



Engineering Specialist 1

Category: Classified/Excluded
Pay Grade: C25
Job Code: 16792

To perform this job successfully, an individual must be able to perform the essential job functions satisfactorily. Reasonable accommodations may be made to enable individuals with disabilities to perform the primary job functions herein described. Since every duty associated with this position may not be described herein, employees may be required to perform duties not specifically spelled out in the job description, but which may be reasonably considered to be incidental in the performing of their duties just as though they were actually written out in this job description.

JOB SUMMARY

This is responsible technical engineering work in the preparation and review of plans, designs, and specifications and in the coordination of utilities, traffic studies, traffic management systems operations, environmental assessment and clean-up or permitting efforts within departmental projects. Employees in this class apply civil engineering skills and knowledge to public works projects involving design, specifications, coordination, construction, operation and maintenance. Positions require the exercise of independence in the performance of technical projects and may involve the supervision of personnel in the office or field. Employees occupying this classification who receive their Professional Engineering certifications are eligible for additional earnings. If the additional earnings are accepted, the employee will be expected to perform as an Engineer of Record, signing and sealing documents, etc., if the assigned work requires such professional endorsement. The position reports to a manager, supervisor or designee.

ESSENTIAL JOB FUNCTIONS (examples, not all inclusive)

- Plans and designs roadway sections or intersections, makes preliminary layouts of proposed highway improvements with the aid of reconnaissance and aerial photographs, establishes grade lines in accordance with requirements of drainage design, existing topography and earth work economy, prepares summaries of required materials and labor and prepares total cost estimates;
- Investigates bridge sites, estimates costs of improvements, makes preliminary and final designs, writes specifications, supervises drafting and layout of plans, makes strength ratings of structures and studies construction and design methods;
- Participates in design preparation related to residential or commercial projects and assists in planning and managing public works projects;
- Develops or reviews consultant traffic signal timing plans and signal base controller times that may include recommendation for signal modifications and field implementation;
- Operates an advanced traffic control systems including database management, scheduling, failure evaluation, and repair response functions;
- Provides in-house design for transportation system improvements;
- Supervises technical personnel and checks for accuracy in computations;
- Supervises survey crews, coordinate land development plans and act as a liaison on large building or projects;
- Reviews and coordinates utilities, environmental assessment and clean-up or environmental permitting efforts;
- Coordinates field inspections with Code Enforcement Officers to help in the education and enforcement of the Land Development Code;
- Inspects traffic signal and traffic control system contracts, assigned construction projects, consults with contractors and other parties to ensure county standards/objectives are met;

- Performs information processing related duties including using available statistical packages or programs, encoding data, data entry and retrieval, and routine information terminal operations and programming/reprogramming;
- Performs other related job duties as assigned.

QUALIFICATIONS

Education and Experience:

Five (5) years of experience in the use of AutoCAD systems including three (3) years of experience in engineering design; or Five (5) years related experience in transportation, electronics or computer systems operations; or Graduation from an accredited college or university with major course work in civil engineering with a basic understanding of the use of CAD systems; or an equivalent combination of education, training and/or experience.

Special Qualifications (May be required depending on area of assignment):

- Florida Driver's License or Florida Commercial Driver's License and endorsement, if any.
- Assignment to work a variety of work schedules including compulsory work periods in special, emergency, and/or disaster situations.
- Specialized certifications related to engineering studies or traffic signal operations and maintenance.
- Candidate to possess prior job tenure and experience from within the same unit or assignments in the same line of work.
- Candidate to demonstrate more advanced proficiency, competency, and satisfactory completion of regularly assigned work in an independent manner. Appointing Authority retains discretion to employ an incumbent at this level or advance the incumbent non-competitively or competitively, after a candidate meets the minimum qualifications to an in-line career ladder position within the same organization or department.
- Other highly desirable knowledge, skills, abilities, and credentials required for a specific position.

Knowledge, Skills and Abilities:

- Knowledge of technical practices of civil engineering and investigation design and construction of public works and utilities facilities;
- Knowledge of the various types of environmental contamination and the relative impact on proposed public works projects;
- Knowledge of computerized Traffic Signal analysis software for capacity analysis and signal timing plan development;
- Knowledge of the principles, techniques, standard operating procedures, materials, tools and equipment used in the automated transportation management system (ATMS), traffic studies, and analysis;
- Knowledge of environmental and construction permits and local, state and federal agencies relationships to public works type projects;
- Knowledge of computerized Traffic Signal analysis software for capacity analysis and signal timing plan development;
- Skill in use of engineering instruments and equipment and ability to learn computer applications to engineering design, drafting, mapping and plans;
- Ability to make engineering related mathematical computations and design moderately difficult engineering projects;
- Ability to supervise moderately difficult engineering or survey projects in field or office and adhere to plans and specifications;
- Ability to secure compliance by private contractors with contracts and specifications governing projects in a tactful, firm and impartial manner.

PHYSICAL/MENTAL DEMANDS

The work is light work which requires exerting up to 20 pounds of force occasionally, and/or up to 10 pounds of force to move objects. Additionally, the following physical abilities are required:

- **Balancing:** Maintaining body equilibrium to prevent falling while walking, standing or crouching on narrow, slippery, or erratically moving surfaces. The amount of balancing exceeds that needed for ordinary locomotion and maintenance of body equilibrium.
- **Climbing:** Ascending or descending ladders, stairs, scaffolding, ramps, poles and the like, using feet and legs and/or hands and arms. Body agility is emphasized.
- **Crawling:** Moving about on hands and knees or hands and feet.
- **Crouching:** Bending the body downward and forward by bending leg and spine.
- **Feeling:** Perceiving attributes of objects, such as size, shape, temperature or texture by touching with skin, particularly that of fingertips.
- **Fingering:** Picking, pinching, typing, or otherwise working, primarily with fingers rather than with the whole hand as in handling.
- **Grasping:** Applying pressure to an object with the fingers and palm.
- **Handling:** Picking, holding, or otherwise working, primarily with the whole hand.
- **Hearing:** Perceiving the nature of sounds at normal speaking levels with or without correction. Ability to receive detailed information through oral communication, and to make the discrimination in sound.
- **Kneeling:** Bending legs at knee to come to a rest on knee or knees.
- **Lifting:** Raising objects from a lower to a higher position or moving objects horizontally from position-to-position. Occurs to a considerable degree and requires substantial use of upper extremities and back muscles.
- **Mental acuity:** Ability to make rational decisions through sound logic and deductive processes.
- **Pulling:** Using upper extremities to exert force in order to draw, haul or tug objects in a sustained motion.
- **Pushing:** Using upper extremities to press against something with steady force in order to thrust forward, downward or outward.
- **Reaching:** Extending hand(s) and arm(s) in any direction.
- **Repetitive motion:** Substantial movements (motions) of the wrist, hands, and/or fingers.
- **Speaking:** Expressing or exchanging ideas by means of the spoken word including the ability to convey detailed or important spoken instructions to other workers accurately and concisely.
- **Standing:** Particularly for sustained periods of time.
- **Stooping:** Bending body downward and forward by bending spine at the waist. Occurs to a considerable degree and requires full motion of the lower extremities and back muscles.
- **Talking:** Expressing or exchanging ideas by means of the spoken word including those activities in which they must convey detailed or important spoken instructions to other workers accurately, loudly, or quickly.
- **Visual acuity:** Have close visual acuity such as color differentiation, depth perception, and adequate field vision.
- **Walking:** Moving about on foot to accomplish tasks, particularly for long distances or moving from one work site to another.

WORKING CONDITIONS

Work is typically performed in a dynamic environment that requires sensitivity to changing goals, priorities, and needs.