



## 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.*

<b>Job title</b>	Engineering Geologist I/II
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### GENERAL PURPOSE

Under direction (Engineering Geologist I) to general direction (Engineering Geologist II), performs professional engineering geology and hydrogeology-related work to support groundwater related projects and programs; performs complex professional technical work in the research, planning, modeling, design and construction of major production and monitoring wells, conjunctive use / managed aquifer recharge, and contaminant mitigation projects; develops complex designs, project budgets, engineer's estimates, construction schedules, technical specifications, and special conditions as well as engineering reports, plans, and studies; development of groundwater management plans and programs; and performs related duties as assigned.

### DISTINGUISHING CHARACTERISTICS

Engineering Geologist I: This is the first working level within the professional engineering geologist series. Positions at this level usually perform most of the duties required of the positions at the Engineering Geologist 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.

Engineering Geologist II: This is the fully qualified journey-level classification in the professional engineering geologist series. Positions at this level are distinguished from the Engineering Geologist 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.

### SUPERVISION RECEIVED AND EXERCISED

Receives direction (Engineer Geologist I) to general direction (Engineer Geologist 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 Engineering Geologist I level may perform some of these duties and responsibilities in a learning capacity.*

- Performs engineering geology assignments in support of the planning, design, construction, operation, and maintenance of the District's facilities and systems including, but not limited to, conducting engineering geologic studies, investigations, and analyses and preparing and reviewing reports; assists in providing review of geological studies of critical facilities performed by consultants; manages engineering geologic projects; and performs a variety of tasks relative to assigned area of responsibility.
- Administers the design and preparation of major production- and monitoring-well construction projects;
- Updates and maintains the District's groundwater basin model; completes model simulations and evaluates simulation results, conducts water resources planning and evaluations, and assists with development and implementation of groundwater production and recharge-operations plans.
- Reviews construction documents; prepares cost estimates; establishes the scope, schedule, and budget for assigned projects; negotiates and manages consultant contracts; reviews drawings and specifications for compliance with District standards; interprets specifications and District policies and initiates or reviews change orders; prepares periodic project-status reports and tracks, evaluates, and reports on design project progress to department management.
- Coordinates groundwater development planning and management activities with other departments and outside agencies; assesses and evaluates alternative water-supply options for the District and determines effective courses of action; performs complex engineering calculations and designs.
- Monitors, coordinates, evaluates, modifies, and provides quality assurance to the preparation of pressure-zone plans, groundwater-management plans, and District Master Plans; plans and manages water-supply enhancement projects including evaluation of groundwater extraction/recharge requirements, alternatives, costs, and potential impacts.
- Prepares specifications for construction and equipping of production, monitoring, and exploratory wells; completes final designs and monitors well construction and equipping; designs, conducts, and evaluates well performance and aquifer tests; conducts well interference and impact evaluations.

- Assists with the completion of inter-departmental assessments of basin water resources and groundwater supply and operations alternatives including configuration and evaluation of numerical model runs to assess historic and planned well and recharge operations.
- Revises design and construction standards to improve methods, procedures, and practices; prepares correspondence on technical geologic and hydrogeologic issues; makes authoritative interpretations of applicable laws, regulations, policies, and design standards.
- Oversees the geologic/hydrogeologic interpretations and uses of data by the District, and regional, state, and federal agencies; interfacing with technical and management staff and a diverse range of external agencies and organizations; assists in the development and implementation of engineering geology and hydrogeology standards and priorities.
- Prepares grant-funding proposals and project management; providing project definition, directing work, scheduling, administering grants, reporting, invoicing, and performing inspections.
- Manages and administers the groundwater management plans; oversees and prepares comprehensive annual reports; provides technical and policy-oriented support to the Watermaster and Advisory Committee; oversees and administers the Monitoring Programs for the groundwater management plans.
- Establishes and maintains the District's water rights; files appropriate reports and forms with the State of California; prepares invoicing and payments for water-rights fees; researches, assembles, integrates, and analyzes information pertaining to private and public water rights.
- Perform highly complex water resource management, water quality, and environmental analyses using computer equipment, environmental, demographic and geographical databases, surveys, and maps.
- Performs related duties as assigned.

#### **REQUIRED QUALIFICATIONS**

*Positions at the Engineering Geologist I/II level may exercise some of the knowledge and abilities statements in a learning capacity.*

#### Knowledge of:

- Theory, principles, and practices of geology, hydrogeology, and general knowledge related to hydraulic, civil, structural, and geotechnical engineering.
- Principles and practices of water resources management and data modeling, including computer simulation modeling of complex groundwater systems.
- Modern methods and techniques used in the design and construction of production and monitoring wells and exploration methods such as exploratory borings and surface geophysics investigations.
- Well and aquifer hydraulics and testing and evaluation methods
- Analytical methods related to groundwater flow and contaminant transport

- Principles of hydrology, geology, and groundwater acquisition programs; California water law; water reclamation processes.
- Modern statistical techniques used in water resource planning and groundwater analysis.
- Principles and practices of project management.
- Principles and practices of project budget preparation and administration.
- Land use concepts and practices including surveying and right of way principles.
- Federal, state, and local laws, codes, and regulations in assigned areas of responsibility.
- 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:

- Conduct geological and geophysical exploration investigations.
- Conduct independent technical research.
- Analyze complex engineering and mathematical problems, evaluate alternatives, and recommend effective courses of action.
- Serve as project manager as assigned.
- Oversee and manage the work of project consultants.
- Prepare, administer, and monitor project budgets and schedules.
- Perform project management tasks for complex hydrogeologic and engineering projects, evaluate alternatives, make sound recommendations, and prepare effective technical reports.
- Prepare clear, concise, and accurate technical reports, drawings, maps, notes, correspondence, and other written materials.
- Negotiate various scopes of work and contracts including planning studies, and project design, construction, and maintenance contracts.
- Prepare and deliver presentations to management, stakeholders, governing boards, and the general public.
- Understand, interpret, and apply all pertinent laws, codes, regulations, policies, and procedures, and standards relevant to work performed.
- Effectively represent the department and the District in meetings with governmental agencies; community groups; various business, professional, and regulatory organizations; and in meetings with individuals.
- 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:*

- Engineering Geologist I: Four (4) years of progressively responsible experience providing professional geology, hydrogeology, and/or engineering geology support.
- Engineering Geologist II: Seven (7) years of progressively responsible experience providing professional geology, hydrogeology, and/or engineering geology support; or three (3) years of experience as a registered Professional Geologist at the Engineering Geologist I level with the District.

Education:

- Bachelor's degree from an accredited college or university with major coursework in geology, hydrogeology, engineering geology, civil engineering, or a related field; Master's degree desired.

Licenses/Certifications:

- Engineering Geologist II: A valid registration as a Professional Geologist and preferably certification as an Engineering Geologist or Hydrogeologist in 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; 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.

When assigned to field work, must possess mobility to work in changing site conditions; possess the strength, stamina, and mobility to perform light to medium physical work; to sit, stand, and walk on level, uneven, or slippery surfaces; to reach, twist, turn, kneel, and bend; and to operate a motor vehicle and visit various District sites; 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. Employees must possess the ability to lift, carry, push, and pull materials and objects averaging a weight of 40 pounds, or heavier weights, in all cases with the use of proper equipment and/or assistance from other staff.

#### **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, confining workspace, 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 Engineering Geologist I/II class series are flexibly staffed; positions at the Engineering Geologist II level are normally filled by advancement from the Engineering Geologist I level; progression to the Engineering Geologist 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 Engineering Geologist II level.

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

<b>Approved by:</b>	<i>Board of Directors</i>
<b>Date adopted:</b>	<i>TBD (March 15, 2023)</i>
<b>Date modified:</b>	
<b>FLSA determination:</b>	<i>Non-Exempt</i>

Eastern Municipal Water District  
Job Title: Engineering Geologist  
December 2022

**Job Description Acknowledgment**

*I have received, reviewed, and fully understand the job description for Engineering Geologist 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: \_\_\_\_\_