OverView

The NCWedge application is designed to address each part of the resurfacing and wedging process in a step by step manner. Every attempt was made to lead the user to and through each process. This is accomplished by progressive activation of the pushbuttons on the main dialog.

Each task pushbutton is activated on the dialog only when the currently open project file has been developed to the point that it's ready for the task. Therefore, for the beginner, the next task to perform would be the last unghosted pushbutton on the main dialog.

The raw data or input used for various computations (such as control elevations) is gathered by the program from Microstation design files. A small part of the data is accepted from the user via keyboard input. Data gleaned from DGN files is outlined here:

Existing Pavement
Alignment Relations
Proposed Pavement Configuration

Data loaded from DGN files and user provided data is written to a wedging project file. The project file is basically a station file. It will contain one record for each cross section station. The contents of each station record is as follows:

Cross section station and region

Cross section baseline

Design chain station, region and virtual region

Design chain name

Design chain offset from cross section baseline

Existing pavement as cross section points

Proposed Geopak shapes as cross section points (horizontal offsets are from the PGL and elevations are stored as vertical offsets from the PGL gradepoint

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NCWedge is designed to allow the engineer to process an entire project in a single project file regardless of the number of cross section files, shape files or chains involved. Cross sections can be loaded from any number of Geopak cross section files and in any order. Shapes can also be loaded from any number of separate Geopak shapes files.

The design grade alignment can consist of any number of Geopak chains. This allows the engineer to build a resurfacing grade spanning the entire project instead of multiple grades for each Geopak chain. The profile grade can be automatically adjusted horizontally and/or vertically where the design alignment changes chains. See Virtual Chains and Regions