DECEMBER 2018
FLSA: EXEMPT

ASSISTANT 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 direct supervision or direction, performs a variety of engineering assignments for assigned projects including reviewing drawings and designs, permit renewal and review, compliance review and investigation, compliance document preparation, database system management, treatment process performance and optimization including collections and treatment facilities, and technical assistance to staff; and performs related work as required.

SUPERVISION RECEIVED AND EXERCISED

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

CLASS CHARACTERISTICS

This classification is the first of five (5) levels within the professional engineering job series with limited responsibilities within the District's engineering function. Incumbents with limited engineering experience perform professional and technical engineering work in a variety of District functions such as technical support, assist with design and analysis, permit administration, compliance, treatment process performance and optimization including collections and treatment facilities and enforcement. Positions at this level are not expected to function with the same amount of program knowledge or skill level as positions allocated to the Associate Engineer level, and the exercise of independent discretion and judgment is less in matters related to work procedures and methods. As experience is gained, assignments become more varied and are performed with greater independence. The Assistant Engineer is distinguished from the Associate Engineer in that the latter requires prior professional engineering experience.

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.

- Assists in the evaluation of a variety of engineering drawings, systems, and processes for the improvement of wastewater treatment facilities; participates in project design and prepares engineering plans.
- Ensures established safety precautions are adhered to, corrects unsafe work conditions/practices, and/or reports unsafe work conditions/practices to assigned supervisory or managerial staff.
- Performs inspection, diagnosis, and development of corrective action plans to plant and sewer system operation and maintenance upgrades and problems.
- Assists in the review of wastewater facility plans and specifications and provides input on functional aspects of proposed facilities.

- Assists in coordinating and/or evaluating the bid and proposal process; prepares purchase recommendations for moderately complex wastewater treatment facility and collection system improvement projects and equipment.
- Tracks the District's conformity to regulatory requirements for permit compliance; reviews wastewater treatment processes and removal efficiencies and discharge data of treatment facilities.
- Tracks past chemical and utility usage to calculate current and estimated future fiscal year usage for the preparation of budgets and reports.
- Assists with the analysis and performs optimization studies of various chemicals, unit processes, odor control, and utilities throughout the treatment plant; prepares and reviews chemical specifications.
- Performs and reviews preliminary hydraulic calculations of sludge and solids.
- Prepares memos and reports regarding wastewater treatment/conveyance facilities and conducts inspections of wastewater treatment facilities and construction sites.
- Assists in the start-up of moderately complex unit processes.
- Monitors remote chemical dosing sites and the effectiveness of caustic slug dosing.
- Participates in reliability maintenance programs.
- Reviews vibration, infrared, and tribology technical data in providing input on suggestions and recommendations.
- Assists with air dispersion, fate-transport, interceptor odor, and health risk assessment modeling using several computer software programs in order to assess air emissions from the wastewater treatment plants and collection systems and their impact to the surrounding communities; coordinates upgrades, maintenance, and troubleshooting of software as necessary.
- Assists project manager with air quality projects that may include coordinating the preparation of the scope of services; selection of consulting engineers; establishing schedules and/or performance criteria; monitoring performance and budget; and preparation of reports.
- Assists with the design, review, and/or evaluation of plans for air quality control equipment; participates in the development and management of air quality database systems to achieve air quality compliance requirements; performs research for air pollution control and implementation, and development of emission modeling systems and testing programs.
- Assists in or performs the development of conformity documents for District facilities; assists in the development of air quality policies; tracks, analyzes, and seeks ways to potentially influence new legislative and regulatory developments related to air quality compliance.
- Participates in the renewal of industrial wastewater discharge permits to industrial facilities; evaluates permit applications and design drawings of industrial waste management practices; prepares for final review of permits and permit requirements; tracks compliance.
- Implements permittees' industrial sampling and monitoring programs; evaluates sampling and monitoring data to determine compliance.
- Assists in enforcement programs to return industries to compliance; evaluates industry compliance histories; participates in search warrants; performs evaluations of the permittee's corrective response plans and waste management proposals; prepares and finalizes correspondence; tracks compliance.
- Conducts technical facility inspections and compliance audits to assess and verify permit application information and design drawings, assesses the cause of violations, and conducts pollution prevention assessments.
- Interacts with industrial permittees, other regulatory agencies, and the public in person, by telephone, and in writing by responding to requests regarding regulatory, permit and enforcement issues; assists in resolving issues regarding flow-base, category, sampling, meters and production-based limits.
- Assists in the preparation of, or prepares, compliance agreements, administrative orders, administrative complaints, staff reports, and administrative fees/penalties.
- Investigates and prepares recommendations regarding new technologies.
- Writes reports for the EPA, RWQCB and other regulatory agencies.
- Assists with project management functions for various construction projects; ensures compliance with contract documents and regulatory permits; assists in monitoring the project schedule; ensures compliance with specifications.

- Prepares designs and specifications; performs constructability reviews on project designs; participates in construction management functions to ensure projects are constructed in accordance with contract documents, permits, and applicable building codes.
- Assists in design and construction activities to minimize impact to plant facilities and the public.
- Supports design and construction engineering services on engineering projects, systems, and processes, the design of engineering plans, startup and commissioning support services.
- Monitors consultant designs for compliance with Engineering Standards, safety and regulatory requirements, design quality expectations, and stakeholder needs.
- Assists in the development of or develops the scope of work for new wastewater treatment facility projects and reviews consultant proposals to ensure that drawings and detailed specifications are prepared according to project requirements.
- Assists in preparation of engineering and construction budgets and requests for proposals.
- Provides technical assistance to engineering aides during the shop drawing submittal process.
- Processes easements, grant deeds, agreements, and permits during the preparation of contract bid documents for the construction of wastewater treatment facilities.
- Performs utility searches and resolves moderately complex utility location conflicts during the construction of facilities.
- Conducts power system studies of the electrical equipment to determine how modifications affect the systems and future growth.
- Prepares memorandums and reports regarding wastewater treatment facilities management and conducts inspections of wastewater treatment facilities and construction sites.
- 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 District needs.
- Performs related duties as assigned.

QUALIFICATIONS

Knowledge of:

- Principles, practices, policies, and procedures of engineering, mathematics, and environmental science.
- 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 administration.
- Basic principles and applications of critical thinking and analysis.
- Applicable Federal, State, and local laws, regulatory codes, ordinances, and procedures relevant to assigned area of responsibility.
- Modern office practices and technology, including personal computer hardware and software applications related to the work, such as computer-aided drafting (CAD) concepts and applications and Geographic Information Systems (GIS) programs.
- Modern developments, current literature, and sources of information regarding engineering.
- Principles of mathematics and their application to engineering work.
- Practices of researching engineering and design issues, evaluating alternatives, making sound recommendations, and preparing and presenting effective staff reports.
- Methods and techniques of effective technical report preparation and presentation.
- English usage, grammar, spelling, vocabulary, and punctuation.
- Principles and practices of customer service and techniques for effectively communicating with the public, vendors, contractors, and District staff.

Ability to:

- Perform work of a specialized nature and develop the ability to use independent judgment and personal initiative.

- Conduct routine 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.
- Conduct routine engineering studies and prepare reports with recommendations.
- Assist in developing and administering contracts for professional services and construction in a public agency setting.
- Apply critical thinking and analysis in completing assignments.
- Recognize discrepancies from as-built to contract specifications and recommend reconciliation.
- Interpret, apply, explain, and ensure compliance with Federal, State, and local policies, procedures, laws, rules, and regulations.
- Perform mathematical and engineering computations with precision.
- Recognize and properly deal with hazardous materials/environments.
- Run various air dispersion, fate-transport, interceptor odor, and health risk analysis models.
- Represent the department in meetings with governmental agencies, community groups, various businesses, professional, and regulatory organizations and individuals.
- 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.
- Maintain confidentiality in maintaining critical and sensitive information, records, and reports.
- Make sound, independent decisions within established policy and procedural guidelines.
- Organize and prioritize a variety of projects and multiple tasks in an effective and timely manner; organize own work, set priorities, and meet critical time deadlines.
- Utilize a computer, relevant software applications and/or other equipment.
- Operate a motor vehicle and travel to various District sites, project and/or meetings.
- Effectively communicate in person, over the telephone, and in writing.
- Adhere to safe work practices and procedures in the workplace.
- Use tact, initiative, prudence, and independent judgment within general policy and legal guidelines.
- 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 OCSD.

1. Bachelor's degree from a college or university accredited by the U.S. Department of Education, with major coursework in engineering, or a related field.

Licenses and/or Certifications:
- 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

Must possess mobility to work in a standard office setting and use standard office equipment, including a computer, to inspect District development sites, including traversing uneven terrain, climbing ladders, stairs, and other temporary or construction access points; ability to travel to various District sites, projects and/or meetings; vision to read printed materials and a computer screen; and hearing and speech to communicate in person, before groups, and over the telephone. This is primarily a sedentary office classification although standing in and walking between work areas and to conduct inspections may be required. Finger dexterity is needed to access, enter, and retrieve data using a computer keyboard or calculator and to operate standard office equipment. Positions in this classification occasionally bend, stoop, kneel, reach, push, and pull drawers open and closed to retrieve and file information. Employees must possess the ability to lift, carry, push, and pull materials and objects weighing up to 10 pounds.

ENVIRONMENTAL ELEMENTS

Employees work in an office environment with moderate noise levels, controlled temperature conditions, and no direct exposure to hazardous physical substances. Employees may work in the field and occasionally be exposed to loud noise levels, cold and hot temperatures, inclement weather conditions, road hazards, vibration, mechanical and/or electrical hazards, and hazardous physical substances and fumes. Employees may interact with upset staff and/or public and private representatives in interpreting and enforcing departmental policies and procedures.