

# NEWSLETTER 2018



## 2018

Welcome to NRG 2018

Import PDF



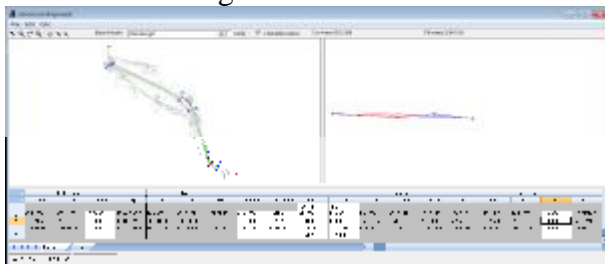
Import Point Cloud



Overview

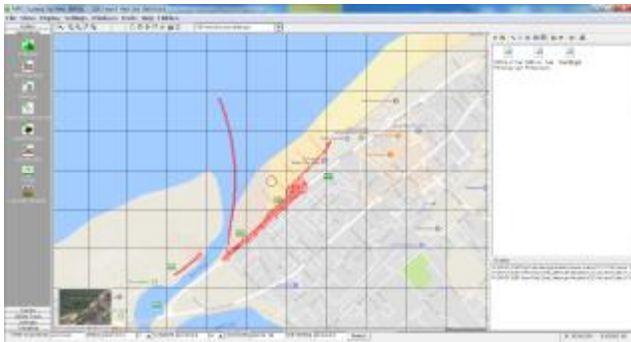


Road / Rail Design



		Page
NRGWIN	Projects Overview	2
	Road Design	7
DTM Map	Workspace	2
	Show List	2
	Merge multiple files	3
	Multiple render models	3
	Import Raster	3
	Ditch Builder	3
	Import Point Cloud	3
	Shift in live sections	4
	Export Isopachs	4
	Setting out options	4
	Volume by Surface	4
	Dip Sheet / Export Excel	5
	Parallel Line	5
	Google Map	5
	Slope length in selected statistics	5
	Dimension	6
Import PDF	6	
Curve Design by IP	7	
Road Design	7	
Area shading in dynamic sections	8	
Drainage	Export 3D DWG	8

## Projects Overview



A new look as you start NRGWIN with a really useful overview of your projects

The first time you use it you will need to use Tools\Get Known Projects where it will prompt for a starting directory and search through for projects. It actually looks for the station files in order to determine a position for the pin

The graphic for each pin can be changed by right clicking on the pin and choosing an image

Select a project by right clicking on the pin

Jump to the project director in the explorer window using the right click

You can drag surveys and alignments from the explorer window to the window below it to display them. It will also let you show surveys from multiple jobs

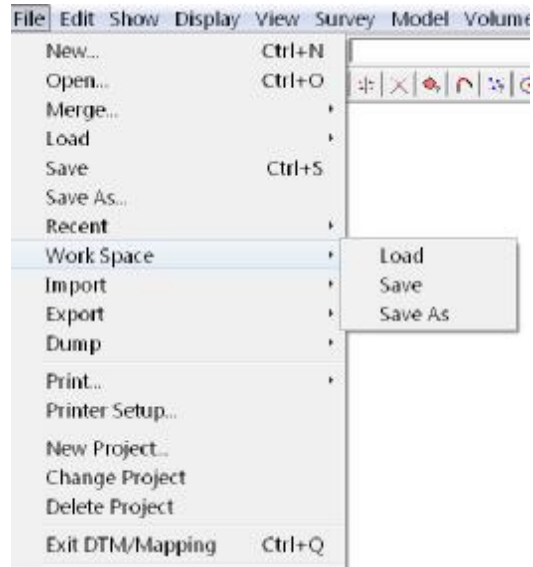
Right click on the filename to remove or set a colour

Use the Show menu to control what you want to see displayed



You will also notice that you can enter coordinates or an address on the bottom toolbar to centre the display or you can use F4 to centre on current job

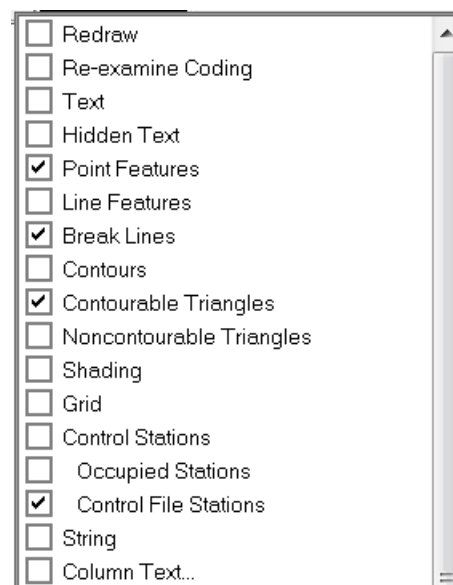
## Workspace



The file menu now has a 'Workspace' option. This saves the details of the files and strings loaded, your display settings, last zoom and even the points which were selected at the time the workspace was saved

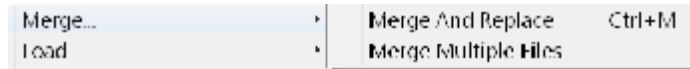
## Show List

You will now find a button on the toolbar that will display the items on display. To save you having to bring this form up each time you want to make a selection as the main menu option does they can be toggled on and off from here



### Merge Multiple Files

Opening multiple files into DTM Map just got easier. Choose the option to merge multiple files from the File menu and it will let you highlight as many files as you want.




All of the files will be loaded and treated as one survey but it will not load any triangulations, this will have to be done again for the whole file

### Multi Files in Render

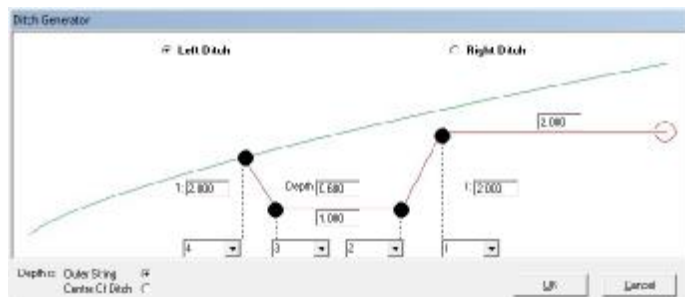
Running Render from DTM map now asks if you want to pass it the background models as well

### Import Raster Parameters

 The raster manager now has a button which lets you import raster details from another survey

### Ditch Builder

This creates 4 lines forming the shape of a ditch



First load a foreground model and a background model

Edit/Lines/Ditch Generator then select a line which runs parallel to the new ditch ( toe of batter for instance )

Enter the parameters in the boxes shown and the software will iteratively ‘chase’ the outside of the ditch using the background model

### Import Point Clouds

This provides selection and thinning options for dense point clouds



Select File\Import Point Cloud and open the file

Set the resolution - at 1mm it will import all points

Other resolutions will import points closest to a grid of the size specified using the ‘algorithm’ selected

The toolbar buttons  let you select and de-select points using a polyline

The point size changes the pixel size of each point to assist in viewing

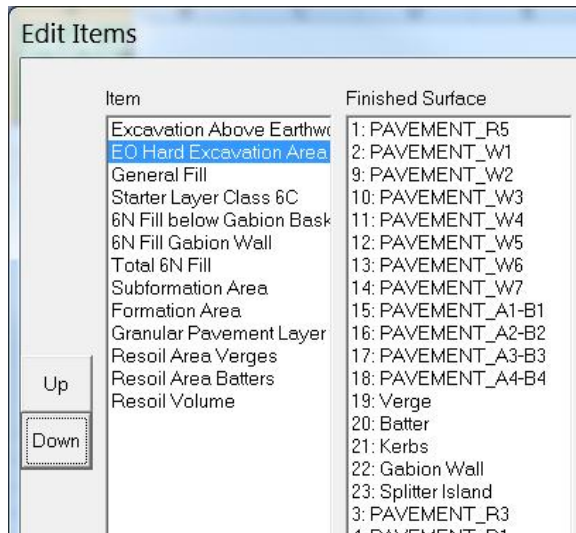
The colour can be set to use it’s RGB colour or a height map

The point prefix sets the field code for the points imported

Once complete press Import

## Volume Compiler

We have added an up / down button on the volume compiler so that you can change the order of the items in the template



## Drag in Dynamic Sections

Holding the shift key down during the drag will hold the vertical position, hold the Ctrl key down and it holds the horizontal position

## Improved Isopach to DWG

Sending Isopachs to DWG has been changed so that the drawing is more accurate. We have actually reverted back to sending out a hatch for each triangle rather than trying to find the boundary of each colour which unfortunately led to some strange results from time to time

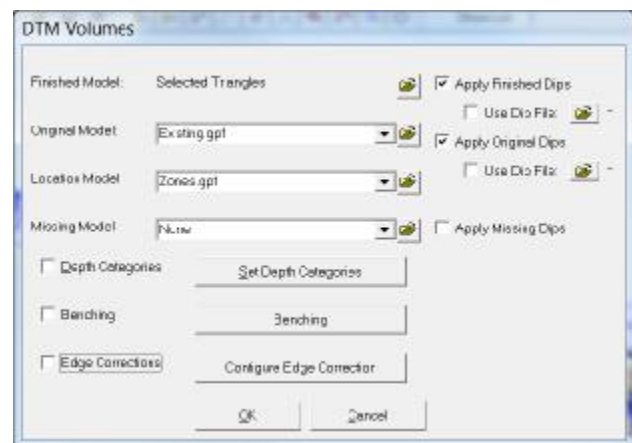
## Setting Out Variables Added

Gradient to next point will calculate the gradient as a '1:x' to the next point in the grid


Offset from nearest background model line finds the nearest line in the background model as displays the perpendicular distance from that line

## Volume for a Surface

This option works much like volume for selected triangles but you select the triangles by clicking on a surface and it will find all of the contiguous triangles of that surface



## Shortcut to select points in dynamic section

 press this button to select points on line rather than having to navigate the menu

### Export User Defined Excel

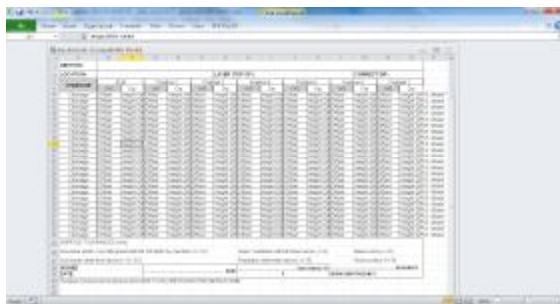
This is a cunning way to formulate answers from the setting out variables into a schedule of your design

The software asks for an alignment and a chainage modulus.



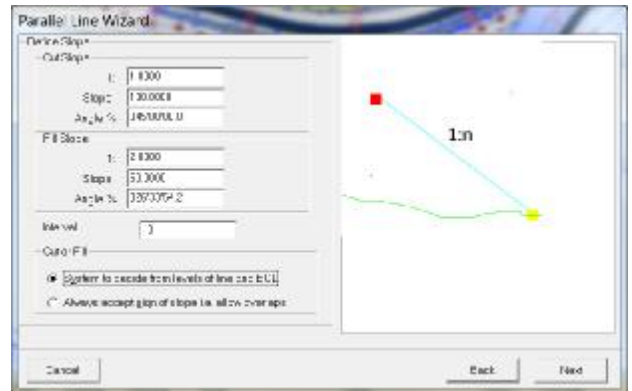
It then gathers all of the points that lay on a sweep of half the modulus for each chainage interval matching the modulus

It then replaces any text in the excel sheet that matches the name of our variables with the value of the variables, always populating the sheet from left to right



The above sample is for a surfacing dip sheet

### Cut / Fill in parallel line



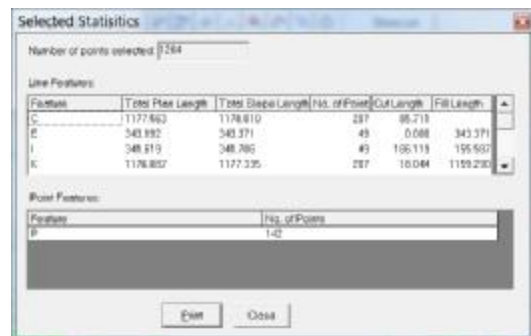
We have split the gradients for a parallel line by gradient against a background model into cut and fill so that you can choose different batter slopes

### Google Map

You may notice some improvements to the google map background in DTM, it is faster and more accurate thanks to Charles's 'lightbulb' moment

### Slope Length in Stats

Slope length of lines now shows in selected statistics



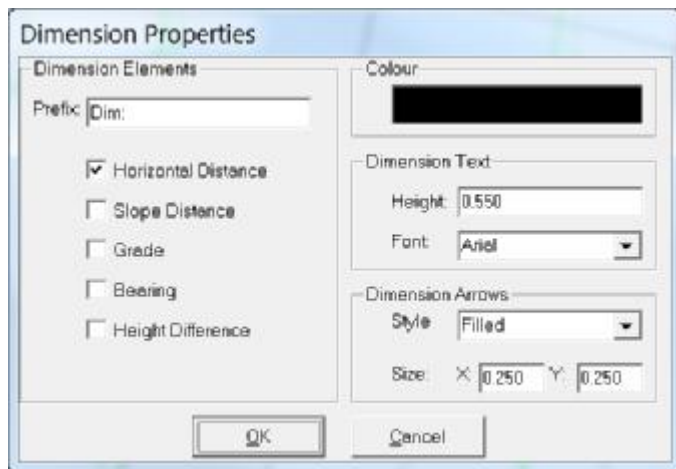


## Dimension

Under the edit menu/Free Text you will find an option to Add/ Edit dimension text

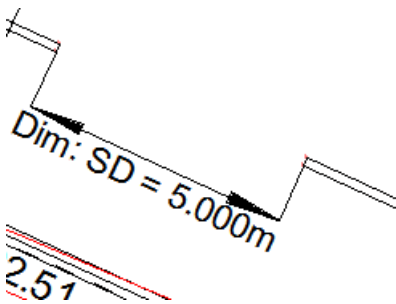
This will let you click on two points to add a dimension between the two points.  
The third click lets you position the text

You will then be prompted for which dimension you want to show and you can set colors, size, arrow type and fonts



Whilst in the add dimension mode a right click will find the nearest dimension and bring up the form so that you can edit the settings

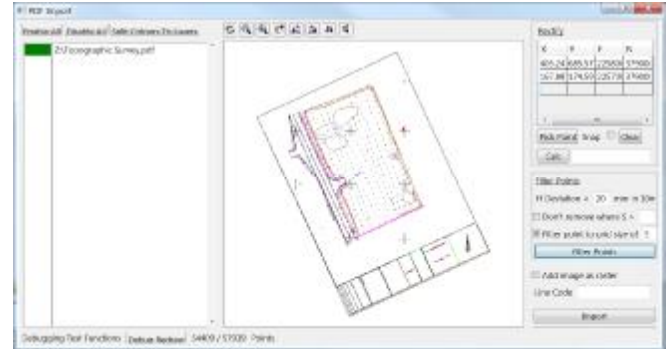
To delete text use the delete dimension text option



## Import PDF

From the file menu select Import/PDF

Select the file you wish to import and it will display in the picture window



Select layers in the drawing using by toggling the green box to red using the left mouse click

Scale and rectify the PDF by choosing common points using the **Pick Point** button and left clicking on a position on the drawing, then type in it's world coordinates in the grid. Press Calc to determine the scaling parameters. These may also be typed in manually

PDF's may bring in a large number of points so there are filter options

Deviation along the line is the world dimension in mm over 10m. i.e  $\text{SIN } \theta * 10$



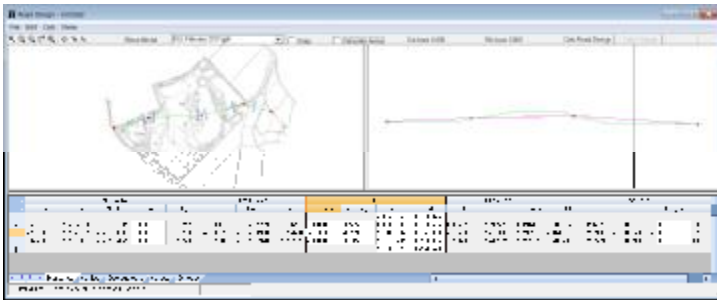
## Road Design by IP

An intuitive and flexible way of creating and editing alignments and road designs

From the Calc menu select Road Design by IP

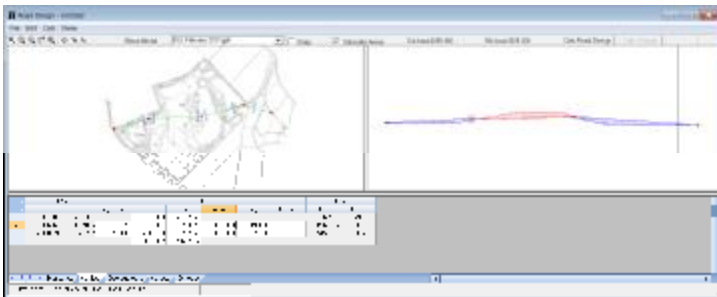
### Horizontal

Curve details can be entered manually or graphically



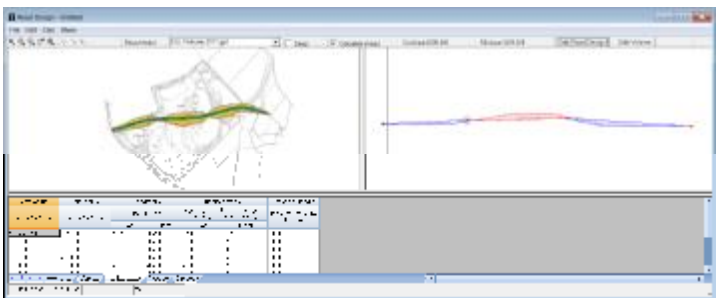
### Vertical

The ground profile is used to fix the vertical alignment and cut / fill areas updated as the alignment is altered



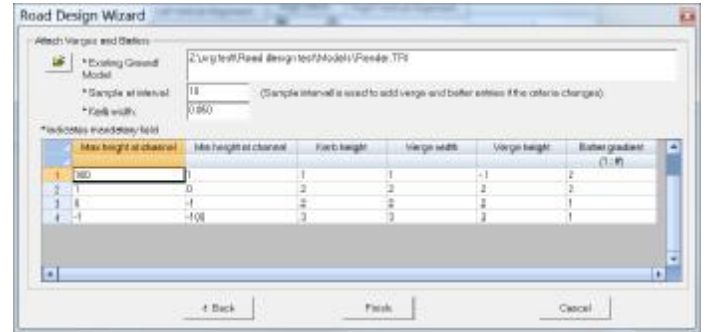
### Carriageway

Gives you the opportunity to enter a table of crossfalls and road widths dependant on horizontal radius



## Verges

The Verges tab gives you the opportunity to tabulate verge and batter details against different heights of embankments or cuttings

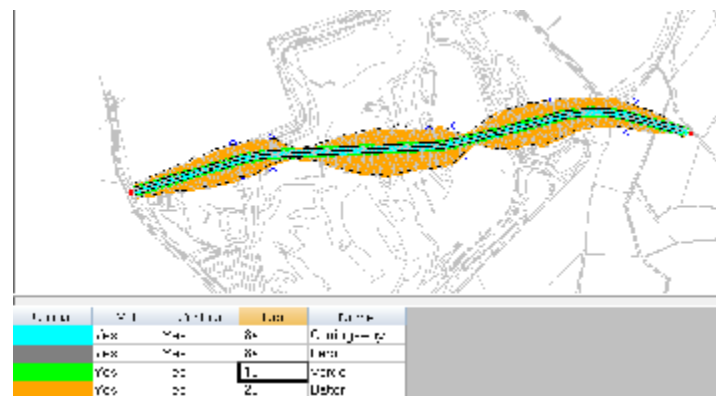


Press the Calc Road Design button will prompt for some extra detail such as chainage interval



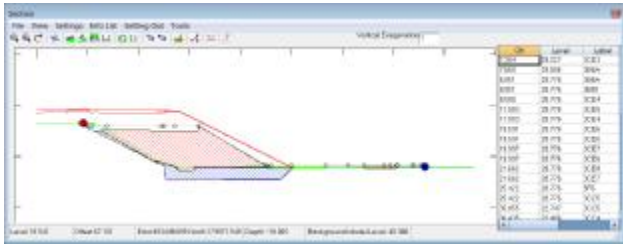
Calc Volume button calculates the volume so that you can iterate your designs easily before you use the save option which allows you to save the model and / or the road design parameters

You can even set up your surfaces and allow for construction depths



## Area Shading on Sections


The ability to view and print different areas on a section has been added



Draw a polyline around an area using the tools, area option, right clicking to close the polygon



The area will be displayed and you will be prompted for a colour

Use the  mark section button to store details about the section

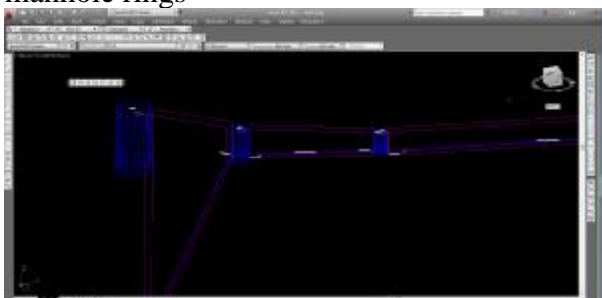
Use Tools, Edit Section mark to view areas, edit shading and remove them

## Export DWG from drainage

Outputs a neat drawing showing pipes and inverts, gradients etc.



Sends it out in 3D showing pipes, trenches and manhole rings



## Acknowledgments

I would once again like to thank our many customers for their ongoing support, contributions and suggestions

In particular this year I would like to thank the customers whose suggestions and ideas have been incorporated into this year's release

*Adrian Hodgetts*

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*Dave Warren*

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*Guy Roberts*

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*Matt Twiss*

*Paul Howard*

*Paul Willson*

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And of course I would like to thank our surveyors and programmers who have worked so hard for yet another release

*Charlie Allardice*

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*Ed Stanyer*

*Ian Plummer*

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