

City of Bainbridge Island Utility Advisory Committee

Meeting Minutes for June 12, 2024

Meeting convened – 5:00 pm

Members Present; Wanda Schulze, Andy Maron, Charlie Averill, Sheina Hughes, Ted Jones, Svend Brandt-Erichsen

Also Present: Chris Wierzbicki (Public Works Director), Jon Quitslund (City Council liaison), Jeff Hansen (HDR Engineering)

Minutes of May 16 meeting approved

Wastewater Beneficial Re-use Project

Jeff Hansen presented a progress report.

The study has considered potential sources of reclaimed water and locations for treatment plants – Winslow, mid-island and the south end of the island.

In Winslow, the alternatives are a centralized facility, which would treat water at the Winslow wastewater treatment plant to a level that would allow reuse, or a decentralized facility, which would involve developing a small package plant in upper part of sewershed.

To initiate wastewater reclamation mid-island would require development of a new treatment facility. For a project at the south end, treatment could occur at the Sewer District 7 facility.

The study has identified the following potential uses for reclaimed wastewater:

- Irrigation – at the wing point golf course, City parks, or school fields
- Groundwater recharge – a limited assessment of the potential for groundwater recharge was completed previously. The current study is drawing on that work.
- Other uses are possible, but the scale of those potential uses is more limited and capital intensive. For example, reclaimed water may be used for toilet/urinal flushing, or could be applied to some commercial uses.

Alternatives selected for further study focused on the Winslow area – both centralized and decentralized alternatives.

During the last 6 months, a desktop evaluation of groundwater recharge feasibility was completed and a groundwater recharge favorability model was developed.

Key factors affecting groundwater recharge include:

- Geology – presence of glacial till layer near surface
- Hydrogeology
- Soil characteristics
- Slope stability

This work has identified areas with physical characteristics that could have the potential for groundwater recharge –

- Grand Forest (although this area is likely not feasible due to the distance from existing sewer infrastructure)
- West of Eagle Harbor
- Sakai Park

The assessment of the feasibility of a satellite treatment facility in the Winslow area considered:

- The potential source of wastewater for reclamation: intercepting wastewater in the upper portion of the Winslow sewershed, for local use in that area.
- A key consideration is the availability of sewer flow (volume).

A previous study was completed in 2021 of the New Brooklyn sewer basin, which includes the schools, the Copper Top development and the North Town Woods development.

That study found that summer flows (dry weather) were about 54,000 gallons/day(gpd), with projected future growth to 67,000 gpd. This represents about 10% of existing dry weather flow to the Winslow WWTP.

The New Brooklyn basin volume also equates to about two thirds of identified City irrigation, excluding the Wing Point golf course. One of the potential reuses for reclaimed water would be to displace the use of groundwater for this irrigation.

Summary of Alternatives Considered:

Alternative 1 – Centralized Treatment at the Winslow WWTP

1A – Reuse for golf course irrigation

- Treatment: Would need to upgrade disinfection
- Distribution: pump station, minimal piping
- Capital cost \$ 6 million

1B – City irrigation and GW Recharge

- Treatment: same as for 1A, plus add granulated carbon to remove contaminants of emerging concern (e.g. PFAS) – likely needed for GW recharge
- Distribution – pump station, extensive piping, storage tank
- Capital cost \$18 million

Committee members suggested that that City investigate the Environmental Protection Agency's water use for the treatment system at the Eagle Harbor Superfund Site and whether reclaimed water could be used for that purpose. That could provide an alternative use for a centralized reclamation facility.

Alternative 2 – Decentralized Treatment

- Locate a package plant at or near Sakai Park
- Reclaimed water could be used for irrigation or groundwater recharge
- Groundwater recharge facilities typically involve a subsurface infiltration gallery. An alternative is open recharge ponds.
- Location would put the facility near a potential recharge location at Sakai Park

- Alternatively, water could be piped along High School Road to Johnson Farm

2A – Irrigation only

Treatment – Satellite Treatment Facility membrane bioreactor (MBR), booster chlorination

Distribution – Pump station, moderate piping, storage tank

Cost - \$12 million

2B – Irrigation and GW recharge

Treatment; Same as 2A, with addition of Granular Activated Carbon

Distribution: Pump Station, Moderate Piping, Storage Tank, Recharge Basin

Cost - \$15 million

Annual Reuse (million gallons)

1A: 33.5

1B: 14.6

2A: 4.5

2B: 11.8

Unit Cost (per gallon)

1A: \$0.17

1B: \$1.20

2A: \$2.70

2B: \$1.29

Operating costs of decentralized treatment plant not included

Discussion

The committee discussed implications of the work completed to date with City staff, including questions or areas for potential further evaluation prompted by the presentation. The discussion included possible purposes for a wastewater reclamation project, including water conservation and reducing load on the Winslow WWTP. It also discussed the potential financial benefits associated with the project, as understood from the estimates prepared to date, as well as financial considerations that may not be captured by the existing study.

The committee also had questions regarding the risks of treatment plant upsets and what impacts an upset could have on the Winslow sewer system. Another consideration the committee identified is the need to decide how the cost of water reclamation would be distributed – whether those costs would be allocated to the water utility, the sewer utility, the general fund, or some mix of funding sources. The committee and City staff also noted that if the proposed use for reclaimed water were to supply the Wing Point golf course, then terms for that arrangement would have to be negotiated with Wing Point.

Next Steps for Water Reuse Study

- Finalize cost estimates
- Complete a draft technical memo
- Key areas likely to be recommended for further evaluation:
 - Complete site-specific assessment of feasibility for potential groundwater recharge areas

- Evaluate consistency with future plans for Sakai Park
- Develop a more quantitative assessment of the potential benefits of groundwater recharge (e.g., enhancement to groundwater, reduction in flows to WWTP)

Review Public Sewer Element of Comp Plan

The Committee began discussion of the Sewer Element of the comprehensive plan. However, after a few preliminary points the discussion was deferred to the next committee meeting.

It was noted that the City Council has focused on the City's relationship with Sewer District #7 and City's south end system. One member asked whether the Comp Plan should include, as background, a description of how sewage treatment is organized on the Island, and whether the septic systems used over much of the Island should be addressed in the Plan. These points were discussed but no recommendations were made.

Discussion began regarding Plan Goal U-12. There was a discussion of whether the goal was adequate in addressing protection of public health and the environment but no recommendations for changes to the goal were proposed or adopted

Policy U12.1 – no comments

Policy U12.2 – 12.3 – no comments

Policy 12.4 – There was discussion regarding this policy as it relates to new public sewer facilities. One member suggested considering whether to change criteria a. for expansion of the City's sewer system.

There followed a discussion of the Plan's existing criteria for explanation of the sewer system and whether the City should study expansion to additional service areas. There also was discussion as to whether there should be a goal or action item calling for investigation to determine whether septic systems are failing in areas of the Island and for strategies for responding to failing systems. Committee members also noted the need to coordinate work in this area with the Kitsap County Public Health District.

No recommendations were made regarding Policy 12.4 and the Committee agreed to pick up its review of the Sewer Element of the Comp Plan at its next meeting.

Meeting Adjourned – 7:00 pm.

