



**STATE OF MONTANA  
MONTANA DEPARTMENT OF TRANSPORTATION  
JOB PROFILE AND EVALUATION**

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**SECTION I - Identification**

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**Working Title:**  
Survey Project Manager

**Department:**  
Transportation

**Class Code Number:** 171256

**Division & Bureau:**  
Engineering Division, Highways Bureau

**Class Code Title:**  
Surveyor

**Section & Unit:**  
Photogrammetry & Survey Section

**Pay Band:** 6 (Level 2)

**Work Address:**  
Helena

**Position Numbers:** 35007, 35008, 35011

**Phone:** 406-444-6332

FLSA Exempt     FLSA Non-Exempt

Non-Union     MPEA     Blue Collar

**Profile Completed By:**  
Bryce Larsen  
Photogrammetry & Survey Section Manager

**Work Phone:**  
406-444-6321

***Work Unit Mission Statement or Functional Description:***

The MDT's mission is to serve the public by providing a transportation system and services that emphasize quality, safety, cost effectiveness, economic vitality and sensitivity to the environment.

The Highways and Engineering Division prepares projects for bidding and coordinates highway construction. The division is made up of the Preconstruction and Construction programs; and five District Construction Offices in Missoula, Butte, Great Falls, Glendive, and Billings for budget and workforce purposes.

The Preconstruction program involves planning and developing the details of construction projects. This includes determining the location and design features, conducting public hearings and working with local officials, acquiring property for right-of-way and processing contracts up to the time they are awarded to private contractors. The Highways Bureau is made up of diverse programs in the Road Design, Hydraulics and Photogrammetry and Survey Sections.

The Photogrammetry and Survey Section is responsible for the Montana Department of Transportation's photogrammetry and survey programs. Acting as the authority on survey issues for the Department, the Survey Unit is responsible for providing land surveying services, analyzing and reviewing surveys, coordinating surveys, formulating and implementing MDT survey policy, assuring quality of surveys, securing and managing survey data, serving as the MDT's technical support and resource center for survey issues, and determining and implementing time efficient and cost-effective survey methods.

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**Describe the Job's Overall Purpose:**

The **Survey Project Manager** is a senior professional land surveyor (PLS) for the MDT's Photogrammetry and Survey Section. This position is responsible for developing, implementing and maintaining special statewide survey subprograms: developing, planning and implementing statewide land survey methods, procedures, technology and operations for the MDT; planning and performing professional survey work; coordinating survey review and approval for quality control purposes; developing and overseeing training for field survey crews; and directing and coordinating the operation and maintenance of survey equipment. The Survey Project Manager is in responsible charge of all survey work being performed under their PLS license. The position reports to the Land Survey Manager.

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**SECTION II - Major Duties or Responsibilities**

**% of Time**

**A. Project Management**

**40% of Time**

Plans and performs a variety of advanced professional survey and project management duties in support of ongoing land survey projects and operations.

1. Directs and oversees the research of public and private records (i.e.- Bureau of Land Management, National Geodetic Survey, United States Geological Survey, county courthouse, county surveyors, private surveyors, etc.) to recover title, monument, and/or other survey histories pertinent to the survey being conducted. Evaluates recovered records and determines how the information is to be utilized.
2. Directs and coordinates land surveys to establish lost or obliterated property and property controlling corners. This involves establishing appropriate corner search methods and procedures for survey crews, researching and analyzing public and private records to determine boundary locations; and approving and signing survey documents for the most complicated surveys.
3. Directs and oversees the investigation and recovery of field evidence to establish reference points and determine boundary and/or monument locations. This includes comparatively analyzing historical records; making professional judgments as to the character and validity of monuments (historical monuments include stream banks, trees, boulders, etc.); perpetuating corners in accordance with the Corner Recordation Act; ensuring new monuments match the legal deeds as filed in public records; and preparing and publishing all required documentation.
4. Plans and conducts surveys involving technically complex, contentious, and/or legally sensitive issues to ensure the highest standards of quality and efficiency are applied to critical projects. Coordinates with District and headquarters staff and others as necessary to assess the nature and context of survey projects, develops strategies to accommodate specialized needs and requirements, and serves as a technical authority on land survey issues. Provides technical expertise and consultation to other work units to resolve advanced technical and procedural problems associated with various survey procedures and results.
5. Directs and oversees survey information management system operations to ensure that survey data is effectively maintained and distributed to appropriate stakeholders.
6. Solves problems that arise during surveys. This includes correcting inaccuracies in surveys, identifying and obtaining missing data, communicating with landowners, troubleshooting survey software, and resolving a variety of other ambiguities, problems or issues.

7. Using sound judgment and business practices organizes, computes, adjusts, applies case law and analyses collected field data to make survey related decisions. Directs the preparation of reports, maps, certificates of surveys, corner recordations etc. in accordance with statutory requirements to document decisions and findings related to land surveys.
8. Oversees the maintenance of the National Geodetic Survey (NGS) vertical control network by replacing or providing direction to others to replace bench marks, running levels in accordance with NGS specifications, and preparing level data for submission to NGS.

**B. Survey Program Development & Administration **30% of Time****

Develops, plans, and implements statewide land survey methods, procedures, technology, and operations for all types of MDT survey projects. Coordinates land surveying services on a statewide basis to assure consistency and effectiveness of those services.

1. Conducts research to develop and implement new survey methods, procedures, and technologies to improve the efficiency and cost-effectiveness of statewide survey program operations and activities. This involves researching and testing new software applications, survey methods, and equipment; assessing cost and compatibility with existing Department systems and procedures; and recommending purchase and/or implementation of developmental methods and technologies to the Land Survey Manager as appropriate.
2. Coordinates and directs the implementation of new technology, special projects, and other survey activities according to specific Department and project requirements (e.g., GPS surveys, densification of Montana's High Accuracy Reference Network (HARN), and project control). This involves determining survey accuracies; determining appropriate survey methods and standards of accuracy; establishing optimum observation times; orienting and overseeing surveyors; and analyzing and summarizing (e.g., computation, approval, distribution, etc.) final survey data. Develops, tests, and implements new survey procedures and equipment in coordination with survey and construction crews to implement cost and time-efficient methods and procedures, including new technology, into the survey program.
3. Directs, plans, and oversees the delivery of statewide land survey systems and procedures on assigned projects to ensure compliance with state and federal regulations and responsiveness to broader construction project priorities, timelines, and requirements. Assesses statewide construction processes, planned and active projects, land survey practices, and field dynamics; consults with District construction and survey staff to determine available resources and priorities; identifies potential impacts with program or system changes; and develops long-term project strategies for ensuring the quality, efficiency, and cost-effectiveness of projects.
4. Develops land survey system processes, specifications, and standards that promote consistency and efficiency and agree with state and federal requirements for recommendation to the Land Survey Manager. This involves assessment of changes in national survey standards and practices, construction trends, survey industry practices, statewide needs and operations; determining specific areas of enhancement; and developing and recommending operational improvements to the Land Survey Manager. Conducts ongoing process reviews to identify ways to expedite land survey processes and meet ready dates in a more timely and efficient manner and to facilitate survey completion through evaluation and resolution of deficiencies, inconsistencies, and procedural impediments.
5. Develops, implements and provides ongoing oversight and management of specialized

statewide survey subprograms (e.g. data collection, machine control, height modernization, etc.). This involves researching and setting up specialized subprograms, devising strategies for implementation, implementing and providing ongoing monitoring and management of the subprogram through program evaluation, program updates, program documentation and training.

6. Manages multiple concurrent survey projects and workflow processes to ensure efficiency, cost-effectiveness, and consistency with construction project timelines. Coordinates with multiple districts, other Photogrammetry/Survey staff, local/regional government agencies, and other stakeholders to optimize project resource allocations, schedules, and procedures. This involves reviewing and prioritizing projects to account for contract complexity and scope, available staff and material resources, Department objectives, and other factors. Develops workflow plans and priorities; develops ad hoc plans and procedures to accommodate project impediments, seasonal workflow demands, technical and legal requirements, and other issues that continually affect the progress of survey, review, and approval; and coordinates with statewide survey and construction crews to plan and implement survey plans.
7. Monitors assigned land survey projects to ensure they remain on schedule and that all required activities are completed in the proper sequence. This involves planning required activities; establishing and reviewing deadlines for survey activities; estimating staff time required and duration of activities; determining research, equipment, and data needs; ensuring projects are documented in the automated tracking system; attending phase review meetings as necessary; and completing project overrides.
8. Maintains liaisons with District offices; other MDT bureaus and divisions; and miscellaneous state and local agencies to coordinate activities, explain projects, and resolve conflicts. This includes interpreting statutes and regulations; negotiating the use of staff and other resources; and coordinating and directing cooperative projects.
9. Identifies and determines training and support needs of MDT survey and construction crews by gathering input from the Districts and other bureaus. Prepares, presents, or coordinates training as directed by the District Land Survey Managers and/or the Land Survey Manager to ensure implementation of modern technologies and operational strategies and to ensure staff competencies in developmental methods, procedures, and technologies.
10. Coordinates and performs public relations and information dissemination activities to provide survey related information to landowners, solicit parol evidence of original boundary locations from landowners, obtain permission for property access, and to identify and resolve survey related complaints and concerns. This work requires a high level of diplomacy and tact, and close coordination with MDT upper management as many issues are highly volatile, and public support or opposition to projects has a significant impact on project costs and outcomes.
11. Provides technical assistance to other Survey Unit staff, District Surveyors and/or District survey crews on new standards, specifications, technologies, and survey policies and procedures including coordinating and delivering advanced technical assistance, systems, and procedures to District survey crews on the adjustment and operation of survey equipment, methods for troubleshooting surveys, survey policy and procedure applications, and other issues to ensure optimum program performance.
12. Provides expert guidance and assistance to design and engineering staff on construction projects and recommends changes that should be made on future contract plans to correct

survey and ROW difficulties and to improve the efficiency of the project planning and delivery process.

**C. Survey Review and Approval 10% of Time**

Directs and coordinates survey review and approval procedures to ensure quality, consistency, efficiency, and compliance with standards and policies. Surveys types include geodetic control, project control, photogrammetric control, hydrographic, topographic, legal, land (cadastral), retracement, quality control, construction, and others.

1. Directs and performs survey reviews to determine the acceptability of surveys and resolve deficiencies; and oversees survey information management and distribution processes. Provides initial approval for surveys after evaluation and resolution of deficiencies, inconsistencies, and procedural impediments.
2. Reviews surveys for soundness of approach, compliance with MDT survey procedures, and compliance with state and federal laws. This position reviews all types of control and cadastral surveys requiring assessment of the quality and accuracy of survey data submitted, the soundness of decisions made, the reliability of methods used along with a multitude of other variables used for each survey.
3. Determines the validity of evidence and methods used in reestablishing corner positions, reviewing accompanying legal documents (i.e. corner recordations, certificates of survey), making final computations and adjustments, and organizing and outlining survey information in a format usable by others.
4. As a PLS, provides expertise and consultation with the ability to review and modify legal documents, exhibits, property descriptions, ROW plans, etc to ensure the accuracy and compliance of all documentation. This includes the analyzing existing documentation used to define parcel boundaries, writing property descriptions, reviewing plans, computing acreages, etc.

**D. Survey Crew Oversight and Training 10% of Time**

Oversees and trains field survey crews to ensure the timely and efficient collection and recordation of survey data.

1. Directs and oversees surveys to ensure survey data is collected in the proper sequence and manner to support survey and project development operations. This includes consulting with section staff and management, evaluating survey resources (e.g., staff and equipment), and evaluating survey methods, sequencing and time requirements to plan multiple and concurrent survey projects.
2. Determines required survey, documentation, and data collection activities for projects. Compares these requirements to available staff and their related expertise/abilities to determine how to complete projects.
3. Reviews survey requests to determine manpower, time, equipment and informational data needed to complete the survey. Determines duty assignments on the site and provides oversight.
4. Observes survey crews to determine compliance with established methods and techniques, and survey and recording requirements. Notifies personnel or appropriate supervisor of improper practices or safety concerns. Reports on performance to the supervisor on a daily basis and as part of the formal evaluation process.

5. Provides technical assistance to survey crews on adjustment and operation of survey equipment to assure the full potential of the equipment is being realized.
6. Identifies survey crew training and development requirements through review of work products and oversight of operations, and develops approaches to meet these needs. This includes providing individual instruction, support, and training to survey crews; coordinating training administration; and conducting training for survey crews and other MDT staff and contractors as requested.

**E. Equipment Maintenance 5% of Time**

Directs and coordinates the operation and maintenance of survey equipment within the Section, including vehicles, electronic total stations, theodolites, engineering levels, digital levels, data collectors, CADD workstations, automated systems, GPS survey equipment, and other tools and technologies to ensure effective operations.

1. Develops and establishes equipment development and maintenance plans to ensure that modern technologies are available and appropriately utilized and maintained.
2. Tests new survey procedures and equipment to provide the Land Survey Manager information necessary to incorporate time efficient and cost-effective survey methods and procedures into the survey program. This includes GPS, digital levels, CADD station, etc. Ensures accurate calibration, determines measurements/features and their practical application to survey work, makes recommendations to supervisor and PLS.
3. Evaluates, organizes, and prepares equipment to be used in surveys conducted by the Survey Unit.
4. Reviews calibration baseline reports for all MDT survey grade electronic measuring devices and maintains a record of these reports to establish an adjustment and performance history for each instrument.
5. Assigns the adjustment, maintenance and cleaning of survey equipment to subordinate staff. Assures appropriate survey supplies are on hand by overseeing material inventories and directing the ordering of needed field supplies.

**F. Other Duties 5% of Time**

Performs a variety of other duties as assigned in support of Section, Bureau and MDT goals and objectives. Examples of other duties are: assisting other MDT programs on special projects, attending training and educational sessions as required and providing consultant surveyors, district survey crews and the public with survey information (i.e. - National Geodetic Survey data, MDT survey data, etc.) available through the Helena office.

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***Which of the duties and/or specific tasks listed under 1. (above) are considered "essential functions" that 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.)***

The following duties are considered essential functions because they require specialized expertise and skill and are the primary reasons the job exists:

- Duty A: Survey program development & administration
- Duty B: Survey project management
- Duty C: Survey review and approval

Duty D: Survey crew oversight and training

The following mental and physical demands are associated with these essential functions:

**PHYSICAL**

- Lifting objects in excess of 30 lbs.
- Extensive travel throughout the state and districts to project locations
- Ability to walk over uneven terrain or in water
- Operating a personal computer
- Communicating in writing, in person and over the phone
- Continual walking or standing
- Exposure to extreme weather and high-speed traffic
- Operation of motor vehicles
- Operation of power tools and/or equipment

**MENTAL**

- Computing arithmetic operations
- Comparing data
- Compiling information, Analyzing, Coordinating, Synthesizing, Negotiating, Instructing
- Ability to multi-task
- Ability to meet inflexible deadlines
- Decision-making that affects the public health and safety
- Instructing
- Interpersonal skills/behaviors
- Dealing with the public on a regular basis
- Demands for accuracy in all aspects of work

**Does this position supervise others?**     Yes     No

**Number directly supervised:**

**Position Number(s) of those supervised:**

Oversees staff in the development and maintenance of specialized projects and subprograms. Provides oversight of field crews on survey projects.

***This position is responsible for:***

- Hiring       Firing               Supervision               Pay Level  
 Performance Management       Promotions               Discipline  
 Other: scheduling, training, assigning and reviewing work, providing final signature authority, relaying performance information to the supervisor.

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***SECTION III - Minimum Qualifications - List minimum requirements for the first day of work.***

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**Critical knowledge and skills required for this position:**

**KNOWLEDGE:**

Predominant work of the position requires advanced professional knowledge of the concepts, principles, and developmental applications of land surveying and related mathematics (e.g., geometry, trigonometry, statistics, etc.); legal principles, guidelines, and precedents related to surveying (e.g., Montana Subdivision and Platting Act, Sanitation in Subdivisions Act, Uniform Standards for Monumentation, etc.); case law related to property boundaries; survey computation and data analysis;

State and federal survey policy and procedures; and specialized applications of various instrumentation. The position also requires knowledge of specialized information system operations (e.g., OPX-2, etc.); GPS/GIS applications; and supervisory practices and techniques.

**SKILLS:**

This position requires skill in directing, organizing, and coordinating multiple staff and complex projects; examining, interpreting, and translating technical/legal information to broad audiences, use of standard office software applications (e.g., word processing, database, etc.), and strong written and verbal communications. This position also requires skill in the use of specialized surveying equipment such as electronic total stations, theodolites, engineering levels, digital levels, data collectors, CADD workstations, automated systems, GPS survey equipment, and other tools and technologies.

**Behaviors required to perform these duties?**

See MDT Core Behaviors.

**Education:**

Check the one box indicating minimum education requirements for this position for a new employee the first day of work:

- |   |  |
|---|--|
| <input type="checkbox"/> No education required                | <input type="checkbox"/> Related AAS/2-years college/vocational training |
| <input type="checkbox"/> High school diploma or equivalent    | <input checked="" type="checkbox"/> Related Bachelor’s Degree            |
| <input type="checkbox"/> 1-year related college/voc. training | <input type="checkbox"/> Related Master’s degree                         |

**Please specify the acceptable and related fields of study:**

**Required/Acceptable:** Bachelor’s degree in land surveying or geomatics or related field from an accredited college or university AND six years experience, two of which must be progressively responsible professional land survey experience including experience with full project oversight Licensure in Montana as a professional land surveyor and a valid Montana driver’s license are required.

**Related** Civil Engineering Technology or Construction Technology or other curriculums with coursework in math, drafting, surveying techniques, principles, and practices

**Other education, training, certification, or licensing required (specify):**

- Requires Montana Professional Land Surveyor (PLS) license
- Requires a valid Montana Drivers License.

**Experience:**

Check the one box indicating minimum work-related experience requirements for this position for a new employee the first day of work:

- 6 years (4 yrs pre-professional, 2 yrs post-professional)

**Other specific experience (optional):** Requires a minimum of six years experience, two of which must be progressively responsible professional land survey experience including experience with full project oversight. Licensure in Montana as a Professional Land Surveyor and a valid Montana driver’s license are required.



**Alternative Qualifications:**

This agency will accept alternative methods of obtaining necessary qualifications.

Yes  No

**Alternative qualifications include:**

Other related education and experience combinations will be considered.

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***SECTION IV – Other Important Job Information***

Survey and project oversight activities involve physical activities such as digging, cutting, hiking, and carrying equipment weighing in excess of 30 pounds, often over rough terrain. The position involves exposure to conditions and hazards associated with working outdoors in all weather conditions, work in remote areas, exposure to wild animals and insects, and hazards associated with working on or near active construction projects and around traffic moving at highway speeds. Extensive statewide travel from the District reporting station or Helena headquarters and shifts other than normal are required to accomplish department goals and objectives.

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Fingerprint check

Valid driver's license

Driver's record check

Background check

Other; Describe

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**SECTION V – Signatures**

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Signature indicates this statement is accurate and complete.

**Employee:**

Name: \_\_\_\_\_ Title: \_\_\_\_\_

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

**Immediate Supervisor:**

Name: \_\_\_\_\_ Title: \_\_\_\_\_

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

**Division/District Administrator:**

Name: \_\_\_\_\_ Title: \_\_\_\_\_

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

**Department Designee:**

Name: Jennifer Jensen \_\_\_\_\_ Title: Chief Human Resource Officer

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

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