

INSIDE Buildmaster

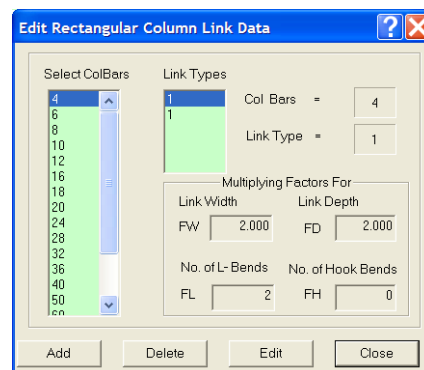
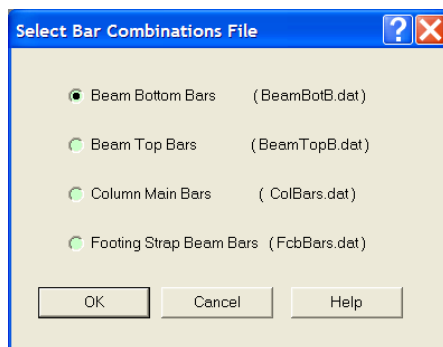
November 2005,

Issue No. Eight

Welcome back to **INSIDE BUILD-MASTER !**

Two new Utilities are added in **Build-Master 2005**, namely, **BarCOMB.exe** and **SetCLink.exe** for configuring the standard data files storing User Defined Bar Combinations, used in RCC Design programs.

Beam Design program, uses BeamBotB.dat and BeamTopB.dat files for reading Number of Bars to be provided for required Areas of Bars at Beam Bottom and Top respectively. The first utility BarComb will be useful to tailor-made these two files for desired Bar Combinations. Second utility SetCLink, will be useful for configuring, different arrangement of Column Links stored in ColBars..dat file. Detail description regarding these files is given in Chapter 6 of RCC Design Manual.



Single Line Plan Input is the most crucial data of a Project. Most of the errors, which appear later during the Analysis & Design, are due to the incorrect plan input. Common inaccuracies like Overlapping lines, Gaps between the lines etc. crops in while drawing a plan. A detail Flow Chart is given in this bulletin for locating the common Errors done while inputting the plan and Solutions for Trouble shooting them.

Special care shall be taken if the Single line plan is exported from a CAD package. Drawing shall be stored in "AutoCAD 2000 DXF" file format. Plan should have been drawn near the Origin (0,0) in meter units with 1:1 scale.

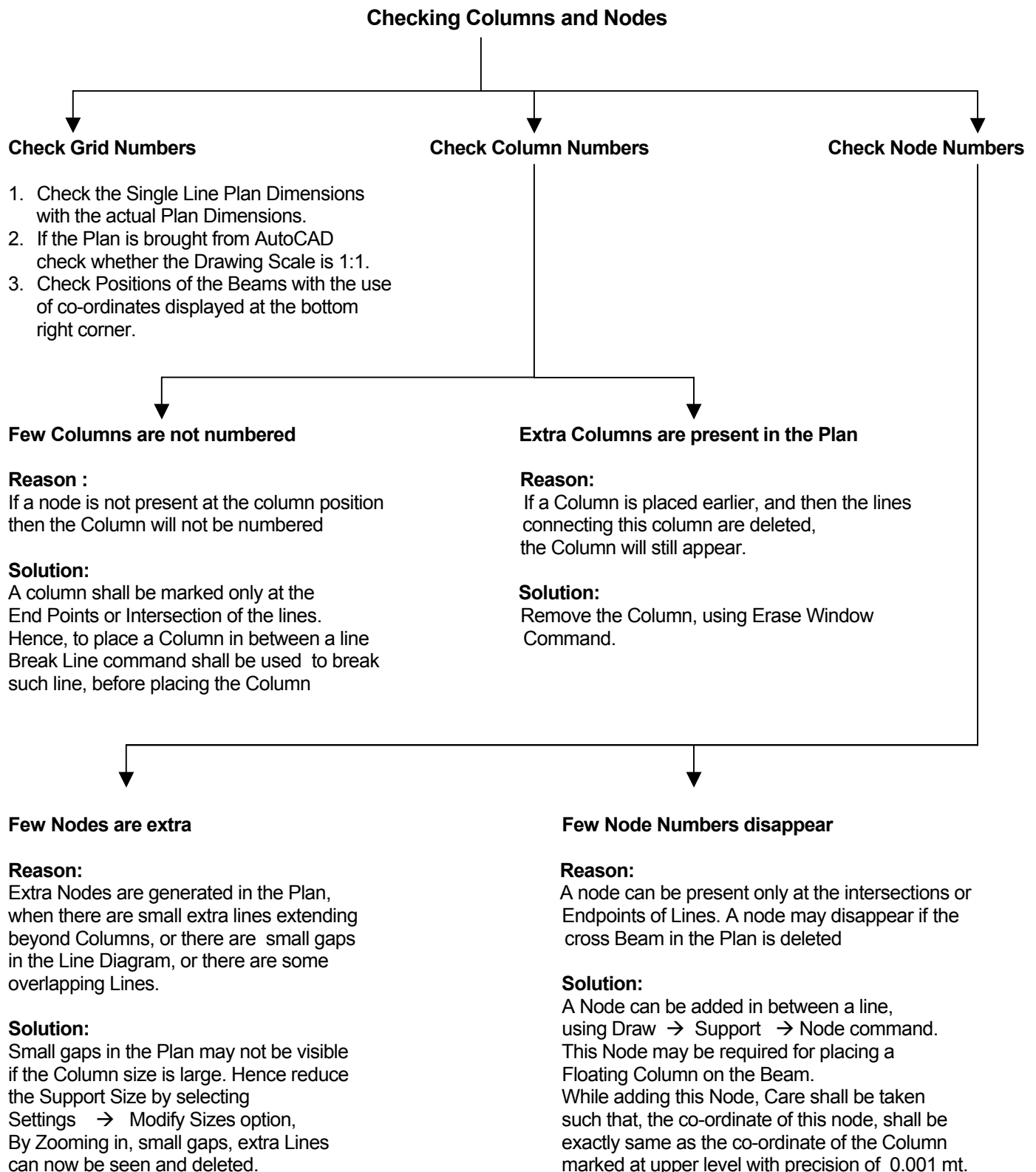
Build-Master uses many different file extensions, for various types files of a project, to distinguish them easily. Windows Explorer does not display the file extensions by default. It is a good idea to always display the list of files with their Extensions instead. Simple steps for configuring Windows Explorer are given at the end of this bulletin.

TROUBLE SHOOTING BUILD-MASTER INPUT PLAN

Checking **Single Line Plan** is very important, while preparing floor plan data. A detail procedure of checking is given below.

After carving out the desired Single Line Plan, When **MakeData** command is given, **Build-Master** converts graphical single line plan to numeric data files. It detects Beams, Slabs and Columns from the single line diagram and numbers them automatically. Select **Show Numbers** option from the **View** menu to Display Beam Numbers, Slab Numbers, Grids, Columns and Node Numbers one at a time, to check the entities generated by Build-Master.

User is advised to verify the generated numbers, by comparing them with the actual number of Entities desired in the plan. Commonly faced Problems and their Solutions are discussed below.



Checking Beams and Slabs

Check Slab Numbers

Check Beam Numbers

Few slabs are NOT detected

Few Slab nos. are NOT displayed at Proper Positions

Reason:

If the Slab is of any irregular shape, then the Slab no. may not be displayed at the centre of the polygon

Solution:

Such Slabs will be broken into two or more slabs.

L-Shaped Slabs

Reason:

The Internal angle between adjacent sides shall not be greater than 180° . Hence L-Shaped Slabs are not detected.

Solution:

L-Shaped Slab shall be broken into two slabs with a fictitious beam. This beam shall be of small size say 50 mm width and depth = Slab Thickness.

Number of Nodes for a Slab are greater than 15

Reason:

If the number of sides for a slab are more than 15, then the data for the Slab is not stored.

Solution:

To avoid this break the slab into two parts with the help of a fictitious beam.

Slab is not a closed Polygon

Reason:

Each Slab shall be a closed polygon. Hence even if there is a small gap along the periphery of the slab it will not be generated.

Solution:

Select Show Numbers and select only Node Numbers. Check if there are any overlapping nodes, or if any of the beams are not connected at end points. Small gaps may not be visible. For that reduce Column Sizes from Modify Sizes option from Settings menu and correct the Lines

Few Beams Not numbered

Reason:

Program can save Data for a Beam with no. of nodes upto 15. Hence a Beam having more than 15 nodes will not be generated.

Solution:

Break such Beam into two parts. Use Cut Beam Horizontally or Cut Beam Vertically marks. Change in the numbering of the Beams does not affect the behavior of the Beam in Analysis. The Analysis is carried out by Stiffness Method.

Few Extra Beams displayed

Reason:

There can be some stray lines which are extended beyond the Columns. Such lines are also numbered as Beams.

Solution:

Reduce the Column Sizes by selecting Modify Sizes option from Settings menu. The extra lines shall be visible now. Delete such unwanted lines.

Beams Not Properly numbered

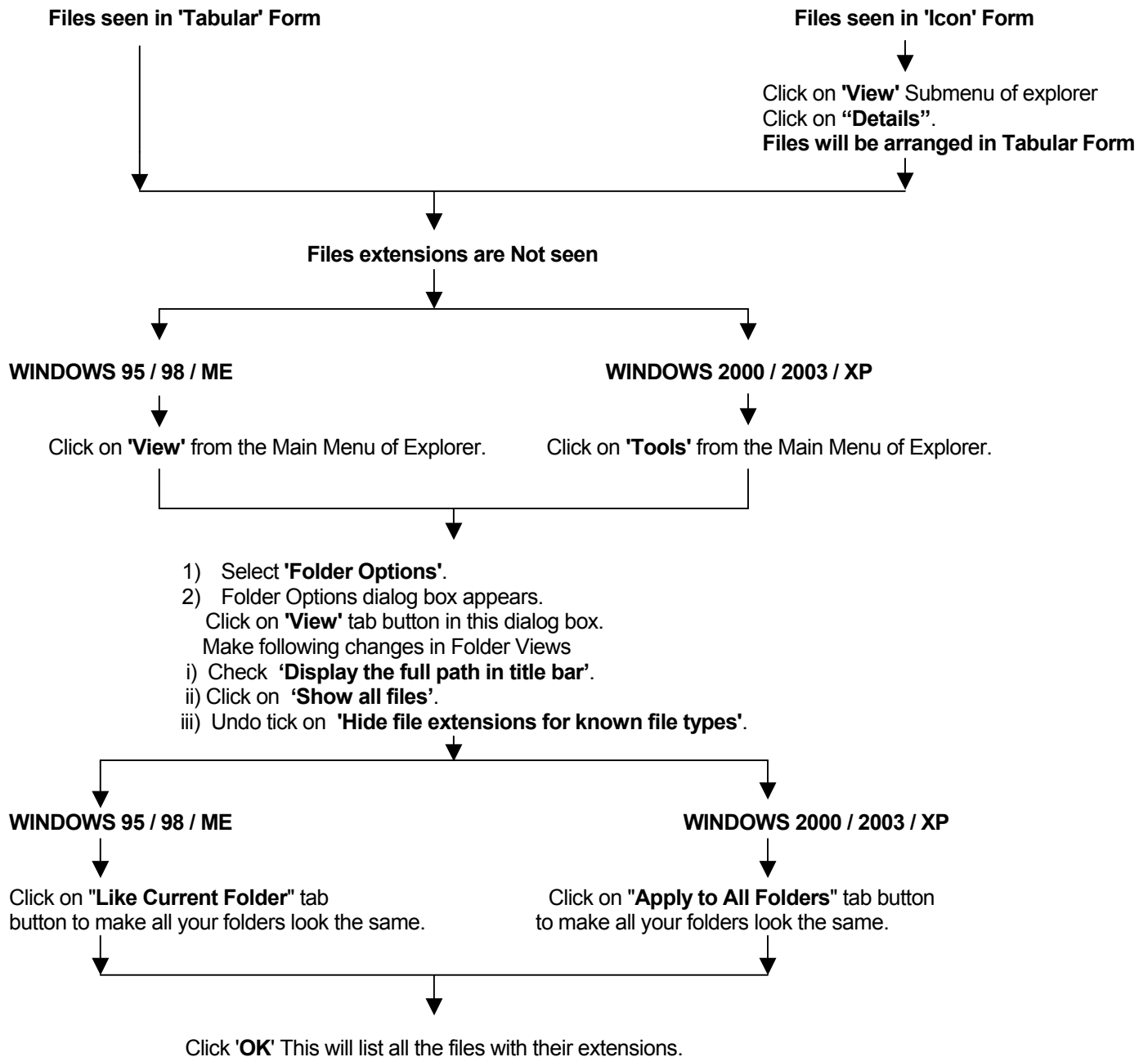
Reason:

When two beams cross each other, Program numbers each of them as Full Beams.

Solution:

Use Cut Beam Horizontally or Cut Beam Vertically marks, to Number the Beams in desired way. Cut Beam marks do not affect the Analysis. The behavior of the Structure depends upon stiffness of adjoining members and not on the Numbering

Configuring Windows Explorer



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