

# Transportation Surveyor (Caltrans) Series

## California State Personnel Board Specification

Series established December 8, 1999

### Scope

This series specification describes the Land Surveyor classes used within the Department of Transportation (Caltrans). These classes are used for positions that are assigned technical responsibilities of land surveying. Land surveying includes surveying conducted in the field and office in addition to specialized activities such as photogrammetry and right of way engineering.

Transportation Surveyor (Caltrans) Series Specification - Class Titles and Codes

<b>Schem Code</b>	<b>Class Code</b>	<b>Class</b>
GA20	3029	Transportation Surveyor (Caltrans)
GA15	3030	Transportation Surveyor Party Chief (Caltrans)
GA10	3031	Senior Transportation Surveyor (Caltrans)
GA05	3032	Supervising Transportation Surveyor (Caltrans)

### Definition of Series

This series is available for use within Caltrans. Incumbents determine and establish boundaries of State-owned lands; establish high-order vertical and horizontal control; provide photogrammetric mapping and topography; prepare and record maps; plan and direct the work of a staff in field surveys or office assignments; make technical studies and investigations pertaining to land or engineering surveying, property titles, descriptions, and deeds; write memoranda and prepare reports; and do other related work.

### Entry Level

Entry into this series is typically through the class of Transportation Surveyor (Caltrans). The class of Transportation Surveyor (Caltrans) is the entrance level for both college graduates and surveyors possessing a land surveying in-training certificate.

### Factors Affecting Position Allocation

Exercise of responsible charge for Land Surveyors as defined by the Land Surveyors' Act, supervisory control exercised, and administrative direction exercised over other positions.

## **Definition of Levels**

### **Transportation Surveyor (Caltrans)**

This is the entry, first working, and journey level of professional surveying work in Caltrans. Under the direction of a licensed land surveyor, incumbents perform a wide variety of professional land surveying work in either an office or field setting; as incumbents progress in experience, they will be assigned more difficult work and may function as a lead person over the activities of various surveying and technical personnel in the office or field. At the journey level and with a license, the incumbent will work in a responsible charge capacity.

### **Transportation Surveyor Party Chief (Caltrans)**

This is the first professional qualified supervisory level requiring licensing as a land surveyor. As a survey party chief over field crews, incumbents are assigned administrative supervision of professional and technical staff. Incumbents also perform a wide variety of difficult and complex professional surveying work and exercise independent professional judgment in responsible charge assignments.

### **Senior Transportation Surveyor (Caltrans)**

Under general direction (1) as a first line supervisor, to have charge of varied and difficult transportation surveying work in the office involving the supervision of surveyors and others engaged in transportation surveying activities; or (2) as a first and/or second line supervisor, to have charge of several survey field crews or office surveyor teams engaged in all phases of transportation surveying activities; or (3) in a specialist capacity, to perform other difficult and complex surveying work relating to transportation projects, research studies, and development of transportation surveying policies and procedures; or (4) provide technical oversight of consultants or local agency staff performing engineering work related to the development of State transportation projects.

### **Supervising Transportation Surveyor (Caltrans)**

Within the surveying programs, incumbents under administrative direction (1) manage, plan, organize, and direct land, photogrammetry, and right of way surveying efforts of a Headquarters office or branch or has charge of a major phase of the activities of a headquarters surveying office or branch; or (2) in the districts, act as head of Surveys and have charge of an office or branch of the district that provides land surveying and right of way engineering services; or (3) act as a departmental representative, specialist, or consultant in a specific surveying field or on a complex project or research study.

## **Minimum Qualifications**

## **Transportation Surveyor (Caltrans)**

Graduation from a four-year curriculum in surveying, surveying engineering, or surveying geomatics accredited by the Accreditation Board for Engineering Technology. (Registration as a "Senior" in such a curriculum will admit an applicant to the competition, but applicants must produce evidence of graduation before being considered eligible for appointment.)

(Possession of a valid certificate as a Land Surveyor in Training issued or accepted by the California Board of Registration for Professional Engineers and Land Surveyors or possession of a valid certificate as an Engineer in Training accepted by the California Board of Registration for Professional Engineers and Land Surveyors in lieu of a certificate as a Land Surveyor in Training may be substituted for the required education.)

## **Transportation Surveyor Party Chief (Caltrans)**

Possession of a valid California Land Surveyors' License. (A Certificate of Registration as a Civil Engineer issued by the California Board of Registration for Professional Engineers and Land Surveyors prior to January 1, 1982 satisfies this requirement.) and Either I One year of experience in the California state service performing duties comparable to a Transportation Surveyor (Caltrans), Range D.

### **Or II**

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Two years of experience in the California state service performing duties equivalent to a Transportation Surveyor (Caltrans), Range C.

### **Or III**

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Two years of field or office experience performing duties equivalent to a Transportation Surveyor (Caltrans), Range D.

### **Or IV**

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Three years of field or office experience performing duties equivalent to a Transportation Surveyor (Caltrans), Range A, B, or C.

## **Senior Transportation Surveyor (Caltrans)**

Possession of a valid California Land Surveyors' License. (A Certificate of Registration as a Civil Engineer issued by the California Board of Registration for Professional Engineers and Land Surveyors prior to January 1, 1982 satisfies this requirement.) and Either I One year of experience in the California state service performing the duties of a Chief of Land Surveys.

### **Or II**

One year of experience in the California state service performing the duties of a Transportation Surveyor Party Chief (Caltrans).

### **Or III**

One year of experience in the California state service performing the duties of a Land Surveyor Supervisor.

### **Or IV**

Two years of experience in the California state service performing the duties comparable to those of an associate level surveyor or Transportation Surveyor (Caltrans), Range D.

### **Or V**

Broad and extensive (more than five years) transportation surveying experience, two years of which are equivalent in responsibility to that of a Transportation Surveyor (Caltrans), Range D, in the California state service.

## **Supervising Transportation Surveyor (Caltrans)**

Possession of a valid California Land Surveyors' License. (A Certificate of Registration as a Civil Engineer issued by the California Board of Registration for Professional Engineers and Land Surveyors prior to January 1, 1982 satisfies this requirement.) and Either I Two years of experience in the California state service performing the duties of a Senior Land Surveyor or Senior Transportation Surveyor (Caltrans).

### **Or II**

Broad and extensive (more than five years) land surveying experience, three years of which includes supervising a major program element of a large surveying operation equivalent in responsibility to the Senior Land Surveyor or Senior Transportation Surveyor (Caltrans) level in the California state service.

## **Knowledge and Abilities**

Knowledge of: Fundamental surveying, mathematics, and basic science as applied to surveying; methods of precise survey measuring; use and adjustment of precision surveying instruments; procedures, equipment, and materials used in surveying, including conventional and state of the art; mapping and drafting techniques; mathematics and procedures used in plane and geodetic surveying; computer applications and usage; the California Coordinate System; Code of Safe Surveying Practices; photogrammetric mapping procedures; principles and practices of boundary determination, land title research, and surveying; legal descriptions of real property; methods and terminology used in searching for land titles and factors involved in determining ownership of property; real property acquisition and mapping laws pertaining to public and private ownership of real property; monumentation of facilities; the Land Surveyors' Act; the Subdivision Map Act; factors which influence the impact of departmental projects on property and basic net; right of way engineering projects; planning, design, construction, and right of way procedures and policies as they relate to surveys.

Ability to: Perform the less complex field and office surveying work; make precise survey measurements; interpret legal descriptions of real property; make and interpret the less difficult survey calculations; apply and utilize the principles of the California Coordinate System; research, analyze, check, and adjust survey data; research and compile evidence and documentation for boundary determination; assist in planning, directing, and coordinating the work of a group of survey or right of way engineering personnel; do mapping and drafting; analyze situations accurately and take effective action; prepare clear and concise reports and correspondence; write property descriptions and prepare legal land documents and descriptions; operate precise surveying instruments (conventional and state of the art); establish and maintain friendly, business-like relations with those contacted in the course of the work; communicate effectively.

## **Transportation Surveyor Party Chief (Caltrans)**

Knowledge of: All of the above, and departmental plans, standards, policies, and procedures for planning, design, right of way, and construction as they relate to surveys; methods, equipment, and materials used in surveying and mapping of State facilities; computers and state-of-the-art surveying and related equipment; principles of effective communication; principles of effective personnel management and supervision; a manager's/supervisor's responsibility for promoting

equal opportunity in hiring and employee development and promotion, and for maintaining a work environment that is free of discrimination and harassment.

Ability to: All of the above, and supervise the work of surveyors; plan and direct the work of a survey party; make necessary corrections and/or revisions to construction plans, under direction of the Resident Engineer, when required to meet field conditions and/or comply with policies and standards; plan and direct the work of a staff engaged in field survey work; plan and direct the work of a staff engaged in resolution of legal property descriptions; prepare clear and comprehensive reports and technical correspondence; review the work of others for compliance with legal requirements, policies, and specifications; analyze situations accurately and adopt an effective course of action; effectively promote equal employment opportunity in employment and maintain a work environment that is free of discrimination and harassment.

## **Senior Transportation Surveyor (Caltrans)**

Knowledge of: All of the above, and all phases of surveying performed by the Department; principles and techniques of personnel management and supervision.

Ability to: All of the above, and plan and direct the work of staff assigned to a variety of surveying-related projects in surveys or right of way engineering.

## **Supervising Transportation Surveyor (Caltrans)**

Knowledge of: All of the above, and purposes, organization, policies, and procedures of the Department; transportation system planning; surveying economics; factors which influence the impact of the Departments' facilities on the environment, the community, and the economy; processes and methods of accomplishing plane, geodetic and photogrammetric surveying and mapping, computers, and precision surveying instruments (conventional and state of the art); the Department's Equal Employment Opportunity Program objectives.

Ability to: All of the above, and administer surveying programs; plan and direct the work of others; judge work quality and performance; evaluate the applicability, and apply and direct the use of computers and precision surveying instruments (conventional and state of the art); prepare technical correspondence and complete, comprehensive reports; prepare articles for publication; address an audience effectively.

## **Class History**

Transportation Surveyor (Caltrans) Series History - Dates Established, Revised, and Title Changed

<b>Class</b>	<b>Date Established</b>	<b>Date Revised</b>	<b>Title Changed</b>
Transportation Surveyor (Caltrans)	12/08/1999	--	--
Transportation Surveyor Party Chief (Caltrans)	12/08/1999	--	--
Senior Transportation Surveyor (Caltrans)	12/08/1999	--	--
Supervising Transportation Surveyor (Caltrans)	12/08/1999	--	--