# Position Summary

This summary describes the organization, duties, and requirements of a State of Michigan vacancy. The official position description for this position is available from the HR office for the agency.

**Position Code:** LANSRVYE

**Civil Service Class and Level:** Land Surveyor-E

**Working Title (What the agency calls the position):** Land Surveyor

**Name and Position Code Description of Direct Supervisor:** JAMES, CHRISTOPHER M; ENGINEER MANAGER LICENSED-3

**Department/Agency:** TRANSPORTATION CENTRAL OFFICE

**Work Area:** Metro Region

**Work Location/Hours of Work:** 18101 W 9 MILE RD; SOUTHFIELD, MI 48075 / Monday - Friday; 7:30AM- 4:30PM (hours may vary)

**General Summary of Function/Purpose of Position:** This position performs technical land surveying assignments within the Metro Region while working toward obtaining professional licensing.

This position requires possession of a valid driver's license to conduct surveys.

**Assigned duties and tasks for each duty.**

**Duty 1** **Percentage: 40**

Conduct road design surveys, right of way (ROW) surveys, control surveys, and construction surveys while receiving instruction and guidance to gain experience in surveying methods and procedures.

This duty requires possession of a valid driver's license to conduct surveys.

- Assist in planning to establish an approach to complete the survey scope from beginning to end, with direction from the Region Surveyor.
- Report progress of survey projects to Region Surveyor, supervisor or project manager.
- Make decisions in the field needed to accomplish the survey project and keep the survey project on the schedule.
- Ensure safe working practices are used in all operations following federal, state, and department policies (Michigan Department of Transportation (MDOT) Design Survey Standards of Practice Manual) to complete projects efficiently and safely.
- Work with and become proficient with the operation and diagnostics of survey equipment such as Total Stations, Global Positioning Systems, LiDAR Scanners, Digital Levels, and Data Collectors.
- Complete total station and Global Positioning Systems (GPS) topographic mapping. Perform data collection and stakeout procedures. Record survey measurements and descriptive data in various forms and formats per MDOT standards.
- Set and witness horizontal and vertical control point monuments based upon project needs considering both design and contruction.
- Locate section corners, property irons, and other property control.
- Set existing and/or proposed ROW monuments under the direction of licensed Professional Surveyor.
- Maintain favorable public relations at all times while conducting survey assignments.

**Duty 2** **Percentage: 30**

Perform survey office duties, process field data, and prepare projects for final deliverables.

This duty requires possession of a valid driver's license to conduct surveys.

- Perform surveying procedures, calculations, and processing methods in compliance with the MDOT Design Survey Standards of Practice.
- Work with and become proficient with current survey software used by MDOT, including but not limited to Open Roads Designer (ORD), Leica Captivate and Leica Infinity.
- Utilize computer and survey software to assemble electronic deliverables and survey information. This includes, but is not limited to, the use of ORD to prepare planimetric drawings, topographic survey modles, and digital terrain models.
- Perform reduction, analysis and adjustment of survey measurements with Region Surveyor guidance.
- Prepare and submit all final calculations, data files, drawings, survey Reference information Documents (RID) files and reports to be reviewed by Region Surveyor.
- Work with and become proficient using Geographic positions, State Plane Coordinates, and scale factors including converting between the two systems and ground coordinates.
- Analyze and reduce survey data from different media and place into computer mapping files (ORD) with minimal guidance from Region Surveyor.
- Assist in preparing PA 132 Certificate of Survey drawings for the division and purchase of real property.
- Assist in writing Land Corner Recordation Certificates.
- Assist in reviewing legal descriptions.

**Duty 3** **Percentage: 15**

Assist with Geographic Information System (GIS) data collection, data entry and data review.

- Work with and become proficient with current GIS software used by MDOT, including but not limited to ESRI ArcGIS Pro, ESRI Field Maps, ESRI ArcGIS Online and Leica Zeno Mobile One.
- Use GIS field data with attributes of various assets as instructed following MDOT safety standards.
- Assemble GIS information from field collected data or existing electronic data.
- Assist Region Surveyor with uploading legal alignment and ROW data to the Statewide Alignment and ROW database.
- Assist Region Surveyor with office and field review of assets and utility data collected by MDOT staff or consultants.

**Duty 4** **Percentage: 15**

Assist with survey equipment management and training.

- Assist with annual tagged inventory audit for Metro Survey location.
- Assist with delivery of survey equipment to Transportation Service Center (TSC) staff prior to project use and collecting equipment at the completion of projects.
- Assist with annual equipment software updates.
- Assist with training Region and TSC staff with the use of survey equipment and software.
- Assist with in-field support and troubleshooting for survey equipment and software.
- Assist with equipment repair, testing and adjustment.

**Duty 5** **Percentage: 10**

Other duties as assigned

- Assist in research of survey records for MDOT personnel and private surveyor requests.
- Attend trainings.
- Remain current in new surveying technologies.
- Assist Region Surveyor in review of consultant contracts, hour estimates, and deliverables.
- Assist Region Surveyor with review of contractor Construction Staking Quality Control Plans.
- Assist Region Surveyor with review of Monumental Preservation documentation.
- Other duties as assigned.

**Types of decisions made independently and whom or what those decisions affect:** Typical decisions made independently would include the type of survey equipment to use and methods of collecting survey data. Decisions made would affect survey crew completion schedule of assigned work and type of survey information provided to designers.

**Types of decisions that require the supervisor's review:** To clarify instructions or when problems arise or regarding department policy.
• Matters involving high perceived risk of litigation.
• Unanticipated problems causing additional expense or additional time to projects.

**Physical effort used to perform this job and environmental conditions of this position:** Physical effort to traverse various terrain, reaching for plans, transporting heavy or bulky loads up to 90 pounds, and remaining in a stationary position for long periods of time using a computer or traveling in a vehicle may be required. Position performs frequent field reviews of proposed or active road/bridge survey projects requiring traversing irregular terrain. Environmental conditions include exposure to dirt, fumes, heavy and high-speed traffic or adverse weather conditions. Position requires possession of a valid driver’s license. Position may require availability outside normal working hours based on operational needs.

**Names and classes and levels of employees whom this position immediately supervises:**

**Essential functions of this position:** This position performs technical land surveying assignments within the Metro Region while working toward obtaining professional licensing.

This position requires possession of a valid driver's license to conduct surveys.

**Function of the work area:** The function of the Metro Region Survey unit is to perform and manage the region's property and perform engineering design surveys for the purpose of gathering data for road and bridge design. This position assists the Region surveyor and staff on the field crew reducing survey notes for compliance with MDOT standards. Additionally, the unit provides legal support for the departments of real estate, right-of-way, and litigation matters.

**Education, experience, and credentials typically needed to perform the position's essential functions [Equivalent combinations of education and experience can also be evaluated on an individual basis for applications providing sufficiently detailed descriptions of the other experience.]:**

**EDUCATION:**
Possession of a bachelor's degree with a major in surveying.

**EXPERIENCE:**

**Land Surveyor 9**
No specific type or amount is required.

**Land Surveyor 10**
One year of professional experience conducting land surveys equivalent to a Land Surveyor 9.

**Land Surveyor P11**
Two years of professional experience conducting land surveys equivalent to a Land Surveyor, including one year equivalent to a Land Surveyor 10.

**KNOWLEDGE, SKILLS, AND ABILITIES:**

Ability to:
• Apply knowledge of land surveying to land surveying activities and techniques.
• Communicate effectively.
• Maintain records and prepare reports and correspondence related to the work.

Knowledge of:
• The principles and practices of land surveying.
• Surveying instruments and equipment and their use and care.

**CERTIFICATES, LICENSES, REGISTRATIONS:**
- Possession of a valid driver's license is required and must maintain throughout employment in the position.