



FEBRUARY 2022
FLSA: EXEMPT

ASSOCIATE ENGINEER

DEFINITION

Under general supervision, performs professional, diverse, and complex engineering assignments associated with the planning, design, and construction of capital infrastructure improvement, maintenance, and construction projects; works with developers, contractors, and representatives of other agencies regarding facility and infrastructure development and project review; assists in administering professional services and construction contracts; updates District standard drawings and specifications; prepares compliance and permitting documents; assists in development and maintenance of engineering and Geographical based Information Systems (GIS) data and databases; and performs related work as required.

SUPERVISION RECEIVED AND EXERCISED

Receives general supervision from the Director of Engineering, Operations, and Maintenance. No direct supervision is exercised. May provide technical and functional direction to technical support staff.

CLASS CHARACTERISTICS

This journey-level class is responsible for the entire spectrum of the District's engineering function, including project management. The incumbent performs complex professional engineering work in the research, planning, hydraulic modeling, design, and construction of water capital infrastructure, improvement, maintenance, and construction projects; prepares and develops in-house project design work; develops complex designs, project budgets, engineer's estimates, construction schedules, technical specifications, and special conditions as well as engineering reports, plans, and studies; assists in the maintenance of engineering and GIS data and databases and performs related duties as assigned.

EXAMPLES OF TYPICAL JOB FUNCTIONS (Illustrative Only)

Management reserves the right to add, modify, change, or rescind the work assignments of different positions and to make reasonable accommodations so that qualified employees can perform the essential functions of the job.

- Prepares and develops in-house pipeline design work; develops complex designs, engineer's estimates, technical specifications, and special conditions.
- Coordinates engineering design projects with other departments and agencies; reviews and analyzes construction projects planned by other agencies for potential impact on District operations; identifies and resolves problems in compatibility between other agency systems and the District's system; coordinates with consultants, other agencies, and developers to communicate District policies and requirements for project initiation and development.
- Reviews, responds, and/or prepares a variety of technical and administrative documents including engineering reports, design plans, and specifications for consultants and contractors and responds to questions; provides recommendations to improve, add, revise, or otherwise implement solutions to existing or proposed facilities; documents information required by consultants and holds evaluation meetings to discuss project-specific concerns or issues that need to be addressed;

participates in creating/revising District standards and guidelines for the design and construction and maintenance of District facilities.

- Performs project engineer tasks on various capital improvement, maintenance, and development projects and/or planning studies; serves as point of contact among project stakeholders including District staff, consultants, contractors, and external agencies; establishes project scope of work ; coordinates and conducts project meetings and presentations; responds to requests for information; reviews proposed change orders; requests necessary permits; ensures compliance with regulatory requirements and interagency agreements; discusses status of projects and solutions with supervisor and other higher-level staff; evaluates and recommends solutions to project/engineering problems.
- Utilizes District hydraulic models to simulate and analyze the water systems and hydraulic/hydrologic or various types of engineering calculations such as simple structural design and water pressure.
- Develops and uses simulation models and tools to evaluate alternative facilities, recommend capital improvement projects, identify water supply strategies, and evaluate the impact of new regulatory proposals and requirements, interagency agreements, and administrative policies.
- Performs a variety of complex civil engineering designs and calculations including, but not limited to, pipeline capacities, structural capacities, hydraulic pressure, pipe and open channel flows, groundwater flows, and related topics in support of projects and technical studies.
- Prepares Requests for Proposal (RFPs); prepares project-related documents; prepares project status, schedule, and budget updates; assists in establishing selection criteria; reviews proposals based on technical merit and cost and provides recommendations; assists in contract negotiations; reviews contract documents and agreements and provides feedback/comments.
- Performs research and data gathering of technical datasets, historic information, and current projects to provide technical support and fulfill reporting requirements in response to requests from internal and external groups.
- Provides supervision and management over consultants; approves invoices; provides review comments and discusses project scope; conducts meetings to seek comments and feedback from project stakeholders; assesses equipment and materials; reviews material submittals and shop drawings to ensure conformance with project-specific requirements during construction.
- Provides engineering assistance during construction; monitors construction progress and performs on-site investigations; reviews and provides engineering support for contractor requests for clarification and/or construction change orders; attends construction progress meetings; coordinates and/or conducts start-up and performance testing for project facilities.
- Prepares letter correspondence, Board letters, and related documents or exhibits; prepares presentations and graphic displays for project stakeholders.
- Works with key District personnel to develop and administratively support the District's safety program to include emergency management and disaster preparedness programs.
- Performs other duties as assigned.

QUALIFICATIONS

Knowledge of:

- Principles and practices of the design, construction, installation, maintenance, operation, and inspection of a large water production and distribution system.
- Civil engineering principles, concepts, standards, and practices associated with water systems and water science engineering.
- Hydraulic system analysis applicable to civil engineering including hydraulic calculations.

- Basic principles and practices of capital improvement program budgeting, cost estimation, funding, scheduling, and contract administration.
- Construction management principles and practices, including the strengths of material, properties, and uses of construction materials.
- Applicable federal, state, and local laws, codes, regulations, and procedures.
- Modern office practices and technology, including personal computer hardware and software, such as computer applications related to the work, including AutoCad Civil applications.
- Geographical based Information Systems (GIS) programs.
- Methods and techniques for writing and presentations, contract negotiations, business correspondence and information distribution; research and reporting methods, techniques, and procedures.
- Principles and procedures of record keeping, technical report writing, and preparation of correspondence and presentations.
- English usage, grammar, spelling, vocabulary, and punctuation.
- Techniques for effectively representing the District in contacts with governmental agencies, community groups, and various business, professional, educational, and regulatory organizations.
- Techniques for providing a high level of customer service by effectively dealing with the public, vendors, contractors, and District staff.
- Responsibilities of a Disaster Service Worker.

Ability to:

- Prepare, understand, and interpret basic to routine engineering construction plans, specifications, and other contract documents.
- Assist in developing and administering contracts for professional services and construction in a public agency setting.
- Learn, interpret, apply, and explain technical written material and laws, codes, regulations, ordinances, and District engineering policies and procedures.
- Perform pipeline design and planning using a variety of techniques.
- Perform mathematical and basic engineering computations with precision.
- Make and record accurate field engineering observations.
- Prepare and present clear, concise, and logical written and oral reports, correspondence, and other written materials.
- Work with the public in providing information, answer questions, and provide customer service.
- 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.
- Interpret, apply, explain, and ensure compliance with applicable federal, state, and local policies, procedures, laws, and regulations.
- Effectively administer special projects with contractual agreements and ensure compliance with stipulations and a variety of District programs and administrative activities.
- Conduct effective negotiations and effectively represent the District and the department in meetings with governmental agencies, contractors, vendors, and various businesses, professional, regulatory, and legislative organizations, and in meetings with individuals.
- Prepare clear and concise reports, correspondence, policies, procedures, and other written materials.
- Conduct complex research projects, evaluate alternatives, make sound recommendations, and prepare effective technical staff reports.

- Use tact, initiative, prudence, and independent judgment within general policy, procedural, and legal guidelines.
- Establish, maintain, and foster positive and effective working relationships with those contacted in the course of work.

Education and Experience:

Any combination of training and experience that would provide the required knowledge, skills, and abilities is qualifying. A typical way to obtain the required qualifications would be

A Bachelor's degree from an accredited four-year college or university with major coursework in civil engineering, or a related field, and four (4) years of increasingly responsible experience providing professional support to an engineering program.

Licenses and Certifications:

- Possession of a valid California Driver's License and a satisfactory driving record.
- Possession of an Engineer-In-Training (EIT) Certification.

PHYSICAL DEMANDS

Must possess mobility to work in a standard office setting and use standard office equipment, including a computer; to operate a motor vehicle, and to visit various District and meeting sites; to inspect various District infrastructure, development, field operations, and work sites, including the ability to climb ladders and stairs; 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 work areas and walking between work areas may be required. Finger dexterity is needed to access, enter, and retrieve data using a computer keyboard, typewriter 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 25 pounds.

ENVIRONMENTAL ELEMENTS

Employees work in an office environment with moderate noise levels and controlled temperature conditions, although there may be occasional exposure to inclement weather conditions, noise, dust, and potentially hazardous materials. Employees may interact with upset staff and/or public and private representatives in interpreting and enforcing departmental policies and procedures.