

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

Position Code

1.

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) Highways
4. Civil Service Position Code Description TRANSPORTATION ENGINEER LICENSED 12	10. Division Transportation North Region
5. Working Title (What the agency calls the position) QTL Bridge Inspector	11. Section North Region Operations
6. Name and Position Code Description of Direct Supervisor BOATMAN, BRANDON T; ENGINEER MANAGER LICENSED-3	12. Unit North & Superior Region Bridge Unit
7. Name and Position Code Description of Second Level Supervisor WAHL, WILLIAM E; ENGINEER MANAGER LICENSED-4	13. Work Location (City and Address)/Hours of Work TBD within North Region / 7:30 a.m. - 4:30 pm / Mon - Fri / Hours May Vary

14. General Summary of Function/Purpose of Position

This is an advanced level position that functions as a Qualified Team Leader (QTL) Bridge Inspector that performs inspection of bridges and culverts in the Region in compliance with State and Federal Highway Administration (FHWA) regulations. Responsibilities include conducting field inspections with a focus on extensive detail (e.g., in-depth inspections, bridge scoping) and/or complex structures (e.g., curved steel beams, trusses), making independent engineering judgments and decisions, preparing inspection reports, participating in bridge scoping, Call for Projects, Quality Control (QC) and Quality Assurance (QA), and Bridge Network Asset Management. This position is required to respond to emergencies.

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



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: 70

Function as a QTL performing bridge and culvert inspections with a focus on extensive detail and/or complex structures in accordance with applicable State and Federal regulations and making independent engineering judgements and decisions.

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

Individual tasks related to the duty:

- Independently investigate, evaluate, and report on the safety condition of structures within the region in accordance with the National Bridge Inspection Standards (NBIS) and Michigan Department of Transportation (MDOT) bridge inspection policies and procedures.
- Perform in-depth detailed bridge inspections to determine structural integrity of key elements that affect the structure's load rating.
- Perform bridge scoping activities which includes, but is not limited to, destructive or non-destructive testing, and provide work recommendations and cost estimates for repair.
- Independently develop the annual inspection schedule and organize the necessary equipment for those inspections.
- Document complex field observations reflecting the existing bridge condition on electronic and paper forms such as detailed inspection reports, Bridge Safety Inspection Report (BSIR), Culvert Safety Inspection Report (CSIR), Element Inspection Data, Request for Action (RFA), Work Recommendations, Scour Plan of Action, and the Structure Inventory and Appraisal form.
- Provide maintenance work crew recommendations for region wide crews and designate the appropriate priority.
- Assist statewide crew with fracture critical, fatigue sensitive, or detailed inspections

Duty 2

General Summary:

Percentage: 10

Assist in the development and implementation of the Region's Bridge Preservation Strategy, including assembly of annual Region Bridge Maintenance work program.

Individual tasks related to the duty:

- Assist in the development of the region's annual bridge program by identifying and prioritizing needs, and recommending potential maintenance, rehabilitation, or replacement activities utilizing technical knowledge relative to the maintenance and rehabilitation of bridges and culvert repairs.
- Establish and maintain a prioritized bridge maintenance list, communicate with region bridge crews, and resolve issues encountered during maintenance work.
- Monitor, evaluate and report on the performance of maintenance and rehabilitation activities to ensure quality and the desired objectives.
- Coordinate maintenance work activities with the Transportation Service Center (TSC), Region, and Statewide personnel.
- Prepare scope and design of proposed Capital Preventive Maintenance (CPM) and Capital Scheduled Maintenance (CSM) projects.

Duty 3

General Summary:

Percentage: 10

Serve as the technical expert performing the QC/QA Monitoring Program in the specialty area of inspection of bridges and overpasses.

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

Individual tasks related to the duty:

- Develop, maintain, and participate in the Region's bridge safety inspection QC/QA monitoring program.
- Participate in the Statewide bridge safety inspection QC/QA monitoring program.
- Attend necessary training to maintain QTL status.
- Document and archive complex data collected during field inspections.
- Review database for accuracy and revise data if necessary.
- Upload field information to regional and statewide database systems.
- Generate standard reports and create specialized reports for the region engineer, region bridge engineer, and the statewide bridge systems manager.
- Participate in the annual inspection calibration meeting, as well as region inspection team meetings to incorporate the latest standards techniques, and maintain a working knowledge of the inspection program.

Duty 4

General Summary:

Percentage: 10

Assist Region Bridge Engineer with as-needed tasks associated with bridge design plan reviews, emergency situations, special reports, load rating, bridge construction and maintenance assistance, and consultant contracts.

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

Individual tasks related to the duty:

- Respond to and prepare RFAs on bridges damaged by high loads, ships, washouts or severe deterioration.
- Identify repairs that require a routine or emergency contract based on the scope and nature of the work.
- Assist in preparing and reviewing contract documents and scopes of work.
- Attend Scope Verification, Base Plan, Plan Review, Final Project Coordination (FPC), and Omissions and Errors Check (OEC) meetings to ensure the designers have all necessary bridge condition information.
- Provide technical assistance to region staff during the bridge construction and maintenance processes.
- Prepare timely punch lists for bridge construction projects.
- Recommend collecting and testing steel and/or concrete bridge samples to aid in the load rating of structures.
- Perform field measurements and accurately convey information to Load Rating Unit.
- Other duties assigned by supervisor

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

Make decisions regarding necessary equipment, scheduling of inspections, and other methods necessary to perform inspections. Independently identify and perform detailed inspections on structures as necessary to ensure structural integrity and public safety. Independently perform routine inspections within FHWA guidelines to ensure public safety. Document repair recommendations and follow up on recommendations as necessary to promote public safety. Determine the extent of bridge damage caused by vehicles, extent of scour during a storm event, and/or structural stability due to corrosion, and the course of action for each event.

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

When existing policy is unclear, or when changes or variances from existing MDOT policy, guidelines, or procedures are needed.

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.

This position requires Region-wide travel and occasional statewide travel. The job also requires working from heights of up to 200 feet requiring the use of aerial equipment, scaffolding or safety harnesses under or alongside the structure while performing bridge maintenance activities, the usage of ladders, and operation of boats. Ability to traverse all types of terrain and various highway and bridge structures, wading in water to probe footings, working near heavy traffic, and being exposed to unfavorable weather conditions. This position requires possession of a valid driver's license to perform field work. Position may require availability outside normal working hours based on operational needs.

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):

- | | |
|---|--|
| ☐ Complete and sign service ratings. | ☐ Assign work. |
| ☐ Provide formal written counseling. | ☐ Approve work. |
| ☐ Approve leave requests. | ☐ Review work. |
| ☐ Approve time and attendance. | ☐ Provide guidance on work methods. |
| ☐ Orally reprimand. | ☐ 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?

This is an advanced level position that functions as a Qualified Team Leader (QTL) Bridge Inspector that performs inspection of bridges and culverts in the Region in compliance with State and Federal Highway Administration (FHWA) regulations. Responsibilities include conducting field inspections with a focus on extensive detail (e.g., in-depth inspections, bridge scoping) and/or complex structures (e.g., curved steel beams, trusses), making independent engineering judgments and decisions, preparing inspection reports, participating in bridge scoping, Call for Projects, Quality Control (QC) and Quality Assurance (QA), and Bridge Network Asset Management. This position is required to respond to emergencies.

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

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 function of the work area is to inspect the bridges and culverts within an assigned geographical area to ensure structural integrity and public safety. This requires the inspection and recording of information to be used for assessing existing conditions and identifying future maintenance and construction work. This position is responsible for performing the physical field inspections on those structures and maintaining the region's bridge condition database.

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.

Possession of a bachelor of science degree in Civil Engineering preferred.

EXPERIENCE:

Transportation Engineer Licensed 12

Three years of professional experience involved in the planning, research, design, construction, or maintenance of highways and bridges, including one year equivalent to a Transportation Engineer P11.

KNOWLEDGE, SKILLS, AND ABILITIES:

Knowledge of:

- Elements of bridge and culvert design
- Mathematics for measuring and computing information

Skill in:

- Organizing information
- Resourcefulness

Ability to:

- Make decisions regarding structural integrity
- Communicate effectively
- Work effectively with others
- Determine priorities
- Maintain favorable public relations
- Use initiative in carrying out assignments while working independently

**CERTIFICATES, LICENSES,
REGISTRATIONS:**

Possession of the following at the time of hire into the position and must maintain throughout employment in the position:

- Valid driver's license.
- Professional engineering license as required by the State of Michigan.
- 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 5 years
 - Successful completion of the Field Proficiency Exam in the last 2 years

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.

None

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