



## 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

<b>Working Title</b> Field Project Technician		<b>Job Code</b> 173212	<b>Job Code Title</b> Civil Engineering Technician
<b>Pay Band</b> 2	<b>Position Number</b> 00000		<b>Check ONE box :</b> <input type="checkbox"/> FLSA Exempt <input checked="" type="checkbox"/> FLSA Non-Exempt
<b>Department</b> Transportation		<b>Division and Bureau</b> Engineering Division Butte District	
<b>Section and Unit</b> Field Project Section		<b>Work Address and Phone</b> 3751 Wynne Butte, MT 59702 406-494-9600	
<b>Profile Produced By</b> District Materials/Technician Committee Bob Fisher, Chair		<b>Work Phone</b> 406-494-9600	
Brian Cameron Jim Kerins CMS, LLC		406-442-4934	

**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.

<b>SECTION II - Major Duties or Responsibilities</b>	<b>% of Time</b>
<p><b>This section should be a clear concise statement of the position's duties. Well written thorough task/duty statements are required here to accurately evaluate the position.</b></p> <p><b>1. What are the major duties or responsibilities assigned to this position? What are the specific tasks involved in accomplishing those duties. Group duties in order of importance and estimate the percent of time needed to perform each duty (estimates are not required for individual tasks). NOTE: Because you are identifying major duties usually 3-5, the quantity of time probably will not be less than 20%. If a duty is essential but not performed routinely you should list it. For example, lobbying during the legislative session may not take up a large percent of total work time, but can be an essential duty.</b></p>	

**A. FIELD PROJECT ASSESSMENTS**

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.
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 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**

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.

**35%**

**C. OTHER DUTIES**

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.

**05%**

2. **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.

**3. 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.

**4. 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.

**5. 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.

**6. 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**.

**Is this position responsible for (please check ONLY those boxes which apply to the position and for which the position has “signatory” authority.)**

- Hiring       Layoffs/termination of temporary or seasonal workers
- Performance Management (conducting and signing performance appraisals as the direct supervisor or the reviewing manager)       Promotions
- Direct /Line Supervision       Leadworker       Discipline
- Other:

**7. 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?** NOTE: Identifying behaviors used for recruitment and selection and other HR functions are part of building a competency model (see *Creating Competency Models in Guide*). A position description will provide helpful information if a model has not been developed. Often “abilities” from the current PD can be stated as desired and observable behaviors. For example, “the ability to communicate clearly in writing” can be restated “writes clearly and concisely.”

**PENDING**

**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.

**This agency will accept alternative methods of obtaining necessary qualifications.**

*For recruiting purposes please list specific examples of acceptable alternative methods of obtaining those qualifications. These examples will appear on a vacancy announcement.*

#### **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.

**SECTION V – Signatures**

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

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

**Recruitment Review:** My signature below attests to my review of and determination that the minimum qualifications (education and experience) listed in this profile meet the established recruitment standards of MDT.

**Signature** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Name:** \_\_\_\_\_ **Title:** Human Resource Specialist (District/Helena)  
Montana Department of Transportation

**Upon completion of this section the preparer, district human resource specialist, or other signing authority should forward the signed hard copy and the electronic copy of this job profile (JP), along with an Agency Classification Request (ACR) and an up-to-date Organizational Chart (if not included in the body of the JP) to the Chief of the Employee Relations Bureau, Human Resources Division, MDT in Helena.**

**The electronic copy naming convention for JPs sent by the District or from Helena supervisors to Human Resources in Helena should be: (Position#)JP-MDT.doc (e.g., 34015JP-MDT.doc).**

**\*\*\*\*\*DO NOT FILL IN THIS PORTION\*\*\*\*\***

## **JOB EVALUATION FORM**

**This section is to be completed by a trained classifier in or contracted by the Human Resources Division, MDT or by State Personnel Division.**

Prepared By Communication & Management Services, LLC

Date 3/21/05

Position Status:     Reclassified     Vacant     New Position

Choice of Class Series: Civil Engineering Technician, 173212

Under the old DOT class code structure, this position would have been an Engineering Project Aide or Technician, however these titles were eliminated upon conversion to the SOC-based system. Crosswalks produced by SPD indicate that the old Engineering Project Tech classes were rolled into the new Civil Engineering Technician classes, so it is likely the most appropriate. SOC discussion of this class is "Apply theory and principles of civil engineering in planning, designing and overseeing construction and maintenance of structures and facilities under the direction of engineering staff or physical scientists." A new series and title customized for these positions at MDT may be more appropriate due to the lower complexity of work, and the lack of prior training required for these positions at the lower levels (e.g. subject position does not apply theory and principles of civil engineering to perform the work).

Position Summary:

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.

### **Benchmark Factoring**

Classification Factor Level: 2

The predominant work of this position consists of: conducting field project assessments (60%) that involves reviewing project plans and specs to identify basic sampling, inspection and testing procedures and requirements using established procedures and spec manuals; setting up field lab facilities and equipment; inspecting site features and facilities; reviewing Materials Certificates to verify certification of materials delivered to project sites; collecting site samples and preparing them for testing; testing project features and materials; compiling test results; and monitoring construction processes for deficiencies in placement and installation of materials.

**Factor level Comparison:**

The predominant work requires the skilled application of routine, recurring testing and sampling procedures related to highway construction project features and materials, and setting up field laboratory facilities and equipment to ensure compliance with prescribed specs and safety regulations (e.g. blocking and leveling trailers, mounting and securing equipment, routine calibrations, posting traffic control signs, etc.), following established requirements related to inspection and preparation of the project site. These tasks involve repeated procedures (e.g. testing and sampling) and/or those that have related or sequential steps (e.g. inspection of backfill, embankments and road surfaces all require similar related sequences in order to determine if they compare to established standards). The work elements associated with setting up field sites such as guardrails, signing, fencing, seeding, striping, etc. are all project components that are compared to individual (specific) project requirements, and then are brought into compliance based on the project specs. These components are all categorically related. The work requires the incumbent to identify factual differences between a number of recognizable situations to properly choose and sequence activities and processes (level 2) as indicated by the sampling and testing portion of the predominant work. Preparing samples for testing is based on the type of material, and also the prescribed procedures for that material; involving tasks such as preparing molds, pouring concrete cylinders, and weighing, washing and shaking samples. Sequences may be adapted after examination of the material to ensure integrity of the test and following of prescribed procedures (e.g. extending drying time of sample, re-shaking samples, etc.). This work requires graduation from high school, basic math aptitude, and minimal experience. Level 2 is appropriate.

**Benchmark Comparisons:**

Comparable to the benchmark 029508 Laboratory Technician, level 2. Both positions prepare samples for testing, notify supervisor of inconsistencies or inaccuracies, follow established procedures and guidelines/standards, conduct routine tests, maintain records, and perform mathematical computations for reporting. These positions are similar in the nature of work, the level of work, and the amount of skill required to perform assignments.

Also comparable to the benchmark 410001, Laboratory Animal Caretaker, level 2. Both positions conduct multi-step procedures in a laboratory environment, conduct routine, recurring work, use laboratory equipment, and follow established procedures, protocols and ensure compliance with standards. These are good overall comparisons from a level perspective.

Kristin Jacobson	Consultant, CMS, LLC	3/22/05
<b>Classifier Signature</b>	<b>Title</b>	<b>Date</b>
<b>Agency Approval:</b>	<b>Title</b>	<b>Date</b>

Upon completion of this section the classifier should make certain that the Job Code Number, Job Code Title and Pay Band on the first page of this document accurately reflect the Choice of Class Series and classification factor level determined above. Attach Organizational Chart, Audit Notes or other pertinent information.

This completed document should now be filed by the classifier in:

I:\Classref\Agencyjp\<(agency#)\(filename).

File naming convention is: (jobcode&position#)jp(date).doc (e.g. 01850421001jp0201.doc, where date is: month year).