Job Description

Please note this job description is not designed to cover or contain a comprehensive listing of activities, duties, or responsibilities that are required of the employee for this job.

Job title	Associate Engineer I/II

GENERAL PURPOSE

Under direction (Associate Engineer I) to general direction (Associate Engineer II), performs complex professional engineering work in the research, planning, hydraulic modeling, design and construction of water, wastewater, and recycled 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; and performs related duties as assigned.

DISTINGUISHING CHARACTERISTICS

Associate Engineer I: This is the first working level within the professional registered engineering series. Positions at this level usually perform most of the duties required of the positions at the Associate Engineer II level but are not expected to function at the same skill level and usually exercise less independent discretion and judgment in matters related to work procedures and methods. Positions at this level receive only occasional instruction or assistance as new or unusual situations arise and are fully aware of the operating procedures and policies of the work unit.

Associate Engineer II: This is the fully qualified journey-level classification in the professional registered engineering series. Positions at this level are distinguished from the Associate Engineer I level by the performance of the full range of duties as assigned, working independently, and exercising judgment and initiative. Incumbents regularly work on tasks which are varied and complex, requiring considerable discretion and independent judgment. Positions in the classification rely on experience and judgment to perform assigned duties. Assignments are given with general guidelines and incumbents are responsible for establishing objectives, timelines, and methods to complete assignments. Work is typically reviewed upon completion for soundness, appropriateness, and conformity to policy and requirements.

This class is distinguished from the Senior Engineer in that the latter performs the more complex work assigned to the series, such as ongoing project management responsibilities and/or providing technical and functional direction over lower-level staff and consultants.

SUPERVISION RECEIVED AND EXERCISED

Receives direction (Associate Engineer I) to general direction (Associate Engineer II) from assigned supervisory or management personnel. Exercises no direct supervision over staff; may provide functional or technical direction to lower-level personnel.

TYPICAL DUTIES AND RESPONSIBILITIES

The duties listed below are intended only as illustrations of the various types of work that may be performed. The omission of specific statements of duties does not exclude them from the position if the work is similar, related or a logical assignment to this position.

Positions at the Associate Engineer I level may perform some of these duties and responsibilities in a learning capacity.

- Prepares and develops in-house project design work; develops complex designs, engineer's estimates, construction schedules, technical specifications, and special conditions.
- Prepares letter correspondence, Board letters and related documents or exhibits; prepares presentations and graphic displays for project stakeholders.
- Coordinates engineering design projects with other departments and agencies; reviews and analyzes construction projects planned by other agencies for potential impact on District operations; confers with personnel from other departments and agencies regarding current and proposed construction projects; identifies and resolves problems in compatibility between other agency systems and the Districts 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; performs field verifications and refinements of design and project scope; 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 including schedules and cost estimates;

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 senior engineers or higher-level staff; evaluates and recommends solutions to project/engineering problems.

- Utilizes District hydraulic models to simulate and analyze the water, wastewater, and recycled water systems, and hydraulic/hydrologic or various types of engineering calculations such as simple structural design, water pressure, sewer capacity, mass balance, material take-offs, water resources, basic electricity, elementary survey, and other pertinent models.
- 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 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; coordinates progress meetings and workshops; conducts project workshops and 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.

- Provides regular project updates to internal stakeholders and executive staff regarding the planning, preliminary design, final design, and construction of complex or politically sensitive capital and development projects.
- Assigns routine research, design, hydraulic modeling, and drafting tasks to technical subordinates; reviews submittals/shop drawings; assists in the solution of difficult problems; review plans for adherence to District standards; answers contractors' requests for information.
- Performs technical research, project forensics, as-built and archival information research to provide information required by consultants for project completion; performs field investigation and inspection to identify operation problems, verify facility/equipment field conditions, and to address maintenance issues and/or equipment replacements or upgrades.
- Provides technical support in answering design questions for walk-in customers, phone calls, emails, and other District departments and staff.
- Prepares CIP and OFA project budgets, including annual spending forecasts.
- Observes and complies with all District and mandated safety rules, regulations, and protocols.
- Performs related duties as assigned.

REQUIRED QUALIFICATIONS

Positions at the Associate Engineer I level may exercise some of the knowledge and abilities statements in a learning capacity.

Knowledge of:

- Theory, principles, and practices of engineering design and construction.
- Principles and modern techniques and equipment used in the design, construction, and maintenance of water, wastewater, and recycled water utilities projects.
- Hydraulic system analysis applicable to engineering including hydraulic calculations.
- Civil, mechanical, electrical, chemical, structural, and instrumentation design concepts and principles specific to water, wastewater, and recycled water facilities.
- Physical design, economic, environmental, and/or social concepts which impact the planning design, procurement, and construction processes.
- Application of land use (development patterns and processes) concepts and implementation of zoning and other municipal ordinances.
- Public utility governance, oversight, regulations, and land development and zoning requirements.
- Methods used in developing information for Master Plan modifications.
- Land surveying principles.
- Principles and practices of project management including the management of resources and budgets.

- Objectives, principles, procedures, standards, practices, and information sources of public works facilities planning.
- Construction management principles and practices, including the strengths of material, properties, and uses of construction materials.
- Concepts of physics as they relate to engineering.
- Advanced mathematical principles.
- Federal, state, and local laws, codes, and regulations in assigned areas of responsibility.
- Principles and practices of technical report and business correspondence preparation.
- Research principles and practices.
- District and mandated safety rules, regulations, and protocols.
- Techniques for providing a high level of customer service by effectively dealing with the public, vendors, contractors, and District staff.
- The structure and content of the English language, including the meaning and spelling of words, rules of composition, and grammar.
- Modern 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:

- Prepare and present engineering calculations, data analysis, modeling, and other complex engineering plans, specifications, and legal contracts.
- Prepare and evaluate engineering studies of large projects; research, analyze, and summarize data; perform accurate engineering calculations and cost estimates.
- Interpret and explain design criteria, policies, ordinances, and procedures.
- Review and assess studies or reports prepared by consultants and utilize information for project completion.
- Evaluate potential construction and operational risks, materials and project costs, and provide recommendations for mitigation measures.
- Serve as project manager as assigned.
- Prepare clear, concise, and accurate technical reports, drawings, maps, notes, correspondence, and other written materials.
- Understand and apply those aspects of federal, state, and local laws, regulations, policies, procedures, and standards pertaining to assigned areas of responsibilities.
- Research and analyze complex engineering and mathematical problems, evaluate alternatives, and recommend effective courses of action.
- Independently organize work, set priorities, meet critical deadlines, and follow-up on assignments.
- Use tact, initiative, prudence, and independent judgment within general policy, procedural, and legal guidelines.

- 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.

Experience:

Any combination of experience and education that provides the required knowledge and abilities is qualifying, along with the specific licenses/certifications as outlined below:

- Associate Engineer I: Four (4) years of progressively responsible experience providing professional support to an engineering program, preferably in a public utility environment; or two (2) years of experience as a registered engineer at the Assistant Engineer level with the District.

- Associate Engineer II: Seven (7) years of progressively responsible experience providing professional support to an engineering program, preferably in a public utility environment; or three (3) years of experience as a registered engineer at the Associate Engineer I level with the District.

Education:

- Associate Engineer I/II: Equivalent to a bachelor's degree from an accredited college or university with major coursework in civil, chemical, mechanical, structural, electrical engineering or related engineering discipline.

Licenses/Certifications:

- A valid license as a Professional Engineer in Civil, Chemical, Mechanical, Structural, or Electrical Engineering issued by the State of California.

- A valid California driver's license and the ability to maintain insurability under the District's Vehicle Insurance Policy.

PHYSICAL DEMANDS

The physical demands described here are representative of those that must be met by employees to successfully perform the essential functions of this class. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

When assigned to an office environment, must possess mobility to work in a standard office setting and use standard office equipment, including a computer; to operate a

motor vehicle and visit various District sites; vision to read printed materials and a computer screen; and hearing and speech to communicate in person and over the telephone; ability to stand and walk between work areas 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 up to 25 pounds.

When assigned to field inspection, must possess mobility to work in changing site conditions; possess the strength, stamina, and mobility to perform light to medium physical work; to operate a motor vehicle and visit various District sites; to sit, stand, and walk on level, uneven, or slippery surfaces; to reach, twist, turn, kneel, and bend; vision to inspect site conditions and work in progress. The job involves fieldwork requiring frequent walking in operational areas to identify problems or hazards, with exposure to hazardous materials in some site locations.

WORK ENVIRONMENT

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this class. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

Employees work in an office environment with moderate noise levels, controlled temperature conditions, and no direct exposure to hazardous physical substances. Employees also work in the field and are exposed to loud noise levels, cold and hot temperatures, inclement weather conditions, road hazards, vibration, chemicals, 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.

FLEX REQUIREMENTS

Positions in the Associate Engineer class series are flexibly staffed; positions at the Associate Engineer II level are normally filled by advancement from the Associate Engineer I level; progression to the Associate Engineer II level is dependent on (i) management affirmation that the position is performing the full range of duties assigned to the classification; (ii) satisfactory work performance; (iii) the incumbent meeting the minimum qualifications for the classification including any licenses and certifications; and (iv) management approval for progression to the Associate Engineer II level.

This job description has been reviewed and approved by all levels of management in cooperation with the union (if applicable):

Approved by:	*Board of Directors*
Date adopted:	*March 29, 2020*
Date modified:	*April 20, 2023*
FLSA determination:	*Exempt*

Job Description Acknowledgment

I have received, reviewed, and fully understand the job description for Associate Engineer I/II. I further understand that I am responsible for the satisfactory execution of the essential functions described therein, under any and all conditions as described.

Employee Name (print): _____ *Date:* _____

Employee Number: _____

Employee Signature: _____