

POSITION DUTY STATEMENT

DOT PM-0924 (REV 01/2025)

CLASSIFICATION TITLE Transportation Engineer (Civil)	OFFICE/BRANCH/SECTION Toll Bridge Investigation/Design	
WORKING TITLE Structure Design Engineer	POSITION NUMBER 913-623-3135-023	REVISION DATE 04/07/2026

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

GENERAL STATEMENT:

Under the directions of the Branch Chief, a Senior Bridge Engineer, the incumbent performs structure analysis and design, generates design details, prepares contract plans and other Caltrans design documents, estimates contract work quantities for delivering bridge maintenance and rehabilitation projects. The incumbent may perform some of the duties in according to the current Caltrans teleworking policies. Bridge or structure design, bridge construction, bridge load rating experiences, a valid Class C Drivers License, and a valid California PE (Civil) License are desired.

CORE COMPETENCIES:

As a Transportation Engineer (Civil), 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.

- **Learning on the Fly:** Learns quickly, is open to change, experiments, and is flexible. (Safety, Equity, Climate Action, Prosperity, Employee Excellence - Innovation, Pride, Stewardship)
- **Decision Making:** Makes critical and timely decisions. Takes charge. Supports appropriate risk. Makes challenging and appropriate decisions. (Safety, Prosperity, Employee Excellence - Integrity, People First, Pride, Stewardship)
- **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. (Safety, Equity, Employee Excellence - Collaboration, Integrity, 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, People First)
- **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, Employee Excellence - Collaboration, Innovation, Pride, Stewardship)
- **Organizational Awareness:** Contributes to the organization by understanding and aligning actions with the organization's strategic plan, including the mission, vision, goals, core functions, and values. (Safety, Climate Action, Employee Excellence - Integrity, 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, Employee Excellence - Collaboration, Equity, Innovation, Integrity, People First, Pride, Stewardship)
- **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. (Safety, Equity, Climate Action, Prosperity, Employee Excellence - Innovation, Integrity, Stewardship)
- **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. (Safety, Employee Excellence - Integrity, People First, Pride, Stewardship)

TYPICAL DUTIES:

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

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50%	E	Deliver bridge preservation, modification, and rehabilitation projects, both planned and emergency, for the Bay Area bridges including the Toll Bridges. Typical tasks include but not limited to reviewing project documents, Caltrans and AASHTO bridge design manuals/specifications, bridge inspection reports, and all relevant bridge and roadway as-built plans and specifications; communicating with members of project developing team, technical specialists, bridge inspection personnel, construction personnel, and personnel outside Caltrans as needed; performing design analysis and calculations both by hand and using computer programs, developing design details and preparing contract plans, conducting quantity estimates, transmitting related project documents, performing project focused field investigations (on bridges including the Toll Bridges) and/or testings to validate design strategies and design assumptions and/or to achieve other project goals. Acts in the capacity of Project Engineer when assigned. Prepare project statements that involves project scoping, cost estimating, and constructibility evaluation to facilitate the Project Initiation Document (PID) for Toll Bridge maintenance projects. Prepare project advanced planning studies for maintenance projects.
15%	E	Performs independent design check on projects prepared by other engineers within the unit per Caltrans bridge design procedures. Typical tasks include but not limited to reviewing the plans and details against the project documents, performing independent design calculations and quantity estimate, conducting field inspections with the designers.
10%	E	Work with structure office engineers (SOE) assigned to your projects by reviewing project special provisions and cost & working day estimates developed by SOEs. Response to bidder's inquiries and develop contract addenda during project advertising period when necessary.
10%	E	Provides design support during construction stage of the projects. Typical tasks include but not limited to reviewing shop drawings and other structural submittal; answering design related questions, resolving plan/design issues, and providing design change orders. Construction site visits, including night work, are often needed.
10%	E	Perform other focused analysis, investigation, research to assist the needs in Toll Bridge maintenance and asset management. Participate and complete all mandate and required trainings.
5%	M	Assist on routine and/or special structure investigations conducted by Structure Maintenance & Investigations (SM&I) Toll Bridge Office when appropriate or necessary. Also assist with any other tasks related to the essential functions of the 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

This position does not supervise other employees. However, the incumbent may lead or coordinate the work of other employees depending on the situation.

KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS

Must possess a thorough knowledge of principles of physics, chemistry, and mathematics as applied to civil engineering; must be proficient using computer tools such as MS Office, etc.; knowledge of structural mechanics, stress analysis, common bridge construction material properties and applications; basic knowledge of Caltrans bridge design procedures, methods and softwares; basic knowledge of Caltrans project delivery procedures; basic knowledge of bridge construction method and equipment. The ability of following established procedures and using proper tools and/or computer programs; the ability of understanding design specifications and carrying out design calculations and analysis accordingly; the ability of collecting/filtering information and applying sound engineering judgment to achieve efficient bridge maintenance strategies; the ability of planning and prioritizing multiple work commitments to meet project delivery goals; the ability of communicating with supervisor, project team members, etc. clearly and timely both verbally and in writing; the ability of establishing and maintaining professional and supportive working relations with colleagues and coworkers.

RESPONSIBILITY FOR DECISIONS AND CONSEQUENCES OF ERROR

The incumbent is responsible for evaluating the repair scopes of the subject structures base on both provided information and information from his own investigations including site reviews. Errors in calculations and/or decisions could directly affect public safety. Inaccurate or incomplete project scope and/or design details may result in increased costs of constructions and operations, reduced effectiveness of Caltrans bridge preservation and rehabilitation programs. Critical errors can increased the potential of tort liability of the Department.

PUBLIC AND INTERNAL CONTACTS

During project delivery, the incumbent will routinely in contact with other Caltrans function units, engineering consultants, vendors, etc. The incumbent may be also in contact with representatives from the Bay Area Toll Authority (BATA), Federal Highway Administration, and contractors to transmit or obtain relevant engineering information. These contacts will be verbal or

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written as needed.

PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS

The incumbent is required to sit for long periods of time using a keyboard and video display terminal either in a climate controlled office setting or in an alternative teleworking location. The incumbent must also be able to move large or cumbersome plans and diagrams from one location to another, and materials weighing up to 50 lbs.

WORK ENVIRONMENT

In addition to the office activities, the incumbent is also required to work outdoors in areas with exposure to dirt, dust, noise, allergens, hot or cold temperatures, uneven surfaces, within close proximity of vehicular traffic (day-time or night-time lane closures) and/or construction equipment. Some field visits require riding boat in open water, walking at considerable heights, climbing ladders, riding on lifting equipment or bridge maintenance travelers.

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
