



THE METROPOLITAN WATER DISTRICT  
OF SOUTHERN CALIFORNIA

## ASSISTANT ENGINEER II

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| <b>Group-Section:</b> Various | <b>FLSA Status:</b> Non-Exempt<br><b>Bargaining Unit:</b> AFSCME | <b>Salary Grade:</b> 46<br><b>Job #:</b> YA25 |
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### JOB SUMMARY

This is the intermediate level position performing Assistant Engineer II job duties.

### DISTINGUISHING CHARACTERISTICS

Positions at this level are provided established procedures for doing the work and a number of specific guidelines are available. The number and similarity of guidelines and work situations requires the employee to use judgment in locating and selecting the most appropriate guidelines, references, and procedures for application, and in making minor deviations to adapt the guidelines in specific cases. At this level, the employee may also determine which of several established alternatives to use. Situations to which the existing guidelines cannot be applied or significant proposed deviations from the guidelines are referred. The work consists of duties that involve related steps, processes, or methods. The decision regarding what needs to be done involves various choices requiring the employee to recognize the existence of and differences among a few easily recognizable situations. Actions to be taken or responses to be made differ in such things as the source of information, the kind of transactions or entries, or other differences of a factual nature. The work involves the execution of specific rules, regulations, or procedures and typically comprises a complete segment of an assignment or project of broader scope.

### OVERSIGHT

**Supervision Received:** The supervisor provides continuing or individual assignments by indicating generally what is to be done, limitations, quality and quantity expected, deadlines, and priority of assignments. The supervisor provides additional, specific instructions for new, difficult, or unusual assignments including suggested work methods or advice on source material available. The employee uses initiative in carrying out recurring assignments independently without specific instruction, but refers deviations, problems, and unfamiliar situations not covered by instructions to the supervisor for decision or help. The supervisor assures that finished work and methods used are technically accurate and in compliance with instructions or established procedures. Review of the work increases with more difficult assignments if the employee has not previously performed similar assignments.

**Supervision Given:** None

### JOB DUTIES

#### GENERAL

1. Assists with planning, coordinating, conducting, and monitoring tests, studies, and investigations.
2. Assists with preparing technical documents, reports, and presentations.
3. Assists with administering contracts, agreements, and monitoring the work of vendors, consultants, and contractors.
4. Performs project tasks within area of responsibility.

5. Assists with technical analyses.
6. Assists with preparing or reviewing design criteria, plans, specifications, submittals, cost estimates, and budgets.
7. Assists with preparing standards, procedures, guidelines, and manuals.
8. May execute mathematical, statistical, and other models.
9. Assists in performing site and construction inspections.
10. May assist with emergency response duties.
11. Assists with maintaining official records, documents, and data.
12. May participate on a project team.
13. Performs other related Engineer job duties as required.

#### **SUBSTRUCTURES**

1. Assists with assessing potential impacts to facilities from proposed projects and coordinates reviews.
2. Assists with investigating facility issues and coordinates property issues.
3. Assists with developing utility agreements with external entities to relocate or protect facilities.

#### **HYDRAULICS**

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

#### **FACILITY PLANNING**

1. Assists with planning, coordinating and conducting feasibility studies for treatment, distribution and conveyance facilities.
2. Assists with planning, coordinating, and conducting facility vulnerability studies.
3. Assists with preparing infrastructure reliability design guidelines.

#### **DESIGN**

1. Prepares engineering design calculations, plans and specifications, assists with preparing design criteria, estimates and reports for water treatment, conveyance and distribution systems.
2. Assists with providing technical support during construction.

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3. May assist with factory acceptance testing and systems start-up.
4. Assists with performing investigations of existing facilities, structures, processes and equipment to resolve performance, operation, or reliability issues.

**INSPECTION**

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

**INFRASTRUCTURE**

1. Assists with conducting infrastructure reliability assessments for safety, code, and regulatory compliance.
2. Assists with designing and implementing measures to prevent failure or rehabilitate assets.
3. Assists with testing and monitoring of instrumentation programs.
4. Assists with performing forensic investigations of materials and metallurgy issues.
5. Assists with coordinating and resolving maintenance issues to ensure safety, code, and regulatory compliance.

**SCADA**

1. Assists with factory acceptance testing and systems start-up.
2. Assists with preparing Automatic Process Control and Programmable Logic Controller software design and operational documents.
3. Assists with developing Automatic Process Control and Programmable Logic Controller program and simulation routines.
4. Assists with providing SCADA system customer and infrastructure support, troubleshooting, and problem solving.
5. Assists with integration of SCADA hardware and software, configuration updates, and graphics changes.

**WATER RESOURCES**

1. Assists in implementing water resources programs and projects.
2. Assists in reviewing proposed regulations and legislation.
3. Assists and may administer water resource contracts.
4. Assists in conducting feasibility studies for treatment, distribution and conveyance facilities.
5. Assists and may execute mathematical, statistical, hydraulic, and water resource models.

**POWER RESOURCES**

1. Assists with performing energy scheduling for power operations.
2. Assists with planning and analyzing local and regional power activities.
3. Assists with performing or participating in energy settlement and accounting activities.

**PLANNING AND PROGRAMS**

1. Assists with implementing and managing water supply and operations programs.
2. Assists in the preparation of short-term and long-term water demand forecasts.
3. Assists with monitoring and evaluating water system activities of external entities for impacts to Metropolitan's water system operations and supply sources.
4. Assists with conducting flow tests.

**WATER QUALITY**

1. Assists with monitoring, evaluating, and responding to water quality related legislative initiatives, regulatory issues and policies. Assists in developing plans and procedures to address legislative and regulatory requirements.
2. Assists with reviewing and making recommendations on proposals, projects, and programs that may have an impact on water quality.
3. Assists with developing and directing test plans for bench pilot and full scale water quality testing.
4. Assists with analyzing and interpreting data to develop water treatment process design criteria.
5. Assists with analyzing and interpreting data to optimize water quality performance and maintain compliance with drinking water quality regulations.
6. Assists with analyzing and interpreting conditions that may adversely impact watershed and source water quality.
7. Assists with reviewing and analyzing water quality data and provides recommendations to ensure compliance with all drinking water quality regulations.

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### **OPERATIONS SUPPORT**

1. Assists with assessing maintenance and testing methods and impacts on operations and maintenance to improve efficiency and reliability.
2. Assists with implementing, maintaining and may assist in developing analytical tools for the analysis and solution of engineering problems.
3. Assists with analyzing equipment functions and evaluating potential failure modes and system impacts; makes recommendations.
4. Assists with compliance on project and customer requirements.
5. Assists with field engineering tests and activities in connection with maintenance, inspection, and operations.

### **ENVIRONMENTAL**

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

### **EMPLOYMENT STANDARDS**

#### **MINIMUM QUALIFICATIONS**

**Education and Experience:** Bachelor's degree from an accredited college or university in a related field and two years of relevant experience, of which two years must have been at the Assistant Engineer I level.

**General Required Knowledge of:** Engineering principles and practices in specific discipline; project schedules and budgets; applicable federal, state and local laws, codes and regulations related to area of responsibility; and current office technology and equipment.

**Hydraulics Required Knowledge of:** Hydraulic modeling software.

**Facility Planning Required Knowledge of:** Water treatment processes.

**Design Required Knowledge of:** Manufacturing and construction means, methods and equipment; applicable engineering design software.

**Infrastructure Required Knowledge of:** Risk and failure analyses.

**Water Resources Required Knowledge of:** Groundwater, hydrology, hydraulics and water treatment processes.

**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.

**Hydraulics Required Skills and Ability to:** Conduct hydraulic analyses.

**Design Required Skills and Ability to:** Estimate; use engineering design software.

**Infrastructure Required Skills and Ability to:** Conduct risk and failure analyses.

**Water Resources Required Skills and Ability to:** Perform statistical analyses of water resource programs.

### **CERTIFICATIONS, LICENSES, AND REGISTRATION REQUIREMENTS**

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

#### **Certificates**

- None

#### **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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