

# ProtaDetails 2021



## Quick Start Guide

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## 1. Introduction

Thank you for choosing **ProtaDetails** – a revolutionary automated detailing, drawing management & structural component design program which enables you to:

- Create automated detail and general arrangement drawings from **ProtaStructure** models
- Produce quantity take-off and reinforcement schedules
- Sheet management using multiple files
- Create and modify structural details rapidly with intelligent objects & templates
- Run component design and detailing – such as Retaining wall, Pile cap, Stair etc.
- Output to latest versions of industry standard CAD formats in DWG & DXF

This Quick Start Guide aims to get you up and running quickly. The focus will be on creating automated member and plan drawings. You should be able to learn the fundamental features of **ProtaDetails** in around half an hour.

## 2. Opening a ProtaStructure Project

In ProtaStructure Quick Start Guide, we have analyzed and designed a simple model. We will open the same model in ProtaDetails to produce all the reinforcement details and general arrangement drawings.

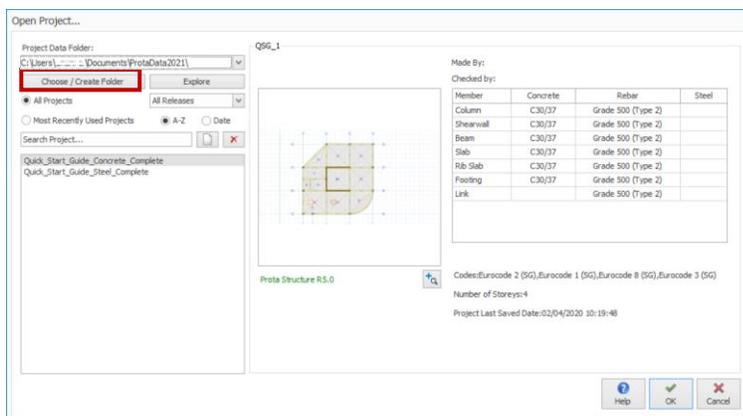
- In **ProtaStructure**, ensure the Quick Start Model is opened.
- Go to **Drawings & Reports** tab → Click **ProtaDetails** 

ProtaDetails will launch as a separate program. You may close ProtaStructure.

Alternatively, you may launch **ProtaDetails** from the desktop directly.

- **Launch ProtaDetails 2021 on your desktop**

The **Open Project** dialog will appear (this is identical to that of **ProtaStructure** open project dialog)

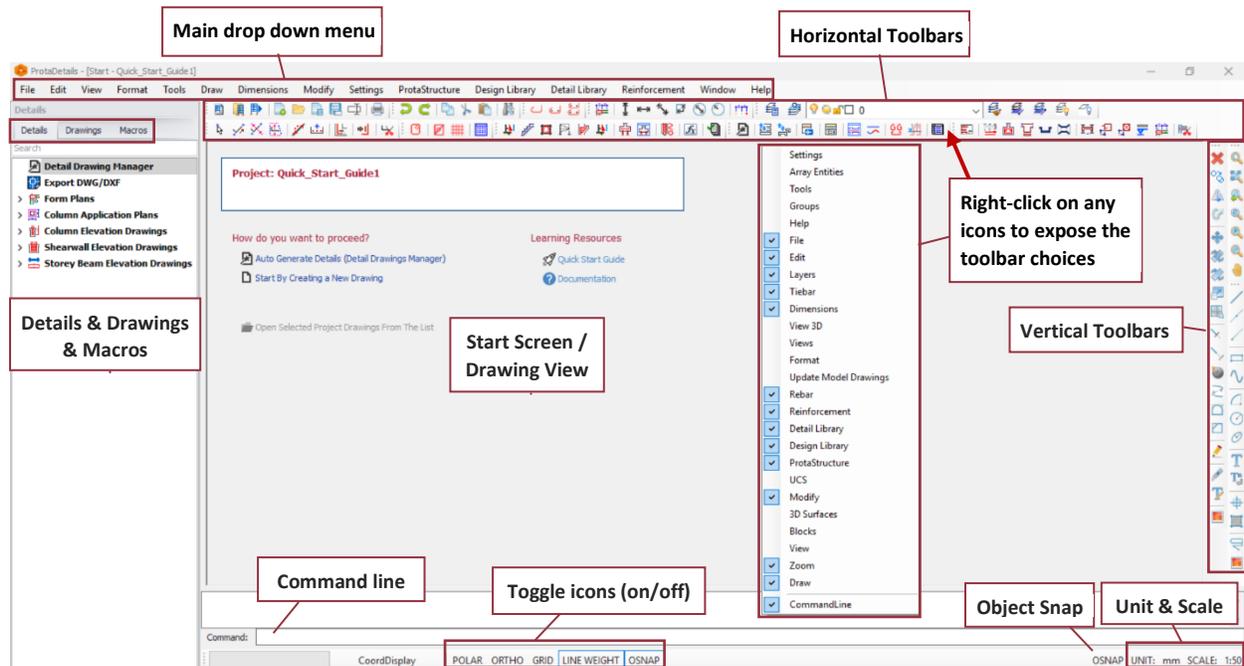


- Under the Project Data Folder, pick **Choose / Create Folder**
- Select the same Data Folder where the 'Quick\_Start\_Model...' which you have saved the model.
- Select the project and click **OK**

If you want to open the sample completed model, then choose the default **ProtaData2021** folder as **data folder** and open “Quick\_Start\_Guide\_Concrete\_Complete”.

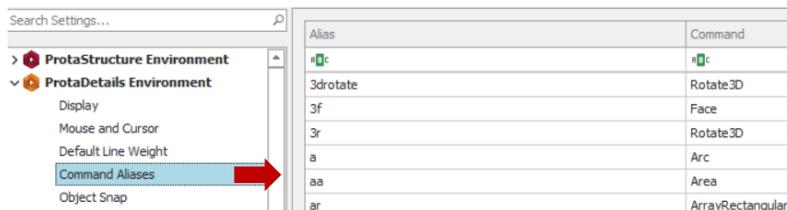
### 3. User Interface

The main components and toolbars of **ProtaDetails** user interface are as shown below.



The shortcut toolbars are automatically laid out according to your screen size and resolution.

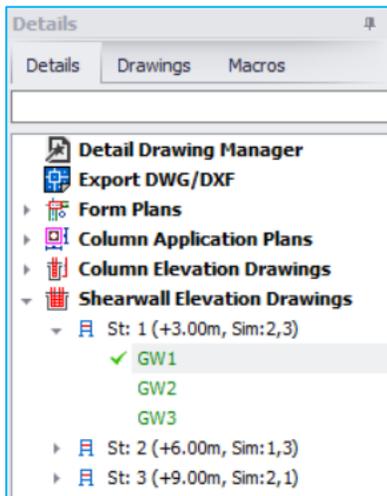
- All commands can be run from the main dropdown menu.
- Shortcut toolbars can be re-positioned by simply clicking, dragging & docking to the final position.
- Right-clicking on any of the command will expose the toolbar choices (you can on / off).
- You can type in the command directly in the command box at the bottom. Command shortcuts can be set via **Settings** → **Options** → **Command Aliases**



When a new project is opened, the **Start Screen** will appear with the following options :

- **Auto Generate Details (Detail Drawing Manager)** - Automated batch generation of all reinforcement details of reinforced concrete members and general arrangement drawings
- **Start By Creating a New Drawing** - Open up a new blank drawing with file name Drawing1.dwg)
- **Open Project Drawing from list** – Open previously generated & saved project drawings

## Details tab



The **Details** tab lists & organizes all the possible structure details, eg. Form Plans (layout) that can be produced.

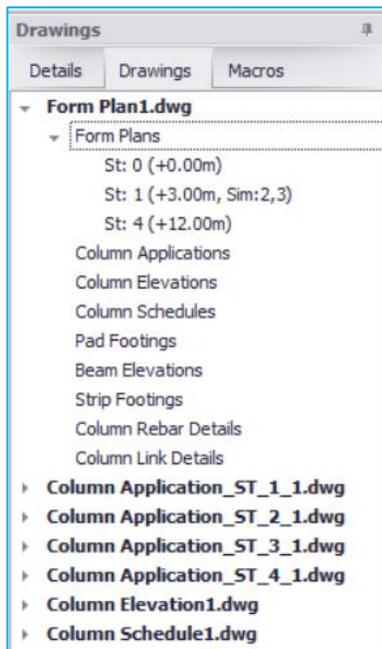
Clicking on the triangle preceding the text will expand the list to expose more details.

✓ A tick means that particular detail has been inserted in a drawing

**Green** colored member labels means the member is successfully designed (**Red** = Fail & **Amber** = Analysis out of date)

This allows you to easily keep track of and manage details in an efficient manner.

## Drawings tab

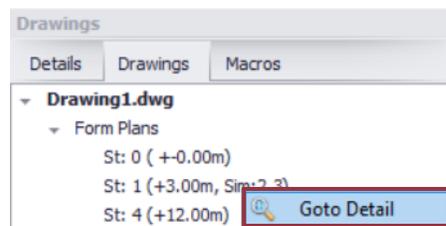


The **Drawing** tab list & organizes all drawings (dwg) files that has been created & what details the drawings contain.

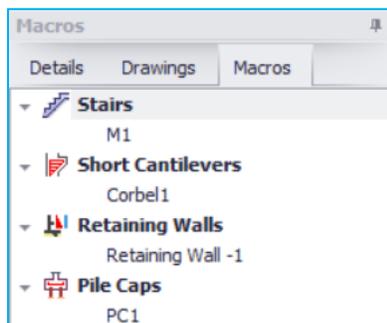
Once a particular drawing has been created & details inserted, it will be added in the list. Clicking on the triangle preceding the main folder will expose more details.

This allows you to easily keep track of and manage drawings in an efficient manner.

If you right-click on a drawing detail, there is option to “Goto Detail” which will locate and zoom in to that detail.

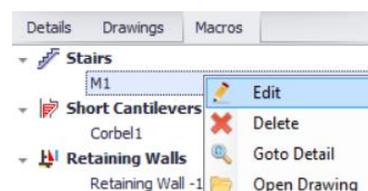


## Macro tab



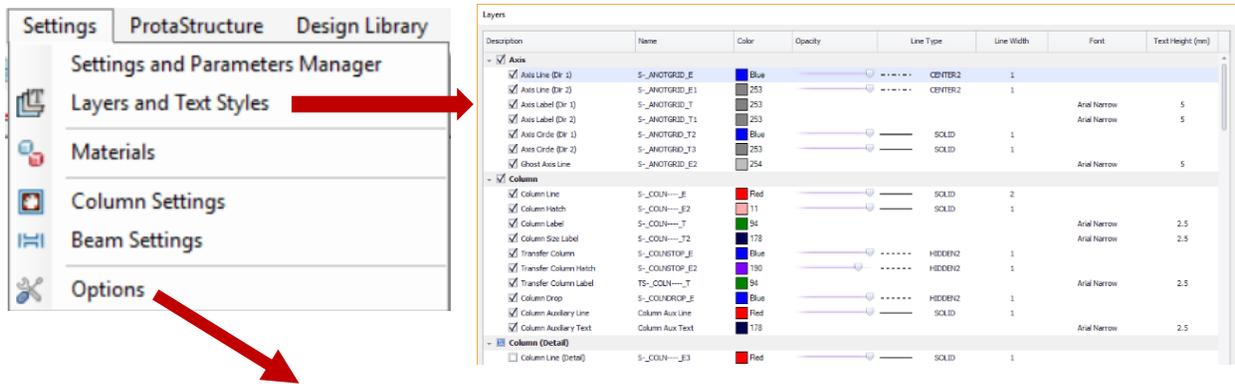
The **Macros** tab lists all the engineering design macros that have been used & created.

If you right-click on a macro, there are additional options to **Edit**, **Delete**, **Goto Detail** & **Open Drawing** directly.

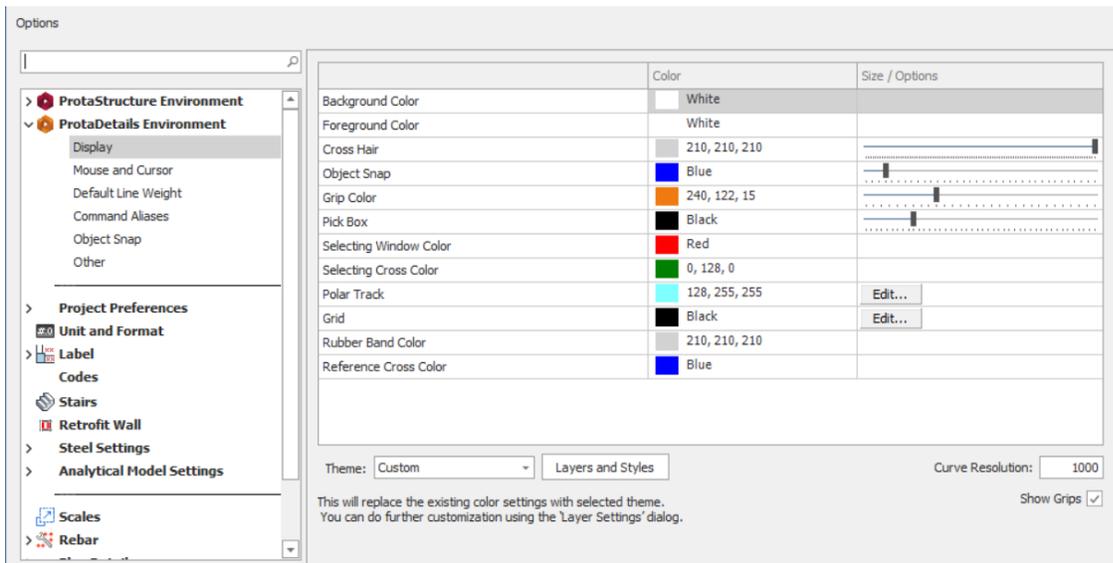


## Setting tab

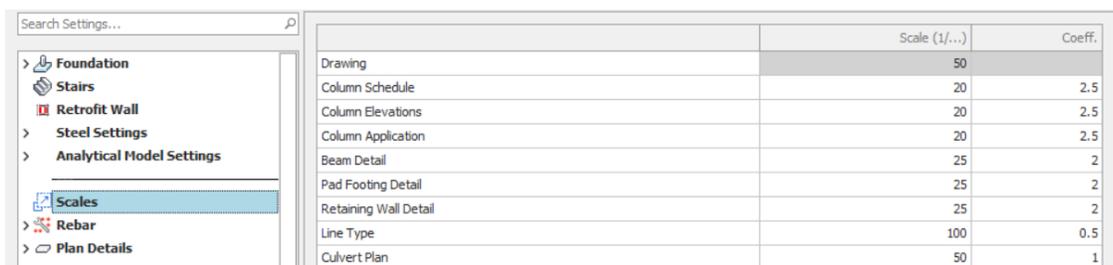
Before creating any details, it is recommended that you review **Settings** (top menu) such as **Layers** as this directly affects the final output. All the layers, materials, member settings are directly inherited from the ProtaStructure model.



**Settings** (top menu) → **Options** contains many other settings such as **Display**.



Click on the triangle to expose more options. Click on **Scales** to examine all the default scales used.

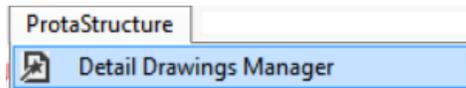


You may change any of the settings before creating the details. Settings that are saved in **ProtaDetails** will automatically apply to the same project in **ProtaStructure** (as both share the same project files).

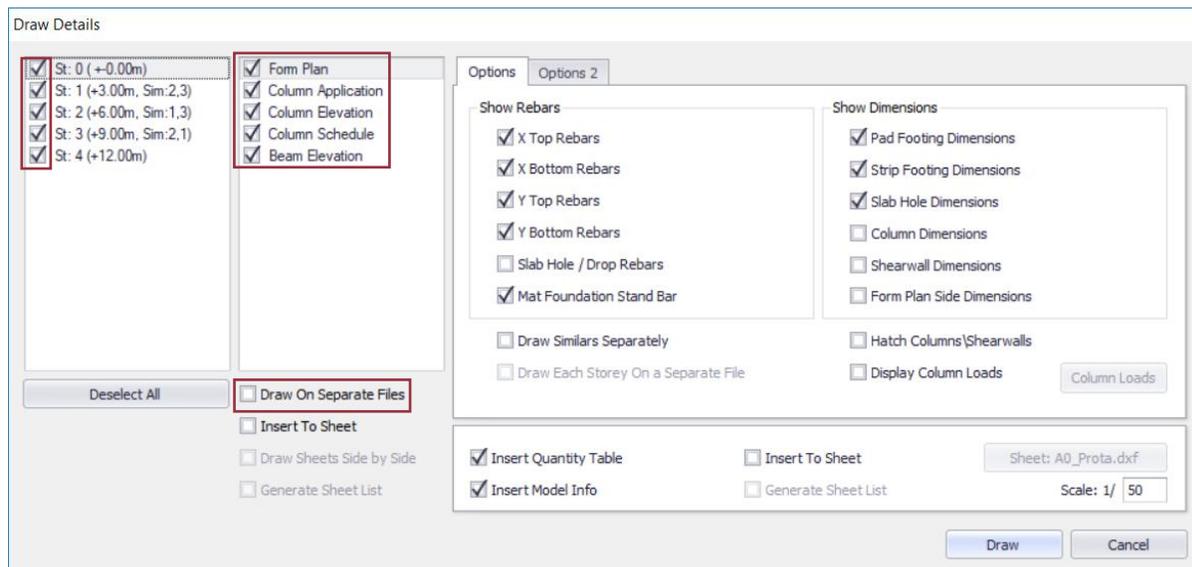
## 4. Draw All Model Details

The quickest way to create all the details in one go is to go to use the **Auto Generate Details** function in the **Start Screen**.

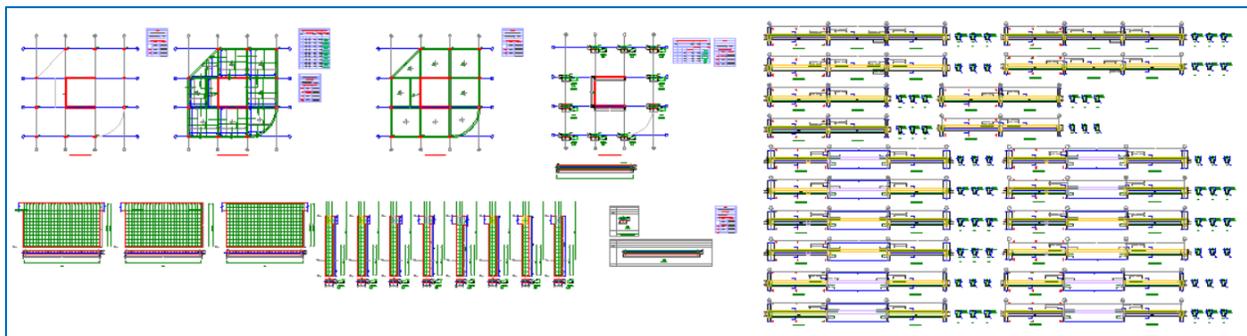
- Alternatively, go to **ProtaStructure** (top menu) → **Details Drawings Manager**



A dialog will appear, giving you options to include or exclude the various details. Each detail has further option when it is selected.



- **Choose** the details you want to produce by checking on the various options
- **Uncheck** **Draw On Separate Files** (so all details are inserted to a single drawing file)
- **Click Draw** & all the details including the plan drawings will be created



- **Close** the drawing file by clicking on the **X** icon of the drawing
- When prompted to save, pick **NO**

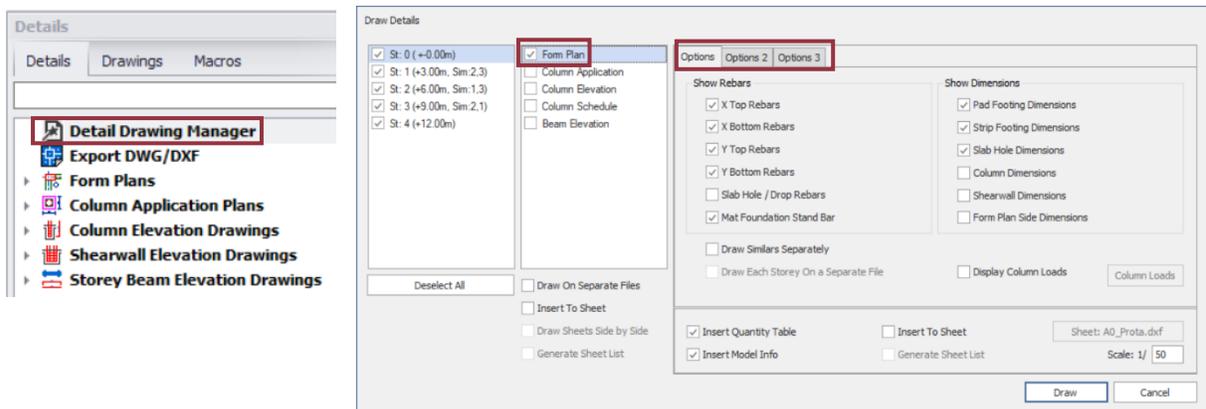


While this method is the quickest way to insert all the details, it may not be suitable in a real project to insert all the details into a single drawing. In the following sections, we will insert various details into different drawing files to demonstrate how details and drawings can be managed systematically.

## 5. Creating Plan / Layout Detail

We will now create the plan details of the project and insert it in a new drawing.

- Go to **File** (top main menu) → **New Drawing** to start a new drawing
- Double-click on **Detail Drawing Manager** at the top of the **Details** tab

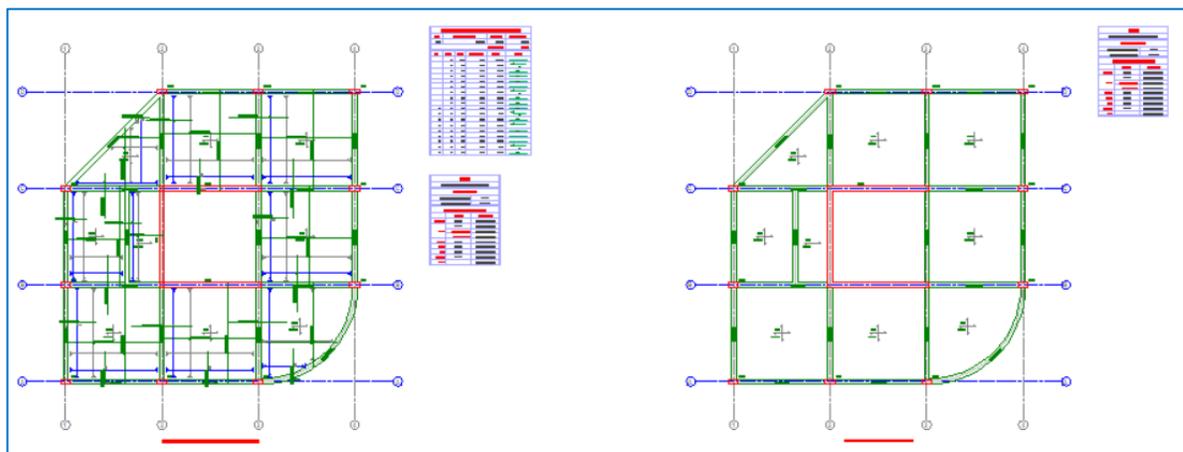


A dialog showing options to show slab reinforcement bars, member dimensions & hatching columns will be shown. Foundation plan showing raft, footing & pile caps (if any) will be shown in **St:0**

- Ensure that **all Storeys & Form Plan** are selected

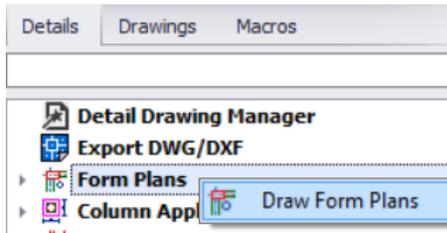
You can multiple select or deselect by holding down the **CTRL** key & left click continually.

- Go to **Options 2 & 3** tab and review all the additional settings → **Draw**
- Click anywhere in the drawing to insert the plans detail



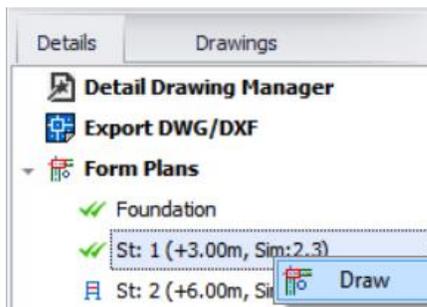
- Go to **File** (top main menu) → **Save Drawing As**

- Change the **File Name** to 'Plan Layout' and then click **OK**
- ❖ Alternatively, to quickly generate Form Plans only :



- Select **Form Plans**
- Right click → **Draw Form Plans**

For information, if you would like to insert the plan detail of a particular storey :



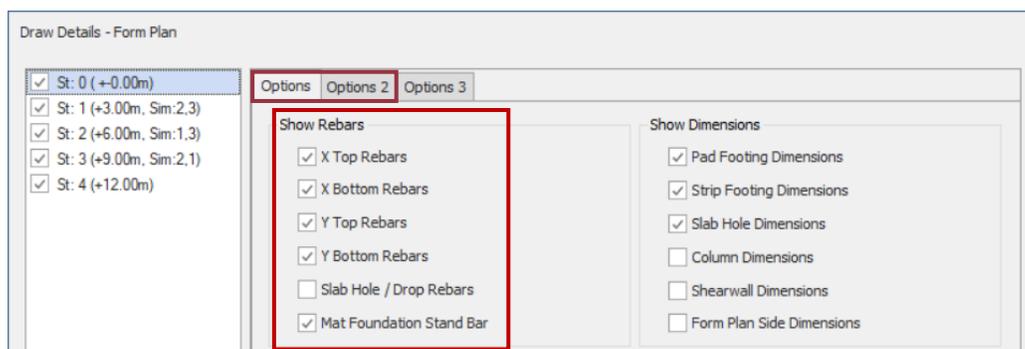
- Expand the **Form Plans** by clicking on the triangle icon
- Click of **St:1** to select it → **Right-click** to expose context menu → select **Draw**
- Click on a location in the drawing to place it

**Tip** : The **green tick** next to the storey indicates the detail has been inserted in a drawing. 2 nos. of green ticks indicate the detail has been inserted twice.

## 6. RC slab cross sections with reinforcement detailing

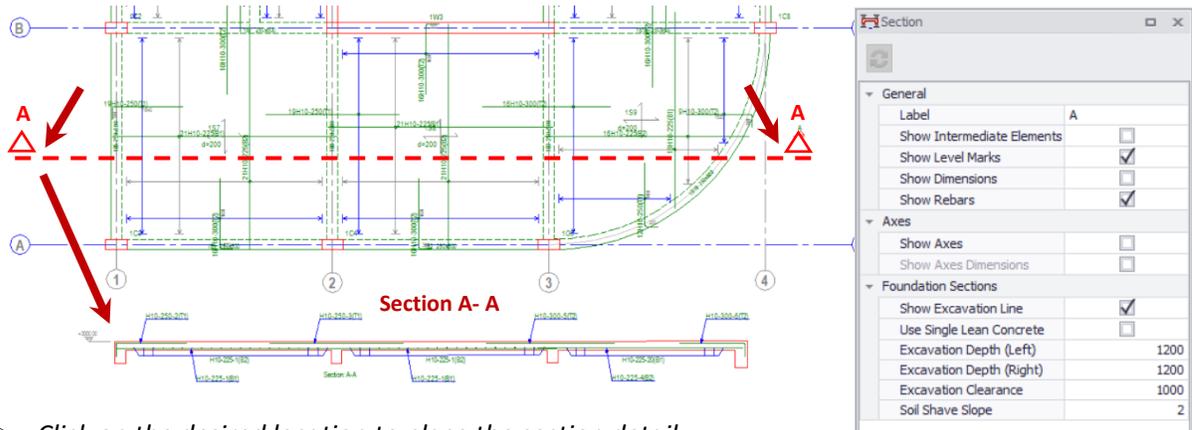
Reinforced slab cross section can be created with reinforcement detailing. In **ProtaDetails**, cut sections anywhere along the layout plan drawing and position it anywhere within the drawing sheet.

- ❖ Firstly, the slab reinforcements must be shown on the plan layout. If not, then ensure the following :
  - In **ProtaStructure**, ensure that all the slabs reinforcement has been designed using slab strips.
  - Go to **Drawings & Reports** tab → Launch **ProtaDetails**
  - In **ProtaDetails**, generate the **Form Plan** drawing ensuring options to **Show Rebars** are checked



**Tip** : More slab detailing options are available in the **Options 2** tab.

- Go to **Detail Library** (top menu) → Pick **Plan Sections** 
- Alternatively, in the **Command** line at the bottom, type “**FormSection**”
- In the **Section** dialog, input / select the preferred options
- Draw a “section cut” line by clicking on 2 points on the plan view



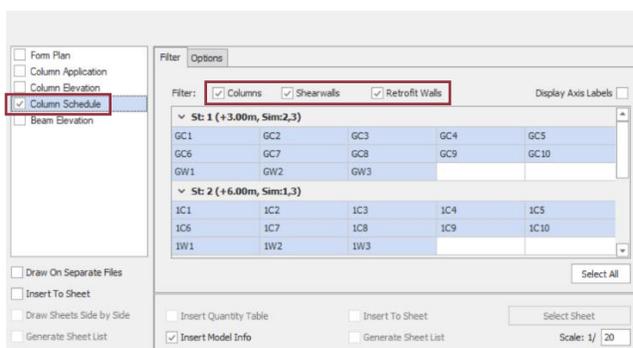
- Click on the desired location to place the section detail

**Tip** : Click  (orthogonal) icon at the bottom to ensure the line is exactly horizontal/vertical.

## 7. Creating Column & Wall Schedules

We will now produce the column/wall schedules in a new drawing.

- Go to **File** (top main menu) → **New Drawing** to start a new drawing
- Double-click on **Detail Drawing Manager** at the top of the Details tab



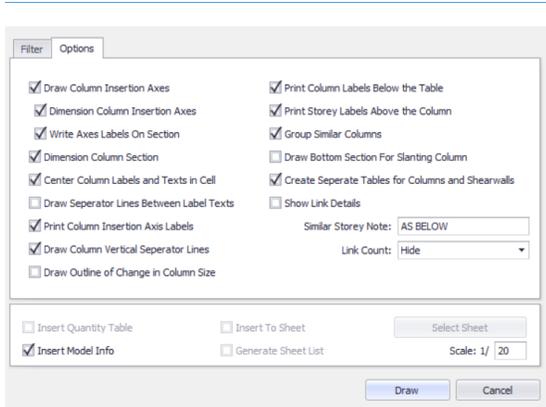
Pick **Column Schedule** → **Filter** tab dialog allows you choose which columns/walls to be included.

By default, all columns of all storeys are selected.

If you would like to re-choose particular columns / walls, simply hold down the **CTRL** key and then pick on individual columns & walls.

You can also hold down the **SHIFT** key → Pick the first element → Pick the last element → all elements in between will be selected as well.

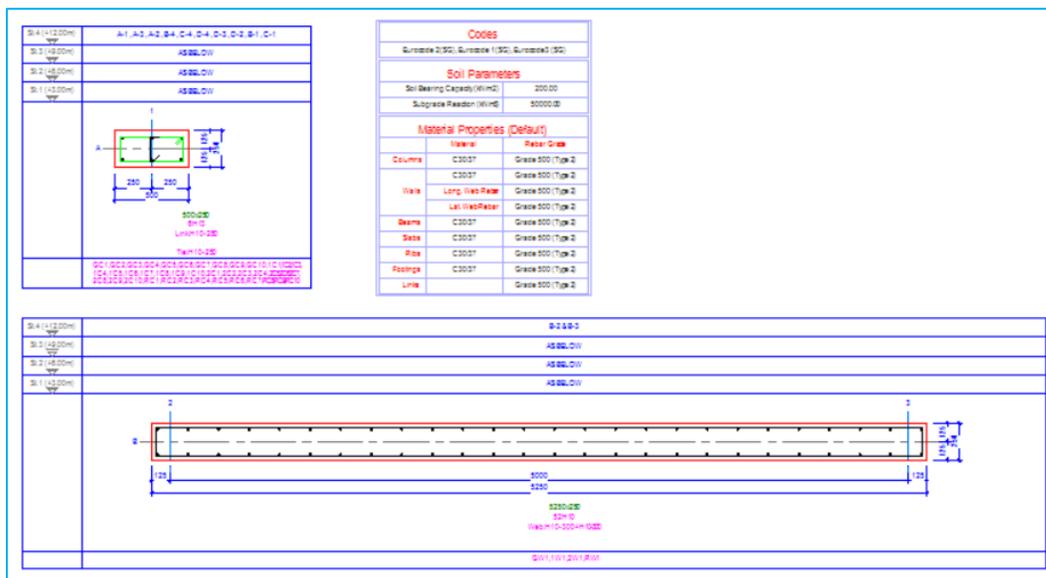
- Check **Shearwalls** to include shear walls too
- Go to the **Options** tab



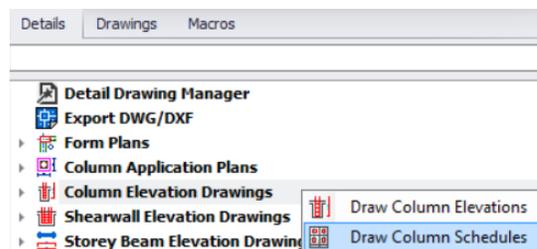
The Options tab contains more settings that controls the output & presentation of the drawing. The newer options are explained below :

- ❖ **Group Similar Columns** - columns with same section size and rebars will be grouped together
- ❖ **Draw Bottom Section for Slanting Column** - Adds additional bottom section cut for slanting column
- ❖ **Draw Outline of Change in Column Size** – if column changes sizes between storeys, the outline lower column will also be drawn.

➤ Click **Draw** & Click on a location in the drawing to place it (as shown below)



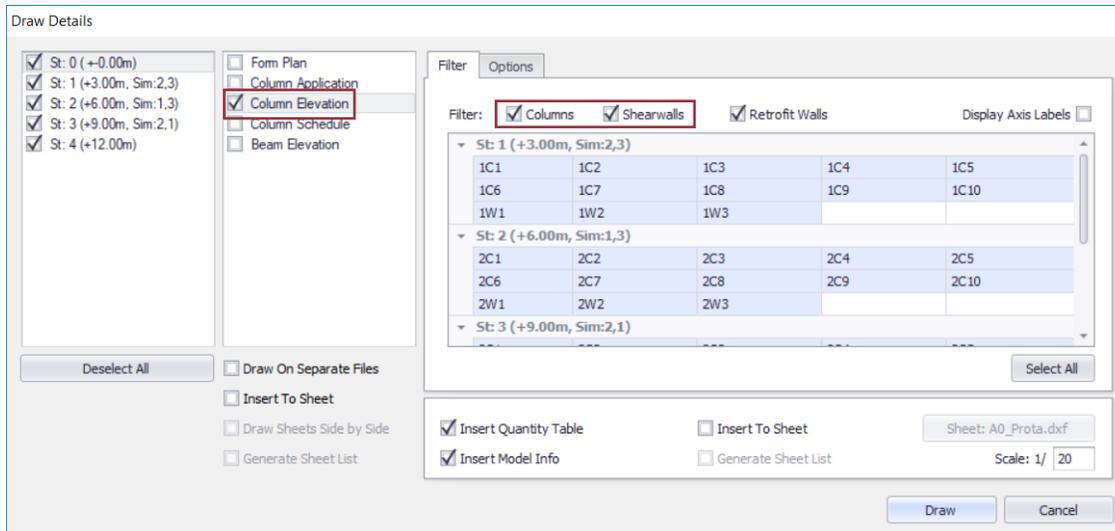
- ❖ Alternative way to insert column schedule :
  - In **Details** tab (left pane), right click on **Column Elevation Drawings** → **Draw Column Schedules**
- The same column schedule dialog will appear



## 8. Creating Column Elevation Details

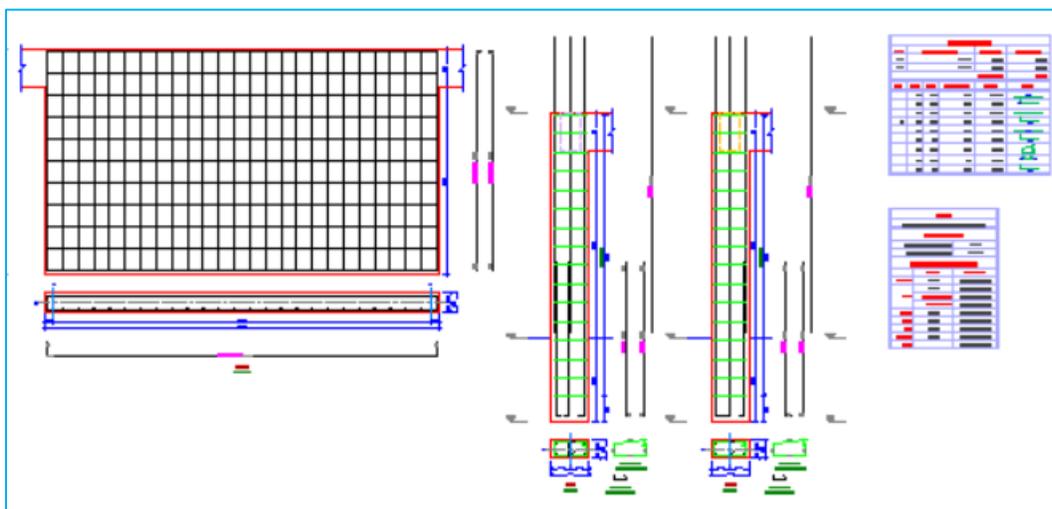
We will now insert the column elevation details in the same drawing.

- Double-click on **Detail Drawing Manager** at the top of the Details tab



- Alternatively, right click on **Column Elevation Drawings** → **Draw Column Elevations**
- In the Column Elevation dialog, check only **Column Elevation**
- Go to **Options** tab to review more settings → **Draw**
- Click on a location in the drawing to place the detail

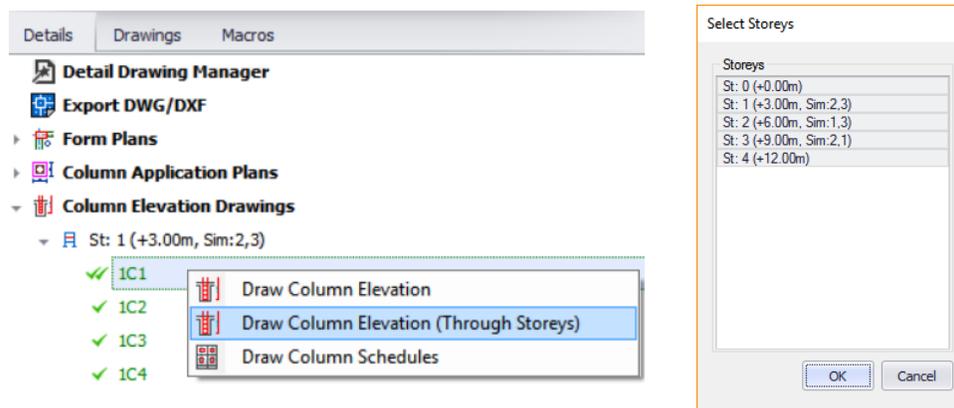
All the columns & wall elevation details and the quantity table will be created as shown below



We will now insert the combined column elevation spanning multiple storeys.

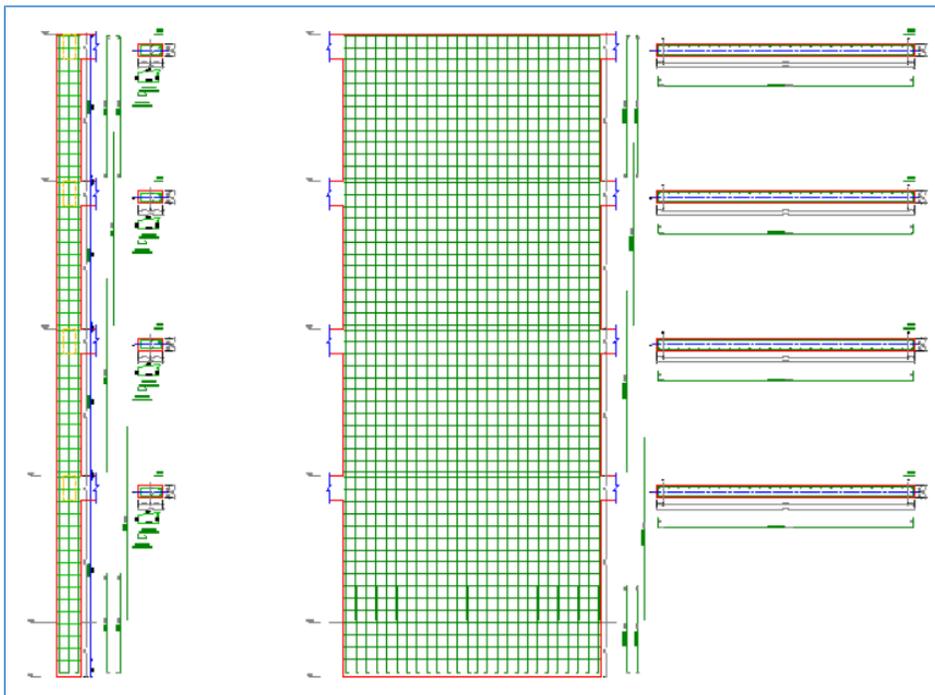
- Expand **Column Elevation Drawings**
- Expand **ST: 1** → Select **1C1** or **GC1**

- Right click → **Draw Column Elevation (Through Storeys)**



Note individual column elevation and schedules options are available in the menu.

- In **Select Storey** dialog, ensure all Storeys is selected → **OK**
- Click on a location in the drawing to place the detail
- Expand **Shearwall Elevation Drawings**
- Expand **ST: 1** → Select **1W1** or **GW1**
- Repeat the same steps to insert the detail for the wall (as shown below)

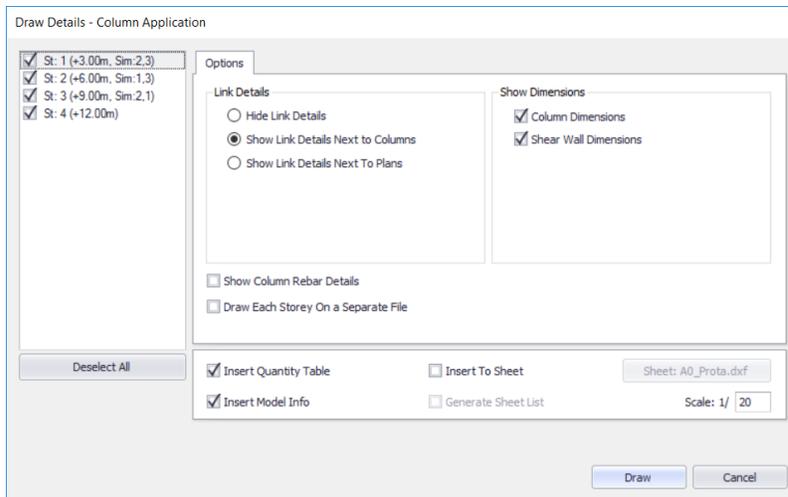


- Go to **File** (top main menu) → **Save Drawing**
- Change the **File Name** to **Column Schedule & Elevation** and then click **OK**

## 9. Creating Column Application Plans

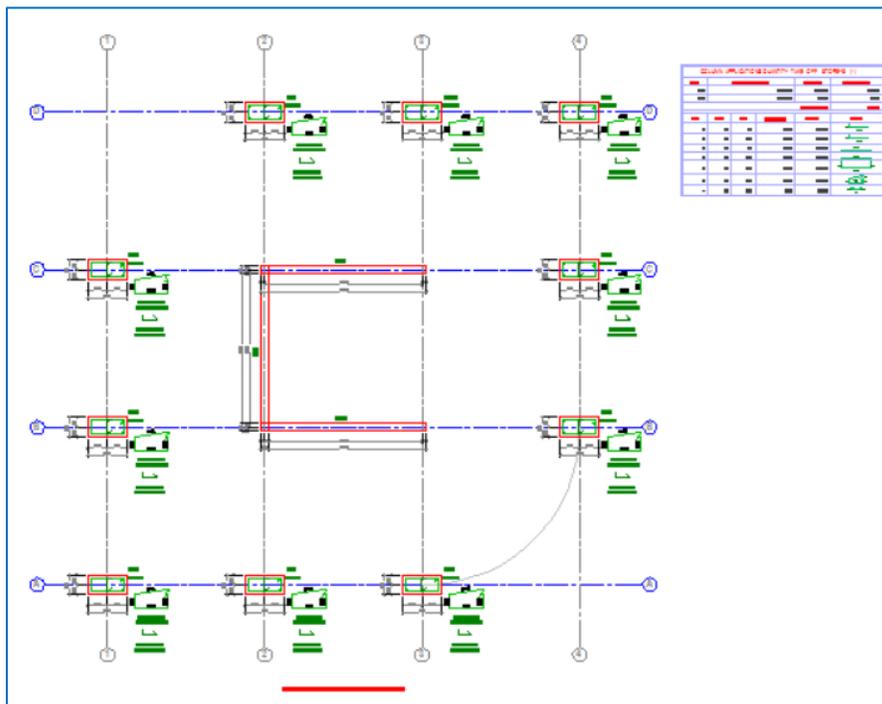
The column application plan shows the column reinforcement on the plan layout view. The columns will need to be drawn to a bigger scale than the plan view in order to show the reinforcement clearly.

- Go to **File** (top main menu) → **New Drawing** to start a new drawing
- Double-click on **Detail Drawing Manager** at the top of the **Details** tab
- Alternatively, right click on **Column Application Plans** → **Draw Column Applications**



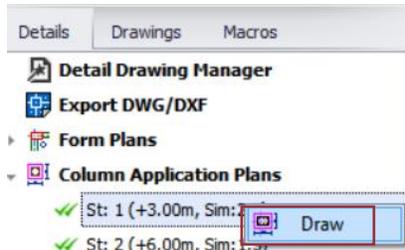
- Ensure that all storeys are selected → Pick **Draw** → Click a location to place the detail

The below shows an example of column application plan.



- Go to **File** (top main menu) → **Save Drawing**
- Change the **File Name** to '**Column Application Plan**' and then click **OK**

For information, if you would like to insert column application plan of a particular storey :

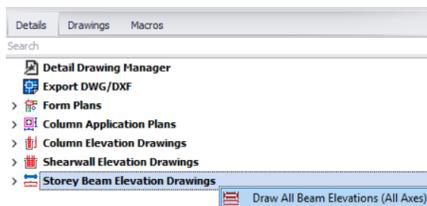


- Expand **Column Application Plans**
- Select a particular **Storey**
- Right click on the storey → **Draw**

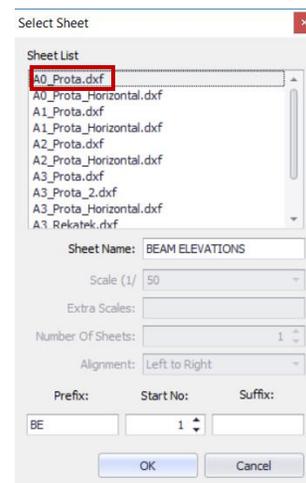
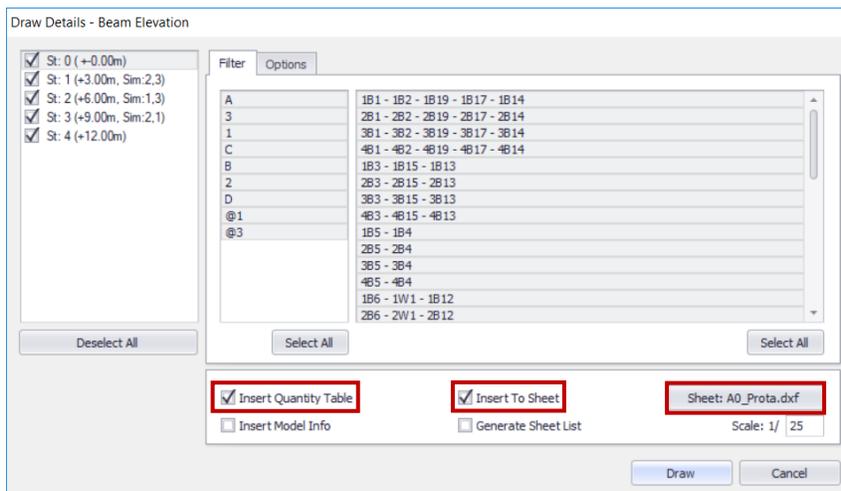
## 10. Creating Beam Elevation Details

We will now insert the beam elevation details in a new drawing.

- Go to **File** (top main menu) → **New Drawing** to start a new drawing



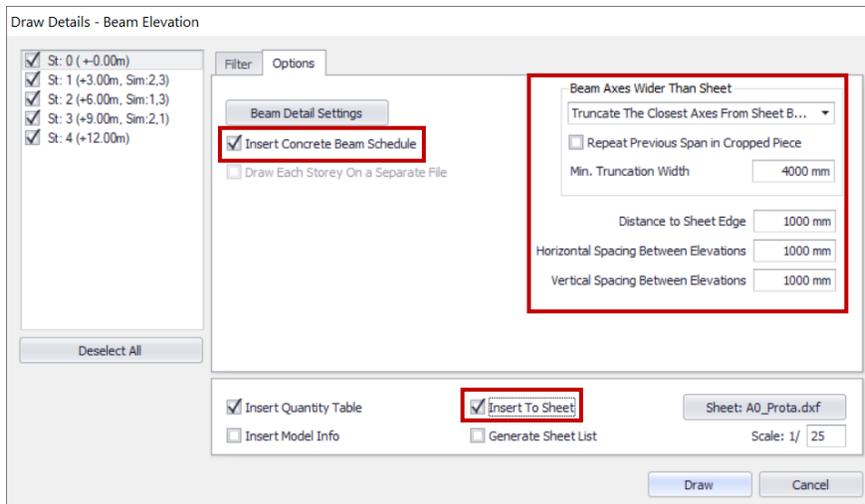
- In the **Details** tab → right click on **Storey Beam Elevation Drawings**
- Pick **Draw All Beam Elevations (all Axes)**



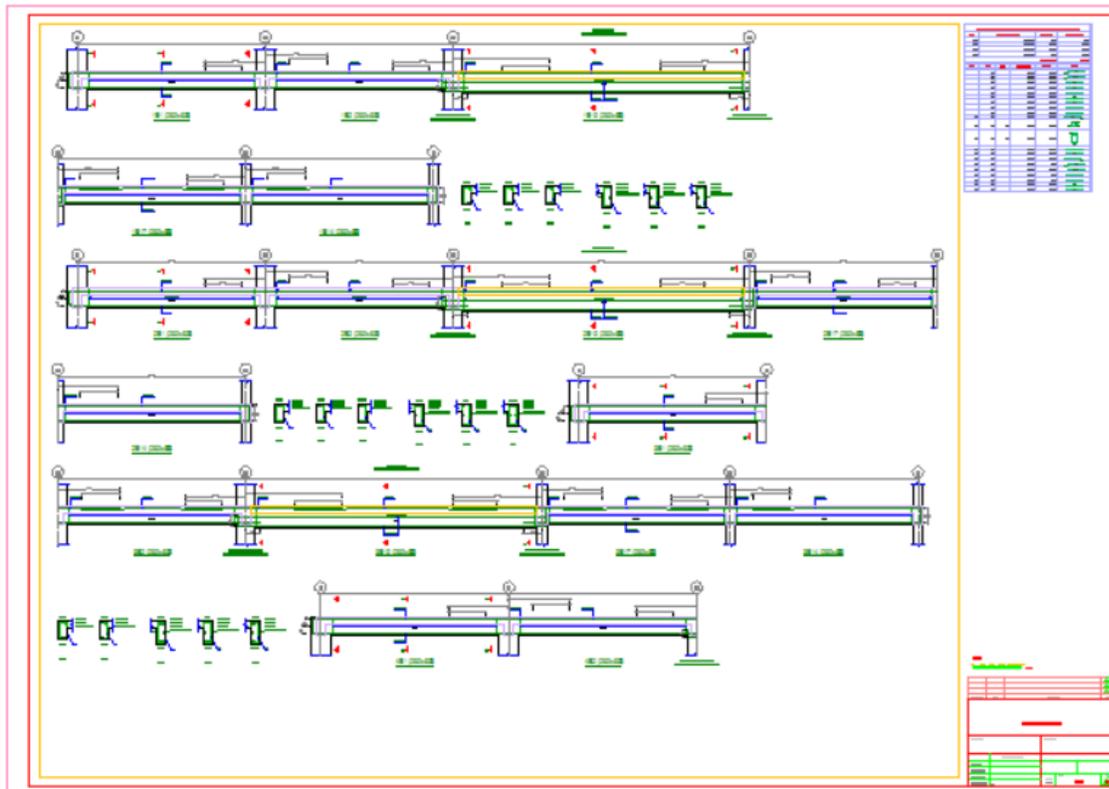
- Check the option to insert the **Insert Quantity Table**
- Check **Insert to Sheet** → Pick Sheet → Choose **A0\_Prota.dxf** in Sheet list
- ❖ You can save your own sheet in **C:\Users\[User]\Documents\ProtaLib\Sheets**.

By default, beams detail wider than the sheet will be auto-truncated from sheet border.

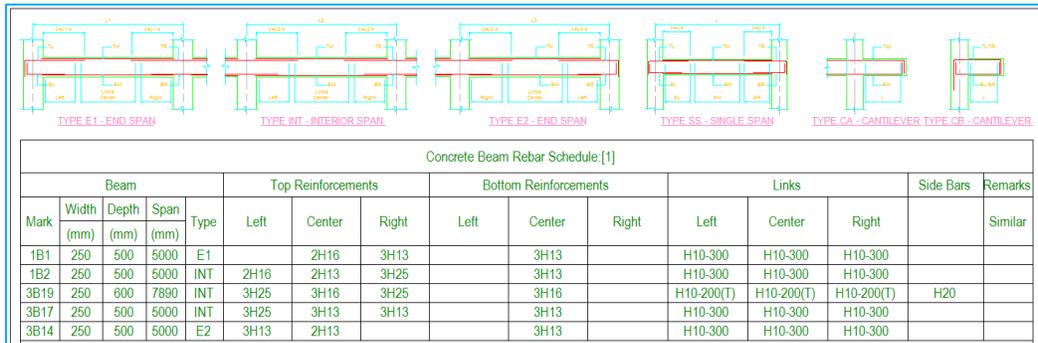
- Go to **Options** tab



- Pick how to truncate under **Beam Axes Wider Than Sheet** by select from drop down :
  - **Don't Truncate** even if beams details are out of sheet border
  - **Truncate from Sheet Border**
  - **Truncate The Closest Axes from Sheet Border** – will ensure truncation only at axes
- Check the **Option** to insert the **Insert Concrete Beam Schedule**
- Click **Draw** → Click a position in the drawing to insert all the beam elevation details



The **Concrete Beam Schedule** shows the beam reinforcement in tabular format (as below)



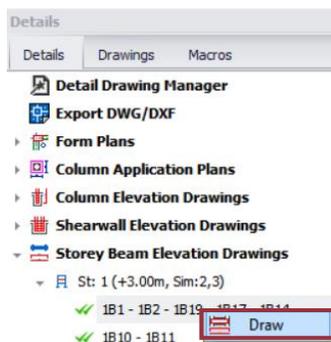
Beam		Top Reinforcements			Bottom Reinforcements			Links			Side Bars	Remarks			
Mark	Width (mm)	Depth (mm)	Span (mm)	Type	Left	Center	Right	Left	Center	Right	Left	Center	Right		Similar
1B1	250	500	5000	E1		2H16	3H13		3H13		H10-300	H10-300	H10-300		
1B2	250	500	5000	INT	2H16	2H13	3H25		3H13		H10-300	H10-300	H10-300		
3B19	250	600	7890	INT	3H25	3H16	3H25		3H16		H10-200(T)	H10-200(T)	H10-200(T)	H20	
3B17	250	500	5000	INT	3H25	3H13	3H13		3H13		H10-300	H10-300	H10-300		
3B14	250	500	5000	E2	3H13	2H13			3H13		H10-300	H10-300	H10-300		

- Save the drawing file as **'Beam Elevations'**

## Inserting beam details individually

If you only want to insert a particular beam axis:

- Expand the **Storey ST:1**



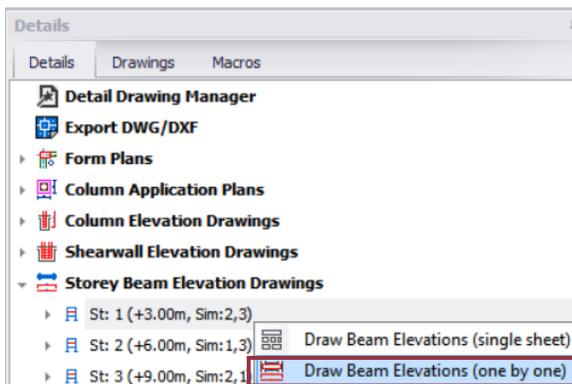
The beams will be listed along the design & detail axes; similar to the way it is presented in ProtaStructure beam design.

- Select any of the beams, eg. 1B1-1B2...
- Right click → **Draw**
- Click the position to insert the detail in the drawing space.

A green tick will appear next the beam axes to indicate the beam detail has been inserted.

## Inserting beam details one by one

To insert the beam details of all axes of a particular storey in a batch mode:



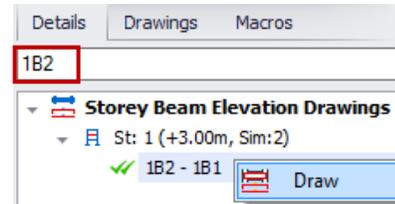
- Select **St:1**
- Right click → **Draw Beam Elevations (one by one)**
- Click the position to insert the 1<sup>st</sup> beam detail in the drawing space
- Continue to click successively to position the other beams
- Press **Esc** to end the process prematurely

## 11. Search a Member Detail or Text

There are search functions quickly find, filter & locate a member detail or text, example beam 1B1.

### How To Use Search in Treeview :

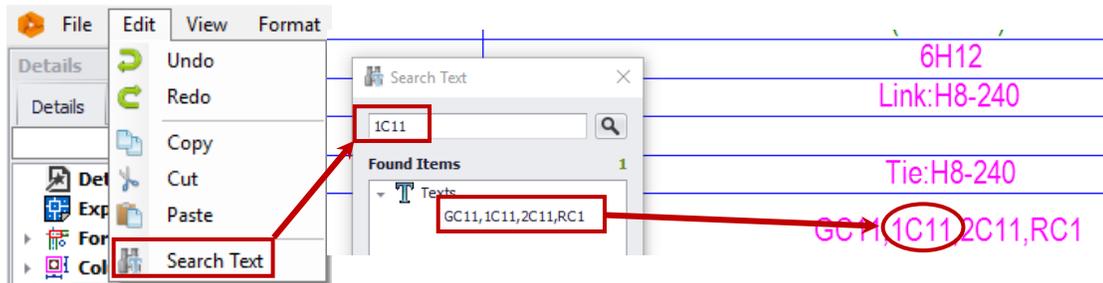
- Go the **Details** tab
- Input a **member label**, e.g. 1B2 in the box
- Only the details with the exact name match will located & displayed. You can then draw out this detail only.
- Right-click → **Draw**



This is very useful if you only want to draw out a particular detail, not all of them.

After drawing details or objects in the drawing, you can use the new text search function to locate it.

### How To Use Text Search :

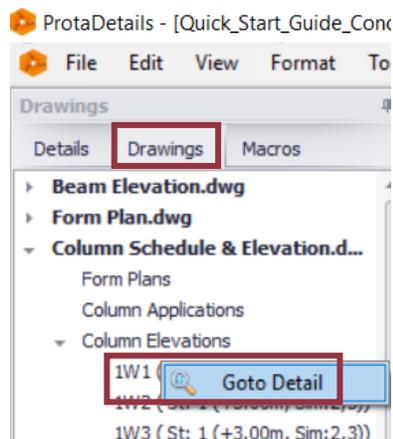


- Go to Edit → **Search Text** (CommandLine: **SearchText**)
- In the Search Text dialog, type the **text**, eg. 1C11 → Enter
- **Double-click** on the found items & it will be located & zoomed into focus

You can use this function to search for all texts in primitive entities and intelligent objects as well.

## 12. Drawings

The **Drawings** tab keeps track of various details that have inserted and also the drawing files created. This will enable you to manage your project details and drawings in a systematic and efficient manner.



- Click on the **Drawings** tab to review all the drawing files saved and what the details they contain
- Click on **triangle** icon to expand or collapse the details
- Verify that all details have been inserted

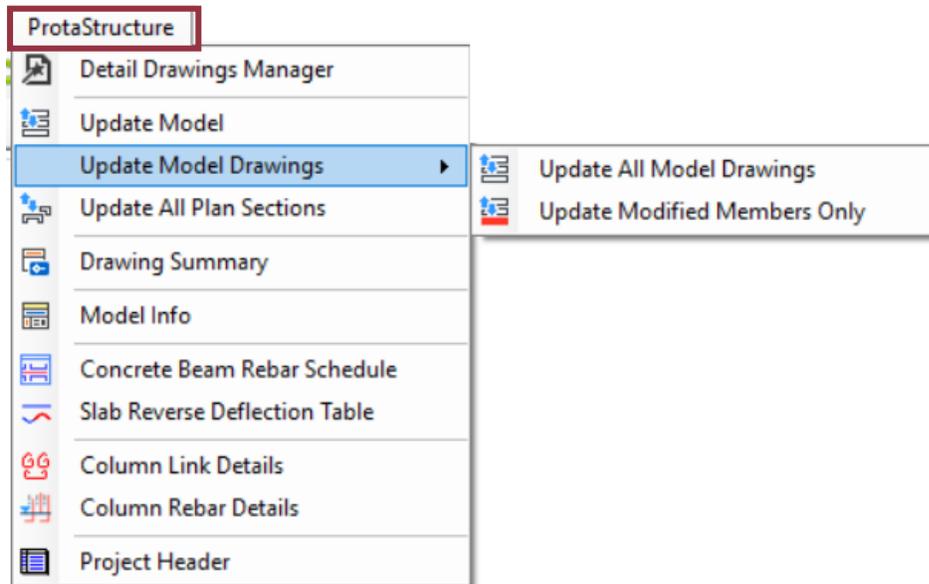
To locate a member detail in a drawing :

- Ensure that the drawing is opened
- Locate the member by drilling down the triangle
- Right-click → **Goto Detail**

The member detail will be located and zoomed into focus in the drawing.

### 13. Drawing Management

There are functions to draw and update the details which are accessible from **ProtaStructure** tools (top menu) :



**Update All Model Drawings** – updates all the model drawings without checking if anything has changed in ProtaStructure model. This is a forced update. All the drawn items are forced to be regenerated.

**Update Modified Members Only** – checks and gives a summary of all the members modified in ProtaStructure. If you choose to continue you get only modified members to update.

**Update All Plan Sections** - updates all the sections of the plan view that are manually created.

**Drawing Summary** - creates a table of drawing file names and their respective detail components.

**Model Info** - Inserts a table showing project information summary such as materials & parameters.

**Concrete Rebar Schedule** – Inserts the concrete rebar schedule of a particular storey.

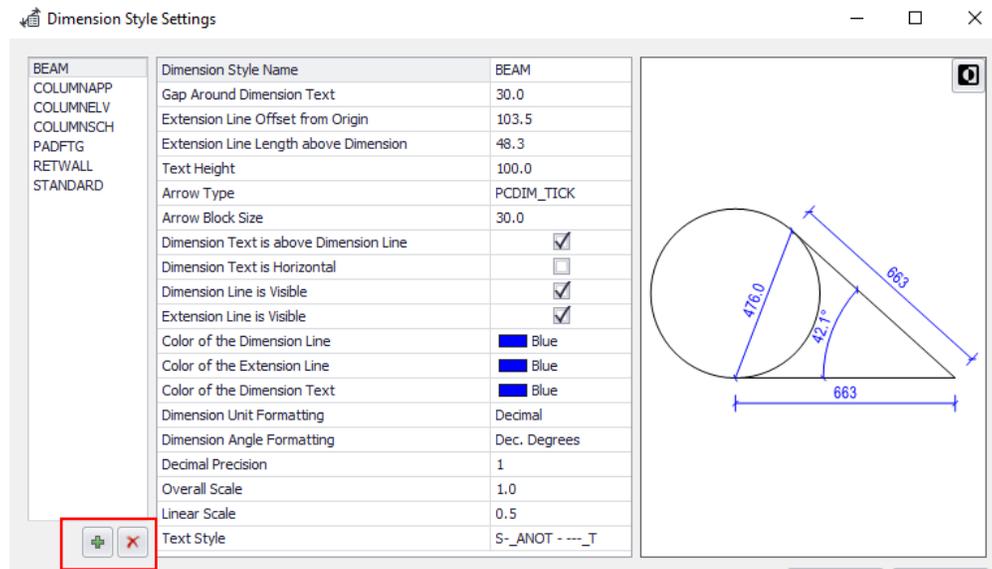
**Column Link Details** – Draws the link details for columns & the Quantity Table

**Column Rebar Details** – Draws the main reinforcement column details & the Quantity Table

## 14. Dimension Styles Interface

Dimension styles can be edited using this interface and can be saved along with the project

- You can find it under **Formats** (top menu) > **Dimension Styles**
- All the necessary dimension styles for detail generation will come predefined
- Use “+” and “x” buttons to add/remove dimension styles
- Edit them as you wish. When you click “Ok” they will be saved in the project data. There is no need to save project or drawing explicitly.



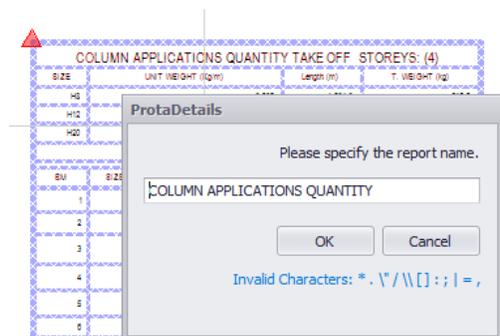
## 15. Multiple selection of Tables for report generation

Any table drawn in ProtaDetails can be converted to a report and generated via the Report Manager.

### How To Use:

- **Select a table or multiple select tables (hold down CTRL)**
- **Right-click → Add to Report**
- **Give it a title → OK**
- **The report will be created**

This particular report will also be added in the report repository **Report Manager** in ProtaStructure (under Other Structural Members)



## 16.Engineering Design Libraries

Structural components design & detailing such as the **Cantilever Retaining Wall**, **Pile Cap**, **Pile Design**, **Engineering Utilities**, **Stairs**, **Corbel & Pool** are available via **Design Libraries** (top menu). These powerful engineering modules provide full calculation report, detail drawings and quantities.

### Cantilever retaining wall

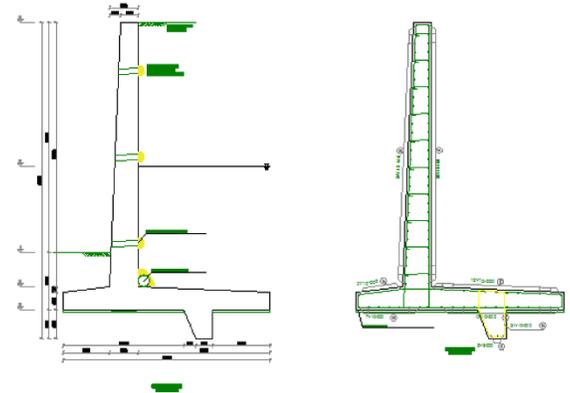
**Retaining Wall**

Wall Label: Retaining Wall -1

Geometry	Soil Parameters	Analysis Settings	Total Failure	Design	Drawing & Report
Wall Height	h	mm	5000	Shelf	
Wall Length	l	mm	6000		
Stem Top Width (From Left)	a	mm	300		
Eccentricity From Left	e	mm	200		
Base Plate Front Length	b1	mm	800		
Stem Bottom Width	b2	mm	500		
Base Plate Back Length	b3	mm	2300		
Base Plate Slope Angle	$\beta$	°	0		
Stem Front Face Slope Angle		°	2.5		
Stem Back Face Slope Angle		°	0		

Overturning Safety	Sliding Safety	$\alpha$ -Max (kN/m <sup>2</sup> )	$\alpha$ -Min (kN/m <sup>2</sup> )	Total Failure
Non EQ 5.346 > 1.500 ✓	2.155 > 1.500 ✓	115.148 < 200.000 ✓	102.683 > -1.000 ✓	1.60 > 1.50 ✓
EQ 2.929 > 1.200 ✓	1.437 > 1.000 ✓	176.494 < 200.000 ✓	41.337 > -1.000 ✓	



### Pile cap

**Pile Cap**

Pile Cap Label: PC1

Number of Piles: 9

Depth: 500 mm

Shaft Type: Circular

Penetration: 75 mm

Pile Size: 200 mm

Spacing Multiplication Factor Between Piles (Short/Long Di): 2.5 / 2.5

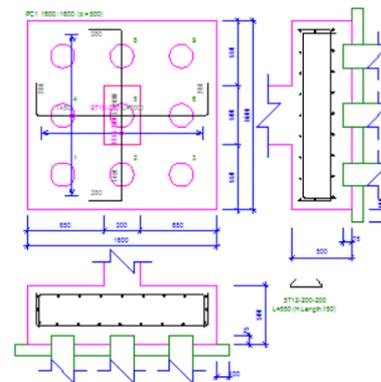
Distance to Face (Short/Long Di): 200 / 200 mm

Compression/Tension: 150.00 / 60.00 kN

Eccentricity: From: Pile Cap, Center; X/Y: 0 / 0 mm

Column Type: Rectangular; Bx/Hx: 300 / 500 mm

	Direction X	Direction Y
Spanning Theory	Shallow Beam ✓	Shallow Beam ✓
Base Reinforcement (Provided vs Required)	mm <sup>2</sup> /m 1005 > 319 ✓	1005 > 319 ✓
Enhanced Shear Distance	mm 290	195
Design Shear vs Shear Capacity	kN/m <sup>2</sup> 236.22 < 12748.4...	236.22 < 19008.0...
Longitudinal Reinforcement For Shear Ch...	X	X
Minimum Deep Beam Width	mm 110 ✓	105 ✓
Punching Shear Check Parameter (L/D)	M/m <sup>2</sup> 102.24 < 9561.35...	



### Pile Design

**Pile Design**

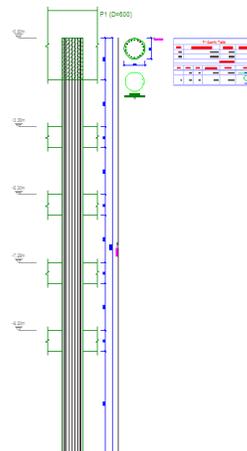
Inputs: Moment, Shear, Deflection, Soil Pressure, Interaction Diagram, Pile Section, P-Y Curve, Messages

Design Parameters: SPT N, Diagrams

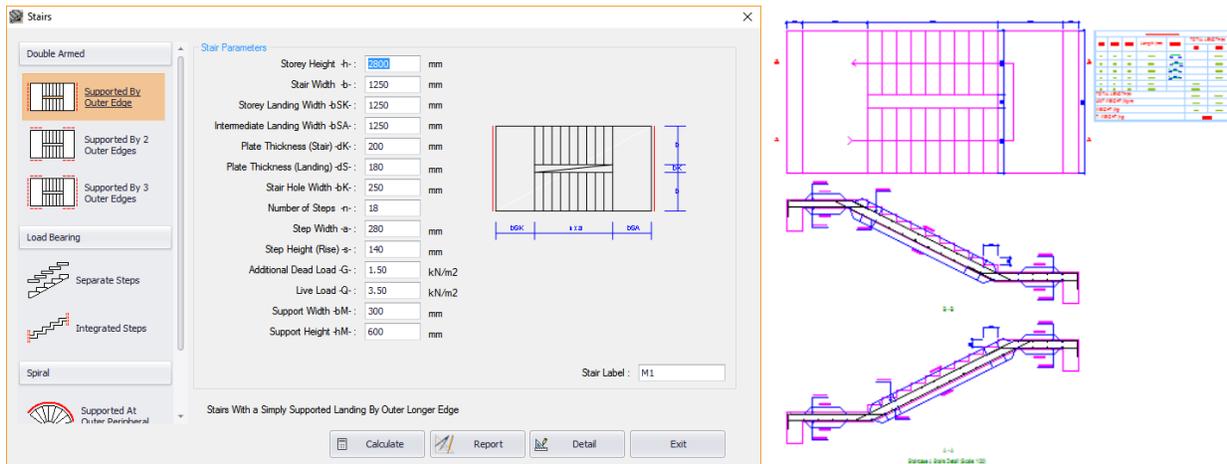
Lateral Analysis: Design Parameters, Diagrams, Results

Outputs: Design Summary, Reports and Details

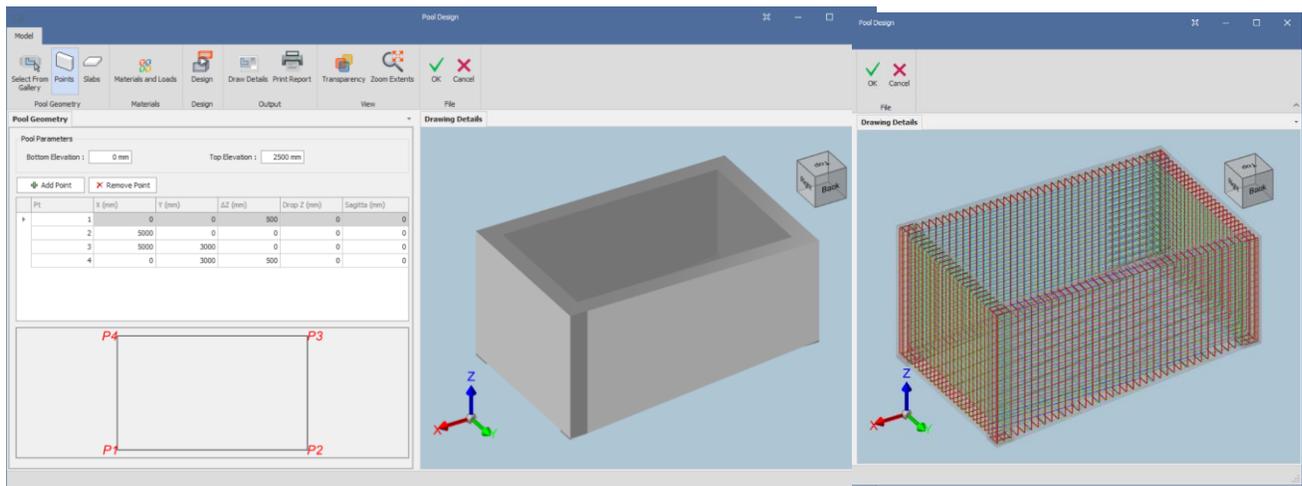
Design is successful!



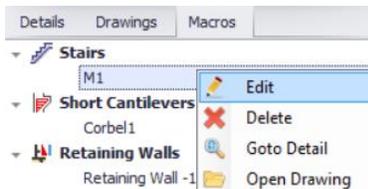
## Stairs Design



## Pool Design



After running the design library, close the module and click on anywhere in the empty drawing to insert the detail & the quantity table (if applicable). The calculation will then be added in the **Macros** tab.



If you right-click on a macro, there are additional options to **Edit**, **Delete**, **Goto Detail** & **Open Drawing** directly.

**Save** the drawing to ensure the engineering macros are retained when the drawing is closed.

These engineering libraries will be expanded continually to cater to your engineering needs. We encourage you to feedback to us what you would like to see next.

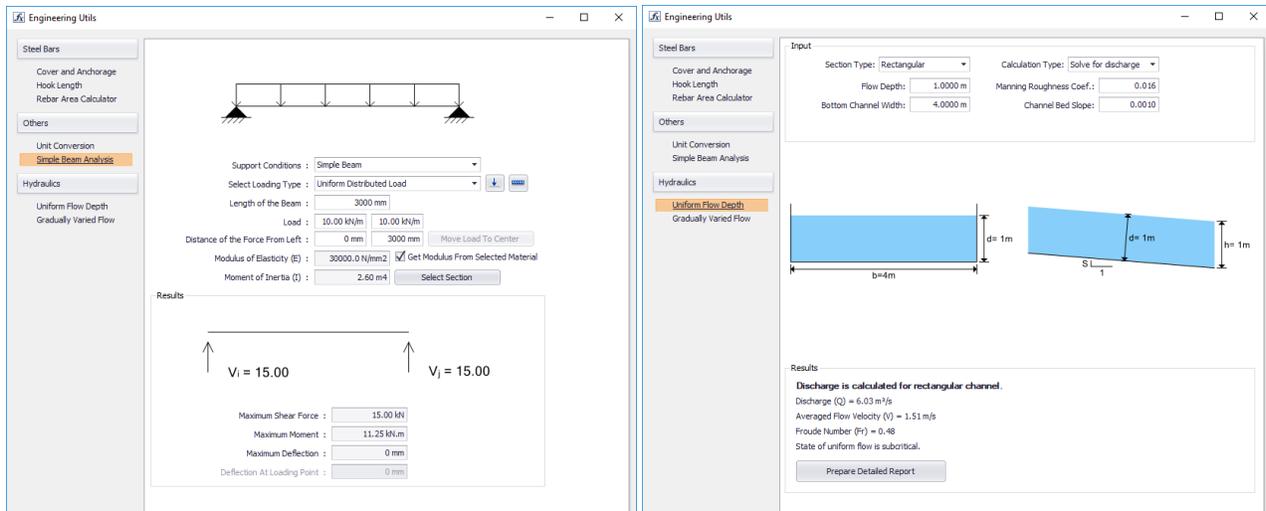
You may continue to run the engineering libraries as outlined in the following sections.

## 16.1 Engineering Utilities for quick engineering design & calculation

The handy **Engineering Utilities** can be used for quick engineering design. This includes a calculator for concrete cover, rebar anchorage & lap lengths; simple beam analysis tool to calculate maximum shear, moment and deflections; hydraulics calculator for uniform flow depth & gradually varied flow, etc.

### How to Use

- Go to **Design Library** (top dropdown menu) → **Engineering Utilities**



The following is the complete list of the modules and their functions :

- 1. Cover and Anchorage Calculator**
  - Calculates concrete cover, anchorage and lap lengths
- 2. Hook Length Calculator**
  - Calculates rebar bending, extension & total hook length
- 3. Rebar Area Calculator**
  - Calculates provided steel area per meter (e.g. 10H16 @ 100mm spacing) based on required steel area
- 4. Unit Conversion**
  - Converts common engineering units, eg. Pascal (Pa) → Kilopound Per Square Inch (ksi)
- 5. Simple Beam Analysis**
  - Calculates maximum shear, moment & deflection for single span beam with various support condition such as simple, cantilever & fixed end
- 6. Uniform Flow Depth (Hydraulics)**
  - Solves for discharge, flow depth, channel width or channel slope for rectangular, trapezoidal or circular channels under 'uniform flow depth' condition
- 7. Gradually Varied Flow (Hydraulics)**
  - Solves for discharge, flow depth, channel width or channel slope for rectangular, trapezoidal or circular channels under 'gradually varied flow' condition

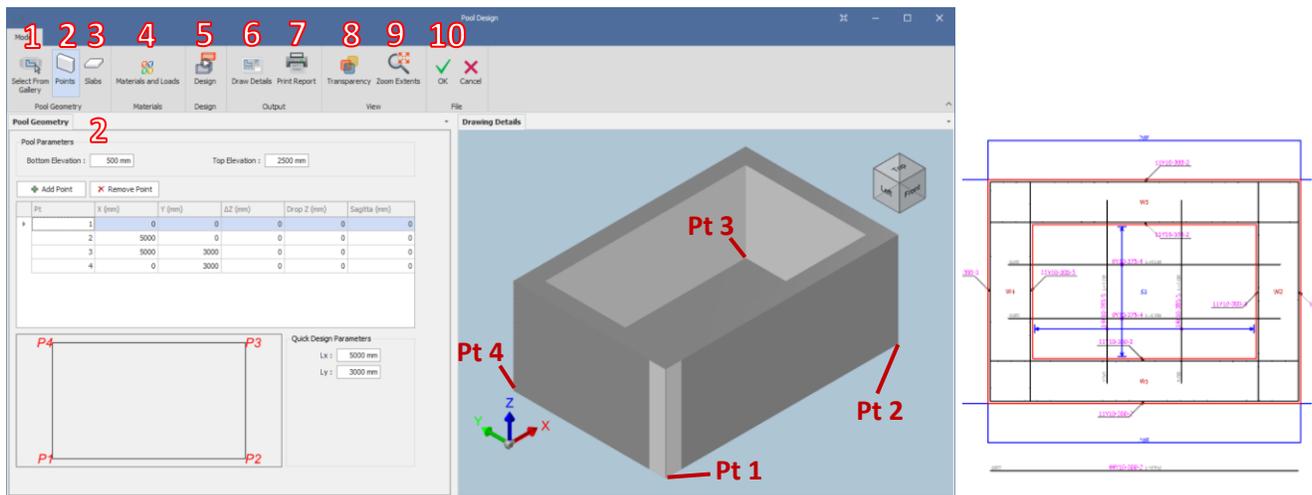
## 16.2 Pool Design / Tank Design

The Pool Design can be used to analyze, design and detail pool or tank of various shape and sizes. You define different soil profiles surrounding the pool walls and apply various surcharge loads on the soil.

### How to Use

- Go to **Design Library** (top dropdown menu) → **Pool Design**

In the pool design dialog start defining the pool by starting on the left most icon and move to the right.



#### 1. Select from Gallery

- Select the type of pool for the choices provided 

#### 2. Points : Defines the characteristic & shape of the walls of the tank

- Enter **bottom & top elevation** of the tank. The difference is the tank depth.
- **Points table** : Define the bottom joint coordinates of each tank wall. Also the curvature.

#### 3. Slabs : Defines the characteristic & shape of the bottom slab(s) of the tank

- **Points table** : Define the bottom joint coordinates of each slab. Also the edge curvature

#### 4. Materials & Loads : Define material, code, soil model & surcharge loads.

- **Material** : Choose Concrete grade, rebar grade & diameter for design
- **Settings** : Choose the design code & parameters
- **Soil Model** : Choose active or passive load side, long or short term load, water table level, etc
- **Soil Profile** : Define the soil profile & layers
- **Surcharge** : Input surcharge loads (point, line, strip & surface load)
- **Results & Report** : Print & review the analysis results of the walls, e.g active pressure & forces

#### 5. Design : Design the wall and base slab of the tank

- Change the wall & slab thickness & click **Renew Rebar Design** (if the first round of design fails)
- Pick **load cases** to consider, e.g. post construction, operations, maintenance & earthquake

#### 6. Draw Details : Draw the reinforcement details in including plan and cut sections.

#### 7. Print Report : Print the entire pool reporting including geometer, analysis and design.

#### 8. Transparency : Shows the reinforcement in 3D.

#### 9. Zoom Extent : Zoom to extent of the diagram

#### 10. OK : Click OK to exit and place the detail drawing into the current opened drawing.

## 17. Closing Summary

Congratulations! You have completed your first project of automated detailing & general arrangement drawings production & management in **ProtaDetails**.

In this Quick Start Guide, you had firsthand experience how easy it is to create all the detail reinforcement & layout drawings of the project model you first started in **ProtaStructure**. You also discovered how the engineering component design libraries (such as the retaining wall) enable you to efficiently produce comprehensive analysis & design reports and detail reinforcement drawings with quantity take-off.

We recommend you go through the ***What's New*** document on the new and enhanced features of ProtaDetails.

There are many more powerful detailing features such as intelligent objects in **ProtaDetails**. For more help and guidance, please refer to the help reference accessible from Help menu.

Alternatively, you can attend our training courses to obtain a more in-depth knowledge of the usage of the software. Please visit our website [www.protasoftware.com](http://www.protasoftware.com) for more information.