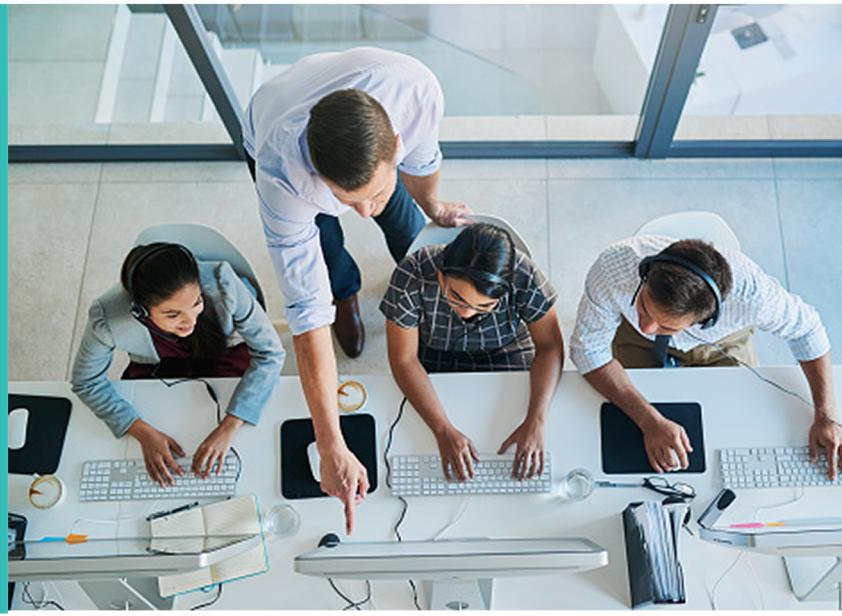




Andhra Pradesh State Skill Development Corporation



Extended Three-Dimensional Analysis of Building System

ETABS

New Model Creation Using Storey Dimensions



New Model Creation Using Storey Dimension

Objective: This chapter contains the continuation of new model creation.



Story Dimensions - Define Story Data

Use the Story Dimensions area of the form to define the number and height of stories. Select from two options for defining the story data:

Simple Story Data: Enter values in the edit boxes to define the number of stories and a typical story height that is used for all story levels except for the bottom story, which is specified separately. The program provides default names for each story level (for example, Story1, Story2 and so on) and assumptions for story level similarity.

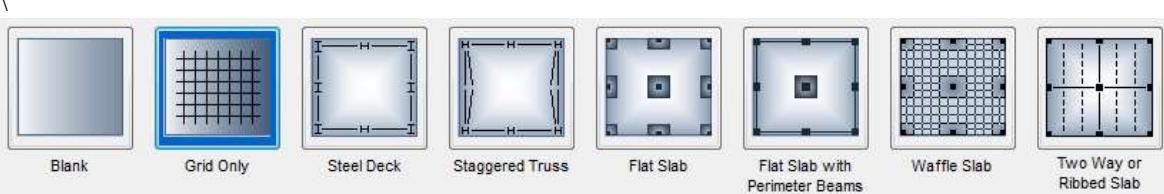
Custom Story Data: After choosing this option, click the Edit Story Data button to access the Story Data form. Enter values in the Story Data form to define your own story names, story levels of non-uniform height and customized story similarity. Story level "similarity" can be significant, e.g., when Story2 is a Master Story, and Story1 is similar to Story2, an object drawn on Story2 typically appears in the same plan location on Story1. The splice data identifies which stories contain steel column splices and the height of the splices - splice data is not applicable to concrete columns.

The Story Data form also appears when the Edit menu > Edit Stories and Grid Systems command is used followed by the Modify>Show Story Data button on the Edit Story and Grid System Data form. Story level similarity can also be significant to composite beam and steel joist design.

Create the Structural Model

Add Structural Objects Using Templates

Use one of the six built-in templates shown on the New Model Quick Templates form to add structural objects to your model. In many cases it is the simplest, most convenient and quickest way to start a model. The New Model templates are shown below:



Note that the templates consist of two for steel buildings and four for concrete buildings, as well as a button for creating grids only and a button for starting a blank model, both of which add no structural objects to the model. Choose any of the templates by left clicking its associated button. When one of the template buttons is chosen, the Structural Geometry and Properties form will appear for that template, as shown in Figure 3-4. The Structural Geometry and Properties form typically contains areas for specifying structure data and loads.

Once all structure and load data have been entered, click the OK button to close the form and return to the New Model Quick Templates form.

Note: This form will not display if the Grid Only or Blank buttons are chosen since no structural objects are defined.



Structural Geometry and Properties for Steel Deck

Steel Deck	Structural System Properties	
Overhangs		
Along X Direction		
Left Edge Distance	0.5 ft	
Right Edge Distance	0.5 ft	
Along Y Direction		
Top Edge Distance	0.5 ft	
Bottom Edge Distance	0.5 ft	
Secondary Beams		
<input checked="" type="checkbox"/> Secondary Beams		
Direction	X	
<input checked="" type="radio"/> Max Spacing	8 ft	
<input type="radio"/> Number		
Moment Frame Type		
<input type="radio"/> None	<input type="radio"/> Perimeter	<input checked="" type="radio"/> Intersecting
<input type="checkbox"/> Special Moment Beams		
Specify Type...		
Load		
Dead Load Case		
Dead Load (Additional)	0 lb/ft ²	
Live Load Case		
Live Load	0 lb/ft ²	
Restraints at Bottom		
<input type="radio"/> None	<input checked="" type="radio"/> Pinned	<input type="radio"/> Fixed
Floor Diaphragm Rigidity		
<input checked="" type="radio"/> Rigid	<input type="radio"/> Semi-Rigid	<input type="radio"/> No Diaphragm
OK		
Cancel		

Figure: Structural Geometry and Properties

Once all structure and load data have been entered, click the OK button to close the form and return to the New Model Quick Templates form.

Note: When using concrete building templates in this program, beams and slab ribs (joists) are normally modeled with depths equal to the dimension from the top of the slab (not bottom of slab) to the bottom of the beam or slab rib. Also, beams are modeled as line elements in this program. Thus, slabs with out-of-plane bending capability span from center-of-beam to center-of-beam in the program model.

Select Grid only template and Click the OK button on the New Model Quick Templates form and the model appears on screen in the main ETABS window with two view windows tiled vertically, a Plan View on the left and a 3-D View on the right, as shown in Figure 3-5. The number of view windows can be changed using the Windows List button.

Note that the Plan View is active in Figure 3-5. When the window is active, the display title tab is highlighted. Set a view active by clicking anywhere in the view window.

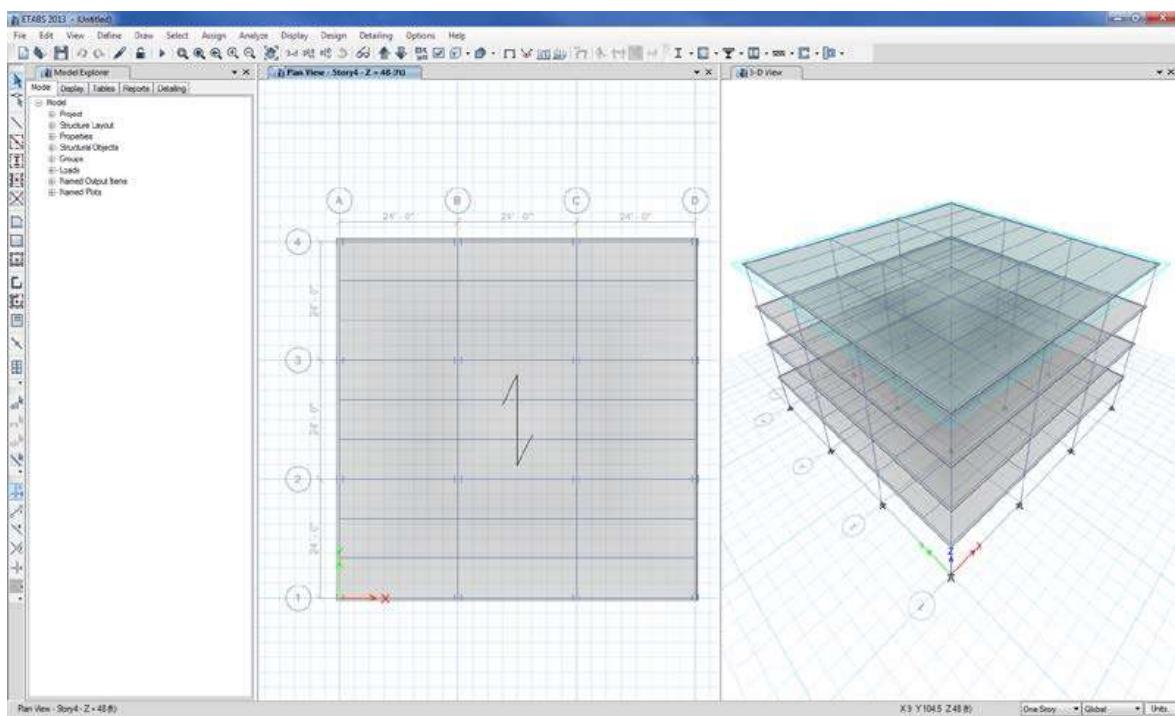


Figure : ETABS main window