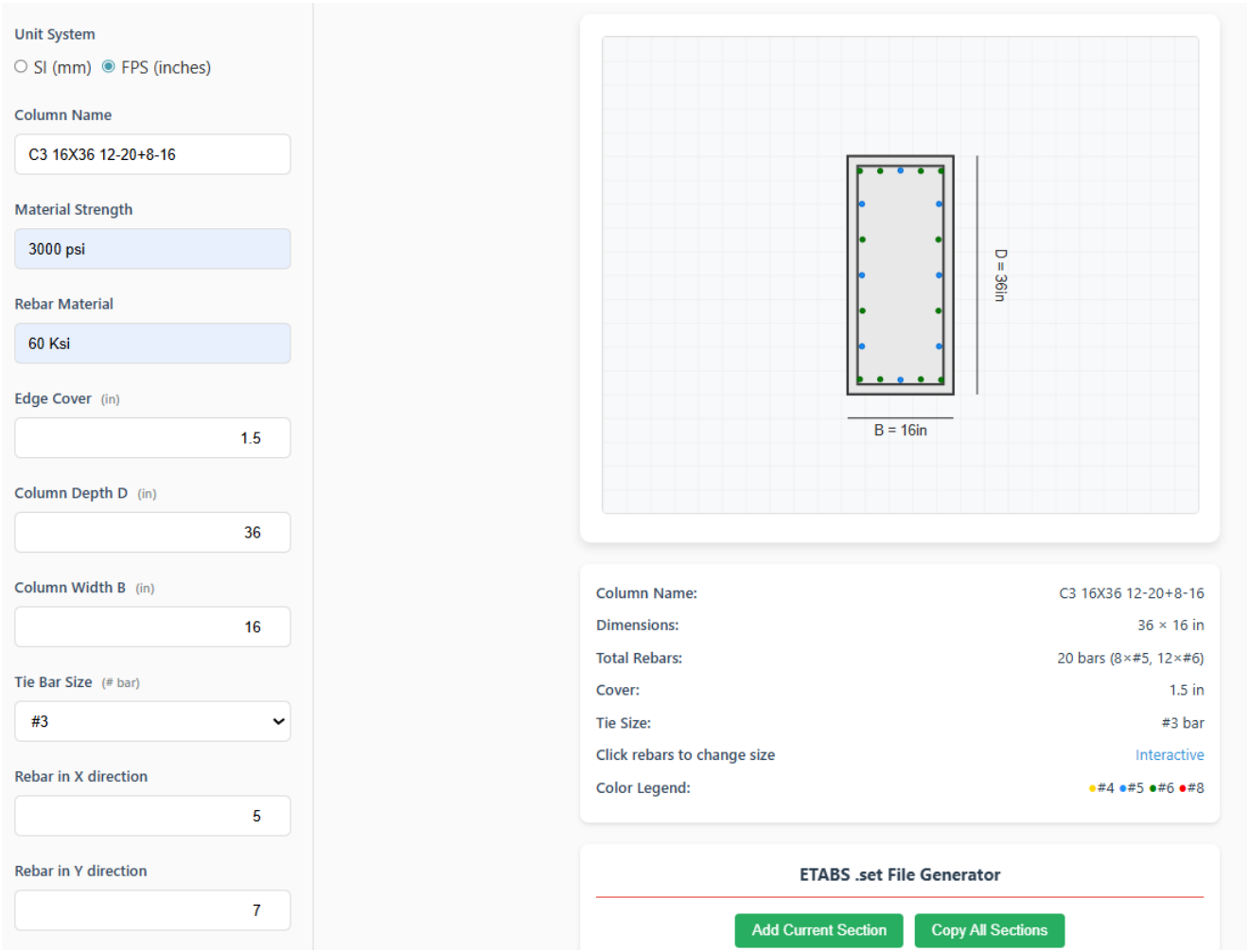
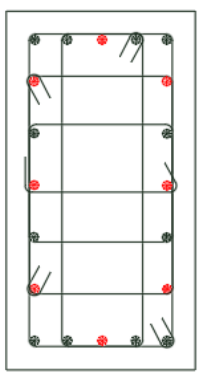
How to Use ETABS Section Designer Tool

Build any reinforced-concrete column in 30 s and push it straight into ETABS—no manual section designer needed.

1.Open **ETABS Section Designer Tool**→ choose **Units** (SI or FPS).

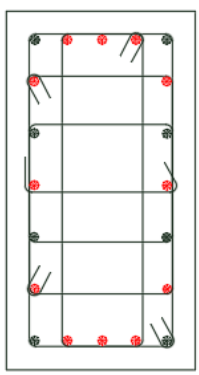


Suppose you have a column with varying sections across different floors. In ETABS, defining each section and entering different reinforcement types for each location using the “Frame Section Property Reinforcement Data” can be difficult and time-consuming. To simplify this process, you can use the Section Designer Tool. Below is the step-by-step procedure on how to use this tool.



12-Ø20 +8-Ø16

C3 16X36



8-Ø20 +12-Ø16

C3 16X36

Engr. Marzan Uddin

2. Fill boxes:
Column name, Concrete strength, Rebar strength, Edge Cover, Column Depth, Column Width, Tie Bar Size, Rebar in X and Y direction

Input Parameters

Unit System

SI (mm) FPS (inches)

Column Name

C3 16X36 12-20+8-16

Material Strength

3000 psi

Rebar Material

60 Ksi

Edge Cover (in)

1.5

Column Depth D (in)

36

Column Width B (in)

16

Tie Bar Size (# bar)

#3

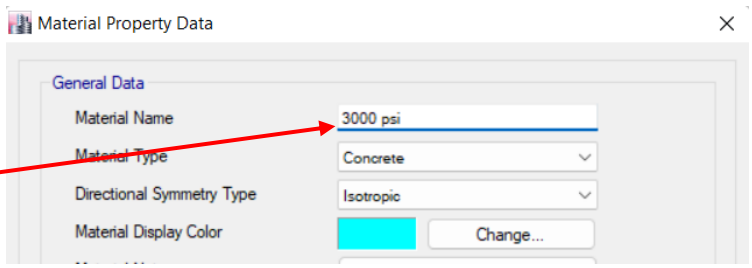
Rebar in X direction

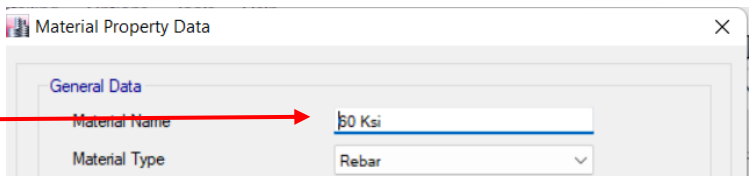
5

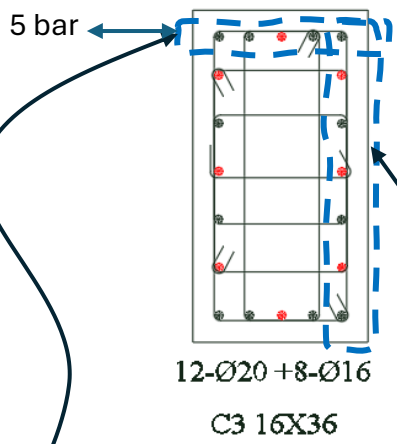
Rebar in Y direction

7

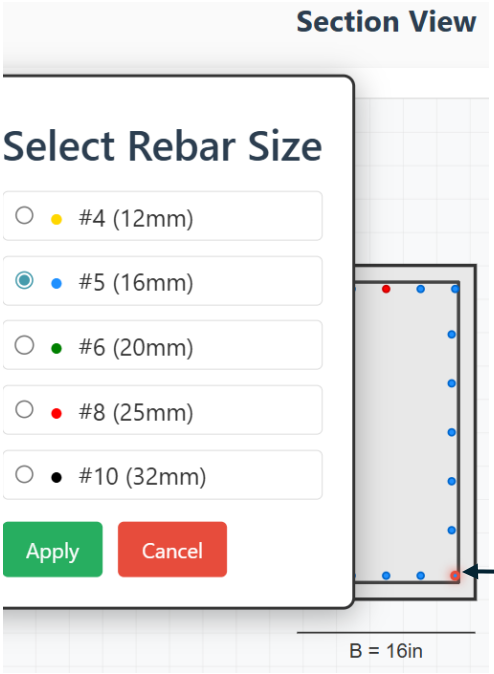
Make sure that this input matches your defined material name in ETABS. For accuracy, it is best to copy the material name directly from ETABS.





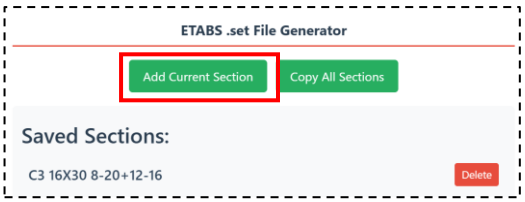


7 bar in Y direction



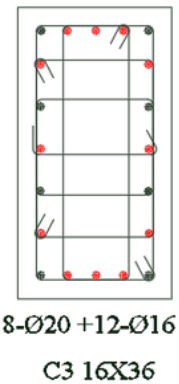
You can easily change the rebar size by clicking on any rebar in the section view and selecting the desired size from the options provided.

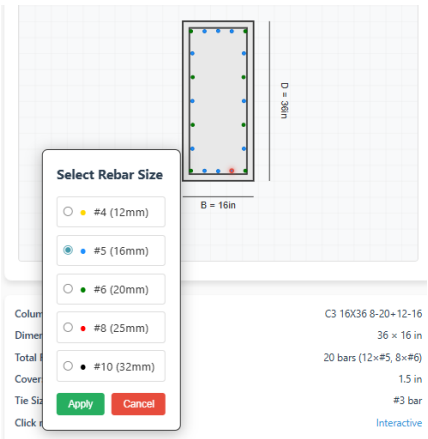
3. Click the section drawing → pick bar sizes → **Add Current Section**



<u>Now For 2nd Section</u>

Change steel layout → Rename the Section → **Add Section** again





When finished: **Copy All Sections** (one block of text = every variant)



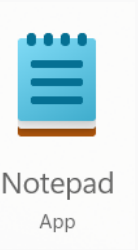
Press **Copy All Sections** → paste into any text file.

```
$ FRAME SECTIONS
    FRAMESECTION  "C3 16X36 12-20+8-16"  MATERIAL "3000 psi"  SHAPE "SD Section"
    FRAMESECTION  "C3 16X36 8-20+12-16"  MATERIAL "3000 psi"  SHAPE "SD Section"
```

generated FRAME SECTION

```
$ SECTION DESIGNER SECTIONS
  SDSECTION "C3 16X36 12-20+8-16"  TYPE "FRAME"  DESIGNTYPE "CONCRETE"  DESIGNCHECK "CHECK"  BASEMATERIAL "3000 psi"  NUMSHAPES 21  ANGLE 90
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 1  MATERIAL "3000 psi"  REBARMATERIAL "60 Ksi"  SHAPETYPE "CONCRETE RECTANGULAR"  D 36  B 16  XC 0  YC 0
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 1  EDGE 1  EDGEBARAREA 0  EDGEBARSPACING 6  EDGEBARCOVER 1.89
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 1  EDGE 2  EDGEBARAREA 0  EDGEBARSPACING 6  EDGEBARCOVER 1.89
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 1  EDGE 3  EDGEBARAREA 0  EDGEBARSPACING 6  EDGEBARCOVER 1.89
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 1  EDGE 4  EDGEBARAREA 0  EDGEBARSPACING 6  EDGEBARCOVER 1.89
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 1  CORNER 1  CORNERBARAREA 0
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 1  CORNER 2  CORNERBARAREA 0
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 1  CORNER 3  CORNERBARAREA 0
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 1  CORNER 4  CORNERBARAREA 0
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 1  TIEBARSIZE "#4"
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 2  MATERIAL "60 Ksi"  SHAPETYPE "REBAR"  BARSIZE "#5"  XC 0.000  YC 15.810
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 3  MATERIAL "60 Ksi"  SHAPETYPE "REBAR"  BARSIZE "#6"  XC -6.125  YC 15.731
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 4  MATERIAL "60 Ksi"  SHAPETYPE "REBAR"  BARSIZE "#6"  XC -3.063  YC 15.731
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 5  MATERIAL "60 Ksi"  SHAPETYPE "REBAR"  BARSIZE "#6"  XC 3.063  YC 15.731
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 6  MATERIAL "60 Ksi"  SHAPETYPE "REBAR"  BARSIZE "#6"  XC 6.125  YC 15.731
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 7  MATERIAL "60 Ksi"  SHAPETYPE "REBAR"  BARSIZE "#5"  XC -5.810  YC 10.750
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 8  MATERIAL "60 Ksi"  SHAPETYPE "REBAR"  BARSIZE "#5"  XC 5.810  YC 10.750
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 9  MATERIAL "60 Ksi"  SHAPETYPE "REBAR"  BARSIZE "#6"  XC -5.731  YC 5.375
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 10  MATERIAL "60 Ksi"  SHAPETYPE "REBAR"  BARSIZE "#6"  XC 5.731  YC 5.375
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 11  MATERIAL "60 Ksi"  SHAPETYPE "REBAR"  BARSIZE "#5"  XC -5.810  YC -0.000
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 12  MATERIAL "60 Ksi"  SHAPETYPE "REBAR"  BARSIZE "#5"  XC 5.810  YC -0.000
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 13  MATERIAL "60 Ksi"  SHAPETYPE "REBAR"  BARSIZE "#6"  XC -5.731  YC -5.375
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 14  MATERIAL "60 Ksi"  SHAPETYPE "REBAR"  BARSIZE "#6"  XC 5.731  YC -5.375
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 15  MATERIAL "60 Ksi"  SHAPETYPE "REBAR"  BARSIZE "#5"  XC -5.810  YC -10.750
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 16  MATERIAL "60 Ksi"  SHAPETYPE "REBAR"  BARSIZE "#5"  XC 5.810  YC -10.750
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 17  MATERIAL "60 Ksi"  SHAPETYPE "REBAR"  BARSIZE "#6"  XC -6.125  YC -15.731
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 18  MATERIAL "60 Ksi"  SHAPETYPE "REBAR"  BARSIZE "#6"  XC -3.063  YC -15.731
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 19  MATERIAL "60 Ksi"  SHAPETYPE "REBAR"  BARSIZE "#6"  XC 3.063  YC -15.731
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 20  MATERIAL "60 Ksi"  SHAPETYPE "REBAR"  BARSIZE "#6"  XC 6.125  YC -15.731
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 21  MATERIAL "60 Ksi"  SHAPETYPE "REBAR"  BARSIZE "#5"  XC 0.000  YC -15.810
  SDSECTION "C3 16X36 8-20+12-16"  TYPE "FRAME"  DESIGNTYPE "CONCRETE"  DESIGNCHECK "CHECK"  BASEMATERIAL "3000 psi"  NUMSHAPES 21  ANGLE 90
  SDSECTION "C3 16X36 8-20+12-16"  SHAPE 1  MATERIAL "3000 psi"  REBARMATERIAL "60 Ksi"  SHAPETYPE "CONCRETE RECTANGULAR"  D 36  B 16  XC 0  YC 0
  SDSECTION "C3 16X36 8-20+12-16"  SHAPE 1  EDGE 1  EDGEBARAREA 0  EDGEBARSPACING 6  EDGEBARCOVER 1.89
  SDSECTION "C3 16X36 8-20+12-16"  SHAPE 1  EDGE 2  EDGEBARAREA 0  EDGEBARSPACING 6  EDGEBARCOVER 1.89
```

generated SECTION DESIGNER



This is the **generated text**, and it needs to be placed into the specific section of the ETABS .set file.

#Now Push to ETABS (4 steps)

1. Open your ETABS Project ".Set" file in any text editor (e.g., Notepad).



2. Locate the line

   `$ FRAME SECTIONS`

   and paste the **generated FRAME SECTION** data directly underneath it.

```
  REBARDEFINITION  "#4"  AREA  0.2 DIA  0.5
  REBARDEFINITION  "#5"  AREA  0.31 DIA  0.625
  REBARDEFINITION  "#6"  AREA  0.44 DIA  0.75
  REBARDEFINITION  "#7"  AREA  0.6 DIA  0.875
  REBARDEFINITION  "#8"  AREA  0.79 DIA  1
  REBARDEFINITION  "#9"  AREA  1 DIA  1.128
  REBARDEFINITION  "#10"  AREA  1.27 DIA  1.27
  REBARDEFINITION  "#11"  AREA  1.56 DIA  1.41
  REBARDEFINITION  "#14"  AREA  2.25 DIA  1.693
  REBARDEFINITION  "#18"  AREA  4 DIA  2.257

$ FRAME SECTIONS
  FRAMESECTION  "C1 12*12"  MATERIAL "3000 psi"  SHAPE "Concrete Rectangular"  D 12 B 12 INCLUDEAUTORIGIDZONEAREA "No"
  FRAMESECTION  "C2 12X15"  MATERIAL "3000 psi"  SHAPE "Concrete Rectangular"  D 15 B 12 INCLUDEAUTORIGIDZONEAREA "No"
  FRAMESECTION  "CG1 15X15"  MATERIAL "3000 psi"  SHAPE "Concrete Rectangular"  D 15 B 15 INCLUDEAUTORIGIDZONEAREA "No"
  FRAMESECTION  "LB 10X15"  MATERIAL "3000 psi"  SHAPE "Concrete Rectangular"  D 15 B 10 INCLUDEAUTORIGIDZONEAREA "No"
  FRAMESECTION  "CG2 15X18"  MATERIAL "3000 psi"  SHAPE "Concrete Rectangular"  D 18 B 15 INCLUDEAUTORIGIDZONEAREA "No"
  FRAMESECTION  "GB 10X18"  MATERIAL "3000 psi"  SHAPE "Concrete Rectangular"  D 18 B 10 INCLUDEAUTORIGIDZONEAREA "No"
  FRAMESECTION  "C 10"""  MATERIAL "3000 psi"  SHAPE "Concrete Circle"  D 9.96 INCLUDEAUTORIGIDZONEAREA "No"
  FRAMESECTION  "C12"  MATERIAL "3000 psi"  SHAPE "Concrete Circle"  D 12 INCLUDEAUTORIGIDZONEAREA "No"
  FRAMESECTION  "EB 10X18"  MATERIAL "3000 psi"  SHAPE "Concrete Rectangular"  D 18 B 10 INCLUDEAUTORIGIDZONEAREA "No"
  FRAMESECTION  "C3 16X36 12-20+8-16"  MATERIAL "3000 psi"  SHAPE "SD Section"
  FRAMESECTION  "C3 16X36 8-20+12-16"  MATERIAL "3000 psi"  SHAPE "SD Section"
```



3. Locate the line
   `$ SECTION DESIGNER SECTIONS`
   and paste the **generated SECTION DESIGNER** data directly underneath it.

```
CONFINEBARAREA 0.2 CONFINEBARSPACING 6
  CONCRETESECTION  "FB 10X18"  LONGBARMATERIAL "60 Ksi"  CONFINEBARMATERIAL "60 Ksi"  TYPE "Beam"  COVERTOP 1.5 COVERBOTTOM 1.5 ATI 0 ABI 0 ATJ 0 ABJ 0

$ TENDON SECTIONS
  TENDONSECTION  "Tendon1"  MATERIAL  "A416Gr270"  STRANDAREA  0.153

$ SECTION DESIGNER SECTIONS
  SDSECTION "C3 16X36 12-20+8-16"  TYPE "FRAME"  DESIGNTYPE "CONCRETE"  DESIGNCHECK "CHECK"  BASEMATERIAL "3000 psi"  NUMSHAPES 21  ANGLE 90
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 1  MATERIAL "3000 psi"  REBARMATERIAL "60 Ksi"  SHAPETYPE "CONCRETE RECTANGULAR"  D 36  B 16  XC 0  YC 0
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 1  EDGE 1  EDGEBARAREA 0  EDGEBARSPACING 6  EDGEBARCOVER 1.89
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 1  EDGE 2  EDGEBARAREA 0  EDGEBARSPACING 6  EDGEBARCOVER 1.89
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 1  EDGE 3  EDGEBARAREA 0  EDGEBARSPACING 6  EDGEBARCOVER 1.89
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 1  EDGE 4  EDGEBARAREA 0  EDGEBARSPACING 6  EDGEBARCOVER 1.89
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 1  CORNER 1  CORNERBARAREA 0
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 1  CORNER 2  CORNERBARAREA 0
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 1  CORNER 3  CORNERBARAREA 0
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 1  CORNER 4  CORNERBARAREA 0
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 1  TIEBARSIZE "#4"
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 2  MATERIAL "60 Ksi"  SHAPETYPE "REBAR"  BARSIZE "#5"  XC 0.000  YC 15.810
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 3  MATERIAL "60 Ksi"  SHAPETYPE "REBAR"  BARSIZE "#6"  XC -6.125  YC 15.731
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 4  MATERIAL "60 Ksi"  SHAPETYPE "REBAR"  BARSIZE "#6"  XC -3.063  YC 15.731
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 5  MATERIAL "60 Ksi"  SHAPETYPE "REBAR"  BARSIZE "#6"  XC 3.063  YC 15.731
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 6  MATERIAL "60 Ksi"  SHAPETYPE "REBAR"  BARSIZE "#6"  XC 6.125  YC 15.731
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 7  MATERIAL "60 Ksi"  SHAPETYPE "REBAR"  BARSIZE "#5"  XC -5.810  YC 10.750
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 8  MATERIAL "60 Ksi"  SHAPETYPE "REBAR"  BARSIZE "#5"  XC 5.810  YC 10.750
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 9  MATERIAL "60 Ksi"  SHAPETYPE "REBAR"  BARSIZE "#6"  XC -5.731  YC 5.375
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 10  MATERIAL "60 Ksi"  SHAPETYPE "REBAR"  BARSIZE "#6"  XC 5.731  YC 5.375
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 11  MATERIAL "60 Ksi"  SHAPETYPE "REBAR"  BARSIZE "#5"  XC -5.810  YC -0.000
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 12  MATERIAL "60 Ksi"  SHAPETYPE "REBAR"  BARSIZE "#5"  XC 5.810  YC -0.000
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 13  MATERIAL "60 Ksi"  SHAPETYPE "REBAR"  BARSIZE "#6"  XC -5.731  YC -5.375
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 14  MATERIAL "60 Ksi"  SHAPETYPE "REBAR"  BARSIZE "#6"  XC 5.731  YC -5.375
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 15  MATERIAL "60 Ksi"  SHAPETYPE "REBAR"  BARSIZE "#5"  XC -5.810  YC -10.750
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 16  MATERIAL "60 Ksi"  SHAPETYPE "REBAR"  BARSIZE "#5"  XC 5.810  YC -10.750
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 17  MATERIAL "60 Ksi"  SHAPETYPE "REBAR"  BARSIZE "#6"  XC -6.125  YC -15.731
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 18  MATERIAL "60 Ksi"  SHAPETYPE "REBAR"  BARSIZE "#6"  XC -3.063  YC -15.731
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 19  MATERIAL "60 Ksi"  SHAPETYPE "REBAR"  BARSIZE "#6"  XC 3.063  YC -15.731
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 20  MATERIAL "60 Ksi"  SHAPETYPE "REBAR"  BARSIZE "#6"  XC 6.125  YC -15.731
  SDSECTION "C3 16X36 12-20+8-16"  SHAPE 21  MATERIAL "60 Ksi"  SHAPETYPE "REBAR"  BARSIZE "#5"  XC 0.000  YC -15.810
  SDSECTION "C3 16X36 8-20+12-16"  TYPE "FRAME"  DESIGNTYPE "CONCRETE"  DESIGNCHECK "CHECK"  BASEMATERIAL "3000 psi"  NUMSHAPES 21  ANGLE 90
  SDSECTION "C3 16X36 8-20+12-16"  SHAPE 1  MATERIAL "3000 psi"  REBARMATERIAL "60 Ksi"  SHAPETYPE "CONCRETE RECTANGULAR"  D 36  B 16  XC 0  YC 0
  SDSECTION "C3 16X36 8-20+12-16"  SHAPE 1  EDGE 1  EDGEBARAREA 0  EDGEBARSPACING 6  EDGEBARCOVER 1.89
```

If the **$ SECTION DESIGNER SECTIONS** title is not present, simply add a new line under the **$ TENDON SECTIONS** title, paste the generated **$ SECTION DESIGNER SECTIONS** data there, and save the file.

4. Save the file. In ETABS choose:
   `File → Import → .E2K` → Define→ Section Properties

Boom—two sections imported and rebars perfectly placed.

