Position Summary

This summary describes the organization, duties, and requirements of a State of Michigan vacancy.

Position Code: TRNSTCHEA56R

Civil Service Class and Level: TRANSPORTATION TECHNICIAN-E

Working Title (What the agency calls the position): Transportation Technician-Construction

Name and Position Code Description of Direct Supervisor: ERICKSON, GREGORY L; ENGINEER MANAGER LICENSED-3

Department/Agency: TRANSPORTATION CENTRAL OFFICE

Bureau (Institution, Board, or Commission): Highway Operations

Division: Grand Region

Section: Cadillac TSC

Unit: Construction

Work Location (City and Address)/Hours of Work: 7915 US131 HWY Cadillac MI 49601 / 7:30 a.m. - 4:30 p.m. M-F Hours may vary

General Summary of Function/Purpose of Position: This position performs a full range of transportation construction quality control inspection assignments to ensure contractual requirements are met through use of plans, specifications, standards, contract documents, and other guidelines. including inspection and testing of road and bridge projects, office work, and surveying on construction of highways, bridges, and allied transportation facilities.

This position requires possession of a valid driver's license to perform field reviews.

Assigned duties and tasks for each duty.

Duty 1: Perform inspection and testing of road and bridge projects in all phases of construction using e-construction where applicable.

This duty requires possession of a valid driver's license to perform field reviews.

- Check density and moisture content of soils.
- Perform concrete testing (e.g., slump, air, temperature, etc.).
- Inspect grading, guardrail, clearing, restoration, concrete placement (e.g., bridges, roads, etc.), hot mix asphalt (HMA) placement, erosion control, drainage installation (e.g., culverts, sewers, structures, etc.), traffic control, bridge painting, and steel placement.
- Inspect utility relocations.
- Document daily activities in AASHTOWare.
- Perform gradation testing.
- Review and follow applicable safety standards for work.
- Coordinate schedule with contractors, public utilities, and city and county engineering departments.
- Train seasonal employees in surveying and inspection.
- Document maintaining traffic compliance.
- Identify and inspect project safety requirements.

Duty 2: Office Documentation

- Review project plans and specifications.
- Review department procedures and guidelines for upcoming work.
- Compute areas for clearing, earthwork, concrete, HMA, etc.
- Check math computations on weigh tickets.
- Utilize various programs to document processes (e.g., AASHTOWare, Excel, ProjectWise, etc.)..
- Assist with project close out including, but not limited to, preparing change orders, verifying final quantities and work orders, etc.
- Review change orders for local agency projects.
- Coordinate interim and final project record reviews for local agency projects.

Duty 3: Work on staking or survey crew.

- Perform instrument work as a rod person and junior instrument person including setting stakes, leveling, and using other various equipment.
- Compute areas for various items of work.

Duty 4: Participate in cross training.

- Assist in the review and/or inspection of Transportation Service Center (TSC) roadway system and/or contract county work.
- Coordinate details leading to the issuance or denial of permits on the trunkline system.
- Assist in permit close outs.
- Prepare design plans and/or logs for construction projects.
- Perform field inventory and/or inspection of existing roadway system items (e.g., guardrail, culverts, signs, etc.).
- Represent the Michigan Department of Transportation (MDOT) at local agency grade inspections and pre-construction meetings.

Duty 5: Monitor, maintain, adjust, and document all work zone operations.

- Review and interpret the traffic management plan (TMP) to ensure that it is implemented as stated in the contract.
- Review how to monitor and document the effectiveness of the TMP.
- Monitor the temporary traffic control plan (TTCP) and if it fails to perform as expected, make recommendations to the Engineer to improve traffic flow.
- Assist the Engineer in working with the contractor to develop, monitor, adjust, and document an internal traffic control plan to minimize delay and improve work zone safety.
- Inform the Engineer when lane closures exceed time restrictions placed in the TMP.
- Interpret and observe MDOT's Accident Prevention Plan. Immediately report hazardous conditions to your supervisor.
- Comply with MDOT's personal protective equipment policy.
- Assist with local agency project work zone operations reviews.

Duty 6: Other duties as assigned

- Other duties as assigned.

Types of decisions made independently and whom or what those decisions affect: Position requires employees to make decisions regarding inspection and surveying specifications and revising contract pay quantities based on field conditions. Upon review of maintaining traffic plan, verify and adjust layout to meet conditions. Contractors, utility companies, engineers, technicians, and the motoring public may be affected.

Types of decisions that require the supervisor's review: Any area not covered by specific instruction or within established policy.

Physical effort used to perform this job and environmental conditions of this position: Exposure to weather, traffic, construction hazards, noise, dirt, operating equipment, and other conditions associated with heavy construction work. Physical requirements include transporting equipment and objects weighing 50 pounds or more approximately 5 times a day and the use of 6–12-pound hammers to drive stakes. May be required to wear specialized safety equipment such as a respirator. Ability to inspect or investigate varied construction or activity sites, including traversing all types of terrain and various highway structures in all types of weather and traffic conditions. Subject to transfer to various field locations. May be required to work nights or weekends. May require extensive travel and hours pertaining to work location. This position requires possession of a valid driver's license. Position may require availability outside of normal working hours based on operational need.

Names and classes and levels of employees whom this position immediately supervises:

The essential functions of this position: This position performs a full range of transportation construction quality control inspection assignments to ensure contractual requirements are met through use of plans, specifications, standards, contract documents, and other guidelines. including inspection and testing of road and bridge projects, office work, and surveying on construction of highways, bridges, and allied transportation facilities.

This position requires possession of a valid driver's license to perform field reviews.

The function of the position's work area and how it fits into that function: The Cadillac TSC provides multi-functional service in a geographical area to manage a network of roadways and other departmental functions. This position provides field engineering, testing, surveying and staking, inspection, and documentation for construction projects and allied activities within the service area.

Minimum education, experience, and credentials typically needed to perform the position's essential functions:

EDUCATION:
Possession of an associate degree in concrete technology, civil technology, construction technology, surveying technology, construction management, mathematics, or computer science.

EXPERIENCE:
Transportation Technician 8
No specific type or amount is required.

Transportation Technician 9
One year of experience equivalent to a Transportation Technician 8.

Transportation Technician E10
Two years of experience equivalent to a Transportation Technician, including one year equivalent to a Transportation Technician 9.

Alternate Education and Experience

Transportation Technician 8 - 12
Possession of a bachelor's degree or higher in an Applied Science or Science with 16 semester hours (24 term) credits in job specific or related course work qualifies for the Transportation Technician E10 level.

OR

Completion of 60 semester (90 term) credits including 24 semester (36 term) credits in any combination of course work in the following areas: structures, materials, soils, hydrology, surveying, design, drafting, bituminous, concrete, aggregate, chemistry, physics, geology, environmental science, computer science, highway or traffic technology, construction management, engineering, or mathematics may be substituted for the education requirement.

OR

Four years of technician level experience consisting of quality control inspections, drafting, materials and testing, surveying, or traffic may be substituted for the education requirement.

OR

Current certification in bituminous (hot mix), concrete, density testing, or aggregate gradation and one year of technician level field experience may be substituted for the education requirement.

OR

Three years of experience equivalent to a Transportation Maintenance Worker 9, Transportation Maintenance Supervisor, or Transportation Maintenance Coordinator may be substituted for the education requirement.

OR

Current certification in bituminous (hot mix), concrete, density, or aggregate and two years of experience equivalent to an Engineering Assistant may be substituted for the education requirement.

OR

Current certification in bituminous (hot mix), concrete, density, or aggregate and completion of 16 semester (24 term) credits in any combination of course work in the following areas: structures, materials, soils, hydrology, surveying, design, drafting, bituminous, concrete, aggregate, chemistry, physics, geology, environmental science, computer science, highway or traffic technology, construction management, engineering, or mathematics may be substituted for the education requirement.

KNOWLEDGE, SKILLS, AND ABILITIES:

Knowledge of:

- specifications for aggregate yield, shaping, placing, compacting, priming, sealing, and clearing
- requirements for topsoil, density, joint sealing, foundation piling, and restoration activities
- construction terminology used in the work
- mathematics to calculate areas and volumes
- the proper usage and care of survey and testing equipment

Ability to:

- use computer programs for documentation and problem solving
- traverse rough terrain
- transport heavy equipment and/or materials
- work under extreme weather and environmental conditions
- communicate effectively

CERTIFICATES, LICENSES, REGISTRATIONS:

- Possession of a valid driver's license is required and must be maintained through employment in the position.
- Possession of one or more of the following industry certifications within 12 months of the date of hire into the position and must maintain throughout employment in the position:
  - Aggregate
  - Density
  - Bituminous
  - Concrete