

**CALIFORNIA DEPARTMENT OF TRANSPORTATION
DUTY STATEMENT**

CLASSIFICATION TITLE Transportation Engineer (Civil)	DISTRICT/DIVISION/OFFICE DES / Geotechnical Services Office of Geotechnical Design South-1	
WORKING TITLE Transportation Engineer (Civil)	POSITION NUMBER 559-324-3135-NNN	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 direction of a Senior Engineer, the Transportation Engineer (Civil) provides technical expertise, support and recommendations on geotechnical topics as may evolve, commencing with the project planning phase and progressing through the design, construction, and operation phases of the State Transportation System. Duties include, but are not limited to:

TYPICAL DUTIES:

Percentage Job Description
Essential Functions (E)¹ / Marginal Functions (M)²

- 40% (E) Conducts geotechnical studies including site exploration, direction of laboratory testing, analysis and preparation of reports presenting recommendations, designs, and specifications including consideration of constructability. These studies include and are not limited to the areas of expansive soils, mechanically stabilized walls and embankments, tieback retaining walls, geotechnical earthquake engineering including earthquake response, settlement and stability of embankments, stability of earth and rock slopes, soil nail walls, and design of structure foundations (shallow and deep)
- 20% (E) Develops designs and specifications to utilize various shallow and deep ground improvement techniques including prefabricated band drains, soil cement mixing, stone columns and various grouting techniques; geosynthetics as reinforcement elements; and additives such as lime, Portland cement, and fly ash.
- 20% (E) Reviews for both technical content and conformity to Department policies and procedures, consultant-prepared and Department-prepared materials and geotechnical reports, plans, specifications, special provisions, and estimates for the

¹ ESSENTIAL FUNCTIONS are the core duties of the position that cannot be reassigned
² MARGINAL FUNCTIONS are minor tasks of the position that can be assigned to others

geotechnical design and construction aspects of a variety of Department and special funded projects. Prepare and manage consultant contract task orders.

- 10% (E) Provides technical support to the District and the Division of Engineering Services construction personnel in the forms of, but not limited to, on site construction inspections, evaluation of construction claims, and claims support.
- 10% (M) Prepare and manage consultant contract task orders; plans and conducts special investigations and prepares reports thereto, answers correspondence.

This position requires periodic travel to the Districts and field sites for periods of several days.

SUPERVISION EXERCISED OVER OTHERS

Supervision is not a requirement of this position but the incumbent may act as a lead worker over employees in the Transportation Engineer (Civil), Geologist, Transportation Engineering Technician, Materials and Research Engineering Associate, or Foundation Driller classifications.

KNOWLEDGE, ABILITIES AND ANALYTICAL REQUIREMENTS

Satisfactory performance in this position requires:

- A thorough knowledge of soil mechanics principles; soil behavior under various stress paths and stress conditions; laboratory and field soil and rock testing methods and procedures; site exploration and sampling techniques and equipment; and geotechnical field instrumentation methods and practices. This knowledge is as normally acquired in graduate level course work in geotechnical engineering.
- Knowledge of earthwork and foundation construction methods, specifications, and quality control practices.
- Advanced course work directed specifically toward geotechnical engineering and soil mechanics.
- The ability to acquire additional and new knowledge of geotechnical engineering through additional course work or self-study.
- The ability to communicate effectively, both in written and oral form.
- The ability to interact with individuals and groups from the Department, governmental agencies, and private consulting firms.

This position requires considerable analysis of engineering data involving geotechnical engineering related to specific site conditions. The incumbent must recognize potential geotechnical problems and reliably assess their probable effects on design study options and constructability, accurately determine the major factors leading to specific field problems, and ensure that viable geotechnical options are developed to effectively deal with the project.

CONSEQUENCE OF ERROR/RESPONSIBILITY FOR DECISIONS

This position requires effective and timely response in all aspects of preparing and reviewing geotechnical design reports developed by Department personnel and private consultants. Delays in response to requests for services or failure to detect omissions and/or inadequacies in design recommendations could affect public safety, result in tort liability, and result in contract delays, construction difficulties and substandard performance of completed facilities.

PUBLIC AND INTERNAL CONTACTS

This position requires frequent and regular contact with personnel in the Department concerning engineering matters related to in-house developed projects and projects developed by engineering consultants. The incumbent will also have regular communication with engineering consultants, contractors, manufacturers, vendors, local agencies, and other State personnel.

PHYSICAL, MENTAL AND EMOTIONAL REQUIREMENTS

The incumbent will be required to work on field and construction sites, transport heavy equipment and materials, work with exploratory equipment and collect field data. Landslide and undeveloped sites are often rugged and heavily vegetated. Construction site surfaces are often uneven, may have open excavations and may be located on steep slopes. Weather conditions can vary between icy, slippery and wet to hot and dry. The incumbent must have the ability to traverse these sites and withstand exposure to the aforementioned environments for long periods of time.

While in the office, employees may be required to sit for long periods of time using a keyboard and video display terminal.

The incumbent will be responsible to ensure that assigned tasks are carried out in a professional, safe, and exacting manner and in accordance with existing policy, specifications, rules, work plans and guidelines.

The incumbent must grasp the essence of new information and master new technical and engineering knowledge; must have the ability to multi-task, adapt to changes in priorities, and complete tasks or project meeting strict deadlines with, at times, short notice.

The incumbent must possess the ability to develop and maintain cooperative working relationships and have a positive and friendly attitude and a willingness to learn.

WORK ENVIRONMENT

While at their base of operation, employees will work in a climate-controlled office setting under artificial lighting. When employee is required to travel and work outdoors, the incumbent may be exposed to dirt, noise, wet or dry conditions, extreme heat or cold, and the need to traverse rugged terrain. The incumbent also may be exposed to some of the most beautiful scenery that California has to offer.

I have read, and understand the duties listed above and can perform them either with or without reasonable accommodation. (If you believe you may require reasonable accommodation, please discuss this with your 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: Name _____
Employee (Signature) _____ Date _____

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

Supervisor: Name _____
Supervisor (Signature) _____ Date _____