

POSITION DUTY STATEMENT

DOT PM-0924 (REV 08/2024)

CLASSIFICATION TITLE Transportation Engineer (Civil)	OFFICE/BRANCH/SECTION 59 / Division of Engineering Services / Structure Construction	
WORKING TITLE Structure Representative / Assistant Structure Representative	POSITION NUMBER 559-540-3135-xxx	REVISION DATE 10/22/2024

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:

Under direction of a Senior Bridge Engineer (Supervisor) in Structure Construction (SC), Division of Engineering Services (DES), the Transportation Engineer (Civil) classification is the entry, working & journeyman level of professional engineering work in Caltrans. The incumbent performs a wide variety of professional engineering work in either an office or field setting; as incumbents progress in experience they will be assigned more difficult work. This work is performed on highway construction projects involving bridges, buildings, walls, barriers, drainage structures, sign structures & appurtenances. The incumbent works as a field engineer to ensure contractors build structures in compliance with the contract documents (Standard Plans, Standard Specifications, contract plans & Special Provisions). May act as an Assistant Structure Representative or Assistant Resident Engineer / Resident Engineer on construction projects.

Structure Representation on projects where the nature of the work is predominately structural, e.g., bridges & tall walls, Streets & Highways Code Section 137.6 will apply. The possession & maintenance of a valid professional engineer's license in the State of California is highly desirable.

As part of your employment with DES there is a mandatory TE-Civil Professional Development Rotation Program that applies to all permanent full-time TE-Civils hired after January 1, 2017. Temporary relocation more than 50 miles from your permanent unit may be necessary for rotation assignments.

As a statewide organization DES / SC adjusts to periods of fluctuating workload by moving staff to the location of the work.

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.

For journeyman level (Range D) the possession & maintenance of a valid professional engineer's license in the State of California is required.

CORE COMPETENCIES:

As a Transportation Engineer (Civil), 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. (Safety First, Strengthen Stewardship and Drive Efficiency - Engagement, Innovation, Integrity)
- **Decision Making**: Makes critical and timely decisions. Takes charge. Supports appropriate risk. Makes challenging and appropriate decisions. (Safety First, Strengthen Stewardship and Drive Efficiency - Engagement, Innovation, 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. (Safety First, Cultivate Excellence - Engagement, Pride)
- **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. (Safety First, Enhance and Connect the Multimodal Transportation Network, Strengthen Stewardship and Drive Efficiency, Advance Equity and Livability in all Communities - Engagement, Equity, Integrity)
- **Teamwork/Partnership**: Develops, maintains, and strengthens partnerships with others inside or outside of the organization through effective communication and collaboration. (Cultivate Excellence, Enhance and Connect the Multimodal Transportation Network, Strengthen Stewardship and Drive Efficiency, Advance Equity and Livability in all Communities - Engagement, Pride)
- **Customer Focus**: Considers, prioritizes, and takes action on the needs of both internal and external customers. (Safety First, Cultivate Excellence, Strengthen Stewardship and Drive Efficiency - Engagement, Integrity)

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- **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. (Safety First, Cultivate Excellence, Strengthen Stewardship and Drive Efficiency - Engagement, Integrity)
- **Forward Thinking:** Anticipates the implications and consequences of situations and takes appropriate actions to be prepared for possible contingencies. Anticipates and prepares for future developments. (Safety First, Strengthen Stewardship and Drive Efficiency - Engagement, 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. (Cultivate Excellence - Innovation, Integrity, Pride)

TYPICAL DUTIES:

Percentage		Job Description
Essential (E)/Marginal (M) ¹		
35%	E	As Assistant Structure Representative (entry, working, & journeyman levels) in a field setting, performs construction inspections to assure materials & workmanship incorporated into each highway construction project & appurtenances are in conformity with the requirements of the approved plans and specifications, including approved changes. Takes appropriate action when materials & workmanship are non-conforming, which may include ordering removal & replacement of non-conforming work. As Structure Representative (journeyman level) performs construction & engineering inspections, may direct subordinate inspectors. The frequency of inspections are risk-based & include full-time, intermittent, &/or benchmark during all phases of construction. Advise Bridge Construction Engineer, Resident Engineer, &/or Project Manager on major phases of construction activity.
30%	E	As Assistant Structure Representative (entry, working & journeyman levels) in a field setting, performs calculations related to proper alignment & placement of bridge elements, establishes surveying control line & grade (elevation control) required by established SC Practices & Procedures. Assists with calculations related to & the review of shop drawings, informational & action submittals received from the contractor. As Structure Representative (journeyman level) reviews informational & action submittals, & shop drawings; authorizes shop drawings and action submittals when they are in compliance with the requirements of the approved plans and specifications. Performs required calculations such as alignment, grade (elevation control), quantities of work performed or materials placed. Ability to perform calculations to determine stresses within the various elements of structures (e.g., beams, columns, etc.) and the contractor's temporary works (falsework, shoring, & temporary structural supports, etc.).
15%	E	As Assistant Structure Representative (entry, working & journeyman levels) confers with contractors regarding compliance with plans, quality of work, construction activity & California Occupational Safety & Health Administration (Cal/OSHA) regulations. Collaborates with project personnel regarding the contractor's compliance with regulatory permit agencies requirements. As Structure Representative (journeyman level) if the incumbent finds that materials, workmanship, &/ or product are not in compliance with the contract documents they may reject the materials or product & take appropriate action until they are brought into compliance with the requirements of the approved plans & specifications.
10%	E	As Assistant Structure Representative (entry, working & journeyman levels) assist in identifying the need for & the preparation of contract related documents, e.g., change orders, contract quantities and estimates, claim reports, letters, response to contractor's claims, & requests for information (RFI). Completes daily diaries of contractor's construction activities being performed, inspections performed, tests taken, & materials placed. Develops contract quantity estimate documents monthly & as materials are placed. As Structure Representative or Resident Engineer (journeyman level) identifies the need for & prepares contract related documents for submission to the contractor. Reviews CPM schedule. Identifies & mitigates project risks. Completes a project daily diary of pertinent activities & discussions held regarding the progress of the contractor's work & interaction with the Project Delivery Team, Project Manager, etc.

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5%	M	As Assistant Structure Representative (entry, working & journeyman levels) assists in recording & filing project related records pertaining to construction progress including daily reports, submittals, shop drawings, monthly pay estimates, & job expenditures. As a Structure Representative (journeyman level) ensures all project related records are accurate, complete & filed.
5%	M	As Assistant Structure Representative (entry, working & journeyman levels) in a field setting performs verification sampling &/or tests to verify the acceptability of construction materials in accordance with American Society for Testing Materials (ASTM) or California Test (CT) methods. As Structure Representative (journeyman level) ensures all materials incorporated into the work meet the requirements of approved plans & specifications, & have been sampled & tested in accordance with the frequencies outlined in the Construction Manual. Prepares a Material Certification for delivery to the Resident Engineer. Participates as an active member of Structure Construction's Technical Teams, develops & presents training in area of technical expertise.

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

Works under the direct supervision of a Senior Bridge Engineer (Supervisor), a registered Civil Engineer. This position does not supervise other employees. However, as a Structure Representative or Resident Engineer this position may act as a lead worker over 1 to 10 engineers & technicians.

KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS

Possession of a valid Driver's License is required when operating a state or personal vehicle on official business in performance of duties driving to various field locations as required. Incumbent must attend first aid training & possess a valid Standard First Aid Certificate at all times. Certification in field sampling & testing of fresh Portland cement concrete is required. For journeyman level, possession & maintenance of a valid professional engineers license in the State of California is also required.

Knowledge of stress analysis; strength of materials; uses of construction materials; mathematics as applied to civil engineering; methods, materials & equipment used in construction & maintenance of transportation structures; surveying; & the methods of proportioning & handling Portland cement concrete. Must be able to prepare clear and concise written correspondence & reports. Must be able to use & reference the Bridge Construction Records & Procedures, other SC manuals & the Construction & Caltrans Safety Manuals. Must be able to take appropriate action in all situations. Must have a working knowledge of & the ability to follow & apply the information contained in the Director's Policies & Deputy Directives applicable to SC. Must be proficient in the use of Excel, Microsoft Word & other engineer related computer programs & software. Must have a basic knowledge in the use of Access.

RESPONSIBILITY FOR DECISIONS AND CONSEQUENCES OF ERROR

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

PUBLIC AND INTERNAL CONTACTS

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

PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS

Ability to develop & maintain cooperative working relationships, respond to difficult situations, recognize emotionally charged issues & problems, validate various responses, & take appropriate action.

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Incumbent must be able to climb steep inclines & perform work from heights which may be over 100 feet above ground or water. Must be able to climb ladders, stairs & traverse over open grating surfacing & scaffolding. Must be able to carry &/or use field engineering equipment such as, but not limited to Kelly Balls, surveying equipment, concrete testing equipment & profilograph. Other physical requirements of the job include the ability to lift &/or carry 50 pounds or more, reaching overhead, pushing or pulling, twisting, climbing, balancing, bending, crouching, squatting, crawling, & fine manipulation. Hearing & sight are both essential to job performance. The incumbent must be able to hear & see directions, traffic & equipment, & to perform his/her duties safely. Corrected hearing is acceptable. Corrected sight must meet the CA DMV minimum visual acuity requirement. 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. Must have the ability to problem solve, make decisions, interpret & organize data & convey it clearly. Demonstrate personal integrity, truthfulness, & honesty; inspire public confidence & trust in state government; recognize that personal gains from public service are limited to respect, recognition, salary, & normal employee benefits.

WORK ENVIRONMENT

While at their base of operation, incumbent will spend the majority of time working outdoors where they may be exposed to loud noises, dust, dirt, uneven surfaces, extreme temperatures, noise, vibration, chemical odors, extreme weather conditions & sunlight. 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. The minority part of their time they may 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 by moving staff to the work. DES employees may be given temporary assignments on DES projects throughout the State as workload demands. Incumbent will be required to travel & perform fieldwork. Work nominally consists of five, eight-hour days, but may be extended depending upon project urgency. Travel, overtime &/or night work may be required. May work around bulky/heavy materials & equipment used in the vicinity of inspection areas. May also be exposed to the motoring public. Extensive travel may be required; therefore, incumbent must be able to travel using a car or commercial transportation. Regular & punctual attendance is required.

Personal safety requirements include:

- Work boots, in good & sturdy condition, must be worn to provide foot & ankle support & protection.
- Either long or short-sleeved shirts & 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 & 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.)

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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