

# Proposed cadastral survey rules for greater Christchurch

Consultation document

31 August 2016



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## Foreword

On 30 August 2016 the Canterbury Property Boundaries and Related Matters Act 2016 (the Act) came into force.

The Act has introduced new principles for determining boundaries particular to greater Christchurch. It is designed to support rebuild activities and provide confidence that property owners' rights are protected.

From 30 August 2016, property boundaries are deemed to have *'moved or to move with the movement of land caused by the Canterbury earthquakes (unless the movement was a landslide)'*.

Cadastral rules are needed to provide a means to assist surveyors to make judgements about the location of boundaries post-earthquake so that their surveys and cadastral survey datasets are adequate for cadastral and land tenure purposes.

Not all properties in greater Christchurch are affected. However, there are implications for properties where boundaries may have changed outside the range of prescribed survey tolerances.

The *Draft Rules for Cadastral Surveys under the Canterbury Property Boundaries and Related Matters Bill* were released in late January. Feedback was received from surveyors, property professionals, land tenure managers and technical experts.

Now the Act is in place, I invite your feedback on the *Proposed Rules for Cadastral Surveys for greater Christchurch* (the Proposed Rules) which are released for consultation in line with section 49 of the Cadastral Survey Act 2002.

It is important that these rules are a workable and reasonable response to the new law. The final form will reflect my consideration of the views you express. I welcome your contribution.

**Mark Dyer**

**Surveyor-General / Kairūri Matua**

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# 1 Have your say

The Surveyor-General invites your comments on the *Proposed Rules for Cadastral Survey for Greater Christchurch* (the Proposed Rules). Your feedback will be used to finalise the proposals.

You may wish to consider the following matters when providing your feedback:

- The extent the Proposed Rules balance the current practical issues faced by property owners and surveyors, with their long term needs.
- The extent the Proposed Rules contribute to restoring the cadastre.
- The extent the Proposed Rules assist with developing surveying practices to give effect to the new legislation.
- Any other technical surveying standards the Proposed Rules should cover.

Please email your completed feedback forms to: [LINZregulatorysubmission@linz.govt.nz](mailto:LINZregulatorysubmission@linz.govt.nz) by 5pm 12 October 2016.

## Where to from here

Submissions close on the Proposed Rules (this document)	12 October 2016
Consultation feedback considered	As soon as practicable after feedback has been received. The final form of the new rules will then be developed.
New Rules published and gazetted	Aim to have the new Rules effective in early 2017.

## Confidentiality

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## Enquiries

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## Useful links

Further information can be found using the following links:

- *Rules for Cadastral Survey 2010 LINZ S65003*:  
<http://www.linz.govt.nz/land/surveying/rules-standards-and-guidelines>
- *Canterbury Property Boundaries and Related Matters Act 2016*:  
<http://www.legislation.govt.nz/act/public/2016/0040/latest/DLM6634505.html?src=qs>
- Canterbury Property Boundaries and Related Matters Bill (82-2) (26 April 2016) as reported by the Local Government and Environment Select Committee:  
[https://www.parliament.nz/en/pb/sc/reports/document/51DBSCH\\_SCR68923\\_1/canterbury-property-boundaries-and-related-matters-bill](https://www.parliament.nz/en/pb/sc/reports/document/51DBSCH_SCR68923_1/canterbury-property-boundaries-and-related-matters-bill)
- Information for Canterbury surveyors on post-earthquake cadastral survey measures  
<http://www.linz.govt.nz/land/surveying/canterbury-earthquakes>
- Rules, Standards and Guidelines for the conduct and processing of cadastral surveys, and for the integration and provision of cadastral survey data:  
<http://www.linz.govt.nz/land/surveying/rules-standards-and-guidelines>

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## 2 Overview

### 2.1 Background to the Proposed Rules for greater Christchurch

The Canterbury Property Boundaries and Related Matters Act 2016 (the Act) is now law.

The Act creates certainty and protects the rights of property owners in greater Christchurch by clarifying that property boundaries are deemed to have moved or move with the movement of land caused by the Canterbury earthquakes (unless the movement was a landslip). In this document, this is referred to as the 'boundaries moved' principle.

New cadastral rules for greater Christchurch are required to support this legislation. The new rules will amend the *Rules for Cadastral Survey 2010* (the Rules) and specify the Surveyor-General's standards for the conduct of cadastral surveys and for cadastral survey datasets (CSD) in greater Christchurch.

### 2.2 Developing the Proposed Rules

#### 2.2.1 Outcomes

The following high-level outcomes underpin the current Rules and are appropriate for any Proposed Rules:

- Holders of rights, responsibilities and restrictions in land confidently know the boundaries to which they apply so that they can efficiently identify, trade and use their rights.
- Other parties can rely on and efficiently use the cadastre for achieving other Government outcomes (for example, defining electoral boundaries, resource management, taxation, emergency management, land administration).

#### 2.2.2 Context for Proposed Rules

The following key factors have been considered in developing the Proposed Rules:

##### 1. Consistency with the new legislation

The current Rules for Cadastral Survey 2010 and any Proposed Rules, and the outcome of any cadastral survey, must be in terms of the new legislation.

##### 2. Earthquake movement and its effect on the cadastre

The events in greater Christchurch since 2010 have illustrated how differential land movement caused by earthquakes can have a major impact on cadastral surveying. Until the land that has a boundary affected by earthquake movement is redefined by survey:

- the documented record of the distances and bearings between boundary marks and their relationship with other survey marks cannot be relied on (adopted) for cadastral surveys,

- 
- there remains a lack of permanent survey marks accurately referencing boundary positions (witness marks and permanent reference marks (PRMs)) from which boundaries are relocated in the future, and
  - the physical evidence of the earthquake movement will continue to be lost.

It is important that the redefinition of a boundary in greater Christchurch resolves any issues associated with earthquake movement. Providing the boundary has not been affected by subsequent earthquake movement, any subsequent survey of that boundary need only deal with the normal requirements of survey that apply nationwide.

An approved interim survey continues to define a parcel boundary but the boundary location may be changed by a later survey of that boundary that takes into account earthquake movement.

### **3. Defining new property rights**

While earthquake movement did not have an impact on any title to land (see section 2.4.1), there must be an assurance any new interest that is defined by a new survey does not inappropriately overlap with another person's rights. Where there has been differential land movement, often this assurance can only be provided by the redefinition of the boundaries of the land.

### **4. Having regard for risks, efficiency and effectiveness**

Proposed rules must promote the purposes of all the tenure systems and enable the maintenance of, and maintain public confidence in, the cadastre. They must also take into account the impacts on current and future owners of land and other parties. In setting standards, the Surveyor-General must also have regard to the efficiency, effectiveness, costs and benefits associated with achieving these outcomes.

### **5. Redefined boundaries must be obvious on the ground**

Where practicable, landowners must be able to identify the location of their boundary on the ground when it is redefined.

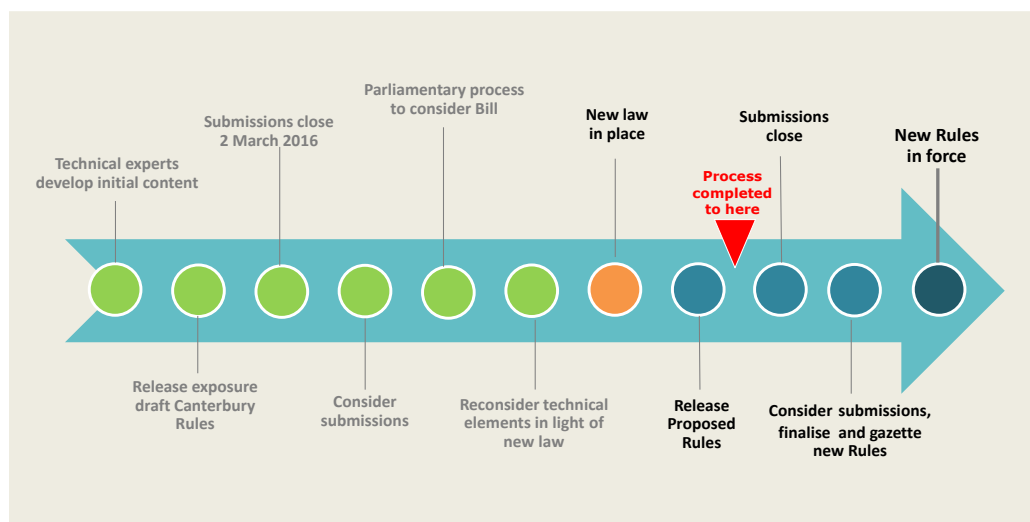
## **2.2.3 Process to develop the Proposed Rules**

Building on the draft rules released in January 2016, the Proposed Rules in this document reflect a series of changes resulting from:

- feedback received in submissions on the Draft Rules – from surveyors and other property professionals,
- changes made to the draft legislation through the Parliamentary process, and
- discussions with land tenure managers and LINZ technical experts.

The process that is being followed is outlined in Figure 1.

**Figure 1** Process used to develop the Rules for greater Christchurch



## 2.2.4 Submissions on the draft rules

Formal submissions on the draft Rules were received from 12 individuals and organisations. During the submissions period, a workshop in Christchurch was hosted. The discussions identified a range of technical and practical challenges that need to be considered for the Proposed Rules.

The issues identified can be grouped into six themes:

- General comments
- Definitions
- Applying rules specific to greater Christchurch
- Potential disconnect between the cadastral survey and land tenure systems
- Determining affected boundaries
- Removing boundary marks.

A high level discussion of the issues identified under each theme and our responses are included in Annex 1.

## 2.2.5 Changes to the draft Bill

During the Select Committee stage in Parliament, the following material changes were made to the proposed legislation:

- Extending the definition of Canterbury earthquakes to include earthquakes and aftershocks up to 13 February 2022.
- Clarifying the Surveyor-General's guidelines under section 7 Cadastral Survey Act 2002 will not have legal effect.

The final form of the Act has not affected the Proposed Rules.



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## 2.2.6 Discussions with land tenure managers and technical experts

Discussions were held with the Registrar-General of Land (RGL), cadastral survey experts and Landonline subject matter experts. The discussions clarified the impact of the:

- new legislation on survey and title, and the relationship between a survey, survey plan and a title to land, and
- Proposed Rules on current Landonline functionality.

## 2.3 The Proposed Rules

A new rule, *Rule 20 Boundaries affected by the Canterbury Earthquakes* is proposed. The aim is to include, in one rule, all the unique requirements that apply to surveys in greater Christchurch.

There are three parts of the Proposed Rules that will apply to every survey in greater Christchurch – irrespective of earthquake movement:

- Proposed Rule 20.2 *Certain rules do not apply to greater Christchurch,*
- Proposed Rule 20.9 *Removing boundary marks,* and
- Proposed Rule 20.10 *Retaining an irregular boundary.*

Surveyors will continue to be required to make judgements about where boundaries are located. However the new '*boundaries moved*' principle in law, must be taken into account when making those judgements. In every case, surveyors will need to carry out their activities in terms of Rule 6.1 *Duty of surveyor when defining a boundary by survey* – but must now take into account the new law (as required by Rule 6.1(b)).

The same rationale has been applied for greater Christchurch as for the rest of the country. In 'defining by survey' a boundary in greater Christchurch, the requirements for witnessing, permanent reference marks (PRMs), and boundary marking remain the same as for the rest of the country.

The most significant proposed change relates to surveys that only involve non-primary parcels (Proposed Rules 20.7 and 20.8). This topic has drawn the most debate at practical and technical levels. A new process is proposed to enable redefined boundaries to be recorded under the Land Transfer Act 1952 (LTA) in a less onerous and less expensive way.

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## 2.4 Impact of the new legislation on survey and title

It is important to describe the impact of the new legislation and the '*boundaries moved*' principle on survey practise and title to land.

### 2.4.1 The impact on title to land

Under the LTA a title describes the land in a way that directly or indirectly refers to a Deposited Plan (DP) CSD. The DP shows information enabling the owner (or a surveyor on behalf of the owner) to locate the land on the ground, including:

- the land parcel in a scale diagram with an area,
- where the boundary markers have been placed (commonly wooden pegs),
- the distances and directions between those markers.

When a land transfer (LT) CSD is 'approved' as to survey, the RGL is assured that the CSD correctly shows the extent of the land in relation to previous definitions of the land, and adjacent land. Based on this assurance, the RGL creates a new title and registers dealings with the land without fear that any of the owner's land has been omitted or the title inappropriately overlaps with property rights in another person's land. Under the Land Transfer Act the Crown guarantees ownership of the land as marked out on the ground as recorded by this DP. There is no guarantee associated with a boundary defined in a survey office (SO) CSD unless the definition of the boundary from the SO is recorded in the land transfer register (examples are where the SO boundary definition has been subsequently recorded in a DP CSD or where a SO legalisation CSD has resulted in a new computer register).

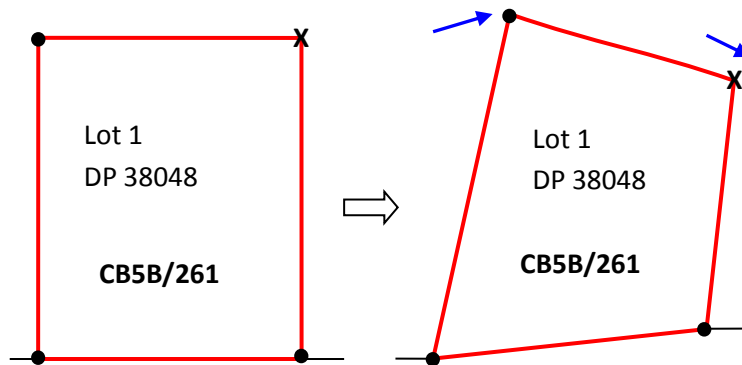
Under the Act, boundaries are deemed to have moved with the movement of land caused by the Canterbury earthquakes (unless it is a landslip). This does not affect the validity of title for land registered under the Land Transfer Act 1952. The land in a title will still be the land defined by undisturbed marks placed by the pre-earthquake survey and recorded on the pre-earthquake DP CSD— although the law recognises that where the marks have moved with earthquake movement, the boundaries will have moved accordingly.

The land might be of a different shape and area as a consequence of the movement of land and boundary marks. However, the Act makes it clear the movement will not have created new overlaps or gaps that reduce certainty in the boundaries of interests in land and their relation to surrounding interests. In this regard title is still reliable.

As an example, Figure 2 shows the shape of Lot 1 DP 38048 is different as a result of earthquake movement (reflected by the change in location of the boundary points). The land (as moved) continues to be the same land (Lot 1 DP38048) and affected by the same interests that existed before the movement (CB5B/261). The title CB5B/261 continues as the record of ownership and interests. If further survey work is being undertaken, and the landowner of Lot 1 DP 38048 wants a title that reflects the post-earthquake location of their boundaries, they will need to request a new title in terms of a deposited dataset prepared in line with the *boundaries moved* principle.

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**Figure 2** Example parcel of land before and after earthquake movement (note movement is exaggerated for illustrative purposes)



**Before and after earthquake movement**

## 2.4.2 The impact on survey practice

Rule 6.1 requires the surveyor to interpret evidence in accordance with relevant enactments and rules of law. For greater Christchurch this requires the surveyor to have correctly located boundaries (and deal with any earthquake movement) as at the date they certify the CSD as being accurate and correct.

All boundaries must be defined in terms of the '*boundaries moved*' principle. This includes existing primary and non-primary parcel boundaries, as well as new non-primary parcel boundaries that are coincident with or intersect an existing primary parcel boundary.

Surveyors will need to gather and document additional evidence, relating to the impact of earthquake movement on a boundary affected by earthquake movement. They must consider the sum of all earthquake induced land movement when locating a boundary.

Where a new non-primary parcel boundary coincides with or intersects an existing underlying parcel boundary, that underlying parcel boundary must be in terms of the '*boundaries moved*' principle. This is of particular relevance for a CSD that is creating a new non-primary parcel, but not creating a new primary parcel underlying it (for example. an easement only CSD).

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## 3 Proposed Rules for greater Christchurch

The following Proposed Rules are designed specifically for greater Christchurch.

Table 1 identifies the purpose of each Proposed Rule and its impact on current survey practices. This is followed by each Proposed Rule and a supporting commentary that explains the rule and how it is intended to apply. Where relevant there are references to current Rules that will also apply in conjunction with the Proposed Rule.

## 3.1 Purpose and impact of the Proposed Rules

Table 1 Purpose and impact of Proposed Rules for greater Christchurch

Proposed Rule		Purpose of Rule	Impact of Rule
20.1	Terms and definitions	The Proposed terms and definitions establishes particular terms that are used in the Rules in greater Christchurch. They include a definition of <i>affected boundary</i> and new definitions of <i>disturbed</i> and <i>reinstated</i> . The other definitions are taken directly from the new legislation.	Surveyors undertaking cadastral surveys and preparing cadastral survey datasets in greater Christchurch, will need to be familiar with the specific terms used in Rules 20.2–20.10.
20.2	Certain rules do not apply to greater Christchurch	These new Rules are designed to replace existing <i>Rule 18 Boundaries affected by ground movement</i> for all surveys in greater Christchurch. Proposed Rule 20.2 revokes Rule 18 and will ensure the intent of the legislation can be implemented.	To comply with the new legislation, surveyors must consider the sum of all earthquake-induced land movement when locating boundaries—not just deep-seated movement as required by Rule 18.
20.3	Define by survey or acceptance of affected boundaries	Proposed Rule 20.3 requires affected urban and small rural parcel boundaries to be redefined when the land is undergoing some form of division.  This is to provide certainty about boundary location to landowners where their land use is likely to be intensive or where they are likely to make economic decisions based on properly defined boundaries. An exception is provided for larger rural parcels.	Surveyors will firstly need to determine if earthquake movement has affected a boundary where a new parcel is being created. This includes any boundary that has been redefined since the first earthquakes in 2010 but may have been affected again by any earthquake movement up to 13 February 2022. Boundaries which might have previously been able to be defined by adoption may now have to be defined by survey.
20.4	Re-establishing affected boundaries	Proposed Rule 20.4 ensures any boundary that is redefined, is in terms of the legislation and can be relocated in the future.	When resurveying an affected boundary a surveyor will be required to complete a full survey and will not be able to use any of the reduced requirements in the current rules that apply to monumentation CSD surveys and boundary reinstatement surveys.
20.5	Boundaries to be marked	When an affected boundary of a primary parcel is redefined, Proposed Rule 20.5 requires the boundary to be marked on the ground so that landowners can readily identify its location.	Proposed Rule 20.5 is designed to operate in a similar way to Rule 7.1(b). Little change to normal practice is anticipated.
20.6	Occupation and physical features in diagram	Proposed Rule 20.6 ensures the important information about occupation and physical features used as evidence to locate an affected boundary is recorded in a diagram.	Proposed Rule 20.6 is similar in concept to Rule 9.5(b). Little change to normal practice is anticipated.

Proposed Rule		Purpose of Rule	Impact of Rule
20.7	<b>Defining underlying boundaries with non-primary parcels</b>	The new legislation requires that all new boundaries are defined in terms of the ' <i>the boundaries moved</i> ' principle. This includes where any new non-primary parcel boundary coincides with or intersects an underlying parcel boundary.	<p>Using an underlying parcel boundary to define a new non-primary parcel boundary is only appropriate where the underlying parcel boundary is defined in terms of the '<i>the boundaries moved</i>' principle.</p> <p>Where the underlying parcel boundary is not defined in terms of that principle, it must be redefined. That is, the proposed rule requires an affected boundary of an underlying parcel to be defined where it coincides with or intersects a new non-primary parcel boundary.</p> <p>In some cases, this will impact on what are currently called "parcels without survey information" CSDs that define only non-primary parcels (for example, easements, leases, cross leases and units in some cases).</p>
20.8	<b>Defining underlying boundaries on unit title and cross-lease developments</b>	<p>Proposed Rule 20.8 requires the relationship between new non-primary boundaries and the underlying primary parcel boundaries to be accurately known for new unit and cross-lease developments. This is where there is dense urban development and land rights are equivalent to sole possession and ownership.</p> <p>It is essential that the RGL and owners have confidence in the boundaries of their parcel of land and there is no inappropriate overlapping of interests.</p>	<p>For new cross-lease or unit developments a surveyor will need to assess the boundaries of the underlying parcel to determine if any are affected boundaries.</p> <p>Every affected boundary must be defined by survey and a new underlying parcel created before the new non-primary development can proceed.</p>
20.9	<b>Removing boundary marks</b>	<p>In greater Christchurch, it's important that landowners are not misled by old boundary marks left in the ground that no longer remain at authoritative boundary points.</p> <p>Proposed Rule 20.9 provides the Surveyor General's authority to remove old survey marks.</p>	This is a new rule that allows the surveyor to exercise their judgement in light of the circumstances on the ground.
20.10	<b>Retaining an irregular boundary</b>	Rule 20.10 enables an existing irregular boundary that follows the centreline of a water body to be retained.	A surveyor may retain the existing irregular line that follows the centre of a water body instead of changing the boundary to a series of right-lines as required under the current rules.

## 3.2 Proposed Rules and commentary

### Proposed Rule 20.1 Terms and definitions

#### Proposed Rule

#### 20.1 Terms and definitions

The following terms and definitions apply to all cadastral surveys in greater Christchurch for the purposes of rule 20:

affected boundary	a boundary where: <ul style="list-style-type: none"><li>(a) earthquake movement has changed it in excess of the relevant accuracy tolerances, and</li><li>(b) it has not been defined in terms of that earthquake movement and recorded in an approved CSD.</li></ul>
Canterbury earthquakes	as defined by section 4 of the Canterbury Property Boundaries and Related Matters Act 2016. <sup>1</sup>
disturbed	in relation to an old survey mark, means the mark is in a position different from that originally placed but does not include a change in position due only to earthquake movement.
earthquake movement	the movement of land as set out by section 8(2) of the Canterbury Property Boundaries and Related Matters Act 2016. <sup>2</sup>
greater Christchurch	as defined by section 4 of the Canterbury Property Boundaries and Related Matters Act 2016. <sup>3</sup>
reinstated	a new survey mark has been placed in the position of a previous survey mark that has not been found. This includes a change in position due to earthquake movement.

#### Commentary—Proposed Rule 20.1

A boundary that has been affected by significant earthquake movement and has not been defined in terms of that movement is an affected boundary. On resurvey, this boundary is subject to the provisions set out in the Proposed Rules (Rule 20).

An affected boundary could be a primary or a non-primary parcel boundary.

A boundary that has been defined in terms of earthquake movement may subsequently become affected again if it is subject to further earthquake movement caused by a later earthquake (any earthquake until 13 February 2022).

The definition of disturbed excludes changes in position caused by the Canterbury earthquakes. For a survey mark to be called disturbed, it must be disturbed for reasons other than movement caused by the earthquakes.

1. "any earthquake in Canterbury in the period starting on 4 September 2010 and ending 13 February 2022 and includes any aftershock in that period" (section 4).
2. "The boundaries are deemed to have moved or to move with the movement of land caused by the Canterbury earthquakes (whether the movement was horizontal, or vertical or both), unless the movement was a landslide." (section 8(2)).
3. "the districts of Christchurch City Council, the Selwyn District Council, and the Waimakariri District Council, and includes the coastal marine area adjacent to those districts" (section 4)

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## Proposed Rule 20.2    Certain rules do not apply to greater Christchurch

### Proposed Rule

#### 20.2 Certain rules do not apply to greater Christchurch

Rule 18 *Boundaries affected by ground movement* must not be applied to a cadastral survey in greater Christchurch.

### Commentary Proposed Rule 20.2

Proposed Rule 20.2 removes Rule 18. Surveyors will need to deal with all movement caused by an earthquake in line with the legislation - regardless of the movement being deep-seated, shallow or on the surface (except landslips).

The provisions in Rule 18.2, in allowing surveyors to accept boundaries where they meet the criteria for class C are no longer allowed in some cases - refer to Proposed Rule 20.3(c).

Unproven marks currently provided for in Rule 18.3 will not be permitted. The evidence relating to each mark used for the purpose of the survey (and included in the CSD) will need to be assessed to determine if each mark is disturbed. This includes marks that are not required for the purpose of the cadastral survey but the surveyor wishes to include in the CSD.



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## Proposed Rule 20.3    Define by survey or acceptance of affected boundaries

### Proposed Rule

#### 20.3 Define by survey or acceptance of affected boundaries

For boundaries of a new primary parcel:

- (a) All affected boundaries that are class A or class B must be defined by survey regardless of rules 6.2(a)(iv) and 6.2(c).
- (b) (a) above does not apply where it is a boundary of a balance parcel or residue parcel in terms of rule 6.3(b).
- (c) Where the criteria for class C in rule 3.2.3(a) have been met and physical evidence or existing information indicates that the affected boundary exceeds the accuracy tolerances for class C, then that boundary and its associated boundary points must be defined by survey unless rule 6.3 allows the boundary to be accepted.

### Commentary Proposed Rule 20.3

The relationship between the extent or shape of a pre-earthquake boundary (as reflected in pre-earthquake documents) and the boundary in terms of earthquake movement is not known until a post-earthquake survey has gathered and interpreted all the field evidence of earthquake movement.

When a survey defines a new parcel, proposed Rule 20.3(a) requires all existing class A or class B affected boundaries to be defined by survey (where the boundary has changed beyond the respective tolerances).

This will apply in all cases where the survey purpose is to divide or change the shape of an existing parcel and create a new parcel including for land subdivision, land acquisition or uplifting limitations as to parcels.

Exceptions to proposed Rule 20.3(a) are where the boundaries of a balance parcel or residue parcel are not in common with another new parcel on the survey (for example railway, road, marginal strip, bed of waterbody or limited title). In these cases, the boundaries may be accepted (proposed Rule 20.3(b)).

Proposed Rule 20.3(c) requires a parcel boundary to be defined to class B if it:

- meets the criteria for class C (over 20 ha, more than 80%, over 100 ha and other criteria as set out in Rule 3.2.3), and
- has been assessed from physical evidence (bent fence lines, obvious ground distortion) or existing information (aerial imagery, geotechnical reports) as having been changed by more than the class C accuracy standards.

In applying proposed Rule 20.3(c), the detail in the survey report must reflect the complexity and significance of the issues encountered and the decisions made on the survey (Rule 8.2).

Class D may be applied where the criteria in Rule 6.3 is met (Rule 6.3).

## Proposed Rule 20.4 Defining affected boundaries

### Proposed Rule

#### 20.4 Defining affected boundaries

- (a) The determination of the correct orientation, extent and position of an affected boundary must reflect earthquake movement.
- (b) Where an affected boundary on a primary parcel is defined by survey:
  - i) every bearing must be orientated in terms of an official geodetic projection applicable to the area,
  - ii) if one or more cadastral survey network marks exist within the distance specified in Table 4 in rule 4.2 of any boundary point that is defined by survey, then at least one of those cadastral survey network marks must be connected by vectors to the survey,
  - iii) each boundary point that is defined by survey must be witnessed as if rule 7.3.1 (boundary points which must be witnessed) applies,
  - iv) the survey must include a minimum of three witness marks if all boundaries are Class A or a minimum of four witness marks if any boundaries are Class B or C, irrespective of rule 7.3.2(d), and
  - v) the survey must include a minimum of two PRMs, irrespective of rule 7.4.1(b).
- (c) Rules 8.5(c) and 11 (Monumentation CSD) must not be used for an affected boundary or associated boundary point.

### Commentary Proposed Rule 20.4

Some affected boundaries may have changed orientation, been extended, compressed or changed shape (distorted). In applying Proposed Rule 20.4(a) this may result in new boundary points, new angles or bends in the case of an existing right line boundary, new bends in an irregular or water boundary, or a difference in the shape of a permanent structure boundary (see Examples A and B following).

Proposed Rule 20.4 (b) requires surveys to connect to reference marks and the official datum in a similar manner to the main Rules. This is designed to ensure any future surveyor can confidently relocate any redefined boundary. For boundary reinstatement surveys, the reduced mark and orientation requirements under Rules 4.1(b), 7.3.2(d), 7.4.1(b) will not apply and the Landonline CSD survey purpose 'Boundary Marking – Reinstatement CSD' must not be used.

Proposed Rule 20.4 (c) prevents a monumentation CSD from being used for an affected boundary. The reduced witness mark and PRM requirements (provided by Rule 11 for monumentation CSDs) and reduced orientation requirements (provided by Rule 4.1(b)) are not considered adequate to ensure any future surveyor can be confident of being able to locate sufficient old marks.

For surveys that are only for boundary marking:

- When the survey redefines an affected primary parcel boundary, there is no requirement to 'update title' (that is, there is no requirement to define a new primary parcel in the CSD). This includes cases where the redefinition determines that the boundary has a different extent and shape to that already recorded in the 'title' survey. The information may be recorded in a SO CSD.
- The information required by Rule 8 Cadastral survey datasets and Rule 9 CSD plan including the connections to the non-boundary marks and the evidence used in determining the location of an affected boundary will need to be recorded in the SO CSD with the survey purpose in Landonline of 'Boundary Marking – Full (conflict)'.

## Proposed Rule 20.4 Defining affected boundaries

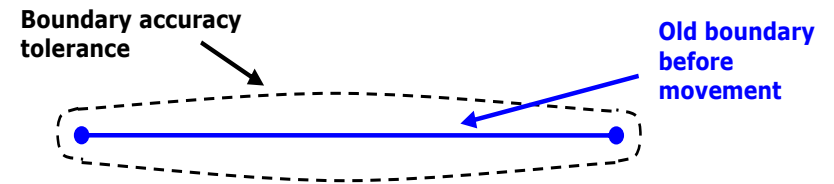
### Applying Proposed Rule 20.4(a)

Example A below illustrates where a right-line boundary has not been affected and therefore pre-earthquake dimensions may be retained.

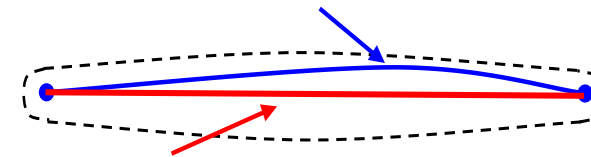
Example B illustrates an affected boundary where the surveyor has addressed the issue by creating a new boundary angle to reflect the impact of the earthquake movement on the boundary.

Where an affected boundary is being defined by survey, the boundary is to be referenced to witness marks, PRMs and the official datum. This is to help ensure that a surveyor can accurately relocate the boundary any time in the future. The requirements are similar to the current requirements where there is boundary conflict.

Example A



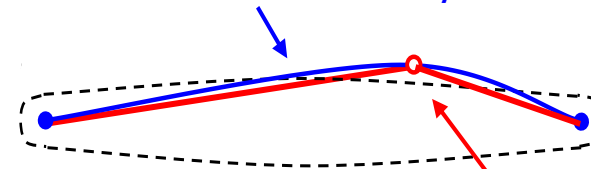
Old boundary after earthquake movement within tolerances therefore not an 'affected boundary'



Pre-earthquake dimensions retained

Example B

Old boundary after earthquake movement outside tolerances therefore an affected boundary



New angle and dimensions

## Proposed Rule 20.5 Boundaries to be marked

### Proposed Rule

#### 20.5 Boundaries to be marked

Where practicable, each boundary point on an affected boundary of a primary parcel that is defined by survey must be marked unless:

- (a) a reliable mark is already in place, or
- (b) any of the conditions set out in rule 7.1(a)(i) to (vi) apply, or
- (c) it is part of a parcel where the title is to remain limited as to parcels and the boundary point is not in common with a new parcel where the limitation is not going to remain.

### Commentary Proposed Rule 20.5

Where an affected boundary is being defined by survey, Proposed Rule 20.5(a) requires a surveyor to mark the boundary where practicable or where a mark does not already exist.

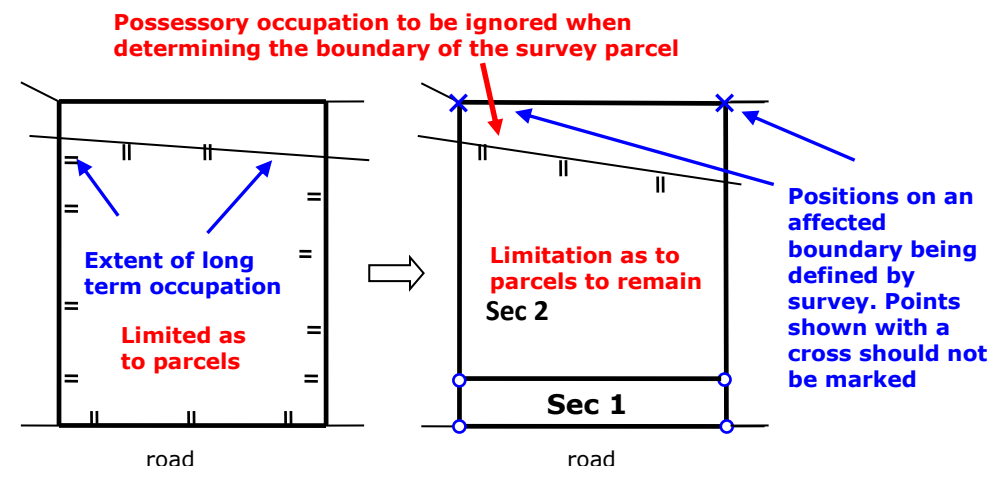
Rule 20.5(b) provides for exemptions from marking as set out in current Rule 7.1(a). Examples include where Crown land, Māori land or common ownership is involved.

Rule 20.5(c) also provides an exemption where the new title to the land will remain limited as to parcels. This applies in the same manner as Rule 7.1(b)(ii).

Example C shows a class A legalisation survey where a new limited title will be issued for the land not affected by the legalisation action (based on the new parcel depicted in the survey office (SO) legalisation CSD).

Where limitations as to parcels are to remain, the issues relating to earthquake movement must be taken into account in determining the boundaries of the parcel. The boundaries are not to be changed on the basis of possessory ownership (long term possession).

### Example C



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## Proposed Rule 20.6    Occupation and physical features in diagram

### Proposed Rule

#### 20.6 Occupation and physical features in diagram

Where an affected boundary and its associated boundary points are being defined by survey, information about occupation and physical features as set out in rules 9.5(a) and (c) must be provided in the form of a diagram for the boundary and each boundary point.

### Commentary Proposed Rule 20.6

When an affected boundary is redefined, the physical evidence taken into account by the surveyor is particularly important.

Proposed Rule 20.6 requires occupation and physical features information for each affected boundary (along its entire length) to be recorded in a diagram to ensure it can be easily interpreted by future surveyors and other users of the CSD.

The information must include the nature and age of the physical feature, its relationship to the defined boundary, and any details of unofficial boundary marks found about the boundary (as required by Rule 9.5(a)). In applying Rule 9.5(c), an example of the information is the inclusion of offsets, as recorded in pre-earthquake CSDs or field books, to buildings and structures that survived the earthquakes.

Proposed Rule 20.6 is similar to Rule 9.5(b) and the information must be presented as an occupation diagram (SUD), on the S Sheets or in a survey data graphic in the Diagram of Survey.

## Proposed Rule 20.7 Defining non-primary parcel boundaries and underlying boundaries

### Proposed Rule

#### 20.7 Defining non-primary parcel boundaries and underlying boundaries

- (a) An affected boundary on an underlying parcel that is class A or B must be defined by survey if a new non-primary parcel boundary coincides with or intersects it.
- (b) A CSD which includes a new non-primary parcel but not a new underlying parcel may record the redefinition of a coincident or intersected underlying boundary where:
  - (i) the redefinition has not already been recorded in the relevant tenure system, and
  - (ii) the redefinition of all of the boundaries of the underlying parcel are not being recorded in that tenure system.
- (c) Where a CSD records a redefinition of an underlying parcel boundary in terms of (b), the Diagram of Parcels must clearly:
  - (i) depict the appellation of the underlying parcel, and
  - (ii) depict all redefined underlying boundaries, and
  - (iii) depict the relationship between each redefined boundary and other underlying parcel boundaries, and
  - (iv) annotate the redefined boundary as 'Redefined boundary(s) of [underlying parcel appellation]', and
  - (v) include in the dataset description panel of the Diagram of Parcels a reference to the new non-primary parcels followed by 'and redefinition of [underlying parcel appellation]'.
- (d) Irrespective of (a) above:
  - (i) the underlying parcel boundary, providing it is not class A, may be accepted as class D where the underlying parcel is over 20 ha and is not being extinguished by the survey, and
  - (ii) where class D is used, a new non-primary parcel boundary or boundary point that coincides with or intersects that underlying parcel boundary must be class D and be accepted.
- (e) Where an affected boundary on an underlying parcel has been accepted in terms of (d) above, the Diagram of Survey and Diagram of Parcels must clearly annotate the accepted boundary as 'Boundary not surveyed since earthquake'.

### Commentary Proposed Rule 20.7

All new non-primary boundaries that coincide or intersect with existing boundaries must be defined in terms of the 'boundaries moved' principle.

Proposed Rule 20.7(a) requires an affected boundary of an underlying class A or B parcel boundary to be defined by survey (redefined in terms of the 'boundaries moved' principle) where a new non-primary parcel boundary coincides with or intersects it. For registration under the Land Transfer Act 1952, the redefinition of an underlying primary parcel boundary would normally require a plan of the land to deposit and a new title issued.

Proposed Rule 20.7(b) provides a concession where an underlying boundary redefined as a consequence of Proposed Rule 20.7(a) or already redefined on an approved SO CSD, may be recorded in a CSD that only creates a new non-primary parcel. In the case of land held under the Land Transfer Act 1952, the deposit of the LT CSD will create a record of survey of the redefined underlying boundary in the register (the same applies to land under the tenure of the Crown and the Māori Land Court). The tenure manager can then update their record to refer to the redefinition of the underlying parcel.

For example, a LT CSD may record a new easement parcel as well as the redefinition of an intersected or coincident underlying primary parcel boundary that is affected. Where the underlying boundary has already been redefined in terms of earthquake movement in a SO CSD (and therefore is not an affected boundary), this underlying boundary may be adopted in the easement LT CSD.

To ensure users of the CSD are made aware of the two purposes of the survey (the redefined boundary and the new non-primary parcel), Proposed Rule 20.7(c) requires a surveyor to include information in the CSD Diagram of Parcels that makes it clear to users of the Title Plan that the CSD is also redefining part of the underlying parcel. The two purposes must be recorded in the survey report (Rule 8.2(a)(i)) and the dataset description panel (see example D following).

The concession in Rule 20.7(b) does not apply where all of the boundaries of the underlying parcel are required to be redefined (see proposed Rule 20.7(b)(ii)). In this case a CSD of the underlying land would need to deposit and a new title issued.

Proposed Rule 20.7(d) enables class B (and C) affected boundaries of underlying primary parcels over 20 ha to be accepted as class D. This is consistent with the current rules dealing with anomalies in larger rural parcels. Where boundaries have been accepted, Proposed Rule 20.7(e) requires the CSD diagrams to be noted.

Continued...

Where a non-primary parcel boundary does not coincide with or intersect an underlying parcel boundary, the existing rules apply. Where a new non-primary boundary is close to an underlying parcel boundary that may be affected, sufficient work will need to be carried out to ensure there is no intersection and the relationship between the boundaries is sufficiently accurate (Rules 3.3 *Accuracy of right-line boundaries and arc boundaries* and 3.5 *Accuracy of permanent structure boundary witnessing* apply).

#### Applying Proposed Rule 20.7(b)

Example D illustrates CSD plan and Title plan information. It illustrates where a new non-primary parcel 'Easement A' is to be created and the easement's eastern and northern boundaries are to coincide with underlying parcel boundaries of Lot 1 DP 38041.

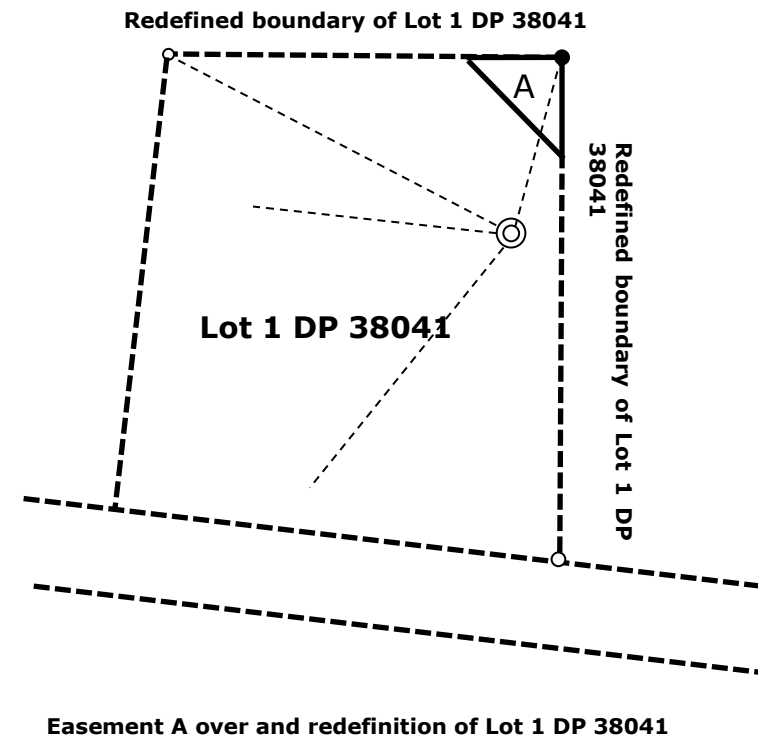
The northern boundary of Lot 1 is an affected boundary. Proposed Rule 20.7(a) requires it to be defined by survey (in terms of earthquake movement). In defining this boundary, the survey must include witness marks and PRMs (Proposed Rule 20.4 *Defining affected boundaries*) and be marked (Proposed rule 20.5 *Boundaries to be marked*).

The eastern boundary of Lot 1 has already been redefined in terms of earthquake movement and recorded on a SO CSD. The old boundary mark in the northeast corner of Lot 1 is from this survey. This boundary may be adopted (subject to meeting the accuracy tolerances in rule 3.3.1).

The northern and eastern boundaries of Lot 1 (being the redefined boundaries of the underlying parcel) are to be annotated in accordance with Proposed rule 20.7(c)(iv).

The remaining unsurveyed boundaries of Lot 1 DP 38041 have been shown so that the location of the redefined boundaries in relationship to the undefined boundaries of the parcel is clear (Proposed Rule 20.7(c)(iii)). Note Landonline functionality does not allow the line styles and width of the redefined boundaries to be different to the other undefined boundaries and surveyors may need to consider adding other information (for example arrows) to the diagram to ensure clarity.

The dataset description panel is shown as 'Easement A over and redefinition of Lot 1 DP 38041' to reflect the two purposes of the survey are to define Area A and some of the boundaries of the underlying parcel Lot 1 DP 38041 (Proposed Rule 20.7(c)(v)).



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## Proposed Rule 20.8    Defining underlying boundaries on unit title and cross-lease developments

### Proposed Rule

#### 20.8 Defining underlying boundaries on unit title and cross-lease developments

- (a) Where a new non-primary parcel is for a unit or cross lease, none of the boundaries of the underlying parcel are permitted to be affected boundaries unless a computer register for an existing unit or lease parcel on the underlying parcel is being retained.
- (b) When applying (a) causes an affected boundary of the underlying parcel to be defined by survey or where the redefinition of a boundary on the underlying parcel has not been recorded in a tenure system, a new underlying parcel must be created.
- (c) Where a computer register for an existing unit or lease parcel on the underlying parcel is being retained, Rule 20.7 applies.

### Commentary Proposed Rule 20.8

Where there is to be a new unit or cross lease development on a parcel of land, any affected boundaries on the underlying parcel must be defined by survey.

In this case, the redefinition of an affected boundary and a new underlying parcel must be recorded in the relevant land tenure system. This gives the land tenure manager assurance there are no inappropriate overlapping property rights.

For land held under the Land Transfer Act 1952 the new underlying parcel will need to be defined on a separate LT CSD that precedes the unit/ cross lease CSD.

If a redefinition of the underlying parcel boundary has already been recorded in a SO CSD, the LT CSD can adopt this definition (subject to meeting the usual criteria including accuracy tolerances).

Where a new unit or cross lease parcel is on land that is part of an existing development (for example where a second-stage cross lease area is being defined) the underlying parcel does not need to be defined by survey. In this case Proposed Rule 20.8 will not apply but Proposed Rule 20.7 will (a new underlying parcel is not required but any affected boundary of the underlying parcel that is intersected or coincident must be defined by survey).



## Proposed Rule 20.9 Removing boundary marks

### Proposed Rule

#### 20.9 Removing boundary marks

- (a) Where an old boundary mark does not mark a boundary point, it may be removed as part of the survey.
- (b) Where a mark has been removed in terms of (a), the mark must be treated as a new non-boundary mark and the Diagram of Survey must include:
  - (i) a depiction of the mark,
  - (ii) an abbreviation that describes the physical mark type,
  - (iii) the identifier if it already exists,
  - (iv) the source CSD type and number of the mark,
  - (v) a notation indicating the mark has been removed, and
  - (vi) sufficient vectors so as to comply with Rule 9.6.13.
- (c) Rule 20.9 constitutes prior written approval of the Surveyor-General under s 55(5) Cadastral Survey Act 2002 for the purposes of removing a boundary mark.

### Commentary Proposed Rule 20.9

Proposed Rule 20.9 applies to all surveys in greater Christchurch irrespective of whether the boundary is an affected boundary.

Proposed Rule 20.9(a) enables a surveyor to exercise their judgement and remove an old boundary mark they have determined as no longer correctly marking a boundary point.

Proposed Rule 20.9(c) identifies that the removal of a survey mark is authorised under s55(6) of the Cadastral Survey Act 2002.

Proposed Rule 20.9(b) provides the Surveyor-General's conditions that must be applied when removing a mark. These conditions ensure a clear and obvious record is provided about the removed mark. Clause (vi) requires the inclusion of sufficient vectors to enable the relationship between the mark and other marks to be ascertained and verified.

Proposed Rule 20.9 can also be applied to disturbed boundary marks.

The survey report must also include reasons for not relying on an old survey mark that has been removed (Rule 8.2(a)(vi)).

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## Proposed Rule 20.10 Retaining an irregular boundary

### Proposed Rule

#### 20.10 Retaining an irregular boundary

An existing irregular boundary may remain as an irregular boundary where it follows the centreline of a water body, irrespective of Rule 6.6.

### Commentary Proposed Rule 20.10

Proposed Rule 20.10 applies to all surveys in greater Christchurch irrespective of whether the boundary is an affected boundary.

In greater Christchurch there are many instances of irregular boundaries following the centrelines of streams. Proposed Rule 20.10 enables these boundaries to be retained as irregular boundaries, rather than be right-lined under Rule 6.6.

Where there has been earthquake movement, surveyors will need to determine the post-earthquake location of the waterbody centreline. Any change in orientation, extension, compression or shape (distortion) will require the boundary to be defined by survey (refer Proposed Rule 20.4).

Where a surveyor determines that retaining an irregular boundary is not appropriate, they may convert it to right-line boundaries. In this case, Rules 6.2(a)(iii) *Boundaries to be defined by Survey* and 7.3.1(a) *Witnessing of boundary points* will apply.

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# Annex 1 Feedback received on the Draft Rules – January 2016

## A1.0 General comments

In general, surveyors supported the aim of upholding good practice in surveying and maintaining an accurate survey cadastre and title system.

Some submitters suggested a transition period between the law coming into force and the rules coming into effect. Some referred to the need for guidance to assist the understanding of the new rules and how information is recorded in CSDs for lodgement with LINZ and in Landonline.

### A1.1 Response to feedback

In effect, there will be a transition period as Parliamentary process requirements for subordinate instruments provides for the rules to come into effect 28 days following publication in the New Zealand Gazette.

The new legislation amends section 7(1) of the Cadastral Survey Act 2002 and formalises the Surveyor-General's function of providing guidelines. Guidance material will be published to assist surveyors when the new rules come into effect.

## A2.0 Definitions

Several submitters commented on the meanings of *affected boundary*, and *disturbed* and *reinstated* marks. Some suggested changes to provide clarity and minimise confusion, particularly over when Rule 20 should apply and the circumstances when other rules apply.

More specifically, submitters questioned the

- definition of affected boundary and the impact any later earthquake might have on boundary location; and
- definition of disturbed where marks are not in the same pre-earthquake relationships to other marks.

### A2.1 Response to feedback

The terms and definitions have been amended to better align with the definitions in the Act and cover all surveys in greater Christchurch.

The legislation extends the definition of Canterbury earthquakes to include earthquakes and aftershocks to 13 February 2022. This is reflected in the definition of 'Canterbury earthquakes' in the Proposed Rule.

The definitions of *disturbed* and *reinstated* have to be different to the meanings set out in Rule 2 because of the legislative requirements relating to earthquake movement. In practice, this means that marks that have moved in different directions due only to differential earthquake movement cannot be called disturbed.

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## A3.0 Applying rules specific to greater Christchurch

A suggestion was made that Rule 20 should apply nationally, not just to greater Christchurch. Another suggested that new rules are not needed and that the rules create more uncertainty and cannot be applied in practice.

### A3.1 Response to feedback

The new legislation applies only to greater Christchurch and therefore, the new cadastral rules will only apply to greater Christchurch.

The Surveyor-General, local surveyors and other interest groups believe specific cadastral rules are required to provide certainty.

## A4.0 Potential disconnect between the cadastral survey and the land tenure systems

There were overarching concerns about the land tenure system not reflecting all of the information held in the cadastre where boundaries have been affected by earthquake movement and redefined.

- Where the affected boundary has been recorded in a SO CSD, this change could be missed by users of the title diagram such as lawyers, land owners, real estates agents, and valuers. Surveyors indicated that cost was the reason why their clients did not want a LT CSD that enabled their client to call for a new updated title. Some submitters thought it appropriate that the RGL annotate existing titles in cases where boundaries were redefined and changes identified.
- There were mixed views on the reasonableness of requiring 'title' to be updated where the extent, shape and length of the property has been affected by earthquakes. From a purist view some thought that an update should be a requirement while others considered this would not be appropriate because of the costs.

### A4.1 Response to feedback

The legislation is clear that boundaries in greater Christchurch moved with movement of land caused by Canterbury earthquakes. The legislation clarifies that the validity of an estate of interest in land is not affected and continues to be the same as before any earthquake movement (see section 2.4 *Impact of the proposed legislation on survey and title*).

There is no requirement to update title as a result of the new legislation. Users of the title diagram on pre-earthquake titles will need to be aware that the boundaries and area may not reflect changes due to earthquake movement. Boundaries that have been redefined can continue to be recorded on SO CSDs where the surveyor's client does not want a new title to issue.

In many cases, it is up to the landowner whether a title is updated using a LT CSD when a surveyor has identified a change in boundary shape. No rule is proposed to change this. However, substantive changes have been made to Proposed Rule 20.7 to ensure that where boundaries have been defined, there is sufficient ground marking to support future surveys.

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## A5.0 Determining affected boundaries

There were mixed views on the reasonableness of requiring affected boundaries to be redefined, for example where non-primary rights, such as easements, units or cross-lease parcels were being defined on land affected by earthquake movement.

There were also mixed views on the reasonableness of requiring 'title' to be updated when creating new units or leases. Some supported the concept of requiring a survey to define the full extent of the land/ new title where an intensive land use was to occur (unit or lease development), while others supported this only where the new rights were close to the primary parcel boundaries. In many cases, cost and time were considered significant factors.

One submitter had concerns that the current accuracy tolerances may require the surveyor to consider geotechnical evidence in determining the correct location of a boundary. It was suggested that a lower accuracy tolerance may be appropriate.

### A5.1 Response to feedback

The legislation places specific requirements on surveyors when they resurvey new boundaries – they must be in terms of the 'boundaries move with the land' principle. This applies to primary and non-primary parcel boundaries. In order to provide the necessary certainty, the complex issues need to be resolved when non-primary rights are defined on land that has been affected by earthquake movement. In this case, the RGL agreed that the recording of the resurvey of any underlying parcel boundary could be made on the CSD recording the new non-primary right. This has resulted in substantive changes to Proposed Rule 20.8.

The current parcel boundary accuracy tolerances are appropriate. There is no reason to have a lesser standard of boundary accuracy in greater Christchurch compared with other parts of the county just because the evidence is more challenging to interpret. Surveyors will need to take into account a range of evidence, including geotechnical evidence.

## A6.0 Removing boundary marks

A concern was raised about the requirement to remove an old boundary mark that does not mark a boundary point – that it may result in the removal of the best evidence of a boundary location after earthquake movement.

In addition, it was suggested that term 'new' will make interpretation of CSDs by future surveyors more difficult as the marks are not shown as 'old'. This was seen as a flaw with the current rules.

### A6.1 Response to feedback

The removal of an old boundary mark that no longer correctly marks a boundary point is at the surveyor's discretion. In the majority of cases the surveyor will have also determined the correct location of the boundary point, and having marked it may want to remove the incorrect boundary mark. The Proposed Rule requires the evidence of the location of the mark to be recorded before it is removed, which means evidence will not be lost.

The method of recording a removed mark in a CSD is consistent with how the current rules (Rule 12.2(c)) deal with former *disturbed* marks that no longer mark the location of boundary angles.