



Portion of a Longitudinal Section Plot



Longitudinal Section Creation/Editing/Plotting

- The data used for display, or plotting, may be any of the following :-
- Section Plotting Using both Design and Cross Section Files
 - *Combines the centre line of a Vertical Curve Alignment File and User designated element of a Cross Section File. The selected element may be any of the available 51 elements (2 points left of the centre line, the centre line and 25 points right of the centre line) of a Cross Section.*
- Section Plotting Using a Cross Section File only.
 - *Uses any User designated element of the available 51 elements of a Cross Section File.*
- Section Plotting Using both Design and Long-Section Files
 - *Combines the centre line of a Vertical Curve Alignment File and a Longitudinal Section File (created through this application - see further on).*
- Section Plotting Using a Long-Section File only.
 - *Uses a Longitudinal Section File, as created and/or edited through this application.*
- Section Plotting Using a Design File only.
 - *Uses a centre line of a Vertical Curve Alignment File.*

- **Section Plotting of Random Grouped Section Files.**
 - *This option displays, or plots, a series of Long-Section Files (known as Random Grouped Files), which have been generated from data in a Tacheometric File, and in which the Points follow a specific numbering coding system used by SURPAC.*
- **The Options for Creating a Longitudinal Section File are :-**
 - **Generate Sections from a Tacheometric File plus defined Bend Points.**
 - *This method locates and sorts Long-section data along defined section line, or series of consecutive section lines within a Tacheometric File. The section line positions are defined by identifying consecutive Bend Points held in the Co-ordinate File. The two defined files must have a common area of overlap. This is not an interpolation technique, and only surveyed data will be used. This method is best suited for measurements downloaded from a total station, or logger. Side Slope Points may also be included.*
 - **Interpolate Sections from a Tacheometric File plus defined Bend Points.**
 - *This method uses a system of Least Squares plane fitting along the user defined section line(s) and at a defined interval. The section line positions are defined by identifying consecutive Bend Points held in the Co-ordinate File. The surveyed data Tacheometric data, plus BreakLines where necessary, held in a user defined Tacheometric File. This method is best suited for determining random sections over surveyed area where no direct long-section information has been surveyed. It provides a technique of creating long-section information on discrete topographical features, plus interpolated heights, without having to measure directly along the section line, and is suitable for both natural terrain and terrain that contains man made features such as drains, existing roads etc.*
 - **Create Sections from a Contour Triangulation File plus defined Bend Points.**
 - *This method searches for all possible intersections between the Longitudinal Section Lines (defined by the Bend Points) and the sides of Triangles created in a User defined Contour Triangulation File. The Section Line positions are defined by consecutive Bend Points held in the Co-ordinate File. This method is best suited for determining random sections over a surveyed area where no direct long-section information has been surveyed. It provides Long-Section data based on Contour Triangulation, without having to measure directly along the Section Lines, and is suitable for both natural terrain and terrain that contains man made features such as drains, existing roads etc.*
 - **Load Section Information from a Handi-Data "LEVELS Lng-Sect" File.**
 - *This method will load Long-Section data from a Handi-Data Systems PSION Organiser or PSION Workabout, "LEVELS" Lng-Sect File [as long as the data are captured in SURPAC Format]. For further information, refer to the "LEVELS" User's Guide for the PSION Organiser, or the PSION Workabout, DISK Transfer.*
 - **Load Long Section Information from an ASCII File.**
 - *Data are imported from a Fixed Column ASCII File.*
 - **Create a series of Grouped Random Section Files from a Tacheometric File.**
 - *Using this function, it is possible to rapidly create a series of long-section Files from data held in a Tacheometric File. The Points for each Section created are identified by means of the Point numbers of the Data in the Tacheometric File using a number coding system. Each Section created will be in its own, separate Longitudinal Section File.*

File , which will be given the Name of the Tacheometric File plus the Section Number.