CLASS SPECIFICATION
Mapping Data Technician II

FLSA Status: Covered
Union Representation: City of Portland Professional Employees Association (COPPEA)

GENERAL PURPOSE

Under direction, performs advanced, specialized computer mapping assignments to process electronic survey data to a finished format for use in a engineering design group; designs horizontal survey control networks using GPS technology; maintains electronic data in a retrievable file format structure for archiving and easy retrieval; implement new data collection procedures and assist in testing and programming of new software and performs related duties as assigned.

DISTINGUISHING CHARACTERISTICS

Mapping Data Technician II is the advanced journey-level class in the Mapping Data Technician Series. Incumbents lead the work of lower-level technical personnel and perform the more difficult and complex mapping and data processing tasks using independent judgment and specialized technical knowledge. Incumbents produce complex survey base maps and 3-D computer mapping files, translate data into different formats, implement new data collection procedures, and assist in programming of new software. Completed work is reviewed in terms of compatibility with requirements, effectiveness and expected results.

Mapping Data Technician classifications are distinguished from engineering, CAD and GIS technician classifications in that incumbents in the former class have greater responsibility for coordinating and translating the flow of data between the survey and engineering, GIS and CAD teams.

ESSENTIAL DUTIES AND RESPONSIBILITIES

Any one position in this class may not perform all the duties listed below, nor do the listed examples of duties include all similar and related duties that may be assigned to this class.

1. Provides day-to-day leadership and works with staff to ensure a high-performance, customer service-oriented work environment that supports achieving the unit's mission, objectives and values; applies process improvement principles to assigned areas of responsibility.

2. Processes raw survey field data into complex survey base maps and 3-D computer mapping files; prepares, develops, edits and revises base maps; reconciles datum differences and imports-exports data layers; combines survey data, GIS data, as-built utility data to prepare 3D base maps in various formats such as CAiCE, AUTOCAD, INROADS SURVEY, and Microstation on PC workstations.

3. Builds complex staking files from alignments, profiles, super elevation tables and widening tables. Compiles information from various CAD programs into one useable plan for staff, contractors and other agencies.

4. Develops and maintains programs, systems and routines to assist field staff in the efficient staking out of proposed features; designs, plans, and processes Geographical Positioning System (GPS) observations into final coordinate values for use as survey control; develops models of proposed features from construction plans and organizes these features into a set of staking routines; imports GPS reference points and establishes and orients data used for project control.

5. Builds and maintains survey data file archives.

6. Assists in the programming, testing and troubleshooting of new software; contributes to the writing of specification requirements; installs hardware and software updates; maintains technical manuals; serves as technical resource for other staff on difficult CAD database and application issues.

7. Works with consultants to coordinate file and data transfers, reviews process design plans and requests additional information as needed.

8. Provides training and ongoing education to bureau and work group staff in application usage, mapping, work order and as-built interpretation, records processes and process improvements or changes. Coordinates and leads data conversion and process improvement initiatives.

MINIMUM QUALIFICATIONS

Knowledge of:

1. GPS applications and control networks.

2. Terminology, methods and techniques used in surveying base maps and records.

3. Mathematics used in plane and geodetic surveying, including state plane coordinates used for surveying and mapping.

4. Use of word processing, spreadsheet and database software.

5. File structures, network neighborhoods and specific software such as GIS, AUTOCAD, MICROSTATION, FORESITE, CAiCE, INROADS SURVEY, and other related PC workstation software, tools and applications.

6. State and local surveying laws.

7. Construction practices for bridges streets, sewers and other complex projects including plan interpretation.

8. Set up and use of modern surveying instruments such as electronic theodolites, GPS systems, total stations, and electronic levels and data collectors.

9. Principles and practices of project management and evaluation.

10. City operating policies and departmental work procedures and quality standards.

Ability to:

1. Acquire, compile, and organize complex survey data sets.

2. Assign work, provide technical guidance and advice, and train survey personnel in data collection standards and stakeout applications.

3. Conduct field investigations and inspections; collect field data and analyze and make recommendations regarding data.

4. Operate a computer and use a variety of programs; maintain technical files both electronic and manual; utilize specialized engineering, drafting, measuring, surveying, or electronic tools, materials and equipment.

5. Read and interpret various kinds of maps, and engineering drawings, construction plans, and other technical materials and documents, such as specifications, engineering manuals, surveying tables, computer manuals, trade journals, equipment instruction manuals, state and federal guidelines.

6. Clearly present technical information in oral, written, graphic or other forms;

7. Perform detailed work thoroughly, neatly, accurately, timely and efficiently.

8. Establish and maintain effective working relationships with bureau management, consultants, technical support personnel and staff.

9. Implement new field procedures and assist in programming new software.

Training and Experience:

A typical way of obtaining the knowledge, skills and abilities outlined above is graduation from high school, trade, or vocational school, supplemented by courses in engineering technology; and four years of progressively responsible engineering, GIS, CAD, or surveying technician experience; or an equivalent combination of training and experience. Experience in a public agency is preferred.

Licenses; Certificates; Special Requirements:

A valid state driver's license may be required for certain assignments.

PHYSICAL AND MENTAL DEMANDS

Persons with disabilities may be able to perform the essential duties of this class with reasonable accommodation. Reasonable accommodation will be evaluated on an individual basis and depend, in part, on the specific requirements for the job, the limitations related to disability and the ability of the hiring bureau to accommodate the limitation.

Class History:

Adopted: 07/01/08
June 2009 - Change Job Class number from 6045 to 30000978, due to system change.