



CLASSIFICATION NO. 847
Established: 1/18
FLSA: Exempt
EEO: 2

WASTEWATER PROCESS ENGINEER

CLASS CHARACTERISTICS

Under direction, to research, develop, and optimize complex chemical and biological systems; to serve as a technical resource; to investigate, research, and develop solutions for problems in all wastewater treatment plants and collection systems; to consult with project managers and engineering design firms in selection of new treatment processes, methods, and means of implementation; to conduct small and large pilot scale testing; to review wastewater processes and flow data collection systems used to validate process and operation decisions; and to do other work as required.

DISTINGUISHING CHARACTERISTICS

The Department of Water Environment Services manages and operates the County's utility service districts, including sewage facilities, collection systems, pump stations, treatment plants, and surface water management.

The Wastewater Process Engineer is responsible for performing a variety of advanced level professional engineering duties. The incumbent develops and implements wastewater process research and technology development for operational and capital improvement projects; develops and administers research projects to evaluate needs of the treatment system and implement new treatment strategies; and serves as a technical resource for issues affecting the district.

The Wastewater Process Engineer differs from the Civil Engineer series which performs professional engineering work in the planning, design and construction of structures and facilities, but does not perform advanced level engineering duties and responsibilities associated with processes at a wastewater treatment facility. The Wastewater Process Engineer differs from the Civil Engineering Supervisor which is the first line supervisor responsible for a major component of the engineering function.

TYPICAL TASKS

Duties may include but are not limited to the following:

1. Provides training, technical and analytical advice to internal and external stakeholders on the physical, biological, and chemical processes to maximize wastewater process operation efficiency and meet permit requirements; monitors and analyzes process lab data, operator reports, lab reports and energy and chemical usage data.
2. Conducts analyses of conveyance and influent pump station flow reports to characterize conveyance system performance under normal and emergency conditions; advise on metering and instrumentation equipment needs, interacting with technology and operations.

3. Manages the development of complex engineering projects; develops schedules, prepares budget and scopes project. Manages the development and implementation of large scale planning and modeling efforts; serves as engineering liaison with other district sections, departments, and outside agencies.
4. Troubleshoots and/or reviews wastewater treatment processes and facility designs; evaluates, initiates, and revises process technologies; performs initial data gathering, analysis of the existing systems, initial process design, develops and conducts small and large pilot scale testing, plan reviews, startup troubleshooting and long-term optimization.
5. Conducts technical wastewater process research; networks and collaborates with peer technologists to exchange knowledge.
6. Oversees and/or supervises selection and management of engineering consultant contractors; coordinates work with project stakeholders, government agencies, other district sections, contractors, and consultants.
7. Analyzes new or proposed legislation or regulations to determine impact on program operations or ability to achieve permit compliance.
8. Performs data control activities; proofreads and reviews process data reports to ensure accuracy of data entered; balances values and makes necessary corrections or adjustments.
9. Serves as a resource to other District staff, external stakeholders, and consultants regarding the wastewater treatment plant processes.

REQUIRED KNOWLEDGE AND SKILLS

Thorough knowledge of: Wastewater engineering process, design theory, principles, and practices and their application to a wide variety of treatment facility projects; biological nutrient removal processes; membrane bioreactor (MBR) technology process optimization and troubleshooting; wastewater processes and flow monitoring instrumentation; advanced principles and practices of project development, scheduling, and management; principles and practices of budget preparation and administration; English grammar; algebra, geometry, trigonometry, and calculus; engineering computer software applications; water information management systems (WIMS) platforms; principles and practices of data processing, data entry and retrieval techniques; district, state and federal laws, codes, and regulations impacting permits, construction, contracting, environmental protection, surface water and groundwater; construction, use and interpretation of engineering specifications, plans, maps, reports, and wastewater treatment simulation models; process startup and operation.

Working knowledge of: Principles and practices of public administration, legislative processes and local government operation; contract and grant preparation, and administration; basic techniques of supervision.

Skill to: Evaluation of complex wastewater process engineering; modeling wastewater treatment processes; designing and conducting laboratory and pilot scale tests; documenting and preparing reports on the results of testing; preparing, reviewing and evaluating engineering studies and designs; estimating engineering and construction costs; administering contracts;

analyzing problems, identifying alternate solutions, projecting consequences of proposed actions and implementing recommendations in support of goals; researching, analyzing, and evaluating new service delivery methods, procedures and techniques; presenting and communicating complex and technical information and data effectively to a variety of audiences, both orally and in writing; lead the work of subordinate personnel; establish and maintain effective working relationships with County staff and the public; listen and comprehend issues and concerns expressed by peers, staff, management, consultants and the public; use of computers and computer software including word processing, spreadsheets, hydraulic modeling, and databases.

WORKING CONDITIONS

Occasional duties in the field require walking, twisting, balancing, and involve exposure to inclement weather, noise, and slippery and/or uneven terrain.

MINIMUM QUALIFICATIONS

Minimum qualifications are used as a guide for establishing the minimum experience, education, licensure, and/or certifications required for employment in the classification. The following minimum qualifications are established for this classification. Additional minimum qualifications and special conditions may apply to a specific position within this classification and will be stated on the job announcement.

Experience: None required.

Licenses/Certifications:

The following licensure/certifications are required at the time of hire.

- Certificate of Registration as a Professional Engineer in the State of Oregon. (Registration in another state acquired by examination will temporarily fulfill this requirement provided Oregon registration can be obtained within one year of employment.)
- Wastewater Treatment Certificate, Grade Level IV, issued by the State of Oregon Department of Environmental Quality as written in the State of Oregon's OAR 340-049-0030 preferred, but not required.

PRE-EMPLOYMENT REQUIREMENTS

Driving may be necessary for County business. For position(s) with occasional/incidental driving, incumbents must possess a valid driver's license. Accommodation requests for an acceptable alternative method of transportation will be reviewed on an individual basis in compliance with State and Federal legislation. For position(s) with regular driving, incumbent(s) must also possess and maintain an acceptable driving record throughout the course of employment.