



Polson Water Resource Recovery Facility

Construction Progress Report

(For Month of December 2018)

TO: Ashley Walker, W/S Superintendent
106 First Street East
City of Polson, MT 59860

CC: Polson City Council

FROM: Kevin Johnson, P.E.
Project Manager – DOWL

DATE: January 7, 2019

This construction progress report includes work for the month of December 2018.

Headworks Building:

Work at the headworks building in December included insulation installation in the attic, initial startup and testing of the HVAC equipment, completion of the covers over the channels and the compaction grouting around the building foundation was completed on December 14. The mitigation work resulted in some minor building movement, as is part of the compaction grouting process. A few block cracks will require repair before building acceptance. Final grading of the gravel subgrade was prepared on the east, west and south sides of the building. Final trim work, floor coating, sealing of floor and ceiling penetrations, and building cleanup are all that remain in this building along with the equipment startup. The small wastewater pump unit to service the existing blower/laboratory building was installed. See Figures 1 through 6.

SBR Tanks:

Work around the SBR tanks in December was limited to installation of handrail and installation of the electric motive pump hoists used to remove pumps from the SBR tanks. Some limited grading and work on the inlet and outlet control vault HVAC systems was also completed.

UV Building & Post Equalization Tank:

The work in this building in December included ongoing electrical work. The UV disinfection equipment installation was also completed and the startup, commissioning and training process for the UV system was completed. Instrumentation was installed in the Post Equalization tanks. Remaining work in this building includes cleaning, and miscellaneous trim and building floor and miscellaneous sealant work. The HVAC systems were also finalized and ready for operation following thorough cleaning of the building. See Figures 7 and 8.

Control Building and Digesters:

Work in the control building included installation of door hardware and trim, painting, cleaning, installation of the drop ceiling in the lab and office areas and ongoing work to repair a few remaining water leaks in the digester wall in common with the basement. The chlorine pump startup, testing and training was completed. The stairway to the top of the digesters was also installed.

Initial startup and commissioning was completed for the digester equipment including the three digester blowers, the mixing system air compressor, the aeration and mixing equipment inside the digesters, and the control panels for this system. A subsequent startup and training will occur once the digester tanks are receiving wastewater. See Figures 9, 10 and 11.

Yard Piping & Earthwork:

Some final pipe testing of water lines and gravity sewer and manholes was completed in December and remains ongoing. A few additional sidewalks and preparation for additional sidewalk and stairways continues.

Two of the sludge drying bed slabs are completed and awaiting forming and placement of the perimeter wall around drying bed #1. The remaining beds may not proceed until spring. See Figure 12.

Final paving of the site will not take place until next spring when all the paving can be completed at the same time, after the facility is on line and the existing lagoons can be taken out of service, drained and the lagoon dikes removed to allow completion of the final grading and storm water routing provisions.

Startup Plan and Schedule:

The general sequence for startup and checkout of equipment includes the following:

- Initial System Integration (SCADA): InControl, Inc.: 50% Complete
- UV disinfection system: Complete
- Chlorine feed systems: Complete
- Site lift station pumps: Complete
- Digester equipment (blowers, compressor, instrumentation): Dry Check Complete
- Post Equalization Basin outlet control valves; Week Jan 7
- HVAC systems activation/startup; Jan 7-9
- Facility Generator; Jan 7-9
- SBR Equipment operation (motive pumps, WAS pumps, blowers, decanters, instrumentation); January 22 - 25
- Headworks equipment (screens, grit pumps, grit washer); January 28 – Feb 1
- Sludge pumps, control valve and instrumentation; Not scheduled

Following successful equipment checkout, testing and startup with clean water, the facility will be ready to process wastewater. With the potable water left in the tanks for equipment testing, the process equipment will need to operate and cycle pumps and blowers to keep the water from freezing and affecting the equipment in the uncovered tanks. Switchover of the system to process wastewater may depend on the weather conditions at the time the facility is ready to process wastewater.

Overall Project Status Summary:

Contract Days Approved: 570 Contract Days (532 original contract + 38 additional via change orders) to Substantial Completion of Treatment Facility

Days Expended: (598) Through December 27, 2018; Approximate Schedule A Completion Was Due Date: 11/29/2018. Construction contract (Schedule A in Liquidated Damages)

Schedule B (Lagoon Decommissioning) Additional 70 Calendar Days following plant startup and 7-day test period.

Original Contract Amount:	\$12,213,000
Change Order #1	\$29,087 (2 Calendar Days)
Change Order #2	\$2,542
Change Order #3	\$25,004
Change Order #4	\$223,210 (15 Calendar Days)
Change Order #5	\$50,956 (1 Calendar Day)
Change Order #6	\$55,996 (4 Calendar Days)
<u>Change Order #7</u>	<u>\$110,126 (9 Calendar Days)</u>
Current Contract Amount:	\$12,709,921

Total To Date: \$11,772,674; (92.6%)

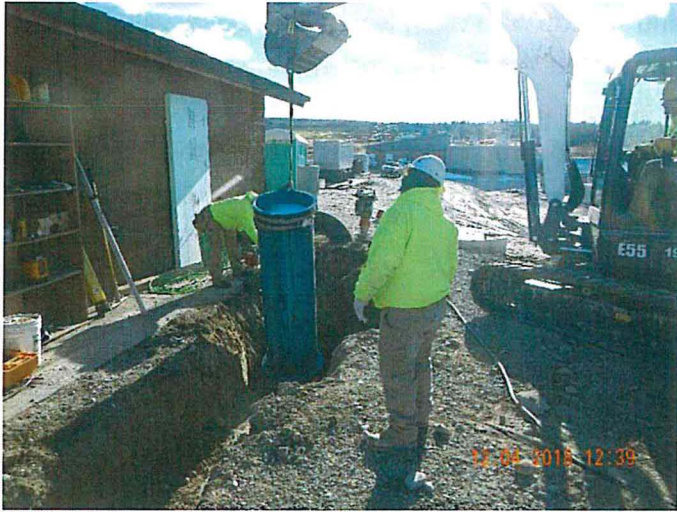


Figure 1 - Sewer Service Pump Vault to Extg. Blower/Lab Bldg.

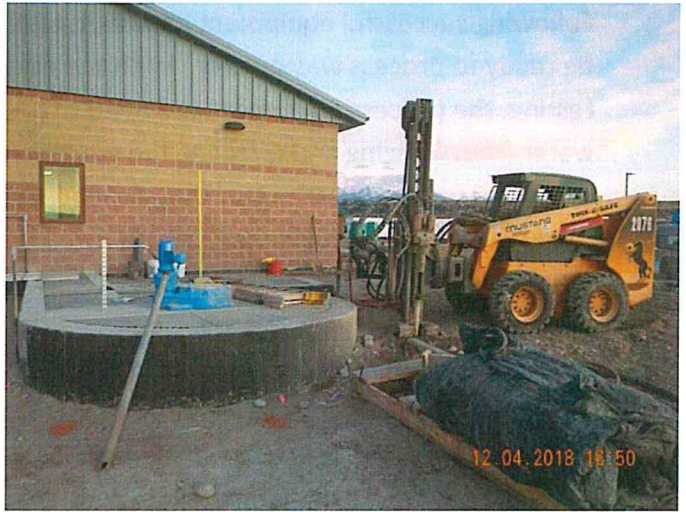


Figure 2 - Compaction Grouting on West Side of Headworks Bldg



Figure 3 - Compaction Grouting: Basement of Headworks Bldg.



Figure 4 - Coring Concrete for Compaction Grouting; Upstairs Headworks Bldg.

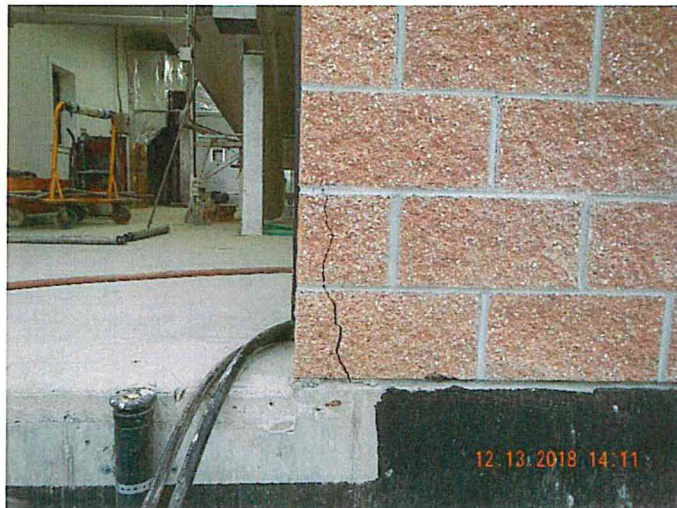


Figure 5 - Masonry Crack Needing Repair; W. Side Headworks



Figure 6 - Interior Masonry Crack Needing Repair



Figure 7 - Training for UV Disinfection System

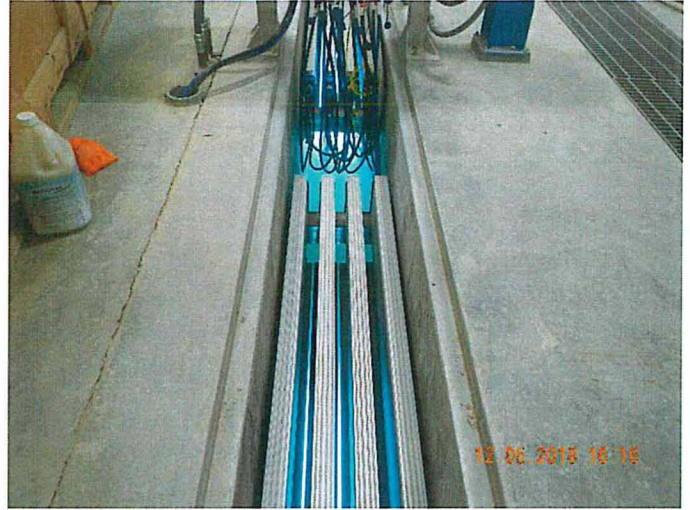


Figure 8 - UV Disinfection System - Operating



Figure 9 - Instrumentation Install; Digesters

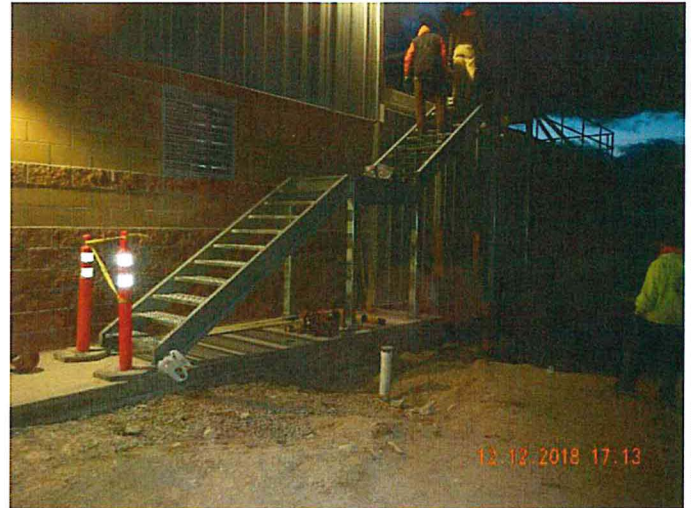


Figure 10 - Stairway to Top of Digesters



Figure 11 - Digester Blowers; Ready for Operation



Figure 12 - Sludge Drying Beds - Completed Slab #2

