

POSITION DUTY STATEMENT

PM-0924 (REV 01/2022)

CLASSIFICATION TITLE Transportation Engineering Technician	OFFICE/BRANCH/SECTION 59 / Division of Engineering Services / Structure Construction	
WORKING TITLE Assistant Structure Representative	POSITION NUMBER 559-550-3175-911	REVISION DATE 11/15/2022

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 position reports directly to a Senior Bridge Engineer (Supervisor) in Structure Construction (SC), Division of Engineering Services (DES). The entry-level incumbent acts as an assistant to a Structure Representative, a Transportation Engineer Civil, Range D or Associate Bridge Engineer, and under close supervision, performs work of limited difficulty in a field construction environment. This work is performed on highway construction projects involving bridges, buildings, walls, barriers, drainage structures, sign structures and appurtenances. The incumbent works as an inspector to ensure contractors build structures in compliance with the contract documents (Standard Plans, Standard Specifications, contract plans, Special Provisions, and authorized shop drawings).

CORE COMPETENCIES:

As a Transportation Engineer Technician, 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.

- **Learning on the Fly:** Learns quickly, is open to change, experiments, and is flexible. (Safety First - 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 - Integrity)
- **Initiative:** Ability to identify what needs to be done and doing it before being asked or required by the situation. Seeks out others involved in a situation to learn their perspectives. (Enhance and Connect the Multimodal Transportation Network - Innovation)
- **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. (Cultivate Excellence - Engagement)
- **Teamwork/Partnership:** Develops, maintains, and strengthens partnerships with others inside or outside of the organization through effective communication and collaboration. (Enhance and Connect the Multimodal Transportation Network - Engagement)
- **Customer Focus:** Considers, prioritizes, and takes action on the needs of both internal and external customers. (Enhance and Connect the Multimodal Transportation Network - Pride)
- **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. (Strengthen Stewardship and Drive Efficiency - 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. (Advance Equity and Livability in all Communities - Innovation)
- **Thoroughness:** Ensures that work and information is complete and accurate. Ensures that assignment goals, objectives, and completion dates are met. Documents and reports on work progress. (Safety First - Integrity)

TYPICAL DUTIES:

Percentage	Job Description
Essential (E)/Marginal (M) ¹	
45% E	Assist in the construction inspection of public works projects involving bridges, buildings, walls, barriers, drainage structures, sign structures and other structures. This includes full-time and intermittent inspections during all phases of construction, including earthwork operations, foundation excavation, pile driving, cast-in-drilled-holes poles and concrete forms, shoring, falsework, and other construction operations. Takes appropriate action when materials and workmanship are non-conforming.

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25%	E	Completes daily diaries of contractor's construction activities being performed, inspections performed, tests taken and materials placed. Assist in the preparation of necessary records pertaining to construction progress, monthly pay estimates, and job expenditures.
10%	E	Sampling and testing bridge construction materials in accordance with California Test Methods (CTM) or American Society for Testing Materials (ASTM) procedures.
10%	E	Provide the necessary construction surveying for control lines and grades as required by established SC Practices & Procedures.
5%	E	Performs calculations related to the alignment and grading of structures. Perform calculations for determining quantities for Progress Pay Estimates, e.g. length, area and volume.
5%	M	Perform deflection and stress calculations (e.g. shear, flexure, torsion) for the various elements of structures (e.g. beams, columns, etc.) as used in the contractor's temporary works.

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

None. Works under the direct supervision of a registered civil engineer at the Senior Bridge Engineer (Supervisor) level. May work under the general direction of a Transportation Engineer (Civil), Range D or an Associate Bridge Engineer.

KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS

This position requires ability to use and adjust precision surveying instruments; make accurate engineering calculations; assist in the inspection of construction work and ensure contractor compliance with plans and specifications; analyze situations accurately and take effective action and prepare reports. Incumbent must have the ability to sample and perform physical test of bridge construction materials. This position requires knowledge on stress analysis, strength, properties and uses of construction materials; physical characteristics and properties of bridge construction materials and the approved methods and requirements used in sampling and testing bridge construction materials.

This position requires knowledge of the methods, materials, tools, and equipment used in the construction and maintenance of transportation structures.

This position requires knowledge of basic trigonometry and algebra; plane surveying and the methods of bituminous surfacing materials and the handling of asphaltic oils and emulsions; grading, construction and maintenance of highway facilities; traffic operations and applications of transportation engineering work. Must be able to prepare clear and concise written correspondence and reports.

Possession of a valid Driver's License is required when operating a state or personal vehicle on official business in performance of their duties driving to various field locations as required.

Incumbent must attend first-aid training and possess a valid Standard First-Aid Certificate at all times.

Certification in the field sampling and testing of fresh Portland cement concrete is required.

Must be able to use and reference the Bridge Construction Records & Procedures, other SC manuals and the Construction and Caltrans' Safety Manuals. Must have a working knowledge of and the ability to follow and apply the information contained within Director's Policy Deputy Directives applicable to SC. Must be proficient in the use of Excel, MS Word and other engineer related computer programs and software. Must have a basic knowledge of Access.

You may obtain a copy of the class specifications and salary information at: www.calhr.ca.gov.

RESPONSIBILITY FOR DECISIONS AND CONSEQUENCES OF ERROR

Must be able to recognize construction problems and take appropriate action. Incorrect decisions could result in delayed project delivery, structural failure, substantially increased costs to the State or loss of life.

PUBLIC AND INTERNAL CONTACTS

Incumbent must be able to establish and maintain open communication with those contacted during the course of work. Will confer routinely with contractor's management staff, in order to resolve problems relating to the terms of the contract, representatives from other State and public agencies and the general public.

PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS

Must be able to work under close supervision. Ability to develop and maintain cooperative working relationships; respond to difficult situations, recognize emotionally charged issues and problems and validate the various responses. Incumbent must be

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able to climb steep inclines and perform work from heights which may be over 100 feet above ground or water. Must be able to sit while driving for long periods of time. Must be able to carry and/or use field engineering equipment such as, but not limited to Kelly balls, surveying equipment, concrete testing equipment, proliograph, sling psychrometer etc. 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 his/her duties safely. Corrected hearing is acceptable. Sight must be corrected to the State of California, Department of Motor Vehicles standards for safely driving a vehicle. Night vision must be good for safety when working after dark. Incumbent must be able to walk, stand or sit for long periods of time. Other physical requirements of the job include the ability to lift and carry 50 pounds or more, reaching overhead, pushing or pulling, twisting, climbing, balancing, bending, crouching, squatting, crawling, and fine manipulation.

WORK ENVIRONMENT

While at their base of operation, incumbent will work in the field to perform fieldwork. May be exposed to loud noises, dust, dirt, uneven surfaces, extreme temperatures, noise, vibration, chemical odors, extreme weather conditions and sunlight while out in the field. May be required to work in a wide range of sometimes extreme weather conditions, including heat up to 120 degrees, cold as low as 15 degrees, strong winds, rain, sleet, or snow. Incumbent may be required to work on urban roadways at night under artificial light. Work consists of five, eight-hour days. Travel, overtime and/or night work may be required. May work around bulky/heavy materials and equipment used in the vicinity of inspections areas. May also be exposed to the motoring public. Extensive travel may be required; therefore, incumbent must be able to travel using a car on DES projects throughout the State as workload demands. Regular and punctual attendance is required. DES employees may be given temporary assignments on DES projects throughout the State as workload demands. Incumbent may perform work in a climate-controlled office under artificial lighting. In the office setting, must be able to walk, stand or sit for prolonged periods of time. As a statewide organization, DES adjusts to periods of fluctuating workload to successfully deliver projects.

Personal safety requirements include:

- Work boots in good sturdy condition, must be worn to provide foot and ankle support and protection.
- Either long or short-sleeved shirts and a safety vest, must be worn on or around the job site.
- Long pants must be worn on or around the job site. No shorts or cut-offs are permitted.
- Provided safety gear (i.e., hard hats, safety glasses, safety vests, hearing protection devices, gloves, respirator, and other safety gear) must be worn when required by the Department.

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