

POSITION DUTY STATEMENT

PM-0924 (REV 01/2022)

CLASSIFICATION TITLE Senior Transportation Engineer, CT	OFFICE/BRANCH/SECTION DES/GS/OGDS	
WORKING TITLE Branch Chief	POSITION NUMBER 559-324-3161-XXX	REVISION DATE 12/21/2023

As a valued member of the Caltrans leadership team, you make it possible for the Department to provide a safe and reliable transportation network that serves all people and respects the environment.

GENERAL STATEMENT:

Under the direction of the Chief, Office of Geotechnical Design South, the Senior Transportation Engineer acts as Branch Chief to independently supervise staff who plan, organize, perform, manage, and oversee geotechnical studies for structure foundations and significant roadway features. The Branch Chief provides support to District and Division of Engineering Services clients in development of transportation projects by providing expertise and documents as necessary to support Planning, Design, Construction, Maintenance, and Legal. Duties include directing staff engaged in investigations (desktop and field), conducting engineering geologic work and geotechnical evaluations, performing designs, and preparing preliminary and final Geotechnical Design Reports, Foundation Reports, and Plans, Specifications and Estimates (PS&E). The Branch Chief provides oversight of consultants and service contractors working on geotechnical related transportation projects funded by the Department and/or local agencies. The Branch Chief often functions as the lead person of a team as necessary to complete a project or task, and represents the Office in meetings with clients. The Senior Transportation Engineer must be a licensed Professional Engineer - Civil and will be experienced in Project Development and the discipline of Geotechnical Engineering as related to projects on the State Highway System.

CORE COMPETENCIES:

As a Senior Transportation Engineer, CT, the incumbent is expected to become proficient in the following competencies as described below in order to successfully perform the essential functions of the job, while adhering to and promoting the Department's Mission, Vision, Values, Strategic Imperatives and Goals. Effective development of the identified Core Competencies fosters the advancement of the following Leadership Competencies: Change Commitment, Risk Appetite, Self-Development/Growth, Conflict Management, Relationship Building, Organizational Awareness, Communication, Strategic Perspective, and Results Driven.

- **Flexibility and Managing Uncertainty** : Adjusts thinking and behavior in order to adapt to changes in the job and work environment. (Cultivate Excellence - Engagement)
- **Decision Making**: Makes critical and timely decisions. Takes charge. Supports appropriate risk. Makes challenging and appropriate decisions. (Strengthen Stewardship and Drive Efficiency - Integrity)
- **Reliability**: Ability to demonstrate dependability in meeting commitments, and providing a consistent work product. Takes responsibility for individual actions in order to meet deadline demands. (Strengthen Stewardship and Drive Efficiency - Engagement)
- **Problem-solving and Decision-making** : Identifies problems and uses logical analysis to find information, understand causes, and evaluate and select or recommend best possible courses of action. (Strengthen Stewardship and Drive Efficiency - Engagement)
- **Teamwork and Collaboration**: Sets team structure. Organizes, leads, and facilitates team activities. Promotes team cooperation and encourages participation. Capable of cross functionality and working well with others on a team to achieve personal goals, team goals, and organizational goals. Takes responsibility for individual actions in order to achieve consistent results. (Cultivate Excellence - Engagement)
- **Customer Focus**: Considers, prioritizes, and takes action on the needs of both internal and external customers. (Cultivate Excellence - Engagement)
- **Communication**: Expresses oneself clearly in all forms of communication. Gives feedback and is receptive to feedback received. Knows that listening is essential. Keeps others in the Division and other functional units informed as appropriate. (Strengthen Stewardship and Drive Efficiency - Engagement)
- **Planning and Results Oriented**: Organizes and executes work to meet organizational goals and objectives while meeting quality standards, following organizational processes, and demonstrating continuous commitment. (Strengthen Stewardship and Drive Efficiency - Innovation)
- **Technical Expertise**: Depth of knowledge and skill in a technical area. (Cultivate Excellence - Integrity)

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POSITION DUTY STATEMENT

PM-0924 (REV 01/2022)

TYPICAL DUTIES:

Percentage		Job Description
Essential (E)/Marginal (M) ¹		
45%	E	Using civil engineering supervises staff in the conduct of investigations including site reconnaissance, literature review, engineering geologic work, site exploration, sampling, laboratory testing, analysis, recommendations, designs, specifications, and preparation of geotechnical design and foundation reports for shallow and deep foundations, roadway embankments and cuts, retaining structures, slope stability, soil improvements, and other roadway and/or structure related transportation features. Assists Project Development and Design to incorporate geotechnical recommendations into the design and specifications; reviews draft designs for conformity to geotechnical and foundation recommendations.
15%	E	Using civil engineering supervises staff in providing geotechnical support to construction, both roadway construction and structure construction, to monitor geotechnical conditions exposed during construction and geotechnical recommendations specified per projects' contracts
15%	E	Supervises staff in providing geotechnical support to Major Damage and Storm Damage Emergency Response and Maintenance Support projects.
10%	E	Supervises staff in providing geotechnical oversight for structure foundation and roadway geotechnical investigation and reports by consultants. Prepares task orders and provides oversight for contracting-out projects.
10%	E	Provides geotechnical expertise and training to the staff and administers typical supervisory responsibilities, such as the Illness and Injury Prevention Program, Probation Reports, Performance Reviews and or Individual Development Plans.
5%	M	Estimates workload and required resources and time needed for delivering capital projects. Organizes and tracks the workload of the branch and office.

¹ESSENTIAL FUNCTIONS are the core duties of the position that cannot be reassigned.

MARGINAL FUNCTIONS are the minor tasks of the position that can be assigned to others.

SUPERVISION OR GUIDANCE EXERCISED OVER OTHERS

Supervises a staff of Engineering Geologists, Transportation Engineers and Transportation Engineering Technicians[edit to fit the branch].

KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS

Satisfactory performance in this position requires:

- Knowledge of basic principles of physics, chemistry, and mathematics as applied to Civil Engineering, mechanics, stress and strain analysis, materials engineering, strength and properties, and uses of engineering materials, methods and equipment in construction.
- Thorough knowledge of soil mechanics, soils behaviors under various stress systems, and laboratory and field soil testing methods and procedures and their application to design of features on transportation projects.
- Extensive knowledge and experiences in developing and conducting geotechnical site investigation, including site readiness, filed exploration, drilling, testing and sampling, CPT, geotechnical instrumentations, geophysics, laboratory testing, and evaluation and use of geotechnical investigation results in transportation projects.
- Extensive knowledge and experiences in analysis and design of shallow foundations, deep foundations and earth retaining systems, slope stability analysis, seismic analyses, and use of ground improvement techniques.
- Knowledge of geotechnical related construction of transportation projects, including construction methods, specifications, testing and quality control practices.
- Knowledge of Caltrans' project development, delivery and management processes, procedures and standards. Knowledge of Caltrans Geotechnical Services' Quality Management System and Quality Management Plans.
- Ability to accurately develop and estimate scope, schedule and cost for conducting geotechnical investigation for transportation projects.

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PM-0924 (REV 01/2022)

- Ability to work independently, making sound decisions based on possibly limited available information.
 - Ability to communicate effectively, both in written and oral form.
 - Ability to interact effectively and professionally with individuals and groups, both internal and external.
 - Ability to travel to and work at construction sites and other field conditions throughout California is required.
 - Ability to conduct oversight and review of consultant-prepared and Caltrans-prepared geotechnical reports, plans, specifications, special provisions for foundation investigations, earthwork design, construction and design-build projects.
 - Ability to effectively supervise a diverse multi-disciplinary staff and train individual staff in various areas of geotechnical engineering and foundation design and arrange appropriate training.
 - Ability to perform and review geotechnical and geological calculations. Must be capable of analyzing lab and in-situ test results and understand the significance and application of the said results. Must recognize potential geotechnical problems and reliably assess their impact on design and construction options.
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RESPONSIBILITY FOR DECISIONS AND CONSEQUENCES OF ERROR

This position requires effective and timely response in all aspects of preparing and reviewing Geotechnical Design Reports and Foundation 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, and result in tort liability, contract delays, construction difficulties, substandard performance of completed facilities and loss of public funds.

PUBLIC AND INTERNAL CONTACTS

This position requires frequent contact concerning engineering, geologic and project management issues related to in-house developed projects and projects developed by engineering consultants. The Branch Chief will also have regular communication with Department personnel, engineering and engineering geology consultants, contractors, manufacturers, vendors, local and federal agencies, and other State personnel. The Branch Chief is often required to make project-related presentations to internal functional units and external groups including the general public.

PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS

The incumbent will sometimes work in adverse conditions and must supervise, train, and mentor staff who must work in the same conditions.

The incumbent will be required to work on field and construction sites, lift and transport heavy equipment and materials, work with exploratory equipment and collect field data. Landslides and undeveloped sites are often rugged and heavily vegetated.

Field and 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 adverse conditions for long periods of time.

Must be able to carry and/or use field engineering equipment such as, but not limited to hand augers, surveying equipment, slope inclinometer equipment and core boxes. Other physical requirements of the job include the ability to lift and carry 50 pounds, reach overhead, push or pull, twist, climb, balance, bend, crouch, squat, crawl, and perform fine manipulation. Hearing and sight are both essential to job performance because the incumbent must be able to hear and see directions, traffic, equipment, and to other warnings or hazards thereby allowing the incumbent to perform duties safely. Corrected hearing is acceptable. Corrected sight must meet the CA DMV minimum visual acuity requirement. Night vision must be good for safety when working after dark. Incumbent may be required to work at night under artificial light.

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.

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The incumbent must possess the ability to develop and maintain cooperative working relationships, have a positive, productive, and friendly attitude, and maintain a willingness to learn while exposed to a variety of work environments.

WORK ENVIRONMENT

While at their base of operation, incumbent will work in a climate-controlled office under artificial lighting. As a statewide organization, DES adjusts to periods of fluctuating workload to successfully deliver projects. Incumbent will be required to travel and perform fieldwork and will be exposed to dirt, uneven surfaces, extreme temperatures, noise, vibration, and odor associated with fieldwork. The incumbent will be required to work around bulky/heavy materials and equipment, and in proximity to vehicles traveling on active roadways. DES employees may be given temporary assignments on DES projects throughout the State as workload demands.

I have read, understand and can perform the duties listed above. (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 (Print)

EMPLOYEE (Signature)

DATE

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

SUPERVISOR (Print)

SUPERVISOR (Signature)

DATE
