

CARTOGRAPHIC PROGRAM SPECIALIST

3121

GENERAL DESCRIPTION OF CLASS

The CARTOGRAPHIC PROGRAM SPECIALIST provides ongoing specialized cartographic program direction for the Tax District Boundary Changes Program, the County Cartographic Liaison Program and other cartographic units by exercising quality control over maps prepared by county and other non-state employees and various cartographic units and having authority to accept or reject the work of the cartographic staff or other personnel.

DISTINGUISHING FEATURES

This is the fifth level of a five-level series. It is distinguished from the lower levels by the program and lead cartographer responsibilities. Positions in this class function with a high degree of independence within established statutory and agency guidelines. Positions in this class have significant regulatory impact but are expected to provide a strong advisory role to prevent adversarial confrontations between their agencies and user of services provided. The employee provides advice, instruction and information to local government and agency staff regarding new cartographic technologies, rules, and statute revisions.

DUTIES AND RESPONSIBILITIES

- 1.Program Analysis.** Typical tasks: analyzes map systems and maintenance programs for technical accuracy and conformance to statewide standards and statutory and common laws; analyzes map records maintenance systems, staffing needs, and cartographic procedural needs; reports findings and makes recommendations for improving accuracy and efficiency and correcting deficiencies to agency management, county cartographers, county assessors, county clerks, and county commissioners and other cooperators; explains and instructs on use of the mapping manual and provides input and recommendations for manual.
- 2.Mapping.** Typical tasks: using various methods, interprets and plots descriptions and details from existing records, deeds, surveys, plats, highway and railroad right-of-way maps, aerial photographs, powerline drawings and other map sources to construct complex maps such as base control maps, cadastral maps and specialized maps from beginning to finalization; plots detail such as section, subdivision, and survey corners, railroads, roads and highways, highway and railroad right-of-ways, intersections, government and private surveys, section line grids including patented mining claims and donation land claims, unsurveyed waterways, bodies of water, and roads; uses photogrammetric methods, power transmission line drawings, metes and bounds descriptions, boundaries such as city limits, rural fire protection districts, taxing districts, school districts, townships, riparian, property, and geographic features such as mountains, coastlines, rivers, creeks, and lakes to construct maps; converts maps to different scales; assigns parcel numbers and property description numbers; computes control and grid systems necessary for establishing the base control system on a map; computes perimeters such as timber type and other forested areas or patented mining claims; computes acreages using standard geometric calculations or by using either the Double Meridian Distance Method commonly employed by surveyors or multiplication of two sides of a rectangular-shaped parcel with right angles and divided by the square footage of one acre, or determines acreages for irregular shaped or unsurveyed parcels with the use of a planimeter; may prepare charts, graphs, and other graphics as required.

- 3.Systems Maintenance.** Typical tasks: analyzes, develops, and improves software programs, hardware systems, and information processes for cartographic data collection and processing using assessment records and maps as a base for the operation of the Computerized Assisted Mapping System; coordinates activities, procedures and work of cartographers operating a Computerized Assisted Mapping System.
- 4.Research Activities.** Typical tasks: conducts in-house and field research on mapping and survey problems and ownership problems of real estate, land, estuaries, harbors and rivers for assessors, county courts, county surveyors and taxpayers; researches the application of tax, real estate and riparian laws to specific mapping problems; coordinates survey team to establish triangulation points and resolve property boundary problems; may write and administer aerial photo and mapping contracts and prepare cooperative agreements.
- 5.Training.** Typical tasks: instructs less experienced State and County cartographers in mapping procedures, mapping standards, new mapping methods, riparian laws, operation of Computerized Assisted Mapping System, interpretation of photogrammetry, real estate laws, including deeds, contracts, and court orders; edits and reviews maps and records of less experienced cartographers for accuracy, quality, and conformance to State mapping standards; provides personalized training to cartographers in areas of deficiencies.

RELATIONSHIPS WITH OTHERS

Employees in this class are in contact weekly by telephone or in-person with personnel such as cartographers, county clerks, county assessors, and county commissioners and with other agencies to exchange information about deeds, surveys, roads, zones, boundaries, maps, and mapping standards, and to provide an analysis of recommendations for improvement and compliance on mapping standards and records maintenance. Employees are in contact monthly by telephone or in person with other State and Federal agencies such as the State Highway Department, United States Forest Service and Bureau of Land Management to obtain information such as ownership of lands, status of road construction, and official boundaries. Employees are in contact monthly by telephone with title companies to obtain or clarify information pertaining to problems, ownership, or transfer of property titles, and with surveyors to obtain or clarify information pertaining to surveys they have done. Employees are in contact weekly with private companies, the public and other agencies to provide information concerning availability and cost of maps and aerial photography; and with the public to provide information such as location of property boundaries and how to locate these boundaries, types of deeds needed to convey property and who should prepare these documents, the options that are available to resolve boundary disputes, procedures needed to research chains of title, road dedications, and vacation ordinances.

SUPERVISION RECEIVED

Employees in this class receive general supervision, usually by a manager or administrative superior. Completed maps are reviewed for accuracy, quality, soundness of judgment, and compliance with established mapping standards. Production and project schedules are reviewed as needed to track project deadlines and project phases.

KNOWLEDGE, SKILLS, AND ABILITIES (KSA)

Extensive knowledge of land recording systems, ownership abstracts, deed conveyances, instruments involving transfers of interest, surveying and real property laws and statutes for research and mapping purposes

Extensive knowledge of riparian rights and laws.

Extensive knowledge of geographic coordinate systems.

Extensive knowledge of cartographic procedures, concepts and standards.

Extensive knowledge of drafting and survey terms and techniques.

Extensive knowledge of mathematics such as plane geometry and algebra.

General knowledge of computer systems and programming needed.

General knowledge of surveying regulations regarding making an analysis of recorded surveys.

Skill in extracting information for research purposes.

Skill in translating raw data into a graphic product.

Skill in researching information needed for mapping .

Skill in performing photogrammetric work using stereoscopic and reflective overhead projection equipment used to plot planimetric detail such as highways and road, township boundaries and drainage systems from aerial photographs.

Skill in maintaining manual and computerized records of maps and property documents.

Skill in reading, interpreting, and applying field survey notes to mapping detail.

Skill in reading property documents such as deeds, surveys, legal descriptions, and identifying discrepancies.

Skill in interpreting aerial photos.

Skill in computing acreages, coordinates, perimeters, traverses, control and grid systems using a calculator and planimeter.

Skill in reading a map.

Skill in the use of drafting tools such as pens, straightedges, scales, Leroy type lettering set.

Skill in understanding and interpreting ambiguous property documents.

Ability to read, understand and apply State laws pertaining to mapping and land ownerships.

Ability to evaluate and analyze county or other mapping programs and records maintenance systems for technical accuracy and compliance to standards.

Ability to provide credible recommendations on improvements and methods for correcting deficiencies in county or other mapping programs and records maintenance systems.

Ability to maintain good relationships with county personnel, other agencies, and the public.

Ability to decide upon an appropriate course of action for cartographic problems not covered by agency guidelines.

Ability to determine cost estimates for mapping projects and aerial photo projects.

Ability to train less skilled cartographers in mapping techniques, methods and standards.

Ability to write technical reports on mapping issues.

Ability to coordinate phases of mapping projects.

Ability to perform regularly scheduled field trips within a designated

region, over direct authority of, and as direct liaison, for the Mapping Unit Manager, for the purpose of conducting a regular review of assessment maps and map record systems.

Ability to write specifications and prepare documentation for acquisition of computerized mapping system hardware and software (RFP). Involves interdepartmental coordination with Executive Department Data Systems Division and Department of General Services. Evaluation of Proposals submitted by software/hardware vendors.

Ability to perform supervision of cartographic staff in the absence of regular management.

Ability to review work of lower level cartographers for accuracy, quality, and conformance to State mapping standards.

Ability to work independently with division compliance team when conducting compliance studies.

NOTE: The KNOWLEDGE and SKILLS are required for initial consideration. ABILITIES may be required for initial consideration, at any time during the selection process, or during a trial service period as a final stage of the selection process. Some duties performed by positions in this class may require different KSA's. No attempt is made to describe every KSA required for **all** positions in this class. Additional KSA requirements will be explained on the recruiting announcement.

Adopted 1/90

Revised

Examples of work are typical of duties assigned to this class. No attempt is made to describe every duty performed by all positions in this class.