water Supply System
P.O. Box 340
1615 Union Avenue
Ruthven, ON N0P 2G0

**Re: UNION WATER SUPPLY SYSTEM - RUTHVEN WTP
NEW RESERVOIR AND UV FACILITY CONCEPTUAL AND INDICATIVE DESIGN
SCOPE / FEE LETTER**

Dear Mr. Bouchard:

Further to the Union Water Supply System (UWSS) Reservoir Expansion and Implementation of UV Disinfection Brief (November 2020), Associated Engineering (Associated) is pleased to submit this workplan and fee letter for the implementation of a new treated water reservoir at the Ruthven Water Treatment Plant (WTP) and the integration of an ultraviolet (UV) system for primary disinfection with future expandability for taste and odour (T&O) control as recommended in the Water Quality Master Plan completed in 2017.

Based on the preliminary results of the distribution system modelling completed as part of the on-going UWSS Infrastructure Needs Assessment Study, there is currently a storage capacity deficit in the UWSS South-East (SE) of 10.3 ML and a projected deficit of up to 38.1 ML by 2031 (using a high growth rate of the greenhouse industry as detailed in the Demand and Design Criteria TM dated June 13, 2022). Consequently, it is imperative for UWSS to increase storage capacity in its distribution system in the very short term.

Associated understands that UWSS would thus like to expand the current reservoir capacity at the Ruthven WTP by 40 ML with the implementation of a new 2-cell reservoir on UWSS-owned land adjacent to the water treatment plant, along with the retrofit of a UV vault in Reservoir No. 2.

Further to the recommendations of the Reservoir Expansion and Implementation of UV Disinfection memo (November 2020), Associated proposes that UWSS consider executing this project using an alternate project delivery method, using a phased approach:

- Phase 1 – Develop Conceptual Design;
- Phase 2 – Coordinate Update to Public and Pre-Consultation with Approval/Permitting Agencies;
- Phase 3 – Develop Indicative Design;



Platinum member



September 8, 2022
Rodney Bouchard, P.Geo.
Page 2

- Phase 4 – Engage Contractor to form an integrated design team with early contractor involvement;
- Phase 5 – Develop Detailed Design and Construct Reservoir and UV Facility using an alternate project delivery method; and,
- Phase 6 – Commission the new Reservoir and UV Facility.

Associated has prepared a workplan and engineering fee to assist UWSS executing Phases 1 to 3. A separate workplan and engineering fee will be prepared once Phase 3 is completed for the balance of the project.

1 PROPOSED WORKPLAN (PROJECT PHASES 1 TO 3)

1.1 TASK 1 – PROJECT MANAGEMENT, MEETINGS AND QA/QC REVIEWS

Associated will provide general project management including project coordination, scheduling, invoicing, conduct internal QA/QC and meetings throughout the project.

- The following meetings / workshops will be completed:
 - Project Initiation Meeting (1 hr, teleconference);
 - Bi-weekly project update calls (1/2 hr, teleconference);
 - Draft TM reviews (seven x 2 hrs teleconference);
 - Draft Conceptual Design Report Review (half day workshop, in person);
 - Final Conceptual Design Report Review (1 hr teleconference);
 - Public Information Centre (PIC) (2 hrs, in person in the evening at a local location TBD);
 - PIC debrief (2 hrs, teleconference);
 - Draft Indicative Design Report Review (full day workshop, in person); and,
 - Final Indicative Design Report Review (half day, teleconference).

1.2 TASK 2 - BACKGROUND REVIEW AND SITE INVESTIGATIONS

The design team will first complete the following tasks:

- Review background data (drawings, past reports and past survey information) submitted by Union Water;
- Conduct one site visit to the Ruthven WTP to confirm configuration and layout of new facilities (hybrid approach, in person and remote participation); and,
- Prepare terms of reference, coordinate site investigations and review reports from third-party consultants (UWSS will directly engage these consultants):
 - Topographical Survey;
 - Subsurface Utility Engineering Survey;
 - Designated Substances Survey; and,
 - Preliminary Geotechnical and Hydrogeological Investigation.



September 8, 2022
Rodney Bouchard, P.Geo.
Page 3

1.3 TASK 3 – CONCEPTUAL DESIGN

Associated understands that the following elements are to be included as part of the design:

- New Reservoir No. 3, split in two baffled cells with a total capacity of 40 ML;
- New UV vault retrofitted within Reservoir No. 2;
- Hydraulics review and profile development from Filters to High Lift Pumping Station;
- New yard piping and valves to accommodate flow of water from the retrofitted UV vault and onsite reservoirs;
- Demolition of one greenhouse building and one boiler building;
- Extension of access ring road to the existing service building adjacent to Reservoir No. 3; and,
- Storm water management facilities.

The Associated design team will prepare brief technical memoranda (TMs) (draft and final) to address each of the following design elements:

- TM 01 - UV Technology Selection (MP vs LP);
- TM 02 - Hydraulic Assessment / Updated Filter to HLPS Hydraulic Profile;
- TM 03 - Storm Water Management and Site Servicing;
- TM 04 - Reservoir and UV Vault Structural Approach;
- TM 05 - Existing Greenhouse Facility Demolition Plan;
- TM 06 - Standby Facility Requirements and Solar Facility Feasibility Study, and,
- TM 07 – Alternate Project Delivery Approach.

Once the TMs are reviewed and accepted by UWSS, Associated will prepare the conceptual design report with key drawings (civil, structural, process plan views, and updated reservoir/UV P&ID) to illustrate the proposed facility concept. A draft and final version will be prepared, submitted and reviewed with UWSS.

1.4 TASK 4 – PUBLIC UPDATE OF PROJECT VIA INFORMATION CENTRE AND PRE-CONSULTATION WITH APPROVAL/PERMITTING AGENCIES

Per the Municipal Class Environmental Assessment (EA) Act, expansion of an existing water storage facility (where no land acquisition is required) falls under a Schedule A Class EA process. Schedule A projects are pre-approved and may proceed without following the procedures set out in the Class EA Act. However, UWSS has advised that they would like to voluntarily advise the public of the project prior to project implementation and is seeking assistance in holding a Public Information Centre (PIC) to do so.



September 8, 2022
Rodney Bouchard, P.Geo.
Page 4

Associated will work with UWSS to identify the key stakeholders for this project so they can be advised of the project. Associated will assist UWSS in hosting and preparing related presentation material for one PIC to provide an update on the conceptual design of the proposed WTP upgrades.

Additionally, pre-consultation with approval/permitting agencies will be conducted in parallel to the conceptual design in order to confirm anticipated required approvals and permits prior to transitioning to the subsequent project phases (i.e., detailed design by integrated design team).

Based on the feedback received through the PIC and the above pre-consultation and subsequent review with UWSS, the conceptual design for the upgrades will be finalized.

1.5 TASK 5 – INDICATIVE DESIGN

Building on the final conceptual design, Associated will prepare the indicative design package (draft and final) required to subsequently proceed to Phase 4 and engage a contractor for the integrated design team. The indicative design package will include:

- Indicative design report;
- Indicative design drawings - Civil Plan View, Structural Plan views (2) and Sections (2), Process Mechanical Plan View and Section View; Hydraulic Profile (and Water Quality Mixing Requirements), HVAC / Plumbing Schematics, updated P&ID, Single Line Diagram and SCADA Architecture drawings;
- Process narrative;
- Opinion of Probable Cost;
- Recommendation on alternate project delivery approach to use;
- Prepare key specifications (4) and project constraints to inform Contractors of project limitations; and,
- Updated Project Schedule.

2 PROPOSED TEAM

Corporate Sponsor:
Project Manager:
QA/QC Lead and Alternate Project Delivery Advisor:
Approvals/Regulatory Lead:
Hydraulics Lead:
Civil Lead:
Structural Lead:
Process Mechanical Lead:

Elia Edwards, M.A.Sc., P.Eng.
Vincent Laplante, P.Eng.
Doug Olson, P.Eng.
Anna Comerton, Ph.D., P.Eng.
Kevin Yu, M.Eng., P.Eng.
Don McBrayne, P.Eng.
Paul Shi, P.Eng.
Matt Lozie, P.Eng.



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September 8, 2022
Rodney Bouchard, P.Geo.
Page 5

Building Mechanical Lead:
Electrical Lead:
I&C Lead:

Azad Khamforoush, P.Eng.
David Holyer, P.Eng.
Diego Bernal, P.Eng.

3 SCHEDULE

We will begin work as soon as we receive an authorization to proceed. The assignment is anticipated to proceed as follows:

- Task 1 - Phase 1-3 Project Management, Meetings and QA/QC Reviews – 7 months [October 2022 – April 2023];
- Task 2 - Background and site investigations – 2 months [October – November 2022];
- Task 3 - Conceptual Design – 3 months [October – December 2022];
- Task 4 - Public Update of Project Via Information Centre and Pre-Consultation with Approval/Permitting Agencies – 1 month [January 2023];
- Task 5 - Indicative Design – 4 months [January – April 2023];
- Task 6 – Contractor Selection – 2 months [May – July 2023]**;
- Task 7 – Develop Detailed Design and Construct Reservoir and UV Facility using an alternate project delivery method – 22 months [July 2023 – May 2025]**; and,
- Task 8 – Commission the new Reservoir and UV Facility – 2 months [June – July 2025].

** The duration of these tasks will be confirmed once the type of alternate project delivery approach is selected.

4 ENGINEERING FEES

Our proposed fee for this assignment is a lump sum amount of \$194,600.00 including disbursements and excluding HST. Third party subconsultants are assumed to be directly engaged by Union Water.

Task No.	Description	Budget
1	Project Management, Meetings and QA/QC Reviews	\$41,000.00
2	Background Review and Site Investigations	\$20,800.00
3	Conceptual Design	\$84,100.00



September 8, 2022
Rodney Bouchard, P.Geo.
Page 6

Task No.	Description	Budget
4	Public Update of Project Via Information Centre and Pre-Consultation with Approval/Permitting Agencies	\$14,800.00
5	Indicative Design	\$33,900.00
6	Contractor Selection	TBD
7	Detailed Design and Construction Support	TBD
8	Commissioning	TBD
TOTAL		\$194,600.00

5 SUMMARY

Thank you for the opportunity to assist Union Water with this exciting project. We look forward to further discussing our proposal.

Yours truly,

Vincent Laplante, P.Eng.
Project Manager
VL

Elia Edwards, M.A.Sc., P.Eng.
Division Manager - Water

In accordance with Canadian anti-spam legislation, the recipient consents to Associated Engineering contacting the recipient and its personnel through electronic messages relating to Associated Engineering's services and other matters of interest to the recipient. The recipient may withdraw consent by contacting Associated Engineering at unsubscribe@ae.ca.



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member



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www.kingsville.ca
kingsvilleworks@kingsville.ca

SENT VIA EMAIL (macdonald@leamington.ca)

August 10, 2022

Union Water Supply System Joint Management Board
c/o Hilda MacDonald – Vice-Chair

Dear Ms. MacDonald:

RE: COMMITTEE AND BOARD APPOINTMENTS

This letter is to advise you that, at the Regular Meeting of Council on Monday, August 8, 2022, the Town of Kingsville Council decided to leave the seat on the Union Water Supply System Joint Management Board, formerly occupied by Nelson Santos, Chair, vacant for the remainder of the 2018-2022 Council term.

If you have any questions, you may reach out to me at 519-733-2305 ext. 256.

Sincerely,

A handwritten signature in black ink, appearing to read "Paula Parker", is written over a light blue rectangular background.

Paula Parker,
Town Clerk