

## ASSOCIATE ENGINEER

*This class specification indicates, in general terms, the type and level of work performed as well as the responsibilities of employees in this classification. The job functions described are not to be interpreted as being all-inclusive to any specific employee.*

### **DEFINITION**

Under general supervision, performs a variety of engineering duties in the planning, design, construction, operations, and compliance of wastewater facilities, infrastructure, systems, operations, and programs; prepares or coordinates the preparation of a variety of engineering drawings and designs and compliance and permitting documents; provides project management support for assigned programs and projects; inspects and analyzes plant operations and implements process improvements; assists in the enforcement of industrial wastewater discharge regulations and reviews, processes, and approves permits; researches a variety of engineering and/or compliance issues, compiles and analyzes data, and prepares reports; provides technical support to engineering and management staff; and performs duties as assigned.

### **SUPERVISION RECEIVED AND EXERCISED**

Receives general supervision from the assigned supervisory and/or managerial staff. Exercises no direct supervision of staff.

### **CLASS CHARACTERISTICS**

This classification is the second of four (4) levels within the professional engineer job series. Positions at this level perform increasingly diverse and complex professional duties in support of OC San engineering programs and projects, receive occasional instruction and assistance, and have full knowledge of the concepts, practices, procedures, and policies of the assigned function. This class is distinguished from the Engineer in that the latter is the full journey-level and performs the more complex and difficult projects, analyses, and programs assigned to the classes within the series requiring registration as a professional engineer.

### **EXAMPLES OF ESSENTIAL JOB FUNCTIONS** (Illustrative Only)

*The following essential job functions are typical for this classification. Incumbents may not perform all of the listed job functions and/or may be required to perform additional or different job functions from those set forth below to address business needs and changing business practices.*

- Performs a variety of professional engineering duties in the planning, design, construction, operations, and compliance of wastewater facilities, infrastructure, systems, and programs; evaluates a variety of engineering drawings, systems, and processes for the improvement of wastewater treatment facilities.
- Prepares designs, drawings, specifications, engineering plan clarifications and changes, and related documents; reviews consultant designs for compliance with engineering standards, safety and regulatory requirements, design quality expectations, and stakeholder needs.
- Prepares a variety of regulatory and compliance reports, memoranda, and correspondence on wastewater treatment facilities operations, air quality, treatment/conveyance, discharge, and odor; prepares compliance agreements and administrative orders, complaints, and fees/penalties; tracks OC San's conformity to regulatory requirements for permit compliance.

- Interprets regulatory requirements for applicability to OC San's facility operations; takes appropriate actions to ensure that OC San is operating within regulatory guidelines; takes samples, conducts tests, and compiles relevant data; assists in the development of policies and procedures due to new regulatory requirements.
- Manages a variety of wastewater facilities' operating permits; updates permit index, pays permit fees; prepares and submits permit applications; establishes permit conditions on new permits; develops auditing programs and auditing compliance activities.
- Participates in the bid and proposal process for capital improvement projects, facilities equipment, and professional services agreements; prepares detailed drawings and technical specifications and develops the scope of work; participates in the submittal process; reviews consultant proposals and recommends vendors; drafts staff reports and supplemental documentation for approval by the Board of Directors.
- Performs basic project management functions for various engineering projects: ensures compliance with contract specifications and regulatory permits; monitors the project schedule and budget; provides regular status reports on project progress; analyzes and negotiates change order requests and prepares and issues field change orders; issues non-compliance notices as necessary; facilitates project meetings and produces minutes.
- Performs constructability reviews on project designs; participates in construction management activities to ensure projects are constructed in accordance with contract documents, permits, and relevant codes.
- Processes easements, grant deeds, agreements, and permits during the preparation of contract bid documents for the construction of wastewater treatment facilities.
- Performs site visits and conducts inspections of wastewater treatment facilities and construction sites.
- Coordinates and participates in commissioning activities, acceptance testing, and reliability acceptance testing; actively troubleshoots issues as they arise.
- Inspects, diagnoses, and develops corrective action plans to plant and sewer system operation and maintenance upgrades and problems.
- Analyzes and performs optimization, utilization, and dosing studies of chemicals, unit processes, odor control, and utilities throughout the treatment plant; prepares and reviews chemical specifications.
- Conducts power system studies of the electrical equipment to determine how modifications affect the systems and plans future growth.
- Conducts air dispersion, fate-transport, interceptor odor, and health risk assessment modeling; coordinates upgrades, maintenance, and troubleshooting of modeling application as necessary.
- Designs, reviews, and/or evaluates plans for air quality control equipment; develops and manages air quality database system and evaluates and selects control technologies to achieve air quality compliance; oversees emission modeling systems and testing programs.
- Issues and renews industrial wastewater discharge permits; evaluates permit applications and design drawings of industrial waste management practices, including sampling and monitoring programs; finalizes permits and permit requirements; tracks compliance.
- Monitors permits for compliance; conducts technical facility inspections and compliance audits to assess and verify permit application information; performs evaluations of the permittees' corrective response plans and waste management proposals; prepares and finalizes correspondence and enforcement documents.
- Prepares emergency preparedness plans and training procedures.
- Represents and makes presentations on behalf of the department and/or OC San to regulatory agencies, public, contractors and consultants.
- Attends and participates in professional group meetings; stays abreast of new trends and innovations in the field of engineering; researches emerging products and enhancements and their applicability to OC San needs.
- Ensures safety and health procedures and precautions are adhered to, corrects unsafe work conditions/practices, and/or reports unsafe work conditions/practices to assigned supervisory or managerial staff.
- Performs duties as assigned.

## **QUALIFICATIONS**

### **Knowledge of:**

- Applicable federal, state, and local laws, codes, and ordinances relevant to area(s) of responsibility.
- Principles and practices of civil, electrical, mechanical, chemical, environmental, structural, or control systems engineering.
- Operations of wastewater management systems and flow regimes.
- Principles of air dispersion, fate-transport, interceptor odor, and health risk analysis modeling.
- Basic principles and techniques of project management, contract negotiation, and/or contract administration.
- Computer-aided drafting (CAD) concepts and applications and Geographic Information Systems (GIS) programs.
- Principles and applications of critical thinking and analysis.
- Principles of advanced mathematics and their application to engineering work.
- Methods and techniques of effective technical report preparation and presentation.
- The structure and content of the English language, including the meaning and spelling of words, rules of composition, and grammar.
- Current equipment and communication tools used for business functions and program, project, and task coordination, including computers and software programs relevant to work performed.

### **Ability to:**

- Conduct engineering research projects, analyze problems, evaluate alternatives, make sound recommendations, and prepare technical staff reports.
- Prepare, understand, and interpret engineering construction plans, technical drawings, specifications, and other contract documents.
- Assist in or be responsible for developing and administering contracts for professional services and construction in a public agency setting.
- Recognize discrepancies from as-built to contract specifications and recommend reconciliation.
- Recognize and properly deal with hazardous materials/environments.
- Run various air dispersion, fate-transport, interceptor odor, and health risk analysis models.
- Apply critical thinking and analysis to a broad range of situations and in making decisions and problem solving.
- Prepare and present clear, concise, and logical written and oral reports, correspondence, policies, procedures, legal descriptions, and other written materials.
- Establish and maintain a variety of filing, record keeping, and tracking systems.
- Understand, interpret, and apply all pertinent laws, codes, regulations, policies and procedures, and standards relevant to work performed.
- Perform mathematical and engineering computations with precision.
- Effectively represent the department and OC San in meetings with governmental agencies, community groups, various business, professional, regulatory organizations, and in meetings with individuals.
- Operate a motor vehicle and travel to various OC San sites, projects and/or meetings.
- Organize own work, set priorities, and meet critical time deadlines.
- Comply with safe work practices and procedures in the workplace.
- Provide a high level of customer service by effectively dealing with the public, vendors, contractors, and OC San staff.
- Effectively use computer systems, software applications relevant to work performed and modern business equipment to perform a variety of work tasks.
- Communicate clearly and concisely, both orally and in writing, using appropriate English grammar and syntax.
- Establish, maintain, and foster positive and effective working relationships with those contacted in the course of work.

**Employment Standards:**

Any combination of education and experience that provides the required knowledge, skills, and abilities may be qualifying as determined by OC San.

1. Bachelor's degree from a college or university accredited by the U.S. Department of Education, with major coursework in civil, mechanical, chemical, electrical, or environmental engineering, or a related field.
2. Two (2) years of increasingly responsible engineering experience.

**Licenses and/or Certifications:**

- Must possess a valid California Class C Driver's License.

**Disaster Service Workers:**

All Orange County Sanitation District employees are designated Disaster Service Workers through state law (California Government Code Section 3100-3109). Employment with the Orange County Sanitation District requires the affirmation of a loyalty oath to this effect. Employees are required to complete all related training as assigned, and to return to work as ordered in the event of an emergency.

**PHYSICAL DEMANDS**

- Mobility to work in a standard office setting and use standard office equipment, including a computer; to operate a motor vehicle and visit various OC San sites, projects, and/or meetings; primarily a sedentary office classification although standing in work areas and walking between work areas may be required; occasionally bend, stoop, kneel, reach, push, and pull drawers open and closed to retrieve and file information; ability to lift, carry, push, and pull materials and objects up to 35 pounds.
- Mobility to work in changing site conditions; to sit, stand, and walk on level, uneven, or slippery surfaces; to reach, twist, turn, kneel, and bend, to climb and descend ladders.
- May be required to perform some light physical work; lift, carry, push, and pull materials and objects averaging a weight of 51 pounds, or heavier weights, in all cases with the use of proper equipment and/or assistance from other staff.
- Vision to read printed materials and a computer screen.
- Vision to inspect site conditions and work in progress.
- Hearing and speech to communicate in person and over the telephone.
- Finger dexterity to access, enter, and retrieve data using a computer keyboard or calculator and to operate standard office equipment.
- Frequent walking in operational areas to identify problems or hazards.

**ENVIRONMENTAL ELEMENTS**

- Office environment with moderate noise levels, controlled temperature conditions, and no direct exposure to hazardous physical substances.
- Field work with exposure to loud noise levels, cold and hot temperatures, inclement weather conditions, road hazards, vibration, chemicals, mechanical and/or electrical hazards, hazardous physical substances and fumes, dust, and air contaminants.
- Employees may interact with upset staff and/or public and private representatives in interpreting and enforcing departmental policies and procedures.

**OTHER REQUIREMENTS**

- Probationary Period: All OC San employees, except classifications considered “at-will”, are subject to the probationary period provisions as specified in the applicable Memorandum of Understanding, policies, and/or resolutions. Employees who have not yet successfully completed their initial probationary period serve “at-will” and may be released from employment without cause or recourse to any appeal or grievance procedures.
- Pre-Employment: All employment offers are contingent upon successful completion of OC San’s pre-employment process, which includes a background investigation, a physical examination, and a drug screen.
- Work Location Assignment: Employees will be assigned to a work location based on business needs which may be located at any/all of OC San locations; this work location may be changed at any time.