



**APPROVED BY: THE CHIEF
ADMINISTRATIVE OFFICER**

EFFECTIVE: March 2005

**ASSISTANT ENGINEERING GEOLOGIST I/II
(REGISTERED/UNREGISTERED)**

Class specifications are intended to present a descriptive list of the range of duties performed by employees in the class. Specifications are not intended to reflect all duties performed within the job.

DEFINITION

To perform a variety of professional engineering geology duties in the planning, design, construction, operation and maintenance of District water and flood control facilities; to design and conduct site and materials investigations; to collect, analyze and compile data and statistics; and to perform a variety of duties relative to assigned area of responsibilities.

DISTINGUISHING CHARACTERISTICS

Assistant Engineering Geologist I

This is the entry level training class in the professional Engineering Geologist series. Initially, under immediate supervision, incumbents perform a limited range of professional engineering geology duties requiring limited exercise of judgement. Duties involve using prescribed methods and include specific and limited portions or a broader assignment of an experienced engineering geologist in areas such as geologic investigations for the planning, design, construction, maintenance and operation of flood control and water supply facilities. As experience and proficiency are gained, assignments become more diversified and difficult with increasing independence of judgment. Since this class is typically used as a training class, employees may have only limited or no directly related work experience. This class is alternately staffed with Assistant Engineering Geologist II and incumbents may advance to the higher level after gaining experience and demonstrating proficiency which meet the qualifications for the higher class.

Assistant Engineering Geologist II

This is the experienced level classification in the professional engineering geologist series. Incumbents in this class work under general supervision and may be assigned specific projects with minimal supervision; additionally, incumbents may direct the work of engineering geologists, engineers, draftspersons, technicians, and others who assist in specific project assignments. Work is reviewed for application of sound professional judgement and close supervision is provided whenever new aspects or types of work are assigned. Typical duties and responsibilities require knowledge of principles and techniques commonly employed in the specific area of assignment. As experience is gained, incumbents are assigned more complex or difficult work that involves relatively few complex features for which there are precedents. Additionally, incumbents may occasionally be provided the opportunity to lead smaller, short term projects or studies of limited scope. Positions in this class are flexibly staffed and are normally filled by advancement from the "I" level, or when filled from the outside, have prior experience.

SUPERVISION RECEIVED AND EXERCISED

Assistant Engineering Geologist I

Receives immediate supervision from higher level supervisory or management staff.

Assistant Engineering Geologist II

Receives general supervision from higher level supervisory or management staff.

As assigned, may provide technical supervision over project staff.

ESSENTIAL FUNCTION STATEMENTS

Essential responsibilities and duties may include, but are not limited to, the following:

1. Perform a variety of basic professional level geologic duties in support of District projects including the development of geologic reports, plans, designs, specifications and cost estimates for District projects such as pipelines, canals, water treatment plants, and earth and rockfill dams.
2. Develop and conduct site and materials source investigations including field and laboratory testing and inspection; participate in preparation of reports regarding the geologic aspects of water supply, soils, geologic, seismic, groundwater and other site conditions.

3. Plan and participate in subsurface exploration programs; collect soil and rock samples for geologic analysis and engineering properties testing; log borings and collect samples during soil/groundwater investigations and installation of groundwater monitoring wells.
4. Assist in performing analyses to evaluate the geologic stability and safety of proposed and existing water supply and flood control facilities; conduct inspections and assist in the preparation of reports regarding damage to District facilities caused by earthquake or landslides; assist in determining and explaining the impact of geological and hydrogeologic data on the construction of flood control and water supply facilities and structures.
5. Participate in the design, installation and modification of earth movement, groundwater and seepage surveillance instrumentation.
6. Collect and compile a variety of engineering, geologic and hydrogeologic data and statistics; analyze and interpret results of tests and surveys; prepare cross sections, maps, profiles, charts, graphs, plots and data tabulations.
7. Organize and maintain project files; develop and maintain databases and computer files; utilize geologic software and/or modify programs to assess specific geologic conditions.
8. Draft, review and assist in preparing a variety of technical and administrative reports, memoranda and related project documentation.
9. Participate in the analysis of projects proposed by other agencies to evaluate impact on District operations; coordinate activities with internal and external project participants.
10. Participate in various geologic studies and related projects with District staff, outside agencies and consultants ensuring that deadlines, standards and specifications are met appropriately.
11. Provide support to District geology programs and construction administration; assist in geologically-based inspection of contractor installations and activities as necessary; provide technical support during program and project construction including design changes, submittal review, request for information from contractors, interpretation of contract documents and assistance with change orders.
12. Review statutes and regulation; interpret and apply the regulations with respect to district compliance; develop compliance strategies for regulations; may analyze proposed regulations.
13. Confer with District staff, contractors, the public, and other agencies or organizations as needed regarding assigned work.

14. May participate in the consultant selection process; assist in administration of consultant and professional service contracts.
15. Perform related duties and responsibilities as assigned.

QUALIFICATIONS

Assistant Engineering Geologist I

Knowledge of:

Principles, practices and terminology of geology and hydrogeology.
Mathematics, economics and statistical analysis as applied to geology.
Groundwater occurrence, movement and interaction.
Methods and techniques, equipment and procedures used to evaluate geological processes and conditions.
Basic subsurface exploration, sampling and materials testing procedures.
Modern software applications utilized in geologic evaluations and assessments.
Pertinent Federal, State and local laws, codes and regulations.
Principles and practices of statistical analysis.

Ability to:

Apply geology principles and computer applications to the solution of relevant problems.
Conduct geologic field and office studies and investigations and analyze and evaluate their results.
Prepare and evaluate geologic maps, sections, logs, graphs, plans and specifications.
Perform accurate geologic calculations and analyses.
Maintain accurate files and records.
Prepare clear and concise technical and administrative reports and correspondence.
Research, analyze and evaluate new service delivery methods and techniques.
Exercise sound judgment within procedural guidelines.
Understand Federal, State and local policies, laws and regulations.
Communicate clearly and concisely, both orally and in writing.
Establish and maintain effective working relationships with those contacted in the course of work.

Experience and Training Guidelines

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

Experience

No experience is necessary.

Training

Equivalent to a Bachelors degree in geology or a specialty of geology.

License or Certificate

Possession of, or ability to obtain, an appropriate, valid California driver's license may be required with determinations made on a case by case basis at the time of job posting.

Assistant Engineering Geologist II

In addition to the qualifications for Assistant Engineering Geologist I:

Knowledge of:

Application of principles, practices and terminology of geology and hydrogeology. Occurrence, fate and transport of contaminants in soil, surface water and groundwater.

Subsurface exploration, sampling and materials testing procedures.

Construction methods, materials, specifications and codes.

Ability to:

Apply geologic principles and computer applications to the solution of relevant problems.

Plan and conduct geology field and office studies and investigations and analyze and interpret their results.

Prepare technical and administrative reports and correspondence.

Analyze problems and identify alternative solutions and potential consequences.

Interpret and apply Federal, State and local policies, laws and regulations.

Experience and Training Guidelines

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

Experience

Two years of increasingly responsible professional geology experience at a level equivalent to that of Assistant Engineering Geologist I.

Training

Equivalent to a Bachelors degree from an accredited college or university with major course work in geology, engineering geology, hydrogeology or a specialty of geology.

License or Certificate

Possession of, or ability to obtain, an appropriate, valid California driver's license may be required with determinations made on a case by case basis at the time of job posting.

WORKING CONDITIONS

Environmental Conditions

Indoor environment; some positions require frequent field visits or occasional field assignments of up to a few months; travel from site to site; work closely with others or alone; exposure to electrical and radiant energy; irregular work hours; some positions may involve exposure to inclement weather; dirt, dust, noise, chemicals, biological and chemical contaminants and other conditions associated with construction sites, water treatment plants and urban and remote field conditions.

Physical Conditions

Essential and other important functions may require maintaining physical condition necessary for sitting, walking and standing for extended periods of time; some light to moderate lifting and carrying.