

CALIFORNIA DEPARTMENT OF TRANSPORTATION

POSITION DUTY STATEMENT

CLASSIFICATION TITLE Engineering Geologist	OFFICE/BRANCH/SECTION Central Region Environmental	
WORKING TITLE Hazardous Waste and Paleontology Specialist	POSITION NUMBER 906-156-3756-XXX	EFFECTIVE DATE

As a valued member of the Caltrans team, you make it possible for the Department to provide a safe, sustainable, integrated, and efficient transportation system to enhance California's economy and livability. Caltrans is a performance driven, transparent, and accountable organization that values its people, resources and partners, and meets new challenges through leadership, innovation and teamwork.

GENERAL STATEMENT:

Under the supervision of a Senior Environmental Planner, the Engineering Geologist performs a variety of environmental engineering tasks relating to the environmental impacts of transportation projects. The incumbent reviews technical reports, district PS&E packages, prepares non-standard specifications and evaluates excess parcels for hazardous waste. The incumbent develops and monitors task orders designed to investigate the impact of hazardous waste constituents on highway projects. The incumbent submits recommendations for potential mitigation of contamination and also determines the extent of soil and ground water contamination associated with underground fuel tanks which may be encountered with various highway projects. The Engineering Geologist provides technical oversight for local agency projects, prepares task orders and manages reviews and evaluates technical studies and reports prepared by consultants. The incumbent may also be involved in the design and monitoring of remediation and mitigation measures related to hazardous waste. Additional tasks include conducting field surveys and limited surface sampling to locate, assess and submit recommendations regarding the occurrence and extent of sensitive paleontological resources as they affect excavations for highways; evaluating existing geologic data, reports and professional papers; preparing geologic cross sections, maps, charts and graphs and reports pertinent to this information. Duties include but are not limited to:

TYPICAL DUTIES:

- 30% (E) Collects and evaluates engineering, geologic paleontological data; develops and writes task orders to investigate potential contamination in subsurface soils and groundwater; monitors these task orders to ensure compliance with acceptable engineering, geologic and scientific standards. Provides input to contractors for any necessary changes during investigations to ensure goals of task orders are met; reviews and approves draft and final reports prepared by these contractors to ensure all terms of contracts are met. Also evaluates geologic formations to determine the potential for naturally occurring asbestos. Evaluates engineering geology reports prepared by various contractors on highway projects to determine potential areas of contamination.
- 25% (E) Prepares technical study reports for environmental documents, recommends mitigation for project impacts and monitors effectiveness of mitigation measures for hazardous waste issues or paleontological resources discovered. Acts as a Project Development Team member or provides support to team members and coordinates with local, state and federal agencies. Coordinates with Headquarters and other Caltrans units on hazardous waste/material and paleontological resource avoidance, management and mitigation. Interpret and apply new regulations and health standards.
- 15% (E) Documents and certifies the hazardous waste conditions on various properties. Prepares preliminary plans, estimates and contract specifications for hazardous waste management

for transportation projects. Performs 30%, 60% and 95% constructability reviews for projects in PS&E. Evaluates and provides clearance of proposed drilling locations for the Caltrans drilling crews.

- 10% (E) Coordinates with all applicable Caltrans divisions and outside agencies to ensure all appropriate engineering and environmental standards are met. May act as a team leader in coordinating this effort.
- 5% (E) Reviews environmental documents as they relate to the prepared hazardous waste and paleontology studies to ensure correct summarization.
- 5% (E) Collects and maintains an inventory of environmental engineering data and geologic formations as it relates to location of contamination and paleontology resources with respect to existing and proposed highway projects. Incorporates this inventory into summaries and recommendations made for these projects. Determines need for any future data based on project proposals. These inventories/databases typically include information on known locations of hazardous waste and naturally occurring asbestos.
- 5% (E) Conducts records research, field study and prepare documentation necessary for relinquishment of State property.
- 5% (M) Preparing text for newspaper notices, public meeting handouts, and display boards; providing information and answering questions at public meetings.

SUPERVISION EXERCISED OVER OTHERS

No supervision responsibilities are typically required. The Engineering Geologist may serve in a lead person capacity as part of an interdisciplinary team performing environmental technical studies and preparing reports. The Engineering Geologist may work with and perform routine oversight of consultants, student assistants, and rotating engineers.

KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS

Knowledge of:

- Engineering and geologic principles as they relate to soil and groundwater investigations for hazardous waste and other contamination.
- Chemical analytical testing methods and the interpretation of the results and statistical methods.
- Types of contaminants in the environment and their behavior and hazards to the environment.
- Paleontological resources in relationship to geologic data.
- Principles and practice of contract and task order preparation and administration.
- State and Federal laws and regulations relating to the environment.
- Methods and techniques of environmental impact evaluation.
- Trends in environmental planning.
- General principles and techniques of research and statistical analysis.
- Types of analyses and reports necessary for completion of hazardous waste studies.
- Types of drilling methods.
- Nature and behavior of groundwater.

Abilities to:

- Compile and analyze technical information and interview sources if necessary.
- Analyze environmental situation accurately.
- Gather and analyze data.
- Recommend appropriate measures to avoid, minimize or mitigate hazardous waste/material impacts.
- Recommend appropriate measures to avoid, minimize or mitigate impacts to sensitive paleontological resources.

- Prepare written correspondence and technical reports and to communicate with staff, outside agencies, and the public.
- Establish and maintain cooperative relationships with City, County, Regional, State, and Federal agencies and to assist in negotiation by management for environmental issue resolution.
- Make clear and persuasive presentation of ideas; preparing clear, concise and complete technical reports, correspondence and other written materials.
- Interpret maps, site plans and specifications correctly.

Analytical Requirements:

- Performing increasingly responsible and varied assignments under decreasing degrees of supervision
- Understanding and applying those aspects of federal, state and local laws, regulations, policies, procedures and standards pertaining to the planning process
- Research, analyze and summarize technical data both manually and with computer programs
- Interpreting maps, site plans, building plans, specifications, graphs and statistical data
- Preparing clear visual displays, such as maps, graphs, and illustrations
- Make clear and persuasive presentation of ideas; preparing clear, concise and complete technical reports, correspondence and other written materials
- Work with and advise other agencies and the public
- Must keep current with the latest literature, guidance, regulations, and procedures for technical environmental issues
- Conduct thorough site investigations; ensure proper and appropriate studies are conducted, and propose cost-effective solutions to hazardous waste issues

CONSEQUENCE OF ERROR

The incumbent is responsible for the adequacy and accuracy of investigative work and for the conclusions and recommendations made from the data obtained. The general format and content of reports and the analysis process are guided by law, regulations, and standards prepared by Caltrans and other agencies, but discretion is required in the application of these standards to specific project situations. Errors could result in project delays, loss of funding, legal liability resulting from hazardous material exposure or inadequate mitigation measures, and other economic and legal liabilities for the State. In situations where the incumbent participates in fieldwork, they will be responsible for work site safety. The incumbent may be involved in writing task orders and administering studies performed by contractors, reviewing work by others for technical adequacy, and providing recommendations to contract managers regarding approval of such technical work for payment.

PUBLIC AND INTERNAL CONTACTS

The incumbent may have frequent contact with people in and out of government. These contacts include: consulting with outside experts, reacting to public complaints and information requests; providing counsel to other agencies and Caltrans regarding environmental technical studies; liaison with environmental monitoring and control agencies including the California Department of Toxic Substances Control, Regional Water Quality Control Boards, other Cal/EPA agencies, state and local departments of health services; and coordinating with other Caltrans employees contributing to the development of a transportation project or maintenance of the State transportation system.

WORK ENVIRONMENT

- Employees may be required to sit for long periods of time using a keyboard and video display terminal.
- Incumbent may also be exposed to a variety of hazardous and/or unpleasant field conditions, including wet, rainy, cold or hot weather.
- Must have the ability to multi-task, adapt to changes in priorities and complete tasks or projects with short notice.
- Most of the jobs in the Division require interaction with many people, therefore it is important that employees work with others in a cooperative manner.
- Values cultural diversity and other individual differences in the workforce.
- May be subject to and have the ability to handle irate or intense public or other project team members in a calm manner.

PHYSICAL, MENTAL AND EMOTIONAL REQUIREMENTS

- While at their base of operation, employee will work in a climate-controlled office under artificial light. However, due to periodic problems with the heating and air conditioning, the building temperature may fluctuate.
- While out of the office performing field reviews, employee may be required to walk on rough terrain in variety of hazardous and/or unpleasant field conditions, including wet, rainy, windy, dusty, cold or hot weather.
- Employees may be required to move large or cumbersome reports or equipment from on location to another.
- While performing field reviews employee may be required to walk on uneven terrain and may require bending, stooping and kneeling.
- Overnight travel may be required.
- Overtime may be required.

I have read and understand the duties listed above and can perform them with/without reasonable accommodation. (If you believe you may require reasonable accommodation, please discuss this with the hiring supervisor. If you are unsure whether you require reasonable accommodation, inform the hiring supervisor who will discuss your concerns with the Reasonable Accommodation Coordinator.)

EMPLOYEE

DATE

I have discussed with and provided a copy of this duty statement to the employee named above.

SUPERVISOR

DATE