

# The Z Management Toolbar

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# History of the Z Management Toolbar

- § Initially written for 9.3 as a sample
- § Compile it yourself in C# or VB.net
- § No feedback to ESRI
- § No idea of usage
  
- § Not included and not compatible as part of ArcGIS10
  
- § Recompiled for 10.1 in 2013

# Z Management Toolbar at Murrin Murrin

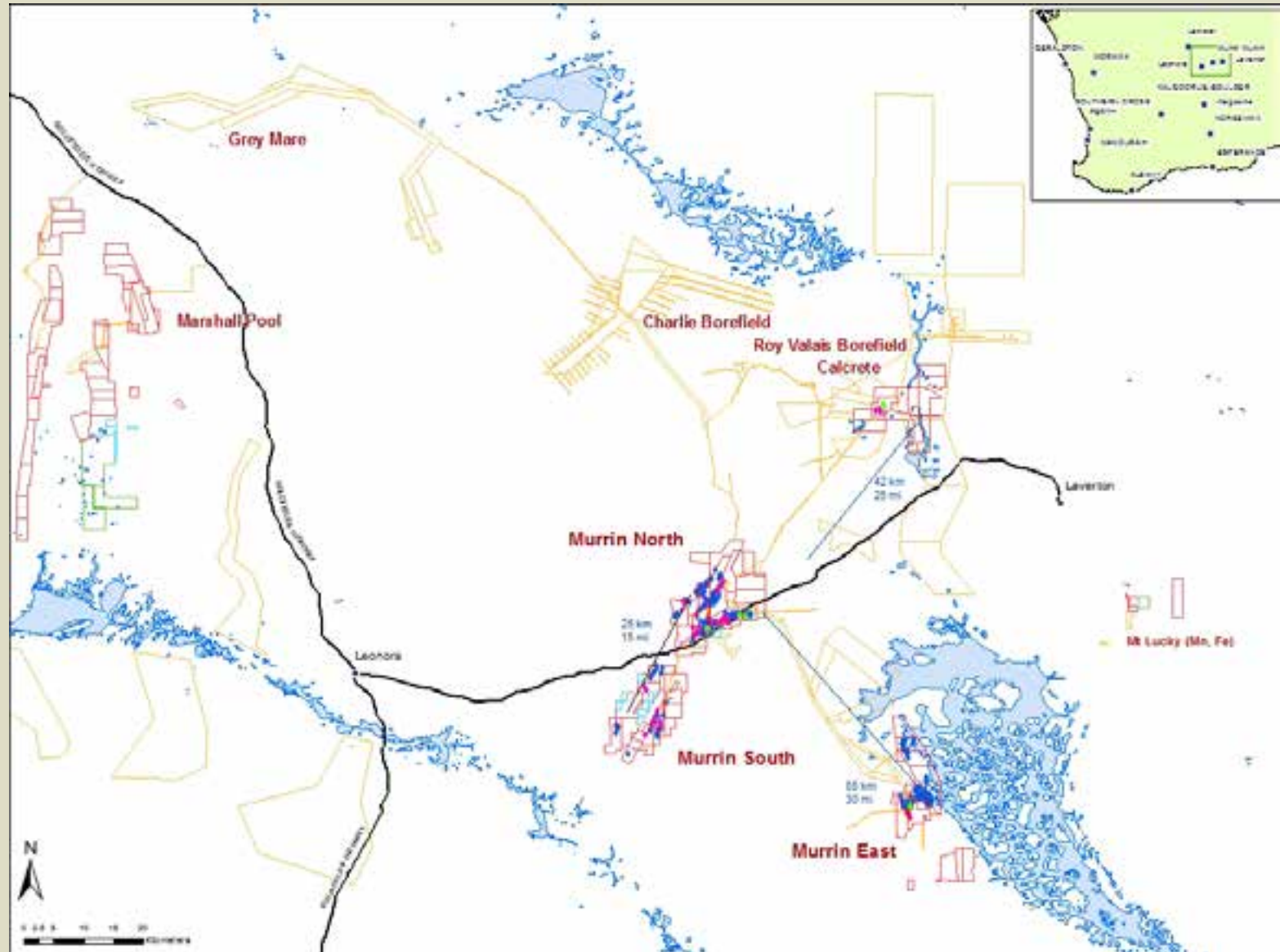


Typical assumption of 3D in ArcGIS



In reality - nothing square,  
vertical or neat

# Z Management Toolbar at Murrin Murrin





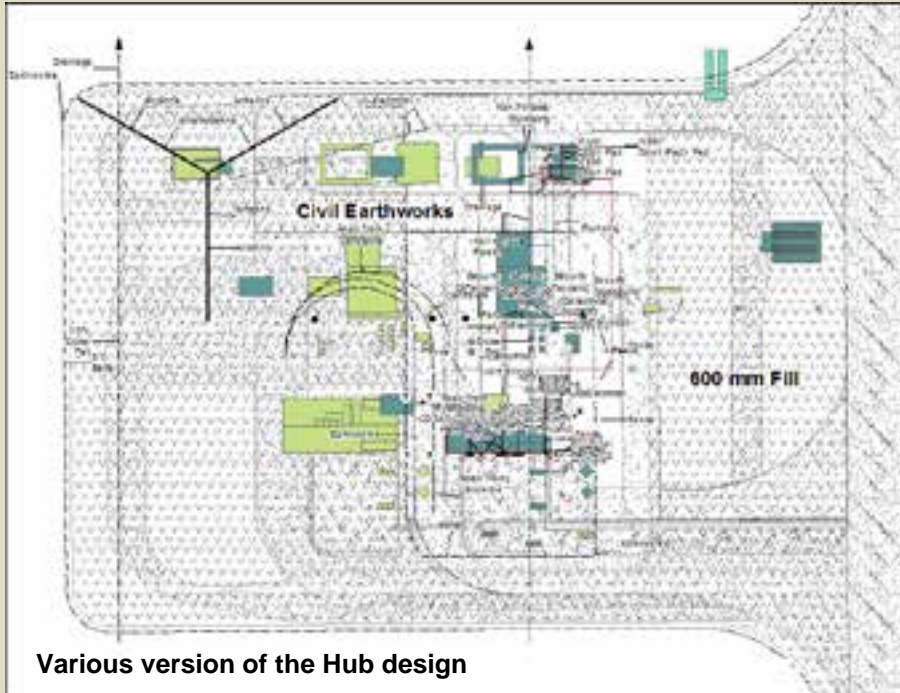
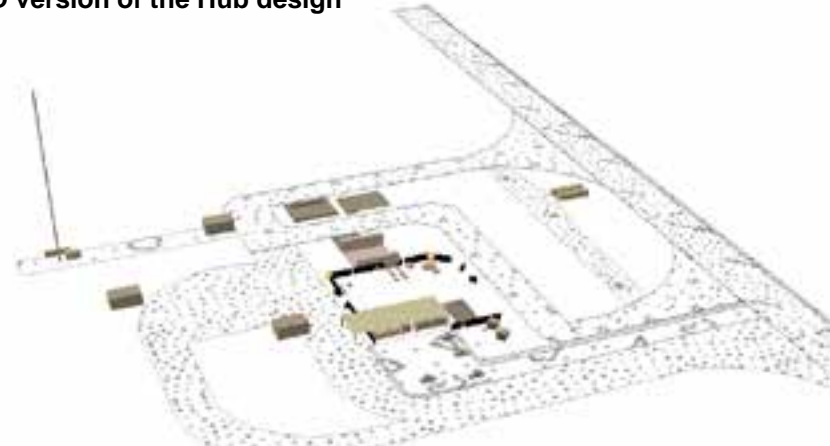
# First Project - Murrin East Hub

§ The Murrin East Hub has lunch rooms, storage facilities, workshops, communications towers and office facilities.

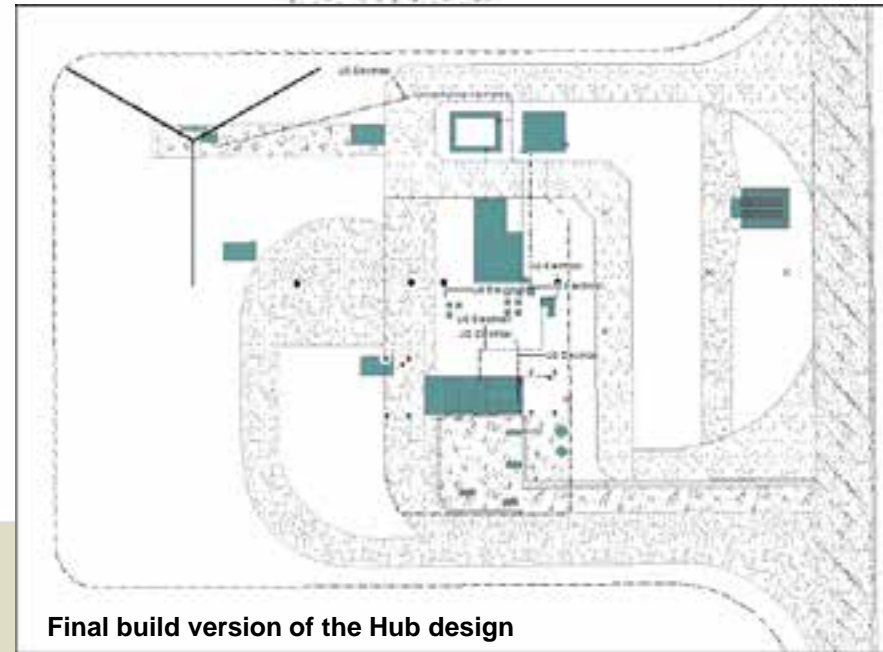
§ Multiple versions so as to accommodate changing circumstances and priorities as the project progressed.

§ The hub was designed in 3D to visualise the above and below ground components

3D version of the Hub design



Various version of the Hub design



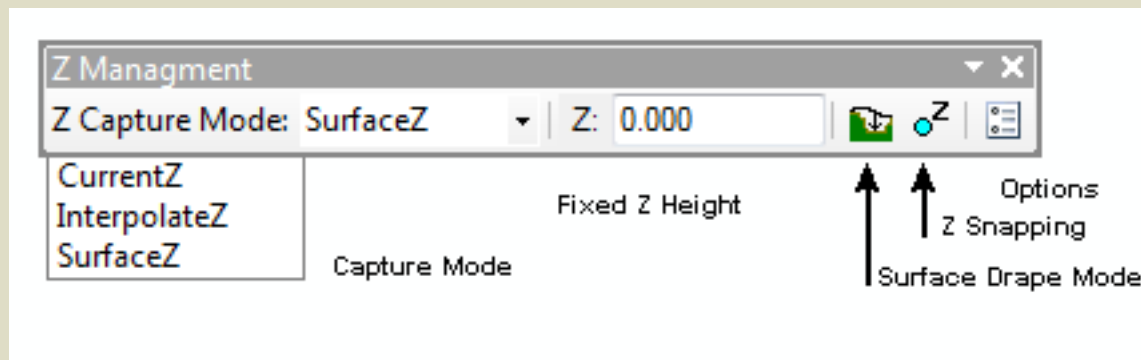
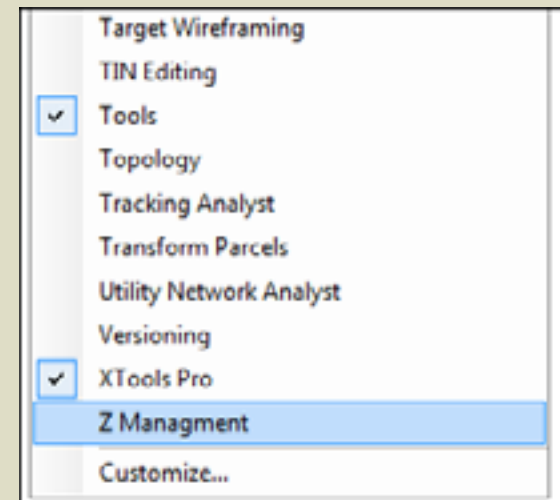
Final build version of the Hub design

# What Does it Do?

- § Create all feature types with a Z coordinate
- § Pick up the Z coordinate off a surface (Raster, Terrain or TIN)
- § Apply Z offsets
- § Set a constant Z value
- § Snap coordinates to existing Z coordinates

# Installing the Toolbar

- § Search for Z Management Toolbar on ArcGIS.com search for Z values or Editor
- § The toolbar comes as an AddIn
- § Install in either
  - § C:\Program Files (x86)\ArcGIS\AddIns
  - Or
  - § My Documents\ArcGIS\AddIns\Desktop10.x
- § Start ArcMap
- § Load the toolbar from the toolbars menu



# Prerequisites

- § To pick up data off a surface you will need at least one
  - TIN
  - Terrain
  - Raster
  
- § You can switch between surfaces as you edit
  
- § A Z capable Point, Line or Polygon Feature Class



# Limitations

- § The surface can't be part of a Layer Group
- § Layers being snapped to in the Z coordinate require fully qualified names in the TOC
- § Classic snapping only

# Setting up for Editing

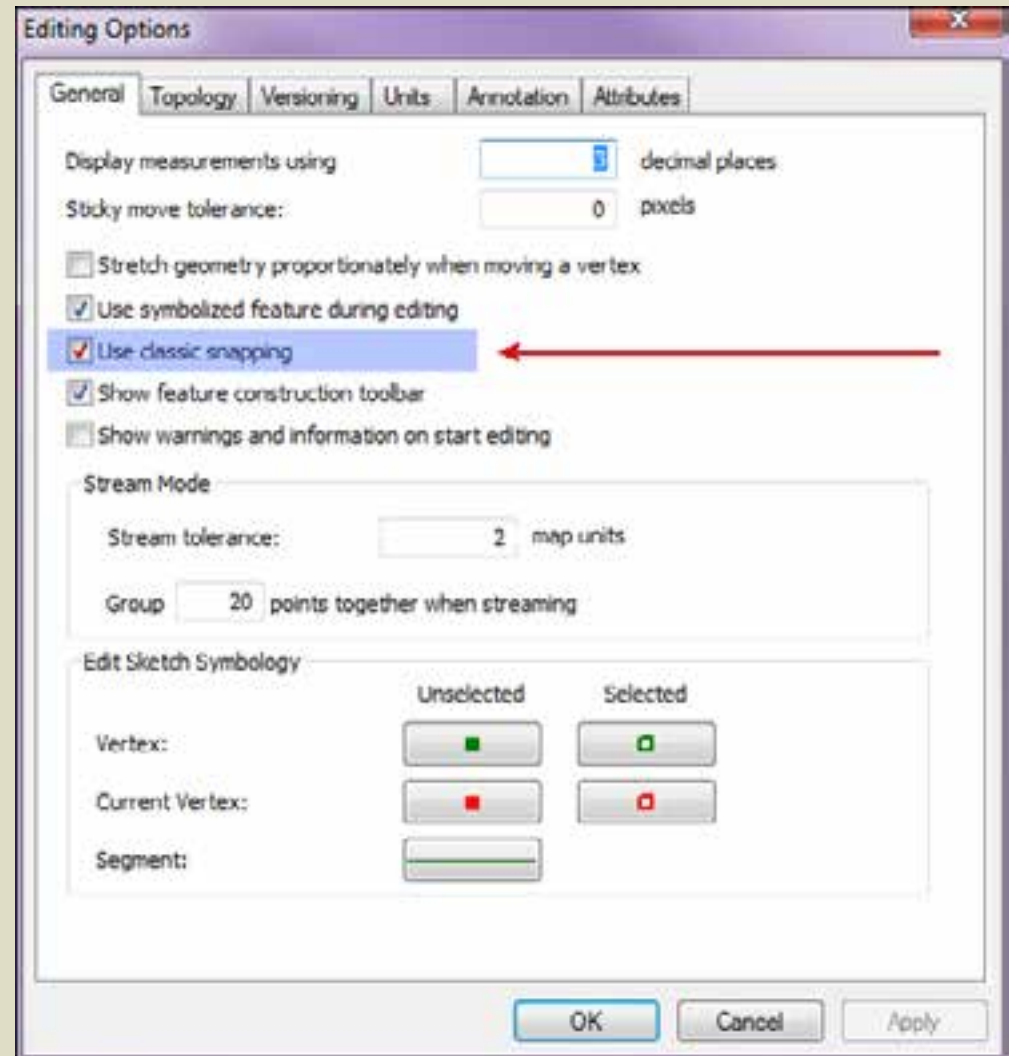
§ The 10.x snapping tools do not work with the Z Management toolbar

§ Start Editing

§ Go to *Editor/Options* and check *Use classic snapping*

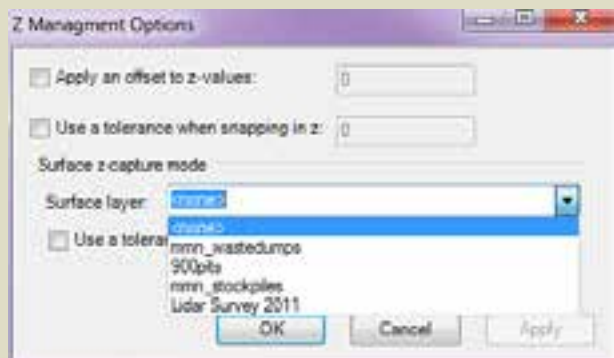
§ Go to *Editor/Snapping/Snapping Window* to turn on Classic Snapping


Snapping Environment			
Layer	Vertex	Edge	End
MMN_dumps1_PT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MMN_stockpiles1_	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
pit900_backfill1_PT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DrainDiversionLine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HRoadEditing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MMN_dumps1_LN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MMN_stockpiles1_	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
pit900_backfill1_LN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Murrin Road System	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Waste Dumps	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
900series_bdy1_PL\	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



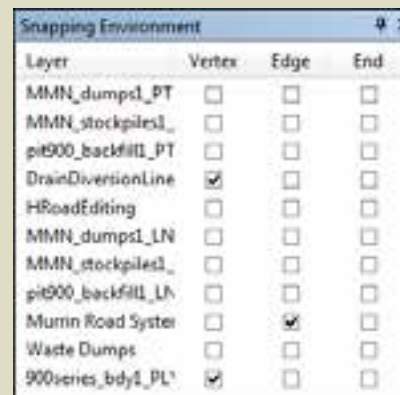
# Setting up for Editing


- § Pick an initial surface to pick Z coordinates from

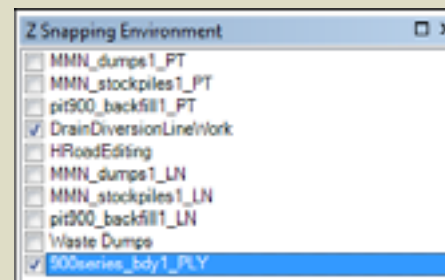


- § If a continuous surface is required, turn on Drapping by click the icon 

- § Set Feature Classes you want to snap to in X and Y



- § If you want to snap to existing Z vertices, click the Blue Dot  and select which Z vertice layers you want to Snap to

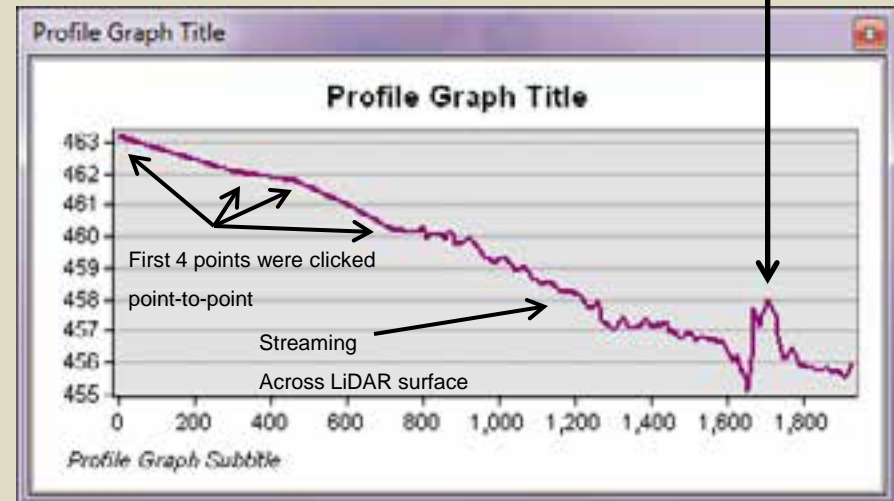


# Picking Up a Z Surface

- § Go to Create Features and select a feature to create
- § Click on the first position on the map
- § Depending on size of data, network speed etc there will be a delay while the data is loaded into memory.
- § Now you can click point-to-point
- § Double click or F2 to finish
- § Use the profile tool on 3D Analyst to check the profile
- § Click the Edit Vertices Icon on the Editor Toolbar and examine the Edit Sketch Properties



Road Crossing accurately reflected in profile



Edit Sketch Properties			
#	X	Y	Z
0	389634.741	6819656.340	463.182
1	389884.772	6819501.559	462.097
2	390023.679	6819402.340	461.771
3	390134.804	6819350.746	461.119

\* Drapping tool will pick up a point on every cell when Editing in Stream mode

# Snapping to a Z Coordinate

- § Snapping to an existing coordinate is just as easy
- § You need to have both the Classic Snapping and the Z Snapping toolbars set up first
- § Set a Snapping Tolerance
- § Under *Editor/Snapping Options...* make sure the *Show snap tips* is ticked

