



JOB DESCRIPTION

Title: Engineering Technician

Department: Engineering

Reports to: City Engineer

Pay Grade: 61

Date Adopted: December 8, 2016

Previous Revision Date:

Last Revision Date:

Type: ☒ Full Time

☐ Part Time

FLSA: ☐ Exempt ☐ Salary

☒ Non Exempt ☒ Hourly

Union: ☒ Yes

☐ No

Job Summary:

Design and draft construction plans for small projects, assist in the design and drafting of construction plans for more complex projects. Work also includes performing routine engineering design and computerized drafting. Research property ownership data and legal documents. Update and maintain plat maps, utility maps, and aerial maps. Assist the general public with questions or requests. Provide technical support for Geographic Information Systems (GIS) and Global Positioning System (GPS). An employee in this classification is expected to perform their duties within predetermined procedures and policies.

Essential Functions:

1. Prepare construction plans for public works projects. Read plats, maps, and construction plans. Translate accumulated field data and engineering data into construction plans using standard drafting techniques and computer-aided-drafting system (CAD). Compute surveying and engineering mathematical problems. Analyze and recommend possible solutions to engineering problems.
2. Research property ownerships and legal documents. Investigate existing right-of-way and easements through documents located in the county courthouse or accessed through city and county computer records.
3. Update City plat maps by re-drawing right-of-way and easement information on both City plat maps and utility maps. Update utility plat sheets with locations of new facilities.
4. Maintain City's Standard Construction Details and Standard Specifications.
5. Organize and manage archived construction plans and documents.

6. Assist the public with questions or requests for information requested over the phone or in person. Answer questions, retrieves copies of plat sheets, city maps, aerial sheets, and any other prints required.
7. Create civil engineering methods and procedures through the use of computer-aided drafting and design and other technology.
8. Provide technical support utilizing GIS and CADD applications. Use 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 Department; research property ownership and employ other data available from the county's AIMS and OASIS systems; and involved in update of City plat maps. Keep current on software updates, and advise and assist Autocad and ArcMap users.
9. Develop and maintain the geographic information systems (GIS) – data bases utilizing applicable software and associated data sources.
10. Perform technical functions and updates to records with the GIS system, for electrical, sanitary sewer, storm sewer, street, and water departments.
11. Design drawings and maintain records of drawings.
12. Create output from GIS system including published maps for arc reader, drawings, plots, exporting data for BPW/City Departments, contractors, utilities and government agencies.
13. Coordinate data collection to ensure that proper data is collected and in the correct format.
14. Perform routine engineering design and mapping.
15. Prepare drawings for existing infrastructure and proposed construction of sanitary sewer, streets, and water mains, consisting of cover sheet, cross sections sheet plan, and profile sheet, detail sheets, using the City Engineer's design for projects.
16. Maintain all City maps.
17. Assist the public with utility information and/or directing them to proper location in the City/BPW.
18. Compute curves, elevations, and grades; make sketches; draw maps and plot cross-sections and earthwork; coordinate and update maps.
19. Research utility information; prepare and maintain a variety of status reports and records.
20. Perform a variety of drafting functions including the update of topographical maps, construction drawings, and facility location.
21. Review aerial photos, locate property corners, and research legal descriptions.

22. Provide recommendations to City Engineer regarding budget items, upgrading equipment/software, and project changes.
 23. Keep confidential information confidential.
 24. Work the days and hours necessary to perform all assigned responsibilities and tasks. Must be available to communicate with subordinates, supervisors, customers, vendors and any other persons or organizations with whom interaction is required to accomplish work and employer goals.
 25. 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.
 26. Perform other work which is consistent with the essential functions of the job.
 27. Perform other duties as assigned.
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Education and Special License(s)/Certifications:

High School Diploma or equivalent and five (5) years of experience as an Engineering Technician required OR an associates degree in the area of civil engineering, computer aided drafting, construction technology, surveying, or related field plus two (2) years of experience as an engineering technician, OR equivalent combination of experience and education.

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

Must possess a valid driver's license and maintain an insurable driving record.

Experience:

Two (2) years of engineering support, drafting (manual and CAD), construction management, and/or surveying experience. (Breaks in service of no more than ninety (90) days shall be considered *de minimus* and shall not be considered in calculating the consecutive years.)

Thorough knowledge of the principles and practices of civil engineering as they relate to the public works and utilities engineering projects.

Skills:

1. CAD skills.
2. Manual drafting skills.
3. Computer operation skills.
4. Good oral and written communication skills for working within the office and with the general public.
5. Knowledge of the routine principles, practices, equipment and materials used in technical civil engineering and line and computerized drafting.

6. Knowledge of the routine principles, practices, used in the operation of Computer Aided Design software.
 7. Ability to learn micro-computer systems and related peripheral devices.
 8. Ability to perform accurate engineering mathematical calculations.
 9. Ability to establish and maintain effective working relationships with city officials, other governmental agencies, superiors, coworkers, contractors, and the general public.
 10. Knowledge of drafting methods and instruments.
 11. Ability to draft maps and plot cross-sections.
 12. Considerable knowledge of the use of Auto-Cad, spreadsheets, word-processing, and database.
 13. Project management skills.
 14. Time management skills.
 15. Organizational skills.
 16. Good listening skills.
 17. Ability to work in office-cubical environment.
 18. PC computer skills. (Windows-based word processing and spreadsheet software skills).
 19. Manual dexterity.
 20. Reading.
 21. Good customer/public relations.
 22. Ability to work independently.
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Mental Requirements:

1. Ability to read plat sheets and maps.
2. Ability to read and comprehend City codes.
3. Ability to analyze complex problems (drainage, OP Flood Warning System) and recommend possible solutions.
4. Exhibit diplomacy and judgment when working with citizens, contractors, or other public officials.
5. Ability to understand computer commands and generated reports.
6. Ability to compute mathematical calculations used in surveying and measuring.
7. Ability to translate accumulated field data and engineering information into legible construction plans.
8. Ability to work on several projects at once.
9. Diplomacy and judgment.
10. Mechanical aptitude.
11. Ability to organize files and retrieve data effectively.
12. Ability to learn and understand PC software applications.
13. Alpha and numeric recognition.
14. Ability to prioritize work.
15. Logical reasoning.
16. Patience.
17. Ability to carry out assignments through oral and written instructions.
18. Concentration.
19. Ability to compute basic math computations.
20. Ability to work under distracting conditions.
21. Ability to exhibit tact, diplomacy, and judgment when dealing with co-workers, other City employees, and external contacts.

22. Ability to analyze complex problems and recommend possible solutions.
 23. Ability to multi-task.
 24. Ability to work under pressure.
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Physical Requirements:

1. Hand/eye coordination adequate 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 visually review maps, plans, and plats.
 8. Visual stamina and acuity to review maps, plans, and plats.
 9. Ability to operate print machine, plotter, and other drafting equipment.
 10. Ability to operate City vehicles.
 11. Ability to make and receive phone calls.
 12. Hand/eye coordination adequate to input computer.
 13. Ability to sit and be attentive for extended periods of time.
 14. Ability to lift 20 pounds and transport 20 feet.
 15. Visual stamina and acuity adequate to review alpha/numeric data and spend long periods looking at computer screen.
 16. Ability to operate basic office machines such as copy machine, computer, calculator, fax machine, cash register, etc.
 17. Hand and eye coordination adequate to input computer data and operate various office equipment.
 18. Ability to sit and be attentive for extended periods of time.
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Supervisory Responsibility (Direct and Indirect):

None

Disclaimer:

This job description is intended to convey information essential to understanding the scope of the job and the general nature and level of work performed for individuals with this job title. However, this job description is not intended to be an exhaustive list of all qualifications, skills, efforts, duties, responsibilities, or working conditions associated with the position.

Approved:

Tobias J. Tempelmeyer, City Administrator

December 8, 2016