



City Council Agenda Bill

21397

Bill Number

Subject: **Post Point Treatment Plant Biosolids Project Update**

Summary Statement: Evaluations of the incinerators at Post Point demonstrate the equipment has reached the end of its useful life and needs replacement. Building on previous biosolids options studies, the City retained Brown and Caldwell, to further develop a digestion alternative. The study will result in both engineering design and long term O&M programming. The project team is proposing to utilize a Triple Bottom Line plus (TBL+) methodology to evaluate options available for digestion of solids. Staff will offer a presentation on the proposed TBL criteria and seek Council direction to confirm consistency with the City Legacy Statements and Strategic Commitments. The presentation will also include an overview of the upcoming public involvement process.

Previous Council Action: PW Committee briefing 10/24/16

Fiscal Impact: Costs associated with the consultant's work are included in the contract and approved budget.

Funding Source: Wastewater Fund (420)

Attachments: Staff Memo
Legacy Statements and Strategic Commitments

Meeting Activity	Meeting Date	Staff Recommendation	Presented By	Time
Committee Briefing Direction Requested	4/10/2017	Provide Direction	Ted Carlson, PW Director	10 minutes

Recommended Motion:

Council Committee:
Committee Of The Whole

Agenda Bill Contact:
Eric Johnston, Assistant Director 778-7710

Council Action:

Reviewed By	Department	Date
<i>Ted A. Carlson</i>	Public Works	03/31/2017
<i>Matthew T. Stamps</i>	Legal	03/31/2017
<i>Kelli J. Linville</i>	Executive	04/04/2017



City of Bellingham
210 Lottie Street
Bellingham, WA 98225

MEMORANDUM

TO: CITY COUNCIL
FROM: TED CARLSON, PUBLIC WORKS DIRECTOR
CC:
SUBJECT: BIOSOLIDS MANAGEMENT POST POINT PROJECT UPDATE #2
DATE: APRIL 10, 2017

I. Background

The City Bellingham wastewater treatment plant located at Post Point uses an activated sludge secondary treatment process for liquids and incineration for solids handling. In 2012, the City upgraded the facility to better manage the liquid stream. During the planning and construction of the liquid stream improvements early planning and alternatives analysis was conducted on the solids handling process.

The solids handling process consists of chemical polymers additives, gravity belt thickeners and centrifuges to reduce water content followed by multiple hearth furnaces that incinerate the residuals. Ash from the incineration process is trucked to a landfill for disposal. There are several issues and risks associated with the process that need to be addressed. As the system ages and frequency of failures increase, the City faces a greater exposure to consequences associated with solids handling failures. The loss of the incineration process could result in excess of \$20,000 per day in trucking and disposal of solids. In addition, increasingly stringent air quality requirements will require the addition of expensive pollution controls and increase risks of more stringent regulatory exposure. Finally, the 2007 City of Bellingham [2007 Climate Action Plan](#) identified the current solids handling system at Post Point as a high source of greenhouse gas and producing a large carbon footprint.

Taking advantage of the opportunity to address these concerns and mitigate risks, the City evaluated the existing biosolids handling systems in 2010 with a [Planning Study](#). This planning study identified the need to replace the existing incinerators. In 2012, the City updated the study to account for pending revised EPA emission regulations pertaining to sewage sludge incinerators. [The 2012 Report](#) identified that anaerobic digestion coupled with sludge drying provided the most viable option to meet the City's strategic commitments and legacy statements. In 2016 a consultant, Brown and Caldwell was selected and a contract executed ([2016-0571](#)) to develop a solids handling program and engineering construction plans for digestion. The contract with Brown and Caldwell contains the following mission statement:

"The goal of the biosolids management project is to develop a sustainable, environmentally responsible, socially acceptable plan that factors complete lifecycle costs and uses proven

Appendix A

The Triple Bottom Line Plus criterion develops benchmark measurements for an end-product technology utilized as the City's biosolids management method while meeting the City's Legacy Statements and Strategic Commitments.

The Triple Bottom Line Plus criteria goals and how they relate to the Legacy Statements and Strategic Commitments:

Category	Criteria	Parameter	Supports these Legacy Goals
Environmental	E1. Minimizes carbon footprint	Pursues alternatives that emit the lowest levels of GHG	<ul style="list-style-type: none"> • Clean, Safe Drinking Water (use efficient, ecological treatment techniques) • Healthy environment (reduce contribution to climate change)
	E2. Protects air quality	Reduces air pollutant discharge to minimize human exposure	<ul style="list-style-type: none"> • Safe and Prepared Community (prevent and respond to emergencies)
	E3. Maximizes opportunities for resource recovery	Maximizes beneficial reuse of resources	<ul style="list-style-type: none"> • Health environment (conserve natural and consumable resources)
	E4. Minimizes net energy usage	Minimizes the City's energy use	<ul style="list-style-type: none"> • Health environment (conserve natural and consumable resources)
	E5. Protects and improve local habitat	Maximizes protection of local environmental assets	<ul style="list-style-type: none"> • Health environment (conserve natural and consumable resources)
Social	S1. Minimizes public exposure to noise	Minimize public exposure to noise	<ul style="list-style-type: none"> • Maintain and enhance publicly owned assets • Sense of place (support sense of place in neighborhoods)
	S2. Minimizes public exposure to odor	Minimize public exposure to odors	<ul style="list-style-type: none"> • Maintain and enhance publicly owned assets • Sense of place (support sense of place in neighborhoods)
	S3. Minimizes public exposure to truck traffic	Minimize neighborhood exposure to truck traffic	<ul style="list-style-type: none"> • Sense of place (support sense of place in neighborhoods)
	S4. Minimizes local visual impacts	Minimizes impact on view corridors and line of sight	<ul style="list-style-type: none"> • Sense of place (support sense of place in neighborhoods)
	S5. Minimizes exposure to toxins	Minimizes neighborhood exposure to toxins	<ul style="list-style-type: none"> • Sense of place (support sense of place in neighborhoods)
Financial	F1. Optimizes system value	Provides balanced ROI using TBL+ criteria over 50 year life	<ul style="list-style-type: none"> • Quality, responsive city services (deliver efficient, effective and accountable municipal services)
	F2. Affordability	Consistent with long term financial, environmental and social goals of Wastewater utility	<ul style="list-style-type: none"> • Vibrant Sustainable Economy (support a thriving local economy across all sectors & promote inter-dependence of environmental, economic & social interests)
	F3. Minimizes risk of end use market sensitivity	Limits risk or maximizes benefits from commodity market changes of end use products	<ul style="list-style-type: none"> • Quality, responsive city services (deliver efficient, effective and accountable municipal services)

Category	Criteria	Parameter	Supports these Legacy Goals
Technical	T1. Incorporates reliability and proven performance	Utilizes a proven process technology	<ul style="list-style-type: none"> • Quality, responsive city services (deliver efficient, effective and accountable municipal services)
		Meets technology reliability	
		Maximizes use of stable long term market or disposal options	
	T2. Minimizes Existing Process Impacts	Minimizes the solids and nutrient return impact to the liquid stream	<ul style="list-style-type: none"> • Quality, responsive city services (deliver efficient, effective and accountable municipal services)
	T3. Provides Flexibility for Future	Minimizes current space requirements	<ul style="list-style-type: none"> • Quality, responsive city services (deliver efficient, effective and accountable municipal services) • Sense of place (protect natural green settings and access to open space)
		Technology allows the City flexibility to adapt to future requirements	
	T4. Minimizes implementation Complexity	Implementation complexity related to permitting, public acceptance, land acquisition, etc.	<ul style="list-style-type: none"> • Quality, responsive city services (deliver efficient, effective and accountable municipal services)

"We are working today so future generations will benefit from..."

Clean, Safe Drinking Water

- Protect & improve drinking water sources
- Limit development in Lake Whatcom watershed
- Use efficient, ecological treatment techniques
- Maintain reliable distribution system
- Promote water conservation

Healthy Environment

- Protect & improve the health of lakes, streams & bay
- Protect & restore ecological functions & habitat
- Reduce contributions to climate change
- Conserve natural & consumable resources

Vibrant Sustainable Economy

- Support a thriving local economy across all sectors
- Promote inter-dependence of environmental, economic & social interests
- Create conditions that encourage public & private investment
- Foster vibrant downtown & other commercial centers
- Preserve farmland & the agricultural economy

Sense of Place

- Support sense of place in neighborhoods
- Encourage development within existing infrastructure
- Preserve historic & cultural resources
- Protect natural green settings & access to open space
- Support people-to-people connections

Safe & Prepared Community

- Prevent and respond to emergencies
- Prevent and respond to crime
- Ensure safe infrastructure
- Increase community readiness and resilience

Mobility & Connectivity Options

- Provide safe, well-connected mobility options for all users
- Maintain & improve streets, trails & other infrastructure
- Limit sprawl
- Increase infrastructure for bicycles, pedestrians & non-single-occupancy vehicle modes of transportation
- Reduce dependence on single-occupancy vehicles

Access to Quality of Life Amenities

- Maintain & enhance publicly owned assets
- Foster arts, culture & lifelong learning
- Provide recreation & enrichment opportunities for all ages & abilities
- Ensure convenient access to & availability of parks & trails citywide

Quality, Responsive City Services

- Deliver efficient, effective & accountable municipal services
- Use transparent processes & involve stakeholders in decisions
- Provide access to accurate information
- Recruit, retain & support quality employees

Equity & Social Justice

- Provide access to problem-solving resources
- Support safe, affordable housing
- Increase living wage employment
- Support services for lower-income residents
- Cultivate respect & appreciation for diversity

Legacies and Strategic Commitments

Adopted by Bellingham City Council
July 13, 2009



