



Interim guideline to aspects of survey requirements applicable to Māori land surveys

LINZG65703

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How to have your say

Please email your completed comments form to regulatorysubmissions@linz.govt.nz.

Your feedback

- (a) Feedback, in electronic format, should be on the technical content, wording, and general arrangement of this interim guide. You are welcome to scan and attach any drawings or diagrams.
- (b) Please provide supporting reasons for your comments and suggested wording for any proposed changes.
- (c) Editorial matters such as spelling, punctuation, grammar, numbering, and references will be corrected before final publication.

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Terms and definitions

Introduction The following terms and definitions apply to this interim guideline. Some of the terms and definitions have been taken from rule 2 of the *Rules for Cadastral Survey 2010 – LINZS65003* and in some cases additional information is shown for clarity.

Term/abbreviation	Definition
Cadastral Rules	<i>Rules for Cadastral Survey 2010 - LINZS 65003</i>
Cadastre	as defined in s 4 of the Cadastral Survey Act 2002.
Computed Plan Standard	informal reference to <i>Interim standard for computed cadastral survey datasets for Māori freehold land - LINZS10000</i> , published by the Surveyor-General in 2006. This was part of the Māori Freehold Land Registration Project (see the term MFLRP and Māori freehold land registration project). The interim standard was superseded by the Rules for Cadastral Survey 2010.
CSD	cadastral survey dataset—a CSD contains survey and title information (see CSD survey and title information). Some legislation refer to a CSD as a 'survey plan' or a 'plan of survey'.
GPS	global positioning system—in a survey context, a generic term for surveyors' equipment that uses satellites to accurately determine the directions and distances between survey marks on the ground. GNSS (Global Navigation Satellite System) is technically a more correct term for this equipment.
LINZ	Land Information New Zealand
LINZ Landonline	computer facility managed by LINZ that records New Zealand's authoritative title register and digital cadastre. See LINZ Landonline and digital CSDs for more information . This is a different system to Māori Land Online managed by the Ministry of Justice (MLC).
LT CSD	land transfer CSD—a CSD depicting interests in land for registration under the Land Transfer Act 1952. Prior to deposit, the CSD is informally referred to as a LT and upon deposit as a DP.
ML CSD	Māori land cadastral survey dataset—a CSD depicting interests in land under Te Ture Whenua Māori Act 1993. It can include the recording of non-primary interests over General land.
MFLRP	Māori Freehold Land Registration Project—a joint project between the MLC and LINZ run from 2004 to 2010 with the purpose of registering with LINZ all outstanding Māori Land Court orders relating to Māori land ownership. See also the term Computed Plan Standard and Māori freehold land registration project .
MLC	Māori Land Court

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MLC Rules	Māori Land Court Rules 2011
PRM	permanent reference mark
RGL	Registrar-General of Land
SO CSD	survey office CSD—a CSD depicting interests in land of the Crown and other public bodies.
surveyor	licensed cadastral surveyor or cadastral surveyor as defined in s 4 of the Cadastral Survey Act 2002. A person licensed to carry out cadastral surveys.
TTWMA	Te Ture Whenua Māori Act 1993
tenure system managers	<p>the managers of estates in land and includes the following examples:</p> <ul style="list-style-type: none"> • the Māori Land Court (for land under the jurisdiction of the Māori Land Court), • the Registrar-General of Land (for land under the Land Transfer Act 1952), • the Commissioner of Crown lands (for land under the jurisdiction of the Commissioner), • the Department of Conservation (for land under the jurisdiction of the department), and • New Zealand Petroleum and Minerals (for oil, gas, minerals and coal as part of the Crown mineral estate).

Foreword

Introduction

- (a) This interim guideline has been developed by Land Information New Zealand (LINZ) and the Māori Land Court (MLC). It is issued by the Surveyor-General under s 7(1)(h) of the Cadastral Survey Act 2002, where one of the duties and responsibilities is to provide advice to agencies or officers responsible under any enactment for tenure systems on matters relating to the spatial definition of interests under those systems.
 - (b) The diagrams in this interim guideline are fictional and for illustrative purposes only.
-

Purpose of interim guideline

The purpose of this interim guideline is to provide guidance on survey matters as they relate to Māori land surveys and the Rules for Cadastral Survey 2010 – LINZS65003 (Cadastral Rules) issued by the Surveyor-General. Related information on the Registrar-General of Land's requirements and LINZ processes have also been included for some topics.

Intended users of interim guideline

This interim guideline is intended for use by:

- the Māori Land Court,
 - licensed cadastral surveyors when conducting a cadastral survey for the MLC, and
 - Land Information New Zealand.
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Foreword, continued

Related publications

The following publications may be of assistance when reading this interim guideline:

- Land Information New Zealand 2002, OSG policy 2002/01 v1: *Conservation Covenant Plans*, Office of the Surveyor-General, LINZ, Wellington.
 - Land Information New Zealand 2011, *LINZG65700: Interpretation guide to Rules for Cadastral Survey 2010*, Office of the Surveyor-General, LINZ, Wellington. This guide explains the Cadastral Rules which came into effect on 24 May 2010.
 - Land Information New Zealand 2012, *LINZS65003: Rules for Cadastral Survey 2010*, Office of the Surveyor-General, LINZ, Wellington
 - Land Information New Zealand 2012, *LINZG65704: Interim guide to the amended Rules for Cadastral Survey 2010*, Office of the Surveyor-General, LINZ, Wellington. This interim guide explains the significant amendments made to the Cadastral Rules effective from 1 January 2013.
 - *Māori Land Court Rules 2011*.
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Philosophy and principles of the Cadastral Rules

1 Overview

Introduction

- (a) The functions of the Surveyor-General¹ include the determination of how the spatial extent of interests in land must be defined and described. In exercising this function, regard must be made to:
 - (i) the risks to the Crown and the owners of these interests (including future owners),
 - (ii) the efficiency with which the costs and benefits are allocated, and
 - (iii) the use of cadastral data for other purposes.
 - (b) The Surveyor-General carries out this function by specifying Cadastral Rules² that set the standard for the conduct of cadastral surveys and the resultant cadastral survey datasets. This section explains the background to the Cadastral Rules and the outcomes they are designed to achieve.
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This section contains the following topics:

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Legal background and parties who benefit from the Cadastral Rules	11
Role of MLC, LINZ, and surveyor	14
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¹ Section 7 of the Cadastral Survey Act 2002

² Section 49 of the Cadastral Survey Act 2002

2 Legal background and parties who benefit from the Cadastral Rules

Understanding 'Cadastral'

- (a) The cadastre is defined as meaning '*all the cadastral survey data held by or for the Crown and Crown agencies*'³.
- (b) It can also be considered as '*a methodically arranged public database of information about the extent of land related rights, restrictions, and responsibilities*'.

Land in this context includes airspace, subsoil, and water and marine areas.

- (c) The database is based on surveys describing the spatial extent of those rights, restrictions, and responsibilities. It includes not only the land parcel layout, but information on spatial relationships, information about those who provide the information, and links to land tenure information.
- (d) The cadastre supports all the land tenures. Often the boundary of a parcel in one land tenure system will be in common with an adjacent parcel held in another land tenure system.

For example, general land held under the Land Transfer Act 1952 adjoining Māori land held under the jurisdiction of the MLC.

Understanding 'cadastral survey'

A cadastral survey is defined as meaning 'the determination and description of the spatial extent (including boundaries) of interests under a tenure system'.⁴ In:

- (a) '*determining*' the extent of an interest in land, a surveyor must gather relevant evidence, interpret that evidence, and use it to correctly locate the positions of the boundaries of that interest. The evidence that must be gathered depends on whether the boundary is to be:
 - (i) 'defined by survey' by the new survey, or
 - (ii) 'adopted' or 'accepted' from existing surveys.
- (b) '*describing*' the interest in land, a surveyor must prepare a cadastral survey dataset (CSD) that records the extent of that interest including its appellation, area, the location of its boundaries, and the evidence used to define the boundaries.

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³ As defined in s 4 of the Cadastral Survey Act 2002

⁴ Section 4 of the Cadastral Survey Act 2002

Legal background and parties who benefit from the Cadastral Rules, continued

Understanding 'tenure system'

- (a) A tenure system is defined as meaning '*a system that provides for the creation and transfer of interests in land*'.⁵
 - (b) In the case of Māori land, the MLC is the tenure manager and prepares an order or recommendation that describes the extent and purpose of an intended interest in land.
 - (c) A cadastral survey will define where the boundaries of that interest are located and describe them in a CSD.
 - (d) Upon approval of the CSD by a MLC Judge, the MLC order or recommendation is signed and sealed.
-

Purpose of Cadastral Rules

- (a) The purpose of the Cadastral Rules is to specify the Surveyor-General's minimum standards for the conduct of cadastral surveys and for the resultant cadastral survey datasets.
 - (b) This includes provisions for both the cadastre and the various land tenure systems.
 - (c) The Cadastral Rules are issued under s 49 of the Cadastral Survey Act 2002 and have the same status as regulations.
 - (d) The Cadastral Rules define 'what' is needed and leave the process of 'how' to achieve it to surveyors.
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⁵ Section 4 of the Cadastral Survey Act 2002

Legal background and parties who benefit from the Cadastral Rules, continued

Parties who benefit from the Cadastral Rules

Although the Cadastral Rules are directed primarily at surveyors, the parties who benefit from the rules are:

- (a) holders of interests, restrictions, and responsibilities in land.

These include the land owners, holders of easement rights, holders of mortgages and such like. The Cadastral Rules help ensure that these holders can have confidence in the boundaries of their interests, and to enable them to efficiently identify, trade, and use them.

- (b) land tenure managers including the MLC.

The Cadastral Rules help ensure that the tenure managers can have confidence in the boundaries of the interests (as depicted in a CSD) and that there are no unintended competing claims to the land.

- (c) private businesses (eg Google Maps) and land administration agencies in central and local government who are increasingly dependent on the digital cadastre and other location based information systems.
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Exemptions from the Cadastral Rules

- (a) Section 47(5) of the Cadastral Survey Act 2002 enables the Surveyor-General (or a delegate) to grant an exemption from, or specify alternative requirements to, any of the Cadastral Rules when considering them to be unreasonable or impracticable. This variation of the Cadastral Rules is referred to as a 'survey dispensation'.

- (b) The granting of a dispensation is on a case by case basis and is based on mitigating information provided by the surveyor prior to carrying out a cadastral survey. The Surveyor-General will take into consideration the impact on the cadastre and where necessary, will consult with the tenure manager.

- (c) A dispensation is limited to exceptional cases (see also [Exempting survey definition from cadastral](#)).
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3 Role of MLC, LINZ, and surveyors

Responsibilities of Surveyor-General, LINZ, and surveyor

The Cadastral Survey Act 2002 sets out the responsibilities in relation to cadastral surveys and CSDs as follows:

- (a) The Surveyor-General is accountable for the broad achievement of the cadastral outcomes, setting of standards, and auditing compliance with the standards.⁶
- (b) The surveyor who certifies a cadastral dataset is responsible for the accuracy and correctness of the survey and all the data in that dataset.⁷ This responsibility is not affected by the fact that the survey has been approved by LINZ.
- (c) The Chief Executive of LINZ is responsible for determining whether a CSD complies with the Cadastral Rules (signified by 'approving' the CSD) and for integrating new cadastral surveys into the cadastre.⁸ This role is delegated to LINZ staff.

The relationships between the MLC, LINZ, the landowner, and the surveyor are depicted in [Figure 1](#).

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⁶ Section 7 of the Cadastral Survey Act 2002

⁷ Section 47 of the Cadastral Survey Act 2002 and rule 13 of the Cadastral Rules

⁸ Section 9 of the Cadastral Survey Act 2002

Role of MLC, LINZ, and surveyors, continued

Relationship between the MLC and LINZ

- (a) Rule 7.7 of the Māori Land Court Rules 2011 (MLC Rules) sets out when an order must include a plan of the land subject to that order. In many cases, the plan must be at least of a standard that will enable registration as a 'computer freehold register' or 'computer interest register' under the Land Transfer Act 1952. The rule also requires that the requisite plan must be approved by a MLC judge before the order is signed and sealed.
- (b) Section 332 of TTWMA enables the MLC to require a survey of Māori land and transmit a requisition for such a survey to the Surveyor-General.⁹ On receiving this requisition, the Surveyor-General must take all proper steps to procure a survey of the land in accordance with the requisition. Although the Surveyor-General must be satisfied that the costs of the survey have been addressed, rule 13.16 of the MLC Rules requires the MLC to resolve the issue of costs before the requisition is made.
- (c) Under rule 13.17 of the MLC Rules, a requisition must be accompanied by a certificate for completion by the Surveyor-General. This certificate includes the survey completion date and the Surveyor-General's certification that the survey has been properly performed and approved.
- (d) Under s 8 of the Cadastral Survey Act 2002, the Surveyor-General has delegated the functions, duties, and powers under s 332(4) of TTWMA to the Chief Registrar of the MLC and no longer certifies the completion certificate under rule 13.17.

On a six monthly basis, the Chief Registrar provides a record to the Surveyor-General of the surveys procured under this delegation. On a weekly basis, LINZ provides a status report to the MLC, which identifies the ML CSDs that have had a status change, including those that have been approved by LINZ.

- (e) On approval of a Māori land cadastral survey dataset (ML CSD) by LINZ, the CSD is approved by a MLC judge (providing the CSD is in terms of the MLC order).

If the MLC finds that the CSD is not in terms of the order, they will resolve the matter with the surveyor. This may result in the surveyor carrying out more field work and preparing a new CSD as, generally, CSDs that have been approved by LINZ cannot be changed unless the correction is minor.

The relationships between the MLC, LINZ, the landowner, and the surveyor are depicted in [Figure 1](#).

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⁹ Form 41 of the MLC Rules

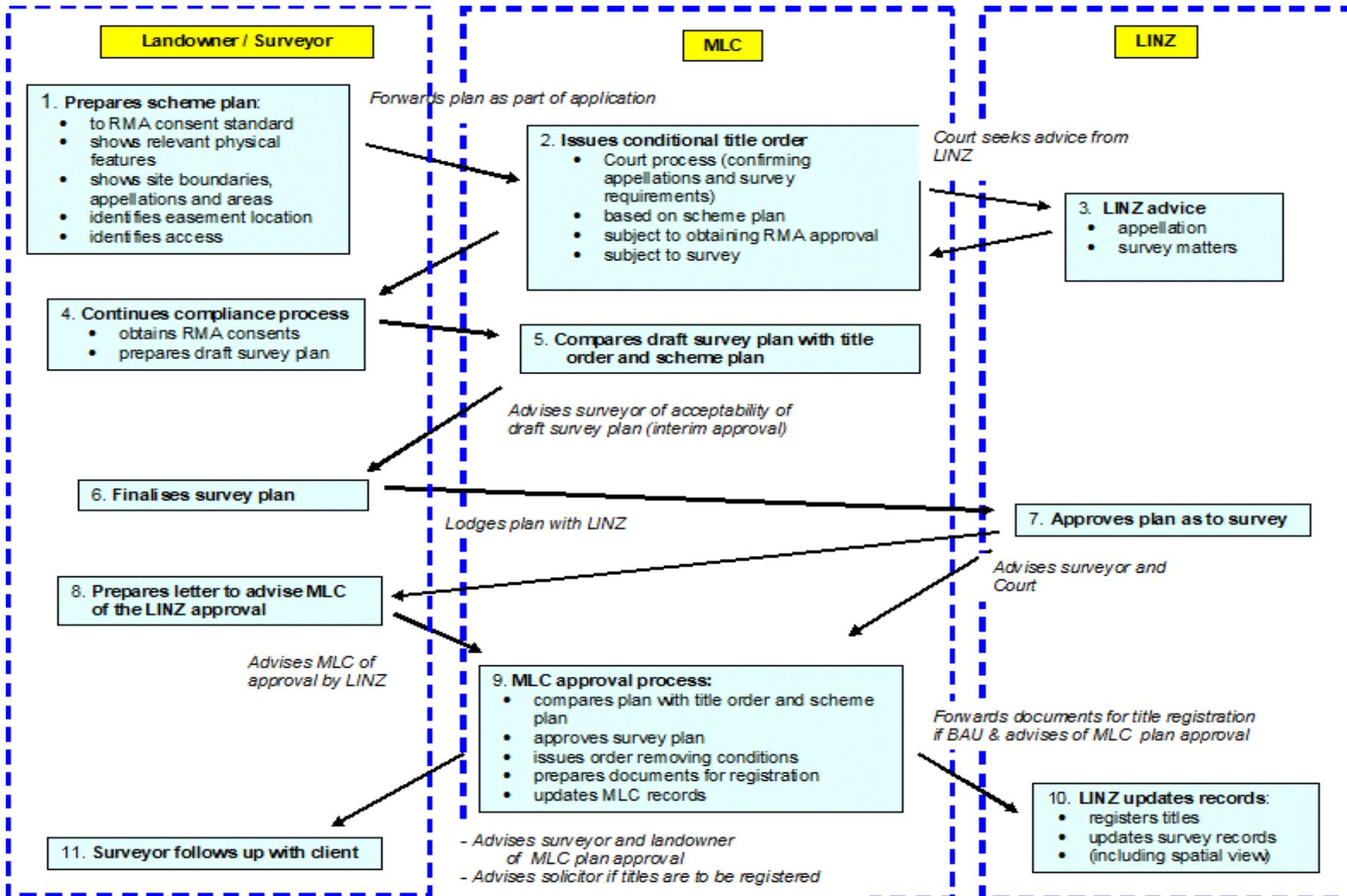


Figure 1: Relationship between MLC, LINZ, the landowner, and the surveyor

Role of MLC, LINZ, and surveyors, continued

Māori freehold land registration project

- (a) Section 123 of TTWMA requires orders affecting title to Māori freehold land to be registered under the Land Transfer Act 1952.
- (b) In the past, this registration was not consistently applied and by 2006 approximately 15,000 title orders¹⁰ were not registered. This created a large disparity between the MLC's records and the land transfer register.
- (c) In addition, although many historical title orders had been made subject to survey, the cost of surveying these partitions to normal cadastral rule standards had proved to be prohibitive and the surveys had not been carried out. This also meant that the parcels were not recorded in the LINZ spatial cadastre and were therefore not visible as part of the spatial view of property boundaries in LINZ Landonline (see [LINZ Landonline and digital CSDs](#)).
- (d) To remedy these issues, from September 2006 to May 2010, LINZ and the MLC jointly contributed to what was called the Māori Freehold Land Registration Project (MFLRP).
- (e) The Surveyor-General issued the *LINZS10000 Interim standard for computed cadastral survey datasets for Māori freehold land* (informally referred to as the *Computed Plan Standard*), which allowed the majority of partition boundaries to be defined on computed CSDs. This enabled partition boundaries that met the qualifying criteria to be computed from existing survey data without field survey. The standard was in place until 24 May 2010 when the Cadastral Rules came into effect.
- (f) These computed CSDs were approved by LINZ and approved as to the MLC order by the MLC, and the Registrar-General of Land (RGL) provided provisional registration via s 124 of TTWMA. Computed CSDs were not sufficient for the issue of guaranteed titles (computer freehold registers) under the Land Transfer Act 1952, so partitions defined in this way were registered as 'computer interest registers' in the Provisional Register (see [Registration under the Land Transfer Act 1952](#)).
- (g) As a result of the project, the CSD parcels were spatially recorded and can now be searched for as part of the spatial view in LINZ Landonline.

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¹⁰ Title orders including partitions and consolidation and amalgamation orders

Role of MLC, LINZ, and surveyors, continued

Māori freehold land registration project, continued

- (a) A small number of computed CSDs were approved by LINZ but not approved by the MLC. In these cases the partition orders are not sealed and the survey information on these CSDs is of limited value as survey data. The parcels are not authorised and are not visible as part of the 'normal' spatial view of property boundaries in LINZ Landonline (the information is available but users need to specifically activate it while using landonline).
- (b) In a number of cases, boundaries created on computed CSDs must be fully resurveyed (that is, 'defined by survey' in terms of the Cadastral Rules) if they are to be used again in the future (see [Surveying existing primary parcel boundaries](#)).

Note: In a minority of cases, doubt and conflict in the underlying data meant that the criteria in the Computed Plan Standard could not be satisfied. As part of the MFLRP, these parcels were subject to field surveys (in accordance with the Surveyor-General's *Rules for Cadstral Survey 2002/2*) and guaranteed titles (computer freehold registers) were issued under the Land Transfer Act 1952.

4 Environmental factors and framework for Cadastral Rules

Necessary outcomes from Cadastral Rules

- (a) The Cadastral Rules are based on a framework which identifies and describes:
 - (i) at a high level, the necessary cadastral outcomes, and
 - (ii) at a lower level, objectives and sub-objectives which the Cadastral Rules need to achieve.
- (b) The relationships between the cadastral end outcomes, intermediate outcomes, objectives, and sub-objectives are depicted in [Appendix A](#). An example of the link between the Cadastral Rules and the objectives/outcomes is shown in [Appendix B](#).
- (c) From the perspective of the MLC and the Surveyor-General, the principal outcome is the assurance that *'holders of rights, restrictions, and responsibilities in land confidently know the boundaries to which they apply so that they can efficiently identify, trade and use their rights'*.
- (d) The other principal outcome, that *'the cadastre can be relied on and used efficiently for achieving other government and public good outcomes'*, relates to CSDs contributing to the digital parcel fabric (a computerised map of all land parcels) and the cadastre's increasing importance for location based information (see [Parties who benefit from the Cadastral Rules](#)).

One example where this outcome benefits Māori landowners is the recording of Māori land parcels in this parcel fabric. In this case, anyone can use the spatial functionality of LINZ Landonline to identify the parcel shape, area and location, and the survey and title information related to the land. The MLC also receive downloads of this spatial information to use in Māori Land Online.

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Environmental factors and framework for Cadastral Rules, continued

Cadastral Rules ensure short term cadastral needs are catered for

In respect to the short term needs of the cadastre, the Cadastral Rules are designed to ensure that:

- (a) when a CSD is before the MLC for the creation of new interests, the MLC Judge has confidence that the shown parcels reflect the size and shape of the physical parcels on the ground, and there are no undefined or unidentified competing interests in the land.
- (b) when a person is taking possession of the land, they are able to:
 - (i) examine the diagram attached to a title (which is derived from the CSD diagram) and, identify the spatial interrelationship of all the interests in that title (that is, the primary and non-primary interests),
 - (ii) either locate the boundaries themselves, or arrange for the boundaries to be located, and that there is no ambiguity as to where the boundaries are located, and
 - (iii) have confidence in any boundary marks that have been placed (providing they remain in their original positions).

Note: These needs were not achieved for parcels defined in computed CSDs as part of the MFLRP. To achieve them requires the computed boundaries to be properly 'defined by survey'.

Cadastral Rules ensure long term cadastral needs are catered for

In respect to the long term needs of the cadastre, the Cadastral Rules are designed to ensure that:

- (a) a boundary position will be able to be relocated without ambiguity in the future (in say, 50 to 100 years' time).

Note: This was not achieved for boundaries defined in computed CSDs as part of the MFLRP. To achieve this requires the computed boundaries to be properly 'defined by survey'.

- (b) a CSD will endure in the form that it was certified by the surveyor and integrated into the cadastre. In 50 or 100 or more years, a surveyor defining a boundary will still have to refer back to that dataset.

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Environmental factors and framework for Cadastral Rules, continued

Cadastral Rules deal with changing land use and land interests

The Cadastral Rules are designed to cater for the changing environment of land interests including the:

- (a) intensification of interests related to the intensity of land use,
 - (b) increasing demand for three-dimensional (stratum) parcels and boundaries,
 - (c) increasing complexity of different types of interacting interests and the greater need for shared ownership interests, easements, and covenants,
 - (d) unbundling of property interests that were traditionally part of ownership (such as cultural rights, water rights, carbon rights, air space), and
 - (e) increased interest in public access to waterways and the potential conflict between public and private interests.
-

Cadastral Rules must be robust

- (a) The Cadastral Rules are designed to ensure that they are robust and support the land tenure systems that rely on them.
 - (b) It appears that there is an increase in litigation relating to property interests. In many cases, the extent and location of the interests are part of the questions being asked. There is a greatly reduced tolerance and capacity for ad hoc solutions. Examples include:
 - (i) land owners being more willing to challenge land development proposals,
 - (ii) community groups being more active in asserting the public's right of access to water bodies and over paper roads where occupation by adjoining owners has denied or constrained public access, and
 - (iii) Māori challenging historical perceptions of land ownership and land interests.
-

Land parcels and interests in land

5 Overview

Introduction

In considering tenure systems, it is useful to distinguish between primary and non-primary interests. This section explains how these interests are surveyed under the Cadastral Rules and recorded by the tenure system managers.

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6 Primary and non-primary interests and parcels

Land interests and primary and non-primary parcels

- (a) The type of land interest determines the type of parcel to be defined by a survey and depicted in a CSD. Parcels are either primary parcels or non-primary parcels¹¹ (see [Understanding primary interests and primary parcels](#) and [Understanding non-primary interests and parcels](#)).
- (b) A non-primary interest normally encumbers a primary interest. In a spatial sense, the non-primary parcel (defining the extent of the non-primary interest) overlays the primary parcel (the extent of the primary interest). In [Figure 2](#), Area A (a right-of-way) encumbers Te Hapua A1. The diagram on the right illustrates this from a geometric perspective. The diagram on the left illustrates how Area A would be depicted in a CSD.
- (c) Primary interests cannot overlap each other. Where a new primary interest is to be created (eg a new freehold title), the existing freehold title for that land must be cancelled. In the same manner, where a new primary parcel is being created, the affected existing primary parcel must be extinguished.
- (d) Non-primary interests (and non-primary parcels) can overlap each other eg a water easement can overlap an electricity easement.
- (e) Non-primary parcels are not permitted to overlap into adjoining primary parcels. In [Figure 2](#), if the right-of-way was to extend into the adjoining land, it would need to be identified by a separate non-primary parcel eg by an Area B.

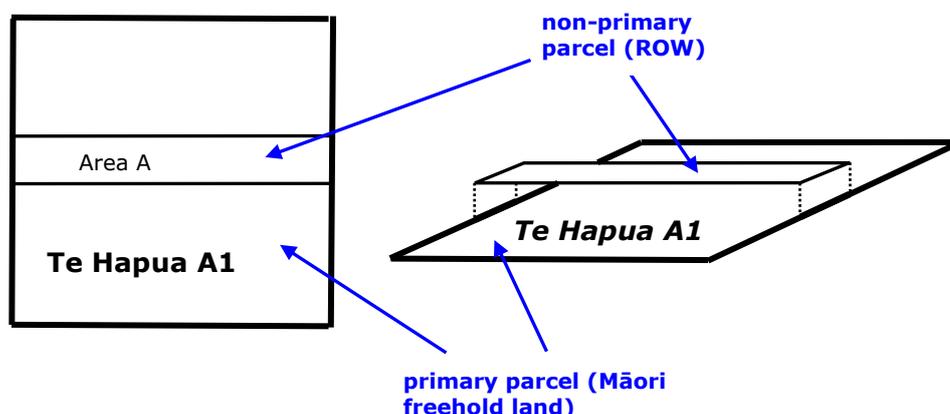


Figure 2: The relationship between primary and non-primary parcels

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¹¹ Rule 2 of the Cadastral Rules defines when primary and non-primary parcels are to be used

Primary and non-primary interests and parcels, continued

Understanding primary interests and primary parcels

- (a) A primary parcel defines the extent of a primary interest.
- (b) In the case of Māori land, primary parcels may be created for:
 - (i) Māori freehold land or customary land, or
 - (ii) a roadway (where it is to be a primary interest rather than an encumbrance), or
 - (iii) the bed of a lake or river.General land examples are listed as part of the definition of 'primary parcel' in rule 2 of the Cadastral Rules.
- (c) New primary parcel boundaries are accorded the highest level of survey definition by the Cadastral Rules. They include specific requirements as to ground marking and referencing to durable non-boundary survey marks (see [Surveying new primary parcel boundaries](#)).
- (d) In a CSD, primary parcel boundaries are depicted by thick lines, whereas non-primary parcel boundaries are depicted by thin lines.¹²

continued on next page

¹² Rule 12.3 of the Cadastral Rules

Primary and non-primary interests and parcels, continued

Understanding non-primary interests and parcels

- (a) A non-primary parcel defines the extent of a non-primary interest.

Non-primary parcels are sometimes referred to as 'secondary parcels', although this term is not used in the Cadastral Rules.

- (b) In the case of Māori land, non-primary parcels may be created for:
- (i) an easement including a service easement or right of way,
 - (ii) a roadway (or restrictive roadway) that is an encumbrance over a primary parcel,
 - (iii) a Māori reservation (see [Māori reservations](#)), and
 - (iv) a lease (see [Surveying new lease boundaries](#)).

Normally an occupation order or a licence is not depicted in a CSD unless the MLC specifically decides to do so. If it is, it would be depicted as a non-primary parcel.

Other examples are listed as part of the definition of 'non-primary parcel' in rule 2 of the Cadastral Rules.

- (c) The boundaries of a non-primary parcel are referenced in terms of the underlying primary parcel boundaries by calculations. They do not have specific requirements as to ground marking or referencing to durable non-boundary survey marks (see [Surveying new and existing non-primary parcel boundaries](#)).

The exceptions to this are lease boundaries (see [Surveying new lease boundaries](#)) and permanent structure boundaries (see [Permanent structure boundaries](#)).

- (d) In a CSD, non-primary parcel boundaries are depicted by thin lines, whereas primary parcel boundaries are depicted by thick lines.¹³
-

¹³ Rule 12.3 of the Cadastral Rules

7 Recording of interests by the MLC and the Registrar-General of Land

Registration under the Land Transfer Act 1952

(a) Part 5 of TTWMA requires orders of the MLC affecting title to Māori freehold land to be registered under the Land Transfer Act 1952 or, rarely, by the Deeds Registration Act 1908.

(b) The Land Transfer Act 1952 provides for the issue of either:

(i) a guaranteed title (sometimes referred to as a 'fully guaranteed', 'ordinary' title, or just 'title').

A guaranteed title was referred to as a 'certificate of title' or 'CT' in the pre-digital register. In the digital register it is referred to as a 'computer freehold register' or a 'CFR'.

(ii) titles which are limited as to parcels.

These were issued because of uncertainty as to the boundaries of the interests at the time the land was first brought compulsorily under the land transfer system. They are also referred to as a 'computer freehold register' or a 'CFR' with an annotation referring to this limitation. This would normally only apply to a parcel of Māori freehold land that was previously General land.

(iii) titles which are provisionally registered.

A provisionally registered title was referred to as a 'provisional register' or 'PR' in the pre-digital register. It is registered in the digital register as a 'computer interest register' or a 'CIR'. A computer interest register is also used to register non-primary interests (such as, leases or reservations).

(c) Many Māori freehold land parcels are held in guaranteed titles or in provisional registers.

Provisional registers are used where the freehold land parcel is depicted in a MLC sketch diagram and not defined on a ML CSD that complies with the normal Cadastral Rules. Section 124 of TTWMA explicitly provides for provisional registration where the survey definition is inadequate (including where there is no spatial definition at all). This provision was used for CSDs approved in terms of the Computed Plan Standard created under the MFLRP (see [Māori freehold land registration project](#)).

(d) A 'computer interest register' of Māori freehold land created under s 124 of TTWMA can be upgraded to a 'computer freehold register' by the deposit of an adequate plan of survey in accordance with s 167(5) of the Land Transfer Act 1952. This is normally a ML CSD in terms of the Cadastral Rules.

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Recording of interests by the MLC and the Registrar-General of Land, continued

Māori reservations

- (a) The MLC and LINZ have agreed that where a Māori reservation is intended over:
 - (i) a portion of an existing primary parcel of land, it will normally be surveyed and defined in a ML CSD as a non-primary parcel. In this case, the reservation will be provisionally registered under the Land Transfer Act 1952 and a Computer Interest Register (CIR) issued.
 - (ii) all of an existing primary parcel of land, a survey and ML CSD is not required. The Maori reservation will be registered over and memorialised against the computer register for the existing parcel of land.
- (b) The MLC recommendation should make reference to:
 - (i) the name the reservation is to be known by (its appellation)
 - (ii) the parcel type and type of registration under Land Transfer Act 1952 (i.e. a non-primary parcel and provisional registration).
 - (iii) whether the new boundary points are to be ground marked or not, if a survey is required. The default position is that the boundary points of a non-primary reservation are not required to be ground marked unless the Court specifically says otherwise.

An example of how the MLC recommendation might look for a non-primary Māori reservation is shown in [Figure 3](#). The red text indicates the related information which can be changed depending on whether a survey is required or not.

Historical occupation orders

MLC occupation orders create exclusive occupation and usage interests and historically, they have not been defined in the LINZ cadastre. Plans illustrating their boundaries (referred to as sketch plans in the Māori Occupation Orders Regulations 1994) have been kept within the MLC records.

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Recording of interests by the MLC and the Registrar-General of Land, continued

Occupation orders where no ML CSD

- (a) If the MLC does not require an occupation order to be defined in a ML CSD, the Court may require the Court sketch plan to illustrate and define the boundaries of the order to the same standard as if it was a non-primary parcel complying with the Cadastral Rules (see [Permanent structure boundaries](#)). Note LINZ will not verify the adequacy of this plan because it will not be lodged with them.
 - (b) The order will be recorded under the Land Transfer Act 1952 as a memorial against the affected title because there is no approved ML CSD defining the portion of land.
 - (c) The inclusion in the order of a name (an appellation) and that the right is a non-primary right will ensure that there will be no future confusion as to the land being described by the MLC.
-

Occupation orders where ML CSD

- (a) If the MLC requires the occupation order to be defined in a ML CSD as a non-primary parcel then the MLC and LINZ have agreed that the order will be provisionally registered under the Land Transfer Act 1952 in a CIR.
- (b) Prior to the survey, to ensure that there will be no future confusion as to the intention of the Court, the order should make reference to:
 - (i) the requirement for a survey and ML CSD,
 - (ii) the name the land in the order is to be known by (its appellation),
 - (iii) the right type (i.e. a non-primary right with provisional registration),
 - (iv) whether the new boundary points are to be ground marked or not. The default position is that the boundary points of the land are not required to be ground marked unless the Court specifically says otherwise.

This information is illustrated as red text in [Figure 3: Recommendation that land be set apart as Māori Reservation](#).

Recording of interests by the MLC and the Registrar-General of Land, continued

Nga whenua rahui kawenata

- (a) Māori landowners can protect their indigenous ecosystems by a covenant with the Minister of Conservation. The principal mechanism is a Nga whenua rahui kawenata pursuant to s 77A Reserves Act 1977 or s 27A Conservation Act 1987.
 - (b) The covenant may be defined in a:
 - (i) CSD. The area would be presented as a non-primary parcel, comply with all of the applicable Cadastral Rules and be recorded spatially in the cadastre, or
 - (ii) covenant diagram prepared in terms of OSG Policy 2002/01 v1 Conservation Covenant Plans. This policy provides for a diagram which may be produced from aerial photography or some other acceptable means. The interest is lodged with the RGL and is not recorded in the cadastre.
 - (c) The agreement is noted by the MLC and recorded by the RGL as a memorial against the affected CFR or CIR.
-

Figure 3: Recommendation that land be set apart as Māori Reservation

RECOMMENDATION THAT LAND BE SET APART AS A MĀORI RESERVATION

TE Ture Whenua Māori Act 1993

Section 336(1)

In the Māori Land Court

Of New Zealand

..*[name]*.. District

IN THE MATTER of the land known as

..*[name]*.. being the land
described in ...*[title ref]*

At a sitting of the Court held at ...*[name]*... held at ...*[name]*... on the ...*[date]*... before
...*Judge*...

WHEREAS upon application to the Court that a part of the land currently known as
...*[name]*.. be set apart as a Māori reservation, the facts adduced in evidence were as
follows:

1. The land is owned by ...*[name]*..
2. That at a meeting of owners held on ...*[date]*... a resolution was passed that part of
the land amounting to ...*[area]*... be set aside as a Māori reservation
3. The land is not subject to any mortgage or charge.

NOW THEREFORE, the Court, for the reasons set out above DOTH HEREBY RECOMMEND
that a notice issue under the provisions of Section 338(1) of TE Ture Whenua Māori Act
1993 setting apart ...*[area]*...being a part of the land known as ...*[name]*... as a Māori
reservation for the purposes of ...*[purpose]*... for the common use and benefit of ...*[name]*...
and the shareholders of the block. The Māori reservation is to be called...*[name]*...

1. This recommendation is subject to a survey and a Cadastral Survey Dataset being
approved by LINZ in terms of the Rules for Cadastral Survey.
2. The Māori Reservation is to be dealt with as a non-primary parcel under these Rules.
3. The boundary points of the reservation are not *[are]* required to be ground marked.
4. The reservation will be provisionally registered under the Land Transfer Act 1952.

AS WITNESS the hand of the Judge and the Seal of the Court

Judge

Surveying boundaries and the CSD

8 Overview

Introduction

- (a) The integrity of primary and non-primary interests in land relies on their boundaries being adequately defined in the first instance and the ability to be able to relocate those same boundaries in the future.
 - (b) Only a licensed cadastral surveyor is permitted to carry out a cadastral survey and prepare a CSD.¹⁴ They have specific expertise in land law, land ownership, and the location of property boundaries and are required to take responsibility for the accuracy and correctness of their work.¹⁵
 - (c) This section explains how boundaries are defined, the evidence of boundary location left in the ground by the surveyor, and how this evidence and the extent of land interests are recorded in the CSD.
-

Contents

This section contains the following topics:

Sections	See page
Surveying new and existing boundaries	32
Reducing the quality of boundary definition	40
Extent of survey	41
Information in a cadastral survey dataset	43
Costs of a cadastral survey	47

¹⁴ Section 47 Cadastral Survey Act 2002

¹⁵ Rule 13 of the Cadastral Rules

9 Surveying new and existing boundaries

Significant steps of a primary parcel cadastral survey

- (a) When completing a cadastral survey of primary parcels, a surveyor will normally:
- (i) examine the MLC's order or recommendation,
 - (ii) carry out an initial office investigation of all available documentation including:
 - (A) LINZ cadastral records (survey plans, land records and existing boundary and survey information), and
 - (B) the relevant minutes and land records of the MLC.
- Before carrying out the field survey, the surveyor will often attempt to predict which old survey marks still exist in the ground, carry out pre-calculations to gain an understanding of the accuracy of the old survey plans, and calculate connections between some of the survey marks shown on existing plans.
- (iii) carry out a field survey,

The purpose of the field survey is to set out new boundaries (see [Surveying new primary parcel boundaries](#)) and connect these boundaries to existing boundaries (see [Surveying the connection between existing and new primary parcel boundaries](#) and [Surveying existing primary parcel boundaries](#)).
 - (iv) prepare a CSD that records the survey of the new land parcels.
- (b) The surveyor then certifies and submits the CSD to LINZ for approval, following which LINZ examines the CSD to provide assurance that the survey and CSD meet the requirements of the Cadastral Rules. The CSD may be 'requisitioned' back to the surveyor if deficiencies are identified.¹⁶ This process does not include determining if the requirements of the MLC order have been met.
- LINZ approval indicates that the survey has suitably defined the boundaries to enable the tenure manager to issue associated interests, and may be used by future surveyors as evidence for the location of boundaries. The survey is recorded (integrated) into the cadastral map of all land parcels but, at this stage, the interests in land are not yet authorised and are not visible as part of the 'normal' spatial view of property boundaries in LINZ Landonline.
- (c) The CSD is then placed before the MLC for approval. The MLC approval starts the title process of creating the interests in land (see [Relationship between the MLC and LINZ](#)).

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¹⁶ In terms of s 9(a) of the Cadastral Survey Act 2002

Surveying new and existing boundaries, continued

Surveying new primary parcel boundaries

- (a) In 'determining' the spatial extent of boundaries, a surveyor must gather relevant evidence, interpret this evidence, and use it to correctly locate the position of boundaries.¹⁷
- (b) For new boundaries (that do not intersect old boundaries), this is a relatively simple task. These new boundaries are surveyed in terms of the MLC order and the evidence of where a new boundary is located is provided by the new survey.

This evidence includes new boundary marks (if the MLC determines they are necessary).

- (c) To ensure a new boundary point (angle) can be relocated without ambiguity by a surveyor in the future, (such as in 100 years' time), the boundary point must be referenced to a non-boundary mark.¹⁸

These non-boundary marks are referred to as witness marks and permanent reference marks (PRMs) and are required to be durable and stable. Normally they are made of metal and buried below the ground. At least one of these marks must be within 150 m of each boundary point in an urban area and 500 m of each boundary point in a rural area.

In [Figure 4](#), Rotorua 2 is being partitioned into Rotorua 2A and 2B with the new boundaries shown in red. Three witness marks (shown as concentric circles and called IT1 – IT3) witness the three new boundary positions shown in red. The blue circles represent the 150 m radius in urban areas or 500 m radius in rural areas for the witness marks.

- (d) The placement of witness marks and PRMs is required irrespective of whether the new boundary points have been marked (see [Marking new boundaries of primary parcels](#)). In [Figure 4](#), the position shown with a red cross has not been marked. That position can be marked at any time by using the known relationship between it and the reference marks recorded in the CSD.
- (e) New boundaries are 'defined by survey'¹⁹ and required to meet modern accuracy standards.

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¹⁷ Rule 6.1 – 6.4 of the Cadastral Rules

¹⁸ Rules 7.3, 7.4 and 3.6 of the Cadastral Rules

¹⁹ Rule 6.2 of the Cadastral Rules

Surveying new and existing boundaries, continued

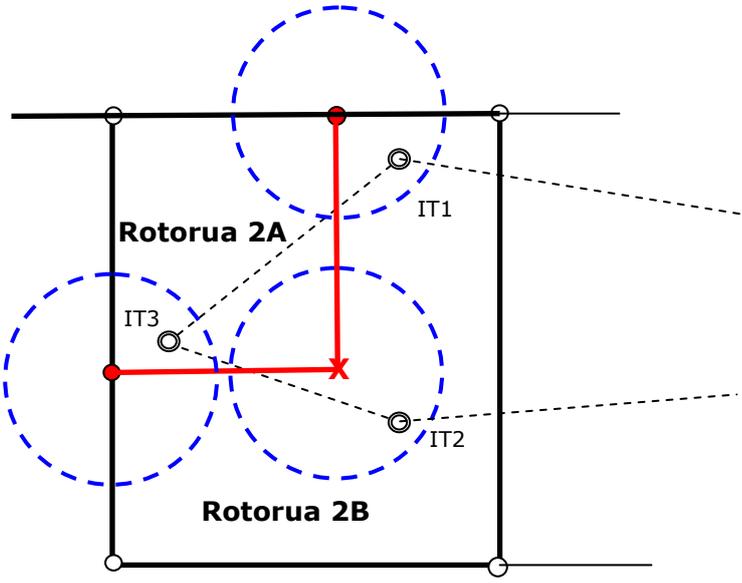


Figure 4: Boundary points required to be witnessed

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Surveying new and existing boundaries, continued

Surveying the connection between existing and new primary parcel boundaries

- (a) New boundaries must be connected to existing boundaries to ensure the new boundaries do not overlap into adjoining parcels or create gaps with the adjoining parcels.
- (b) Locating existing boundaries is often a complex and time-consuming task. The concept of placing durable non-boundary marks that referenced each boundary point was introduced in 1925. Prior to this, many surveyors placed only wooden pegs with the occasional iron reference mark.
- (c) This lack of durable ground marking sometimes combined with inaccurate survey techniques and equipment often means that the survey information on the old survey plans gives an approximate (often ambiguous) location to a boundary point. This then requires the modern surveyor to spend a considerable time calculating and searching in the field to determine its accurate position.
- (d) Often the old wooden pegs have rotted away or been disturbed and the search must extend to other old marks some distance beyond the initial scope of the survey. In many cases, the extent of physical features (eg fences or hedges) or the location of an old wooden peg will conflict with the information in an old survey plan and the surveyor must reconcile the differences. The surveyor must determine if an old mark is where it was originally placed (whether it is disturbed or not) and determine how the inaccuracies in an old survey must be resolved. This can often result in changes to parcel areas and lengths of boundaries.
- (e) In [Figure 5](#), the two boundaries shown in blue in the right-hand diagram must be accurately located before the new red boundary is intersected with them.

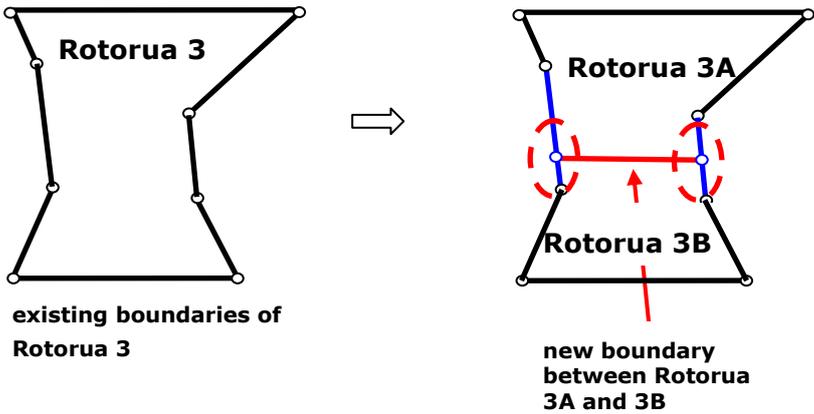


Figure 5: A new boundary between existing primary parcel boundaries

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Surveying new and existing boundaries, continued

Surveying existing primary parcel boundaries

- (a) The Cadastral Rules distinguish between, and apply different requirements to, new and existing boundaries of primary parcels.
- (b) Existing primary parcel boundaries have less stringent requirements to those for new boundaries as they have already been determined by a previous survey, and the interests associated with those parcels have already been assigned.

The accuracy requirements for these existing boundaries are approximately 50 % less stringent for small and medium parcels and for parcels over 100 ha, there are no accuracy requirements.²⁰ This means that, in the majority of cases, existing boundaries may be adopted or accepted from existing surveys and the information copied from existing CSDs into the modern CSD. In the right-hand diagram in [Figure 5](#), the existing boundaries that may be adopted or accepted from existing surveys are shown in black.

- (c) If an existing boundary for a parcel less than 100 ha fails the applicable accuracy tolerance, it is required to be resurveyed to modern standards.
- (d) Existing boundary points are not required to be referenced to non-boundary marks.
- (e) Primary parcel boundaries that were defined on computed survey plans in terms of the *Interim standard for computed cadastral survey datasets for Māori freehold land* were computed from existing survey data without field survey.

They were not properly defined by survey when created and their accurate location is unknown (the CSD diagrams were noted 'areas and boundaries not defined by survey'). If new primary parcels under 100 ha are to be defined using boundaries defined only on a computed survey plan, they must be defined by survey.²¹ This would require the surveyor to examine the original MLC order, existing survey plans, and the evidence on the ground before finally determining the boundary's correct position.

For parcels that are more than 100 ha, the existing boundaries may be accepted regardless of inaccuracies and the information copied from the existing computed CSD into the modern CSD.

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²⁰ Rules 3.3, 3.4, 3.5 and 6.3 of the Cadastral Rules

²¹ Rule 6.2(a)(xi) of the Cadastral Rules

Surveying new and existing boundaries, continued

Surveying new and existing non-primary parcel boundaries

- (a) New non-primary parcel boundaries are required to meet modern accuracy standards.
- (b) In a similar manner to primary parcel boundaries, existing non-primary parcel boundaries have less stringent requirements than those for new boundaries.

The accuracy requirements for existing non-primary boundaries are approximately 50 % less stringent than for new boundaries.

- (c) With the exception of new lease and permanent structure boundaries (see [Surveying new lease boundaries](#) and [Permanent structure boundaries](#)), non-primary boundaries can be calculated and referenced by mathematical dimensions to their underlying primary parcel boundaries. Marking and witnessing are not required.

Although the placement of durable reference marks in the field is not required, if it is the intention of the MLC to define calculated boundaries in relation to physical features, some field work may be necessary to survey the location of these physical features.

Surveying new lease boundaries

- (a) Leases are defined by non-primary parcels.
- (b) New lease boundaries are the only type of non-primary boundaries that are required to be referenced to durable non-boundary marks.²² This is because a lease provides the right of exclusive possession which in the hierarchy of interests is above other non-primary interests which normally allow the land to be shared.
- (c) To ensure new lease boundary points (angles) can be relocated without ambiguity by a surveyor in the future, (such as, 100 years' time), the boundary points must be referenced to non-boundary marks.

These non-boundary marks are referred to as 'witness marks' and 'PRMs' and are required to be durable and stable. Normally, they are made of metal and buried below the ground surface. At least one reference mark must be within 150 m of each boundary point in an urban area and 500 m in a rural area.

- (d) The placement of witness marks and PRMs is required irrespective of the new lease boundaries being marked or not.
 - (e) Existing lease boundaries are not required to be referenced to non-boundary marks.
-

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²² Rule 7.3.1(b) of the Cadastral Rules

Surveying new and existing boundaries, continued

Permanent structure boundaries

- (a) Permanent structure boundaries are boundaries related to permanent structures.²³ A permanent structure is a building or recognisable physical feature that is likely to remain undisturbed for 50 years or more.²⁴ Normally, they are the external, or the internal faces of permanent building walls, and are used to define 'units' or 'flats' in urban areas. Occasionally, they are used for boundaries of leases of land.
- (b) A permanent structure boundary may also be offset from a structure as long as it is referenced back to the structure. Floors and roof lines may also be used to define lower and upper boundaries. The permanent structure acts to witness the location of the boundaries.
- (c) Permanent structure boundaries may only be used to define the boundaries of non-primary parcels and are not required to be referenced to durable non-boundary marks.
- (d) A single non-primary parcel can be defined by different types of boundaries, including a mix of permanent structure boundaries, right lines, arc boundaries, and water boundaries.
- (e) For the purposes of the MLC, a mix of different types of boundaries, including permanent structure boundaries, could be used as a base for Occupation Order diagrams or for any other non-primary interest the MLC determines should be defined in diagrams (see [Illustrating permanent structure boundaries](#)).

Note: Many historical Occupation Order diagrams use fence lines, hedge lines and other similar physical objects to reference boundaries. Such features do not meet the criteria of a permanent structure under the Cadastral Rules and therefore could not be used for boundaries defined in a CSD. The MLC may require these diagrams to be define the land to the same standard as if it was a non-primary parcel complying with the Cadastral Rules (see [Illustrating permanent structure boundaries](#)).

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²³ Rule 2 of the Cadastral Rules

²⁴ See rule 2 of the Cadastral Rules for definition of 'permanent structure boundary'

Surveying new and existing boundaries, continued

Illustrating permanent structure boundaries

To illustrate permanent structure boundaries in Figure 6:

- (a) boundary points A-F meet the criteria set out in the Cadastral Rules. This is because point:
 - (i) A is referenced to the watertank,
 - (ii) B is referenced by offset distances to the building on the left,
 - (iii) C – D follow the exterior face of the building,
 - (iv) E and F are referenced to the centre and right hand building.
- (b) fence lines, hedge lines, and other similar physical objects do not meet the criteria of a permanent structure and therefore points G and H do not meet the criteria set out in the Cadastral Rules. In addition, hedges do not have clearly defined points from which boundaries can be accurately located from.

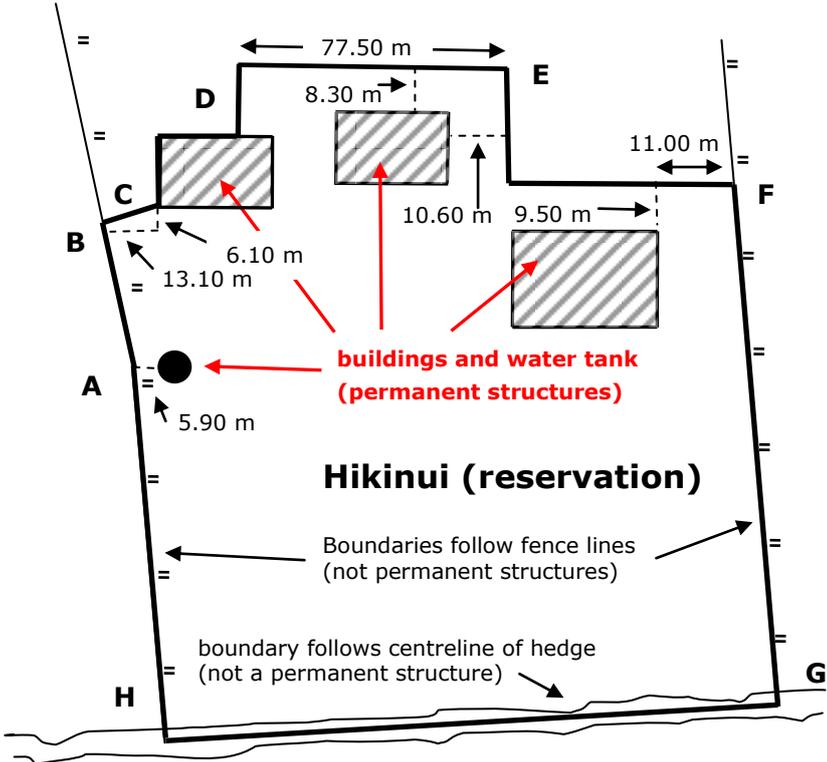


Figure 6: Examples of permanent structure boundaries

10 Reducing the quality of boundary definition

Exempting survey definition from cadastral survey

- (a) A surveyor can apply to the Surveyor-General for a dispensation from one or more of the Cadastral Rules under s 47(5) of the Cadastral Survey Act 2002. The dispensation may exempt the survey from a requirement, or allow for a reduced or alternative requirement. The survey and CSD is then completed in terms of the dispensation (if granted) and the other unaffected Cadastral Rules.
- (b) Before agreeing to a dispensation for a reduced quality of survey definition or boundary accuracy, the Surveyor-General must be satisfied that full compliance with the Cadastral Rules would be impractical or unreasonable in the particular circumstances.
- (c) A dispensation applies to exceptional circumstances and, while there may be circumstances where it could be applied to the definition and accuracy of primary parcel boundaries, it is more likely to apply to non-primary parcel definition.

An example could be a Māori reservation, (such as an urupa), where the boundaries are readily identifiable by physical features on the ground and the landowners of the surrounding land will have an enduring association with the features within the reservation.

- (d) Boundaries are assigned an accuracy class to signal to survey users their level of accuracy.²⁵ If a dispensation was granted to allow reduced boundary accuracies, the boundaries that would normally be 'class A' (urban areas) and 'class B' (rural areas) could be reduced to 'class C' or for existing boundaries in exceptional circumstances 'class D'.

For class D, annotations '*area not determined by survey*' and '*boundary accepted from existing survey*' are required in the CSD diagrams to warn tenure managers and land owners of the boundaries that do not meet normal standards.²⁶

Defining land interests without a cadastral survey

- (a) Section 124 of TTWMA explicitly provides for provisional registration where the survey definition is inadequate, including where there is no spatial definition at all (see [Registration under the Land Transfer Act 1952](#)). In these cases, a CSD is not required.
 - (b) Without a CSD, the parcels would not be recorded in the spatial cadastre, and interested parties would not be able to use the spatial functionality of LINZ Landonline to assist with identifying the parcel shape, area, location, and survey and title information related to the land.
-

²⁵ Rule 3 of the cadastral Rules

²⁶ Rule 10.4.8 of the Cadastral Rules

11 Extent of survey

Survey must include all of existing primary parcel

- (a) The Cadastral Rules focus on the extent of parcels of land and their boundaries.
- (b) The Cadastral Rules do not have any requirements for determining the extent of all land in a title. A title may be made up of one or more parcels of land and the Cadastral Rules only focus on the particular parcel that is subject to the survey.

The Cadastral Rules leave it to the tenure manager (such as the MLC) to manage how the newly surveyed parcels are to be bound together with any other parcel in a title. Alternatively a condition of subdivisional consent may be imposed by a territorial authority under the Resource Management Act 1991.

- (c) A cadastral survey that creates a new primary parcel must include all of the land that was in the existing primary parcel before the survey.²⁷ This means:
 - (i) the surveyor must consider the adequacy of the survey definition of all the boundaries of the entire existing parcel including 'the portion being surveyed off' and any 'remaining portion'. This ensures there is no doubt as to the extent, area, and location of every portion of land affected by the division.
 - (ii) all of the affected land will be included as separate new parcels in the CSD.
- (d) The survey must include all of the land in an existing parcel, even if the MLC order only deals with a part of it. In some cases, the MLC may need to verify the extent and appellation of any 'remaining' portion.

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²⁷ Rule 5.1 of the Cadastral Rules

Extent of survey, continued

Survey requirements where only non-primary parcel is being created

- (a) If the purpose of a survey is only to define a non-primary interest (such as an easement over an existing parcel of Māori freehold land or General land), the survey must focus on two aspects:
 - (i) the extent of the new non-primary parcel (the easement), and
 - (ii) the location of the new non-primary parcel in relation to its underlying primary parcel (ie the boundaries of the parcel of Māori freehold land or General land).
 - (b) The survey does not include the resurvey of the boundaries of the primary parcel and normally does not include a field component. The resultant CSD is normally of the type 'Parcels without survey information' (see [CSD without field survey](#)).
-

Creating a non-primary interest without a CSD

- (a) An alternative to preparing a new CSD to define the extent of a non-primary interest over a primary parcel is to encumber the whole of the underlying primary parcel with the non-primary interest.

This may be appropriate if the extent of the non-primary interest is readily identifiable by physical features on the ground and the owners of the surrounding land have an enduring association with the physical features being protected.
 - (b) In these cases a CSD would not be required but, if the MLC decided one was necessary, the boundaries of the non-primary parcel would coincide with the boundaries of the whole of the underlying primary parcel (see [CSD without field survey](#)).
-

12 Information in a cadastral survey dataset

ML CSD for all MLC land interests

- (a) The Cadastral Rules do not specify when a ML CSD, LT CSD or SO CSD is required. When a CSD is submitted into LINZ Landonline (see [LINZ Landonline and digital CSDs](#)), a surveyor is required to identify the CSD type according to the purpose of the survey. This is a systems based requirement enabling the CSD's proper recording in the cadastral system.
 - (b) An ML CSD is to be used for all surveyed land rights created by the MLC. This includes new non-primary rights over General land.
-

Terminology for survey plans

- (a) The Cadastral Rules specify the data required for each type of survey and land interest being defined.
 - (b) The terms 'compiled plan' and 'computed plan' are historical and are no longer formally referred to in the Cadastral Rules, although the terms are sometimes used informally. A compiled or computed CSD does not include field survey information and is now referred to in LINZ Landonline as a CSD type 'parcels without survey information' (refer to [CSD without field survey](#)).
 - (c) The CSD type 'survey' in LINZ Landonline relates to a CSD that includes field survey information.
 - (d) The terms 'sketch plan', 'scheme plan', and 'proposed plan' are not referred to in the Cadastral Rules although they may be used for other purposes by other institutions and organisations, such as the MLC. They are not prepared for the purposes of the Cadastral Rules or the Cadastral Survey Act 2002 and therefore the Surveyor-General does not regulate their content or use.
-

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Information in a cadastral survey dataset, continued

CSD survey and title information

The information in a CSD is separated into:

(a) the Title Plan²⁸

This information is necessary to support the management and allocation of new land interests. It includes:

- (i) diagrams depicting parcels of land representing land interests. This information is normally for the tenure managers, lawyers, local authorities, and land owners.
- (ii) non-diagrammatic information for the tenure manager. Examples of this information are schedules and memorandums.

(b) the CSD Plan²⁹

This information is intended for use by surveyors and LINZ. It includes:

- (i) survey information that explains and supports the location of boundaries. In many cases it includes the evidence used to correctly locate existing boundaries and information to enable the accurate re-establishment of boundaries in the future,
- (ii) diagrams depicting the boundaries of parcels of land representing the land interests, information adopted from existing surveys and relationships to reference marks, and
- (iii) non-diagrammatic information about existing surveys, survey marks, adopted information, and the structure of the new survey.

(c) other information³⁰

This includes the data necessary for the CSD to be integrated into the cadastre and other supporting information such as the surveyor's survey report, any correspondence on issues relevant to the Cadastral Rules or tenure manager and often the description of boundaries for Māori land, although the Cadastral Rules do not specify its inclusion.

continued on next page

²⁸ Rule 10 of the Cadastral Rules

²⁹ Rule 9 of the Cadastral Rules

³⁰ Rule 8.1 and 8.2 of the Cadastral Rules

Information in a cadastral survey dataset, continued

LINZ Landonline and digital CSDs

- (a) LINZ Landonline is a LINZ computer system that provides land experts (including lawyers, surveyors, and tenure managers) with secure access to New Zealand's authoritative digital title register and cadastre. The system enables registered users to search for survey and title data and conduct secure electronic title and survey transactions in real time.
- (b) All CSDs submitted to LINZ for approval must be captured and submitted by surveyors using LINZ Landonline³¹, and the CSD's must comply with the Chief Executive's *Standard for lodgement of cadastral survey datasets* and the Cadastral Rules before it is approved.
- (c) The capture of information enables the CSD to be:
 - (i) linked with, and to update, the existing survey and title information already held in LINZ Landonline, and
 - (ii) integrated into the spatial cadastre. Upon MLC approval, the parcels are depicted in the live spatial view of property boundaries in LINZ Landonline. Prior to this they remain 'hidden' in the approved view.

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³¹ Section 9(b) of the Cadastral Survey Act 2002 requires the Chief Executive to provide facilities to receive cadastral survey datasets. Landonline is that facility. Section 9(c) of the Cadastral Survey Act 2002 requires the Chief Executive to set conditions for the use of the facilities referred to in s 9(b). Section 3 of the *Cadastral Survey (Compulsory Lodgement of Digital Cadastral Survey Datasets) Order 2007* states that 'On and from 1 September 2007 cadastral surveyors providing cadastral survey datasets to the Chief Executive must provide them as cadastral survey datasets'.

Information in a cadastral survey dataset, continued

CSD without field survey

- (a) A CSD prepared without the need for field work is a 'Parcels without survey information' CSD (historically called a 'compiled plan' or a 'computed plan').

Note: Where the MLC has described a non-primary interest by reference to physical features, a small amount of field work may still be necessary to ensure the computed boundaries are properly located in regard to those features. In this case, the CSD remains a 'Parcels without survey information' CSD and the field survey information is not recorded in the dataset.

- (b) The 'Parcels without survey information' CSD type may be used:
- (i) where the new primary parcel can be compiled from boundaries that already exist, ie existing approved CSDs already define the proposed new primary parcel's boundaries to the accuracy standards required by the Cadastral Rules.

These existing CSDs may be surveys of adjoining parcels which, when adopted and combined, define the subject parcel.

- (ii) where an existing primary parcel can be partitioned by calculating a new boundary between existing boundary points and the new parcels are over 4000m², and existing and new boundaries are to the accuracy standards required by the Cadastral Rules, and
- (iii) for the definition of most new non-primary parcels.
- (c) For primary parcels, a CSD of this type can be used to support the issue of a guaranteed title ('computer freehold register').

Note: This will not apply to boundaries defined on computed survey plans in terms of the *Interim standard for computed cadastral survey datasets for Māori freehold land* (see [Surveying existing primary parcel boundaries](#)).

13 Costs of a cadastral survey

Significant costs of surveying a primary parcel

- (a) Often the only tangible evidence of a cadastral survey to a landowner is the new boundary marks delineating new boundaries and the title.
- (b) What is not readily apparent is the time spent by the surveyor:
 - (i) in the office (including examining old survey plans and sometimes having to identify and resolve old survey errors),
 - (ii) in the field (normally two people travelling, searching for evidence of old survey marks or boundaries and placing new reference marks and boundary marks), and
 - (iii) preparing the CSD (including calculations, data entry, and quality assurance).
- (c) The required time and effort (and therefore cost) is usually directly related to the age and adequacy of the original surveys (see [Surveying the connection between existing and new primary parcel boundaries](#)).

Utilising the data from modern surveys will significantly reduce the surveyor's time in the office and field because the modern CSDs are clear and unambiguous, existing boundaries are accurate and there are witness marks and PRMs.

- (d) The costs of a survey include the surveying of all the land in the primary parcel being divided. This includes the portion the landowner is interested in surveying and any remaining portion (see [Survey must include all of existing primary parcel](#)).

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Costs of a cadastral survey, continued

Survey costs for marking boundaries

For Māori land, the MLC acts for the benefit of those who have, or will have, an interest in the extent of the land. Consequently, it is left to the discretion of the owners or the MLC to determine whether boundary marking is required (see [Boundary marking Māori land](#)).

- (a) The cost of placing boundary marks is largely dependent on the additional time taken to place these markers accurately in the ground in relation to the survey's reference marks. Where:
 - (i) the terrain is open and unobstructed, the additional costs should not be significant. This is particularly true in rural areas where GPS can be used, but it can also apply to small allotments where a surveyor's theodolite is often used.
 - (ii) there are obstacles (such as buildings or vegetation that reduce sight lines or reduce sky visibility for GPS), there is often extra work surveying to the boundary positions. Field costs will increase in proportion to the time taken.
 - (b) Boundary marking does not have a material impact on the cost of CSD preparation, obtaining approvals, and LINZ fees.
-

Survey costs for a computed or compiled CSD

- (a) Where a 'Parcels without survey information' CSD (historically called a 'compiled plan' or a 'computed plan') is able to be prepared (see [CSD without field survey](#)), the survey costs are significantly less than a survey which involves field work.
 - (b) The costs of a 'Parcels without survey information' CSD will normally relate to a surveyor's office activity of:
 - (i) identifying where the new boundaries are to be placed in relation to existing boundaries. Sometimes this may require a visit to the site to relate the MLC's orders to the physical features on the ground,
 - (ii) the calculation of new boundaries,
 - (iii) CSD preparation, and
 - (iv) obtaining approvals and LINZ fees.
-

Appellations for Māori land

14 Overview

Introduction It is essential that the cadastre records parcels of land in an unambiguous manner.

This section explains how each parcel of land can be uniquely identified.

Contents This section contains the following topics:

Sections	See page
Format of parcel appellations	50
Preferred parcel appellations for Māori land	54

15 Format of parcel appellations

Land interests and appellations

- (a) The Cadastral Rules require every separate parcel of land in a CSD to have a unique appellation ie it does not duplicate an existing or historic appellation.

The unique appellation reduces the risk of interested parties misidentifying the land of interest, and to enable the land to be easily searchable in a computerised database (such as the cadastre in LINZ Landonline).

- (b) Different forms of appellations are used for primary and non-primary parcels to assist in differentiating between the primary and non-primary interests.
-

MLC should provide appellation in all cases

- (a) Where the MLC has not already provided an appellation, they should be consulted whenever a survey requires a new appellation for a portion of Māori freehold land, or for a Māori Reservation or occupation order.

- (b) This includes any:

- (i) remainder land that results from a partition and was not specifically given an appellation at the time the order was made,
 - (ii) remainder land that results from a legalisation survey (see [Appellations for road acquisition surveys](#)).
 - (iii) Māori reservations (see [Appellations for Māori land non-primary parcels](#)).
-

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Format of parcel appellations, continued

Unique appellation for each parcel of land

- (a) For Māori freehold land (including roadways of the primary interest type), the Cadastral Rules require the appellation of primary parcels to be made up of three components:³²
 - (i) a block name,
 - (ii) a unique parcel identifier. For Māori land this would be a sequence of alternating letters and numbers, and
 - (iii) the CSD type and number. For Māori land this would be 'ML [number]'

An example is 'Rotoroa A ML 302256'.

- (b) These appellation requirements apply unless the MLC has provided an alternative legal description for the parcel type and unique parcel identifier (see [MLC should provide appellation in all cases](#)).³³

Note: Although the MLC does not assign the ML [number], it is essential for the efficient functioning of the cadastre.

- (c) On the face of CSD diagrams, the ML [number] does not normally appear. It is, however, part of the appellation captured into the cadastre.

In [Figure 7](#), Rotoroa Block is partitioned into two parcels and depicted on survey plan ML 302256. The new parcels are 'Rotoroa A ML 302256' and 'Rotoroa B ML 302256'. The 'Rotoroa A' and 'Rotoroa B' parts of the appellation would be determined by the MLC and the 'ML 302256' suffix appended by the surveyor to complete the parcel appellation.

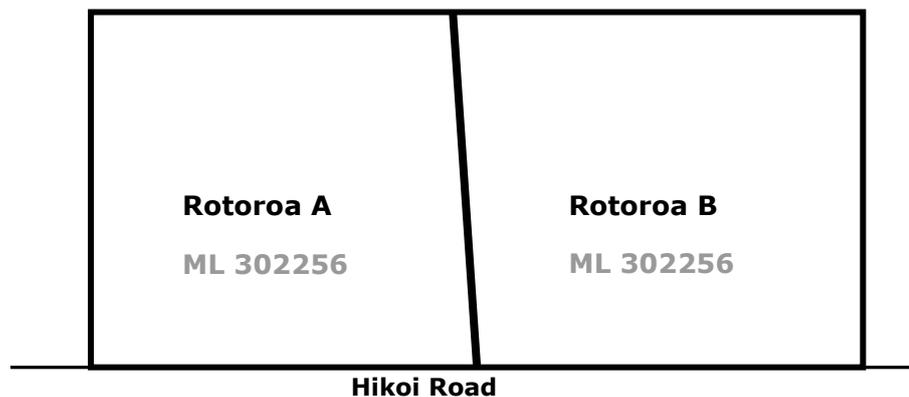


Figure 7: Appellations on CSD diagrams

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³² Rules 5.5.3 and 5.5.4 of the Cadastral Rules

³³ Section 125A of the Te Ture Whenua Māori Act 1993 and r 5.5.3(b) of the Cadastral Rules.

Format of parcel appellations, continued

Appellations for blocks of Māori freehold land

- (a) Historically, the MLC has given each block of Māori land a name, eg. 'Rotoroa Block'.
- (b) On partitioning the original block, each new parcel would retain the block name with the addition of a capital letter, eg 'Rotoroa Block' partitioned to create 'Rotoroa A Block' and 'Rotoroa B Block' etc.

Historically in some cases, only a part being taken out of a block would be assigned a letter and the remaining portion would be left as part of the original block, eg 'Rotoroa Block' partitioned to create 'Rotoroa A Block' and 'Pt Rotoroa Block'. This creation of a new 'Pt' appellation is no longer appropriate under the Cadastral Rules and a new appellation is required for this portion of land.

- (c) Upon further partitioning, a new parcel would normally be assigned a number after the letter, eg 'Rotoroa B Block' partitioned to create 'Rotoroa B1 Block' and 'Rotoroa B2 Block'.

Further partitions would then continue the sequence of alternating letters and numbers. This system provides an immediate whakapapa for the current parcel appellation but can create a relatively complex appellation eg 'Rotoroa B2C5B2 Block'.

- (d) In some cases, a new block name is assigned to a new parcel, eg 'Rotoroa Block' partitioned to create 'Rotoroa A Block' and 'Tamahere Block' (see [MLC should provide appellation in all cases](#)).

Appellations for land held under the Land Transfer Act 1952

Where the MLC has declared land to be General land, subsequent subdivisions will be carried out under the Land Transfer Act 1952. The Māori block name will not endure and subsequent appellations will be Lots on an LT CSD.

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Format of parcel appellations, continued

Historical multi-polygon parcels and Māori land

- (a) There are a number of historical examples where an existing parcel was severed into two or more parts and these parts were not uniquely identified and given separate areas. These parcels are called 'multi-polygon parcels'.
- (b) They commonly occurred on early road surveys where existing parcels were bisected by new roads and the survey only dealt with the new road corridor.
- (c) In the case of Māori land, some early partition orders created multi-polygon parcels. In
- (d) [Figure 8](#), Rotorua 2A Block is shown as being partitioned to only identify Rotorua 2A1 (shown in blue). This leaves the remainder of Rotorua 2A in two parts. These are shown as Pt's Rotorua 2A without separate areas for each of the portions. In these cases the MLC required these Pts to be included to be assured that the whole of a title under survey was being accounted for but did not assign unique appellations to the parts.

In many cases, the 'Pts' were further partitioned a number of times often leaving very small portions a considerable distance apart with unknown boundary accuracies or areas.

- (e) The creation of new multi-polygon parcels is not permitted under the Cadastral Rules and a survey must deal with all of the land under division (see [Extent of survey](#)) In
- (f) [Figure 8](#) the three parcels resulting from the division of Rotorua 2A would be required to have unique appellations, eg 'Rotorua 2A1', 'Rotorua 2A2' and 'Rotorua 2A3'). Each would require a separate area.
- (g) For existing multi-polygon parcels, the new survey is only required to deal with the particular 'Pt' under survey unless the MLC orders say otherwise.

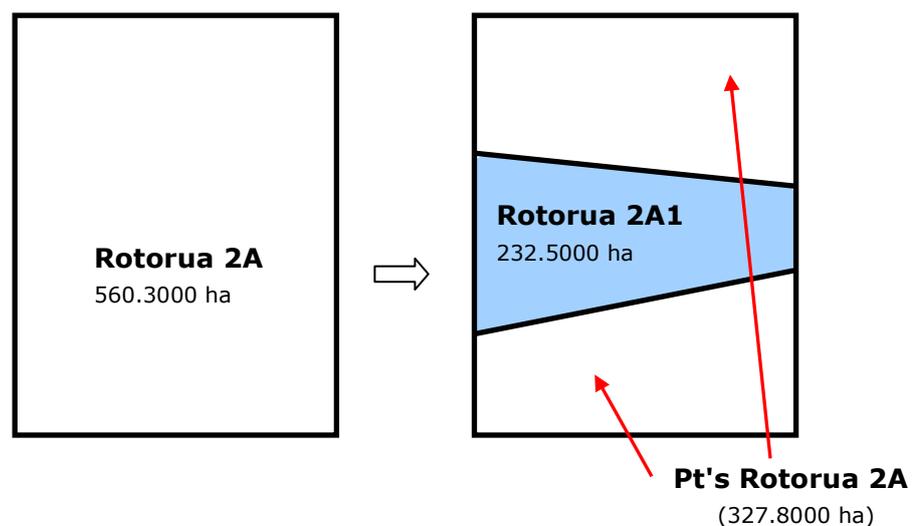


Figure 8: Example of a multi-polygon parcel

16 Preferred parcel appellations for Māori land

Appellations for road acquisition surveys

- (a) For legalisation surveys (such as land acquired for road), the land under survey is depicted in SO CSDs.
- (b) Land to be subject to the gazette notice must have the appellation in the form of 'Section [number] SO [number]' (eg Sec 1 SO 456892).
- (c) Māori land not subject to the legalisation action (the remainder part of the existing parcel not being gazetted) will also be included in the SO CSD. Historically this would have been 'Pt' of the original parcel. In
- (d) [Figure 9](#), this is shown as 'Pt Rotorua 2A SO 456892'. It is desirable that 'Pt' is not used and all parcels are given unique appellations. In these cases, notification from the MLC as to the appellation is required (see [MLC should provide appellation in all cases](#)). In the examples below, these appellations are shown as 'Rotorua 2A1 SO 456892', 'Rotorua 2B1 SO 455823', and 'Rotorua 2B2 SO 455823'.

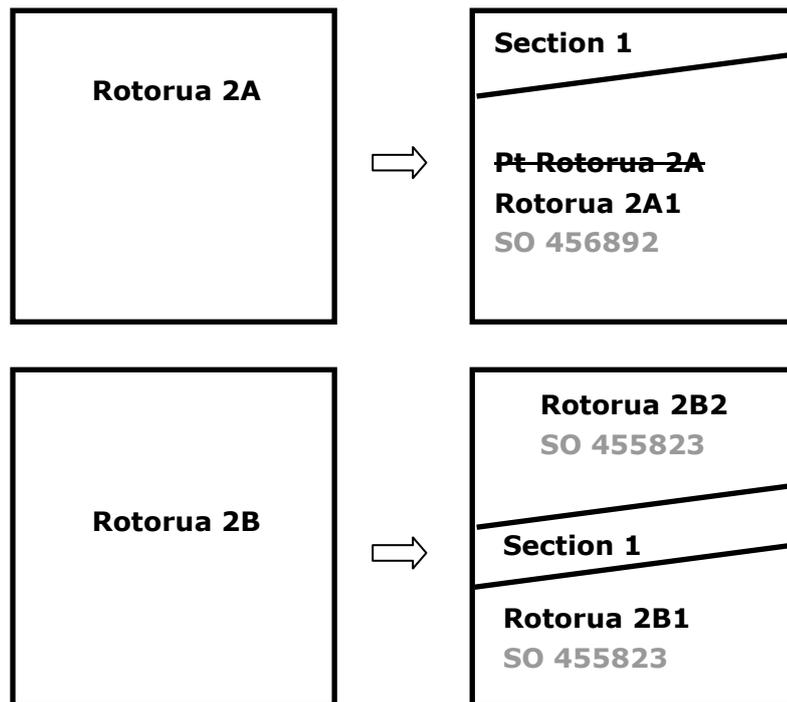


Figure 9: Examples of appellations for road acquisition on SO CSDs

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Preferred parcel appellations for Māori land, continued

Appellations for Māori land non-primary parcels

- (a) To enable users to readily identify non-primary interests, the Cadastral Rules require the form of appellation of non-primary parcels to be different from that of primary parcels.³⁴ For Māori land the following are preferred:
- (i) the parcel type 'Area' is to be used for non-primary rights such as easements, covenants, rights of way, leases and licences in the same manner as for General land. An example is a water easement referred to as 'Area A'.
 - (ii) for roadways (of the encumbrance type), they be referred to as 'Roadway' followed by a unique letter. Examples are 'Roadway A' and 'Roadway B'.
 - (iii) for reservations, they be given a block name which may be followed by a sequence of alternating letters and numbers. Examples are 'Te Awapoko Block', 'Te Awapoko A Block' and 'Te Awapoko A1 Block'.
 - (iv) for areas set out in occupation orders (if the MLC determined that a CSD was necessary), they be given a name which may be followed by a sequence of alternating letters and numbers.

Appended to the above will be 'ML [number]', eg 'Roadway A ML 458756'.

- (b) The MLC and LINZ have agreed that they prefer appellations:
- (i) to be unique, ie they do not duplicate existing or historic appellations,
 - (ii) which have names relating to the underlying parcel, such as 'Paeroa 1D2' being a non-primary parcel (reservation) that encumbers 'Paeroa 1D1', or be given a name that is important to the owners of the non-primary interest.

(iii) This is illustrated in

Figure 10 where the new non-primary parcel will be known as 'Te Awapoko defined on ML 456213 (Te Awapoko ML 456213)' whereas the underlying primary parcel is known as 'Rotoroa A Block ML 1965'.

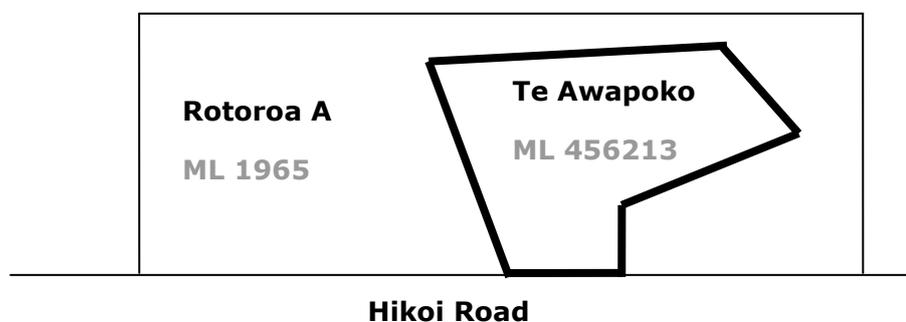


Figure 10: Non-primary appellations

³⁴ Rule 5.5 of the Cadastral Rules



Boundary marking Māori land

17 Overview

Introduction

Landowners and other interested parties rely on boundary markers as being the definitive markers of their estate. This section explains the:

- (a) circumstances where boundaries must be marked,
 - (b) circumstances where boundary marking could be important,
 - (c) attributes of boundary marks.
-

Contents

This section contains the following topics:

Sections	See page
Background to Cadastral Rules on boundary marking	58
Boundary marking rule requirements	59

18 Background to Cadastral Rules on boundary marking

Cadastral Rules on boundary marking

- (a) Boundary marking is primarily for the benefit of landowners to enable them to locate their boundaries. Other parties including local authorities, may also have an interest in the location of these boundaries.
- (b) Where boundary marking is not carried out, that does not mean that the location of boundaries cannot be determined. This is because the evidence of boundary location is also catered for by:
 - (i) the placement of witness marks and permanent reference marks that enable the boundary to be located at any time, and
 - (ii) CSDs being required to record the evidence of boundary location and the extent of land parcels. The information in these CSDs remains available on demand.
- (c) For General land, landowners are often dividing up land to sell and their focus is primarily on minimising costs and gaining new title.

For this land, the Cadastral Rules require new boundaries to be marked³⁵ so that new owners (often not the subdividers) are able to readily identify where the boundaries are and to establish occupation without risk of encroaching into the neighbouring property.

- (d) For Māori land, the MLC acts for the benefit of those who have, or will have, an interest in the land. In these cases, in the Cadastral Rules, give the MLC the discretion as to whether or not boundary marking is required.³⁶

Note: Boundary marks are often replaced or disturbed by owners placing fence posts and structures along the boundaries. A disturbed boundary marker will mislead future landowners as to the location of the correct boundary position.

³⁵ Rule 7.1 of the Cadastral Rules

³⁶ Rule 7.1(a)(i) and (ii) of the Cadastral Rules

19 Boundary marking rule requirements

Marking new boundaries of primary parcels

- (a) The Cadastral Rules do not prevent boundary marking of land under the jurisdiction of the MLC, but simply leave it to the discretion of the owners and the MLC as to whether or not boundary marking is required.
- (b) Where the owners or the MLC require boundary marking, the marking must be carried out in accordance with the Cadastral Rules. This includes specifying the type of mark that can be used.
- (c) Irrespective of whether a primary parcel boundary point is marked or not, the surveyor is normally still required to complete a field survey and include non-boundary marks that reference the new boundary positions (see [Surveying new primary parcel boundaries](#)).
- (d) For land that is not intended to remain under the jurisdiction of the MLC, all new boundary points on a new primary parcel are required to be marked.³⁷

This normally results in most new boundaries of General land parcels being marked. However, the Cadastral Rules do provide some circumstances where the marking requirements do not apply,³⁸ but these are exceptions that do not occur on a regular basis.

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³⁷ Rule 7.1 of the Cadastral Rules

³⁸ Rules 7.1(a)(iii)-(vi) of the Cadastral Rules

Boundary marking rule requirements, continued

MLC considerations regarding boundary marking

- (a) The MLC may wish to consider the need for boundary marking of new primary parcels and, occasionally, in respect to new non-primary parcels.

If boundary marking is required, the MLC will need to instruct the surveyor before the survey is carried out. The Surveyor-General has no role in this.
- (b) Survey costs may not be the best determinant of whether boundary marking should be carried out (refer to [Survey costs for marking boundaries](#)). Possible reasons for ground marking could be where:
 - (i) there are no physical features (eg no fences or hedges) on site,
 - (ii) physical features are on site but not on the intended boundaries and this could mislead landowners,
 - (iii) earthworks are to occur on or about the boundaries,
 - (iv) new fences or buildings are to be established in the near future on or about the new boundaries,
 - (v) there is the potential for conflict with adjoining owners/occupiers regarding 'who owns what',
 - (vi) the land is to be passed to new owners.
- (c) Not all boundary positions need to be marked. Each position can be considered for marking on a case by case basis.
- (d) Leaving a boundary unmarked does not affect the type of title issued.
- (e) To assist the MLC in making a decision, it may be useful to require the surveyor submitting a scheme plan to:
 - (i) identify which existing boundary points may need marking (see [Marking existing boundaries of primary parcels](#)),
 - (ii) provide an opinion on where boundary marking could be appropriate, and
 - (iii) provide an estimate of the extra costs of boundary marking.

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Boundary marking rule requirements, continued

Marking existing boundaries of primary parcels

- (a) Existing boundary points of primary parcels are not usually required to be ground marked. These boundaries can usually be adopted or accepted from existing surveys.

The exception to this is where the quality of an existing/original survey is inadequate and there is a lack of surety as to where the boundary is located.³⁹ In this case, the boundary must be resurveyed and marked to remove the doubt.

- (b) Examples of inadequate existing boundaries required to be marked are where:
- (i) the original survey was very poorly executed (mainly very early surveys up until the early 1900s) and the boundaries have not been adequately determined,
 - (ii) there is an error in an existing survey,
 - (iii) there is conflicting evidence of where the existing boundary is located. This includes conflict between the MLC's records and an earlier survey, or conflict between an earlier survey and the boundary evidence on the ground.
- (c) Ground marking is also required for an existing urban boundary which is an irregular line and must be converted to a series of fixed right lines.⁴⁰

Irregular line boundaries (sometimes referred to as wavy line boundaries) are historical anomalies that were generally created along the landward side of roads or reserves that followed the edge of rivers, streams, and lakes. They also occur today where the physical water's edge has moved away from a legal water boundary (eg where avulsion has occurred).

- (d) Prior to carrying out fieldwork, a surveyor will usually examine the existing survey and title records to determine if there is conflict. However, unidentified conflict does occasionally come to light while the fieldwork is being carried out.

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³⁹ Rule 6.2(a)(vi)-(xi) of the Cadastral Rules

⁴⁰ Rule 7.1(c) of the Cadastral Rules

Boundary marking rule requirements, continued

Marking boundaries of non-primary parcels

- (a) Non-primary parcel boundary points are not required to be marked, whether new or existing.
- (b) Cases where the MLC could consider requiring boundary marking are where the landowners or the owners of the land interest would benefit from knowing exactly where the boundary points are located.

Examples of this are where the extent or location of the non-primary interest is contentious, earthworks are going to occur in relation to the boundary, physical occupation is going to be established (such as fence lines), or where the land interest overlaps other competing land interests.

- (c) Where boundary marking is carried out, it must be carried out in accordance with the Cadastral Rules. This means that a field survey must be carried out and each marked boundary referenced to witness marks and permanent reference marks.
-

Types of boundary marks

- (a) Boundary marks are required to be readily identifiable. In this context, landowners are accustomed to the traditional wooden peg or fence post and these are provided for in the Cadastral Rules.⁴¹

The Cadastral Rules also provide for other types of pegs, but they must be labelled as boundary marks. Examples are plastic or metal alloy pegs.

- (b) Where peg placement is not practical, the Cadastral Rules allow for other mark types providing they are labelled as boundary marks. For instance on a footpath a metal alloy disc held in place by a substantial nail may be used.
 - (c) To meet their purpose, boundary marks are required to be soundly anchored in place and visible where practical.
-

⁴¹ Rule 7.2 of the Cadastral Rules

Appendix A: Cadastral outcomes, objectives, and sub-objectives

Cadastral Outcomes, Objectives, and Sub-Objectives (Revised 20 July 2012)				
LINZ End Outcomes	End Outcome	Intermediate Outcome	Objective	Sub-Objectives
Integrity of the property rights system maintained to encourage trade, commerce and wellbeing Increase the productive use of location-based	A. Holders of rights, restrictions, and responsibilities in land confidently know the boundaries to which they apply so that they can efficiently identify, trade and use their rights	A1 Sufficient evidence is available for correctly and efficiently locating boundaries on the ground	A1(a) The accuracy of boundary dimensions and areas is consistent with the expected land use	A1(a)1 The accuracy of horizontal boundary direction is aligned with the landowners need to derive benefit from the land
				A1(a)2 The accuracy of horizontal boundary distances is aligned with the landowners need to derive benefit from the land
				A1(a)3 The accuracy of the heightened boundaries is aligned with the landowners need to derive benefit from the land
				A1(a)4 The accuracy of parcel area is aligned with the landowners need to derive benefit from the land
				A1(a)5 The accuracy of boundary dimensions is able to be increased as land use intensifies
			A1(b) The boundary is accurately, clearly and uniquely located in relation to physical marks or features when surveyed	A1(b)1 Boundary positions are able to be readily located by reference to survey marks or physical features or by reference to other boundary positions
				A1(b)2 Marks or physical features used to demarcate boundaries are not confused with other objects in the field
				A1(b)3 Boundaries or marks are accurately positioned in relation to existing boundaries
				A1(b)4 The positions and descriptions of marks and physical features used to demarcate boundaries are correctly recorded by the surveyor
			A1(c) The original position of a survey mark or boundary is able to be re-established at any time	A1(c)1 The original position of a survey mark and/or boundary is adequately and correctly recorded in a CSD
				A1(c)2 Data from a CSD is correctly integrated into the cadastre
				A1(c)3 Sufficient information about the position of a survey mark and/or boundary is able to be retrieved from the cadastre
				A1(c)4 Sufficient original survey marks or physical evidence of boundary demarcation remains in position after survey

Cadastral Outcomes, Objectives, and Sub-Objectives (Revised 20 July 2012)

LINZ End Outcomes	End Outcome	Intermediate Outcome	Objective	Sub-Objectives
information				A1(c)5 There is a known and sufficiently accurate relationship in the cadastre between original survey marks and boundaries, and nearby remaining survey marks
				A1(c)6 The accuracy tolerances of the survey are known
			A1(d) Interested parties are able to review the evidence relating to the surveyor's determination of the location of a boundary	A1(d)1 Adequate evidence of boundary determination is included in the CSD
				A1(d)2 The information is correctly referenced in and can be easily extracted from the cadastre
<p>Integrity of the property rights system maintained to encourage trade, commerce and wellbeing</p> <p>Increase the productive use of</p>	<p><i>(from above)</i> A. Holders of rights, restrictions, and responsibilities in land confidently know the boundaries to which they apply so that they can efficiently identify, trade and use their rights</p>	A2 Parcels support the recording of rights and other statutory land administration functions	A2(a) The cadastre enables rights assigned to a parcel to be identified and new rights to be correctly assigned to a parcel	A2(a)1 The information in a CSD meets the requirements of managers of tenure systems for the correct assignment of rights
				A2(a)2 The information in the cadastre meets the requirements of managers of tenure systems for the correct assignment of rights
				A2(a)3 The cadastre correctly reflects the rights assigned by managers of tenure systems
				A2(a)4 Statutory actions and land status are recorded against the correct parcel
				A2(a)5 The quality of parcel definition enables managers of tenure systems to judge which rights are appropriate to assign to it
			A2(b) All land in NZ is recorded in the cadastre, without gaps	A2(b)1 Surveys account for the extent of all underlying parcels
				A2(b)2 All parcels in the cadastre have a survey definition of their boundaries
				A2(b)3 Parcels abutting each other have common boundary positions
				A2(b)4 All parcels are uniquely identified in the cadastre
			A2(c) Parcels with incompatible rights do not overlap	A2(c)1 Parcels abutting each other have common boundary positions (see A2(b)2)
				A2(c)2 The relationship between new parcels and existing and other new parcels is clearly established
				A2(c)3 Parcels available for rights to be assigned are identified in a timely manner
				A2(c)4 Parcels with rights assigned or extinguished are identified in a timely manner

Cadastral Outcomes, Objectives, and Sub-Objectives (Revised 20 July 2012)

LINZ End Outcomes	End Outcome	Intermediate Outcome	Objective	Sub-Objectives
location-based information		A3 The records in the cadastre correctly represent the physical evidence on the ground	A3(a) A CSD is correct before it is accepted as being authoritative	A3(a)1 The content of a CSD is sufficient to enable its compliance with the standards to be determined
				A3(a)2 A CSD complies with the standards before it becomes authoritative
				A3(a)3 A CSD complies with the standards before it is submitted for integration into the cadastre
				A3(a)4 The integrated cadastre enables a CSD's compliance with the standards to be determined
			A3(b) Data in a CSD is completely and accurately integrated into the cadastre	A3(b)1 A record of all boundary marks placed is submitted for integration into the cadastre
				A3(b)2 Data in a CSD is suitable for integration into the cadastre
				A3(b)3 Data from CSDs is correctly integrated into the cadastre
			A3(c) Data from the cadastre is easily found, obtained and interpreted	A3(c)1 Data in the cadastre is easily found by users
				A3(c)2 Data is easily obtained from the cadastre by users
				A3(c)3 Data from the integrated cadastre is provided in a form that is easily interpreted by users
				A3(c)4 CSDs are submitted in a form that enables A3(c)(3) [ie data from the integrated cadastre to be provided in a form that is easily interpreted by users]
			A3(d) Survey records are maintained for their useful life	A3(d)1 Survey records are in a condition that enables them to be used
				A3(d)2 Survey records are retained in a format that ensures continued access and viewability
			Integrity of the property rights system maintained to encourage	B. the cadastre can be relied on and used efficiently for achieving other government
B1(a)2 Points, boundaries and parcels in a CSD are put in the correct spatial relationship to existing points, boundaries and parcels in the cadastre				
B1(a)3 The cadastre is not artificially divided				
B1(b) All cadastral surveys are coordinated in terms	B1(b)1 All cadastral surveys are orientated in terms of an official geodetic projection			
	B1(b)2 All CSDs are connected to the official geodetic datum			

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trade, commerce and wellbeing Increase the productive use of location-based information	and public good outcomes (e.g. electoral boundary definition, resource management, emergency management, land administration, utilities)	other datasets	of the official geodetic datum	B1(b)3 CSDs containing heights are connected to an official vertical datum
			B1(c) Parcel data from the cadastre facilitates update and management of linked datasets.	
			B1(d) Integrated data is up-to-date	
		B2 Authoritative data from the cadastre is easily found, obtained and interpreted	B2(a) Cadastral data can be easily found	
			B2(b) The latest authoritative data is readily available	
			B2(c) Data is provided in a form that is able to be merged with other datasets	
			B2(d) The quality of the data is identified	
			B2(e) Authoritative data can be easily interpreted	

Appendix B: Linking the cadastral rules and cadastral objectives/outcomes

Example of the link between a cadastral rule and the objectives/outcomes

The following example illustrates the link between rule 7.2 (New boundary marks) and the risks to achieving the objectives/sub-objectives.

End outcome A

Holders of rights, restrictions, and responsibilities in land confidently know the boundaries to which they apply so that they can efficiently identify, trade and use their rights.

Objective:

Objective A1(b): The boundary is accurately, clearly and uniquely located in relation to physical marks or features when surveyed.

Sub-objective:

Sub-objective A1(b)(2): Marks or physical features used to demarcate boundaries are not confused with other objects in the field.

Rule 7.2 New boundary marks

- (a) A new boundary mark must be:
 - (i) a wooden peg, chamfered at the top, with a minimum width of 45 mm and at least 3000 mm² in cross-section, or
 - (ii) a post, or
 - (iii) any other type of peg that is clearly labelled as a boundary mark, or
 - (iv) if (i), (ii), and (iii) are impractical, any other type of mark which must, if practical, be clearly labelled as a boundary mark.
- (b) A new boundary mark must be:
 - (i) soundly anchored in place, and
 - (ii) readily visible, where practical.

Risk of a mark not clearly indicating a boundary or confusing boundary marks with other objects:

- The primary risk is that people will not be able to distinguish a boundary mark from any other object in the ground (eg, a dumpy peg; a nail; a fencepost; a stake remaining from boxing). Although the landowner might be able to recognise the mark as indicating the location of a boundary, other interested parties might not unless clearly identified.
- There is little risk in allowing any type of mark to be used to indicate a boundary position, provided it is labelled as a boundary mark (noting that only some forms of mark are suited to some physical sites).
- Where a mark is unstable, there is a significant risk of a boundary being located incorrectly which could result in encroachment. In addition, a user of an unstable mark may be put to additional cost through lack of confidence in the position of the unstable mark.