



City of Bellingham
210 Lottie Street
Bellingham, WA 9822

MEMORANDUM

TO: BELLINGHAM CITY COUNCIL
KELLI LINVILLE, MAYOR

FROM: TED CARLSON, PUBLIC WORKS DIRECTOR

SUBJECT: RESOURCE RECOVERY PROJECT STATUS UPDATE 1/2019

DATE: JANUARY 28, 2019

BACKGROUND

The Post Point Resource Recovery facility has two processes for managing wastewater. The liquid stream process uses physical and biological methods to reduce contaminants and disinfect water prior to discharge in Bellingham Bay. The 2012-2014 construction added efficiency to the liquid stream process in the removal of organics measured as biologic oxygen demand (BOD). Between January 2017 and December 2018, the facility processed 9,394,285,714 gallons of water.

The second process involves the removal and disposal of the biologic organisms, or biosolids, left at the end of the secondary liquid stream process. Currently, the solids handling process involves a series of centrifuges, presses, chemical polymer additives to dewater and concentrate biosolids prior to incineration in the natural gas powered, multi-hearth furnaces. Ash generated during the incineration process is landfilled in Roosevelt, WA. Between January 2017 and December 2018, the facility landfilled 933 tons of ash generated from 6,667 tons of incinerated biosolids.

Current and significant challenges affect the reliability of the solids handling process. The key component of the solids handling process are the incinerators

which have reached the end of their useful life. Regular maintenance and repairs to the furnaces require specialized skills and materials not readily available and expensive to obtain. Compliance with increasingly stringent air quality regulations will not be possible without replacement of the equipment. Disruptions in natural gas delivery can occur during natural disasters or by distribution system failures, such as the October 11, 2018 Trans-Canada pipeline explosion resulting in the process being shut down. Community input during the liquids stream process upgrades suggested a strong desire to use the solids handling as a resource recovery effort. Finally, Council policy on Climate Action from 2007, and affirmed in 2018, set goals to reduce emissions.

As the system continues to age, the likelihood of an event occurring increases. The consequences of a disruption in the solids handling process are at best prohibitively expensive. At worst a disruption would mean an environmental crisis with post-secondary treated solids being discharged to Bellingham Bay. In addition, continuing to use the incinerators will not move the City towards meeting its Climate Action goals set by Council. Neither option is palatable, therefore replacement of the solids handling process is necessary.

In the summer of 2017, staff presented a Triple Bottom Line+ (TBL+) comparison of the various options available using digestion for solids handling. As currently envisioned, the digestion process creates a Class A biosolid product for local beneficial use, energy recovery and emissions reductions.

The project would require the complete replacement of all elements of the solids handling process thereby reducing likelihood of failures. Constructing a new digestion-based solids handling process helps meet the City's goals for climate impact reduction. This single project would potentially result in a 32% reduction in municipal emissions across all City operations.

Staff and the consultant team lead by Brown & Caldwell have been looking at the costs involved with developing an entirely new solids handling process located at Post Point. Given the significant size and cost of the improvements, a cost comparison was made to replacing the solids handling with modern incineration with capacity to achieve a similar emissions reduction and beneficial use. While technically feasible, the stringent regulatory environment and community opposition would likely preclude such a project from proceeding. Nonetheless, a comparison of costs for both options proves beneficial to consideration of available options.

Staff will present a high level summary of information on the cost of building a new, digestion based solids handling process at Post Point during Public Works Committee Council meeting on January 28, 2019. Reports from the consulting engineer and detailed information on the costs and technical nature of the necessary improvements will be available after the Council Briefing on the City project website.