

CITY OF BELLINGHAM

JOB DESCRIPTION

JOB TITLE:	Public Works Senior GIS Analyst	UNION: 231
CLASS TITLE:	GIS Analyst, Senior	SG:S-9
DEPARTMENT:	Public Works	CS:N
		FLSA:N
		EEO4CODE:PR

JOB SUMMARY:

Performs a wide variety of advanced process and analysis functions to develop the City's geographic information system (GIS) and is responsible for its operation, administration and information quality and integrity. This position provides technical consultation to a wide range of technical and non-technical employees using the GIS to compile reports and studies. The Public Works Senior GIS Analyst is responsible for documentation and ensures the integrity and security of the data stored in the GIS and related/integrated databases.

SUPERVISORY RELATIONSHIP:

Reports to the GIS/Technical Services Manager. Provides technical leadership and direction to other GIS staff. Works independently in performing duties. Works under applicable City and departmental policies, procedures, protocols and technical standards.

ESSENTIAL FUNCTIONS OF THE JOB:

1. Assists the GIS/Technical Services Manager in the coordination of GIS projects including analyzing requirements, scheduling work, and reviewing the work of others.
2. Designs, prepares and coordinates logical data models, definition structures, standards, procedures and documentation for the GIS and related/integrated systems or software applications.
3. Designs and administers the GIS spatial database using Oracle and ESRI/SDE.
4. Develops and administers Intranet/Internet mapping and related business information systems using ESRI/ArcIMS.
5. Coordinates and administers the City's GIS software licensing to ensure proper deployment and optimal license utilization.
6. Develops GIS software and hardware specifications and technical documentation. Administers software updates and configurations settings to ensure optimum system performance.
7. Performs needs and system analysis for GIS and related business applications. Creates system/application development, quality assurance and implementation plans based on the analysis.

8. Develops and maintains a system of data quality standards and assists others in understanding and using data quality assurance methods. Ensures accuracy, integrity, security and completeness of data files and various support tools such as data dictionaries.
9. Designs and develops GIS and related application procedures and programs as required; tests procedures and programs to ensure that desired results are achieved; makes necessary changes to correct deficiencies. Researches and provides recommendations on application development software, add-ins and components.
10. Responsible for integrating a variety of databases into a central database for use in the GIS system. Defines, develops, modifies and maintains databases and files to support GIS software application programs. Assists others in identifying database requirements and develops standards for technical implementation. Develops and maintains an applications dictionary. Coordinates and develops procedures for data and map integration.
11. Provides City-wide GIS consultation regarding the use, development and integration of the GIS system. Works as a team member in the coordination and consultation of large analysis and system implementation projects. Assists engineers and planners with utility, transportation, and environmental modeling.
12. Coordinates and oversees GIS system development, administration and/or mapping contracts with outside vendors and consultants.
13. Performs advanced GIS analytical and geoprocessing functions including input, editing, manipulation management, analysis and output of spatial and tabular data sets. Coordinates data and map integration and troubleshoots hardware and software problems.

ADDITIONAL WORK PERFORMED:

1. Performs related duties within the scope of the classification.

PERFORMANCE REQUIREMENTS (Knowledge, Skills, and Abilities):

Interpersonal and Communication:

- Excellent interpersonal skills for establishing and maintaining effective working relationships with clients, vendors and associates.
- Skill in working both as a member of a team and as a project leader.
- Skill in writing in clear, concise language to produce reports and other required documentation.
- Good oral communication skills, including good listening skills, to communicate with technical and non-technical internal clients.
- Working knowledge of the functions of City departments, office operations and interdepartmental working relationships.

Technical Competencies:

- Demonstrated skill in operating, installing and maintaining GIS hardware, software and related peripheral equipment as required to accomplish assigned duties.
- Working knowledge of advanced GIS concepts, geoprocessing functions and techniques, and spatial database management procedures. Comprehensive working knowledge of database concepts.
- Skill in using ESRI GIS software including ArcInfo and ArcView for analysis and mapping.

- Demonstrated knowledge of GIS programming and scripting languages such as AML, Visual Basic, .NET & Python.
- Knowledge of operating systems (Windows 2000/XP, Linux, UNIX), products and concepts involved in the operation of desktop and miniframe computers.
- Strong knowledge of the Structured Query Language (SQL) and its applications with GIS analysis and application development.
- Knowledge of Oracle DBMS and ESRI ArcSDE Spatial Data Server administration.
- Knowledge of ESRI ArcIMS Internet mapping design and administration.
- Knowledge of web programming, markup and development languages such as HTML, XML, ASP, Perl, & PHP.
- Demonstrated knowledge of GIS database design (geodatabase) including the use of CASE tools and database modeling using UML.
- Strong knowledge of GIS application design concepts, procedures and techniques. Working knowledge of GIS application design tools such as Visual Basic, Map Objects and ArcObjects.

Problem Solving:

- Demonstrated ability at combining knowledge of GIS databases and software along with common sense and insight in solving problems and making decisions.
- Ability to systematically identify and analyze the important dimensions of a problem, determining potential causes, obtaining relevant information, and specifying alternate solutions, then carrying out solutions or referring to the appropriate authority.

Organization and Management:

- Good planning, organizing, decision making and time management skills.
- Working knowledge of principles and procedures of project coordination.
- Skilled at working independently under pressure and with minimal supervision to solve problems and meet deadlines.

WORKING ENVIRONMENT:

Work is performed in an office environment at a computer workstation.

EXPERIENCE AND TRAINING REQUIREMENTS:

- Bachelor's degree with coursework in cartography, civil engineering, geography, GIS, or related field.
- Four (4) years of GIS experience, at least 2 years of which was in a Public Works environment or performing equivalent work.
- Working knowledge of enterprise relational database products such as Oracle, SQL Server, Informix or DB2.
- A combination of experience and training that provides the applicant with the knowledge and skills to perform the work will be considered.

PREPARED BY: D. Burdick
L. McGowan-Smith
11/02

REVIEWED BY: _____
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Asst. Director, Public Works
Operations

REVISED BY: D. Burdick/M. Bishop

REVIEWED BY: _____

L. McGowan-Smith
2/05

Richard E. McKinley, Director
Public Works

JOINT CLASSIFICATION COMMITTEE ADOPTION: March 22, 2005