USER MANUAL

PLPak Version 1.01

STRUCTURAL ANALYSIS SOFTWARE USING BOUNDARY ELEMENTS METHOD

PLPAK basic tutorials

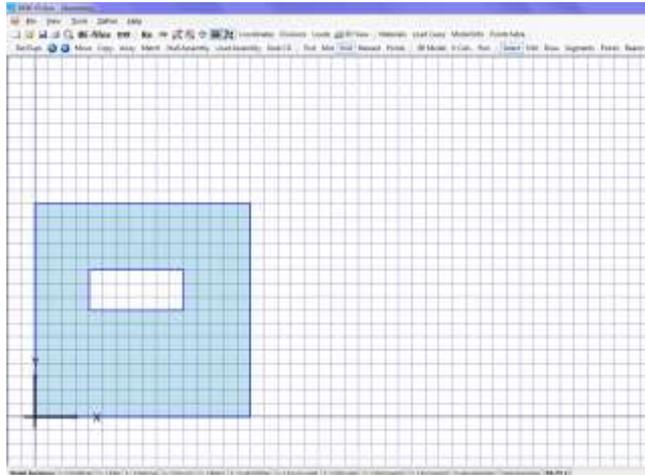**Tutorial 13 – PLView model & terminology**

CONTACT DETAILS:

www.be4e.com

support@be4e.com

Tutorial 13

The objective of this tutorial is to provide a description of the numerical model in PLView.

I – In PLGen draw a simple square slab with an opening and a clamped edge.

II - Open the model in the PLView to view the boundary element model. This is done by clicking on the BE model button and it will automatically open up in the PLView. Enable the grid.
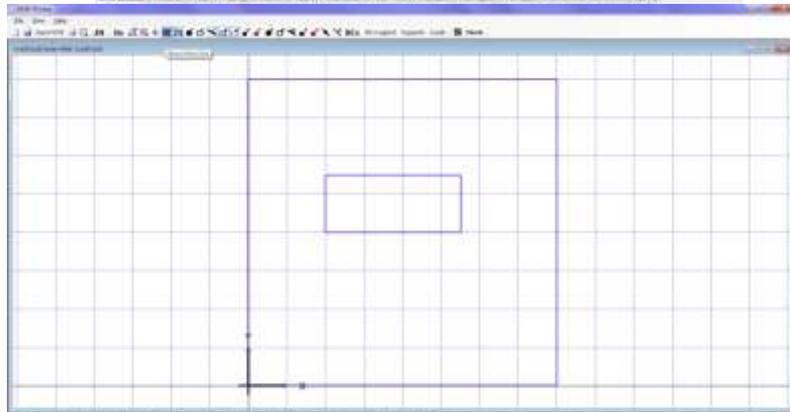

III - the main toolbar includes the usual set of functions such as save and print, etc. The view toolbar has the usual features of the zoom and zoom extents, grid, show axis, etc. Another set of tools unique to the PLView comprises of the show/hide nodes which when clicked on show red nodes equally spaced apart.
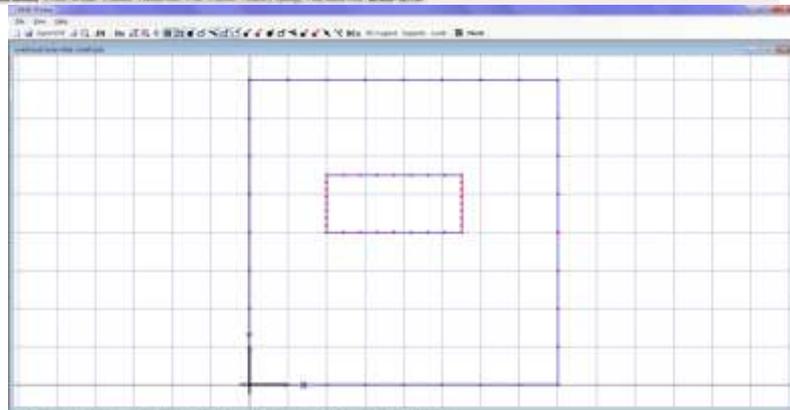

IV - Click on show/hide points to show nodes between each point and at the points. The number of nodes increases with the number of boundary elements and thus number of divisions.
Show/hide elements, supports and loads are by default clicked on; we can click them off one by one to show you the difference
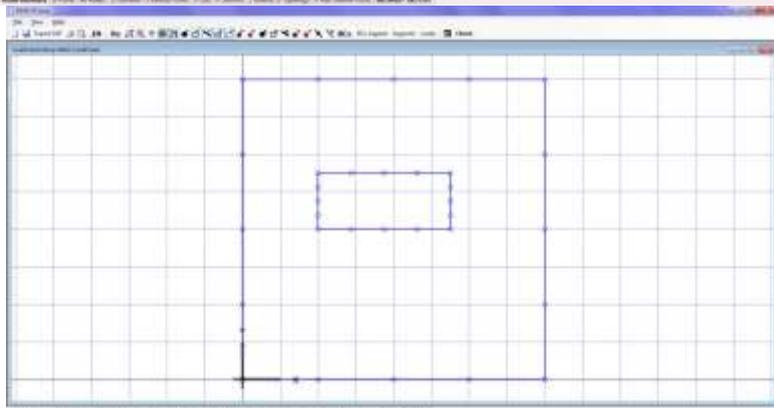
V - By toggling off elements, the edge of the slab disappears; toggling off supports removes the columns. Show/hide element numbers can be clearly identified along with show/hide elements direction. Show/hide element normals shows the normal direction on each element.
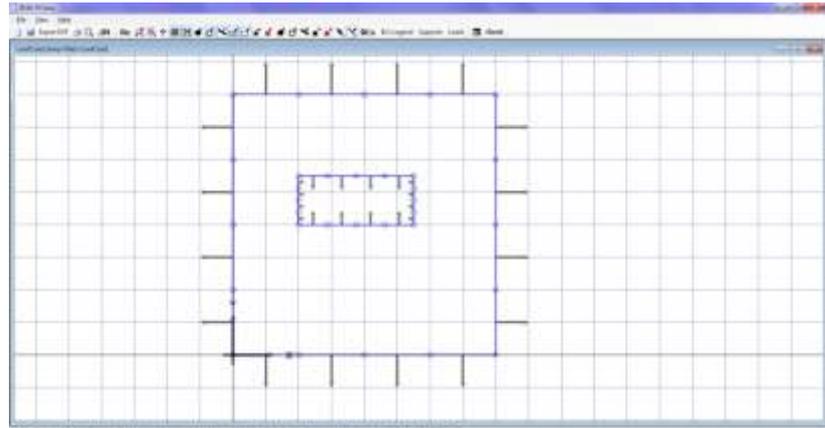

VI - BCs or boundary condition displays the boundary condition, clicking on BC legend is helpful at this stage. Toggling on supports shows the Kx, Ky and K3 of the supporting element.
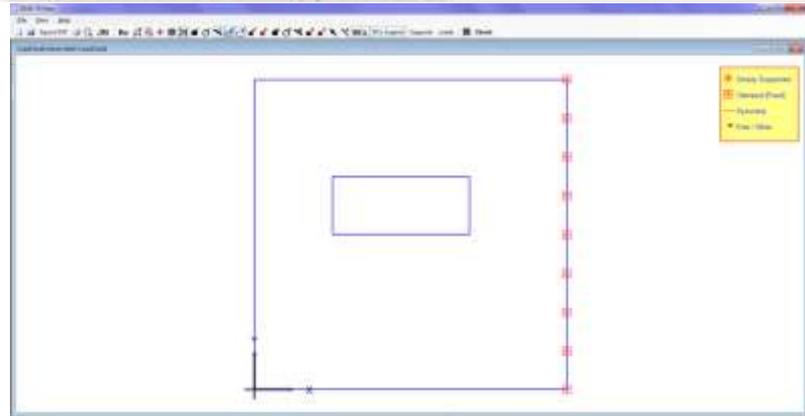

VII - The last two buttons are the IN and the check button. The IN stands for input or to show the input tables. Click on it to open the tables, in numerical terms it is considered as the input file of the program where the engineer can adjust anything from general info, load cases, supports, and boundary conditions to adding external points. The general info tab is a combination of the model info and the slab properties in one in the PLGen.
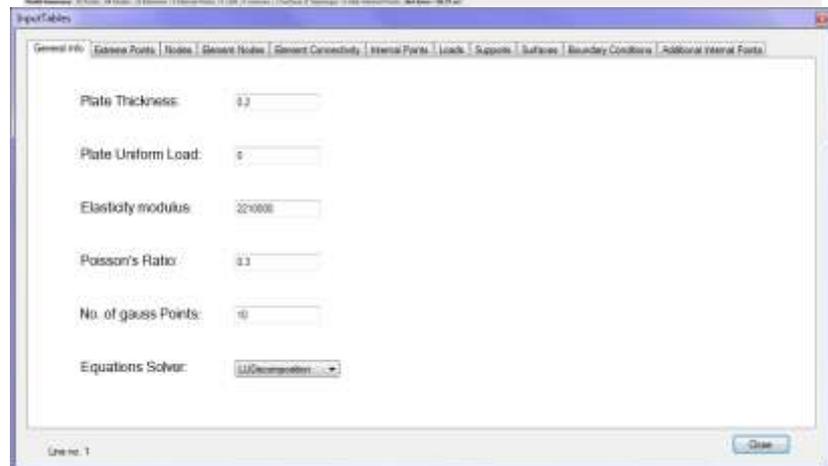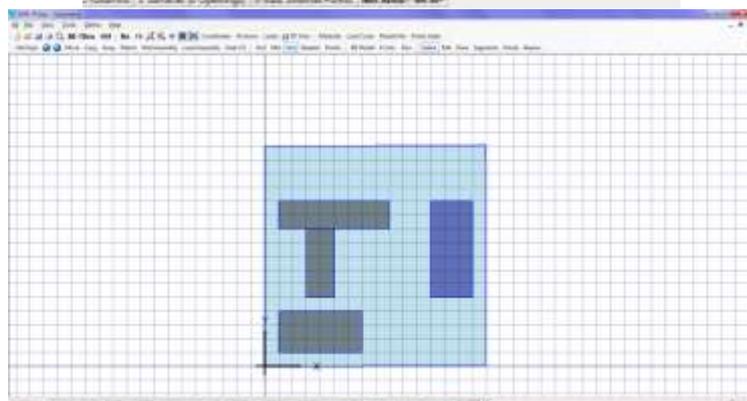
VIII – In the second example, we have the wall support, column, soil support patch and wall assembly
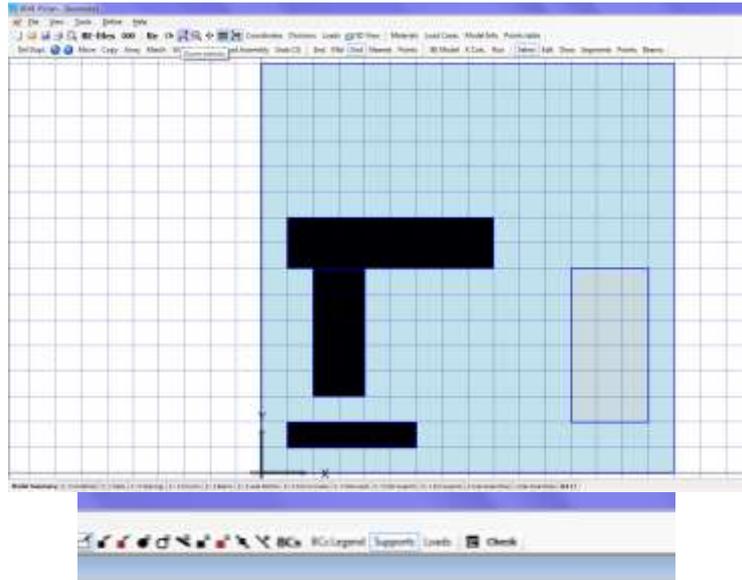
IX - Open it in the PLView and notice the divisions shown in the different types of supports; it displays the stiffness of the supports.
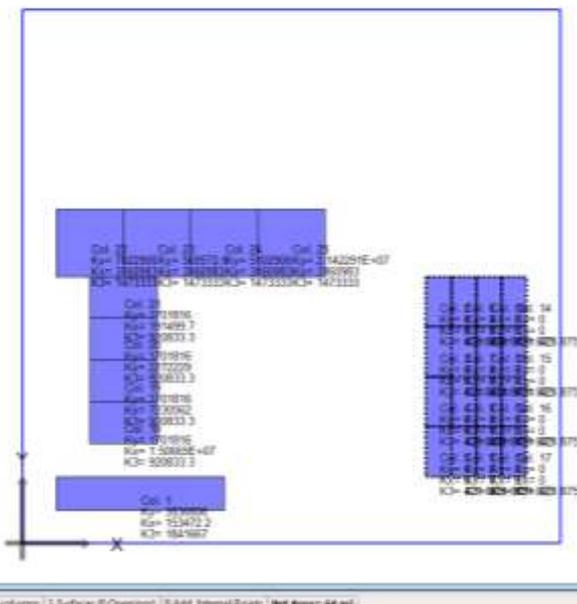
X – In the third example, we have wall load, column load, load patch and load assembly.

XI - Click on the loads button
at the top to display the loads
or the stress on the objects.