

POSITION DUTY STATEMENT

PM-0924 (REV 7/2014)

CLASSIFICATION TITLE Transportation Engineer (Civil)	OFFICE/BRANCH/SECTION 56 / Maintenance / Structure Maint. & Inv. / Toll Bridges	
WORKING TITLE Area Bridge Maintenance Engineer (ABME)	POSITION NUMBER 913-623-3135-XXX	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 supervision of the Branch Chief, a Senior Bridge Engineer, the incumbent is responsible for performing routine and special field engineering investigations of the State-owned Toll Bridges and other State-owned bridge structures, and reporting the results of those investigations in a comprehensive written engineering report. During emergency situations, the incumbent may be required to work off-peak hours, seven days a week, to respond to bridge damage and direct field crews in the repair and stabilization activities of damaged bridge structures. Incumbent must possess and maintain a California Drivers License.

TYPICAL DUTIES:

Percentage		Job Description
45%	E	Perform routine and special field structural investigations of the Bay Area Toll Bridges and other State-owned structures to detect evidence of deterioration and/or damage due to environmental or accidental causes, utilizing various tools such as hammers, laser measuring devices, or chains to obtain precise measurements; perform visual observations that may require structural components to be accessed via climbing, crawling or walking; use sound judgment in evaluating structural components; prepare inspection reports accurately describing structural conditions reflecting the amount of deterioration or distress measured; develop inspection plans; consult with supervisors to determine the structural integrity and safety of these State highway structures and determine any required maintenance or corrective action necessary to keep the bridges in a safe and functional condition.
35%	E	Write comprehensive engineering reports detailing the results of field structural investigations of bridges for utilization by the Bay Area Toll Authority (BATA), Federal Highway Administration, and other outside agencies for determining needed maintenance work on bridge structures statewide; originate correspondence pertaining to particular structures and coordinate work; summarize bridge maintenance recommendations, bridge condition ratings, suggestions for preventative maintenance, and/or recommendations for emergency repair.
5%	M	Gather physical and statistical data pertaining to bridge structures; maintain data in a comprehensive master database.
5%	M	Give instructions to co-workers and outside contractors, and direct operations (sometimes in emergency conditions) for the stabilization, repairs and service of damaged bridge structures.
5%	M	Consult with District engineering staff, providing technical assistance when preparing project reports and scheduling maintenance contracts on the Bay Area Toll Bridges. Conduct peer review meetings utilizing available expertise within Structures Maintenance and Investigations to propose and prioritize bridge maintenance projects.
5%	M	Perform specific analysis on Highway Bridge structures to determine the maximum safe load capacity for legal and extra-legal vehicles considering existing conditions and materials.

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 the principles and procedures relative to the design, construction and

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maintenance of bridge structures and be able to apply them on a variety of structure types that exist on the State Highway System.

The ability to: make neat and accurate engineering field notes and prepare concise engineering reports, apply sound engineering judgement in field conditions and analyze factors affecting the safe load capacity of bridges, collect physical and statistical data in field conditions and accurately maintain that data in a comprehensive database, work independently and make decisions with minimum direction or supervision, analyze situations caused by major accidents or occurrences and expedite emergency repair schemes, establish and maintain friendly and cooperative relations, communicate effectively with those contacted in the course of work, and to safely drive State vehicles and operate a variety of bridge inspection tools and equipment.

RESPONSIBILITY FOR DECISIONS AND CONSEQUENCES OF ERROR

Errors in judgement and/or decisions could directly affect public safety. Inaccurate, delayed or incomplete bridge investigation and reporting activities may result in a reduction of public mobility, increased maintenance/operations costs, inaccurate project scope, unnecessary delays in bridge rehabilitation or replacement projects, and potential tort liability for the Department.

PUBLIC AND INTERNAL CONTACTS

The incumbent will routinely contact other Caltrans personnel, contractors, engineering consultants, vendors, representatives from the Bay Area Toll Authority (BATA), Federal Highway Administration, and other outside agencies to transmit or obtain relevant engineering information. These contacts will be verbal or written as needed to perform assignments.

PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS

The employee is required to make critical safety decisions in emergency conditions relative to bridge structural stability with little supervision. The employee must be able to participate in first aid/safety training and may be required to administer first aid in the field in the event of an injury.

Hearing and sight are both essential to job performance because the employee must be able to hear directions, traffic and equipment and must see to perform his/her duties safely. The employee should be able to travel with and work closely with other engineers and act as a team member. The employee is required to sit for long periods of time while driving or using a keyboard and video display terminal.

A bridge inspection might require an employee to walk up or down a steep incline, climb fences as high as eight (8) feet, and push or pull doors or scaffolding. Incumbent may be required to climb interior or exterior ladders, catwalks or scaffolding, and perform his/her inspection duties at considerable heights or over open waters.

The employee is required to lift and operate heavy bridge inspection tools and equipment. These operations require grasping, fine manipulation, reaching overhead with the tools or equipment, twisting, lifting, squatting, crouching, balancing or bending while carrying the tools and equipment through confined spaces, on ladders or scaffolds, and then observing and recording the results of their operations.

The employee is required to operate a variety of bridge inspection equipment, including under bridge inspection trucks, lift equipment and boats. This requires the employee to utilize his/her motor skills to operate and manipulate gears, drills, foot controls and other vehicle parts that control the motor or machinery.

WORK ENVIRONMENT

The work environment is split approximately 50% between a base of operation and 50% various field locations throughout Northern California. While at their base of operation, the employee will work in a climate-controlled office subdivided into open modular cubicles under artificial lighting. While in the field, the employee is required to drive State vehicles and work outdoors in various physical conditions that exist around bridge structures including areas exposed to dirt, dust, loud noises, traffic (lane closures), uneven surfaces, tight surroundings, open waters, and at considerable heights.

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

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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