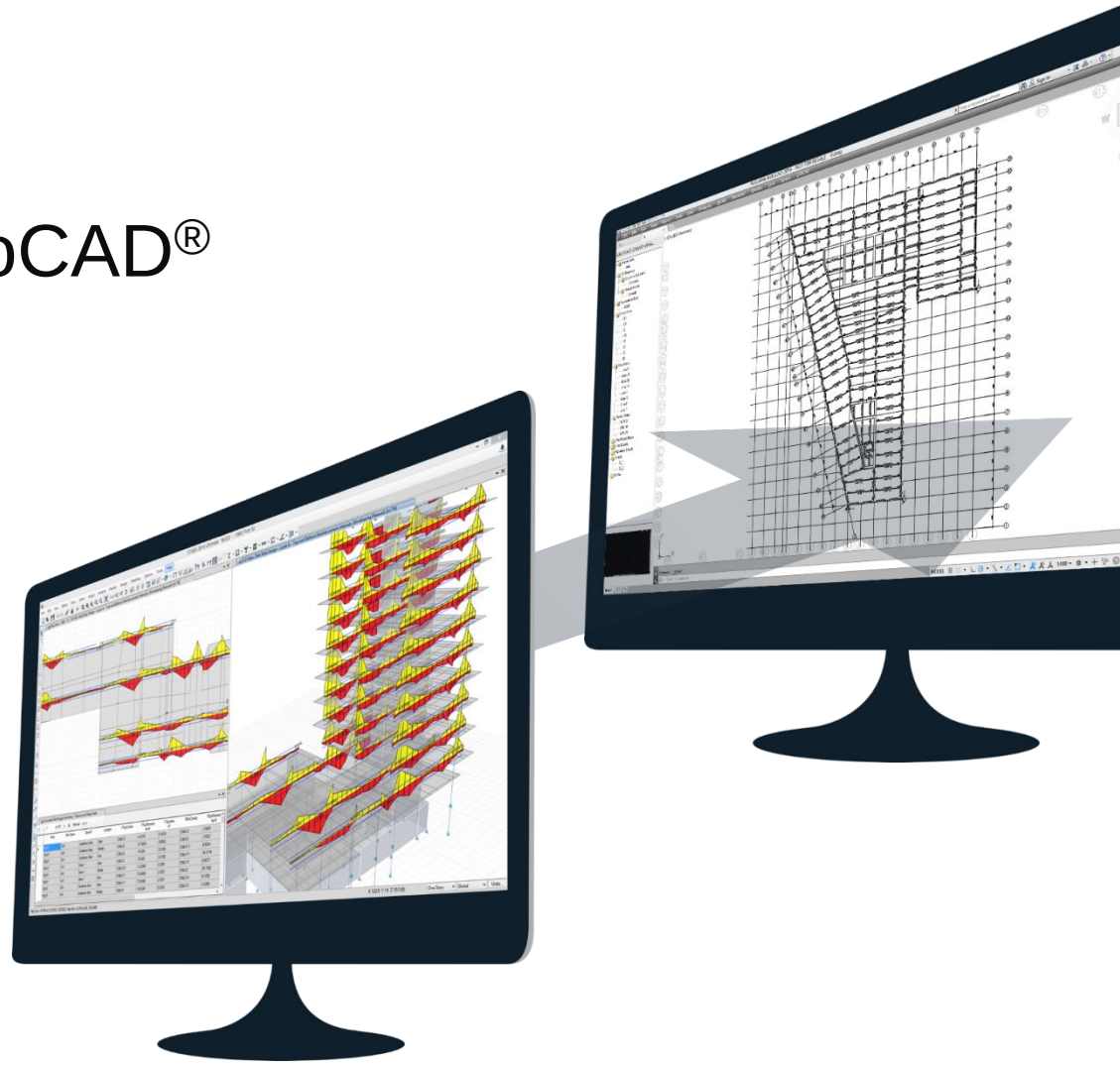
CSiXCAD

DRAWING GENERATION PLUGIN FOR AUTOCAD® AND BRICSCAD

DRAWING GENERATION PLUGIN FOR AUTOCAD®

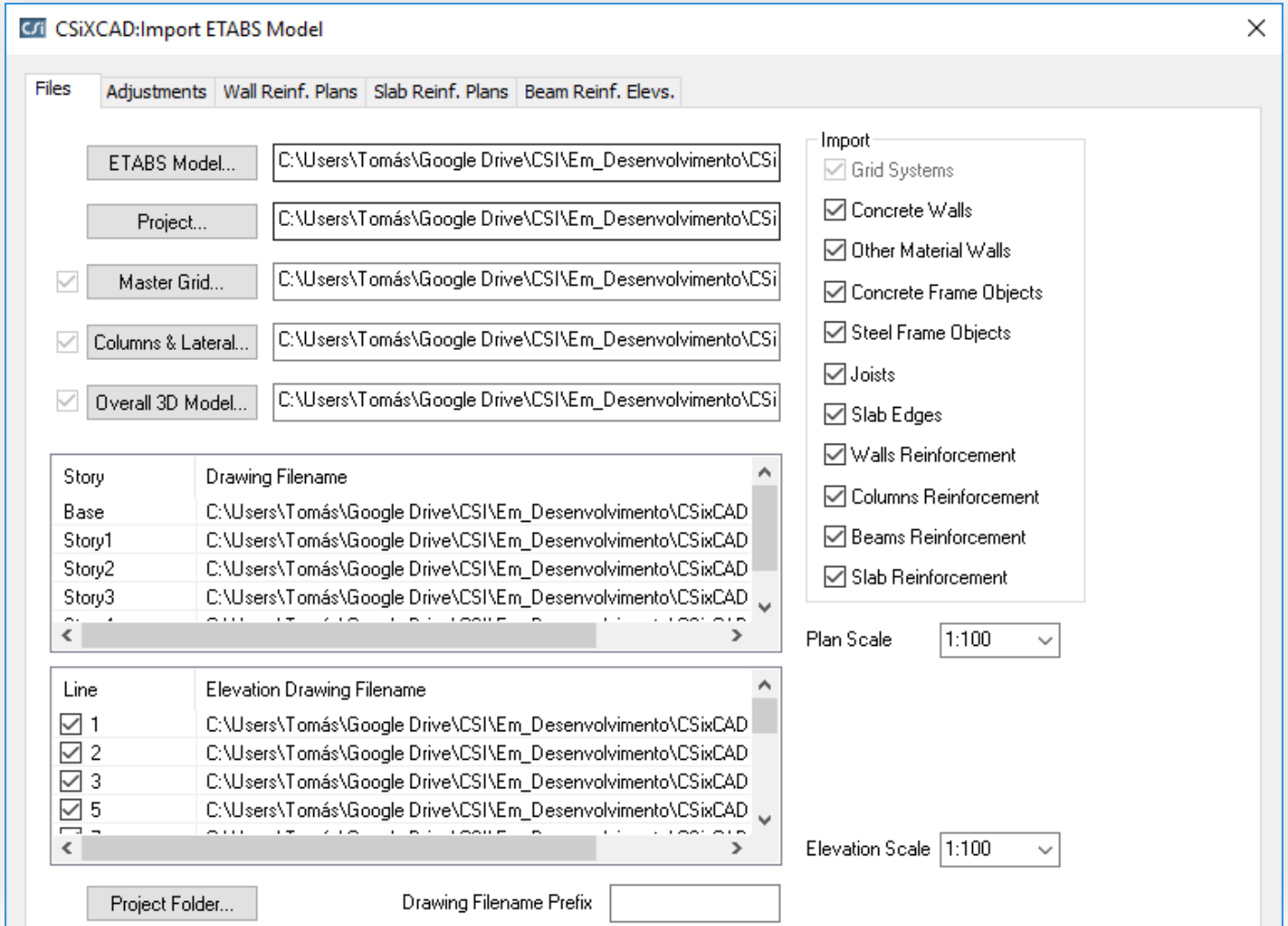
Take your ETABS model straight to AutoCAD®

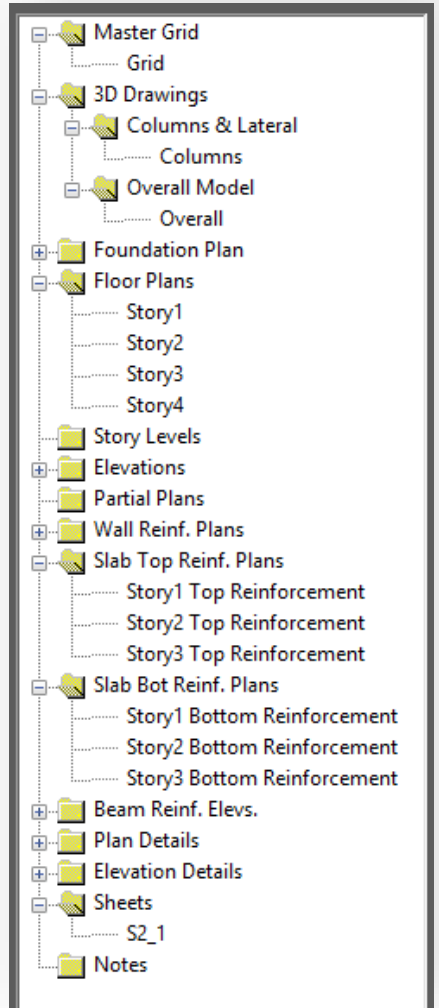
CSiXCAD is an add-on to Autodesk® AutoCAD® that directly interacts with ETABS models.
This tool provides a bridge between engineers using ETABS and draftsmen using AutoCAD®.



DRAWING GENERATION PLUGIN FOR AUTOCAD®

A key feature of CSiXCAD is the absence of duplicate data across drawings.

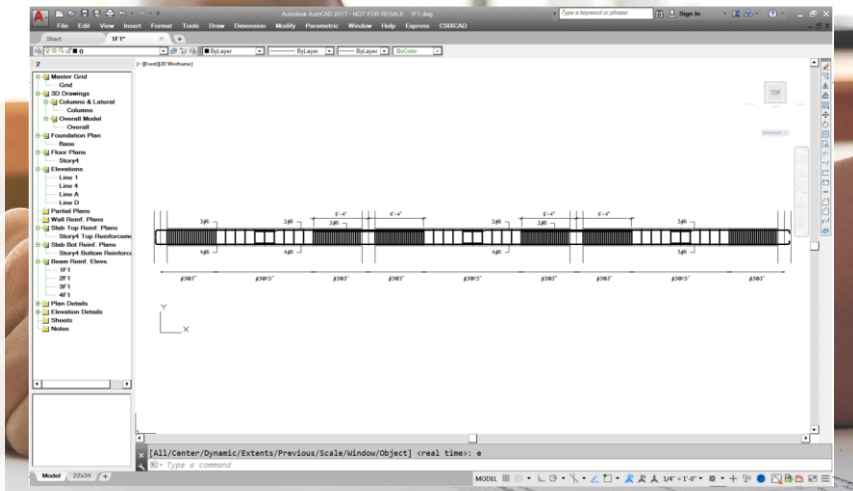


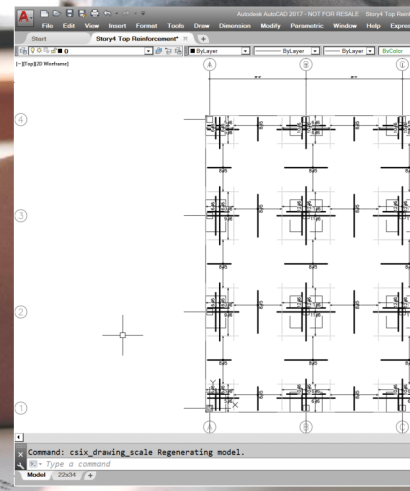


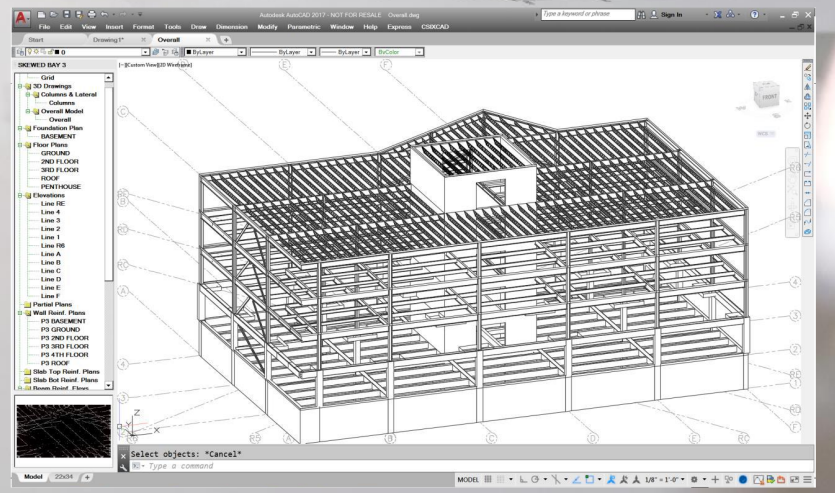
PROJECT ORGANIZATION

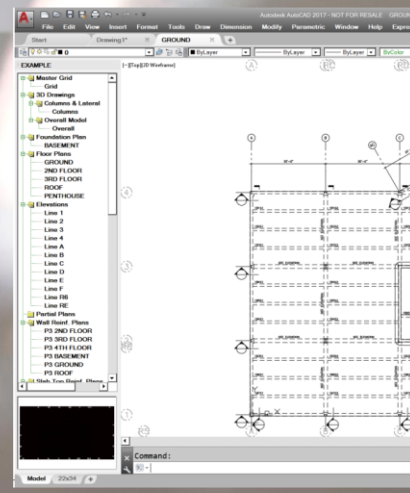
A CSIXCAD PROJECT CONSISTS OF THE FOLLOWING:

- Master Grid drawing
- Columns & Lateral drawing
- Floor plans, depicting unique stories and typical stories
- Overall drawing
- Elevations
- Wall reinforcement plans
- Slab reinforcement plans
- Concrete beam reinforcement elevations
- Partial plans, details, sheets and a project file





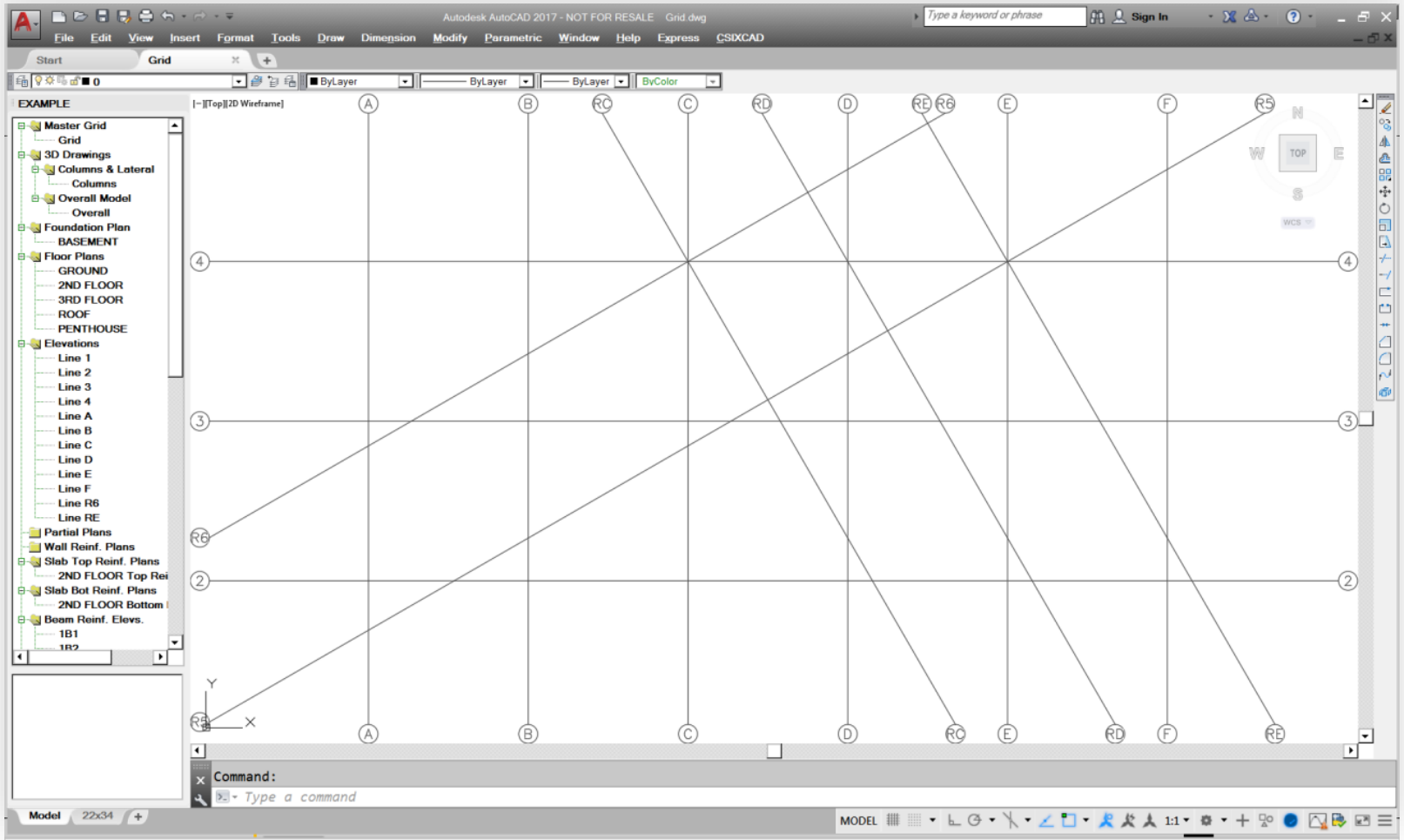




MASTER GRID DRAWING

This drawing is inserted as an AutoCAD Xref in all floor plan, partial plan, and elevation drawings.

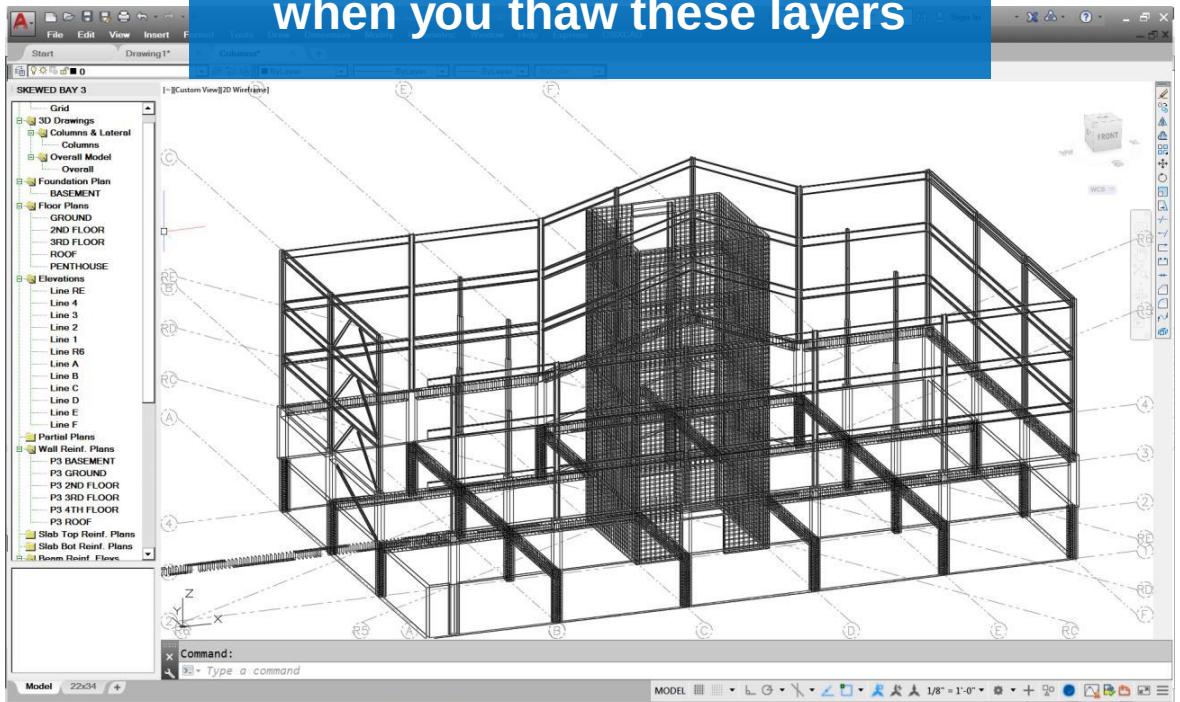
This guarantees grid line alignment remains consistent in all drawings throughout the project.



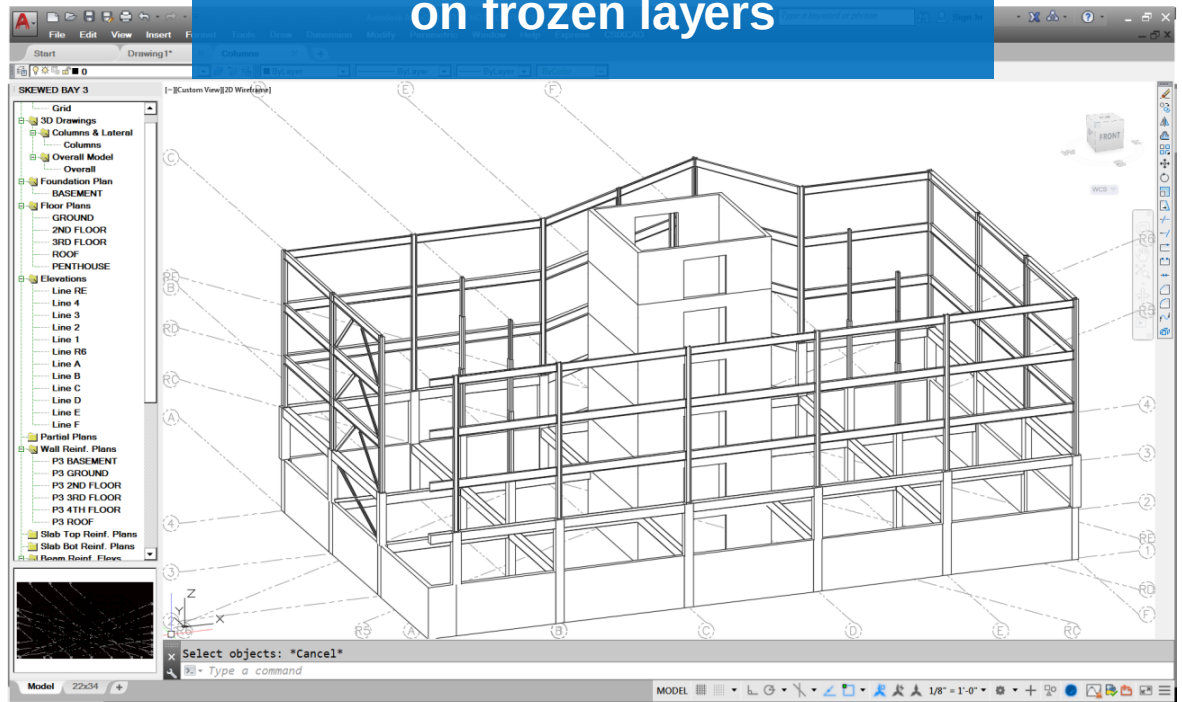
COLUMNS & LATERAL DRAWING

The Columns & Lateral drawing contains all the structural members that may change design from story to story, even across similar stories, and therefore cannot be defined in typical floor plans: columns, walls, braces, and beams that contribute to the lateral loads resistance of the building.

Reinforcement becomes visible when you thaw these layers



Reinforcement is drawn on frozen layers

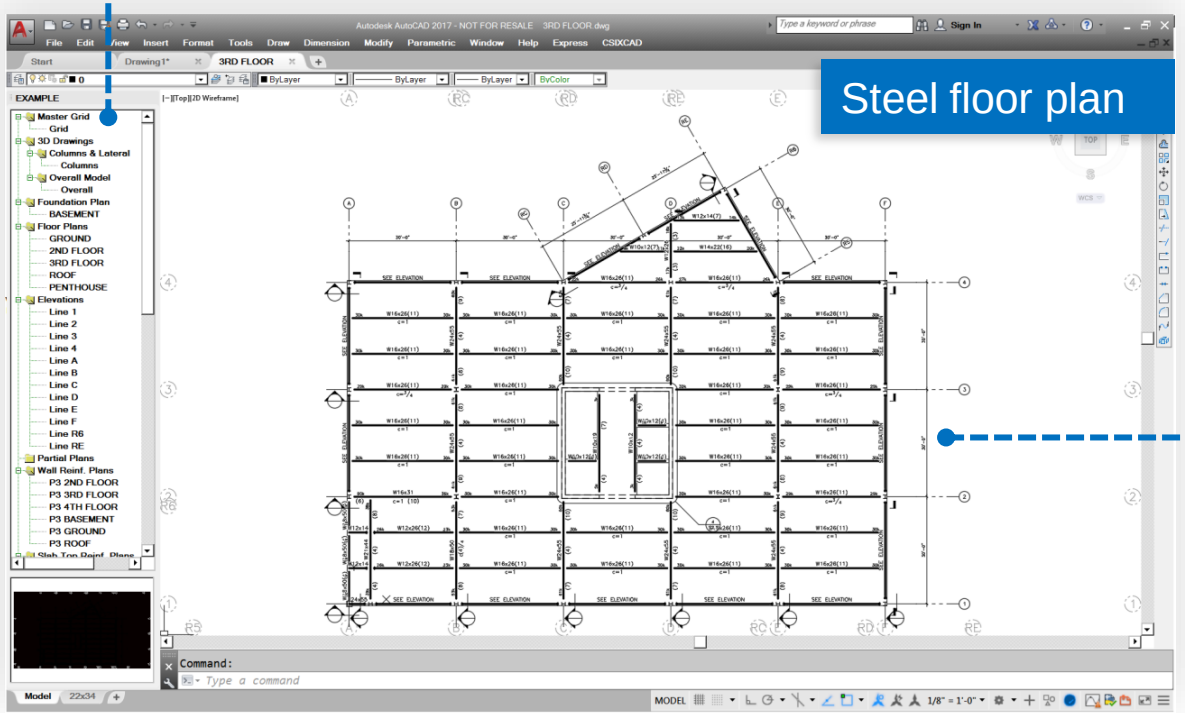


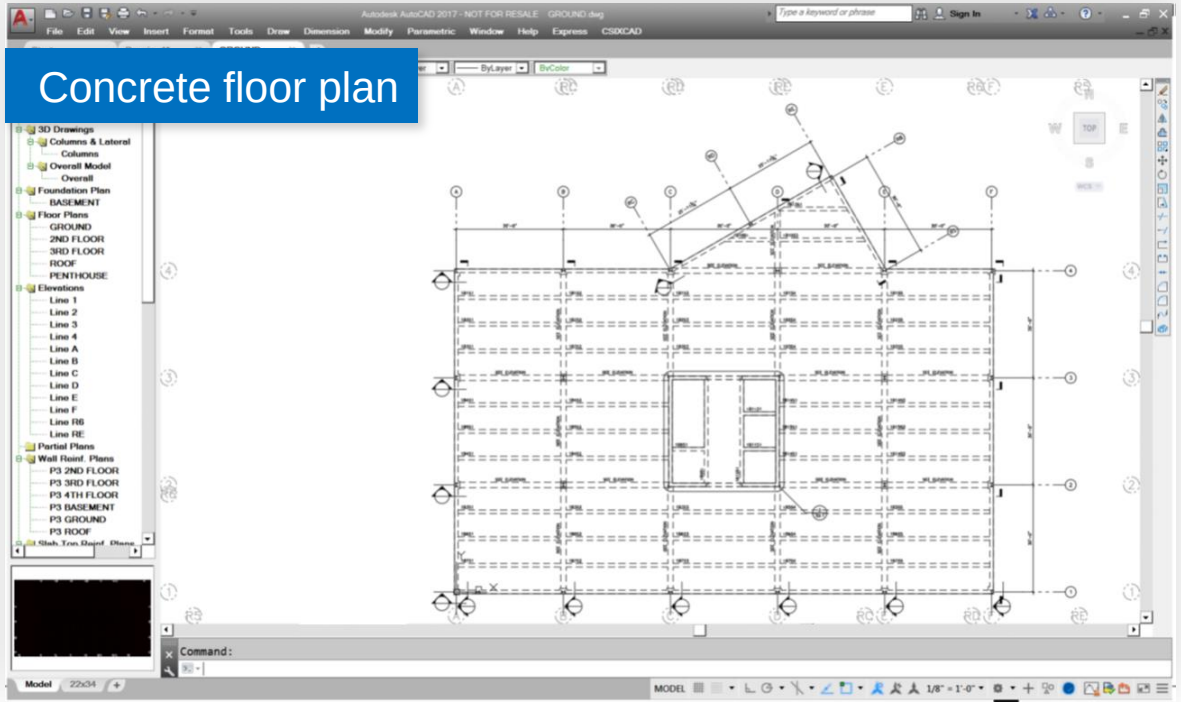
FLOOR PLANS

When creating a new project, CSiXCAD draws typical floor plans for the ETABS master stories and unique floor plans for the ETABS stories that are not declared similar to some other story.

Occasionally there will be singular stories that are declared similar to master stories but actually differ from them. CSiXCAD detects these singular stories and draws additional floor plans for them.

Steel floor plans show member sizes, shear studs, camber, and end reactions.

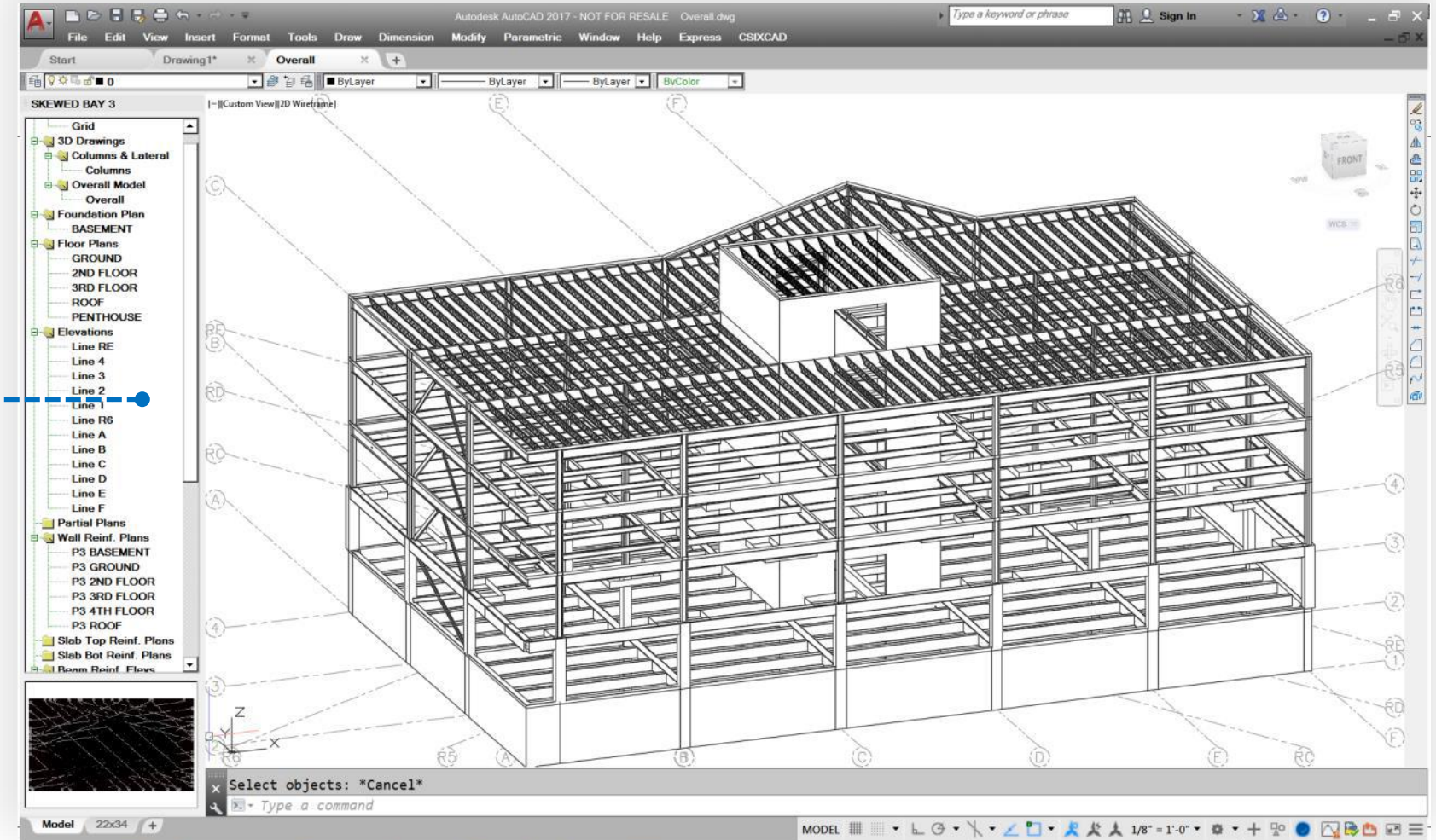




OVERALL DRAWING

The Overall drawing is an assembly of AutoCAD Xrefs: the Columns & Lateral drawing and the various floor plan drawings at the z-elevations of the story levels where they occur.

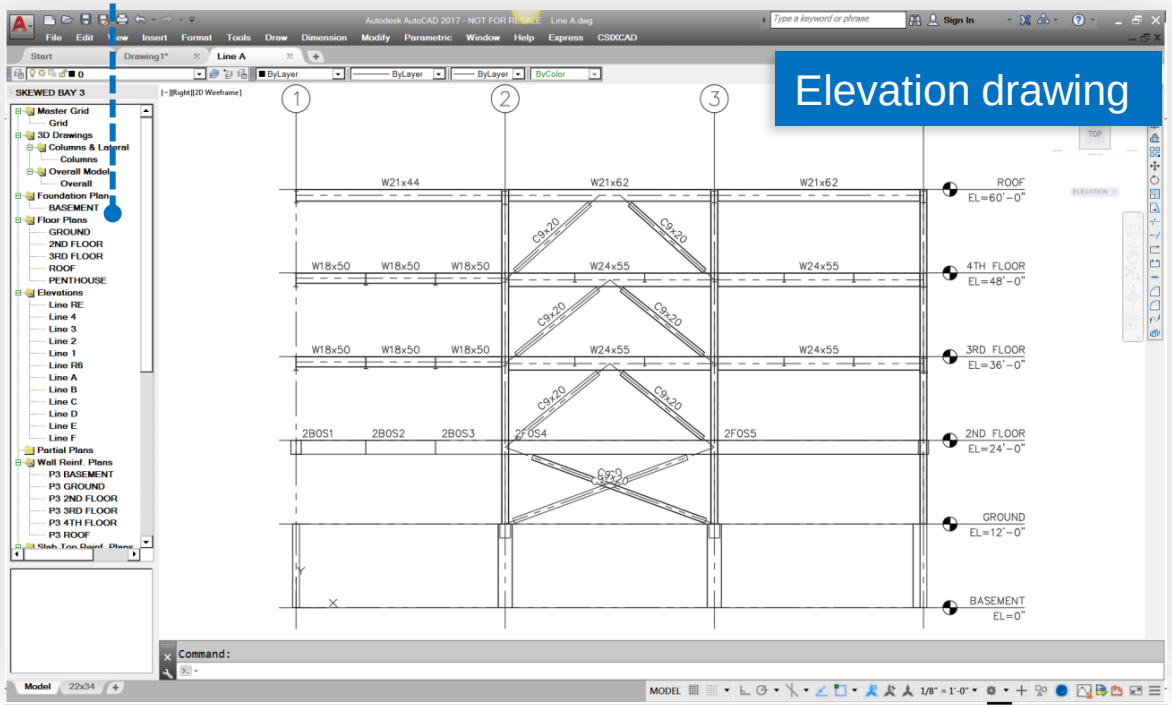
Any changes you make in the Columns & Lateral drawing and the floor plans are reflected in the Overall drawing.

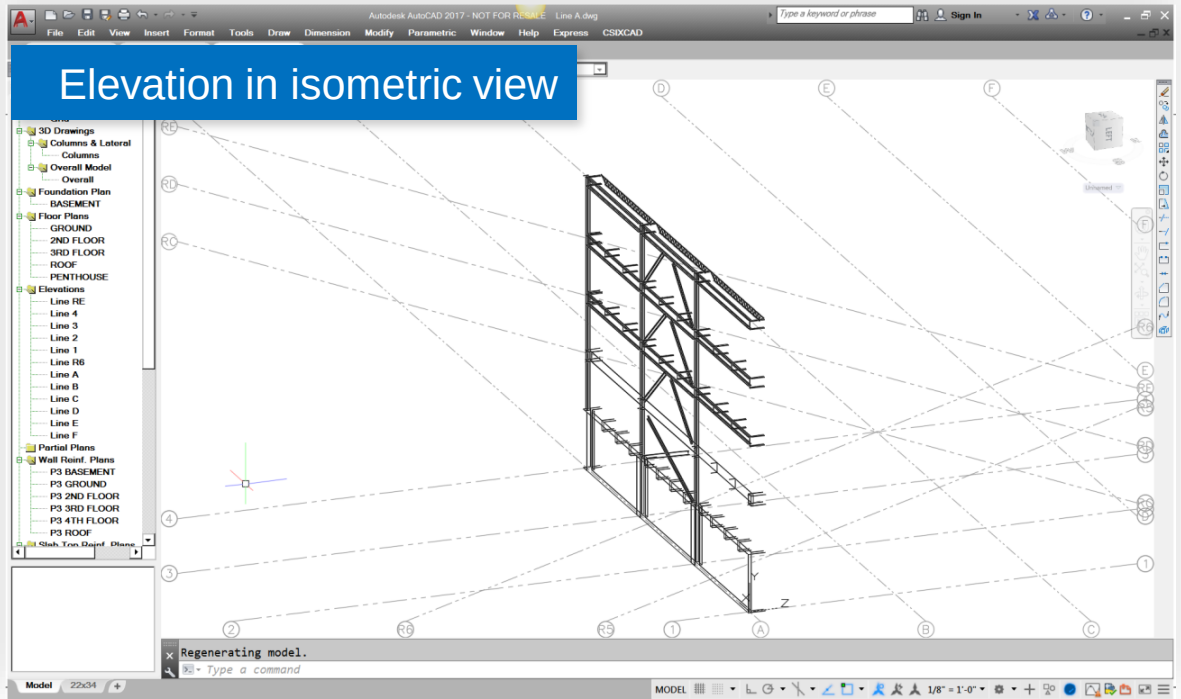


ELEVATIONS

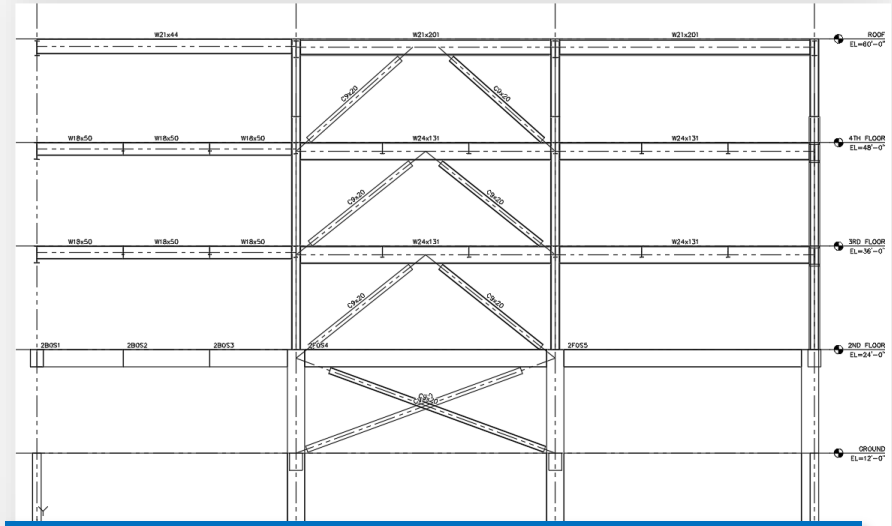
CSiXCAD identifies automatically the grid lines along which walls, lateral beams, and braces are located, and lets you select which of these grid lines to draw elevations for.

The user can also create additional elevations at other locations and change the depth of the slice.

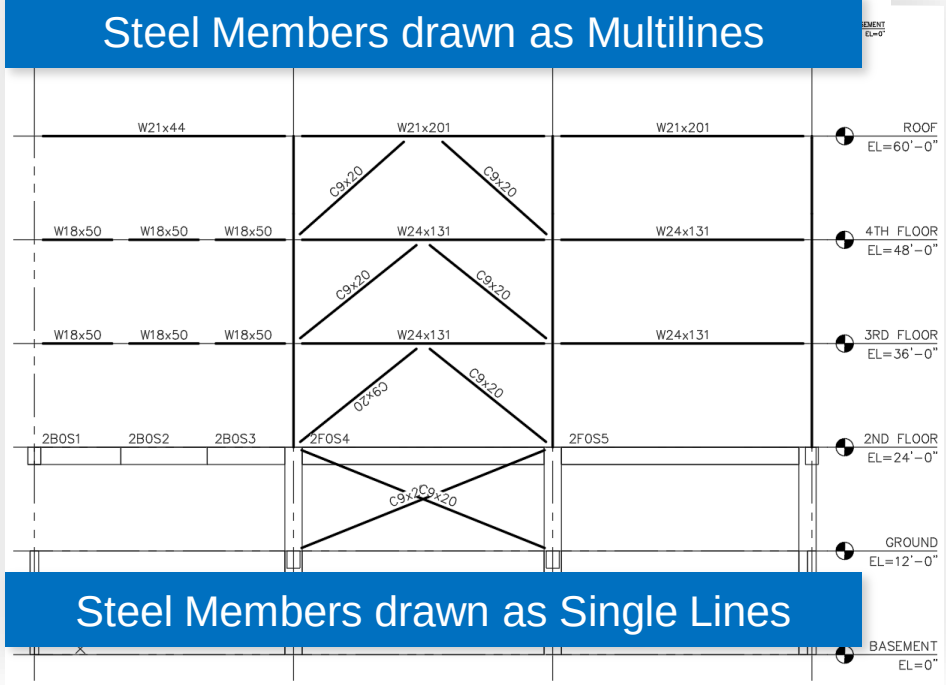




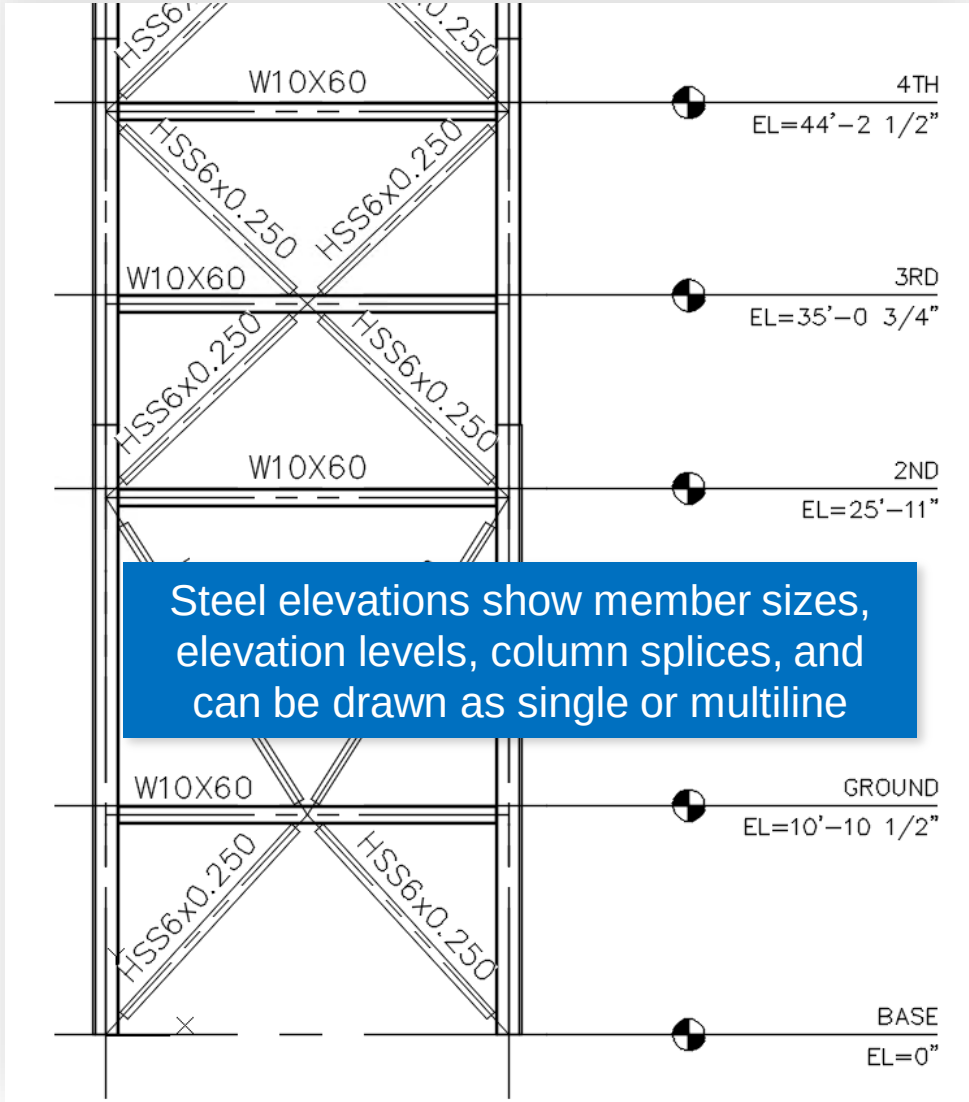
STEEL ELEVATIONS



Steel Members drawn as Multilines

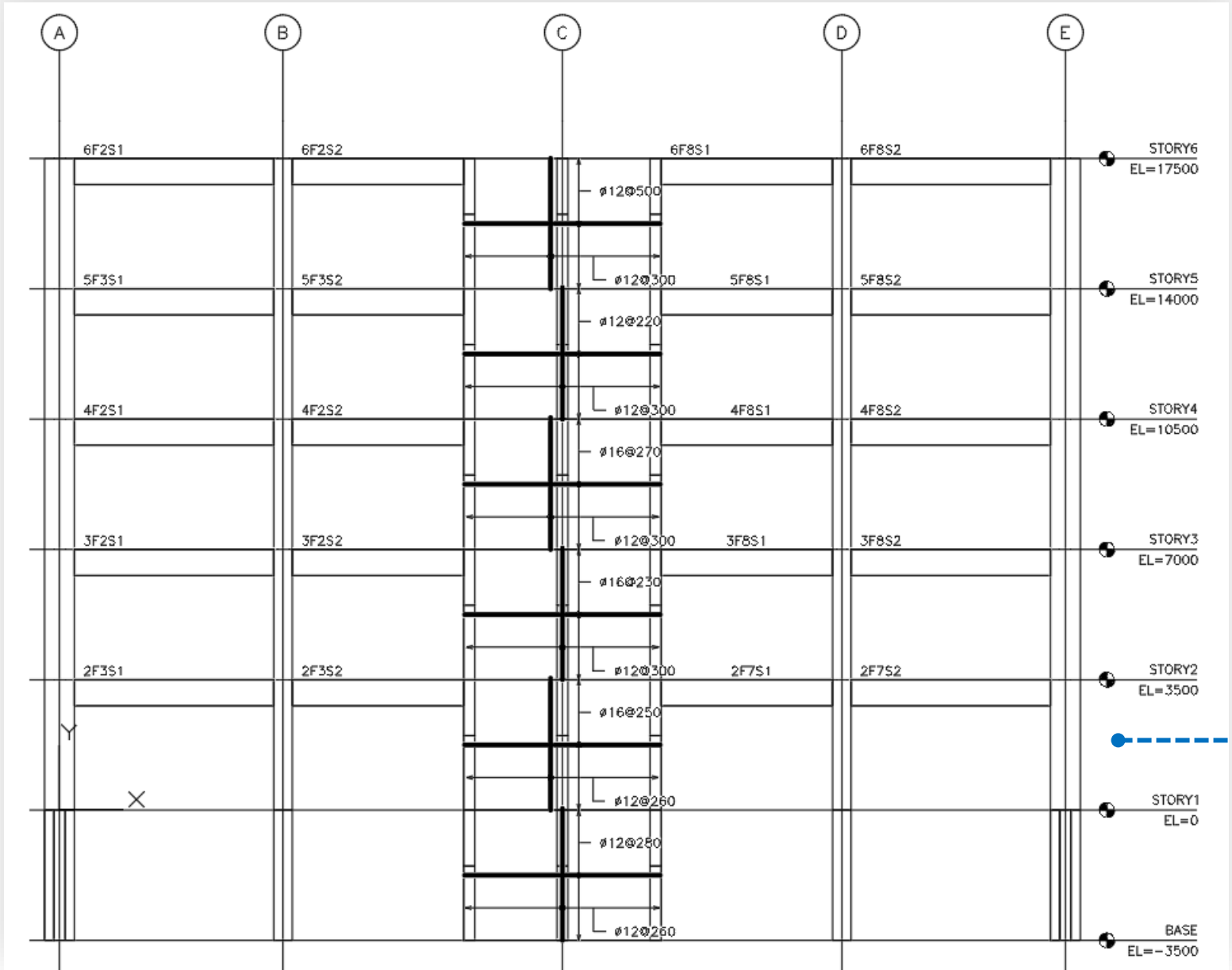


Steel Members drawn as Single Lines



Steel elevations show member sizes, elevation levels, column splices, and can be drawn as single or multiline

CONCRETE ELEVATIONS

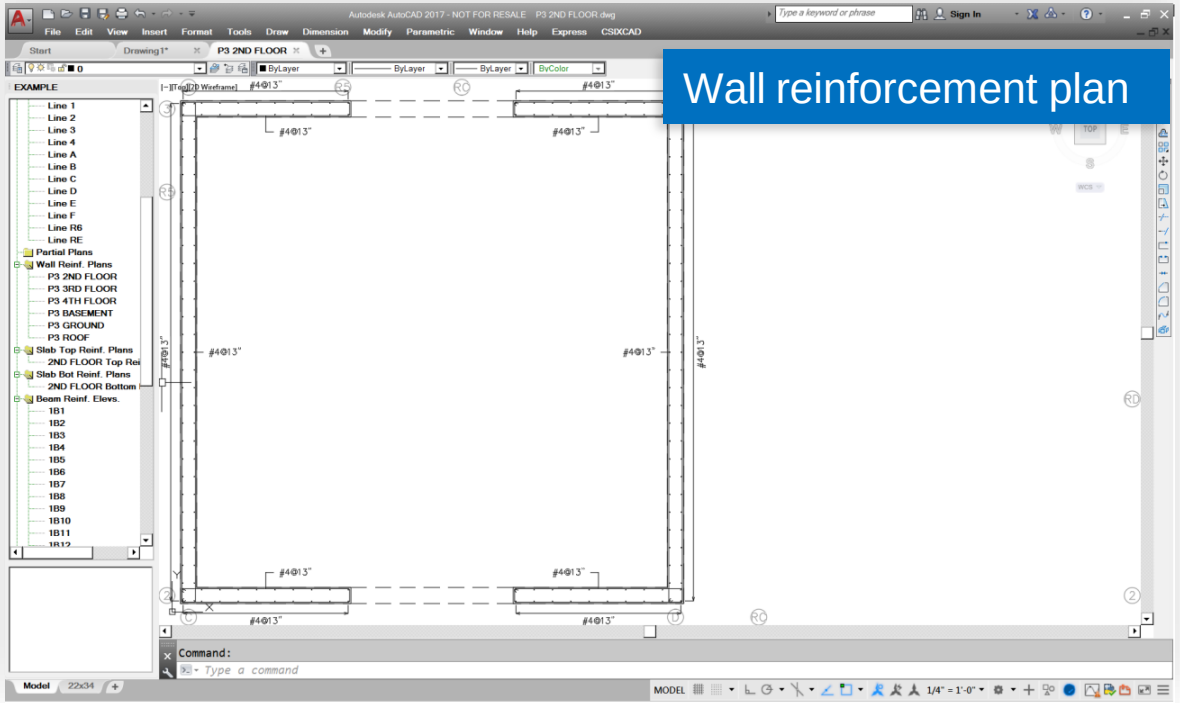


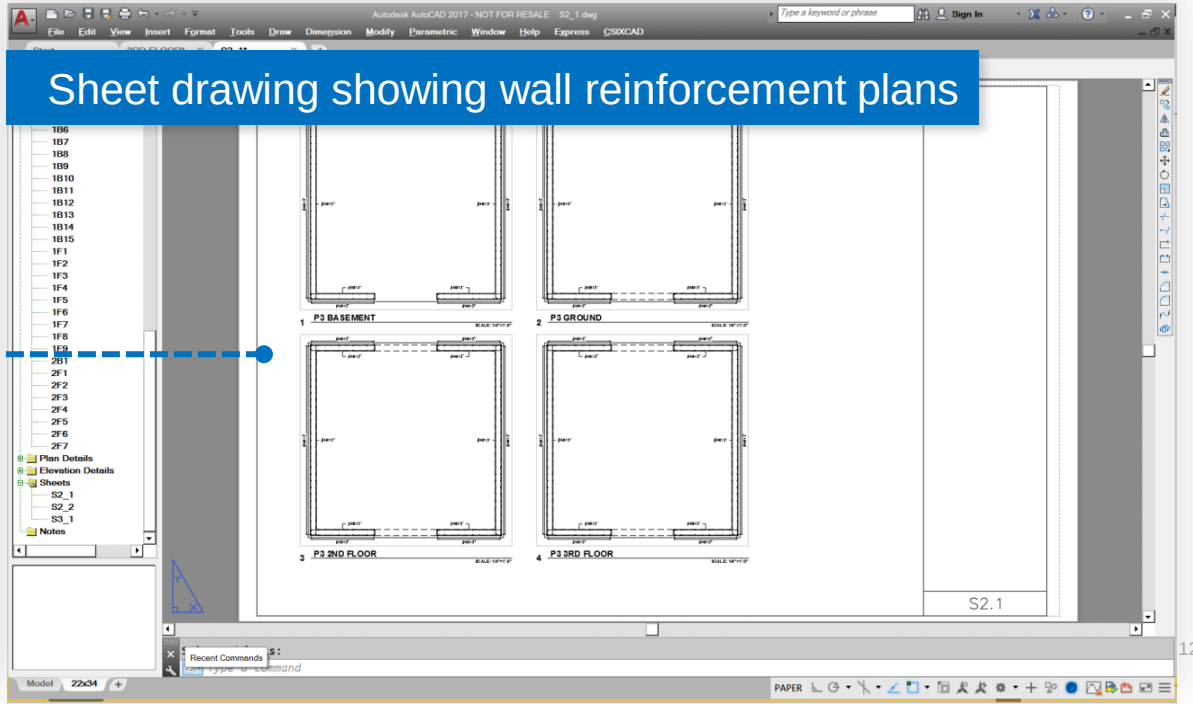
Concrete elevations show frame members and walls, including horizontal and vertical wall reinforcement information.

WALL REINFORCEMENT PLANS

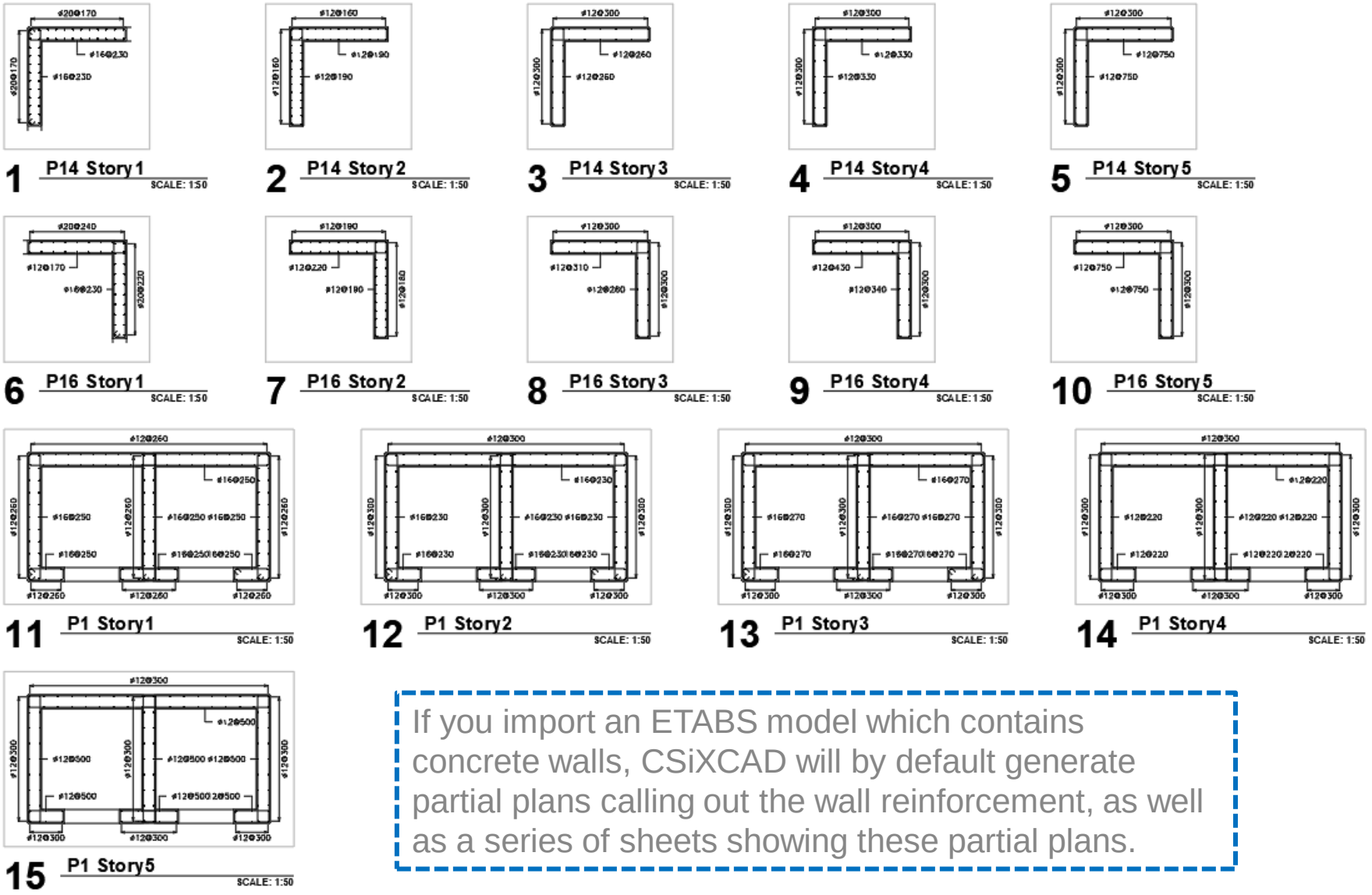
Concrete wall reinforcement plans show the wall layout and callouts for the horizontal and vertical reinforcement.

Wall reinforcement plans are automatically generated and automatically laid out on sheets when an ETABS model featuring walls is imported.





WALL REINFORCEMENT PLANS

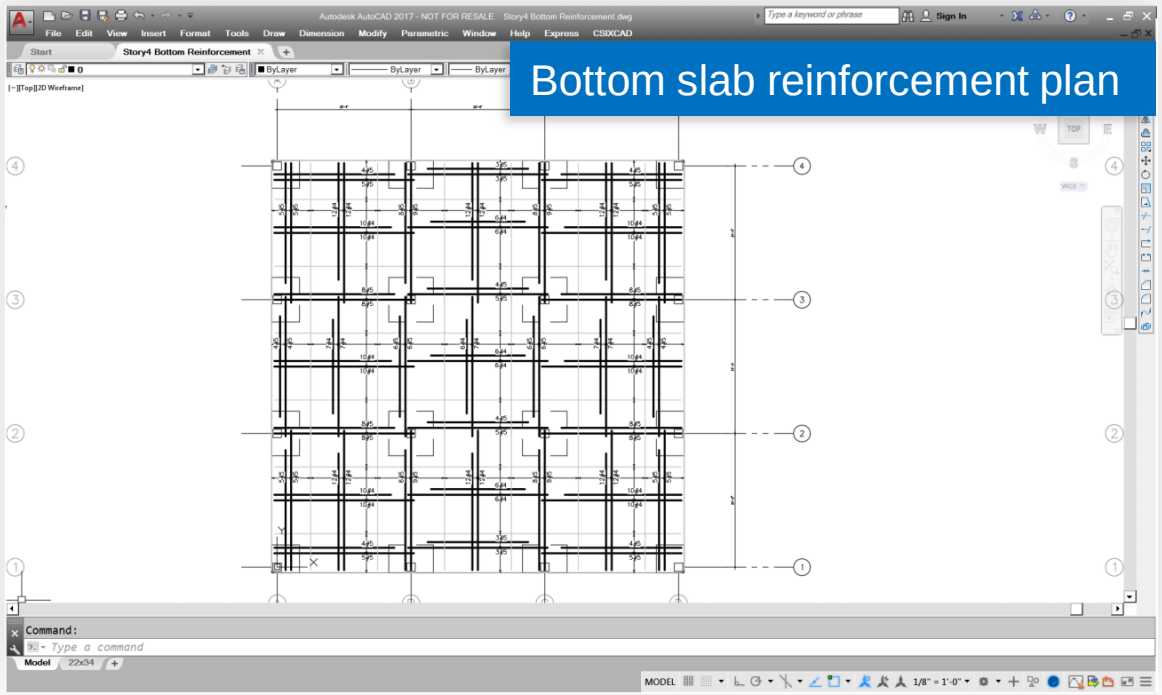


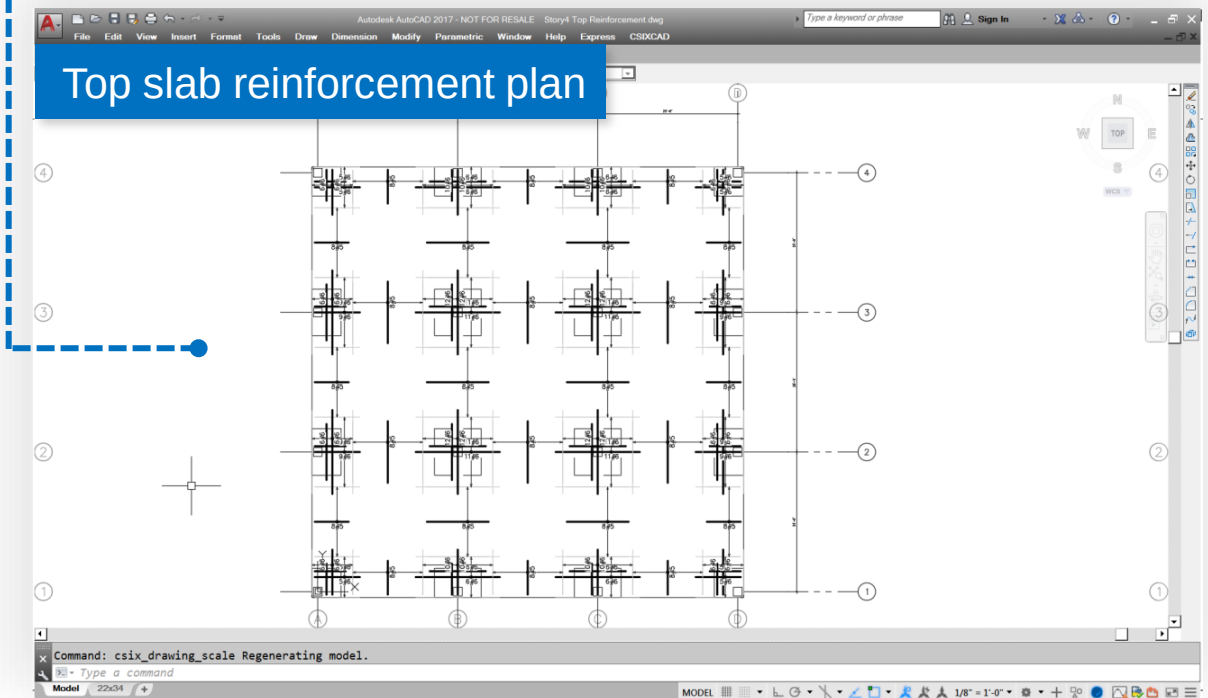
If you import an ETABS model which contains concrete walls, CSiXCAD will by default generate partial plans calling out the wall reinforcement, as well as a series of sheets showing these partial plans.

SLAB REINFORCEMENT PLANS

For every unique or typical story level with a reinforced concrete slab, there are separate slab reinforcement plans for the top and the bottom reinforcement.

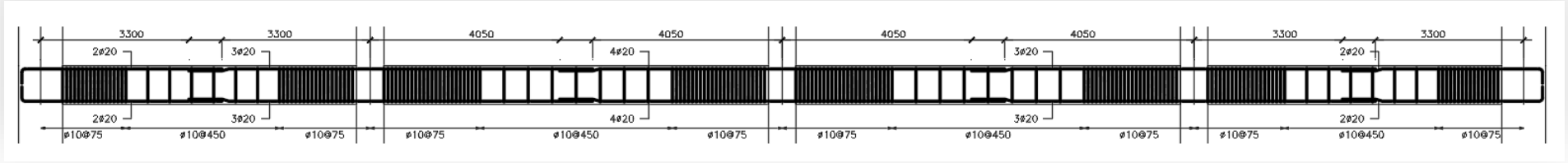
The user can choose the story levels for which slab reinforcement plans will be generated.

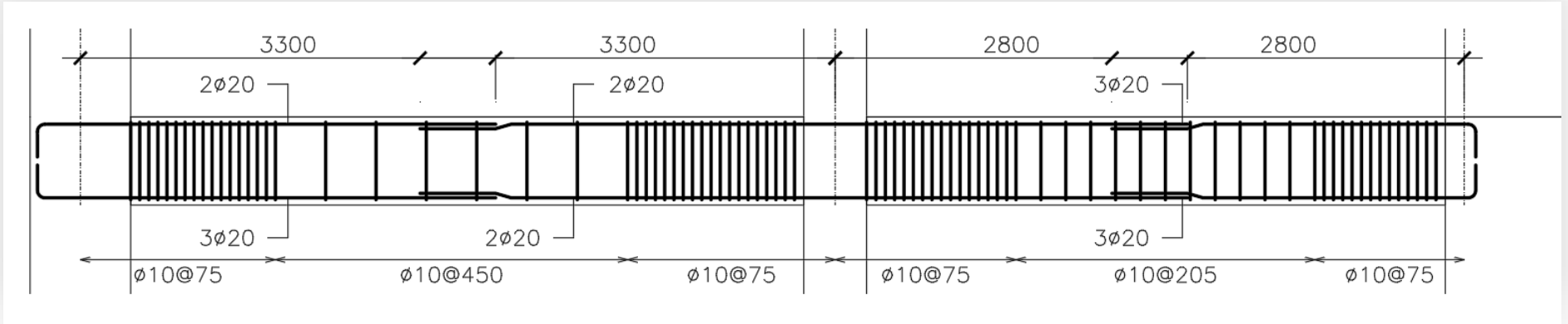


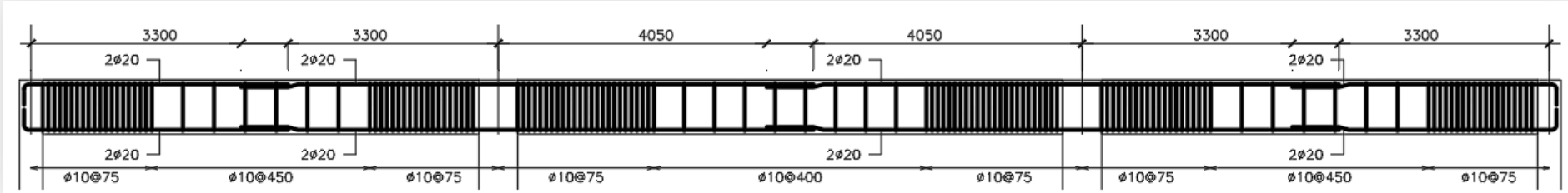


CONCRETE BEAM REINFORCEMENT ELEVATIONS

Concrete beam reinforcement elevations are elevation drawings documenting the reinforcement of concrete beams.

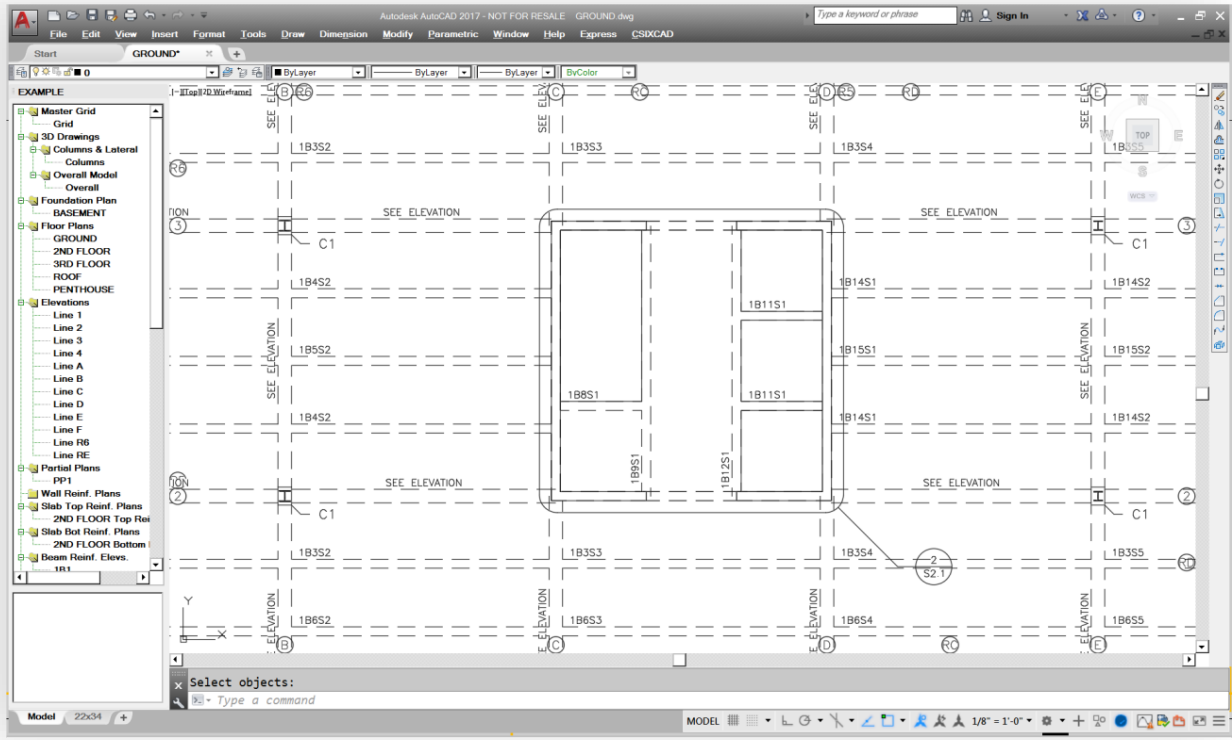






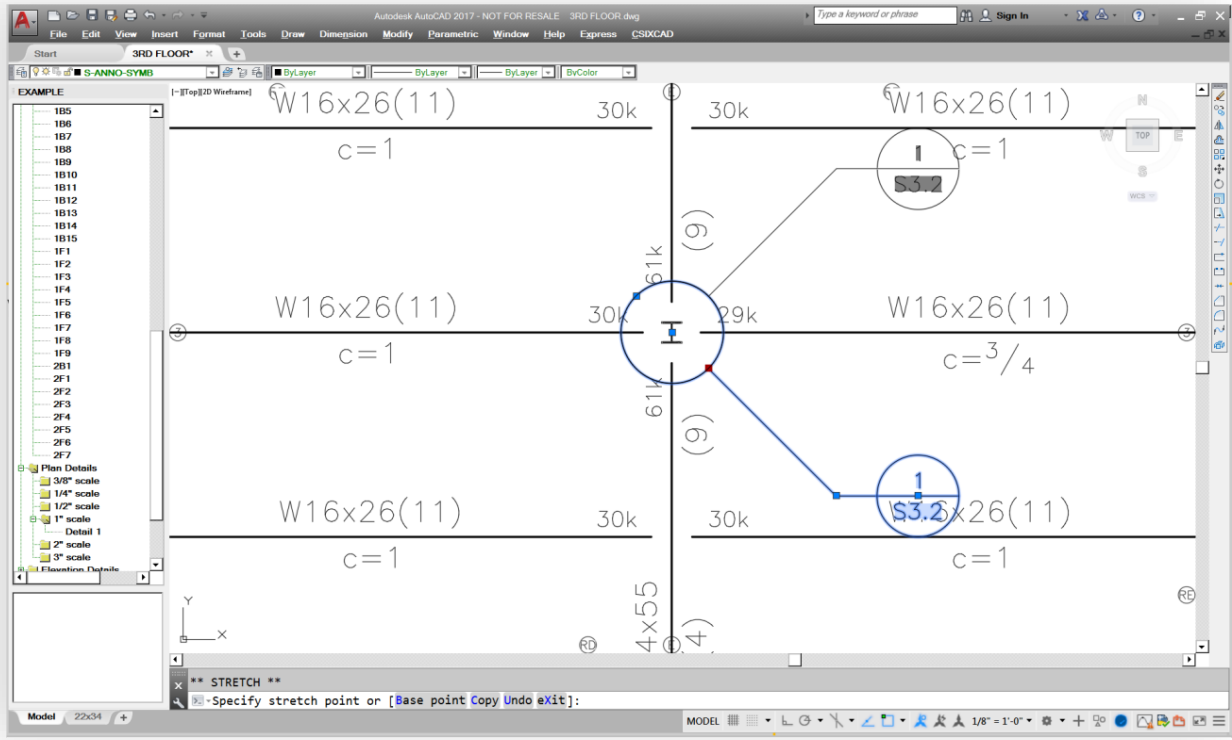
Partial plans

are drawings showing an enlarged area of a floor plan.



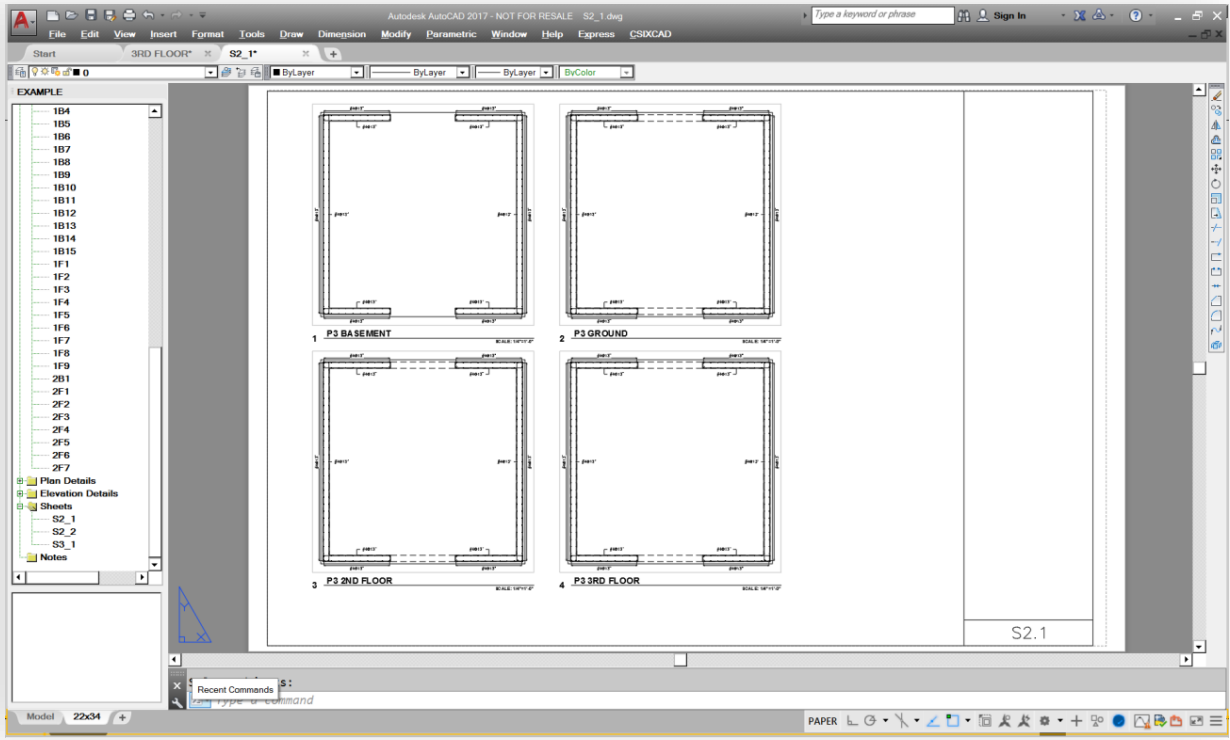
Details

are drawings pulled from a library or drawn using native AutoCAD objects and which will be shown on sheets and cross-referenced on plans and elevations.



Sheets

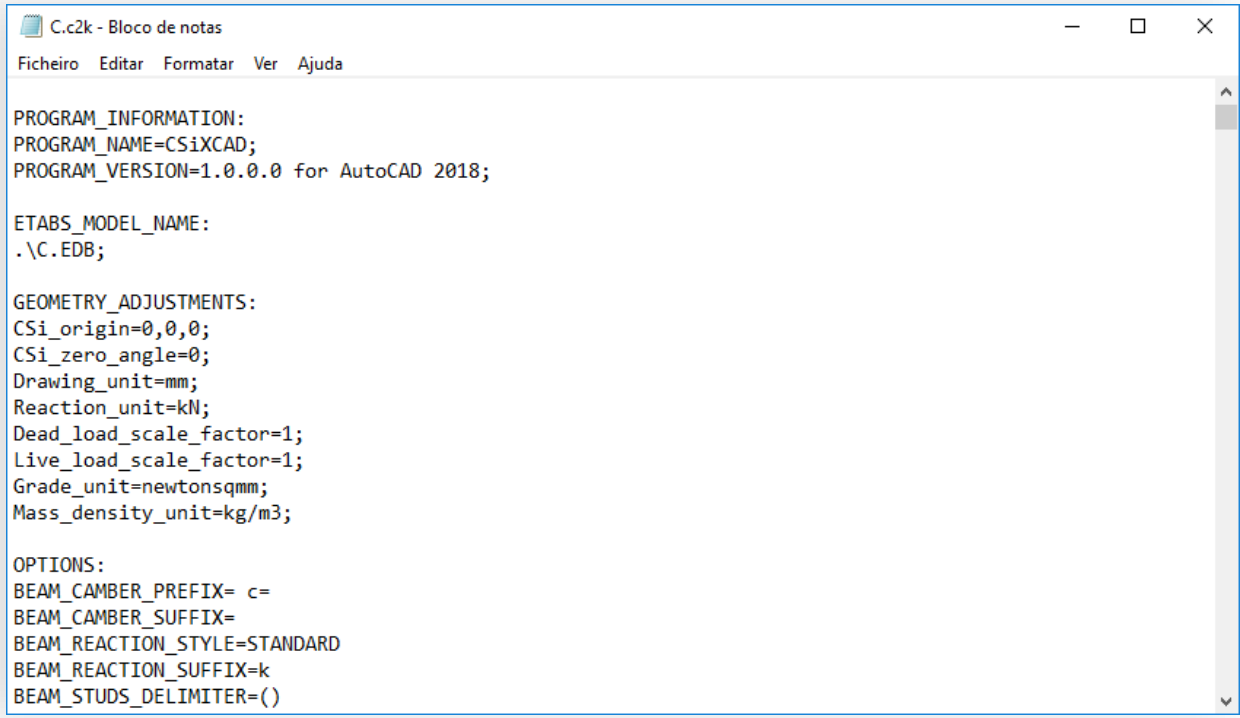
are drawings that show one or more other drawings – plans, elevations, or details – arranged in “viewports” in AutoCAD “paper space”.



Project File

is a text file that lists the following information:

- filename of the imported ETABS model
- filenames of the project drawings
- any adjustments made when the model was imported
- the extents, scale, z-elevations, and ETABS story type of each of the plans
- the extents, view direction, scale, and ETABS grid line id of each of the elevations
- the values of all the CSiXCAD settings
- the filenames of the property libraries in use in ETABS
- the grades of steel and concrete in use in ETABS
- the rebar sizes defined in ETABS

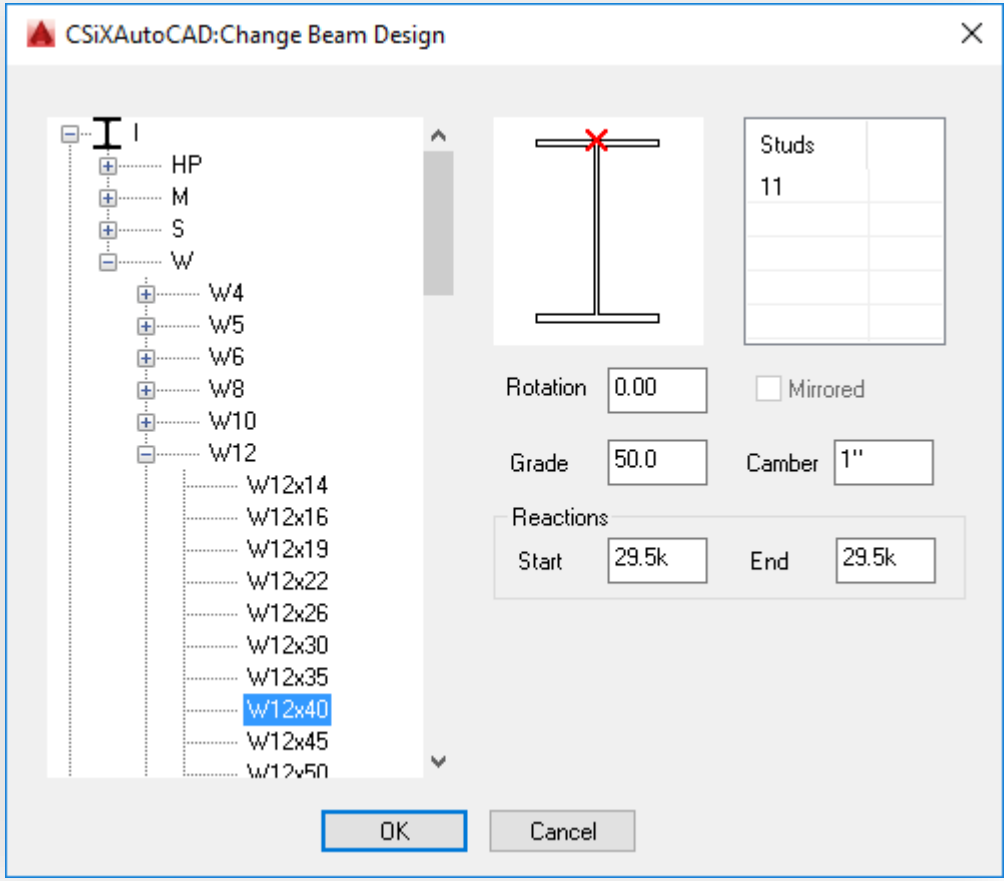


CSiXCAD’s objects know their section size and other details, making a smart model that can sync with ETABS design data.

The Change Design

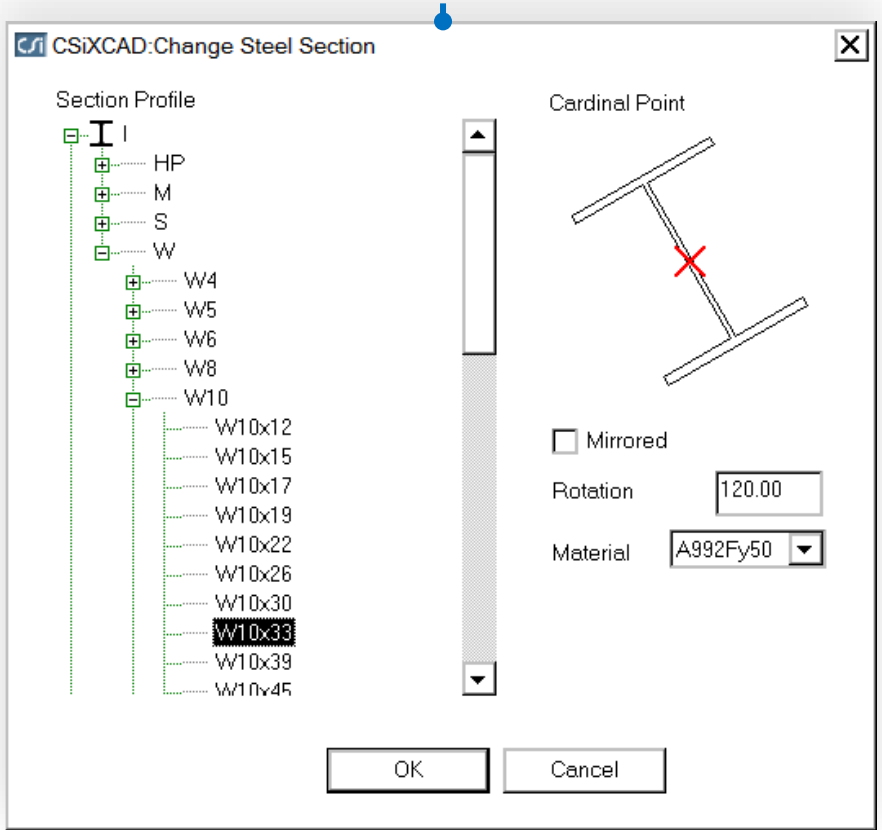
command displays one of the following forms, depending on the type of member or reinforcement object you select:

- Change Steel Section
- Change Steel Gravity Beam Design
- Change Concrete Column Design
- Change Concrete Beam Design
- Edit Joist form if you select a joist
- Edit Wall Reinforcement form
- Edit Slab Reinforcement

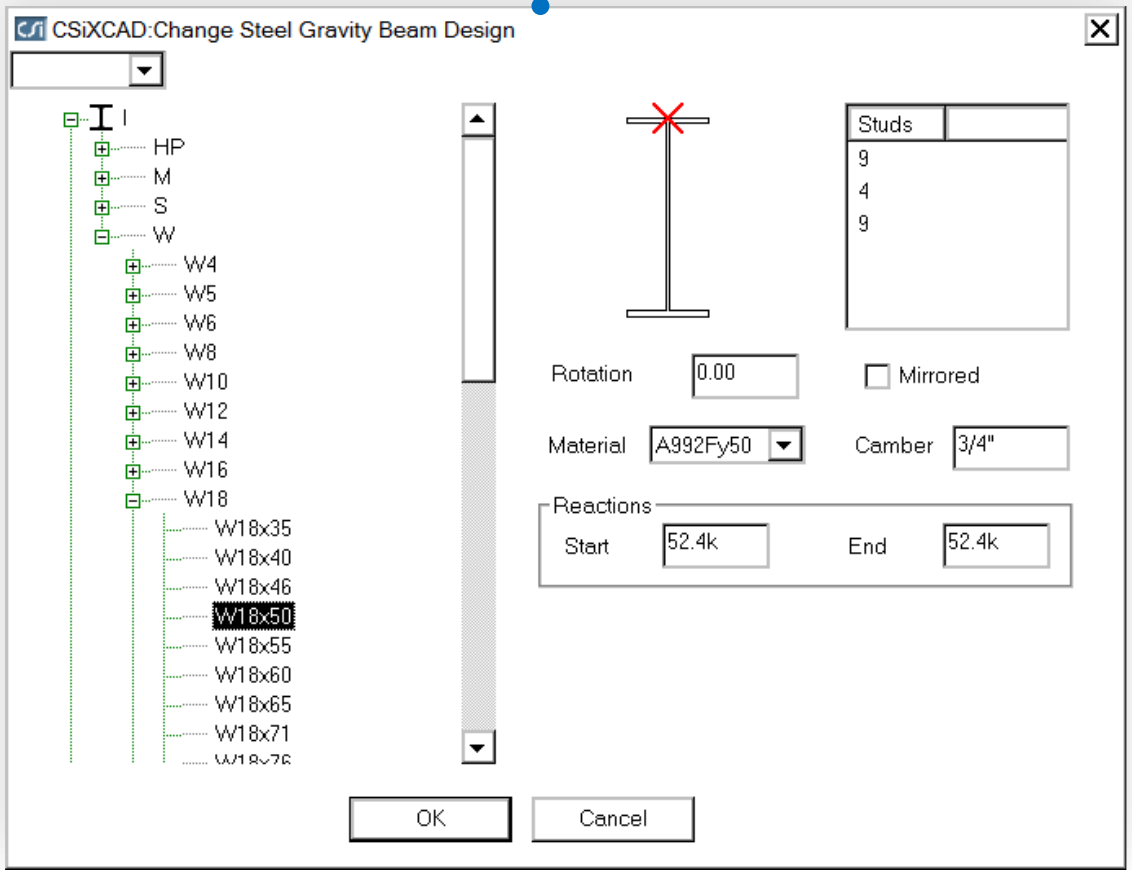


CHANGE STEEL SECTION

If you select a steel column, a steel lateral beam, a steel cantilever beam, or a brace, the Change Steel Section form is displayed.

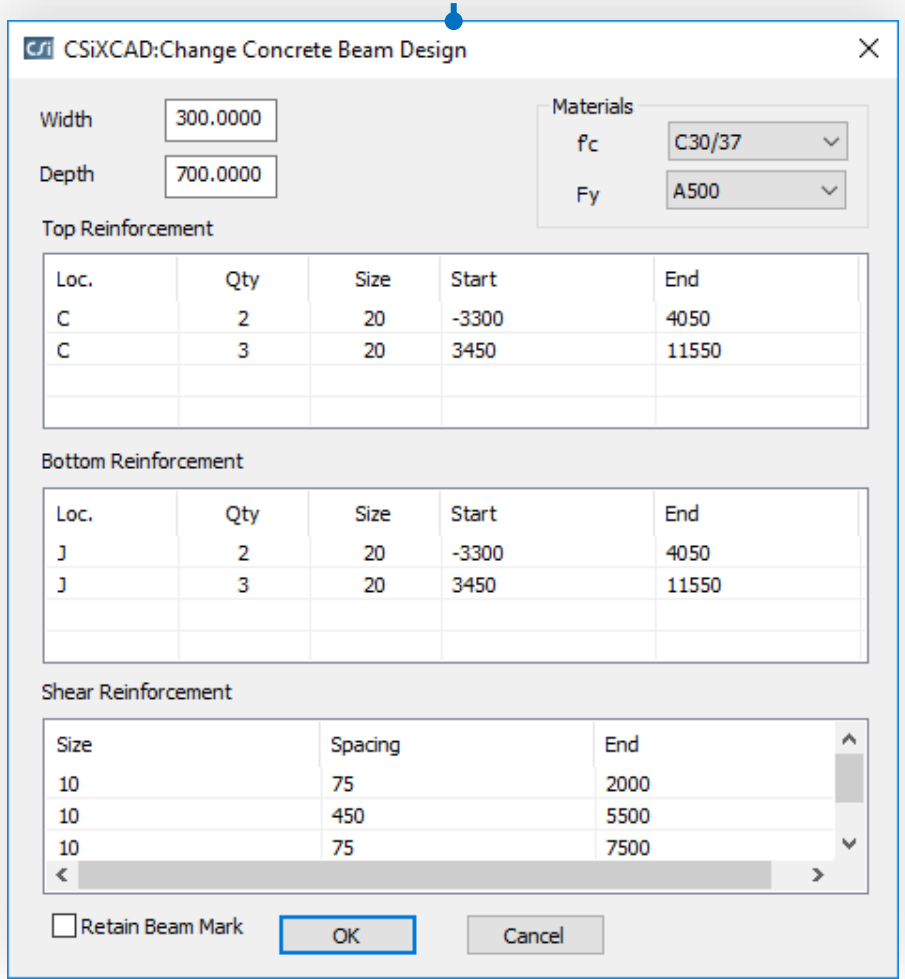


If you select a steel gravity span beam, the Change Steel Gravity Beam Design form is displayed.

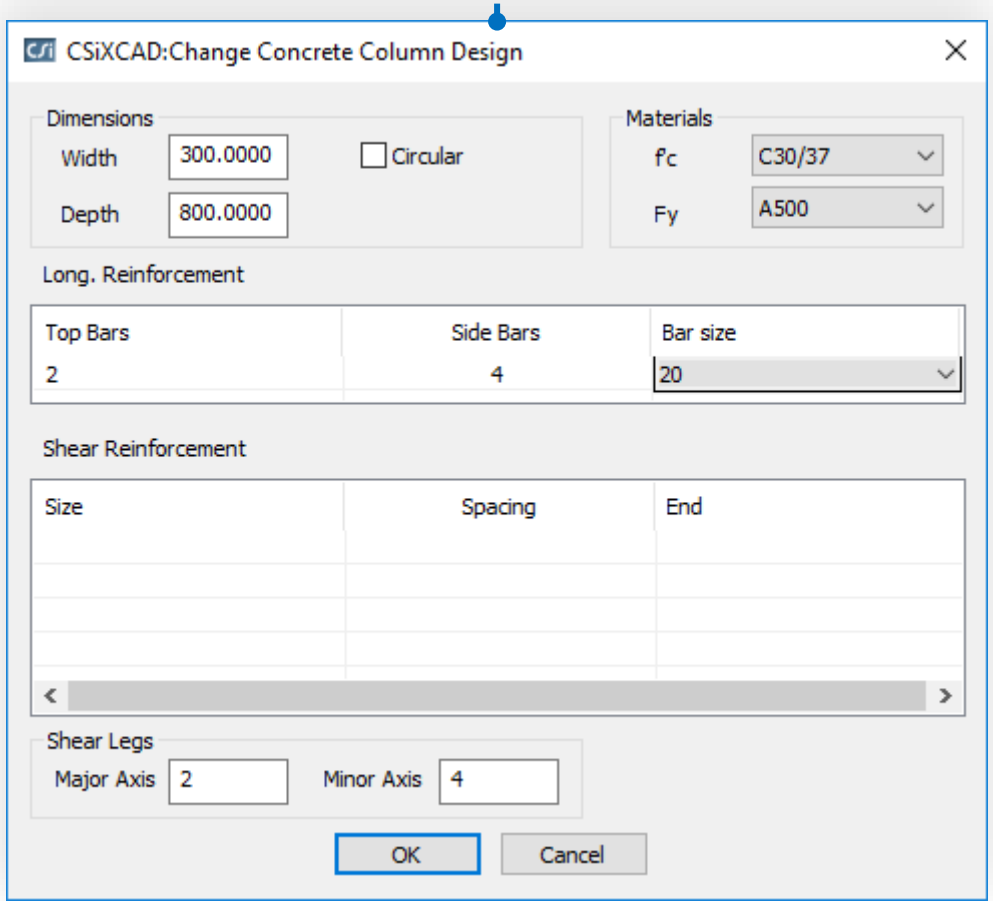


CHANGE CONCRETE COLUMN / BEAM DESIGN

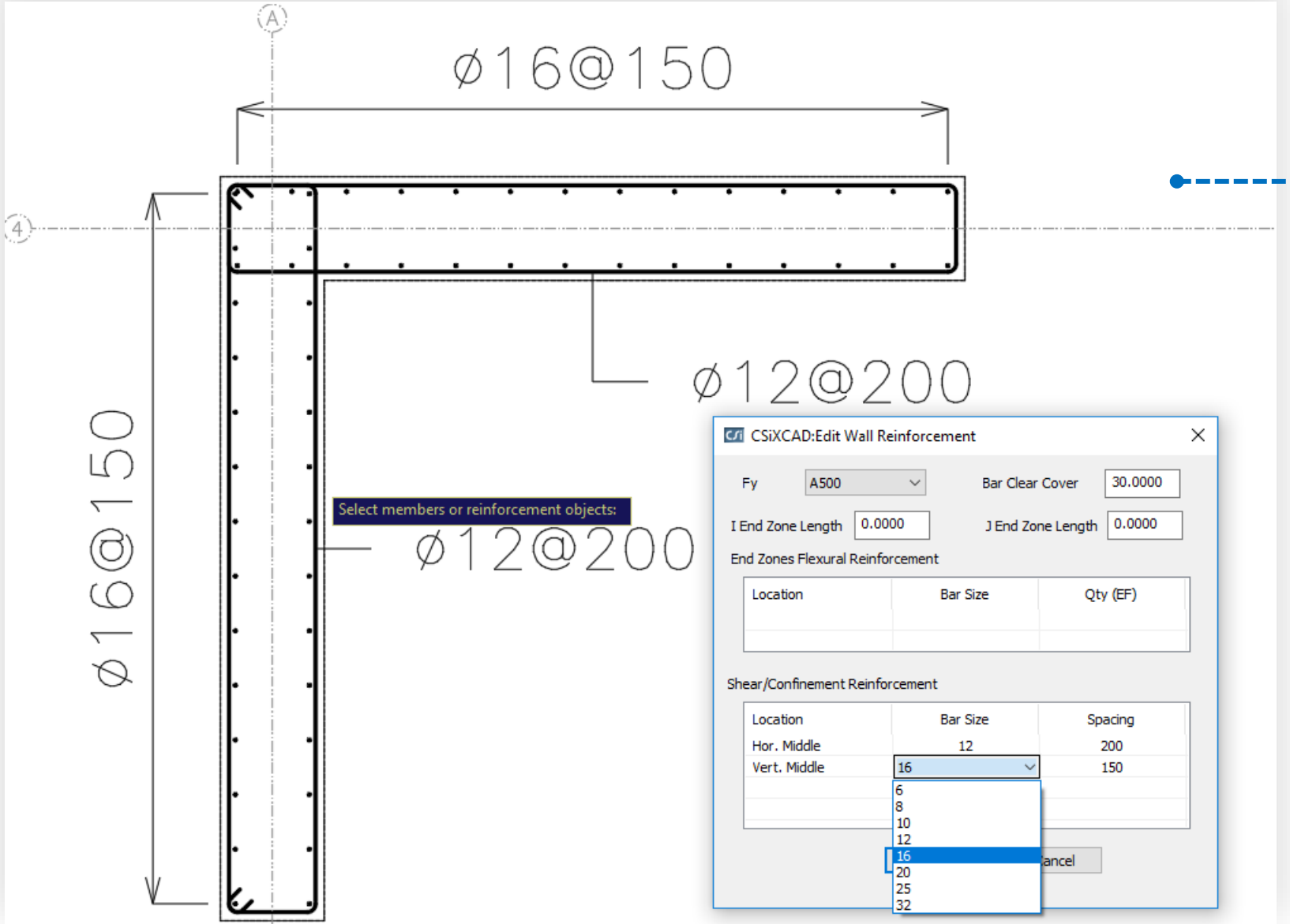
If you select a concrete beam, the Change Concrete Beam Design form is displayed.



If you select a concrete column, the Change Concrete Column Design form is displayed.

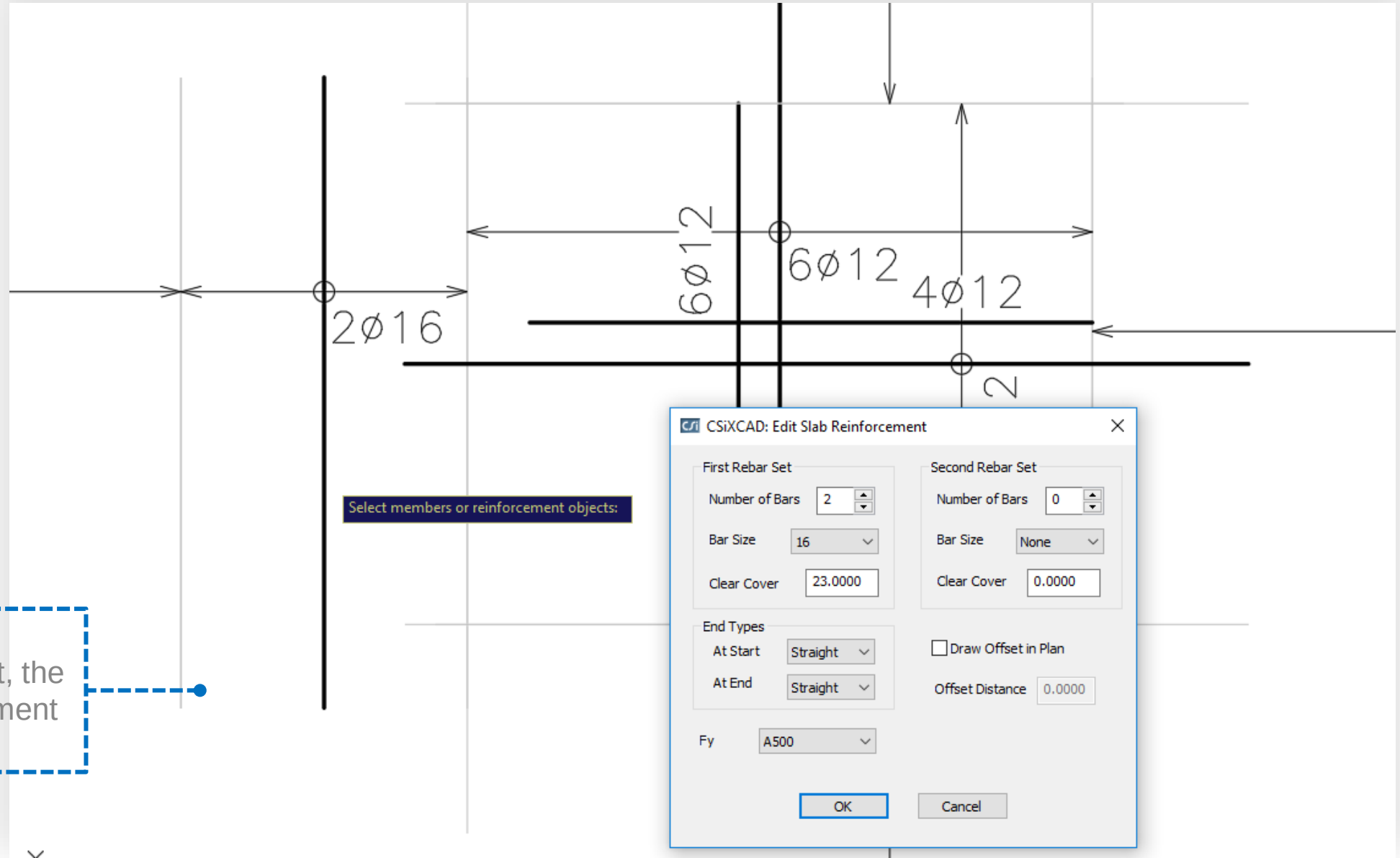


EDIT WALL REINFORCEMENT



If you select a wall reinforcement object, the Edit Wall Reinforcement form is displayed.

EDIT SLAB REINFORCEMENT



If you select a slab reinforcement object, the Edit Slab Reinforcement form is displayed:

OTHER DESIGN OPTIONS

Match Design

Lets you select any number of columns, beams, or braces and make their cross-sections identical.

Match Rebars

- Match Rebars – makes all reinforcement of all columns or beams you select identical to that of the first column or beam you selected
- Match Longitudinal Rebars – makes the longitudinal reinforcement of all columns or beams identical to that of the first column or beam you selected
- Match Top – only works with beams and makes their top reinforcement identical to that of the first beam you selected
- Match Bottom – only works with beams and makes their bottom reinforcement identical to that of the first beam you selected
- Match Shear – makes the shear reinforcement of all columns or beams identical to that of the first column or beam you selected.

Compare Rebars

Lets you select two columns or two beams, and compare their reinforcement.

Reimport from ETABS

Updates the drawings in an existing CSiXCAD project to reflect the latest ETABS model data:

- If you moved an object or changed its design in CSiXCAD after it was imported, and it has not moved or changed design in ETABS since the last import, then the object stays where you put it and retains the design you selected.
- If you moved an object or changed its design in CSiXCAD after it was imported, but it has also moved or changed design in ETABS since the last import, then the object is updated to reflect the new ETABS location and design.

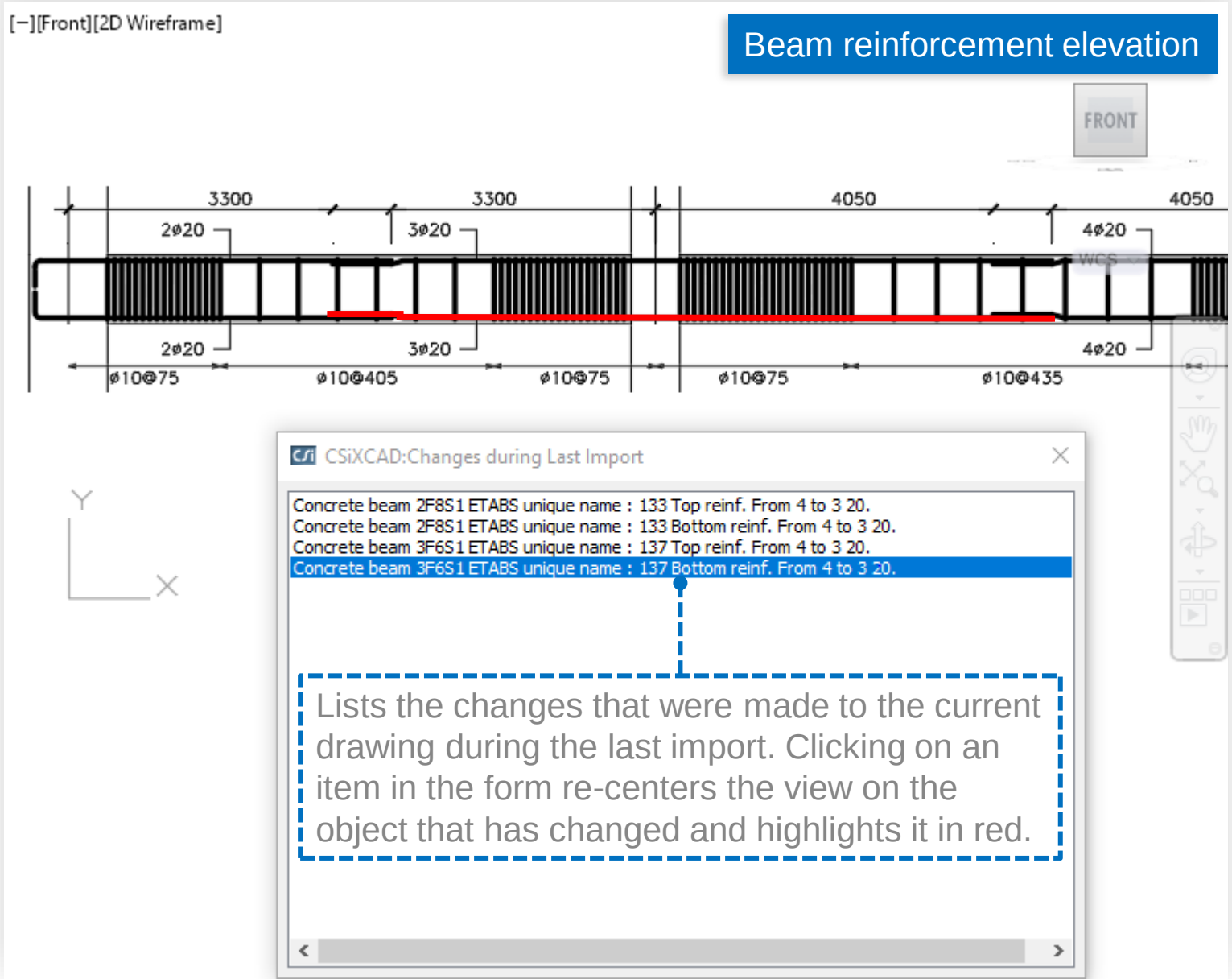
Resurrect ETABS Members

When you erase objects which were imported from an ETABS model and then reimport that model, the erased objects are not reimported. Using Resurrect command, will bring back these objects the next time you reimport the model.

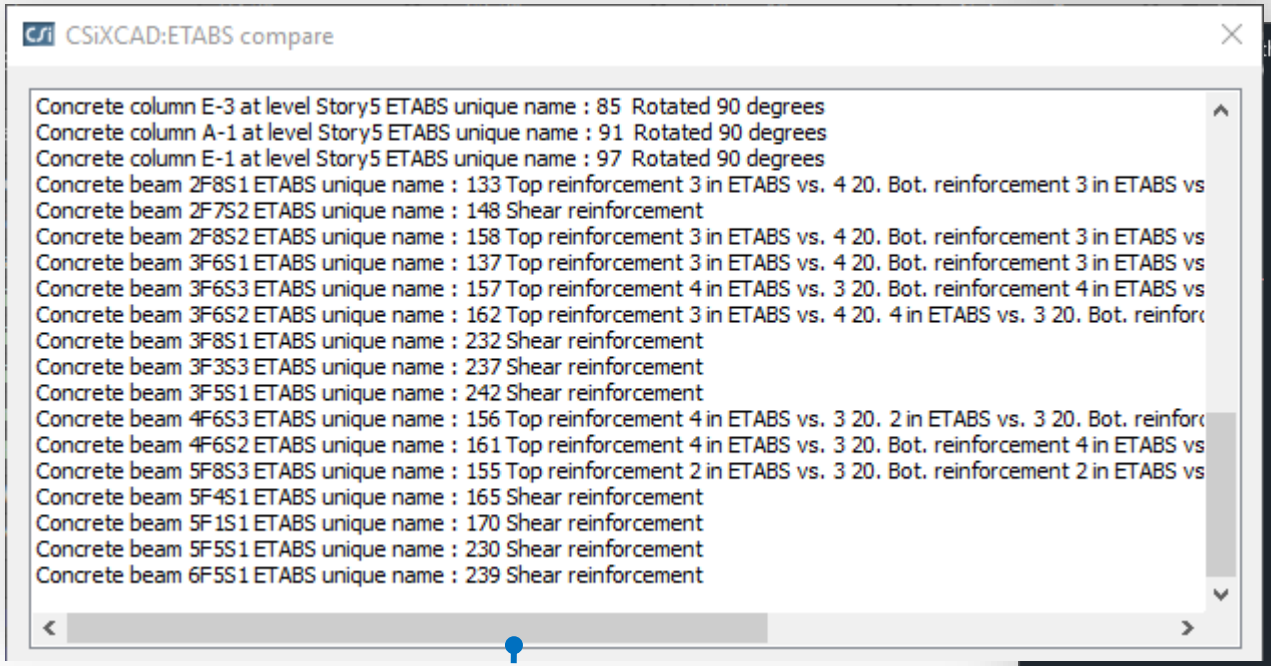
Changes during Last Import

Compare to ETABS

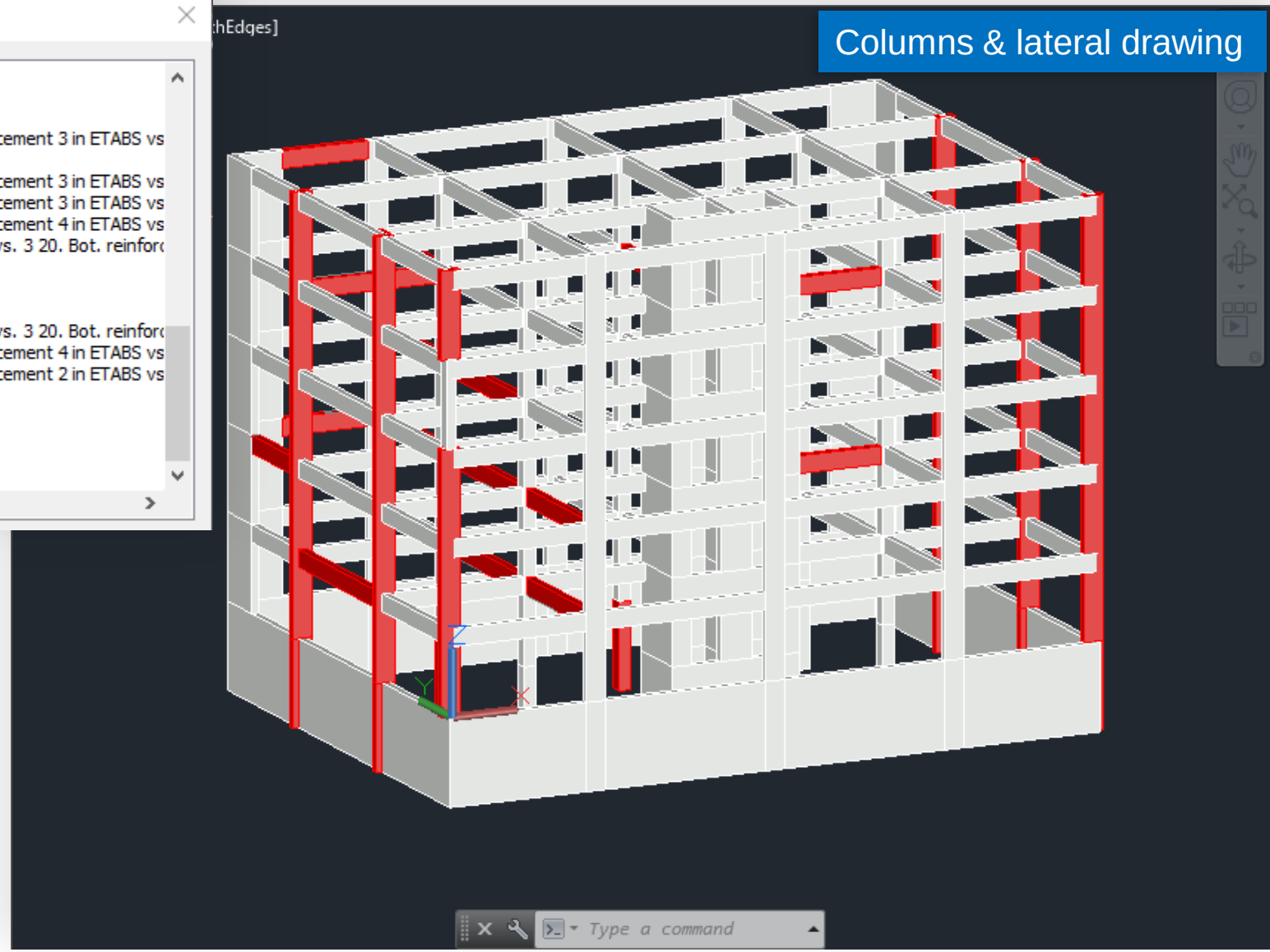
CHANGES DURING LAST IMPORT



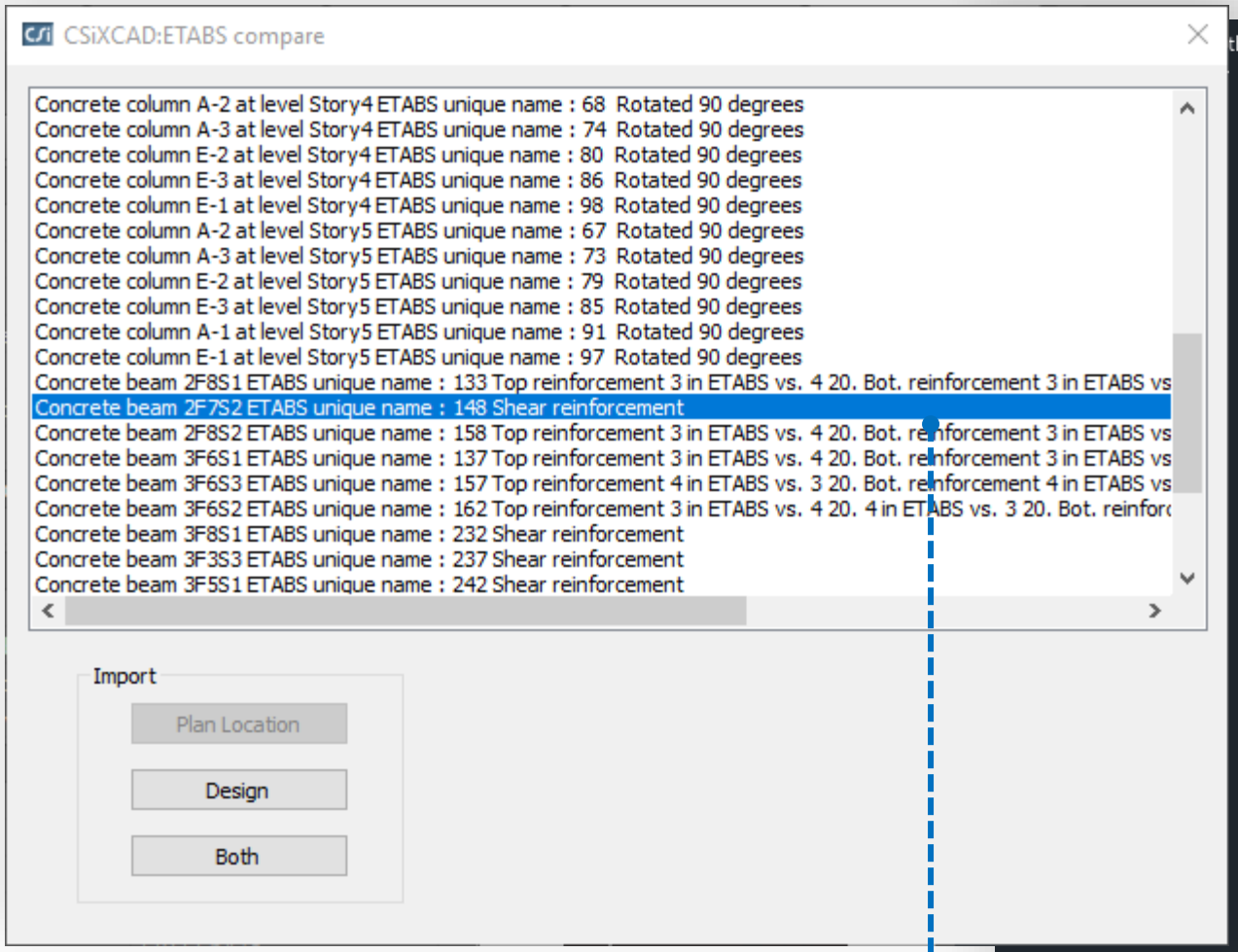
COMPARE TO ETABS



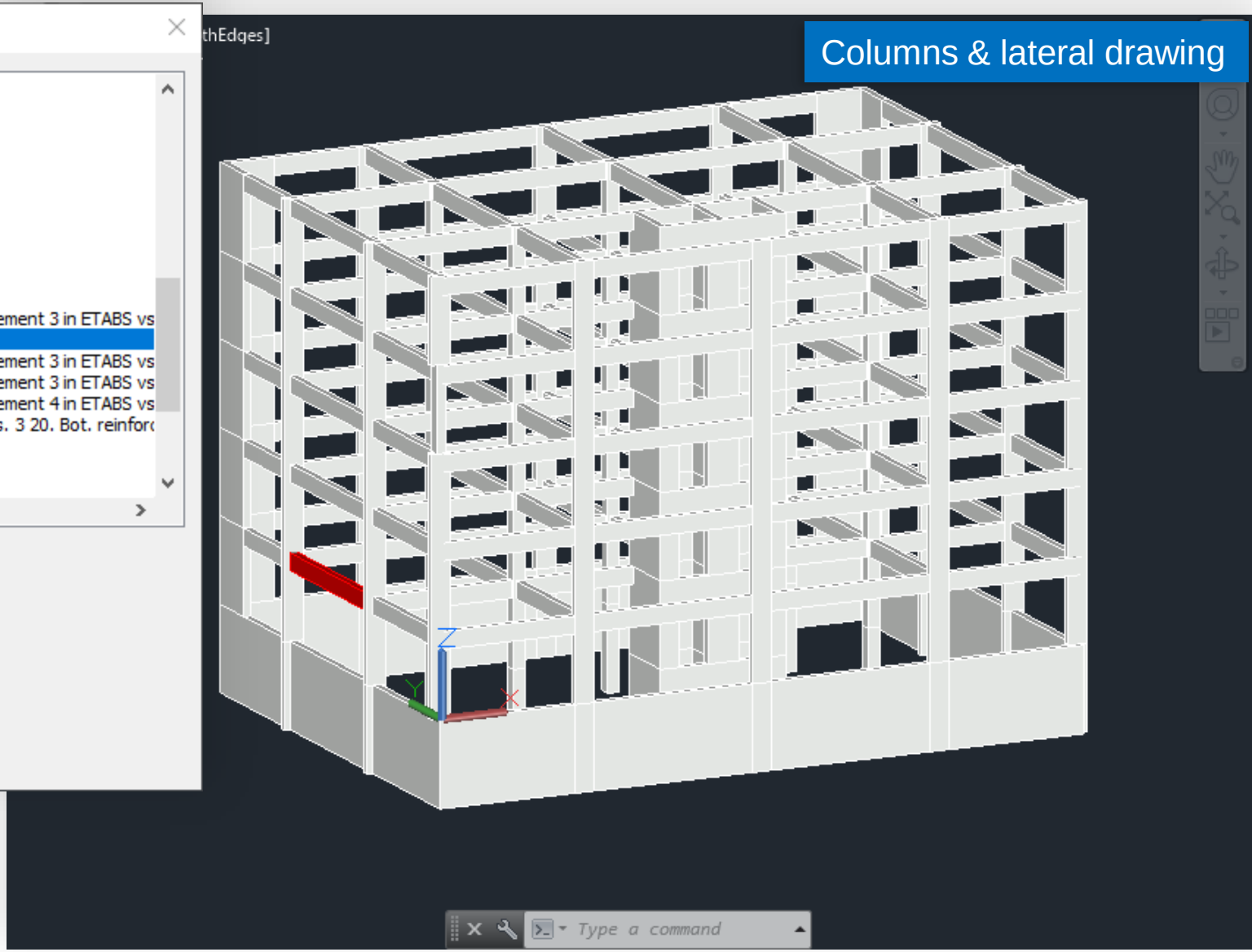
Identifies differences between the data shown in the active project drawing and the data currently in the ETABS model, and lets you resolve these on a case-by-case basis by selectively importing data from ETABS.



COMPARE TO ETABS



Clicking on an item in the form re-centers the view on the object that has changed and highlights it in red.



PROJECT SETTINGS

A comprehensive set of options allow the user to customize the drawing generation in AutoCAD® to fit their work process.