

POSITION DUTY STATEMENT

PM-0924 (REV 01/2022)

CLASSIFICATION TITLE Transportation Engineer (Civil)	OFFICE/BRANCH/SECTION D8/Construction	
WORKING TITLE TE-Civil-Inspector/Construction Support And Lab Support	POSITION NUMBER 908-500-3135-xxx	REVISION DATE 03/03/2024

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 the direction of a Senior Transportation Engineer, Caltrans, the incumbent performs a wide variety of engineering work in either an office or a field setting. The incumbent works as Resident Engineer on construction projects requiring direct control by a licensed professional engineer, or act as a lead-person ensuring contractors are in compliance with the contract documents (Standard Plans, Standard Specifications, contracts plans and Special Provisions) and/or in construction support role to the field engineers. While working at the Southern Regional Lab the incumbent performs a wide variety of professional engineering work associated with the testing and analysis on soils, aggregates, asphalt concrete, binder, steel, concrete samples, and concrete masonry units (CMU) at a District 8 Construction Field Lab. The incumbent will function as a lead worker and will oversee the materials testing performed by various engineering and technical personnel. As travel is required, a valid driver's license is required when operating state vehicles. This position requires both day and night work. Incumbent will be assigned work based on Departmental needs and could be assigned to any office within District 8 which includes San Bernardino and Riverside Counties.

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, Cultivate Excellence, 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, Cultivate Excellence, Enhance and Connect the Multimodal Transportation Network, Strengthen Stewardship and Drive Efficiency, Advance Equity and Livability in all Communities - Engagement, Equity, Innovation)
- **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. (Cultivate Excellence, Lead Climate Action, Advance Equity and Livability in all Communities - Innovation, Integrity, 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. (Cultivate Excellence, Strengthen Stewardship and Drive Efficiency - Engagement, Equity, Integrity, Pride)
- **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, Equity, Pride)
- **Customer Focus**: Considers, prioritizes, and takes action on the needs of both internal and external customers. (Cultivate Excellence, Strengthen Stewardship and Drive Efficiency, Advance Equity and Livability in all Communities - Engagement, Equity, Integrity, 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. (Safety First, Cultivate Excellence, Enhance and Connect the Multimodal Transportation Network, Strengthen Stewardship and Drive Efficiency - Engagement, Equity, 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. (Cultivate Excellence, Enhance and Connect the Multimodal Transportation Network, Strengthen Stewardship and Drive Efficiency, Lead Climate Action, Advance Equity and Livability in all Communities - Innovation, Integrity)
- **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, Cultivate Excellence - Engagement, Integrity, Pride)

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TYPICAL DUTIES:

Percentage	Job Description
Essential (E)/Marginal (M) ¹	
40% E	<p>As a TE-Civil Inspector/Construction Support: ensures contract compliance with the plans and specifications by the contractor. Prepares contract change orders (CCO) for the purpose of making alterations, deviations, additions to, or deletions from the plans and specifications to ensure proper completion or construction of the contract by gathering critical information necessary and interpreting technical reports and data to determine a feasible solution. Prepares daily inspection reports documenting contractor activities and prepares as-built plans. Incumbent modifies, interprets, and edits special provisions and prepares contract estimates; keeps the necessary records pertaining to construction progress, job expenditures, budget programs, and work order balances; confers with contractors regarding compliance with plans and quality of work and construction activity. Selects and/or uses computer-based processes to compile engineering data, horizontal and vertical alignments and curve computations; develops and/or maintains transportation-related state-of-the-art computer programs and procedures.</p> <p>As a TE-Civil Lab Support: Works as a lead worker using materials and engineering knowledge to perform the more advanced physical testing on highway and bridge construction materials; follows standard testing procedures for Portland Cement Concrete, Asphalt Concrete, Hot Mix Asphalt (HMA), Binder, Emulsion, Aggregate, and Soils and participates in Caltrans Reference Samples Program (RSP) and Proficiency Sample Program (PSP) per AASHTO Material Reference laboratory (AMRL). Reviews and approves the controlled tests performed by Materials and Research Engineering Associates (MREA) and Transportation Engineering Technicians (TET). Responsible for quality control, ensuring all testing and sampling is conducted in a manner that is consistent with the Laboratory Quality System manual (QSM) and the applicable Department's Safety Manual rules and regulations. Checks performance of roadway construction materials including soils, aggregates, cement, asphalt, binder, emulsion, concrete, and base materials. Creates and submits accurate and timely inspection and testing reports to ensure quality assurance and acceptance of materials. Prepares and ships samples, identify and determine if test results are within specifications. Responsible for maintaining accurate records for the Caltrans and AASHTO Reference Samples Program and accreditation programs.</p>
25% E	<p>As a TE-Civil Inspector/Construction Support: Incumbent provides engineering assessment of plans for adequacy of design, particularly with respect to suitability to actual field conditions and ensures compliance with the plans and specifications by the contractor. Prepares quantity calculations and quantity sheets for payment purposes and reviews calculations prepared by Transportation Engineering Technicians and Transportation Engineers.</p> <p>As a TE-Civil Lab Support: Reviews concrete mix design submittal and advises the Resident Engineer (RE) in accepting mix designs. Offers professional engineering opinions utilizing materials and engineering knowledge concerning sampling and testing procedures that may affect test results to RE and district personnel. Participates as a subject matter expert in technical groups to improve, modify, or propose new test methods.</p>
20% E	<p>As a TE-Civil Inspector/Construction Support: Samples and performs acceptance testing on materials used in the construction of transportation and public works projects including concrete, asphalt, soils, aggregates, and other materials. Ensures proper sampling intervals, tracking, documentation, notification of results, remedial actions/corrections as required are performed within the contractual requirements.</p> <p>As a TE-Civil Lab Support: Gain and maintain certifications to perform highly technical and specialized testing procedures as required by AASHTO, ASTM, and California Test Methods per the Independent Assurance Manual and industry standards. Submits accurate inspection and testing reports in a timely manner to ensure quality assurance and acceptance of materials. Ensures all testing and sampling is conducted in a manner that is consistent with the Department's Safety Manual rules and regulations. Ensures the Construction Manual guidelines for sampling and testing frequency and turnaround time for verification, production startup evaluation, and regular acceptance are implemented.</p>

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PM-0924 (REV 01/2022)

10%	E	As a TE-Civil Inspector/Construction Support: Ensures safety of State employees and contractor employees as well as the traveling public by observing contractor operations and traffic conditions and taking corrective action when necessary. Reviews contractor operations for compliance with California Occupational Safety and Health Administration (CAL/OSHA) regulations. As a TE-Civil Lab Support: Oversees the calibration of testing equipment used at the materials laboratory in accordance with either the equipment manufacturer's calibration procedures or the procedures dictated by the test method. Directs MREA and/or TET to make arrangements for others to calibrate equipment that is not calibrated inhouse.
5%	M	As a TE-Civil Inspector/Construction Support: Learn and assist with inventory monitoring practices for materiPerforms general construction and maintenance office duties relating to administration of construction and maintenance contracts such as processing extra work bills, preparing progress estimates, and filing documents. Incumbent assesses status of project and develops work assignments accordingly. As a TE-Civil Lab Support: Remains up-to-date with the changes related to the Standard Specifications, Special Provisions, Construction Policy Directives. Performs other job-related duties as assigned including but not limited to serves on committees, special work teams, and task forces. Creates and/or maintains an updated desk manual.

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. Incumbent may work in a lead capacity, in responsible charge, directing the work of Transportation Engineers, Transportation Engineering Technicians, and administrative staff in the office.

KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS

Possession and maintenance of a valid driver's license is required when operating State vehicles. Incumbent must attend first aid training and possess a valid Standard First Aid Certificate at all times. This position requires knowledge of stress analysis; strength properties; uses of construction materials; mathematics as applied to civil engineering; methods, materials and equipment used in construction and maintenance of transportation structures; surveying; and the methods of proportioning and handling Portland cement concrete. Must be able to prepare clear and concise written correspondence and reports. Must be able to use and reference the State Construction Manual, Standard Specifications, Standard Plans and Special Provisions, Construction and Caltrans Safety Manuals. Must have a working knowledge of and the ability to follow and apply the information contained in the Director's Policies and Deputy Directives. Must be proficient in the use of Excel, Microsoft Word and other engineer related computer programs and software. Must have a basic knowledge in the use of Access.

Knowledge of the basic principles of physics, chemistry, and mathematics as applied to civil engineering; knowledge of properties and use of engineering construction materials; knowledge of methods and equipment of lab testing and its relationship to engineering principles and materials used in highway construction, testing procedures, quality assurance, and typical operation of the district materials function. Must be capable of effectively working with other personnel representing all aspects of materials testing, standards, calibration, and usage. Incumbent must have the ability to coordinate laboratory activities making efficient use of available work force, adapt current test procedures to the production of consistent and quality samples, propose and develop testing and certification procedures, draft correspondence and reports on materials, equipment, or procedures for both problem-focused and routine procedures, and provide basic on-the-job training to engineering or technical personnel. Must have ability to make neat and accurate computations and engineering notes and prepare reports. Must have the ability to establish and maintain good and professional working relationships with other Department units, industry, and the contractor on Department projects. Must be familiar and able to follow the Department policies and procedures.

RESPONSIBILITY FOR DECISIONS AND CONSEQUENCES OF ERROR

Must be able to effectively follow directions and accurately learn and perform testing procedures and record and file data properly. Failure to adhere to this may result in inaccurate test results that could reduce the service life of the constructed facility or result in costly liability claims for the State. In addition, the incumbent is responsible for personal and team safety as outlined in the laboratory safety manual and safe practices and standards of the tests being conducted and the equipment involved. Failure to act in accordance with these standards could result in personal injury, injury to others, or destruction of state property.

PUBLIC AND INTERNAL CONTACTS

The incumbent will routinely contact other Caltrans personnel, contractors, engineering consultants, the Federal Highway Administration, and industry representatives to transmit or obtain relevant engineering information. These contacts will be verbal or written, as needed, to perform assignments. Must be able to represent the Department in training matters and properly respond to management. Must be able to develop relationships and be willing to partner with local entities in the construction and oversight of projects.

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PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS

Physical activities vary and any singular physical requirement may be for lengthy periods of time. May be required to sit and/or stand for long periods of time. Requires manual dexterity to operate computers (keyboard and video display terminal), field engineering equipment, testing and safety equipment. Activities include field measurements, inspections and observations, in addition to the reviewing and tracking documents and preparation of reports and various forms. Must be able to review documents, plans, and specifications in the format provided to field personnel and the contractors. Must be able to review the contract documents as they are maintained by the contract administrators. Required to be trained in first aid/CPR and the ability to apply this skill in the event of an emergency. Outdoor activities require the ability to traverse across rugged terrain, hilly areas, or on uneven surfaces that are near freeways, highways, roads and construction sites. Physical activities require the ability to walk, stand, stoop, bend, twist, crouch, kneel, crawl, push and/or pull, reach overhead and lift, move and/or carry equipment/items weighing 50 pounds or more. 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 vision/hearing is acceptable. Night vision must be good for safety when working after dark. Must be able to travel to field offices, field meeting locations, and construction sites, may also travel to other District Offices and Headquarters; therefore, incumbent must be able to travel by car or commercial transportation. Incumbent must be able to travel using a car; vehicles will vary from passenger cars to one-ton pickup trucks. This travel may necessitate traveling on long stretches of highway through mountains, deserts, and urban areas. Some terrain may cause the jostling of the vehicle's occupants.

Mental: Requires sustained mental activity needed for report writing, problem solving, analysis, and reasoning. Must have the ability to multi-task, adapt to changes in priorities, and complete tasks or projects with short notice. Must have the ability to organize, track and prioritize large volumes of varied documents and the ability to concentrate in order to review documents and meet deadlines.

Emotional: Requires the ability to develop and maintain cooperative working relationships; respond appropriately to difficult situations; recognize emotionally charged issues or problems; and acknowledge the various responses. Must be able to deal effectively with pressure, maintain focus, and intensity yet remain optimistic and persistent, even under adversity. Must consider and respond appropriately to the needs, feelings, and capabilities of different people in different situations; must be tactful and treat others with respect.

WORK ENVIRONMENT

This position requires the incumbent to work both indoors and outdoors. While at their base of operation, incumbent may work in a climate-controlled office under artificial lighting. However, due to periodic problems with the heating and air conditioning, the building temperature may fluctuate. Offices may be fixed buildings or trailers and may be co-located with external partners, Local Agency, and/or contractor in a combined project office facility. Work generally consists of five eight-hour days and may require travel, overtime, weekend and night work. Vacations/Leave usage may be restricted during peak times. Night work requires ability to work under and with artificial lighting. Field activities and review locations may be in the metropolitan area or at remote sites in the vicinity of and exposure to ongoing construction projects and on and off-highway vehicular traffic. Outside activity includes exposure to sunlight, moving traffic, loud noise, weather conditions of extreme heat and/or cold (including heat up to 120 degrees, cold as low as 15 degrees), strong winds, rain, sleet, snow, dust, and working on uneven terrain adjacent to heavy equipment while on foot and in vehicle. Working indoors performs tasks related to material testing, documentation and/or communications with other personnel. Material testing involves frequent lifting, pushing, pulling, bending, sitting, squatting, climbing, twisting and repetitive use of arms and hands. Work locations may be in the metropolitan area or in remote sites in the vicinity of construction projects. Office space may be in the office building and/or trailers. Outdoor activity may increase exposure to moving traffic, loud noise, weather conditions of extreme heat and/or cold, dust, working on uneven terrain, adjacent to heavy equipment. May come in contact with hazardous materials, pesticides, chemicals (i.e., paints, cleaners, solvents, etc.). May require working in the field at night. Night work requires the ability to work with artificial lighting. Ability to maintain alertness to the environment is critical. Required to wear and utilize protective clothing (i.e., safety shirt, hard hat, steel-toe shoes, vests, overalls, eye/hearing protection, respirator equipment, etc.). The incumbent will be assigned work based on Divisional and/or Departmental needs and could be assigned to any office within District 8 which includes San Bernardino and Riverside Counties.

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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.)

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
