



THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

ASSISTANT ENGINEER I

Group-Section: Various	FLSA Status: Non-Exempt Bargaining Unit: AFSCME	Salary Grade: 43 Job #: YA24
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JOB SUMMARY

This is the entry level position performing Assistant Engineer I job duties.

DISTINGUISHING CHARACTERISTICS

Positions at this level learn to use professional concepts to resolve problems of limited scope and complexity; work on assignments that are routine in nature, requiring limited judgment and decision making. Specific and detailed guidelines covering all aspects of the assignment are provided; work is in strict adherence to the guidelines; deviations must be authorized. The work consists of tasks that are clear-cut and directly related.

OVERSIGHT

Supervision Received: For both one-of-a-kind and repetitive tasks the supervisor makes specific assignments that are accompanied by clear, detailed, and specific instructions. The employee works as instructed and consults with the supervisor as needed on all matters not specifically covered in the original instructions or guidelines. For all positions, the work is closely controlled. For some positions, the control is through the structured nature of the work itself; for others, it may be controlled by the circumstances in which it is performed. In some situations, the supervisor maintains control through review of the work, which may include checking progress or reviewing completed work for accuracy, adequacy, and adherence to instructions and established procedures.

Supervision Given: None

JOB DUTIES

GENERAL

1. Learns and assists with planning, coordinating, conducting and monitoring tests, studies, investigations.
2. Learns and assists to prepare technical documents, reports, and presentations.
3. Learns and assists with technical analyses.
4. Learns and assists to prepare cost estimates and budgets.
5. May execute mathematical, statistical, and other models.
6. Learns and assists with site inspections.
7. Learns and assists with maintaining official records, documents, and data.
8. May participate on a project team.
9. Performs other related Engineer job duties as required.

SUBSTRUCTURES

1. Learns to assess potential impacts to facilities from proposed projects.
2. Learns and assists with investigating facility issues.

HYDRAULICS

1. Learns and assists with the design and analysis of hydraulic facilities, structures, and conveyance and distributions systems; may utilize hydraulic modeling software.
2. Learns and assists with inundation studies for reservoirs and dams.
3. Learns and assist with preparation and review of hydraulic plans and profiles and emergency dewatering profiles of reservoirs, pipelines and treatment plants.
4. Learns and assists to conduct flow tests.

FACILITY PLANNING

1. Learns to plan and assists with conducting feasibility studies for treatment, distribution and conveyance facilities.
2. Learns to plan and assists with conducting facility vulnerability studies.

DESIGN

1. Learns and assists with preparation of engineering design criteria, calculations, plans, specifications, estimates and reports for water treatment, conveyance and distribution systems.
2. Learns and assists with performing investigations of existing facilities, structures, processes, and equipment to resolve performance, operation, or reliability issues.

INSPECTION

1. Learns and assists to inspect and verify contractor's work is in compliance with contract requirements.
2. Learns and assists in reviewing submittals, Requests For Information, preparing responses, and drafting Field Memorandums.
3. Learns and assists with reviewing contractor plans, procedures, schedules, and preparing independent cost estimates.
4. Learns and assists with factory acceptance testing, systems start-up, and coordinating warranty work.
5. Learns and assists with performing forensic investigations of construction deficiencies.

INFRASTRUCTURE

1. Learns and assists with conducting infrastructure reliability assessments for safety, code, and regulatory compliance.

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2. Learns and assists with designing and implementing measures to prevent failure or rehabilitate assets.
3. Learns and assists with testing and monitoring of instrumentation programs.
4. Learns and assists with performing forensic investigations of materials and metallurgy issues.

SCADA

1. Learns and assists with preparing Automatic Process Control and/or Programmable Logic Controller software design and operational documents.
2. Learns and assists with developing Automatic Process Control and/or Programmable Logic Controller program and simulation routines.
3. Learns and assists with providing SCADA system customer and infrastructure support.
4. Learns and assists with integration of SCADA hardware and software.

WATER RESOURCES

1. Learns and assists in implementing water resources programs and projects.
2. Learns and assists in administering water resource contracts.
3. Learns and assists in conducting feasibility studies for treatment, distribution and conveyance facilities.
4. Learns and assists in executing mathematical, statistical, hydraulic, and water resource models.

WATER QUALITY

1. Learns and assists to monitor, evaluate, and respond to water quality related legislative initiatives, regulatory issues and policies. Develops plans and procedures to address legislative and regulatory requirements.
2. Learns and assists to review and make recommendations on proposals, projects, and programs that may have an impact on water quality.
3. Learns and assists to develop and direct test plans for bench pilot and full scale water quality testing.
4. Learns and assists to analyze and interpret data to develop water treatment process design criteria.
5. Learns and assists to analyze and interpret data to optimize water quality performance and maintain compliance with drinking water quality regulations.
6. Learns and assists to analyze and interpret conditions that may adversely impact watershed and source water quality.
7. Learns and assists to review and analyze water quality data and assists in providing recommendations to ensure compliance with all drinking water quality regulations.

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OPERATIONS SUPPORT

1. Learns and assists to assess maintenance and testing methods and impacts on operations and maintenance to improve efficiency and reliability.
2. Learns and assists to implement, maintain, and learns to develop analytical tools for the analysis and solution of engineering problems.
3. Learns and assists to analyze equipment functions, evaluate potential failure modes and system impacts; learns to make recommendations.
4. Learns and assists in compliance with project and customer requirements.
5. Learns and assists with field engineering tests and activities in connection with maintenance, inspection, and operations.

ENVIRONMENTAL

1. Learns and assists in preparing environmental, health and safety plans for regulatory compliance.
2. Learns and assists in analyzing new and proposed regulations and legislation; learns and assists in the development of policies, procedures, and training materials.
3. Learns and assists in planning, coordinating and conducting environmental, health and safety audits; learns to develop mitigating or corrective actions.
4. Learns and assists in evaluating, applying for, modifying, and maintaining environmental permits; learns to negotiate permits.

EMPLOYMENT STANDARDS

MINIMUM QUALIFICATIONS

Education and Experience: Bachelor's degree from an accredited college or university in a related field by hired date.

General Required Knowledge of: Engineering principles and practices in specific discipline; and current office technology and equipment.

General Required Skills and Abilities to: Analyze and interpret data; organize; problem solve; prioritize and multi-task; communicate clearly and concisely, both verbally and in writing; establish and maintain effective working relationships with those contacted in the course of work; work independently and in a team environment; and operate current office equipment including computers and supporting applications.

CERTIFICATIONS, LICENSES, AND REGISTRATION REQUIREMENTS

Employees in this position may be required to obtain and maintain the following certifications, licensing and registrations:

Certificates

- None

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Licenses

- Valid California Class C Driver License that allows you to drive in the course of your employment

Registrations

- None

PHYSICAL DEMANDS, WORK ENVIRONMENT, AND VISION REQUIREMENTS

The physical demands and work environment characteristics described here are representative of those that must be met or may be encountered by an employee to successfully perform the job duties of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the job duties.

Physical Demands: The work requires some physical exertion such as long periods of standing; walking over rough, uneven, or rocky surfaces; recurring bending, crouching, stooping, stretching, reaching, or similar activities; recurring lifting of moderately heavy items such as personal computers and record boxes. The work may require specific, but common, physical characteristics and abilities such as above-average agility and dexterity.

Work Environment: The work involves moderate risks or discomforts that require special safety precautions, e.g., working around moving parts, carts, or machines, or irritant chemicals; etc. Employees may be required to use protective clothing or gear such as masks, gowns, coats, boots, goggles, gloves, or shields.

Vision Requirements: No special vision requirements

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