WASHINGTON COUNTY
JOB DESCRIPTION

Position: Engineering Technician
Reports to: County Engineer
Updated: January 22, 2020
Department: Secondary Roads
FLSA: Non-Exempt

PURPOSE OF POSITION

Under supervision, performs professional design and related engineering services in the preparation of construction plans for bid such as bridges, box culverts, grading and paving projects using established design standards; uses and maintains various computer and technical manuals, standards, engineering aids and databases. Assists the County Engineer in all phases of contract administration, public relations and supervision of workforce as delegated.

ESSENTIAL JOB 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.

Functions as design technician and works on technical drafting, survey, inspection, research and design projects.

Assists the County Engineer and/or assistant(s) in making contact with landowners to purchase rights-of-way.

Prepares and/or provides input to engineer(s) for the preparation of reports related to department operations as required by local, state, and federal regulations.

Utilizes knowledge and drafting skills to prepare detailed design drawings including traffic control plans for grading, bridge, paving, and culvert projects; follows general guidelines from the County Engineer and complies with current standards.

Provides technical assistance and reviews completed work for accuracy and completeness.

Compiles information needed to conduct surveys from notes, maps, deeds, and other records.

Prepares and maintains accurate notes, records, and sketches of work performed or date collected; verifies accuracy of data.

Compiles records and/or prepares progress reports on construction projects.

Conducts inspections on bridges and completes reports.

Performs or supervises the performance of lab and field tests on materials used on construction projects.

Examines quality of finished projects for conformity to standards. Inspects work of contractors on construction projects to verify compliance with plans and specifications, including traffic control for the safety of the contractor and the traveling public.

Performs or supervises the surveys needed for design and construction of various types of highway projects.

Assists with maintenance of the GIS database records and inventories.
MINIMUM TRAINING AND EXPERIENCE REQUIRED TO PERFORM ESSENTIAL JOB FUNCTIONS

Engineering Technician degree required. Experience in construction design, survey and inspection including responsibility for project preparation, documentation and development is desired. Requires certification as a PCC Plant Technician and Aggregate Technician, or the ability to become certified. A valid Iowa Driver’s License is required. General computer literacy required. Knowledge of and ability to use CAD, GIS, GPS survey equipment and technical software is required.

MINIMUM PHYSICAL & MENTAL ABILITIES REQUIRED TO PERFORM ESSENTIAL JOB FUNCTIONS

Physical Requirements

Vary according to time of year. During construction season (typically early spring to late fall) uses a variety of surveying instruments (GPS survey equipment, total station, level, distance meters, locators, tape, etc.) and various construction inspection devices such as concrete beam testing machine, concrete air meter, aggregate sieve shaker, moisture and specific gravity devices, transporting survey and lab testing equipment by pickup truck and/or tractor. Uses various hand tools such as ax, shovel, spade, malls, and posthole augers in survey and inspection functions. Need ability to lift, move, carry, push and/or pull equipment, materials, supplies and related items weighing up to approximately 50 lbs. and occasionally up to 100 lbs.

Mathematical Ability

College level math (algebra, geometry, trigonometry) is required in order to compute elevations, contours, grades, storage areas, quantities of materials, cross-sections, dimensions, profiles, volumes and presenting graphic representation of project plans using CAD and GIS computer software to display, modify and produce design plans and maintain GIS database records and inventories. Uses basic math and various computer software (Microsoft Office Professional, AutoCAD, ArcView, etc.)

Language Ability & Interpersonal Communications

Ability to express/exchange information and ideas by the spoken work and to determine/discern such sounds by acceptable hearing. Ability to speak the English language distinctly with poise, voice control and confidence. Ability to apply principles of logic or scientific thinking to define problems, collect relevant data, establish facts and draw valid conclusions. Ability to interpret an extensive variety of technical information in written, oral, schedule, mathematical or diagrammatic form. Proficient in the use of extensive computer software support programs including but not limited to Microsoft office Professional, AutoCAD, ArcView. Proficient in the understanding and application of technical subject matter such as IDOT bridge and culvert design standards, materials and construction manuals, paving manuals, field testing manuals, traffic control devices, specification revision manuals, and maintenance standards. Proficient in providing appropriate guidance, training and supervision to part-time construction inspection and field survey teams. Proficient in the use of various measuring and testing equipment used in surveying, inspecting, and recording the results of various field activities. Proficient in developing and maintaining effective working relationship with co-workers, contractors, IDOT staff, property owners, state and local officials.

Environmental Adaptability

Work, particularly during construction season, is subject to a variety of potentially dangerous conditions such as road and structure survey staking and paving (closeness to road traffic and construction equipment, bridge construction, slippery surfaces, cranes moving large beams and piling.)

Employee Signature Date Department Head Signature Date

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