



Title: Junior Engineer

FLSA Status: Non-Exempt

BRIEF DESCRIPTION: The purpose of this position is to perform entry level professional transportation engineering duties and to plan, design, construct, and maintain transportation systems and projects. This is accomplished by preparing cost and quantity estimates, assisting other engineers with designs, drawings and specifications, providing engineering support to construction projects, assisting in the performance of field inspections, and assisting in responding to citizen complaints regarding engineering problems.

ESSENTIAL FUNCTIONS:

Note: This information is intended to be descriptive of the key responsibilities of the position. The list of essential functions below does not identify all duties performed by any single incumbent in this position. Additionally, please be aware of the legend below when referring to the physical demands of each essential function.

(S) Sedentary Exerting up to 10 lbs. occasionally or negligible weights frequently; sitting most of the time.	(L) Light Exerting up to 20 lbs. occasionally; 10 lbs. frequently; or negligible amounts constantly; OR requires walking or standing to a significant degree.	(M) Medium Exerting 20-50 lbs. occasionally; 10-25 lbs. frequently; or up to 10 lbs. constantly.	(H) Heavy Exerting 50-100 lbs. occasionally; 10-25 lbs. frequently; or up to 10-20 lbs. constantly.	(V) Very Heavy Exerting over 100 lbs. occasionally; 50-100 lbs. frequently; or up to 20-50 lbs. constantly.
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#	Code	Essential Functions	% of Time
1	S	Assists with designs, drawings, and specifications by reviewing design criteria to ensure compliance with codes, standards and project requirements, assisting in developing effective project plans, analyzing engineering problems and suggesting effective solutions, reviewing and overseeing the work of consultants, observing and verifying work in the field, and using engineering design tools.	40%
2	S	Prepares technical contract specifications and cost estimates by reviewing standard technical contract specifications, applying federal, state and local construction codes, using appropriate engineering standards, assisting in developing programs and procedures for quality assurance and control, analyzing cost and quantity estimates for construction projects, and using software tools.	30%
3	S	Provides engineering support to the District's operations and engineering functions by reviewing technical submittals from contractors, providing information and clarifications to contractors, conducting field inspections related to construction, establishing and maintaining cooperative working relationships with those contacted in the course of a project, and providing technical support, troubleshooting, and problem solving for existing facilities.	30%



JOB REQUIREMENTS:

-Description of Minimum Job Requirements-	
Formal Education	<p>Work requires broad knowledge in a general professional or technical field. Knowledge is normally acquired through four (4) years of an accredited college or university resulting in a Bachelor's degree or equivalent in Engineering.</p> <p>Additional directly related experience beyond the minimum requirement may substitute for the required education based on the ratio of one and a half (1.5) years of experience for each (1) year of education.</p>
Experience	No experience is required; however some experience performing engineering related tasks is desirable.
Supervision	Job has no responsibility for the direction or supervision of others.
Human Collaboration Skills	Work may require providing advice to others outside direct reporting relationships on specific problems or general policies. Contacts may require the consideration of different points of view to reach agreement. Elements of persuasion may be necessary to gain cooperation and acceptance of ideas.
Freedom to Act	The employee normally performs the duty assignment after receiving general instructions as to methods, procedures, and desired end results. There is some opportunity for discretion when making selections among a few, easily identifiable choices. The assignment is usually reviewed upon completion.
Technical Skills	Skilled: Work requires a comprehensive, practical knowledge of a technical field with use of analytical judgment and decision-making abilities appropriate to the work environment of the organization.
Budget Responsibility	Position has no fiscal responsibility.
Reading	Intermediate - Ability to read papers, periodicals, journals, manuals, dictionaries, thesauruses, and encyclopedias. Ordinarily, such education is obtained in high school up to college. However, it may be obtained from experience and self-study.
Math	Advanced – Ability to apply fundamental concepts of theories; work with advanced mathematical operations methods and functions of real and complex variable. Ordinarily, such education is obtained in at the college level or above. However, It may be obtained from experience and self-study.
Writing	Intermediate - Ability to write reports, prepare business letters, expositions, and summaries with proper format, punctuation, spelling, and grammar, using all parts of speech. Ordinarily, such education is obtained in high school up to college. However, it may be obtained from experience and self-study
Certification & Other Requirements	



KNOWLEDGE
<ul style="list-style-type: none">• Principles of engineering design as related to transportation systems and projects.• Engineering mathematics and its application to engineering problems.• Stress analysis, mechanics and properties of materials.• Construction methods and equipment.• Inspection needed to review work.• Real property descriptions.• Engineering drafting and mapping principles.

SKILLS
<ul style="list-style-type: none">• Advanced word processing, spreadsheet, presentation and database software.• Specialized software related to functional area.

ABILITIES
<ul style="list-style-type: none">• Learn District policies and procedures.• Communicate effectively, both orally and in writing.• Perform professional engineering work of minor complexity in the planning and design of transportation projects and in special engineering studies and review.• Prepare neat and accurate maps, drawings, notes and reports.• Complete engineering calculations with increasing complexity.• Establish and maintain cooperative working relationships with fellow employees and outside agencies in the course of engineering work.• Review plans, specifications and estimates developed by consultants.• Learn the operational principles of a working light rail system.• Perform plan checks to ensure contractor compliance with District specifications.• Assist in the performance of field inspections of various engineering projects; perform field survey work.• Analyze material and design data.• Check and analyze Environmental Impact Reports.• Assist in responding to citizen complaints regarding engineering problems.• Research products and processes.• Prepare plans and calculate quantities and cost estimates for various engineering projects including budgets.



OVERALL PHYSICAL STRENGTH DEMANDS:

-Physical strength for this position is indicated below with "X"-

Sedentary	Light	Medium	Heavy	Very Heavy
X				
Exerting up to 10 lbs. occasionally or negligible weights frequently; sitting most of the time.	Exerting up to 20 lbs. occasionally, 10 lbs. frequently, or negligible amounts constantly OR requires walking or standing to a significant degree.	Exerting 20-50 lbs. occasionally, 10-25 lbs. frequently, or up to 10 lbs. constantly.	Exerting 50-100 lbs. occasionally, 10-25 lbs. frequently, or up to 10-20 lbs. constantly.	Exerting over 100 lbs. occasionally, 50-100 lbs. frequently, or up to 20-50 lbs. constantly.

PHYSICAL DEMANDS:

C	F	O	R	N
Continuously	Frequently	Occasionally	Rarely	Never
2/3 or more of the time.	From 1/3 to 2/3 of the time.	Up to 1/3 of the time.	Less than 1 hour per week.	Never occurs.

Note: This is intended as a description of the way the job is currently performed. It does not address the potential for accommodation.

-Physical Demand-	-Frequency-	-Brief Description-
Standing	O	Making presentations; observing work site; observing work duties; communicating with co-workers
Sitting	C	Desk work; meetings; driving
Walking	O	To other departments/offices; around work site
Lifting	R	Supplies; equipment; files
Carrying	R	Supplies; equipment; files
Pushing/Pulling	R	File drawers; equipment
Reaching	R	For supplies; for files
Handling	R	Paperwork
Fine Dexterity	F	Computer keyboard; telephone keypad; calculator; calibrating equipment
Kneeling	R	Filing in lower drawers; retrieving items from lower shelves/ground
Crouching	R	Filing in lower drawers; retrieving items from lower shelves/ground
Crawling	R	Under equipment
Bending	R	Filing in lower drawers; retrieving items from lower shelves/ground; making repairs
Twisting	O	From computer to telephone; getting inside vehicle
Climbing	R	Stairs; ladders; onto equipment
Balancing	R	On ladders; on equipment
Vision	C	Reading; computer screen; driving; observing work site
Hearing	F	Communicating via telephone/radio; to co-workers/public; listening to equipment
Talking	O	Communicating via telephone/radio; to co-workers/public
Foot Controls	O	Driving
Other (specified if applicable)	N	

MACHINES, TOOLS, EQUIPMENT, SOFTWARE, AND HARDWARE:



Telephone, fax machine, calculator, copier, vehicle, Auto CAD, computer and associated hardware and software.

ENVIRONMENTAL FACTORS:

C Continuously	F Frequently	O Occasionally	R Rarely	N Never
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D Daily	W Several Times Per Week	M Several Times Per Month	S Seasonally	N Never
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-Health and Safety Factors-	
Mechanical Hazards	N
Chemical Hazards	N
Electrical Hazards	N
Fire Hazards	N
Explosives	N
Communicable Diseases	N
Physical Danger or Abuse	N
Other (see 1 below)	N

-Environmental Factors-	
Respiratory Hazards	N
Extreme Temperatures	S
Noise and Vibration	N
Wetness/Humidity	N
Physical Hazards	N

(1) N/A

PROTECTIVE EQUIPMENT REQUIRED:

Safety vest, hard hat, footwear, safety glasses, gloves

NON-PHYSICAL DEMANDS:

F Frequently From 1/3 to 2/3 of the time	O Occasionally Up to 1/3 of the time	R Rarely Less than 1 hour per week	N Never Never occurs
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-Description of Non-Physical Demands-	-Frequency-
Time Pressure	O
Emergency Situation	N
Frequent Change of Tasks	O
Irregular Work Schedule/Overtime	R
Performing Multiple Tasks Simultaneously	F
Working Closely with Others as Part of a Team	F
Tedious or Exacting Work	R
Noisy/Distracting Environment	O
Other (see 2 below)	N

(2) N/A

PRIMARY WORK LOCATION:

Office Environment	X	Vehicle	
Warehouse		Outdoors	
Shop		Other (see 3 below)	
Recreation/Neighborhood Center			

(3)N/A



The above statements are intended to describe the general nature and level of work being performed by individuals assigned to this position. They are not intended to be an exhaustive list of all responsibilities, duties, and skills required. This description is subject to modification as the needs and requirements of the position change.