

# Missouri Department of Transportation

Code: R03058

Title: Structural Analyst

Exemption Status: Non-Exempt

Grade: 8

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## Job Description

Effective Date 07-01-2022

Replaces  
(Effective Date) 11-01-2007

**General Summary** The structural analyst prepares preliminary design layouts and cost estimates for bridge overlays and rehabilitations; designs and details retaining walls and box culverts, miscellaneous bridge attachments, including sign supports, and cathodic protection systems for bridges; provides technical assistance in broad areas of bridge rating and developing standard plan sheets for structural elements. Responsibilities are performed under moderate supervision.

**Minimum/Required Qualifications** Two years of college or Associate's Degree: Drafting, Computer Aided Drafting, or related field  
Eight years of experience in structural detailing.

**Supervisory Responsibilities** Lead Worker Only

**Location** Central Office - Bridge

**Special Working Conditions/Job Characteristics** Job requires occasional, statewide, overnight travel.

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## Examples of Work

- (1) Designs, develops, and documents miscellaneous structural elements such as bridge expansion devices, drainage systems, bridge railings, and underpass lighting.
- (2) Serves as a core team member on district project teams; corresponds and coordinates with district personnel for activities such as valley section data and sounding information.
- (3) Designs and develops plans and writes special provisions for cathodic protection systems; assists districts with cathodic protection issues.
- (4) Processes bridge utility attachment agreements requested by public utilities.
- (5) Prepares preliminary design layouts for bridge overlays, routine rehabilitation, retaining walls, and box culverts in minor drainage basins; prepares final design for routine box culverts and retaining walls.
- (6) Prepares comparative cost estimates to determine the proper and most economical type of rehabilitation layout for bridges.
- (7) Provides technical assistance and completes assignments in areas of structural detailing, development of

new standard plans, and load rating and inventory; assists in resolving special material or fabrication problems.

- (8) Conducts training for other technical personnel in broad areas of structural detailing practice.
- (9) Performs routine hydraulic analysis for stream crossing structures and routine geometric designs for grade separation structures and retaining walls, including field check memorandum and complete final design layouts.
- (10) Reviews bridge plans, writes special provisions and calculates the final cost estimate.
- (11) Performs lead worker responsibilities, which may include providing general instruction, assigning and reviewing work, coaching and training, providing guidance and instruction in the proper and most efficient methods of accomplishing tasks, and providing input to the direct supervisor on staffing decisions and performance management.
- (12) Performs other responsibilities as required or assigned.

**The Missouri Department of Transportation promotes an equal opportunity workplace that includes reasonable accommodation of otherwise disabled applicants and employees. Please see your manager should you have any questions about this policy or these job duties.**