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: Civil Engineering Specialist Position Number: Career Ladder-multiple
Location: Statewide

Department: Transportation

Program Area and Bureau: Project Development and Delivery/District Construction

Section and Unit:

Job Overview:

Positions in the assigned district are responsible for conducting engineering and analysis, administering Federal aid and non-Federal aid construction contracts, overseeing active construction operations, reviewing construction plans and specifications for design intent and constructability, coordinating and performing surveying procedures, serving as lead worker, and performing a variety of other duties as assigned. The incumbent will often determine the best solution based on contract plans, specifications, engineering principles, acquired knowledge, and skills. Completed work is reviewed for application of sound professional and engineering judgment.

Essential Functions (Major Duties or Responsibilities):

Entry level:

Applies prescribed engineering techniques and engineering procedures in accordance with established criteria to perform assigned tasks. The work is routine and technical therefore does not require previous experience. Collects and documents data and construction project information. Performs standard computations, analysis, reviews preconstruction plans and specifications, inspects construction project work for compliance with the construction contract plans and specifications, and documents day to day construction activities. Possesses basic oral and written communication skills and interacts with other staff. The employee acquires an understanding of professional and ethical responsibilities and develops basic skills.

Mid-level:

Acquires basic engineering knowledge and develops skills in a specific assigned work area. Applies standard engineering techniques, procedures, and criteria to perform assigned tasks as part of a wide-ranging assignment. Exercises limited judgment on details of work and in application of standard methods for conventional work. Performs basic engineering tasks and provides assistance to other tasks such as review of preconstruction plans and specifications, development of digital project models using complex CAD software, material testing, review of contractor submittals, and inspection of work on construction projects. Receives close supervision on unusual or difficult problems, and general review of all aspects of work and interacts with staff, general public, officials, and contractors.

Top level:

Performs routine engineering tasks in the assigned area with little or no supervision. Acquired engineering competence in a specific work area should reasonably transfer to other work areas at the same level.

Performs engineering tasks under a variety of circumstances in accordance with the assigned district. The setting may range from a traditional office environment to on-site construction projects that require engineering and contract administration activities which can be varied. – 35%

- Assesses construction plans and specifications.
    - Review plans for completeness and engineering principles.
    - Interprets design intent for construction and communicates to other staff and contractors.
    - Reviews construction contracts, plans and specifications, in preparation for upcoming construction project to ensure adequate inspection staff and testing equipment.
- Determines how to address and coordinate contract administration and inspection duties.
- Coordinates work with MDT employees and contractors to ensure contract requirements are met.
- Prepares and plans for construction projects:
    - Reviews preconstruction plans, specifications, quantities, and cost estimates during the design phase.
    - Provides written comments and alternative design suggestions to preconstruction engineers.
    - Participates in preconstruction meetings with design teams.
    - Interprets construction contract requirements and plans for the necessary testing and inspection.

Plans and participates in active construction project contract administration - 35%

- Field inspection – applying engineering and construction principles based on MDT plans and specifications and sound engineering judgement.
- Coordination and conducting field testing of construction material for engineering properties.
- Collection of samples and coordination of their submittal to MDT Materials for testing engineering properties
- Operation of survey equipment
- Documentation of daily contractor and project activities
- Review and distribution of contractor requests, submittals, schedules, etc.
- Prepares written correspondence between MDT and various stakeholders. Prepares Change Orders on contracts.

Prepares and edits digital models of construction projects. – 10%

- Develops digital models of construction projects using CAD files and CAD software prior to construction activities.
- Reviews and confirms digital models submitted by MDT or design consultants.
- Coordinates with contractors and design consultants for design intent and digital model accuracy.

Assigns tasks to and coordinates work with entry-level engineers or technicians. - 5%

- Assesses the capabilities of entry level engineers or technicians and provides appropriate assignments. Reviews work for accuracy and provides technical guidance as needed.

Assists in reviewing and commenting on construction project schedule. - 5%

- Evaluate the contractor's schedule for accuracy, reasonableness, constructability, and inclusion of major work activities.
- Evaluate Critical Path Method schedules (CPM) for accuracy, reasonableness, constructability and inclusion of all major work activities on large, complex construction projects.
- Reviews schedule on a regular basis to ensure projects are built on schedule and potential delays or claims are assessed timely.
- Forecasts project progress and completion.
- Schedules project testing and inspection based on Information from the contractor's schedule.

Supervision

The number of employees supervised is: 0

The position number for each supervised employee is: n/a

Physical and Environmental Demands:

PHYSICAL

- Work is often performed in the field on construction projects at various locations within the district.
- Part of the work is performed in an office setting depending upon construction project schedules and assignment.
- Travel is required and can vary from a few times per year, with one or more overnight stays to extensive overnight travel that includes several weeks of overnight travel. Travel may occur on short notice.
- Work is often performed on weekends and holidays.
- Duties will often be performed on active construction sites in close proximity of heavy equipment, hot asphalt and high-speed traffic.
- The work environment can involve harsh or caustic fumes, dust, extreme temperatures, wind, rain, and snow.

Knowledge, Skills and Abilities (Behaviors):

- Develops sufficient engineering knowledge, skill, and judgment in a specific practice area to perform the routine engineering, review, testing, inspection, and documentation tasks in the assigned area. Although the knowledge acquired is in a specific work area, that knowledge and competence should reasonably transfer to other work areas at the same level.

- Broad knowledge of engineering practices and principles and construction methods, processes and procedures, computer-assisted drafting and survey software, and engineering techniques are required for projects of moderate complexity.

- A journey level knowledge of federal guidelines and procedures regarding engineering and construction is also required.

- Skills in effective oral and written communication to assist with client, customer, or official contacts and communication pertaining to specific assignment or meetings.

Minimum Qualifications (Education and Experience):

Entry Level – Civil Engineering Specialist 1

The required knowledge and skills are acquired through a bachelor's degree in civil engineering or a related field.

Prior work experience is not required for entry level.

Mid-Level – Civil Engineering Specialist 2

The required knowledge and skills are acquired through a bachelor's degree in civil engineering or a related field.

This position also requires 6 months to 2 years of related work experience.

Certifications, licensure, or other credentials include: Proof of passage of the Fundamental Engineering Exam (FE).

Top Level – Civil Engineering Specialist 3

The required knowledge and skills are acquired through a bachelor's degree in civil engineering or a related field.

This position also requires 2 to 4 years related work experience.

Certifications, licensure, or other credentials include: Proof of passage of the Fundamental Engineering Exam (FE), Engineering Intern Certification (EIT), or licensed Professional Engineer

Special Requirements:

☐	Fingerprint check	☒	Valid driver's license
☐	Background check	☐	Other; Describe
MFPE or Non-Union Union Code			Safety Responsibilities

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**

Administrative Review	**Title**	**Date**

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

Employee	**Title**	**Date**

Human Resources Review

Job Code Title: Engineering Analyst 1 Job Code Number: D25011

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**