GEOGRAPHIC INFORMATION SYSTEMS MANAGER

DEFINITION

Under general direction, plans, coordinates, and oversees the Countywide geographic information system (GIS) function; evaluates and personally participates in the creation, maintenance, and use of the GIS databases and applications; applies advanced knowledge of GIS and the principles of geography, cartography, and geospatial analysis to provide staff, external agencies, and the public with access to computerized information; ensures the expansion and maximization of GIS technology; and performs related duties as assigned.

SUPERVISION RECEIVED AND EXERCISED

Receives general direction from the County Surveyor. Exercises direct and general supervision over assigned staff.

CLASS CHARACTERISTICS

This is a management classification responsible for managing the GIS function, as well as providing expert support for GIS services within various other County departments, external agencies, and the general public. Successful performance of the work requires thorough knowledge and extensive experience with various technologies related to GIS, web- and cloud-based application development, remote sensing, and spatial database management systems, as well as skill in coordinating the work of the assigned function with other departments. Responsibilities include developing and implementing policies and procedures for assigned programs, budget administration and reporting, and program evaluation. Incumbents serve as a professional-level resource for organizational, managerial, and operational analyses and studies. Performance of the work requires the use of considerable independence, initiative, and discretion within established guidelines.

EXAMPLES OF TYPICAL JOB FUNCTIONS (Illustrative Only)

➢ Plans, organizes, assigns, coordinates, and reviews all activities of the County's GIS program, including coordinating with County departments, external agencies, and the public to identify, develop, and plan GIS projects and staffing needs.

➢ Plans, coordinates, and leads the implementation and usage of GIS technology and spatially-relatable data throughout the county, external agencies, and by the public; oversees and manages data maintenance and updating, data storage and distribution, and access to all users.

➢ Leads the development and implementation of goals, objectives, policies, and priorities for GIS including GIS data collection, storage, access, distribution policies, integration, and standard operating procedures; identifies resource needs.

➢ Plans, organizes, reviews, and evaluates the activities of assigned staff; recommends and implements disciplinary action as necessary; assists in the selection of staff and provides for their training and professional development.

➢ Manages and participates in the development and administration of the office's annual budget; provides a forecast of additional funds needed for staffing, equipment, materials, and supplies; monitors and approves expenditures; implements adjustments as necessary.

- Monitors operations and activities of the GIS program and changes in GIS technology and applications; recommends improvements and modifications; implements changes after approval.
- Works with elected officials and executive-level staff in the formulation of management policies concerning the compilation of information and the integration of data through the County's GIS function; coordinates and oversees the implementation of such policies.
- Plans, coordinates, and directs GIS data acquisition and maintenance projects in support of the County-wide GIS program.
- Researches, plans, and prepares County-wide and department GIS function plans, including researching and determining equipment and technology costs, reviewing GIS and related technology for implementation, reviewing industry GIS implementations and projects for comparison and possible integration into a County GIS plan, and acting as County representative in various County and regional GIS coordinating meetings.
- Develops and designs standards and technical specifications for County-wide GIS systems; coordinates with other GIS and information technology staff to develop information system solutions; designs technical GIS and data structures; plans and coordinates the development of desktop and mobile spatial applications for internal and external users; oversees the documentation by GIS staff to ensure record of proper use and limitations of data or products.
- Serves as a technical resource to all County departments, including providing assistance and training in the proper use of GIS data and systems and recommending, troubleshooting, and providing support for GIS software, databases, and other related applications; receives and responds to inquiries, requests for assistance, and complaints regarding office projects, policies, and procedures.
- Confers with and provides professional assistance to other agencies on GIS related matters; utilizes and leverages existing data from other agencies; receives and responds to data requests from other agencies and individuals.
- Attends meetings, conferences, workshops, and training sessions to become and remain current on principles, practices, and new developments related to GIS.
- Maintains accurate records and files related to the GIS function.
- Performs related duties as required.

QUALIFICATIONS

Knowledge of:

- Administrative principles and practices, including goal setting, program development, implementation, and evaluation.
- Principles and practices of employee supervision, including work planning and assignment, performance evaluation, and training.
- Advacned principles, theories, and methods of GIS technology, programming, and data management.
- Advacned principles and practices of the design, analysis, testing, and implementation of relational database management systems, geo-databases, and open source databases.
- Various procedures/commands related to Relational Database Management System (RDBMS) design, analysis, and programming.
- Advanced data management theory, principles, and practices and their application to a wide variety of services and programs.
- The function and role of developing and coordinating a broad-based GIS program with applications for County departments, public agencies, private clients, and the general public including ethical concerns related to the distribution and access of geospatial data.
- Advanced principles and practices of spatial technology, including geo-databases, feature classes, raster and image processing, remote sensing, LIDAR, and UAS/URV intergration.
- Advacned principles and practices of cartography, including scale, projection, and coordinate systems.

- Advanced principles and practices of Global Positioning System (GPS) and Global Navigation Satellite System field location and collection systems.
- Principles and practices of managing and interpreting big data for problem project analysis.
- Principles and practices of integrating disparate GIS technologies, such as aerial imagery, map, event, and feature services, open source GIS platforms, and ESRI based systems.
- Principles and practices of integrating GIS-based services with other enterprise applications and systems.
- Principles and practices of developing field and mobile data collection applications.
- Principles and practices of providing, consuming, and securing cloud and internet-based services.
- Technology, hardware and software, and current applications related to GIS systems, including database management, implementation, access, security, mapping, report generation, and desktop publishing systems.
- Principles and practices of identifying technology needs and issues, researching and evaluating technology and applications, and implementing solutions.
- Applicable federal, state, and local laws, regulatory codes, ordinances, and procedures including the California Public Records Act.
- Principles and practices of public agency budget control and contract administration.
- Recordkeeping principles and procedures; particularly, the requirements of technical reporting associated with planning programs.
- Principles and techniques for working with groups and fostering effective team interaction to ensure teamwork is conducted smoothly.
- Techniques for providing a high level of customer service by effectively dealing with the public, vendors, contractors, and County staff.
- The structure and content of the English language, including the meaning and spelling of words, rules of composition, and grammar.
- Modern equipment and communication tools used for business functions and program, project, and task coordination.
- Computers and software programs (e.g., Microsoft software packages) to conduct, compile, and/or generate documentation.

Ability to:

- Develop, implement, and interpret office goals, objectives, policies, procedures, and work standards.
- Supervise, train, assign, and review the work of staff.
- Organize, implement, and direct GIS programs; determine work priorities and effectively coordinate and schedule resources and staff to perform activities and projects.
- Analyze, understand, interpret, apply, and ensure compliance with applicable federal, state, and local policies, procedures, laws, and regulations.
- Identify problems, research and analyze relevant information, and develop and present recommendations and justification for solution.
- Perform complex modeling, mapping, database maintenance, and other GIS professional-level tasks.
- Interpret and understand data in various forms, including GIS files, Autocad drawing files, database files, event signals, images and associated metadata, as well as printed maps of various types and sources.
- Prepare clear and concise reports, correspondence, procedures, and other written material.
- Establish and maintain a variety of manual and computerized reports, logs, records, and files of work performed.
- Effectively represent the office and the County in meetings with governmental agencies; community groups; various business, professional, and regulatory organizations; and in meetings with individuals.
- Independently organize work, set priorities, meet critical deadlines, and follow-up on assignments.

- ➢ Effectively use computer systems, software applications, and modern business equipment to perform a variety of work tasks.
- ➢ Communicate clearly and concisely, both orally and in writing, using appropriate English grammar and syntax.
- ➢ Use tact, initiative, prudence, and independent judgment within general policy, procedural, and legal guidelines.
- ➢ Establish, maintain, and foster positive and effective working relationships with those contacted in the course of work.

Education and Experience:
Any combination of the required experience, education, and training that would provide the essential knowledge, skills, and abilities is qualifying.

Equivalent to a bachelor's degree from an accredited four-year college or university with major coursework in geographic information systems, computer science, geography, public or business administration, or a closely related field;

AND

Two (2) years of increasingly responsible experience at a level equivalent to the County's class of Sr. Geographic Information Systems Analyst, including including two (2) years of lead or supervisory experience.

Licenses and Certifications:

- ➢ Possession of, or ability to obtain, a valid California Driver's License by time of appointment and a satisfactory driving record.

PHYSICAL DEMANDS

Must possess mobility to work in a standard office setting and use standard office equipment, including a computer; vision to read printed materials and a computer screen; and hearing and speech to communicate in person, before groups, and over the telephone. This is primarily a sedentary office classification although standing and walking between work areas may be required. Finger dexterity is needed to access, enter, and retrieve data using a computer keyboard or calculator and to operate standard office equipment. Positions in this classification occasionally bend, stoop, kneel, reach, push, and pull drawers open and closed to retrieve and file information. Reasonable accommodations will be made for individuals on a case-by-case basis.

ENVIRONMENTAL CONDITIONS

Employees work in an office environment with moderate noise levels, controlled temperature conditions, and no direct exposure to hazardous physical substances. Employees may interact with members of the public or with staff under emotionally stressful conditions while interpreting and enforcing departmental policies and procedures.