



Environment and Climate Change  
Environmental Stewardship Division  
Environmental Approvals Branch  
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October 31, 2024  
Client File No.: 1069.10  
Our File No.: S-926, EMS  
020-17-08-11-00  
020-17-08-11-0N

Attention: Agnes Wittmann, Director

**RE: QUARTERLY PROGRESS REPORT FOR SEWPCC BIOLOGICAL NUTRIENT REMOVAL  
AND UPGRADE PROJECT: JULY 1 – SEPTEMBER 30, 2024**

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This report summarizes progress on the South End Sewage Treatment Plant (SEWPCC) upgrades, operating under Environmental Act Licence No. 2716 RR, from July 1 to September 30, 2024.

**Area K: High Rate Clarification (HRC) System**

The effluent quality targets are being met in the HRC system. However, performance guarantees with respect to chemical use and sand loss are not being achieved. Efforts are ongoing to optimize the HRC system performance. Area handover is anticipated in Q1 2025.

**Area U: Ultra Violet (UV) Upgrades**

The area is in operation and UV disinfection is ongoing, however, there are deficiencies to be addressed by the Contractor prior to handover. Handover is anticipated in Q1 2025.

**Areas D: HPO Tank Conversion to Fermenters**

The installed Waste Activated Sludge (WAS) Rotary Drum Thickeners (RDT) were found to have less capacity than specified. The vendor of the WAS RDT is supplying replacements RDTs, the first of which arrived in early September 2024 and is anticipated to be installed by November 2024. Polymer selection is ongoing with the undersized RDTs.

**Areas T: Biofilter Odour Control**

Contractor Site Integration Testing (SIT), third party SIT testing, and Functional Performance Tests are complete. Once the Contractor has addressed outstanding deficiencies, demonstration testing will begin and is anticipated to be completed in Q1 2025.

## Key Project Risks

Risk (ongoing): Failure of the Contractor to meet project schedule. Substantial Completion and handover of various areas has been delayed from Q4 2024 to Q2 2025. Commissioning was to occur with the undersized WAS RDTs, however appropriate polymer selection was not achieved. As the replacement WAS RTDs have arrived, commissioning will occur after the replacement WAS RDTs are installed. Resolution of deficiencies is ongoing, however, at a slower pace than anticipated.

Mitigation: The Project Team is working with and providing additional oversight to the Contractor. The Project Team has requested a resource plan from the Contractor to address the outstanding work items and deficiencies.

Risk (ongoing): Final installation fails to meet specified quality requirements.

Mitigation: The Project Team is working with the Contractor on effective quality management systems in order to complete the final works within specifications.

Risk (ongoing): WAS RDTs have less capacity than specified.

Mitigation: Full plant commissioning will be performed with the replacement WAS RDTs. Optimization of the process is ongoing with the undersized WAS RDTs.

Risk (ongoing): Issues were identified with several of the Biological Nutrient Removal (BNR) mixers. Repairs are underway which requires a single BNR train to be taken out of service. The repairs have begun and are scheduled to be completed by Q4 2024. Influent flows greater than 150 MLD have the potential to cause elevated effluent ammonia levels.

Mitigation: The BNR mixers will be repaired as efficiently as possible. Only one BNR train will be shutdown at a time in order to maintain the capacity of the plant. The biology and performance of each train will be tested prior to taking the subsequent train out of service. The Project Team will closely monitor the repair progress and work collaboratively with the Contractor to ensure the schedule is maintained.

## Performance Updates

**With SEWPCC converted to a BNR system and the HRC system operational, we are now achieving the biological removal target for Total Phosphorous (TP) of 1.0 mg/L and Total Nitrogen (TN) of 15 mg/L in the final effluent for all flow conditions.**

Laboratory results can be found on the City's website at [winnipeg.ca/wwcompliance](http://winnipeg.ca/wwcompliance).

During this reporting period, there were no TN or TP exceedances of the license. There was one Total Suspended Solids (TSS) licence exceedance on August 28th, 2024 of 80 mg/L. There were also exceedances in the effluent ammonia levels on September 17<sup>th</sup>, 23<sup>rd</sup>, and 24<sup>th</sup>, 2024 due to insufficient nitrification during the BNR shutdown.

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 Cynthia Wiebe at 204-986-5210 or by email at [cwiebe@winnipeg.ca](mailto:cwiebe@winnipeg.ca).

Sincerely,



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

**ATTACHMENT: Table 1**

IO/jkm

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**Table 1: SEWPCC Contract 4 Schedule Milestone Dates**

Area	Contract Dates	% Complete			Expected Completion	Work Remaining
		Jul	Aug	Sep		
Area S: Secondary Clarifiers 1 & 2	Mar 20, 2019				Complete	
Area S: Secondary Clarifiers 4 & 5 Demonstration Test	Jul 30, 2019				Complete	
Area G: Grit and Screening Building Demonstration Test	Aug 18, 2019				Complete	
Area G: Raw Sewage Pump #2, Demonstration Test	Mar 20, 2021				Complete	
Area K: High Rate Clarification System, Demonstration Test	Apr 6, 2020	99%	99%	99%	Q4 2024 Q1 2025	System optimization and deficiency resolution
Area C: Chemical/Electrical Building Testing	Apr 6, 2020				Complete	
Area R: BNR Demonstration Test	Aug 10, 2020				Complete	
Area U: UV Disinfection	N/A*	99%	99%	99%	Q4 2024 Q1 2025	Minor deficiencies
Area D & T: HPO Tank conversion to Fermenters and Biofilter	Jul 18, 2021	93%	94%	94%	Q4 2024 Q1 2025	Construction works and commissioning
Substantial Performance	Aug 29, 2021	95%	95%	95%	Q4 2024 Q2 2025	Has shifted due to delamination and WAS RDT issues

\*No critical milestone date defined in contract.