

STATE OF SOUTH DAKOTA CLASS SPECIFICATION

Class Title: Cartographer

Class Code: 40437

Pay Grade: GG

A. Purpose:

Plans, compiles, designs, and produces city, county, state, and special-request maps and charts to provide information for planning, engineering, administration, and public distribution.

B. Distinguishing Feature:

Cartographers research, compile, and enter data into a specialized system to produce maps through automated mapping.

Chief Cartographers plan, implement, and provide cartographic and graphic design services.

C. Functions:

(These are examples only; any one position may not include all of the listed examples nor do the listed examples include all functions which may be found in positions of this class.)

1. Establishes a base map to create the foundation for a new map.
 - a. Merges quadrangles from United States Geological Survey (USGS) map.
 - b. Deletes unnecessary areas of quadrangles (delineates).
 - c. Sets control points using latitude and longitude coordinates to position the map properly with respect to the world.
 - d. Sets the map's scale.
2. Develops design files to incorporate the area's hydrology and drainage, culture, and roads into a new map.
 - a. Digitizes roads and section lines.
 - b. Sets forest, park, state, and federal land boundaries.
 - c. Sets city limits.
 - d. Locates principal water features.
 - i. Names each body of water.
 - ii. Refers to manuals, other maps, other agencies and personnel to verify names of waterways.
 - e. Locates stock dams, reservoirs, and wetlands.
 - f. Researches road inventory maps and data to compile culture information and places area culture such as farms, bridges, schools, etc., in the correct locations on the map.
3. Plots maps to produce paper copies.
 - a. Runs a checkplot (draft) for management review and incorporates recommended changes.
 - b. Programs plotter software to produce desired results and queues to appropriate plotter.
4. Updates maps to ensure current cartographic information is available to managers.
 - a. Accesses map files and makes changes.
 - b. Plots and publishes final copies.
5. Provides map-making and other graphic design services to other agencies and the public.
 - a. Evaluates requestors' projects.

b. Makes recommendations whether or not to proceed.

6. Performs other work as assigned.

D. Reporting Relationships:

Reports to a Program Manager. Does not supervise.

E. Challenges and Problems:

Challenged to learn and maintain mapping standards and determine the most effective way to apply those standards to assigned projects. This is difficult because there is an extensive number of standards.

Problems include setting up and aligning data in the coordinate system, devising ways to present mapping information, and learning to use all aspects of computer aided drafting (CADD).

F. Decision-making Authority:

Decides whether or not to update maps by reviewing inventory data against present maps, sizes and style of lettering and features on hand-produced and CADD-produced drawings, which quadrangles to draw from USGS maps, how maps should be plotted, and how many maps to publish.

Decisions referred include final approval of maps, whether to do special projects, and whether map appearance meets department requirements and is consistent with mapping standards.

G. Contact with Others:

Daily contact with departmental staff to review and discuss road inventory data; and monthly with project engineers to receive information on construction projects to be included in the construction map.

H. Working Conditions:

Typical office environment.

I. Knowledge, Skills, and Abilities:

Knowledge of:

- the principles and techniques of cartography;
- computer mapping and cartographic design;
- state and federal mapping procedures and guidelines.

Ability to:

- prepare maps, graphs, and charts using automated mapping;
- establish working relationships with coworkers.