Product data description

AS/NZS ISO 19131:2008 compliant

Version 7.0 June 2016
Applies to data model Standard data model Version 4.2
Simplified 1 data model Version 3.3
Simplified 2 data model Version 4.1

Vicmap™ Property







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Overview

Vicmap™

Vicmap is the foundation that underlies most spatial information in Victoria. This portfolio of spatial related authoritative data products, made up from individual datasets, is developed and managed by the Department of Environment, Land, Water & Planning. The information provides the foundation to Victoria's primary mapping and spatial information systems, and is for building business information and systems.

Vicmap is a registered trademark of the Victorian Government and is synonymous with authoritative statewide mapping since 1975.

The Vicmap portfolio includes:

Vicmap Address Vicmap Lite

Vicmap AdminVicmap PlanningVicmap Crown Land TenureVicmap PositionVicmap ElevationVicmap Property

Vicmap Features of Interest Vicmap Topographic Mapping

Vicmap Hydro Vicmap Transport
Vicmap Imagery Vicmap Vegetation

Vicmap data is supported by a collection of Reference Tables, Vicmap Reference Tables. A reference table may list the full name, description and other attributes associated with a feature code or identifier.

Further information can be found at www.delwp.vic.gov.au/vicmap

Data product specification title

Vicmap™ Property

Responsible party

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Terms and definitions

For the purpose of this document, the following terms and definitions apply.

Term	Definition			
ANZLIC ID	A unique identifier enabling metadata records to be discovered and differentiated within a structured data library.			
Attribute	A characteristic of a feature that may occur as a type or an instance.			
Cadastre	A public register usually recording the quantity, value and ownership of land parcels in a country or jurisdiction.			
Chain	A line composed of a sequence of non-intersecting line segments bounded by nodes. Chains reference the polygons to the left and right of the chain.			
Crown Land	All land owned and held by the State.			
Custodian	An organization responsible for ensuring the accuracy, currency, distribution of their data and the terms and conditions of access and use.			
Data type	Specification of a value domain with operations allowed on values in this domain Refer to AS/NZS ISO 19103			
Dataset	Identifiable collection of data. Maybe as small as a single feature or feature attribute contained within a larger dataset. Refer to AS/NZS ISO 19115			
Dataset series	Collection of datasets sharing the same product specification, also known as a product.			
Domain	A well-defined set both necessary and sufficient, as everything that satisfies the definition in the set and everything that does not satisfy the definition is necessarily outside the set. Refer to ISO/TS 19103			
the Department	Meaning the Department of Environment, Land, Water & Planning (DELWP).			
•				
Entity	A unit of data that can be classified and have stated relationship with other entities.			
Entity Feature	A unit of data that can be classified and have stated relationship with other entities. An abstraction of real-world phenomena. A feature may occur as a type or an instance. Feature type or instance shall be used when only one is meant.			
· · · · · · · · · · · · · · · · · · ·	An abstraction of real-world phenomena. A feature may occur as a type or an			
· · · · · · · · · · · · · · · · · · ·	An abstraction of real-world phenomena. A feature may occur as a type or an instance. Feature type or instance shall be used when only one is meant. The feature structure of the feature based data model can be summarised as:			
Feature Land Not	An abstraction of real-world phenomena. A feature may occur as a type or an instance. Feature type or instance shall be used when only one is meant. The feature structure of the feature based data model can be summarised as: feature instance = [spatial object + attribute object] Land Not Under Act (NUA) General Law title system introduced prior to the current			
Feature Land Not Under Act	An abstraction of real-world phenomena. A feature may occur as a type or an instance. Feature type or instance shall be used when only one is meant. The feature structure of the feature based data model can be summarised as: feature instance = [spatial object + attribute object] Land Not Under Act (NUA) General Law title system introduced prior to the current Torrens Titling system under the Transfer of Land Act Metadata is 'data about data' and provides a synopsis about the data lineage,			
Feature Land Not Under Act	An abstraction of real-world phenomena. A feature may occur as a type or an instance. Feature type or instance shall be used when only one is meant. The feature structure of the feature based data model can be summarised as: feature instance = [spatial object + attribute object] Land Not Under Act (NUA) General Law title system introduced prior to the current Torrens Titling system under the Transfer of Land Act Metadata is 'data about data' and provides a synopsis about the data lineage, accuracy and details about access permissions.			
Land Not Under Act Metadata Persistent Feature	An abstraction of real-world phenomena. A feature may occur as a type or an instance. Feature type or instance shall be used when only one is meant. The feature structure of the feature based data model can be summarised as: feature instance = [spatial object + attribute object] Land Not Under Act (NUA) General Law title system introduced prior to the current Torrens Titling system under the Transfer of Land Act Metadata is 'data about data' and provides a synopsis about the data lineage, accuracy and details about access permissions. Refer to ISO 19115 Geographic information — Metadata The unique code provide at creation of the feature which remains until the feature is			
Land Not Under Act Metadata Persistent Feature Identifier (PFI)	An abstraction of real-world phenomena. A feature may occur as a type or an instance. Feature type or instance shall be used when only one is meant. The feature structure of the feature based data model can be summarised as: feature instance = [spatial object + attribute object] Land Not Under Act (NUA) General Law title system introduced prior to the current Torrens Titling system under the Transfer of Land Act Metadata is 'data about data' and provides a synopsis about the data lineage, accuracy and details about access permissions. Refer to ISO 19115 Geographic information — Metadata The unique code provide at creation of the feature which remains until the feature is retired. Dataset or dataset series that conforms to a data product specification. Totality of characteristics of a product that bear on its ability to satisfy stated and implied needs. Refer to: ISO 19113 Geographic information — Quality principles			
Feature Land Not Under Act Metadata Persistent Feature Identifier (PFI) Product	An abstraction of real-world phenomena. A feature may occur as a type or an instance. Feature type or instance shall be used when only one is meant. The feature structure of the feature based data model can be summarised as: feature instance = [spatial object + attribute object] Land Not Under Act (NUA) General Law title system introduced prior to the current Torrens Titling system under the Transfer of Land Act Metadata is 'data about data' and provides a synopsis about the data lineage, accuracy and details about access permissions. Refer to ISO 19115 Geographic information — Metadata The unique code provide at creation of the feature which remains until the feature is retired. Dataset or dataset series that conforms to a data product specification. Totality of characteristics of a product that bear on its ability to satisfy stated and implied needs. Refer to:			

	managed, referred, approved and tracked online. See http://www.spear.land.vic.gov.au
the State	Victoria
Unique Feature identifier (UFI)	Each feature is uniquely identified and renewed with each change.
VOTS	Victorian Online Titles System, the electronic business operating system within Land Registry, provides a secure online register. The register comprises Certificates of Title, plans of subdivision and other documents that comprise the State's official land and property records. The State Government guarantees every Certificate of Title in the Register.

Acronyms

For the purpose of this document, the following acronyms may apply.

Acronym	Definition
DALA	DELWP Data Access License Agreement
DELWP	Department of Environment, Land, Water & Planning
DSV	Data Search Victoria
LAT	Land Administration Themes
LGA	Local Government Area
NES	Notification for Editing Service
NUA	Land Not Under Act
PIQA	Property Information Quality Audit
SDM	Spatial DataMart
SPEAR	Streamline and Planning through Electronic Applications and Referrals
SPI	Standard Parcel Identifier
VGDD	Victorian Government Data Directory
VOTS	Victorian Online Title System

Informal description of the data product

Vicmap Property is the authoritative cadastral map base of Victoria providing information about land parcels and property details. Vicmap Property is continuously maintained in collaboration with authoritative sources within local and state government. The data is captured at various scales ranging from survey accurate up to 1:25,000.

Content contains parcel and property details including; Lot and Plan numbers, Crown description, LGA code, Council Property and Reference Numbers and Standard Parcel Identifier (SPI) code. Whilst property polygons are not attributed for address, links between Vicmap Address and Property exist to enable address relationships to be determined. Crown Land is also identified and attributed as Proposed and Approved representations.

There are three Vicmap Property representations. Vicmap Property Standard and two Vicmap Property Simplified data models. The simplified models were created to make Vicmap Property easier for non-technical users to use: Both representations formed by joining the Parcel and Property attributes to their respective spatial representations. Whilst the source data is the same, the information is displayed differently.

Specification scope

Level

Dataset.

Extent & coverage

Vicmap Property covers the State of Victoria.

Data product identification

Title

Vicmap Property

Alternative title

Parcel Property

Vicmap Parcel

Digital Cadastral DataBase (DCDB)

Abstract

Vicmap Property provides authoritative information about land parcels and property details for the State and is used extensively in spatial information systems by the public and private sectors. Vicmap Property forms part of the Land Administration Themes (LAT) listed below:

- Vicmap Address
- Vicmap Admin
- Vicmap Crown Land Tenure
- Vicmap Property

Vicmap Property is Victoria's cadastral map base and obtains data from local and state government. Key characteristics include:

Parcel and property polygon views

- Parcel and property Identifiers Standard Parcel Identifiers (SPI) and council property numbers
- Registered and proposed parcels
- Crown and freehold land differentiation
- Cadastral road casement boundaries
- Easements, and
- Cross reference to Vicmap Address and Vicmap Admin.

Product updates are made available weekly through the Vicmap maintenance lifecycle. The data is sourced from authoritative Custodians via the *DELWP Custodianship Program*.

Purpose

Vicmap Property is the most complete, authoritative, accurate and current property index for Victoria. It assists users to identify, manage and analyse assets by providing spatial context to their business information: enabling users to make more informed business decisions.

Topic Category

Boundaries Planning/cadastre

Data content and structure

Data content

The datasets that comprises Vicmap Property are detailed in Table 1 below.

ANZLIC ID	Dataset name	Description	Feature type
ANZVI0803002683*	VICMAP_PROPERTY	Parent Metadata record	N/A
ANZVI0803002896	VMPROP_CAD_AREA_BDY	Cadastral Area Boundary	Line
ANZVI0803002898	VMPROP_CENTROID	Represents the centre point of parcels and properties.	Point
ANZVI0803005175	VMPROP_EASEMENT	Easement	Line
ANZVI0803002899	VMPROP_PARCEL_VIEW	Parcel View	Polygon
ANZVI0803002900	VMPROP_PROPERTY_VIEW	Property View	Polygon
ANZVI0803004668	VMPROP_ROAD_CASEMENT_POLYGON	Road Casement –	Polygon
ANZVI0803002902	VMPROP_ANNOTATION_TEXT	Annotation Text	Table
ANZVI0803003297	VICMAP_PROPERTY_SIMPLIFIED_1	A modified data model of Vicmap Property	
ANZVI0803003303	VICMAP_PROPERTY_SIMPLIFIED_2	A modified data model of Vicmap Property specifically generated for Local Government use	

Table 1: Vicmap Property datasets.

For further information please refer to the metadata records for each dataset at <u>Data Search Victoria</u>.

^{*}Parent metadata record for Vicmap Property. Parent metadata records act as a cover note for a product that contains a dataset series for search, discovery & delivery purposes.

Data model

Vicmap Property has three distinct data model representations detailed below. Two are Vicmap Property Simplified data model representations and they have been created to make Vicmap Property easier to use. Both representations utilise the same source data as Vicmap Property standard but through the joining of Parcel and Property attributes to their respective spatial representations display the information significantly differently. The simplified data models are available for areas up to LGA size. The majority of Vicmap product data models are published on the department's website www.delwp.vic.gov.au/vicmap.

1. Vicmap Property using the standard model

The standard model represents Vicmap Property in its purist form. All of Vicmap Property's tables and attributes with their inherent linkages are provided. The user must perform all the table joins themselves to utilise the data. This model usage is generally suitable for experienced spatial professionals.

2. Vicmap Property Simplified 1

Vicmap Property Simplified 1 has primarily joined the Parcel and Property attributes to their respective spatial representations. Apart from the changes in the parcel and property representations this model contains all other tables in the Standard Model.

The advantages of this model are:

- The parcel/property spatial and aspatial details have been linked
- Non defined parcels/properties have been separated out
- All defined parcels/properties are in a single table, and
- Information contained in the remaining standard tables (ie *Cad-Area_Bdy, Annotation, Cad Line*) has been retained.

Whilst this model is easier to use, there will still be a requirement to perform table manipulations. This model provides the keys to be able to determine:

- Approved and proposed parcel/property separation
- Parcel and Property relationships
- Base and Primary Property Representations, and
- Property and Address relationships.

It will be up to the end user to create their desired view of Vicmap Property.

3. Vicmap Property Simplified 2

Vicmap Property Simplified 2 has taken the simplification to another level and is considered the least sophisticated representation of Vicmap Property. As with Simplified 1, the Parcel and Property attributes have been joined to their respective spatial representations but in this case, they have been separated into proposed and approved polygon tables. This model has also provided separation between *Base* and *Primary Properties*.

Note: This model primarily provides parcel, property and road casement polygon views of the data. The only other information provided with this model is the easement details, and the property-parcel relationship tables. The *Annotation, Points, Symbols, Cad_Area_ Boundaries* and their link tables are not available in this representation.

Whilst this is the simplest form of Vicmap Property, there will still be a requirement to perform table joins, if the end user needs to obtain parcel and property relationships; or to determine which property is associated with which address.

Data dictionary

See Appendix B.

Data structure

Rules and/or characteristics that apply to Vicmap Property:

- Feature-based data model:
 - o *Polygons* are used to represent formally bounded area features such as parcels, properties and administrative areas, e.g. Parishes, Local Government Areas and localities.
 - Lines are used to represent the boundaries defining such area features, they also provide the graphical definition of linear features such as easements.
 - o *Points* are used to locate polygon centroids holding information about the parcels and properties.
 - o *Attributes* will only reflect selected characteristics of their feature. For example, the reliability of the SPI is held within the *SPI CODE* attribute.
- Topologically structured (vertical topology) with parcel and property polygon views
- Statewide coverage.
- Conforms to national data models (ie. ICSM)
- A Persistent Feature Identifier (PFI) is generated once for each feature at the point of creation and remains constant until a feature is retired. A PFI is unique to, and cannot be reused within a particular table. However, you may have the same PFI number in different tables but they do not necessarily relate to the same feature entity.
- The Unique Feature Identifier (UFI) is generated for each feature at the point of creation and changes with each modification or version. This allows users to track the changes made to a feature over time.
- Updates are provided as whole file replacement or via Incremental Updating (that is, an initial seed file is provided and then change only files provided in fortnightly intervals)
- Seamless storage of data across the state (non-tiled)
- Parcel and Property Relationships held aspatially (Link table between Parcel and Property attribution tables), and
- Under regular maintenance cycle with data supplied from authoritative sources.

Reference systems

Vicmap is mapped to the Geocentric Datum of Australia (GDA) and the Australian Height Datum (AHD). Data is held in geographic latitude and longitude computed in terms of the GDA at 01 January 1994 (GDA94).

The temporal reference system for Vicmap is the Gregorian calendar.

Data quality

Accuracy

The following procedures are undertaken as normal update/maintenance routines, to ensure conformity of the data to specification:

- Customised menus for data editing which provide on the fly logical consistency attribute checking as data is edited
- Automated data QA processes to validate topological integrity, completeness and logical consistency
- Automated data loading routines, reflecting business rules for data population, to ensure data accuracy
- Independent review of data upon loading including aspatial attributes, spatial extents and successful data load
- Validation of accepted types according to approved reference tables
- Validation of entity PFI/UFI tags for uniqueness.

Approximately 5% of all maintenance advice notices processed are separately audited by DELWP to confirm accuracy, completeness and correctness in the capture process.

Positional accuracy

The spatial accuracy of Vicmap Property data has traditionally been classified as being "BB" accuracy and was derived from the digitising of hardcopy plans of varying spatial precision. "BB" accuracy requires that, 90% of well-defined features are within 1mm (at plot scale) of their true position. Example:

1:500 equates to ± 0.5metre

1:25,000 equates to

The accuracy of Vicmap Property now is affected by changes made to the maintenance regime and the spatial upgrading of some areas of the mapbase. As a result a spatial precision attribute was created for each node and forms part of the cadastral framework. The spatial precision attribute allows for the identification of areas where "survey accurate" data has been incorporated into the map base.

± 25 metres

The precision attribute is expressed in metres and the table below identifies the number of line end nodes within Vicmap Property that have been assigned precision value each.

Precision (m)	Nº of end nodes
0.1	698361
0.5	8880001
1.0	17464
2.5	3766980
5.0	71504
10.0	969703
25.0	4232871

Table 2: Vicmap Property precision of end nodes 2013.

For further analysis of Vicmap Properties precision please refer to Appendix D & Appendix E.

Parcel Survey Accuracy

There are 850,000 end nodes in the mapbase as at 2013 that have a survey precision of 0.1m.

A parcel survey accuracy tag has been applied to each parcel polygon in Vicmap Property with the following valid values to assist with associated display issues (of over 18.5 million points ordinarily):

Parcel Accuracy	Description	No of Parcels
2	All cadastral nodes of the parcel have survey	75432
	accurate coordinates matching the map base	
	coordinates	
1	Some of the cadastral nodes of the parcel have	104765
	survey accurate coordinates that match the map	
	base coordinates	
0	There are no survey accurate coordinates	3248991
	captured for any of the cadastral nodes	

Table 3: Vicmap Property precision of end nodes in 2013.

Relative accuracy

No "shift" of data as a means of "cartographic enhancement" to facilitate presentation has been employed for any real world feature.

Attribute accuracy

The allowable error in attribute accuracy ranges between:

- 3% for new data additions, to
- 5% for pre-maintenance contract data.

Completeness

Reliability figures indicating completeness of content between the data set and real world:

Data feature	Calculated completeness of content (%)*
Council Property Numbers (Propnum)	98.22%
Standard Parcel Identifiers	99.76%

Table 4: Vicmap Property completeness percentages, 2015/2016.

- 2015/2016 Property Identifier Quality Audit
- June 2016 VOTS Vicmap Property SPI comparison

Refer to Appendix E for the *Propnum* and *SPI* completeness figures for each Local Government Area (LGA).

^{*}The above figures have been calculated form the following processes:

Logical consistency

Logical consistency is a measure of the degree to which data complies with the technical specification. The allowable error in logical consistency ranges between 1% (new data additions) to 5% (premaintenance contract data). The test procedures are a mixture of software scripts and on-screen, visual checks.

Temporal accuracy

Compliance with real world features is dependent on the provision of new and changed parcels and property information from Custodians.

- Attribute *pfi_created* is the creation date of the feature (& associated persistent feature identifier (*pfi*)), and
- Attribute *ufi_created* is the date of the most recent change to the feature (& associated unique feature identifier (*ufi*)).

Post-production validation

The Quality Assurance practices conform to the following Australian Standards (AS):

- ISO/AS/NZS 19100 series standards applicable to this data, including:
 - o ISO/AS/NZS 19113 : 2004 Geographic information Quality Principles
 - o ISO/AS/NZS 19114: 2005 Geographic information Quality evaluation procedures, and
 - ISO Draft Technical Specification 19138 Geographic information Data quality measures

The following post-production validation exercises have been undertaken to ensure that no detail has been lost as a result of the capture process:

- Property descriptions are validated against local government records using the PIQA process
- Existing data content is checked against authoritative data sources for attribute accuracy; inconsistencies are being systematically identified and reported on a weekly basis, through the Quality Reporting Tool. These reports then form the basis for determining the priority order for rectifying non-conforming data, and
- Customer feedback provides an ongoing form of validation. Issues are verified with the Custodian and rectified where appropriate.

Data capture

Original construction of the dataset

- Manual digitising of compilations using existing large-scale base mapping where available and production of new pencil compilations to complete statewide coverage
- Larger scales (1:500, 1:2,500) were used in urban and town areas, smaller scales (1:10,000 and 1:25,000) in less dense rural areas
- Positional and spatial accuracy of data founded on control points derived from ground survey for urban and town areas and 'AA' accurate topographic mapping for rural areas, and
- A small amount of direct-to-digits compilation from source material was undertaken in the latter stages of the product development.

Ongoing Data capture

Vicmap relies on the agreements and MoU's signed with authoritative Custodians, through the *DELWP Custodianship Program*, for its data.

Examples of Custodians and/or those that may supplement or verified data are listed below:

Authoritative source/Custodian	Description		
Local Government	Local Governments supply property details (Council Property), via the		
	maintenance "M1" form, for the extent of their Local Government Area (LGA).		
	They are also supplying paper proposed plans of subdivision for all non- SPEAR applications within their area of interest.		
DELWP, Land	Land Registry is a major source of parcel maintenance providing proposed		
Registry	and approved plans of subdivision plus all dealings effecting Crown		
3 ,	Parcelation (Notings) on a Statewide basis. These plans are being		
	forwarded on a daily basis.		
VicRoads	VicRoads provide all information pertaining to road alignment changes they		
	have created throughout the State. They forward digital copies of both		
	their survey plans and declarations on a monthly basis.		
Crown Land	Crown Land identifiers ("P" Numbers) are supplied by Crown Land		
Management	Management for all Crown owned parcels within Victoria. The regularity of		
· · · · · · · · · · · · · · · · · · ·	the supply of the "P" numbers varies depending on the region.		
Licensed Surveyors	The larger Licensed Surveying firms are supplying digital files of large		
<u> </u>	developments (Proposed Plans of Subdivision of 10 lots or more) they are		
	working on. Survey Co-ordinates and their datum and projection		
	accompany these plans. The development plans are being supplied to ISD		
	at the same time that the plan is presented to council for certification.		

Table 5: Vicmap Property authoritative sources & Custodians.

Data maintenance

Vicmap products can change under one of the following three terms:

- Vicmap maintenance The incorporation of new data to an existing dataset via an M1 or scheduled Custodial supply. No changes are made to the data or object model, therefore does not require change management processes. Additions can be seen in the weekly Vicmap update.
- Vicmap Improvements Changing existing data, example the moving of a feature or adding of attributes. These are typically provided through notification of data issues via change requests which are verified by Custodians.
- Vicmap upgrades Significant changes to a dataset that may see existing data over a large area replaced and/or may require the data model changed. Vicmap Property customers are informed about these changes through the change management process.

DELWP obtains updates to data from authoritative Custodians at various intervals based on the agreed Custodianship arrangements. Updates are incorporated into Vicmap daily and made available weekly: noting that Vicmap data is never deleted, only retired and archived for legal purposes. Data is date stamped to reflect the last time the record was verified.

Reported errors or omissions are verified with the authoritative source before a change is made. Feedback from users and stakeholders, including emergency services dispatch providers, ensures that the highest standards are maintained.

Ongoing maintenance methods pertaining to Vicmap Property:

- Manual input via bearing & distance
- Direct input of digital data
- Manual manipulation to achieve optimum fit principal directive is to retain the survey geometry, massaging the surrounding data to fit.
- Bulk loading of aspatial data.

Business rules for how the data is maintained in Vicmap Property

The survey accuracy of new subdivisions supplied as digital data is used to improve the positional and relative accuracy's of the surrounding base data, that is, the surrounding data will be made to conform to the higher order accuracy of the new data. Following are examples of data manipulation and the decision processes involved:

Digital Subdivision Alignment Incorporation

The subdivision is orientated to the coordinate system of Vicmap Property and the plan is theoretically ready for "dropping" into the database. Inherent differences between survey accurate coordinates and the accuracy of the database coordinates of the same area require modifications to be made to the surrounding data. This is demonstrated on Figure 1 below, where the footprint of the new digital subdivision (red dashed line) doesn't exactly fit Vicmap Property (Black solid lines)

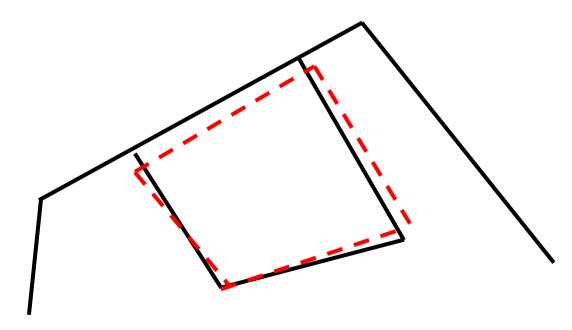


Figure 1: Orientating a subdivision to Vicmap's coordinate system.

Conditions that must be met prior to adopting the spatial positioning of the new subdivision:

- That the modification of the surrounding line-work still enables the data to satisfy the spatial accuracy standards (Within 1 mm of ground truth at scale of capture or "BB"), and
- The modifications to cause minimal effect to current Vicmap Property users.

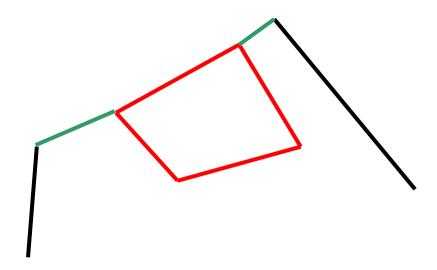


Figure 2: Adopting the spatial positioning of a new subdivision.

Figure 2 above demonstrates how Vicmap Property is amended when the above conditions have been satisfied ie Line-work still "BB". The spatial positioning of the new subdivision is adopted and the boundaries of surrounding parcels are to be modified so that no steps appear in the data (Green Lines). All the points associated with the new plan of subdivision are flagged as points that are to be held fixed when subsequent subdivisions require database modifications.

One exception to this rule is when a more recent digital subdivision adjoins the subdivision in question. In these cases, the position of the most recent subdivision is to be adopted. Figure 3 & 4 demonstrates the instance where the points may be moved to modify the database representation.

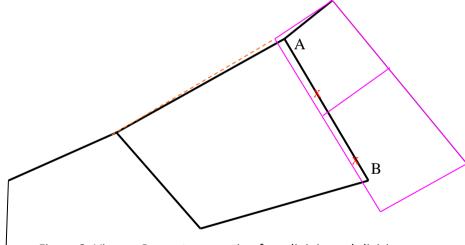


Figure 3: Vicmap Property exception for adjoining subdivisions.

The initial survey has been identified as being input through a digital subdivision and the points have been flagged as fixed points. A new subdivision has been presented for inclusion into Vicmap Property and the south-western alignment doesn't match the previous alignment created. All points on the original survey which fall on the shared alignment can be moved as long as the conditions stated previously are satisfied.

In the example provided above, Points "A" and "B" will be moved to accommodate the new subdivision, resulting in the shortening of the northern and southern boundaries (within spatial tolerances). (See figure 4 below).

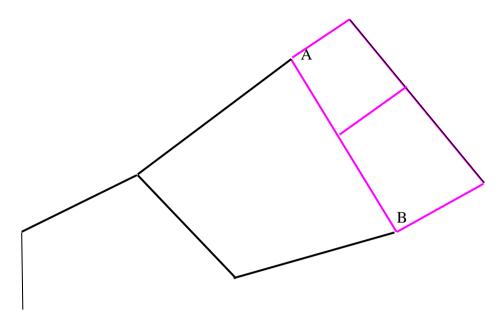


Figure 4: Resultant solution to Figure 3.

In all cases where the accuracy limits are exceeded, an incorporation proposal is developed and these are dealt with on a case by case basis.

Incorporation of hardcopy data

Hardcopy data was initially converted into a digital "subdivision" file, through key entering or digitising (For areas where dimensions are not provided) methods, preserving the cadastral dimensions of the parcels concerned.

The orientation and incorporation of the subsequent "subdivision" follows the process for digital subdivisions where coordinates have been provided.

In the situation where no coordinates are available, the "subdivision" is orientated utilising the existing database alignments and incorporated preserving the relative accuracy of the plans spatial data. For instance, the dimensions of the alignments are held and the surrounding data is modified to enable a seamless database to exist without the creation of a Hiatus and/or an overlap in the dataset.

Determine Adoptions to Preserve

Due to the limitations of the varying data capture accuracies; it is very unlikely that a plan will fit exactly into the Vicmap Property representation of the same area. Hence, there is a requirement for determining the best adoptions to retain from the existing data.

Figure 5 demonstrates the situation of the new plan not fitting the relevant area contained in Vicmap Property. In this case there are two survey accurate co-ordinates sourced from a previous survey plan and two nodes that have an accuracy of 25 metres.

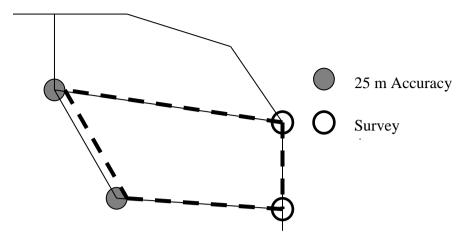


Figure 5: New plan not fitting the relevant area.

Survey accurate co-ordinates take priority over all other accuracy tags when determining the alignment to adopt. In this example the two survey accurate co-ordinates are held and the two 25m accurate nodes are moved to ensure that the relative accuracy of the plan is maintained; as depicted below in figure 6.

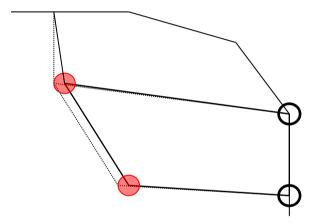


Figure 6: Vicmap Property priority of survey accurate co-ordinates.

Where all nodes have the same accuracy tag (Non Survey Accurate) the alignment adoption is not obvious. It would be just as correct to adopt the points to the rear of the parcel as the frontage.

As a general rule, where all accuracy tags are equal, the road frontage of the subdivision is to be held reducing the amount of modification to be made to the road alignments within Vicmap Property.

Figure 7 demonstrates how the map base would be modified to fit in the new subdivision.

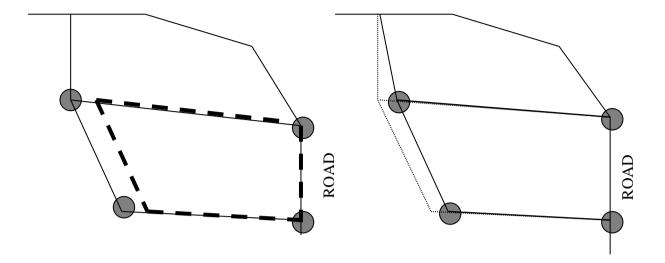


Figure 7: How Vicmap property manages a new subdivision.

Data product delivery

Access & licensing

Data available under the DataVic policy www.data.vic.gov.au

Many DELWP datasets are freely available through the Victorian Government Data Directory (VGDD) at www.data.vic.gov.au under a Creative Commons Attribution 3.0 Australia license.

The Victorian Government Data Directory also provides details such as:

- Timetable for release
- Usage and availability restrictions
- License restrictions and conditions
- Access constraints
- Exclusion of liability
- Supply and media formats
- Projections.

Data that is not freely available maybe accessed via DELWP's under a Data Access and Licensing Agreement (DALA) and may have pricing, licencing, restrictions, conditions, liability constraints.

Vicmap Property is also available through a network of Data Service Providers listed at: www.delwp.vic.gov.au/vicmapdsp

Historical versions of Vicmap Property are only available under special and exceptional circumstances, such as a legal proceeding, and may incur an administration fee.

Metadata

The metadata, abstract, and preview for the datasets within Vicmap products can be viewed at DataSearch Victoria (DSV) located at www.delwp.vic.gov.au/datasearch by searching for the ANZLIC ID, refer to Table 1.

Appendix A: Data model

The following can be located at www.delwp.vic.gov.au/vicmap:

- Vicmap Property Standard Data Model, version 4.2, September, 2013.
- Vicmap Property Simplified 1, version 3.3, November 2013
- Vicmap Property Simplified 2, version 4.1, November 2013, and
- IUF models

Sample part of the Vicmap Property Standard Data Model – Parcel Attribute table is shown below, but does not constitute the data model. See the link above for the full data model.

PFI VIEW_PFI VARCHAR2(10) <pk></pk>	PARCEL					
VIEW_PFI VARCHAR2(10) <fk> SPI VARCHAR2(18) SPI_CODE NUMBER(3) DESC_TYPE VARCHAR2(2) LGA_CODE VARCHAR2(3) PLAN_NUMBER VARCHAR2(12) ACCESSORY_LOT VARCHAR2(12) ALLOTMENT VARCHAR2(10) SEC VARCHAR2(12) BLOCK VARCHAR2(12) BLOCK VARCHAR2(12) SUBDIVISION VARCHAR2(12) SUBDIVISION VARCHAR2(12) CROWN_STATUS VARCHAR2(1) PARISH_CODE VARCHAR2(1) TOWNSHIP_CODE VARCHAR2(1) VARCHAR2(10) FURTHER_DESCRIPTION VARCHAR2(10) FURTHER_DESCRIPTION VARCHAR2(11) CREFNO VARCHAR2(11) FEATURE_QUALITY_ID VARCHAR2(20) PFI_CREATED DATE UFI NUMBER(11) UTI_CREATED DATE</fk>	PFI	VARCHAR2(10) <pk></pk>				
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UFI NUMBER(11) UFI_CREATED DATE	FEATURE_QUALITY_ID	VARCHAR2(20)				
UFI_CREATED DATE	PFI_CREATED	DATE				
_	UFI	NUMBER(11)				
UFI_OLD NUMBER(11)	UFI_CREATED	DATE				
	UFI_OLD	NUMBER(11)				

Appendix B: Data dictionary

The Data dictionary describes all pertinent features, together with any inter-relationships within Vicmap Property that are used to depict respective real world counterparts and any aspects of their behavior. Included are:

- Class/Feature lists
- Definitions
- Types and included elements
- Attributes
- Spatial representation (line, point, polygon, etc, including any relationship between size or scale of a feature and its representation, and
- Accepted codes or abbreviations or pointers to reference tables.

Index to fields (attributes)

These explain the relevant reference tables attributes in the products Reference tables, Appendix C.

VICMAP Property Attribute	Definition	Source Table	Explanation	Field type/size	Examples
ACCESSORY_LOT	Accessory Lot	Parcel	Has its own title – Garage spot belongs to unit. Can't be dwelling place.	VARCHAR2(1)	13, B101
ALLOTMENT	Crown Allotment	Parcel	Crown Allotment descriptor	VARCHAR2(10)	7
ANNOTATION_TEXT	Annotation	Annotation Text	Represents the text string displayed in the graphics for parcel descriptors.	VARCHAR2(80)	PS615345
BLOCK	Crown Block	Parcel	Crown Block descriptor	VARCHAR2(12)	2
CREFNO	Council Reference Number	Parcel	Unique reference number is provided and populated by Local Council. The number relates to the respective parcel of land	VARCHAR2(15)	12408756
CROWN_STATUS	Crown Status	Parcel	A code that identifies a characteristic of the crown description. Valid codes are C ROWN LAND, G_GOVERNMENT ROAD and V ESTED LAND. Further detail may be available if the FURTHER DESCRIPTION field.	VARCHAR2(1)	C, G
DESC_TYPE	Description type code	Parcel	A code to identify the origin of the parcel identifier. (12) for Multi Parcel, (13) for Road parcel, (14) for Crown Descriptions and (15) for Plan Descriptions.	VARCHAR2(2)	13, 15
FEATURE_CODE	Annotation Feature Code	Annotation Text	Identifies the feature type that the annotation text represents e.g. (A)pproved (P)lan (N)umber Refer to Reference table PR_ANNOTATION_TEXT_FCODE	VARCHAR2(6)	APN
FROM_SURVEY_X		Cad Area Bdy	The coordinate extracted from the registrered survey fieldnotes for the start of the cad area boundary, expressed in Longitude - GDA94 datum.	NUMBER(13,9)	145.454925393
FROM_SURVEY_Y		Cad Area Bdy	The coordinate extracted from the registrered survey fieldnotes expressed in Latitude - GDA94 datum (LLD GDA94)	NUMBER(13,9)	-38.083987263

VICMAP Property Attribute	Definition	Source Table	Explanation	Field type/size	Examples
FROM_PRECISION		Cad Area Bdy	The absolute accuracy (difference between survey XY and the mapbase XY) precision of the cad area boundary start node expressed in metres.	NUMBER(4,1)	0.1
FURTHER_ DESCRIPTION	Further Description field	Parcel	The Further Description field is utilized for a variety of description purposes and is generally associated with another field. For example, LOT_NUMBER = RES1, FD = Recreation Reserve	VARCHAR2(80)	NUA, TP603875
GRAPHIC_TYPE	Graphic Type	Parcel	A code to identify the type of spatial property polygon representation. Typically a (B)ase Polygon encompasses all Units and the Common Property such as driveway. The (P)rimary property polygon, relates to the individual title. i.e. Unit 1	VARCHAR2(1)	B or P
INTERSECTION	Road Casement Intersection	Road Casement Polygon	A flag that identifies where the Road Casement polygon represents an intersection.	VARCHAR2(1)	Y, N
JUSTIFICATION	Annotation Text Justification	Annotation Text	Position on the text string used as the justification insert point. le (C)entre (T)op	VARCHAR2(2)	СТ
LGA_CODE	Local Government Area code	Parcel, Property & Road Casement Polygon	The LGA code defines which LGA the feature in question falls into.	VARCHAR2(3)	302 388
LOCALITY_NAME	Locality Name	Road Casement Polygon	The name of the Locality that the Road casement Polygon fall within.	VARCHAR2(46)	ROSEBUD
LOT_NUMBER	Lot Number	Parcel	Lot Number for any given Plan of Subdivision	VARCHAR2(12)	2, RES1
MULTI_ ASSESSMENT	Multi assessment Property flag	Property	Multi-assessment property flag values	VARCHAR2(1)	Y, N
P_NUMBER	P Number	Parcel	A unique number that links the respective Crown parcel to Portal (a Crow Land management data base) Only populated for Crown Land parcels.	VARCHAR2(10)	P126588

VICMAP Property Attribute	Definition	Source Table	Explanation	Field type/size	Examples
PARCEL	Parcel Boundary	Cad Area Bdy	A flag to indicate whether the cad area boundary forms part of a parcel polygon	VARCHAR2(1)	Y, N
PARISH_CODE	Parish code	Parcel	List of Parish names and their corresponding codes See Reference Table: PARISH	VARCHAR2(4)	2020
PART	Part Parcel	Parcel	Values indicating part or whole parcel Valid Values are "P" or "N":	VARCHAR2(1)	P, N
PFI	Persistent Feature Identifier	All	Uniquely identifies each record within a table. Persists through either attribute or spatial representation changes. i.e. Remains for the life of the object it identifies	VARCHAR2(10)	167456342
PFI_CREATED	PFI Create Date	All	The Date the entitywas created	DATE	26/02/2002
PLAN_NUMBER	Plan Number	Parcel	A unique identifier for a plan registered on the Victorian Online Titles System (VOTS), consisting of a plan type and number	VARCHAR2(9)	LP12772 RP2388 PS212865 TP213768
			See Reference Table: PR_PLAN_NUMBER for the plan types and ranges.		
PORTION	Crown Portion	Parcel	Crown Portion descriptor	VARCHAR2(12)	А
PROPERTY	Property Boundary	Cad Area Bdy	A flag to indicate whether the cad area boundary forms part of a property polygon	VARCHAR2(1)	Y , N
PROPERTY_ TYPE	Property Type	Property	A code to identify whether the property is an occupancy or just a graphic entity Valid Values are: G – Graphic O - Occupancy	VARCHAR2(1)	G, O
PROPNUM	Property Number	Property	Council's Rates Property Number - May apply for a party, single or a group of parcels.	VARCHAR2(20)	40896
ROAD_ALIGN	Road Alignment Boundary	CAD Area Bdy	A flag to indicate whether the cad area boundary forms part of a road casement polygon	VARCHAR2(1)	Y, N
ROTATION	Annotation	Annotation	Rotation of the text string in decimal degrees.	NUMBER(%,1)	86.2

VICMAP Property Attribute	Definition	Source Table	Explanation	Field type/size	Examples
	Text Rotation	Text			
SEC	Section	Parcel	Section descriptor utilized in combination with Allotment, Parish, Block etc.	VARCHAR2(12)	A, D, 2, 2A etc
SPI	Standard Parcel Identifier	Parcel	Standard Parcel Identifier is a unique identifier for each parcel in Vicmap Property and is based on its legal description.	VARCHAR2(18)	3\LP218573 or 19~23\PP5841
SPI_CODE	Standard Parcel Identifier Code	Parcel	The Standard Parcel Identifier Code states the Quality Assurance status of the respective SPI - for example; 100 - Parcel is correct shape, has correct relative position and SPI has been validated against VOTS, 101 = SPI has been validated against VOTS, 202 = SPI not present in VOTS, etc. For a full list of codes see PR_SPI table available online.	NUMBER(3)	101, 202 etc
STATUS	Land Parcel Status	Easement, Parcel, Parcel View, Property & Property View	A code that identifies whether the feature is (A)pproved or (P)roposed	VARCHAR2(1)	A, P
SUBDIVISION	Crown Subdivision	Parcel	Crown Subdivision descriptor	VARCHAR2(12)	В
TEXT_HEIGHT	Text Height	Annotation Text	Height of text string font.	NUMBER(8,3)	1.25
TEXT_WIDTH	Text Width	Annotation Text	Width of text string font.	NUMBER(8,3)	1.25
TO_SURVEY_X		Cad Area Bdy	The coordinate extracted from the registrered survey fieldnotes for the end of the cad area boundary, expressed in Longitude - GDA94 datum.	NUMBER(13,9)	145.453249435
TO_SURVEY_Y		Cad Area Bdy	The coordinate extracted from the registrered survey fieldnotes for the end of the cad area boundary, expressed in Latitude - GDA94 datum.	NUMBER(13,9)	-38.083767178
TO_PRECISION		Cad Area Bdy	The absolute accuracy (difference between survey XY and the mapbase XY) precision of the cad area boundary end	NUMBER(4,1)	2.5

VICMAP Property Attribute	Definition	Source Table	Explanation	Field type/size	Examples
			node expressed in metres.		
TOWNSHIP_ CODE	Township Code	Parcel	List of Township and AT codes See Reference Table: TOWNSHIP.TOWNSHIP_CODE	VARCHAR2(5)	5606, 2287A
UFI	Unique Feature Identifier	All	Unique Feature Identifier number that is retained until a feature attribute or position of data changes	NUMBER(11)	375 004 696
UFI_CREATED	UFI Create date	All	Date Unique Feature Identifier (UFI) was created	DATE	19/04/2010
UFI_OLD	UFI superseded date	All	Date Unique Feature Identifier (UFI) was superseded.	DATE	26/09/2000
Z_LEVEL	Property / Parcel Level	Parcel and Property View	A property/parcel may be (B)elow ground, at (G)round level or (A)bove ground. Where a Below ground or Above ground property/parcel exists, the Ground Level property/parcel will be populated with 'S' for (S)urface Level.	VARCHAR2(2)	A, B, G or S

Note: For the simplified models, whilst the data is sourced from the Standard model, some attribute names have been changed (to avoid duplication) in the joined tables. The new attribute name is made up of the source table name and the original attribute name. I.e. The PFI in the Parcel table has been renamed *Parcel_PFI* in the simplified models.

Appendix C: Reference tables

Reference tables used in the production and maintenance of Vicmap Property.

ANZLIC ID	Name	Title	Description
	PR_CROWN_STATUS	Crown status	Codes indicating status of Crown Land
			Valid codes are: C – Crown Land
			G – Government Road
			V – Land Vested
	PR_DESC_TYPE	Description Type	Type descriptor (multi-lot, Crown, Plan, etc.) values
			Valid Values are: 12 – Multi lot
			13 – Road Parcel
			14 – Crown Description
			15 – Plan Description
	PR_GRAPHIC_TYPE	Graphic type	A code to identify the type of spatial property polygon
			representation
			Valid Values: B – Base
			P - Primary
	PR_INTERSECTION	Intersection	A code to identify type of intersection
	PR_MULTI_ASSESSMENT	Multi-assessment flag	Multi-assessment property flag values
	PR_PART	Part (parcel) flag	Values indicating part or whole parcel
			Valid Values are "P" or "N":
	PR_PLAN_NUMBER	Plan Number	Valid Plan prefixes and valid number ranges for each plan type
	PR_PROPERTY_TYPE	Property type	A code to identify whether the property is an occupancy or just a graphic entity
			Valid Values are: G – Graphic
			O - Occupancy
	PR_SPI	Standard Parcel Identifier (SPI) code	A code that identifies the reliability of the Standard Parcel Identifier (SPI)
	PR_STATUS	Status	Values indicating whether the parcel/property are proposed

		or approved.	
		Valid Values are:	A – Approved P - Proposed
PR_Z_LEVEL	Z Level	Indication of the locathe the surface level.	ition of a parcel/property in relation to
		Valid Values are:	B1 to B9 – Below Ground G – Ground Level S - Surface Level A1 to A9 – Above Ground
LGA	LGA name /code number	List of Local Governm corresponding codes	nent Area names and their
PARISH	Parish name /code number	List of Parish names a	and their corresponding codes
TOWNSHIP	Township/AT name/code number	List of Township and codes	AT names and their corresponding

Appendix D: Vicmap Property precision

The precision attribute was populated into the nodes table of Vicmap Property and the initial value was calculated using the spatial precision of the source map scales as per the table below:

Source Scale	Precision Adopted
1:500	0.5 metres
1:2500	2.5 metres
1:5000	5 metres
1:10000	10 metres
1:25000	25 metres

Where the data had been upgraded the precision value adopted the accuracy of the incorporated data ie Waterboard data that improved the spatial accuracy from 1:25000 scale to 1:1000 scale would have the precision value populated with 1 meter.

Below is a spreadsheet detailing the total number of nodes in each precision category as of April 2013:

"Standard" precision"	Meter (m)	Nodes	Percentage (%)
Survey Accurate	0.1	873,473	4.51
	0.5	9,007,308	46.51
	1.0	8846	0.05
	2.5	3,770,874	19.47
	5.0	66,538	0.34
	10.0	929,172	4.80
	25.0	4,708,428	24.31
	Total nodes	19,460,555	
	Total with precision	19,460,540	
	Total without precision	15	
	Total with "standard" precision	19,364,639	

Below is a spreadsheet detailing the number of nodes in each precision category. These figures have been broken up on a LGA basis.

VICMAP PROPERTY PRECISION BY LGA							
LGA Precision (m)	0.1	0.5	1	2.5	5	10	25
ALPINE	20	574	50	40271	618	9976	117146
%	0.01	0.34	0.03	23.88	0.37	5.92	69.46
ARARAT	8	3640	17	30643	10	3	75057
%	0.01	3.33	0.02	28.02	0.01	0.00	68.62
BALLARAT	213	102313	439	111599	26	5570	11969
%	0.09	44.08	0.19	48.08	0.01	2.40	5.16
BANYULE	3415	283078	118	2616	1	2.40	3.10
%	1.18	97.87	0.04	0.90	0.00	0.00	0.00
BASS COAST	1061	1748	47	142489	0.00	1861	54085
		0.87			0.00		
% DAM DAM	0.53		0.02	70.79	0.00	0.92	26.87
BAW BAW	3878	96730	52	68758	4340	844	83701
% DAYOIDE	1.50	37.45	0.02	26.62	1.68	0.33	32.40
BAYSIDE	311	189202	73	4612			
%	0.16	97.43	0.04	2.37	1		
BENALLA	7	531	32	17017	214	219	53957
%	0.01	0.74	0.04	23.64	0.30	0.30	74.96
BOROONDARA	3323	289420	111	4003			
%	1.12	97.49	0.04	1.35			
BRIMBANK	37240	310960	55	8852			
%	10.43	87.08	0.02	2.48			
BULOKE	1	200	78	33568	8	25	49858
%	0.00	0.24	0.09	40.09	0.01	0.03	59.54
CAMPASPE	17	957	70	70045	23	57018	72857
%	0.01	0.48	0.03	34.85	0.01	28.37	36.25
CARDINIA	66012	129395	52	49113	3	18025	12
%	25.14	49.27	0.02	18.70	0.00	6.86	0.00
CASEY	116348	391874	65	25533		3964	
%	21.63	72.87	0.01	4.75	0.00	0.74	0.00
CENTRAL GOLDFIELDS	24	15235	115	67440	435	27	108056
%	0.01	7.96	0.06	35.25	0.23	0.01	56.48
COLAC OTWAY	30	3700	39	122857	64	135	126601
%	0.01	1.46	0.02	48.48	0.03	0.05	49.96
CORANGAMITE	34	4940	30	51290	44	57	85912
%	0.02	3.47	0.02	36.04	0.03	0.04	60.37
DAREBIN	4589	273595	97	4838			
%	1.62	96.64	0.03	1.71			
EAST GIPPSLAND	20	52467	82	108225	87	499	380483
%	0.00	9.68	0.02	19.97	0.02	0.09	70.22
FRANKSTON	32823	272914	100	22537	7		9
%	10.00	83.11	0.03	6.86	0.00		0.00
GANNAWARRA	2	4655	19	36646		56941	167519
%	0.00	1.75	0.01	13.79		21.42	63.03
GLEN EIRA	1237	222114	81	1364			33.00
%	0.55	98.81	0.04	0.61			
GLENELG	24	19587	58	79910	1054	18278	106671
GLEINELG	2 4	19001	50	19910	1004	102/0	100071

%	0.01	8.68	0.03	35.42	0.47	8.10	47.29
GOLDEN PLAINS	18	6287	14	55142	2786	5065	82136
%	0.01	4.15	0.01	36.41	1.84	3.34	54.23
GREATER BENDIGO	174	6371	306	248244	54	143430	93122
%	0.04	1.30	0.06	50.49	0.01	29.17	18.94
GREATER DANDENONG	16788	283181	154	8171	0.01	20111	10.01
%	5.45	91.85	0.05	2.65			
GREATER GEELONG	1603	577386	168	30987	8116	2518	684
%	0.26	92.91	0.03	4.99	1.31	0.41	0.11
GREATER SHEPPARTON	191	2116	237	157158	37	36846	42002
%	0.08	0.89	0.10	65.87	0.02	15.44	17.60
HEPBURN	4	864	65	31519	442	5228	97664
%	0.00	0.64	0.05	23.21	0.33	3.85	71.92
HINDMARSH	1	115	11		41	5	20234
	0.00	0.24	0.02	27899	0.08	0.01	
W HORSONS BAY				57.75	0.06	0.01	41.89
HOBSONS BAY	3185	171701	71	5725			
%	1.76	95.03	0.04	3.17	400	00	74007
HORSHAM	15	913	60	41307	126	98	74807
<u>%</u>	0.01	0.78	0.05	35.21	0.11	0.08	63.76
HUME	89243	323252	33	67995	2		
%	18.57	67.27	0.01	14.15	400	4.40700	77.400
INDIGO	7	765	125	41909	106	140790	77498
%	0.00	0.29	0.05	16.04	0.04	53.90	29.67
KINGSTON	11834	309073	84	5334			
%	3.63	94.71	0.03	1.63			
KNOX	12830	318348	70	4081			
%	3.83	94.94	0.02	1.22			
LATROBE	458	10024	226	129609	34205	4045	161619
%	0.13	2.95	0.07	38.10	10.05	1.19	47.51
LODDON	1	217	38	28703	12	659	182142
%	0.00	0.10	0.02	13.55	0.01	0.31	86.01
MACEDON RANGES	1180	8685	73	90447	54	2968	57911
%	0.73	5.38	0.05	56.07	0.03	1.84	35.90
MANNINGHAM	3007	267361	50	22098			40
%	1.03	91.39	0.02	7.55			0.01
MANSFIELD	1	1449	1449	1449	1449	1449	1449
%	0.01	16.66	16.66	16.66	16.66	16.66	16.66
MARIBYRNONG	7483	116896	59	664			
%	5.98	93.44	0.05	0.53			
MAROONDAH	7692	278286	115	942			
%	2.68	96.95	0.04	0.33			
MELBOURNE	1187	183068	42	3995			
%	0.63	97.23	0.02	2.12			
MELTON	106953	152601	26	18761		2	454
%	38.36	54.74	0.01	6.73			0.16
MILDURA	102	128946	190	20860	18	57	137150
%	0.04	44.88	0.07	7.26	0.01	0.02	47.73
MITCHELL	5336	6552	46	111608	17	16399	151600

%	1.83	2.25	0.02	38.28	0.01	5.62	52.00
MOIRA	761	2663	62	56631	12	14905	192590
%	0.28	1.00	0.02	21.16	0.00	5.57	71.96
MONASH	9629	327253	226	8238	0.00	0.0.	1 1100
%	2.79	94.76	0.07	2.39			
MOONEE VALLEY	4023	169165	68	1524			
%	2.30	96.79	0.04	0.87			
MOORABOOL	2495	14847	90	67692	72	57867	31491
%	1.43	8.51	0.05	38.78	0.04	33.15	18.04
MORELAND	4931	288551	120	1313	0.04	33.13	10.04
%	1.67	97.84	0.04	0.45			
MORNINGTON PENINSULA	31316	378476	150	33833		39315	13
%	6.48	78.34	0.03	7.00	0.00	8.14	0.00
MOUNT ALEXANDER	7	1285	285	124135	6	56846	73998
%	0.00	0.50	0.11	48.38	0.00	22.16	28.84
MOYNE	18	0.5	1	2.5	5	10	25
%	29.03	0.81	1.61	4.03	8.06	16.13	40.32
MURRINDINDI	383	16159	39	46734	611	1922	155710
%	0.17	7.29	0.02	21.09	0.28	0.87	70.28
NILLUMBIK	9716	151778	26	61182	1		57
%	4.36	68.14	0.01	27.47		0.00	0.03
NORTHERN GRAMPIANS	5	567	14	35305	1	37	115463
%	0.00	0.37	0.01	23.32	-	0.02	76.27
PORT PHILLIP	1503	91980	39	353			
%	1.60	97.98	0.04	0.38			
PYRENEES	1	715	15	39267	25	158	115514
%	0.00	0.46	0.01	25.22	0.02	0.10	74.19
QUEENSCLIFFE	91	14901	1	14			1 1110
%	0.61	99.29	0.01	0.09			
SOUTH GIPPSLAND	10	4621	42	72203	1894	36347	178936
%	0.00	1.57	0.01	24.55	0.64	12.36	60.85
SOUTHERN GRAMPIANS	31	22090	85	28042	7	63	121228
%	0.02	12.88	0.05	16.35	0.00	0.04	70.67
STONNINGTON	60	119514	51	2944			
%	0.05	97.51	0.04	2.40			
STRATHBOGIE	540	738	38	30767	58	156	147926
%	0.30	0.41	0.02	17.07	0.03	0.09	82.08
SURF COAST	57	84843	48	74276	478	1371	21915
%	0.03	46.37	0.03	40.59	0.26	0.75	11.98
SWAN HILL	11	26796	2229	22307	1	5551	119908
%	0.01	15.16	1.26	12.62	0.00	3.14	67.82
TOWONG		490	2	25216	82	31404	131390
%	0.00	0.26	0.00	13.37	0.04	16.65	69.67
WANGARATTA	20	1359	89	109378	1705	87957	73716
%	0.01	0.50	0.03	39.89	0.62	32.07	26.88
WARRNAMBOOL	60	1984	60	65406	9121		1131
%	0.08	2.55	0.08	84.11	11.73	0.00	1.45

WELLINGTON	310	1286	125	153094	9588	5232	219819
%	0.08	0.33	0.03	39.31	2.46	1.34	56.44
WEST WIMMERA	1	135	2	8638	280	6	42722
%	0.00	0.26	0.00	16.68	0.54	0.01	82.50
WHITEHORSE	2187	345865	79	3263			3
%	0.62	98.43	0.02	0.93			0.00
WHITTLESEA	121149	291546	122	33418	1		58
%	27.15	65.33	0.03	7.49	0.00	0.00	0.01
WODONGA	321	5636	235	105323	19	13335	48924
%	0.18	3.24	0.14	60.60	0.01	7.67	28.15
WYNDHAM	137041	213711	124	21327		799	138
%	36.73	57.27	0.03	5.72	0.00	0.21	0.04
YARRA	176	133938	44	4517	1		
%	0.13	96.58	0.03	3.26	0.00		
YARRA RANGES	6920	472508	125	170487	5	206	1967
%	1.06	72.45	0.02	26.14	0.00	0.03	0.30
YARRIAMBIACK	3	230	10	22495	1	11	35432
%	0.01	0.40	0.02	38.66	0.00	0.02	60.90

Appendix E: Vicmap Property Completeness

The two major identifiers within Vicmap Property are the Standard Parcel Identifier (SPI) and the Council Property Identifier (Propnum).

SPI Validation

The Victorian On-line Titles System is the authoritative source of SPIs for the Freehold parcels and Crown Land Status On-line provides the authoritative SPIs for the Crown owned parcels. The SPIs contained within Vicmap Property are compared with the list of current SPIs in both the VOTS and CLSO registers and the result is expressed as a % match rate.

The SPI percentage match rate expressed in the table below identifies the probability of a Vicmap Property SPI having a match in VOTS/CLSO registers. Ie Monash has a 96% match rate, therefore 96 times out of 100 searches the SPI in Vicmap Property should find a match in VOTS/CLSO for this LGA.

- The match rate has excluded Common Properties for Registered Plans and Strata Plans, Reserves on early plans of subdivision and NUA land. This is because, whilst these parcels are legitimate, they do not have records in VOTS and would never find a match.

The SPI validation is carried out every week. June 2016 results are shown in the table below.

Property Identifier Quality Audit

The Property Identifier Quality Audit (PIQA) was initiated in the 2005-2006 financial year to evaluate the effectiveness of property maintenance and establish a true match rate between Vicmap Property and the 79 LGA Property and Rates Databases. Some of the benefits of the process was the identification of incorrect propnums and superseded propnums within Vicmap Property. These errant propnums were nulled prior to running the process.

The percentage match rate for the propnum represents the number of council property numbers in the LGA Property and Rates database have been placed into Vicmap Property.

This process is undertaken every twelve months. Results from 2015/16 PIQA audit are shown in the table below.

LGA		Aspatial Match Rates		LGA		Aspatial Match Rates	
		Propnum	SPI			Propnum	SPI
		%	%			%	%
300	Alpine	98.94%	99.80%	382	Mansfield	97.89%	99.65%
301	Ararat	99.21%	99.83%	341	Maribyrnong	98.62%	99.95%
302	Ballarat	97.49%	99.74%	342	Maroondah	99.53%	99.92%
303	Banyule	97.15%	99.88%	343	Melbourne	98.28%	99.88%
304	Bass Coast	93.81%	99.85%	344	Melton	99.59%	99.93%
305	Baw Baw	95.45%	99.81%	345	Mildura	98.97%	99.81%
306	Bayside	99.47%	99.75%	346	Mitchell	96.36%	99.91%
381	Benalla	98.16%	99.62%	347	Moira	97.35%	99.84%
307	Boroondara	98.67%	99.89%	348	Monash	99.55%	99.93%
308	Brimbank	96.24%	99.99%	349	Mooney Valley	97.98%	99.84%
309	Buloke	99.33%	99.48%	350	Moorabool	98.12%	99.33%
310	Campaspe	98.11%	99.83%	351	Moreland	99.17%	99.88%
311	Cardinia	97.87%	99.98%	352	Mornington Peninsula	98.99%	99.86%
312	Casey	98.01%	99.97%	353	Mount Alexander	98.38%	99.71%
313	Central Goldfields	97.96%	99.91%	354	Moyne	98.51%	99.44%
314	Colac Otway	97.34%	99.19%	355	Murrindindi	99.19%	99.24%
315	Corangamite	99.46%	99.85%	356	Nillumbik	98.88%	99.94%
316	Darebin	99.27%	99.89%	357	Northern Grampians	99.87%	99.95%
319	East Gippsland	98.69%	99.85%	358	Port Phillip	99.94%	99.96%
320	Frankston	99.22%	99.76%	359	Pyrenees	99.45%	99.70%
321	Gannawarra	98.50%	99.88%	360	Queenscliffe	97.95%	97.37%
322	Glen Eira	99.55%	98.77%	361	South Gippsland	97.66%	99.29%
323	Glenelg	95.44%	99.74%	362	Southern Grampians	99.71%	99.65%
324	Golden Plains	99.23%	98.63%	363	Stonnington	97.14%	99.89%
325	Greater Bendigo	99.55%	99.87%	364	Strathbogie	99.76%	99.94%
326	Greater Dandenong	99.45%	99.33%	365	Surf Coast	99.43%	99.08%
327	Greater Geelong	99.39%	99.19%	366	Swan Hill	98.58%	98.83%
328	Greater Shepparton	97.27%	99.93%	367	Towong	98.05%	99.16%
329	Hepburn	99.23%	99.72%	368	Wangaratta	99.35%	99.56%
330	Hindmarsh	95.88%	99.38%	369	Warrnambool	97.76%	99.79%
331	Hobsons Bay	99.35%	99.90%	370	Wellington	98.21%	99.63%
332	Horsham	99.05%	99.87%	371	West Wimmera	97.09%	99.65%
333	Hume	98.45%	99.98%	372	Whitehorse	99.39%	99.91%
334	Indigo	96.76%	99.74%	373	Whittlesea	98.94%	99.96%
335	Kingston	98.71%	99.38%	374	Wodonga	95.39%	99.41%
336	Knox	97.37%	99.94%	375	Wyndham	99.24%	99.99%
337	Latrobe	97.68%	99.93%	376	Yarra	98.70%	99.95%
338	Loddon	96.94%	99.60%	377	Yarra Ranges	99.47%	99.90%
339	Macedon Ranges	94.51%	99.91%	378	Yarriambiack	92.35%	99.56%
340	Manningham	98.83%	99.95%		Match Rate	98.22%	99.76

