

Odor control

Wastewater treatment is essential to protect public health and the environment

As our population grows, we need a new wastewater treatment system called Brightwater to protect our health, environment, and economic growth. The new Brightwater treatment plant is being built on a 114-acre site along Route 9 near Woodinville. The system consists of a new treatment plant, conveyance system, and a marine outfall in Puget Sound near Point Wells. The Brightwater system will be operating in 2011.

Brightwater will not release odor

King County is committed to developing and operating facilities that are a good neighbor to residents. Modern wastewater plants can and do operate without odors. For example, San Francisco's Oceanside Pollution Control Plant sits alongside the San Francisco Zoo and Pacific coast public beaches, and the plant has not received any odor complaints from the community.

Our odor control standards for the Brightwater plant are the most stringent in the United States. The county is designing an odor control system so our facility will operate 24 hours a day, seven days a week, 365 days a year without producing odors. We have set similar odor control goals for the conveyance system.

Brightwater will use the most advanced existing odor control technology

At the heart of Brightwater's design is a multiphase approach to prevent odors. Brightwater will eliminate odors in three phases.

- **Prevent odors from forming:** We will add chemicals, such as a strong form of household bleach, to the wastewater stream to prevent odors from forming.
- **Capture air:** As a direct result of community comments, our updated design includes covering or enclosing all odor sources to capture odors and prevent their release. All odorous air will be vented to an odor control system and treated before release to the atmosphere.
- **Treat odorous air:** Equipment used to treat odors is called a "scrubber." At Brightwater, we will use a three-stage wet-chemical scrubber and the odorous air will go through a "mist" of a cleaning solution at each stage. In each phase, a different solution will target and remove specific odor-compounds. The air will then go through a final carbon scrubber to remove trace odors. This last stage is called "polishing."

Brightwater odor control will set a new standard

Most treatment plants use a one- or two-stage odor scrubbing process on only some of their odor sources and cover only the most odorous sources. Brightwater will surpass these other facilities by covering all processes and using a three-stage wet scrubber plus a final carbon-filter polishing stage to remove residual odors on virtually all odor sources.

Brightwater odor control

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No odors — 24/7 — 365 days a year

Extra odor control

Redundant or back-up systems will be included in the design. If, for example, an odor prevention unit is being repaired or under maintenance, another unit will be available for use. We will capture and treat odors from the whole plant, even during maintenance.

Designed for imaginary “worst case” day

We took the worst day for potential odor (a hot August day) and the worst day for air dispersion (a stagnant fall day) and combined them in our modeling to make sure Brightwater won't smell – even during that unlikely scenario. Brightwater will not rely on winds to disperse odor. Odors are eliminated at the scrubber rather than relying on air dispersion.

Safeguards are in place to ensure that Brightwater will be a good neighbor

Regular monitoring will ensure odor is eliminated

Once the plant is operating, hydrogen sulfide levels will be monitored with sophisticated equipment to ensure that no odors are emitted from the plant site. Hydrogen sulfide is the compound that causes a rotten egg smell. In addition, staff will perform “spot checks” to measure odors in various parts of the plant.

The Puget Sound Clean Air Authority regulates nuisance odors that may affect people or property and enforces local and state law. This agency maintains a record of odor complaints by zip code and can take enforcement action against offenders.

Odor Control Commitment

King County is committed to adding more odor controls if odor prevention goals aren't met.

For more information or to be added to our mailing list, please contact us at:

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Visit the project web site: <http://dnr.metrokc.gov/wtd/brightwater/>

**This information is available in alternative formats upon
request by calling 206-296-1328 or Relay Service 711**

