STATE OF MONTANA
JOB DESCRIPTION

Montana state government is an equal opportunity employer. The State shall, upon request, provide reasonable accommodations to otherwise qualified individuals with disabilities.

Job Title: Bridge Reviewer       Position Number: 60056       Location: Varied

Department: Transportation

Division and Bureau: Engineering Division/Construction Engineering Services Bureau

Section and Unit: Construction Review Section

Job Overview:

This position is a Bridge Engineer for the Construction Review Section of the Montana Department of Transportation’s Construction Bureau. The position is responsible developmental tasks that affect statewide preconstruction/construction operating procedures, implementing the agency's Construction Review Program; Construction Claims & Dispute Resolution Program; Change Order Program; Non-Uniformity Complaint Process, and Value Engineering Program and for developing and evaluating policies, procedures, plans, and specifications; providing engineering, contract administration technical guidance and advice to districts, other bureaus, and legal staff; project oversight and review activities; and special reviews. Responsible for professional engineering review of plans and special provisions for planned and active bridge construction projects; providing on-site project reviews and professional technical assistance to other professional engineers and department staff, contractors, and other parties; and researching, analyzing, and developing policies, procedures, methods, and specifications to ensure quality, completeness, and timeliness of bridge construction projects. The incumbent reports to the Construction Review Section Supervisor (#80016) and does not directly supervise others.

Essential Functions (Major Duties or Responsibilities):

Professional Evaluation of Plans, Special Provisions, Policies, and Procedures 30%

Conduct engineering reviews of plans and special provisions for planned and active bridge construction projects to ensure projects are constructible (prior to award), comply with professional
standards and concepts and established state and federal standards, and to develop and maintain construction specifications and standards.

- Conduct initial plan assessments, research past MDT projects and precedents and assess current materials, level of effort, and design resource requirements and costs, perform advanced project modeling work using engineering concepts and automated tools and assess various project completion methods to ensure compliance with state and federal requirements. Review project proposals, engineering designs, recent developments and innovations in the highway construction field, and project needs to ensure proposed projects can be constructed within reasonable time and cost parameters, are biddable. Attend and conduct alignment and grade reviews, plan-in-hand reviews, final plan reviews, and conferences for special design.
- Develop solutions to a broad range of engineering deficiencies and contract administration problems to facilitate project completion and ensure compliance with federal and state construction and contract requirements. Identify areas of non-compliance and determine solutions. Develop unique approaches to large and specialized bridge material procurement processes by analyzing the scope of proposed projects. Review engineering design specifications, standards, and contract administration policies to develop solutions to make them more efficient and effective and evaluate inspection practices to keep them current with industry standards.
- Evaluate proposed design, materials and structural engineering aspects of plans to determine compliance with professional engineering, construction, design, and safety standards; and ensure compliance with established state and federal contract, materials and construction requirements. Report on deficiencies and develop solutions and recommend corrective actions.
- Provide technical consultation and advice to Districts and design staff on bridge engineering and design standards and materials requirements. Perform analysis and recommendations of value-engineering. Review and assess proposed design alternatives.

Field Project Review, Oversight, Professional and Technical Assistance - 30%

Evaluates assigned projects through field reviews during each major project phase; oversees and evaluates specification requirements, material sampling, and testing; coordinates or conducts investigations of construction and specification deficiencies; exposes engineering problems and develops alternative and innovative solutions to engineering problems; provides advice and professional engineer services and technical assistance to a variety of parties; have direct presence on projects and mentoring responsibilities; develops and promotes uniform contract administration measures; and evaluates contractor claims and recommends appropriate responses to ensure compliance with established policies, regulations, plans, and specifications and ensure uniform statewide contract administration, conformance to standards, and continued federal funding of
projects. Provide engineering and contract administration guidance to districts, other bureaus, and legal staff to ensure uniform compliance with department policies, specifications, special provisions, and construction and inspection procedures. Provide guidance and engineering expertise on contract claims management issues and provide proper documentation of engineering data and facts.

- Evaluate assigned projects through field reviews during each major phase of construction (or on call-outs) and provide professional and technical assistance, and compile analytical analysis, reports and solutions covering construction aspects of construction reviews, delineating problems and recommending corrective actions. Oversees and evaluates material sampling, testing, certification, documentation and specifications for structures.
- Develop alternatives and innovative approaches to complex engineering problems and coordinates or conducts investigations of construction deficiencies during bridge construction phases to rectify deficiencies and develop solutions.
- Provide engineering oversight and guidance on bridge, design standards and materials requirements to identify how they relate to project needs and activities. Develops and implement uniform contract administration measures related to bridge, materials, procedures, safety measures, and other project elements to ensure full compliance with all requirements for federal aid. Monitor the effectiveness of contract administration policy and procedures and make recommendation to improve efficiency or cost effectiveness.
- Act in advisory capacity in a litigious environment and situations, develop claim recommendations and evaluates contractor claims to determine the merits of individual claims regarding contract requirements, delays, financial settlements, and other issues associated with specific projects. Review and develop liquidated damage recommendations for construction projects.
- Research and implement new technologies & innovations for construction.
- Review and approve contract changes through the change order process. Perform advanced analysis of value-engineering proposals and develop recommendations.

**Professional Research, Development, and Implementation - 30%**

This position researches engineering and construction equipment, materials, and special item designs; develops new specifications, reviews and approves changes and implements updates for a variety of department reference manuals; determines, develops and presents training and training materials; and monitors and provides recommendations related to the effectiveness of contract administration policy to develop and upgrade policies and procedures and ensure that department practices, standards, and specifications are cost-effective and current with industry standards and expectations. This includes the creation of concepts and criteria that have no precedence or existing guidelines.

- Researches and assess innovations in bridge construction equipment, technologies, materials, and design to determine their applicability to state and department operations. Conducts
studies to develop and write specifications for new equipment and materials. Research, develop, analyze, implement and trouble shoot new technologies for construction.

- Review and implement changes and updates for the department’s Construction Manual, Detailed Drawings, specifications, standard policies, and operational procedures. Develop and implement quality control and quality assurance standards, methods, and policies.
- Determines professional training needs and develops training materials and help guides and presents new technical information on equipment, methods, and programs to District and field construction staff.
- Monitor the effectiveness of contract administration policy and procedures, as applied to overall bureau project management activities and individual projects and recommend exceptions or modifications.
- Develop solutions to a broad range of engineering deficiencies and contract administration problems to facilitate project completion and ensure compliance with federal and state construction and contract requirements.

Other Duties as Assigned - 10%

Performa variety of other engineering, project management, public relations and other activities as assigned by the Construction Review Section Supervisor, Construction Engineer, and Administration Engineer in support of the department mission and division objectives.

Supervision

The number of employees supervised is: N/A

The position number for each supervised employee is: N/A

Physical and Environmental Demands:

- Operate a motor vehicle
- Negotiate and walk on narrow bridge beams
- Walk at various heights
- Negotiate over uneven terrain
- Field work conducted is all kinds of weather conditions; in and around heavy traffic; in and around construction equipment and facilities with extensive noise, dust, smoke, fumes, high temperatures and hazardous materials.
- Travel throughout the state (in excess of 25,000 miles per year) to highway project locations to oversee multiple sites, and out of state travel by airline to national conferences and meetings.
• Loading, hauling, delivering, and unloading traffic control devices, equipment, and construction materials weighing up to 60 pounds.

**Knowledge, Skills and Abilities (Behaviors):**

Thorough knowledge of the concepts and theories of civil engineering, bridge, structural, hydraulic, mathematics, the physical sciences, and highway design; methods and practices of highway construction and construction engineering; engineering policy, highway planning processes, business administration, budget monitoring, organizational theory, materials properties, specifications, and test methods; construction safety practices, environmental engineering, public administration, program management, planning, negotiation and consensus building; advanced computer operating and trouble shooting, claims management and structural construction; ability to apply knowledge in new and innovative ways to find unique and unprecedented solutions to problems associated with major projects, policies, construction procedures and methods.

Skill in reading and interpreting complex plans, specifications, and contract documents; project management; drawing conclusions and making recommendations; assessing construction plans and projects; design and project layout and surveying; communication and negotiation; regulate and resolve conflicts; analyze and evaluate numerous contracts simultaneously; plan and conduct presentations and training; developing and administering a variety of diverse projects and functions; and developing ideas and solutions for complex problems finding innovative ways to unique solutions to transportation construction and engineering problems using principles and practices of engineering combined with new computer and construction technology; defending controversial issues and policies that require complex personnel.

**Minimum Qualifications (Education and Experience):**

The required knowledge and skills are typically acquired through a combination of education and experience equivalent to Bachelor’s Degree in Civil Engineering or a closely related field.

This position requires a minimum of six (6) years of progressively responsible experience in project planning, design, construction, or maintenance including two years contract administration experience.

Certifications, licensure, or other credentials include: Professional Engineer (PE) in Montana is required.

Alternative qualifications include: Any combination of additional related work experience and education equivalent to the minimum qualifications.
Special Requirements:

List any other special required information for this position

☐ Fingerprint check

☐ Background check

☐ Valid driver’s license

☐ Other; Describe

Safety Responsibilities

Union Code

The specific statements shown in each section of this description are not intended to be all inclusive. They represent typical elements and criteria considered necessary to perform the job successfully.

Signatures

My signature below indicates the statements in the job description are accurate and complete.

_________________________________________________________

Immediate Supervisor    Title    Date

Paul Jagoda            12-8-19 & 12-18-19

Administrative Review    Title    Date

My signature below indicates that I have read this job description.

_________________________________________________________

Employee    Title    Date
Human Resources Review

Job Code Title: Professional Engineer  Job Code Number: D25021  Level: 1

My signature below indicates that Human Resources has reviewed this job description for completeness and has made the following determinations:

☐ FLSA Exempt  ☒ FLSA Non-Exempt
☐ Telework Available  ☒ Telework Not Available
☒ Classification Complete  ☐ Organizational Chart attached

Human Resources:

________________________
Signature  Title  Date