



**Andhra Pradesh State Skill
Development Corporation**



Extended Three-Dimensional Analysis of Building System

ETABS

Failure Section Modifications

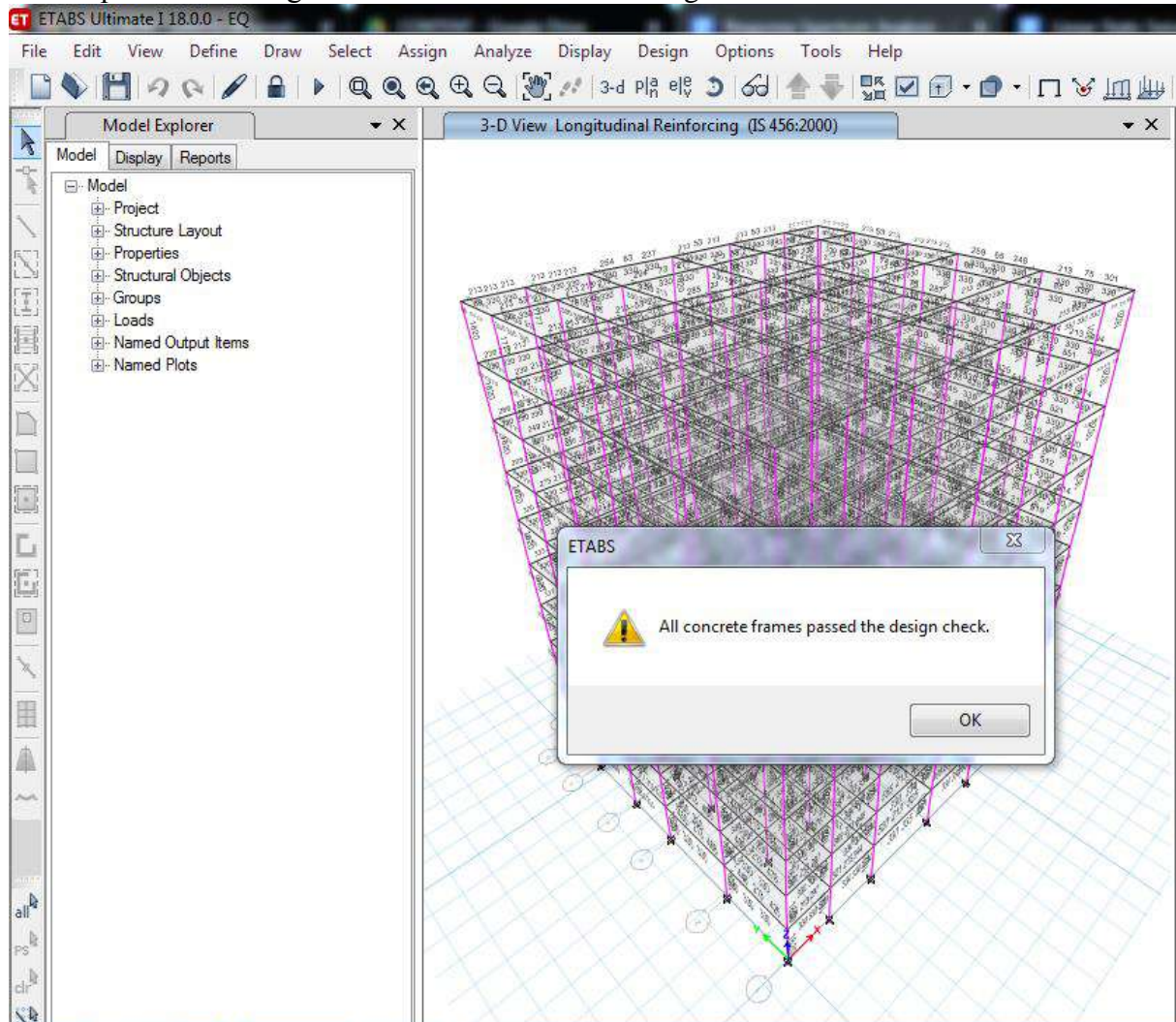
FAILURE SECTIONS MODIFICATION

Objective

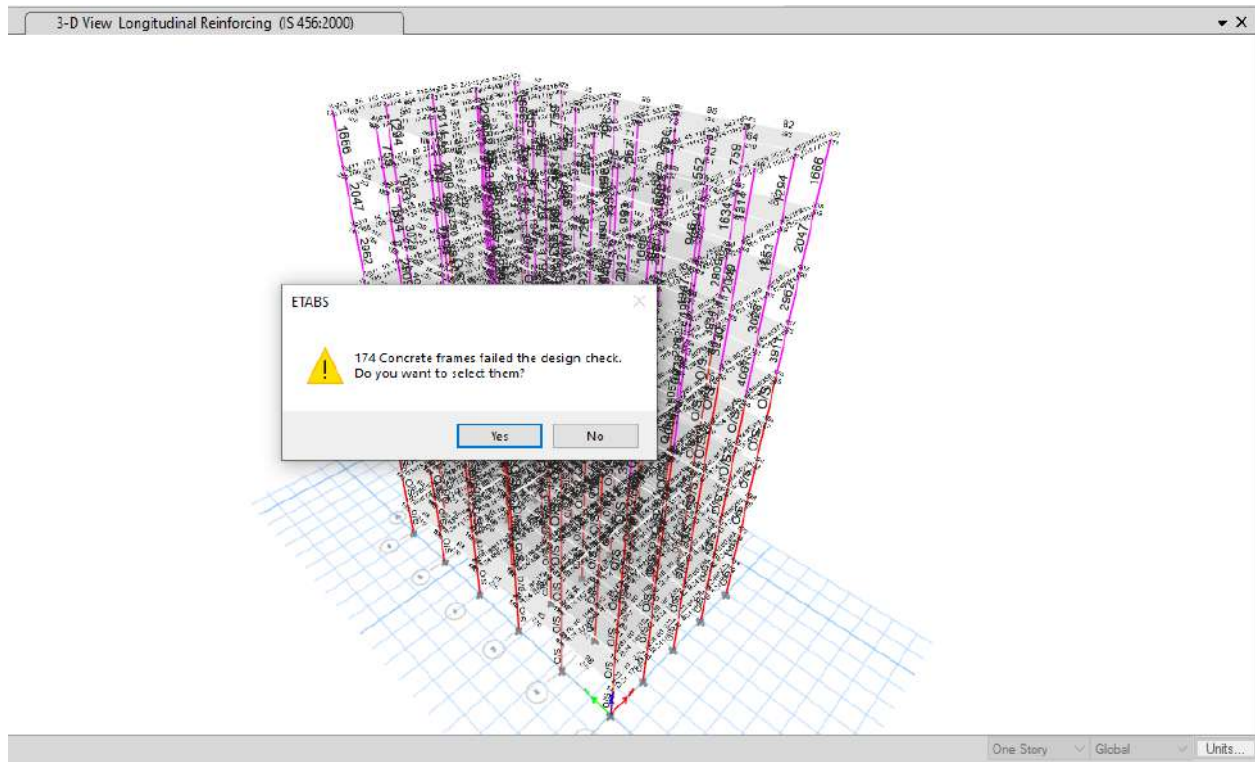
This chapter describes the process of Failure Sections Modification.

After analysis and design to check the failure members goto **Design menu > Concrete Frame Design > Verify all members Passed**

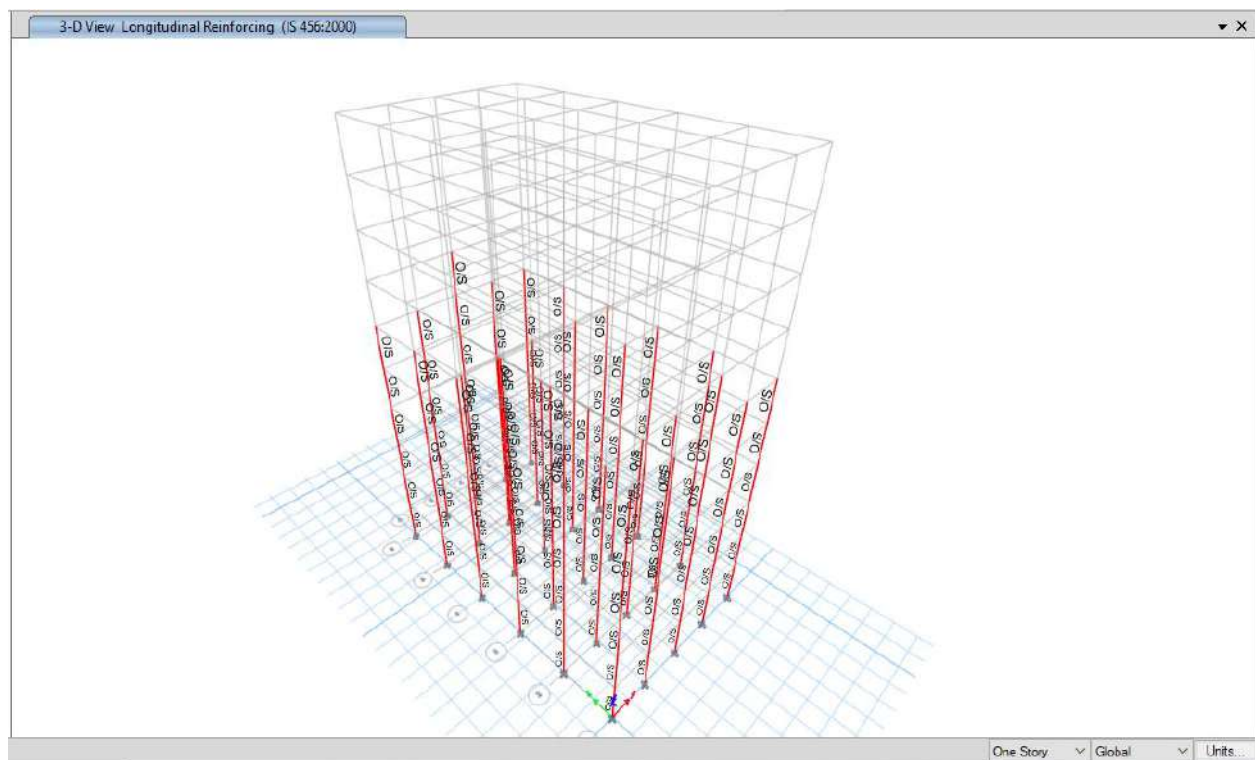
- If all the frame members are passed then it will displays the message as “All Concrete frames passed the design check” as shown in below figure



- If any frame sections got failed then it shows the number of failure members and click **Yes** to select the failure members as shown below.



- After selecting the failure members right click and click on **Show selected objects only** option to display only the failure members as shown below



- Now select the member and right click to overwrite the section



Note: In the following figure the column section has failed due to insufficient longitudinal reinforcement. Here O/S resembles Over Stressed.

Concrete Column Design Information (IS 456:2000)

Story: Story6
Column: C6
Section Name: C 230*300

COMBO ID	STATION LOC	LONGITUDINAL REINFORCEMENT	MAJOR SHEAR REINFORCEMENT	MINOR SHEAR REINFORCEMENT
DCon1	0.0000	3966	254.94	332.53
DCon1	1.3850	2904	254.94	332.53
DCon1	2.7700	3677	254.94	332.53
DCon2	0.0000	O/S #2	254.94	332.53
DCon2	1.3850	3407	254.94	332.53
DCon2	2.7700	O/S #2	254.94	332.53

Buttons: Overwrites, Interaction, Details, Strength (selected), Deflection, OK, Cancel

- Click on the **overwrite** option to change the section property which is pre- defined.
- The failed sections will be passed by making the changes either in sectional sizes or in material grade.

Concrete Frame Design Overwrites for IS 456:2000

Item	Value
01 Current Design Section	C450X300
02 Framing Type	Ductile
03 Live Load Reduction Factor	0.412405
04 Unbraced Length Ratio (Major)	0.9
05 Unbraced Length Ratio (Minor)	0.9
06 Effective Length Factor Sway (K Major)	2.586789
07 Effective Length Factor Sway (K Minor)	2.021727
08 Effective Length Factor Braced (K Major)	0.881298
09 Effective Length Factor Braced (K Minor)	0.815713
10 Q Factor in Global X Dir	0
11 Q Factor in Global Y Dir	0
12 Consider Minimum Eccentricity?	Yes
13 Seismic Detailing in CSI/CAD?	Yes

Item Description
The design section for the selected frame objects. When this overwrite is applied, any previous auto select section assigned to the frame object is removed.

Explanation of Color Coding for Values
Blue: All selected items are program determined
Black: Some selected items are user defined
Red: Value that has changed during the current session

Set To Default Values

Reset To Previous Values

OR

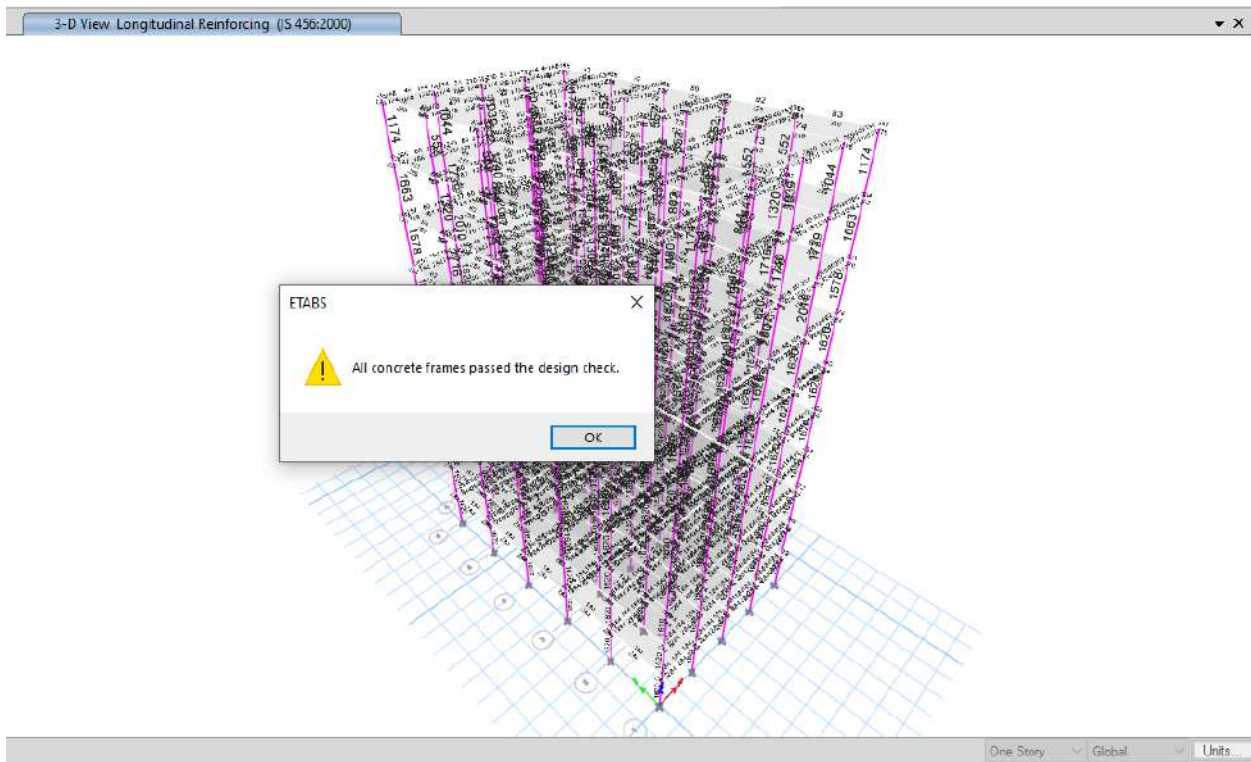
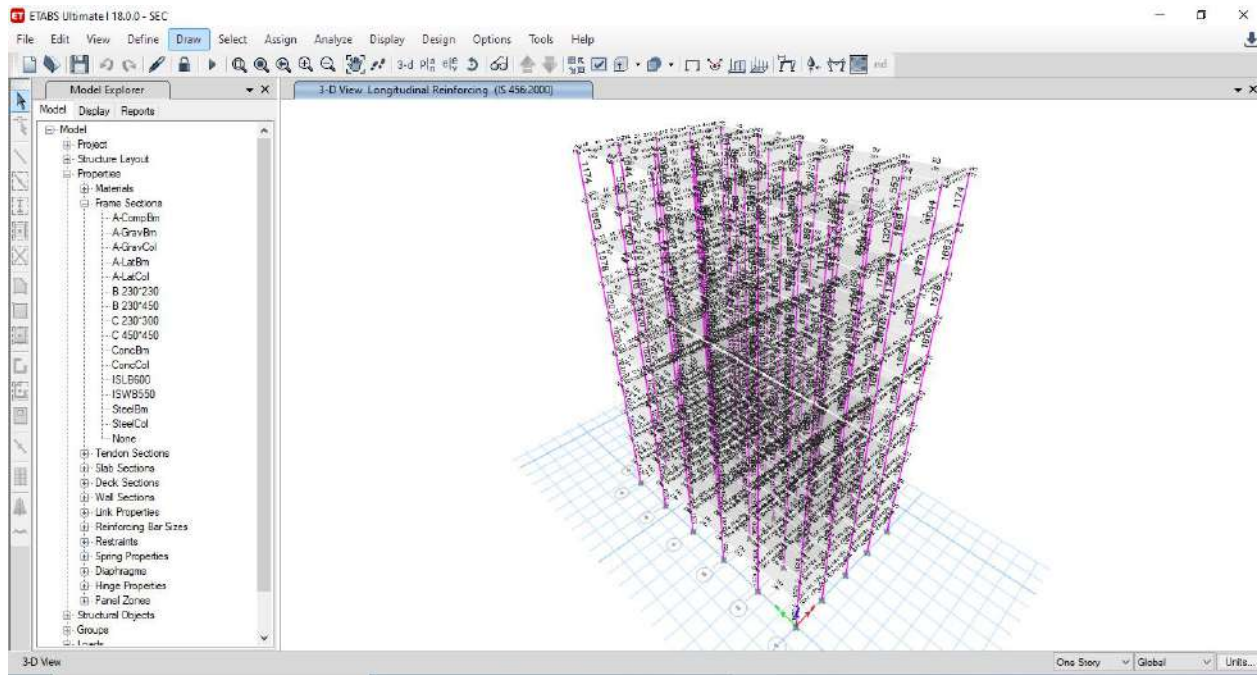
Change an overwrite as follows:

1. Select the frame member(s) for which overwrites are being specified.
2. Click the **Design menu > Concrete Frame Design > Review/Revise Overwrites** command to access the **Concrete Frame Design Overwrites** form. The concrete frame overwrites are displayed with a column of checkboxes and a two-column spreadsheet. The left column in the spreadsheet contains the name of the overwrite item. The right column in the spreadsheet contains the overwrite value.

Note: The **Concrete Frame Design Overwrites** form also displays when the **Overwrites** button is clicked on the Concrete Column Design Information {Code} or Concrete Beam Design Information {Code} form.

3. Click in any of the drop-down lists or edit boxes in the *Value* column to specify an overwrite value. The display area on the right-hand side of the form shows a short description of any item selected in the *Item/Value* columns.
 - a. **Set to Default Values** area and All Items and Selected Items buttons. Click the All Items button at any time to reset all items to the program default. Click in the edit box or drop-down list in the *Value* column to select the item and then click the Selected Item button to restore that item to the program default.
 - b. **Reset to Previous Values** area and All Items and Selected Items buttons. Click the All Items button at any time to reset all items to the previously specified values. Click in the edit box

or drop-down list in the *Value* column to select the item and then click the Selected Item button to restore that item to the previously specified value.





ET Concrete Column Design Information (IS 456:2000)

Story
Column

Section Name

COMBO ID	STATION LOC	LONGITUDINAL REINFORCEMENT	MAJOR SHEAR REINFORCEMENT	MINOR SHEAR REINFORCEMENT
DCon1	0.0000	1620	498.80	498.80
DCon1	1.2750	1620	498.80	498.80
DCon1	2.5500	1620	498.80	498.80
DCon2	0.0000	1620	498.80	498.80
DCon2	1.2750	1620	498.80	498.80
DCon2	2.5500	1620	498.80	498.80

Overwrites

Interaction

Details

☒ Strength

☐ Deflection

OK

Cancel