

**Jefferson County
Position Description**

Name:		Department:	Highway
Position Title:	GIS/Engineering Technician	Pay Grade:	8 FLSA: Non Exempt
Date:	September 2025	Reports To:	Operations Manager

Purpose of Position

Position is responsible for assisting the Operations Manager and other Highway Department supervisory staff in maintaining highway related geographical information systems (GIS) and performing civil engineering technical work relating concerni, design, construction, and maintenance activities for county and state highway systems.

Essential Duties and Responsibilities. *The following duties are normal for this position. These are not to be construed as exclusive or all-inclusive. Other duties may be required and assigned.*

- Develops and maintains various highway databases and geographical information systems (GIS) which may include pavements, bridges, culverts, signs, barriers, pavement marking, plow routing, etc., and assists with advancing automation and promoting open and transparent information development.
- Digitizes and creates transportation-related features using field collected data, aerial and satellite imagery and other GIS data sets. Maintains accuracy and quality control of data, and edits data to produce various maps and graphic products.
- Prepares, processes, and evaluates survey data for location and construction surveys sufficient to meet project deadlines with accurate and effective data.
- Processes data using CADD drafting and computational software producing maps in a timely manner, ensuring accuracy standards are maintained.
- Assists with field inspection of bridges, culverts, pavements, etc. for updating infrastructure conditions in all GIS databases.
- Performs field and office survey work for bridge, road, or other public works projects.
- Drafts plans and prepares as-built drawings for highway maintenance and construction projects.
- Assists in operating global position systems (GPS) and other survey tools to enable accurate collection of field survey data for highway construction plans, or to perform construction staking, location, or miscellaneous surveys and asset rating updates.
- Maintains equipment used and related to work activities (i.e. survey tools, CADD work station, work vehicle, etc.).
- Assists in training managers, superintendents, and foreman in GIS use.
- Supports Highway Department permitting by inspecting and reviewing driveway, utility, moving, and right-of-way permits.
- Obtains and maintains a drone license; use drone for 3D modeling, inventory measurement, project monitoring, and public education.
- Tests and samples materials in the field, analyzes test results, and assures materials meet County and/or Wisconsin Department of Transportation (WisDOT) specifications to secure certification of a construction project.
- Adheres to and promotes safety as a priority in the workplace.
- Demonstrates dependable attendance.
- Performs other duties as assigned or as may develop.

Minimum Training and Experience Required to Perform Essential Job Functions

- Associate's Degree in Civil Engineering Technology or related field, including GIS course work.
- 4 – 5 years' experience with ArcGIS/ArcView and Database software, AutoCad/Civil 3D GIS software and WisDOT design standards.

Preferred Requirements

- Bachelor's Degree in related field.
- 2 – 3 years of experience.

Other Requirements

- A valid Wisconsin Driver's License.
- Must successfully pass a criminal background check.

Knowledge, Skills, and Abilities

- Knowledge of Geographic Information Systems (GIS) principles, methods, and applications related to highway and civil engineering operations.
- Knowledge of ESRI ArcGIS software and related tools used for spatial data collection, analysis, and mapping.
- Knowledge of AutoCAD or similar computer-aided drafting software used to prepare and update plans, drawings, and technical schematics.
- Knowledge of hazards, safety rules, and precautions in the operation of heavy equipment and when working around active construction zones.
- Knowledge of safe and efficient operation of assigned vehicles and equipment, including adherence to traffic laws, ordinances, and departmental regulations.
- Knowledge of street layouts, county road systems, and established routes within Jefferson County and surrounding jurisdictions.
- Knowledge of engineering terminology, technical drawings, and survey concepts applicable to roadway design, drainage, and infrastructure maintenance.
- Knowledge of data collection methods, mapping standards, and recordkeeping practices used in public works or transportation environments.
- Knowledge of basic computer applications including Microsoft Office products, database management, and asset tracking systems.
- Skill in utilizing GIS software, GPS equipment, and related computer applications to collect, analyze, and present spatial and engineering data.
- Skill in applying mathematical concepts including algebra, geometry, and trigonometry to perform calculations of area, volume, elevation, and linear measurements.
- Skill in calculating figures and amounts such as discounts, interest, proportions, percentages, area, circumference, and volume with accuracy and efficiency.
- Skill in preparing, reviewing, and interpreting maps, plans, drawings, and reports related to highway design, maintenance, and asset management.
- Skill in operating surveying instruments and GPS equipment to capture and verify field data.
- Skill in communicating effectively in both oral and written form, including preparing clear and concise technical reports, correspondence, and documentation.
- Skill in establishing and maintaining effective working relationships with coworkers, contractors, other departments, and the public.
- Ability to read and interpret documents such as safety rules, operating and maintenance instructions, procedure manuals, and engineering plans.

- Ability to apply common sense understanding to carry out instructions furnished in written, oral, or diagram form.
- Ability to deal with problems involving several concrete variables in standardized or field situations.
- Ability to speak effectively before groups of employees, contractors, or the general public.
- Ability to write routine reports, correspondence, and updates on project progress or field conditions.
- Ability to reliably and predictably carry out duties in accordance with departmental standards and established timelines.
- Ability to work independently with minimal supervision while managing multiple priorities and adapting to changing field or weather conditions.
- Ability to maintain accurate records, maps, and files, and ensure data integrity within the county's GIS and engineering systems.
- Ability to use discretion and sound judgment in interpreting and applying policies, procedures, and engineering standards.

Supervision

- None.

Physical Demands. *The physical demands described here are representative of those that must be met by an employee to successfully perform the essential duties and responsibilities of this job. Reasonable accommodation may be provided to enable individuals with disabilities to perform the essential duties and responsibilities.*

- Regularly required to stand, walk, sit, use hands to handle or operate objects, tools, or controls, and reach with hands and arms.
- Regularly required to lift and/or move up to 25 pounds; occasionally up to 50 pounds.
- Frequently required to walk several miles per day and stand for extended periods of time on uneven or rough terrain.
- Frequently required to climb, balance, stoop, kneel, crouch, or crawl.
- Specific vision abilities required include close vision, distance vision, color vision, peripheral vision, depth perception, and the ability to adjust focus.

Work Environment. *The work-environment characteristics described here are representative of those an employee encounters while performing the essential duties and responsibilities of this job. Reasonable accommodation may be provided to enable individuals with disabilities to perform the essential duties and responsibilities.*

- Work is performed in both office and field environments.
- Field work may involve exposure to varying weather conditions, uneven or rough terrain, moving vehicles, loud noise levels, and construction or maintenance equipment.
- Office work is typically performed in a controlled environment with moderate noise levels.
- May be required to wear personal protective equipment (PPE) such as safety boots, reflective vests, gloves, or hard hats.
- Work may involve exposure to dust, fumes, vibration, or traffic hazards while performing inspections or data collection in the field.
- Interactions with other staff, contractors, and the public are frequent and require professionalism and awareness of safety protocols.
- Hours of work are generally during standard business hours; however, early mornings, evenings, weekends, or extended hours may be required during construction season, emergency response, or inclement weather events.

Jefferson County is an Equal Opportunity Employer. In compliance with the Americans with Disabilities Act as Amended, the County will provide reasonable accommodations to qualified individuals with disabilities and encourages both prospective and current employees to discuss potential accommodations with the employer.

I have read and understand the duties of this job description and, by signing below, I agree that I can perform the duties of this position with or without reasonable accommodation.

Employee Signature: _____	Date: _____
Supervisor/Manager Signature: _____	Date: _____