CLASS SPECIFICATION
Senior GIS Analyst

GENERAL PURPOSE

Under direction, performs a variety of highly complex professional duties in the development, analysis, enhancement, administration and maintenance of the City's geographic information system; and performs related duties as assigned.

DISTINGUISHING CHARACTERISTICS

Senior GIS Analyst is responsible for independently performing highly complex professional assignments in the development, analysis, administration and maintenance of City GIS applications, tools and utilities to support departmental planning and decision-making needs, operational productivity goals and customer service requirements.

Senior GIS Analyst is distinguished from GIS Specialist in that an incumbent in the former class performs complex GIS system development and maintenance duties requiring the application of advanced GIS principles and theories.

ESSENTIAL DUTIES AND RESPONSIBILITIES

The duties listed below are intended only as illustrations of the various types of work that may be performed. The omission of specific statements of duties does not exclude them from the position if the work is similar, related or a logical assignment to this class.

1. Analyzes, develops, implements and maintains processes for enhancing the utilization of geographic information system technologies to support engineering, land development, research, facilities management and other business and customer service functions and models within assigned departments and to support GIS program initiatives and activities throughout the City.

2. Designs, develops, tests, installs, enhances and maintains GIS applications, scripts, tools and utilities to deliver GIS products and services consistent with the City's GIS strategic plan; plans, oversees and controls GIS data collection activities; develops logic and writes complex programs, using applicable programming languages, to convert and associate facilities and attribute data; coordinates data conversion processes; writes scripts to perform quality control and assurance testing on applications and data; ensures the accuracy and reliability of GIS products and services in accordance with established standards; writes user and system documentation; creates and produces hard copy and digital maps.

3. Creates, updates, administers and maintains City and County zoning, general plan and land use GIS database layers, tables and map products; troubleshoots and resolves applications and database problems; updates and maintains GIS applications and data layers on the City's intranet and internet sites; edits attribute tables and performs field calculations using queries and standard mathematical functions; develops and installs custom GIS applications to ensure query capabilities and data

manipulation access to GIS database layers; prepares and maintains database layer and metadata documentation.

4. Serves as project leader for GIS projects for various City departments; meets with City and department staff to identify GIS needs and objectives and researches and makes recommendations as appropriate; provides applications support to automated mapping, drafting and facilities management applications and databases; designs and programs linkages to transfer and integrate cadastral and GIS mapping data.

5. Identifies system/network problems and proposes solutions; recommends new or modified applications and systems expansion to meet departmental user needs; evaluates new hardware and software required to support system enhancements; develops and presents support for new enhancement requests, including evaluation of alternatives and cost benefit analyses.

OTHER DUTIES

1. Provides training to City and department staff on the use of City GIS systems and applications; prepares system operation procedures and training materials.

2. May provide technical work direction and guidance to other GIS staff.

QUALIFICATIONS

Knowledge of:

1. Geographic information system concepts, principles, development tools and analytical techniques, including computerized mapping and attribute-data conversion, manipulation and analysis.

2. Principles, practices and methods of GIS design and administration.

3. Principles, practices and techniques of mapping and computer-aided design and drafting.

4. Civil engineering design concepts, methods and terminology applicable to the display of spatial relationships of facilities data.

5. Advanced analytical techniques using computer science and GIS technology.

6. Basic principles and practices of systems and network administration.

7. Drafting/mapping peripheral equipment operations.

8. Global positioning system concepts and analytical techniques.

9. Methods and techniques of project management.

10. Systems analysis methods and techniques applicable to GIS applications development.

11. Structure and operations of cadastral applications.

Ability to:

1. Plan, organize and complete complex relational database projects efficiently to meet user needs in a timely manner.
2. Assess GIS user needs, identify engineering-related geo-data and information management issues and opportunities, analyze problems and alternatives and develop sound conclusions and recommendations.
3. Set priorities and carry out assigned projects to most effectively meet needs in a timely manner.
4. Use City standard GIS or equivalent software as required in carrying out GIS development and data conversion assignments.
5. Develop and implement appropriate procedures and prepare accurate GIS products and services.
6. Communicate clearly and effectively, orally and in writing.
7. Prepare clear, concise and accurate documentation, project reports and other written materials.
8. Exercise sound independent judgment within established guidelines.
9. Establish and maintain effective working relationships with City and County management, staff, vendors and others encountered in the course of work.

Education, Training and Experience:

A typical way of obtaining the knowledge, skills and abilities outlined above is graduation from a four-year college or university with a major in GIS, civil engineering, computer science or a related field; and five years of increasingly responsible experience in the design, implementation and administration of geographical information systems; or an equivalent combination of training and experience.

Licenses; Certificates; Special Requirements:

A valid California driver's license and the ability to maintain insurability under the City's vehicle insurance policy.

PHYSICAL AND MENTAL DEMANDS

The physical and mental demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this class. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

Physical Demands

While performing the duties of this class, the employee is regularly required to sit; talk or hear, in person and by telephone; use hands to finger, handle, feel or operate computers and standard office equipment; and reach with hands or arms. The employee frequently is required to walk and stand.

Specific vision abilities required by this job include close vision, color vision and the ability to adjust focus.

Mental Demands

While performing the duties of this class, the employee is regularly required to use oral and written communication skills; read and interpret complex data, information and documents; analyze and solve problems; use math and mathematical reasoning; learn and apply new skills or information; perform highly detailed work on multiple, concurrent tasks; work under changing and intensive deadlines with frequent interruptions; and interact with City and County management, staff, vendors and others encountered in the course of work.

WORK ENVIRONMENT

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this class. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

The employee works under typical office conditions and the noise level is usually quiet.