



DEPARTMENT: James City Service Authority/Engineering

NATURE OF WORK:

Performs entry level engineering work which includes the design, construction, and administration of capital improvement projects or programs, or in the approval and review of development projects; does related work as required such as: oversees the commercial and residential site plan review for water/wastewater design; studies and analyses for the water/wastewater systems; designs for water/wastewater projects; studies and analysis for the James City Service Authority (JCSA) operations; and inspections for development and capital improvement projects (private and public) related to water/wastewater facilities. Work is performed under the direct supervision of the JCSA Chief Engineer(s) and is reviewed through conferences, reports, and analyses of results obtained.

ESSENTIAL FUNCTIONS OF THE JOB:

Coordinates, directs, and participates in engineering areas such as construction and development administration, water works design, wastewater collection and transmission, environmental impacts, hydraulics and similar areas.

Reviews and revises construction plans for water and sanitary sewer projects for compliance with standards, codes and ordinances and for adherence to acceptable engineering principles.

Reviews and recommends revisions to construction plans for subdivisions and site plans for compliance with standards, codes and ordinance, and for adherence to acceptable engineering principles.

Develops and implements ordinances, regulations, and standards to ensure sewer and water service and systems are operated in accordance with applicable State and Federal regulations.

Provides technical response to citizen inquiries concerning specific projects in order to properly inform them as well as incorporate their input.

Represents the County in conferences/committees to resolve important regional questions and to plan and coordinate regional efforts as assigned.

Plans, supervises, and reviews the engineering, inspection, and materials testing functions associated with assigned projects.

Develops and implements computer applications for modeling of water and wastewater systems.

Coordinates the work of consulting engineers, County departments, and governmental agencies affected by, or assigned to, the designated project.

Prepare budgets, records, and reports related to assigned projects.

Provides engineering support in all areas of civil engineering for development of the JCSA Capital Improvement Projects, including cost estimates, and related items in development of the JCSA budget for the Capital Improvement Program.

Practices continuous learning through individual study, classroom training, seminars, and conferences.

Performs work safely in accordance with department safety procedures and the County Safety Program. Operates equipment safely and reports any unsafe work condition or practice to Supervisor.

May be required to report to work to serve customers during emergency conditions. May be assigned to report at a different time and location and to perform different duties as necessary.

Performs related work as required.

JOB LOCATION AND EQUIPMENT OPERATED:

Duties are performed primarily in an office setting. Operates computer keyboard and telephone. Drives County vehicle to construction or other work sites. Requires occasional walking over rough terrain.

REQUIRED KNOWLEDGE, SKILLS, AND ABILITIES:

Knowledge of the principles, practices, and methods of civil engineering as applied to planning, location, design, construction, inspection, and maintenance of water and wastewater facilities and related projects.

Knowledge of the State and Federal regulations pertaining to public health, public water, and wastewater systems.

Knowledge of land and engineering survey systems, methods, and techniques.

Knowledge of job site safety standards and regulations.

Knowledge of departmental policies, procedures, and technical standards.

Knowledge of computer hardware and software needed for modeling of water supply, storage, and transmission systems; wastewater systems; database applications; and spreadsheet applications.

Ability to coordinate the work of project personnel.

Ability to analyze, plan, and design water works and sanitary sewer facilities.

Ability to manage public engineering projects.

Ability to establish and maintain effective working relationships with County and State officials, employees, contractors, and the public.

Ability to communicate effectively, both orally and in writing.

Ability to prepare technical reports.

MINIMUM QUALIFICATIONS:

Bachelor's Degree in Civil Engineering or related field, and some engineering experience. An Engineer-in-Training (EIT) Certification is desirable but not required; or any equivalent combination of acceptable education and experience providing the knowledge, skills and abilities cited above.

NECESSARY SPECIAL QUALIFICATIONS:

Requires a post-offer credential check.

Requires a post-offer driving record check.

Must possess a valid Virginia driver's license and have an acceptable driving record based on James City County's criteria.

Requires the ability to travel among various work sites.

OTHER POSITION INFORMATION:

This position is an entry level career ladder.

Date: October 2007

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IDENTIFICATION OF GENERAL APTITUDES AND PHYSICAL REQUIREMENTS

Position Title: Civil Engineer I Position Number: 781
Department: James City Service Authority Division: Engineering

The Americans with Disabilities Act requires that we identify the general aptitudes and physical requirements needed to perform the job listed above. Individuals who have the position must be able to perform all essential job functions unaided or with reasonable accommodation.

I. *Mental Abilities:* General learning ability. The ability to “catch on” or understand instructions and underlying principles.

- Ability to understand and follow oral instruction
- Ability to understand and follow written instruction
- Ability to guide and/or give instructions
- Ability to make decisions in accordance with established procedures and policies
- Not essential to job function

II. *Verbal Abilities:* Ability to understand meanings of words and ideas associated with them and to use them effectively. To comprehend language, to understand relationships between words, and to understand meanings of whole sentences and paragraphs. To present information or ideas clearly.

1. Speaking/Talking:

- Answer telephone, radio or switchboard
- Communicating with County officials
- Communicating with general public
- Communicating with vendors
- Communicating with supervisors and/or with other employees
- Communicating with other _____
- Not essential to job functions

2. Hearing/Listening:

- For communication with County officials, public, vendors, supervisors and/or other employees
- Not essential to job function.

3. Reading: (ability to read and understand text)

- Essential to job function
- Not essential to job function

III. Numerical: Ability to perform arithmetic operations quickly and accurately.

- Ability to mentally perform accurate two digit calculations
- Ability to perform accurate calculations aided by a calculator, adding machine or measurement device

IV. Spatial Abilities: Ability to comprehend forms in space and understand relationships of plane and solid objects. May be used in such tasks as blue print reading and in solving geometry problems. Frequently described as the ability to “visualize” objects of two or three dimensions, or to think visually of geometric forms.

- Essential function
- Not essential function

V. Motor Coordination: Ability to coordinate eyes and hands or fingers rapidly and accurately in making precise movements with speed. Ability to make a movement response accurately and quickly.

1. Manual Dexterity: Ability to move the hands easily and skillfully. To work with the hands in placing and turning motions.

- | | |
|--|--|
| <input checked="" type="checkbox"/> Use telephone | <input checked="" type="checkbox"/> Manipulate computer keyboard and mouse |
| <input type="checkbox"/> Use switchboard | <input type="checkbox"/> Use postage machine |
| <input checked="" type="checkbox"/> Use radio/console | <input checked="" type="checkbox"/> Use hand tools |
| <input checked="" type="checkbox"/> Use a calculator | <input type="checkbox"/> Use power tools |
| <input checked="" type="checkbox"/> Use a copy machine | <input type="checkbox"/> Other: _____ |
| <input checked="" type="checkbox"/> Use a fax machine | <input type="checkbox"/> Not essential to job function |

2. Finger Dexterity: Ability to move the fingers and manipulate small objects with the fingers rapidly or accurately. For example: electrical wiring.

- Essential to job function
- Not essential to job function

Explain: _____

VI. Physical Demands:

1. Strength: The quality, state or property of being strong. The power to withstand strain, force, or stress.

Please check (✓) in appropriate boxes below.

| | Ability to manipulate materials and/or equipment (lbs) | | | | | | Frequency of Manipulation | | |
|-------------------|--|------|-------|-------|-------|-----|---------------------------|------------|--------------|
| | 5- | 5-10 | 10-15 | 15-25 | 25-50 | 50+ | Occasionally | Frequently | Continuously |
| Lift | | | | | | ✓ | ✓ | | |
| Push/Pull | | | | | | ✓ | ✓ | | |
| Hold/Carry | | | | | | ✓ | ✓ | | |

Manipulation done from: ground to waist waist level waist to shoulder above shoulder
(Check all that apply)

Not essential to job function: Lift Push/Pull Hold/Carry (Check all that apply)

2. Climbing: To move up or mount by using the hands or feet.

Ladders

Stairways

Steps

- | | | |
|---|--|--|
| <input checked="" type="checkbox"/> Step stool | <input type="checkbox"/> 1 flight | <input type="checkbox"/> 1-2 |
| <input checked="" type="checkbox"/> 8' to 10' step ladder | <input type="checkbox"/> 2 flights | <input type="checkbox"/> 2-3 |
| <input checked="" type="checkbox"/> Extension ladder | <input checked="" type="checkbox"/> 3 or more flights | <input checked="" type="checkbox"/> 3-4 |
| <input type="checkbox"/> Other _____ | <input type="checkbox"/> Other _____ | <input type="checkbox"/> Other _____ |
| <input type="checkbox"/> Not essential to job function | <input type="checkbox"/> Not essential to job function | <input type="checkbox"/> Not essential to job function |

3. Ability to Stand, Sit, Walk, and Run:

Please check (✓) in appropriate boxes below.

| | Duration (hours/day) | | | | | | Occasionally | Frequently | Continuously |
|--------------|----------------------|-----|-----|-----|-----|----|--------------|------------|--------------|
| | 0-1 | 1-3 | 3-5 | 5-7 | 7-9 | 9+ | | | |
| Stand | ✓ | | | | | | ✓ | | |
| Sit | | | | ✓ | | | | ✓ | |
| Walk | | | | | | | | | |
| Run | | | | | | | | | |

If walking or running, over what type of terrain? flat rough both

Not essential to job function: Stand Sit Walk Run (Check all that apply)

4. Stooping, Kneeling, Crouching, and /or Crawling:

To bend forward or down from the middle of the waist or the middle of the back, to bend downwards, to lower oneself and/or to move freely on hands and knees.

Daily Amounts

- 0-5x 5-20x 20-50x 50+x
- Other _____ Not essential to job function

5. Reaching, Handling, Fingering, and/or Feeling:

To stretch out, extend, or put forth a bodily part. To touch or grasp something, by extending or stretching. To touch, lift, hold or operate with the hands.

Daily Amounts

- 0-5x 5-20x 20-50x 50+x
- Other _____ Not essential to job function

6. Seeing: To perceive or comprehend by the sense of sight.

Essential to job function: These characteristics are necessary (Check all that apply)

- Peripheral vision
- Night vision
- Focus (distinctness or clarity)
- Color perception (discriminate between colors)
- Depth perception (determine distance relationship between objects)

VII. Driving: The ability to transfer or convey in a vehicle.

| Transmission | Standard | Automatic | Multi-Gears |
|-------------------------------|--------------------------|-------------------------------------|--------------------------|
| Car | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Van | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Small Truck | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Medium Truck | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Large Truck | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Truck w/Equipment | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Heavy Bus Equipment | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Not essential to job function | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Other (list) _____ | | | |

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