

POSITION DUTY STATEMENT

PM-0924 (REV 01/2022)

CLASSIFICATION TITLE Transportation Engineer (Civil)	OFFICE/BRANCH/SECTION DES-METS-OCL / Structural Materials Testing Branch	
WORKING TITLE Transportation Materials Engineer	POSITION NUMBER 559-320-3135-xxx	REVISION DATE 07/11/2022

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 is located in Sacramento within the Division of Engineering Services (DES), Materials Engineering and Testing Services (METS), Office of Central Laboratories (OCL), under the Structural Materials Testing Branch (SMTB), an ISO 17025 accredited lab by A2LA.

Under the direction of the SMTB Chief (Senior Bridge or Transportation Engineer).The Transportation Engineer Civil (TE Civil) works independently and/or as part of a team to support METS' quality assurance program's efforts as they pertain to structural testing and its related materials used in the state transportation system. The employee serves as an expert in the field of testing and quality assurance/quality control of structural steel, fasteners, bridge bearings and joint seals, anchorage devices and other related structural products. This position may require travel to various construction sites and manufacturing materials.

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's Civil hired after January 1, 2017. Temporary relocation more than 50 miles from your permanent unit may be necessary for rotation assignments.

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.

- **Creativity and Innovation:** Thinks beyond the confines of traditional models to recognize opportunities, seek creative solutions and take intelligent risks. (Cultivate Excellence - Innovation)
- **Decision Making:** Makes critical and timely decisions. Takes charge. Supports appropriate risk. Makes challenging and appropriate decisions. (Cultivate Excellence - Innovation)
- **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. (Strengthen Stewardship and Drive Efficiency - Engagement)
- **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. (Strengthen Stewardship and Drive Efficiency - Innovation)
- **Teamwork and Collaboration:** Sets team structure. Organizes, leads, and facilitates team activities. Promotes team cooperation and encourages participation. Capable of cross functionality and working well with others on a team to achieve personal goals, team goals, and organizational goals. Takes responsibility for individual actions in order to achieve consistent results. (Cultivate Excellence - Engagement)
- **Customer Focus:** Considers, prioritizes, and takes action on the needs of both internal and external customers. (Strengthen Stewardship and Drive Efficiency - Innovation)
- **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. (Cultivate Excellence - Engagement)
- **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 - Innovation)
- **Commitment/Results Oriented:** Dedicated to public service and strives for excellence and customer satisfaction. Ensures results in their organization. (Strengthen Stewardship and Drive Efficiency - Engagement)

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TYPICAL DUTIES:

Percentage	Job Description
Essential (E)/Marginal (M) ¹	
50% E	<ul style="list-style-type: none"> • Develops and serves as a lab technical manager for the SMTB Quality System Manuals, California Test Methods, ASTM and relevant Test Methods within the Lab, Management Reports, Metrics, Key Performance Indicators (KPIs), Statistical Analysis, research, and other METS' quality assurance program needs. • Serves as a point of contact between METS and its customers for a subject matter within assigned area (s) of expertise. In this capacity, keeps up to date on all structural and roadway materials issues on projects or subject matter expertise of specific laboratory. <ul style="list-style-type: none"> • Assists laboratory and branch Quality Managers (QM) in technical matters, and ensures compliance with appropriate quality management systems for the maintenance of accreditations. • Assists in accreditation and qualification activities for and prepares and maintains accurate records and files on technicians and laboratories in accordance with ISO 17025 and A2LA • Oversees and administers the Department's Authorized Material Lists (AML), by developing policies and procedures for creating, reviewing, updating, or deleting AMLs, corresponding authorization criteria, and referenced construction specifications for clarity and consistency. • Document test performance issues, review and recommend improvements to materials test methods and specifications, • Participates in Technical Committees.
25% E	<ul style="list-style-type: none"> • Contribute to maintaining and improving Quality Management Systems under the direction of a Quality Manager <ul style="list-style-type: none"> • Meets with stakeholders (construction, design, maintenance, laboratory personnel, and materials inspection, fabrication, and contractor personnel) to identify materials-related issues and recommends solutions consistent with project documents and internal practices and procedures • Reviews of materials-related documents including, but not limited to, test results, inspection reports, and quality control plans <ul style="list-style-type: none"> • Prepares reports on technical recommendations, non-technical recommendations, root cause analysis, corrective action reports, site visits, and other METS/OCL quality assurance program issues • Participates in or leads material investigations.
20% E	<ul style="list-style-type: none"> • Presents information regarding METS/OCL programs and practices to stakeholders • Develops and prepares workload resource estimates and laboratory capacity estimates based on program needs, • Conducts outreach in the form of surveys and meetings with internal and external stakeholders to support and advance quality assurance program efforts <ul style="list-style-type: none"> • Tracks lab resource availability, cause, and effects.
5% M	<ul style="list-style-type: none"> • Completes other duties as assigned by the Branch Senior, which may include assisting the supervisor in planning assignments for the branch staff and Technical Committee work <ul style="list-style-type: none"> • This position may require travel to the various districts, construction sites, fabricators, manufacturing companies, and other locations related to METS' quality assurance program.

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

When required by the Branch Chief, the Engineer may act as the lead person of the Branch or for assigned projects. This responsibility is task-oriented and does not include complete personnel responsibilities.

KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS

Employee must have knowledge of:

- Construction processes and basic design principles,
- The materials used in the projects including steel, precast concrete, coatings, roadway materials, and structural fasteners
- Education in the physics and chemistry associated with materials used in transportation projects
- Industry practices for fabrication of structural and roadway components
- Test methods, inspection, sampling, and reporting procedures for structural and roadway components
- Safe work practices.

Employee must have the ability to:

- Interpret plans, specifications, and shop drawings

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- Communicate clearly and efficiently
- Represent the Branch in public or in Department meetings
- Occasionally act in place for the Branch Chief,
- Perform basic computer applications such as assessing databases and utilizing Microsoft Office software.

Employee must be able to perform basic engineering calculations related to the inspection and testing of the materials used in a Caltrans' projects and be able to analyze and check all necessary test reports on materials incorporated in the work for conformity to applicable specifications. Possession of a valid certificate of registration as a civil engineer issued by the California State Board of Registration for Professional Engineers is desirable.

RESPONSIBILITY FOR DECISIONS AND CONSEQUENCES OF ERROR

The TE Civil is directly responsible for recommendations for acceptance or rejection of inspected materials, specifications and to laboratories and testers. Decisions must be clear and concise. Inappropriate decisions may have the potential of jeopardizing the integrity of structures and roadways which could result in contract claims and delays to project delivery.

In addition, the employee is responsible for personal and team safety as outlined in the Caltrans' Safety Manual and the safe practices and standard 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 TE Civil has considerable contact by telephone, email, and person-to-person with manufacturers, vendors, contractors, and Caltrans' construction and administrative personnel. This includes daily and frequent contact with other Branch offices, Headquarters, District labs and Translab personnel regarding testing results and inspection reports.

PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS

Employee may be required to sustain the mental activity needed for writing, problem solving, analysis and reasoning; will be required to develop and maintain cooperative working relationships and respond appropriately to difficult situations. Employee may be required to drive a State motor vehicle. Employee may occasionally be required to move equipment and test materials weighing up to 50 lbs.

WORK ENVIRONMENT

The work environment is fast-paced, busy and requires considerable flexibility in managing time, priorities, and assignments. It can be demanding and/or stressful. The incumbent may be required to travel to district offices or other meeting facilities, and/or to the sites of proposed projects. In the field, the incumbent may experience all climatic conditions, including rain. While at their base of operation, employees will work in climate-controlled office under artificial light. However, due to periodic problems with the heating and air conditioning, the building temperature may fluctuate. Incumbent will be required to travel and perform fieldwork and will be exposed to dirt, uneven surfaces, extreme temperatures, noise, vibration, and odor associated with fieldwork. May work around bulky/heavy materials and equipment used in the vicinity of inspection areas. May also be exposed to the motoring public. As a statewide organization, DES adjusts to periods of fluctuating workload to successfully deliver projects. 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.)

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