Land Information New Zealand
Toitū te whenua

LANDONLINE PRE-VALIDATION REPORT EXPLANATION

A summarised explanation of the items

in the pre-validation report to assist interpretation: RCS 2010

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1.0 Introduction

Background

During pre-validation of *e-surveys*, Landonline runs tests to check the cadastral survey dataset (CSD). The tests are designed to provide the Surveyor sufficient information to enable them to assess whether the CSD is compliant with the Rules for Cadastral Survey 2010 (RCS2010). It also tests for information that is required by LINZ to enable integration into the cadastre.

The pre-validation report can be run, prior to Submit, at any stage subsequent to initiating a survey in Landonline.

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

This document updates and accordingly replaces v 6.1

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 *e-survey* or can, in some cases, be due to a serious conflict with erroneous data in Landonline.
Conflict	This is highlighting that there is a conflict within the *e-survey* or with data in Landonline. These items should be resolved if applicable before the *e-survey* is submitted. They will not prevent submission but some of them may present at Validation as Significant/Critical requisition items and thus jeopardize approval of the CSD. Users are expected to provide additional information or a detailed explanation where an item, *which is material to the survey*, remains at submission.
Warning	This is a message drawing attention to a potential breach of a Landonline input requirement or a Surveyor-General's rule, that may or may not have to be corrected. They will not prevent submission but some of them may present at Validation as Significant/Critical requisition items and thus jeopardize approval of the CSD. Users are expected to provide additional information or detailed explanations where the item remains at submission.
Information	This is typically a notice that Landonline was not able to fully check a data item. The item may be correct however remains unchecked by the system. Some items are listed here because the associated business rules are required to run but not report non-verified results.
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.

2.0 Structure of the Pre-validation Report

Overview

Since Landonline Release 3.11, the Pre-validation report can be viewed in two formats. The newer default format is 'html' and the alternative, the original version, is 'plain text format'. While the information to create both reports is identical, the layout of each report is quite different. **The comments made in this explanation document relate to the 'html' version.**

The pre-validation report is divided into three main sections which are each then divided into a number of subsections. These are initially listed and then explained in more detail below:

Survey Capture

1. Preventing Submission - Rules that will prevent the submission of the Survey Dataset
2. Conflicts - Rules that indicate some aspect where the survey dataset conflicts with data held in Landonline. These items, where they are material to the survey, should be resolved before the e-survey is submitted.
3. Warnings -Rules that may indicate a discrepancy with the Survey Dataset that will need to be either corrected or covered in the Survey Report
4. Information - The item is provided solely for the user's information or gross error checking.
5. Compliant - Rules indicating that the new dataset is compliant with Landonline data

Adjustments

6. Internal Consistency
7. Network

Plan Generation

8. Warnings - Rules that identify data that was unable to be fully tested or may indicate a deficiency in the Survey Dataset
9. Compliant - Rules indicating that the new dataset is compliant with Landonline data

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

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

Items reported for Survey Capture> Preventing Submission

Items listed here are generally called the "Y rules" *(or Fatals),* although rules C012, C300, C470, & C501 also apply to this section of the report. These, with the exception of Y024 which is a 'Warning', all need to be attended to in order that the dataset may be submitted.

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2. Rules that indicate a conflict in the Survey Dataset or in Landonline

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

Items reported for Survey Capture> Conflicts

Items listed here will not prevent submission of the dataset but may lead to requisitions being generated at Validation as Significant/Critical and thus jeopardize approval of the CSD. Users are expected to provide additional information or detailed explanations where an item, *which is material to the survey*, remains at submission.

The rules run at this stage (*Conflict* and *Warnings*) are referred to as the "C rules".

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3. Topology Validations

The C Rules under '*Conflicts'* , include a series of Topology Validations. These validations are reported as C041 rules. Note that the C041B1- B8 inclusive are 'Fatals'.

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 Validations*
- *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.

Note:

C 'Conflict' rules other than C41's are C003(1), C007(2), C023(2), C459, C486(1), C491(2).

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,

Items reported for Survey Capture > Warnings

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.

Items listed here will not prevent submission of the dataset but may lead to requisitions being generated if not resolved. Users are expected to provide additional information or detailed explanations where the item remains at submission.

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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,

Items reported for Survey Capture > Information

User needs to be confident that data entry is accurate for the items listed here as they were not able to be checked automatically.

Current examples are C445(5), C455(3) and Y027(1)

The pre-validation notice associated with Rules C445(5) and C455(3), are reported in this section because they have been coded not to list any non-verified items thus avoiding the survey reporting obligations attributed to a 'Warning'.

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6. Rules indicating that the new dataset is compliant with Landonline data

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

Items reported for Survey Capture > 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.

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
Network Adjustment (Full SDC/Partial SDC)
Underlying Survey

Internal Consistency

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 the Rules for Cadastral Survey 2010:

- Rule 3.1 Accuracy of non-boundary survey marks and
- Rule 3.3.1 Accuracy of boundary points and
- Rule 3.6 Accuracy of boundary witnessing
- Rule 3.7 Vector Accuracy

In addition, it verifies that boundary marks from the survey meet the distance requirements of:

- Rule 4.2 (Table 4) Distance for a boundary point connection to cadastral survey network mark.
- Rule 7.3.2(a) (Table 7) Distances between a boundary point and a witness mark.

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
- 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 accuracy standards of meet the requirements of the Rules for Cadastral Survey 2010:

- Rule 3.1 Accuracy of non-boundary survey marks and
- Rule 3.3.1 Accuracy of boundary points and
- Rule 3.6 Accuracy of boundary witnessing
- Rule 3.7 Vector Accuracy

- Rule 7.3 Witnessing of boundary points

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.

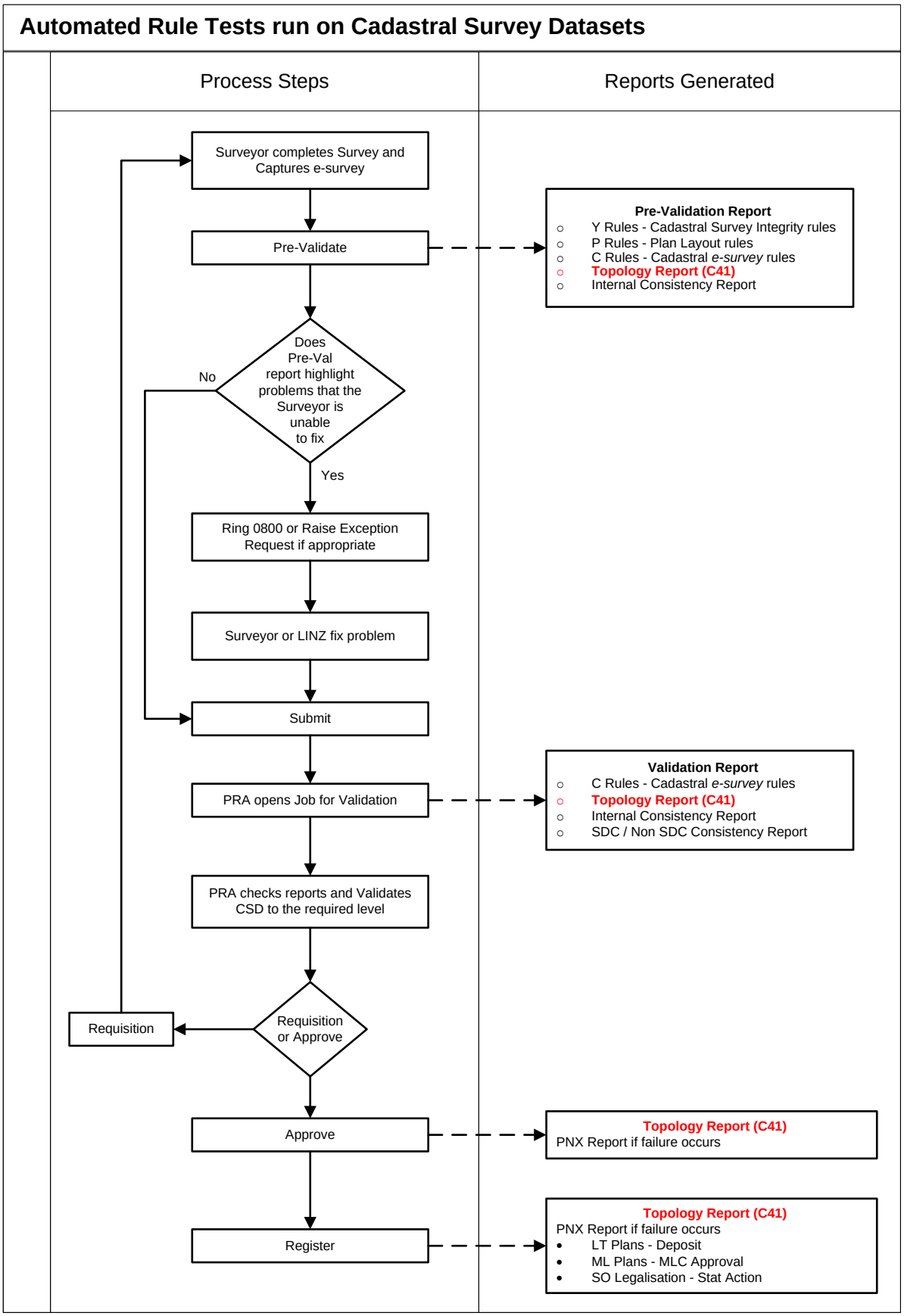
- Adjustment Errors and Warnings

8. Standard for lodgement of cadastral survey datasets

If a survey report is required for a CSD, Lodgement Standard 7 states that the report must include an assessment, *where they are material to the survey**, of the actions taken to address the C-rule conflicts and warning messages, and all adjustment report test failures and warning messages.

**where they are material to the survey* – Source LINZ Website: Survey report:

Process Summary



3.0 Y (Cadastral Survey Integrity) rules

The table below contains a list of survey integrity business rules Landonline uses to validate a survey when capturing data.

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	Commentary Note: If there is no comment, the checklist item is self explanatory.
Y001		Ensure mark details are populated	***Fatal***	
	Y001 (0)	All required mark details have been populated.	Compliant	
	Y001 (1)	The following marks referenced by this survey dataset have incomplete details supplied:	Fatal	For all marks included in the survey dataset this validation will check that all of the fields required by Landonline have been populated. Check data in the Mark Details screen for each of the marks reported.
Y002		Ensure vector details are populated	***Fatal***	
	Y002 (0)	All required vector details have been populated.	Compliant	For all Vectors included in the survey dataset this validation will check that all of the fields required by Landonline have been populated e.g. Obs accuracy, date. This rule has been changed to not fail Non Boundary vectors that have no Class.
	Y002 (1)	The following vectors referenced by this survey dataset have incomplete details supplied:	Fatal	Check the reported vectors in the Vector Capture screen for missing data such as Survey Class.
Y003		Ensure parcel details populated	***Fatal***	
	Y003 (0)	All required parcel details have been populated.	Compliant	For all parcels included in the survey dataset this validation will check that all of the fields required by Landonline have been populated.

Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
	Y003 (1)	The following parcels referenced by this survey dataset have incomplete details supplied:	Fatal	Check data in the Parcel Details screen for each parcel reported. Sometimes third party software generates parcels with incomplete details. If the dataset has been created from an imported xml file, delete parcel from the Parcel List screen and recreate. This can also occur manually if the user doesn't create the parcel correctly.
Y004		Ensure all mandatory missed marks have been included.	***Fatal***	
	Y004 (0)	There are no mandatory missed marks to include in the survey.	Compliant	This validation will ensure all mandatory missed marks (3 line intersections) in the underlying boundaries have been included

Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
	Y004 (1)	The following mandatory missed marks must be included in the survey.	Fatal	It is important for surveyors to review these entries. Situations where this occurs: 1) Upon the import of an XML file, where 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 re-link one primary parcel. The missed marks will appear for selection. 2) When manually capturing plans, if these are not included the first time you link your parcels (i.e. you selected the red x). To include, re-link one primary parcel. The missed marks will appear for selection. 3) When the subject parcel has not been extinguished, the mandatory missed marks will not appear – always extinguish the subject parcel before linking parcels. Once the subject parcel is extinguished, on relinking a primary parcel the mandatory missed marks will appear for selection. Further: 4) Ensure that the correct subject 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, unlink and re-link the new marks over the reported mandatory missed marks. One primary parcel should always be re-linked after carrying out re-linking of marks.
Y005		Ensure that if Extinguished primary parcels exist, that there are Created primary parcels as well	***Fatal***	
	Y005 (0)	Created New primary parcels and Extinguished primary subject parcels exist for this survey dataset	Compliant	If a survey includes current or approved primary parcels with an extinguish action then the survey must also be creating new primary parcels.

Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
	Y005 (1)	A primary parcel must be Created if a primary parcel is being Extinguished.	Fatal	If no new primary parcels exist then they need to be created and linked to the spatial line work. Check that the correct parcel(s) have been extinguished.
Y006		Check all existing parcels in the survey have been referenced to parcels in Landonline.	***Fatal***	
	Y006 (0)	All existing parcels referenced by the survey dataset are registered in Landonline.	Compliant	
	Y006 (1)	The following parcels must reference underlying parcels in Landonline. Ensure that parcel action is correct and link the parcel to the appropriate underlying parcel in Landonline.	Fatal	Ensure each existing parcel recorded in the survey dataset is referenced to an existing parcel in Landonline.
Y007		Check all created parcels requiring parcel topology have been linked.	***Fatal***	
	Y007 (0)	All parcels with topology definition referenced by the survey dataset have boundary definitions.	Compliant	
	Y007 (1)	The following new parcels do not have boundary definitions. Ensure that all parcel boundary vectors for this survey have been captured and parcel linking has been performed.	Fatal	It is possible that there are unlinked parcels in the Parcel List. Ensure all new created parcels that are of a type requiring parcel topology (i.e. have boundary lines) have been linked to a spatial definition of a parcel. The other thing to consider is that there may be parcels in the Parcel List that have the wrong topology class i.e. if the parcel is an aspatial parcel, the topology needs to be set to 'No Topology'.
Y008		Check all marks have a coordinate	***Fatal***	
	Y008 (0)	All marks referenced by the survey dataset have coordinates.	Compliant	This validation will ensure that all marks have a coordinate. This will identify marks that have not been coordinated or linked via an observation.

Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
	Y008 (1)	The following marks referenced by this survey do not have coordinates:	Fatal	Confirm if reported marks are required. If so, they need two vectors to/from them. If not, delete from the Mark List
Y009		Check parcel linking is unique	***Fatal***	
	Y009 (0)	All new parcels referenced by the survey dataset have been appropriately linked.	Compliant	Ensure that two or more parcels are not referenced against the same Landonline parcel.
	Y009 (1)	The following new parcels have not been appropriately linked to Landonline. Re-perform parcel linking and ensure all parcels are linked appropriately.	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 re-link. Add the extinguished parcels again.
Y010		Check parcel dimensions are included in parcel boundaries.	***Fatal***	
	Y010 (0)	All boundary vectors referenced by the survey dataset have been included in the definition of new parcel boundaries.	Compliant	Ensure all Vectors allocated to a boundary line layer for the survey have been included in the parcel dimensions table. These are not explicitly provided in the XML Schema but may be derived from data in an XML file.
	Y010 (1)	The following boundary vectors do not form part of a new parcel boundary. Ensure that all boundary vectors referenced by the survey dataset have been captured and parcel linking has been performed.	Fatal	Check that no non-boundary vectors 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 Finish Date' has been specified for this survey dataset.	Compliant	

Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
	Y011 (1)	A 'Survey Finish Date' has not been specified for this survey dataset.	Fatal	Enter a date in the Survey Finish Date field in the Survey Header screen The Survey Finish Date should be the date on which the field survey was completed.
Y012		Check at least 2 marks are linked to Landonline	***Fatal***	
	Y012 (0)	At least two marks have been linked to Landonline marks.	Compliant	
	Y012 (1)	The survey dataset must be linked to two or more existing marks in Landonline. Perform mark linking to ensure the marks from the survey correctly reference underlying marks in Landonline.	Fatal	Ensure at least two marks in the survey are matched to existing points in Landonline. This ensures the new survey data is linked to existing cadastral data. It also ensures the new survey can be adjusted and kept in terms with surrounding data in the event of future adjustments of the cadastral network in Landonline. Check the Meridional Circuit of the dataset. If an OCD datum has been used, two marks have to be linked to Landonline marks in order to open the spatial window. If this message is coming up for datasets with a geodetic datum specified, pre-validation has possibly been done too early.
Y013		Check mark linking is unique	***Fatal***	
	Y013 (0)	All marks in Landonline have been appropriately linked.	Compliant	
	Y013 (1)	The following marks have not been appropriately linked in Landonline. Verify which of the survey marks has been incorrectly linked and re-link if appropriate.	Fatal	Ensure that two or more CSC marks are not linked to the same Landonline mark. If this message appears, unlink the reported marks and re-link.
Y014		Check the number of the Survey Reference points that have been added.	***Fatal***	
	Y014 (0)	The number of Survey Reference points for this survey dataset is between 1 and 20.	Compliant	
	Y014 (1)	The number of Survey Reference points for this survey dataset is out of range. Ensure the number of Survey Reference points is between 1 and 20.	Fatal	Either add a Survey Reference (plan reference) or delete some. The range is 1 - 20.

Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
Y015		Check to see if the survey has been modified since parcel linking.	***Fatal***	
	Y015 (0)	All new parcels have been appropriately linked.	Compliant	Checks for modifications to the survey and whether any parcels need to be re-linked due to modified data affecting parcel boundaries.
	Y015 (1)	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 if a CSD plan is required for this survey.	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 (marks that are not connected to any other survey data).	***Fatal***	
	Y016 (0)	All the marks in the survey dataset are linked to a vector, boundary dimension or boundary line.	Compliant	Ensures all marks in the survey are linked to an observation, boundary dimension, or boundary line.
	Y016 (1)	The following marks in the survey dataset are not linked to a vector, boundary dimension, or boundary line.	Fatal	If reported marks are not required, delete them from the Mark List screen. If they are required, connect to the rest of the dataset using vectors or parcel boundaries
Y017		Check that all marks are spatially defined (are able to have a coordinate generated for them).	***Fatal***	
	Y017 (0)	All the marks in the survey dataset are linked to coordinated points.	Compliant	Ensures all marks in the survey are connected to coordinated points. In a LandXML file, you can include a mark which may not be connected. This mark can have a supplied coordinate to an origin mark (via Vectors or boundary dimensions) or to can be linked to Landonline.
	Y017 (1)	The following marks in the survey dataset are not connected through vector to a mark linked to a Landonline 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 boundary lines are incorporated in defined parcel boundaries.	***Fatal***	

Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
	Y018 (0)	All boundary dimensions and boundary lines in the survey dataset have been linked to the boundaries of parcels created or defined in this survey dataset.	Compliant	Ensures all boundary lines in the survey identified as being boundary lines, have been incorporated in the boundaries of at least one of the parcels created or defined in the survey.
	Y018 (1)	The following boundary dimensions or boundary lines in this survey dataset, have not been linked to the boundaries of parcels created or defined by this survey. This may be due to incomplete definition of parcels or due to a dimension of an abutting parcel (not defined in this survey) having been specified as being in a boundary layer.	Fatal	Check for duplicate observations and delete as necessary.
Y019		Check that all marks that define the boundary of a parcel under survey are included as part of the new boundary definition.	***Fatal***	
	Y019 (0)	All boundary marks that are included in the parcel boundary definition of the parcel(s) under survey have been included in the new parcel boundary definition.	Compliant	Ensures all boundary marks that are included in the parcel boundary definition of the redefined parcels have been included in the new parcel boundary definition of the redefined parcels.
	Y019 (1)	The following boundary marks that were included in the parcel boundary definition of the parcel under survey have not been included in the new parcel boundary definition.	***Fatal***	Mandatory missed marks have not been included at parcel linking. Ensure the correct subject parcel is extinguished and re-link one primary parcel for the mandatory missed marks to be selected.
Y020		Check all newly created parcels are not linked to an existing parcel.	***Fatal***	
	Y020 (0)	All newly created parcels are not linked to an existing parcel	Compliant	Ensures all new parcels created in the survey are not linked to existing Landonline underlying parcels.
	Y020 (1)	The following newly created parcels are linked to an existing parcel. Ensure that all newly created parcels are not linked to an existing underlying parcel.	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		Check that a Landonline Diagram has been generated for the survey or that a Plan Graphic supporting document has been attached appropriately.	***Fatal***	Ensures a Digital Plan has been generated for the survey, or a Plan Graphic type of supporting document has been attached to the survey.

Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
	Y021 (0)	A Landonline Diagram has been generated for this survey and/or a Plan Graphic supporting document has been attached.	Compliant	
	Y021 (1)	A Landonline Diagram has not been generated and/or a Plan Graphic supporting document has not been attached. Either generate a Landonline Diagram or attach an appropriate Plan Graphic supporting document.	Fatal	
	Y021 (2)	A Landonline Diagram of this survey has not been generated. Ensure a Landonline Diagram is generated.	Fatal	
Y022		Check all disturbed and renewed mark details are correct	***Fatal***	
	Y022 (0)	Disturbed and Renewed mark details are correct.	Compliant	Ensures all details of disturbed and replaced marks in the survey are correct.
	Y022 (1)	The following marks are being renewed by other marks in the survey as indicated. Remove the marks that are being renewed from the Mark List.	Fatal	Renewed or disturbed marks have not been linked to the marks in LOL (via searching the Node or Mark ID) to associate it with the disturbed or renewed mark in mark capture.
	Y022 (2)	The following marks are the disturbed position of existing marks and cannot be used to form parcel boundaries. Change all vectors referencing these marks to non-boundary and relink.	Fatal	
Y023		Ensure new Landonline Diagrams are generated	***Fatal***	
	Y023 (0)	A Landonline Diagram has been regenerated for this survey.	Compliant	
	Y023 (1)	A Landonline Diagram of this survey has been changed but has not been regenerated. Ensure a Landonline Diagram is regenerated.	Fatal	Ensure any edits in Layout Sheet screen are included in the latest images. (i.e. click Complete button) Regenerate plan layout and select the Complete button to complete plan capture.
Y024		Report LOL marks within close proximity to captured marks		Report on existing non-boundary marks within a specified distance from unlinked captured non-boundary marks. The distance to be used for checking will initially be set to 2 (metres) but may be changed via Business Parameters (DTMK under Cadastral Survey) for each survey class.

Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
	Y024 (0)	No unlinked marks created on this survey have been identified as possibly matching marks already in Landonline.	Compliant	
	Y024 (1)	The following marks could possibly be duplicate occurrences of marks already in Landonline.	Warning	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.
Y025		Check to ensure a Territorial Authority has been specified		
	Y025 (0)	A Territorial Authority has been specified for this survey.	Compliant	
	Y025 (1)	A Territorial Authority must be specified for this survey.	Fatal	
Y026		Validate the Unique Parcel Identifier format		This rule previously referred to the term 'Parcel Number' which is the term used in Landonline application, however the rule specifically refers to RCS2010 r5.5.4 and therefore a Unique Parcel Identifier.
	Y026 (0)	Unique Parcel Identifier format verified	Compliant	
	Y026 (1)	Invalid Unique Parcel Identifier entered. See RCS 2010 Rule 5.5.4 for allowable formats.	Fatal	Current Landonline functionality does not permit the entry of an invalid unique parcel identifier. If entry is attempted in Parcel Capture the following error message should display: *15301 Invalid Parcel Number entered. See RCS 2010 Rule 5.5.4 for allowable limits*
Y027				
	Y027(0)	No deleted parcels found in the automated Schedule/Memorandum.	Compliant	
	Y027(1)	No automated Schedule/Memorandum (attached as supporting document) to validate.	Information	

Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
	Y027(2)	Survey capture edits have been made. Ensure the automated Schedule/Memorandum is updated and re-attached.	Warning	
	Y027(3)	Some parcels have been removed. Ensure the automated Schedule/Memorandum is updated and re-attached.	Fatal	
Y028				
	Y028(0)	No Spatial Improvement datasets detected	Compliant	
	Y028(1)	The following survey plans referenced in this CSD are Spatial Improvement Datasets, these plans are for spatial improvement purposes only and cannot be used for definition.	Fatal	

4.0 C (Cadastral *e-survey*) rules

Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
C003		Surveyor Authorised to Practice		This rule tests that the submitting surveyor has a current Cadastral Survey License
	C003 (0)	The surveyor has a current Cadastral Survey License	Compliant	
	C003 (1)	Landonline has no record of the Surveyor signing the survey dataset having a current Cadastral Survey License	Conflict	This rule is not designed to prevent submission of the dataset as there are circumstances where a surveyor has a current licence but Landonline is not aware of that fact. Two examples are where the Cadastral Survey Licensing Board (CSLB) has not advised LINZ that the Surveyor is now licensed, or the Surveyor has not provided a copy of their newly issued licence to LINZ.
C006		Subject parcels specified.		
	C006 (0)	Subject parcels have been specified	Compliant	

Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
	C006 (1)	New primary parcels are being created but subject parcels have not been specified. Subject parcels can be identified by associating them with the action of "Extinguished"	Warning	Check Parcel List screen to ensure that subject parcel/s have been extinguished.
C007		Subject (extinguished and referenced) or adjoining affected parcels exist as live parcels.		This rule tests if subject parcels being Extinguished, Referenced or Affected exist in the current layer. Deposit of the new survey will not be possible until the specified extinguished parcels have been registered. 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 parcels on an earlier approved plan are being extinguished.
	C007 (0)	All subject parcels are registered in Landonline	Compliant	
	C007 (1)	The following subject 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	
	C007 (2)	The following subject parcels that are being referenced, extinguished or affected by the survey do not currently exist as live parcels (approved or registered) in Landonline;	Conflict	Dataset needs to be put on hold until parcels on an earlier CSD are at least in the Approved layer.
C011		New Appellations appropriate		This rule tests that all appellations are correctly constructed. It only tests Parcel Type of "Lot" and "Section".
	C011 (0)	All new parcels have standard appellations	Compliant	
	C011 (1)	The following parcels have non-standard appellations [RCS2010 r.5.5.1]	Warning	This item could indicate an incorrectly constructed appellation. Check parcel details.
C012		Mandatory supporting document (survey report) attached	***Fatal***	Verifies that the survey report is attached to the survey.
	C012 (0)	The survey report is included as part of the survey dataset	Compliant	

Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
	C012 (1)	The survey report has not been attached to the survey dataset.	Fatal	Either complete the automated survey report or attach a survey report to the Supporting Documents tab in the Manage Survey Transaction screen. There can only be one certified survey report associated to a CSD. When the automated process is used the Survey Report is created and attached during the 'Submit' process. If the surveyor uses the automated process and also attaches a copy as a SUD, Landonline will discard the automated survey report in favour of the attached copy
C016		Valid Survey Finish Date supplied (i.e. not after submit date).		Validates the survey date.
	C016 (0)	The Survey Finish Date is valid	Compliant	
	C016 (1)	The Survey Finish Date is after today.	Warning	Refers to the Survey Finish Date field in the Survey Header screen. The Survey Finish Date is intended to be the date on which the field survey was completed.
	C016 (2)	The Survey Finish Date is after the date of Submission.	Warning	
C023		Parcels are entirely within the specified Territorial Authorities		
	C023 (0)	All new parcels are within the boundaries of the Territorial Authorities specified		
	C023 (1)	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)	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.
C029		Details for existing marks compatible with data in Landonline		
	C029 (0)	All of the mark names supplied for existing marks on the survey are compatible with the mark names in Landonline	Compliant	
	C029 (1)	All of the mark types supplied for existing marks on the survey are compatible with the mark names in Landonline	Compliant	

Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
	C029 (2)	The following marks have names that differ from the mark name recorded in Landonline	Warning	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… 1) that marks have been correctly linked, and 2) If the new mark is replacing a Landonline mark, check that the renewed functionality has been correctly applied in the Mark Details screen. Note that Landonline retains the existing name of a mark unless the renewed functionality has been used.
	C029 (3)	The following marks have types that differ from the mark TYPES recorded in Landonline	Warning	May need to be amended - though not crucial. Landonline also retains existing mark type details (eg. Peg, Disk, Lead Plug etc) unless the renewed functionality has been used
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 subject parcel or parcels.		Topology staging area is populated with the captured data where "dummy runs" are performed 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*
	C41B (0)	(B) All parcels affected by the new parcel topology identified for this survey have appropriate geometry.	Compliant	Checks all parcels affected by the new parcel topology for the survey have appropriate geometry. The failure of the C41B tests can be attributed to one of the following: 1) Incorrect assigning of topology "class" or "type" 2) Incorrect linking of new parcels 3) New parcels (or part of new parcels) not closing 4) New Parcels (or parts of new parcels inappropriately) overlapping

Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
	C41B (1)	(B1)The following parcels have been specified as not having a topological definition (Topology Class = None), but topology has been provided. Either modify the topology class or unlink the parcel.	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)	(B2) The following line parcels do not consist of exactly one line segment. Link centreline easement parcels to the correct line sequence. Modify the topological definition of these parcels as appropriate from Capture	Fatal	Ensure that centre-line easement parcels have been linked to the correct line sequence
	C41B (3)	(B3) 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, Parcel Intent or Topology Class of these parcels.	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)	(B4) 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 Capture. Either link to topology, amend Topology Class or delete parcel from the parcel list.	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)	(B5) The inner rings of the following donut parcels do not form a closed ring. Modify the topological definition of these parcels as appropriate from Capture. Extinguish and recreate the inner parcel. Link the inner parcel before the outer parcel.	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 before the outer parcel.
	C41B (6)	(B6) The outer rings of the following parcels do not form a closed ring. There are gaps in the topological definition of these parcels.	Fatal	Check for holes in the parcel definition. User might have to: 1) unlink the inner and outer ring parcels 2) remove 'Captured Parcel Bdy Line layer on the inner ring parcel then relink the inner parcel BEFORE the outer ring parcel

Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
	C41B (7)	(B7) 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 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)	(B8) The following parcels intersect other parcels. Modify the topological definition of these parcels as appropriate from Capture	Fatal	Parcels need to be checked to ensure that existing lines are split correctly. Underlying parcels sometimes need to have topology reformed (log a call to Customer Services)
	C41C (0)	(C) All parcels affected by the new parcel topology identified for this survey have appropriate status flows.	Compliant	Checks all parcels affected by the new parcel topology for this survey have appropriate status flows. Status flow: A captured parcels boundary does not have a continuous flow direction (some line are defined in a clockwise direction and other lines are defined in an anti-clockwise direction)
	C41C (1)	(C1) 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. Solution: Recapture the parcel and the abutting parcels so as to rebuild all related topology to ensure that all lines are captured correctly prior to raising an exception request • Upon exception request, LINZ staff to recapture the parcel and rebuild the topology. Note: this may be iterative in that abutting parcels may also need to be rebuilt.
	C41D (0)	(D) All primary parcels from this survey have a valid spatial relationship with other primary parcels from this survey.	Compliant	Checks all primary parcels for the survey have a valid spatial relationship with the other primary parcels in the survey.
	C41D (1)	(D1) The following primary parcels from this survey spatially overlap other primary parcels from this survey as indicated	Conflict	
	C41E (0)	(E) All primary parcels from this survey do not conflict with other approved primary parcels in Landonline.	Compliant	Checks all primary parcels from the survey do not conflict with other approved primary parcels in Landonline.

Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
	C41E (1)	(E1) The following primary parcels from this survey spatially overlap other approved primary parcels in Landonline as indicated	Conflict	
	C41H (0)	(H) All non-primary parcels from this survey with Topology Class Secondary have a valid spatial relationship with the other non-primary parcels from this survey with Topology Class Secondary.	Compliant	Checks all non primary parcels for the survey have a valid spatial relationship with the other non primary parcels in the survey.
	C41H (1)	(H1) The following non-primary parcels with Topology Class Secondary from this survey spatially overlap other non-primary parcels with Topology Class Secondary from this survey:	Conflict	Non primary parcels cannot cross underlying primary parcels (RCS 2010 Rule 5.2). Check to make sure that easements are not overlapping each other, for example a centreline easement overlapping a polygon easement on the Secondary Topology layer
	C41K (0)	(K) There were no topological gaps or overlaps detected in the parcel networks that will result from this action.	Compliant	Checks there are no topological gaps or overlaps detected in the parcel networks that will result from this action.
	C41K (1)	(K1) 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 re-linked 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)	(K2) 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.
	C41K (3)	(K3) The following lines have been referenced more than once in each direction. This indicates a topological overlap exists which should be investigated;	Conflict	
	C41L (0)	(L) 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	To Note	Checks for untested (large) parcels. This message serves as a prompt for manual validation.

Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
	C41M (0)	(M) All primary parcels from this survey have a valid spatial relationship with existing non-primary parcels in Landonline.	Compliant	Checks all primary parcels for the survey have a valid spatial relationship with existing non primary parcels.
	C41M (1)	(M1) The following primary parcels from this survey have an invalid spatial relationship with existing non-primary parcels in Landonline as indicated	Conflict	
	C41N (0)	(N) All non-primary parcels from this survey have a valid spatial relationship with the primary parcels from this survey.	Compliant	Checks all non primary parcels for the survey have a valid spatial relationship with the primary parcels in the survey.
	C41N (1)	(N1) The following non-primary parcels from this survey spatially overlap more than one primary parcels from this survey:	Conflict	
	C41O (0)	(O) All non-primary parcels from this survey do not extend over water boundaries	Compliant	Checks all non primary parcels for the survey do not overlap Hydro parcels.
	C41O (1)	(O1) The following non-primary parcels from this survey extend over water boundaries as indicated:	Warning	Check lines in question to ensure no capture errors. The rule acts as a prompt for the surveyor to check the data that has been captured is satisfactory to replace the existing record. Usually indicates that the same line has been captured twice (once in each direction) although not necessarily in same layer (i.e. once in the primary layer and the second in the reverse direction in the Non-boundary layer). If they are in the same layer then one line needs deleting or amending; if in different layers then select a multiple layer option (e.g. Nbdy,Pri).
	C41P (0)	(P) All non-primary parcels above the primary parcels being extinguished by this survey are also being extinguished.	Compliant	Checks all non primary parcels above the primary parcels being extinguished by the survey are also being extinguished.
	C41P (1)	(P1) The following non-primary parcels are above primary parcels being extinguished by this survey, but are not being extinguished themselves:	Conflict	
C042		Dimensions are supplied for new right line and arc boundaries		

Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
	C042 (0)	All new boundary vectors have appropriate dimensions supplied	Compliant	
	C042 (1)	The following right line boundary vectors do not have a bearing supplied	Warning	Check data for reported vectors. Edit in the Vector Capture screen
	C042 (2)	The following right line boundary vectors do not have a distance supplied	Warning	Could be bearing only trig rays, or Class D boundaries. Report as necessary.
	C042 (3)	The following arcs do not have an arc radius supplied	Warning	Add a radius to the reported arc observation in the Vector Capture screen
	C042 (4)	The following arcs do not have a chord bearing supplied	Warning	Add a chord bearing to the reported arc observation in the Vector Capture screen
	C042 (5)	The following arcs do not have an arc length supplied	Warning	Add an arc length to the reported arc observation in the Vector Capture screen
C182		Survey internally consistent		
	C182	Least squares adjustment run as part of this rule.		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.
C184		Survey consistent with Accuracy requirements for boundary points on a survey.		Verifies the consistency of all survey observations and boundaries supplied with the survey dataset to Landonline information, when all Landonline nodes are SDC.

Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
	C184	Least squares adjustment run as part of this rule.		This test only runs if there is at least one SDC node in the dataset (Rule C185 would otherwise run if there were no SDC notes in dataset) 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 the Rules for Cadastral Survey 2010: Rule 3.1 Accuracy of non-boundary survey marks and Rule 3.3.1 Accuracy of boundary points and Rule 3.6 Accuracy of boundary witnessing
C185		Survey consistent with Non SDC network	N/A	Verifies the consistency of all survey observations and boundaries supplied with the survey dataset to Landonline information, when some nodes are non-SDC.
	C185	Least squares adjustment run as part of this rule.		This test only runs if there are no SDC nodes in the dataset (Rule C184 would otherwise run if there was a SDC node in the dataset) 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.
C19B		Each Comprised In Reference for the survey links to at least one subject parcel in the survey		

Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
	C19B(0)	All Comprised In References specified for the survey link to subject parcels from the survey		
	C19B(1)	Landonline does not record a link between the specified subject parcels and the following Comprised In References.	Warning	
C23A		All specified Territorial Authorities are affected by any parcel or part of a parcel		
	C23A (0)	All Territorial Authorities specified are affected by parcels from the survey	Compliant	
	C23A (1)	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)	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 is correct.
C23B		Parcel(s) are entirely within the Land District Specified.		
	C23B (0)	All new parcels on the survey are in the specified land district	Compliant	
	C23B (1)	The following parcels appear to be outside the boundary of the land district specified for the survey.	Warning	1) Check that the correct Land District has been entered into the Manage Survey Transaction screen. 2) Check that the correct Meridional Circuit has been entered in the Survey Header screen. 3) Have the correct parcels been added to the Parcel List?
C300		Where a First Stage Unit Plan is submitted, it must be preceded by the submission of the Proposed Unit Development Plan	***Fatal***	
	C300 (0)	The Proposed Unit Development (PUD) has been submitted for this Staged Unit Development.	Compliant	

Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
	C300 (1)	The Proposed Unit Development (PUD) has not been submitted 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.
C424		Each survey must be referenced by at least one old non-boundary survey mark.	N/A	Verifies that at least one old non boundary mark has been referenced in the survey. This rule is a work checklist item currently limited to Survey Purpose of Boundary Marking Monumentation CSD or Survey Information.
	C424 (0)	The Survey is connected to at least one old non-boundary survey mark.	Compliant	
	C424 (1)	The Survey is not connected to at least one old non-boundary survey mark (RCS2010 r11.1(a)(ii)).	Warning	The rule reference RCS2010 r11.1.(a)(ii) has been included to show where this requirement is detailed in the RCS2010. This reference has less relevance if there is a test failure with respect to Survey Purpose: Survey Information.
C430		All new boundary points on primary parcels have been ground marked.		
	C430 (0)	All new boundary points on primary parcels have been ground marked. (RCS2010 r7.1(a)&(c))	Compliant	
	C430 (1)	The following new boundary points have not been ground marked. (RCS2010 r7.1(a)&(c))	Warning	This rule identifies new boundary points on a new primary parcel that have not been ground marked. The test is not applied to surveys under the jurisdiction of the Maori Land Court ie r7.1(a)(ii).
C440		Horizontal datum connection appropriate.		Distance is based on the class of the nearest boundary point to a CSN mark (6th order or better) and varies as follows: Class A – 500m Class B – 1000m Class C – 2000m
	C440 (0)	Horizontal datum connection correct. Cadastral survey network marks (6th order or better) have been connected to boundaries within the distance tolerance specified.	Compliant	

Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
	C440 (1)	There are no cadastral survey network marks (6th order or better) in Landonline within the distance tolerance specified.	Warning	This is effectively a "pass" as Landonline cannot identify any CSN marks for the survey.
	C440 (2)	One or more cadastral survey network marks (6th order or better) exist within the distance specified of a new boundary point, new boundary mark or old boundary mark on a primary parcel being created, but have not been connected by vectors to the survey.(RCS 2010 r.4.2). Note: The network mark must be 'Linked' for connection.	Warning	Note the requirement to connect to a local cadastral survey network mark within the distances specified in rule 4.2 applies even if the survey is connected to other cadastral survey network marks further away. Distances specified are 'as the crow flies' and connections may be made either by field measurement or by adoption. 'Cadastral Survey Network Marks' is a layer provided through the Linz Data Service. As per the LINZ "Lodgement Standard" "*Note: The cadastral survey network mark must be linked to the corresponding node in Landonline*"
C441				
	C441(1)	Vertical Datum has been added	Compliant	
	C441(0)	No vertical datum has been selected. Select the correct datum from the Survey Header if your CSD contains a reduced level – Rule 9.2(b). Select 'None' if your CSD does not contain a reduced level.	Warning	
C445		Supplied dimensions of boundary vectors or arc radii relating to existing boundaries, captured in part as 'measured' or 'calculated', match dimensions in Landonline.		This rule tests that that portion of a boundary vector captured as either measured or calculated, where it relates to an existing boundary, matches the latest information (if any) held by Landonline.
	C445 (0)	All boundary vectors relating to existing boundaries, captured in part as 'measured' or 'calculated', match dimensions in Landonline.	Compliant	
	C445 (1)	The following boundary vectors relating to existing boundaries, captured in part as 'measured' or 'calculated', have BEARINGS that do not match the latest information held by Landonline	Warning	The survey report should include an assessment of any warnings reported at pre-validation and actions taken to address them.

Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
	C445 (2)	The following boundary vectors relating to existing boundaries, captured in part as 'measured' or 'calculated', have DISTANCES that do not match the latest information held by Landonline	Warning	The survey report should include an assessment of any warnings reported at pre-validation and actions taken to address them.
	C445 (3)	The following arcs relating to existing boundaries have arc radii that do not match the latest information held by Landonline	Warning	The survey report should include an assessment of any warnings reported at pre-validation and actions taken to address them.
	C445 (4)	The following arcs relating to existing boundaries, have chord bearings that do not match the latest information held by Landonline	Warning	The survey report should include an assessment of any warnings reported at pre-validation and actions taken to address them.
	C445 (5)	The CSD contains boundary vectors relating to existing boundaries, captured in part as 'measured' or 'calculated', that cannot be verified as Landonline does not have corresponding data.	Information	Boundary vectors that have not been verified are NOT listed in the pre-validation report.
C455		Supplied dimensions of non boundary vectors, captured in part as 'measured' or 'calculated', match dimensions held in Landonline.		This rule tests that that portion of a non-boundary vector, captured as either measured or calculated, where it relates to an existing vector between linked points, matches the latest information (if any) held by Landonline.
	C455 (0)	All non-boundary vectors, captured in part as 'measured' or 'calculated', match dimensions in Landonline	Compliant	
	C455 (1)	The following non-boundary vectors have bearings captured as 'measured' or 'calculated' that do not match the latest information held by Landonline;	Warning	The survey report should include an assessment of any warnings reported at pre-validation and actions taken to address them.
	C455 (2)	The following non-boundary vectors have distances captured as 'measured' or 'calculated' that do not match the latest information held by Landonline;	Warning	The survey report should include an assessment of any warnings reported at pre-validation and actions taken to address them.
	C455 (3)	The CSD contains non-boundary vectors relating to existing non-boundary lines, captured in part as 'measured' or 'calculated', that cannot be verified as Landonline does not have corresponding data.	Information	Non-boundary vectors that have not been verified are NOT listed in the pre-validation report.

Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
C459		Area for each new primary parcel, or each non-primary parcel intended for a lease, supplied.		This rule tests that an area has been captured for each primary and/or non-primary parcel intended for a lease. This rule will incorrectly fail for residue (portion of a primary parcel not being claimed) and balance (Railway, road, fixed marginal strip or bed of lake, river stream, or the sea) parcels as they do not require areas. See RCS Rule 2 Terms and Definitions. The test does not assess whether an area exists for lease parcels that have not been captured Note: The rule does not calculate the area of parcels i.e. it only checks that an appropriate area has been recorded.
	C459 (0)	Each primary parcel, and each non-primary parcel intended for a lease, have an area supplied	Compliant	
	C459 (1)	The following primary parcel(s), or non-primary parcel(s) intended for a lease, do not have an area supplied. (RCS2010 r5.3(a))	Conflict	
C460		Areas where required or supplied are reasonable.		Verifies all captured parcels requiring an area have an area supplied and that the calculated area or each compares (within reason) to existing information in Landonline. This test is provided to assist surveyors to identify gross error. This rule compares the captured Parcel Area with the Landonline calculated area. This calculation is carried out on the unadjusted parcel within Landonline. This message can appear as a result of non-SDC underlying data. This causes the parcels to change shape, which affects the Landonline calculated area. This should not be an issue for SDC underlying data or over Landonline plans. Only minimal levels of inaccuracy of the spatial geometry in the underlying Landonline data will cause the rule to fail.
	C460 (0)	All primary parcels have an area within rounding tolerances of the Landonline calculated area.	Compliant	

Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
	C460 (1)	The following primary parcels have an area that differs from the Landonline calculated area by more than the rounding tolerance specified in Rule 5.3(c)(ii)	Warning	
	C460(2)	The following parcel areas cannot be reliably calculated from the captured survey dataset, however appear to exceed rounding tolerances specified in Rule 5.3 (c)(ii).	Warning	
C467		The number of witness marks in the survey complies with the Rules for Cadastral Survey		Checks whether boundaries have been defined in the survey dataset and if so, verifies that the minimum number of witness marks have been defined for each class of boundary.
	C467 (0)	The minimum number of witness marks (X) have been included in the survey. (RCS2010 r7.3.2(c))	Compliant	
	C467 (1)	The minimum number of witness marks (X) have not been included in the survey. (RCS2010 r7.3.2(c))	Warning	(X) is based on the classes of boundaries in the survey and varies as follows: Class A (only) – 3 required Class B and C – 4 required This includes PRMs that also meet witnessing requirements
	C467 (2)	The minimum number of witness marks (X) have been included in the survey. (RCS2010 r7.3.2(d))	Compliant	
	C467 (3)	The minimum number of witness marks (X) have not been included in the survey. (RCS2010 r7.3.2(d))	Warning	NB: this test applies to boundary reinstatement surveys only.
C468		The distances between boundary points and their closest witness mark comply with the Rules for Cadastral Survey 2010.		This rule is testing against the requirements of RCS2010 r7.3.2(a).
	C468 (0)	All boundary points are within the regulation distance of witness marks. (RCS2010 r7.3.2(a))	Compliant	
	C468 (1)	The following Class A boundary points do not have at least one witness or PRM mark within 150m that is not itself. (RCS2010 r7.3.2(a))	Warning	
	C468 (2)	The following Class B boundary points do not have at least one witness or PRM mark within 500m that is not itself. (RCS2010 r7.3.2(a))	Warning	Be aware that 'extensive rural boundary points' may fail this validation test. If these are compliant with rule 7.3.2(b), they should be addressed in the survey report.

Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
	C468 (3)	The following Class C boundary points do not have at least one witness or PRM mark within 1000m that is not itself. (RCS2010 r7.3.2(a))	Warning	
C470		A minimum of two vectors for each boundary point and each new survey mark has not been provided. (RCS 2010 r8.1(e))		RCS 2010 r8.1(e) ensures a level of redundancy and facilitates robustness of the spatial adjustment of captured data. The rule tests that at least two vectors are captured for each boundary point and each new survey mark except for those boundary points accepted under RCS 6.3. Class D boundary points therefore do not require two vectors.
	C470 (0)	A minimum of two vectors for each boundary point and each new survey mark has been provided. (RCS 2010 r8.1(e))	Compliant	
	C470 (1)	A minimum of two vectors for each boundary point and each new survey mark has not been provided. (RCS 2010 r8.1(e))	Fatal	Class D vectors are not of sufficient quality to be considered as a 'counted' vector.
C481		Boundary points required to be Defined by Survey have been		This rule tests compliance of captured data against the requirement of RCS 6.2, albeit limited to parts (a)(ii) and (iv), for boundary points to be defined by survey. Part (ii) is evaluated by virtue of the fact it is testing 'New' boundary points. Part (iv) is currently being tested for an existing class A boundary or boundary point on a primary parcel that is less than 0.4ha. This rule does not currently test that the primary parcel is less than 0.4 ha *and comprises less than 90% of the parcel that it is replacing and which is being extinguished*. With regard to Landonline capture, applicable boundary points with Mark Purpose: PRM/Boundary and Witness/Boundary are also being tested alongside those that are captured as Mark Purpose: Defined by Survey.
	C481 (0)	All boundary points required to be 'Defined by Survey', have been. (RCS 2010 r6.2(a)(ii) & (iv))	Compliant	
	C481 (1)	The following boundary points have not been 'Defined by Survey' as required. (RCS 2010 r6.2(a)(ii) & (iv))	Warning	

Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
C482		The number of PRM's in the survey complies with the Rules for Cadastral Survey 2010.		
	C482 (0)	The minimum number of PRM's (2) have been included in the survey. (RCS 2010 r7.4.1(a))	Compliant	
	C482 (1)	The minimum number of PRM's (2) have not been included in the survey. (RCS 2010 r7.4.1(a))	Warning	
C483		Dimensions supplied for adopted vectors match the latest dimensions held by Landonline.		This rule tests that a boundary or non-boundary vector between linked points, that has been captured, at least in part, as 'adopted' , matches the latest information (if any) held by Landonline. If a bearing correction is applied, due to the fact that the vector type will be captured as 'adopted', the rule will provide a warning which should be reported on in the survey report. This rule is testing against the latest dimensions held in Landonline which may or may not be the 'source' information. The determination of what is or what isn't source information is the responsibility of the Surveyor certifying the CSD.
	C483 (0)	All adopted vectors match dimensions in Landonline.	Compliant	
	C483 (1)	The following adopted vectors have BEARINGS that do not match the latest information held by Landonline	Warning	C483 runs if a portion of a vector is captured as adopted. If the other portion is captured as either calculated or measured, it will also report. In this circumstance this will be a repeat of C445(1) or C455(1). The survey report should include an assessment of any warnings reported at pre-validation and actions taken to address them.

Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
	C483 (2)	The following adopted vectors have DISTANCES that do not match the latest information held by Landonline	Warning	C483 runs if a portion of a vector is captured as adopted. If the other portion is captured as either calculated or measured, it will also report. In this circumstance this will be a repeat of C445(2) or C455(2). The survey report should include an assessment of any warnings reported at pre-validation and actions taken to address them.
	C483 (3)	The following adopted arcs have arc radii that do not match the latest information held by Landonline	Warning	The survey report should include an assessment of any warnings reported at pre-validation and actions taken to address them.
	C483 (4)	The following adopted arcs have chord bearings that do not match the latest information held by Landonline	Warning	The survey report should include an assessment of any warnings reported at pre-validation and actions taken to address them.
	C483 (5)	Supplied dimensions of adopted vectors have not been tested as underlying information is not held by Landonline.	Warning	These tests will not validate an adoption where Landonline does not already hold a vector or one of the end points is not linked.
C484		All new, renewed, reinstated or disturbed, PRM, witness marks or any other non boundary marks have identifiers and are unique to that dataset.		Refer RCS2010 7.5(a)). For example having IS I and IT I in the same CSD is not permitted.
	C484 (0)	All non boundary marks have identifiers and are unique to that dataset. (RCS2010 7.5(a))	Compliant	The wording of rule 7.5(a) RCS2010 also refers to a '*new non-boundary survey point',* an example of which could be a GNSS 'Here' base station. However as this is not a term currently used in Landonline, they are not currently being tested by this rule.
	C484 (1)	The following new, renewed, reinstated or disturbed non boundary marks do not have unique alpha numeric identifiers.	Warning	Refer RCS 2010 7.5(a)). For example having IS I and IT I in the same CSD is not permitted. This rule does not check that boundary marks are unique or whether an existing unique name is retained for undisturbed old marks as required under r7.5(c).
	C484 (2)	The following new, renewed, reinstated or disturbed non boundary marks are not unique to the dataset.	Warning	

Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
C485		At least two PRMs are within the applicable horizontal distance specified of at least one boundary point that is required to be witnessed by RCS 2010 r7.3.1		
	C485 (0)	There are at least 2 PRMs within the applicable horizontal distance specified of at least one boundary point required to be witnessed.	Compliant	Each of the two PRM's required by rule 7.4.1(a) must be within the applicable horizontal distance of at least one boundary point that is required to be witnessed. For clarification, "*at least one*" does not mean that it has to be the same boundary point.
	C485 (1)	There are not 2 PRMs within the applicable horizontal distance specified of at least one boundary point required to be witnessed. (RCS 2010 r7.4.2(a)).	Warning	The rule does not check the distance by following non boundary lines. RCS 7.4 does not specify that there needs to be a measured vector from a boundary point to its nearest PRM, therefore the test may be Compliant even if there are no direct observations between the boundary and PRMs.
C486		Every bearing in a cadastral survey that defines or marks a new primary parcel boundary point is oriented in terms of an official geodetic projection applicable to the area.(RCS 2010 r4.1)		
	C486 (0)	Every bearing that defines or marks a new primary parcel boundary point is orientated in terms of an official geodetic projection applicable to the area. (RCS 2010 r4.1(a))	Compliant	
	C486 (1)	Every bearing that defines or marks a new primary parcel boundary point is not orientated in terms of an official geodetic projection applicable to the area. (RCS 2010 r4.1(a)) Please explain in the Survey Report.	Conflict	
C488		Class of adopted boundaries appropriate (Class C).		This rule is checking to see if a boundary vector that is captured as Class C, has a correct combination of Mark Purpose on either end.
	C488 (0)	Mark purposes for Class C are appropriate. (RCS 2010 r3.2.3)	Compliant	

Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
	C488 (1)	The following boundary vectors may not meet Class C requirements. (RCS 2010 r3.2.3)	Warning	Checks that a boundary point on a Class C boundary, other than the start or finish of a boundary sequence, has not been "Defined by survey". Note: This rule may fail if the start or finishing point of a boundary sequence has been Defined by survey. In addition, under certain circumstances Rule 16 RCS2010 allows new class C boundaries for non primary parcels to be 'Defined by survey'. C488 does not currently provide for these scenarios and accordingly a resultant failure should be reported on.
C489		Parcel Number format verified		
	C489 (0)	Parcel Number format verified	Compliant	
	C489 (1)	Invalid parcel identifier format entered. See RCS 2010 Rule 5.5.4 for allowable formats	Warning	Note: This is a duplicate of Y026 which was created as part of Landonline Release 3.8. This rule applies to surveys in progress before Y026 was introduced.
C490		New parcel identifiers unique to the Dataset.		
	C490 (0)	All new parcels have unique parcel identifiers. (RCS 2010 r5.5.4(e))	Compliant	
	C490 (1)	The following new parcels have parcel identifiers that are not unique to the CSD.(RCS 2010 r5.5.4(e))	Warning	This rule is checking the parcel identifier which is entered under 'Parcel Number' in screen CSC_S07b Parcel Detail. For example having Lot 1 DP XXXXX and Lease 1 DP XXXXX created in the same CSD is not permitted. This rule is therefore not testing that the uniqueness of the 'Appellation' as such.
C491		Comprised In References given for parcels to be extinguished or referenced agree with the record held in Landonline.		This rule is checking the 'Comprised In Reference' entry in screen CSC_S02-Survey Header
	C491 (0)	All of the Comprised In References link to merged and Registered Parcels in Landonline.	Compliant	
	C491 (1)	The entry recorded in the Comprised In Reference list does not link to a merged registered parcel recorded in Landonline.	Warning	

Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
	C491 (2)	The entry recorded in the Comprised In Reference list is not linked to an existing parcel listed in the CSD.	Conflict	
	C491 (3)	RT references for the existing parcels to be Extinguished or Referenced have an existing spatial link but are not listed.	Warning	
	C491 (4)	The entry recorded in the Comprised In Reference list does not have an existing spatial link to existing parcels. RT may be valid but not yet processed. (Warning)	Warning	
C492		Parcel Appellation format not validated		
	C492 (0)	All parcels tested for correct appellation format	Compliant	
	C492 (1)	The following parcels have not been tested for correct appellation format.	Warning	The list provided is for all parcels that are outside the scope of rule C489 and are therefore not being tested
C499		Class of Accepted boundaries appropriate.		
	C499 (0)	Mark purposes for Class D are appropriate. (RCS 2010 r3.2.4(a))	Compliant	
	C499 (1)	The following boundary vectors may not meet Class D requirements. (RCS 2010 r3.2.4(a))	Warning	This rule is checking that at least one end point on a Class D boundary has been "Accepted". Bearings and distances must have a vector type of adopted. At present this rule will fail if the other end point has been captured as "Defined by Survey". However as this may be a legitimate mark purpose, a rule failure may require a comment in the Survey Report.
C500		Geodetic Mark Properties		
	C500 (0)	No Geodetic Marks have been linked to this survey	Compliant	
	C500 (1)	Any Edits made to the following Geodetic Mark Properties have been overridden and cannot be changed. Report proposed Edits to LINZ.	Warning	
C501		Where a Stage Unit Plan is submitted, the First Stage Unit Plan or the previous Stage Unit Plan to which it is subsequent to must be submitted		

Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
	C501 (0)	The following First Stage has not yet been submitted	Fatal	
	C501 (1)	The following Stage Unit Plan initiated before this Stage Unit Plan has not yet been submitted	Fatal	
	C501 (2)	The following First Stage Unit Plan has been submitted	Compliant	
	C501 (3)	The Stage Unit Plan prior to this Stage Unit Plan has been submitted	Compliant	
C502		Check to ensure Legal and/or Physical Description has been specified for water boundaries as required by RCS 2010 r9.4(c), r9.6.7(c) & r10.4.5(c)		
	C502 (0)	A legal and/or physical description has been specified for the water boundaries.(RCS 2010 r9.4(c), r9.6.7(c) & r10.4.5(c))	Compliant	
	C502 (1)	A legal and/or physical description has not been specified for the following water boundaries between marks. (RCS 2010 r9.4(c), r9.6.7(c) & r10.4.5(c))	Warning	The legal boundary description must not be confused with the description of the physical feature required to be in the CSD Plan by rule 9.4(c). For example, the legal boundary may be **MHWM, MHWS, left bank**, or **right bank** while the physical feature that defines the boundary could be **top of bank** or **bottom of bank**
C503		Check to ensure Class has been specified for the water/irregular boundaries as required by RCS 2010 r9.4(a)		
	C503 (0)	A Class has been specified for the water/irregular boundaries. (RCS 2010 r9.4(a))	Compliant	
	C503 (1)	A Class has not been specified for the following water/irregular boundaries between marks. (RCS 2010 r9.4(a))	Warning	
C504		Where an Easement Supporting Document is system created, all Created, Affected, and Referenced non-primary parcels should be included.		Validates that all created, affected and referenced easements have been included in the system created schedule/memorandum. The system is unable to check a manually attached schedule/memorandum.
	C504 (1)	The schedule/memorandum has been manually attached.	Compliant	Rule relates to the manually attached schedule/memorandum
	C504 (2)	All non-primary easement parcels have been included in the easement schedule/memorandum	Compliant	Rule relates to the automated schedule/memorandum

Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
	C504 (3)	No easements found in the survey.	Compliant	
	C504 (0)	The following parcels are not in the easement schedule/memorandum:	Warning	
C505		Where a survey has a 223E TA certificate, the system attached supporting document should have a Memorandum of Easements and/or Memorandum of Easements in Gross table.		This rule runs only when a Sec 223E certificate is attached to the TA package. It checks for a system created memorandum of easement table. The system is unable to check a manually attached memorandum of easement table. This rule does not check for a memorandum of easement in Gross table.
	C505 (2)	There is a 223E Territorial Authority certificate and a Memorandum of Easements/Easements in Gross has been created.	Compliant	
	C505 (1)	There is a 223E Territorial Authority certificate. Please check that the manually attached schedule/memorandum has a Memorandum of Easements/Easements in Gross table.	Warning	
	C505 (0)	There is a 223E Territorial Authority certificate but a Memorandum of Easements/Easements in Gross has not been created.	Warning	
C506		Where an Easement Supporting Document is created in Landonline, mandatory fields should not contain blank values.		Checks the system created schedule/memorandum for blank fields. If any found then reports the affected table names. The system is unable to check a manually attached schedule/memorandum.
	C506 (1)	No system created Schedule\Memorandum to validate.	Compliant	
	C506 (2)	The system created Schedule\Memorandum does not contain blank values.	Compliant	
	C506 (0)	The following table(s) in the Schedule\Memorandum have blank values:	Warning	
C59A		Parcel area must not be specified as less than one square metre.		
	C59A (0)	All primary parcels have an area greater than or equal to 1 square metre	Compliant	

Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
	C59A (1)	The following primary parcels have a specified area less than 1 square metre	Warning	

5.0 P (Plan Layout) Rules

Checklist Code	Item Number	Checklist Description	Message Severity	Explanation
P001		All boundary marks captured for the survey are displayed.		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 CSD Plan and the Title Plan. Note: This check excludes system added marks created by the balance parcel process.
	P001 (0)	All captured boundary marks have been displayed.	Compliant	
	P001 (1)	The following list of captured boundary marks have not been displayed on the Title Sheet(s) of the CSD Plan or the Title Plan.	Warning	
P002		All boundary marks captured for the survey are labelled		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 CSD Plan. Note: This check excludes system added marks created by the balance parcel process.
	P002 (0)	All captured boundary marks have their mark names displayed.	Compliant	
	P002 (1)	The following list of captured boundary marks do not have their mark names displayed on the Title Sheets of the CSD Plan.	Warning	

P003		All vectors captured for the survey are displayed		Ensures that every vector captured for the survey is displayed at least once on the set of diagrams used to illustrate the CSD Plan and/or is displayed at least once on the set of diagrams used to illustrate the Digital Title Plan. Note: The set of diagrams used to illustrate the CSD Plan includes diagrams used for the Survey Sheets as well as diagrams used for the Title Sheets.
	P003 (0)	All captured vectors have been displayed.	Compliant	
	P003 (1)	The following list of captured vectors have not been displayed on either the CSD Plan or the Title Plan.	Warning	
P004		All vector dimensions captured for the survey are displayed on the CSD Plan		Ensures that the every observation dimension captured for the survey is displayed at least once on the set of diagrams used to illustrate the CSD Plan. Note: • The set of diagrams used to illustrate the CSD 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.
	P004 (0)	All captured vectors dimensions have been displayed on the CSD Plan.	Compliant	
	P004 (1)	The following list of captured vectors do not have their distance dimensions displayed on the CSD Plan.	Warning	
	P004 (2)	The following list of captured vectors do not have their bearing dimensions displayed on the CSD Plan.	Warning	
	P004 (3)	The following list of captured arcs do not have their chord bearing dimensions displayed on the CSD Plan.	Warning	
	P004 (4)	The following list of captured arcs do not have their arc length dimensions displayed on the CSD Plan.	Warning	
	P004 (5)	The following list of captured arc observations do not have their radius dimensions displayed on the CSD Plan.	Warning	

P005		All primary parcel boundary distances are displayed on the Title Plan.		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 Title Plan. Note: The parcel boundary distance includes observation distance and arc length measurements.
	P005 (0)	All primary parcel boundary distances have been displayed on the Title Plan.	Compliant	
	P005 (1)	The following list of captured vectors do not have their boundary distances displayed on the Title Plan.	Warning	
	P005 (2)	The following list of captured arcs do not have their arc length displayed on the Title Plan.	Warning	
P006		Created primary parcels are displayed in full on the Title Plan.	Warning	Ensures that every primary parcel created by the survey is completely contained by at least one diagram used for the Title Plan.
	P006 (0)	All primary parcels created for the survey have been appropriately illustrated on the Title Plan.	Warning	
	P006 (1)	The following list of primary parcels created by the survey have not been appropriately illustrated on the Title Plan. Ensure the complete area of each created primary parcel is displayed in at least one diagram.	Warning	
P007		Appellation and area displayed for created parcels on the 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 Title Plan.
	P007 (0)	All parcels created for the survey have their appellation and area (if applicable) displayed on the Title Plan.	Compliant	
	P007 (1)	The following list of parcels created by the survey do not have their appellation displayed on the Title Plan.	Warning	
	P007 (2)	The following list of parcels created by the survey do not have their area displayed on the Title Plan.	Warning	
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 CSD Plan.
	P008 (0)	All diagrams created for the survey have been displayed.	Compliant	

	P008 (1)	The System Generated Survey Diagram has not been displayed.	Warning	
	P008 (2)	The System Generated Primary Diagram has not been displayed.	Warning	
	P008 (3)	The System Generated Non Primary Diagram has not been displayed.	Warning	
	P008 (4)	The following User Defined Survey Diagrams have not been displayed.	Warning	
	P008 (5)	The following User Defined Primary Diagrams have not been displayed.	Warning	
	P008 (6)	The following User Defined Non Primary Diagrams have not been displayed.	Warning	