

POSITION DUTY STATEMENT

DOT PM-0924 (REV 01/2025)

CLASSIFICATION TITLE Structural Design Technician I	OFFICE/BRANCH/SECTION DES/SES/Office of Transportation Architecture	
WORKING TITLE Detailer	POSITION NUMBER 559-220-3038-xxx	REVISION DATE 03/18/2025

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

GENERAL STATEMENT:

This is the entry and first journey level of the series. Under supervision of a Senior Bridge Engineer (Supervisor) and/or lead person, the incumbent prepares simple drawings and assists in the preparation of a complete set of construction contract drawings for a variety buildings (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, (e.g., Computer-Aided-Drafting/Design (CADD) and related programs) to assist in the development of details, layout, and geometric design of building 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.

- Flexibility and Managing Uncertainty** : Adjusts thinking and behavior in order to adapt to changes in the job and work environment. (Employee Excellence - Equity, Pride)
- Dealing with Ambiguity (Risk)**: Can comfortably handle risk and uncertainty, as well as make decisions to act without having the total picture. (Prosperity - Innovation, 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. (Prosperity - Collaboration, 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. (Prosperity - Collaboration, Innovation, Stewardship)
- Relationship Building**: The ability to develop and maintain internal and external trust and professional relationships, which includes listening and understanding to build rapport. (Prosperity - Collaboration, Equity, 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. (Prosperity - Collaboration, 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. (Employee Excellence - Collaboration)
- 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. (Prosperity - Integrity, Stewardship)
- Computer literacy and application**: Appropriate knowledge of computer applications and other tools necessary to successfully perform tasks. (Prosperity - Integrity, Stewardship)

TYPICAL DUTIES:

Percentage Essential (E)/Marginal (M) ¹	Job Description
45% E	Assists engineers in the preparation of a complete set of construction contract drawings for a variety building structures (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, (e.g., Computer-Aided-Drafting/Design (CADD) and related programs) to assist in the development of details, layout, and geometric design of building structures.
15% E	Performs 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.

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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/or 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, e.g., CADD and related computer programs such as REVIT, 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 such as REVIT; 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
The 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, as needed to perform one's assignments.

PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS
The incumbent 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. Must be able to work with others in a cooperative manner and treat others with respect.

WORK ENVIRONMENT
The incumbent will work in a climate-controlled office under artificial lighting. Employees may also be required to travel to job sites and may be exposed to dirt, noise, vibration, uneven surfaces, extreme heat or cold, and/or bulky/heavy materials and equipment. May also be exposed to the motoring public. DES employees may be given temporary assignments on DES projects throughout the State as workload demands.

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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
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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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