

POSITION DUTY STATEMENT

PM-0924 (REV 7/2014)

CLASSIFICATION TITLE Senior Bridge Engineer	OFFICE/BRANCH/SECTION D59/DES/Structure Design	
WORKING TITLE Branch Chief	POSITION NUMBER 559-240-3185-xxx	EFFECTIVE DATE 05/01/2015

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 direction of a Supervising Bridge Engineer, a Branch Chief will perform difficult and complex work on specialized transportation-related structures, engineering projects or research studies. This is a supervisory position with responsibility for managing project delivery relative to bridge design work. The incumbent must possess a valid certification of registration as a Civil Engineer issued by the California State Board of Registration for Professional Engineers.

TYPICAL DUTIES:

Percentage	Essential (E)/Marginal (M) ¹	Job Description
25%	E	Schedules and assigns bridge design work within his/her branch; monitors design progress to ensure completion on time and within allocated resources.
25%	E	Supervises staff consisting of engineers and detailers; counsels staff on appropriate work ethic and conduct; monitors attendance and work throughout; disciplines staff as necessary to maintain cohesive working unit. Councils staff on effective work habits and guidelines for efficient, quality design. Develops staff knowledge and ability through training and work assignments.
25%	E	Reviews and approves structural transportation-related designs, both in-house and consultant design; reviews and comments on technical and project delivery guidance documents. Encourages innovation and keeps up on advances in the field of bridge engineering. Addresses technical and project delivery challenges through creative problem solving. Sets technical, design and project delivery policy and practices for branch within the framework of the policy and procedures of the Structure Design subdivision. Performs quality assurance on all projects and actively seeks to improve quality and efficiency of the project delivery process. Performs independent constructability, risk and quality review of each project delivered by the branch.
20%	E	Meets with and communicates verbally and in written form with other DES units, District design and project management staff on project delivery related issues including project status, capital support resourcing, schedule, cost, risk management, and quality management to ensure cost effective and timely project delivery. Acts as Task Manager for WBS Tasks assigned to Structure Design. Proactively reviews project scope and schedule for each project from task 150 through task 250 to ensure successful delivery. Pro-actively coordinates with other functional units within DES to meet delivery commitments and considers site and environmental restrictions and other project risks in developing the scope and schedule.
05%	M	Acts as a consultant and primary DES contact to the Districts, cities and counties on questions involving bridge and structural concerns. In this capacity, attends meetings with the District to address technical and project delivery issues related to bridge design.

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

Directly supervises the work of Transportation Engineers and Structural Design technicians. Supervisory duties include

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monitoring attendance, maintaining product quality, disciplining, etc.

KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS

Employee must hold a valid certification of registration as a Civil Engineer. Must have education equivalent to graduation from college with major work in civil engineering with emphasis on structural work.

Knowledge of:

- Purposes, organization, policies, and procedures of the Department of Transportation and the Division of Engineering Services.
- 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, methods for the determination of structure deflections, and the influence of the deflections on the stresses in structures.
- Design practices and bridge or structure engineering as applied to transportation-related structures.
- Factors affecting structure type selection, constructability, maintenance inspection and load rating of structures.
- Structure seismic design criteria and program, modern seismic design philosophy, factors affecting seismic behavior of bridges.
- Geotechnical conditions/parameters affect the design of bridges and walls; the potential impact of liquefaction and scour on bridge design
- Risk and quality management principles
- Principles of personnel management including related Department guidelines such as the "Supervisor's Guide to Employee Conduct and Discipline."
- Consultant contracting process, including consultant selection and contract management.
- Budgetary and resource matters; economics of bridge design and financing and handling of construction work by contract.

Ability to:

- Plan, direct and coordinate the work of a group of engineering and technical staff.
- Evaluate estimating and inspection work on all types of bridges, major structures or transportation-related buildings, including foundations.
- Analyze technical situations accurately and recommend or adopt an effective course of action.
- Address an audience effectively; work effectively with Caltrans districts, consultants, local government agencies and other transportation financing reports.
- Be flexible and adaptive to changes.
- Work successfully with others to gain respect and confidence.
- Effectively write and review technical papers, memos and reports.

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 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. Maintains communication with appropriate vendors and other 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 50 pounds around the work site or when out in the field. May be required to travel to meetings statewide. May be required to meet at construction sites and work in the field.

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WORK ENVIRONMENT

While at their base of operations, employees will work in a climate-controlled office under artificial lighting. Employees may also be required to travel and work outdoors and may be exposed to dirt, noise, uneven surfaces and/or extreme heat or cold.

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.)

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