

**State of Michigan
Civil Service Commission**
Capitol Commons Center, P.O. Box 30002
Lansing, MI 48909

Position Code 1. TRALSPL2C40R

POSITION DESCRIPTION

This position description serves as the official classification document of record for this position. Please complete the information as accurately as you can as the position description is used to determine the proper classification of the position.	
2. Employee's Name (Last, First, M.I.)	8. Department/Agency TRANSPORTATION CENTRAL OFFICE
3. Employee Identification Number	9. Bureau (Institution, Board, or Commission) Bureau of Bridges and Structures
4. Civil Service Position Code Description TRANSPORTATION ENG LIC SPL 2	10. Division Structure Program Division
5. Working Title (What the agency calls the position) Bridge Inspection Engineer	11. Section Structure Management Section
6. Name and Position Code Description of Direct Supervisor NADJARIAN, ALLISON M; ENGINEER MANAGER LICENSED-3	12. Unit Bridge Inspection Unit
7. Name and Position Code Description of Second Level Supervisor MCMUNN, CREIGHTYN; ENGINEER MANAGER LICENSED-4	13. Work Location (City and Address)/Hours of Work 6333 Old Lansing Road, Lansing, MI 48917 / M-F, 8:00am - 5:00pm (hours may vary)
14. General Summary of Function/Purpose of Position	
<p>Serve as the Department's statewide specialist for the inspection of the designated Big Bridge inventory (bridges with deck area greater than 100,000 square feet, movable, complex, and unique structures) and structures with nonredundant steel tension members (NSTM) and fatigue sensitive details. Inspections are completed within an assigned area. An NSTM is a steel tension member without redundancy whose failure could cause the entire structure, or a portion of it, to collapse. A fatigue sensitive detail is a detail that is low in fatigue resistance and prone to cracking. These structures are critical assets because of the elevated risk of failure. Responsibilities include planning, coordinating, implementing, and documenting routine, NSTM, fatigue sensitive, special, and in-depth inspections of these bridges. Inspections are done in accordance with the National Bridge Inspection Standards (NBIS) and other state laws and guidelines. As a statewide expert, this position advises management, regions, and local agencies in all matters pertaining to bridges having NSTMs or fatigue sensitive details; schedules specialized testing in accordance with bridge inspection procedures; and updates MDOT and local agency inspection procedures as needed to improve safety and maintain compliance. This position also administers consultant contracts and performs project management functions throughout the duration of each contract to maintain schedule and budget. This position also supports the Bridge Inspection Program Manager in the development and implementation of the Quality Assurance/Quality Control (QA/QC) program. On occasion, this position works with region staff to assist with high flow monitoring, routine, in-depth, scour, and special inspections.</p> <p>The duties of this position require the incumbent to drive a vehicle and/or vehicle/trailer combination (e.g., bucket truck) with a Gross Weight Rating (GVWR) of up to but not more than 26,000 pounds. Duties which require the use of these vehicles and/or vehicle trailer combinations include, but are not limited to, performing specialized bridge inspections.</p>	

15. Please describe the assigned duties, percent of time spent performing each duty, and what is done to complete each duty.

List the duties from most important to least important. The total percentage of all duties performed must equal 100 percent.

Duty 1

General Summary:

Percentage: 75

Serve as the Department's statewide specialist for the inspection of bridges with a deck area greater than 100,000 square feet, fatigue sensitive, movable, NSTM, complex, and unique structures which requires possession of status as a Qualified Team Leader (QTL). Per the NBIS, complex features include bridge component(s) or member(s) with advanced or unique structural members or operational characteristics, construction methods, and/or requiring specific inspection procedures. This includes mechanical and electrical elements of moveable spans and cable related members of suspension and cable-stayed superstructures.

This duty requires the incumbent to drive a vehicle and/or vehicle trailer combination with a GVWR of up to but not more than 26,000 pounds to perform the specialized bridge inspections.

Individual tasks related to the duty:

- Perform routine, NSTM, fatigue sensitive, special, in-depth, scour monitoring, and initial (post-construction) inspections on large deck, movable, complex, and unique structures within the Big Bridge Inventory in accordance with the NBIS and other state laws and guidelines. Inspections will be completed within an assigned area.
- Perform NSTM, fatigue sensitive, special, and in-depth inspections statewide in accordance with the NBIS and other state laws and guidelines.
- Evaluate the structural condition of each bridge component, complex feature, fatigue sensitive detail and/or NSTM according to NBIS guidelines. Identify any action items and submit Request for Action (RFA) reports to the bridge owners and follow-up for structural, mechanical, and electrical repairs. Provide work recommendations regarding items that need addressed based on the inspections and ensure activities are communicated to region and/or central office staff.
- Coordinate with regions, statewide crews, and consultants before performing bridge inspections to coordinate traffic control and access equipment (e.g., Reach-All).
- Communicate regularly with Statewide Reach-All, Bridge, and Electrical Crews regarding repairs to large deck, movable, NSTM, fatigue sensitive, complex, and unique structures and provide expertise and guidance as required.
- Complete the required reports and maintain bridge files in compliance with the Federal Highway Administration (FHWA) 23 Metrics.
- Schedule and perform planned and as-needed non-destructive testing on NSTMs in accordance with bridge inspection procedures. Submit an RFA depending on the results of the testing.
- Update MDOT and local agency inspection procedures as needed for improved safety and compliance with the NBIS and to ensure statewide alignment.
- Maintain in-depth inspection and scoping schedule for the Big Bridge Inventory.
- Liaison with the regions on these structures when detailed inspections or scoping is needed which includes assisting region staff with inspections as needed or communicating with regions that inspections need done.
- Act as a technical resource to internal and external customers (e.g., consultants and local agencies) regarding the inspection of large deck, movable, NSTM, fatigue sensitive, complex, and unique structures.
- Coordinate with region and Transportation Service Center (TSC) offices for traffic control needs to perform routine, in-depth, and special inspections.

Duty 2

General Summary:

Percentage: 10

Administer consultant contracts for the performance of project related tasks.

Individual tasks related to the duty:

- Develop scope of service as needed for consultant engineering contracts for in-depth inspections of bridges in the Big Bridge Inventory, movable bridge troubleshooting, complex inspections, underwater diving inspections, and as-needed routine and in-depth inspections.
- Perform project management functions for consultant engineering contracts related to the inspection of large deck, movable, NSTM, fatigue sensitive, complex, and unique structures.
- Develop and administer the preparation of the scope of services, the selection process, and the contract for consultant engineering services.
- Monitor and control project engineering costs, contract costs, and project schedules for assigned projects.
- Review payment invoices and progress reports and make recommendations for payment for services completed.
- Compile and maintain all vendor contract records.

- Prepare evaluations of the consultant's project submittals and overall performance on the project.
- Direct the development and implementation of communication mechanisms that keep all relevant stakeholders properly informed of all project related information. Stakeholders include, but are not limited to, vendors, project team members, and Department managers/leadership.
- Represent MDOT in building positive working relationships with consultant partners.

Duty 3

General Summary:

Percentage: 10

Support the Bridge Inspection Program Manager in the development and implementation of Quality Assurance /Quality Control (QA/QC) program for bridge inspections and evaluation of bridges as well as tunnel inspections and evaluations at the Statewide and Region level.

Individual tasks related to the duty:

- Assist in the development of Quality Control plans for MDOT Regions and Local Agencies.
- Perform MDOT Quality Control reviews.
- Provide leadership in the development and implementation of quality assurance and improvement standards.
- Complete Quality Assurance reviews and provide follow up to bridge owners and/or inspectors on deficiencies identified during the review.
- Ensure critical findings are properly documented in MiBRIDGE and perform field reviews as directed.
- Act as a technical resource for local agencies as it relates to their bridge and tunnel inspection responsibilities.

Duty 4

General Summary:

Percentage: 5

Assist in establishing alignment with bridge inspection policies and guidelines statewide and support regions with inspection related tasks. Other duties as assigned.

Individual tasks related to the duty:

- Work with the region staff to assist with NBI inspections for short durations during periods of staff absence and to facilitate the training of new inspectors.
- Assist region staff with high flow monitoring, scour inspections, and other special inspections as needed.
- Provide recommendations for improvements and presentation of best practices for NBIS bridge inspection methods.
- Train inspectors as needed.
- Provide technical assistance when requested by region and local agency bridge inspectors.
- Attend bridge inspection training and maintain QTL status.

16. Describe the types of decisions made independently in this position and tell who or what is affected by those decisions.

Must be able to assess the condition of a bridge according to NBIS guidelines and possess delegated authority to evaluate and determine structural condition of fatigue sensitive details, NSTMs, complex features, and movable bridge components. Must be able to plan, coordinate, and implement bridge inspections. Determine needed inspection, equipment, and traffic control. Assess the condition of a bridge and bridge detail. Make safety decisions at the bridge.

17. Describe the types of decisions that require the supervisor's review.

Changing or setting statewide bridge inspection policies. Structural related decisions involving safety (that do not require immediate decisions at the bridge). Decisions involving network management and strategic direction.

18. What kind of physical effort is used to perform this job? What environmental conditions in this position physically exposed to on the job? Indicate the amount of time and intensity of each activity and condition. Refer to instructions.

Performing inspections in the field includes traversing irregular terrain and slopes, moving under bridges, over water, wading in water to probe footings, and continually working near heavy traffic as well as working in adverse weather conditions. Requires good physical condition and agility. Must be able to travel statewide for extended periods of time which requires possession of a valid driver's license. Must be able to work from an aerial device or man-lift at considerable height off the ground and over water. Position may require availability outside normal working hours based on operational needs.

The duties of this position require the incumbent to drive a vehicle and/or vehicle/trailer combination with a GVWR of up to but not more than 26,000 pounds.

19. List the names and position code descriptions of each classified employee whom this position immediately supervises or oversees on a full-time, on-going basis.

Additional Subordinates

20. This position's responsibilities for the above-listed employees includes the following (check as many as apply):

<input type="checkbox"/> Complete and sign service ratings.	<input type="checkbox"/> Assign work.
<input type="checkbox"/> Provide formal written counseling.	<input type="checkbox"/> Approve work.
<input type="checkbox"/> Approve leave requests.	<input type="checkbox"/> Review work.
<input type="checkbox"/> Approve time and attendance.	<input type="checkbox"/> Provide guidance on work methods.
<input type="checkbox"/> Orally reprimand.	<input type="checkbox"/> Train employees in the work.

22. Do you agree with the responses for items 1 through 20? If not, which items do you disagree with and why?

Yes.

23. What are the essential functions of this position?

Serve as the Department's statewide specialist for the inspection of the designated Big Bridge inventory (bridges with deck area greater than 100,000 square feet, movable, complex, and unique structures) and structures with nonredundant steel tension members (NSTM) and fatigue sensitive details. Inspections are completed within an assigned area. Responsibilities include planning, coordinating, implementing, and documenting routine, NSTM, fatigue sensitive, special, and in-depth inspections of these bridges. Inspections are done in accordance with the National Bridge Inspection Standards (NBIS) and other state laws and guidelines. As a statewide expert, this position advises management, regions, and local agencies in all matters pertaining to bridges having NSTMs or fatigue sensitive details; schedules specialized testing in accordance with bridge inspection procedures; and updates MDOT and local agency inspection procedures as needed to improve safety and maintain compliance. This position also administers consultant contracts and performs project management functions throughout the duration of each contract to maintain schedule and budget. This position also supports the Bridge Inspection Program Manager in NBIS compliance functions including monthly, quarterly, and as-needed compliance verifications and in the development and implementation of the Quality Assurance/Quality Control (QA/QC) program. On occasion, this position works with region staff to assist with high flow monitoring, routine, in-depth, scour, and special inspections.

24. Indicate specifically how the position's duties and responsibilities have changed since the position was last reviewed.

25. What is the function of the work area and how does this position fit into that function?

The work area is responsible for the management and oversight of the state's bridge inspection program. The Bridge Inspection Unit is responsible for inspecting the department's designated bridges with NSTMs and fatigue sensitive details and provides technical expertise in the more complex aspects of bridge inspection, management, and construction. The Unit supports and acts as a technical resource to the MDOT regions and local agencies regarding management, inspection, and construction of bridges and facilitates the federal inspection program with the local agencies. This position serves as the Department's statewide specialist for inspection of large deck, movable, NSTM, fatigue sensitive, complex, and unique structures.

26. What are the minimum education and experience qualifications needed to perform the essential functions of this position.

EDUCATION:

Possession of a Bachelor of Science degree in engineering.

EXPERIENCE:

Transportation Engineering Licensed Specialist 13
Four years of professional experience equivalent to a Transportation Engineer, including two years equivalent to a Transportation Engineer P11 or one year equivalent to a Transportation Engineer 12 or Transportation Engineer Licensed 12.

KNOWLEDGE, SKILLS, AND ABILITIES:

Knowledge of:

- Structural engineering.
- Relevant specifications, Department policies, and technical reports for NSTM inspection and management of complex bridges.
- Bridge inspections.
- Consultant project management.

Ability to:

- Work outside, in aerial device or man-lift at considerable height off the ground and over water.
- Communicate effectively.

**CERTIFICATES, LICENSES,
REGISTRATIONS:**

- Subclass Code Requirement: CMVOSSP – A safety-sensitive position in which the employee is required to operate a commercial vehicle. Requires a valid Medical Examiners Certificate for Commercial Driver Medical Certification.
- Possession of a valid driver's license is required.
- Possession of a registered professional engineering license as required by the State of Michigan.
- Possess status as a Qualified Team Leader which includes:
 - Successful completion of NHI-130055 Safety Inspection of In-Service Bridges course.
 - Successful completion of 18 hours of approved bridge inspection recurrent training over the last five years.
 - Successful completion of the Field Proficiency Exam in the last two years.
- Successful completion of NHI-130078 Fracture Critical Inspection Techniques for Steel Bridges.

NOTE: Civil Service approval does not constitute agreement with or acceptance of the desired qualifications of this position.

I certify that the information presented in this position description provides a complete and accurate depiction of the duties and responsibilities assigned to this position.

Supervisor

Date

TO BE FILLED OUT BY APPOINTING AUTHORITY

Indicate any exceptions or additions to the statements of employee or supervisors.

I certify that the entries on these pages are accurate and complete.

Appointing Authority

Date

I certify that the information presented in this position description provides a complete and accurate depiction of the duties and responsibilities assigned to this position.

Employee

Date