

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: Preconstruction Engineer

Position Number: 51201, 53201, 55201, 57201, 59201 **Location: Statewide**

Department: Transportation **Division and Bureau: District Preconstruction**

Section and Unit: N/A

Job Overview: This position is the District Preconstruction Engineer for one of five districts statewide and its subordinate area offices. The position is responsible for directing the planning, implementation, and oversight of engineering services for multiple district projects; providing engineering oversight, analysis and technical assistance to MDT staff, contractors, local governments, and others; and administering consulting contracts. The position reports to the District Administrator, and manages 20 - 25 FTE construction staff in the district .

Essential Functions (Major Duties or Responsibilities):

Project Management and Delivery - 50%

- Direct the planning, implementation, and oversight of engineering services for multiple district projects to achieve the maximum benefit to the transportation system within available resources and to ensure sound engineering and construction principles are implemented in compliance with state and federal regulations.
- Develop District construction priorities and strategies to implement the strategic plan and to maximize the benefit to the transportation system within available funding, and to maintain federal funding.
- Coordinate the development and allocation of the District construction budget to attain and allocate funding for planned construction projects.

- Develop project nominations for district construction projects to represent district construction needs and recommend project priorities. Determine whether project needs will be met with internal or external resources.
- Conduct project reviews, evaluate special provisions, and consider project sequencing to identify cost savings, ensure that issues of constructability are considered in projects and are incorporated into design features, ensure universal design standards are properly and consistently applied, and ensure projects adhere to applicable design standards. Develop and recommend design changes to the bureaus within the Engineering Division, Engineering Managers, and other appropriate parties to avoid costly construction conflicts or delays and promote cost-effectiveness. Deliver presentations at public hearings and meetings with city and county officials, civic organizations, tribal authorities, and other parties involved with or affected by engineering projects.
- Direct and coordinate preliminary field surveys to ensure the feasibility of engineering plans by establishing priorities, providing technical guidance, and evaluating completed surveys to ensure compliance with design standards; federal, state, and Department policies; and value-oriented engineering principles. Secures consultant services as necessary based on land surveying requirements to accomplish desired outcomes. Reviews final findings pertaining to various factors related to water quality, wetlands, hazardous waste, endangered species, archaeological/historical sites, and other issues.
- Oversee and ensure effective project delivery throughout the district to ensure effective use of district resources, ensure projects are completed on time and on budget, or to redirect funding in the case of project delays to ensure construction budgets are expended.
- Direct the administration of environmental, regulatory, and permitting activities in the district to ensure compliance.
- Initiate and maintain liaisons with state and federal agencies, industry representatives (e.g., utilities, railroad companies, etc.), and the involved or affected public to explain, promote, and/or defend program policies, operations, and activities. Develop short and long term strategic plans and program objectives for the implementation of construction responsibilities, and manage public input, environmental assessment, and remediation processes.
- Direct, coordinate, and perform public and intergovernmental relations in the assigned district to promote MDT operations, gather support and resources for major construction projects, and to provide information. Represent and explain the Department's position and policy when handling traffic control, construction, design, and other complaints from the public. Handle daily concerns of the public by defusing confrontations and establishing credibility and an understanding of the duties and responsibilities of the MDT.
- Monitor and evaluate contractor change orders to ensure compliance with state and federal standards and regulations and to ensure continued federal project participation. Coordinates problem resolution and discussion among project managers, district engineers, headquarters staff, and the FHWA, and monitors issues to ensure they are followed-up on

and resolved. Participate in joint-team change order investigations with FHWA as mandated by the interagency Partnership Plan to ensure compliance with engineering standards, verify necessity of changes, and develop alternatives.

- Evaluate contractors' value-engineering proposals and design exceptions to ensure the application of proper engineering judgment and theory and compliance with state and federal design standards, and to implement cost-effective designs that meet the needs of the traveling public.
- Direct and coordinate District utility projects to relocate utilities that are affected by or in conflict with highway construction projects while ensuring compliance with state and federal policies and regulations
- Coordinate and implement Traffic Control specifications, bidding procedures, project management, and review procedures to ensure proper traffic control is provided for district projects.
- Provide engineering and construction input for the development of new policies and initiatives (e.g., P3, TCP) to improve district operations and facilitate statewide consistency in the application of construction policies and practices.
- Facilitate communication between project staff, districts, headquarters, and local, state, and federal agencies to obtain or furnish information regarding planned and proposed construction projects and to facilitate statewide consistency in the application of MDT and federal standards and requirements for design and construction specifications.
- Oversee the maintenance of all District project files and documentation to integrate information and data regarding project progression; conflicts and deficiencies; and communications with project personnel, agency staff, utility companies, and members of the public into project plans and specifications.

Engineering Analysis and Technical Assistance - 20%

- Provide engineering oversight, analysis and technical assistance to MDT staff, contractors, local governments, and others to ensure the proper application of engineering theory and to ensure uniform compliance with department policies, specifications, special provisions and construction procedures.
- Perform and oversee the investigation and evaluation of construction deficiencies and problems to develop engineering solutions and changes to future contract plans to correct difficulties encountered in construction and to improve the quality of finished facilities.
- Represent the department in local planning efforts to ensure impacts on the transportation system are considered; to determine project requirements; to provide technical assistance on project design and planning; and to determine MDT involvement in the project.
- Conduct advanced engineering research, development, and process implementation to ensure the district remains updated on contemporary technologies and construction procedures by evaluating new and improved engineering processes and technologies,

increasing training opportunities, interacting with other agencies, and reviewing technical literature.

- Implement improved construction practices and procedures and provide professional engineering of district activities to ensure that issues of constructability are considered in projects and are incorporated into design features and proper application of universal design standards.
- Direct the preparation of studies, summaries, research, and special reports related to road and bridge construction, reconstruction, and environmental projects, policies, and standards within the district to ensure that sound judgment and engineering practices are incorporated in all department processes.

Contract Administration - 15%

- Administer various contracts to ensure adherence to applicable standards, procedures, state and federal regulations, and specific terms and conditions of individual agreements.
- Evaluate project plans and contracts to determine the level of compliance with policies, regulations, and site requirements; identify plan errors, omissions, and ambiguous or contradictory project specifications that could result in change orders, disputes, claims, or litigation; verify adherence to professional engineering, construction, design, and safety standards; and evaluate project scope for constructability, cost-effectiveness, materials availability, environmental concerns, and product quality and performance.
- Prepare evaluations for completed contracts and projects and maintain documentation of performance for use in future selection activities.
- Evaluate SUE, utility, railroad, construction, and right-of-way plans and contracts to determine the overall adequacy and constructability of proposed projects.
- Provide assistance, guidance, and advice on the evaluation and analysis of contract claims to ensure conclusions are legally defensible and to facilitate project completion.

Staff management - 10%

Manages professional and technical staff of the District Preconstruction Program by reviewing and revising overall program work plans, priorities, and procedures, and monitoring productivity of bureau. Ensures that Preconstruction staff complies with State and departmental personnel rules, regulations, and policies and collective bargaining agreements.

Other duties as assigned – 5%

This position performs a variety of other duties as assigned by the District Administrator in support of the Department mission and District objectives.

Supervision

The number of employees supervised is: 20-25 FTE

The position number for each supervised employee is: Varies by District

Physical and Environmental Demands:

- Light lifting (less than 10 lbs.)
- Remaining seated for extended periods of time, with occasional walking; standing; bending
- Extensive travel within the state to project locations, and out of state travel
- Exposure to extreme weather conditions
- Extended periods of walking and standing,
- Mediating conflicts between irate and often hostile parties such as contractors, the public, and employees;
- Making significant decisions which affect public health and safety, often in critical situations.
- Making decisions in a timely manner so as to not have a negative effect on construction operations.
- Ability to meet inflexible deadlines
- Decision making that affects public health and safety

Knowledge, Skills and Abilities (Behaviors):

This position requires extensive knowledge of the concepts, theories, and applications of civil engineering; highway design and construction; project planning and management; and MDT and FHWA design standards and procedures. This position also requires thorough knowledge of the methods and practices of utility relocation; traffic engineering; road design; and materials properties, specifications, and test methods; highway economic, safety, and efficiency issues; transportation planning, design, preliminary survey, and highway construction processes; applicable state and federal regulations; construction safety practices; and contract administration. Staff management responsibilities require knowledge of organizational theory, employment law, program requirements, and personnel management practices and techniques.

This position requires outstanding, specialized, skill in project management; reading and interpreting complex plans, specifications, and contract documents; drawing conclusions and making recommendations; assessing construction plans and projects; communication, public relations and negotiation; developing and administering a variety of diverse projects and functions; and developing alternatives and solutions for complex engineering problems.

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 related field.

This position requires a minimum of 5 years of experience in engineering with 2 of those years being in project management. Experience in highway construction is preferred. This position requires a minimum of 3 years of supervision.

Certifications, licensure, or other credentials include: Registration as a Professional Engineer is required.

Alternative qualifications include: None.

Special Requirements:

List any other special required information for this position

- Fingerprint check
- Valid driver’s license
- Background check
- Other; Describe
- 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 |
|-----------------------------|--------------|-------------|

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|------------------------------|--------------|-------------|
| 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 Manager Job Code Number: A9401B

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

- | | |
|-------------------------------------------------------------|--------------------------------------------------------|
| <input checked="" type="checkbox"/> FLSA Exempt | <input type="checkbox"/> FLSA Non-Exempt |
| <input checked="" type="checkbox"/> Telework Available | <input type="checkbox"/> Telework Not Available |
| <input checked="" type="checkbox"/> Classification Complete | <input type="checkbox"/> Organizational Chart attached |

Human Resources:

| | | |
|------------------|--------------|-------------|
| Signature | Title | Date |
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