

LANDONLINE PRE-VALIDATION REPORT EXPLANATION

**A summarised explanation of the items
in the pre-validation report
to assist interpretation**

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Land Information New Zealand
Customer Services

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Introduction

Background

During pre-validation of *e-surveys*, Landonline runs tests to check that each cadastral survey dataset (CSD) is compliant with the Surveyor-General's Rules for Cadastral Surveys.

Landonline uses the same automated business rules that LINZ staff use when an *e-survey* is being processed for approval, to ensure *e-survey* users have control of quality

This document provides a summarised explanation of the pre-validation report. It is aimed at surveyors who use Landonline *e-survey*.

Definition of report item categories

Fatal	This is an error or data deficiency so serious that Landonline cannot record the survey data in the database. This can be due to an error in the <i>e-survey</i> or can, in some cases, be due to a serious conflict with erroneous data in Landonline.
Conflict	This is a conflict within the <i>e-survey</i> or with data in Landonline that will need to be resolved before the <i>e-survey</i> can be approved. It may be that the <i>e-survey</i> is correct and Landonline is wrong or vice versa.
Warning	This is a message drawing attention to a potential conflict that may or may not have to be corrected.
Information	This is a warning that Landonline was not able to fully check a data item. The item may be correct, however remains unchecked by the system.
Compliant	This is the remainder of the checks that have been run over the dataset and there are no issues to report and therefore no action is required on the part of the user.
Pass	The requirements of Landonline have been met.

Structure of the Pre-validation Report

Overview

The Pre-validation report is divided into eight different sections. These are listed here and then explained in more detail.

1. Rules that will prevent the submission of the Survey Dataset
2. Rules that indicate a conflict in the Survey Dataset or in Landonline that will need to be resolved before approval
3. Topology Validations
4. Rules that may indicate a discrepancy with the Survey Dataset that will need to be either corrected or covered in the Survey Report
5. Rules that identify data that was unable to be fully tested or may indicate a deficiency in the Survey Dataset
6. Rules indicating that the new dataset is compliant with Landonline data
7. Adjustment Reports
8. A list of Manual Rules that may be applied during validation by LINZ staff.

1. Rules that will prevent the submission of the Survey Dataset

These items are listed in the report under the following statement,

**** The following rules are preventing the Submission of the Survey Dataset*

Items listed here are also called the “Y rules” and as stated, they need to be attended to in order that the dataset may be submitted.

Click on the link to view the full list of [rules run at this stage](#).

2. Rules that indicate a conflict in the Survey Dataset or in Landonline that will need to be resolved before approval

These items are listed in the report under the following statement,

**** The following rules indicate a conflict in the Survey Dataset or in Landonline, which will need to be resolved before approval*

Items listed here will not prevent submission of the dataset but may lead to requisitions being generated if not resolved. The rules run at this stage are referred to as the “C rules”.

Click the link to see the full list of [rules run at this stage](#).

3. Topology Validations

Here the Topology staging area is populated with the captured data and then uses that data to perform “dummy runs” to see what will occur at Submit, Approval and Registration (Deposit) of the dataset.

The results are listed in terms of new parcels that overlap existing parcels (and vice versa) as well as new boundary lines (captured parcel boundary lines) that overlap existing boundary lines.

- *C41 - Submission Topology Validations*
- *C41 - Approval Topology Validation*
- *C41 - Registration Topology Validations*

C41 - Submission Topology Validations

In this section, Landonline is reporting that following submission the new data is going to cause a “spatial overlap” in the database. The term overlap here does not necessarily mean that the new dataset is going to cause “strips of land” to be created. In a spatial database, an overlap occurs when there are two lines that sit directly over one line.

This is an expected message and should show the relationship between the new and extinguished parcels. Verify that the reported parcels are correct. One thing to look for here is that the correct underlying parcel (to be extinguished) has been added to the Parcel List.

C41 - Approval Topology Validations

Similar to the Submission Topology Validations with the further reporting of expected line replacements that will be performed once the dataset is approved. No user intervention required.

C41 - Registration Topology Validations

Similar output to the Approval Topology Validations Report. This is because the Topology staging area is not reinitialised after the Approval validations. The main check performed here is what will happen once the extinguished parcel is made historic. No user intervention required.

- 4. Rules that may indicate a discrepancy with the Survey Dataset that will need to be either corrected or covered in the Survey Report**
- These items are listed in the report under the following statement,
- *** The following rules may indicate a discrepancy with the Survey Dataset, which will need to be either corrected or covered in the Survey Report*
- The items reported in this section are flagged as possible issues and may not actually be errors. Each item reported needs to be looked at and confirmed as needing attention or not. It is not mandatory to comment on these items in the Survey Report. However, comments should be added where items in this section highlight either an error in Landonline or where the new definition differs significantly from Landonline.
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- 5. Rules that identify data that was unable to be fully tested or may indicate a deficiency in the Survey Dataset**
- These items are listed in the report under the following statement,
- *** The following rules identify data that was unable to be fully tested, or may indicate a deficiency in the Survey Dataset*
- User needs to be confident that data entry is accurate for the items listed here as they were not able to be checked automatically.
-

- 6. Rules indicating that the new dataset is compliant with Landonline data**
- These items are listed in the report under the following statement,
- *** The following rules are compliant with Landonline data*
- This is the remainder of the checks that have been run over the dataset and there are no issues to report and therefore no action is required.
-

7. Adjustment Reports

This section provides a summary explanation of the adjustment report. For more detailed information and analysis, please read the document titled 'Landonline Pre-validation - Accuracy Rule Tests run during Pre-validation of Cadastral Survey Datasets'.

When pre-validation is performed, Landonline completes two least squares adjustments. The results of these adjustments are summarised under two of the following headings:

*** *Internal Consistency Adjustment* ***

*** *Network Adjustment (Full SDC/Partial SDC)* ***

****Underlying Survey****

Internal Consistency Adjustment

This adjustment tests the internal consistency of all survey observations, including boundaries and adoptions, supplied with the survey dataset (including any adopted boundaries or observations). This is similar to testing traverse and parcel closes.

The adjustment tests whether the observations meet the requirements of Rule 28 (Misclose tests) of the S-G Rules for Cadastral Surveys 2002/2, and whether the relative accuracy of nodes meets the requirements of Rule 26 (Relative Accuracy tests) of the S-G Rules for Cadastral Surveys 2002/2.

In addition, it verifies that witness marks from the survey meet the requirements of Rule 13 (Proximity test) of the S-G Rules for Cadastral Surveys 2002/2.

For more information on the Internal Consistency Adjustment see the following sections of the 'Accuracy Rules Tests' document.

- C182 - Internal Consistency Check
- C182 - Internal Consistency Check Fails
- C182 - Internal Consistency Check Passes with High SEUW
- Misclose Tests
- Relative Accuracy and Proximity Tests

Network Adjustment (Partial / Full SDC)

There are two possible checks that can be run as part of this adjustment, the Full SDC check and the Partial SDC check. Only one of these two checks will be run for any given survey dataset that is connected to at least one SDC mark.

If every existing Landonline mark in the submitted survey dataset has SDC status, then a full SDC check is run.

If only some of the existing Landonline marks have SDC status in the submitted survey dataset, then the partial SDC check is run. All SDC marks are held fixed in both checks.

This adjustment tests the compatibility of the new survey data with the underlying SDC data by testing whether the observations meet the requirements of Rule 28 (Misclose tests) of the S-G Rules for Cadastral Surveys 2002/2.

The main difference between the full and partial SDC check is that the full SDC check uses only those observations submitted as part of the survey dataset. The partial SDC check uses the observations submitted as part of the survey dataset, but also brings in observations from survey datasets already accepted into Landonline which share at least two marks in common with the new survey dataset.

A failure in this adjustment may indicate a need to assess the underlying data, particularly if the dataset has passed the internal consistency adjustment.

For more information on the full or partial SDC adjustment see the following sections of the 'Accuracy Rules Tests' document.

- C184 - Full/Partial SDC Check
- C184 - Full/Partial SDC Check Fails
- Misclose Tests

Underlying Survey Consistency Adjustment:

Sometimes a full or partial SDC check cannot be carried out because the survey dataset does not connect to any SDC marks. When this situation occurs, an underlying survey adjustment is performed.

This adjustment is created by using the observations submitted as part of the survey dataset, as well as the observations from all survey datasets already accepted into Landonline which share at least two marks in common with the new survey dataset. One mark is held fixed in this adjustment.

For more information on the underlying survey adjustment see the following sections of the 'Accuracy Rules Tests' document.

- C185 - Underlying Survey Check
- C185 - Underlying Survey Check fails
- Misclose Tests

Standard Error of Unit Weight (SEUW)

The Standard Error of Unit Weight gives an overall measure of the accuracy of the observations. In the pre-validation report a SEUW of 1.00 indicates that the observations are as good as we expect them to be. A value less than 1.00 indicates that the observations are better than expected and a value greater than 1.00 indicates they are worse. Ideally this number should be less than or near 1.00.

For surveys with full traverse and boundary data the SEUW is often less than 1.00 and for rural surveys, particularly those that incorporate very old adoptions, the figure may be more than 1.00. As long as the data has been captured correctly and complies with the survey regulations, a survey can be accepted with a high SEUW. In such cases, the surveyor should identify work with larger than usual errors in the survey report.

Adjustment error and warning messages

When an adjustment has been run, various error and warning messages may occur in the pre-validation report.

For more information on error and warning messages, see the following section of the 'Accuracy Rules Tests' document.

- Adjustment Errors and Warnings

8. A list of Manual Rules that may be applied during validation by LINZ staff

These items are listed in the report under the following heading

Manual Rules Validation

This is a list of the manual rules that LINZ staff may apply to the dataset during formal validation - for the user's reference only. No action is required here.

Y (Cadastral Survey Integrity) rules

Notes:

- If Y rules 014, 021, 023 or 024 fail, Landonline will still validate the *e-survey* against the Cadastral *e-survey* business rules ([C rules](#)) as long as all other Y rules are compliant.
- If Y rule 021 fails, but C rules run, then the Plan Layout validation rules, (P rules) will not run.

Checklist Code	Item Number	Checklist Description	Message Severity	Typical User Intervention (no comment here means that checklist item is self explanatory)
Y001		Ensure mark details are populated	***Fatal***	
	Y001 (0)	All required mark details have been populated.	Pass	
	Y001 (1)	*[Failure] The following list of marks referenced by this survey dataset have incomplete details supplied:	Fatal	Check data in the Mark Details screen for each of the marks reported.
Y002		Ensure observation details are populated	***Fatal***	
	Y002 (0)	All required observation details have been populated.	Pass	
	Y002 (1)	*[Failure] The following list of observations referenced by this survey dataset have incomplete details supplied:	Fatal	Check the reported observations in the Traverse Boundary Capture screen for missing data such as Survey Class. If observations are listed here with “Adoption Distance Factor” as the error then don’t need to delete data, just need to ensure the correct information is entered into the field. Just edit the field.
Y003		Ensure parcel details populated	***Fatal***	
	Y003 (0)	All required parcel details have been populated.	Pass	

Checklist Code	Item Number	Checklist Description	Message Severity	Typical User Intervention (no comment here means that checklist item is self explanatory)
	Y003 (1)	*[Failure] The following list of parcels referenced by this survey dataset have incomplete details supplied:	Fatal	<p>Check data in the Parcel Details screen for each parcel reported.</p> <p>Sometimes third party software generates parcels with incomplete details. Check for these if dataset has been created from an imported xml file. If so delete from the Parcel List screen and recreate. Not just confined to XML files imported, this can also occur manually if the user doesn't create the parcel correctly. This should not just focus on XML files.</p>
Y004		Ensure parcel definition details populated	***Fatal***	
	Y004 (0)	All mandatory missed marks have been included in the survey.	Pass	
	Y004 (1)	*[Failure] The following mandatory missed marks have not been included in this survey:	Fatal	<p>These need to be reviewed. Situations where this occurs:</p> <ol style="list-style-type: none"> 1) Upon importing an XML file, this is one of the most common rules that fail. In order for the mandatory missed marks to be included in capture, go to Spatial capture and relink one primary parcel. The missed marks will appear for selecting. 2) Manually capture plans, if these are not included the first time you link your parcels (you selected the red x). To include, relink one primary parcel. The missed marks will appear for selecting. 3) When the underlying parcel has not been extinguished, the mandatory missed marks will not appear – always extinguish the underlying parcel before linking parcels. Once the underlying parcel is extinguished when a primary parcel is relinked the mandatory missed marks will appear for selecting. 4) Ensure that the correct underlying parcel has been extinguished. If the wrong parcels are extinguished missed marks will appear outside your survey. 5) If mandatory missed marks are being reported for marks that appear to have been correctly linked, then unlink and relink the new marks over the reported mandatory missed marks. One primary parcel should always be relinked after carrying out relinking of marks.

Checklist Code	Item Number	Checklist Description	Message Severity	Typical User Intervention (no comment here means that checklist item is self explanatory)
Y005		Ensure that if Extinguished parcels exist, that there are Created parcels as well	***Fatal***	
	Y005 (0)	New parcels and existing parcels are recorded by this survey dataset.	Pass	
	Y005 (1)	*[Failure] No new parcels have been created to replace the existing parcels that are extinguished by this dataset	Fatal	If new parcels are already in the Parcel List, screen then check Action captured against them (should be "Created"). If no new parcels exist then they need to be created and linked to the spatial line work. Check that the correct underlying parcel has been extinguished.
Y006		Check all existing parcels have been linked	***Fatal***	
	Y006 (0)	Each existing parcel recorded in the survey dataset is referenced to an existing parcel in Landonline.	Pass	
	Y006 (1)	*[Failure] The following list of parcels must reference existing parcels in Landonline:	Fatal	Ensure that the correct parcels have been extinguished.
Y007		Check all created parcels with a topology definition have a boundary definition	***Fatal***	
	Y007 (0)	All created parcels requiring a link to a parcel topology (boundary lines) have been linked.	Pass	
	Y007 (1)	*[Failure] The following list of parcels created by this survey do not have the required linked parcel topology (boundary lines):	Fatal	It is possible that there are unlinked parcels in the Parcel List. The other thing to consider is that there may be parcels in the Parcel List that have the wrong topology class.
Y008		Check all marks have a coordinate	***Fatal***	
	Y008 (0)	All marks referenced by the survey dataset have coordinates.	Pass	
	Y008 (1)	*[Failure] The following list of marks referenced by this survey do not have coordinates:	Fatal	Confirm if reported marks are required. If so, they need to be observed through. If not, delete from the Mark List

Checklist Code	Item Number	Checklist Description	Message Severity	Typical User Intervention (no comment here means that checklist item is self explanatory)
Y009		Check parcel linking is unique	***Fatal***	
	Y009 (0)	Each existing parcel recorded in the survey dataset is uniquely referenced to an existing parcel in Landonline.	Pass	
	Y009 (1)	*[Failure] The following list of parcels recorded in the survey dataset have duplicated references to existing parcel(s) in Landonline:	Fatal	Unlink reported parcels, delete the lines off the captured parcel boundary lines layer and delete the reported parcels from the Parcel List. Delete the extinguished parcels. Recreate the new parcels into the Parcel List and relink. Add the extinguished parcels again.
Y010		Check parcel dimensions are specified	***Fatal***	
	Y010 (0)	All boundary observations referenced by the survey dataset have been included in the definition of new parcel boundaries.	Pass	
	Y010 (1)	*[Failure] The following list of boundary observations do not form part of a new parcel boundary definition:	Fatal	Check that no traverse observations have been captured as boundary lines. Check that parcel linking has been completed for all new parcels. A line has been captured but does not form topology to any parcel – e.g. a total distance was captured between two linked marks (Peg A to Peg C is Primary) but also an intermediate distance was captured (Peg A to Peg B is Primary/Secondary and Peg B to Peg C is Primary). Delete the total distance captured between Peg A to Peg C.
Y011		Check survey date	***Fatal***	
	Y011 (0)	A survey date has been specified for this survey dataset.	Pass	
	Y011 (1)	*[Failure] A survey date has not been specified for this survey dataset.	Fatal	Enter a date in the Survey Finish Date field in the Survey Header screen
Y012		Check at least 2 marks are linked to Landonline	***Fatal***	
	Y012 (0)	At least two marks have been linked to Landonline marks.	Pass	

Checklist Code	Item Number	Checklist Description	Message Severity	Typical User Intervention (no comment here means that checklist item is self explanatory)
	Y012 (1)	*[Failure] The survey dataset must be linked to two or more Landonline marks.	Fatal	Check the coordinate system of the dataset. If it is an OCD datum then two marks have to be linked to Landonline marks in order to open the spatial window. If this message is coming up for geodetic datasets then prevalidation has possibly been done too early.
Y013		Check mark linking is unique	***Fatal***	
	Y013 (0)	Each existing mark recorded in the survey dataset is uniquely referenced to an existing mark in Landonline.	Pass	
	Y013 (1)	*[Failure] The following list of marks recorded in the survey dataset have duplicated references to existing mark(s) in Landonline:	Fatal	If this message appears, unlink the reported marks and relink.
Y014		Check the number of plan reference points that have been added	***Fatal***	
	Y014 (0)	The number of plan reference points for this survey dataset is within the allowable range.	Pass	
	Y014 (1)	*[Failure] The number of plan reference points for this survey dataset is outside the allowable range.	Fatal	Either add a Survey Reference (plan reference) or delete some. The range is 1 - 20.
Y015		Check to see if the survey has been modified	***Fatal***	
	Y015 (0)	All new parcels have been appropriately linked.	Pass	
	Y015 (1)	*[Failure] Survey data has been modified that could affect the definition of parcel boundaries. At least one parcel needs to be re-linked to confirm the boundary definition of the survey, and Plan Generation needs to be re-performed.	Fatal	At least one parcel needs to be re-linked to confirm the boundary definition and re run the business rules across the dataset.
Y016		Check for Orphan Marks/Nodes	***Fatal***	
	Y016 (0)	All the marks in the survey dataset are linked to an observation, boundary dimension or boundary line.	Pass	

Checklist Code	Item Number	Checklist Description	Message Severity	Typical User Intervention (no comment here means that checklist item is self explanatory)
	Y016 (1)	*[Failure] The following marks in the survey dataset are not linked to an observation, boundary dimension, or boundary line:	Fatal	Confirm that the reported marks are not required and delete them from the Mark List screen. If they are required then they will need to be traversed through or incorporated into parcel boundaries.
Y017		Check that all Marks are spatially defined (have a coordinate from which spatial shape can be generated)	***Fatal***	
	Y017 (0)	All the marks in the survey dataset are connected to coordinated points.	Pass	
	Y017 (1)	*[Failure] The following marks in the survey dataset are not connected through observation to an origin mark or to a mark linked to an underlying mark:	Fatal	Check for orphaned marks. They may be listed in the Mark List screen with no coordinates. Check mark linking.
Y018		Check that all Lines are used to define Parcel Boundaries	***Fatal***	
	Y018 (0)	All boundary lines in the survey dataset have been linked to the boundaries of parcels created in this survey.	Pass	
	Y018 (1)	*[Failure] The following boundary lines in the survey dataset, have not been linked to the boundaries of parcels created by this survey:	Fatal	Check for duplicate observations and delete.
Y019		Check that all marks that define the underlying boundary of a reference parcel are included as part of the new boundary definition of the reference parcel.	***Fatal***	
	Y019 (0)	All boundary marks that are included in the parcel boundary definition of redefined parcel(s) have been included in the new parcel boundary definition of the parcel(s).	Pass	
	Y019 (1)	*[Failure] The following list of underlying marks that were included in the parcel boundary definition of redefined parcel(s) have not been included in the new parcel boundary definition of the parcel(s):	***Fatal***	Mandatory missed marks have not been included at parcel linking. Ensure the correct underlying parcel is extinguished and relink one primary parcel for the mandatory missed marks to be selected.
Y020		Check all newly created parcels are not linked to an existing underlying parcel.	***Fatal***	

Checklist Code	Item Number	Checklist Description	Message Severity	Typical User Intervention (no comment here means that checklist item is self explanatory)
	Y020 (0)	All created parcels have not been (and should not be) linked to an existing parcel in Landonline.	Pass	
	Y020 (1)	*[Failure] The following list of created parcels have been (and should not be) linked to an existing parcel in Landonline:	Fatal	Usually occurs on stage unit plans where parcels have been searched and parcel intent changed, Parcels need to be created as new. Edit the parcel and change the action to affected and back to Created (this will clear fields) and re-enter the FDU's or delete the created FDU and re-'Add' parcel from new. FDU's need to be created as new parcels not searched from PUD's

Y021		A graphic of this survey has not been generated / attached. Either generate a Digital Plan Diagram or attach an appropriate Plan Graphic supporting document.	***Fatal***	
Y022		Check all disturbed and replaced mark details are correct	***Fatal***	Replaced or disturbed marks have not been linked to the underlying marks in LOL via searching the Node or Mark ID to associate it with the disturbed or replaced mark in mark capture.
Y023		Ensure new Digital Plans are generated	***Fatal***	Regenerate plan layout and select the Complete button to complete plan capture.
Y024		Check adjacent traverse marks within a specified distance from unlinked captured traverse marks.	***Fatal***	An incorrect mark has been captured. Check marks that are close together, as it may have been linked to the incorrect mark or check any disturbed or replaced marks have not been linked spatially as these may need to be done in the mark capture screen.

C (Cadastral e-survey) rules

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Checklist Code	Item Number	Checklist Description	Message Severity	Typical User Intervention (No comment here means that checklist item is self explanatory)
C003		Surveyor Authorised to Practise		
	C003 (0)	S02-3 The surveyor has a current Cadastral Survey License	Pass	
	C003 (1)	S02-3 Landonline has no record of the Surveyor signing the survey dataset having a Cadastral Survey License (CSA02 47)	Conflict	Supply a copy of current APC to LINZ in order for this rule to pass. If this has already been supplied then request to have the users details updated in Landonline.
C006		Underlying parcel specified		
	C006 (0)	S05.2 Underlying parcels have been specified	Pass	
	C006 (1)	S05.2 New primary parcels are being created but underlying parcels have not been specified. Underlying parcels can be identified by associating them with the action of "Extinguished" (CSG 6)	Conflict	Check Parcel List screen to ensure that underlying parcel/s have been extinguished or referenced
C007		Underlying (extinguished and Referenced) or adjoining affected parcel(s) exists as live parcel(s)		
	C007 (0)	S05-2 All underlying parcels are registered in Landonline	Pass	
	C007 (1)	S05-2 The following list of underlying parcels that are being referenced, extinguished or affected by the survey are currently only at the approved stage. Deposit of this survey will not be possible until these parcels have been registered.	Warning	Check the approved parcels are correctly entered into parcel capture. Note: This is only a warning and it may not affect the survey if the underlying approved plan is being extinguished.
	C007 (2)	S05-2 The following list of underlying parcels that are being referenced, extinguished or affected by the survey do not currently exist as live parcels (approved or registered) in Landonline. (CSG 6)	Conflict	Dataset needs to be put on hold until underlying parcels are at least in the approved layer.

Checklist Code	Item Number	Checklist Description	Message Severity	Typical User Intervention (No comment here means that checklist item is self explanatory)
C010		New Appellations unique to the Dataset.		
	C010 (0)	S08-1 All new parcels have unique appellations	Pass	
	C010 (1)	S08-1 The following list of new parcels have duplicated appellations (SGR02 20)	Warning	Confirm that all created parcels in the Parcel List have correct and unique appellation details. The only exception here is for Legalisation surveys where a balance parcel is created with the same appellation as the parcel being extinguished. While the message implies that only created parcels are checked, it would appear that new parcel appellations are not only checked for uniqueness among themselves but also against extinguished (and referenced / affected) parcels.
C011		New Appellations appropriate		
	C011 (0)	S08-3 All new parcels have standard appellations	Pass	
	C011 (1)	S08-3 The following parcels have non-standard appellations (SGR02 20)	Warning	This item could indicate an incorrectly constructed appellation. Check parcel details
C012		Mandatory supporting document (survey report) attached	***Fatal***	
	C012 (0)	S58-1 The survey report is included as part of the survey dataset	Pass	
	C012 (1)	S58-1 The survey report has not been attached to the survey dataset. (CSG 6.1.2)	Conflict	Attach a survey report to the Supporting Documents tab in the Manage Survey Transaction screen.
C016		S55 Valid Survey date supplied (i.e. not after lodgement date).		
	C016 (0)	S55-6 The survey date is valid	Pass	
	C016 (1)	S55-6 The survey date is after today	Warning	Refers to the Survey Finish Date field in the Survey Header screen
	C016 (2)	S55-6 The survey date is after the date of lodgement	Warning	Refers to the Survey Finish Date

Checklist Code	Item Number	Checklist Description	Message Severity	Typical User Intervention (No comment here means that checklist item is self explanatory)
C019		Existing references to tenure documents that land is comprised in must link to existing primary parcels.		
	C019 (0)	S06-1 All of the "Comprised in" references link to registered parcels in Landonline	Pass	
	C019 (1)	S06-1 The following "Comprised in" references do not link to registered parcels in Landonline	Conflict	CT references listed here will most likely not be linked to a spatial parcel in Landonline. Check that CT ref entered is correct, and that pre-Landonline references are <u>prefixed</u> correctly and uppercase letters are used.
C023		Parcels are entirely within the specified Territorial Authorities		
	C023 (1)	S55-6 There are no Territorial Authorities linked to this survey therefore a validation to ensure all new parcels are within Territorial Authority boundaries was not undertaken.	To Note	
	C023 (2)	S55-6 Landonline records the following new parcels as being outside the boundaries of the Territorial Authorities specified.	Conflict	Check that the correct TA name has been entered into the Survey Header screen.
C024		Each survey must be referenced by 3 or more old marks		
	C024 (0)	S22-4 The minimum number of old marks have been connected to the survey	Pass	

Checklist Code	Item Number	Checklist Description	Message Severity	Typical User Intervention (No comment here means that checklist item is self explanatory)
	C024 (1)	S22-4 The minimum number of old marks (X) have not been included in or identified in the survey. (SGR02 7)	Warning	This warning currently appears for compiled and computed datasets but its main purpose is to check for connection to the existing survey network. Check the mark state for existing marks captured into the new dataset.
C029		Details for existing marks compatible with data in Landonline		
	C029 (0)	S55-2 All of the mark names supplied for existing marks on the survey are compatible with the mark names in Landonline	Pass	
	C029 (1)	S55-2 All of the mark types supplied for existing marks on the survey are compatible with the mark names in Landonline	Pass	
	C029 (2)	S55-2 The following marks have names that differ from the mark name recorded in Landonline (SGR02 Sch2 7)	Warning	<p>These need to be checked carefully. The report is stating that a newly captured mark has been linked to a mark in Landonline that has a different mark name. The mark name in brackets is the new captured mark. Check...</p> <ol style="list-style-type: none"> 1) that marks have been correctly linked, and 2) If the new mark is replacing a Landonline mark, check that the replacement functionality has been correctly applied in the Mark Details screen. It needs to be remembered that Landonline retains the existing name of a mark unless the replaced functionality has been used.

Checklist Code	Item Number	Checklist Description	Message Severity	Typical User Intervention (No comment here means that checklist item is self explanatory)
	C029 (3)	S55-2 The following marks have types that differ from the mark types recorded in Landonline (SGR02 Sch2 7)	Warning	May need to be amended - though not crucial. Landonline also retains existing mark type details unless the replaced functionality has been used
C030		New Boundary nodes ground marked		
	C030 (0)	S28-1 All new boundary marks have been ground marked	Pass	
	C030 (1)	S28-1 The following new boundary points have not been ground marked (SGR02 31)	Warning	These are most likely to be easement or covenant positions but still need to be checked to verify that boundary marking has been captured correctly.
C040		Horizontal coordinate system Appropriate		
	C040 (0)	S21-1 This survey uses an appropriate coordinate system	Pass	
	C040 (1)	S21-1 This survey is within Xm of a NZGD2000 mark of 6th order or better and should use the associated 2000 circuit coordinate system (CSG 3.5.1.4)	Warning	Xm is currently set to 500m in terms of SG Ruling 2004/1
C041		New parcels are located within the boundaries of the specified underlying parcel or parcels, or the exterior lines of the new set of parcels matches the exterior lines of the underlying parcel or parcels.		
	C41B (0)	All parcels affected by the new parcel topology identified for this survey have appropriate geometry.	Pass	
	C41B (1)	The following parcels have been specified as not including a topological definition (Topology Class = No Topology), but topology has been provided.	Fatal	Either modify the Topology Class of the parcels to something other than No Topology or remove the topological definition by unlinking the parcels in the Parcel List screen.
	C41B (2)	The following line parcels do not consist of exactly one line segment. Modify the topological definition of these parcels as appropriate from Plan Capture.	Fatal	Ensure that centreline easement parcels have been linked to the correct line sequence

Checklist Code	Item Number	Checklist Description	Message Severity	Typical User Intervention (No comment here means that checklist item is self explanatory)
	C41B (3)	The following line parcels have been defined as a closed ring. Either they should not be a closed ring or should not be line parcels. Modify the topological definition of these parcels as appropriate from Plan Capture.	Fatal	Check that... 1) the parcel identified has not been linked to a closed polygon and / or 2) the parcel intent and topology class are correct
	C41B (4)	The following parcels have been specified as of a type that has a topological definition but the topology has not been supplied. Modify the topological definition of these parcels as appropriate from Plan Capture.	Fatal	The reported parcels should be either... 1) linked to a shape 2) have the topology class amended to the correct topology or 3) deleted from the Parcel List
	C41B (5)	The inner rings of the following donut parcels do not form a closed ring. Modify the topological definition of these parcels as appropriate from Plan Capture.	Fatal	The parcel at the centre of the “donut” (i.e. forming the hole in the outer parcel) may need to be extinguished and recreated in the Parcel List. This parcel must be linked <u>before</u> the outer parcel.
	C41B (6)	The outer rings of the following parcels do not form a closed ring. Modify the topological definition of these parcels as appropriate from Plan Capture.	Fatal	Check for holes in the parcel definition.
	C41B (7)	The inner rings of the following donut parcels are not inside their associated outer parcel rings. Modify the topological definition of these parcels as appropriate from Plan Capture.	Fatal	Check that the smaller (inner) parcel and the parcel that encompasses it (outer) are linked to the correct parcels in the Parcel List.
	C41B (8)	The following parcels intersect other parcels. Modify the topological definition of these parcels as appropriate from Plan Capture.	Fatal	Parcels need to be checked to ensure that existing lines are split correctly. Underlying parcels sometimes need to have topology reformed (log call to BAs)
	C41C (0)	All parcels affected by the new parcel topology identified for this survey have appropriate status flows.	Pass	

Checklist Code	Item Number	Checklist Description	Message Severity	Typical User Intervention (No comment here means that checklist item is self explanatory)
	C41C (1)	The following parcels have invalid status flows as indicated.	Conflict	This message relates to the new status that the underlying parcels will take on after approval of the dataset.
	C41D (0)	S24-4 All primary parcels from this survey have a valid spatial relationship with other primary parcels from this survey.	Pass	
	C41D (1)	S24-4 The following primary parcels from this survey spatially overlap other primary parcels from this survey as indicated.	Conflict	
	C41E (0)	S24-4 All primary parcels from this survey do not conflict with other approved primary parcels in Landonline.	Pass	
	C41E (1)	S24-4 The following primary parcels from this survey spatially overlap other approved primary parcels in Landonline as indicated.	Conflict	
	C41F (0)	S24-4 All secondary parcels from this survey have a valid spatial relationship with the primary parcels from this survey.	Pass	
	C41F (1)	S24-4 The following secondary parcels from this survey spatially overlap more than one primary parcels from this survey.	Conflict	
	C41G (0)	S24-4 All primary parcels from this survey have a valid spatial relationship with existing secondary parcels in Landonline.	Pass	
	C41G (1)	S24-4 The following primary parcels from this survey have an invalid spatial relationship with existing secondary parcels in Landonline as indicated	Conflict	Possible cause is that the Comprised in panel contains the CT reference for the land affected by an amalgamation condition. If so the CT should be removed but the affected parcels need to remain in the Parcel List.
	C41H (0)	S24-4 All secondary parcels from this survey have a valid spatial relationship with the other secondary parcels from this survey	Pass	
	C41H (1)	S24-4 The following secondary parcels from this survey spatially overlap other secondary parcels from this survey	Warning	Check to make sure that easements are not overlapping each other, for example a secondary centreline easement overlapping a secondary parcel easement.

Checklist Code	Item Number	Checklist Description	Message Severity	Typical User Intervention (No comment here means that checklist item is self explanatory)
	C41I (0)	S24-4 All secondary parcels from this survey do not extend over water boundaries	Pass	
	C41I (1)	S24-4 The following secondary parcels from this survey extend over water boundaries as indicated	Warning	
	C41J (0)	S10-2 All secondary parcels above the primary parcels being extinguished by this survey are also being extinguished	Pass	
	C41J (1)	S10-2 The following secondary parcels are above primary parcels being extinguished by this survey, but are not being extinguished themselves	Conflict	If the existing easements on the balance parcels are not being affected by, e.g. a legalisation plan, then no action is required. Creating a balance parcel is not an action to deal with the existing easements. Otherwise ensure that existing easements have been extinguished
	C41K (0)	S12-1 There were no topological gaps or overlaps detected in the parcel networks that will result from this action	Pass	
	C41K (1)	S12-1 The following lines are part of the live primary network but are not accounted for in the new primary network	Conflict	The lines listed exist in Landonline but are not in the new dataset. The importance of this rule does not take effect until after Submit. New primary lines are not allocated Line ids therefore won't match the live primary network, which does have line ids. If new parcels are relinked and there were Line ids associated to them (adopted lines) then this rule appears as the topology gets reformed thus removing any evidence of Line ids from adopted lines.
	C41K (2)	S12-1 The following lines are part of the new primary network but are not accounted for in the live primary network	Conflict	The lines listed are part of the new dataset but do not exist in Landonline. Same as above.

Checklist Code	Item Number	Checklist Description	Message Severity	Typical User Intervention (No comment here means that checklist item is self explanatory)
	C41K (3)	S12-1 The following lines have been referenced more than once in each direction. This indicates a topological overlap exists which should be investigated.	Conflict	<p>Check lines in question to ensure no capture errors. If none, ignore the conflict.</p> <p>The rule acts as a prompt for the surveyor to check the records that have been captured are satisfactory to replace the existing record.</p> <p>Usually indicates that surveyor has captured same line twice (once in each direction) may not necessarily be in same layer (i.e. once in primary layer and in reverse direction in traverse). If in same layer then one line needs deleting or amending; if in different layers then select a multiple layer option (e.g. trav/prim). Not all parcels have been extinguished.</p>
	C41L (0)	The bounding box for the following parcels overlaps other parcels. They will not be tested for consistency with the following rules and should be checked manually: C41E - *[Warning] The following approved primary parcels from this survey spatially overlap other approved primary parcels in Landonline as indicated, C41F - *[Warning] The following secondary parcels from this survey spatially overlap more than one primary parcels from this survey, C41G - *[Warning] The following primary parcels from this survey have an invalid spatial relationship with existing secondary parcels in Landonline as indicated	To Note	Landonline is not able to adequately check topology for the new dataset since the area of interest that the database is using contains over 1000 parcels. Confirm that parcel definition and linking has been performed correctly.
C042		Dimensions are supplied for new right line and arc boundaries		
	C042 (0)	S56-1 All new boundary observations have appropriate dimensions supplied	Pass	
	C042 (1)	S56-1 The following right line boundary observations do not have a bearing supplied	Warning	Check data for reported observations. Edit in the Traverse Bdy capture screen
	C042 (2)	S56-1 The following right line boundary observations do not have a distance supplied	Warning	Could be observed only trig rays
	C042 (3)	S56-1 The following arc observations do not have an arc radius supplied	Warning	Add a radius to the reported arc observation in the Traverse Boundary capture screen

Checklist Code	Item Number	Checklist Description	Message Severity	Typical User Intervention (No comment here means that checklist item is self explanatory)
	C042 (4)	S56-1 The following arc observations do not have a chord bearing supplied	Warning	Add a chord bearing to the reported arc observation in the Traverse Boundary capture screen
	C042 (5)	S56-1 The following arc observations do not have an arc length supplied	Warning	
C052		Cadastral Survey class appropriate.		
	C052 (0)	S55-11 All parcels less than 4ha correctly have no Class III boundaries	Pass	
	C052 (1)	S55-11 The following parcels less than 4ha incorrectly have Class III boundaries	Warning	Confirm that the correct survey class has been added to the boundaries of the reported parcels.
C059		Area for each new primary parcel supplied.		
	C059 (0)	S09-1 All primary parcels have an area supplied	Pass	
	C059 (1)	S09-1 The following primary parcels do not have an area supplied (SGR02 21)	Conflict	
C060		Areas where required or supplied are correct.		
	C060 (0)	S14-1 All primary parcels have an area within limits of the Landonline calculated area.	Pass	
	C060 (1)	S14-1 The following primary parcels have an area that is outside the limits of the Landonline calculated area (SGR02 29)	Warning	Confirm the parcel area entered. This message can appear as a result of having to link to inaccurate underlying data. This causes the parcels to change shape, which affects the calculated area. Should not be an issue in SDC areas or over Landonline plans.
C061		Total legal area of new primary parcels matches, within survey limits, the total area of the parcels to be extinguished		

Checklist Code	Item Number	Checklist Description	Message Severity	Typical User Intervention (No comment here means that checklist item is self explanatory)
	C061 (0)	S24 The total area of the new parcels matches (within limits) the total area of the underlying parcels.	Pass	
	C061 (1)	S24 The total area of the new parcels does not match (within limits) the total area of the underlying parcels.	Warning	Confirm the areas for each parcel in the Parcel Detail screen. Discrepancies should be highlighted in the survey report as there may be an error in Landonline. If this is the case then total area should be verified manually against titles.
C068		The distances between boundary marks and their closest witness mark comply with Survey Regulations		
	C068 (0)	S26 All boundary marks are within the regulation distance of witness marks.	Pass	
	C068 (1)	S26 The following boundary marks are further than the regulation maximum distance from a witness mark.	Warning	This check is done by swinging a radius around each witness mark and reporting marks that fall outside that measure. It does not check distance by following traverses
C089		Consent to a computed plan attached		
	C089 (0)	S58-3 Consent for a computed plan is attached.	Pass	
	C089 (1)	S58-3 Consent for a computed plan should be attached.	Conflict	This check can be ignored for Computed easement and covenant datasets.
C090		More than 3 existing nodes identified		
	C090 (0)	S22-4 The minimum number of existing marks (X) have been identified.	Pass	
	C090 (1)	S22-4 The minimum number of existing marks (X) have not been identified.	Conflict	
C091		All boundary observations to be between existing nodes		

Checklist Code	Item Number	Checklist Description	Message Severity	Typical User Intervention (No comment here means that checklist item is self explanatory)
	C091 (0)	S57-2 All boundary observations of this compiled plan are between existing boundary points.	Pass	
	C091 (1)	S57-2 The following boundary observations are not between existing boundary points.	Conflict	Compiled Plan - check that marks have been linked correctly. This rule will fail for datasets over Landonline data that does not have the correct number of underlying nodes to link to.
C19A		Comprised in references given for parcels to be extinguished, referenced or as affected agree with the Landonline reference (i.e. Crown Land, CT, Gaz Reference, no reference).		
	C19A (0)	S06 The underlying parcels from the survey exist in the comprised in references specified	Pass	
	C19A (1)	S06 Landonline does not record the following underlying parcels as being part of the comprised in references (Please Check)	Warning	Confirm the CT references added to Comprised in panel. Also, check that the correct underlying parcels have been added (extinguished, referenced or affected) to the Parcel List. If entry is correct this warning may be pointing to the possibility that Landonline has no link between the titles and spatial parcels.
C19B		Each comprised in references for the survey, links to at least one underlying parcel in the survey		
	C19B (0)	S06 All "Comprised in" references specified for the survey link to underlying parcels from the survey	Pass	
	C19B (1)	S06 Landonline does not record links to the specified underlying parcels in the following "Comprised in" references (Please Check)	Warning	See notes for previous entry of this item
C23A		All specified Territorial Authorities are affected by any parcel or part of a parcel		
	C23A (0)	S55-6 All Territorial Authorities specified are affected by parcels from the survey	Pass	

Checklist Code	Item Number	Checklist Description	Message Severity	Typical User Intervention (No comment here means that checklist item is self explanatory)
	C23A (1)	S55-6 There are no Territorial Authorities linked to this survey therefore a validation to ensure all Territorial Authorities are affected by the survey was not undertaken.	To Note	
	C23A (2)	S55-6 Landonline records the following Territorial Authorities as not containing any parcels from the survey.	Warning	Confirm the TA name added in the Survey Header screen.
C23B		Parcel(s) are entirely within the Land District Specified.		
	C23B (0)	S55-6 All new parcels on the survey are in the specified land district	Pass	
	C23B (1)	S55-6 The following parcels appear to be outside the boundary of the land district specified for the survey.	Warning	<ol style="list-style-type: none"> 1) Check that the correct Land District has been entered into the Manage Survey Transaction screen. If not a new dataset will be required. In exceptional circumstances a script can be requested to amend. 2) Check that the correct coordinate system has been entered in the Survey Header screen. 3) Have the correct underlying parcels been added to the Parcel List?
C24A		Minimum of 3 old reliable marks identified as Origin Marks		
	C24A (0)	S19-1 The minimum number of old reliable marks have been indicated as origin marks	Pass	
	C24A (1)	S19-1 The minimum number of old reliable marks (X) have not been identified as origin marks for the survey.	Conflict	Check that the origin marks have been captured as old marks and the Condition field set to Reliably Placed/Found.
C24B		Marks shown as Origin or Witness are not also shown as adopted marks		
	C24B (0)	S55-2 None of the adopted marks from the survey have been used as origin marks	Pass	

Checklist Code	Item Number	Checklist Description	Message Severity	Typical User Intervention (No comment here means that checklist item is self explanatory)
	C24B (1)	S55-2 The following adopted marks cannot be used as origin marks by the survey	Conflict	Unless a boundary mark has been used as an origin/boundary for a compiled dataset
C300		Where a First Stage Unit Plan is lodged, it must be accompanied by a Proposed Unit Development Plan	***Fatal***	
	C300 (0)	S40-1 The Proposed Unit Development (PUD) has been lodged for this Staged Unit Development.	Pass	
	C300 (1)	S40-1 The Proposed Unit Development (PUD) has not been lodged for this Staged Unit Development	Fatal	Confirm the Survey Purpose of the dataset. Is a standard unit plan being lodged as a stage unit plan. This cannot be edited once the plan has been created. If the incorrect Survey Purpose of a Unit/Stage unit or Cross lease plan is entered, then a script is required to amend this to ensure that the correct sequence of plans is maintained.
C42A		Dimensions supplied for adopted boundaries equal to the latest dimensions held in Landonline		
	C42A (0)	S56-3 All adopted boundary observations match dimensions in Landonline	Pass	
	C42A (1)	S56-3 The following adopted boundary observations have dimensions that could not be verified by Landonline	To Note	
	C42A (2)	S56-3 The following adopted boundary observations have bearings that do not match the latest information held by Landonline	Conflict	
	C42A (3)	S56-3 The following adopted boundary observations have distances that do not match the latest information held by Landonline	Conflict	
	C42A (4)	S56-3 The following adopted arc boundary observations have arc radii that do not match the latest information held by Landonline	Conflict	

Checklist Code	Item Number	Checklist Description	Message Severity	Typical User Intervention (No comment here means that checklist item is self explanatory)
	C42A (5)	S56-3 The following adopted arc boundary observations have chord bearings that do not match the latest information held by Landonline	Conflict	
	C42A (6)	S56-3 The following adopted arc boundary observations have arc lengths that do not match the latest information held by Landonline	Conflict	
C45A		Supplied dimensions of existing boundaries match dimensions in Landonline		
	C45A (0)	S24 All boundary observations match dimensions in Landonline within survey limits	Pass	
	C45A (1)	S24 The following boundary observations have bearings that do not match the latest information held by Landonline	Warning	
	C45A (2)	S24 The following boundary observations have distances that do not match the latest information held by Landonline	Warning	
	C45A (3)	S24 The following arc boundary observations have arc radii that do not match the latest information held by Landonline	Conflict	
	C45A (4)	S24 The following arc boundary observations have chord bearings that do not match the latest information held by Landonline	Warning	
C55A		For non-boundary right lines indicated as adopted the dimensions supplied must equal Landonline dimensions		
	C55A (0)	S56-3 All adopted non-boundary observations match dimensions in Landonline	Pass	
	C55A (1)	S56-3 The following adopted non-boundary observations have dimensions that could not be verified by Landonline	To Note	
	C55A (2)	The following adopted non-boundary observations have bearings that do not match the latest information held by Landonline	Conflict	

Checklist Code	Item Number	Checklist Description	Message Severity	Typical User Intervention (No comment here means that checklist item is self explanatory)
	C55A (3)	S56-3 The following adopted non-boundary observations have distances that do not match the latest information held by Landonline	Conflict	
C55B		Supplied dimensions of non-boundary right lines between existing marks match dimensions in Landonline		
	C55B (0)	S24 All non-boundary observations match dimensions in Landonline	Pass	
	C55B (1)	S24 The following non-boundary observations have bearings that do not match the latest information held by Landonline	Warning	
	C55B (2)	S24 The following non-boundary observations have distances that do not match the latest information held by Landonline	Warning	
C59A		Parcel area must not be specified as less than one square metre		
	C59A (0)	S14 All primary parcels have an area greater than or equal to 1 square metre	Pass	
	C59A (1)	S14 The following primary parcels have a specified area less than 1 square metre	Conflict	
C67A		The number of witness marks in the survey complies with the Survey Regulations.		
	C67A (0)	S26 The minimum number of witness marks (X) have been included in the survey.	Pass	
	C67A (1)	S26 The minimum number of witness mark (X) have not been indicated on the survey.	Conflict	(X) is currently set to 3 as per Rule 12 of the SG Rules for Cadastral Surveys 2002/2
C182		Survey internally consistent		

Checklist Code	Item Number	Checklist Description	Message Severity	Typical User Intervention (No comment here means that checklist item is self explanatory)
	C182	Least squares adjustment run as part of this rule. See comments above		
C184		Survey consistent with SDC network		
	C184	Least squares adjustment run as part of this rule. See comments above		
C185		Survey consistent with non SDC network		
	C185	Least squares adjustment run as part of this rule. See comments above		

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P (Plan Layout) Rules

Plan Rule	Description	Explanation
P001	All boundary marks captured for the survey are displayed	<p>Ensures that every boundary mark captured for the survey is displayed at least once on the set of diagrams used to illustrate the Title Sheets on the Digital Survey Plan and the Digital Title Plan.</p> <p>Note: This check excludes system added marks created by the balance parcel process.</p>
P002	All boundary marks captured for the survey are labelled	<p>Ensures that every boundary mark captured for the survey has its mark name label displayed (if applicable) at least once on the set of diagrams used to illustrate the Title Sheets of the Digital Survey Plan.</p> <p>Note: This check excludes system added marks created by the balance parcel process.</p>
P003	All observations captured for the survey are displayed	<p>Ensures that every observation captured for the survey is displayed at least once on the set of diagrams used to illustrate the Digital Survey Plan and/or is displayed at least once on the set of diagrams used to illustrate the Digital Title Plan.</p> <p>Note: The set of diagrams used to illustrate the Digital Survey Plan includes diagrams used for the Survey Sheets as well as diagrams used for the Title Sheets.</p>
P004	All observation dimensions captured for the survey are displayed on the Digital Survey Plan	<p>Ensures that the every observation dimension captured for the survey is displayed at least once on the set of diagrams used to illustrate the Digital Survey Plan.</p> <p>Note:</p> <ul style="list-style-type: none"> The set of diagrams used to illustrate the Digital Survey Plan includes diagrams used for the Survey Sheets as well as diagrams used for the Title Sheets. Observation dimensions include bearing, distance, chord bearing, arc length and arc radius measurements.
P005	All primary parcel boundary distances are displayed on the Digital Title Plan	<p>Ensures that every primary parcel boundary distance recorded for the survey is displayed at least once on the set of diagrams used to illustrate the Digital Title Plan.</p> <p>Note: The parcel boundary distance includes observation distance and arc length measurements.</p>
P006	Created primary parcels are displayed in full on the Digital Title Plan	Ensures that every primary parcel created by the survey is completely contained by at least one diagram used for the Digital Title Plan.
P007	Appellation and area displayed for created parcels on the Digital Title Plan	Ensures that every primary and non-primary parcel created for the survey has its appellation and area (if applicable) displayed at least once on the set of diagrams used to illustrate the Digital Title Plan.

Plan Rule	Description	Explanation
P008	All diagrams created for the survey are displayed	Checks that every system generated and user defined diagram created for the survey is displayed on the Digital Survey Plan.

CT prefix codes for converted titles

Converted title references have a two letter prefix code added to the beginning of the original CT number. For example, Wellington title 1A/1 is converted as WN1A/1. There is no space between the prefix and the plan number.

Prefixes used for titles converted into Landonline are:

District	Prefix	District	Prefix
North Auckland	NA	Nelson	NL
South Auckland	SA	Westland	WS
Gisborne	GS	Canterbury	CB
Hawkes Bay	HB	Otago	OT
Taranaki	TN	Southland	SL
Wellington	WN		
Marlborough	MB		

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