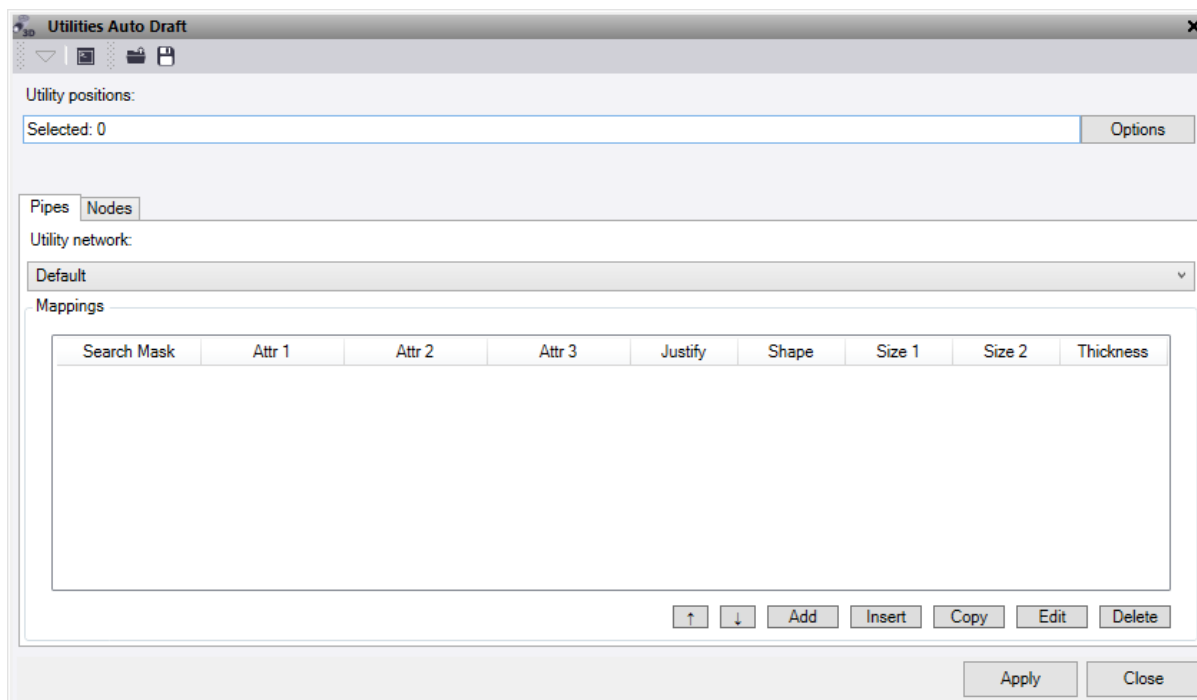




3D Utilities Auto Draft

Command Description

The Utilities Auto Draft command allows the user, based on a feature codes and attributes, to create utility pipes and nodes automatically from as-built or design 3d data. You create a mapping rule set and by selecting a group of lines and feature coded points using all or part of a name (using the wildcard asterisk "*") and attributes, apply rules to those objects simultaneously. In addition, you can import mapping rule sets into your project, or export the ones you create, using *.utilitiesautodraftV2 files.

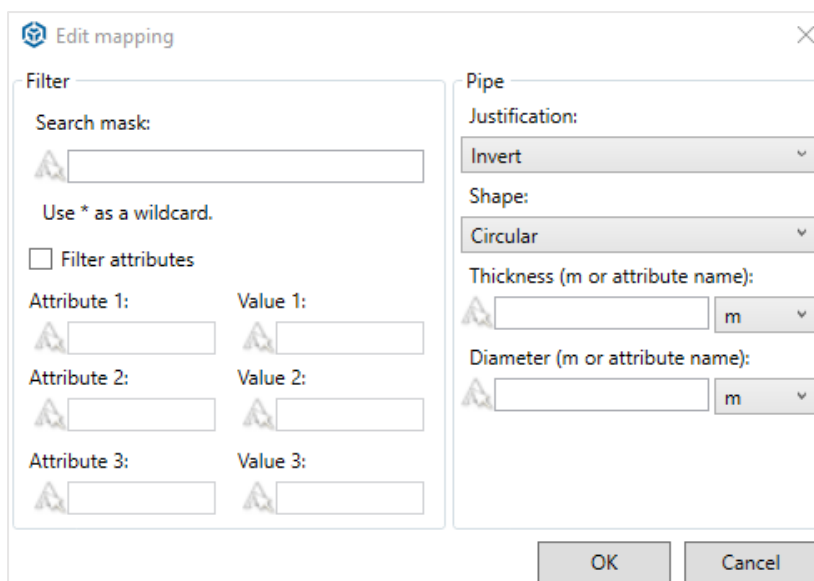


At the top of the command pane there is the ability to **load** and **save** a utility map file. Once you have populated the command with the appropriate rule sets you can save it in a file that can be reloaded in the future.

- Click in the **Utility Positions** field and then in a graphic view select all the points and CAD objects you want to map. Click **Options** for additional selection options.

Pipes Tab

- Select a **Utility network** for the pipes or create a new network. If the lines that are mapped have colours set on them then the pipes will follow the same colour, else if the line colours are set to 'by layer' then the colour of the pipes will also be 'by layer'. (Note - You will require a Utility module licence to create a new one).
- Load an existing utility map file or to create a new mapping at the bottom of the table, click the **Add** button to display the **Edit Mapping** dialog for Pipes and do the following:



Filter:

- In the **Search mask** field, enter all or part (using the wildcard asterisk "**") of the string name you want to map.

For example, if you enter **Conduit** (preceded and followed by an asterisk), all objects with *Conduit* in their name will be mapped. This would include, for example, *BottomConduit1*, *TopConduit2*, and *MiddleConduit1*.

- **Filter attributes** can be applied to the above mask as a secondary filter option.
 - Enter the attribute name and value you wish to search, then leave the second and third attribute options empty or add another to refine further. Once the mask is found true it then checks the attributes and if they are found true, it will apply the pipe details. *Note, these values are decimal point sensitive.*

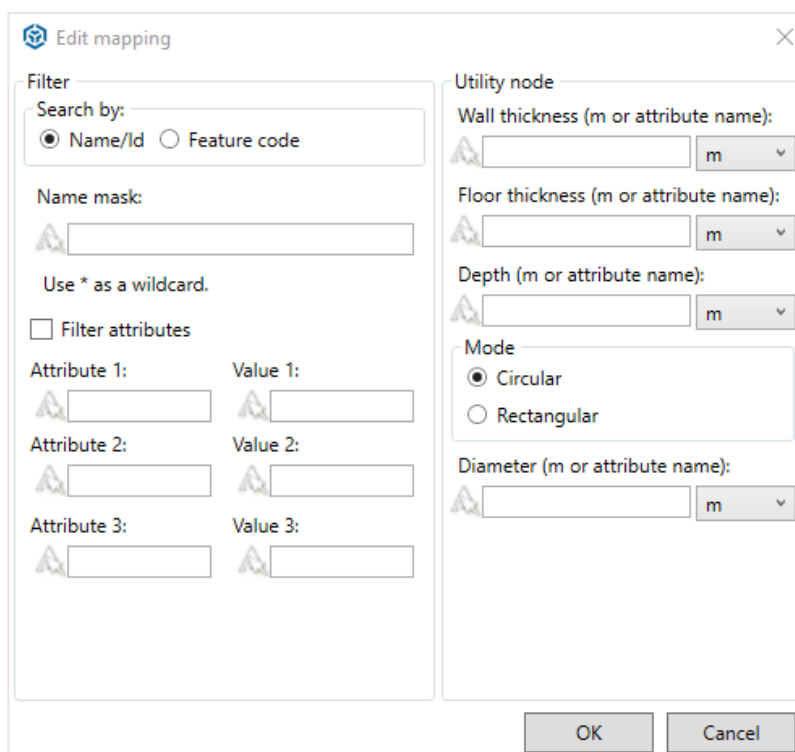
Pipe:

- Select the required **Justification** from the list for the pipe being drawn.
- Select the required **Shape** from the list for the pipe being drawn.
- Based on the **Shape** used there are the following options.
 - Circular – **Thickness**. This is applied to the pipe shape and can be directly entered, or an attribute name can be entered so that it will apply the value from that attribute each time.
 - Circular – **Diameter**. This is applied for the pipe size and can be directly entered, or an attribute name can be entered so that it will apply the value from that attribute each time.
 - Rectangular – **Thickness**. This is applied to the box shape and can be directly entered, or an attribute name can be entered so that it will apply the value from that attribute each time.
 - Rectangular – **Width**. This is applied to the box size and can be directly entered, or an attribute name can be entered so that it will apply the value from that attribute each time.
 - Rectangular – **Height**. This is applied to the box size and can be directly entered, or an attribute name can be entered so that it will apply the value from that attribute each time.

Note: all values for the above can be entered in metre, millimetre or inch units based on your selection.

Nodes Tab

1. Enter the name of the **BIM Group** for the nodes to be a part of.
2. Assign a **Colour** for the nodes.
3. Select or create a new **Layer** for the nodes to populate.
4. Load an existing utility map file or to create a new mapping at the bottom of the table, click the **Add** button to display the Edit Mapping dialog for Nodes and do the following:



The 'Edit mapping' dialog box is divided into two main sections: 'Filter' and 'Utility node'.

Filter Section:

- Search by:** Radio buttons for 'Name/Id' (selected) and 'Feature code'.
- Name mask:** A text input field with a warning icon.
- Use * as a wildcard.** A checkbox.
- Filter attributes:** A checkbox.
- Attribute 1:** A text input field with a warning icon.
- Value 1:** A text input field with a warning icon.
- Attribute 2:** A text input field with a warning icon.
- Value 2:** A text input field with a warning icon.
- Attribute 3:** A text input field with a warning icon.
- Value 3:** A text input field with a warning icon.

Utility node Section:

- Wall thickness (m or attribute name):** A text input field with a warning icon and a unit dropdown menu (set to 'm').
- Floor thickness (m or attribute name):** A text input field with a warning icon and a unit dropdown menu (set to 'm').
- Depth (m or attribute name):** A text input field with a warning icon and a unit dropdown menu (set to 'm').
- Mode:** Radio buttons for 'Circular' (selected) and 'Rectangular'.
- Diameter (m or attribute name):** A text input field with a warning icon and a unit dropdown menu (set to 'm').

At the bottom are 'OK' and 'Cancel' buttons.

Filter:

- In the **Search by** field, select point ID or Feature code and then in the **Name mask** enter all or part (using the wildcard asterisk "*") of the point ID or Feature code depending on selection you want to map.

For example, if you enter *PPGP** (followed by an asterisk), all objects with *PPGP* at the start of their name will be mapped.

- **Filter attributes** can be applied to the above mask as a secondary filter option.
 - Enter the attribute name and value you wish to search, then leave the second and third attribute options empty or add another to refine further. Once the mask is found true it then checks the attributes and if they are found true, it will apply the node details. *Note, these values are decimal point sensitive.*

Utility node:

- **Wall thickness** - This is applied to the pit walls and can be directly entered, or an attribute name can be entered so that it will apply the value from that attribute each time.
- **Floor thickness** - This is applied to the pit floor and can be directly entered, or an attribute name can be entered so that it will apply the value from that attribute each time.
- **Depth** - This is the depth of the pit from the point location and can be directly entered, or an attribute name can be entered so that it will apply the value from that attribute each time.

- Based on the **Mode** used there are the following options.
 - Circular – **Diameter**. This is applied for the pit size and can be directly entered, or an attribute name can be entered so that it will apply the value from that attribute each time.
 - Rectangular – **Length**. This is applied to the pit size and can be directly entered, or an attribute name can be entered so that it will apply the value from that attribute each time.
 - Rectangular – **Width**. This is applied to the pit size and can be directly entered, or an attribute name can be entered so that it will apply the value from that attribute each time.
 - Rectangular – **Rotation**. This is applied to the pit orientation and can be directly entered, or an attribute name can be entered so that it will apply the value from that attribute each time.

Note: all values for the above can be entered in metre, millimetre or inch units based on your selection, except rotation which is always in decimal degrees.

Your selections are displayed in a new row in the **Mappings** table in the **associated** tab of the command pane.

1. To delete a row from the **Mappings** table, select the row and click **Delete**. To delete multiple rows, select the top row and hold shift and select the bottom row, then delete.
2. To move the row order, use the **Up** and **Down** arrows and to edit a previously entered row use the **Edit** button or double click on the row in the table. Note that the order of the mapping file matters as the command looks at the Name Mask from top to bottom. *To order the search mask names in alphabetical order in the mapping table simply left click on the **Search Mask** column heading.*
3. To insert a row above an existing one, click on the row location and press the **Insert** button. To copy an existing row, highlight the row and press the **Copy** button and this will be added directly below.
4. Click **Apply** to apply the mapping changes and keep the **Utilities Auto Draft** command pane open.

The pipes and nodes are created from the selected data and the number created is displayed.

Note: *If the same object mask is selected in more than one row in the **Mapping** table, the mapping rules specified first will apply.*

Example:

