



BOONE COUNTY JOB DESCRIPTION

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| JOB TITLE: <u>Professional Civil Engineer</u> | NEW: <u>X</u> | REVISED: _____ <small>(Please check one)</small> |
| REPORTS TO: <u>Manager, Design & Construction</u> | FLSA: <u>Exempt</u> | DATE: <u>07/2017</u> |
| DEPARTMENT: <u>Resource Management – Engineering Division</u> | JOB CODE: <u>204</u> | |

SUMMARY:

Under general supervision, the Professional Civil Engineer performs responsible civil engineering work performing a variety of engineering tasks related to Infrastructure Management, Stormwater Management, and Project Management.

ESSENTIAL FUNCTIONS:

*Essential functions, as defined under the Americans with Disabilities Act, may include the following tasks, knowledge, skills, and other characteristics. This list of tasks is ILLUSTRATIVE ONLY, and is **not** a comprehensive listing of all functions and tasks performed by incumbents of this class.*

Assists in the management and performance of planning, designing, constructing, and maintaining structures that support transportation systems and control natural resources; investigates, measures, surveys and maps the land's physical features; performs research and development activities; evaluates, selects and applies standard engineering techniques, procedures, and criteria using judgment in making substantial engineering adaptations and modifications to assigned aspects of storm drain, road, or bridge construction plans.

Plans, designs, monitors and/or manages projects and programs for construction, renovation, and improvement to ensure compliance with applicable regulatory requirements; oversees project and program coordination with entities such as utility companies, property owners, and other applicable governmental entities.

Participates in the planning and budgeting process; creates cost estimates for assigned projects; recommends priority funding levels to achieve the greatest overall long-term benefit within available resources.

Maintains alertness and responsibility to safety hazards in the field; reviews consultant-prepared design drawings and proposes design corrections; prepares technical specifications; reviews engineering plans for compliance with regulatory acts and Boone County standards; aids in the evaluation of contract bids, makes recommendations to higher-level engineers regarding feasibility

studies and assists in the management of large-scale construction projects; recommends and approves payment of contractors utilizing construction inspection data as needed.

Manages and oversees all activities specific to assigned area of responsibility:

- Infrastructure Management: Manages and oversees the development and maintenance of the infrastructure/asset database to include regular condition ratings for use in the development of infrastructure preservation programs; identifies potential projects, budget needs, and comprehensive long-term transportation plans.
- Stormwater Management: Implements and enforces policies to ensure compliance with Stormwater manual and ordinances.
- Project Management: Manages all phases of consulting jobs; oversees project inception and cost estimates; controls project scope; assesses and develops technical bid specifications, plan review and modification, and field adaptation as necessary; ensures project completion and oversees project close-out.

Performs all other duties as assigned.

KNOWLEDGE AND SKILL:

1. Knowledge in the professional civil engineering principals, procedures, methods, and equipment involved in performing job duties.
2. Knowledge of State and local requirements for construction plans.
3. Knowledge of construction standards and specifications.
4. Knowledge of English grammar, punctuation, and spelling; skill in communicating effectively using the English language.
5. Knowledge of computer aided design and drafting systems, GIS software, and other specialized software.
6. Knowledge of highway and bridge design, construction, and maintenance.
7. Advanced knowledge and application of the physical sciences and mathematics required to perform civil engineering, and specialized knowledge of the mechanics of solids/soils, hydraulics, theory of structure, strength of materials, engineering geology, and surveying.
8. Knowledge of surveying principles and practices related to construction plans.
9. Knowledge of governmental procurement procedures.
10. Advanced knowledge of County, State and Federal statutes, codes and regulations related to highway and bridge maintenance and construction.
11. Advanced knowledge of State and Federal regulations regarding stormwater design.
12. Skill in communicating orally and in writing, and in establishing and maintaining cooperative working relationships with other departments, businesses, government entities, contractors, and the public.
13. Skill in mathematics sufficient to accurately calculate numbers and perform calculations using addition, subtraction, multiplication, and division.
14. Advanced skill in map reading, mathematical calculations and technical specifications.
15. Ability to learn and apply policies, procedures, documents and terminology affecting assigned functions.
16. Ability to read, interpret and explain maps, deeds, plats and other survey documentation.
17. Ability to work independently and follow instructions.
18. Ability to maintain a high level of accuracy and attention to detail.

PHYSICAL DEMANDS:

The majority of work is performed in a general office setting and outside. Position-holder must possess vision to read printed materials and a computer screen, and hearing and speech to communicate in person and over the telephone. Must have clarity of vision at 20 feet or more, 20 inches or less, three-dimensional vision, precise hand-eye coordination, and ability to identify and distinguish colors. May be required to work in hazardous traffic conditions or high/dangerous places.

Position requires CONTINUOUS sitting, upward and downward flexion of neck; fine finger dexterity and light to moderate finger pressure to manipulate keyboard, equipment controls, and other office equipment; pinch grasp to manipulate writing utensils. FREQUENT grasping to manipulate objects; side-to-side turning of neck; walking, standing, bending, stooping, kneeling, and reaching; heavy lifting of up to 75 lbs when moving objects or equipment and transporting distances up to 50 yards; pushing/pulling, twisting at waist, and moderate wrist torque to twist equipment knobs and dials; driving. OCCASIONAL reaching above and at shoulder height.

WORK ENVIRONMENT:

This job operates in a variety of settings that include: a professional office, construction sites, and outside locations. This position routinely uses office equipment such as computers, calculators, multi-line telephones, photocopiers, large format printers and scanners, filing cabinets, and fax machines. May be exposed to wet/humid conditions, inclement outdoor weather, vibration, extreme temperatures, airborne particles/fumes, moving mechanical parts, very loud noise levels, or potentially hazardous materials. May be required to drive a County-owned vehicle to off-site locations and drive in inclement weather. This position is routinely in contact with the public and members of other entities. May be required to work additional hours outside of a normal business day.

MINIMUM QUALIFICATIONS:

Bachelor's Degree in Civil Engineering, or closely related field; certificate as Missouri Registered Professional Engineer; five years experience in engineering design, construction management or contracting field.

Please note this job description is not designed to cover or contain a comprehensive listing of activities, duties, or responsibilities that are required of the employee for this job. Duties, responsibilities, and activities may change at any time with or without notice.