

Caltrans Central Region R/W Engineering

Requirements for the Preparation of Documents and Maps

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Objective

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This publication informs the Consultant of the Central Region Right of Way Engineering (RWE) requirements for the preparation of documents and maps, which establish, re-establish, map, re-map, acquire, or dispose of State of California (State) Right of Way (R/W).

Prior to commencing work, please contact _____, District _____ Caltrans Project Surveyor (RWE), at _____ who will facilitate your project by assigning a Caltrans Transportation Surveyor (TS) to assist in the implementation of these requirements.

Responsible Charge of Work

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Prior to commencing work, the consultant shall:

1. Appoint a Licensed Land Surveyor or Registered Civil Engineer (LS/RCE), authorized to practice land surveying by the State, to be in responsible charge of all work.
2. Notify Caltrans Project Surveyor (RWE) by letter, the name, license information, and contact information for the LS/RCE in responsible charge.

The LS/RCE in responsible charge will be in full compliance with Section 8761 of the Professional Land Surveyors Act.

The LS/RCE in responsible charge will be the point of contact between the Consultant and Central Region RWE.

If there is a change of responsible charge, the Consultant will immediately, notify the Caltrans Project Surveyor (RWE) by letter detailing the new LS/RCE.

When the Consultant submits work to the State, the State does not assume responsibility for the Consultant's work. The responsibility remains with the Consultant's LS/RCE in charge of the work.

Datum, Coordinate System, and Units of Measure

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It is vitally important that the datum, coordinate system, and units of measure, utilized in all RWE work be consistent with Caltrans standards and project needs.

For the Central Region RWE:

- The standard horizontal, datum is the North American Datum of 1983, as adjusted and published by the National Geodetic Survey ([NGS](#)), California Spatial Reference Center ([CSRC](#)) or The Scripps Orbit and Permanent Array Center ([SOPAC](#)).
- The standard coordinate system is the California Coordinate System of 1983, Zones 3, 4 or 5
- The standard linear unit is the foot.
- The standard angular unit is degree-minute-second.

From time to time project needs require the use of a legacy datum, or special datum. Therefore, prior to commencing work, the Consultant LS/RCE in responsible charge shall request from, and confirm receipt of, a letter from the Caltrans Project Surveyor (RWE) detailing the datum, coordinate system, units of measure to be used on a project.

Record of Surveys

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Consultant LS/RCE in charge is the final authority, and has the responsibility, as to the professional content of the (ROS).

The Consultant LS/RCE shall be responsible for preparing and filing up to two Record of Survey (ROS) plats.

The first ROS will be the "Before Condition", which will show found and set monumentation to control the project site, datum control stations and tie lines, cadastral control monuments, cadastral lines, highway and street centerlines, R/W boundaries, property boundaries, and any other lines of importance to the project.

If there is any change in the State R/W, there will be a second ROS. This will be the "After Condition" showing set monumentation along the new R/W boundaries and showing all necessary references to the "Before Condition" ROS.

Bearings and horizontal distances shown on the ROS will be State Plane Grid defined by project datum and coordinate system, unless otherwise directed by the Caltrans Project Surveyor (RWE).

Consultant's ROS must be in conformance with applicable State law and local county regulations.

Record of Surveys (Cont.)

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Deliverables:

- Method's and Reasoning Statement for boundary determination.
- Record of Survey maps in Adobe Acrobat format (PDF).
- Field Survey Report as specified in section 9.5-1 to 9.5-3 inclusive of the current Caltrans [Survey Manual](#) along with all Field Notes (including GPS occupation log sheets) and Adjustments in an organized report format compiled in Adobe Acrobat format (PDF). The report will have a title sheet, which is signed and stamped by the LS/RCE in responsible charge. There will be separate reports for the "Before Condition" ROS and the "After Condition" ROS.
- ASCII file coordinate list of all points on CD-ROM, formatted using comma delimiters as: point-name, northing, easting, description (if applicable).

State Right of Way Boundary Establishment

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Consultant must be aware that R/W maps on file at the District offices are exhibits. These maps are attendant and subordinate to the record documents referenced on the R/W map. To establish State R/W boundaries, the consultant must use the record document that created those boundaries. In all cases where a discrepancy exists between information shown on a R/W map and the record document, the record document is superior and controlling. For any particular R/W map, all record documents controlling the location of State R/W boundary lines may not be referenced or shown on the map. A current title search is necessary to disclose the complete existing record for State R/W boundaries.

State Right of Way (R/W) boundaries are to be established with the same general care as would be used to establish the exterior boundary on a final subdivision map. The consultant shall:

1. Recover, or if necessary reestablish, points called as controlling in the deed description which created the State R/W boundary.
2. Recover all existing State R/W boundary line monumentation documented in Caltrans, County, or City records.
3. By field survey, tie controlling monuments and boundary line monuments to each other and to the States Horizontal Control Network.
4. Establish the existing State R/W boundary and document all work in the "Before Condition" Record of Survey.

Right of Way Maps

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Consultant shall prepare R/W Maps in conformance with the requirements of the Caltrans [Right of Way Manual](#), and [Plans Preparation Manual](#). Where there is conflict between information in those manuals and this document, this document will be controlling.

LS/RCE in responsible charge shall contact Central Region RWE and obtain:

- A controlled R/W Map File Number that will uniquely identify the R/W map.
- Controlled State Parcel Numbers, for each parcel fee or easement take.

R/W Maps shall be at an English scale of 1"=50', unless otherwise directed by RWE.

R/W maps should show, at a minimum, the following:

- Boundaries of parcels to be acquired for the project.
- Existing State R/W boundaries.
- Proposed State R/W boundaries
- Adjoining and adjacent street centerlines and property boundaries.
- Existing easement boundaries.
- Proposed easement boundaries.

The "Before Condition" Record of Survey will be the controlling source document for existing State R/W boundaries shown on R/W maps.

The "After Condition" Record of Survey will be the controlling source document for the new State R/W boundaries shown on R/W maps.

Bearings and horizontal distances shown on the R/W maps will be State Plane Grid defined by the project datum and coordinate system, unless otherwise directed by Caltrans Project Surveyor (RWE).

Consultant LS/RCE in responsible charge will sign and stamp each sheet of the R/W map.

Consultant LS/RCE in charge is the final authority, and has the responsibility, as to the professional content of the R/W map. However, Central Region RWE is the final authority as to the acceptability of the R/W map for inclusion in State files.

Right of Way Maps (Cont.)

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When a R/W Map is complete and ready for submission to Central Region RWE, the Consultant will first submit a paper copy of the R/W map, with all supporting materials including Parcel Files (see page 11) and AutoCAD Design Files, to Central Region RWE for review of acceptability. It is not the intent of this review that the Central Region RWE act as a quality control manager for the Consultant, but as quality assurance for the State. Prior to submission for this review, the Consultant will have completed the quality control review necessary for the R/W map to be complete and ready for submission.

After review, the Caltrans Project Surveyor (RWE) will notify the Consultant LS/RCE of any deficiencies or defects in the mapping. The Consultant LS/RCE will discuss with RWE the identified deficiencies or defects, and common agreement will be reached to correct the map. After agreed corrections have been made, the Consultant will submit a second paper copy to RWE for review. When satisfied that the R/W map is acceptable for inclusion in State files, the Caltrans Project Surveyor (RWE) will give "**notice to proceed**" with the final R/W map submittal. Consultant will not make a final submittal of a R/W map to RWE without first receiving this "notice to proceed".

Deliverables:

- Method's and Reasoning Statement for boundary determination.
- Electronic AutoCAD Design Files (*DWG*) of R/W maps on CD-ROM.
- The Electronic AutoCAD Design file shall be in conformance with the Caltrans [CADD Users Manual](#) and [Plans Preparation Manual](#) for layer assignments, text heights, line weights, line styles, color tables, etc.
- ASCII file coordinate list of all points on CD-ROM, formatted using comma delimiters as: point-name, northing, easting, description (if applicable).

Legal Descriptions & Exhibits

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Consultant LS/RCE in responsible charge shall prepare legal descriptions and exhibit maps for the fee acquisition, permanent easements, and temporary construction easements in conformance with the requirements of the Caltrans [Right of Way Manual](#), [CADD Users Manual](#) and [Plans Preparation Manual](#). Consultant shall calculate State Plane traverse calculation closures for each fee and easement acquisition.

Bearings and horizontal distances in the legal descriptions will be State Plane Grid defined by the project datum and coordinate system, unless otherwise directed by the Caltrans Project Surveyor (RWE).

Legal descriptions will be signed and stamped by the LS/RCE in responsible charge and will contain all necessary statements to define the datum, coordinate system, and combined factor pertinent to the description.

Deliverables:

- Legal Descriptions with corresponding Exhibit Maps.
- Required Legal Description file format: Microsoft Office Word.
- Required Exhibit Maps file format: AutoCAD Design File (DWG).
- The Electronic AutoCAD Design file shall be in conformance with the Caltrans [CADD Users Manual](#) for layer level assignments, text heights, line weights, line styles, color tables, etc.
- State Plane traverse calculation with closures for the following: Overall parcel, fee acquisition parcel, permanent easement, and temporary construction easements.
- ASCII file coordinate list of all points on CD-ROM, formatted using comma delimiters as: point-name, northing, easting, description (if applicable).

Parcel Files

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For each individual fee or easement take, the Consultant shall submit an individual Parcel File containing the follow items at the end of the project:

- Title Report (Used to develop the parcel).
- All supporting documents referenced in the title report.
- Current assessor parcel map and owner address list.
- Copy of all record underlying maps.
- Explanatory note of how the boundary of the subject parcel was established with any necessary references to the appropriate field notes.
- Adobe Acrobat format (PDF) copy of the Right of Way map(s).
- State Plane traverse calculation with closures for the overall record parcel, fee acquisition parcel, permanent easement, and temporary construction easements.
- Legal Description and corresponding Exhibit Map. Any additional data pertaining to subject parcel.
- CD-ROM containing text files, traverse calculations, ASCII coordinate list, and legal descriptions.
- ASCII file coordinate list of all points on CD-ROM, formatted using comma delimiters as: point-name, northing, easting, description (if applicable).

Each Parcel File will be organized and compiled in Adobe Acrobat format (PDF).

Closing Words

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By necessity this document has been created to cover the widest variety of situations. Inevitably, situations will arise which will require specific modification to the requirements stated above in order to meet the project need. Modification of these requirements may only be made by, and with, written permission of the Caltrans Project Surveyor (RWE).

The goal of Central Region RWE is to successfully support the maintenance and improvement of the State transportation system. This goal can be reached by maintaining open, clear, and professional communication between the Consultant, as represented by the LS/RCE in responsible charge of the work, and Central Region RWE. Let's work together to get the job done.