Munsys 12.2

CADASTRAL USER MANUAL

Munsys® Cadastral User Manual

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Chapter 1
Introducing the Munsys Cadastral User Manual

Welcome to Munsys Cadastral

Munsys Cadastral is used to capture and maintain cadastral base data. It is a user-friendly, easy to use geographic information management tool, which does not require GIS expertise to capture and manipulate data.

Munsys Cadastral forms part of the Munsys product family, which comprises the following applications:

- *Munsys Cadastral*
- Munsys Drainage
- Munsys Electricity
- Munsys Roads
- Munsys Sewer
- Munsys Water
- Munsys Map Books
- Munsys Spatial Data Manager
- Munsys Management Console
- Munsys Query
- Munsys Lineage
- Munsys Scheduled Tasks
- Munsys Cable Route
- Munsys Cable Fiber

About this manual

The *Munsys Cadastral User Manual* enables users to easily find their way around Munsys Cadastral, and provides a conceptual overview of the functionality used in Munsys Cadastral. For the purpose of this manual, we assume that you are familiar with:

- The business rules of the application
- AutoCAD Map
- Common GIS terminology

What's in this manual

The *Munsys Cadastral User Manual* consists of the following chapters:

- Chapter 1 – Introducing the Munsys Cadastral User Manual, gives an overview of this manual, and provides links to additional reading material.
- Chapter 2 – Getting acquainted with Munsys Cadastral, gives an overview of Munsys Cadastral and its various components.
- Chapter 3 – Querying cadastral data from the database, describes how to query cadastral data from the database.
- Chapter 4 – Capturing cadastral data, explains how to capture cadastral data such as parcels, buildings, etc., and post cadastral data to the database.
- Chapter 5 – Maintaining cadastral data, describes how to make changes to existing cadastral data.

Additional reading material

Before you start using this manual, we suggest that you first read the *Munsys Concepts User Manual*, which contains the following information:

- the generic functionality of the various Munsys applications, including the Query Palette and the Info Palette
- the generic query functionality that is used to query spatial data from the Oracle® database
- how to structure a query through GSC settings
- how to view spatial data
- how to work with Munsys Objects
- extras such as annotation, reporting and legend options

Conventions in this manual

The following table lists the typographical conventions used in this manual.

Text element	Example
Keys you press on the keyboard	CTRL, ENTER, DEL
Screen buttons	Click Close.
Folder paths	C:\Program Files\Open Spatial
Menu paths	choose **Query** > **Clear Basemap**.
Hypertext links to more information	http://www.openspatial.com
Text displayed/typed on the command line	MUNCONNECT
Dialog box/screen names	The Cadastral Settings dialog box
Application functions	The Integrity Check function

Table 1 Munsys typographical conventions

Finding the information you need

To get help on

- general issues, select Help from the Munsys menu bar.
- an operation in progress, click the Help button on the dialog box.
- the latest support options, visit http://www.openspatial.com

Chapter 2
Getting acquainted with Munsys Cadastral

About Munsys Cadastral

Munsys Cadastral forms the foundation of the Munsys system; therefore all Munsys applications use cadastral base data to enable the location of various services.

Munsys Cadastral is used to capture and maintain cadastral data from registered plans and diagrams. Munsys Cadastral enforces data standards by allowing the capture of cadastral data in the formats indicated on registered plans.

Cadastral data consists of registered parcels of land in a land registry that serve as a record of ownership. Parcels are the most basic set of cadastral data. From here, various other objects define information related to the parcels, and objects such as street names and addresses add more detail to form the base data. Parcels are classified according to legal or work status. Cadastral data is captured in the coordinate system indicated on the registered diagrams, and then transformed automatically to the coordinate system used in the database.

With the Munsys capture tools, you can capture data in the units available, and then convert it afterwards if necessary. Existing cadastral data can be imported from other GIS systems into Munsys, verified and posted to the database

Munsys Cadastral simplifies the retrieval of cadastral data from the database by allowing the retrieval of spatial data, using a predefined geographical search criteria (GSC), or user-defined queries. Munsys Cadastral supports the standard zoning, density and land use annotations, enabling the easy production of maps for zoning, density and land use.

Munsys Cadastral features

The main features in Munsys Cadastral can be listed as follows:

- Munsys Cadastral caters for the easy capture and maintenance of cadastral base data.
- Fast and efficient data capture tools – Munsys Cadastral has the following cadastral toolbars:
  - Capture – facilitates capturing from registered plans
  - Change – changes cadastral data
- Ability to query data by community (municipality/suburb/township) name, geographic location or user-specified criteria – predefined cadastral queries simplify the retrieval of municipalities/suburbs/townships by name or geographic location. Easements, buildings, street names, cadastral notes, zoning, land use and density are automatically queried relative to predefined geographic search criteria (GSC).
- Handles zoning, land use and density separate from land parcels – Munsys Cadastral enables the capture and maintenance of zoning, land use and density boundaries derived from parcel boundaries.
- Links addresses to parcels – this function links street addresses with parcel boundaries, which is useful for analysis, reporting and geo-locating.
- Captures by coordinates, distance/direction, distance/angle, etc. – these functions allow the capture of cadastral data in its native format from registered plans; as it was surveyed.
- Converts from all major coordinate systems – spatial data is stored in a single coordinate system in the Oracle database; however, you can retrieve the spatial data in any of the AutoCAD Map available coordinate systems. When posting the data back to the database, the data is converted back to the database coordinate system.
- Easy to produce zoning and density maps – Munsys Cadastral assists in producing useful zoning and density maps according to their type. With the annotation and legend function, you can place important information retrieved from the database on a user drawing.

Launching Munsys and Munsys Cadastral

To launch Munsys, do one of the following:

- Double-click the **Munsys Applications** icon on the Windows desktop.

- Choose **Start** > **Programs** > **Open Spatial** > **Munsys 12.2** > **Munsys Applications 12.2**

Connecting to the Oracle database

Munsys uses Oracle as its data store. The advantage of using the Oracle Spatial or locator technology is that spatial and attribute data are captured and managed in a single database. This reduces processing overheads and eliminates the complexity of coordinating and synchronizing different sets of data.

Important You have to be connected to the Oracle database before you can start working with Munsys Cadastral. If you try to launch any application without being connected to the database, you will be prompted to connect to the database first.

To connect to the Oracle database

1 Do one of the following:

- Choose **File** > **Database** > **Connect...**
- Click the **Connect to Database** button on the Munsys standard toolbar.
- On the command line, type **MUNCONNECT**, and then press ENTER.

The Connect to Database dialog box is displayed.

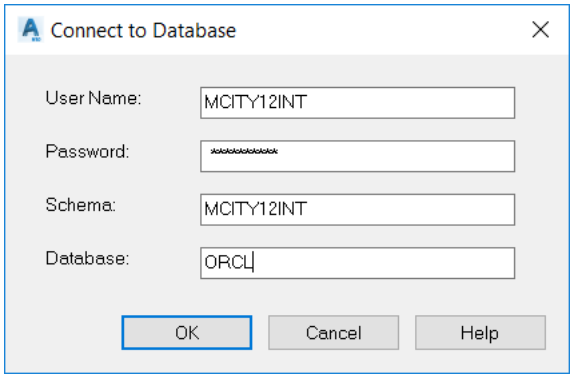


Figure 1 The Connect to Database dialog box

2 In the **User Name** field, enter your user name.

3 In the **Password** field, enter your password.

4 In the **Schema** field, enter the schema name.

5 In the **Database** field, enter the database name.

6 Click OK.

Note The database administrator will inform you which user name, password, schema name and database name to use.

To launch Munsys Cadastral

When you launch Munsys for the first time, the configured base map automatically loads and the Munsys Cadastral functions are displayed on the menus and toolbars by default. Subsequently, the menus and toolbars of the application that you last worked with are displayed when you launch Munsys.

1 To launch Munsys Cadastral, do the following:

- Choose **File** > **Munsys Applications**.
- Click the **Munsys Applications** button on the Munsys standard toolbar.

The Available Applications dialog box is displayed.

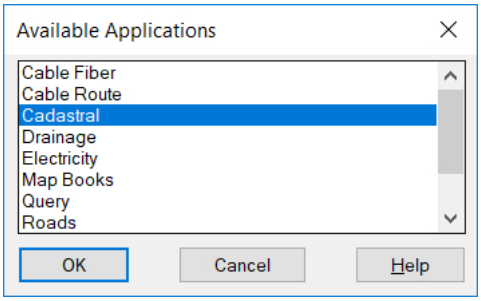


Figure 2 The Available Applications dialog box

2 From the list of available applications, select **Cadastral,** and then click OK.

The Munsys Cadastral menus and toolbars are loaded.

The Munsys Cadastral interface

The Munsys Cadastral interface consists of the following:

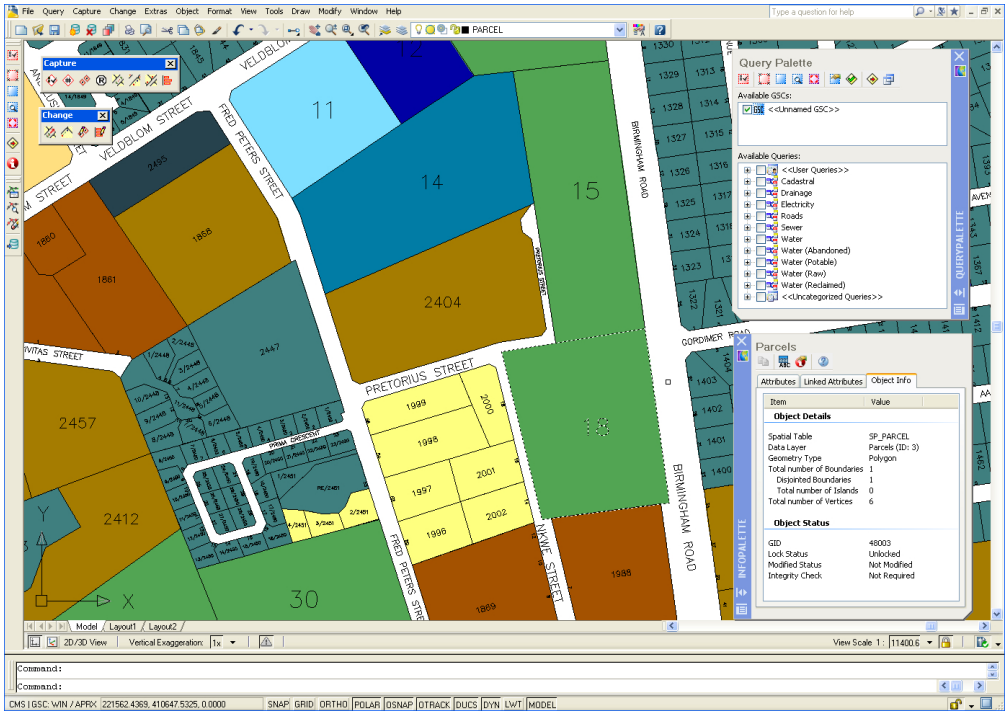


Figure 3 The Munsys Cadastral interface

Munsys menu bar – contains the Munsys and AutoCAD Map menus. Munsys menus are defined by a menu file, which automatically loads when the Munsys application is launched.

Standard toolbar – contains frequently used AutoCAD Map buttons, standard Microsoft® buttons and Munsys buttons for connecting to the database and launching the various Munsys applications.

AutoCAD Map drawing area – this area is used to display Munsys data that is extracted from the database and AutoCAD Map drawings.

AutoCAD Map command line – displays prompts and messages.

AutoCAD Map status bar – displays information/drawing aids.

Munsys main toolbar – contains frequently used Munsys functions.

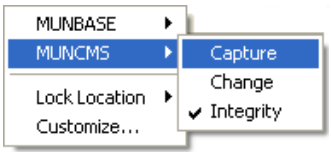
Munsys Integrity toolbar – contains the Integrity Check and Post to Database functions.

Use this button	When you want to...
	...validate cadastral object integrity
	...browse integrity markers

Use this button	When you want to...
	...erase integrity markers
	...post data to the database

Table 4 The Munsys Cadastral Integrity Toolbar

Munsys Cadastral toolbars – Munsys Cadastral has two toolbars that are displayed when activated. To display the Cadastral toolbars, right-click in the grey area on the right-hand side of the Munsys Standard toolbar.



Point to MUNCMS, and then select the toolbars that you want displayed one by one. The toolbars are displayed in the drawing area.

- The Munsys Cadastral Capture toolbar contains the following buttons:

Use this button	When you want to...
	...specify cadastral capture settings.
	...number parcels.
	...generate parcel polygons.
	...add a new street name to the list.
	...place a street name.
	...place addresses sequentially.
	...place addresses odd and even.
	...place a cadastral note.

Table 5 The Munsys Cadastral Capture toolbar

- The Munsys Cadastral Change toolbar contains the following buttons:

Use this button	When you want to...
	...move a street name.
	...move a street address.
	...edit parcel info.
	...change a cadastral note.

Table 6 The Munsys Cadastral Change toolbar

Munsys Cadastral objects

The term *cadastral* refers to a map or survey showing administrative boundaries and property "lines". *Cadastral data* is defined as an official register of the ownership, extent and assessed value of land for a given area, and also as the geographic extent of the past, current, and future rights and interests in real property including the spatial information necessary to describe that geographic extent. In Munsys, cadastral data is used as the base data set.

Communities

A community is a geographical area or unit with powers of self-government. Depending on the locale, a community may be a suburb, township, municipality, etc. A tag, consisting of the community name, is attached to a polygon for identification purposes.

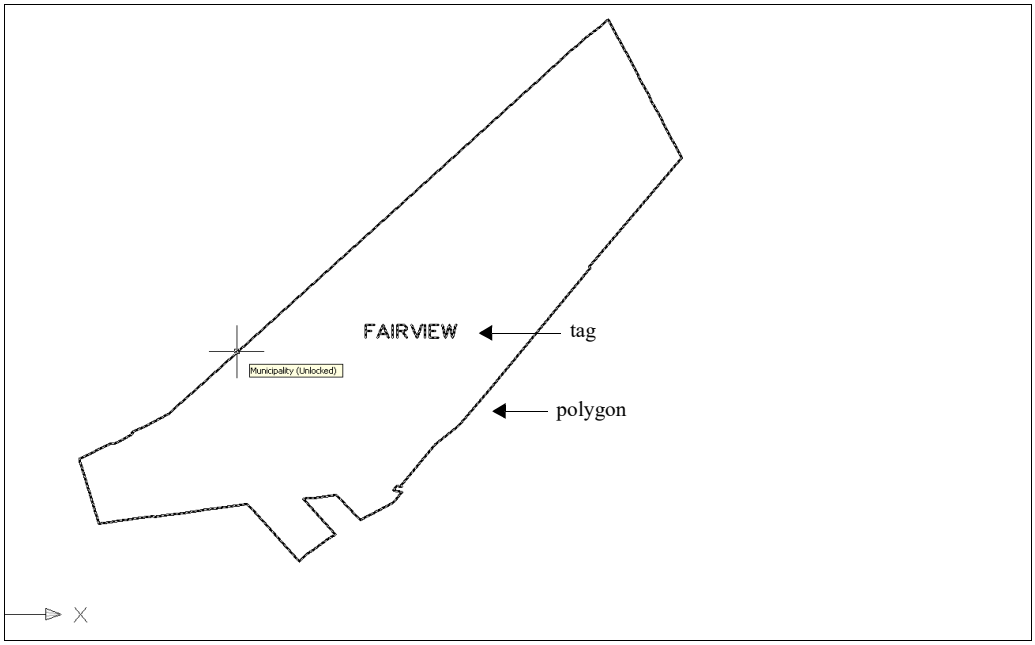


Figure 7 A community boundary

Parcels

A parcel is a distinct portion of land that is captured from a registered plan by means of coordinates or angles of direction and distance, which usually form the bulk of cadastral data. Each parcel is uniquely identified by a sequence of numbers within a community (suburb, township, municipality, etc.). Parcels are important spatial data in Munsys, as some of the capture functions rely on the location of the parcels. Parcels are categorized according to a legal or work status and according to parcel type. A parcel type is assigned to a parcel from a lookup table in the database.

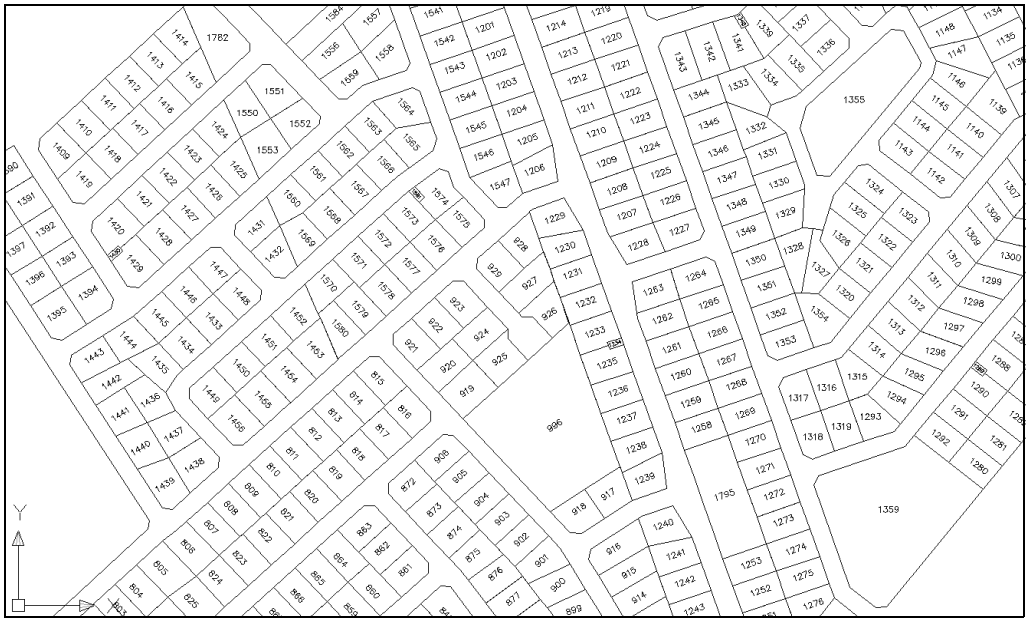


Figure 8 Parcels

Block boundaries

A group of parcels is normally surrounded by a block boundary. The block boundary binds a group of parcels with the edges of the road reserve, and is used to represent the cadastral data on a higher scale when the detail of the parcels is not required. Quite often the block boundary will also include easements that run across parcels. When a block boundary is captured, the parcel data is normally used as the underlying base data.

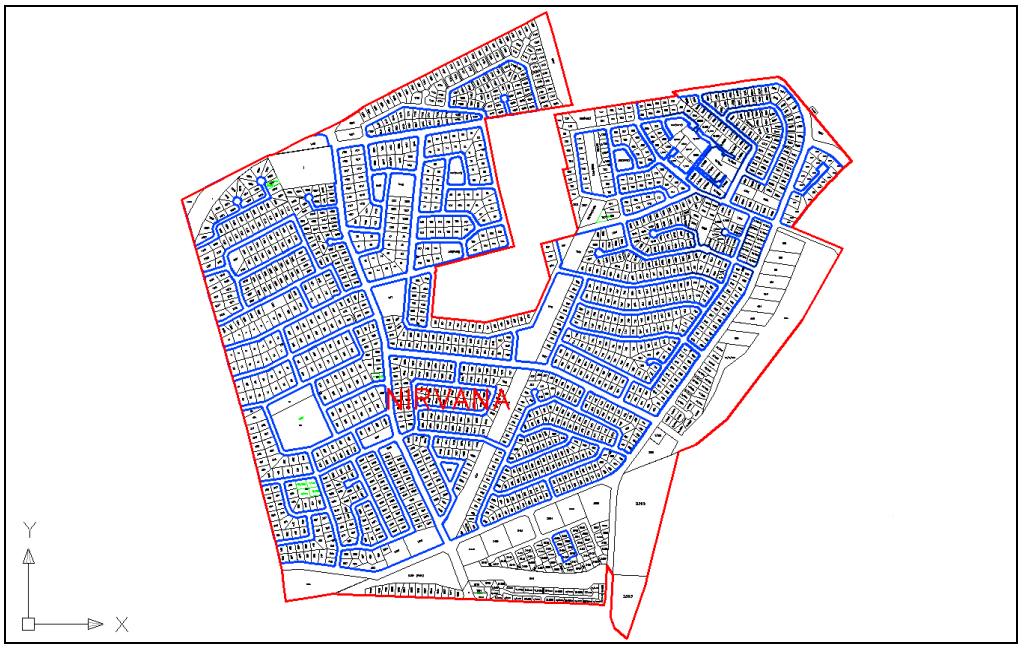


Figure 9 Block boundaries

Easements

Easements indicate which part of a parcel is used by utilities like roads and other services, and are normally classified according to the type of use. Easements are assigned an easement type from a lookup table in the database.

Parcel boundaries are used as underlying base data in order to capture easement data. Easements are captured as areas tracing existing parcel boundaries, or at an offset distance from the parcel boundary.

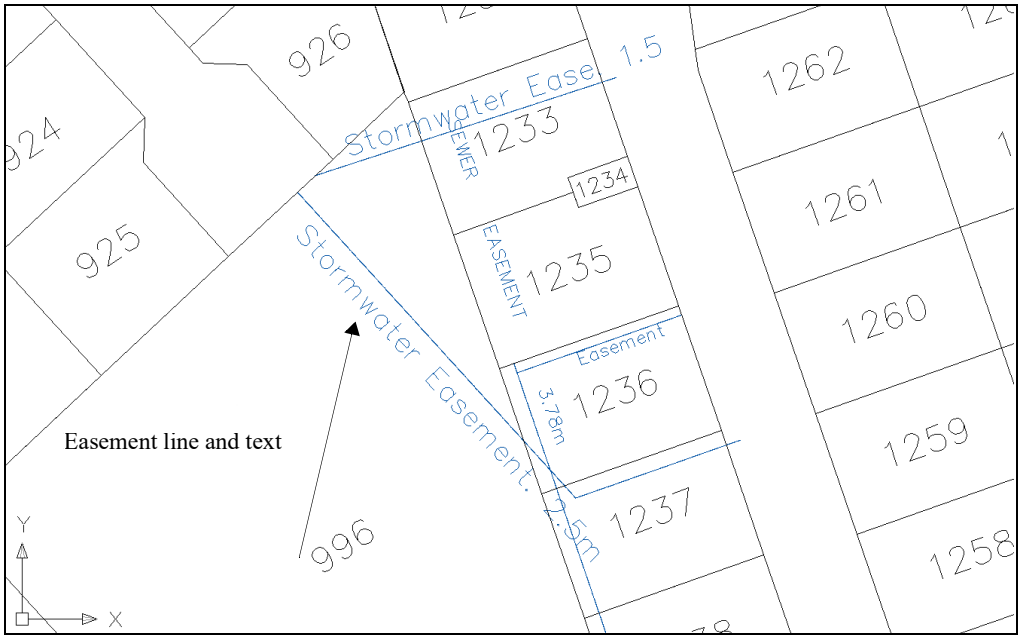


Figure 10 Easements

Street names and addresses

Legal street names are assigned to sections of the road reserve and displayed as text. The address information is assigned at a specific point within the parcel polygon. In some cases, parcels can have more than one point of entry, and are therefore assigned multiple address points.

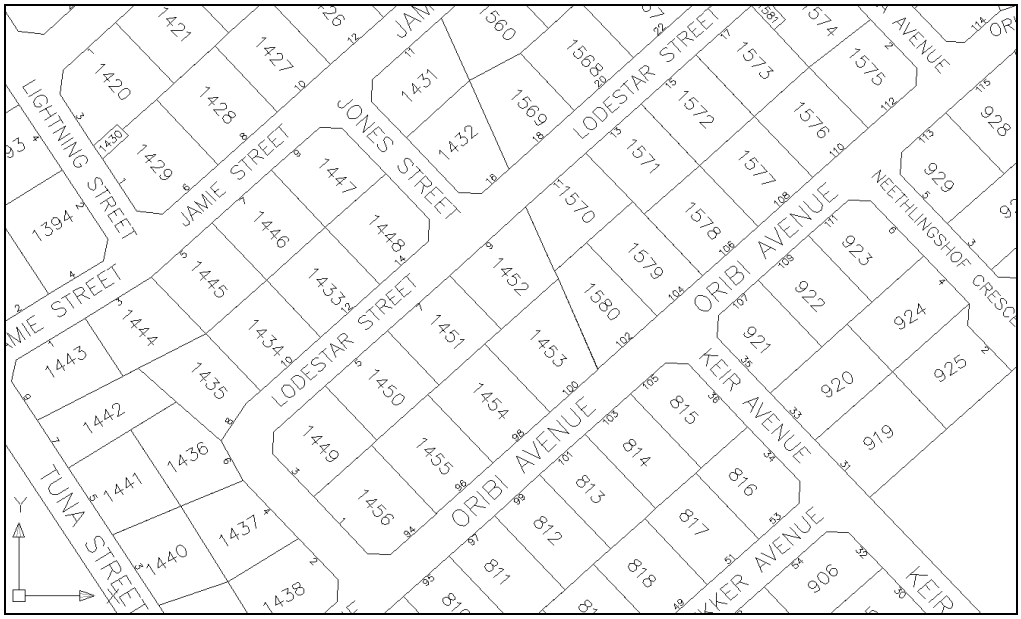


Figure 11 Street names and addresses

Buildings

Buildings can be classified as different types according to the values set up by the database administrator. With Munsys Cadastral, buildings are captured as polygons; either by drawing a building polygon, or by first drawing a building boundary and then generating a polygon from the boundary lines. You can also create a building by generating a polygon from existing lines.

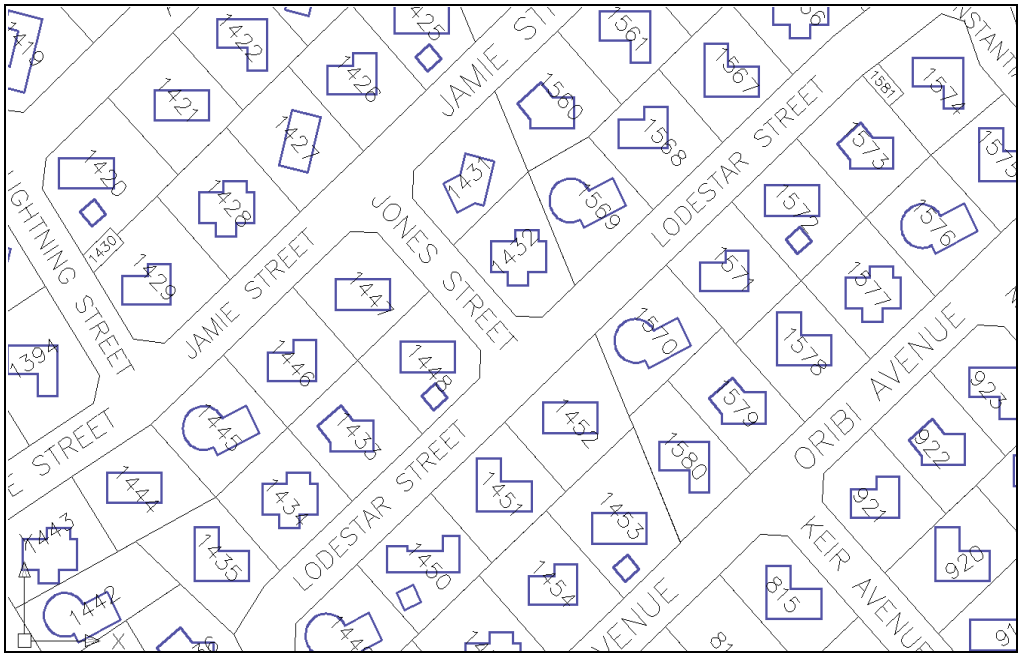


Figure 12 Buildings

Density, land use and zoning

Density classification defines the number of units such as houses that may be constructed on a parcel. Land use is based on function or activities; the purpose for which the land is being used. A land use type can include a series of activities that are required to produce one or more goods or services. Zoning classification defines the allowable use of the property, such as residential, business or commercial.

Quite often a parcel can have more than one zoning or density assigned to it, which requires what is known as split zonings or densities. More than one zoning or density boundary is constructed on a parcel boundary. Where parcels have been subdivided, the zoning and density polygons can span across multiple parcels.

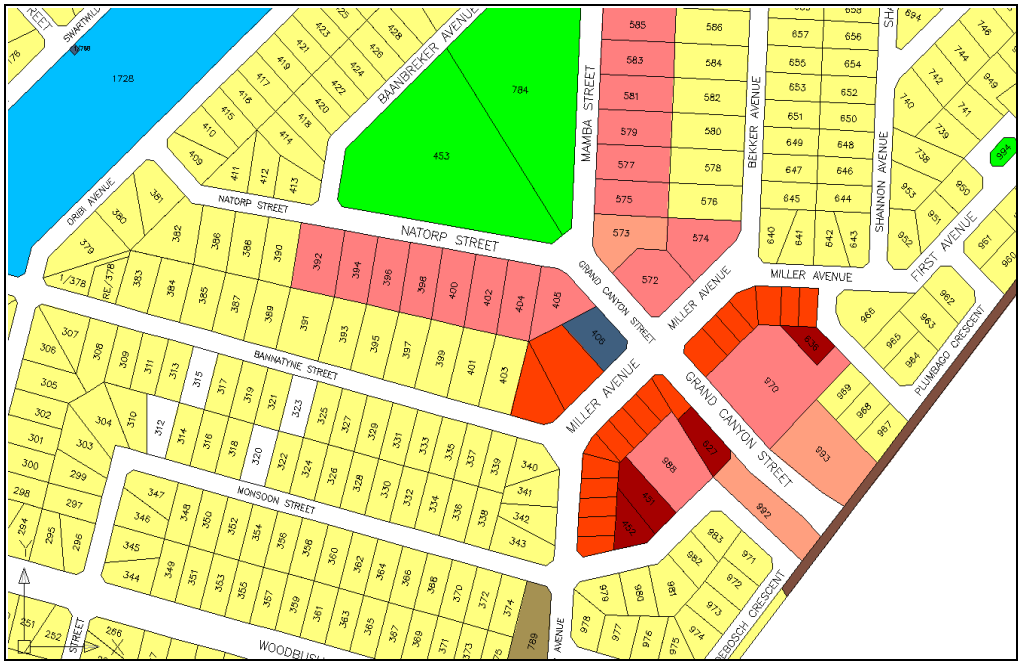


Figure 13 Density polygons

Wards

Ward boundaries are normally used to define political areas of responsibility. The ward boundaries typically only take parcels into account, and can therefore run across multiple community boundaries.

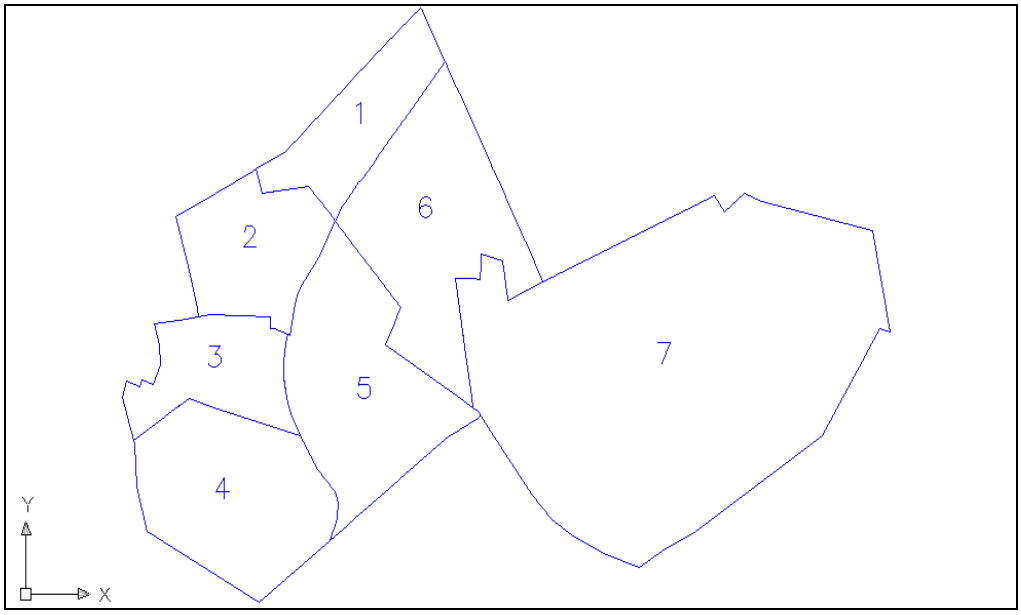


Figure 14 Ward boundaries

Chapter 3
Querying cadastral data from the database

Introduction

As seen in Chapter 2 of this manual, community boundaries (suburbs, townships, municipalities, etc.), parcel boundaries, easements, street names, street addresses and buildings, as well as density, land use and zoning polygons are the cadastral objects that form the base data of the Munsys system.

The Munsys Cadastral base data is stored in a central database. In this chapter, you will learn how to retrieve cadastral data from the database with the Query menu. You can also use the Munsys Query Palette to assist in retrieving cadastral objects from the database. The Query Palette is also used to create custom (user-defined) queries. For more information about the Munsys Query Palette, refer to the *Munsys Concepts User Manual*.

Querying cadastral data from the database with pre-defined queries

The following section explains how to query cadastral data from the database using the pre-defined (default) queries that are available on the Munsys Cadastral Query menu. For more "refined" queries, you can use the Query Palette, from where you can create customized queries. The Query Palette and its functionality is described in the *Munsys Concepts User Manual.*

The following figure shows a typical Query menu. The objects available for querying from the database varies according to the specific geographical region:

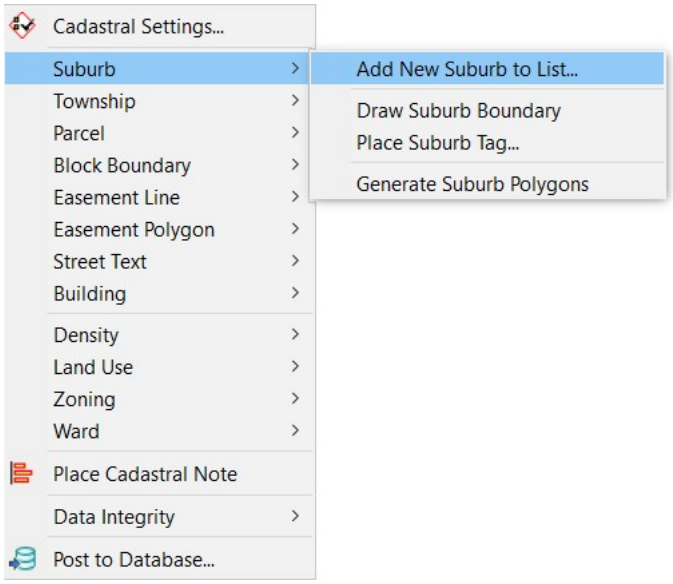


Figure 1 Query menu

Querying communities

Communities (suburbs, townships, municipalities, etc.) are queried from the database according to the current GSC, or by a selected community name. Community boundaries are displayed as polygons (MUNPOLY objects).

To query communities by name

1 Choose **Query** > [*Suburb*s] > **By Name...**

The Select *Community* dialog box is displayed, showing a list of all the available communities with their associated municipality codes. The list of communities can be sorted ascending or descending, according to the code or description.

2 From the list of communities, select the communities that you want to query, and then click **OK**.

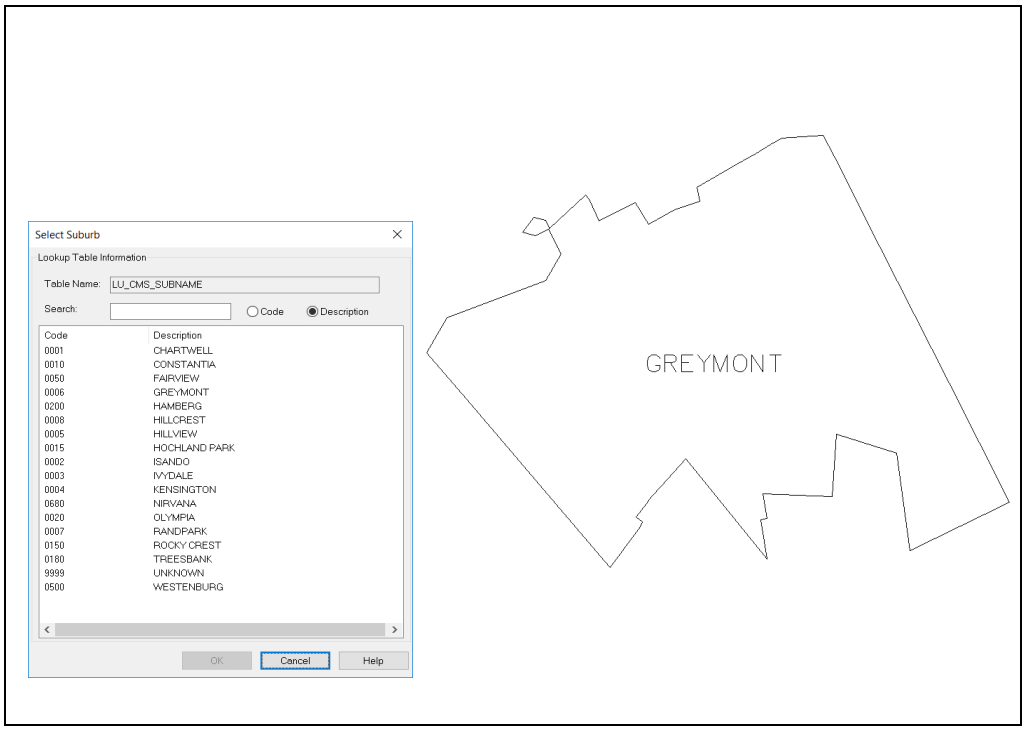


Figure 2 Querying a suburb by name

Tip If you want to query more than one boundary, press and hold down the **SHIFT** key (to select consecutive names), or press and hold down the **CTRL** key, and then select each community that you want to query. You can also search for a specific suburb by its **name** by selecting the **Description** button, and then entering the first few letters of the suburb name, or search for a suburb by its code by selecting the **Code** button, and then entering the applicable code.

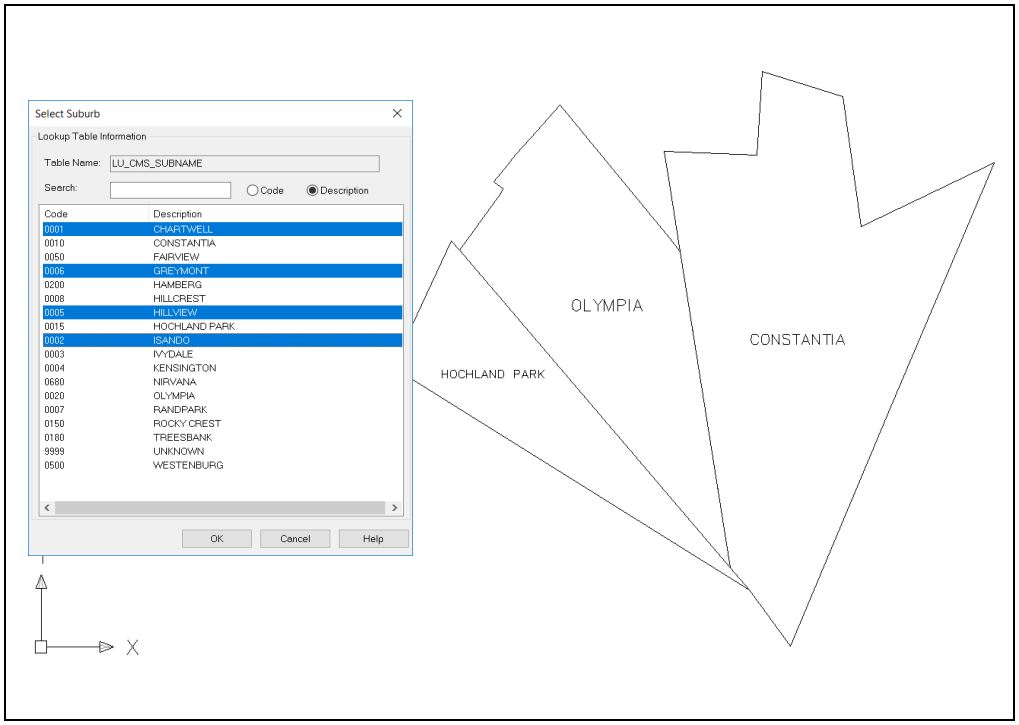


Figure 3 Querying more than one suburb at a time

To query communities by GSC

- Choose **Query** > *[suburbs]* > **By GSC**.

  The suburb boundaries are retrieved according to the GSC settings and the current GSC.

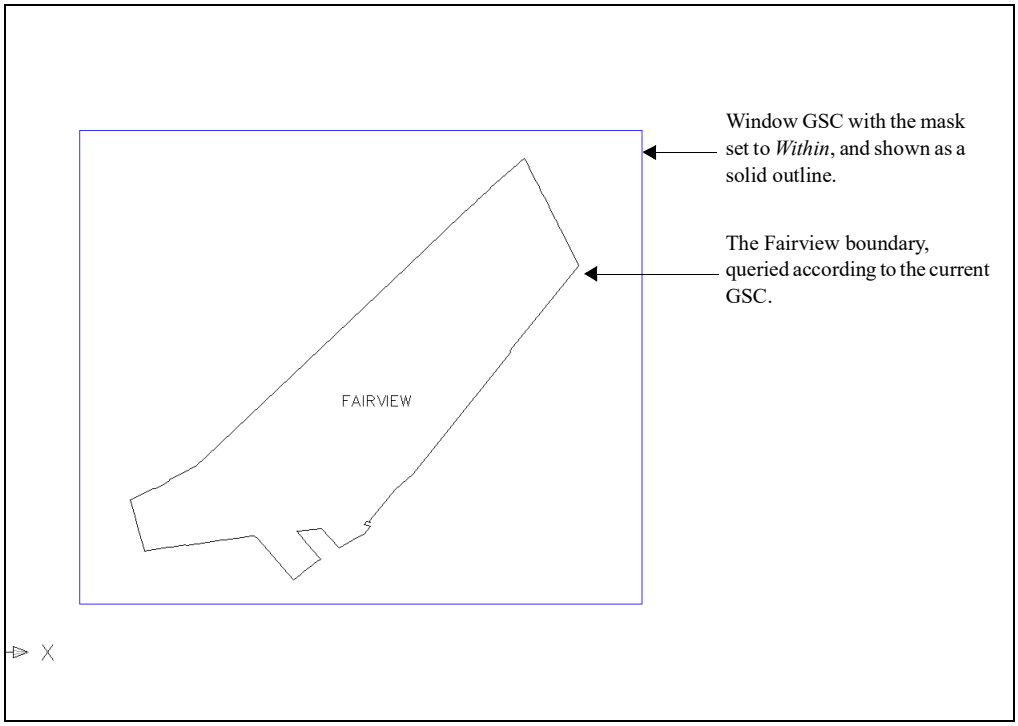


Figure 4 Querying suburbs by GSC

Querying parcels

Parcels are queried from the database according to the current GSC, and are displayed as polygons (MUNPOLY objects). Parcels with a legal status of Current are queried onto the PARCEL_C layer, and parcels with a legal status of Proposed are queried onto the PARCEL_P layer.

To query parcels

- Choose **Query** > **Parcels**.

  The command line shows how many parcels were retrieved according to the current GSC.

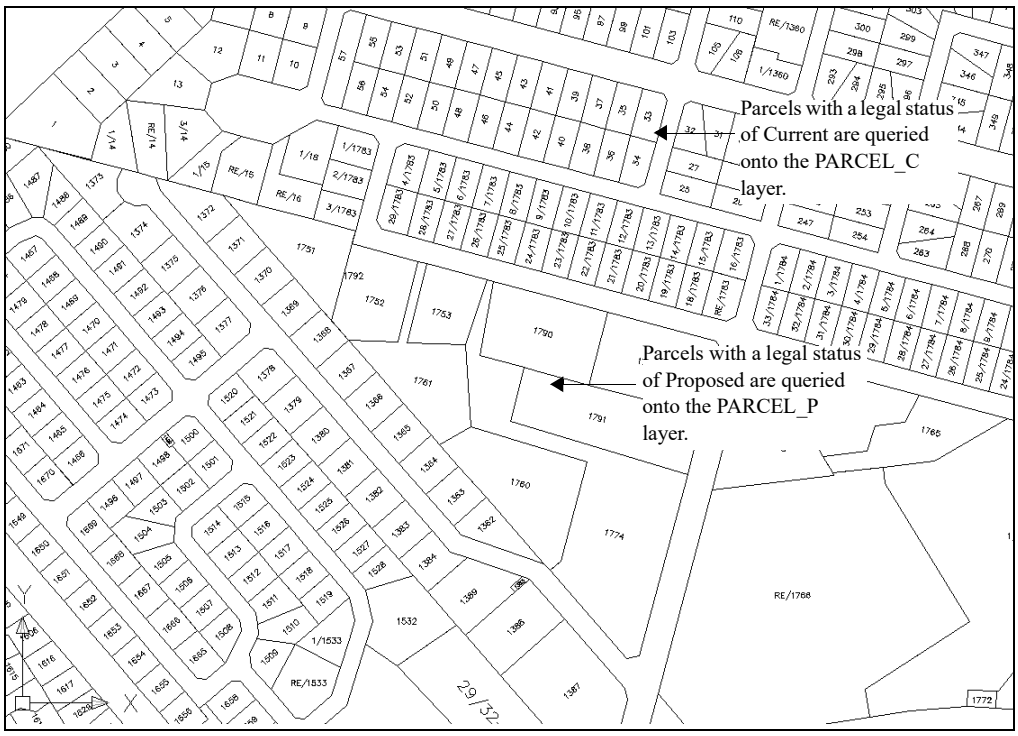


Figure 5 Parcels queried from the database according to the current GSC

Tip The **Query** > **Parcels** menu option queries only parcels of which the legal status is either **Current** or **Proposed**. Any other parcel statuses, including **Archived**, can be queried from the database using the **Run Query....** function on the **Query** menu.

Querying block boundaries

Block boundaries are queried from the database according to the current GSC, and are displayed as polygons (MUNPOLY objects). Block boundaries are placed on the BLOCK layer.

- Choose **Query** > **Block Boundaries**.

  The command line shows how many block boundaries were retrieved from the database according to the current GSC.

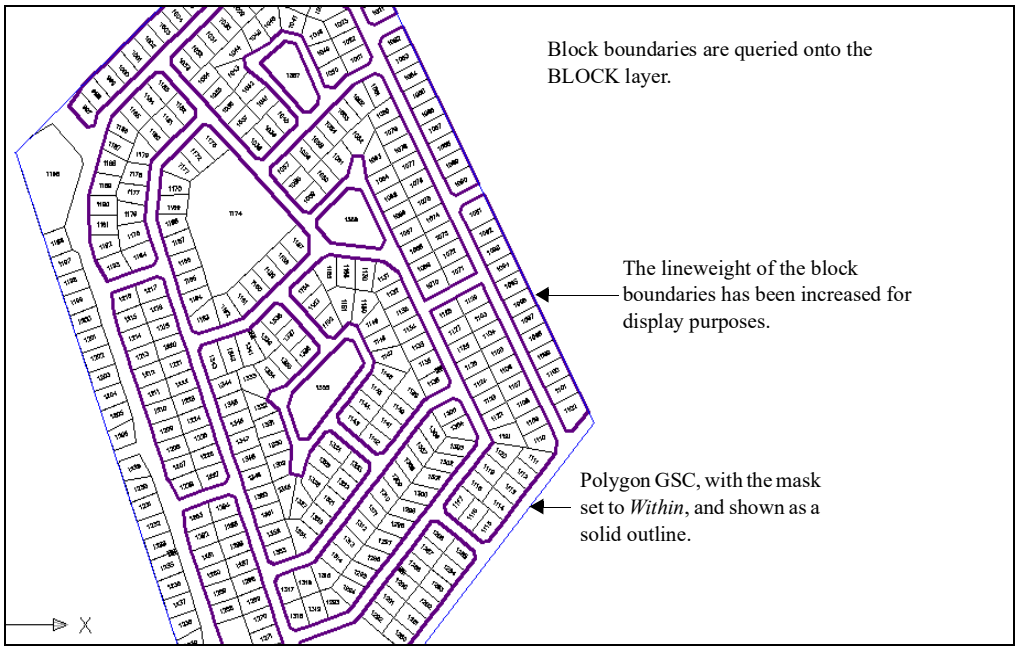


Figure 6 Querying block boundaries

Querying easements

Easements are queried from the database according to the current GSC, and are displayed as polygons (MUNPOLY objects) or lines (MUNLINE objects). Easements that are queried from the database are placed on layers according to their object type and easement type, for example a line-type easement with an easement type of General will be queried onto the EASELINE_GENERAL layer, while a easement polygon with an easement type of Reserve will be placed on the EASEPOLY_RESERVE layer. Easement text is queried onto either the EASEPOLYTXT or EASLINETXT layers, depending on the object type of the easement.

To query easements

- Choose **Query** > **Easements**.

  The command line shows how many easement lines, polygons and text respectively were retrieved according to the current GSC.

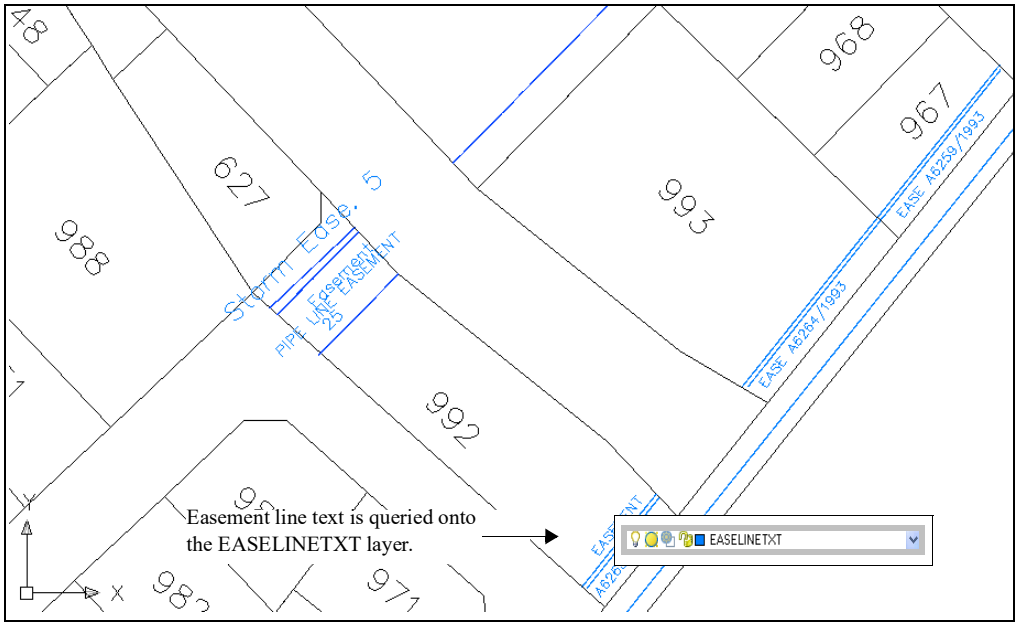


Figure 7 Querying easements

Querying street names

Street names are queried from the database according to the current GSC, and are displayed as labels (MUNLABEL objects). Street names are placed on the STRTXT layer.

To query street names

- Choose **Query** > **Street Names**.

  The command line shows how many street names were retrieved from the database according to the current GSC.

Figure 8 Querying street names

Tip If the insertion point of the text falls outside the current defined GSC, the text item will not be queried from the database

Querying street addresses

Street addresses are queried from the database according to the current GSC, and are displayed as labels (MUNLABEL objects). Street addresses are placed on the STRADDR layer.

To query street addresses

- Choose **Query** > **Street Addresses**.

  The command line shows how many street addresses were retrieved from the database according to the current GSC.

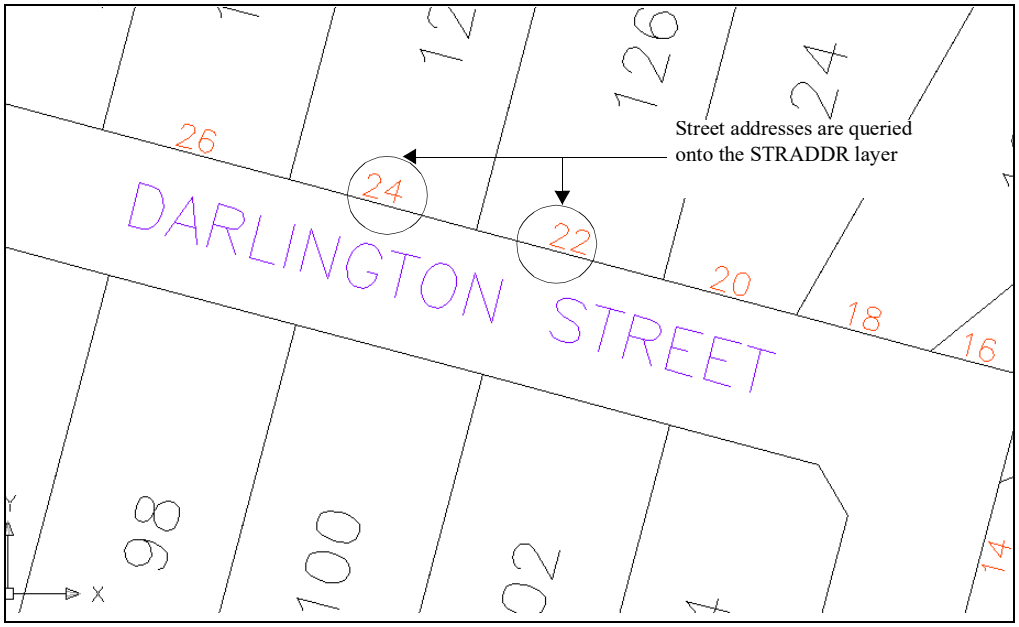


Figure 9 Querying street addresses

Tip If the insertion point of the text falls outside the current defined GSC, the text item will not be queried from the database

Querying buildings

Buildings are queried from the database according to the current GSC, and are displayed as polygons (MUNPOLY objects). Buildings are placed on the BUILDING layer.

To query buildings

- Choose **Query** > **Buildings**.

  The command line shows how many buildings were retrieved from the database according to the current GSC.

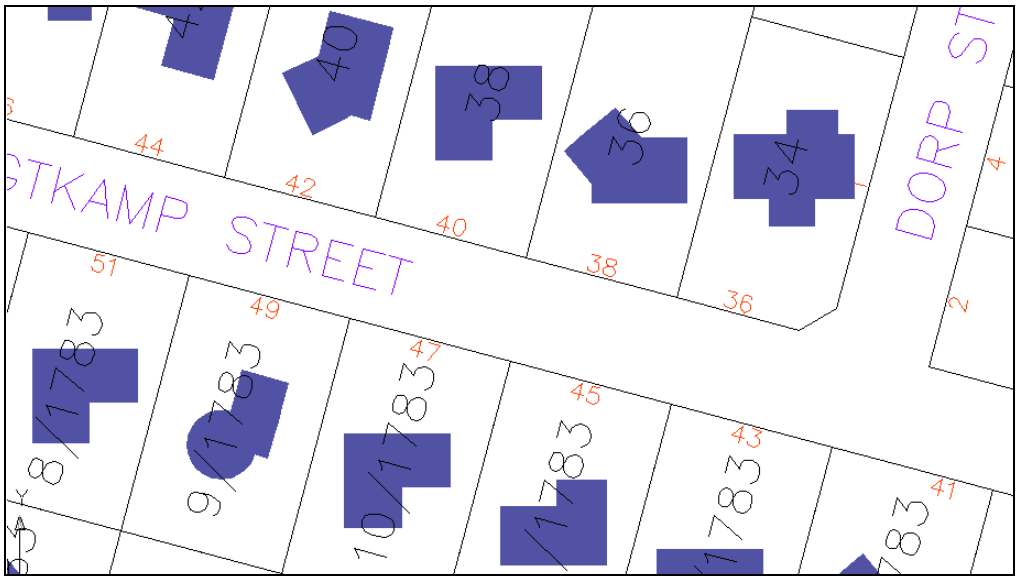


Figure 10 Querying buildings

Querying cadastral notes

Cadastral notes are queried from the database according to the current GSC, and are displayed as labels (MUNLABEL objects). Cadastral notes are queried onto the CMSNOTE_NOTE_TYPE_TEXT layer.

To query cadastral notes

- Choose **Query** > **Cadastral Notes**.

  The command line shows how many cadastral notes were retrieved from the database according to the current GSC.

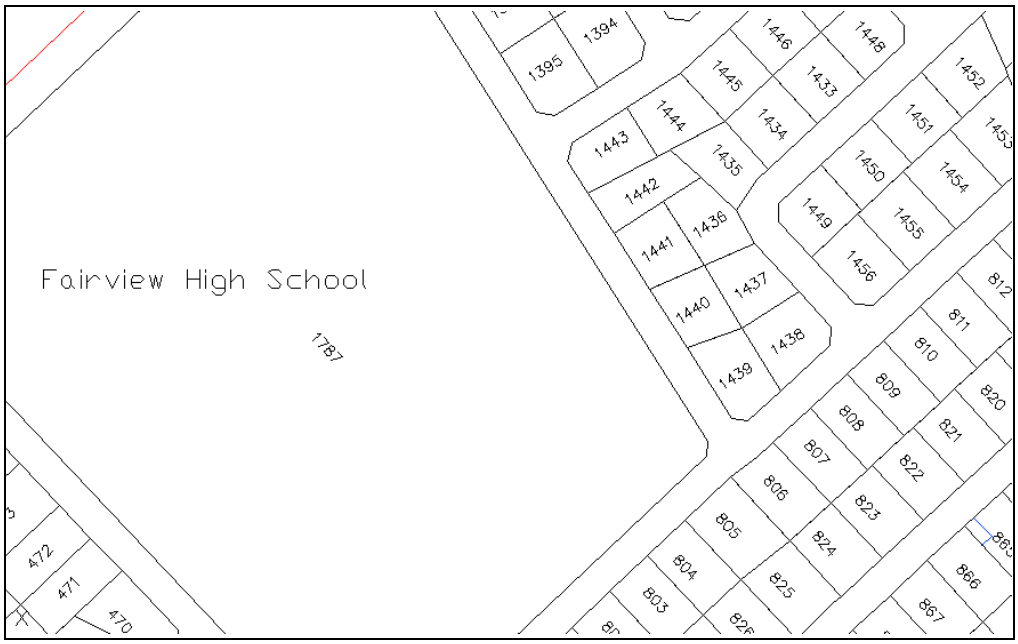


Figure 11 Querying cadastral notes

Querying density polygons

Density polygons and density annotations (hatches) are queried according to the current GSC, and are displayed as polygons (MUNPOLY objects). The polygons are displayed as solid fills on separate layers, based on the type of density. The density polygons are placed on the TP_DENSITY_[Density Type] layer.

To query density polygons

- Choose **Query** > **Density Polygons**.

  The command line shows how many density polygons were retrieved from the database according to the current GSC.

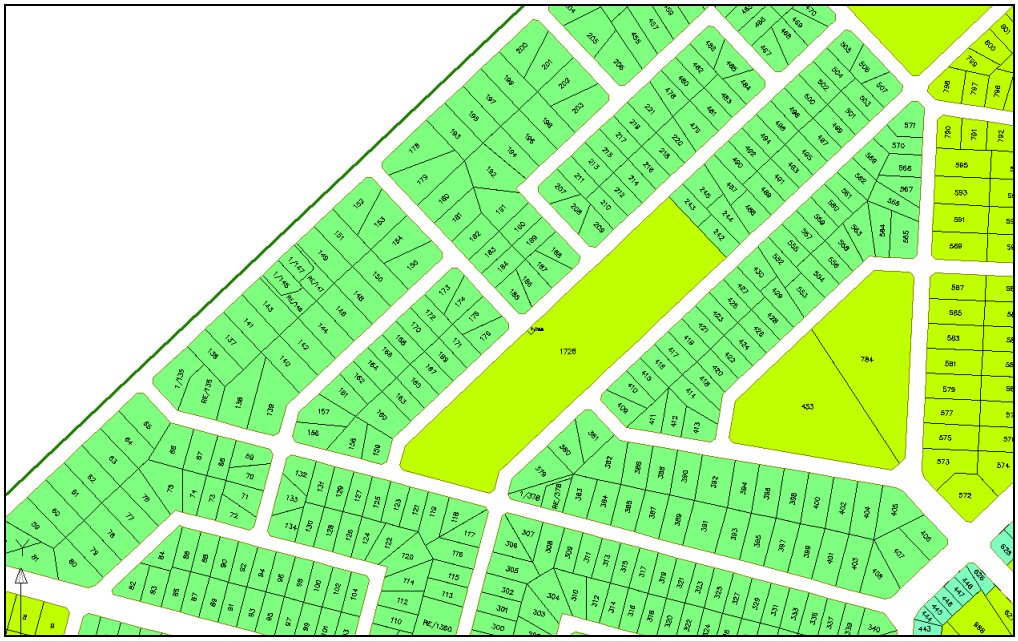


Figure 12 Querying density polygons

Querying land use polygons

Land use polygons are queried according to the current GSC, and are displayed as polygons (MUNPOLY objects). The polygons are displayed as solid fills on separate layers, based on the land use type. The land use polygons are placed on the TP_LANDUSE_[Land Use Type] layer.

To query land use polygons

- Choose **Query** > **Land Use Polygons**.

  The command line shows how many land use polygons were retrieved from the database according to the current GSC.

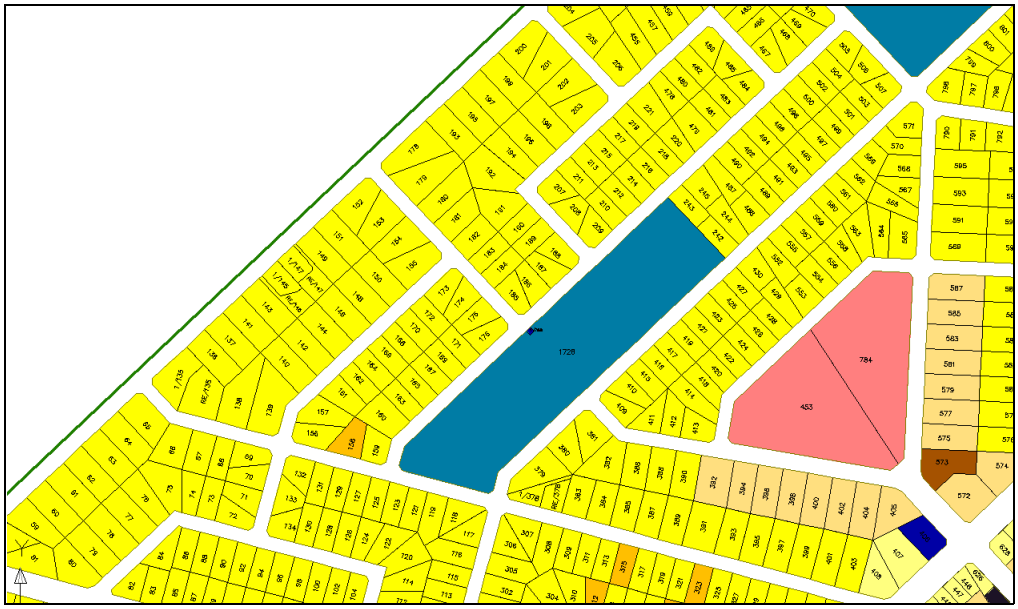


Figure 13 Land use polygons

Querying zoning polygons

Zoning polygons are queried according to the current GSC, and are displayed as polygons (MUNPOLY objects). The polygons are displayed as solid fills on separate layers, based on the zoning type. The zoning polygons are placed on the TP_ZONING_[Zoning Type] layer.

To query zoning polygons

- Choose **Query** > **Zoning Polygons**.

  The command line shows how many zoning polygons were retrieved from the database according to the current GSC.

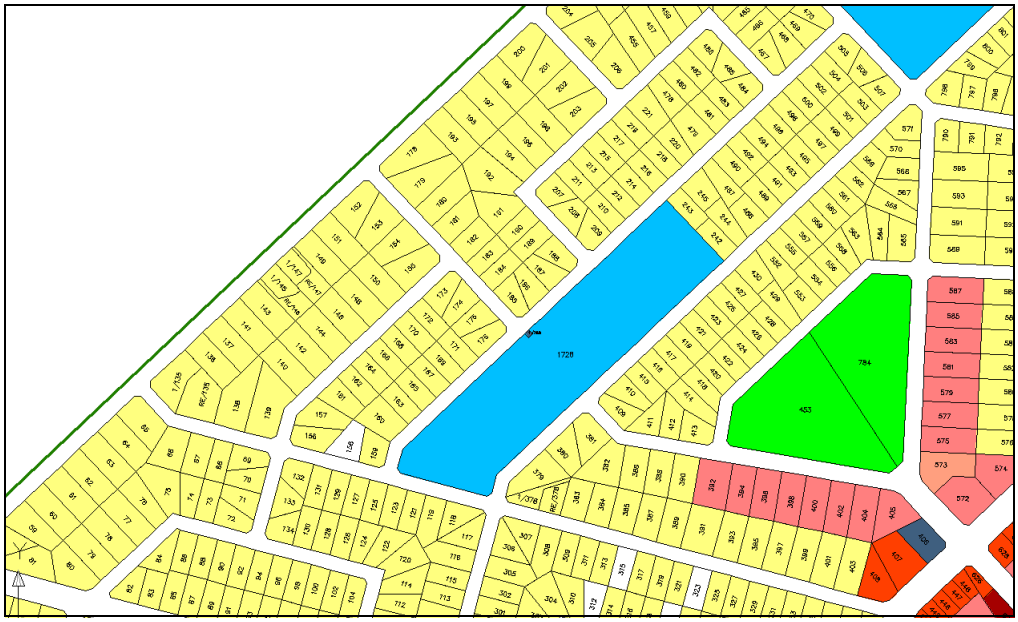


Figure 14 Querying zoning polygons

Querying ward boundaries

Ward boundaries are queried according to the current GSC, and are displayed as polygons (MUNPOLY objects). The ward boundaries are placed on the WARD layer.

To query ward boundaries

- Choose **Query** > **Wards**.

  The command line shows how many ward boundaries were retrieved from the database according to the current GSC.

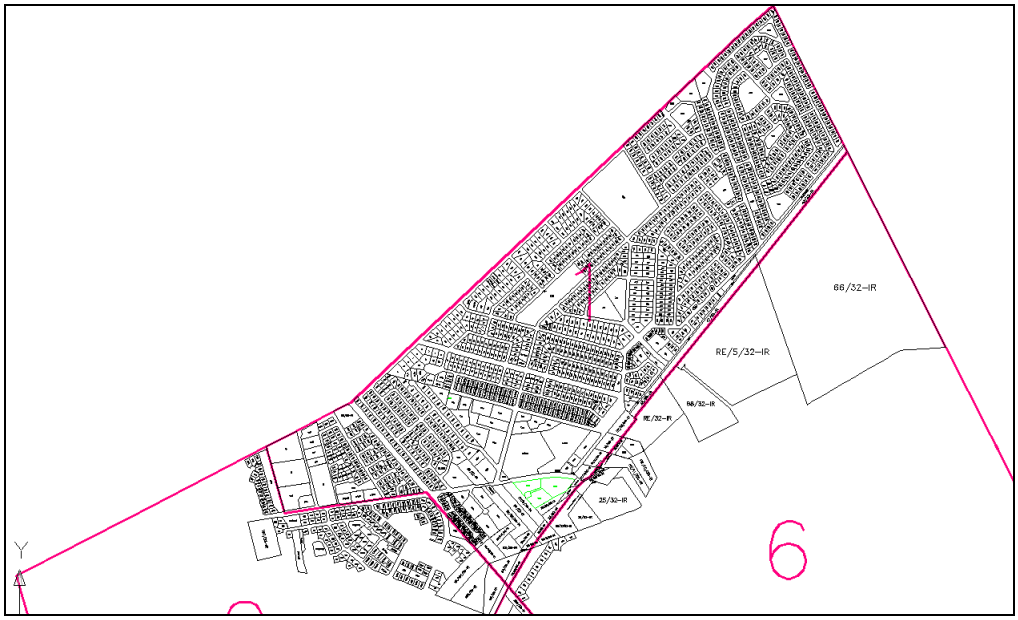


Figure 15 Querying wards

Chapter 4
Capturing cadastral data

Introduction

This chapter describes how to capture cadastral data, and how to post the captured data to the database.

When you start the capture process, existing cadastral data needs to be queried from the database first in order to verify the location of existing objects and to determine if these objects will influence the capture process of the new cadastral data. Cadastral data usually needs to be captured for subdivisions or consolidations of existing cadastral data, or for new developments.

Cadastral data is captured in its native format (coordinate system and units) from registered plans and, if needed, converted to different units afterwards. For most accurate data, you need to capture data as coordinates, because survey distances are rounded off in some cases.

The order in which cadastral data is captured is important, otherwise you may end up with different results after the cleanup process.

Parcel boundaries and parcel numbers are captured first. Parcels can have various different statuses, depending on who is using them. If the planning department is working with parcels, they would typically want to distinguish between Registered and Proposed land parcels. For a utility, the parcel would become current as soon as a service is being rendered, and the legal status would be of very little interest.

For this reason, Munsys Cadastral caters for two status attributes on all parcels. The planning department will typically use the legal status, while the work status will be used by utilities. After the cleanup process, parcels are verified against business rules and posted to the database.

Munsys Cadastral has a system whereby redundant parcels are kept for history purposes. This will typically occur when a parcel is subdivided or consolidated. When the legal status of a parcel is captured as, or changed to “Archived”, the parcel will not be retrieved when any Query menu item is used. A separate system query, “Parcel (Archived)” has to be used to query archived parcels.

Easements are captured next, after parcel boundaries and numbers. Existing parcels have to be retrieved in order to capture easements.

The capture of buildings, street names and street addresses follows in no particular order, because their spatial relationship with the other cadastral objects has no impact on the result.

In Munsys Cadastral, addresses are associated with land parcels, and the association is stored as an attribute of the address. Addresses are created as separate objects at a specific location within a land parcel. With this method the address remains constant, even when the parcel information changes in cases such as subdivisions and consolidations.

Cadastral capture rules

When capturing cadastral data, keep the following in mind:

- Each parcel polygon may only have one parcel number (tag).
- Make certain that the tag insertion point is inside the parcel polygon, even if the parcel is very small.
- Never delete old parcels if you are capturing a later subdivision or consolidation. The system caters for the storage of archived parcels, allowing you to build a history of the area.
- Uniformity for numbering conventions is essential.
- Never move newly captured cadastral data from a registered plan to fit an underlying farm portion. The farm portion was probably surveyed long before the new data and may be inaccurate.
- Select the correct parcel type for the parcel when capturing it, for example, if the parcel type is a park.

Cadastral capture settings

Each Munsys application has its own default capture settings that are set by the database administrator in the Munsys Management Console. Capture settings are used to speed up the capture process and eliminate possible capture errors.

You can change the current cadastral capture settings on the Cadastral Settings dialog box. Capture settings only apply to *new* objects, and if you change the default settings, the changes are only valid for the current session. Settings are changed by highlighting the current value, and then entering a new value, or by selecting the new value from a drop-down list. Some settings may only be changed by the GIS administrator to enforce consistency and integrity on a higher level.

In Munsys Cadastral, default capture settings are available for:

- buildings – the building type
- density – the density type
- easements – default offset distance, tag height and easement type
- file – the drawing directory
- general – database extents display resolution, integrity circle size, tag and symbol scale and rotation if coordinate transformation is done, snap tolerance, tag angle, font, height and justification
- integrity checks – cadastral search tolerance and short objects
- land use – land use type
- community (suburb, township, municipality, etc.)– community type
- notes – the tag height
- parcels – legal status, tag height, type and work status
- street text – name and address tag height, street text font
- zoning – the zoning type
- *ward – the ward tag height (used in the International version)

Tip A short description of a value is displayed when it is highlighted.

To specify cadastral capture settings

1 Do one of the following:

- Choose **Capture** > **Cadastral Settings...**
- Click the **Cadastral Settings** button on the Munsys Cadastral **Capture** toolbar.
- On the command line, enter **MUNAPSETTINGS**, and then enter **CMS**.

2 The **Cadastral Settings** dialog box is displayed, showing the default cadastral capture settings as determined by the database administrator.

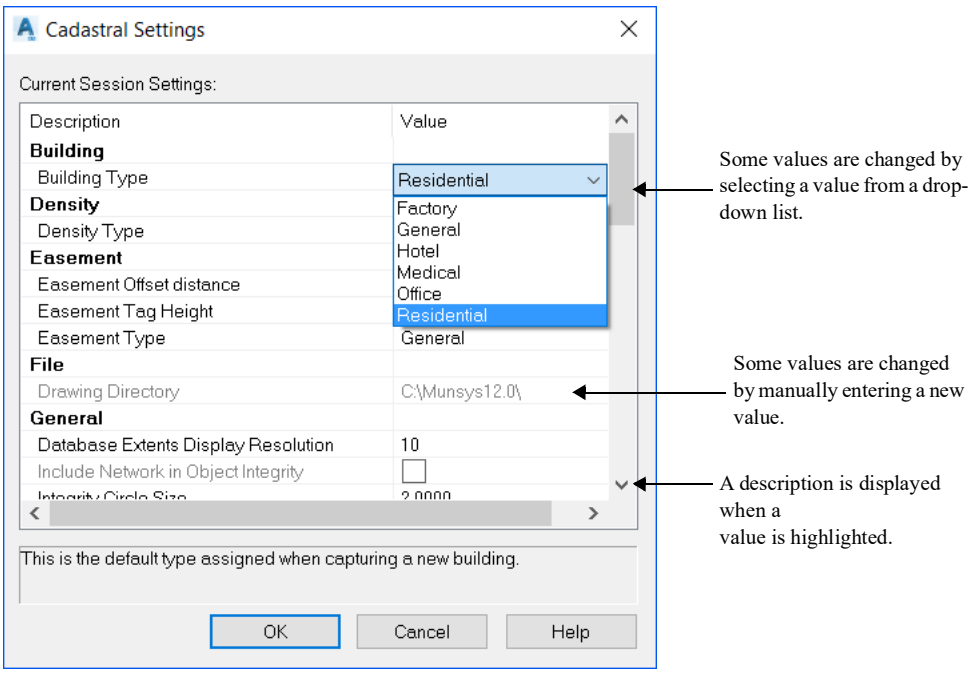


Figure 1 The Cadastral Settings dialog box

3 To change a value, do one of the following:

- Highlight the current value, and then enter a new value.
- Highlight the current value, and then choose the new value from the drop-down list.

The settings will apply until you change them again, or until the current session is terminated, or until you switch to a different application.

Capturing communities

In order to store communities (suburbs, townships, municipalities, etc.)in the database, each community requires a name by which it can be identified.

Community boundaries are normally captured according to registered plans, or by specifying consecutive points along cadastral boundaries.

When the community boundary has been drawn, a tag is placed within the boundary. The tag consists of the name of the community, which is selected from a lookup list to eliminate spelling errors. The community name has to be added to the list of names, as seen below. Community polygons are generated to unite the community boundary with its name.

When the community data has been captured, it has to be verified against the business rules before being posted to the database.

Adding a new community to the list

With this function, you can create a new community in the database lookup table for communities. You can add new names, together with their associated codes. The list of community names is used to place community tags.

To add a new community to the list

1 Choose **Capture** > *[Suburb]* > **Add New** *[Suburb]* **to List...**

The Create New *[Suburb]* dialog box is displayed.

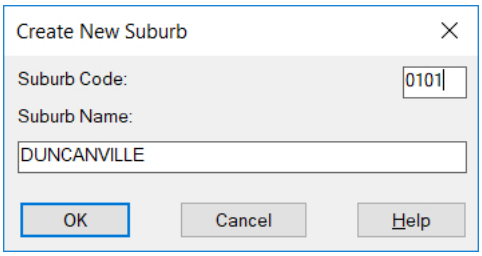


Figure 2 The Create New [Suburb] dialog box

2 Enter a new code containing no more than **10** digits.

3 Enter a suburb name containing a maximum of **40** characters, and then click OK.

The community is added to the list.

Drawing a community boundary

With this function, you can draw a community (suburb, township, municipality, etc.) boundary by indicating consecutive points along cadastral boundaries. The lines are created on the [*SUBURBS*]_LINES layer, to be used by the polygon builder when the community polygon is built.

To draw a community boundary

1. Choose **Capture** > *[Suburb]* > **Draw** *[Suburb]* **Boundary**.
2. Specify the start point for the boundary by doing one of the following:
   - Select a point within the drawing.
   - Capture boundaries from a registered plan, using a coordinate list.
3. Specify the next points as in **Step 2**, and then press ENTER.
4. Press ENTER to close the boundary, or type **N** to continue specifying more points.

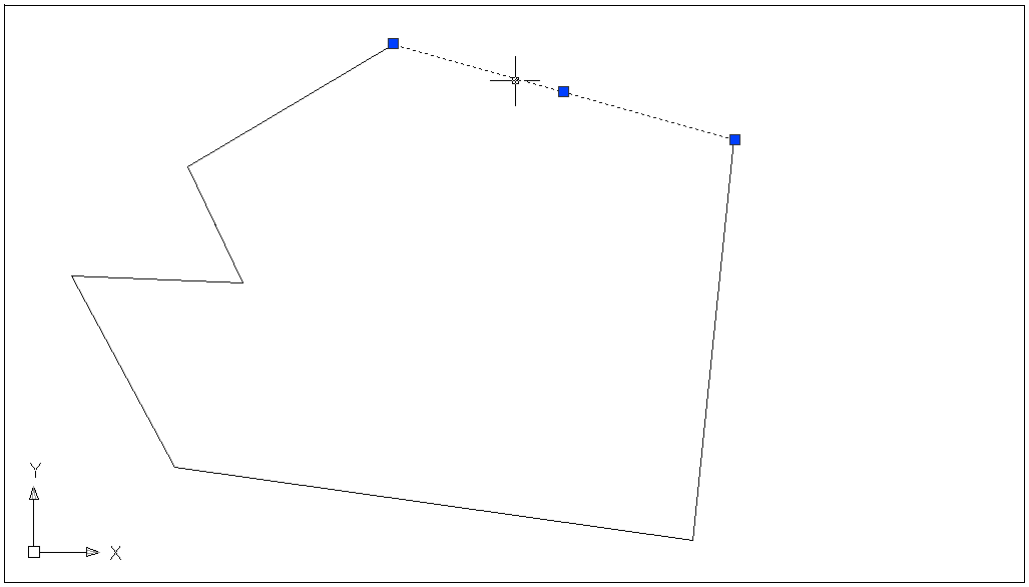


Figure 3 A new suburb boundary

Placing a community tag

This function is used to insert a community (suburb, township, municipality, etc.) tag within the boundaries of a community. The tag is placed on the [SUBURBS] layer, to be used by the polygon builder when the polygon is built.

To place a community tag

1 Choose **Capture** > *[Suburb]* > **Place** *[Suburb]* **Tag...**

The Select *[Suburb]* dialog box is displayed.

2 Select the appropriate suburb name from the list, and then click OK.

3 Specify the insertion point of the suburb name within the suburb boundary.

4 On the command line, enter the tag height, or press ENTER to accept the default height.

5 To specify the tag angle, do one of the following:

- Indicate the tag angle with your mouse, or enter the angle on the command line.
- On the command line, type **A** to align the tag to an object, press ENTER, and then select the object to which you want to align the tag.

The tag is inserted as specified.

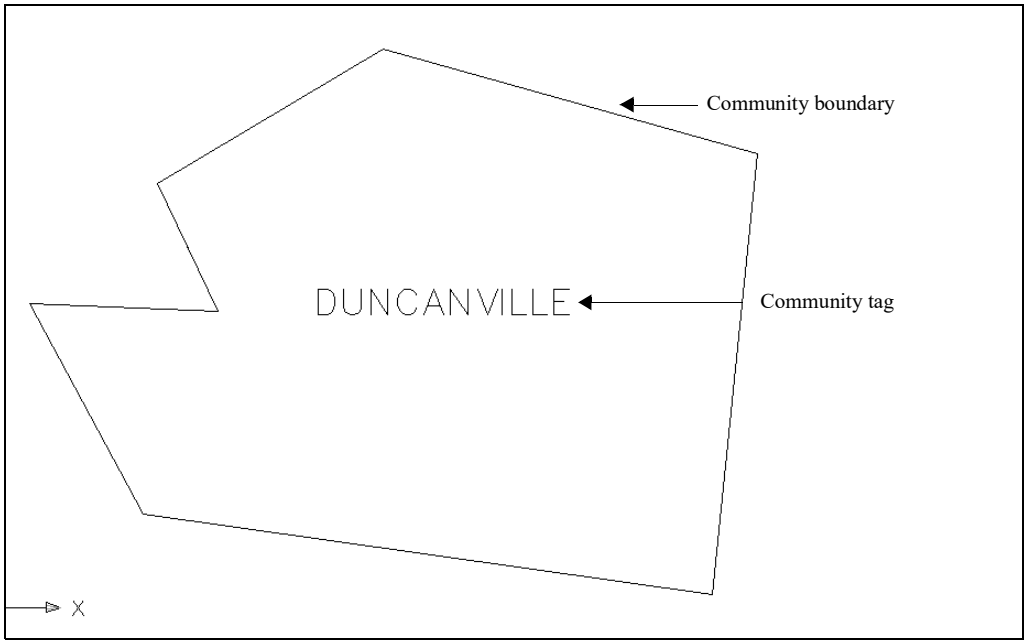


Figure 4 Placing a suburb tag

Generating community polygons

This function is used to generate a community polygon from the boundary and tag that were created. The polygon is generated on the [SUBURB] layer, to be verified when the integrity check is run.

Note The polygon will only be generated if the tag insertion point falls within the closed community boundary.

To generate community polygons

1 Choose **Capture** > *[Suburb]* > **Generate** *[Suburb]* **Polygons**.

2 Select the lines that form the closed community boundary, and then press ENTER.

3 Select the suburb tag, and then press ENTER.

The command line indicates that the community polygon has been built successfully.

Capturing parcels

Parcel boundaries are usually constructed using a coordinate file, or imported from other GIS systems into Munsys. Once parcel boundaries have been captured, parcels are numbered and then assigned a parcel type. Parcel boundaries are built into parcel polygons together with their parcel numbers, verified against the business rules and posted to the database.

Numbering parcels

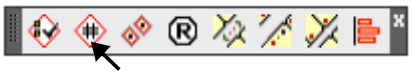
Before parcel numbers can be placed, the default tag height has to be specified in the Cadastral Settings dialog box. The insertion point, angle, and parcel number are indicated in continuous mode. The default parcel number automatically increments by one, and is displayed on the command line. When parcels are numbered, a parcel type is assigned to the parcels from the Select Parcel Type dialog box.

Parcel numbers are created on the PARCEL layer, to be used by the polygon builder when parcel polygons are built.

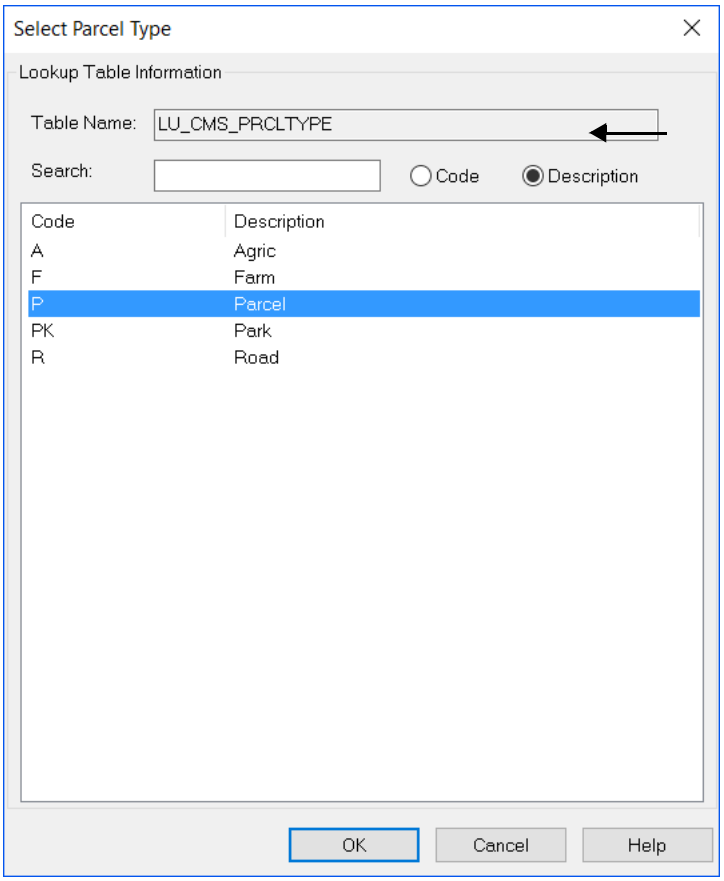
To number parcels

1 Do one of the following:

- Choose **Capture** > **Parcel** > **Number Parcels...**
- Click the **Number Parcels** button on the Munsys Cadastral **Capture** toolbar.



The Select Parcel Type dialog box is displayed.



Search for a parcel type by its code or description.

Figure 5 The Select Parcel Type dialog box

2 Select the appropriate parcel type, and then click OK.

3 On the command line, enter the parcel number or press ENTER to accept the default number.

4 Press ENTER to accept the default tag size, or type the tag size, and then press ENTER.

5 Specify an insertion point for the parcel number (tag).

6 To specify the tag angle, do one of the following:

- Indicate the angle with your mouse, or type the angle on the command line.
- On the command line, type **A** to align the tag to an object, press ENTER, and then select the object to which you want to align the tag.

7 Repeat **Steps 3** to **6** to number the remaining parcels, and then press Esc to exit.

Generating parcel polygons

This function is used to generate parcel polygons from parcel boundary lines and tags. Polygons will only be generated if the insertion point of the tag falls within the closed polygon. The polygons are generated on the appropriate layers, to be verified when the integrity check is run.

To generate parcel polygons

1 Do one of the following:

- Choose **Capture** > **Parcel** > **Generate Parcel Polygons**.
- Click the **Generate Parcel Polygons** button on the Munsys Cadastral **Capture** toolbar.

2 Select the lines that form a closed parcel boundary, and then press ENTER.

3 Select the parcel tag inside the parcel boundary.

The command line indicates that the parcel polygon has been built successfully.

Figure 6 Parcels

Capturing easements

Easements can be captured from a registered plan using coordinates, or drawn freehand/offset from existing cadastral boundaries. Easements are captured as MunLine or MunPoly objects. Easements captured as polygons make use of the polygon builder to construct polygons by using the pick point method.

Once the easements have been constructed, the easement text, which describes the use of the easement, is placed. The easement type is assigned last.

Drawing an offset easement

With this function, you can create an easement line by offsetting it from a cadastral boundary, for example when you want to construct easements that run within parcels at a specified offset from the cadastral boundary. The easement lines are created on the EASELINE layer, to be verified when the integrity check is run. An easement line cab be drawn as a polyline entity which can be composed of a series of straight-line or arc segments.

To draw an offset easement

1 Choose **Capture** > **Easement Line** > **Draw Offset Easement**.

The command line prompts you to specify points, or to select a segment to offset the easement from.

2 To draw an easement by specifying points, do the following:

- Specify the first point
- Then specify next point of the easement line drawn as a straight-line segment or change to draw an arc segment [**A**rc/**H**alfwidth/**L**ength/**U**ndo/**W**idth].

By selecting A, the polyline linear list allows you to continue capturing easement lines as a series of arcs. If selecting the Arc option, the polyline linear list changes with more selection options [Angle/CEnter/CLose/Direction/Halfwidth/Line/Radius/Second pt/Undo/Width]. Select L to return to drawing the easement line as series of straight-line segments.

- Press **ENTER** when you have specified all the points.Specify a point on the side to offset the easement.
- On the command line, specify the offset distance, or press ENTER to accept the default offset distance.

The command line displays a message confirming that the easement was created successfully.

3 To draw an easement by selecting segments, do the following:

- On the command line, type **O**, and then press ENTER.
- Select a segment to offset the easement from.
- Specify a point on the side to offset the easement.
- On the command line, specify a multiplication factor for the offset distance, or press ENTER to accept the default offset distance.
- Continue selecting segments until all the required segments have been selected, and then press ENTER.
- Press ENTER to confirm that you have completed selecting segments.

The command line displays a message confirming that the easement was created successfully.

Drawing a freehand easement

With this function, you can draw easements by specifying points to form an easement line. Easement lines are created on the EASELINE layer, to be verified when the integrity check is run.

To draw a freehand easement

1 Choose **Capture** > **Easement Line** > **Draw Freehand Easement**.

2 Specify the start point of the easement boundary by selecting a point, or enter coordinates on the command line.

3 Specify the next points for the easement, or select A for Arc[**A**rc/**H**alfwidth/**L**ength/**U**ndo/**W**idth], or enter more coordinates on the command line.

You can construct the easement line as a series of straight-line or arc segments. By selecting A, the polyline linear list allows you to continue capturing easement lines as a series of arcs. If selecting the Arc option, the polyline linear list changes with more selection options [Angle/CEnter/CLose/Direction/Halfwidth/Line/Radius/Second pt/Undo/Width]. Select L to return to drawing the easement line as series of straight-line segments.

4 Press ENTER when you have completed drawing the easement.

Tip Remember to fillet/trim/extend lines to extend to the parcel boundaries.

Drawing an easement polygon

With this function, you can draw a closed easement polygon. The easement is created as a MunPoly object on the EASEPOLY layer, to be verified when the integrity check is run.

To draw an easement polygon

1 Choose **Capture** > **Easement Polygon** > **Draw Easement Polygon**.

2 Specify the start point for the polygon by doing one of the following:

- Select a point in the drawing.
- Snap to an existing spatial object to capture the polygon.
- Capture the start point from a registered document, using a coordinate list.

3 Specify the next point(s) as above, and then press ENTER.

4 The easement polygon closes automatically.

Drawing an easement boundary

With this function, you can draw an easement by indicating consecutive points to form an easement boundary. The lines are created on the EASEMENT_LINES layer and used by the polygon builder to create an easement polygon.

To draw an easement boundary

1 Choose **Capture** > **Easement Polygon** > **Draw Easement Boundary**.

2 Specify the start point for the easement boundary by doing one of the following:

- Select a point in the drawing.

- Snap to an existing spatial object.
- Capture the start point from a registered plan, using a coordinate list.

3 Specify the next points as above, and then press ENTER.

4 Press ENTER to close the easement boundary, or type **N** to continue indicating more points.

Generating easement polygons

With this function, you can generate easement polygons from the lines that were created with the Draw Easement Boundary function. The polygon is generated on the EASEPOLY layer, to be verified when the integrity check is run.

To generate easement polygons

1 Choose **Capture** > **Easement Polygon** > **Generate Easement Polygons**.

2 Select the lines that form the closed easement boundary, and then press ENTER.

3 Select a point inside the easement boundary.

The command line indicates that the easement polygon has been built successfully.

Placing easement text

With this function, you can place easement text aligned to an easement line or inside a easement polygon, for example to describe the use of the easement. Multiple easement text objects can be created per easement. There is no relation between the easement and easement text.

The text is created on the line or inside the polygon at the indicated point and on the EASELINETXT or EASEPOLYTXT layer, to be verified when the integrity check is run.

To place easement text

1 To place easement text aligned to an easement line or easement polygon, do one the following:

- Choose **Capture** > **Easement Line** > **Place Easement Text**.
- Choose **Capture** > **Easement Polygon** > **Place Easement Text**.

2 Specify an insertion point for the tag.

3 On the command line, specify the tag height, or press ENTER to accept the default tag height.

4 To specify the tag angle, do one of the following:

- On the command line, specify the tag angle.
- On the command line, type **A**, press ENTER to align the tag to a segment, and then select the object to align the tag to.

5 On the command line, enter a tag value, and then press ENTER.

The tag is inserted as specified.

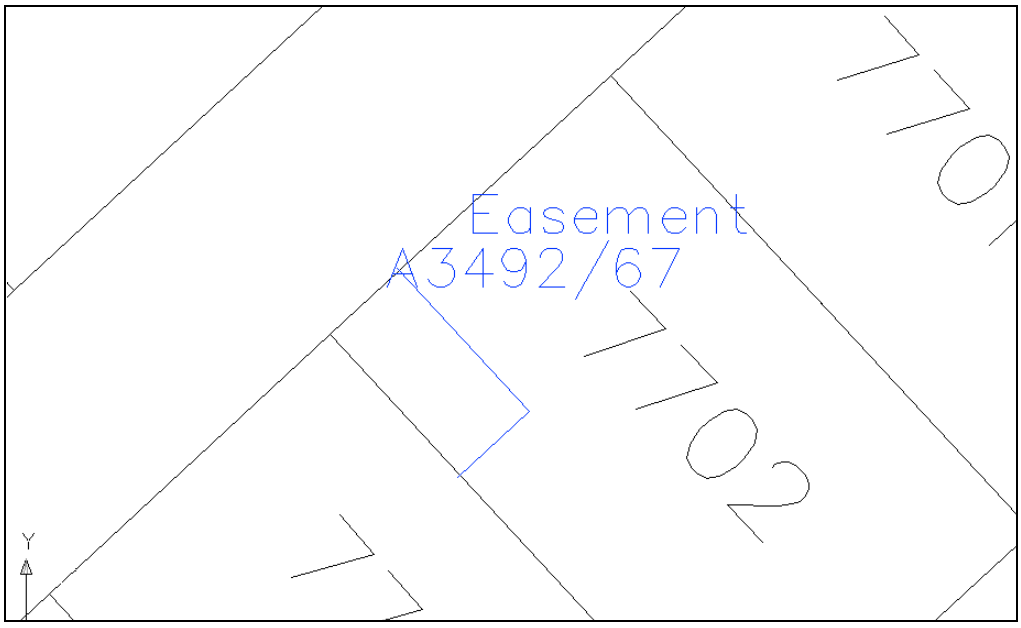


Figure 7 An easement

Capturing street text

When capturing street data, street names are placed first. These street names are selected from a list of names, to which new names can be added.

Addresses are placed next; either sequentially or by making use of the Odd/Even function. Street addresses can be placed at any nearest indicated point. When the street addresses have been captured, an address status (Used or Not used) is assigned.

Lastly, the street address is linked to the parcel. The street information is now ready to be verified when the integrity check is run.

Adding a new street name to the list

With this function, you can enter a new street name and street code to be added to the street name list. The values are stored in the Street Name lookup table in the database.

To add a new street name to the list

1 Choose **Capture** > **Street Text** > **Add New Street Name to List...**

- Click the **Add New Street Name to List** button on the Munsys Cadastral **Capture** toolbar.

The Create New Street Name dialog box is displayed.

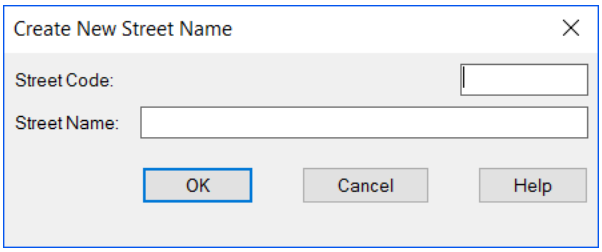


Figure 8 The Create New Street Name dialog box

2 Enter a **Street Code** containing a maximum of **8** digits. The code will be prefixed with zeros if less than 8 digits are entered.

3 Enter a **Street Name** containing a maximum of **40** characters, and then click OK.

The new street name is added to the list of street names in the database.

Placing street names

Street names are placed by choosing the appropriate street name from a list, specifying an insertion point for the street name, and then selecting the tag height and angle. The new street name is created on the STRTXT layer, to be verified when the integrity check is run.

To place street names

1 Do one of the following:

- Choose **Capture** > **Street Text** > **Place Street Name...**
- Click the **Place Street Name** button on the Munsys Cadastral **Capture** toolbar.

The Select Street Name dialog box is displayed.

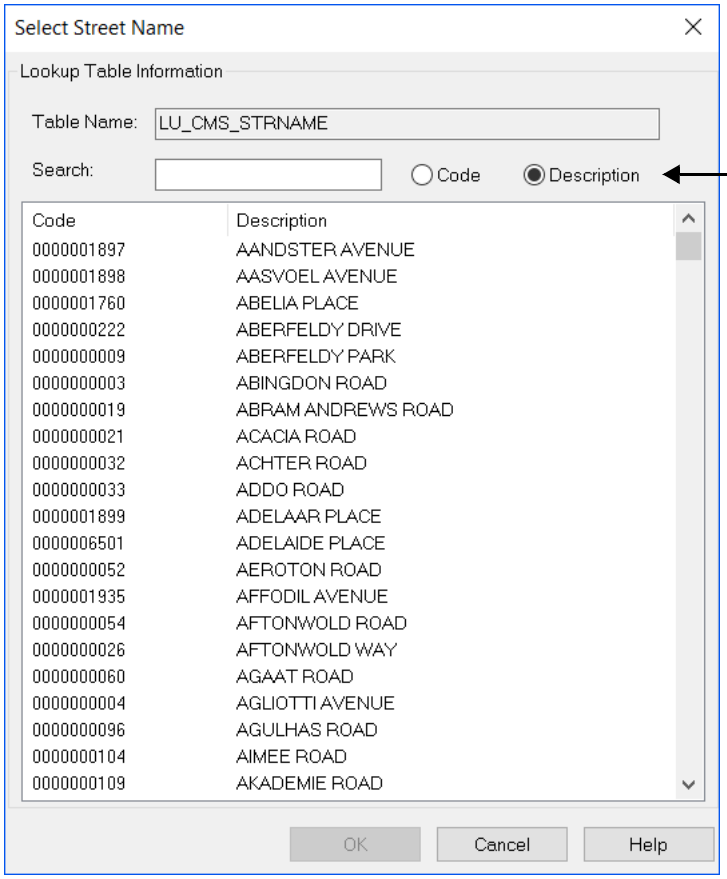


Figure 9 The Select Street Name dialog box

2 Select the street name, and then click OK.

3 Specify an insertion point for the street name.

4 Specify the tag height, or press ENTER to accept the default height.

5 Specify the tag angle by doing one of the following:

- Type the angle on the command line.
- Indicate the angle with your mouse.
- On the command line, type **A** to align the tag to an object, press ENTER, and then select the object to which you want to align the tag.

The street text is placed on the STRTXT layer.

Placing addresses

Street addresses can be placed sequentially, or odd/even. The community (suburb, township, municipality, etc.) name, street name, and optionally the postal code are entered in the Place Addresses dialog box to complete the street address.

You will be prompted to select the cadastral boundary and the side for placement to create the address text items.

When street addresses are placed sequentially, the addresses automatically increment with one number per placement.

When the addresses are placed odd/even, the addresses increment two numbers per placement. Munsys Cadastral determines if the street addresses are odd or even, depending on the first number that you enter, and from there on every number increments with a value of two.

To place addresses sequentially

1 Do one of the following:

- Choose **Capture** > **Street Text** > **Place Addresses Sequentially...**
- Click the **Place Addresses Sequentially** button on the Munsys Cadastral **Capture** toolbar.

The Place Addresses dialog box is displayed.

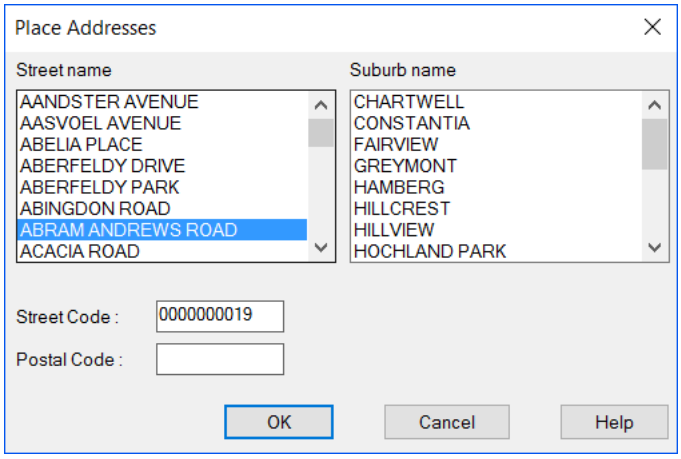


Figure 10 The Place Addresses dialog box

2 From the **Street name** list, select a street name.

The Street Code text box is updated automatically.

3 From the [*Community]* (suburb, township, municipality, etc.) name list, select a community name.

4 Enter the **Postal Code** if required, and then click OK.

5 Select the segment to snap the street address to.

6 Specify on which side of the segment to place the address.

7 Enter the tag value, and then press ENTER.

8 Repeat from **Step 5**, or press **ESC** to exit the command.

To place addresses odd and even

1 Do one of the following:

- Choose **Capture** > **Street Text** > **Place Addresses Odd/Even...**
- Click the **Place Addresses Odd/Even** button on the Munsys Cadastral **Capture** toolbar.

The Place Addresses dialog box is displayed.

2 From the **Street name** list, select a street name.

The Street Code text box is updated automatically.

3 From the [*Community]* (suburb, township, municipality, etc.) name list, select a community name.

4 Enter the **Postal Code** if required, and then click OK.

5 Select the segment where you want to place the street address.

6 Specify on which side of the parcel boundary to place the address.

7 Enter the tag value, and then press ENTER.

8 Repeat from **Step 5**, or press **ESC** to exit the command.

Capturing buildings

Buildings can be classified different types, for example as business, industrial, educational, government, institutional, medical, etc. With Munsys Cadastral, buildings are captured as polygons; either by drawing a building polygon, or by first drawing a building boundary and then generating a polygon from the boundary lines. You can also create a building by generating a polygon from existing lines.

The number of floors in a building are assigned using the Change menu.

A building that is captured using the Draw Building Polygon function is assigned the default building type. This can be altered by changing the default value in the Cadastral Settings dialog box, or from the Change menu, or by using the Edit Attributes function on the Change menu.

Note A building type is not assigned by default to a building that is captured using the **Draw Building Boundary** and/or **Generate Building Polygons** functions. Using the **Change** menu, you have to assign a building type using the **Edit Attributes** or **Change Building Type** functions.

Drawing building polygons

With this function, you can create a building polygon by specifying consecutive points in the drawing area. The polygon is closed automatically and constructed on the BUILDING layer as a MunPoly object, to be verified when the integrity check is run.

To draw a building polygon

1. Choose **Capture** > **Building** > **Draw Building Polygon**.
2. Specify the start point for the building polygon.
3. Specify the next point(s), and then press ENTER.

   The building polygon is closed automatically.

Drawing a building boundary

With this function, you can draw a building boundary by indicating consecutive points in the drawing area. The lines are created on the BUILDING_LINES layer and will be used by the polygon builder to generate a building polygon.

To draw a building boundary

1. Choose **Capture** > **Building** > **Draw Building Boundary**.
2. Specify the start point for the building boundary by doing one of the following:
   - Snap to an existing spatial object.
   - Select a point in the drawing.
3. Specify the next points as above, and then press ENTER.
4. Press ENTER to close the building boundary.

Generating building polygons

With this function, you can generate building polygons from the lines that were created with the Draw Building Boundary function. The polygon is generated on the BUILDING layer, to be verified when the integrity check is run.

The building type for a building polygon that is created by using the Draw Building Boundary/Generate Building Polygons functions, has to be specified using the Change Building Type function.

To generate building polygons

1 Choose **Capture** > **Building** > **Generate Building Polygons**.

2 Select the lines that form the closed building boundary, and then press ENTER.

The command line prompts you to select the polygon detection point.

3 Select a point inside the building boundary.

The building polygon is generated.

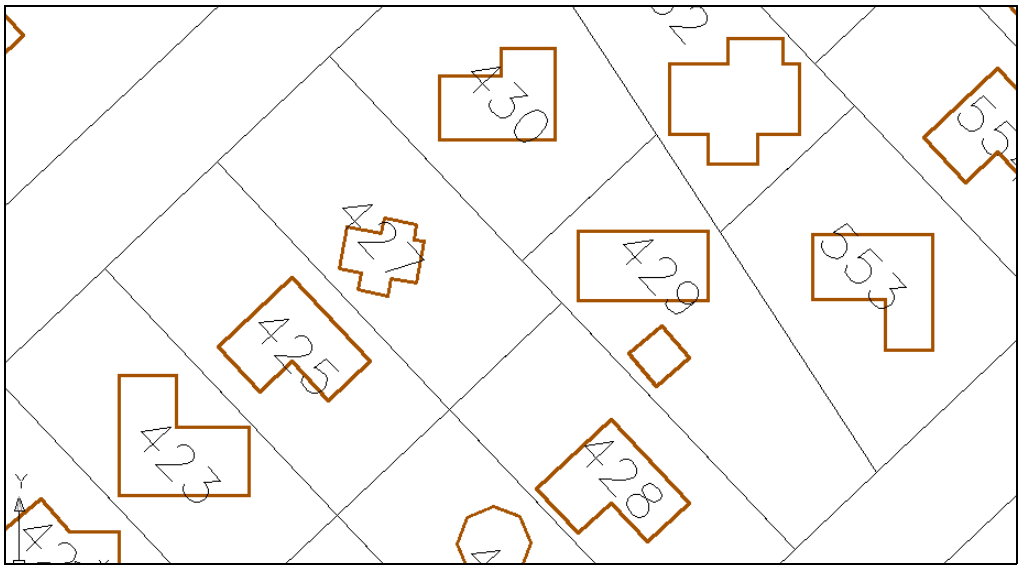


Figure 11 Building polygons

Capturing density, land use and zoning polygons

When density, land use and zoning polygons are captured, a type for each zoning, land use or density boundary has to be set.

Zoning, density and land use boundaries are stored on the TP_ZONING, TP_DENSITY and TP_LANDUSE layers respectively, to be verified when the integrity check is run.

Drawing density polygons

With this function, you can create new density polygons, for example where the required density does not have the same shape as the parcel boundary. Density polygons are created on the TP_DENSITY layer, to be verified when the integrity check is run. The density polygon will not pass the integrity check if a density type has not been assigned to it.

To draw a density polygon

1 Choose **Capture** > **Density** > **Draw Density Polygon**.

2 The **Select Density** dialog box is displayed, with the default density type highlighted.

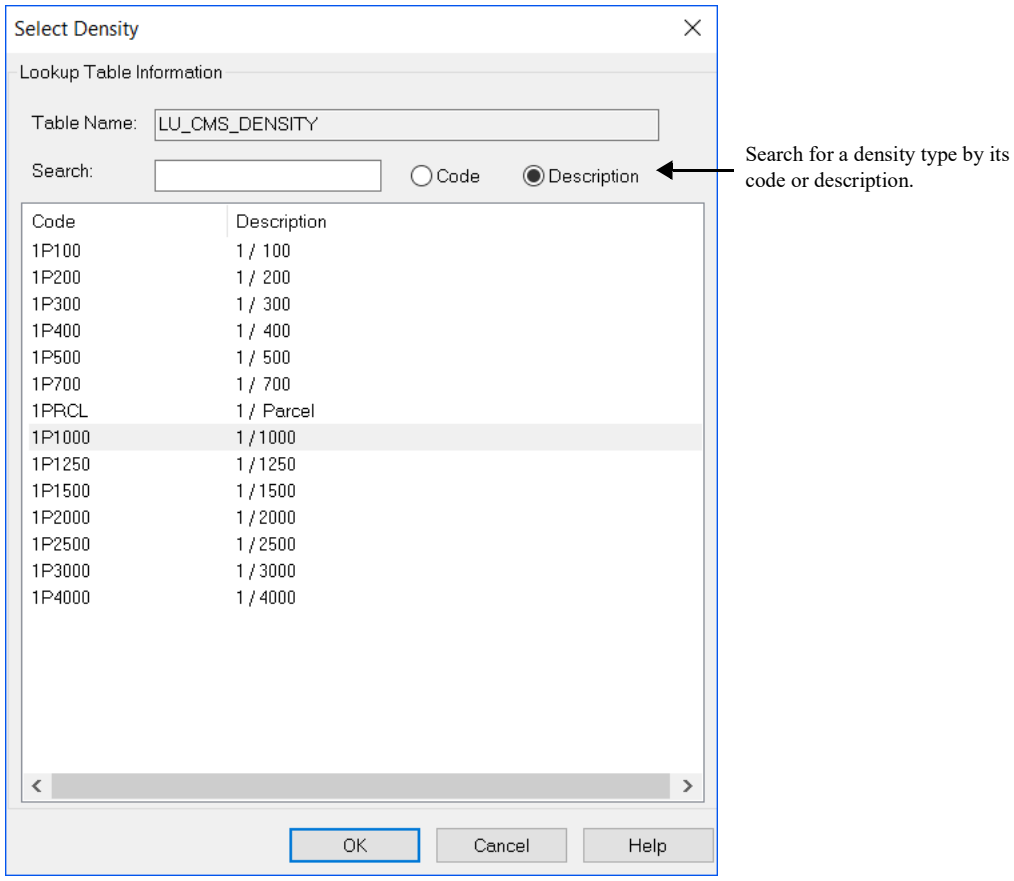


Figure 12 The Select Density dialog box

3 Specify the start point for the polygon by snapping to an existing spatial object to capture boundaries.

4 Specify the next point(s), and then press ENTER.

The density polygon is closed automatically.

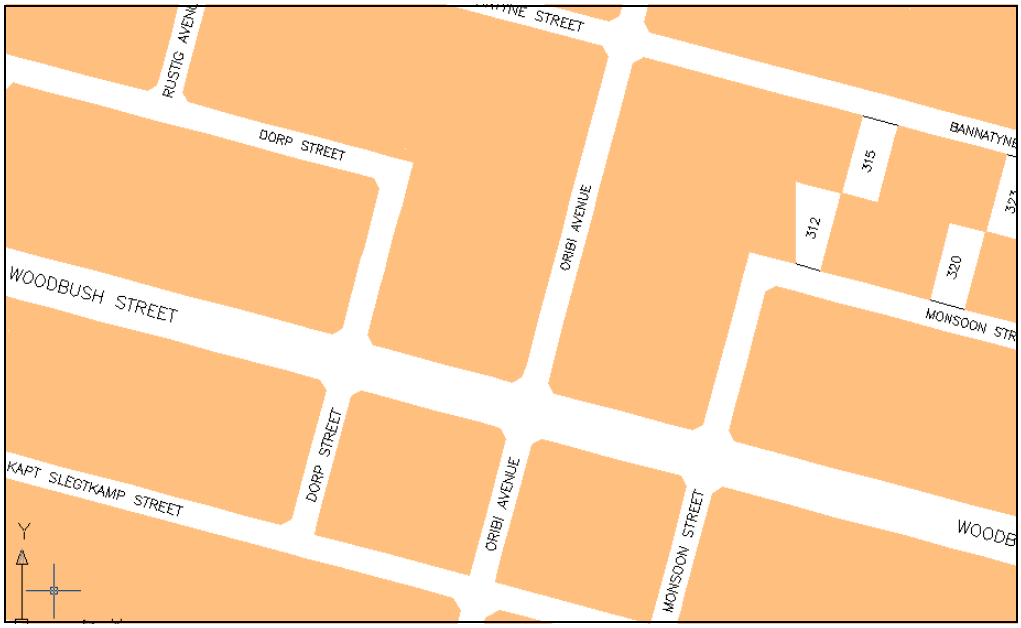


Figure 13 Density polygons

Creating density from parcels

With this function, you can create a density polygon with the same boundary as a parcel polygon. The geometry for the density polygon is derived from the drawing. These polygons are created on the TP_DENSITY layer, to be verified when the integrity check is run.

To create density from parcels

1 Choose **Capture** > **Density** > **Create Density from Parcels...**

2 Select the parcels from which you want to create the density polygon, and then press ENTER.

The Select Density Type dialog box is displayed.

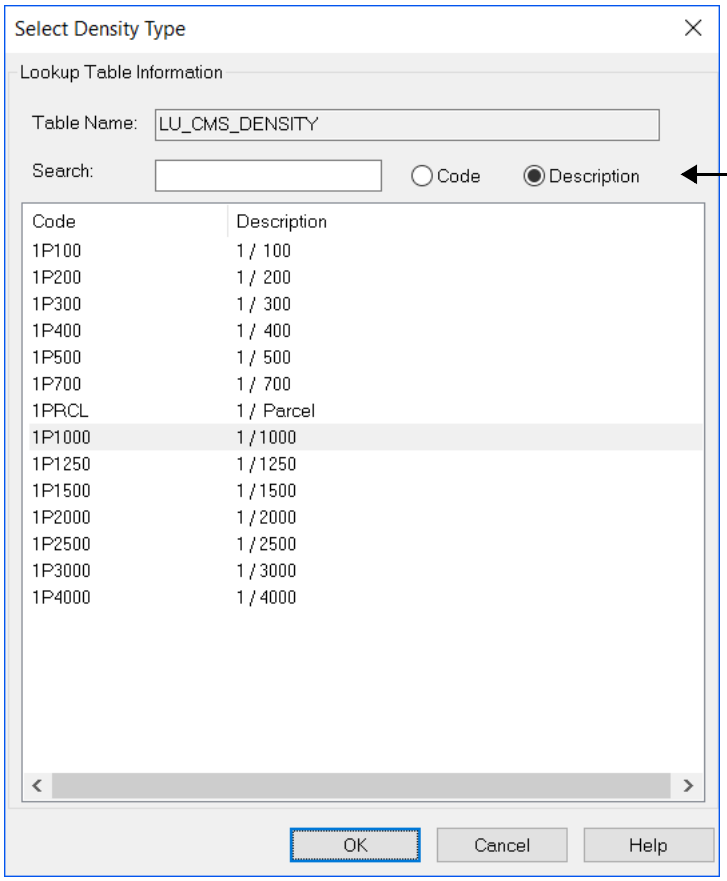


Figure 14 The Select Density Type dialog box

3 Select the appropriate density from the list, and then click OK.

The density polygon is created as specified.

Drawing a density boundary

With this function, you can create new density boundary, for example where the required density does not have the same shape as the parcel boundary. Density boundaries are created on the TP_DENSITY_LINES layer, and used by the polygon builder to build a density polygon. The density polygon will not pass the integrity check if a density type has not been assigned to it.

To draw a density boundary

1. Choose **Capture** > **Density** > **Draw Density Boundary**.
2. Specify the start point for the boundary.
3. Specify the next points to complete the boundary, and then press ENTER to close the boundary.

   The density boundary is created as specified.

Generating density polygons

This function is used to generate a density polygon from density boundary lines. The polygon is generated on the DENSITY layer, to be verified when the integrity check is run. You have to assign a density type to a density polygon created with this function.

To generate density polygons

1. Choose **Capture** > **Density** > **Generate Density Polygon**.
2. Select the lines that form the closed density boundary, and then press ENTER.

   The command line prompts you to select the polygon detection point.
3. Select a point inside the density boundary, and then press ENTER.

   The density polygon is generated as specified.

Setting a density type

This function is used to set the density type for one or more density polygons by selecting the polygon boundary, and then choosing a density type from the Select Density Type dialog box. The density polygon remains on the TP_DENSITY layer, to be verified when the integrity check is run.

To set a density type

1 Choose **Capture** > **Density** > **Set Density Type...**

2 Select the appropriate density polygon(s), and then press ENTER.

The Select Density Type dialog box is displayed.

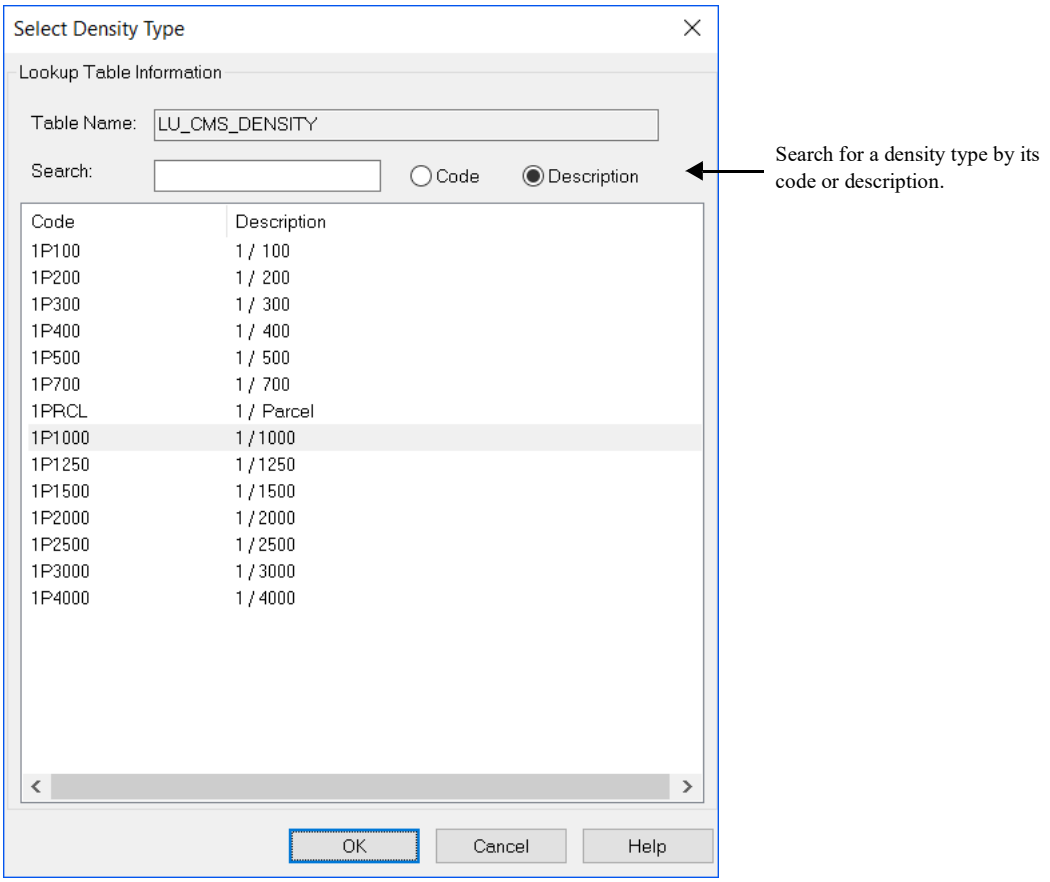


Figure 15 The Select Density Type dialog box

3 Select the appropriate type from the list, and then click OK.

The density type is assigned to the selected polygon(s).

Drawing land use polygons

With this function, you can create new land use polygons, for example where the required land use does not have the same shape as the parcel boundary. Land Use polygons are created on the **TP_LANDUSE** layer, to be verified when the integrity check is run. The land use polygon will not pass the integrity check if a land use type has not been assigned to it.

To draw a land use polygon

1 Choose **Capture** > **Land Use** > **Draw Land Use Polygon**.

2 The **Select Land Use** dialog box is displayed, with the default land use type highlighted.

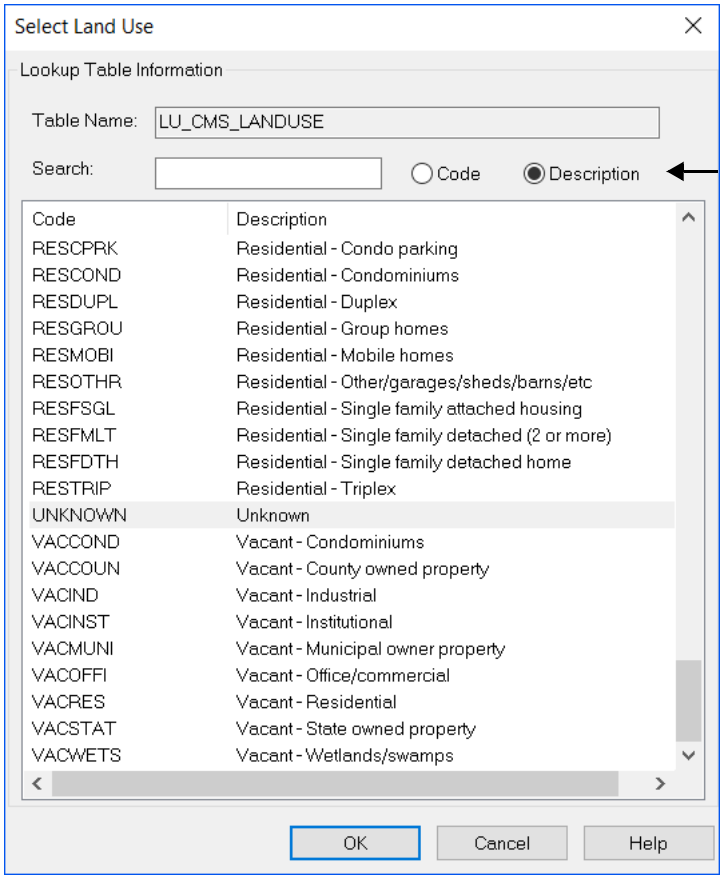


Figure 16 The Select Land Use dialog box

3 Specify the start point for the polygon by snapping to an existing spatial object to capture boundaries.

4 Specify the next point(s), and then press ENTER.

The land use polygon is closed automatically.

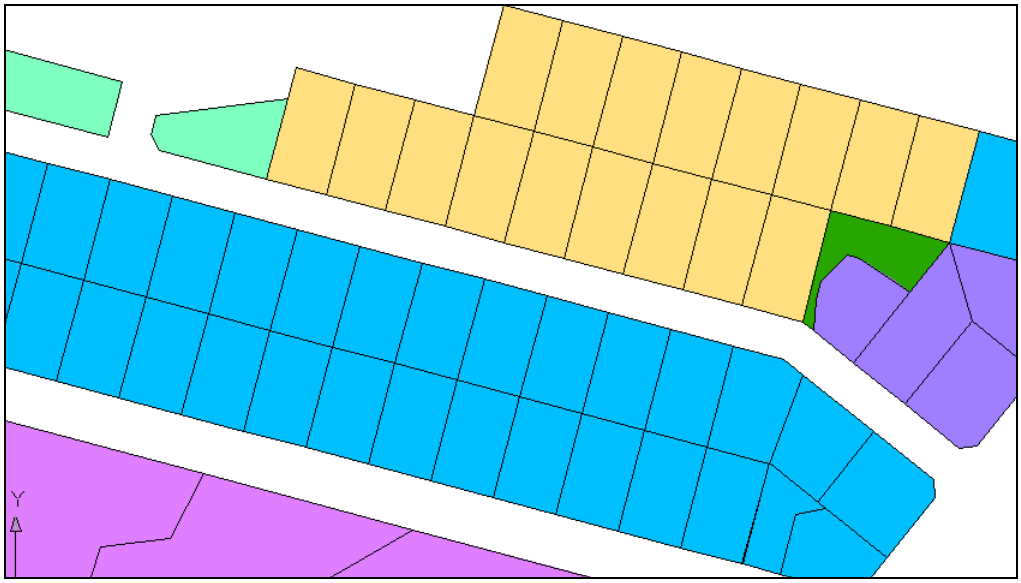


Figure 17 Land Use polygons

Creating land use from parcels

With this function, you can create a land use polygon with the same boundary as a parcel polygon. The geometry for the land use polygon is derived from the drawing. These polygons are created on the TP_LANDUSE layer, to be verified when the integrity check is run.

To create land use from parcels

1 Choose **Capture** > **Land Use** > **Create Land Use from Parcels...**

2 Select the parcels from which you want to create the land use polygon, and then press ENTER.

The Select Land Use Type dialog box is displayed.

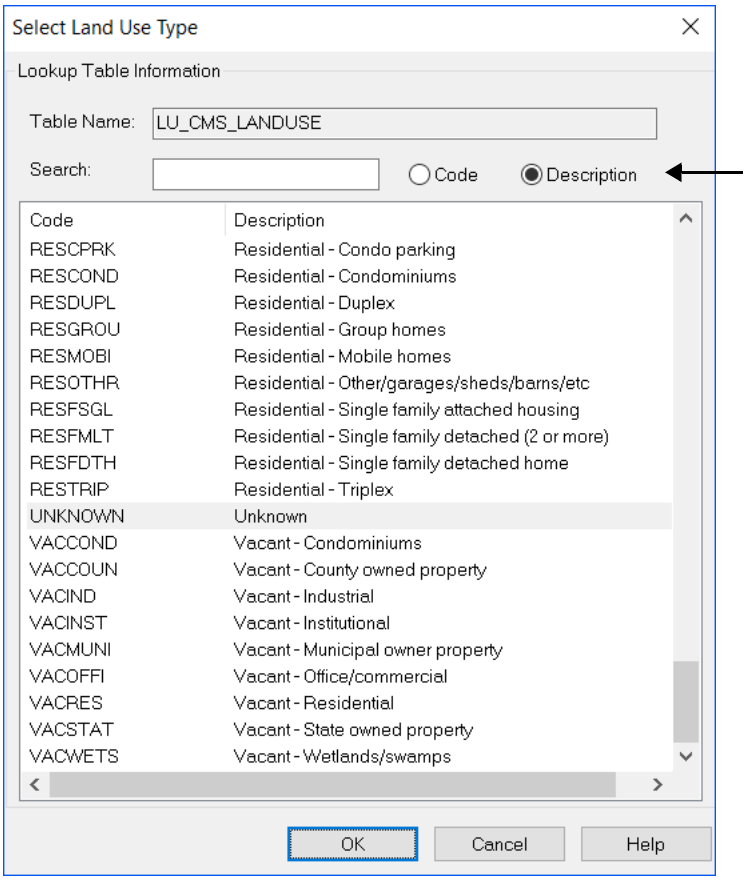


Figure 18 The Select Land Use Type dialog box

3 Select the appropriate land use from the list, and then click OK.

The land use polygon is created as specified.

Drawing a land use boundary

With this function, you can create new land use boundary, for example where the required land use does not have the same shape as the parcel boundary. Land Use boundaries are created on the TP_LANDUSE_LINES layer, and used by the polygon builder to build a land use polygon. The land use polygon will not pass the integrity check if a land use type has not been assigned to it.

To draw a land use boundary

1. Choose **Capture** > **Land Use** > **Draw Land Use Boundary**.
2. Specify the start point for the boundary.
3. Specify the next points to complete the boundary, and then press ENTER to close the boundary.

   The land use boundary is created as specified.

Generating land use polygons

This function is used to generate a land use polygon from land use boundary lines. The polygon is generated on the LAND USE layer, to be verified when the integrity check is run. You have to assign a land use type to a land use polygon created with this function.

To generate land use polygons

1. Choose **Capture** > **Land Use** > **Generate Land Use Polygon**.
2. Select the lines that form the closed land use boundary, and then press ENTER.

   The command line prompts you to select the polygon detection point.
3. Select a point inside the land use boundary, and then press ENTER.

   The land use polygon is generated as specified.

Setting a land use type

This function is used to set the land use type for one or more land use polygons by selecting the polygon boundary, and then choosing a land use type from the Select Land Use Type dialog box. The land use polygon remains on the TP_LAND USE layer, to be verified when the integrity check is run.

To set a land use type

1 Choose **Capture** > **Land Use** > **Set Land Use Type...**

2 Select the appropriate land use polygon(s), and then press ENTER.

The Select Land Use Type dialog box is displayed.

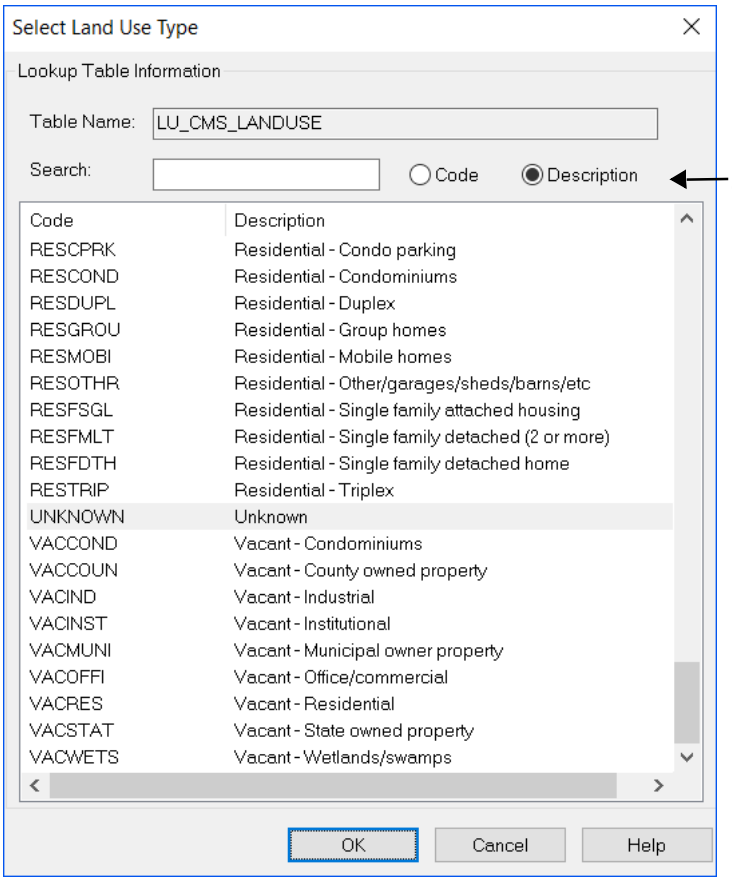


Figure 19 The Select Land Use Type dialog box

3 Select the appropriate type from the list, and then click OK.

The land use type is assigned to the selected polygon(s).

Drawing a zoning polygon

With this function, you can create a zoning polygon by using cadastral data. The polygon is automatically closed and constructed as a MunPoly object to be verified when the integrity check is run.

To draw a zoning polygon

1 Choose **Capture** > **Zoning** > **Draw Zoning Polygon**.

2 The **Select Zoning** dialog box is displayed, with the default zoning type highlighted.

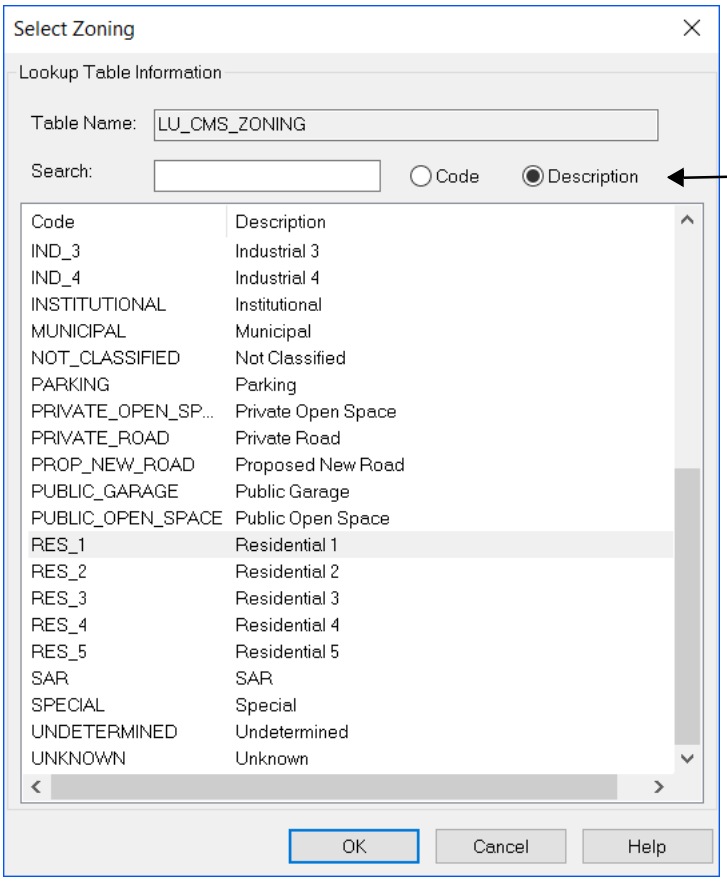


Figure 20 The Select Zoning dialog box

3 Specify the start point for the polygon by snapping to an existing spatial object.

4 Specify the next point(s), and then press ENTER.

The zoning polygon is closed automatically.

Figure 21 Zoning polygons

Creating zonings from parcels

With this function, you can create a zoning polygon with the same boundary as a parcel polygon. The geometry for the zoning polygon is derived from the drawing. These polygons are created on the TP_ZONING layer, to be verified when the integrity check is run.

To create zonings from parcels

1 Choose **Capture** > **Zoning** > **Create Zoning from Parcels...**

2 Select the parcels from which you want to create the zoning boundary, and then press ENTER.

The Select Zoning Type dialog box is displayed.

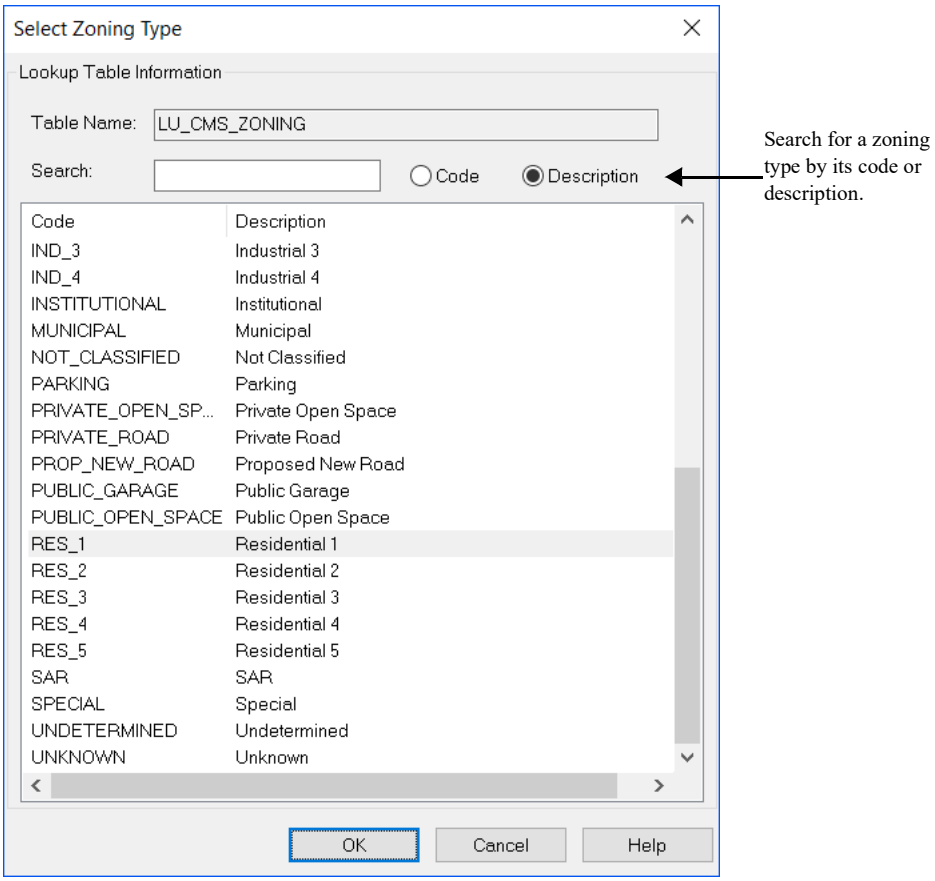


Figure 22 The Select Zoning Type dialog box

3 Select the appropriate zoning from the list, and then click OK.

The zoning boundary is created on the TP_ZONING layer.

Drawing a zoning boundary

With this function, you can create new zoning boundaries, for example where the required zoning does not have the same shape as the parcel boundary. Zoning boundaries are created on the TP_ZONING_LINES layer, and used by the polygon builder to build a zoning polygon. The zoning polygon will not pass the integrity check if a zoning type has not been assigned to it.

To draw a zoning boundary

1. Choose **Capture** > **Zoning** > **Draw Zoning Boundary**.
2. Specify the start point for the boundary.
3. Specify the next points to complete the boundary, and then press ENTER to close the boundary.

   The zoning boundary is created as specified.

Generating zoning polygons

This function is used to generate a zoning polygon from zoning boundary lines. The polygon is generated on the TP_ZONING layer, to be verified when the integrity check is run. You have to assign a zoning type to a zoning polygon created with this function.

To generate zoning polygons

1. Choose **Capture** > **Zoning** > **Generate Zoning Polygon**.
2. Select the lines that form the closed zoning boundary, and then press ENTER.

   The command line prompts you to select the polygon detection point.
3. Select a point inside the zoning boundary, and then press ENTER.

   The zoning polygon is generated as specified.

Setting a zoning type

This function is used to set the zoning type for one or more zoning polygons by selecting the polygon boundary, and then choosing a zoning type from the Select Zoning Type dialog box. The zoning polygon remains on the TP_ZONING layer, to be verified when the integrity check is run.

To set a zoning type

1 Choose **Capture** > **Zoning** > **Set Zoning Type**.

2 Select the appropriate zoning polygon(s), and then press ENTER.

The Select Zoning Type dialog box is displayed.

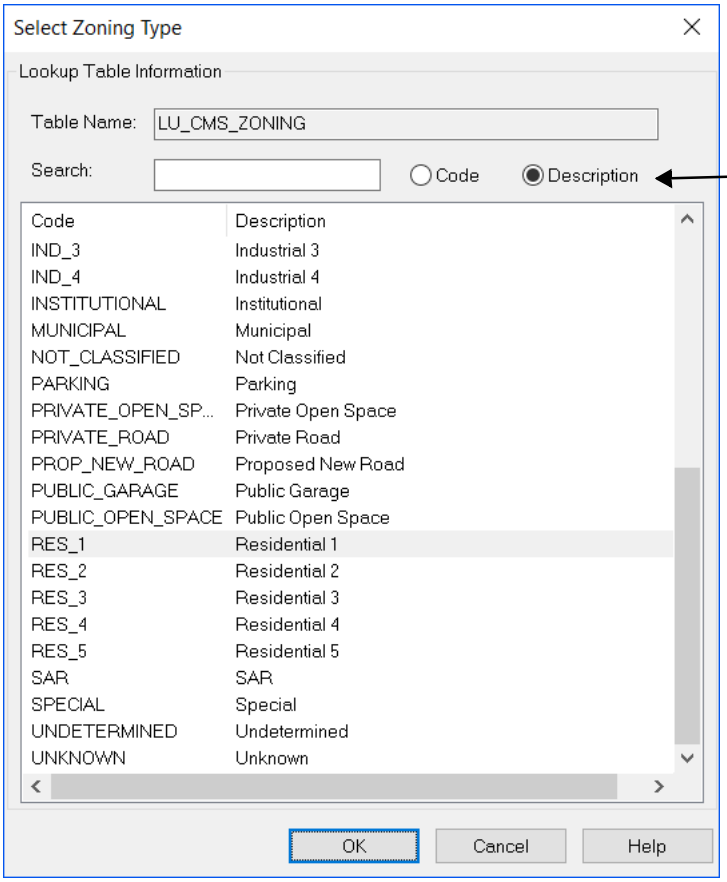


Figure 23 The Select Zoning Type dialog box

3 Select the appropriate type from the list, and then click OK.

The zoning type is assigned to the selected polygon(s).

Placing a cadastral note

For map production purposes, information about a spatial object may be added in the form of a note. This function is used to place cadastral notes in the current drawing.

To place a cadastral note

1 Do one of the following:

- Choose **Capture** > **Place Cadastral Note**.
- Click the **Place Cadastral Note** button on the **Munsys Cadastral Capture** toolbar.

2 Specify the insertion point for the note.

3 On the command line, specify the note height, or press ENTER to accept the default height.

4 To indicate the note angle, do one of the following:

- Type the angle on the command line.
- Indicate the note angle with your mouse pointer.
- On the command line, type **A** to align the note to an object, press ENTER, and then select the object to which you want to align the note.

5 Type the note value on the command line, and then press ENTER.

The note is inserted as specified.

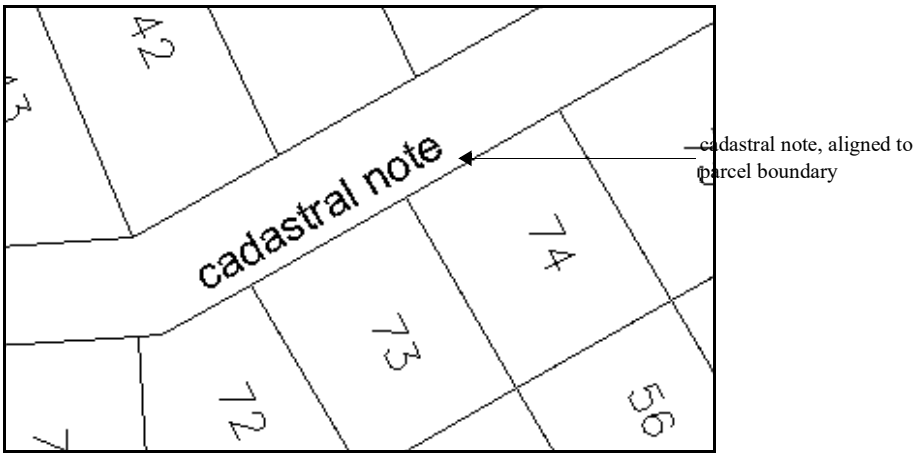


Figure 24 A cadastral note

Checking cadastral integrity

The Integrity Check provides a set of rules to validate spatial objects. All new or modified spatial objects have to be verified against integrity rules built into the capture and change routines of every application before they can be posted to the database. New and changed objects contain an internal status that requires the validation process.

The Integrity Check is run from the Capture menu, or by clicking the appropriate button on the Integrity toolbar. The way in which the integrity check is executed depends on the preferences/options specified in the Munsys Options dialog box. The various options available on this dialog box are discussed in detail in the Munsys Concepts User Manual: Chapter 4: Munsys Options.

When cadastral object integrity is validated, the following is verified:

Validation check/error condition	Description
Unlocked objects not rectified	Indicates that an object could have been rectified but, because it was unlocked, the integrity check failed to rectify the object and it was left as is.
Short spatial objects	Applies to any object with a length shorter than the Munsys Cadastral database tolerance setting.
Duplicate points in spatial objects	Applies to redundant coordinates being removed from an object. If the coordinates are within *SNAP* tolerance, they are discarded.
Objects with incomplete geometry	Refers to objects that do not have geometry, for example: tags that were placed without geometry that represent a polygon boundary.
Objects outside database extents	Checks if the objects selected are within the confines of the geographic extents of the database.
Attribute rules	Checks for the attribute rules as specified in the MUNSYS_INTEG_ATTR table, for example NULL values, etc.
Attribute data types	Checks the data type to be consistent with what is in the database; i.e. attached attributes should not exceed the limits of the table's column definition, for example: a tag may not be longer than the table's TAG_VALUE column width.

Table 1 The cadastral object integrity check

Checking cadastral object integrity

1 Do one of the following:

- Choose **Capture** > **Data Integrity** > **Validate Object Integrity...**
- Click the **Validate Object Integrity** button on the **Integrity** toolbar.

2 Select the objects that you want to validate, and then press ENTER.

The Integrity Results dialog box is displayed, providing summarized information and validation results encountered during the object integrity check.

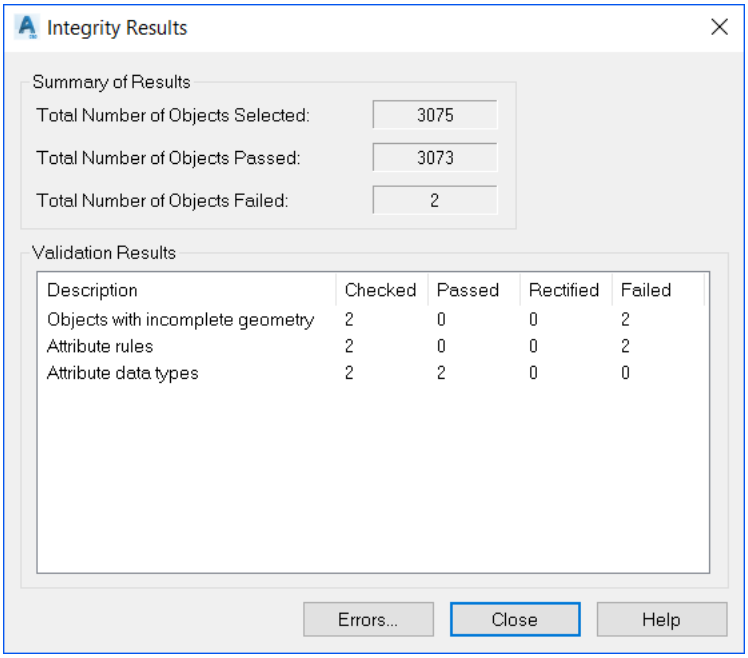


Figure 2 The Integrity Results dialog box

Browsing integrity markers

You can review the integrity markers resulting from the integrity check with the Browse Integrity Markers dialog box. This dialog box displays the complete list of errors encountered during the integrity check. The list consists of the error type, the object affected, a description of the error, and the GID of the spatial object. From this dialog box, you can locate and remove specific integrity markers in the drawing.

To browse integrity markers

1 Do one of the following:

- Choose **Capture** > **Browse Integrity Markers...**
- Click the **Browse Integrity Markers** button on the **Integrity** toolbar.
- Click the **Errors...** button on the **Integrity Results** dialog box.

The Browse Integrity Markers dialog box is displayed.

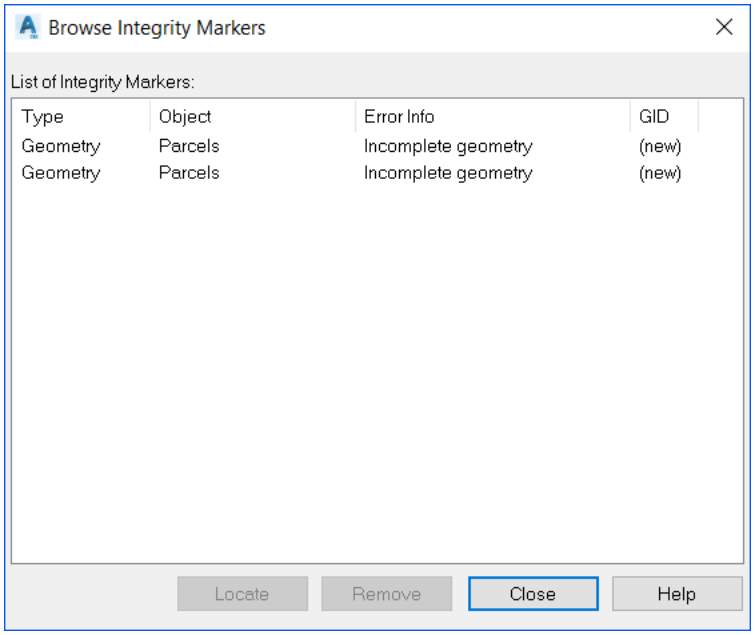


Figure 3 The Browse Integrity Markers dialog box

2 To locate an error, select the appropriate integrity marker, and then click the **Locate** button.

Munsys zooms to the extent of the spatial object to which the integrity marker refers.

3 To remove integrity markers from the list *and* from the drawing, select one or more integrity markers from the list, and then click the **Remove** button.

The integrity markers are removed from the drawing and from the list of markers.

Erasing integrity markers

With this function, you can erase all the integrity markers. Integrity markers are stored on the INTEG layer.

To erase integrity markers

1 Do one of the following:

- Choose **Capture** > **Erase Integrity Markers**.
- Click the **Erase Integrity Markers** button on the Integrity toolbar.

The command line prompts you for confirmation to erase all the integrity markers.

2 Press ENTER to erase the integrity markers.

The integrity markers are erased.

Posting cadastral data to the database

New or modified cadastral data that has passed the integrity check is posted to the database.

To post cadastral data to the database

1 Do one of the following:

- Choose **Capture** > **Post to Database...**
- Click the **Post to Database** button on the **Integrity** toolbar.

The Database Posting Summary dialog box is displayed.

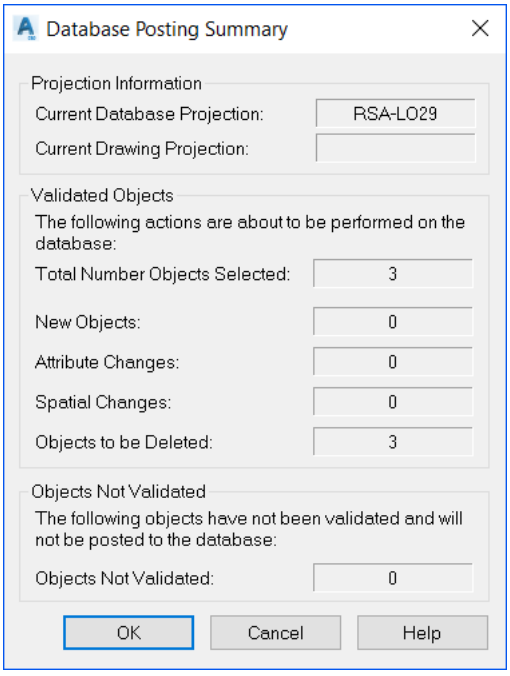


Figure 4 The Database Posting Summary dialog box

This dialog box displays the following:

- The total number of spatial objects selected for posting.
- The number of new objects created.
- The number of attribute changes made.
- The number of spatial changes made.
- The number of objects marked for deletion.
- The number of objects that have not been validated and that will not be posted to the database.

2 Click OK to update the database.

The Database Posting Results dialog box is displayed.

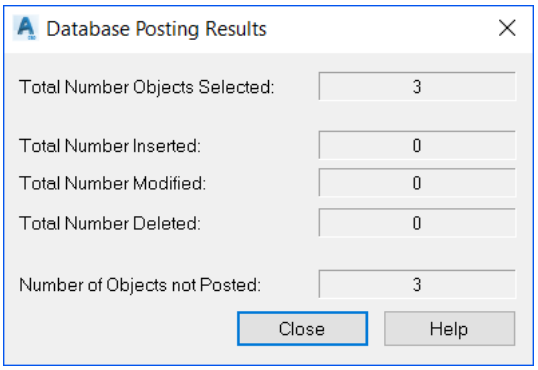


Figure 5 The Database Posting Results dialog box

This dialog box displays the following:

- The total number of objects selected for posting to the database.
- The total number of spatial objects inserted into the database.
- The total number of spatial objects modified in the database.
- The total number of spatial objects deleted from the database.
- The total number of objects not posted to the database.

3 Click **Close** to exit the **Database Posting Results** dialog box.

Note Once you have posted objects to the database, you will not be able to undo this function, which will avoid duplicate objects and keep the content of the drawing synchronized with the database.

Validating object integrity and posting data at the same time

If you select the Automatically perform Object Integrity option on the Munsys Options dialog box Preferences tab, you can perform an object integrity check and database posting operation at the same time. The following rules will be applied when the objects integrity phase of the operation is executed:

- Only modified objects will be selected for object integrity
- The integrity flag will be reset automatically if the object passes object integrity
- Integrity markers will be placed accordingly where errors occur, as happens when a normal object integrity check is run from the Capture menu
- If an error occurs, the integrity flag will not be reset
- Only objects related to the current application will be included in the object integrity check (i.e. if you are working in the Cadastral application, only cadastral objects will be checked)

If errors occurred during the object integrity check, you can do one of the following:

- Ignore the errors that occurred and continue to post the objects that passed the integrity check to the database
- Cancel the database posting operation and return to the map interface
- View the errors that occurred with the Browse Integrity Markers dialog box (this option also cancels the posting operation, allowing you to correct the errors first before attempting to post the objects to the database once again)

To validate object integrity and post objects at the same time

1 On the **Munsys Options** dialog box **Preferences** tab, select the **Automatically perform Object Integrity** check box in the **Database Posting Preferences** group.

2 Choose **Capture** > **Post to Database.**

An object integrity check is run on the all the new or modified objects in the drawing.

3 If any errors occurred, the following message is displayed:

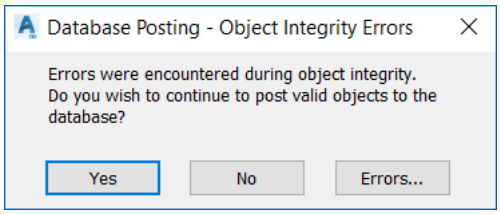


Figure 6 Database Posting – Object Integrity Errors

4 Do one of the following:

Click Yes to ignore the errors that have occurred and post the objects to the database that have passed the integrity check

Click No to cancel the posting operation and return to the drawing

Click Errors... to view the errors that occurred using the Browsing Integrity Markers dialog box.

Generating cadastral data status reports

Data status reports provide summarized information about spatial objects that are currently stored in the database. Once a report has been generated, it is saved to a comma delimited file, and then displayed in Notepad for easy viewing.

The following reports can be generated for cadastral objects:

- a summary of all the cadastral objects in the database
- a summary of all the parcels in the database, grouped by parcel type
- a summary of all the zoning polygons in the database, grouped by zoning type
- a summary of all the density polygons in the database, grouped by density type
- a summary of all the land use polygons in the database, grouped by land use type
- a summary of all the easements in the database, grouped by easement type
- a summary of all the buildings in the database, grouped by building type

To generate a cadastral data status report

1 Choose **Extras** > **Data Status Report...**

The Data Status Report dialog box displays a list of all the reports that can be generated.

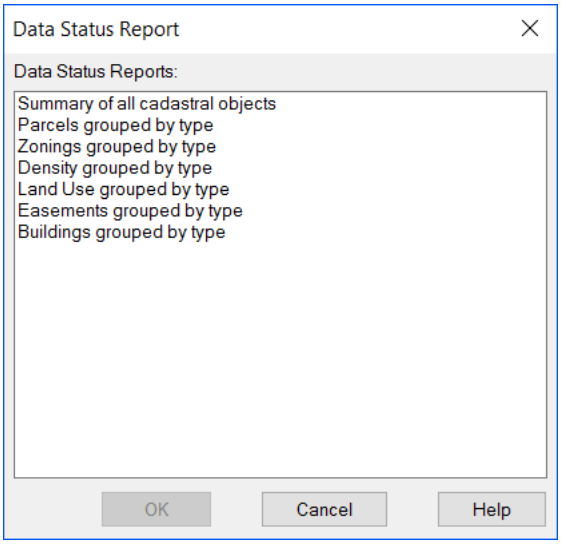


Figure 7 The Data Status Report dialog box

2 Select one or more reports to generate from the list, and then click OK.

3 Save the file to a location of your choice.

Figure 8 Data status report for buildings

Converting AutoCAD entities to cadastral objects

With Munsys, you can convert selected AutoCAD entities to Munsys Cadastral objects. Line entities can be converted to easements, text can be converted to easement text, tags, notes, street text or addresses, and polygons can be converted to community (suburb, township, municipality, etc.), parcel, easement, zoning, land use, density, or building polygons.

Although some basic attributes are assigned as part of the conversion process, you will need to assign attributes to the objects created with the conversion process.

To convert line entities to easements

With this function, you can convert line entities to easement lines.

1 Choose **Extras** > **Convert Line to** > **Easement**.

2 Select the line objects that you want to convert to easements, and then press ENTER.

The selected line objects are converted and the drawing is updated accordingly.

To convert text to cadastral objects

With this function, you can convert AutoCAD text to cadastral objects.

1 Choose **Extras** > **Convert Text to** > ***Cadastral Object Name***.

2 Select the objects that you want to convert, and then press ENTER.

The entities are converted to the cadastral objects that you specified, and the drawing is updated accordingly.

To convert polygons to cadastral objects

1 Choose **Extras** > **Convert Polygon to** > ***Cadastral Object Name***.

2 Select the polygons that you want to convert, and then press ENTER.

The polygons are converted to the object that you selected, and the drawing is updated accordingly.

Chapter 5
Maintaining cadastral data

Modifying cadastral data

Spatial data is stored in spatial and attribute tables as records. Users can edit spatial data by retrieving it from the database. Cadastral objects are retrieved onto their respective layers, for example, PARCEL_C (parcels) and BUILDING (buildings).

From the Munsys Cadastral Change menu, you can edit cadastral object attributes, move street text and addresses, and change community (suburb, township, municipality, etc.), parcel, easement, street text, building, density, land use and zoning attributes. You can also change cadastral notes, and delete and undelete cadastral objects.

Cadastral objects that have been changed need to be checked against the applicable business rules before they can be posted to the database.

Editing cadastral object attributes

The Edit Attributes function is used to edit the attributes of one or more selected cadastral spatial objects that belong to the same object type. The current application determines what object types may be selected; for example, if you are working in Munsys Cadastral, only cadastral objects may be selected. If you select more than one object type (for example parcels and easements), you will be required to choose a single object type to edit.

Objects that are selected for editing are locked (if record locking is enabled in the database). Once the objects have been selected and an object type to edit has been specified, the Edit Attributes dialog box is displayed. This dialog box contains various options that can be used to edit the attributes of the spatial objects:

- Attribute templates – attributes can be edited using an attribute template. The attributes that will be displayed when an attribute template has been selected will depend on the attributes that have been specified on the template, as well as the formatting parameters that apply to each column selected as part of the attribute template. If no attribute template has been selected, all the attributes belonging to the spatial object type are displayed.
- Editing multiple objects simultaneously – if you select this option, attributes of multiple objects are displayed simultaneously. Where the attributes of all the selected objects are the same, a value is displayed. Where attributes of the various objects that were selected differ, a value of *VARIES* is displayed. When a change is made to a value, the new value is applied to all the selected objects. If you do not select the Edit multiple objects simultaneously check box, you can edit the selected objects one by one. The values that are changed are only applied to the current object.
- AutoZoom – this option is only available when the Edit multiple objects simultaneously option is not selected, i.e. when you are going to edit the objects one by one. If the AutoZoom to object option is selected, Munsys will zoom to each object in the drawing as it becomes the current object. The object navigation buttons are used to move from one object to the next.

The various attributes are displayed on the Edit Attributes dialog box in three columns: Description, Value and Column Name. You can resize the dialog box for easier viewing. Values that may not be edited are unavailable. Attributes are edited in the *Value* column, either by typing a new value or by selecting a value from a drop-down list. Changes that are made are applied to objects in the drawing. These changes will only be updated in the database when the object integrity check has been run and the objects have been posted to the database.

To edit cadastral spatial objects

1 Choose **Change** > **Edit Attributes...**

2 Select the objects that you want to edit, and then press ENTER.

If you selected more than one object belonging to different object types, the Spatial Object Identification dialog box is displayed.

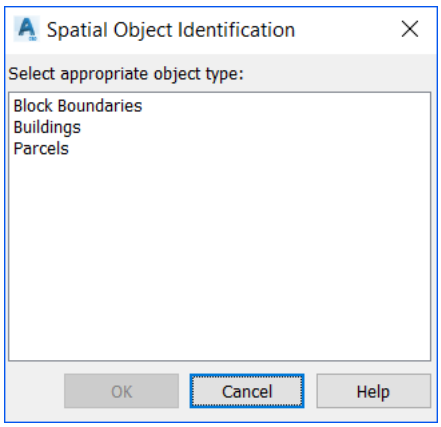


Figure 1 The Spatial Object Identification dialog box

3 Select a single spatial object type to edit, and then click OK.

The Edit Attributes: [*Object Type*] dialog box is displayed.

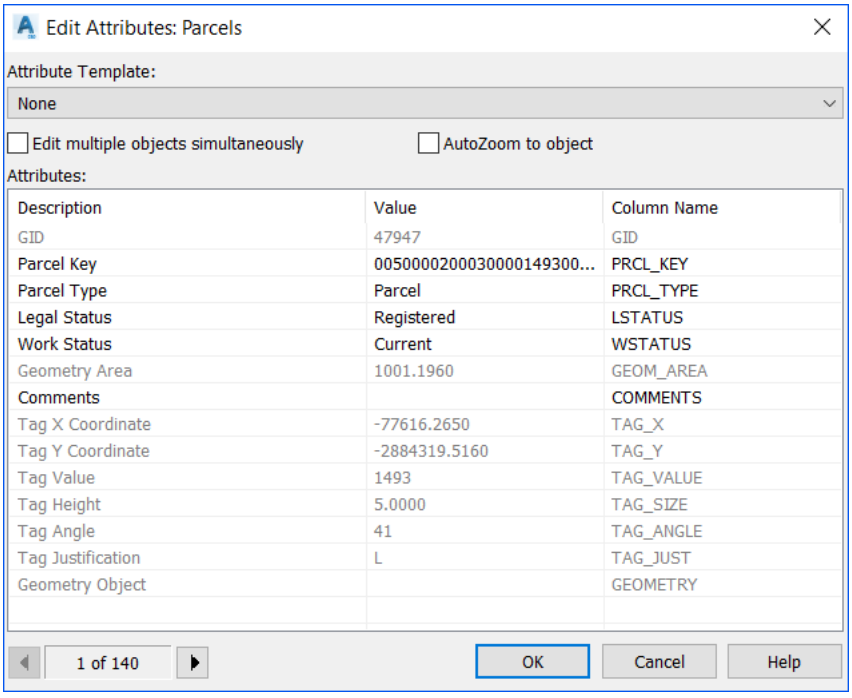


Figure 2 The Edit Attributes dialog box

4 If you want to edit the objects using an attribute template, select the appropriate attribute template from the **Attribute Template** list. If you do not want to make use of an attribute template, select **None**.

5 If you want to edit the attributes of all the selected objects at the same time, select the **Edit multiple objects simultaneously** check box.

Similar values are displayed, while values that differ between objects are displayed as *VARIES*, as seen in the following figure:

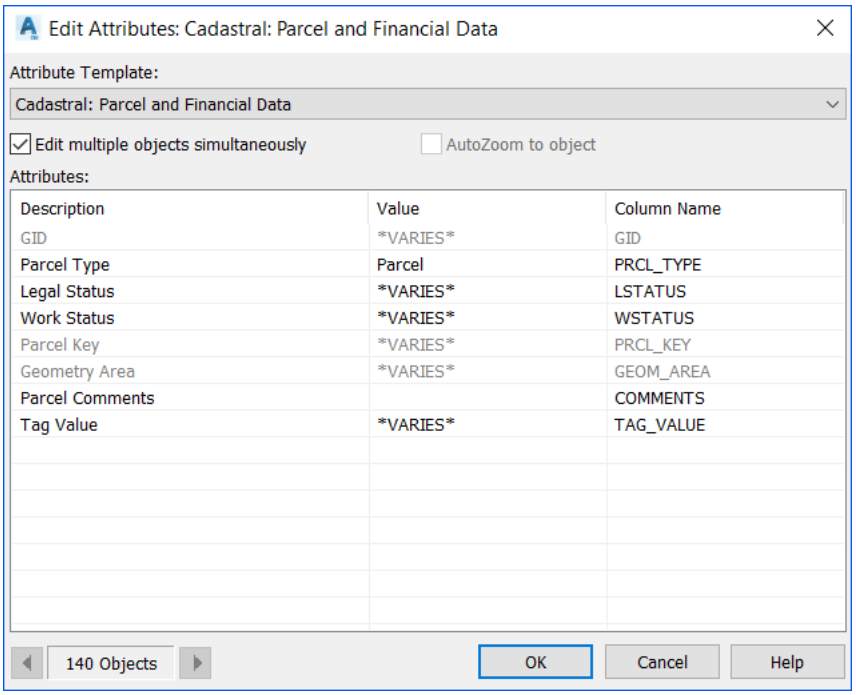


Figure 3 The Edit Attributes dialog box: Edit multiple objects simultaneously

6 If you want to edit the selected objects one by one, clear the **Edit multiple objects simultaneously** check box. Select the **AutoZoom to object** check box to zoom to the objects one by one and highlight them. The object navigation buttons are used to move from one object to the next.

7 To edit an attribute, do one of the following:

- Highlight a value, and then choose a new value from the drop-down list in the **Value** column.
- Highlight a value, and then enter a new value in the **Value** column

8 Click OK to apply the new value(s) to the object(s).

9 The values are applied to the objects, to be verified with the object integrity check.

Editing linked table attributes

This function is used to edit spatial object attributes that exist in linked tables. Linked table attributes are updated directly to the database. The current application determines what object types may be selected; for example, if you are working in Munsys Cadastral, only cadastral objects may be selected. If you select more than one object type (for example parcels and easements), you will be required to choose a single object type to edit. You can only select objects that have previously been posted to the database.

The link tables that can be edited using this function must be defined through an attribute template. The applicable attribute template is selected from a list, which is created by filtering attribute templates according to the following characteristics:

- Only attribute templates associated with the current spatial object type, being edited are included – the primary table in the attribute template is the same table from which the spatial objects were queried.
- Only attribute templates that contain linked tables are included
- The linked table specified may not be a Munsys spatial table
- The user must have edit privileges to the linked table
- The link column used to describe the relationship with the primary table must reference a true column in the linked table. This may not be an expression.

Attributes are displayed on the Linked Table Attributes dialog box in three columns: Description, Value and Column Name. You can resize the dialog box for easier viewing. Values that may not be edited are unavailable. Attributes are edited in the Value column by typing in a new value. Navigation buttons are used to move between the various records that are available and to move from one object to the next. You can also insert records into, or delete records from a linked table, depending on the privileges you have on the linked table.

To edit linked table attributes

1 Choose **Change** > **Edit Linked Table Attributes...**

2 Select the objects that you want to edit, and then press ENTER.

If you selected more than one object belonging to different object types, the Spatial Object Identification dialog box is displayed.

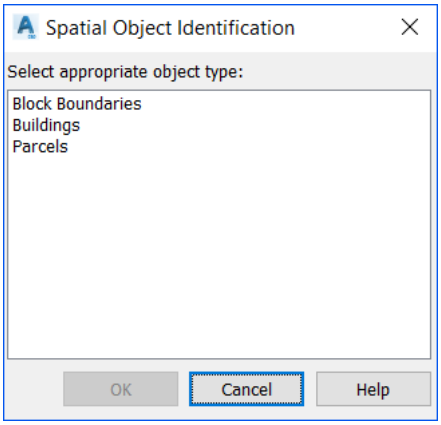


Figure 4 The Spatial Object Identification dialog box

3 Select a single spatial object type to edit, and then click OK.

The Linked Table Attributes dialog box is displayed.

4 Select the attribute template that you want to work with from the **Attribute Templates Containing Linked Tables** list.

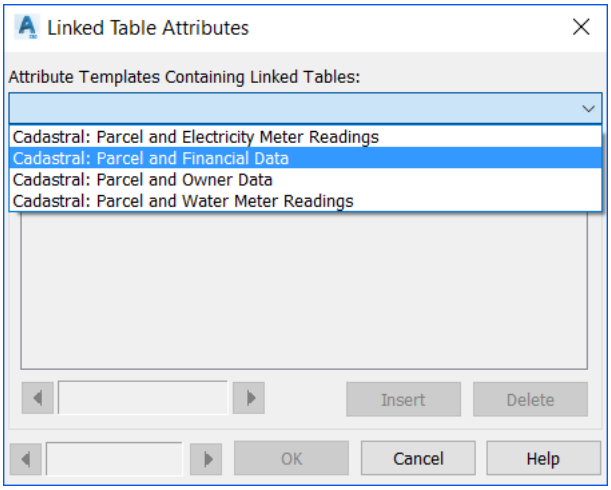


Figure 5 The Linked Table Attributes dialog box

The Description, Value and Column Name columns are populated according to the template that you selected, and the number of records and objects that were selected are displayed.

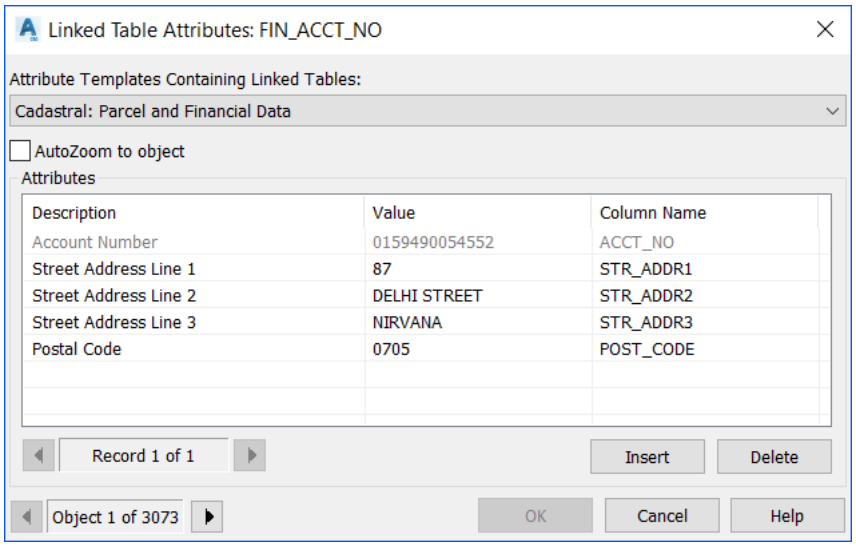


Figure 6 The Linked Table Attributes dialog box

5 Select the **AutoZoom to object** check box to zoom to each object and highlight it as it becomes the current object.

6 Use the navigation buttons to move between records and objects.

7 To insert a new record, click **Insert**, and then enter the new values in the **Value** column.

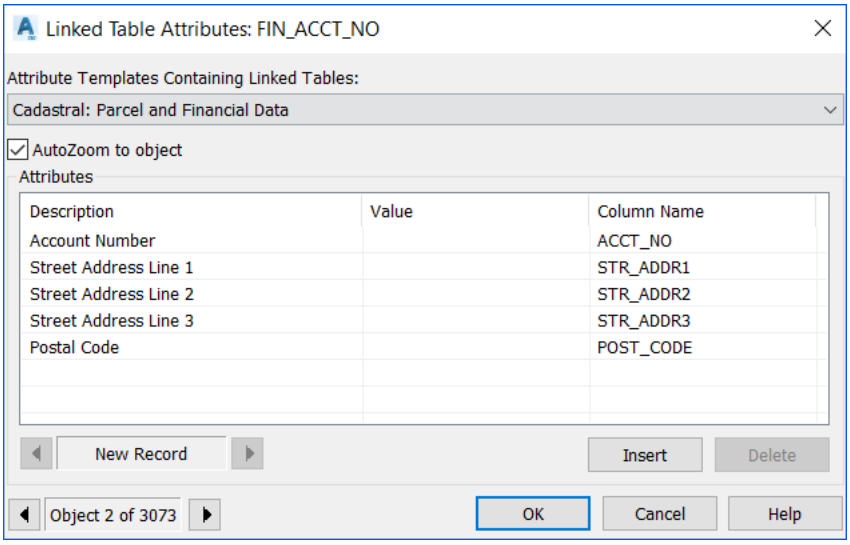


Figure 7 The Linked Table Attributes dialog box

8 To delete the record that is currently displayed, click **Delete**.

9 Click OK to update the changes to the database.

Moving a street name

With this function, you can easily move a single street name to a new destination point. The street name is flagged for verification when the integrity check is run.

To move a street name

1 Do one of the following:

- Choose **Change** > **Move Street Name**.
- Click the **Move Street Name** button on the Munsys Cadastral **Change** toolbar.

2 Select the street name that you want to move.

3 Specify a new destination point for the street name, as seen in the following figure:

Figure 8 Moving a street name

Moving a street address

With this function, you can move a single street address to a new destination point. The street address is flagged for verification when the integrity check is run.

To move a street address

1 Do one of the following:

- Choose **Change** > **Move Street Address**.
- Click the **Move Street Address** button on the Munsys Cadastral **Change** toolbar.

2 Select the street address that you want to move.

3 Specify a new destination point for the street name, as seen in the following figure:

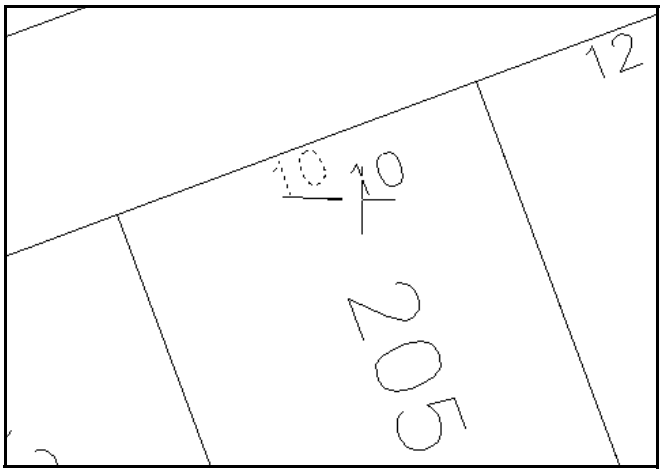


Figure 9 Moving a street address

Changing community information

With this function, you can change the community (suburb, township, municipality, etc.) name associated with a community boundary. The community is flagged as changed and is verified during the integrity check.

To change community info

1 Choose **Change** > *[Suburb]* > **Change** *[Suburb]* **Info...**

2 Select the appropriate community boundary.

3 The **Select** *[Suburb]* dialog box is displayed, highlighting the current community name.

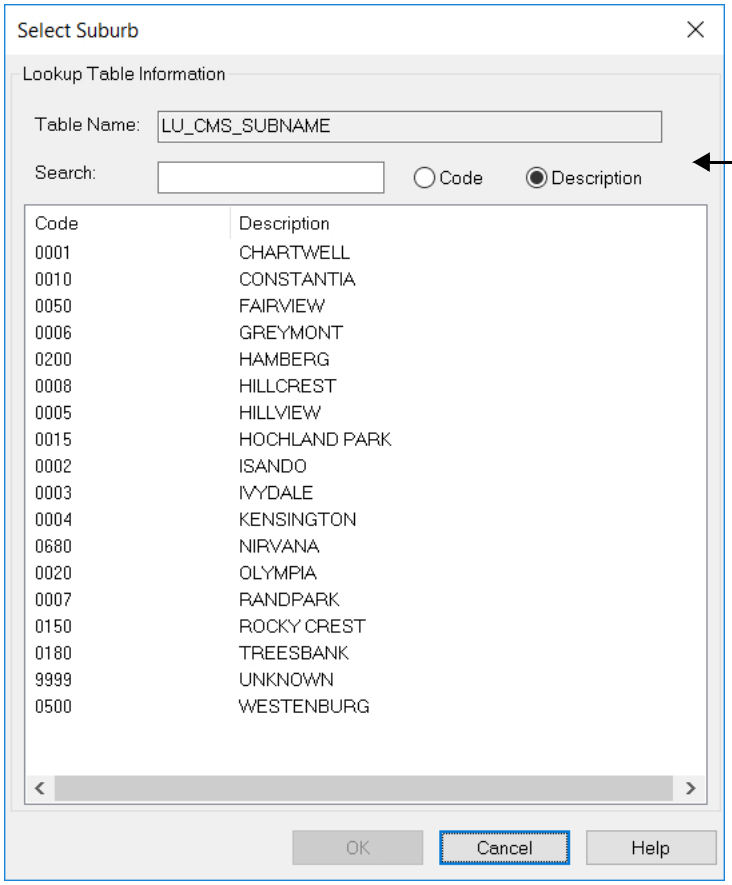


Figure 10 The Select Community dialog box

4 Select the new community name from the list, and then click OK.

The community tag is updated with the new tag and community code.

Changing parcel data

Parcels that have been posted to the database can be retrieved and changed if necessary. Using the Change menu, you can change parcel info, parcel type, legal and work status, and rebuild parcel polygons.

Editing parcel info

With this function, you can change the parcel number and parcel key of a selected parcel.

To edit parcel info

1 Do one of the following:

- Choose **Change** > **Parcel** > **Edit Parcel Info...**
- Click the **Edit Parcel Info** button on the Munsys Cadastral **Change** toolbar.

2 Select the appropriate parcel.

The Edit Parcel Information dialog box is displayed.

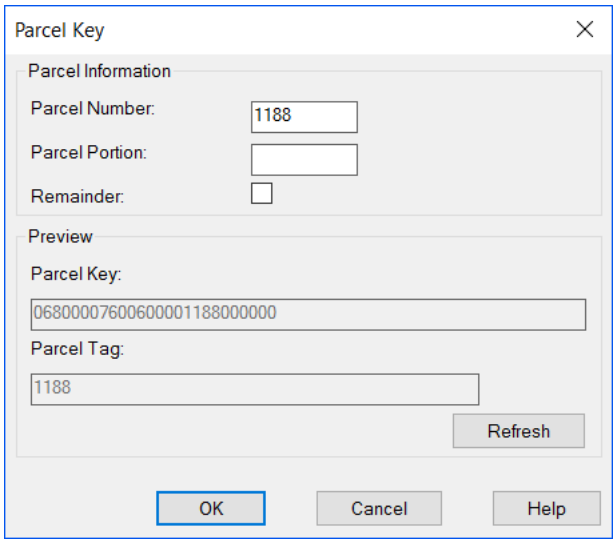


Figure 11 The Edit Parcel Information dialog box

3 Change the parcel information as required, and then click OK to apply the changes.

Changing a parcel type

With this function, you can change the parcel type that has been assigned to one or more parcels. The default parcel type that was automatically assigned during the capture process is not necessarily valid for all the parcels; therefore you might need to change parcels that have a different type than the default.

When a parcel type is changed, the parcel attribute is updated and the parcel is flagged to be verified when the integrity check is run.

To change a parcel type

1 Choose **Change** > **Parcel** > **Change Parcel Type...**

2 Select the parcel(s) that you want to change, and then press ENTER.

The Select Parcel Type dialog box is displayed.

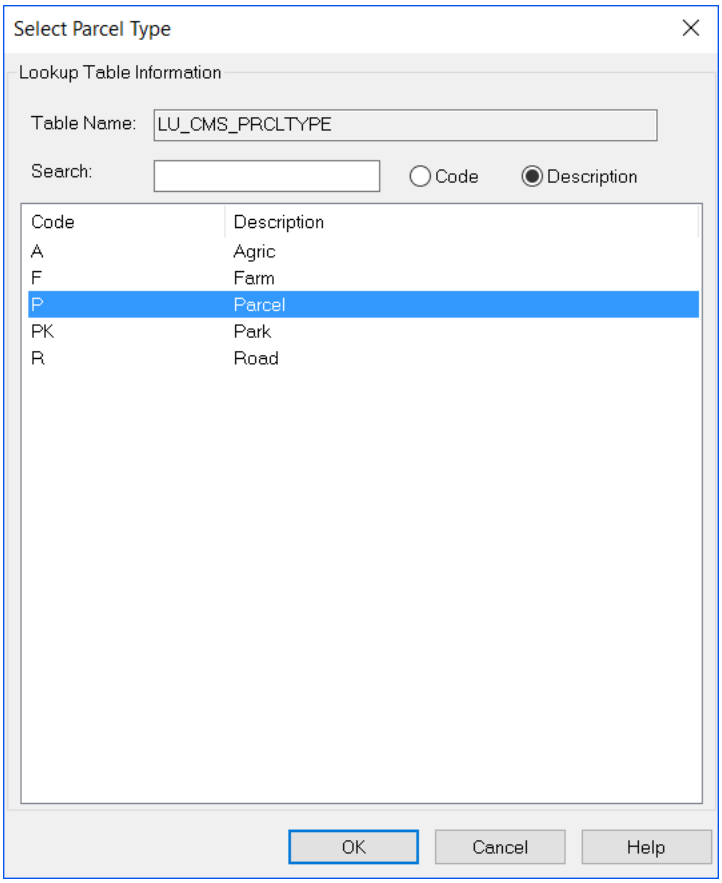


Figure 12 The Select Parcel Type dialog box

3 Select the appropriate parcel type from the list, and then click OK.

The command line indicates how many parcels have been updated.

Changing the legal status of a parcel

You can change the legal status of a parcel from the default status assigned during the capture process.

When the legal status of a parcel changes, the legal status attribute is updated with the new value, and the parcel is flagged to be verified when the integrity check is run.

To change the legal status of a parcel

1 Choose **Change** > **Parcel** > **Change Legal Status...**

2 Select the parcel of which the legal status needs to change, and then press ENTER.

The Select Legal Status dialog box is displayed.

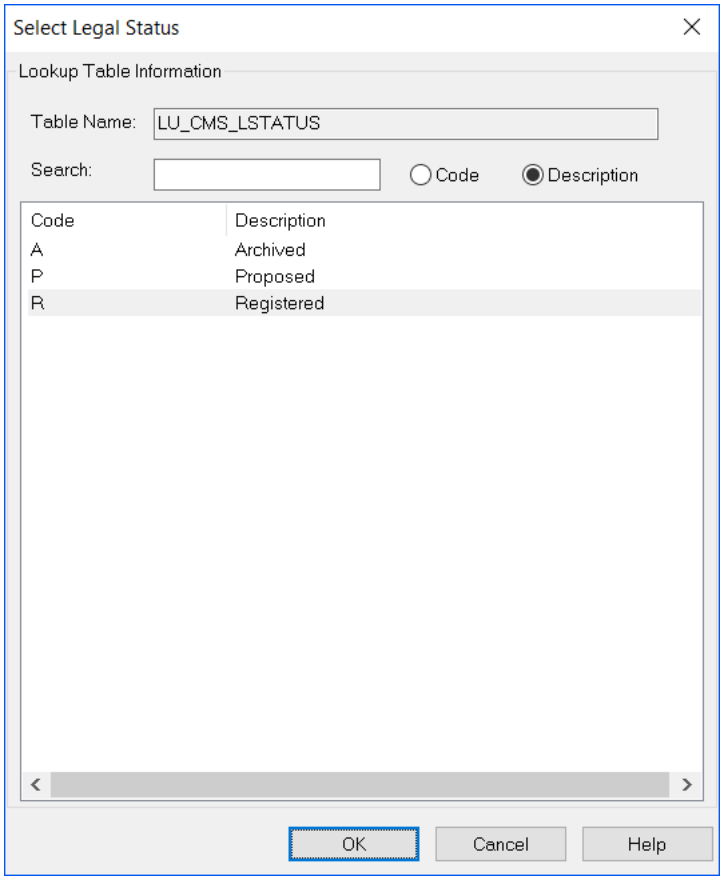


Figure 13 The Select Legal Status dialog box

3 Select the appropriate status from the list, and then click OK.

Changing the work status of a parcel

You can change the work status of a parcel from the default status assigned during the capture process.

When the work status of a parcel changes, the work status attribute is updated with the new value, and the parcel is flagged to be verified when the integrity check is run.

To change the work status of a parcel

1 Choose **Change** > **Parcel** > **Change Work Status...**

2 Select the parcel of which the work status needs to change, and then press ENTER.

The Select Work Status dialog box is displayed.

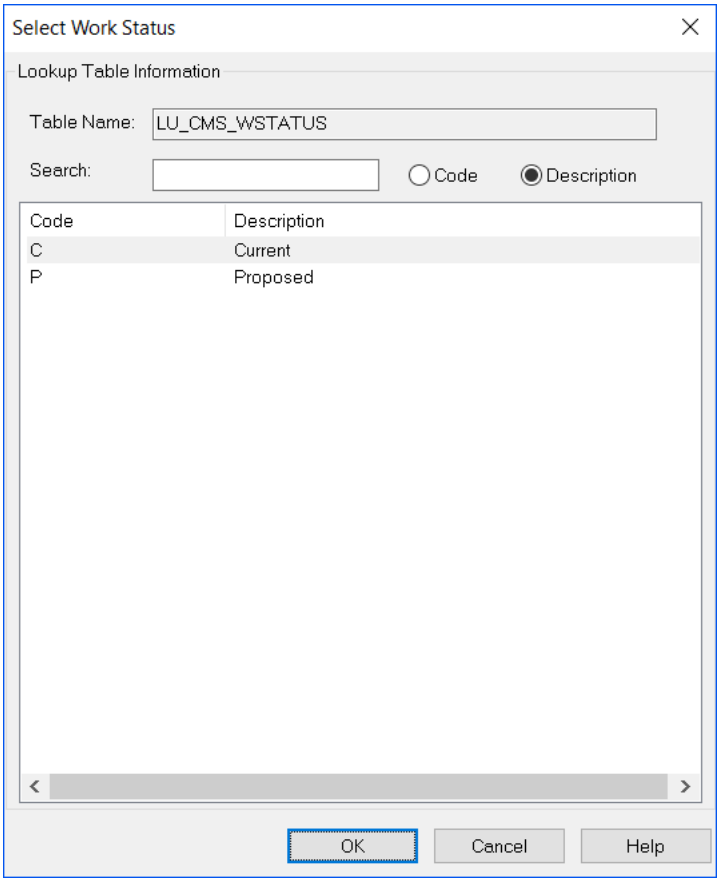


Figure 14 The Select Work Status dialog box

3 Select the appropriate status from the list, and then click OK.

Rebuilding parcel polygons

This function is used to rebuild the geometry of a parcel, while keeping all the existing attributes. This is used in cases where more accurate cadastral data becomes available and a section needs to be rebuilt.

You will be prompted to select the lines for the polygon builder. If the geometry consists of arcs, you will have to convert the arcs to lines before constructing the new polygons. Once the lines have been selected, you will be prompted to select the existing objects. The lines must be cleaned using the fracture tools before polygons can be constructed.

An integrity check must be run on the new polygons before they can be posted to the database.

Note Each object contains only one tag; therefore this function does not cater for complex objects.

To rebuild parcel polygons

1. Choose **Change** > **Parcel** > **Rebuild Parcel Polygons**.
2. Select the appropriate parcel boundaries, and then press ENTER.
3. Select the existing parcels for the polygon builder, and then press ENTER.

   The command line indicates how many parcel polygons were rebuilt.

Subdivide parcel

With this function you can subdivide/split a parcel into multiple new parcels.

To subdivide a parcel

1. Choose **Change** > **Parcel** > **Subdivide Parcel**.
2. At the prompt 'Select MUNPOLY object:' select the appropriate parcel.
3. At the prompt 'Select LWPOLYLINE object to use for split:' choose the LWPOLYLINE that will be used to subdivide the parcel.
4. You will be presented with a dialog to update the Legal status of the existing parcel, by default the legal status will highlight the current status.
5. Click **OK** when you have updated the legal status.

Changing an easement type

With this function, you can change the easement type that has been assigned to one or more selected easements. This is usually used to set the easement purpose on both the lines and text during the capture process. The easement attribute is updated, and existing lines/polygons and text are flagged to be verified when the integrity check is run.

To change an easement type

1 Choose **Change** > **Easement** > **Change Easement Type...**

2 Select the appropriate easement object(s), and then press ENTER.

The Select Easement Type dialog box is displayed.

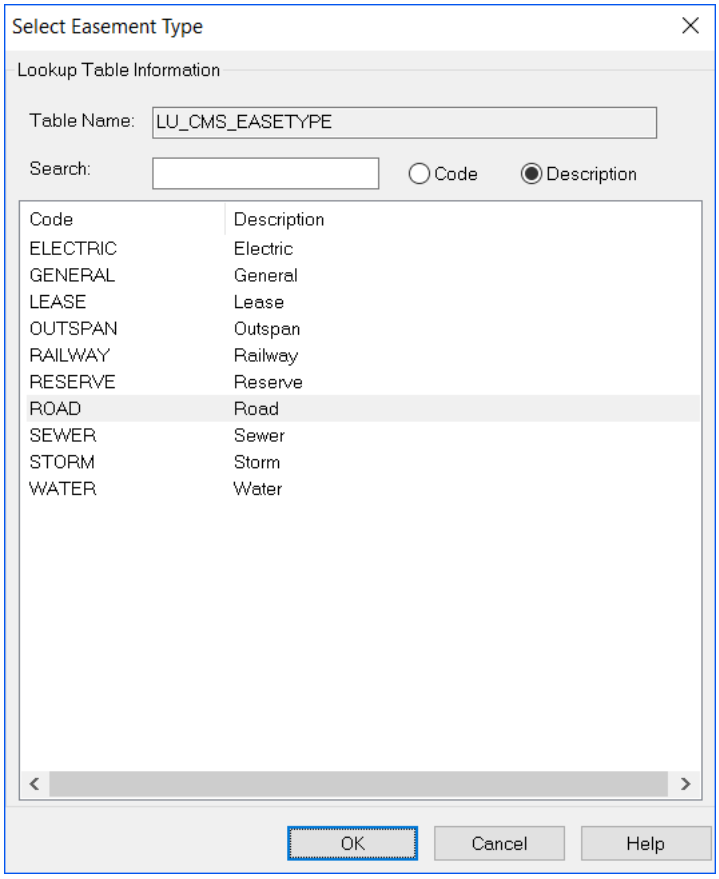


Figure 15 The Select Easement Type dialog box

3 Select an easement type from the list, and then click OK.

The command line indicates how many easements have been updated.

Changing street text information

Street text that has been captured successfully and posted to the database can be retrieved for editing. You can change the current street address info and address status, and update the link between street addresses and parcels.

Changing address info

With this function, you can update the community (suburb, township, municipality, etc.) name, street name and (optional) postal code for one or more selected street addresses, for example when a street has been renamed and the associated information needs to be updated.

To change address info

1 Choose **Change** > **Street Text** > **Change Address Info...**

2 Select the appropriate street address/es, and then press ENTER.

The Place Addresses dialog box is displayed.

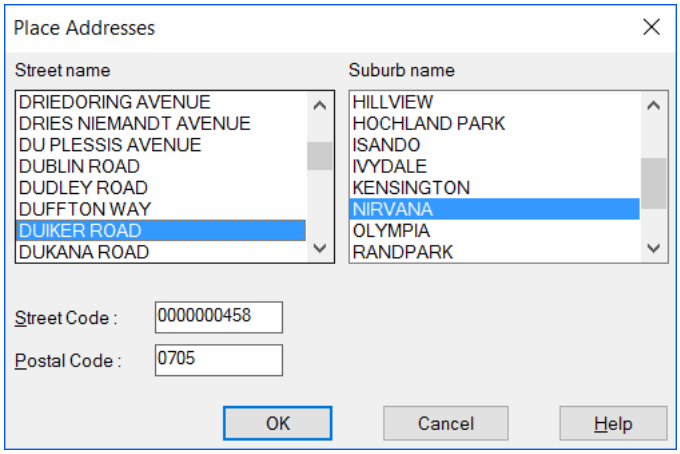


Figure 16 The Place Addresses dialog box

3 From the **Street name** list, select the appropriate street name.

The Street Code is updated automatically.

4 From the *[Community]* **name** list, select the appropriate community.

5 Enter a postal code in the **Postal Code** text box, and then click OK.

The command line indicates how many addresses have been updated successfully.

Changing address status

With this function, you can update the status of one or more addresses to used or not used.

To change address status

1 Choose **Change** > **Street Text** > **Change Address Status...**

2 Select the appropriate street address/es, and then press ENTER.

The Street Address Status dialog box is displayed.

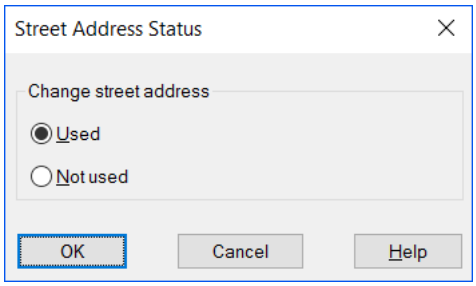


Figure 17 The Street Address Status dialog box

3 From the **Change street address** group, indicate the appropriate status, and then click OK.

The command line indicates how many addresses have been updated successfully.

Linking addresses to parcels

With Munsys Cadastral, you can update the link between addresses and parcels. The parcel area is searched for any address objects within the boundary. The street text is flagged to be verified when the integrity check is run.

To link addresses to parcels

1 Choose **Change** > **Street Text** > **Link Addresses to Parcels**.

2 Select the appropriate addresses to be linked to the respective parcels, and then press ENTER.

The command line indicates how many street addresses were updated.

Changing building information

Building data that has been posted to the database can be retrieved and changed. You can change the building type, or assign the number of floors to a building.

Changing building type

When a building is captured, it is assigned the default building type as specified in the Cadastral Settings dialog box is assigned to it. This function is used to change the building type.

To change a building type

1. Choose **Change** > **Building** > **Change Building Type...**
2. Select the building polygon(s) to change, and then press ENTER.
3. The **Select Building Type** dialog box is displayed.

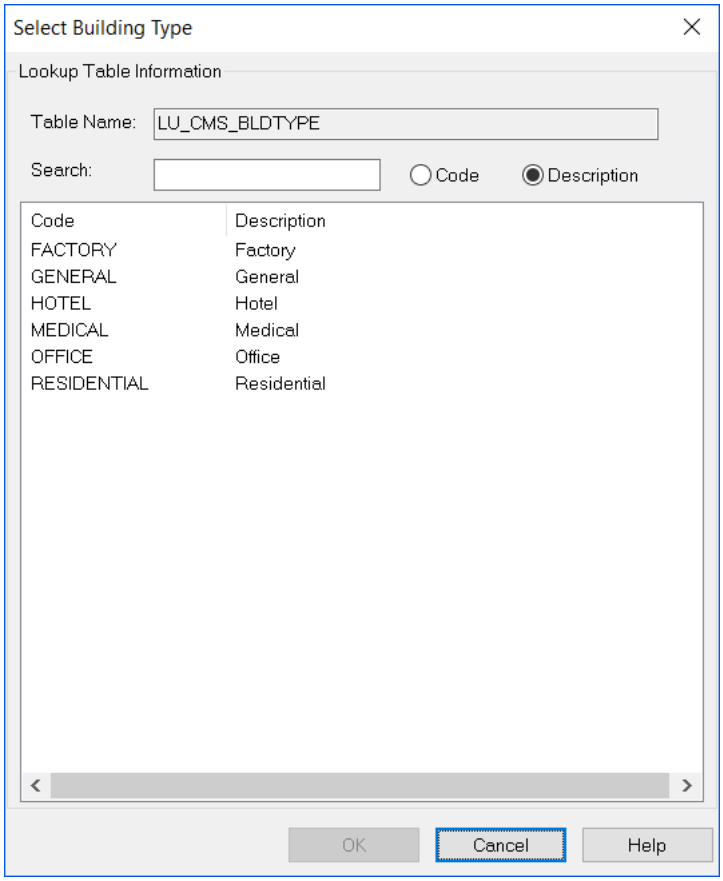


Figure 18 The Select Building Type dialog box

4. Select the building type that you want to assign to the building, and then click OK.

Assigning floors/rooms to buildings

With this function, you can specify the number of floors in one or more buildings. The number of floors is assigned to the selected building(s), and is flagged as a change to be verified when the integrity check is run.

To assign floors to a building

1 Choose **Change** > **Building** > **Change Building Floors/Room Info...**

2 Select the appropriate building(s), and then press ENTER.

The Edit Building Information text box is displayed.

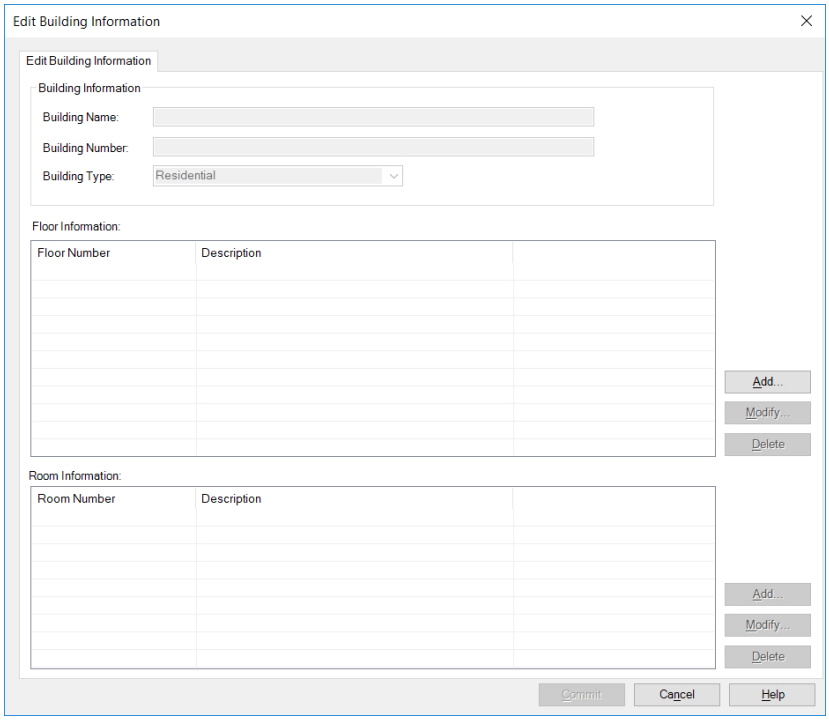


Figure 19 The Edit Building text box

3 Select **Add** on the Floor Information dialog.

The New Building Floor text box is displayed.

4 Type in the **Floor Number** and **Floor Description**, and then click **OK**.

The selected floor(s) are updated accordingly.

Note Floor information should first be populated, thereafter the room information can be entered.

5 To add room information select **Add** on the **Room Information** dialog.

The New Building Room text box is displayed.

6 Type in the **Room Number** and **Room Description**, and then click **OK**.

The selected room(s) are updated accordingly.

Changing a density type

A density type is changed by selecting the density polygon, and then selecting the new density type from the Select Density Type dialog box. The changed polygon is flagged to be verified when the integrity check is run.

To change a density type

1 Choose **Change** > **Density** > **Change Density Type**.

2 Select the density boundary, and then press ENTER.

The Select Density Type dialog box is displayed.

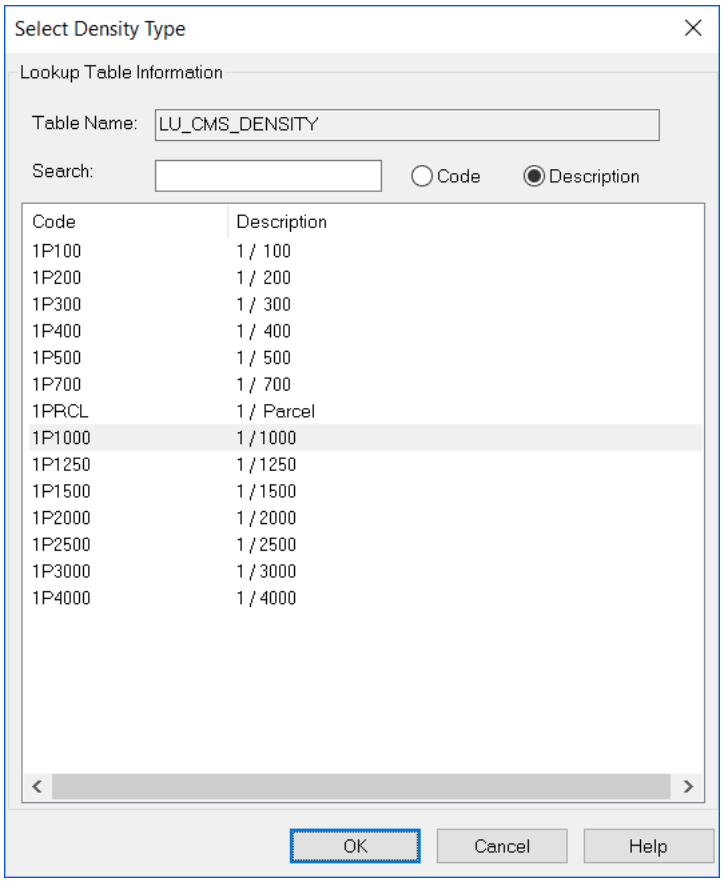


Figure 20 The Select Density Type dialog box

3 Select a density type from the list, and then click OK.

The command line indicates if the density has been updated.

Changing a land use type

A land use type is changed by selecting the land use polygon, and then selecting the new land use type from the Select Land Use Type dialog box. The changed polygon is flagged to be verified when the integrity check is run.

To change a land use type

1 Choose **Change** > **Land Use** > **Change Land Use Type**.

2 Select the land use boundary, and then press ENTER.

The Select Land Use Type dialog box is displayed.

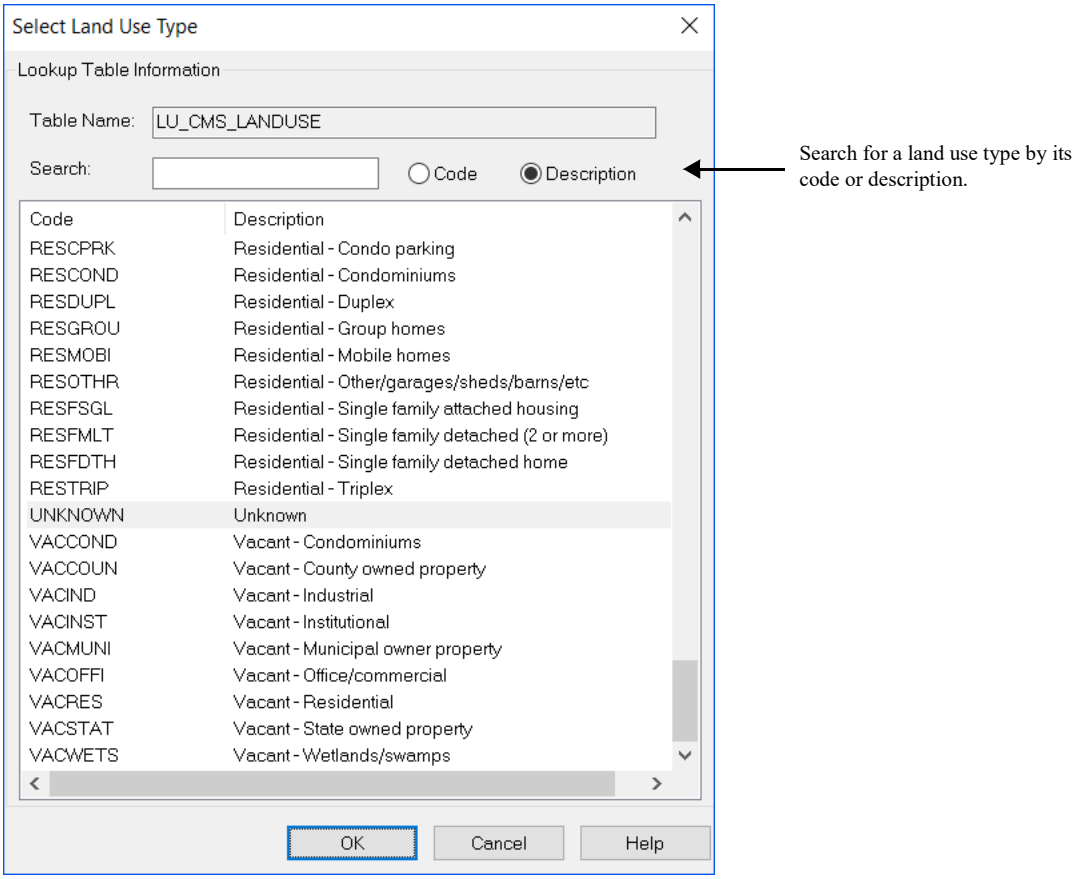


Figure 21 The Select Land Use Type dialog box

3 Select a land use type from the list, and then click OK.

The command line indicates if the land use has been updated.

Changing a zoning type

A zoning type is changed by selecting the zoning polygon, and then selecting the new zoning type from the Select Zoning Type dialog box. The changed polygon is flagged to be verified when the integrity check is run.

To change a zoning type

1 Choose **Change** > **Zoning** > **Change Zoning Type**.

2 Select the zoning boundary, and then press ENTER.

The Select Zoning Type dialog box is displayed.

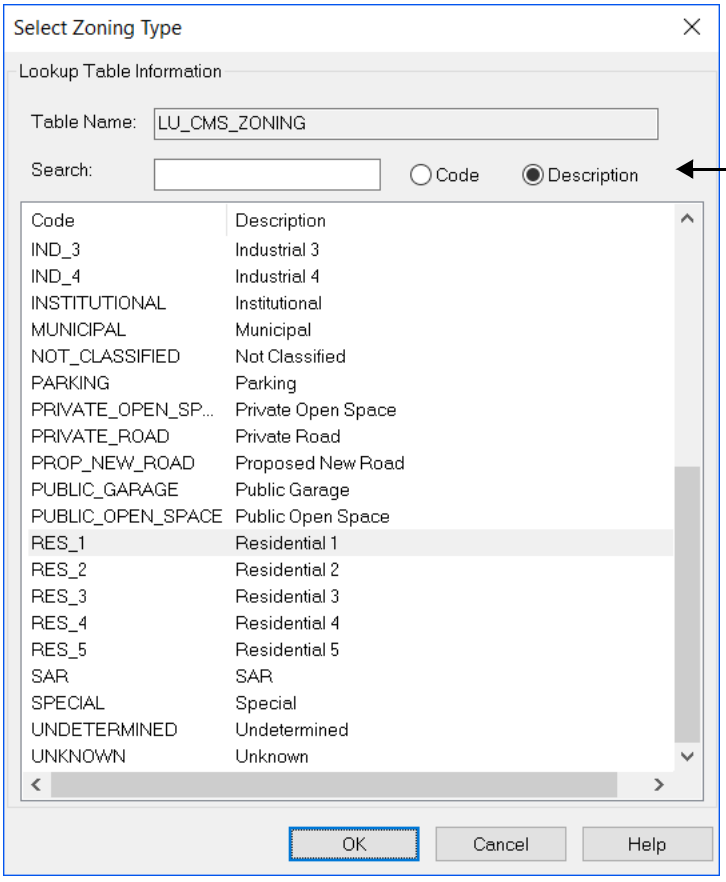


Figure 22 The Select Zoning Type dialog box

3 Select a zoning type from the list, and then click OK.

The command line indicates if the zoning has been updated.

Changing a cadastral note

This function is used to change a cadastral note. A cadastral note that has been changed is flagged as an attribute change that has to be verified when the integrity check is run.

To change a cadastral note

1 Do one of the following:

- Choose **Change** > **Change Cadastral Note...**
- Click the **Change Cadastral Note...** button on the Munsys Cadastral **Change** toolbar.

The Cadastral Note text box is displayed, showing the current note text.

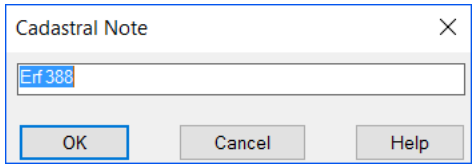


Figure 23 Cadastral Note text box

2 Change the note as required, and then click OK.

Adding comments

This function is used to assign descriptive comments to one or more selected objects.

To add comments

1 Choose **Change** > **Add Comment...**

2 Select the object(s) to which you want to add a comment.

The Cadastral Comment text box is displayed.

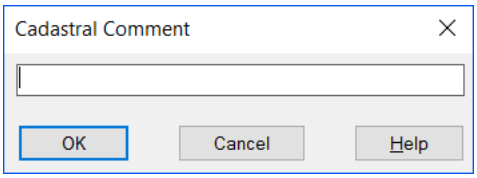


Figure 24 The Cadastral Comment text box

3 In the text box, add the comment, and then click OK.

The comment is assigned to the selected objects.

Deleting and undeleting cadastral objects

With Munsys Cadastral, existing cadastral objects can be deleted from the database. Multiple objects can be selected for deleting. Deleted cadastral objects are moved to a frozen layer DELETED, which is removed from the database when changes are posted. With the Undelete function, you can restore cadastral objects that have been moved to the DELETED layer and that are marked for deletion.

Note The **Undelete** function cannot be used to undelete objects that have already been posted to the database.

To delete cadastral objects

1. Choose **Change** > **Delete Cadastral Object**.
2. Select the cadastral objects that you want to delete.

   The command line indicates how many cadastral objects you have selected, and how many have been filtered out.
3. Press ENTER to delete the selected cadastral objects.

   The cadastral objects are flagged for deletion and moved to the layer DELETED. These changes are applied to the database when changes are posted.

To undelete cadastral objects

1. Choose **Change** > **Undelete Cadastral Objects**.

   The objects that you deleted are displayed in the drawing area.
2. Select the cadastral objects that you want to restore.

   The Delete flag is no longer set for the selected objects. In the event of spatial or attribute changes before the objects were flagged for deletion, these changes are applied. The objects are moved to the default layer of the object type.

Changing community data

With this function you can subdivide/split a township into multiple new townships.

Note This is only available on the International Version.

Subdivide township

To subdivide a township

1. Choose **Change** > **Township** > **Subdivide Township**.
2. At the prompt ‘Select MUNPOLY object:’ select the appropriate parcel.
3. At the prompt ‘Select LWPOLYLINE object to use for split:’ choose the LWPOLYLINE that will be used to subdivide the township.
4. You will be presented with a dialog to update the Legal status of the existing township, by default the legal status will highlight the current status.
5. Click **OK** when you have updated the legal status.

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