**50\_Designing concrete shear walls**

In this lecture we will be learning basics of designing concrete shear walls in ETABS. As in steel and concrete frame design, shear walls options are also under the design menu.

From here you can view/revise overwrites, reset them, show design information and assign piers or spandrels.

Lets talk about piers or spandrels we skipped in assign menu of area objects.

You can either design shell area objects from moment contours as we discussed in reading shell results lecture or you can get their reinforcement directly in ETABS. But before that you must assign these wall sections if they are piers or spandrels. Piers are basically the vertical elements like columns. And spandrels are horizontal elements like beams.

For example this wall might be considered one pier. But it is always suitable to assign different pier names to this wall from grid to grid or to each division. For example this division can be considered as one separate pier P1 and this as P2 and so on.

If you have openings in the wall like the one shown on screen. You will assign left division separate pier name let's say P1 and right side wall separate pier name let's say P2.

Similarly, you can assign p3 to wall below opening and P4 to wall above opening.

Also here you have to define this area as spandrel let's say S1.

You can find more details on how to define pier spandrel labels from ETABS help by pressing F1. We will be discussing this in more detail as well in our design course in wall design section.

You can define pier or spandrel names before or after analysis from assign menu for shells.

For example lets assign pier labels for this wall from assign menu or from this shortcut.

Now assign spandrel label for this section from assign menu or from this shortcut.

From shear wall design preferences we can set up design code and its parameters.

Now select design load combinations for wall design.

And then start designing shear walls.

Like in steel and concrete frame we can show design information by clicking here

By default the information shown for walls after design is pier longitudinal reinforcement ratios.

As in frames, ETABS automatically checks for minimum reinforcement from code.

You can right click on wall to see more design details like in frame.

You can also show pier shear reinforcement from here.

Similarly, you can show spandrel design information from here.

Also make sure from longitudinal and shear reinforcements that wall sections are not failing by right clicking to see more details.