



Manitoba Environment and Climate
Environmental Stewardship Division
Environmental Approvals Branch
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April 21, 2023
Client File No.: 1069.10
Our File No.: S-926, EMS
020-17-08-11-00
020-17-08-11-0N

Attention: Siobhan Burland Ross, Acting Director

RE: QUARTERLY PROGRESS REPORT FOR SEWPCC BIOLOGICAL NUTRIENT REMOVAL AND UPGRADE PROJECT: JANUARY 1 – MARCH 31, 2023

The City of Winnipeg (City) is pleased to submit the 2023 Quarter 1 Progress Report for the South End Sewage Treatment Plant (SEWPCC) Biological Nutrient Removal and Upgrade Project operating under Environmental Act Licence No. 2716 RR as required by Manitoba Conservation and Climate Notice of Alteration dated April 14, 2022. The work conducted on key areas of the upgrade project for the period of January 1 to March 31, 2023 are summarized in this report.

Area S: Secondary Clarifiers (SC) 1 & 2

Rehabilitation and testing of equipment continued. Work is 98% complete; baffle installation and demonstration testing remain. Hand over to the City is revised from Q1 2023 to Q2 2023.

Area S: Secondary Clarifiers 4 & 5

Work in SC 4 & 5 is complete and under City operations. There were no issues through the winter period.

Area G: Grit and Screening Building

The work in Area G remains at 97% complete for this period. The system is currently in the operating and monitoring stage to confirm performance. Ongoing automation deficiencies and document close out are being completed. Hand over to the City remains in Q2 2023.

Area G: Raw Sewage Pump #2

Raw sewage pump #2 was installed and is in operation. This increases the pumping capacity of the plant to 420 MLD. All low flow work in both wet wells have been completed. Hand over to the City has been revised to Q3 2023 to enable final odour control piping to be installed following the spring freshet.

Area K: High Rate Clarification (HRC) System

The Contractor has completed the pre-existing concrete repairs, and has been working on test plans and automation control deficiencies. The work remains at 93% with an expected hand over in Q3 2023.

Area C: Chemical/Electrical Building

Testing and deficiency clean up of alarms, set points and equipment communication occurred during this period. The work completed remains at 99%. Outstanding documentation submittals have revised hand over to Q2 2023. The system is operating and continues to provide the ferric chloride dosing being used for phosphorous removal as part of the BNR system.

Area R: Biological Nutrient Removal (BNR)

The BNR system has been commissioned and is operating. Monitoring of the system and effluent is consistently achieving total nitrogen (TN) concentrations under 15 mg/L and total phosphorous (TP) below 1 mg/L. Hand over is expected in Q2 2023.

Area U: UV Upgrades

The UV equipment has been replaced in the south channel and is operational, treating flows up to 112.5 MLD. Demolition of the north channel is completed and new equipment is being installed. Once complete, the UV system will treat up to 225 MLD.

Areas D & T: HPO Tank Conversion to Fermenters and Biofilter

Work on the HPO Tank conversion to fermenters continued through this period with cleaning and condition assessment of the concrete tanks. The completion date for full biological activity is Q3 2023.

Key Project Risks

Additional oversight and assistance by the project team continues with the contractor. This increased level of effort is required to ensure all information is completed, and priority focus on critical path items remain.

Performance Updates

The Total Phosphorus limit of 1.0 mg/L and Total Nitrogen limit of 15 mg/L in the final effluent are being met.

With the SEWPCC plant converted to a BNR system, it allowed for the introduction of ferric chloride for chemical trimming of all primary effluent. This, along with the increased biological growth in the BNR tanks, has allowed the City to achieve final effluent concentrations below 1 mg/L TP and 15 mg/L TN. Laboratory results can be found on the City's website at winnipeg.ca/wwcompliance.

The City continues to utilize the measures within the contract to move the contractor toward project completion in order to meet the licence requirements.

Should you have any questions on the SEWPCC Biological Nutrient Removal and Upgrade Project, please contact Colin Javra at 204-986-4480 or by email at cjavra@winnipeg.ca.

Sincerely,

A handwritten signature in cursive that reads 'C Wiebe'.

Cynthia Wiebe, P. Eng., CAMP
Manager of Engineering Services

ATTACHMENT: Appendix A – Table 1

CJ/jkm

c:

- Y. Hawryliuk, MSc, Environment and Climate (email)
- E. Beshada, Ph. D, P.Eng., Environment and Climate (email)
- N. Suresh, P. Eng., Environment and Climate (email)
- T. W. Shanks, M. Eng., P. Eng., Water and Waste Department (email)
- C. Carroll, P. Eng., Water and Waste Department (email)
- C. Javra, P. Eng., Water and Waste Department (email)
- R. Dewitt, P. Eng., Water and Waste Department (email)

Table 1: SEWPCC Contract 4 Schedule Milestone Dates

Area	Contract Dates	% Complete				Expected Completion	Work Remaining
		Dec	Jan	Feb	Mar		
Secondary Clarifiers 1 & 2	March 20, 2019	80%	82%	85%	98%	Q2 2023	Mechanical upgrades completed. Final testing and documents to be finalized prior to hand over in Q2 2023.
Secondary Clarifiers 4 & 5 Demonstration Test	July 30, 2019	100%				Complete	Final close out is tied to the plant total performance.
Grit and Screening Building (Area G) Demonstration Test	August 18, 2019	97%	97%	97%	97%	Q2 2023	Final testing for preparation of handover to be completed during spring high flow conditions.
Raw Sewage Pump #2, Demonstration Test	March 20, 2021	50%	70%	80%	95%	Q1 2023 Q3 2023	Contractor completing remaining works not low-flow dependent. Preparing hand over information
High Rate Clarification System, Demonstration Test	April 6, 2020	93%	93%	93%	94%	Q3 2023	Contractor working through test plans.
Chemical/Electrical Building Testing	April 6, 2020	99%	99%	99%	99%	Q2 2023	Outstanding manuals and test reports require submittal prior to hand over. The facility is functioning as commissioned.
BNR Demonstration Test	August 10, 2020	99%	99%	99%	99%	Q2 2023	Outstanding manuals and test reports require submittal prior to hand over.
HPO Tank conversion to Fermenters and Biofilter	July 18, 2021	40%	45%	50%	55%	Q3 2023	Decommissioning, cleaning and concrete inspections continue.
Substantial Performance	August 29, 2021	79%	79%	80%	82%	Q3 2023	