

CITY OF OVERLAND PARK POSITION DESCRIPTION

TITLE: Engineering Technician, Senior
DEPARTMENT: Public Works
DIVISION: Engineering
REPORTS TO: Assistant City Engineer or Supervisory Civil Engineer
FULL-TIME: **PART-TIME:** _____ **TEMPORARY:** _____

BAND/LEVEL: Tech III
JOB NO: 3490
DATE: 11/5/2013
FLSA STATUS: NE
COST CENTER: 310/311

REPLACES: Engineering Technician, Senior

DATE: 3/20/2013

JOB SUMMARY STATEMENT:

Prepares plans for construction and maintenance projects. Performs staking for construction projects. Performs land surveying and topography surveys. Researches property ownerships and legal documents. Provide training and technical support for the storm drainage inventory / assessment program. Serves as a project manager for assigned projects. Reviews plats for conformance with Municipal Code. Provides technical and management support for Public Works Department functions that include pavement management, Geographic Information Systems (GIS), Global Positioning System (GPS) and asset management (GBA Workmaster). Provides assistance to the general public. Assists with emergency operations, including snow removal, as required.

DUTIES AND RESPONSIBILITIES:

1. Prepares construction plans for storm sewer, street construction and maintenance projects. Reviews plats, maps and construction plans. Translates accumulated field data and engineering data into construction plans using standard drafting techniques and computer aided drafting system (CAD). Computes surveying and engineering mathematical problems. Analyzes and recommends possible solutions to engineering problems. Determines quantities of materials needed based on plan specifications.
2. Prepares preliminary plans and cost estimates for CIP purposes.
3. Creates new civil engineering methods and procedures through the use of computer-aided drafting and design and other technology.
4. Performs land surveying and topography surveys for storm sewer and street projects. Reviews plats, maps and construction plans. Computes surveying problems and calculations. Collects existing field data using a total station, digital level and data collector with survey software.
5. Performs construction staking for storm sewer and street projects. Computes surveying problems and calculations. Determines proposed storm sewer or street locations from plans and stakes the location using surveying techniques and equipment.
6. Researches property ownerships and legal documents. Investigates existing right-of-way and easements through documents located in the county courthouse or accessed through City's Geographical Information System (GIS).
7. Provides training and technical support of summer interns for the storm drainage inventory/assessment program using technical knowledge of Global Positioning System (GPS) and land surveying. Troubleshoots and maintains GPS equipment.
8. Serves as a project manager for assigned projects, directing all project activities, responsible for managing the project schedule, funding and quality assurance.
9. Updates city plat maps by re-drawing right-of-way and easement information on both city plat maps and storm sewer maps. Updates GIS coverage of storm sewer facilities. Maintains City's Standard Construction Details and Standard Specifications. .
10. Reviews legal descriptions for accuracy and notes errors prior to recording of documents. Prepares comments per checklists.
11. Organizes and manages archived construction plans and documents.

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12. Provides administrative management of the pavement management system. Maintains the street inventory database, tracking all operations performed on street network, which includes new construction, re-construction, maintenance operations, and condition inspections. Checks inspection data integrity. Processes inspection data and generates summary reports and analysis. Processes and maps GPS data associated with street maintenance operations.
13. Provides technical support utilizing GIS and CADD applications. Uses various computer programs including Arc/Info, ArcView, and Autocad to generate maps and reports including: conversion of Arc/Info coverage of current city map to Autocad drawing for use by Engineering Division; researches property ownership and employs other data available from the county's AIMS and OASIS systems; and involved in update of city plat maps. Keeps current on software updates, and advises and assists Autocad and ArcMap users.
14. Provides support for Work Management System (Workmaster). Creates and runs specialized SQL queries against the work management system database, generates reports and provides support to departmental users with emphasis on work performed on street network as part of the pavement management system.
15. Manages project and CIP spatial database, adding/editing or deleting features as necessary. Uses that database for the generation of project and/or CIP maps or websites.
16. Assists the public with questions or requests for information requested over phone or in person. Answers questions, retrieves copies of plat sheets, city maps, storm sewer sheet, aerial sheets and any other prints required.
17. Monitors and maintains Overland Park Flood Warning System. Checks computer terminal daily to ensure the production and accuracy of rain gauge reports. Troubleshoots problem rain gauges and assists in problem resolution. Maintains remote stations in good working order. Troubleshoots transmitters and sensors.
18. Assists with emergency operations, including snow removal, as required.
19. The employee must work the days and hours necessary to perform all assigned responsibilities and tasks. Must be available (especially during regular business hours or shifts) to communicate with subordinates, supervisors, customers, vendors and any other persons or organization with whom interaction is required to accomplish work and employer goals.
20. The employee must be punctual and timely in meeting all requirements of performance, including, but not limited to, attendance standards and work deadlines; beginning and ending assignments on time; and scheduled work breaks, where applicable.

GENERAL QUALIFICATIONS

EDUCATION & SPECIAL LICENSE(S)/CERTIFICATIONS:

High School Diploma or equivalent and 7 years of experience as an Engineering Technician OR an associates degree in the area of civil engineering, computer aided drafting, construction technology, surveying, or related field plus 4 years of experience as an engineering technician, OR equivalent combination of experience and education. Must possess a valid driver's license and maintain an insurable driving record. Must have or obtain a commercial driver's license (CDL) within 12 months of employment with the City.

Certification in Autocad, GIS Mapping applications, surveying, or other certification relevant to job requirements is preferred.

EXPERIENCE:

See Education & Special Licenses/Certifications

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SKILLS:

1. Surveying skills
2. CADD skills
3. Manual drafting skills
4. Computer operation skills
5. Good oral and written communication skills

MENTAL REQUIREMENTS:

1. Ability to compute mathematical calculations used in surveying and measuring
2. Ability to translate accumulated field data and engineering information into legible construction plans
3. Ability to read plat sheets and maps
4. Ability to read and comprehend city codes
5. Ability to analyze complex problems (drainage, OP Flood Warning System) and recommend possible solutions
6. Exhibit diplomacy and judgement when working with citizens, contractors or other public officials
7. Ability to work under distracting conditions when surveying or construction staking
8. Ability to understand computer commands and generated reports

PHYSICAL REQUIREMENTS:

1. Hand/eye coordination to operate surveying equipment
2. Ability to place construction stakes with the use of manual tools
3. Ability to traverse rough terrain
4. Exposure to vehicle noise and fumes
5. Exposure to extreme environmental conditions
6. Ability to draw engineering plans manually or with the use of CAD
7. Ability to travel to field locations or other public buildings
8. Ability to visually review maps, plans and plats

SEE ESSENTIAL FUNCTIONS BELOW FOR ADDITIONAL PHYSICAL REQUIREMENTS

SUPERVISORY RESPONSIBILITY (Direct & Indirect):

None

The preceding job description has been designed to indicate the general nature and level of work performed by employees within this classification. It is not designed to contain or be interpreted as a comprehensive inventory of all duties, responsibilities, and qualifications required of employees assigned to this job.

ESSENTIAL FUNCTIONS

ACTIVITY	DURATION	DESCRIPTION
Standing	Occ. - Const.	even and uneven surfaces
Walking	Occ. - Const.	even and uneven surfaces
Sitting	Occ. - Const.	motor vehicle operation / office environment
Driving	Occasional	motor vehicle operation; automatic transmission
Bending	Occ. - Freq.	Measuring / using misc. instruments
Stooping	Occ. - Freq.	Measuring / using misc. instruments
Twisting	Occasional	Misc. instrument use and material handling
Kneeling	Occasional	Misc. instrument use and material handling
Squatting	Occasional	Misc. instrument use and material handling
Crawling	Occasional	crawling in / through pipes
Stairs	Occasional	inlets
Ladders	Occasional	inlets

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LIFTING	WEIGHT	HEIGHT	FREQUENCY	DURATION	DESCRIPTION
Monument casting	75 lbs.	ground to waist	variable	occasional	two person lift
sledge hammer	10 lbs.	floor to shoulder	variable	occasional	two hand lift
traffic cones	25 lbs.	0-49 inches	variable	occasional	one or two hand lift
traffic barricade	22 lbs.	0-49 inches	variable	occasional	one or two hand lift
Carbite blade	61 lbs.	0-24 inches	variable	occasional	two person lift
Rubber blade	90 lbs.	0-24 inches	variable	occasional	two person lift
Backing plate	150 lbs.	0-24 inches	variable	occasional	two person lift
Material spinner	100 lbs.	0-24 inches	variable	occasional	two person lift
Tailgate doghouse	95 lbs.	0-61 inches	variable	occasional	two person lift

CARRYING	WEIGHT	DISTANCE	FREQUENCY	DURATION	DESCRIPTION
Monument casting	75 lbs.	0-20 feet	variable	occasional	two person carry
Sledge hammer	10 lbs.	0-20 feet	variable	occasional	one or two hand carry
Traffic cones	25 lbs.	0-20 feet	variable	occasional	one or two hand carry
Traffic barricade	22 lbs.	0-20 feet	variable	occasional	one or two hand carry
Carbite blade	61 lbs.	0-10 feet	variable	occasional	two person carry
Rubber blade	90 lbs.	0-10 feet	variable	occasional	two person carry
Backing plate	150 lbs.	0-10 feet	variable	occasional	two person carry
Material spinner	100 lbs.	0-25 feet	variable	occasional	two person carry
Tailgate doghouse	95 lbs.	0-25 feet	variable	occasional	two person carry

PUSHING/PULLING	FORCE	FRQUNCY/DUR	DESCRIPTION
160 lb. man hole cover	73 lbs.	occasional	1 or 2 hands
Material spinner	100 lbs.	occasional	two person push/pull - 0-20 inches
Snow plow	40 lbs	occasional	two hand push/pull

REACHING	DURATION	DESCRIPTION
Below Knee Height	occasional	use of varioius tools
Below Waist Height	occasional	use of varioius tools
Forward > 2 Feet	occasional	use of varioius tools
Above Shoulder Height	occasional	use of varioius tools
Lateral Reach	occasional	use of varioius tools

FINE MOTOR	DURATION	DESCRIPTION
Gripping	occ. - freq.	misc. tool usage; computer utilization; handling materials
Pinching	occ. - freq.	misc. tool usage; computer utilization; handling materials
Wrist Flexion & Extension	occ. - freq.	misc. tool usage; computer utilization; handling materials
Wrist Lateral Deviations	occ. - freq.	misc. tool usage; computer utilization; handling materials
Pronation & Supination	occ. - freq.	misc. tool usage; computer utilization; handling materials

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OTHER IDENTIFIED ESSENTIAL FUNCTIONS:

- 1) Use of computer / keyboard / mouse device
- 2) Ability to drive and inspect necessary roads during snow event
- 3) Computer software would require some degree of visual color discrimination

The position of Engineering Technician is variable in nature related to the frequency and duration of all essential functions. Depending on the type of project that is ongoing, there will be time periods when an individual working in this position will spend up to 8 hours working in an office environment and within several days or a week will spend up to 8 hours in the field standing, walking, inspecting, measuring, etc. Therefore, it is difficult to identify an exact frequency and duration of many of the above identified tasks.