

**POSITION DUTY STATEMENT**

PM-0924 (REV 7/2014)

CLASSIFICATION TITLE Senior Bridge Engineer	OFFICE/BRANCH/SECTION Maintenance/Structure Maintenance & Investigations	
WORKING TITLE Quality Assurance Program Manager	POSITION NUMBER 913-620-3185-918	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 direction of the Assistant Division Chief, a Principal Bridge Engineer, and in coordination with the Quality Management Program Manager, a Senior Bridge Engineer, the incumbent acting in a specialist capacity, is responsible for the ongoing implementation and enhancement of the Structure Maintenance & Investigations (SM&I) Quality Assurance (QA) Program. The incumbent will perform random independent quality assurance field investigations of a representative sample, compare and evaluate results to previously completed investigations, and evaluate recommendations to ensure that daily ongoing inspections and reviews follow existing Quality Control Program guidelines and procedures, and make recommendations for improvement or quality assurance enhancement.

**TYPICAL DUTIES:**

Percentage Essential (E)/Marginal (M) <sup>1</sup>	Job Description
40% E	Perform random independent quality assurance field inspections and investigations on the State and local highway systems to obtain precise measurements; perform visual observations; evaluate condition states; prepare quality assurance inspection reports describing existing conditions that reflect the amount of deterioration or distress; compare existing data and findings to previously observed field condition studies. Originate QA summary reports which measure the quality of the work performed, identify corrective measures to mitigate issues and identify inconsistencies, irregularities, and identify areas where changes are needed. Make recommendations to achieve the goal of the QA Program, and assure program compliance to federal mandates.
25% E	Review inspection and engineering reports to provide quality assurance of the bridge inspection program by recognizing repeated errors, or trends. Originate reports that summarize accuracy of bridge data and inspection reports. Contact and meet with local agencies to evaluate the quality of their safety bridge inspection program in conformance with the Department's oversight responsibilities to assure federal compliance.
20% M	Performs independent quality assurance of a representative sample of work products produced by SM&I units. Provides feedback and recommendations to SM&I personnel based upon these reviews to ensure uniformity and conformance to current policies and processes.
15% M	Recommend revisions or additions to policy and procedures related to management of the in-service bridge inventory for the improvement of practices and operational efficiency.

<sup>1</sup>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**

None. May act as lead over other Transportation Engineers, Bridge Engineers and administrative staff.

**KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS**

The incumbent is required to hold valid registration as a California professional Civil Engineer. The incumbent must be thoroughly competent in both statically determinate and in-determinate analysis and must be able to utilize both engineering and office computer programs. This position requires a general knowledge of load rating, hydraulic analysis, bridge preservation techniques, design and estimation of structural quantities. The incumbent must possess a thorough knowledge of the principles and procedures relative to the design, construction and maintenance of transportation structures on both the state and local highway systems.

The incumbent must have the ability to make sound effective decisions during stressful situations such as during an emergency response; create neat and accurate engineering field notes and prepare concise engineering reports. The

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incumbent must have the ability to apply sound engineering judgment in field conditions and analyze factors affecting the safe load capacity; collect physical and statistical data in field conditions and accurately maintain that data in a comprehensive database; work independently and make decisions with a minimum of direction or supervision. The incumbent must have the ability to travel and work throughout California, and safely drive State vehicles and operate a variety of inspection tools and equipment.

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### RESPONSIBILITY FOR DECISIONS AND CONSEQUENCES OF ERROR

Errors in judgment and/or decisions could directly affect public safety. Inaccurate, delayed or incomplete investigations 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.

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### PUBLIC AND INTERNAL CONTACTS

The incumbent must maintain oral and written contact with District and local agency maintenance operations, District and Division of Engineering Services Project Development and various Department offices and branches. May be required to present the results of QA field investigations to Federal Highway Administration (FHWA), Department and local agency personnel. The incumbent may be required to provide expert background and recommendations to technical committees in subjects relating to bridge maintenance.

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### PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS

During an emergency the incumbent may be required to make critical safety decisions, with little or no supervision, relative to structural stability.

The incumbent 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 incumbent must be able to hear directions, traffic and equipment and must see to perform their duties safely. The incumbent should be able to travel with and work closely with other engineers and act as a team member. The incumbent is required to sit for long periods of time while driving or using a keyboard and video display monitor.

An inspection might require the incumbent to walk up or down a steep incline, climb fences as high as eight (8) feet, and push or pull doors or bridge access openings; climb interior or exterior ladders, catwalks or scaffolding; access components via climbing, crawling or walking near or over live traffic and perform their inspection duties at heights as high as seven hundred (700) feet above water or land.

The incumbent is required to lift and operate field 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 incumbent may also be required to work in streambeds and river crossings that are underneath bridge structures. This involves the ability to wade in water, or utilize flotation devices. The incumbent must have the ability to safely access and operate boats or other equipment in strong water currents and under adverse weather conditions; operate a variety of inspection equipment, including under bridge inspection trucks, lift equipment and boats. This requires the incumbent to utilize their motor skills to operate and manipulate gears, drills, foot controls and other vehicle parts that control the motor or machinery.

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### WORK ENVIRONMENT

The work environment is split approximately 70% between a base of operation and 30% at various field locations throughout California. While at their base of operation, the incumbent will work in a climate-controlled office under artificial lighting. While in the field, the incumbent is required to drive State vehicles and work outdoors during the day or night and may be exposed to dirt, noise, traffic, uneven surfaces and a variety of weather conditions including wind, rain and extreme heat/cold. While in the field, the incumbent could be exposed to various physical conditions including working at heights, around water, in confined spaces, around traffic and homeless encampments under bridges, in boats and in under bridge inspection trucks or lift equipment.

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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.)

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EMPLOYEE (Print)

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EMPLOYEE (Signature)

DATE

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

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SUPERVISOR (Print)

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SUPERVISOR (Signature)

DATE

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