



Kristen Jackson, PE

Water Engineer / Project Manager

Kristen is experienced in design and management of water and wastewater engineering projects. She is competent in wastewater treatment process design, hydraulic and process modelling, energy analysis, technical writing, services during construction, cost estimating, and construction project management.

Years' Experience	14 Years
Keyskills Areas of expertise	- Project management and design experience in large and small wastewater treatment projects (specializes in liquids treatment). - Experience in alternative delivery methods (progressive design-build, CM/GC, and P3). - Experience in construction project management. - Competent in wastewater treatment process design.
Education Qualifications	- MS, Civil and Environmental Engineering - BS, Civil Engineering
Registrations Certifications	Professional Engineer: OR (No. 96375PE), CA (No. 78461)
Professional Development	- PNCWA / Water Environment Federation Member - Oregon ACWA – Water Quality Committee Member - Santa Clara University – Engineering Advisory Committee Board
Community Involvement	- Portland Mountain Rescue Volunteer - STEM Like a Girl Volunteer – workshops to foster interest in science, technology, engineering, and math - Engineer's Week Volunteer – Encourage prospective students - Meals on Wheels Volunteer – Volunteer for food delivery.

Relevant project experience

Facility Lead, Columbia Boulevard Wastewater Treatment Plant (CBWTP) Secondary Treatment Expansion Program (STEP), City of Portland, Bureau of Environmental Services (BES), City of Portland, OR, October 2018-Present

Scope/Description: STEP includes the design of two new 145-foot-diameter secondary clarifiers, associated disinfection for the clarifiers, along with a combination of projects in proximity or operationally connected, including a completely new biosolids co-thickening and dewatering facility and biosolids storage and loading facility. The project includes demolition of aging facilities, modifications to remote boilers, replacement of the medium voltage system, design of non-process facilities, and ground improvements for new facilities. The project design budget is \$29 million.

Role and Responsibilities: Facility lead for design of two new 145-foot-diameter secondary clarifiers, return activated sludge (RAS) pump station, mixed liquor pumping system, and associated disinfection for the new clarifiers. Coordinated hydraulics analysis, was the quality manager and safety coordinator for a portion of the project. Led alternatives analysis and process mechanical design, and managed discipline coordination for the secondary clarification system.

Added Value: Offered piping configuration ideas at Silver Tunnel workshops/campouts that led to cost savings.

Design Manager, Columbia Boulevard WWTP Wet Weather Clarifier and Sodium Hypochlorite System Modifications , Portland, OR, October 2023–Present.

Scope/Description: Rehabilitation of eight wet weather clarifiers (WWCLs), replacement of the sodium hypochlorite disinfection system and site demolition such as the gravity thickeners. The project design budget is approximately \$15 million.

Role and Responsibilities: Responsible for day-to-day management of project tasks, client, and 14 subconsultant's primary point of contact. Manages the daily activities of the design team, including driving detailed design schedule, weekly briefing with the design team, facilitating interdisciplinary decision making, documenting change, and ensuring quality of each individual deliverable.

Added Value: Collaborative utilization of minority small business partners provides meaningful growth opportunities for local businesses.

Project Manager, WWTP Gravity Belt Thickener Replacement Project, City of Gresham, OR, February 2021-Present

Scope/Description/Value: \$570,000 design and services during construction for replacement of three gravity belt thickeners with three rotary drum thickeners for co-thickening of waste activated sludge and primary sludge from the blend tank. Project also included replacement of thickened sludge pumps and new instrumentation.

Role and Responsibilities: Project manager and quality manager

Added Value: Weekly client meetings facilitated a collaborative design effort, overall culminating in the design being completed ahead of schedule.

Project Manager, Organic Materials Recovery and Bioenergy Feasibility Study Part 2 Project, Clatsop County, OR, January 2024-Present.

Scope/Description: \$250,000 follow on feasibility study evaluating the availability of high strength organic waste in the region and alternatives analysis for processing the waste. The study considers the cost impacts and potential benefits associated with processing the high strength organic waste, including processing siting considerations, truck hauling, digestion capacity and operation, energy use alternatives, and solids processing and end use. The study includes a business case evaluation considering economic, environmental, social, and operational impacts to assess project feasibility.

Role and Responsibilities: Project manager, safety coordinator, and quality manager.

Added Value: Developed creative solutions for the business case, including co-location near an existing facility for mutual benefit and collaborating with state and federal renewable energy programs.

Project Manager/Process Engineer, WWTP Anaerobic Digestion and Cogeneration Expansion Project, City of Gresham, OR, May 2022-June 2024 .

Scope/Description: \$850,000 preliminary design includes additional liquid organic waste receiving infrastructure, digestion capacity expansion, gas treatment system analysis, cogeneration, biosolids management, new boilers, and production of renewable natural gas. Also includes updating the previous business case evaluation from the feasibility study to perform financial analysis that can be utilized for proceeding with funding the implementation phase of the project, including capital costs, feedstocks, renewable energy revenues.

Role and Responsibilities: Project manager and project engineer.

Added Value: Developed creative solutions for the business case, including offsetting capital costs with cogeneration expansion and collaborating with Oregon and California low carbon fuel standards programs.

Process Mechanical Engineer, Water Restoration Plant Phase 2 Upgrade Project, City of Grants Pass, OR, December 2016 to October 2019

Scope/Description/Value: \$25M progressive design-build contract. Wastewater treatment rehabilitation project significantly upgraded the City of Grants Pass 6 million gallon per day Water Restoration Plant to improve reliability of treatment. We worked collaboratively with the City to implement improvements at the existing facility, while maintaining operations throughout the invasive construction activity.

Role and Responsibilities: Process lead for design of rehabilitation of the gravity thickener including coordination for temporary thickening operations during construction. Manager for services during construction, coordinated field efforts with engineering staff to solve construction issues. Managed start up and commissioning of major equipment components, including functional and performance testing.

Added Value: Creative start up and commissioning solutions like the temporary thickening system.

Project Engineer, WWTP Master Plan Update 2017, City of Gresham, OR November 2016 -October 2017

Scope/Description/Value: \$220,000 project. Key tasks included a liquids treatment plan with flexibility to adapt to a variety of potential regulatory scenarios, evaluation of alternatives to defer construction of a third anaerobic digester, investigation of Class A biosolids options, assessment of options for use of excess biogas and/or heat generated from the existing combined heat and power system, and updates of the capital improvement plan to reflect the results of the master plan update. Evaluated entire plant energy usage to identify energy sinks with Sankey diagram.

Role and Responsibilities: Analysed plant data for flows and loads projections updates, process modelling update, alternatives evaluation for digestion alternatives, and analysis of plant energy consumption with a Sankey diagram.

Added Value: Completed Sankey diagram to identify energy usage and areas to focus for improvement

Project Experience – Other

Peace Corps: Water, Sanitation, and Hygiene Engineer, La Libertad/Amazonas, Peru, September 2012 – December 2015

Scope/Role and Responsibilities: Designed, managed, and constructed projects: 11 composting toilets, biodigesters, improved cookstoves, biosand filters, drip chlorination systems, and facilitated creation of water committees. Wrote and executed successful financial grants with community members to implement local projects. President of the Peace Corps Peruvian English Teaching Committee. Supported CARE Peru's Water and Sanitation Program develop resources, work with rural water committees, and improve water system infrastructure. Developed two chlorination system field manuals for simple installation, operation, and maintenance.

Rudolph and Sletten: Project Engineer and Senior Cost Engineer, Redwood City, California, August 2008 – July 2011

Scope/Role and Responsibilities: Managed costs, schedule, and coordination for eight subcontractors during construction of the \$224M dollar Cardiovascular Research Building for the University of California San Francisco. Responsible for LEED documentation to achieve LEED Gold certification of building. Compiled cost estimates for large and small sized projects. Collected and reviewed subcontractors' bids during hard bid process.