OverView - Existing Pavement Extraction

Existing pavement data is loaded as ground cross section shots, and is stored in the project file as elevations and horizontal offsets from the cross section baseline. Ground line data is extracted from the Geopak cross section cells, and "trimmed" to the limits of the existing pavement. This "trimming" process is accomplished by computing the offsets of the existing pavement from an EOP (Edge Of Pavement) file.

Typically, the EOP file is a decendant of a topo or plan view file, in which the elements representing the existing pavement are of unique symbology. This allows the program to locate the edges of the existing pavement at each cross section station, compute the offsets and apply these offsets to the cross section ground line.

Since the accuracy of the pavement elements in the EOP file is approximate, the NCWedge Load Cross Sections dialog offers two methods of interpreting them.

The **Nearest Point** method picks the vertice of the cross section ground line that is nearest (horizontally) to the offset of the EOP element. This method is the default and the recommended.
The **Interpolate** method uses the offset distance of the EOP element to interpolate an elevation on the cross section ground line.

While it is standard practice to remove all elements from the EOP file except those representing the intended existing pavement, NCWedge is built to consider all elements (that match given search symbology) found to intersect a perpendicular at the cross ection station. Therefore, when more than two intersections are found, some assumptions are made in deciding which are the true locations of the existing pavement.

This decision process is based on the setting of the Existing Roadway Configuration option button on the Load Cross Section dialog.

Known Problems

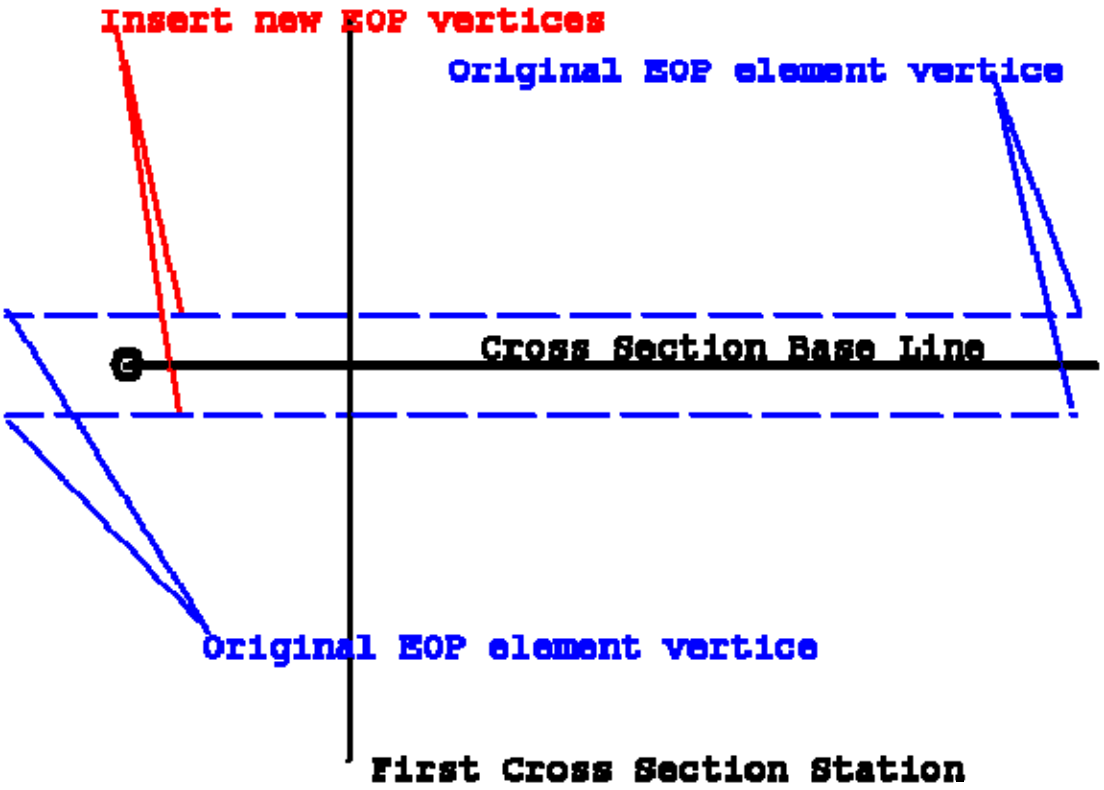
Occasionally, we may find an EOP file from which NCWedge seemingly cannot find or read the EOP elements. When this happens, it produces the message **"Station ..... EOP lines not found. Station loaded with no XS points."**

To understand the cause of this problem requires some knowledge of the process involved in reading the EOP elements.

NCWedge first scans the entire EOP file, searching for elements that match the given symbology of level, color, line style, weight and element type. As each EOP element is found, NCWedge presents the element to Geopak with the question: What is the beginning and ending station/region of this element on the Geopak (cross section) chain? If Geopak returns a valid station/region for each end of the element, the element is accepted as a candidate EOP element and stored in a memory list. If the station/region of either end of the element is not valid (station=0+00.00 region = 0) the element is abandoned and considered no more.

Occasionally, Geopak will return an invalid station and/or region for one or both ends of an element that is actually a valid element. (This is probably due to a bug in NCWedge in the way it communicates with Geopak.) As of now, the author of NCWedge has no ideas or plans for fixing the bug.

However, there is a work around that has a success rate of approxiamtely 98.368154%. (humor) Usually, this occurs when the EOP elements at the begin or end of the cross section chain extend past the begin or end of the chain. (I.E. one end of the EOP element is off the chain.)



Breaking the EOP element (inserting new vertices) between the end of the chain and the first (or last) cross section station, will usually fix the problem.