

## 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.



### **Hydraulics Design Manager**

Engineering Division – Hydraulics Section

Location: Nashville, TN

Compensation: \$124,000 annually

### **Job Overview**

The Hydraulics Design Manager will lead, mentor, and train Team Leads and technical staff through empowerment, communication, and delegated authority. This position will develop work plans that align with the Hydraulics Section's strategic vision and will effectively delegate authority and responsibility, when applicable while ensuring the availability of resources for the Hydraulics Design Section to be successful.

This Hydraulics Design Manager will assist in the development of department policies, discipline-specific technical guidance, procedures, and manuals related to hydraulic transportation elements. This position will assist the Hydraulics Design Section in completing hydraulic design tasks associated with transportation projects, including bridge hydraulic studies, scour analysis, and complex hydraulic layouts. The Hydraulics Design Manager will supervise Team Leads in addition to technical staff and will develop performance plans, schedules, and budgets, ensuring expected outcomes, performance, and accountability of each team member. The Hydraulics Manager in collaboration with the other Structures Division Managers will research national best practices to drive innovation and efficiency within each technical unit as part of the Hydraulics Section.

### **Essential Job Responsibilities**

Manage resources and staff utilization and assist Project Managers in the management of external partners together with the Professional Services Division, including the negotiation of contracts, review of consultant invoicing, development of contract scopes, management of contract tasks, and completion of consultant grading.

Establish and ensure there is a direct relationship between quality and work outcomes by assisting in the development and maintenance of standards for the Hydraulics Section. Assisting with quality control tasks as per the TDOT Quality Assurance Process with respect to the Project Delivery Network (PDN) and non-PDN activities that improve performance and increase reliability and sustainability of TDOT's transportation system as it relates to hydraulic elements. Provide Quality Assurance reviews for the proposed grade and alignment of hydraulic crossings, verifying appropriate structure type, span arrangement, and low girder elevations. Provide Quality Assurance reviews for hydraulic designs completed by consultants.

Assist in the development of a Consultant Acquisition Plan (CAP) by providing strategic leadership in utilizing consultants for program and project delivery and oversee consultant activities to ensure quality products and services are provided. Serve on selection committees for professional engineering services. Provide support in the development of the Request for Proposal (RFP) by attending project-specific marketing meetings, determining scoring criteria, participating in project information sessions, serving as a scorer as part of the consultant acquisition process, and attending de-briefs with consultants, including those projects for which Alternative Delivery methods are applied.

Manage change, clarifying the vision, taking ownership of the change, communicating effectively, remaining transparent, and holding yourself and others accountable throughout the process.

Assist Project Teams as part of a matrix organization in developing the project vision for those projects having the highest complexity; define critical goals and intended outcomes for the scope, schedule, budget, and quality in coordination with the Project Manager related to hydraulic design elements; support Project Management staff by writing the Structures Scope of Work related to hydraulic design elements in collaboration with TDOT Right of Way, TDOT Environment, TDOT Maintenance, and TDOT Construction; apply context-sensitive design strategies; identify deviations from the hydraulic layout that would impact the Project's scope, schedule, or budget; effectively coordinate with other units within TDOT to mitigate constructability and maintenance concerns as part of the Functional Design Plans development per the Project Delivery Network (PDN); proactively assess risk factors, including proposed materials and special provisions needed to perform the work; perform constructability reviews; and, for Project Teams associated with Alternative Delivery Contracts, forecast the impact and effectiveness of implementing Alternative Technical Concepts related to the Request for Proposal (RFPs), project cost, and construction timing.

Lead the Hydraulics Section in providing exceptional customer service to both internal and external customers, exercising effective listening skills, providing prompt responses, maintaining complete and accurate documentation, and communicating effectively.

Remain current on revisions to the design criteria, procedures, hydraulic modeling software, FHWA resources, and engineering processes related to hydraulic engineering; perform the design and analysis of hydraulics-related structures for complex projects having the highest degree of risk, including floodplain modeling and two-dimensional hydraulic designs; assist with the quality assurance review of consultant designed bridge hydraulic reports; and assist with Risk Assessments.

Develop and implement a tracking mechanism that ensures all workflow items, including all calculations for all bridge projects as part of the Hydraulics Design Report, are addressed as per the PDN and within the time frame laid out by the project's schedule.

Assist in ensuring that the Hydraulics Section deliverables are consistent, predictable, and repeatable to provide consistently high levels of accuracy, mitigation of risk, and an established track record of success.

### **Qualifications**

- Bachelor's degree in Civil Engineering
- Licensed PE
- 8 years of demonstrated competency in hydraulics/hydrology that includes 2 years of demonstrated competency in supervision