

RIFT TD VERSION 5.0 MARCH 2021



Rift TD, Version 5.0, is a major version release that introduces significant additional functionality:

- Enhanced Significantly Improved Graphics
- New Raise Surface Contors/Shading
- New Break Lines
- Enhanced Deposition Order
- New Deposition Status
- New Valid Raise Elevations
- New Incremental Volumes
- New Multiple Longitudinal Sections
- New Mark Data
- Enhanced Initial (Pre-Deposition) Surface
- Enhanced Raise Intervals
- Enhanced Join Dialog
- Enhanced DXF File Export





Rift TD's graphics is improved significantly:

• You can edit the model in the three dimensional view.

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- The View Toolbar has been moved to the View Page. This makes the view toolbar easier to access.
- The 2D and 3D views have been merged: Click the 2D or 3D buttons to view the model in two (plan) or three dimensions.
- Rotate the 3D view using the mouse:
 - Click the rotate tool-button.
 - Click on the **3D view** and **drag** the mouse to rotate the view.
- Zoom using the mouse wheel: Rotate the mouse wheel while over the 2D or 3D view.
- Pan using the centre mouse button:
 - Press the centre mouse button.
 - Drag on the 2D or 3D view.
- The 2D and 3D views support both
 - orthographic; and
 - perspective projections.



Orthographic Projection

Right click on the DTM View.

Select Copy Coordinate.

Copy the cursor coordinate to the clipboard



Perspective Projection





View Toolbar

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- View **depth** in the **2D View**:
 - Right click on the 2D Tool-button.
 - Check or uncheck Depth (Plan View).
- Get coordinate elevation from the Surface or from the graphics engine:
 - Surface: The elevation is for the Active Surface.
 - Graphics engine: The elevation is the model elevation at the cursor location.
 - To toggle the elevation mode:
 - Right click on the coordinate.
 - Check or uncheck Elevation from Active Surface.





RAISE SURFACE SHADING/CONTOURS

In Version 5.0 you can set the toggle base surface or raise surface:

- Shading
- Contours

This allows you to easily **view** the **original surface** and or **display** the **raise raise surface** or **base surface contours** following a deposition model run.

- **Right click** on the **DTM View**.
- Select View Options.
- Select the Element Tab.
- Toggle Shading and Contour options.



Surface with Base Contours

You can also **set Surface transparency**; **slide** the **transparency track bar**.

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Surface without Base Contours

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Rift TD Version 5.0 introduces **Break Line** editing. Previously **Break Lines** were only generated when generating embankments using the embankment wizard.

Break lines are three dimensional lines that constrain a triangulation, forcing element diagonals to align along them. This allows you to easily define breaks in the surface slope along lines where the slope changes such as:

- Crest lines.
- Toe lines.

Without Break Lines, nodes may triangulate incorrectly.

In Rift TD Break Lines are a data type.

You **define Break Lines** for **each Surface** using the nodes that define the Surface. The active **Break Line list changes** if the active **Surface changes**.

Break Lines have four data fields:

- Node number.
- X coordinate.
- Y coordinate.
- Z coordinate.

Only the Node Number is editable; the node oordinates are displayed for information only.

To define a Break Line, either:

- Enter the node numbers on the Data Grid; or
- **Define** it on the **DTM View**:
 - Either:
 - Right Click on the DTM View and click Data > Add; or
 - Click the Add Tool-button on the View Toolbar.
 - Click on the DTM View to select the nodes that define the Break Line.

You can also **edit** existing **Break Lines** on the **Data Grid** or on the **DTM View**.









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3	87959	505,114.845	164,942.471	71.000
4	86568	505,044.845	165,132.471	67.693
5	81176	504,774.845	165,282.471	51.000
6	75777	504,504.845	165,312.471	65.491
7	71766	504,304.845	165,092.471	44.528
8	69758	504,204.845	164,932.471	42.617
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You can more easily set the **order** in which deposition takes place:

- Deposition Lines and Deposition Nodes: Set the Deposition Order on the `Data Grid.
- Deposition Paths: Set the Deposition Order on the Deposition Path Data-sheet.

Activate Deposition Sequences to view the Deposition order.

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30	505,198.281	162,282.734	2.000	Deposition
31	505,206.457	162,279.855	2.000	Order
32	505,225.160	162,273.135	2.000	
33	505,243.863	162,266.415	2.000	165,250
34	505,262.672	162,259.988	2.000	
35	505,281.330	162,253.143	2.000	
36	505,298.958	162,243.431	2.000	10000



You set a **Deposition Structure's** state to **Active** or **Inactive**.

Deposition **does not take place** from inactive **Deposition Structures**. This allows you to easily **assess** a **Structures impact** on **deposition**.

To set a **Deposition Structures** status:

- Deposition Nodes: Right click on the Data Grid and click Deposition Active.
- Deposition Lines: Check or uncheck Active on the Deposition Line Data-sheet.
- Deposition Paths: Check or uncheck Active on the Deposition Path Data-sheet.

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Deposition Line Order



Deposition Path Order





Valid Raise Elevations allow you define the active elevation range for a Raise Elevation Set.

To set Valid Raise Elevations:

- Activate Raise Elevations.
- Click on the row containing the Raise Elevations for which you would like to define Valid Elevations.
- Right click on the Data Grid and select Valid Elevations or press Ctrl E.
- Enter the Minimum and Maximum Elevations on the Valid Elevations Dialog.

For **Deposition Vectors** that use the **Raise Elevation Set**, **deposition** will only take place within the **defined minimum/maximum elevation range(s)**.



Rift TD Version 5.0 adds the ability to calculate incremental cut and fill volumes, at defined elevation increments, when calculating TIN Volumes:

- Select Incremental Volumes on the Volume/Elevation Data dialog.
- Enter the elevation increment.
- Click Ok.

Rift TD calculates the volumes at the specified elevation increment and shows the results on the **Cut/Fill Form**.

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You can extract several longitudinal sections and plot them on the same chart. This allows you to view sections from multiple:

- DTM Surfaces; and/or
- Deposition Raise Surfaces on the same chart.

To plot sections on the same chart:

- **Define** a **String** along the section alignment.
- Extract a section from a Deposition Raise or a DTM surface.
- Repeat for a additional Deposition Raise/DTM Surfaces using the same String.



Longitudinal Sections along Several Raise Surfaces



You can Mark Data on the Data Grid.

Once **marked** you can **copy** the **Marked Data** to the clipboard:

To Mark Data in the Active Row:

- Right Click on the Data Grid.
- Select Mark.

You can also Mark or Unmark All Data.

Marked Data is rendered in red on the Data Grid.

To **copy Marked Data** to the clipboard:

- Right Click on the Data Grid.
- Select Copy to Clipboard > Marked.



For **Surface Nodes**, marking a **Node** is equivalent to **identifying** the **Node**.

You can use ID Node operations to:

- Set node elevations.
- Translate coordinates.
- Delete Nodes.

DEPOSITION - LOAD INITIAL (PRE RUN) SURFACE

Rift TD allows you to load **deposition surfaces** following a **Deposition Model Run**.

In previous **Rift TD** versions you could load the initial, prerun surface, using **Node Values**.

Version 5.0 makes this easier; on the Deposition Toolbar select Raise No. 0 from Raise No. Drop Down-box.



19318	501,684.845	164,132.471	26.000
19319	501,684.845	164,152.471	
19320	501,684.845	164,172.471	Marked Data
19321	501,684.845	164,192.471	5,2
19322	501,684.845	164,212.471	
19323	501,684.845	164,232.471	26.475
19324	501,684.845	164,252.471	27.000
19325	501,684.845	164,272.471	27.000 165,0
19326	501,684.845	164,292.471	26.496
19327	501,684.845	164,312.471	26.222
19328	501,684.845	164,332.471	26.299
19329	501,684.845	164,352.471	26.679 164,7
19330	501.684.845	164,372.471	26.912







Version 5.0 adds a Raise Increment Grid, which is visible when editing Raise Elevations, making it easier and more intuitive to edit Raise Increments.

Enter the number of **Raise Increments** for each **Raise Elevation** in the **Raise Increment Grid**.

During deposition, **Deposition Vectors** are raised from the **Start Elevation** to the **End Elevation** (e.g. Elevation 1 to Elevation 2) in the specified number of **Raise Increments**.



The Join Dialog has been enhanced to display the Join Alignment on the DTM View.

To generate a join:

- Click Survey > Join.
- Click on the DTM View to define the
 - Join Start and
 - Join End Coordinates.
- The Join data is displayed on Join Dialog.
- The Join Alignment is displayed on the DTM View.
- Use the Get Coordinate Buttons to reselect the Join Start and/or End Coordinates.





In previous Rift TD versions contours were exported to DXF as line segments. In Version 5.0 contours are exported as Poly-lines.







