

Happy Birthday NRG !

30 years old this year with over 100 man years in its development and the programmers are still working as hard as ever to keep up with the flow of ideas and suggestions

Drainage

The major development this year has concentrated on the Drainage module, with some really nice reports being generated for pipes, manholes and long sections as well as a pipe size analysis

Alterations

We have greatly simplified the edit interface by removing the edit 'mode'

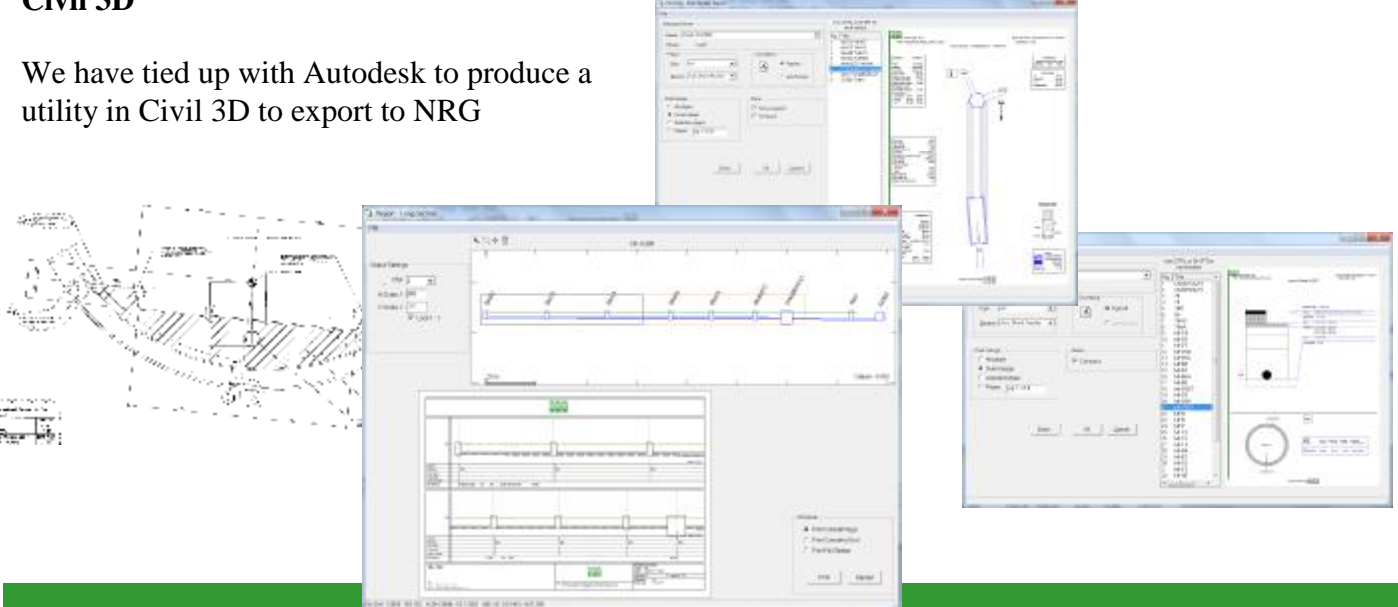
Additions

There are several neat editing functions and we have added a nice utility for the surveyors working on Crossrail to develop the tunnel floor coordinates and levels. Something I am surprised we haven't been asked before by the many tunnel surveyors around the world using our software.

Civil 3D

We have tied up with Autodesk to produce a utility in Civil 3D to export to NRG

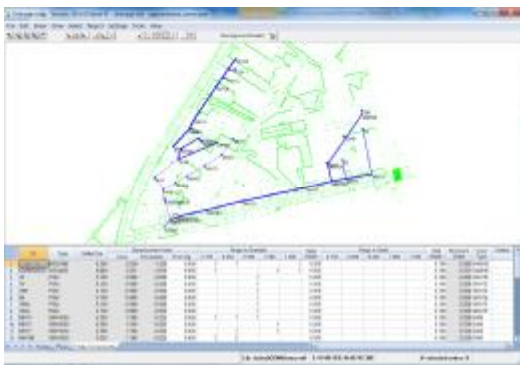
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Drainage

The drainage module is developed for the construction of pipe networks, it's purpose is to assist the Engineers and Surveyors who want to take off materials, communicate the design to the operatives, set out and measure for payment and planning. The rainfall analysis gives the contractor a tool to check a drainage design and possibly make savings on over designed networks.

Manhole Details



Drainage nodes and pipe runs can be copied from spreadsheets and further detail added such as the rings and covers etc.

Then using the Manhole report option, the manhole(s) are selected with some print defaults

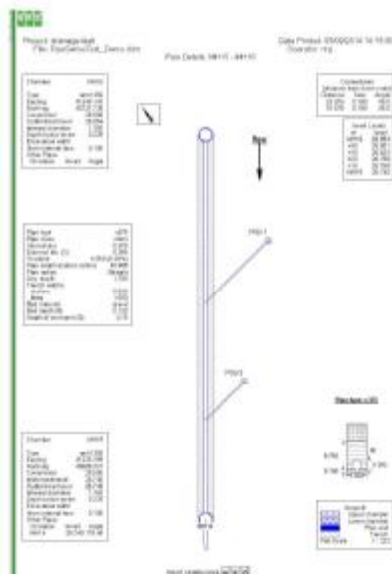
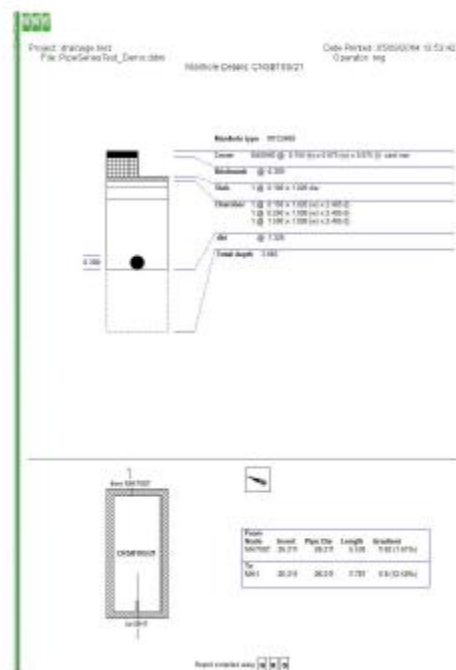


Pipe Details

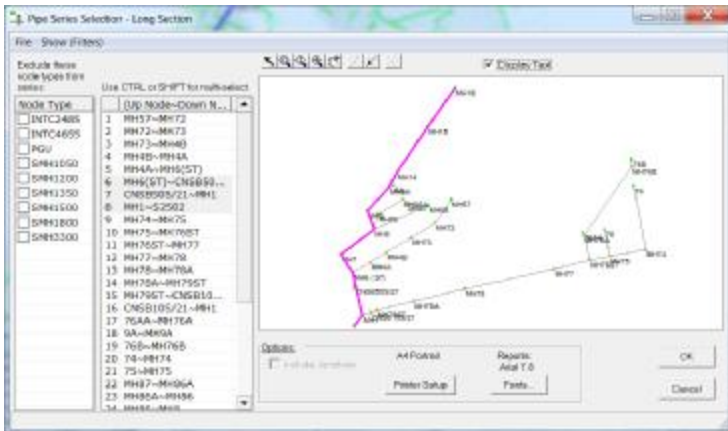
Similarly pipe details can be printed and the software will collate all of the information so that the pipe layer can be given a sheet with all of the materials and information he needs including position of connections, pipe sizes, bedding, surround and backfill types



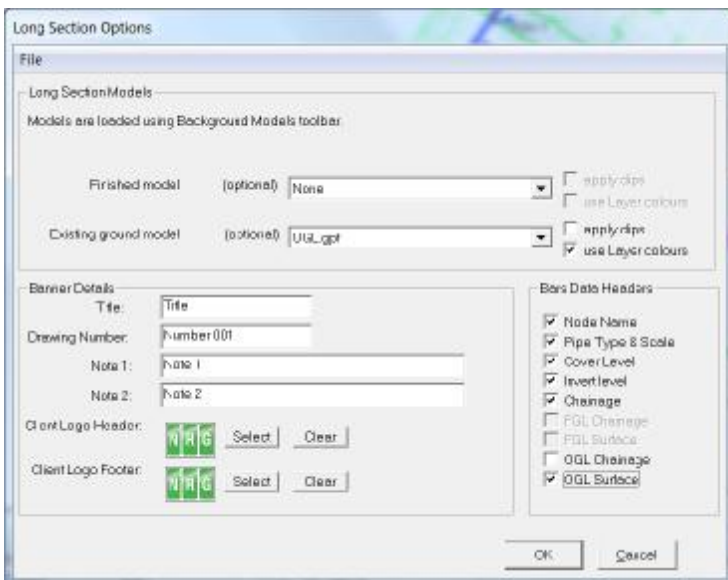
Sample Reports



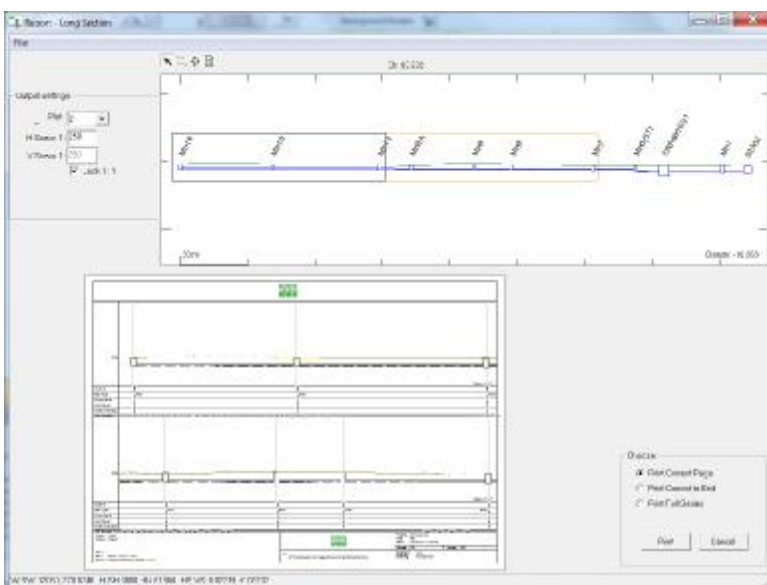
Long Sections



Choose the line of pipes to draw a long section through



Set the layout details



Set the number of rows on the long section

Scales

Picture window position

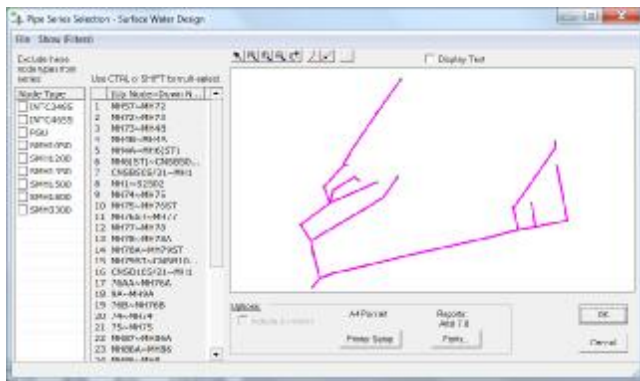
Flow Analysis

The flow analysis uses the Lloyd Davies or 'rational' method of pipe sizing.

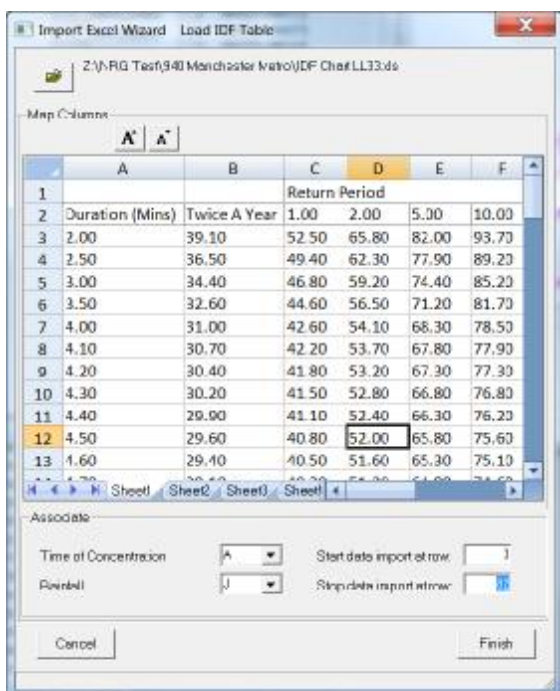
You will need the rainfall details for the return period your design is based on. We have supplied a sample based on Llanfairfechan in North Wales but these can be obtained from the Environment Agency

You will also need to have at hand the impermeable surface area affecting each pipe run

First select the outfall and pipe runs



You are then given an opportunity to open a rainfall chart from a spreadsheet and define which columns represent the time of concentration and the rainfall

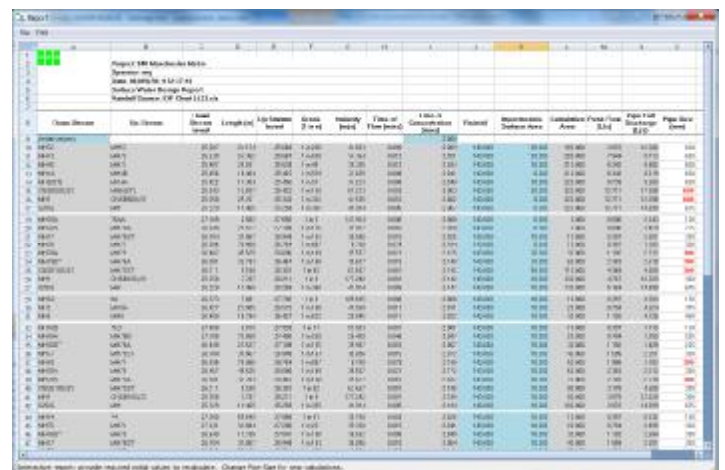


A pipe analysis will be prepared for you

You will then need to enter the initial time of concentration to be used and the software will calculate the subsequent times, grouping the chart into branches starting at the highest point and accumulating each one's contribution to the network to the final outfall at the bottom of the chart.

The full pipe capacity is shown in the pipe full discharge column and by entering the impermeable surface area contributing to each run the actual flow will be displayed in the peak flow column

Where peak flow exceeds a pipe capacity the pipe diameter will be highlighted in red



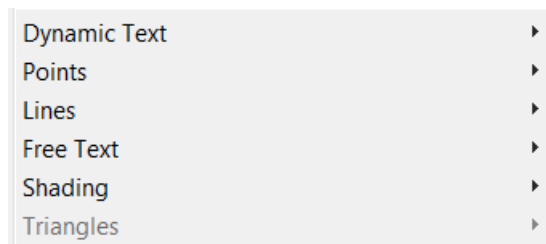
You may alter pipe sizes and the software will recalculate accordingly.

Editing Interface

Many years ago because of the huge number of options within editing we thought it was a good idea to group them into points, lines, triangles etc. and give you an edit 'mode'

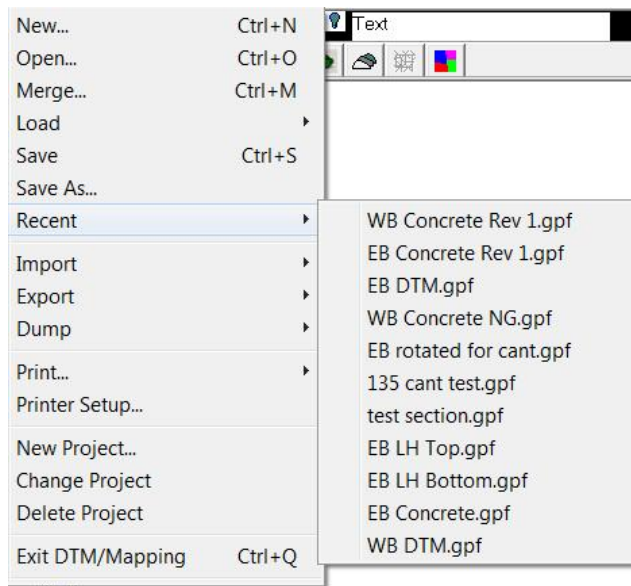
The decision wasn't as clever as we thought it was at the time and apart from it giving the programmers a lot of complication it could be confusing to users.

We have known for some time that it needed revising and despite the simpliity of what we knew was needed it was a difficult and time consuming task which of course you have no need to know about except that we have removed the need to change mode or wonder why it has been changed for you and we have grouped all of the edit functions into the edit menu with sub menu's and a little arrow showing you that there are more options under this option.



Recent Files

Instead of the last files used we have added Recent to the File menu and made it only show recent files from the current project

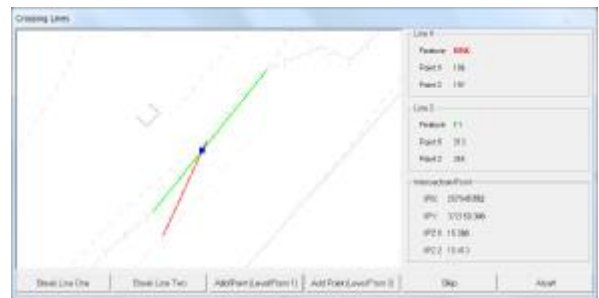


Editing Options

Crossing Breaklines

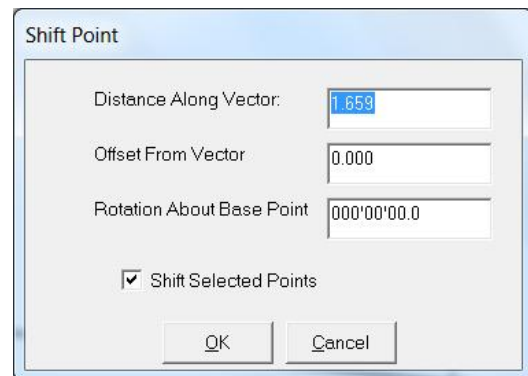
In the Lines Edit menu there is an option to check crossing breaklines.

This will scan through all of the lines and wherever there is a crossing line it will give you the option to break one of the lines or add a point at the intersection



Shift Points by Vector

This lets you click on two points in succession then displays the distance along that vector

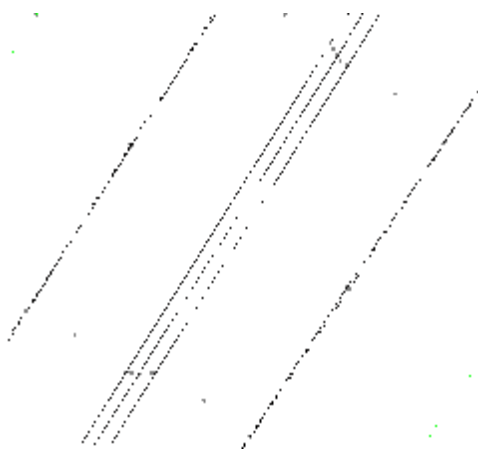


The first point can be moved by a distance and offset or even rotated about that vector or if you have points selected all of the selected points can be moved

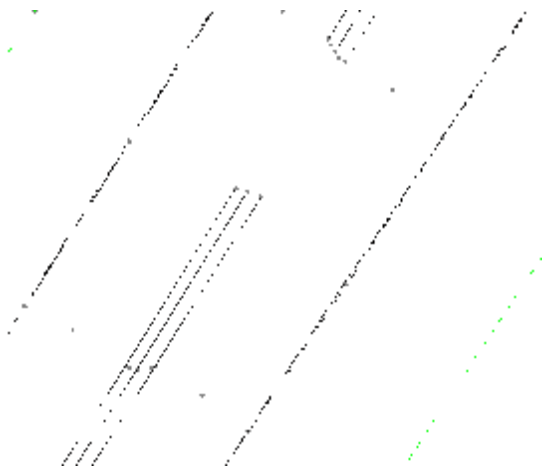
Trim Line

Used to break a line but also to add a point to the line at the break point

Before



After

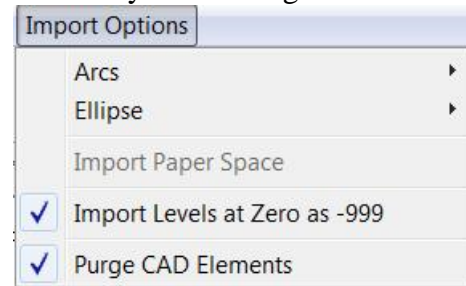


Purge CAD elements

When you import a DWG or DXF we have made the software reproduce the line work and colours of the original drawing which looks nice but leads to a support file being needed which we give the extension .CAD and the field code may look like this - CAD_POLYLINE_11A4/ST

If you simply need the CAD model for volumes and aren't interested in all of the extra stuff then it can be a burden.

On the CAD import options we have added an option to purge CAD elements and this will stop the software making a CAD file and use just the line codes in your drawing as labels

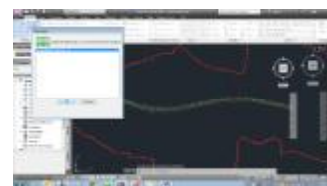


The code above would then look like this 11A4/ST and you would just need to make sure the codes are supported by your features library

Undo

There are times when I have painstakingly worked through a model selecting certain points and made a mistake which has meant starting over again and so we have added the select points into the list of functions that are remembered and may be undone

Civil 3D



Type NRG into Civil 3D and if our App is installed it will give you a menu allowing alignments, models and linework to be exported to NRG

The App will be on their app store once we figure out how to get it on.

Insert point into line

From the Edit menu, Points, Insert points on line

- Add
- Delete
- Drag
- Add Feature
- Modify Feature
- Rotate / Scale Feature
- Insert Line Of Points
- Shift Point By Vector
- Insert Points On Line
- Align Points
- Rotate Points
- Shift Points
- Stretch Points
- Tilt Points
- Drag Selected Points

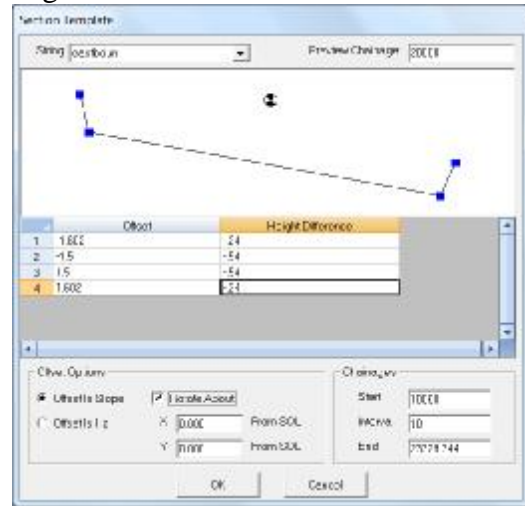
This allows you to select a line and specify the maximum distance between points on the line and it will add in points along the line ensuring the maximum interval is met, interpolating levels along the line as it goes



Calc Section Template

Calculate a series of points along an alignment using a section as a template.

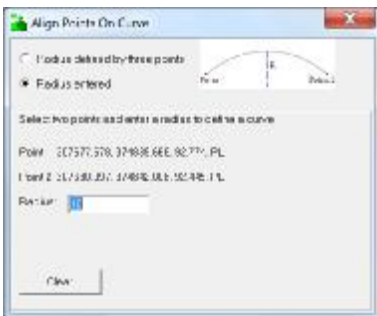
The points may be rotated using the crossfall / cant associated with the alignment and you can choose where the rotation point sits in relation to the alignment and choose whether Offsets and height differences remain horizontal and vertical or they remain the same on the slope. This is particularly useful for railways calculating the edge of rail or structures



Align Points



Either choose the points to define a curve or select 2 points and enter a radius



Once the line is defined then any point that is left clicked while this window is showing will be moved onto the line

Google Map Transparency

We have added a slider bar for you to set the amount of transparency for the google map background so that you can phone us up and ask why you can't see your map when it is set to zero.

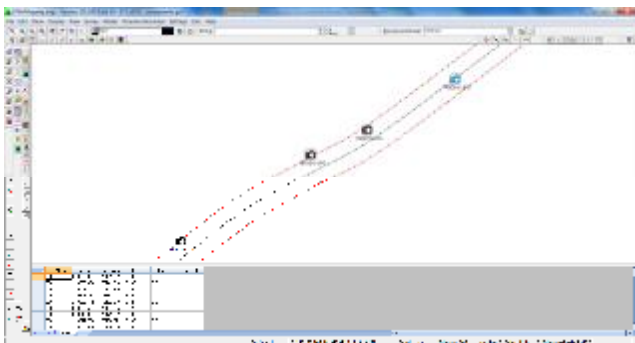


Raster images

The raster images have been tidied up so that zooming in and rotating them is crisper and cleaner

Geo Tags

Pictures taken with a geo referenced camera can be displayed on the plan



Go to display, geotag manager, add pictures to the list and it will convert the position to the site grid and you can add notes and attributes to each one.

File Name	Date	Height	Width	Depth	Area	Volume
1: 000000.JPG	2010-10-11 09:42	1000000	1000000	0	0	0
2: 000001.JPG	2010-10-11 09:44	1000000	1000000	0	0	0
3: 000002.JPG	2010-10-11 09:44	1000000	1000000	0	0	0
4: 000003.JPG	2010-10-11 09:44	1000000	1000000	0	0	0
5: 000004.JPG	2010-10-11 09:44	1000000	1000000	0	0	0
6: 000005.JPG	2010-10-11 09:44	1000000	1000000	0	0	0
7: 000006.JPG	2010-10-11 09:44	1000000	1000000	0	0	0
8: 000007.JPG	2010-10-11 09:44	1000000	1000000	0	0	0
9: 000008.JPG	2010-10-11 09:44	1000000	1000000	0	0	0
10: 000009.JPG	2010-10-11 09:44	1000000	1000000	0	0	0
11: 000010.JPG	2010-10-11 09:44	1000000	1000000	0	0	0
12: 000011.JPG	2010-10-11 09:44	1000000	1000000	0	0	0

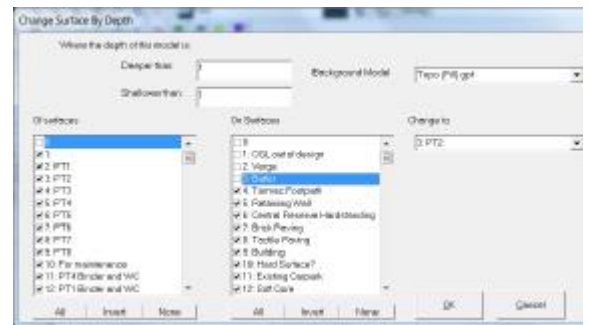
Triangle Editing

A nice time saving trick while changing surfaces is to hold the CTRL key down, click on a surface and the surface you are changing to copies that surface.

Missing Model in Volumes

A fourth model may be used in volumes which is used where the Original ground model doesn't extend enough, great for doing landscape fills.

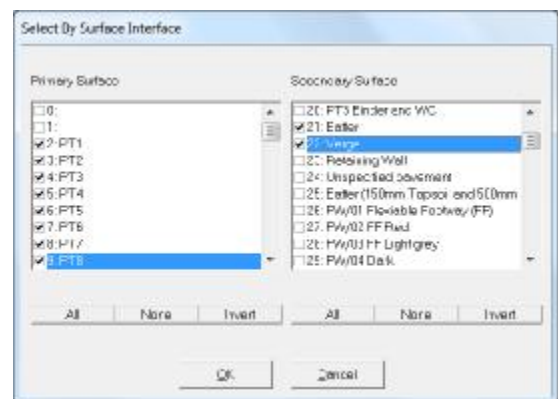
Change surface by depth



Sets surfaces according to the depth to another model and the surface it overlays
Ideal when measuring overlay construction

Select Points by Surface Interface

Selects points whose triangle adjacencies meet your criteria



Benching

Facility to calculate benching automatically by selecting surfaces to be benched, gradient range to bench and the length or height of the benches

