STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

POSITION DUTY STATEMENT

DOT PM-0924 (REV 01/2025)

[redacted]

CLASSIFICATION TITLE	OFFICE/BRANCH/SECTION	
Sr Bridge Eng	59/Division of Engineering Services/Structure Construction	
WORKING TITLE	POSITION NUMBER	REVISION DATE
Substructure Engineer	559-511-3185-001	10/21/2025

As a valued member of the Caltrans team, you make it possible to improve lives and communities through transportation.

GENERAL STATEMENT:

This position reports directly to a Supervising Bridge Engineer in the Division of Engineering Services (DES) / Structure Construction (SC). The incumbent is responsible for developing and maintaining SC's practices and procedures pertaining to cast-in-driled-hole (CIDH) piles and other foundation construction activities statewide, coordinating construction specification reviews, perform quality assurance reviews of change order packages, perform research and testing on new technology, and managing special projects. Additionally, this position provides backup support to both SC Falsework Engineer and SC Safety Engineer.

CORE COMPETENCIES:

As a Sr Bridge Eng, 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.

- **Managing Change:** Demonstrating support for organizational changes needed to improve the department's effectiveness; supporting, initiating, sponsoring and implementing change. (Safety, Equity, Climate Action, Prosperity, Employee Excellence - Collaboration, Equity, Innovation, Integrity, People First, Pride, Stewardship)
- **Dealing with Ambiguity (Risk):** Can comfortably handle risk and uncertainty, as well as make decisions to act without having the total picture. (Safety, Equity, Climate Action, Prosperity, Employee Excellence - Collaboration, Equity, Innovation, Integrity, People First, Pride, Stewardship)
- **Ethics and Integrity:** Demonstrated concern to be perceived as responsible, reliable, and trustworthy. Respects the confidentiality of information or concern shared by others. Honest and forthright. Conforms to accepted standards of conduct. (Safety, Equity, Climate Action, Prosperity, Employee Excellence - Collaboration, Equity, Innovation, Integrity, People First, Pride, Stewardship)
- **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. (Safety, Equity, Climate Action, Prosperity, Employee Excellence - Collaboration, Equity, Innovation, Integrity, People First, Pride, Stewardship)
- **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. (Safety, Equity, Climate Action, Prosperity, Employee Excellence - Collaboration, Equity, Innovation, Integrity, People First, Pride, Stewardship)
- **Customer Focus:** Considers, prioritizes, and takes action on the needs of both internal and external customers. (Safety, Equity, Climate Action, Prosperity, Employee Excellence - Collaboration, Equity, Innovation, Integrity, People First, Pride, Stewardship)
- **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. (Safety, Equity, Climate Action, Prosperity, Employee Excellence - Collaboration, Equity, Innovation, Integrity, People First, Pride, Stewardship)
- **Analytical Skills:** Approaches problems using a logical, systematic, and sequential approach. Weighs priorities and recognizes underlying issues. (Safety, Equity, Climate Action, Prosperity, Employee Excellence - Collaboration, Equity, Innovation, Integrity, People First, Pride, Stewardship)
- **Technical Expertise:** Depth of knowledge and skill in a technical area. (Safety, Equity, Climate Action, Prosperity, Employee Excellence - Collaboration, Equity, Innovation, Integrity, People First, Pride, Stewardship)

TYPICAL DUTIES:

Percentage Essential (E)/Marginal (M)[1]	Job Description

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25%	E	Review and interpret Gamma-Gamma Logging (GGL) and Crosshole Sonic Logging (CSL) Acceptance Test Results to assist Structure Representatives with administrative and technical issues related to the construction of CIDH piles. Review and authorize/reject contractor submitted pile mitigation plans for CIDH piles constructed using the wet-method. Coordinate with the other DES functional units to ensure timely response to pile mitigation plans. Develop reports and statistics related to the acceptability of CIDH piles.
25%	E	Acts as Structure Construction's liaison with Structure Policy and Innovation/Structure Specification Research and Development Branch. Acts as SC HQ liaison when reviewing structure-related change order packages prior to releasing for construction.
25%	E	Develop and recommend specifications, practices and procedures for the construction of structure foundations including CIDH piles utilizing slurry displacement. Maintain and update the Caltrans Foundation Manual and applicable sections of the Bridge Construction Records and Procedure manual. Develop and prepare training course material for construction, inspection, and quality assurance of structure foundations. May act in the role of lead instructor (amount of time will be more significant in years classes are given) or provide assistance to those that are.
10%	E	Perform special research and stay current with equipment, materials, and methods related to the construction of structure foundations including CIDH piles and other foundation types, e.g. driven piles and spread footings. Review project daily reports, change orders, project correspondence pertaining to foundations and recommend action. Develop and maintain an information library on foundation construction for use by field engineers. This research will be an evolving duty to correspond with prevalent topics of interest to the subdivision and Department.
10%	E	Act as liaison between Structure Representatives, Geotechnical Services - Foundation Testing and Instrumentatin Branch, METS Corrosion Branch, and Structure Design; interpret specifications, practices and procedures dealing with the construction of structure foundations; provide technical and administrative assistance to Structure Representatives and Bridge Construction Engineers. Conducts field inspections during construction of structure foundations. Conducts field investigations and provides on-site consultation to Structure Representatives with difficult foundation installations.
5%	M	Represents Structure Construction on various internal and external committees including but not limited to the following; Division of Engineering Services Substructures and the Loads and Analysis Committees; Structure Construction substructure technical team; acts as the technical team chair for this team also. External committees could include the International Association of Foundation Drilling (ADSC-IAFD) and Deep Foundation Institute (DFI).

[1]ESSENTIAL 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

No supervision is exercised. Receives general direction for assignments from a Supervising Bridge Engineer. Responsible for independent actions as a technical specialist, provides technical or administrative guidance and directs or trains others in specialty areas of structure design and construction.

KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS

Possession of a valid Driver's License is required when operating a state or personal vehicle on official business in performance of their duties driving to various filed locations as required. Possession and maintenance of a valid certificate of registration as a Civil Engineer in the State of California. A thorough knowledge of methods and design and construction of various types of bridge and transportation related structures; materials, methods and equipment used in construction of structural and heavy civil work. Knowledge of the economics of structure design and construction, contract administration and laws and codes governing construction by contract. Ability to plan and lead the work of others; analyze situations accurately and adopt an effective course of action; prepare clear and concise written correspondence, reports, articles for publication, and address an audience effectively. Ability to analyze and develop solutions for difficult technical and administrative problems relating to construction work. Develop new construction techniques and materials. This position requires knowledge of stress analysis, strength of materials, properties and uses of construction materials; mathematics as applied to civil engineering; methods, materials and equipment used in construction and maintenance of transportation structures; surveying and the methods of proportioning and handling Portland cement concrete. Must be able to use and reference the Bridge Construction Records & Procedures, other Structure Construction (SC) manuals, the Construction Manual, and Caltrans' Safety Manuals. Knowledge of applicable California Test Methods and ASTM tests used on bridge and building construction materials.
Must have a working knowledge of and the ability to follow and apply the information contained within Director's Policy and Deputy Directives applicable to SC. Must be proficient int he use of Excel, MS Word and other engineer related computer programs and software. Must have a basic knowledge in the use of Microsoft Office applications and VISION. Must have a working knowledge of resource estimating, allocations and expenditures as used in construction. Must have the ability to develop and deliver training to a group.

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You may obtain a copy of the class specifications and salary information at: www.calhr.ca.gov.

RESPONSIBILITY FOR DECISIONS AND CONSEQUENCES OF ERROR

Incumbent will be responsible for ensuring the administrative integrity and technical control of structure work. Must be able to recognize construction problems and take appropriate action. Incorrect decisions could result in delayed project delivery structural failure, substantially increased costs to the State or loss of life.
Incumbent is responsible for accurate resource estimates, incorrect estimates could effect project staffing. Incumbent is responsible for the safety of the traveling public. Incorrect decisions could result in loss of life.

PUBLIC AND INTERNAL CONTACTS

Exercises wide latitude for project contacts with Structure Design and Maintenance, Headquarters Units, Districts, public and private agencies, and contracts. Incumbent must be able to establish and maintain open communication with those contacted during the course of work. Will confer routinely with contractor's management staff, in order to resolve problems relating to the terms of the contract, representatives from other State and public agencies and the general public.

PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS

Ability to develop and maintain cooperative working relationships; respond to difficult situations, recognize emotionally charged issues and problems and validate the various responses. Incumbent must be able to climb steep inclines and perform work from heights which may be over 100 feet above ground or water. Must be able to sit while driving for long periods of time. Must be able to carry and/or use field engineering equipment such as, but not limited to surveying equipment, concrete testing equipment (including air-meter and Kelly ball) and equipment for testing smoothness (including a prolifograph). Hearing and sight are both essential to job performance because the engineer must be able to hear directions, traffic and equipment and must see to perform his/her duties safely. Corrected hearing is acceptable. Sight must be corrected to the State of California, Department of Motor Vehicles standards for safely driving a vehicle. Night vision must be good for safety when working after dark. Incumbent must be able to walk, stand or sit for long periods of time. Other physical requirements of the job include the ability to lift and/or carry 50 pounds or more, reaching overhead, pushing or pulling, twisting, climbing, balancing, bending, crouching, squatting, crawling, and fine manipulation.

WORK ENVIRONMENT

While at their base of operation, incumbent will work in a climate-controlled office under artificial lighting. In the office setting, must be able to walk, stand or sit for prolonged periods of time. As a statewide organization, DES adjusts to periods of fluctuating workload to successfully deliver projects. Incumbent will be required to travel and perform fieldwork. May be exposed to loud noises, dust, dirt, uneven surfaces, extreme temperatures, noise, vibration, odor chemicals, extreme weather conditions and sunlight while out in the field. May be required to work in a wide range of sometimes extreme weather conditions, including heat up to 120 degrees, cold as low as 15 degrees, strong winds, rain, sleet or snow. Incumbent may be required to work on urban roadways at night under artificial light. Work consists of five. eight-hour days. Travel, overtime and/or night work may be required. May work around bulky/heavy materials and equipment used in the vicinity of inspection areas. May also be exposed to the motoring public. Extensive travel may be required; therefore, incumbent must be able to travel using a car or commercial transportation. Regular and punctual attendance is required. DES employees may be given temporary assignments on DES projects throughout the State as workload demands.
Personal safety requirements include:
- Work boots, in good sturdy condition, must be worn to provide foot and ankle support and protection.
- Either long or short-sleeved shirts and a safety vest, must be worn on or around the job site.
- Long pants must be worn on or around the job site. No shorts or cut-offs are permitted.
- Provided safety gear (i.e., hard hats, safety glasses, safety vests, hearing protection devices, gloves, respirator and other safety gear) must be worn when required by the Department.

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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.)

I agree that by providing my electronic signature for this form, I agree to conduct business transactions by electronic means and that my electronic signature is the legal binding equivalent to my handwritten signature. I hereby agree that my electronic signature represents my execution or authentication of this form, and my intent to be bound by it.

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

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