

POSITION DUTY STATEMENT

DOT PM-0924 (REV 08/2024)

CLASSIFICATION TITLE Structural Design Technician I	OFFICE/BRANCH/SECTION DES/SES/ODTS/Special Designs Branch C	
WORKING TITLE Detailer	POSITION NUMBER 559-220-3038-xxx	REVISION DATE 09/26/2024

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:

This is the entry and first journey level of the series. Under the direct supervision of a Senior Bridge Engineer and/or lead person, incumbent prepares simple drawings and assists in the preparation of complete design, construction, and as-built drawings for a variety of structures.

CORE COMPETENCIES:

As a Structural Design Technician I, 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.

- **Managing Change:** Demonstrating support for organizational changes needed to improve the department's effectiveness; supporting, initiating, sponsoring and implementing change. (Cultivate Excellence - Engagement)
- **Dealing with Ambiguity (Risk):** Can comfortably handle risk and uncertainty, as well as make decisions to act without having the total picture. (Strengthen Stewardship and Drive Efficiency - Innovation)
- **Ethics and Integrity:** Demonstrated concern to be perceived as responsible, reliable, and trustworthy. Respects the confidentiality of information or concern shared by others. Honest and forthright. Conforms to accepted standards of conduct. (Advance Equity and Livability in all Communities - Integrity)
- **Conflict Management:** Recognizes differences in opinions and encourages open discussion. Uses appropriate interpersonal styles. Finds agreement on issues as appropriate. Deals effectively with others in conflict situation. (Advance Equity and Livability in all Communities - Equity)
- **Teamwork/Partnership:** Develops, maintains, and strengthens partnerships with others inside or outside of the organization through effective communication and collaboration. (Cultivate Excellence - Engagement)
- **Customer Focus:** Considers, prioritizes, and takes action on the needs of both internal and external customers. (Cultivate Excellence - Equity)
- **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. (Enhance and Connect the Multimodal Transportation Network - Engagement)
- **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. (Strengthen Stewardship and Drive Efficiency - Engagement)
- **Organizational Skills:** Keeps work prioritized and organized. Logically approaches situations. (Enhance and Connect the Multimodal Transportation Network - Innovation)

TYPICAL DUTIES:

Percentage	Job Description
45% E	Assists engineers in the preparation of a complete set of construction contract drawings for a variety (e.g.: concrete, steel, masonry and timber) of average difficulty structures from engineer's design notes and sketches, by using state-of-the-art technology, i.e.: Computer-Aided-Drafting/Design (CADD) and related programs to assist in the development of details, layout and geometric design and to assist in electronically submitting plans to Office Engineer.

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15%	E	Makes engineering calculations as required for horizontal and vertical alignment and dimensions for layout of average difficulty structures based on data supplied by the District and/or engineer's design notes and sketched.
15%	E	Prepares preliminary layouts various types of structures for planning studies using CADD and related computer programs.
15%	E	Calculates and checks quantities for preliminary estimates of structure costs based on the General Plan and final estimates of structure costs based on set construction contract drawings.
10%	M	Prepares as-built corrections either by hand-drafting or uses state-of-the-art technology (i.e.: CADD based on data supplied by the Structure Construction Representative and the Project Engineer.

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.

KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS

Knowledge of: Common details, methods of layouts used in the preparation of structural design, construction drawings and asbuilts for a variety of structures of average difficulty; basic engineering mathematics; simple quantity estimates; state-of the-art technology, i.e., CADD and related computer programs used to determine layout, detail drawings and create geometric design for various types of structures.

Ability to: Communicate both orally and in writing; follow oral and written directions; draft neat, accurate and legible plans of average difficulty; interpret sketches, drawings and plans encountered in the work; prepare and check quantity estimates; use state-of-the art technology, i.e., CADD, and related computer programs; assist in performing geometric design of average difficulty; make basic engineering calculations; plot data from field notes; prepare charts and graphs; use of mathematical calculations and interpretation of the survey notes and computer alignment output in preparing General Plans, site data and locating specific abutments and bents.

Analytical Requirements: Use of trigonometric calculations and interpretation of the survey notes and computer alignment output in preparing General Plans, site date and locating specific abutments and bents. Must be informed in regard to information available from standards.

RESPONSIBILITY FOR DECISIONS AND CONSEQUENCES OF ERROR

The incumbent exercises judgment in the selection of views and standard plans and details used in the preparation of a complete set of plans, which could result in incomplete information in the contract plans and estimates. Incomplete information in the contract plans and estimates could result in unnecessary rework, increased cost and time to produce correct plans, and possible delay of the project.

PUBLIC AND INTERNAL CONTACTS

Incumbent maintains communications, generally through the Project Engineer, with various personnel working on the project to which he/she is assigned, including other Department personnel, engineering consultant and industry representatives to transmit or obtain relevant engineering information. These contacts will be verbal or written, to perform one's assignments.

PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS

May be required to sit for long periods of time using keyboard and mouse. May also be required to lift/move/carry large or cumbersome plans (maximum of 50 pounds). May be required to lift/move/carry various types of portable equipment, which may weigh up to 50 pounds, around the work site or when out in the field.

WORK ENVIRONMENT

Incumbent will work in a climate-controlled office under artificial lighting. Employees may also be required to travel to job site and may be exposed to dirt, noise, uneven surfaces and/or extreme heat or cold.

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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.)

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

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