



Post Point Wastewater Resource Recovery

Summer 2021

FREQUENTLY ASKED QUESTIONS

1. Why does the Post Point Wastewater Treatment Facility need updates?

In 2014, the City completed major upgrades to the liquid treatment process to improve performance, meet current regulations, and increase capacity for the future. As part of that project, future upgrades to the solids treatment process were planned. Improvements are needed because equipment used for the solids treatment process is:

- Aging (incinerators installed in 1974 and 1993)
- Expensive to repair
- Incinerates (burns), rather than recovers resources
- Extremely difficult to permit

2. Where are biosolids currently used?

Biosolids are used throughout the Puget Sound region and 55–60% of biosolids are used on land in US. In Washington, 85–90% of biosolids are used on land.

Other programs around the sound that you can look at are in [King County](#), [Oak Harbor](#), [Lynden](#), and [Tacoma](#). Throughout Washington, biosolids are used in personal gardens, farms, forests, and as soil amendments in reclamation areas.

3. Can certified organic farms and gardens use biosolids?

No. To receive and maintain a certification in organic agriculture, farms are not permitted to use biosolids or many soil amendments on the land. You can learn more on the U.S. Department of Agriculture's [website](#).

4. Are biosolids safe enough to reintroduce into our topsoil?

Yes, when properly produced and following state and federal regulations, Class A biosolids are classified as safe and are treated to kill pathogens. We are following guidance from our colleagues at the Washington Department of Ecology and the U.S. Environmental Protection Agency (EPA) regarding the production, monitoring, and distribution of Class A biosolids.



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5. What are PFAS? Why do I hear PFAS mentioned in articles about biosolids?

Per- and polyfluoroalkyl substances- or [PFAS](#)- are human-made chemicals that are used for both consumer and industrial products. PFAS aren't manufactured here in Bellingham, however, they enter the area through a variety of products that people use. Some products that may contain PFAS include: stain and water-resistant textiles, nonstick cookware, waterproof apparel, cleaning products, paints and sealers, firefighting foam, carpets, and even take-out food containers. You can learn more about PFAS and exposure to PFAS [here](#).

Both the State of Washington and US EPA have programs to study whether or not PFAS needs to be regulated in biosolids.

6. How is the City of Bellingham considering emerging pollutants of concern (PFAS, PCBs, pesticides, and metals) in the production of biosolids?

The health and safety of our community in Bellingham is our first priority. Some of the pollutants of concern listed (PFAS, PCBs, and pesticides) are produced from human-made chemicals. These are most frequently found in industrial settings and consumer products (e.g., nonstick pans). Metals are found in the natural environment. Some metals are essential nutrients for our bodies only when absorbed at appropriate and safe levels. Other metals, such as heavy metals, negatively affect people's [health](#) if absorbed at high levels. However, Bellingham's treated wastewater was tested and the biosolids were projected to be classified as "Exceptional Quality" based on US EPA's criteria for metal concentrations. The City of Bellingham does not have the type of industries that discharge PFAS into the sewer and ultimately to the Post Point Wastewater Treatment facility. Households and businesses wishing to dispose of products such as cleaners, paints, paint thinners, lawn and garden chemicals, and other mechanical chemicals should contact Whatcom County's [Disposal of Toxics Facility](#) to properly dispose of these chemicals.

Pharmaceuticals tend to be another potential pollutant of concern. While the majority of pharmaceuticals make their way into the wastewater treatment system naturally through the body, it is important to dispose of excess or unneeded pharmaceuticals through the City's [Pharmaceuticals Take-Back](#) Program.

We have performed testing to assess the levels of PFAS in our treated wastewater. Post Point's wastewater was shown to have lower levels of these pollutants than what EPA identifies as acceptable for drinking water. Additionally, the Washington Department of Ecology is going above and beyond federal regulations and has partnered with the



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Washington Department of Health to develop a Chemical Action Plan for PFAS. The [Chemical Action Plan](#) is developed by Department of Ecology staff and an advisory board to identify sources and recommend actions to reduce the use, release, and exposure to PFAS. You can learn more about the Chemical Action Plan [here](#).

7. What solids treatment technologies have already been ruled out?

Based on the considerations below, the City screened out:

- Some biological treatment methods (e.g., lagoons, aerobic digestion)
- Newer thermochemical processes (e.g., gasification, pyrolysis)
- Continuing to incinerate or landfill the biosolids

Technologies were screened out primarily because they:

- Did not have a well-established track record of treating wastewater solids
- Did not allow for recovery of biosolid nutrient and energy resources
- Did not meet the City's climate goals for reduction of greenhouse gas emissions
- Would adversely impact neighbors
- Were considered a safety risk

As a result, the City determined that anaerobic digestion is the best method for treating Post Point's wastewater solids (see "What is anaerobic digestion?" below). We are continuing to evaluate end-use options for Class A biosolids such as preparing composts or soil blends for use as a fertilizer/soil amendment that will maximize its benefit.

8. What is anaerobic digestion?

Anaerobic digestion occurs when microorganisms naturally decompose organic material in an oxygen-free (anaerobic) environment. The digestion process is very similar to how the human digestion system breaks down food into the nutrients and energy we need to survive.

The digestion process in a wastewater treatment plant uses large tanks that are continually mixed and heated. Depending on the specific design of the digestion process, two potential classes of biosolids product can be produced – Class A and Class B.

A tank producing Class B biosolids is kept at a temperature around 100 degrees Fahrenheit. A tank producing Class A biosolids is kept at a temperature around 135 degrees Fahrenheit.



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The flow-through process is very slow. Solids are generally in the tank for 15 to 30 days to allow for consistent breakdown of the material and to reduce pathogens.

Microorganisms that break down organic material in biosolids produce a biogas byproduct, a mixture of carbon dioxide and methane. Biogas can be recovered and:

- Used as a fuel to generate electricity and heat in an engine/generator at Post Point
- Cleaned and used as a natural gas replacement or in compressed natural gas (CNG) vehicles

Because biogas is produced as part of the natural biological breakdown of our waste, it is considered a renewable fuel that can offset the greenhouse gas load of fossil fuels.

9. What are the benefits of using biosolids?

- Increases soil organic matter and moisture retention
- Creates healthier/more robust soil ecosystem, physically, chemically, and biologically
- Recycles nutrients (N, P, K, micronutrients)
- Improves water quality with slow-release nitrogen available when plants need it
- Improves crop yield and quality
- Reduces or eliminates the need for commercial fertilizers, saving energy and reducing GHG emissions
- Increases carbon sequestration, reducing greenhouse gas emissions

10. Where can I learn more about biosolids?

- Regulatory body: [Environmental Protection Agency](#)
- Regulatory body: [Washington State Department of Ecology](#)
- [Northwest Biosolids](#)
- [The Water Research Foundation](#)
- Michigan Department of Environmental Quality
 - https://www.michigan.gov//documents//deq//deq-ess-faq-water-wb-septagebiosolids-whatarethey_206712_7.pdf
- Critiques of biosolids:
 - <https://www.sciencedaily.com/releases/2002/07/020730075144.htm>



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- <https://www.epa.gov/office-inspector-general/report-epa-unable-assess-impact-hundreds-unregulated-pollutants-land>
- <https://science.sciencemag.org/content/367/6476/388.abstract>

11. What is the cost of the new facility and how will that impact me?

The current project cost estimate is over \$200 million (taking into account inflation through 2023). A rate study is currently being conducted to determine the needed increases for the project. If the upgrade is paid for using only City revenue, the average rate impact is estimated to be between \$30-\$35/month per household. The exact rate impacts over time will be developed later in the project as construction costs can change as design develops. We will share rate, cost estimate, and funding information with the community and City Council as we develop them through the project.

12. How can I stay involved and up-to-date on the project?

There are several ways to stay informed about this project:

- Visit this [webpage](#) for project updates
- [Sign up](#) for our email update list
- Visit our [Engage Bellingham page](#)
- Request a community briefing by emailing rjohnson@cob.org
- Let us know if you are interested in additional information by emailing rjohnson@cob.org.

We will share information about upcoming community group briefings here and on our [Engage Bellingham site](#). *Meetings may be online or in-person depending on the current COVID-19 status.*