

Tacoma Wastewater Treatment Plant Bio-Methane Project

Site Address: City of Tacoma Wastewater Treatment Plant, 2201 E Portland Ave, Tacoma, WA 98421

Project Overview

PSE is developing a preliminary plan of system additions and modifications to receive Bio-methane from City of Tacoma Wastewater Treatment Plant.

Anticipated Bio-methane Loads:

- Short term up to 300 cfm (18,000 cfh)
- Long term approximately 600 cfm (36,000 cfh)

The project requires PSE to install approximately 2,500 feet of 4-inch steel wrapped high pressure (STW HP) gas line, receipt meter, flare, odorizer, Remote Telemetry Unit (RTU) and associated equipment. **See attached exhibit** for 4" STW HP gas line route and location of associated equipment. There are approximately 500 feet of Horizontal Directional Drilling (HDD) to cross under 2 sets of railroad tracks, which is separated into 2 drillings.

The receipt meter, flare, odorizer, Remote Telemetry Unit (RTU) will be installed in Tacoma Wastewater Treatment Plant. The point of demarcation will be prior to the meter. 4" STW HP will connect to the existing 16" STW HP at E Q St & E Bay St.

Permitting Strategy

- **SEPA:** City Planner determined that we do not need to submit SEPA, Shoreline and Critical Area.
- **Site Development Permit:** PSE will submit Site Development Permit package when we have 60% design completed. This permit takes the place of a grading permit. There is permit fees of \$4,800 and process duration approx. 2-3 months; allow 2 more months assuming city has comments for PSE to address.
- **Railroad:** PSE will obtain permits from Union Pacific railroad and BNSF for gas line installation via HDD crossing under railroad tracks. There will be a permit fee of approximately \$2,500 for just the Burlington Northern Application and approximately \$1,055 for Union Pacific Railroad. Both of the railroads will charge PSE annual fees for the encroachment which is based on the property value and we will not have that figure until each railroad reviews and approved our application. Both railroads will require separate Railroad Liability Insurance be purchased and maintained as long as the PSE facilities are located within their ROW. This Liability Insurance amount will also be identified and establish once the application is approved. The processing time for their review and determination is approximately 6 months once they receive the submitted detailed design drawing and application to them.
- **Work Order permit:** PSE will obtain Work Order permit from City of Tacoma for gas line installation via open trenching on Right of Way, E Q St & E Bay St. This permit timeline expectation is approximately 4 weeks for review; allow 4 more weeks for City comments and response from PSE. The rough estimate for permit fee is \$2,500 based on the charge of

\$110/hour for city review and site inspection. Permit remains valid for 2 years after issuance.

Major Risks and Constraints

1. Permitting – Railroad permit posts potential delay the project due to the long lead process or may require a major re-routing of the project, which will set the project back to design phase. If possible, expediting the permitting process with any connection from City to emphasize the importance of this project's benefit may influence railroad officials' support and eliminate delay.
2. Underground utilities – There are several utilities within the Plant property. Some are unidentified. This condition posts the risk for gas line installation. The construction may progress slower than normal. PSE will use vacuum trucks to excavate the high congested area and will use excavator in some area that are not occupied with many utilities.
3. Traffic Control – Gas line installation along Cleveland Way may need coordination with other projects in the area. WSDOT project on Bay Street has been using this road as trucks access to/from their construction area, which may impact our construction schedule.
4. Crossing Railroad – HDD construction may require monitoring drill head location during HDD progress, which HDD crew may need to cross railroad on foot. With that said, railroad master maybe needed to be onsite during construction. Scheduling railroad master posted a challenge in the past.
5. Soil Contamination – If there is soil contamination in this area, PSE Contractor will be required to prepare site specific health & safety plan and onsite crew will require to complete health and safety training prior to job start. Depending on level of contamination, disposal requirements maybe costly.
6. HDD – Drilling often post a risk of subsurface obstruction and hydraulic fracturing even when extensive assessment is conducted.
7. Future E Ells St Bridge Rebuild – To make sure PSE gas facility will not be impacted and need to be relocated due to future Ells St Bridge rebuild, PSE will obtain an easement from City for the gas line through this area.
8. City of Tacoma will be responsible for meeting PSE requirements associated with gas quality and monthly operation and monitoring costs associated with PSE Rate Schedule 41T. City of Tacoma will also be responsible for any operational costs associated with outside entities or jurisdictions (i.e. Union Pacific Rail, BNSF Rail, WSDOT etc.) All of these on-going operational costs are not included in this estimate for construction.

Preliminary Cost Estimate and Assumptions

Project Scope	Cost
Project Management	\$110,046
Real Estate	\$6,744
Permitting	\$34,039
Engineering & Design	\$88,569
Materials	\$80,081
Construction	\$960,805
Subtotal	\$1,280,284
Escalation (3%)	\$38,408
Escalated Total (Pre-contingency)	\$1,318,692
Contingency (25%)	\$329,673
Grand Total	\$1,648,365
2018 Federal Income Tax (12.72%)	\$209,672
Total Project Cost	\$1,858,037

Assumptions

- PSE will obtain geotechnical survey for HDD to verify drilling feasibility.
- Prior to construction, PSE will request utilities locate. PSE Contractor will pothole using vacuum truck to verify utilities ahead of excavation work. For pipe installation within the Plant property, **PSE Contractor will be required to use vacuum trucks for excavation approximately 1000' stretch.**
- Assume 8 weeks construction duration
- Cost includes 6" asphalt restoration
- Exclude on-going operational costs

Cost Reimbursement

The Cost Estimate presented above in the amount of \$1,858,039 is PSE's good faith estimate of all costs and expenses incurred by PSE in connection with the performance of the design and construction work for Tacoma Wastewater Treatment Plant Bio-Methane Project. If City of Tacoma decides to proceed with this project, PSE shall be entitled to reimbursement of **all actual costs** incurred in or allocable to the performance of the work.