

Who we are:

Transportation is so basic that many of us overlook its overwhelming importance in our daily lives. Practically everything used in our homes, offices, or schools across Tennessee – from furniture to food items to clothing – requires a large and complex transportation network. The Tennessee Department of Transportation provides citizens of Tennessee and travelers with one of the best transportation systems in the country. TDOT is a multimodal agency with responsibilities in building and maintaining roads, aviation, public transit, waterways, railroads, cycling and walking. Our involvement ranges from airport improvements to funding transit buses to planning for river ports. The Department of Transportation has approximately 3,500 employees with four statewide region facilities in Knoxville, Chattanooga, Nashville, and Jackson. TDOT Aeronautics is located near the John C. Tune Airport in Nashville, TN.



Materials Control Transportation Engineer

Materials & Test Division – Materials & Pavements Section

\$102,300 annually

Job Overview

The Materials Control Engineer is a transportation engineer position that will provide support to TDOT's Materials and Pavements Section. The work will range in complexity and risk from simple to highly complex. The Materials Control Engineer role requires collaboration with multiple TDOT divisions, project team members, Federal Highway Administration (FHWA), contractors, and other external stakeholders. It requires critical thinking and engineering judgment to problem-solve and make well-informed decisions that increase the safety, performance, sustainability, and efficient delivery of TDOT's transportation system. This position provides engineering support and guidance across the spectrum of materials' use in TDOT projects. This includes, but is not limited to, material specifications, sampling, testing, appropriate use, acceptance, and failure mitigation strategies.

The Materials Control Engineer ensures the appropriate Department policies, technical guidance, and procedures related to TDOT's materials program are incorporated into the project delivery process. This position assists in implementing the Quality Assurance Program as part of the Construction Division's activities. This position must effectively articulate technical engineering concepts through training, mentoring, and collaborating as part of a matrix organization. The Materials Control Engineer will assist with ensuring all applicable materials' documentation and data is collected, stored, and reported to assist with timely and accurate invoicing and project close-outs.

Essential Job Responsibilities

Coordinate resources and assist the Materials & Pavement Engineering Manager in ensuring that TDOT's approved producers follow their Quality Control plans and provide materials meeting TDOT's Specifications. Review and interpret Quality Assurance testing results and make recommendations to the Construction Division on the approval/suspensions/removal of producers and acceptance/leave in place. Integrate Quality Management into all material control products, systems, and deliverables.

Perform and review evaluations on materials incorporated into TDOT transportation infrastructure projects. Conduct reviews and analyses and make

dispute resolution recommendations when sub-standard materials are identified.

Assist in the determination of scopes for material removal and replacement or mitigation requirements. Conduct field reviews to ensure all materials meet specification and contractual requirements and that consultant CEI services are meeting contractual requirements.

Assist in the development and delivery of the Materials & Test Technician Certification Program training and mentoring to TDOT and external engineering staff. Assist in the development of training and technical guidance that addresses acquired knowledge, risk management, technical design elements, and emerging technologies and innovations related to construction materials for the purpose of improving team performance, creating a stronger understanding of the transportation industry, inspiring new ideas, and developing skills. Assist the Operations Support Section in ensuring TDOT transportation infrastructure project data is complete and accurate.

Manage and take ownership of change, clarify your vision of TDOT's materials control efforts, communicate effectively, remain transparent, and hold yourself accountable to develop, maintain, and grow TDOT's material control capabilities, data, software, and systems.

Serve on Project Teams as part of a matrix organization by providing materials expertise and reviews, assisting in developing proposal contract documents for project lettings, and contributing to bid reviews and bid analysis for alternative delivery projects. Ensure alignment and compliance with Division and Section metrics and performance goals.

Provide exceptional customer service to both internal and external customers by exercising effective listening skills, providing prompt responses, maintaining complete and accurate documentation, and communicating effectively. Remain current on materials-related industry trends and national best practices by participating in AASHTO, industry associations, and other appropriate committees as assigned.

Routinely collaborate with appropriate TDOT staff and external stakeholders to identify and document knowledge on industry best practices to avoid past errors and ensure TDOT project successes.

Assist in ensuring Materials Control deliverables are accurate, consistent, predictable, and repeatable to provide consistently high levels of achievement, mitigation of risk, and an established track record of success. Assist the Team Lead, State Materials and Pavements Manager, and Statewide Materials & Tests Director as needed on various reviews and tasks within the unit. Assist with modifications to all applicable policies, procedures, standards, specifications, and special provisions.

Qualifications

- Bachelor's degree in engineering
- 4 years of demonstrated competency in Materials Engineering/Testing and Highway Construction related field

Necessary Special Qualifications

- Licensed Professional Engineer (PE)

Ideal Candidate

The Materials Control Transportation Engineer is an expert in managing the quality assurance of the producers of materials used in TDOT's transportation projects. They are responsible for ensuring that the materials are of high quality and contribute to the overall functionality of the TDOT's system. They perform a variety of tasks, including research, development, and management. Their meticulous attention to detail ensures that the materials are organized and tracked properly, minimizing errors, and optimizing efficiency. The Materials Control Transportation Engineer plays a crucial role in strategic decision-making due to their strong analytical skills. They are also team players and mentors, building effective relationships with their team and stakeholders.