

# KELLOGG WATER RESOURCE RECOVERY FACILITY

## CAPITAL IMPROVEMENT PROJECT

[clackamas.us/wes](http://clackamas.us/wes)



Clackamas County Water Environment Services (WES) is dedicated to ensuring that reliable and affordable wastewater treatment services are always available to our customers, which means that our equipment and infrastructure must continue to meet the demands of a growing population.



To meet this challenge, WES consistently replaces aging equipment with state-of-the-art technology, which is currently happening at our Kellogg Water Resource Recovery Facility in Milwaukie.

Built in 1974, the Kellogg facility is undergoing a major refurbishment and rehabilitation project that is scheduled for completion in 2020. These upgrades will put Kellogg in an excellent position to provide dependable and cost-effective services for the next 20 to 30 years.

Dedicated to being a good neighbor to the community surrounding the Kellogg facility, WES determined that one of the major upgrades needed is to improve odor control by covering an aeration basin, which is a large tank that plays a key role in the breaking down of pollutants.

Additional improvements include the replacement of pipes, pumps, electrical systems and other upgrades that will bring the facility up to full operational capabilities. WES is strategically sequencing and staging the refurbishment project in order to keep the facility fully operational during construction.

This project represents a significant step forward for Kellogg since a few years ago WES and its stakeholders evaluated whether the facility should continue operations or be decommissioned.

Together, The Kellogg facility and the Tri-City Water Resource Recovery Facility in Oregon City clean a combined 6 billion gallons of wastewater every year for more than 165,000 WES customers.

In addition to the renovations, the Kellogg facility recently adopted the Water Environment Federation's preferred industry naming convention of "*Water Resource Recovery Facility*." This change reflects the WES mission **to provide wastewater resource recovery and watershed protection services to our community so we can live, work, and play in a healthy environment.**

The new name for the Kellogg facility acknowledges the value it provides to the community, which includes recovering energy, biosolids, clean water and other resources from treated wastewater.

**“We don't just treat wastewater, we recover resources.”** WES Director Greg Geist

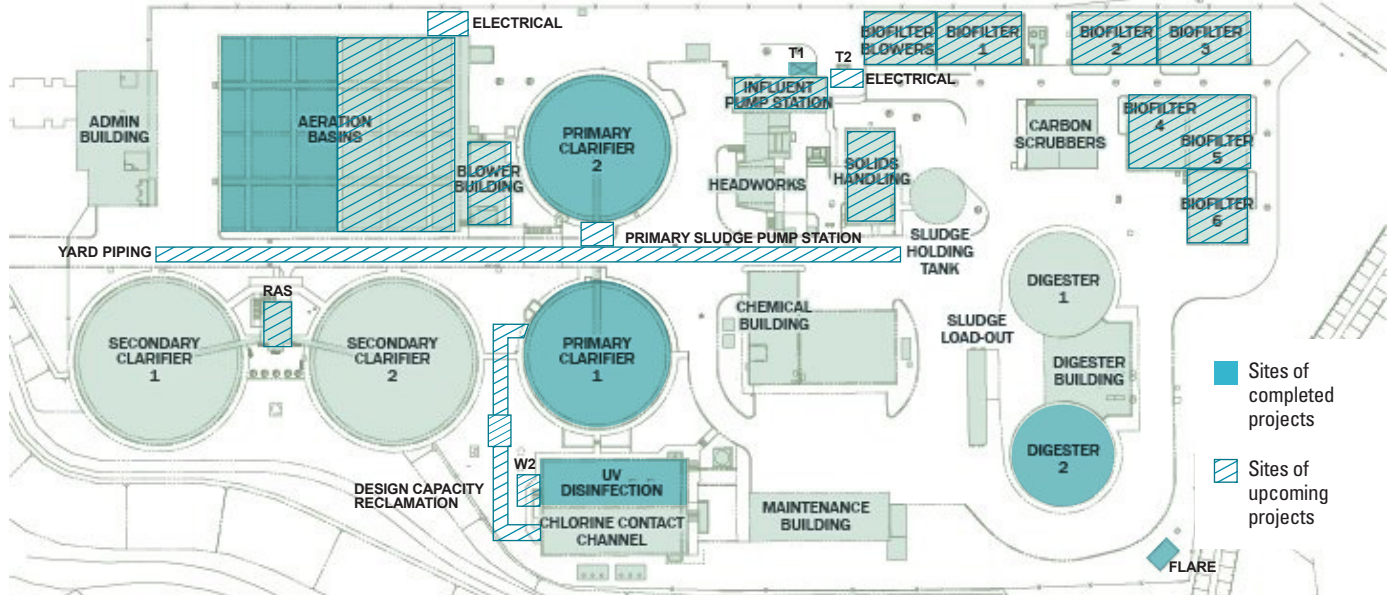
**The Kellogg facility was designed to treat 25 million gallons per day (MGD).** Due to restrictions in the system, the plant is currently only able to treat 21 MGD. One of the project goals is to reclaim the designed treatment capacity. Identifying the restrictions and implementing a plan to eliminate them is part of this project. In addition, rehabilitation work is needed to maintain the current quality of treatment.

- Sub-surface process piping is failing frequently. The sub-surface, as well as some exposed piping, requires replacement throughout the plant.
- The RAS Pump Station force main and influent lines have decayed and are leaking inside the station. The RAS pumps are 40+ years old and require replacement. The Primary Pump Station has similar problems with aging pipes and pumps.
- The plant power feed system to the four existing transformers are in series and need to be converted to a loop system. Transformer T-2 needs to be replaced and a main switchgear needs to be installed to ensure power reliability. The standby power generator requires upsizing.
- The influent pump station requires equipment upgrades, wet well flow improvements and piping replacement. The Waste Activated Sludge thickening requires upgrading by replacing the antiquated floatation thickener with modern process and polymer systems.
- The aeration process blowers have been proven to be unreliable and require replacement.
- Zone 2 of the Aeration Basins will need to be evaluated with respect to covering and installation of a foul air system for odor control.

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## Projects completed since 2013

- Gas Flare Replacement
- Digester #2 Mixing & Heating System Replacement
- Primary Clarifier #2 Refurbishment
- Primary Clarifier #1 Refurbishment
- Ultraviolet (UV) Disinfection Refurbishment
- Aeration Basin Fine Bubble Diffuser Installation
- Blower Building Exhaust and Ventilation Equipment Refurbishment & Replacement
- Replaced failing Transformer T-1



## Projects included in the upcoming renovation

- Yard Piping Replacement
- Return Activated Sludge (RAS) Pump Station Improvements
- Peak Plant Design Capacity Reclamation
- Process Air Blower Replacement
- Electrical Phase I & Phase III
- Electrical Phase II
- Influent Pump Station Phase I
- Polymer Upgrades
- W2 Water Pumps Replacement
- Aeration Basin Zone 2 Covers & Odorous Air Treatment Improvement

## Good Neighbor Committee

WES also actively works with the City of Milwaukie and the Good Neighbor Committee to make safety and aesthetic improvements surrounding the facility, which includes the installation of additional path lighting, benches and landscaping.

In 2013, WES assisted the City of Milwaukie in establishing the Kellogg Good Neighbor Committee to help determine how to minimize the impact of the facility on surrounding neighborhoods by prioritizing and spending a "good neighbor fund" which was established by WES and the City of Milwaukie.

To learn more about WES, please visit [clackamas.us/wes](http://clackamas.us/wes).

To learn more about the Good Neighbor Committee, please visit [milwaukieoregon.gov/bc-kgnc](http://milwaukieoregon.gov/bc-kgnc).

