InRoads Tips

Explorer Tips

- You can display a short-cut list of appropriate commands in the Explorer by clicking the right mouse button.
- You can open data files by dragging them from the File Manager or the Windows Explorer and dropping them into the InRoads Explorer. Appropriate files include projects (*.rwk), surfaces (*.dtm), alignments (*.alg), and libraries (*.tml or *.rwl).
- You can dock a toolbar on the Explorer window by dragging the toolbar over the edge of the window or by double-clicking on the title bar of a toolbar.
- The Write lock status displays at the bottom of the Explorer. You can click this status field to turn the lock on or off.
- You can save feature filter definitions for later use and switch between them on the Explorer.
- You must turn on the Feature Filter lock in order for a filter to be applied.

File Tips

- You can double-click on a file name in the Open dialog box to immediately open it.
- The Project File (.rwk) is an ASCII file that you can edit. It defines which files the software loads for a particular project.
- You can use the File > Import > Surface DEM command to load data from 7.5 minute topographic quadrangle files

Surface Tips

- You can only empty the default surface -- never completely delete it.
- Surface points are displayed at their respective elevations in the drawing file unless you turn on the Planarize option and specify an elevation.
- You can add the points from a cross section surface to a DTM by using the Evaluation > Cross Section > Cross Section to Surface command.
- You can fit just the active surface (rather than all graphic entities) in a view by using the Surface > Fit Surface command.
- You can use the Surface > Design Surface > Drape Surface command to lay graphics on a surface. This command copies the new draped element to a target layer/level and retains the original graphic data.
- You can compress a new surface formed by merging two previous surfaces. Use the

Surface > Utilities > Compress Surface command.

- If you experience problems merging two surfaces, you may have crossing breaklines in your drawing file. See View Crossing Segments for details on how to locate and fix crossing breaklines.
- You can use the Label Contours command to enhance annotation of displayed contours.
- You can add new gridded points to a surface by using a surface that already contains data as the destination surface for forming a gridded model
- You can scale triangles as you display them if the Planarize option is off.
- You can scale a surface perimeter as you display it if the Planarize option is off.
- You must edit points in a plan view.
- You can see the changes made by using the Add Surface Point command by deleting the triangles and redisplaying them. The points you added will be incorporated into your surface whether you change the graphic display or not.
- You can remove breaklines and exterior boundaries from your surface file by using the Surface > Edit Surface > Delete Linear Feature command.
- You can track various surface and project information at the position of the cursor by using the Tools > Tracking command.
- Many surface editing commands also operate on native graphics. Use the Locate lock to toggle between Locate Features and Locate Graphics modes.
- If you are operating on linear features only, it is useful to set up a filter which excludes random point features. This prevents them being located when you select a feature from the screen.
- The software has the ability to store feature data in the DTM without affecting the triangulation. Use this for underground utilities, striping, etc.
- Random point features can be displayed with lines connecting the points, but will still be treated as random when triangulated.
- Linear DTM features have a point densification property which improves the definition of the surface without increasing the size of the DTM. This is useful for features with long straight sections.
- There are two ways to represent a surface in cross sections. If your model is well defined by longitudinal linear features, you can force the cross sections to recognise only the features, ignoring any triangle legs not along a feature. Select Surface > Surface Properties to choose how your surface will be represented.
- You can use Surface > Design Surface > Set Slope Along Feature to set the elevation of all the points of a feature to the same elevation. Just set the target point

to the first point and set the elevation, then set the target point to the last point and set the elevation.

- When using Surface > Design Surface > Set Slope Along Feature command, the disabled fields will update with new values when valid values are put in the input fields.
- When using the Surface > Edit Surface > Edit Feature Point command, you can edit multiple points of a single feature and only select the Apply button when you are done editing all the points.
- Using the "More" option on the Surface > Edit Surface > Edit Feature Point command allows you to move a point a precise distance, direction, and slope from either the point before or after it.
- To add points to the end of a feature, use the Surface > Design Surface > Place Feature command with the Append option turned on. If you want to add points to the start of the feature, first use the Surface > Edit Surface > Reverse Feature Direction command to reverse the order of the points.
- The Surface > Edit Surface > Partial Delete and Break Feature commands honor the Point Snap lock.
- The Surface > Design Surface > Sloped Surface and Longitudinal Feature commands dynamically display the possible solutions. You do not need to know on which side you want to place the results ahead of time.
- When locating a feature, the feature does not have to be displayed in the graphics file.
- You can toggle the Locate lock between Locate Features and Locate Graphics while selecting elements during the Surface > Design Surface > Transverse Feature, Longitudinal Feature, and Sloped Surface commands without exiting the commands.
- When running Surface > Design Surface > Apply Decision Table, if you don't specify a Final Intersection Name, the TC name from the final intersecting segment at will be used.

Geometry Tips

- The last geometry project you created is the active project by default.
- The last geometry you created, whether it was a project, horizontal or vertical alignment, or superelevation, is the active geometry type by default.
- You can create an alignment as you define coordinate geometry points with the Traverse command. Store the first two points as an alignment and then use the Add After option on the Traverse command.
- You can specify a distance for coordinate geometry commands by typing `d1 2`. The software will use the distance between points 1 and 2 as the current distance.

- You can specify a bearing or azimuth for coordinate geometry commands by typing `a1 2`. The software will use the bearing between points 1 and 2 as the current bearing.
- You can use wild cards to specify multiple alignments or point names. For example, `lot*` will select all point names that start with the letters *lot*.
- You can indicate a curve to the left by entering a negative radius length.
- You can type bearings without the special characters. For example, you can type `s45 35 45E` and the software will automatically convert it to *S 45^35'45" E* when you press the TAB key.
- Asymmetrical vertical curves are broken into two parabolic curves when exported to an ASCII file, and are therefore also imported as two curves from an ASCII file.
- The Curve Calculator computes a radius for you when you have two other pieces of curve information. This is handy when setting or revising arcs.
- You can transform geometry projects from imperial to metric units by using the Geometry > Locate > Transform command. You can transform surface data by using the Surface > Utilities > Transform Surface command.
- You must have a geometry project open before you can create geometry reports.
- The Point Snap lock and Write locks control the function of the Geometry > Inverse Direction command as well as many other commands.
- You can set an alignment point based on an existing alignment that is loaded in memory by using Station and Offset. When in Add PI or Move PI, type `so=station, offset, [(elevation, existing alignment name, geometry project name)]`.
- You can display elements and on-alignment points by using the Geometry > View Geometry > Active Horizontal command. You can display detailed annotation by using the Geometry > View Geometry > Horizontal Annotation command.
- You can import graphics to an alignment in your Geometry Project file.
- As you add new geometry to an alignment, the software assigns that alignment's style to the new elements.
- When using Tracking with Point Snap on, you can select only cogo points. For general elevation and slope tracking along a surface, turn off the Point Snap lock.
- When selecting a station for a range with Point Snap on, you can select only cardinal points along an alignment. With Point Snap off, you can select intermediate stations along an alignment.
- When tracking with Point Snap on, you can track only cardinal points along an alignment. With Point Snap off, you can track intermediate stations along an alignment.

- When choosing Block or Cell as the Symbol Type for points in the View Vertical Annotation command, the block or cell is defined by the setting in Geometry > View Geometry > Point Symbology

Evaluation Tips

- A profile must be *owned* by the active horizontal alignment for profile annotation to work properly.
- Features added to profiles will display with the same exaggeration as the profile.
- You can transfer planimetric data to your cross sections and profiles by using the Evaluation > Profile > Add Feature to Profile and Evaluation > Cross Section > Place Feature in Cross Section commands.
- You can generate cross sections along any line or polyline by using the Evaluation > Cross Section > Create Cross Section command.
- You can create binary report files with Create Cross Section, End-Area Volumes and Roadway Modeler commands. You can then generate text reports from these binary files using the Tools > Reports > General tab.
- When calculating End-Area volumes from cross sections, the InRoads family of products automatically draws the cut and fill areas at the same exaggeration as the cross sections. However, the true area is used and annotated in the volume calculations. Your CAD software calculates the area based on the exaggerated shape, not the true shape.
- When adding graphical elements to cross sections, make sure the active elevation is near the elevation at which the cross sections were plotted. This will ensure the additions will display when using the Cross Section Viewer or Add Surface to Cross Section commands.
- Features can be placed in a cross section set at creation or added later by selecting the Evaluation > Cross Section > Update Cross Section command.
- You can control the symbology for each surface in a cross section set by setting the surface's Cross Section Symbology in Surface > Surface Properties.
- You can control the display characteristics of features in cross section sets using the Tools > Feature Style Manager.
- You can use the Evaluation > Cross Section > Update Cross Section command to refresh surfaces and features in existing cross section sets by selecting the Refresh option. You can add surfaces and features to existing cross section sets by selecting the Display On option and you can remove surfaces and features from existing cross section sets by selecting the Display Off option.
- You can edit a feature directly in the Cross Section set instead of modifying the plan representation and updating the cross section set.

- Features can be modified by 6 methods -- Offset, Elevation, Offset/Elevation, Delta Offset/Delta Elevation, Width/Slope from Left and Width/Slope from Right.
- Features can be placed directly in the cross section set at a desired offset/elevation.
- Features can be deleted from your DTM by identifying them in a cross section.
- Only the highlighted surfaces on the Profile Controls tab will be used to determine if the profile needs to shift when running the Evaluation > Plan and Profile Generator command.
- When running the Evaluation > Plan and Profile Generator command, turn Generate Sheets off and run Plan Only method until you have all the plan views at the desired locations. Then use the Plan and Profile method in the Use Plan Views mode to create the associated Profile views.

Modeler Tips

- Right-of-way definitions can be used only when the method of controlling the side slopes is cut-and-fill or material table.
- You can write your template points to the drawing file while processing a Modeler command. Turn on the display Transition Control Lines toggle and the Write lock.
- The slopes of template segments are measured going away from the centerline. Up is positive and down is negative.
- By default, the slopes of template segments are calculated from pivot to range when using the Superelevation command. If the pivot is on the range point, a zero-percent slope is reported. To prevent this, define the crown point on the template and then the slope will be calculated from the crown point to the range.
- More predictable feature names will be generated if unique Left and Right Prefixes are specified on the Modeler > Roadway Modeler > Advanced Page. When unique prefixes are specified, all Features are prefixed. If left blank, prefixes of L_ and R_ will be used only if there is a naming conflict.
- When adding features to an existing design surface, leave the Add Exterior Boundary option off and turn on the Create Cut and Fill Features option on the Modeler > Roadway Modeler command. See the Reference Guide for how these features can be used to create an exterior boundary feature.
- When adding features to an existing design surface using Modeler > Roadway Modeler, setting the Modify mode for Duplicate Feature Names will modify existing features by removing existing feature points in the range of the current modeler run and replacing them with the new points.
- New features created by the Modeler > Roadway Modeler command will have a description indicating from which modeler run they were created. On the first modeler run, the features will have description “Created by Roadway Modeler1”. The next time it will be “Created by Roadway Modeler2”.

Tools

- To see all settings on the Tools > Options > General tab, be sure to select each item in the Category list.
- You can create your own hot keys by selecting the Tools > Customize > Keyboard tab.
- You can create your own macros by selecting the Tools > Customize > Macros tab.
- You can reset your toolbars and menus to their default settings by selecting Reset All on the Tools > Customize > Toolbars tab.
- You can do a Partial Export from the Tools > Customize > Export tab in order to save your current toolbars, hotkeys, macros, and menus while importing additional ones.
- A feature's style not only controls its symbology; it also controls whether it can be displayed in a 3-D/Plan view as well as in a cross section set. It also controls the ability to annotate the feature in either environment. To change a feature's style, select the Tools > Feature Style Manager command.

General Interface Tips

- You can select multiple files in a list by clicking the first file in the list, pressing and holding the Shift key, then clicking the last file in the list.
- You can select random files in a list by pressing and holding the Ctrl key then clicking the files individually.
- You can get help on the active dialog box by clicking the Help button or by pressing the F1 key.
- You can add your own notes to the Help file. Click Edit > Annotate from the Help window, and type your note. The Help system will attach a *paper clip* containing your notes to the Help topic.
- You can search for any word or phrase in the online Help file. Click the Find button on the Help window and follow the instructions on the dialog box.
- The green text in Help is more than decorative. It indicates a jump to related information.
- You can copy text from the Help topics. Select the text you want to copy and press Ctrl + C. Change focus to the document into which you want to paste the text and press Ctrl + V.
- You can create a customized list of frequently used Help topics. Open the topic and click the Favorites tab. Click the Add button to add a topic and create a customized list of help topics. Once the topic is defined, select the topic from the list and click the Display button to easily display your frequently used topic information.
- You can set the On Top/Not on Top status of Help windows by selecting Options >

Keep Help on Top from the Help window and choosing an option.

- The small button with the target on it next to key-in/input fields allows you to select graphics or a coordinate location in the drawing.
- Feature Tags are non-graphic attributes that can be assigned to graphic data.
- The software supports many formats for keyed-in data. See Key-Ins for more information.
- You can add or subtract from an angle value while keying it in by adding a + or - and the amount to be added or subtracted. The software will automatically do the math before sending the value to the command.
- You can manipulate graphics without changing the data files that are stored in memory.
- If you want to run more than one InRoads product at the same time, select Tools > Application Add-Ins to turn on other InRoads products loaded on your workstation. The menus change to include commands for all products currently turned on.
- You can create an icon on your desktop for starting an InRoads product. You can even specify that your InRoads product start in your project directory by default. For the basic steps in configuring an icon, see Setting Up an Icon for Your InRoads Product.
- If you are using AutoCAD, the software assigns several APPIDS each time you start it. If you should accidentally purge these APPIDS, simply exit and restart the software, and they will be reassigned automatically.
- Use the Feature Filter to control the features displayed in all commands.
- If you see many dithered features in the Features lists throughout the product, it means that the Feature's style is preventing it from being displayed via that command.
- You can use the Input button to select a feature if you do not know the feature name.

Technical Support Tips

- You can keep yourself informed and on top of the latest information through the Internet. Connect to Bentley Online at http://www.bentley.com. See How to Reach Bentley for more details.
- You can find additional information on procedures and tips in the README.TXT file in the product directory.