

Staff Reporting Tool 2022 Annual Update

February 2022



King County

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II. Ordinance Text

Ordinance 18627¹. The ordinance is attached as Appendix A.

III. Executive Summary

Ordinance 18627 directed the Executive to provide a Department of Natural Resources (DNRP) Wastewater Treatment Division (WTD) staff reporting tool by which plant operational staff can anonymously communicate suggestions or concerns to WTD management. To provide this reporting tool in spring 2018, WTD added a check box to Bright Ideas submission forms stating, “If your idea relates to treatment plants or offsite facilities, please check this box.”

Between January and December 2021, 24 Bright Ideas submissions had the box checked for “relates to treatment plants and offsite facilities.” Of these, six were made anonymously. WTD approved and implemented ten submissions. Fourteen submissions are currently in various stages of the review process, from being newly submitted to nearing implementation.

IV. Background

Department Overview: The King County Department of Natural Resources and Parks (DNRP) works in support of sustainable and livable communities and a clean and healthy natural environment. Its mission is to foster environmental stewardship and strengthen communities by providing regional parks, protecting the region's water, air, land and natural habitats, and reducing, safely disposing of and creating resources from wastewater and solid waste. The Wastewater Treatment Division (WTD) of DNRP protects public health and enhances the environment by collecting and treating wastewater while recycling valuable resources for the Puget Sound region.

Key Historical Context: On February 9, 2017, a severe flood occurred at the West Point Treatment Plant. The flooding inundated electrical and mechanical equipment resulting in emergency bypasses of sewage through the emergency outfall, and discharge of partially treated sewage through the offshore outfall.

West Point’s remote location, lengthy commute times, and the intensity of operating West Point during wet weather events combined with sewer flows coming into the plant can make working at this plant challenging for employees. The complexity of operating West Point is also a driver for some employees to work at the plant because they enjoy the challenge. Following the 2017 flooding event, the King County Council wanted to ensure that staff at West Point and other WTD facilities had a way to anonymously communicate their concerns and suggestions for their worksite.

WTD uses Bright Ideas as a way for employees to report problems they see in the workplace and to offer solutions. It is a hands-on program where employees can submit and track their ideas through an online tool. In 2018, Bright Ideas was augmented to be further utilized as a staff reporting tool where employees can report needed workplace improvements and offer ideas on how to address them. Employees will continue to have the option of reporting anonymously.

¹ [Link to Ordinance 18627](#)

Current Context: WTD employees are introduced to the Bright Ideas program during the onboarding process and icons are added to all WTD employee computers, so any WTD employee may submit directly into Bright Ideas.

Using Bright Ideas furthers the King County Strategic Plan goal of efficient, accountable regional and local government by providing a tool for the WTD workforce to share its concerns and ideas.

Report Methodology:

WTD staff evaluated the Bright Ideas site database for all ideas submitted in 2021, with the box checked on the submission form that states, “If your idea relates to treatment plants or offsite facilities, please check this box.” The data for the relevant submissions were then reviewed to determine which ideas were implemented and completed, which ideas have implementation plans, and which ideas were still under consideration.

V. Report Requirements

Ordinance 18627 requires the King County Executive to transmit a report providing an annual summary of suggestions and concerns received through a staff reporting tool and the response from the WTD. Specifically, the Ordinance establishes the following reporting requirements:

The executive shall also prepare an annual summary of the suggestions and concerns received through the plan's reporting tool, as well as responsive actions taken.

To provide this reporting tool, in spring 2018, WTD added a check box to Bright Ideas submission forms stating, “If your idea relates to treatment plants or offsite facilities, please check this box.” This tool was rolled out in 2018 through emails, a Lunch and Learn, and discussion at meetings.

Bright Ideas is a hands-on, online, tool that allows WTD employees to submit and track workplace improvement ideas. While most employees freely post their name along with their workplace improvement ideas, they also have the option of submitting their ideas anonymously. Bright Ideas encourages creative problem solving, especially among front-line employees who are often the first to see ways to address workplace concerns.

In 2021, 24 Bright Ideas were submitted with the box checked for “relates to treatment plants and offsite facilities.” Of these, six were made anonymously.

WTD approved and implemented the following 10 submissions:

- Five approved ideas identified simple maintenance solutions to extend the life of operational equipment. The first addressed reducing moisture degradation in [Victaulic](#) valves at the plants.² Two suggestions involved filtration, the first is semi-annual testing of bar screen gaps.³ The second suggestion was to install an additional strainer to reduce clogging.⁴ A third suggestion

² Victaulic is a brand of valves that are used in the treatment plants to control water flow.

³ Bar screens catch debris from wastewater coming into the Plant.

⁴ A strainer is a mesh filter that removes particles and contaminants from water before they make their way to equipment downstream where clogging or damage may occur.

addressed jamming problems in the Hycor conveyor.⁵ This was corrected by increasing the shut off time on the system. Finally, a suggestion was implemented to rotate electric car usage in order to keep their batteries fully charged.

- Four implemented suggestions addressed staff safety:
 - Coating floors in a room with a sanded waterproof floor sealant to reduce slipping hazards.
 - Reducing pest hazards by adding mosquito dunks to stagnant water.⁶
 - Improving janitorial cleaning practices to meet Center for Disease Control (CDC) recommendations for COVID.
 - Programming iPads to automatically check-in maintenance personnel. Along with allowing easier tracking of staff, this also reduces phone traffic to main control.
- Finally, staff implemented a suggestion to create virtual plant tours by filming pre-recorded tours for adults and elementary students, as well as tailored virtual presentations for larger groups. An example of a tour can be found [here](#). Work continues to create accessible virtual tours to engage underserved communities.

The following four submissions were approved and are at various stages of being implemented:

- Two of the approved submissions suggested upgrades to plant security. One suggestion was to upgrade the main entrance gate at South Plant to allow it to be opened and closed from main control, and another suggested upgrading video surveillance technology.⁷
- An idea was approved to make engineering files digitally accessible and easily searchable. An evaluation is underway of how to coordinate and implement this project.
- Automated reminders for safety training requirements have been approved and assessment of technology for these reminders is underway.

Four suggestions are being reviewed for Capital Project funding:

- The first is to add keycard readers to entrance gates at South Plant.
- Two ideas at West Point are under review. One suggestion would reroute flows to reduce solids returned from the centrifuge and the other suggestion involves changes to pumping processes.⁸
- There also is a suggestion to develop a closed loop system to reuse the water needed to operate oil coolers used in the biosolids process.

Six ideas are still under review:

- An idea to replace a solid metal plate with a grated cover to allow for easier access to valves connected to the Emergency Bypass channel is under review for regulatory compliance.⁹
- Another suggestion to add a monitor that meets fire ratings is on hold. WTD is currently upgrading systems in the room where it was requested at South Plant and will evaluate whether a monitor is still needed once the upgrades are complete.

⁵ The Hycor is a conveyor that wrings excess water out of debris.

⁶ Mosquito dunks look like small, beige donuts floating on standing water. As the dunk slowly dissolves, it releases a bacterium that is toxic to all species of mosquito larvae.

⁷ Main Control is the operational hub of the Wastewater Treatment Plant.

⁸ A centrifuge is a machine with a rapidly rotating container that applies centrifugal force to its contents. In this case, it is used during the biosolids process.

⁹ The Emergency Bypass Channel is part of a system used to prevent Plant failure by releasing water from the plant before the treatment process is complete.

- The third suggestion involves investigating a submeter program with the City of Seattle to reduce sewer charges for process water that stays on site.^{10 11}
- A fourth suggestion involves cross-training non-operator employees to help in emergency situations.
- A fifth suggestion to install an emergency stop button in the pre-aeration tanks was received in late November.¹²
- Finally, staff is reviewing a request to add covers to roof intake vents on an HVAC unit.^{13 14}

VI. Conclusion/Next Steps

Between January and December 2021, 24 Bright Ideas were submitted that relate to treatment plants and offsite facilities. Of these, 14 submissions were approved and implemented or are in the implementation process. Ten are under review, four are being assessed for Capital Project funding, and six are either newly submitted or require more information and analysis.

Using Bright Ideas furthers the King County Strategic Plan goal of efficient, accountable regional and local government by providing a tool for the WTD workforce to share its concerns and ideas.

VII. Appendices

Appendix A – Ordinance 18627

¹⁰ The submeter program is a City of Seattle program that makes allowances for businesses who use water that does not enter the sanitary sewer.

¹¹ Process water is water that is used in treatment processes throughout the plant.

¹² Pre-aeration involves the addition of air at the initial stages of treatment to freshen the wastewater, remove gases, add oxygen, promote flotation of grease, and aid coagulation.

¹³ Air intake vents are used to allow outside air to enter into attics and ventilation spaces.

¹⁴ HVAC stands for “Heating, ventilation, and air conditioning.”

**KING COUNTY**1200 King County Courthouse
516 Third Avenue
Seattle, WA 98104**Signature Report****December 12, 2017****Ordinance 18627****Proposed No. 2017-0428.2****Sponsors Kohl-Welles and Lambert**

1 AN ORDINANCE related to at the West Point Treatment
2 Plant, requiring a report and plan from the executive
3 addressing issues related to staffing concerns, including
4 staff retention, and a mechanism to provide for anonymous
5 staff reporting of operational concerns at the West Point
6 Treatment Plant.

7 **STATEMENT OF FACTS:**

- 8 1. In response to the February 9, 2017, system failure event at the West
9 Point Treatment Plant, the council commissioned an independent
10 assessment of circumstances leading to the event, and identification of
11 appropriate responses.
- 12 2. As an element of the independent assessment, AECOM Technical
13 Services, which was selected to perform the assessment, conducted
14 extensive interviews with plant operations staff, and with plant and agency
15 management. AECOM also conducted a hazardous operations workshop
16 involving plant operations and management and agency management staff,
17 intended to surface operational conditions that may have contributed to the
18 February 9 event, and to conditions of concern at the plant generally.
- 19 Both the staff interviews and the hazardous operations workshop were

20 central to the identification of critical plant conditions and the
21 development of recommendations, which will guide the agency, the
22 council and the region in supporting the recovery from the February 9
23 event, and the avoidance of future such events. The council desires to
24 institutionalize a mechanism to heighten awareness by decisionmakers of
25 critical operational conditions that have the potential to result in system
26 failures similar to the February 9 event.

27 3. Additionally, the AECOM report described the issue of staff retention
28 at the West Point Treatment Plant. The report notes that "staff retention
29 has been an ongoing issue...the plant is not in an easy location for
30 commuting, and the cost of living in the surrounding area is high. WPTP
31 has had a significant number of new hires compared to the South Plant and
32 Brightwater Treatment Plant; ...there has been a large number of transfers
33 from WPTP to one of the County's other treatment plants." The report
34 notes that lack of corporate memory is a potential problem associated with
35 lack of staff retention.

36 4. The wastewater treatment division currently operates a safety hotline
37 monitored by the agency safety committee, which provides employees the
38 opportunity to communicate concerns that are specifically related to safety
39 but does not provide a process to identify larger operational issues.

40 BE IT ORDAINED BY THE COUNCIL OF KING COUNTY:

41 SECTION 1. A. The executive shall prepare a report and recommendations
42 addressing issues related to staff concerns at the West Point Treatment Plant, including

43 1. How to provide an ongoing staff reporting tool by which plant operational
44 staff can anonymously communicate suggestions or concerns to agency management.
45 The reporting tool may be in the form of an electronic staff hotline or suggestions box, or
46 other means of allowing for candid and unreserved identification of conditions of
47 concern. The reporting tool may build on the existing safety hotline or Bright Ideas, but
48 shall also provide for reporting on broader plant operational issues; and

49 2. The identification of issues that result in problematic low levels of staff
50 retention at the West Point Treatment Plant.

51 B. The executive shall prepare a plan, based on the report, for the implementation
52 of the recommendations of the report, addressing both:

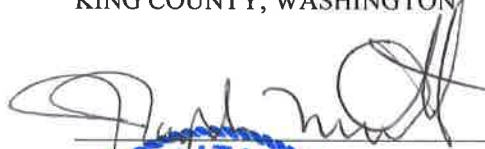
- 53 1. Instituting or augmenting an anonymous staff reporting tool; and
54 2. Means to improve staff satisfaction and retention, such as staff incentives or
55 other strategies intended to strengthen retention outcomes at the West Point Treatment
56 Plant.

57 C. The executive shall also prepare an annual summary of the suggestions and
58 concerns received through the plan's reporting tool, as well as responsive actions taken.

59 SECTION 2. The report and the plan shall be transmitted to the council by
60 February 15, 2018 and may be combined with the quarterly report required by Motion
61 14813. The annual summary shall be transmitted by February 15 of the year following
62 the year the suggestions and concerns are received through the plan's reporting tool. The
63 annual summary may be combined with the West Point Treatment Plant Independent
64 Assessment Final Report Implementation Plan quarterly report. The report, the plan and
65 each annual summary, shall be transmitted in the form of a paper original and an

66 electronic copy to the clerk of the council, who shall retain the original and provide an
67 electronic copy to all councilmembers, the council chief of staff and the lead staff for the
68 transportation, economy and environment committee and regional water quality
69 committee, or their successors.
70

KING COUNTY COUNCIL
KING COUNTY, WASHINGTON



J. Joseph McDermott, Chair

ATTEST:

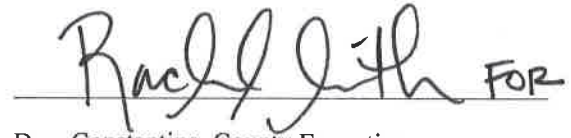


Melani Pedroza, Clerk of the Council



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KING COUNTY COUNCIL

APPROVED this 21st day of DECEMBER, 2017



Dow Constantine, County Executive

Attachments: None