



Standard for lodgement of cadastral survey datasets

LINZS70000

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Terms and definitions

For the purposes of this standard, the following terms and definitions apply.

Term/abbreviation	Definition
Act	Cadastral Survey Act 2002
adjustment report	an output of prevalidation 'internal consistency', 'network', (Full SDC/Partial SDC), and 'underlying survey' adjustments
adopt	to incorporate in a CSD information from a prior CSD that has already been integrated into the cadastre or, in the absence of suitable CSD information, from an estate record held by the tenure system manager. 'Adoption' and 'adopted' have corresponding meanings.
approved as to survey	the status of a CSD which has been approved as being in terms of cadastral survey rules or regulations, and excludes those lodged only for recording purposes
approved parcel	a parcel on a CSD which has been approved as to survey but not approved by the tenure system manager for the assignment of rights (such as a land transfer dataset not yet deposited by the Registrar-General of Land)
aspatial parcel	capture of parcel details where the parcel is not to be captured spatially and has not been depicted spatially in Landonline (ie parcels with no topology)
base land	as defined in s 5 of the Unit Titles Act 2010
boundary point	a uniquely identified point on a parcel boundary, whether marked or unmarked
C-rule	an automatic business rule run in Landonline to test the compliance of a CSD. The rule is prefixed by the letter 'C' in the pre-validation report.
cadastral survey dataset	as defined in s 4 of the Cadastral Survey Act 2002
capture	to populate relevant fields in Landonline
centreline easement	an easement which is spatially represented by one or more lines along its centre
Chief Executive	as defined in s 4 of the Cadastral Survey Act 2002
CSD	cadastral survey dataset
dataset type	a field used to indicate whether the CSD contains non-boundary marks and related vectors

Term/abbreviation	Definition
disturbed	in relation to an old survey mark, means that the mark is in a position different from that originally placed and does not include a change of position due to deep-seated movement
donut parcel	a parcel inside another parcel that is not connected by boundaries of the same topology
extinguished	for the purpose of this standard means the parcel action assigned in Landonline when an existing parcel is to be replaced by parcels created on the survey or surrendered
Landonline	the designated facility for receiving CSDs
link	to associate captured mark information with the position of the same mark existing in Landonline
LINZ	Land Information New Zealand
live parcel	a parcel in a CSD that has been approved by the tenure system manager (eg, deposited) and recorded in the live layer in Landonline
lodged	the process of submitting a CSD for approval as to survey. The terms 'lodge', 'lodgement', and 'lodging' have corresponding meanings.
node	the coordinated spatial representation of the location of a survey mark or boundary point
non-primary parcel	any parcel that is not a primary parcel and includes the following examples: <ul style="list-style-type: none"> (a) an easement, including an esplanade strip or an access strip, (b) a covenant, (c) a lease or an area associated with a lease, (d) a licence or permit area, (e) a unit or common property for the purposes of the Unit Titles Act 2010, (f) a movable marginal strip, and (g) a roadway or a restricted roadway that is an encumbrance over a primary parcel
parcel	an area or space that is a single contiguous portion of land separately identified in a CSD or in the integrated cadastre
parcel intent	a description of a right or interest intended to be assigned to a parcel
permanent structure boundary	a boundary related to a permanent structure in accordance with rule 6.9 of the RCS 2010

Term/abbreviation	Definition
plan graphic	a type of supporting document attached to a CSD used to provide graphical information and which forms part of the Diagram of Survey and Diagram of Parcels
pre-validation report	a report containing results of the tests run on a CSD by Landonline prior to lodgement of the CSD
PSB non-primary graphic	a type of plan graphic for easements and leases defined by permanent structure boundary where the survey purpose is either 'Lease', 'Easement', or 'Statutory Easement/Right', and which forms part of the Diagram of Survey and Diagram of Parcels
primary parcel	any parcel that is intended to be: <ul style="list-style-type: none"> (a) owned by the Crown, with the exception of a movable marginal strip parcel, (b) held in fee simple, (c) Māori freehold land or Māori customary land, (d) part of the common marine and coastal area, (e) the bed of a lake or river, (f) road or railway, or (g) vested in a local authority
reinstated	a new survey mark has been placed in the position of a previous survey mark that has not been found
renewed	means a new survey mark has been placed in the same position as an old survey mark that has been found
RCS 2010	Rules for Cadastral Survey 2010
strata parcel	a parcel defined in the upper and lower extents by either a stratum boundary or permanent structure boundary
stratum boundary	a boundary, not being a permanent structure boundary, that defines the upper or lower extent of a parcel
survey mark	as defined in s 4 of the Cadastral Survey Act 2002
survey data graphic	a type of plan graphic containing survey data and which forms part of the CSD plan
survey purpose	a field used to indicate the relevant tenure system and the most appropriate purpose available in the supplied list
tenure system manager	an agency or officer responsible under any enactment for a system that provides for the creation and transfer of interests in land
topology class	class assigned to a parcel in Landonline to indicate what topological rules apply
unit	as defined in s 5 of the Unit Titles Act 2010
vector	a bearing and distance between two points

Foreword

Introduction

Cadastral surveys are carried out by cadastral surveyors and lodged with Land Information New Zealand (LINZ) for approval as to survey and for integration into the cadastre. The Cadastral Survey Act 2002 (Act) shares responsibility for integration into the cadastre between the Surveyor-General and the Chief Executive. The role of the Surveyor-General is to set rules for cadastral survey, and the role of the Chief Executive is to determine whether cadastral survey datasets (CSD) and cadastral surveys comply with those rules and to provide the facilities to receive CSDs.

Section 9(a) of the Act requires the Chief Executive to determine whether CSDs and cadastral surveys comply with standards set by the Surveyor-General under s 7(1)(c) of the Act.

Section 9(b) of the Act requires the Chief Executive to provide facilities to receive CSDs. The Chief Executive has established Landonline as that facility.

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 digital cadastral survey datasets'.

Section 9(c) of the Act requires the Chief Executive to set conditions for the use of the facilities referred to in s 9(b).

The purpose of this standard

Cadastral surveyors must comply with this standard when lodging a cadastral survey dataset with LINZ for approval as to survey.

The standard sets the minimum requirements for the lodgement of cadastral survey datasets to assist with efficient and consistent processing and integration into the cadastre.

Brief history of standard

This is a new standard.

References

The following documents are necessary for the application of this standard:

- Cadastral Survey Act 2002
- Cadastral Survey (Compulsory Lodgement of Digital Cadastral Survey Datasets) Order 2007
- LINZ 2012, *LINZS65003: Rules for Cadastral Survey 2010*, Office of the Surveyor-General, LINZ, Wellington
- LINZ 2009, *LINZS10003: Standard for integration and provision of cadastral survey data*, Office of the Surveyor-General, LINZ, Wellington
- Unit Titles Act 2010

The following documents are useful for the application of this standard:

- LINZ 2011, *LINZG65700: Interpretation guide to Rules for Cadastral Survey 2010*, Office of the Surveyor-General, LINZ, Wellington
- LINZ 2012, *LINZG65704: Interim guide to the amended Rules for Cadastral Survey 2010*, Office of the Surveyor-General, LINZ, Wellington

1 Scope

- (a) This standard establishes the Chief Executive's requirements that must be met when lodging a cadastral survey dataset (CSD) for approval as to survey and are in addition to the Rules for Cadastral Survey 2010 (RCS 2010).
- (b) Out of scope of this standard are:
 - (i) the requirements for defining and describing the spatial extent of land; these are set by the Surveyor-General in the RCS 2010 , and
 - (ii) the requirements specified under other applicable enactments.

2 Intended use of standard

- (a) This standard is intended for use by:
 - (i) licensed cadastral surveyors when lodging CSDs with LINZ for approval as to survey,
 - (ii) LINZ staff when approving CSDs for integration into the cadastre.
- (b) This standard is not intended to be used as a guide to capture a CSD.

3 Lodgement of cadastral survey datasets

- (a) All CSDs lodged with the Chief Executive for approval as to survey must be captured and submitted in Landonline.
- (b) If the Chief Executive considers that compliance with (a) is impractical or unreasonable, the Chief Executive may:
 - (i) grant an exemption from the requirements, or
 - (ii) specify alternative requirements.

COMMENTARY

An exemption from the requirements can be requested by creating a 'Survey_Survey Dispensation' e-request in Landonline. Please ensure the Notes/Comments field of the e-request commences with the words 'Lodgement standard exemption'.

The survey report should include reference to any prior correspondence with LINZ relevant to this standard. Examples include exemptions or alternative requirements.

4 Capture standards

4.1 Capture of survey marks

- (a) All survey marks and boundary points required by the RCS 2010 to be included in the CSD must be captured.
- (b) Points and features, other than survey marks and boundary points, must not be captured in Landonline, but may be recorded in the CSD.

COMMENTARY

Positions other than survey marks and boundary points required by RCS 2010 may be identified in a supporting document but not captured in the CSD. This includes:

- (a) fixes to occupation supporting the definition of boundaries, or
 - (b) fixes of physical features for the purpose of facilitating the future location of survey marks and boundary points.
- (c) A CSD with the survey purpose of 'boundary marking - monumentation CSD' or 'boundary marking - reinstatement CSD' must:
 - (i) capture all reinstated, renewed and new boundary marks, and
 - (ii) have a minimum of two captured marks linked to existing nodes.

4.2 Capture of vectors and arcs

- (a) All vectors and arcs required by the RCS 2010 to be included in the CSD must be captured except for a CSD as described in [4.2.1](#) and [4.2.2](#).
- (b) For all measured vectors in the CSD, the type of equipment used to measure the vector or components of a vector must be captured.
- (c) Where known, the type of equipment used to measure adopted vectors or components of an adopted vector must be captured.

COMMENTARY

The equipment type used to measure a vector is taken into account when determining the observation accuracy assigned when the data is run through least squares adjustments in Landonline. These adjustments assess whether the specified accuracy standards of rules 3.1, 3.3.1, and 3.6 of the RCS 2010 have been met. This information is also used when assigning new coordinate orders to marks.

Paragraphs [4.2\(b\)](#) and [\(c\)](#) do not apply to calculated vectors.

For the avoidance of doubt, vectors derived from GNSS measurements are considered measured.

4.2.1 Boundary marking CSD

- (a) The capture requirements under [4.2\(a\)](#) do not apply to a CSD with the survey purpose 'boundary marking – monumentation CSD' or 'boundary marking – reinstatement CSD'.
- (b) The marks required to be captured by [4.1\(c\)](#) must be connected by a non-boundary vector or vectors.

COMMENTARY

Other survey marks, vectors, and arcs required to be depicted on the Diagram of Survey by the RCS 2010 can be depicted on a survey data graphic. Where a survey data graphic has been added, there will be two plan images comprising the Diagram of Survey[▼].

4.2.2 Unit and flat plan/cross-lease CSD

- (a) The capture requirements under [4.2\(a\)](#) do not apply:
 - (i) to a CSD that is defining a right under the Unit Titles Act 2010, or
 - (ii) where the CSD is defining a right associated with a company or cross-lease.
- (b) Irrespective of (i) and (ii) above, where the CSD:
 - (i) includes a survey sheet, all non-boundary vectors and associated survey marks must be captured.
 - (ii) is defining a non-primary parcel over the base land or other land which is not a right under the Unit Titles Act 2010 or a right associated with a company or cross-lease, that right must be captured in terms of [4.1\(a\)](#) and [4.2\(a\)](#).

COMMENTARY

Vectors and arcs used to define a right under the Unit Titles Act 2010 or a flat plan/cross-lease plan may be depicted on a plan graphic.

▼ Note with outdated reference to Landonline deleted December 2015.

4.3 Existing parcels to be extinguished

- (a) When creating a new primary parcel, the existing live primary parcel that is being replaced must be extinguished.
- (b) When creating a new unit parcel, the existing live unit parcel that is being replaced must be extinguished.

COMMENTARY

Proposed parcels depicted on a proposed unit development must be changed to 'created' on a stage unit plan. Detailed information on '[Capture of Unit Development Plans in Landonline](#)'[▼] is available on the LINZ website.

- (c) Irrespective of (a), when a new primary parcel is being created over an approved primary parcel, the approved primary parcel must be extinguished, rather than the existing live parcel.
- (d) Paragraph (c) does not apply if the CSD showing the approved parcels will not deposit as a land transfer plan.
- (e) When recreating existing non-primary parcels and/or centreline easements that are to be retained, the existing live non-primary parcels and/or centreline easements that have been defined spatially must be extinguished.
- (f) Irrespective of (e), when a new non-primary parcel is being created over an approved non-primary parcel, the approved non-primary parcel must be extinguished, rather than the existing live non-primary parcel.
- (g) When surrendering non-primary parcels and/or centreline easements, the existing live non-primary parcels and/or centreline easements that have been defined spatially must be extinguished.
- (h) Existing parcels for flats or exclusive use areas being redeveloped must be extinguished if they exist in Landonline.

COMMENTARY

Parcels in Landonline have two appellation components. These are:

- (a) the Legal Description, and
- (b) the Survey Appellation.

Some existing parcels for flats or exclusive use areas only have a legal description. These cannot be extinguished in a CSD. Refer to the '[Extinguishing subject parcels](#)'[▼] article on the LINZ website.

▼ Title amended and hyperlink updated December 2015.
▼ Hyperlink updated December 2015.

- (i) Any donut parcels must be extinguished and recreated using their existing appellation and parcel intent.

COMMENTARY

Refer to ['Donut Parcels and Missed Marks'](#) on the LINZ website[▼].

4.4 Capture of primary parcels

- (a) All new primary parcels required by the RCS 2010 to be depicted on the Diagram of Survey or Diagram of Parcels must be captured.
- (b) Irrespective of (a), balance parcels as defined in the RCS 2010 must be captured.
- (c) When applying this requirement to strata parcels:
 - (i) parcels created substantially at ground level must be captured with a topology class of 'primary',
 - (ii) a parcel created immediately either above or below the parcel in (i) must be captured with a parcel intent and topology class of 'strata', and
 - (iii) all other strata parcels must be captured as aspatial parcels and defined on a plan graphic.

COMMENTARY

Ground level means the finished level of the ground at the time of completion of the most recent subdivision in which additional lots were created. For the avoidance of doubt, this does not refer to the extinguished parcel.

4.5 Capture of non-primary parcels and centreline easements

- (a) All new and subject non-primary parcels and centreline easements required by the RCS 2010 to be depicted on the Diagram of Survey and Diagram of Parcels, must be captured.
- (b) When applying this requirement to non-primary strata parcels:
 - (i) parcels created substantially at ground level must be captured with a topology class of 'secondary',
 - (ii) a parcel created immediately either above or below the parcel in (i) must be captured with a parcel intent and topology class of 'tertiary', and
 - (iii) all other strata parcels must be captured as aspatial parcels and defined on a plan graphic.

[▼] Hyperlink updated December 2015.

COMMENTARY

Ground level means the finished level of the ground at the time of completion of the most recent subdivision in which additional lots were created. This does not refer to the extinguished parcel.

- (c) Irrespective of (a) and (b), parcels must be captured as aspatial parcels and defined on a plan graphic where the parcel is defining a right:
 - (i) under the Unit Titles Act 2010, or
 - (ii) when associated with a company or cross-lease.

COMMENTARY

Aspatial capture includes proposed parcels depicted on a proposed unit development and future development units on a stage unit plan. Detailed information on '[Capture of Unit Development Plans in Landonline](#)'[▼] is available on the LINZ website.

Existing subject easements over the base land of a unit development do not need to be captured, and can be depicted on a plan graphic.

Where the unit or flat plan/cross-lease CSD is also defining a new non-primary parcel which is not a right under the Unit Titles Act 2010 or a right associated with a company or cross-lease over the base land and other land, that right must be defined in terms of [4.1\(a\)](#) and [4.2\(a\)](#), and captured in terms of [4.5\(a\)](#) and [\(b\)](#).

- (d) Irrespective of (a) and (b), parcels must be captured as aspatial parcels and defined on a PSB non-primary graphic:
 - (i) when a permanent structure boundary is used to define, or partly define, an easement or lease parcel, and
 - (ii) the survey purpose is 'Lease' or 'Easement' or 'Statutory Easement/Right'.

COMMENTARY

Where a permanent structure boundary is used to define, or partly define, an easement or lease parcel and the survey purpose is not 'Lease' or 'Easement' or 'Statutory Easement/Right', the parcels must be defined on a plan graphic.

- (e) Where a non-primary parcel is to be partially surrendered, the part to be surrendered and the part to remain must be captured in accordance with (a) to (d) above.
- (f) Irrespective of (e), if the non-primary parcel to be partially surrendered is not over a new primary parcel being created, only the portion being surrendered must be captured.

[▼] Title amended and hyperlink updated December 2015.

4.6 Survey information details

The following information must be captured in the header of the CSD:

- (a) dataset description, which includes:
 - (i) parcel appellations for all new primary parcels,
 - (ii) the survey purpose for land transfer CSDs, and
 - (iii) the legal description of the land under survey for land transfer CSDs;
- (b) survey purpose;
- (c) dataset type.

COMMENTARY

Fields are provided in Landonline for this data to be entered, together with lists from which the appropriate survey purpose and dataset type can be selected.

4.7 'Comprised in' references

The current estate record references for the land under survey must be captured in the 'Comprised In' field.

5 Mark linking

Captured existing survey marks and boundary points must be linked to the corresponding nodes already recorded in Landonline.

COMMENTARY

Detailed information on capturing [renewed](#), [disturbed](#) and [unproven](#)[▼] marks is available from the LINZ website.

6 Plan generation functionality

Unless permitted by the capture standards, the plan generation functionality of Landonline must be used to prepare the Diagram of Survey and Diagram of parcels.

▼ Hyperlinks updated December 2015.

7 Pre-validation reporting

If a survey report is required by the RCS 2010, it must include an assessment of the actions taken to address:

- (a) C-rule conflicts and warning messages, and
- (b) all adjustment report test failures and warning messages.

COMMENTARY

Detailed information regarding the [Landonline pre-validation report](#)[▼] is available from the LINZ website.

8 Survey reference

The survey reference number must be placed to allow easy identification of the survey location.

COMMENTARY

For clarity, the size and/or shape of a survey area may require more than one survey reference number to be placed.

9 Legal requirements – Crown subdivisions

A CSD with survey purpose of 'Crown subdivision' must include either:

- (a) a s 223 Resource Management Act 1991 certification, or
- (b) an explanation as to why that certification is not required.

COMMENTARY

LINZG20708: Guideline for the deposit of survey plans for the subdivision of land lists the situations where exemption applies and suggested formats for statement of exemption. In addition, an explanation in terms of (b) would normally be provided in the survey report.

▼ Title amended and hyperlink updated December 2015.