

**Council of the Reciprocating Surveyors Boards of
Australia and New Zealand
(CRSBANZ)**



NATIONAL GUIDELINES FOR CADASTRAL SURVEYS

These guidelines are designed to operate under the National Model for Standard Practice in Surveying and Mapping. The National Model was adopted as CRSBANZ Policy in November, 1998.

1 Objectives of a Cadastral Survey

The objectives of a cadastral survey are to:

- establish or redefine cadastral corners and boundaries and their relationship to define boundaries between different interests in land.
- where necessary mark corners and boundaries on the ground.
- establish the relationship of features and structures to cadastral boundaries.
- create and provide spatial information for uses such as spatial referencing, modelling and issue of statutory instruments, such as land titles.

In every cadastral survey there are five principal users whose needs must be met:

- the immediate client or clients who stipulate the commercial scope of the survey.
- adjoining landholders (including the Crown) whose boundary may be the subject of redefinition.
- public authorities required to exercise statutory responsibilities in relation to rights vested in the client, such as a Land Titles Office, local government, utility service authority or Crown Lands management agency.
- authorities responsible for implementing statutes related to maintenance of the fundamental spatial framework (geodetic and control networks), the survey system and associated measurement and data standards.
- the public who ultimately rely on the integrity of the cadastre.

2 Terms

Terms used in relation to cadastral data are set out in the ICSM Cadastral Data Dictionary.

3 Survey Datum and Orientation

Wherever possible, the horizontal and vertical datums and orientation of a cadastral survey shall be related to the official national geodetic coordinate system.



If a connection to the national datums is not possible, the datum and orientation for a survey shall be adopted from a previous survey on public record.

Before adopting any marks for datum or orientation, measurements must be made to ensure that marks are in their correct position and undisturbed.

Where marks suitable for connection from the national datum are not available, the authority responsible for the fundamental spatial framework may require that marks be placed and connected to the survey in locations suitable for inclusion into the framework (this relates to the horizontal datum, and if relevant to the survey, the vertical datum).

4 Boundary Definition

A surveyor shall make use of information, monuments and marking provided from previous surveys lodged on the public record to:

- adopt and verify a datum for the survey, as set out in Section 3, and
- locate existing corners and boundaries from existing monuments, undisturbed marks, occupations or measurements

and then establish boundaries and mark them in accordance with these guidelines.

5 Marking Requirements

Marking requirements are dictated by land value and use. Tenure type and land ownership are not in themselves determinants of marking requirements.

Generally in each survey:

- all corners created by a survey shall be marked with a durable and readily identifiable mark.
- Boundary line identification and marking should be sufficient to allow the boundary to be readily identified.
- sufficient reference monuments shall be connected to the survey in locations suitable for future redefinition of all cadastral corners and boundaries.
- permanent marks may be required to be placed in locations suitable for inclusion in the fundamental spatial framework, and connected to the survey if existing permanent marks are not available to the survey.

Marking of corners and/or placement of reference marks may be deferred with the agreement of the authority responsible for survey measurement standards. That authority shall provide guidelines for deferment.



6 Geodetic Connection Requirements from the Fundamental Spatial Framework

Connections of individual surveys to the nationally approved geodetic control standard shall be made to at least the same measurement accuracies as for the survey, in horizontal and if applicable vertical dimensions.

7 Natural and Irregular Boundaries

Where a boundary is to be defined or redefined on or in relation to a natural or irregular feature, the surveyor shall measure the position of the feature in order to determine each change of direction to the accuracy required for other boundaries in the survey.

8 Definition of Interests

Surveys for strata title, easements, covenants, roads, leases, mining tenements and similar rights in land shall define the extent of these rights and restrictions. All these interests need to be capable of being related one to the other. To achieve this wherever possible, the boundaries delineating these rights shall be connected directly, or through the boundaries of the affected parcel(s) to the fundamental spatial framework, so that all corners can be related to the national datum.

9 Accuracy of Survey

All measurements are to be made with equipment calibrated to the relevant national standard. Use equipment and techniques that will enable the required standard of accuracy to be obtained.

All observations should be independently checked.

Accuracies are to be such that measurements can be linked to the national standard measurement. Accuracies for surveys are to standards determined by the relevant jurisdictional authority.

New permanent marks placed and connected to the primary spatial framework should meet the requirements of the national geodetic control standard.

10 Survey Records

Records must be taken in a systematic manner and be readily comprehensible.

All measurements taken in the field, along with other information obtained relevant to a survey shall be recorded in hardcopy or digital form. Survey records must be maintained and made available when required by a relevant authority.



11 Survey Information Preparation

Survey information suitable for lodgement with the relevant authority(ies) shall be prepared in hardcopy and/or digital form. Survey information includes metadata, such as location of the survey, surveyor's statement that these guidelines were followed, other statutory statements; dimensional data, including boundary measurements, connections and discrepancies with previous data; supporting data, such as nature of marks, delineation of datum(s), nature of boundaries, disturbed or destroyed marks, nature and position of occupations and identification of abutments and other relevant interests; and other elements required by the relevant lodgement authority.

Non-dimensional data should be verified from authoritative sources. Examples are locality and road names.

12 Survey Reports

The authority responsible for survey measurement standards, or a lodgement authority, may require in certain circumstances that the surveyor responsible for a survey provide a report on the conduct, findings and other relevant matters about the survey.

13 Plan/Data Submission and Validation

A surveyor is responsible for the validity of information arising from a survey. The format and content of hardcopy or digital data to be supplied will be specified by the lodgement authority. National standards will be used if available. The surveyor responsible for the survey will be required to certify that the information provided meets the quality standards contained in these guidelines.

14 State and Territory Borders

A survey abutting or containing a State Border shall have the position of the Border, as determined by the survey, approved by the authority responsible for survey measurement standards in both jurisdictions, before lodgement of any documents or information on the public record.

RESOLUTIONS

- *Adoption of Proposed National Guidelines for Cadastral Surveys subject to them being generic (Queenstown, 26/8/2000).*
- *The document was reviewed and accepted as amended (Melbourne, 8/3/2001).*

March, 2001