

POSITION DUTY STATEMENT

DOT PM-0924 (REV 08/2024)

CLASSIFICATION TITLE Sr Bridge Eng	OFFICE/BRANCH/SECTION DES/Bridge Design	
WORKING TITLE Technical Specialist	POSITION NUMBER 559-240-3185-163	REVISION DATE 11/15/2024

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 a Supervising Bridge Engineer, a Senior Bridge Engineer, the Technical Specialist will perform difficult and complex work on specialized transportation-related structures, engineering projects, or research studies. The incumbent may work in a Bridge Design Branch and receive work assignments, including production work and quality reviews from the Branch Chief. This is a technical position with responsibility for analysis, training and mentoring, project delivery relative to large, complex or high risk bridge design work, and coordination and delivery of large scale projects.

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.

- **Change Leadership:** Develops new and innovative approaches needed to improve effectiveness and efficiency of work products. Encourages others to value change. Considers impact and recommends changes. (Strengthen Stewardship and Drive Efficiency - Innovation)
- **Decision Making:** Makes critical and timely decisions. Takes charge. Supports appropriate risk. Makes challenging and appropriate decisions. (Enhance and Connect the Multimodal Transportation Network - Engagement)
- **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. (Cultivate Excellence - Integrity)
- **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. (Enhance and Connect the Multimodal Transportation Network - Engagement)
- **Customer Focus:** Considers, prioritizes, and takes action on the needs of both internal and external customers. (Enhance and Connect the Multimodal Transportation Network - 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)
- **Analytical Skills:** Approaches problems using a logical, systematic, and sequential approach. Weighs priorities and recognizes underlying issues. (Cultivate Excellence - Innovation)
- **Thoroughness:** Ensures that work and information is complete and accurate. Ensures that assignment goals, objectives, and completion dates are met. Documents and reports on work progress. (Cultivate Excellence - Pride)

TYPICAL DUTIES:

Percentage	Job Description
Essential (E)/Marginal (M) ¹	
50% E	Serves as structure project engineer on complex transportation-related structures and large projects. This role requires coordinating tasks with engineers in the Design Branch and with other Division of Engineering Services (DES) functional units as well as with external project stakeholders such as District project management and design staff. Provides support to the District for structural, environmental, aesthetic, public and other District concerns during project development phase. Monitors project resources and relays information to the Branch Chief. Advises and supports Districts with their structures-related Digital Delivery objectives on the project.

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25%	E	Participates in the evolution, development, and implementation of Caltrans bridge design technical guidance with emphasis on Building Information Modelling (BIM) and Digital Delivery guidance, through committee or team efforts related to research, technical report reviews and literature surveys. Briefs staff on topics being discussed at technical team meetings, answers technical questions regarding the design standards and software, and provides training on design criteria and guidance. Performs quality reviews including Independent Quality Assurance (IQA) reviews.
15%	E	Provides training and guidance to branch staff on Project Engineer (PE) roles and responsibilities and the completion of project delivery related tasks, with emphasis on BIM and Digital Delivery. Briefs executive management on BIM and Digital Delivery. Provides guidance and support to branch staff, with emphasis on BIM and Digital Delivery. Briefs executive management on BIM and Digital delivery developments.
10%	M	Provides support for task management activities in the branch.

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

May lead a group of employees regarding special projects but does not supervise.

KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS

Knowledge of:

- Purposes, organization, policies, and procedures of Caltrans and DES.
- Methods of design and construction of various types of bridges and transportation-related structures.
- Characteristics of materials and equipment used in structure design and construction of bridges and transportation-related structures.
- Methods of stress analysis for both statically determinate and indeterminate structures, of the determination and influence of deflection on the stresses in structures and of design practices and bridge or structure engineering as applied to transportation-related structures.
- Factors affecting structure type selection, maintenance inspection, and load rating of structures.
- Structure seismic design criteria, modern seismic design philosophy, factors affecting seismic behavior of bridges.
- Principles of project management including scope, schedule, and budget.
- Risk and quality management principles.
- Financing of transportation facilities.
- Budgetary and resource matters; economics of bridge design and financing and handling of construction work by contract.
- An understanding of the challenges and constraints facing our District partners and the willingness and ability to find solutions that work within those constraints.

Ability to:

- Analyze technical situations accurately and recommend or adopt an effective course of action.
- Address and audience effectively; work effectively with Caltrans' Districts, consultants, local government agencies and other transportation financing agencies.
- Initiate correspondence and prepare complete and comprehensive reports.
- Communicate effectively both orally and in writing.
- Be flexible and adaptive to changes.
- Work successfully with others to gain their respect and confidence.

RESPONSIBILITY FOR DECISIONS AND CONSEQUENCES OF ERROR

- Has the professional responsibility to assure the safety of the traveling public at a cost that is an effective use of public funds.
- Errors in judgment and decisions could affect program delivery, lead to costly contract change orders, impact public safety or result in liability for the Department
- Structural failure can be catastrophic due to loss of life, disruption in goods movement, and/or delays to the traveling public.

PUBLIC AND INTERNAL CONTACTS

Employee maintains communication with all personnel assigned to his/her project, including bridge designers and staff from other DES functional units such as Geotechnical Services, as well as District project managers and designers. Communicates with outside agencies on project issues such as scope, cost and schedule. Examples of outside contacts include regional transportation agencies and local communities with a vested stake in a particular project. Works with maintenance personnel on routine and emergency issues as a technical advisor. He/She maintains communication with appropriate vendors and other

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industry representatives.

PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS

Employees may be required to sit for long periods of time using keyboard and video display terminal. They may also be required to move large or cumbersome plans and diagrams from one location to another. May be required to lift/move/carry various types of portable equipment weighing up to 20 pounds around the work site or when out in the field.

WORK ENVIRONMENT

While at their base of operation, incumbent will work in a climate-controlled office under artificial lighting. Travel may be required for field visits and for meetings with District partners and project stakeholders. 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. May work around bulky/heavy materials and equipment used in the vicinity of inspection areas. May also be exposed to the motoring public. 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.)

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
