Department of Natural Resources and Mines

Surveying Alert

Proposed changes to cadastral survey requirements

28 October 2014
Issue 11

Proposed changes to Cadastral Survey Standards and Guidelines

A draft of a proposed new version of the Cadastral Survey Requirements has been released for comment. Links to the drafts are given at the end of this Alert. Feedback should be sent to the address at the end of this Alert before 5 December 2014.

Overview of changes

The document includes an amendment table which lists all of the proposed amendments, and a brief explanation of the reason for the changes. Due to the number of changes, the amendment table has been divided into three parts:

- amendments affecting survey practice or plan preparation
- clarification – no change to survey practice or plan preparation
- editorial only.

Rationale for key changes

Some of the changes require explanation, so that surveyors have a better understanding of the purpose or intent of the change.

One of the motives for change is to respond to the changing context of cadastral surveying, and to ensure that modern cadastral surveying is not inhibited by unnecessarily restrictive regulation. The changes in context include the following:

- ease of use of coordinate-based methods
- ease of use and improved reliability of GNSS, including via CORS
- accuracy of measurement equipment
- increased opportunity for electronic exchange of survey information (i.e. EARL)
- approval of a new and significantly different version of SP1
- publication of survey control information in the Queensland globe.

Each of the key proposed changes to the standards is described below, with reference to the above context where appropriate.

Explanation of key changes

EARL changes

Surveyors using EARL will submit a validated CIF (cadastral infrastructure file) to the department. The CIF will contain all of the information currently required to be shown on paper plans. A subset of this information will be presented on an EARL plan, using a visualisation service provided by the department. The EARL plan will be used as the legal instrument for titling purposes. It will contain sufficient information to describe the spatial properties of the subject parcels, and the signatures of the relevant parties. Changes to the standards specify the content of the EARL plan (see section 1.4).

GNSS for cadastral surveys

A new chapter 8 sets out a standard containing five principles for the use of GNSS for cadastral surveying. Each of these principles is supported by a guideline that describes how the principle can be applied. This standard complements the practice direction issued by the Surveyors Board a few years ago, and is based on the revised SP1 v2.

Consultation question:
Do you have any comments or suggested changes to this new chapter?

Connection to datum

The technical capability of GNSS equipment and the publication of survey control information in the Queensland globe provide an opportunity to move away from the requirement to connect to two permanent marks (which has generally been marks without coordinates). This is replaced with a requirement to connect cadastral surveys of 10 lots or more to the datum (using existing datum marks, CORS networks or AUSPOS)

and orient the survey on MGA. The required accuracy of the connection is expressed in terms of survey uncertainty, as described in SP1 v 2, and is designed to support survey integration (i.e. not sufficient to support reinstatement). (see section 3.28)

Consultation questions:
Is the 10 lot limit too high?
Are there other types of cadastral surveys – e.g. for infrastructure projects – to which the requirement should apply?
Should the GNSS observations be provided to the department?

Large scale land development surveys

It is now possible to establish control networks and use survey techniques such that the location of each cadastral corner and all infrastructure within a development can be surveyed to a high accuracy in relation to the datum. This level of certainty for cadastral corners removes the need for marks to be placed at corners multiple times before the development is complete. A new standard sets conditions when and how this can occur. (see section 3.22)

Consultation questions:
Is the 20 lot limit appropriate?
Are there other issues that need to be addressed in this standard?

Reinstatement standard

Ongoing issues with the standard of reinstatement by some surveyors have led to the development of a reinstatement standard, which has three key aspects (see section 3.33):

1. A set of high level statements identifying the minimum requirements for reinstating boundaries

2. A documented 'hierarchy of evidence' taking into account recent case law and written in terminology relevant to surveying in Queensland

3. A requirement to produce a reinstatement report on all plans, except where the reinstatement is 'uncomplicated'.

It is recognised that opinions are divided about the reinstatement report. It is correct to state that the report itself will not improve the standard of reinstatement. However, a report is expected to deliver the following benefits:

1. It provides a level of transparency for the decision-making process that led to the adopted reinstatement (including, where appropriate, information about rejected alternatives).

2. It enables future surveyors to better and more quickly understand the reinstatement rationale.

3. It provides a basis for regulatory bodies (the department and the Board) to more readily identify surveys where the standard of reinstatement is inadequate.

4. It supports training of less experienced surveyors, recognising that it is common practice for the field component of cadastral surveys to be carried out under supervision by registered persons other than cadastral surveyors.

The most difficult aspect is how to determine which surveys require a reinstatement report. The following options have been considered:

1. Allow surveyors to decide when a report is required – this is the current model, and insufficient reports are being provided to deliver the above benefits.

2. Require reports on all surveys – this places an impost on the simple reinstatements (although it could be argued that a simple reinstatement requires a simple report).

3. Find an appropriate and workable criterion (for example, where the reinstatement is 'not uncomplicated', which is defined as when the survey disagrees by more than normal survey accuracies from previous surveys).

Consultation question:
If you don't agree that criterion 3. (i.e. 'not uncomplicated' reinstatement) is workable, what is a better alternative?

Physical feature boundaries

Chapter 4 (formerly Ambulatory Boundaries) has been renamed to better reflect the scope of the chapter. There have been significant changes to the structure of the chapter, and much supplementary material has been removed or moved to appendices, with a view to simplifying understanding of the standards particularly in relation to water boundaries. There have been some minor changes to the standards themselves.

Improvements on or near boundaries

Clearly, the intent of the regulations dealing with improvements on or near boundaries is not limited to encroachments. The standards previously dealt with only the encroachment aspect and were silent on other aspects. They now deal with improvements more generally, and the current 'encroachment notice' will become a 'notice' under section 18. (see section 3.20)

Other changes

The rationale for other changes should generally be obvious from the context or from the explanation provided in the amendment table.

Document Links

There are two documents containing the proposed changes in different formats.

1 A document showing all changes in 'tracking' mode is available here (pdf 8mB).

2 A document without the changes highlighted is available here (pdf 8mB).

These documents will also be available on the department's website in the next week.

Address for comments

Submissions can be lodged by email, fax or post.

Post:
Director of Surveys
Land and Spatial Information
Department of Natural Resources and Mines
PO Box 2454
BRISBANE QLD 4001

Email: surveying@dnrm.qld.gov.au

Fax: (07) 3896 3697. Attention: Director of Surveys

Submissions close **5pm, Friday 5 December 2014**.