December 2019 MONTHLY REPORT

City of Thompson

Wastewater Treatment Plant Upgrades & Associated Works

MWSB 1265

Startup & Commissioning Phase

Licence No. 3118R

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1 Milestones Achieved this Month

The following presents a summary of the milestones achieved for this reporting period:

- Digested sludge dewatering equipment started, commissioned and in operation. With the sludge dewatering onsite commissioning works complete, the onsite works for Commissioning the WWTP facility are now complete. Stantec, MWSB and the City await the final laboratory results and commissioning reports from the equipment suppliers before confirming completion of commissioning.

- SBR Basin 2 reinstated into operation.

- The City's Operators are operating the plant for the Contractor while the process continues to develop.

2 Status of Facility

As of December 18, 2019, the City of Thompson's WWTP Operators are operating the facility on behalf of the Contractor and will continue to do so until award of Interim Substantial Completion. The Operators are conducting daily testing of effluent to monitor process development as they work to stabilize the process after the upset that occurred in November 2019. Composite samples of the treated effluent are gathered each day for testing.

As of the end of December the process is showing signs of stabilizing:

- Effluent TSS have been below 25 mg/L since December 9th and as of December 28th were below 5 mg/L.
- Phosphate has been below 1 mg/L since December 26th.
- Testing for TKN is being completed on a weekly basis and each test has been below 15 mg/L for the month of December.
- UVT has been above 55 since December 15th.
- Effluent pH Effluent generally has tested between 7.0 to 7.3 with one occurrence of 6.95.
- Effluent temperatures have varied slightly through December but were generally in the range of 10-11^{o}C up to December 29th when the temperatures have trended into the 9-10^{o}C range.
- Ammonia has varied from 3.5 mg/L up to 15.5 mg/L at the end of December and have generally been above 10 mg/L. The nitrification process has not reestablished itself fully since the upset that occurred in November. To restart the nitrification process, nitrifying bacterial cultures will be added to each SBR basin. The bacterial culture arrived onsite December 31st and the Operators started

dosing into the SBR basins shortly afterwards. The bacterial cultures will be added to the basins over a 10-day period and should be complete by mid-January 2020.

3 Anticipated Milestones to be Achieved Next Month

The biological process is showing signs of stabilization with the exception of Ammonia removal through nitrification. With the addition of nitrifying bacteria ending in mid-January it is anticipated that nitrification will show signs of reestablishing by the end of January provided the effluent temperatures remain relatively consistent in the 9-10 ^{o}C range. Acceptance testing of the SBR process and Aerobic Digesters are contingent on the process demonstrating that all effluent quality parameters of the licence are being met and may not occur until spring of 2020.

If the process stabilizes and ammonia nitrification begins to reestablish itself before the end of January, Interim Substantial Completion may be awarded to the Contractor at which point operation of the facility will become the City of Thompsons responsibility. The Contractor is working towards completion of deficiencies to closeout of the Building Permit and obtain the Building Occupancy Permit.

4 Operator Training

Operator training for the new WWTP facility has been ongoing since fall of 2019 and the Operators have received the required training through the project to take on operation of the facility. To date, the Operators have received training on the SBR Process Operation and equipment, grit system, multirake bar screen, UV disinfection equipment, sludge dewatering equipment, lab testing, WWTP SCADA system, building HVAC and building ancillary systems. Follow up/refresher training on the SBR Process, WWTP SCADA system and lab testing will be provided in 2020. Training sessions have been video recorded for Operator reference, along with printed training manuals for key equipment.