



STATE OF MONTANA JOB PROFILE AND EVALUATION

The job profile is a streamlined position description and may serve as the core document for all human resource functions such as recruitment, selection, performance management and career and succession planning. It was developed, initially, for use in classifying positions in Pay Plan 020.

If you are converting a position to Pay Plan 020 and the position has not changed simply cut and paste the information needed from the current position description. The position description contains sections that are no longer used to classify the position, such as: Working Conditions and Physical Demands; Management and Supervision of Others; Supervision Received; Scope and Effect; and Personal Contacts. These may still be important to the position and may be included in **Section IV – Other Important Job Information**.

When working with a new position, classification request or change to a position in Pay Plan 020, complete the information below to provide the required documentation for classification.

SECTION I – Identification

Working Title Field Project Technician		Job Code 173212	Job Code Title Civil Engineering Technician
Pay Band 2	Position Number Various		Check ONE box : <input type="checkbox"/> FLSA Exempt <input checked="" type="checkbox"/> FLSA Non-Exempt
Department Transportation			Division and Bureau Engineering Division Statewide
Section and Unit Field Project Section			Work Address and Phone Statewide
Profile Produced By District Materials/Technician Committee Bob Fisher, Chair		Work Phone 406-494-9600	
Brian Cameron		406-442-4934	
Jim Kerins			
CMS, LLC			

Work Unit Mission Statement or Functional Description - This section should include a complete statement of the mission or function as it relates to the work unit.

The Highways and Engineering Division prepares projects for bidding and coordinates highway construction. The division is made up of the Materials, Construction, Right-of-Way, Bridge, Engineering Oversight, Traffic, and Preconstruction Bureaus; the CADD Systems and Engineering Management Support Sections; and five District Construction Offices for budget and workforce purposes.

The District oversees highway and bridge construction from the time a construction contract is awarded to a private contractor until the project is completed and the work approved. This includes inspection, sampling, testing, and surveying site features and materials to ensure that roads and bridges are built or reconstructed to established standards. Field Project personnel are responsible for sampling and testing construction and site features and materials to provide information necessary to determine the scope of construction projects and materials needed; ensure compliance with State and federal standards and project specifications; maintain required documentation; and provide technical assistance to contractor, construction, and maintenance crews in the design, testing, and application of construction materials. The Section also includes District and Area Materials Laboratories that are responsible for supplying design, construction, and maintenance staff with necessary information on availability, quality, and quantity of materials used through site assessment, quality assurance, testing, and technical assistance services related to materials used in design, construction, and maintenance of the Montana's highways and bridges. District offices include Billings, Butte, Glendive, Great Falls, and Missoula.

Describe the Job's Overall Purpose:

This position serves as a Field Project Technician within the District and is responsible for applying various inspection, sampling, and testing procedures to verify that construction project features and materials conform with standard specifications, Department requirements, and contract agreements. The position is also responsible for assisting with staking and surveying logistics and performing a variety of other duties as assigned. The position reports to the Field Project Technician III and does not directly supervise others.

SECTION II - Major Duties or Responsibilities	% of Time
<p>1. What are the major duties or responsibilities assigned to this position?</p> <p>A. <u>FIELD PROJECT ASSESSMENTS</u></p> <p>1. Reviews project plans and specifications to identify basic sampling, inspection, and testing procedures and requirements. Refers to established procedures and specification manuals and confers with more experienced technicians (e.g., Field Project Technician II) to clarify alternative procedures, special circumstances, and other site-specific adjustments.</p> <p>2. Sets up field laboratory facilities and equipment as directed by Field Project Technician IIIs or designated technicians. This includes tasks such as blocking and leveling trailers, mounting and securing equipment, performing routine calibrations, posting traffic control signs, and ensuring compliance with</p>	<p>60%</p>

prescribed configurations and safety regulations.

3. Inspects backfill, embankments, and road surfaces to ensure that placement, materials, moisture content, lift depths, and compaction methods are in compliance with specifications. Inspects guardrail, signing, compaction testing, electrical, concrete, chip seals, seeding, fencing, striping, and other project components to ensure that alignment, grades, sizes, slopes and other features are compliance with Department standards and contract requirements. This involves applying various measurement and survey tools and techniques and comparing results with established standards and requirements.
4. Reviews Materials Certificates provided by contractors to verify certification of materials delivered to project sites by comparing identifiers (e.g., milling stamps, etc.) with certifications. Determines appropriate sample collection methods and requirements based on types of materials, intended use, and instructions provided by Field Project Technician IIIs or more experienced technicians.
5. Collects samples of construction project features and materials (or oversees sampling by contractors) according to specific types of material and site conditions as well as the most appropriate sampling methods, techniques, and equipment for each test. Confers with Field Project Technician IIIs or more experienced technicians to adapt prescribed sampling methods, justify additional sampling, and resolve contractor deficiencies.
6. Prepares samples for testing based on the type of material and prescribed procedures. This involves technical procedures such as preparing molds; pouring concrete cylinders; and weighing, washing, shaking, crushing, and splitting samples. Examines physical characteristics of materials (e.g., height, width, volume, moisture, etc.) and modifying samples (e.g., extended dry time, reshaking, etc.) as necessary to ensure the integrity of tests. Labels and transports samples to laboratories according to State and federal requirements.
7. Conducts specialized tests on project features and materials to verify specifications and determine the general cause of deficiencies. This involves the application of detailed testing procedures related to sieve analysis, specific gravity, compaction, moisture, density, liquid limit, plastic limit, plasticity indices, slump of concrete, and other materials characteristics; determining whether deficient results are due to substandard features or materials, malfunctioning equipment, or operator error; and recommending further sampling, testing, and/or split sample analyses as appropriate.
8. Compiles, calculates, and summarizes test results; compares final results to specifications; and maintains records of testing procedures and results. This involves the application of conversion factors and tables, algebraic equations, noting deviations from standard specifications, and identifying deficient test results.
9. Monitors construction processes to ensure the appropriate placement and installation of materials. Notifies contractors of general deficiencies and refers

specific or significant problems to Field Project Technician IIIs or more experienced technicians.

B. STAKING AND SURVEYING

35%

1. Reviews instructions from Field Project Technician IIIs to ensure consistency in construction staking activities. Identifies unforeseen site features or other problems and coordinates with Field Project Technician IIIs to resolve problems.
2. Serves as chainman or rodman for survey activities by holding pickets, pogo rods, and/or tape and placing them in prescribed locations. Secures pins or tacks to ensure placement on the exact location of established hubs and caps.
3. Inputs survey information into databases and completes other documentation and records-related tasks as directed.

C. OTHER DUTIES

05%

Field Project Technicians may perform a variety of other duties as assigned by supervisors. These include participating in meetings and training activities; compiling, recording, and maintaining data; confirming the accuracy of field survey notes, construction survey notes, pay quantities, and other data; assisting with traffic control procedures; performing mathematical computations; and other duties as assigned. Field Project Technicians are also expected to assist with more advanced field inspection, sampling, testing, and survey work under the guidance and direction of Field Project Technician IIIs or more experienced technicians.

Give specific examples of the types of problems solved, decisions made or procedures followed when performing the most frequent duties.

Problems and decisions typically involve determining appropriate inspection, sampling, and testing methods and procedures based upon the type of material, specific site conditions, and testing equipment. The position also determines the general nature of deficient samples (e.g., substandard features or materials, malfunctioning equipment, operator error, etc.) and recommends further sampling, testing, and/or split sample analyses as appropriate.

What do you consider the most complicated part of the job?

The most complicated aspects of the job are determining appropriate testing methods and procedures and examining test results to identify deficiencies. The position is also required to perform mathematical calculations to summarize test results.

What laws, regulations, guidelines, manuals or other written established procedures are available to the incumbent?

Work parameters are largely defined by AASHTO, FHWA, and ASTM standards; project design and construction standards and specifications; Montana Materials Manual, Montana Construction Manual, and Standard Specifications for Road and Bridge Construction; and sampling and laboratory testing protocols. Most work is also performed under the guidance and direction of Field Project Technician IIIs or more experienced technicians, who typically review and approve the results of inspection, sampling, testing, and surveying assignments.

Which of the duties and/or specific tasks listed under 1. (above) are considered “essential functions” which must be performed by this position (with or without accommodations)? (If you need information or training on the identification of essential functions, please contact MDT Human Resources Division.)

All duties are considered essential functions of the positions, except those noted in Section C: Other Duties.

If this position supervises other positions, complete the following information.

The number of FTE employees directly supervised is: **0.0**.

List the complexity levels/pay bands of each those subordinates: **N/A**.

Please list the Position Numbers for those directly supervised: **N/A**.

Please attach an up-to-date Organizational Chart (or copy from a Power Point document into space below).

ATTACHED.

SECTION III - Minimum Qualifications - List the minimum requirements for first day of work. (These will be the minimum qualifications utilized for recruitment and performance management purposes; this information is not used for classification purposes.)

Please list the main knowledge and skill areas required for the job:

The position requires basic knowledge of project inspection and testing procedures, including materials and site features; sampling and laboratory testing protocols and procedures; State, AASHTO, FHWA, and ASTM standards and specifications; and maintenance and calibration of specialized tools and equipment. The position also requires familiarity with surveying and highway construction methods and operations; project design and construction criteria and standards; properties and characteristics of materials components and the impacts of site specific circumstances (e.g., soils, temperature, weather

conditions, gradations, segregation, stability, flows, additives, absorption rates, etc.); highway construction terminology; business English; and basic algebra, geometry, and trigonometry.

The position requires skill in reviewing and applying design plans and specifications to site circumstances; acquiring and documenting field data; constructing sets of field notes; interpreting site conditions (e.g., elevations, features, etc.); and communicating effectively with contractors, landowners, and other Department personnel. The position also requires skill in operating specialized sampling and testing equipment (e.g., Gilson shaker, nuclear gauge, sieves, survey equipment, etc.) and office equipment used to calculate and record data (e.g., PCs, calculator, laptop computers, VAX system, etc.).

What behaviors are required to perform the duties? See MDT Core Behaviors.

Education and experience: Please indicate the minimum educational requirements for this job, as it relates to a new employee on the first day of work (not the educational background of the person now in the position), the specific fields of study that are acceptable, and whether a Master's degree (in which fields) will substitute for any of the required job related experience.

The required Knowledge, Skills and Abilities are typically acquired through a combination of education and experience equivalent to a high school diploma, including coursework in algebra, geometry, or trigonometry.

Other training (e.g., software, specific machinery, etc.), certification (e.g., CPA, Professional Engineer, etc.), or licensing (e.g., commercial driver's, pilot, psychologist, etc.) required (please specify):

The position requires specialized training in safety procedures upon acceptance.

Please indicate the minimum amount of job-related work experience needed as a new employee on the first day of work (not the experience of the person now in the position). Please indicate the specific types of experience that will be considered job-related.

The position requires aptitudes or experience in construction-related fields. Experience in highway construction is preferred.

SECTION IV – Other Important Job Information

List any other important information associated with this position, such as working conditions or other factors which are deemed critical or non-negotiable to the position and which will need to be included on the vacancy announcement or other recruitment documents. (This information will be NOT be used for classification purposes.) For example: The position is required to travel throughout the state in excess of 12,000 miles per year and to perform duties on active construction sites in proximity to heavy equipment, hot asphalt, and high speed traffic, requiring use of hard hats and specialized safety training. OR, This position is not subject to alternative work schedules or working from home as it is required to answer the phone and receive visitors for the agency between the hours of 8am to 5pm, Monday through Friday.

Essential functions involve significant physical demands related to repeated lifting of up to 80 pounds (and occasionally greater weights); carrying survey equipment over rough terrain, climbing and bending to retrieve samples; and operating gas, diesel, and electrically powered equipment. The position involves extensive overnight travel throughout the District in excess of 2,000 miles per month (often on short notice, weekends, and holidays) and working outdoors in all types of weather.

The work environment involves harsh or caustic fumes, dust, extreme temperatures, wind, rain, and snow. Hazards associated with the work can be significant. The majority of the work is performed at construction sites or fabrication plants involving traffic passing the project site and working around heavy machinery such as front-end loaders, pavers, scrapers, rollers, and forklifts. The work also involves and risks associated with working with hazardous materials such as hot asphalt, lime, acids, and other chemicals. The risks of the work are such that extensive training in safety practices and procedures is required. Due to the nature of work elements (e.g., hot asphalt, heavy equipment, etc.) and hazardous tasks such as work around moving traffic and taking samples from hot plants, there is potential for significant personal injury.

Employees permanently assigned to the District Materials Laboratory must have or be able to obtain within 90 days, a class B Type 2 Commercial Driver's License.

SECTION V – Signatures

My signature below indicates the statements in Section I to IV are accurate and complete.

Employee:		
Signature	Title	Date
Immediate Supervisor:		
Signature	Title	Date
Name:		
Signature	Title	Date
Division/District Administrator:		
Signature	Title	Date
Departmental Designee:	Chief, Employee Relations Bureau, Human Resources Division	
Signature	Title	Date