Revailo Masonry Estimator

V1.5.2

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User Manual

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Introduction

Welcome to the Revailo user guide. We hope you find everything you need to know about our software in this manual.

Revailo was originally created to assist masonry estimators at Chicago Masonry Construction, and its development has been closely guided by their expertise. While primarily designed for masonry estimators, we hope it will be useful to a wider audience.

We encourage you to share your feedback through our website—it helps us continually improve our software.

About the software

This software is a Python program available on Windows 10 and 11 (MacOS coming soon) and includes AWS cloud services for analyzing, saving, and collaborating easily. It has been entirely developed by our team at Revailo.

Minimum system requirements

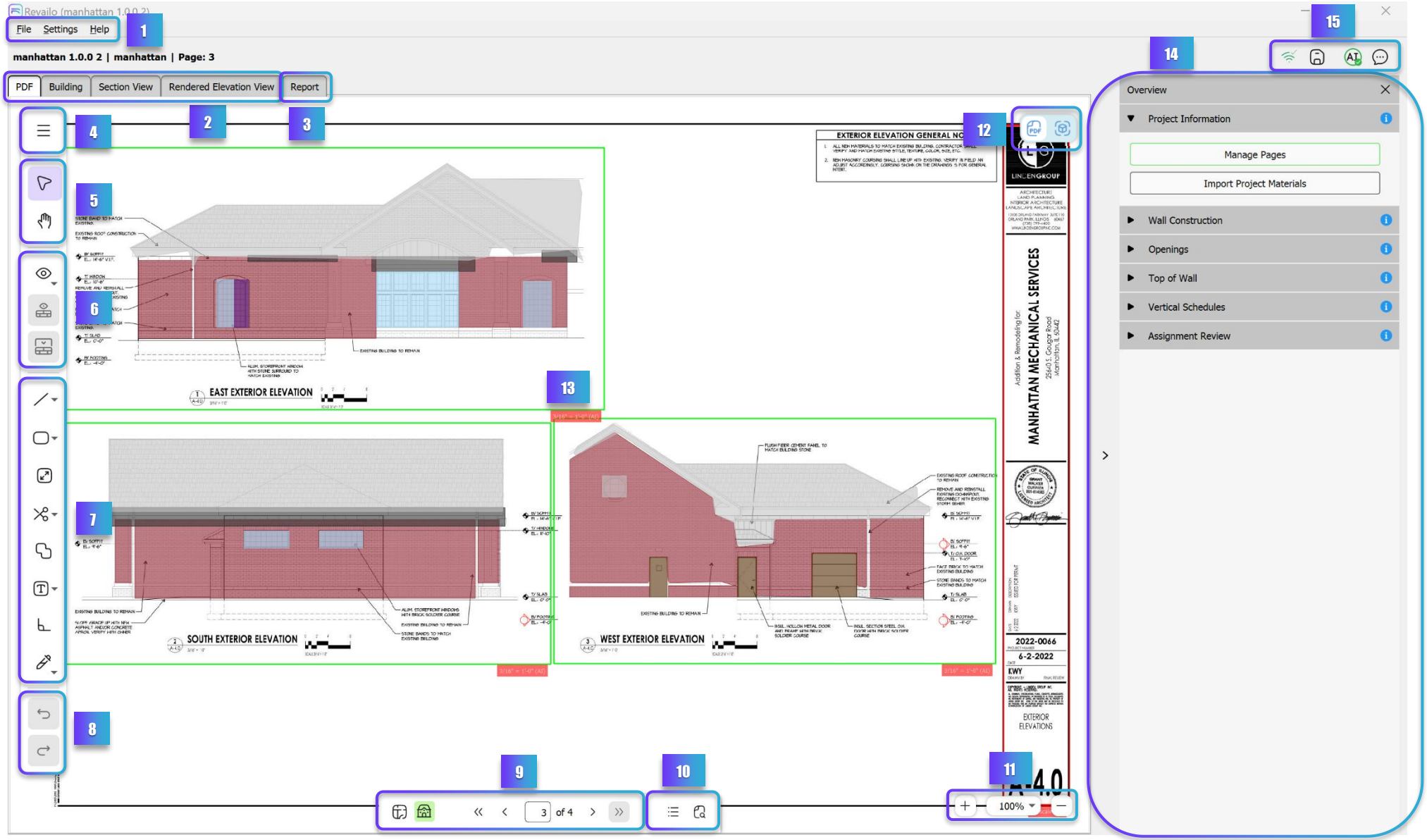
Windows system:

- Operating system: Windows 11 (recommended), Windows 10
- Architecture: 64-bit
- Storage: 2GB for the software and cache
- Memory: 16GB of RAM (32GB or more recommended)
- CPU: Intel i7 12th gen (i9 or more recent recommended)
- 4 GB GPU (dedicated GPU recommended, e.g. NVIDIA RTX 4050)
- 1920 x 1080 screen resolution

MacOS system (coming soon)

Overview

Click on any number to be redirected to a detailed description of the element.



Legend

1 Menu bar

2 Tab selection – Visualization tabs

3 Tab selection – Report tab

4 Building tool

5 Cursor mode

6 Visibility tools

7 Drawing tools

8 Undo/Redo

9 Navigation section

10 Table of contents/Search documents

11 Zoom tools

12 PDF/3D switch button

13 Main view

14 Side panel

15 Top toolbar

Getting Started

Account setup

To get started with Revailo, follow the steps below:

- Sign up for an account on **revailo.com**.
- Set up your profile.
- Choose a payment method.
- Accept our terms and conditions.
- Once this is done, you will have access to your profile on our website.
- From your profile, you can:
    - Update your settings.
    - Add users to your organization.
    - Download our software.
- Click on the latest version that corresponds to your computer distribution to start downloading.

IMPORTANT: If your browser blocks the download of the software, please click **"Show More"**, then **"Report this app as safe"**. This step is optional but helps us build trust among users. After that, select **"Keep anyway"** to continue the download.

Install the software

Watch Demo

After downloading Revailo, follow the steps below to complete the installation:

- Click the downloaded file **(.exe)** to begin installation.
- You may need administrator permission to proceed.
- Follow the installation wizard to configure your preferences, such as creating a desktop shortcut.
- Once complete, you can find the software in the selected destination folder.
- The selected destination folder will also include an uninstall file.

IMPORTANT: If you see a **"Windows protected your PC"** message, click **"More info"**, verify that the publisher is **CMC Tech LLC**, and select **"Run anyway."**

Run the software

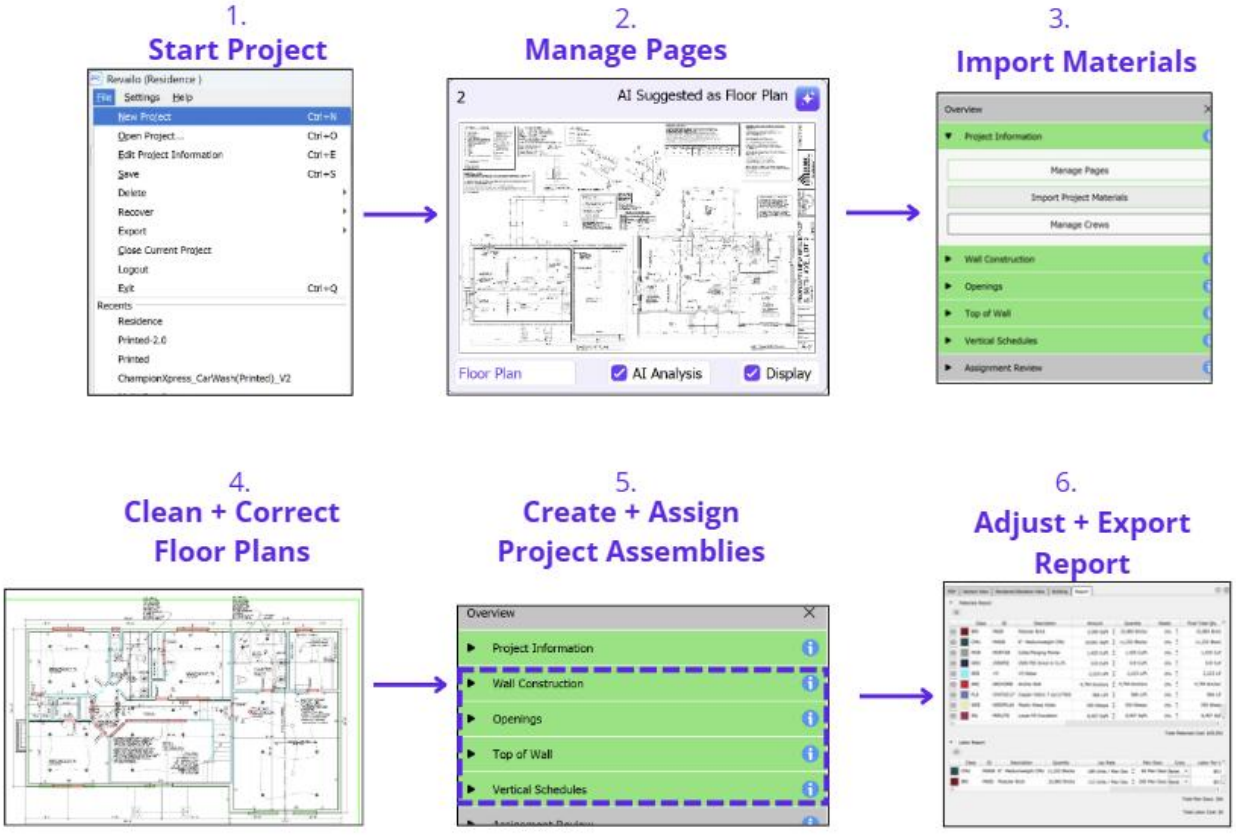
You can now run Revailo on your computer.

- Launch the software, log in using the same email and password as on the website and create a new project (File > New Project).
- Once the project loads, you're ready to begin.

If this isn't your first time using the software, your most recent project will open automatically.

General Workflow

The following section shows the basic workflow of creating and working on a project using the Revailo app.z



1. Start Project

- Import plan set or create a new project
    - Set a project title
    - Add documents

2. Manage Pages

- Review all imported pages.
- Select specific floor plans for AI analysis.

3. Import Materials

- Add all materials required for the project.
- You can import existing materials, add new materials, and edit material details either within the current project or in the master material list.
- Review and confirm material specs.

4. Clean and Correct Floor Plans

- Refine AI-generated wall and opening delineations.
- Fix misaligned or incomplete AI results.
- Use manual and semi-manual tools for final adjustments.

5. Create and Assign Project Assemblies

- Build wall, opening, top of wall, rebar, and control-joint assemblies.
- Save assemblies to the company, project, or user database.
- Reuse assemblies for walls and openings in future projects to save time and maintain consistency.

6. Adjust and Export Reports

- Finalize materials, labor, and equipment.
- Generate quantity totals, applied labor rates, and cost summaries.
- Export to Excel, PDF, or CSV.
- Create a new project (File > New Project).
- Once the project loads, you're ready to begin.

Start the Project

Wath Demo

To begin a takeoff in Revailo, create a new project and upload the required documents.

- **Navigate to the File Tab**
    - Click the File tab in the top-left corner and select New Project.
- **Fill in Project Details**:
    - **Project name**: Enter a name for your project

    - **Add documents**: Upload the relevant PDF(s). For quicker processing, Remove unnecessary pages and keep the file under 100 pages for faster processing.
- Click Create Project to begin.
- The "Manage Pages" pop-up will appear, where you can select the floorplan(s) for your takeoff.

Import a Saved Project

Watch Demo

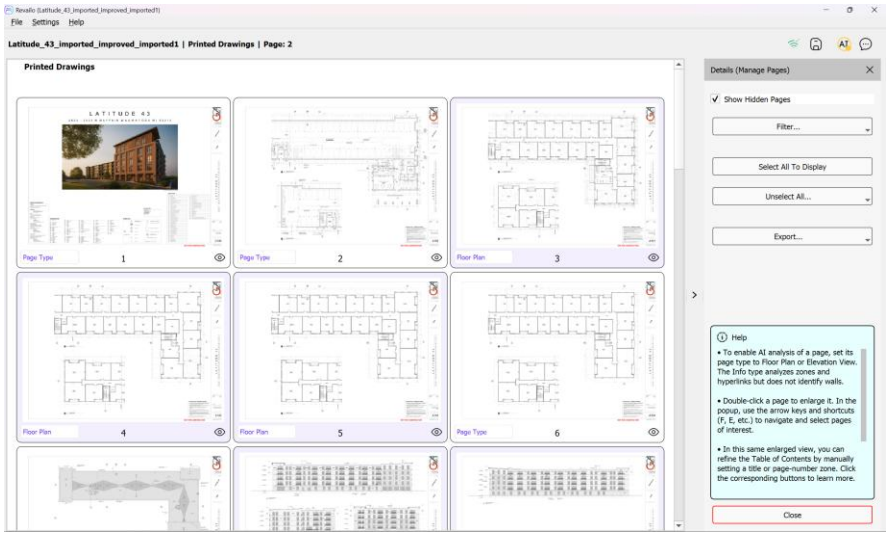
Import an existing project to continue working on a previously saved takeoff. Make sure your project file is in the correct ".revailo" format before importing.

- Click the **File tab** in the top-left corner and select **Import → Import Project**
- Select the project file and Enter a name for your project. *(Note: make sure it is a valid **.revailo** file)*
- Click **Import.**
- The "Manage Pages" pop-up will appear, where you can select the floorplan(s) for your takeoff. The next slide will cover the following steps in detail.

Manage Pages

Watch Demo

After creating or importing a project, the **Manage Pages** window opens. This is where you review the imported plan sheets, choose which pages will be used for the takeoff, and assign the correct page type.



Use Manage Pages to select floor plans for your takeoff.

- Use the **eye icon** under each page to turn page visibility on or off. Only keep the pages visible that you want to use during takeoff.
- **Select Page Type**
    - In Grid View, click Page Type in the bottom-left corner of each page and choose the correct option:
        - Floor Plan – Use this for plan drawings that will be used for wall takeoff.
        - Elevation – Use this for elevation drawings that show wall height or vertical conditions.
        - Floor and Elevation – Use this when the page includes both floor plan and elevation information.
        - Auto Scale Only – Use this when you only want Revailo to detect or apply scale, without marking the page for full takeoff.
    - Only mark the pages you plan to use for takeoff.
- **Bulk Actions**
    - You can apply actions to multiple pages at once. Click and drag to select multiple pages in Grid View, or select multiple pages from the Table of Contents panel.
    - With multiple pages selected, you can assign the same Page Type or hide/show pages in one action.
- **Preview Pages**
    - Double-click a page to open Enlarged View.

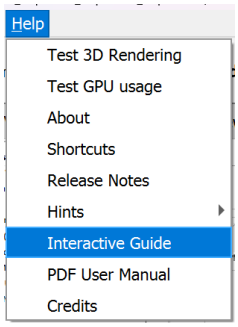
- In Enlarged View, use the left and right arrow keys to move between pages.
- Use keyboard shortcuts to quickly assign page types: **press F for Floor Plan, E for Elevation, A for Auto Scale, and D for Display.**
- Use the scroll wheel to zoom in or out. Hold the spacebar to pan around the page.

- When finished, click **Apply Changes** in the bottom-right corner to save your updates.

User Guide

Watch Demo

Use the Help tab to access support resources, shortcuts, and user guides.



Navigate to the **Help Tab** where you can find:

- **Shortcuts** -provides a list of keyboard shortcuts
- **Interactive Guide** - access step-by-step video tutorials and walkthroughs.
  - *(Note: This is the user manual you are currently using, offering a faster, more visual alternative to the PDF version.*
- **PDF User Manual** - view or download the official user manual in PDF format

Common Keyboard Shortcuts

PDF SHORTCUTS – General Editing Shortcuts

Mouse Scroll Wheel	Zoom in/out
CTRL + Mouse Scroll Wheel	Go to next page/ previous page
Trackpad – Pinch	Zoom in/out

Trackpad – Two-finger drag	Pan / scroll the view
Spacebar Pressed	Toggle drag/ select mode
Arrow Keys	Move to the previous or next page

PDF SHORTCUTS – General Navigation

CTRL + Number	Autofix Modes *(right click to open menu)*
CTRL + Click	Select Multiple Walls
CTRL + Z	Undo
CTRL + Y	Redo
SHIFT + Drag Wall	While resizing walls-snaps to the nearest corner
SHIFT + Hover	Show the Wall details
DEL	Delete selected wall
Select wall + TAB	Moves selection to the next wall
ESC	Restores to select mode

AI Analysis

After creating a new project, our AI will automatically begin analyzing your documents. You can wait a few minutes for the results or start setting up your project while the analysis is ongoing. For more details on the AI analysis process, refer to the dedicated section of this manual.

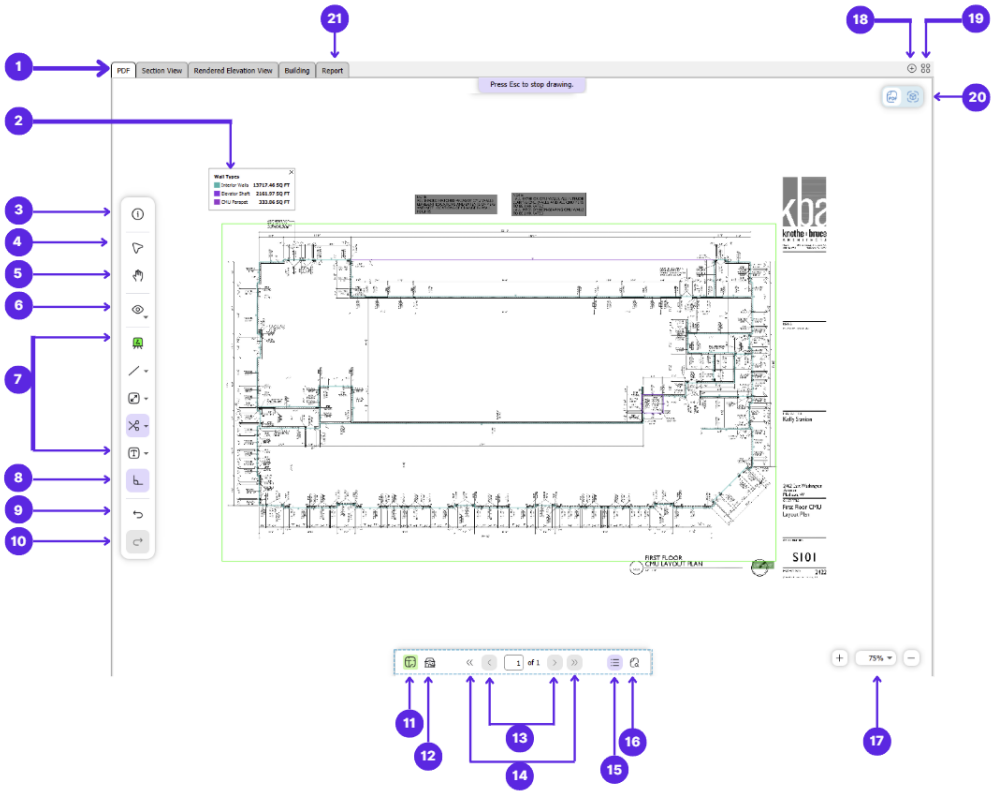
Visualization

PDF Tab

Screen Structure Overview

Workspace Overview – 2D

The PDF tab is the main tab of the program. You can view your documents and any annotations they contain, whether generated by AI or manually added. To keep your document visible, you can split the tabs into a new window or a split view by right-clicking on the PDF tab bar.

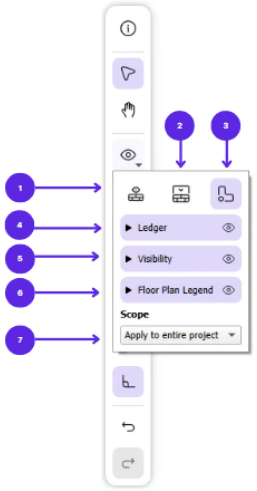


1. **WORKSPACE MODES**
   Switch between different project views - plans, section assemblies, elevation editing, building alignment, and reporting.
2. **ASSEMBLIES SUMMARY**
   Lists every wall assembly on the current page and shows the total square feet for each one.
3. **REGION/ PAGE INFORMATION**
   Displays details about the current workspace area and page settings.
4. **SELECT MODE**
   Select and edit elements on the plan.
5. **PAN MODE**
   Drag to move around the page without selecting items.
6. **VISIBILITY**
   Shows which elements are visible or hidden in the current view.
7. **DRAWING TOOLS**
   For making strokes, shapes and quick illustrations.
8. **SNAP TOGGLE**
   Snap to 90, locks your wall lines to perfect 90 angles for straight, clean geometry. Turn it off to draw lines freely at any angle.
9. **UNDO**
   Undo previous action.
10. **REDO**
    Redo last action.
11. **FLOORPLAN SELECTOR**
    Left-click to open an assigned floorplan, or right-click on a new page to add one and begin AI analysis.
12. **ELEVATION SELECTOR**
    Click to open assigned elevations, or right-click to add a new one and begin AI analysis.
13. **PAGE NAVIGATION**
    The left and right single arrows navigate to the previous and next pages in sequence.
14. **VIEW SELECTOR**
    The left and right double arrows navigate back to the previously visited page and forward to the page you came from.
15. **SHOW/HIDE TABLE OF CONTENTS**
    Shows or hides the table of contents panel on the left side of the workspace.
16. **SHOW/HIDE SEARCH DOCUMENT**
    Shows search results and hyperlinks in the document and jumps to the item in the PDF view when clicked.
17. **ZOOM CONTROLS**
    Adjusts the view scale to zoom in our out of the workspace.
18. **NEW TAB/ WINDOW**
    Opens the PDF in a separate tab or window.
19. **VIEW SPLIT**
    Divides the current workspace either horizontally or vertically.
20. **VIEW SWITCHER**
    Switches between PDF and 3D views of the selected floor plan.
21. **REPORT**
    Generates customizable material and labor reports, including calculations, filters and export options.

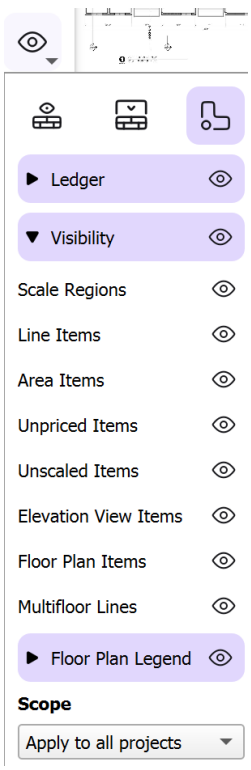
Visibility Tools

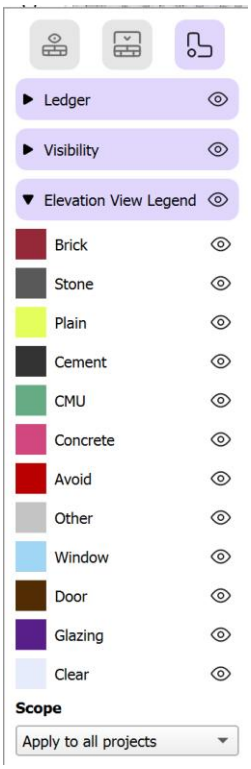
Visibility Menu

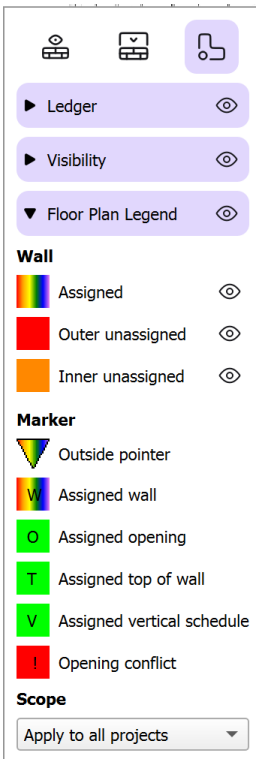
The **Visibility** menu controls what information appears on the floorplan, including walls, top of wall materials, corners, ledger details, and floor plan legends.



1. **SHOW/HIDE WALL VIEW**
   Displays the actual wall thicknesses, locations, and vertical schedules directly on the PDF. (Useful for verifying accurate wall placement.)
2. **SHOW/HIDE TOP OF WALL**
   Displays any materials added at the top of the wall on the PDF page.
3. **SHOW/HIDE CORNERS**
   Displays a small rectangle at each corner where a corner was added—green for assigned corners and red for unassigned corners.
4. **LEDGER**
   Choose to hide wall types, opening types, or both, helping to simplify the view of wall assemblies and openings for easier review and verification.
5. **VISIBILITY**
   Controls the visibility of items in your takeoff view, allowing you to show or hide scale regions, line items, area items, unpriced items, unscaled items, elevation views, and floor plan items.
6. **FLOOR PLAN LEGEND**
   Show or hide wall types and markers in the floorplan legend. (only visible on a floorplan page)
7. **SCOPE**
   Choose whether the change applies to the whole project, all pages, or just the current page.





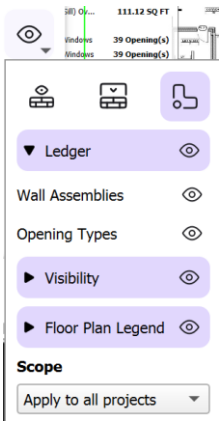


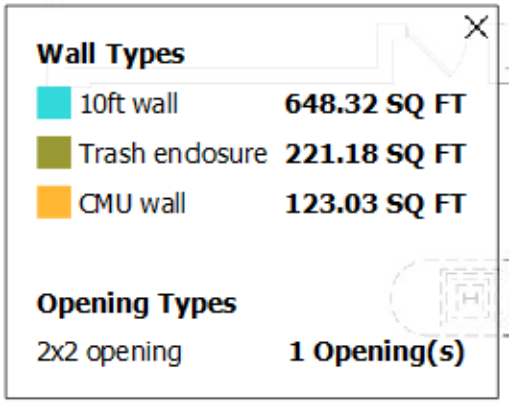
The **Visibility** menu allows you to hide or show items in the **PDF** view.

- **For example**, you can hide all items that are shown as lines.
- Depending on whether you are on a **Floor Plan** page or an **Elevation View** page, additional submenus may appear.
- These submenus act as legends and visibility options specific to the current page.
- The main eye icons toggle the visibility of all items within each subsection.
- You can choose to apply visibility settings to:
    - All projects
    - The current project
    - Only the current page

Ledger

The ledger is part of the visibility menu. It allows you to visualize a page-by-page quantity of each Wall and Opening Types. This ledger will be displayed directly on the page and can be moved are removed easily.



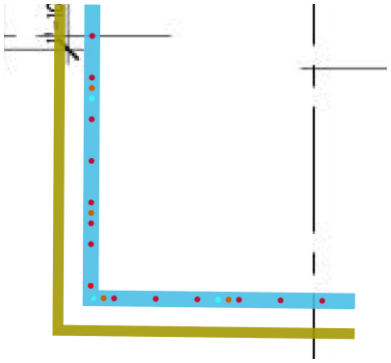


Wall View

Wall View provides a top-down view of your walls on a **Floor Plan** page.

- Toggle **Wall View** to see outside materials, inside materials, rebar, and control joint placements.
- Use this view to check that walls are placed correctly.
- Review material alignment against the floor plan diagram.

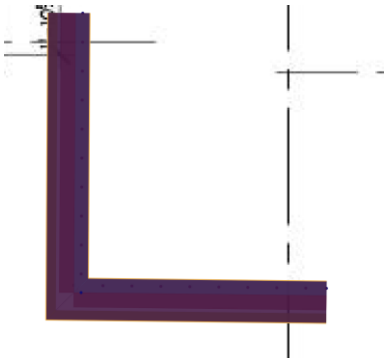
- Confirm wall details before moving forward with assignments or reports.



Top of Wall View

Top of Wall View is similar to **Wall View**, but it shows the top-down placement of materials assigned to the top of each wall.

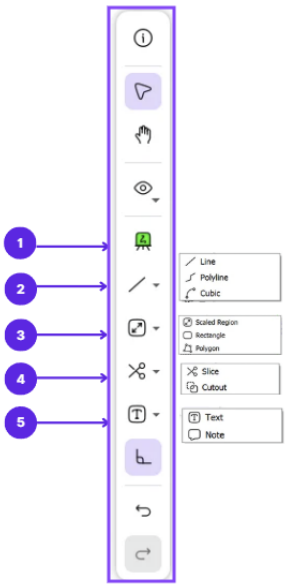
- Toggle **Top of Wall View** on a **Floor Plan** page.
- View top of wall materials such as coping, flashing, anchor bolts, dowels, and fire safeing.
- Use this view to confirm that top of wall materials are placed correctly.
- Material visibility can be toggled in the **Details** tab while viewing a **Top of Wall Type**.



Drawing Tools

The PDF toolbar provides tools for drawing, editing, labeling, and refining floorplan elements directly on the plan, including smart lines, line tools, shapes, scales, cutting

tools, and labels.



1 **SMART LINES**

Smart Lines automatically detects lines on your PDF so you can add walls; click a line to create a wall and click again to cycle through alternatives.

2 **LINE TOOLS**

- LINE : Draw a straight segment by clicking the start and end point.
- POLYLINE : Click to start drawing, and each click adds a corner, creating multiple connected straight lines. Right-click or press ESC to finish.
- CUBIC: Click to start drawing, and each click adds a point; the line segments have handles you can drag to create smooth, curved walls. Right-click or press ESC to finish.

3 **SHAPES AND SCALES**

- SCALED REGION: Draw a boundary by clicking points: the enclosed area can later be selected and scale accurately.
- RECTANGLE: Draw a rectangle by clicking opposite corners; width and height can be adjusted by moving points.
- POLYGON: Draw a multi-sided shape; edges can be adjusted by moving intermediate points to refine the shape.

4 **CUTTING TOOLS**

- SLICE: Draw a line or shape to split an object or area into two separate parts.
- CUTOUT: Draw a line or shape to split an object or area into two separate parts.

5 **LABEL**

- TEXT: Add text labels directly onto the plan for identification or instructions.
- NOTE: Add notes or comments on the plan to provide additional details or context.

Drawing Tools

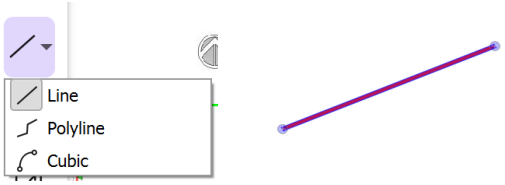
There are multiple tools in the toolbar that will allow you to draw on the pages.

Smart Line

The Smart Lines tool automatically extracts lines from your plans and lets you quickly convert them into assignable lines.

- Turn on the **Smart Lines** tool.
- Click any extracted PDF line to place an assignable line in that position.
- If multiple line options are available where you clicked, click again to cycle through the options until the correct line is selected.
- For **Floor Plan** pages, Smart Lines are analyzed automatically.
- For other pages, click the **Smart Lines** button and wait a few seconds.
- Once the button turns green, you can begin adding lines to the view.

Line



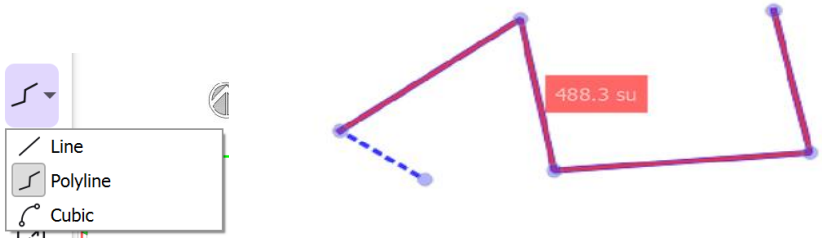
The **Line** tool allows you to manually draw a line on a page.

- Select the **Line** tool.
- Click once to start the line, such as a wall.
- Move the mouse to set the direction and length.
- Click again to confirm the line.
- Drag the line to adjust its position.
- Drag either end of the line to change its length or angle.

Snap Corners

To connect walls, hold **Shift** while resizing a wall. The corner you're adjusting will snap to the nearest corner if available.

Polyline

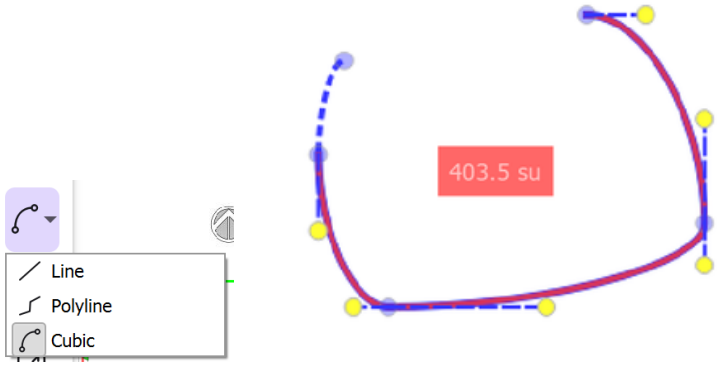


The Polyline tool allows you to draw a series of connected lines on a page.

- Select the **Polyline** tool.
- Click once to start the polyline, such as a wall.
- Move the mouse and click to confirm each segment.
- Continue adding segments as needed.
- Right-click to exit polyline mode.
- When the menu appears, choose to either close the polyline by connecting the first and last points, or keep it open.
- By default, the polyline stays open if you exit the menu or press **Esc**.

- Select individual lines to adjust their position.
- Drag an endpoint to change a segment's length or angle.
- Use **Ctrl + Left Click** or a selection box to select multiple segments and move them together.

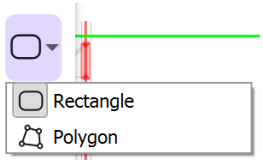
Cubic line



The Cubic Line tool allows you to draw connected curved lines on a page.

- Select the **Cubic Line** tool.
- Click once to start the curved line, such as a wall.
- Move the mouse and click to confirm each curve segment.
- Continue adding curved segments as needed.
- Right-click or press **Esc** to exit spline mode and validate the line.
- Drag the entire spine to adjust its position.
- Drag an endpoint to change the length or angle.
- Drag the control bars at each corner to adjust the curve shape.

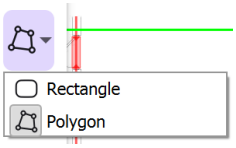
Rectangle

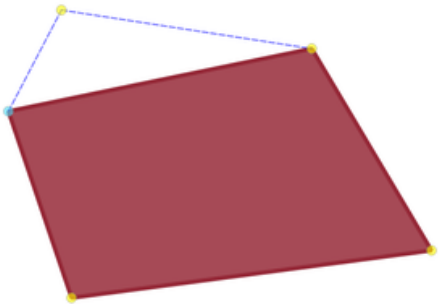


The Rectangle tool allows you to draw a rectangle on a page.

- Select the **Rectangle** tool.
- Click once to start the rectangle.
- Move the mouse to set the size.
- Click again to confirm the rectangle.
- Right-click the rectangle to convert it into an **Opening Type**, polygon, or scaled region.
- Drag the rectangle to adjust its position.
- Drag a corner or side to change its size or shape.

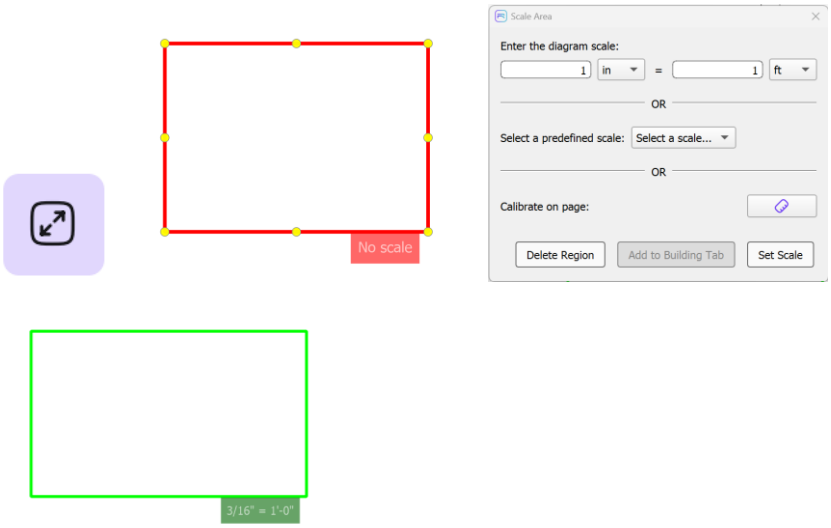
Polygon





This tool allows you to draw a polygon (a shape formed by multiple connected lines) on a page. Select the tool, click to add the first corner, move the mouse, and click again to confirm each side. Continue adding corners as needed, then right-click or press Esc to exit polygon mode and validate it. You can adjust the position by dragging the polygon or change its size/shape by dragging a corner.

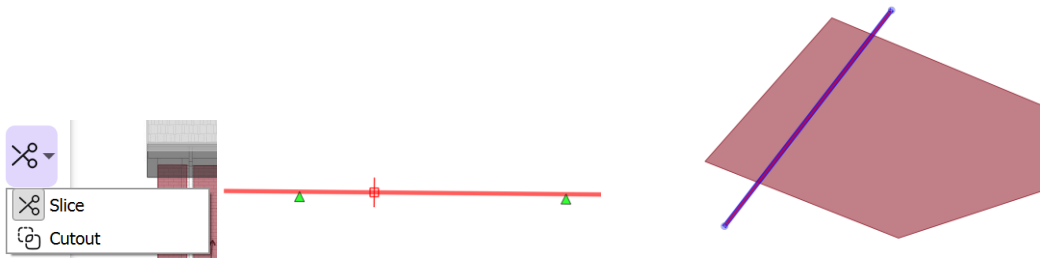
Scaled Region



This tool allows you to draw a scaled region (rectangle) on a page. Select the tool, click to start the region, move the mouse, and click again to confirm the rectangle. A popup will then appear to set the scale of the region. You can adjust the position by dragging it or change its size/shape by dragging a corner or side.

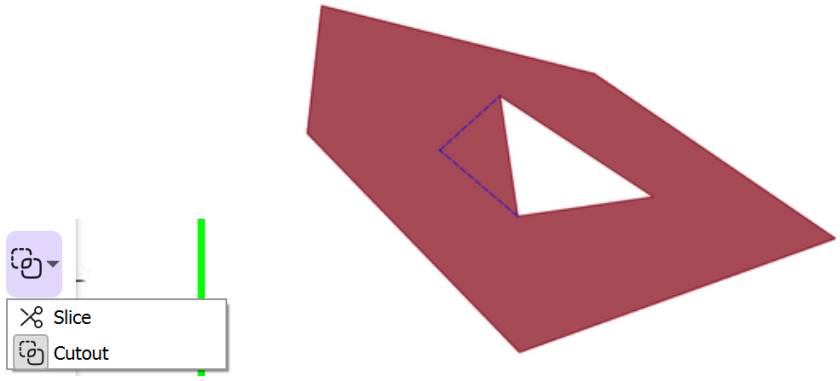
You can also set a type for the region by right-clicking and choose whether to analyze its contents. If drawn on a floor plan or elevation page, the analysis starts automatically.

Slice



This tool lets you cut a line or slice a closed elevation view shape (polygon, rectangle). To cut a line, click where you want to split it. To slice a shape, draw a line by clicking two points outside the shape. Slicing a rectangle transforms it into a polygon.

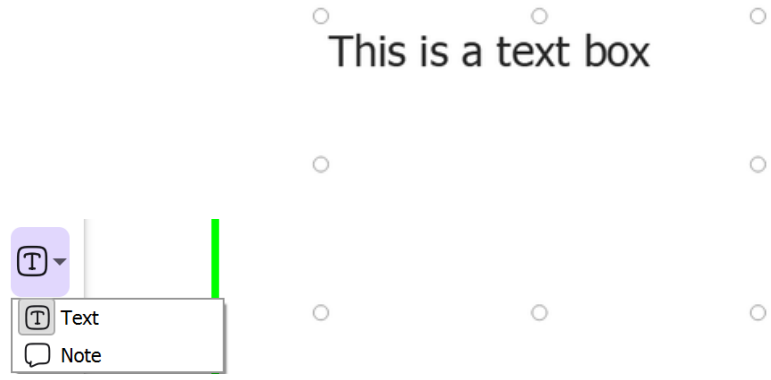
Cutout



The Cutout tool allows you to draw a cutout within a shape, such as a rectangle or polygon.

- Select the **Cutout** tool.
- Click once to place the first cutout corner.
- Move the mouse and click to confirm each side.
- Continue adding corners as needed.
- Right-click or press **Esc** to exit cutout mode and validate it.
- Drag the cutout to adjust its position.
- Drag a corner to modify its size or shape.

Text

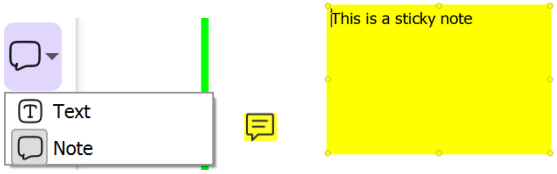


The Text Box tool is used to mark up the document, as explained in Construction Specifications > Annotations.

- Select the **Text Box** tool.

- Click once to place the first corner.
- Move the mouse and click again to confirm the text box.
- The **Text** button will automatically untoggle after the box is placed.
- Click inside the box to start adding text.
- Drag a side to adjust the text box position.
- Drag a corner to change its size or shape.
- Right-click the text box to adjust its style.

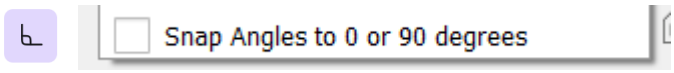
Sticky Note



The Note tool is used to mark up the document, as explained in Construction Specifications > Annotations.

- Select the **Note** tool.
- Click where you want to add the note.
- The **Note** button will automatically untoggle after the note is placed.
- A popup will appear where you can add your comment.
- Enter the note text and click **OK** to confirm.
- Click the sticky note icon to open the note.
- Click away from the note to close it.
- Drag the note to adjust its position.
- Right-click the note to adjust its style.

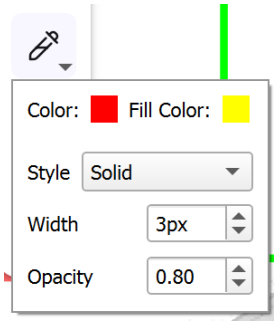
Snap Angles



The Snap Angle tool helps create straight lines and right angles while drawing or editing.

- Toggle **Snap Angle** using the toolbar button or the checkbox in the settings menu.
- When active, it snaps drawn elements to **0 or 90 degrees**.
- By default, **Snap Angle** is turned on.
- It applies to lines, polylines, cubic lines, polygons, and cutouts while drawing.
- When resizing lines, it also helps maintain straight angles.
- This does not affect resizing polygons, cutouts, or splines.
- You can also select one or more lines on a floor plan and choose **Right Click > Snap Angle**.
- Selected lines will adjust to **0 or 90 degrees** if they are within **+/- 15 degrees**.
- If the selected lines are not close to 0 or 90 degrees, they will remain unchanged.

Appearance Settings



The Appearance settings define the default styles for drawing items.

- Use these settings to set default drawing styles, such as line color and width.
- You can also apply appearance changes to existing items when needed.

Undo/redo

The Undo and Redo functions allow you to revert or restore changes made in the PDF view.

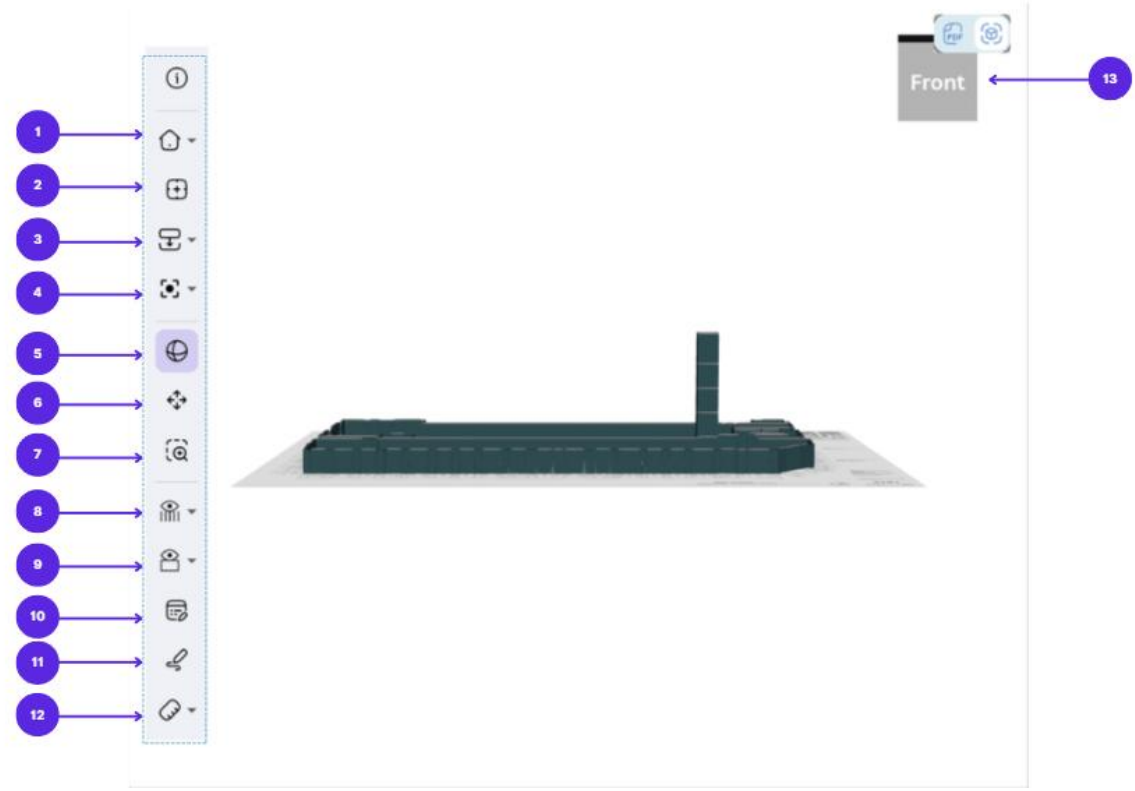
- Use **Undo** to reverse actions such as moving a wall or deleting a shape.

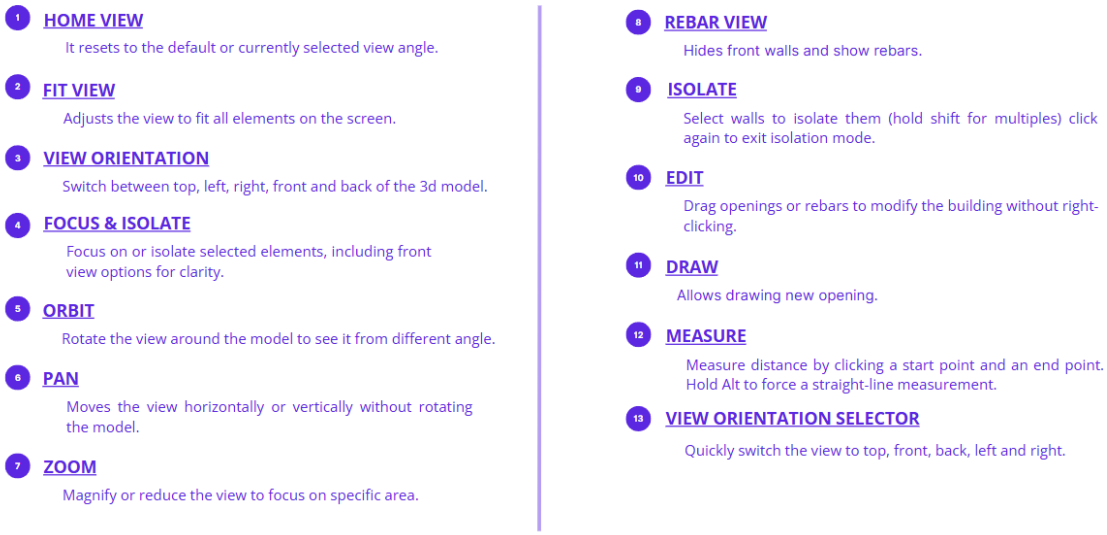
- Use **Redo** to restore an action that was undone.
- Click the arrow buttons in the toolbar, or use **Ctrl + Z** to undo and **Ctrl + Y** to redo.

Workspace Overview – 3D

The **PDF** tab includes a 3D rendering feature for selected **Floor Plans**.

- Open the floor plan page.
- Toggle the 3D view button in the top-right corner.
- View and interact with walls, openings, control joints, and rebar.
- Any changes made in 3D view will update in the **Details** tab.
- Available actions depend on the selected mode.

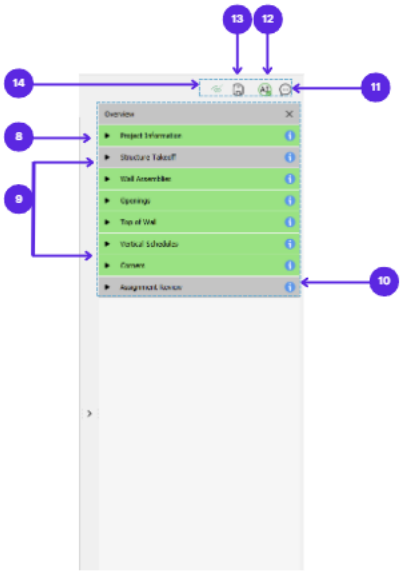




Right Side Panel

The right-side panel is the central workflow area of the app, guiding you through building a project.

- This panel has an **X** button to go back to the **Overview**.
- If the panel is already on the **Overview**, clicking **X** will close the panel.
- The panel also has an arrow to go to the previous panel.
- You can use the toggle arrow to hide or show the panel.
- Hiding the panel helps improve screen space while working.This panel has an ‘x’ button to go back to the Overview, or close the panel if it is the Overview, and an arrow to go to the previous panel. You also have a toggle arrow to hide and show the panel to improve the screen space.



8 PROJECT INFORMATION

Provides options to manage pages, crews, and import project materials.

9 WALL DETAILS

Create or manage wall assemblies.

10 ASSIGNMENT REVIEW

Easily reviews your assemblies or annotations.

11 CHAT GPT

Asks questions about plan sets and provides step-by-step guidance.

12 AI ANALYSIS

Shows the progress and status of AI analysis.

13 SAVE

Saves progress.

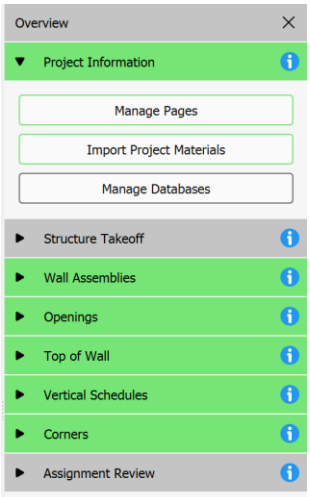
14 CONNECTION STATUS

Shows current connection and indicates whether the system is online or offline.

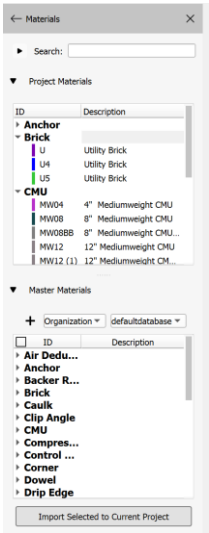
Overview

The Overview tab is the main tab of the right-side panel, containing the workflow to build your project. Typically, you follow each item from top to bottom. To assist you, each completed item will turn green.

Project Information



Import Project materials



The **Import Project Materials** option allows you to select and import materials for your project.

- Use this option to add materials before creating **Material Types**.
- If you skip this step, you can still import and select materials later while creating **Material Types**.

Left Side Panel

The left-side panel provides quick access to project and document navigation tools. It displays the current project name, menu options, sheet information, search tools, plan index, saved views, and bookmarks, allowing users to quickly move through the plan set and return to important views as needed.

1 PROJECT NAME

Displays the current project name.

2 MENU

File, settings and help menu.

3 SHEET INFORMATION

Displays project name, sheet name and page number.

4 SEARCH DOCUMENTS

Toggles the left panel to search plans, elevations, and bookmarks according to the selected tab.

5 PLAN INDEX

A list of every page in the plan set for quick navigation.

6 SAVED VIEWS

Saves the current zoomed- in area of the plan set so you can return to it instantly.

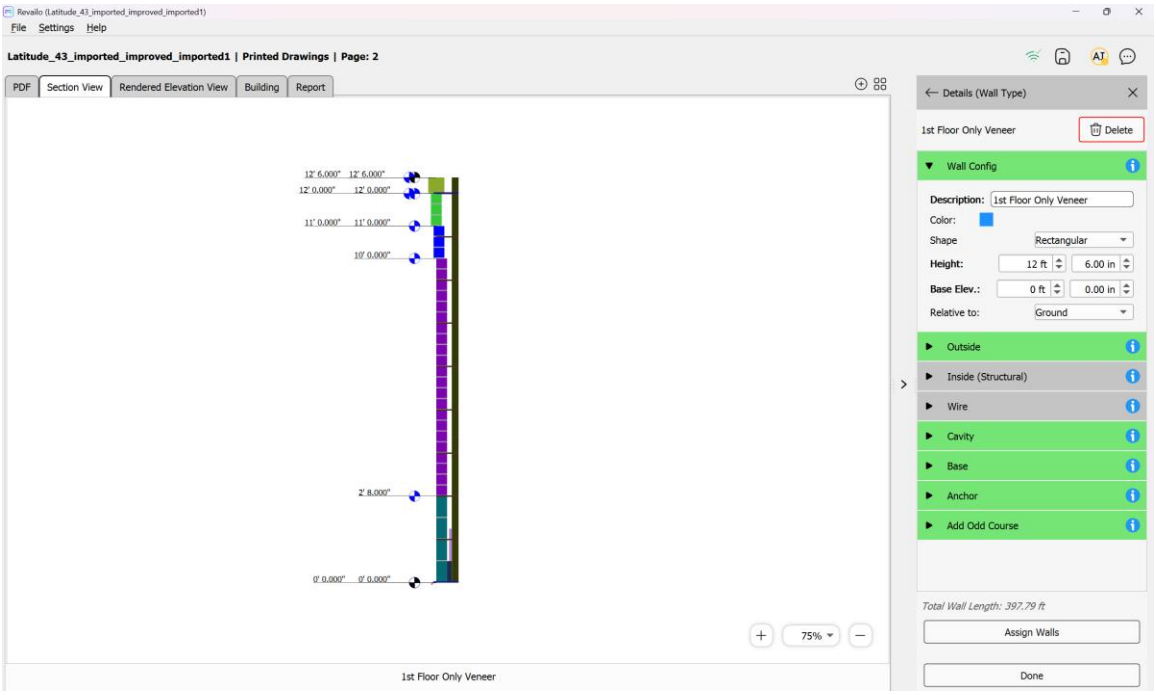
7 BOOKMARKS

Generates a new section based on the current view in the workspace.

Section View Tab

The **Section View** tab shows a cross-section of **Wall Types** and **Opening Types**, helping you review details as you build them.

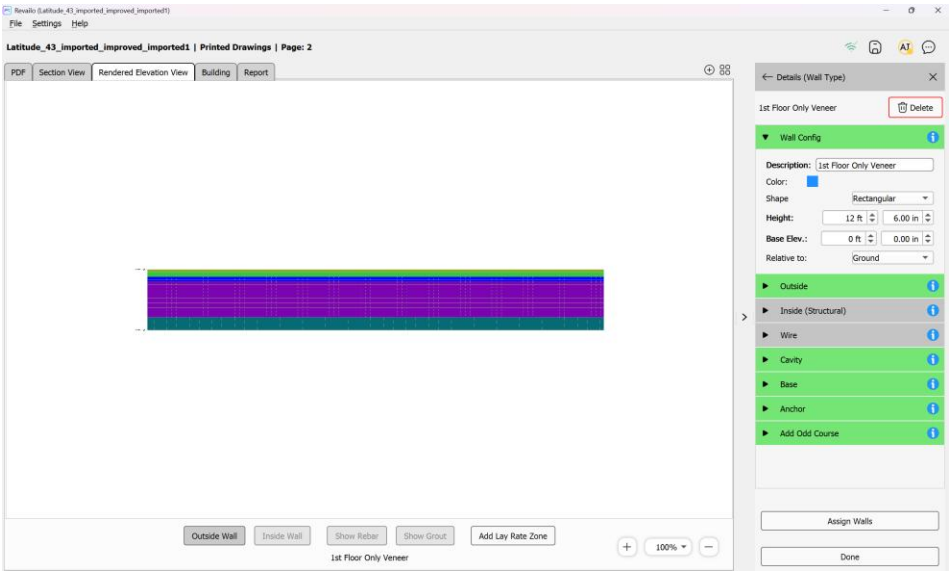
- Confirm height, base elevation, odd course positions, and material placements.
- Compare the view with section diagrams in the document.
- The view updates automatically when **Material Types** are edited in the **Details** tab.



Elevation View Tab

The **Elevation View** tab displays a 2D projection of an individual wall, allowing you to review and edit wall-specific details.

- View both sides of the wall when a **Wall Type** is assigned.
- View, add, and adjust openings within the wall.
- Edit vertical schedules directly in the elevation view.
- The view updates automatically when **Wall Types** or **Opening Types** are edited in the **Details** tab.



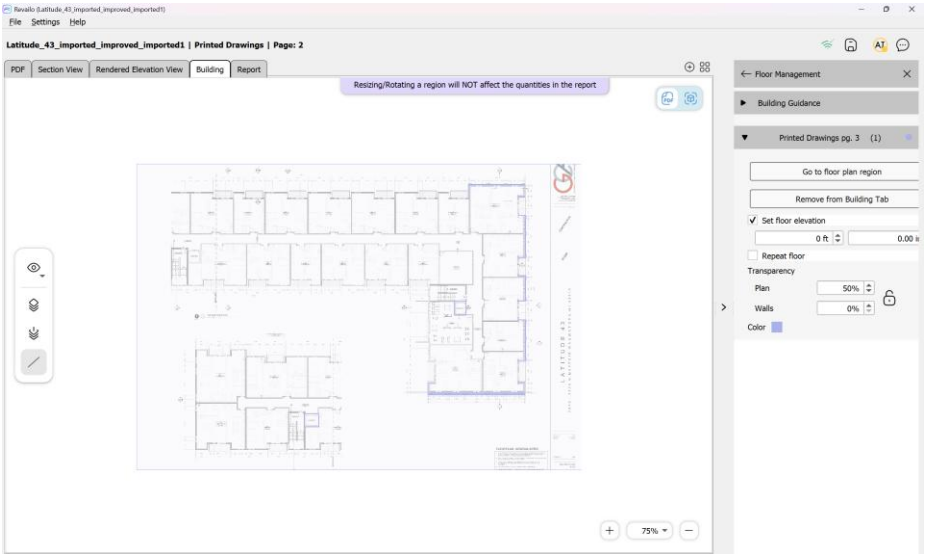
Building Tab

The Building tab is a review tool that helps visualize your complete building in 3D. It enables the easy creation of multi-floor buildings and split buildings (where the floor plan is divided across multiple zones of the PDF).

Building 2D View

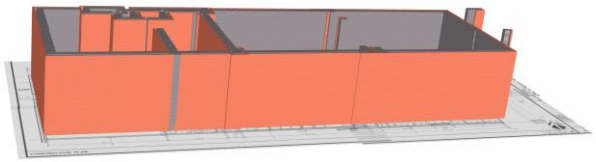
This view displays all **floor plan regions** in the app, helping you align them correctly and create a clear 3D view of the entire building.

- Review and align floor plan regions as needed.
- Use the toggle button in the top-right corner to view the 3D rendering.



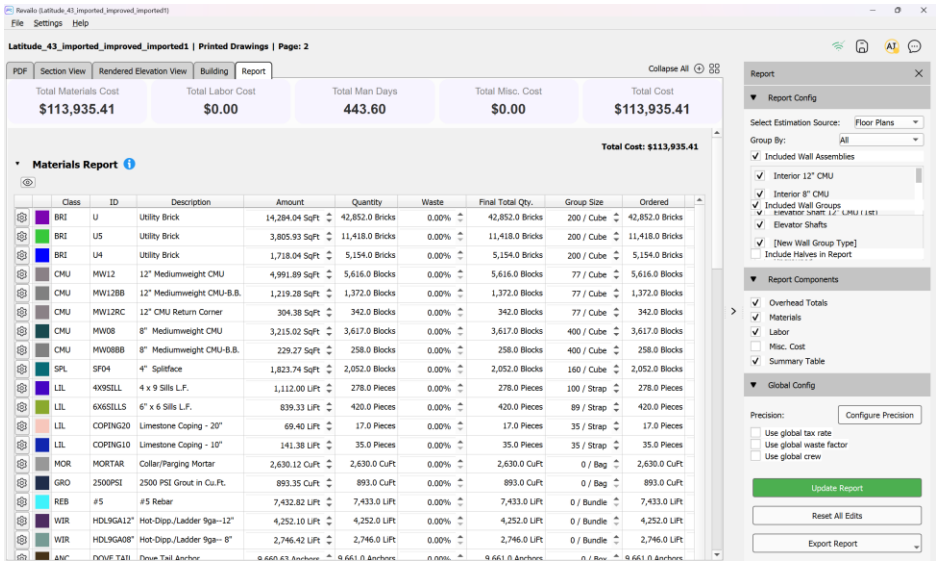
Building 3D Rendering

This view allows you to visualize the combined building in 3D. It works similarly to the PDF 3D rendering, but displays multiple aligned floor plan zones at the same time.



Report

The **Report** tab provides detailed material and labor reports for your project.



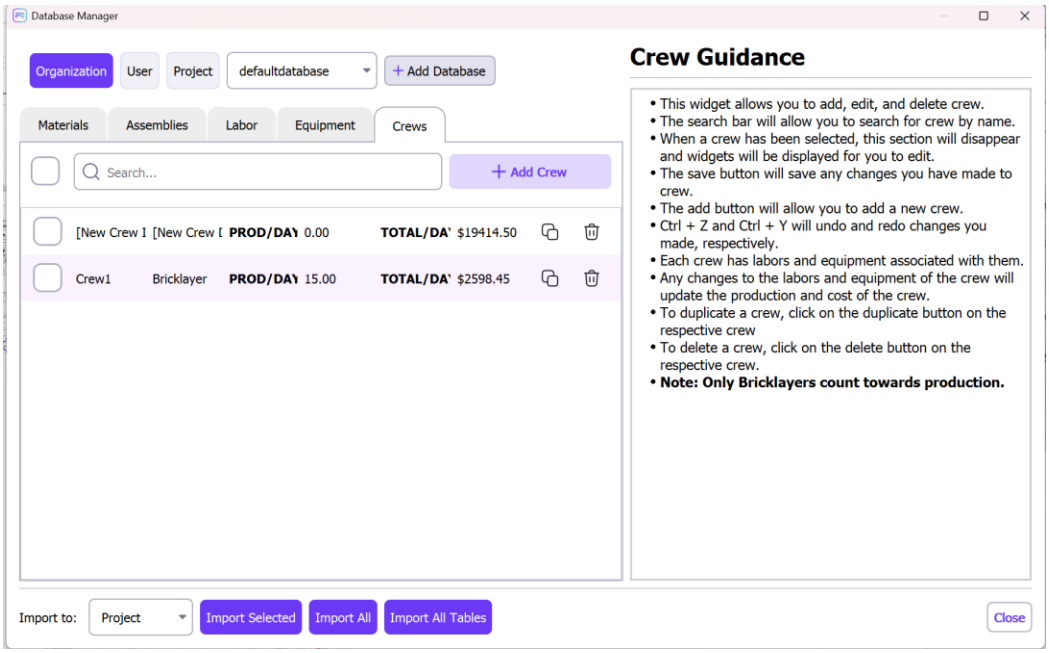
• The report is customizable, allowing you to:

- Edit material specifications, such as waste factor, tax rate, bundles, and cubes.
- Filter **Wall Types**.
- Group materials by **Wall Type** or specific walls.
- Set precision.
- Include material and labor reports.
- Set a global tax rate.

• Using annotations, their **Material Type** assignments, placements, and material data, Revailo generates an accurate and detailed report.

- Openings are considered in the report, and their areas are subtracted from the placement calculations.
- You can adjust most columns in the materials table to match your requirements.
- Other columns update automatically based on your changes.
- Changed values will turn blue to indicate they are not default values.
- Press **Escape** to reset the selected blue cell to its computed value.
- Once customized, the report can be exported to formats like **PDF, DOCX, CSV, XLSX, and HTML**.

Manage Crews



Crews and Equipment

- Use this section to create and modify workers, equipment, and crews.
- After crews are properly set up, they can be assigned to each material in the **Report** tab after project completion.
- **Important:** In a crew, only Bricklayers contribute to production calculations. If your crew doesn't include bricklayers, production computations cannot be performed.
- If a crew does not include bricklayers, production computations cannot be performed.

Structure Takeoff

Use this section to review existing **Scale Regions** in the project or add new ones to pages.

- Use the dropdown menu to filter which scale regions are displayed on each page.
- For each scale region, you can modify the floor name, elevation, scale, and repeat floor.
- The two arrow buttons take you directly to the selected scale region.
- Hover over the eye icon to view the status of the scale region, such as:
    - AI Walls
    - User Walls
    - Floor Elevation Set
    - Floor Alignment Set
- Delete scale regions from this menu if they are no longer needed.
- Click **Align Floor Plans** at the bottom of the tab to open the **Building** tab and align floor plans together.

Wall Assemblies/ Openings / Top of Wall / Vertical Schedules / Corners

Use these sections to define your **Material Types**.

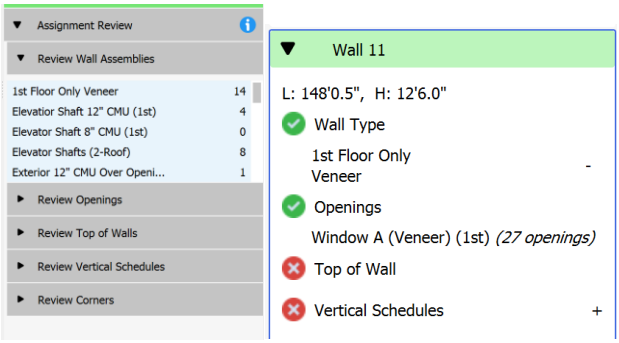
Use the **+** button, eye button, and right-click options to:

- Add types
- Delete types
- Modify types
- Duplicate types
- Hide types from the PDF view

If AI identifies **Material Types**, they will appear in the list for you to accept or reject.

Creating a new type will open the corresponding **Details** tab.

Assignment Review

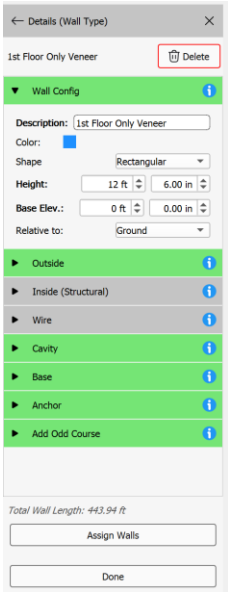


The **Assignment Review** section lets you review wall assignments for each **Material Type** group.

- Review assignments for **Wall Types**, **Opening Types**, **Top of Wall Types**, and **Vertical Schedule Types**.
- See which walls have been assigned to each type.
- Identify any unassigned walls.
- Use this section to confirm that all assignments are complete before generating and exporting the report.

Details

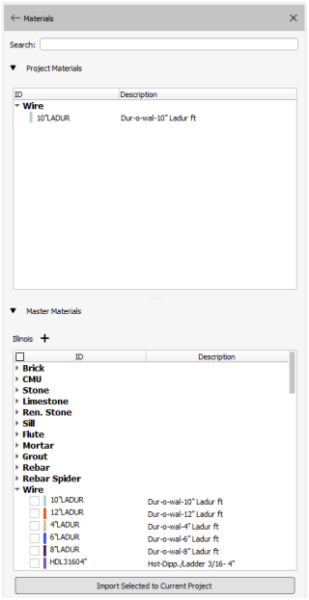
The Details tabs are submenus of the Overview tab. They provide more information about specific elements and help you set them up correctly.



For example, creating a new **Wall Type** from the **Overview** tab opens the **Details** tab for that type. Details tabs are used throughout the app for different setup and editing tasks.

Materials

The Materials tab provides access to databases and opens automatically when you need to add materials to your Types.



It has two main parts:

- **Project Database**: Contains the materials usable in your project. It starts empty, and you can view, edit, duplicate, or remove any material.
- **Master Database**: Contains all materials from your organization. It is the database selected when creating a project. You can add (using the '+' button), edit, or duplicate any materials here.

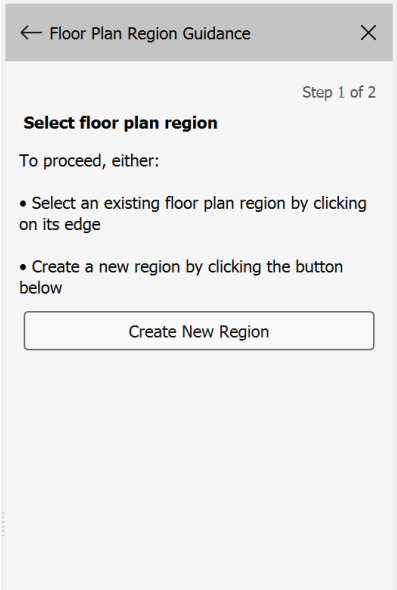
Since only project materials can be used, you need to import materials from the master database. Double-click an element to import it, or check multiple elements and press "Import Selected to Current Project".

When adding a material to a section, the project database is filtered to show only the applicable materials. A search bar at the top helps you find materials in both databases.

Guidance

Guidance Menus

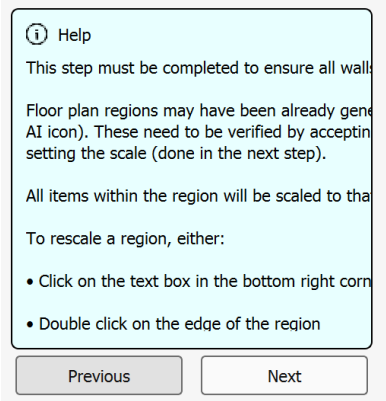
The Guidance menu helps users complete common processes in the app step by step.



- When you begin a multi-step task, such as assigning a **Wall Type** to a wall annotation, the **Guidance** tab appears next to the **Details** tab.
- The tab walks you through the steps needed to complete the selected action.
- If anything is unclear, refer to the light blue **Help** section at the bottom of the **Guidance** tab for additional information and answers to common questions.

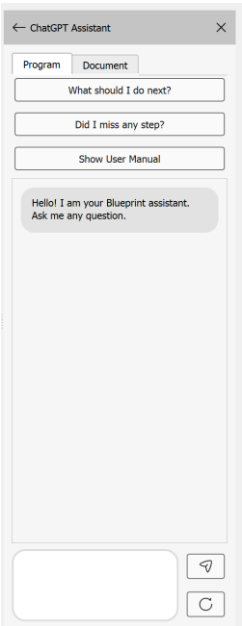
Help Icons

Help icons, shown as a circle with the letter i, are placed throughout the app to explain features that may be unfamiliar.



- Hover over a **Help** icon to view more information.
- Use these icons to understand what a button, input, or section is used for.
- Help icons provide quick guidance without leaving the current workflow.

ChatGPT Assistant



Our integrated ChatGPT assistant is here to help you throughout the software and has multiple purposes. It is accessible via the ChatGPT button at the bottom right of the main window (above the Guidance button). Once you click this button, a new chat box tab will appear, where you can directly chat with our virtual assistant. You will be able to ask different types of questions:

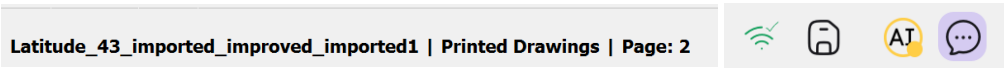
- General masonry or architectural questions: As we use the latest version of ChatGPT-4 to help you, the assistant is smart enough to help you with your

masonry related questions. For example, “What is CMU?”, “How much mortar do I need for each brick of a wall?”.

- Questions related to the software: Since our assistant has access to this user manual, it can retrieve information about the software and help you use it. For example, “What is the assignment review tab?”, “How do I assign a wall type to a wall?”.
- Questions related to the workflow: As the workflow is part of the user manual, you can also use ChatGPT to walk you through the software. Questions know the context of the program, so you can directly ask “What should I do next?”. You also have 2 buttons at the top of the chat that will directly guide you to the next steps or tell you if you missed any step. Those buttons are not using ChatGPT so you will get an immediate answer, most likely with a link to the step you need to do next. This is a good way to easily find your way in the program. The response will then be used by ChatGPT to give context.
- Questions related to the document: When you start the AI analysis of a document, it is also sending a copy to our assistant (private, it won’t be sent to ChatGPT to train its model) that you can use to find and extract information from your document. This will help you access the information you need more easily and faster than ever before. For example, “What is the typical wall construction of wall section 3?”.

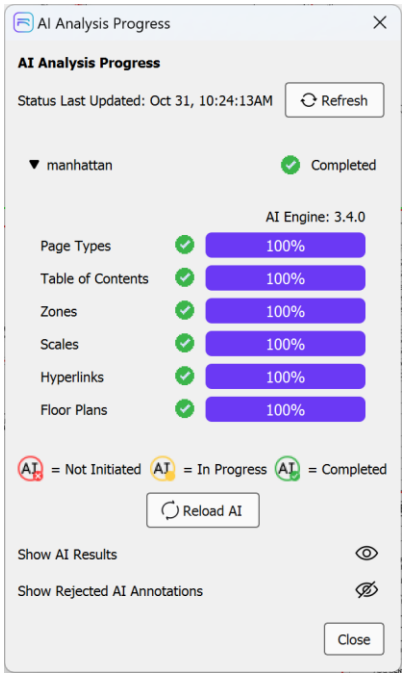
Toolbars and Overlays

Top Toolbars



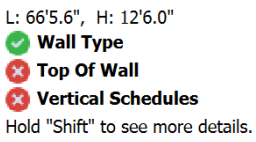
In the top toolbar, you'll see the project name, the current document name, and the current page. On the right side, there are four icons:

- **Online Status**: Indicates whether you are connected or working offline.
- **Save Button** (floppy disk): Saves your project when clicked. You can also use Ctrl+S or go to **File > Save** to save to the cloud.
- **AI Button**: Displays the progress of AI analysis. Clicking it opens a detailed view of the analysis.



- **Chat Button**: Opens the chat assistant tab.

Wall Hover Menu (PDF Tab – 2D)



The Wall Hover Menu allows you to quickly review which Material Types are assigned to a wall annotation.

- Hover over a wall to view its dimensions.
- A green check mark or red **X** shows whether each **Material Type** has been assigned.
- Hold **Shift** while hovering to display the specific **Material Types** assigned to the wall.

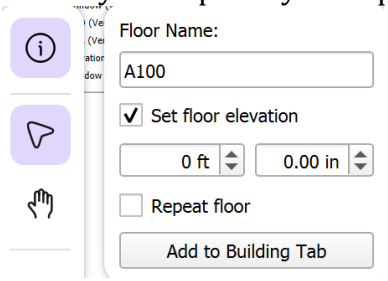
PDF Toolbar (PDF Tab – 2D)

Refer to this table for the interactions and shortcuts.

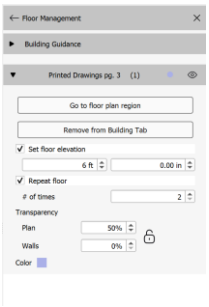
Building tool

The Building tool helps you set up the Building tab correctly. It is available in both the PDF tab and the Building tab, each with different functions:

- **In the PDF tab (2D)**: Allows you to set floor names, elevations, and repeat counts. You can apply these settings to the entire page if no region is selected, or to the currently selected region. Note that the "Repeat Floor" option affects your report by multiplying the elements within by this factor.



- **In the Building tab**: Displays a list of all floor plan regions, allowing you to set the same settings for each item. Additionally, visibility settings and alignment tools are provided to help you create the building with ease.



Cursor Mode

There are two cursor modes available.

Select Mode

Select Mode, represented by a mouse cursor, allows you to select multiple items by pressing and dragging. This can be used to assign multiple walls to a Wall Type or delete multiple items at once. Press Esc to reset the view to this mode.

Move Mode

Move Mode, represented by a hand icon, lets you move the page view by pressing and dragging the mouse. The first click acts as an anchor around which the page moves. You can easily enable Move Mode by holding down the spacebar.

Page Navigation (PDF Tab – 2D)

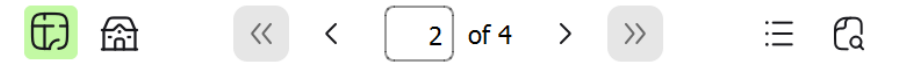


Table of Contents/Search Documents

On the left side of the program, you'll find the **Table of Contents**, useful for quickly navigating pages. You can create new sections and bookmark pages for easier access. The Table of Contents is enhanced with each AI pass. Waiting for the AI to finish processing will result in a more detailed Table of Contents.

The **Search Document** tab, next to the Table of Contents, allows you to find words identified in the document and navigate directly to them in the PDF. This tab also includes hyperlinks found by the AI or created manually for easy navigation.

Navigation

To navigate to key pages in your document, use the navigation arrows or the **Floor Plan** and **Elevation View** buttons. These will take you to the corresponding pages (identified by AI analysis or manually selected). You can also quickly set a page as a Floor Plan or Elevation View by right-clicking on these buttons, which will trigger AI analysis for the page.

If you have multiple documents, navigation will proceed from one page to the next until the end of a document, then continue with the next document. The main difference in the navigation bar is that you can directly select which document to view.

Zoom buttons (PDF Tab – 2D)

The zoom buttons let you zoom in, zoom out, or select a specific zoom level. Pressing Ctrl and scrolling will also zoom in or out. On a trackpad, pinch to zoom in and out, and drag with two fingers to move around the page.

PDF/3D Switch (PDF Tab)

This toggle button is only available on floor plan pages or pages with assigned Wall Types to switch between 2D and 3D views.

3D Toolbar (PDF Tab – 3D)

Toolbar modes

The toolbar consists of scene and object interactions and view modes, making it easy to switch between modes, edit objects, and display information. The toolbar elements are:

- **Mouse Move Modes** – Control how moving the mouse affects the camera:
    - **Orbit** – In Orbit mode, left-clicking and dragging the mouse rotates the camera in the direction of the mouse movement.
    - **Pan** – In Pan mode, left-clicking and dragging the mouse moves the camera in the direction of the mouse movement.
    - **Zoom** – In Zoom mode, left-clicking and dragging the mouse zooms in when moving upward and zooms out when moving downward.
- **Interaction Modes** – Control interaction with objects (walls, openings, rebar, control joints):
    - **Default** – Objects are selectable but cannot be moved. To enable editing for a single object, right-click on it and select 'Edit' in the menu. This enables moving the object using the arrow keys or by dragging with the mouse. Pressing 'Esc' or releasing the mouse will make the object non-editable again. Selected objects can also be interacted with using the right-click menu.
    - **Edit** – Objects are selectable and can be moved. For example, left-clicking and dragging an opening will move it until the mouse is released.
    - **Assign** – When a material type ID is selected, clicking on the objects that the material can be assigned to will assign and re-render them. For example, if the material type ID corresponds to a wall material, clicking on walls will update their assignments.

- **Measure Mode** – Used to get the distance between two points (A to B) on any object that is part of the rendering.
- **Info Mode** – Displays information about selected objects, which is useful when placing and adjusting elements such as openings and rebar.

Toolbar buttons

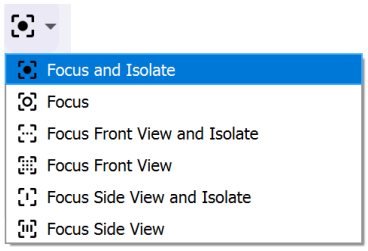
Information - Show object information (e.g., wall type) in Details Tab

Home - Go to default view

Fit - Fit scene in view

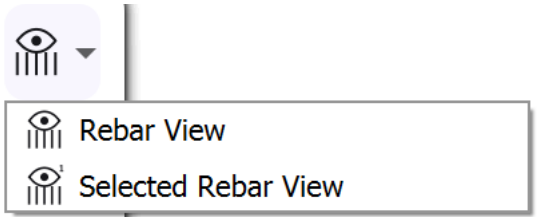
Top - Show top view of floorplan

Orbit/Pan/Zoom modes (mutually exclusive)



Focus - 4 options to focus on an object:

1) Focus in current direction and isolate wall
2) Focus in current direction with no isolation
3) Focus on front side of the object and isolate wall
4) Focus on front side of the object with no isolation



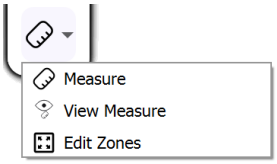
Rebar View - Hide front walls and show rebar

Isolate – Select the wall of interest first (hold Shift to select multiple), then press the 'Isolate' button to isolate the walls. You can keep isolating walls by repeating this process. Click 'Isolate' again to exit this mode.

Hide - Hide selected walls (equivalent to isolate for the set complement)

Edit - Allow modifying the scene

Draw - Allow drawing new openings



Measure - Used to get the distance between two points (A to B) on any object that is part of the rendering.

Refer to this table for the 3D mouse interactions and shortcuts.

MANAGING PROJECT MATERIALS AND VIEWS

This section explains how to manage project materials, organize views, adjust scale settings, define measured areas, and use bookmarks to navigate your project more efficiently.

How to Import Materials

Watch Demo

Use Import Materials to bring materials from the database into your project. Once imported, these materials become available when creating or assigning construction elements such as walls, openings, top-of-wall conditions, and vertical schedules.

Open the Materials Database

- Open the Project Information tab in the overview side panel.
- Click Manage Databases.
- Select the Materials tab.

This will open the list of available materials that can be imported into the project.

Locate Materials

Find the materials you want to import by either:

- Browsing through the materials list, or
- Using the Search Bar to quickly search for a specific material by name.

Once you find the material, check the box next to the material's name. You can select one material or multiple materials at the same time.

Choose Import Destination

Before importing, choose where the materials should be saved:

- **Current Project**
  Imports the selected materials into the active project only. Use this option when the materials are needed for just this project.
- **User**
  Imports the materials into your personal user profile. Use this option if you want the materials to be available for your own future projects.
- **Organization**
  Imports the materials for the entire organization. Use this option when the materials should be available to other users in the organization.

Import Options

After selecting the destination, choose one of the import options:

- **Import Selected:** Imports only the materials that have been checked.
- **Import All:** Imports all materials shown in the current tab.
- **Import All Tabs:** Imports all materials from every available tab in the database.

Result

Once the materials are imported, they will be available for use during construction. You can use them when creating or assigning:

- Walls
- Openings
- Top-of-wall conditions
- Vertical schedules

This ensures that the required materials are ready to use throughout the project.

How to Create a New Material

Watch Demo

Managing Materials lets you create new materials, copy and edit existing ones, or remove materials that are no longer needed.

Create a New Material from Scratch

- Go to Project Information, then click Manage Databases.
- Click the "+ Add Material" button.
- Enter the required details: General Information, Material Specifications, Price, Labor, Percent Solid and Cleaning Details.
- Click Add Material.
- Your new material will now appear in the Materials Section.

Duplicate and Edit an Existing Material

- In the Materials list, Click on the Duplicate icon, for the material you can to duplicate.
- On the left-hand panel, edit the material details and click Add Material.

- The edited material will now appear in the Materials Section.

To Remove a Material

- Select the material you want to delete.
- Click the Delete button.
- The material will be removed from the Materials section.

Verify Scaled Regions

Watch Demo

Revailo automatically detects diagrams and creates region boxes around them. It then looks inside each region for a scale. If Revailo finds one, it applies the scale automatically and the region turns green.

- When a scale is applied by AI, a small scale label appears in the bottom-right corner of the region with "AI" next to it.
- If Revailo cannot find a scale, the region stays red. To set or change the scale, double-click the region line.
- From the scale window, you can:
    - Type in a scale
    - Choose a common scale from the dropdown
    - Use the ruler tool to measure a known line
- Once the scale is set, the region turns green and is ready for takeoff work.
- Scale Indicators:
    - Red – scale still needs to be set
    - Green – scale has been set
    - AI label – scale was applied automatically by Revailo

Set Scaled Region

Watch Demo

Scaled regions define the measurable area of a floor plan. They assign a scale to the selected region so Revailo can calculate dimensions accurately for takeoff work.

- Select the Scaled Region tool.

- Click and drag on the plan to draw the scaled region box.
- It will appear red until the scale is set.
- After the box is placed, set the scale by doing one of the following:
    - Enter the diagram scale you want (e.g., 1/4" = 1'-0"), or
    - Select a predefined scale from the list, or
    - Calibrate on the page by picking two points and entering the real-world distance.
- Click **Set Scale.** Once confirmed, the region turns green or **Delete Region** if needed.

Use Bookmarks

Watch Demo

Bookmarks allow you to save important pages, sections, or specific views so you can return to them quickly without searching through the full document again. They are useful for marking frequently used drawings, key takeoff areas, review pages, or sections you need to revisit later.

- Right-click on the saved section in the Table of Contents.
- Select **Bookmark** from the context menu.
- Select a color to mark the bookmark.
- You can rename the bookmark
- Go to the Bookmark tab in the Table of Contents.
- Your page or view is now saved there for quick access.

Remove Bookmarks

- Right-click on the **page** listed in the **Bookmarks section**.
- Select **Remove Bookmark** from the menu to delete it.

Save a View

Watch Demo

Saved Views let you zoom in on a specific detail or area of the plan and return to it anytime. You can also add Saved Views to your bookmarks, so you can

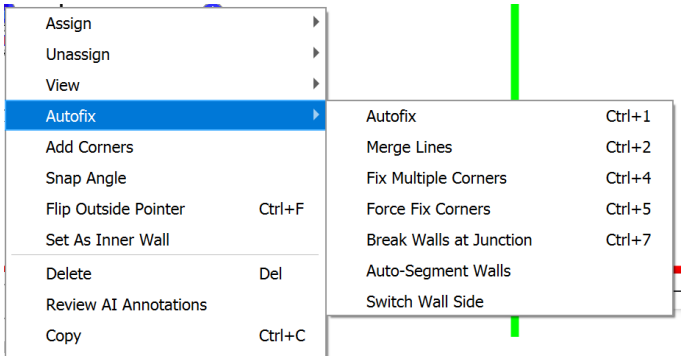
quickly toggle between important pages, details, and views during your takeoff.

- Zoom into the detail or area you want to save.
- Below the **Table of Contents**, click **Save Current View.**
- The saved view will appear under the current/main page in the Table of Contents.
- To rename it, right-click the saved view and select **Rename**.
- To add it to bookmarks, right-click the saved view and select **Bookmark**.
- Click the saved view anytime to return to that exact area.

Autofix – Shortcuts

CTRL + 1	Autofix
CTRL + 2	Merge Lines
CTRL + 3	Connect End Points
CTRL + 5	Force Fix Corners
CTRL + 7	Break Wall at Junction
CTRL + 8	Create Return Wall

Autofix (PDF Tab – 2D)



Right-clicking in the PDF tab opens a context menu with options that vary based on the selection. On a floor plan, when working with walls, one option is **Autofix**, a smart tool that helps you adjust project walls quickly and easily.

Autofix includes three key operations to automatically adjust and correct wall configurations:

- **Merge Line**: Combines closely aligned or overlapping lines into a single line, simplifying the wall structure.
- **Create Return Walls**: Adds 'return' walls to complete structures as needed.
- **Switch Wall Side**: moves a wall line to the opposite side of the wall when it is placed on the wrong edge.

In addition to the automatic process, when you select the **Autofix** option, you can manually choose which operation to use (based on the selected elements) and access tools that are only available manually:

- **Connect End Points**: Creates a line between selected elements, connecting the two closest corners.
- **Force Fix Corners**: Connects all selected lines, useful when the standard corner fixing is not aggressive enough.
- **Break Lines at Junction**: Splits selected lines at their intersection.

These operations streamline drafting and correcting wall layouts, improving the accuracy and efficiency of architectural or construction planning.

If the automatic results are unsatisfactory, use the undo/redo tool to revert changes to the previous state.

Details

In the examples, unselected lines are displayed in red, while selected lines (clicked directly or selected with a bounding box) are highlighted in blue. After selecting lines, right-click and choose "Autofix" from the menu.

Merge Lines

Watch Demo

Use Merge Line when a wall is broken into multiple pieces and you want to join them into one cleaner wall line. This can happen when Revailo's AI analysis returns a continuous wall as several smaller wall segments, or when you have two or more wall lines that should be connected.

- Select the wall lines you want to merge by dragging a selection box around them, or hold Ctrl and click each wall line you want to include.
- Right-click and choose **Autofix**, then select **Merge Line.**
- Revailo will combine the selected wall lines into one wall line.

Note: Merge Line is only available when two or more wall lines are selected.

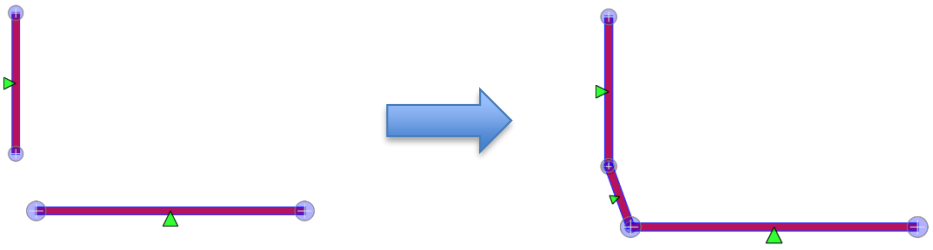
Shortcut : CTRL+2

Connect End Points

Watch Demo

Use Connect End Points when two wall lines should be connected, but there is a missing segment between them.

This is helpful when you want Revailo to create a new line between the closest ends of two selected walls.



- Select the two wall lines you want to connect by dragging a selection box around them, or hold Ctrl and click each wall line.
- Right-click and choose **Autofix,** then select **Connect End Points.**
- Revailo will add a new connecting line between the closest ends of the selected walls.
    - For the best result, the two endpoints should be directly across from each other. If they are not lined up, the new wall line may be angled.
        - To straighten the wall, click the wall, right-click, and select Snap Angle.

Note: Connect End Points is only available when exactly two wall lines are selected.

Shortcut : CTRL+3

Force Fix Corners

Watch Demo

Use Force Fix Corner to create a clean corner between selected wall lines.

- Select the wall lines at the corner you want to fix by dragging a selection box around them, or hold Ctrl and click each wall line.
- Right-click and choose **Autofix**, then select **Force Fix Corner**.
- Revailo will connect the selected wall lines to create a cleaner corner.

Note: Force Fix Corner is best used on one corner at a time.

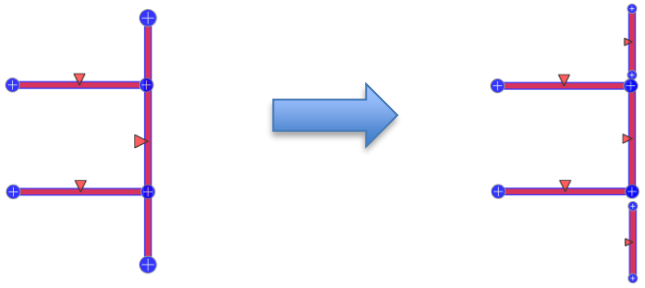
Shortcut : CTRL+5

Break Walls at Junction

Watch Demo

Use Break Walls at Junction to split selected wall lines wherever they intersect.

This is helpful when crossing walls need to become separate wall segments for editing, measuring, or assigning.



- Select two or more intersecting wall lines.
- Right-click and choose **Autofix**, then select **Break Walls at Junction**.
- Revailo will split the selected lines at each intersection.
    - For example, two lines crossing like a plus sign will become four separate wall segments.

Note: Break Walls at Junction only works when two or more intersecting wall lines are selected.

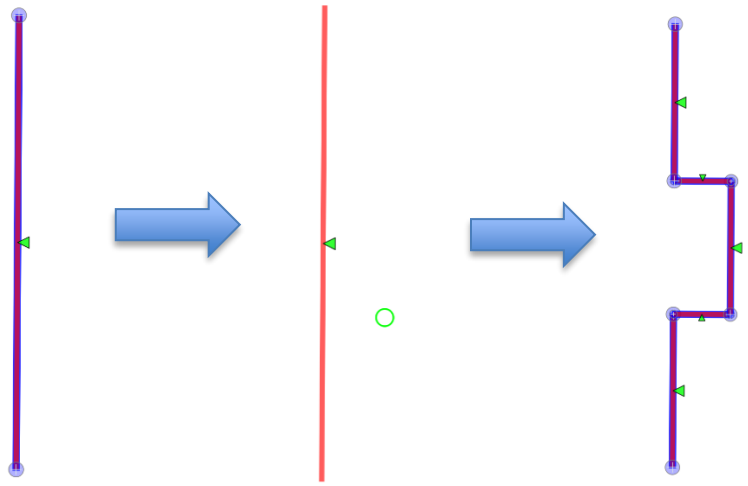
Shortcut : CTRL+7

Create Return Wall

Watch Demo

Use Create Return Wall to add returns, bump-outs, or other wall offsets from an existing wall line.

This is helpful for exterior walls that are not straight and have corners that step in or out.



- Select the main wall line where the return or bump-out starts.
- Right-click and choose Autofix, then select Create Return Wall.
- Click the two corners of the return or bump-out.
    - Revailo will trace the new wall segments from the selected wall.
- For a double bump-out,
    - select the new bump-out wall,
    - run Create Return Wall again, and
    - click the next set of corners.

Note: Create Return Wall is only available when one wall line is selected.

Shortcut : CTRL+8

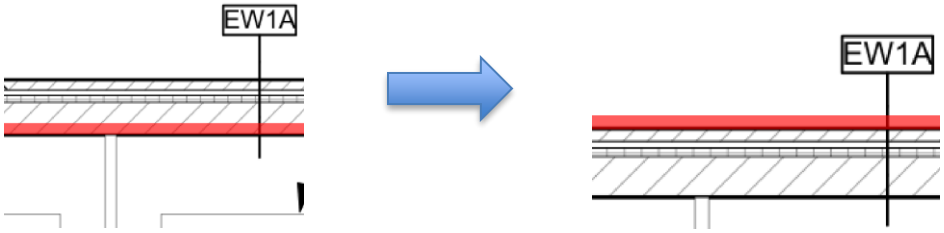
Switch Wall Side

Watch Demo

Use Switch Wall Side when a wall line is on the wrong side of the wall.

For accurate takeoff, exterior wall lines often need to sit on the outside edge of the wall. If an AI-detected wall or a wall you drew is on the inside edge instead, you can switch it to the other side.

This can also be helpful when an interior wall line needs to be moved to the opposite side of the wall.



- Select the wall or walls you want to switch.
- Right-click and choose Autofix, then select Switch Wall Side.
- Revailo will move the selected wall lines to the opposite side of the floor plan wall.

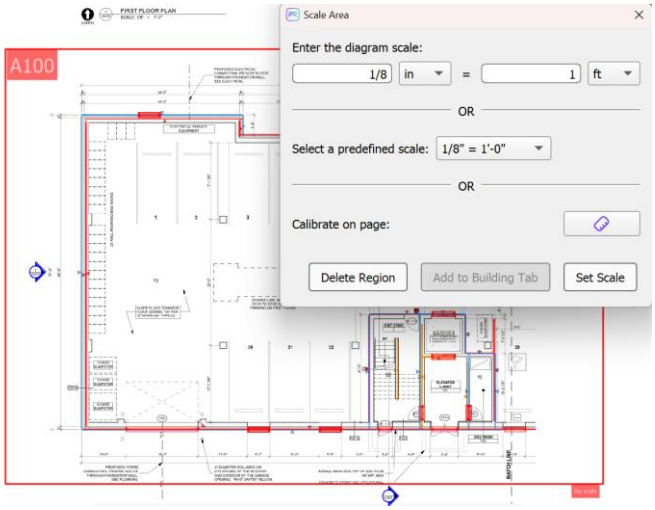
Note: Switch Wall Side can be used on one wall or multiple selected walls.

STRUCTURE TAKEOFF

Structure Takeoff provides a structured workflow for defining Scale Regions, setting their scale and elevation, and aligning floor plans. Visual status indicators and quality-of-life features help you track progress, locate regions, and manage drawings.

Scale Region

Scale regions define the area of the drawing that Revailo uses for accurate measurements. They assign a scale to a selected portion of the floor plan, so walls, openings, and other takeoff elements are measured correctly. If a drawing has multiple diagrams or different scales, each area can have its own scale region.



Note: Make sure you are on a Floor Plan page.

If the page is not marked as a floor plan, update the page type before proceeding.

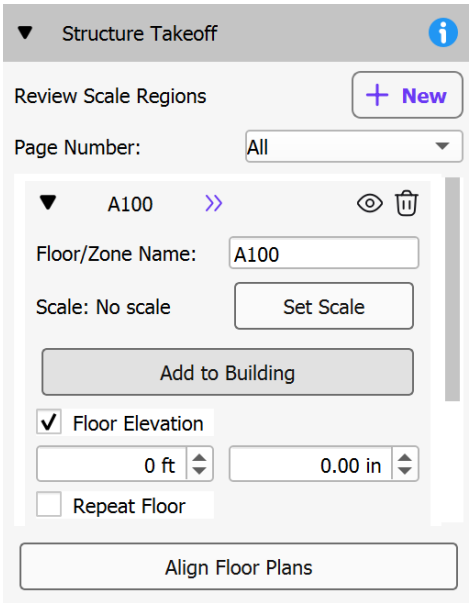
If **AI** detection has already processed the drawing, AI Scaled Regions may already be displayed in the Scale Regions list.

- Review them first. If an appropriate scale region already exists, no further action is required.
- If you need to add a new scale region, follow the steps below:
    - Go to the **Overview** section, Navigate to **Structure takeoff**.
    - Click **New** to enter drawing mode (same as Draw Scale Regions).
    - Draw the region on the floor plan.

- Enter the diagram scale, select a predefined scale, or calibrate the scale directly on the page.
- Then click **set scale**.
- The region will appear in the Scale Regions list.

Configure Scale Region

Use Scale Region Settings to review and adjust the information for each scale region, including its name, scale, elevation, repeated floors, and visibility status. These settings help ensure the floor plan is measured correctly and reported accurately.



You can set the name, scale, and elevation of each Scale Region.

-
  - **Floor/Zone Name**: Enter the name of the floor or zone.
  - **Scale**: Set the scale for the selected scale region Set the scale by entering the diagram scale number, selecting a predefined scale, or using the Scale calibrate option on the page.
  - **Floor Elevation**: Specify the floor elevation for the scale region.
  - **Repeat Floors**: Enter the number of times the floor should be repeated. This multiplies the walls and materials in the report. (Example: If the same floor is built multiple times, draw it once and repeat it instead of recreating the walls each time.)

- **Locating Scale**: To locate the scale region in the drawing, use the purple arrows next to its name to jump to its view.
- **Visibility Status**: Hover over the eye icon to see the Scale Region's status. (These indicators are informational only and not required to proceed.)
    - The status shows whether:
        - AI walls are drawn
        - User walls are drawn
        - The floor elevation is set
        - The floor has been aligned
- **Delete Region**: Click the trash icon to remove the region from the list and the project.

Align Scale Region

Align Floor Plans is used to line up multiple floor plans or scale regions within the building model. This helps floors align correctly so walls, openings, and layouts match between levels.

You can align floor plans using all walls, selected walls, or alignment lines. The Building tab also lets you adjust floor settings such as elevation, repeat floors, transparency, color, and visibility.

Go to the Overview section and select Structure Takeoff.

- At the bottom of the menu, click **Align Floor Plans** to open the Building tab. This opens the Building tab, where you can align floor plans with one another.
- Select a floor plan name to highlight it on the main page.
- You can also toggle its visibility on or off.

Floor Settings

-
    - **Floor Elevation**: Set the elevation level for the floor.

    - **Repeat Floor**: Enter the number of times the floor should be repeated.
    - **Transparency**: Adjust the transparency of the floor plans and walls.
    - **Color**: Choose a color for the walls.
- **Additional Controls**
    - Click Remove Building to exclude a floor from the model
    - Select Go to Floorplan Region to return to the home screen

Note: Scale Regions are displayed in the list only when they are on a Floor Plan page. Regions on other page types will not appear.

Visibility Options

Select the zone or region, then go to the Visibility panel on the left.

From here, you can:

- **Hide or show walls**
- **Hide or show alignment lines**
- **Hide or show all elements**

Align Floors Options

- **Align Floorplans Based on All Walls**
    - Click Align Floorplans Based on All Walls.
    - The system will automatically attempt to align the floorplans using all defined walls as reference points.
    - This option requires multiple floorplans to be available.
    - Once selected, the floorplans will align based on the walls detected across the plans.
    - *Note 1: This option is intended for multifloor buildings and is not designed for split floor plans.*
    - *Note 2: This option may take longer on projects with many walls because the system attempts to align all walls automatically. For larger projects, we recommend using one of the other alignment methods.*
- **Align Floorplans Based on Selected Walls**
    - Click Align Floorplans Based on Selected Walls.
    - Select the first zone, then choose a wall from that zone.

- Next, select another zone and choose a wall from that plan.
- The selected walls will be highlighted in green.
- Click the Align Floorplans Based on Selected Walls icon again.
- The two floorplans will align based on the selected walls.

- **Align Floorplans with Alignment Line**
  - First, select a zone and create an alignment line on each floorplan in the same relative position.
  - Make sure both lines represent the same reference point.
  - Then, click Align Floorplans based on selected walls.
  - Select the first zone and its alignment line.
  - Next, select the second zone and its corresponding line.
  - The selections will be highlighted in green.
  - Click the Align Floorplans based on selected walls.
  - The floorplans will align based on the defined alignment lines.

Building Tab – Stacked Floors

The Building tab helps set up and manage multifloor projects. From this tab, you can repeat floors, layer floor plans, align plans in PDF mode, and set floor elevations so the building appears correctly in both plan view and 3D view.

How to Setup

- Select the green region in PDF View.
- Click the Region / Page Information icon.
- In the panel, enter how many times you want the floor to repeat.
- It automatically calculates the total materials and updates the report based on the number of repeated floors

How to Layer Floor Plans in the Building Tab

- Go to the Building tab in the top bar.
- Select the option to stack sheets to view the entire building in 3D.

- Choose between PDF mode or 3D mode for viewing.
- Use the PDF mode to correctly align the plans.
- In 3D mode, select "Set Floor Elevation" to assign each floor to its corresponding elevation.
- The floors will appear stacked in both 3D view and plan view.

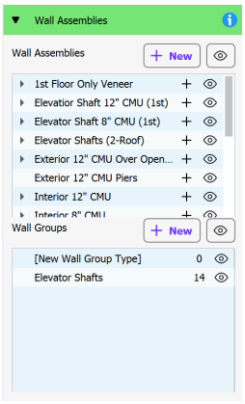
WALL ASSEMBLIES

Wall Assemblies define how walls are built, including their materials, construction logic, and application within a project. They are used to standardize wall types, control quantities, and ensure consistent reporting.

Wall Assemblies

Watch Demo

Wall Assemblies are the wall types used in your project. Most projects will need several assemblies to cover the different wall conditions before assigning them to the traced walls.



Each assembly includes the wall's basic setup and the materials that make up that wall.

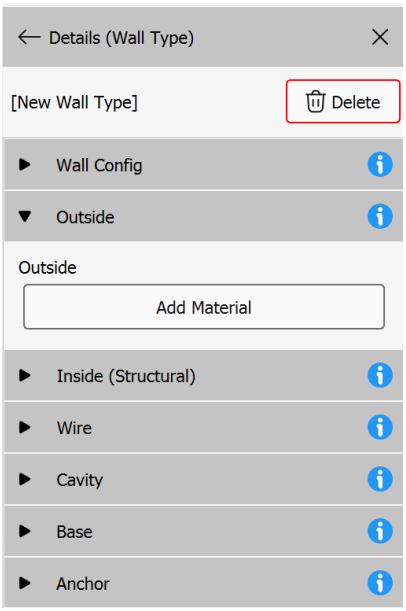
- In the right-hand panel, find **Wall Assemblies.**
- Click **+ New** across from **Wall Assemblies** to start a new wall type.
- The wall assembly details will open.
    - Start by entering a **Description**, which is the name of the wall type.
- Then set the wall **Shape, Height,** and **Base Elevation.**
- After the basic wall information is entered, continue through the expandable sections to add the materials and components that make up the full wall assembly.

Wall Material Selection

Watch Demo 1

Watch Demo 2

Wall Material Selection is where you define the materials and components that make up each wall assembly. This includes the exterior layer, interior structural layer, reinforcement, cavity materials, base drainage components, grout, and anchors. These selections help Revailo calculate accurate wall quantities and material reports.



Outside: Define outer layer material (e.g., brick veneer, stone)

-
    - **Select "add material" and choose the desired material**
    - **Bonding Type: Select a bonding type (defines how masonry units are arranged)**
    - **Flip Pattern: Mirrors the selected bonding layout.**

Note: The bonding pattern is typically predefined within the selected material. Global Bonding allows you to override the material's default bonding pattern for the current wall type only, without modifying the original material settings.

- **Inside: Define structural material (e.g., CMU)**
    - **Select "add material" and choose the appropriate material**
    - **Select a bonding type and flip pattern if needed.**

- **Wire:**
    - **Wire:**
        - **Enable to add horizontal reinforcement within masonry joints.**
        - **Select the required spacing based on project specifications.**
    - **Parapet Wire :**
        - **Enable if reinforcement is needed at the parapet.**
        - **Specify the height and spacing as required.**
- **Cavity: Define the airspace between the layers**
    - **Add material if applicable:**
        - **Cavity Fill: Insulation placed in the air space for thermal performance.**
        - **Waterproofing: Barrier that prevents water penetration.**
        - **Parge Coat / Collar Joint: Mortar layer used to seal and bond within the cavity.**
- **Base: Add base components as required:**
    - **Flashing: Directs water out of the wall system.**
        - **You may choose to deduct flashing from cells with rebar, if required, to avoid conflicts with reinforced cores.**
    - **Drip Edge: Projects outward to guide water away from the wall surface.**
    - **Weeps: Allow trapped water to drain from the cavity.**
        - **Specify the weep hole spacing according to project requirements.**
    - **Mortar Net: Mesh placed at the base of the cavity to prevent mortar blockage and allow drainage.**
    - **Grout: Fills masonry cores for structural strength.**
        - **Adjust the grout height and width as needed to match design requirements.**
- **Anchor: Add Anchor Material to assign anchors within the wall assembly.**

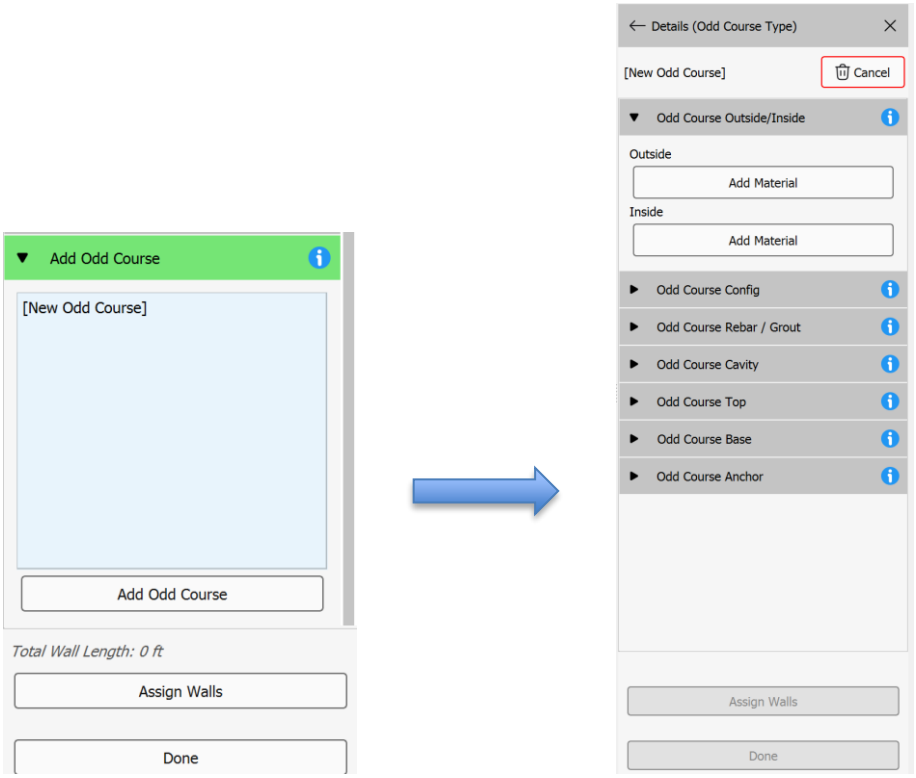
- **Specify Vertical Spacing and Horizontal Spacing**

Odd Course – Method 1

Watch Demo 1

Watch Demo 2

Odd courses are used to add special horizontal bands within a wall assembly, such as bond beams, accent courses, recessed bands, projected bands, or decorative masonry changes. These settings let you define where the band appears, what materials it uses, whether it repeats, and whether it includes rebar, grout, cavity materials, anchors, or top/base components.



- **Add Bond Beams & Accent Courses:**
  - Click **"Add Odd Course"**
- **Odd Course Outside/ Inside:**
  - Select material for **outside/inside** wythe.
  - You can select the bonding type and flip the pattern of the bricks on the elevation view
- **Odd Course Configuration:**

- **Description**: Enter a name for the odd course.
- **Band quantity** : Adjust the number (e.g., change from 1 to 2 for multiple bond beams).
- **Elevation:** Adjust band height/top elevation/ bottom elevation. The system calculates it automatically.
- **Add recess/projection** : A recess moves the wall inward, while a projection pushes the wall outward.
    - Choose the direction and set the spacing to apply the adjustment.
- **Repeat Option:**
    - Enable Repeat if the band should occur multiple times.
    - Choose whether the repetition occurs above or below.
    - Define the spacing between bands.
    - Set the number of repetitions and the elevation limit.

- **Odd Course Rebar/Grout:**
    - Select the **rebar material**, then specify the **rebar lap** and set the **quantity per cell.**
    - Select the **grout material** and set the **maximum span.**
    - Select **Rebar Positioner material** and set its **horizontal spacing.**
- **Select Odd Course Cavity.**
    - Click Add Material to assign materials within the cavity**.**
    - Add **Waterproofing and Parge Coat / Collar Joint** if required.
    - If applicable, enter the Height Deduction and specify whether it should be deducted from the top or from the bottom.
- **Odd Course Top:**
    - Add top components such as flashing, drip edge, and weeps as needed.
- **Odd Course Base:**
    - Add materials below odd courses for visual preference.
- **Odd Course Anchor:**
    - Use specific anchors if needed for unique cases (e.g., stone cornices).

- **Finish:**
    - After completing all categories, click the “Done” button

Note: You can add any number of odd courses to a wall type

Odd Course – Method 2 (from assembly list)

Watch Demo

Use this method to add an odd course directly from an existing wall type. This lets you quickly add bond beams, accent courses, recessed bands, projected bands, or other special wall conditions to a selected wall type.

- **Select the “+” Next to Wall Types that you want to add an odd course to**
    - **Next you will be directed to creating an odd course**

Note: Note: After this step, the remaining settings follow the same process as Odd Course Method 1

- Odd Course Outside / Inside
    - Select the material for the outside or inside wythe.
    - You may also choose the Bonding Type and Flip Pattern to control the brick layout in the elevation view.
- Odd Course Configuration
    - Description: Enter a name for the odd course.
    - Band Quantity: Adjust the number (e.g., change from 1 to 2 for multiple bond beams).
    - Elevation: Define the Band Height, Top Elevation, and Bottom Elevation. The system calculates the values automatically.
    - Recess / Projection:
        - A recess moves the wall inward, while a projection pushes the wall outward. Select the direction and spacing to apply the adjustment.
    - Repeat Option:
        - Enable Repeat if the band should occur multiple times. Choose whether it repeats above or below, define the spacing, the number of repetitions, and the elevation limit.

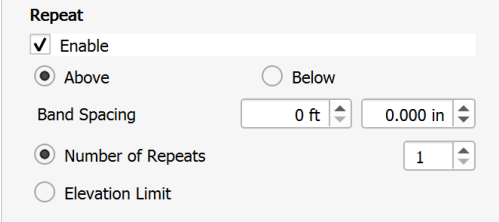
- Odd Course Rebar / Grout
    - Select the Rebar Material, define the Rebar Lap and Quantity per Cell.
    - Select the Grout Material and Maximum Span.
    - Add a Rebar Positioner and set its Horizontal Spacing.
- Odd Course Cavity
    - Select Odd Course Cavity and click Add Material to assign materials.
    - Add Waterproofing and Parge Coat / Collar Joint if required.
    - Enter Height Deduction from the top or bottom if needed.
- Odd Course Top
    - Add components such as Flashing, Drip Edge, and Weeps as needed.
- Odd Course Base
    - Add materials below the odd course for visual preference.
- Odd Course Anchor
    - Assign anchors if needed for special cases (e.g., stone cornices).
- Click “Done” after completing all categories.

Note: Multiple Odd Courses can be added to the same wall type.

Repeat an Odd Course

Watch Demo

Repeat an Odd Course is used when the same odd course needs to appear multiple times on a wall. This is helpful for repeated bond beams, accent bands, decorative courses, or recurring masonry details. Instead of creating each band separately, you can set the direction, spacing, quantity, and elevation limit, and Revailo will repeat the odd course automatically. Go to the Overview Panel and select Wall Assemblies.



- Choose the Wall Type, then click Add Course and select the Odd Course you want to edit.
- Go to the **Odd Course Configurations section.**
    - Select the checkbox next to **Enable Repeat** to activate the feature.
    - Choose whether to repeat the odd course **above or below** the existing one.
    - Band Spacing : Enter the spacing settings
    - **Number of repeats:** determine how many additional bands will be created.
- Optionally, you can use **Elevation Limits** to control where the repeated bands begin and stop along the wall height, allowing for more precise placement and customization.

Import Materials while building an Assembly

Watch Demo

Use this option to import materials while creating or editing a wall assembly. This lets you quickly pull materials from the Master Materials database into the current project without leaving the wall setup workflow.Click on Wall Assemblies and select any wall type to open the Wall Details Panel.

- While creating or editing a wall, click **Add Materials.**
- Open the **Master Materials** dropdown to browse the full material database.
- Select the material you want to use and Click **Import Selected to Current Project**.
- The material will now be added to the Project Database and available throughout the project.
- Double-click the newly added material to review or edit it.
- Click Done to confirm your selection.

Assigning Walls

Watch Demo

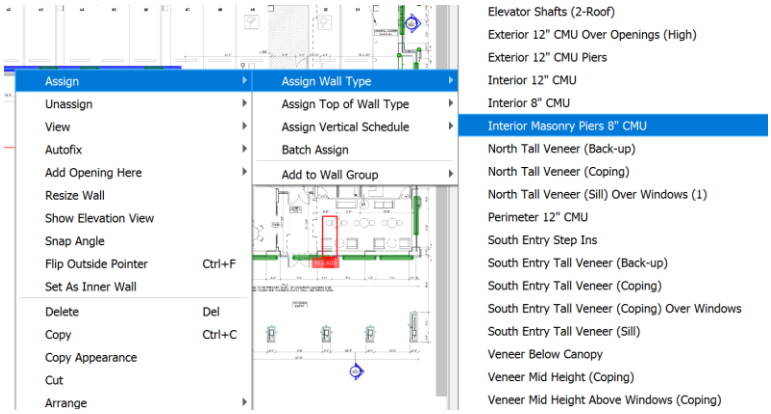
After creating a wall assembly, click Assign Walls to start assigning that wall type.

- Revailo will guide you to the correct floor plan and scaled region. If you are already on a scaled region, Revailo may go directly into assignment mode.
- In assignment mode, the selected wall assembly stays active. Click any wall you want to assign, and continue clicking additional walls without reopening the assignment menu each time.
- You can assign walls in 2D, 3D, or switch between both views while working.
- In 2D or 3D, hold the Spacebar to pan and scroll to zoom. In 3D, use the mouse to navigate the model.
- As walls are assigned, they will update to the color of the selected wall assembly. In 2D, a W marker will appear near the middle of the assigned wall. In 3D, you will see the rendered wall or walls update in the model.

Assigning Walls in 2D

Watch Demo

Assign Walls in 2D lets you apply wall types and related conditions directly from the PDF view. Assigned walls update by color and are used for takeoff quantities, material calculations, and reports.



Assign Walls from PDF View:

- Make sure the plan area is within a scaled region.
    - Green = scale accepted
    - Red = scale needs confirmation
- Right-click on the selected wall(s).

- Choose Assign → Assign Wall Type.
- Select the wall type you want to apply.
- The wall color will change to the color of the new wall type.

Batch Assign Walls:

- Right-click any wall.
- Select Assign → Batch Assign.
- Use the dropdown menus to assign:
    - Wall Type
    - Top of Wall
    - Vertical Schedule

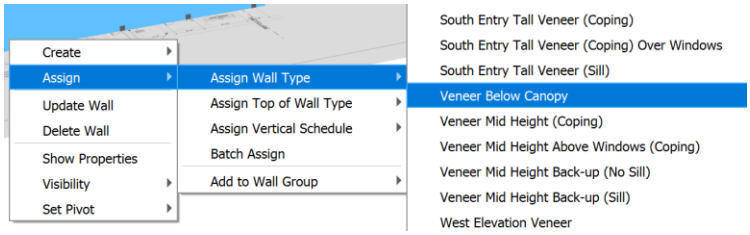
Note: You can hover around the wall, to the see the ledger. If you click Shift you will see the wall type that you assigned

Unassign Wall Type:

- To remove a wall type entirely: Right-click the wall and select “Unassign” > “Unassign Wall Type.”
- Same process for unassigning top-of-wall or vertical schedules.

Assigning Walls in 3D

Watch Demo



Assign Walls in 3D Mode lets you apply or change wall types directly from the 3D view. This helps you review the model visually while assigning wall types, batch assigning multiple walls, or removing wall assignments when needed.

Assign Walls in 3D Mode:

- Click the 3D icon located in the top-right corner of the PDF window.
- Select the wall to assign a wall type.

- Right-click on the selected wall(s).
- Choose Assign → Assign Wall Type.
- Select the wall type you want to apply.
- The wall color will change to the color of the new wall type.

Batch Assign Walls:

- Hold Shift and click on walls to automatically assign the selected wall type

Unassigning a Wall

Change Wall Type:

- To change the wall type, **Right-click** the wall and select **Assign--> Assign Wall Type**

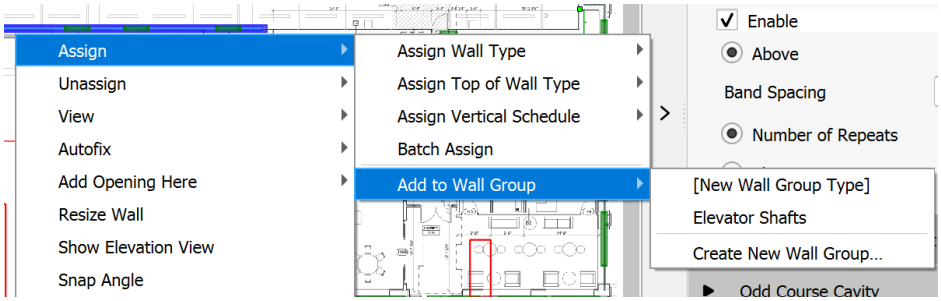
Unassign Wall Type:

- Select the wall, right-click, and choose “Unassign” > “Unassign Wall Type.”

Wall Groups

Watch Demo

Wall Groups let you organize related walls so you can report on them separately later.



For example, you can create a wall group for elevator shafts, assign the shaft walls to that group, and then run a report for only those walls. This helps with ordering materials, planning production, and estimating costs for specific parts of the project.

- In Wall Assemblies, go to the Wall Group section and click + New.

- Enter a name for the wall group, then click Done.
- **To assign walls from the PDF view**, go to the floor plan and select the walls you want to include. You can click a single wall, click and drag across multiple walls, or hold Ctrl and click each wall.
- Right-click and choose Assign, then select Add to Wall Group.
- Choose the wall group from the dropdown menu, then click Assign.
- **You can also assign walls while creating the wall group.** After entering the wall group name, click Assign Walls and follow the guided steps to choose the floor plan and select the walls you want to include.
- Click Done to confirm.

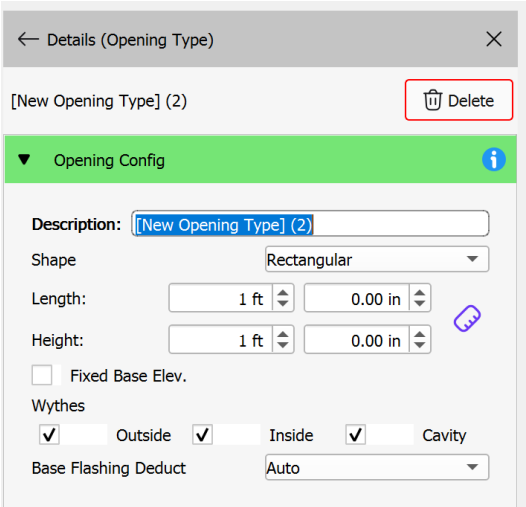
OPENINGS

Openings represent wall cutouts such as doors, windows, and other penetrations. They define the size and location of voids in walls, subtract wall quantities accordingly, and include associated materials for accurate takeoff and reporting

Create an Opening Assembly

Watch Demo

Openings are used to create and define door, window, or other opening types that can be assigned to walls in the project. Each opening type stores its shape, dimensions, elevation, wythe placement, and flashing settings so Revailo can calculate wall deductions and material quantities accurately.



- Go to **Overview** section and select **Openings.**
- Begin by clicking the "+" button to create a new opening type.

Enter Opening Configuration

- Description: Enter a name for the opening type.
- Shape: Choose the desired shape—rectangular, arched, or oval.
- **Dimensions:**
    - Option 1: Manual Entry or Ruler Tool

        - Enter the length and height directly
    - Option 2: Measured Input from Elevation Page
        - Click the ruler icon next to the dimension fields.
        - Select the elevation page where the opening is located.
        - Choose a region:
            - Select an existing view region by clicking on its edge, or
            - Click “Create New Region” to define a new one.

(Choose the scale, or enter a scale.)

- Click Done.
- In the scaled region:
- Click and drag to draw a box around the opening.
- Click Done to apply the measurement.
- The length and height will automatically populate.

Set Elevation

- The default setting is the **base elevation** for the opening
- Choose if you want it relative to the ground or elevation.

Select Wythes

- Choose the type of **wythes** (outside, inside, or cavity) for the opening.

Base Flashing Deduct

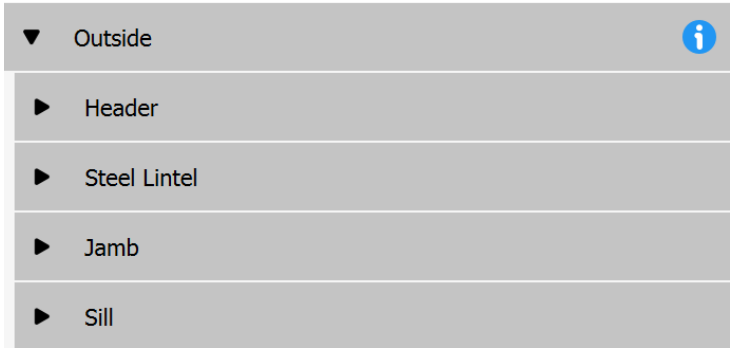
- Enable the “auto” setting for automatic flashing removal at the base of the wall.
- If the base height is adjusted, flashing removal will not occur.

Selecting Materials: Outside Components

Watch Demo

Outside Components define the exterior materials and details around an opening, including the header, lintel, jambs, sill, flashing, and drainage

components. These settings help calculate the correct materials for doors, windows, and other openings.



- Go to Overview section and select Openings.
- Begin by clicking the "+" button to create a new opening type.
- Then select Outside
- **Header:**
    - Add materials for the **header** and specify the **bearing length** *(how far the header sits on the supporting wall on each side)* and custom the **height**.
    - Configure:
        - **Flashing** – *prevents water from entering above the opening*
        - **Drip edge** – *directs water away from the wall face*
        - **Weep** – *drains moisture*
        - **Mortar net** – *keeps drainage paths clear*
- **Steel Lintel:**
    - Add the lintel material. (*structural support above the opening)*
    - Specify the **number of lintels** required.
    - Define the **bearing length.**
- **Jamb:**
    - Add jamb materials. *(vertical sides of the opening).*
    - Define configurations for:
        - **First and second course** (Right and left sides): *controls the material layout around the opening edges*
        - **Unit width**

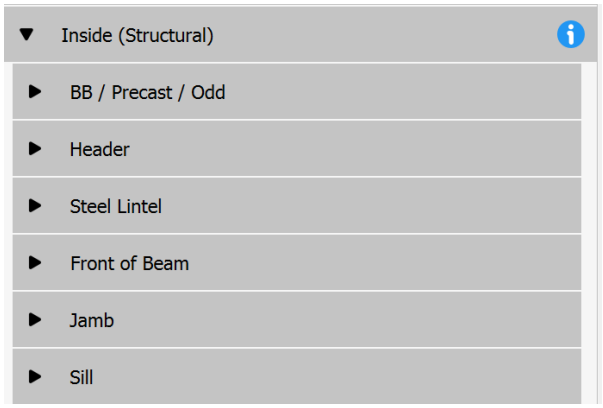
- Optionally, enable **vertical flashing** *(protects sides from water)* and specify its **return depth**.(*defines how far the flashing extends into the wall)*

- **Sill:**
  - Add the sill material *(bottom horizontal surface of the opening).*
  - Specify the **height from the base of the opening.**
  - Add materials for:
    - **Bottom flashing** - *prevents water from entering below the opening*
    - **Drip edge** - *directs water outward*
    - **Weep system** – *allows water to drain out*
      - Configure **Weep hole spacing** *(distance between weeps)*
  - Configure **lug direction** *(how sill extends into masonry)*

Selecting Materials: Inside Components

Watch Demo

Inside Components define the interior materials and structural details around an opening, including headers, lintels, jambs, sills, reinforcement, grout, and beam faces. These settings help calculate the correct interior materials and support conditions for doors, windows, and other openings.



- **BB/ Precast/ Odd**:

Add material for **BB/Precast/Odd***(special structural or custom masonry units)* as required.

-
    - Specify:
        - Number of courses *(stacked vertical layers)*
        - Bearing length *(how much it rests on supports)*
    - Optional:
        - **Rebar** (steel reinforcement inside masonry)
            - Define number of **Rebar per cell** (number of steel bars in each block cell)
        - **Grout** (fills cells to strengthen assembly)
- **Header(Structural):**

Add **header materials** *(horizontal structural support above the opening)* and specify the **bearing length** *(how far it sits on the supporting wall on each side)*, direction *(which side it bears toward), and* customize the **height.**

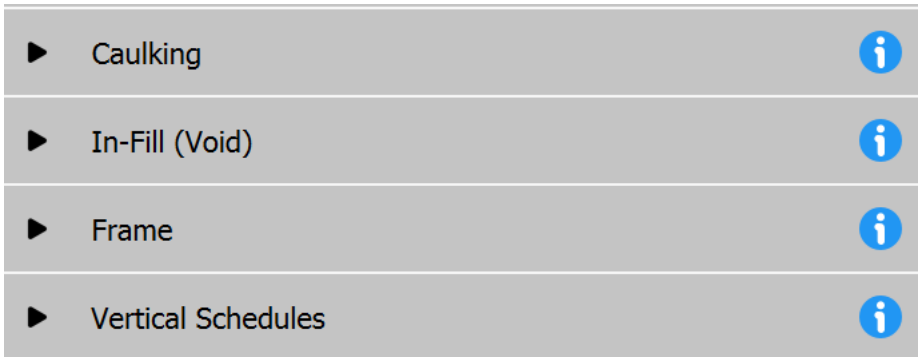
- Configure:
    - **Flashing** - *blocks water entry*
    - **Drip edge** - *pushes water away from wall*
    - **Weep + spacing** - *drains water at set intervals*
    - **Mortar net** - *prevents clogging of drainage space*
- **Steel Lintel:**
    - Add the lintel material. *(structural support above the opening)*
    - Specify the **number of lintels** required.
    - Define the **bearing length.**
- **Front of Beam:**
    - Add material to the visible face of the interior beam *(finish or enclosure layer).*
    - Specify **Number of courses** (stacked layers)
    - Define **Bearing length** (support depth)
- **Jamb:**

- Add materials for First and second course (left and right) **(edge detailing around opening)**
- Set **Unit width** (width of masonry units)
- Optional: Add **Vertical flashing** (protects sides from water infiltration)

- **Sill:**
  - Add sill material (bottom horizontal element of opening).
  - Set **Height** from base (vertical placement)
  - Configure:
    - **Bottom flashing** - protects underside from water
    - **Drip edge -** directs water outward
    - **Weep + spacing** - allows controlled drainage
    - **Lug direction-** how the sill extends or anchors into adjacent masonry

Selecting Materials: Additional Options

Watch Demo



Additional Configuration Options

- **Caulking**:
  - Add caulking materials *(seals joints to prevent air and moisture infiltration)* for both **inside and outside** of the opening.
  - Option available to skip bottom caulking *(typically for doors).*
- **In-fill (Void)**: Select materials to fill the opening space (e.g., glass or panels).

- Optional:
    - Enable global bonding *(applies consistent masonry pattern)*
    - Specify bonding type and flip pattern
- **Frame Fill**:
    - For hollow metal frames, define:
        - **Head height**
        - **Jamb width**
    - Select which sides of the frame should be filled.
- **Vertical Schedules**:
    - Add **Jamb rebar** *(vertical reinforcement)*
        - Set:
            - **Cell count** - number of reinforced cells
            - **Rebar lap** - overlap length of bars
            - **Rebar per cell -** bars in each cell
        - Optional: Stop at Opening
    - Add **Jamb Grout** *(fills cells to secure rebar).*
        - Set:
            - **Max lift** *(height poured at once)*
        - **Above Opening Rebar**
            - Choose:
                - Maintain - default reinforcement
                - None - remove rebar
                - Spacing - set distance
                - Quantity - set number of bars
    - **Below Opening Rebar**
        - Choose Maintain, Same as above, None, Spacing, Quantity
- **Finalize and Edit**
    - Once all components have been configured, click **Done**

How to add an Opening Type

This section shows you how to add an opening type to your project and choose how it should be placed or assigned.

Add Openings

- Go to the Overview section and select Openings.
- Choose the opening type.
- Click “Add Openings” at the bottom to begin.
- **Follow the Guidance Steps**
    - Complete the configuration steps until you reach the assignment stage.
- **Assignment Options**
    - **Place New Openings**: Place a new opening where one wasn’t detected.
    - **Assign AI Opening or Replace Existing**: Apply opening properties to an existing opening automatically identified by AI.
    - **Free Edit Mode**: Move an opening by clicking and dragging it to the desired position.

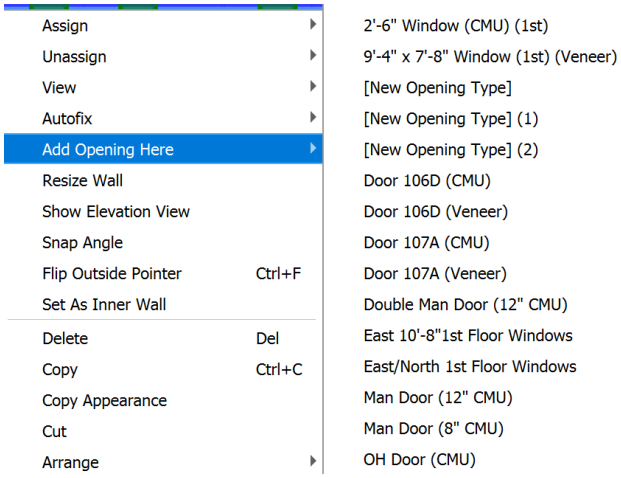
If there are compatible openings available, four options will appear:

- **Review and Assign Opening**
    - After selecting this option and clicking Next, you can review each compatible opening individually and assign the one you want.
- **Accept and Assign All Openings**
    - Automatically accept and assign all compatible openings at once.
- **Accept All and Place Additional Opening**
    - Accept all compatible openings, then proceed to place an additional opening if needed.
- **Reject All and Place Additional Opening**
    - Reject all compatible openings and place a new opening manually.

Add Openings in 2D

Watch Demo

After creating an opening assembly, you can place it directly on a wall from the PDF view.



Assign Openings from PDF View:

- Ensure the plan area is within a scaled region (green = scaled, red = needs confirmation).
- Right-click the desired wall or walls and select “Add Opening Here.”
- Choose the correct opening type to continue.
- To reposition, click and drag the opening to the desired location.

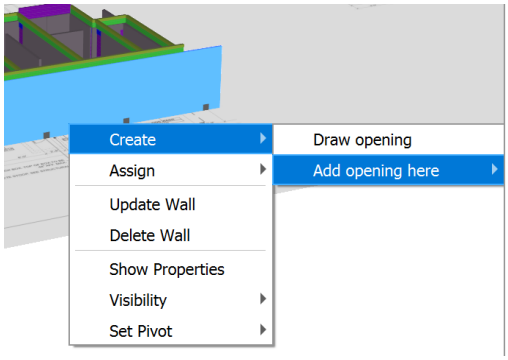
Batch Assign Walls:

- Right-click a wall and choose “Assign” → “Batch Assign.”
- Use dropdown menus to assign wall properties (wall type, vertical schedule, top of wall).

Add Openings in 3D

Watch Demo

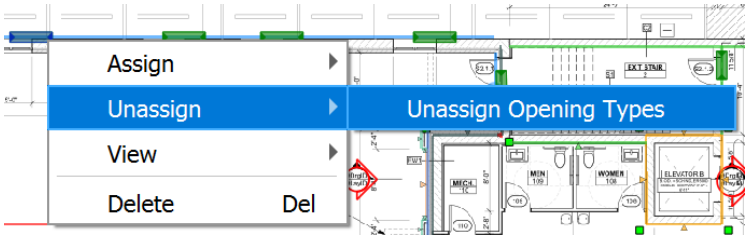
Assign an opening in 3D View by selecting a wall, adding an opening type, or manually drawing the opening where needed.



- Access the 3D view by clicking the isometric cube in the top-right corner.
- **Left Click on the wall** where you want to add an opening, then **right-click, select Create > Add Opening Here,** and choose the desired opening type.
- Alternatively, you can **right-click on a wall, select Add > Draw Opening,** and **manually draw the opening.**

Unassign an Opening Type

Use Unassign to remove the opening assembly while keeping the opening on the plan.



To unassign an opening in

- **2d view:**
  - In 2D, assigned openings appear green. Right-click the assigned opening and select Unassign.
  - The opening will change from green to red, showing that the assembly has been removed.
- **3D View:**
  - In 3D, assigned openings display as actual openings in the wall. To unassign one, left-click the wall to highlight it, then right-click the opening and select Unassign.
  - Once unassigned in 3D, the opening will show as a small box near the bottom of the wall.

Delete a Wall:

- To remove the opening completely, select the opening and press Delete.

Task Descriptions

Authentication

Logging In

Upon opening the Revailo app, you'll be prompted to log in or sign up for an account if you don't have one. Enter your email and password, then click 'Login'. If you've forgotten your password, you can request a reset. Note that logging in requires an internet connection.

Logging Out

To log out, click the 'Logout' button located in the File menu (top bar). A menu will appear showing your account information. Click 'Logout' again to confirm. Note that logging out will erase local data, and you will not be able to work offline until you log in again.

Project Management

Creating a Project

To create a project, click 'New Project' in the File menu (top bar). This opens the Create Project menu. Enter a unique project name for your organization, then add PDF documents from local storage by clicking the 'Add' button. To remove a document, select it and click 'Remove'. To rename a document, double-click its name to edit it. At least one document must be added to create a project.

Next, select an organization material database from the dropdown menu or create a new one using the 'Create New Database' button. Finally, click 'Create Project' in the lower right corner to upload your project data to the cloud and initiate AI analysis of the project documents.

Editing a Project

To edit the current project, click 'Edit Project Information' in the File menu (top bar). This opens the Edit Project menu, where you can modify the project name, manage documents, and update the material database. Use the 'Add' button to select a PDF document from local storage, 'Remove' to delete a document from the project, 'Recover' to restore a previously removed document, and double-click a document name to rename it. When you're done, click 'Edit Project' in the lower right corner to apply your changes and reload the project.

Deleting a Project

If you are an Organization Superuser, Organization Owner, or Project Owner, you can delete a project by navigating to File → Delete → Delete Project and selecting the

project. Once selected, the project will be marked for deletion, with an option to recover it within 60 days. If you delete the currently open project, it will be saved, closed, then deleted.

Recovering a Project

If you are an Organization Superuser, Organization Owner, or Project Owner, you can recover a project by navigating to File → Delete → Recover Project and selecting the project. The project will then be available for editing. Note that projects can only be recovered within 60 days of deletion.

Managing Collaborators (coming soon)

~~To manage project collaborators, click the 'Collaborators' icon in the toolbar to open the Collaborators menu. Here, you can view the current project collaborators from a dropdown menu, allowing you to select and view their annotations. Click 'Manage Collaborators' to open a second menu, where you can see a list of current collaborators and a dropdown menu of other organization members who are not yet collaborators. To invite a member, select their name and click 'Invite Collaborator'. This adds them to the collaborators list and sends an email invitation to their Revailo account. You can also remove users and edit their permissions in this menu. Only organization owners, superusers, project owners, and project superusers can invite and manage users.~~

AI (Artificial Intelligence)

Initiating AI Analysis

When a project is created, AI analysis automatically begins on all project documents. However, you may need to reanalyze a document or part of a document for various reasons.

The analysis occurs in two main steps:

1. **Global Analysis**: A first pass on the entire document to identify page types, table of contents, hyperlinks, and zones. Once completed, the results are returned to the program.
2. **Complete Analysis**: A detailed analysis of specific pages, such as Floor Plans and Elevation Views, to identify walls, openings, elevations, hyperlinks, and scales. This step may take a few minutes, and the results are then returned to the program.

An OCR analysis (text extraction) is also performed in the cloud to enhance the performance of our chat assistant.

Initiating Floor Plan Analysis

Our AI engine automatically identifies pages as Floor Plans or Elevation Views and performs specialized analysis on them. After the initial analysis, you may find that not all Floor Plan pages were correctly identified. In this case, go to the “Manage Pages’ section and manually select these pages. When you click 'Done,' the newly selected pages will be reanalyzed as Floor Plans.

If the AI engine missed a Floor Plan region, adding a new region on a Floor Plan page will trigger reanalysis for walls and other relevant annotations.

Initiating Elevation View Analysis

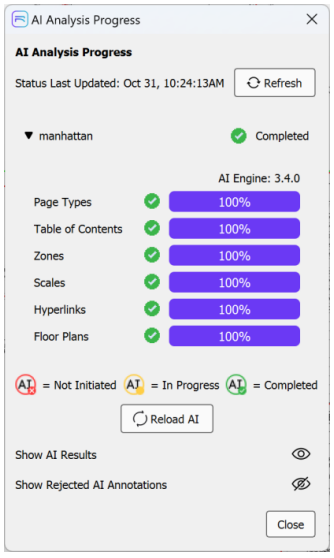
Similar to Floor Plan pages, the AI may not identify all of your Elevation View pages during the initial analysis. To correct this, go to the 'Manage Pages’ section and select the missing pages. When you click 'Done,' the newly selected pages will be reanalyzed as Elevation Views.

If the AI missed an Elevation View region, adding a new region will trigger reanalysis for openings and other relevant annotations.

Reanalyzing with an Updated AI Engine

Our AI engine is continuously updated and improved. When a new version is launched, you will be notified and asked if you'd like to reanalyze your documents using the latest version. Simply accept the prompt, and your project documents will be fully reanalyzed. This must be done individually for each project.

AI Progress Report



To view a detailed progress report of the AI analysis for each project document, click the AI icon in the toolbar. A menu will pop up showing the progress of each document. If analysis is complete, a green checkmark and 'Completed' will be

displayed; otherwise, you'll see the current progress. To view more details, click the expand button next to the document name. You can see when the analysis started, the AI engine version being used, and the progress of each analysis type. If multiple analyses are requested, the combined progress will be shown (e.g., if you analyze pages 1-2, then pages 3-4, the progress for pages 1-4 will be displayed).

Terminating AI Analysis

To stop an ongoing document analysis, expand the document details in the AI Progress Report menu and click the stop button . This will stop the analysis on our cloud servers, and you will need to request a reanalysis to restart it.

Reviewing AI Annotations

Once an AI analysis is complete, newly identified annotations will be added to your document pages, marked (on hover) with an 'AI'. When you edit these annotations, they automatically become user annotations.

Accepting AI Material Types

When AI analysis is complete, newly identified AI Material Types will be added to the Collaborator Material Type lists, marked with '(AI)'. Before they become part of your project and can be edited or assigned, you must review and accept them. To do so, click the Material Type in the list to open the Details tab and review its specifications. Click 'Accept' to add it to your project or 'Reject' to remove it from the list.

Materials

Importing Project Materials

After selecting an organization material database, you need to choose specific materials for your project. These materials can typically be found by reviewing your documents for listed diagrams and notes. To import materials, open the Overview tab, then go to Project Information and click 'Import Project Materials'. This will open the Materials tab on the left, showing all organization database materials grouped by class. Select the materials to import, using the search bar if needed. When finished, click 'Import to Project'.

Editing Materials

You can duplicate, remove, or edit materials by right-clicking on the material and selecting an option. When editing, a popup window will display the material's current parameters. Modify any parameter as needed, then click 'Save' to apply changes, creating a new version of the material.

General

This section contains the material class (Brick, CMU, etc.), the material ID, the material description, and the color code of the material.

Material Specifications

This section contains the parameters for the material: width, height, length, bonding, side bonding, mortar and Unit/CuFt mortar.

Price

This section allows the user to set the price of the material per square feet, the price of the material per piece, waste factor, and the tax rate.

Cube/Strap/Roll/Box/Bundle/Bag

This section allows the user to set parameters relating to cube, strap, roll, box, bundle or bag.

Labor

This section allows the user to set the lay rate of the material, as well as the labor per unit.

Percent

This section allows the user to set the percentage of the material that is solid, as well as the cell count.

Cleaning

This section allows the user to specify the cleaning of the material.

Adding New Materials

To add new materials, click the ‘+’ button. This will open a popup window similar to the editing window, where you can set the new material and its parameters. When done, click 'Save' to apply the changes.

Construction

Creating Walls

To create a new Wall Type, go to the Wall Construction section in the Overview tab and click the '+' button. A new Details tab will appear with multiple sections to configure the Wall Type settings.

- Wall Config
    - Set the name

    - Set the shape and its associate parameters
    - Set the height and base elevation
- Outside
    - Select a material and adjust its parameters if necessary. This will open another tab where you can select materials from the project table. Only allowed material for each category will be visible and available to add to the corresponding part.
- Inside
    - Select a material and adjust its parameters if necessary
- Wire
    - Wire: Select a material and adjust its parameters if necessary
    - Parapet Wire: Select a material and adjust its parameters if necessary
- Cavity
    - Select Air Space
    - Cavity Fill: Select a material and adjust its parameters if necessary
    - Parging/Collar-Joint: Select a material and adjust its parameters if necessary
- Base
    - Flashing: Select a material and adjust its parameters if necessary
    - Drip Edge: Select a material and adjust its parameters if necessary
    - Weep: Select a material and adjust its parameters if necessary
    - Mortar Net/Pea Gravel: Select a material and adjust its parameters if necessary
    - Grout: Select a material and adjust its parameters if necessary
- Anchor
    - Select a material and adjust its parameters if necessary
- Add Odd Course
    - You can add an odd course to a wall, this will bring you to the odd course details tab where you adjust the settings

Creating Odd Courses

- Odd Course Outside/ Inside
    - Outside: Select a material and adjust its parameters if necessary
    - Inside: Select a material and adjust its parameters if necessary
- Odd Course Config
    - Set the name

    - Set the bands quantity and the space between them
    - Set the position and the elevation
    - Set the height and base elevation
- Odd Course Rebar/Grout
    - Rebar: Select a material and adjust its parameters if necessary
    - Grout: Select a material and adjust its parameters if necessary
    - Rebar Positioner: Select a material and adjust its parameters if necessary
- Odd Course Cavity
    - Cavity Fill: Select a material and adjust its parameters if necessary
    - Parging/Collar-Joint: Select a material and adjust its parameters if necessary
- Odd Course Top
    - Flashing: Select a material and adjust its parameters if necessary
    - Drip Edge: Select a material and adjust its parameters if necessary
    - Weep: Select a material and adjust its parameters if necessary
- Odd Course Base
    - Flashing: Select a material and adjust its parameters if necessary
    - Drip Edge: Select a material and adjust its parameters if necessary
    - Weep: Select a material and adjust its parameters if necessary
- Odd Course Anchor
    - Select a material and adjust its parameters if necessary

Creating Openings

To create a new Opening Type, go to the Openings section in the Overview tab and click the '+' button. A new Details tab will appear with multiple sections to configure the Opening Type settings.

- Opening Config
    - Set the name
    - Set the shape
    - Set the length, height
    - Choose base elevation (or not)
    - Choose the wythes and base flashing deduct
- Outside
    - Header

        - Header: Select a material and adjust its parameters if necessary
        - Flashing: Select a material and adjust its parameters if necessary
        - Drip Edge: Select a material and adjust its parameters if necessary
        - Weep: Select a material and adjust its parameters if necessary
        - Mortar Net: Select a material and adjust its parameters if necessary
        - Select bearing and side
    - Steel Lintel
        - Select a material and adjust its parameters if necessary
    - Front of Beam
        - Select a material and adjust its parameters if necessary
    - Jamb
        - For right and left parts of the opening, select a material for 1st and 2nd courses and adjust its parameters if necessary
        - Vertical Flashing: Select a material and adjust its parameters if necessary
    - Sill/Header/Band
        - Sill/Header/Band: Select a material and adjust its parameters if necessary
        - Bottom Flashing: Select a material and adjust its parameters if necessary
        - Drip Edge: Select a material and adjust its parameters if necessary
        - Weep: Select a material and adjust its parameters if necessary
        - Select lug and return depth
    - Select return Depth
- Inside
    - Header
        - Header: Select a material and adjust its parameters if necessary
        - Flashing: Select a material and adjust its parameters if necessary
        - Drip Edge: Select a material and adjust its parameters if necessary
        - Weep: Select a material and adjust its parameters if necessary
        - Mortar Net: Select a material and adjust its parameters if necessary
        - Select bearing and side
    - BB/Precast/Odd
        - BB/Precast/Odd: Select a material and adjust its parameters if necessary
        - Rebar: Select a material and adjust its parameters if necessary
        - Grout: Select a material and adjust its parameters if necessary

    - Steel Lintel
        - Select a material and adjust its parameters if necessary
    - Front of Beam
        - Select a material and adjust its parameters if necessary
    - Jamb
        - For right and left parts of the opening, select a material for 1st and 2nd courses and adjust its parameters if necessary
        - Vertical Flashing: Select a material and adjust its parameters if necessary
    - Sill/Header/Band
        - Sill/Header/Band: Select a material and adjust its parameters if necessary
        - Bottom Flashing: Select a material and adjust its parameters if necessary
        - Drip Edge: Select a material and adjust its parameters if necessary
        - Weep: Select a material and adjust its parameters if necessary
        - Select lug
- Caulking
    - Inside Caulking: Select a material and adjust its parameters if necessary
    - Outside Caulking: Select a material and adjust its parameters if necessary
- In-Fill (Void)
    - Select a material and adjust its parameters if necessary
- Frame
    - Frame Fill: Select a material and adjust its parameters if necessary
- Vertical Schedules
    - Jamb Rebar: Select a material and adjust its parameters if necessary
    - Jamb Grout: Select a material and adjust its parameters if necessary
    - Adjust the schedule's parameters

Placing Openings

To place an opening, follow the guided steps to add it to a wall. Once placed or assigned, the opening can be moved as needed.

Creating Top of Walls

To create a new Top of Wall Type, go to the Top of Wall section in the Overview tab and click the '+' button. A new Details tab will appear with multiple sections to configure the Top of Wall Type settings.

- Top of Wall Config
    - Set the name
- Coping
    - Select a material and adjust its parameters if necessary
- Flashing
    - Select a material and adjust its parameters if necessary
- Drip Edge
    - Select a material and adjust its parameters if necessary
- Anchor Bolt
    - Select a material and adjust its parameters if necessary
- Dowel
    - Select a material and adjust its parameters if necessary
- Fire Safeing
    - Select a material and adjust its parameters if necessary

Creating Vertical Schedules

To create a new Vertical Schedule Type, go to the Vertical Schedule section in the Overview tab and click the '+' button. A new Details tab will appear with multiple sections to configure the Vertical Schedule Type settings.

- Vertical Schedule Config
    - Set the name
- Rebar/Grout
    - Set the spacing or the number of rebar per wall
    - Rebar: Select a material and adjust its parameters if necessary
    - Grout: Select a material and adjust its parameters if necessary
    - Void Fill Grout: Select a material and adjust its parameters if necessary
    - Rebar Positioner: Select a material and adjust its parameters if necessary
- Control Joint
    - Set the spacing of control joints and the repeat frequency
    - Set the minimum distance from a corner
    - Control Joint: Select a material and adjust its parameters if necessary
    - Backer Rod: Select a material and adjust its parameters if necessary
    - Caulk: Select a material and adjust its parameters if necessary
    - Rebar: Select a material and adjust its parameters if necessary

- Grout: Select a material and adjust its parameters if necessary
- Rebar Positioner: Select a material and adjust its parameters if necessary

Microadjustments

From the Vertical Schedule Type, click 'Microadjustments' to adjust the vertical schedule of a specific wall. A guidance tab will open, prompting you to select a wall on the floor plan. You will then view the wall's elevation to move/add/delete rebar or control joints, and select or deselect grouted cells.

Creating Corners

To create a new Corner Type, go to the Corner section in the Overview tab and click the '+' button. A new Details tab will appear with multiple sections to configure the Corner Type settings.

- Corner Config
  - Set the name
  - Set the height and base elevation
- Outside/Inside
  - Outside: Select a material and adjust its parameters if necessary
  - Inside: Select a material and adjust its parameters if necessary
- Add Corner Odd Course
  - You can add an odd course to a corner the same way you do it for a wall, this will bring you to the corner odd course details tab where you adjust the settings

Creating Corner Odd Courses

- Odd Course Outside/Inside
  - Outside: Select a material and adjust its parameters if necessary
  - Inside: Select a material and adjust its parameters if necessary
- Odd Course Config
  - Set the name
  - Set the bands quantity and the space between them
  - Set the position and the elevation
  - Set the height and base elevation

Assigning Material Types

Once the material types are created, they need to be assigned to the corresponding walls. The process is the same for Wall Construction, Top of Wall, and Vertical Schedule. First, select the type you want to assign and click 'Assign Walls' in the Details tab. A new tab will then guide you step-by-step on how to assign the material type to walls.

Labor

Creating Labor

To create a new labor, click on the ‘Add Labor’ Button. This will populate the right side of the screen with widgets for you to fill out the details of the labor.

Labor Details

This section contains the Description and the ID (identifier) of the labor task.

Wages

This section allows you to define the wages to be paid for the specific labor. Each wage needs to have a description (e.g. Base) and a rate.

Fringes

This section allows you to define the fringe benefits for the labor. Each fringe needs to have a description and an amount/rate.

Burdens

This section allows you to define the burdens for the labor. There are 5 already added: Social Security, Workmen’s Compensation, Federal Unemployment Insurance, State Unemployment Insurance, and Liability Insurance. We have provided 2 extra fields if needed.

Equipment

Creating Equipment

To create a new equipment, click on the ‘Add Equipment Button. This will populate the right side of the screen with widgets for you to fill out the details of the equipment.

Equipment Details

This section allows you to define the description, id, and the cost per day of the equipment.

Crew

Creating Crew

To create a new crew, click on the ‘Add Crew Button. This will populate the right side of the screen with widgets for you to fill out the details of the crew.

Crew Details

This section allows you to define the description and the id of the crew.

Crew Labor

In this section, you can assign laborers to a crew. The laborers available for assignment are those you specified earlier in the Labor tab.

When adding a laborer, you will have the option to select the category of their role from the following options: Bricklayer, Supervisor, Laborer, or Operator. Additionally, you can define their hours as regular, 1.5 times, or double time, as well as specify the quantity of laborers needed for the task.

The only role to be considered in the final production calculation will be the Bricklayers. All other roles will be ignored. They will still count towards the final cost.

Crew Equipment

In this section, you can assign equipment to a crew. The equipment available for assignment are those you specified earlier in the equipment tab. You can also specify the quantity of the equipment to be used, which will be factored in the final cost.

Shortcuts and Interactions

Global Shortcuts

Key Press Event	Interaction	Description
Ctrl + Q	Quit	Exit the program
Ctrl + S	Save project	Save the last changes made on the current project on the cloud and in the cache
Ctrl + O	Open Project	Open the project list popup
Ctrl + N	New Project	Open the new project creation popup
Ctrl + E	Edit Project	Open the edit current project information popup
1	PDF/3D Tab	Go to the PDF/3D tab
2	Building Tab	Go to the Building tab
3	Section View Tab	Go to the Section View tab
4	Rendered Elevation View Tab	Go to the Rendered Elevation View tab
5	Report Tab	Go to the Report tab

Building Shortcuts

Key Press Event	Interaction	Description
Esc	Stop drawing alignment line	Reset the drawing mode to select and drag with the mouse
Enter	Switch between plans	Iterate through the list of plans to change the selected one

Report Shortcuts

Key Press Event	Interaction	Description
Escape with selected content	Reset cell content	For a blue cell (modified content), reset to the original computed value

PDF View Shortcuts

Key Press Event	Interaction	Description
Arrow Keys	Pan around the PDF	If the page is zoomed in, move around the page
Home Key	Go to Page 1 of the PDF	
End Key	Go to last page of the PDF	
PgUp Key	Go to next page of the PDF	
PgDown Key	Go to previous page of the PDF	
J Key	Return to page	Go to the previous page viewed
S Key	Toggle Snap Angle	Toggle on and off the “Snap Angle” tool
Mouse Scroll Wheel	Zoom in/out	
Ctrl + Mouse Scroll Wheel	Go to next/previous page	
Trackpad – Pinch	Zoom in/out	Pinch two fingers together or apart to zoom in and out on the canvas
Trackpad – Two-finger drag	Scroll / pan the view	Slide two fingers to move around the page vertically and horizontally
Ctrl + Click	Select Multiple Walls	Keep control pressed and click on walls to select them

Ctrl + Number (1, 2, 3…)	Autofix modes	For each number, a mode is associated and will trigger one of the possible modes of Autofix. **Number 1** is default and will trigger the automatic Autofix mode. Nothing happens if the selected mode is not available for the current configuration of selected walls
Spacebar pressed	Toggle Drag/Select mode	Switch between drag mode when you can move around the PDF and select mode when you can select items
Shift - while resizing a wall	Snap to closest corner	The corner you are moving will snap to the closest corner if there is one
Shift - while hovering a wall	Show details	Show details on the types assigned to the wall
Del	Delete selected walls	
Ctrl + Z	Undo	
Ctrl + Y	Redo	
Tab when one wall selected	Select neighbor	Press Tab multiple times to loop through the walls connected to the originally selected wall
Esc	Restore Select mode	

PDF View Touch Screen Interactions

Touch Event	**Interaction**	**Description**
Tap or drag	Select items	Select the items tapped or the items in the select box
Long press	Right click menu	Gives the same interaction as a right click

Double tap	Change page	If you double tap on the bottom part of the page, it will go to the next page of the PDF, and if you double tap on the top of the page, it will go to the previous page of the PDF
Two fingers drag	Pan around the PDF	If the page is zoomed in, move around the page
Two fingers pinch	Zoom in/out	Bring two fingers together to zoom out, and move them apart to zoom in

3D Rendering Shortcuts and Interactions

Mouse Interactions

Mouse Event	**Interaction**	**Description**
Left click	Select object	Objects such as walls, openings, control joints, and rebar are pickable. Left clicking on the object will highlight it
Left click and drag mouse	1) Drag Object 2) Draw Opening **In Orbit mode** 3) Rotate Scene **In Zoom Mode** 4) Zoom In/Out **In Pan Mode** 5) Pan Scene	1) If the object is editable$*^1$, the opening, rebar or control joint is selected (highlighted in red) the object will be dragged with respect to the mouse position. 2) If the free form drawing is enabled$*^2$, left clicking and dragging on a partially assigned wall will add a new opening on the rendering scene. To make sure the opening is added correctly, draw the object within the bounds of the wall. Upon mouse release, the new opening type ID will be saved and the new opening will be added to the wall's list of openings. Otherwise, the drawing will be discarded. **In Orbit mode**

		3) Camera will be rotated with respect to the mouse movement. **In Zoom Mode** 4) Camera will be zoomed in and out with respect to the mouse movement. **In Pan Mode** 5) Camera will pan left and right with respect to the mouse movement.
Right click	Display menu	Right clicking on a wall, opening, rebar or control joint will display the corresponding menu which includes functions such as add, delete, or assign. Right clicking on a floor plan will display the corresponding menu with options to bring selected floorplan to top, if applicable, or showing all/unhide walls.
Double left click	Fit camera	Re-adjust the camera to fit the entire scene using the current camera position.
'SHIFT' key + left click	**In default interaction mode** 1) Keep multiple walls selected. **In Assign Mode** 2) Assign wall/opening/rebar	**In default interaction mode** 1) Shift key will enable multiple walls to be selected at once when left clicking on the wall. **In Assign Mode** 2) If a material type ID is selected in the toolbar for the assigning a wall, rebar, or opening, pressing the shift key and clicking on the corresponding object will be assigned and updated. Similarly, if an opening type ID is selected in the toolbar for adding openings, clicking on a point on the wall will add an opening at the clicked position.
'SHIFT' key + left click and drag mouse.	Pan scene	Camera will pan left and right with respect to the mouse movement.
'ALT' key + left click	**In default interaction mode** Assign wall/opening/rebar	**In default interaction mode**

		If a material type ID is selected in the toolbar for the assigning a wall, rebar, or opening, pressing the shift key and clicking on the corresponding object will be assigned and updated. Similarly, if an opening type ID is selected in the toolbar for adding openings, clicking on a point on the wall will add an opening at the clicked position.
'CTRL' key + left click and drag mouse	**In Orbit mode** 1) Rotate in y-axis **In Zoom and Pan Mode** 2) Zoom In/Out	**In Orbit mode** 1) Camera rotation about the y-axis. **In Zoom and Pan Mode** 2) Camera will be zoomed in and out with respect to the mouse movement.
Scroll wheel in	Zoom in	Camera will move closer to the scene.
Scroll wheel out	Zoom out	Camera will move away from the scene.

Notes:

1. Object is editable either by selecting Edit mode in the toolbar, or by selecting and right clicking on the object and choosing the 'Edit' option in the menu.
2. Free form drawing is enabled either by selecting the Draw mode in the toolbar, or by selecting and right clicking on the object and choosing the 'Draw opening' option in the menu.

Keyboard Scene Interactions

Key Press Event	Interaction	Description
'ESC' key	Reset mouse interaction	Reset flags and mouse interaction mode to default. For instance, if in draw mode, 'ESC' key will exit the free form add opening functionality.
'UP' arrow key	**In Orbit mode** 1) Rotate floorplan up **In Zoom and Pan Mode** 2) Zoom In	**In Orbit mode** 1) The floorplan will be rotated up about its pivot point.

		In Zoom and Pan Mode 2) Camera will move closer to the scene.
'DOWN' arrow key	**In Orbit mode** 1) Rotate floorplan down **In Zoom and Pan Mode** 2) Zoom Out	**In Orbit mode** 1) The floorplan will be rotated down about its pivot point. **In Zoom and Pan Mode** 2) Camera will move away from the scene.
'LEFT' arrow key	**In Orbit and Pan mode** Rotate floorplan left	**In Orbit and Pan mode** The floorplan will be rotated left about its center.
'RIGHT' arrow key	**In Orbit and Pan mode** Rotate floorplan right	**In Orbit and Pan mode** The floorplan will be rotated right about its center.
'SHIFT'+ LEFT' arrow key	**In Orbit and Pan mode** Rotate left in y-axis	**In Orbit and Pan mode** Left camera rotation about the y-axis.
'SHIFT' + 'RIGHT' arrow key	**In Orbit and Pan mode** Rotate right in y-axis	**In Orbit and Pan mode** Left right rotation about the y-axis.
'X' key	Limit mouse rotation to x axis	Only allow mouse rotation in the x axis. Press 'x' or 'esc' to exit mode.
'Y' key	Limit mouse rotation to y axis	Only allow mouse rotation in the y axis. Press 'y' or 'esc' to exit mode.
'Z' key	Limit mouse rotation to z axis	Only allow mouse rotation in the z axis. Press 'z' or 'esc' to exit mode.
'I' key	Zoom In	Camera will move closer to the scene.

'O' key	Zoom Out	Camera will move away from the scene.
‘CONTROL’ + ‘SHIFT’ + ‘C’ Key	Re-render Scene	Re-computes the data and updates the scene.
‘CONTROL’ + ‘SHIFT’ + ‘R’ Key	Refresh Scene	Refresh renderer.
‘CONTROL’ + ‘SHIFT’ + ‘H’ Key	Home View	Reset to default mouse interaction mode and reset camera to original position
‘CONTROL’ + ‘SHIFT’ + ‘F’ Key	Fit Camera	Re-adjust the camera to fit the entire scene using the current camera position.
‘CONTROL’ + ‘SHIFT’ + ‘T’ Key	Top View	Re-adjust the camera to show the scene from top view.
‘CONTROL’ + ‘SHIFT’ + ‘I’ Key	Isolate wall(s)	Isolate all selected walls
‘CONTROL’ + ‘SHIFT’ + ‘D’ Key	Hide wall(s)	Hide all selected walls
‘CONTROL’ + ‘SHIFT’ + ‘A’ Key	Show all	Show all walls after hiding/isolating some
‘CONTROL’ + ‘SHIFT’ + ‘P’ Key	Set pivot point	Set pivot point at the center of selected objects
‘CONTROL’ + ‘SHIFT’ + ‘Z’ Key	Reset pivot point	Set pivot point at the center of the rendering scene
‘CONTROL’ + ‘SHIFT’ + ‘1’ Key	Set home view	Set home view to current scene view
‘CONTROL’ + ‘SHIFT’ + ‘2’ Key	Reset home view	Set home view to back to default
‘CONTROL’ + ‘ALT’ + ‘J’ Key	Set add control joint flag to true	Clicking on a wall after setting the flag to True will add a control joint on the selected wall. Pressing ‘Esc’ or clicking on a wall will set the Flag back to False.
‘CONTROL’ + ‘ALT’ + ‘R’ Key	Set add rebar flag to true	Clicking on a wall after setting the flag to True

		will add a rebar on the selected wall. Pressing 'Esc' or clicking on a wall will set the Flag back to False.
'CONTROL' + 'ALT' + 'O' Key	Set add opening flag to true	Clicking on a wall after setting the flag to True will add an opening on the selected wall. Pressing 'Esc' or clicking on a wall will set the Flag back to False.
'CONTROL' + 'ALT' + 'F' Key	Set free form add opening flag to true	Clicking and dragging the mouse on a wall will draw an opening on the selected wall. Pressing 'Esc' or drawing an opening on a wall will set the Flag back to False.
'DEL' key	**In Edit mode** Delete selected object	**In Edit mode** If an opening/rebar/control joint is selected, pressing the delete key will delete the object.

Concepts

Authentication

Your Account

Within the app, log in using the account you created on *revailo.com*. This ensures all your resources are accessible and your actions are saved across devices. You can view your account information by clicking the 'Logout' option in the File menu. To edit your account information, log in at *revailo.com* and visit your account page.

Project Management

Projects

A project contains all the information needed to produce a detailed report, including documents, pages, annotations, material data, material types, assignments, and more. Projects can be shared among organization members and accessed from any computer with Revailo installed. You can create, edit, or delete projects based on your role within your organization and permissions for each project.

Documents

A document represents a PDF, typically a construction project blueprint. Documents usually contain multiple pages with project details, such as floor plans, elevation views, section views, door schedules, and other necessary building information. You can navigate through the documents and annotate pages in the app to create an accurate model of the building. Document management (adding, editing, and removing) is based on your role within each project.

Pages

A page represents one of the pages in a document. Some pages might be irrelevant to your work, so you can unmark them in the "Manage Pages" section in two ways: uncheck the "Display" checkbox to hide pages during navigation, and use the "Analysis" checkbox to include or exclude pages from AI analysis (analyzing all pages takes more time). Each page has a title and subsections, which can be navigated using the Table of Contents and Bookmarks widgets.

Pages can be annotated with walls, openings, scaled regions, notes, hyperlinks, and more, helping you construct your building model. You can also use the "Search Document" widget to locate specific words or annotations.

Page Types

Within a project, there are two main types of pages: Floor Plans and Elevation Views.

Floor Plan pages contain one or more floor plan regions, which are technical drawings showing a top-down view of a building level. These regions are specially analyzed by the AI for walls and floor plan openings.

Elevation View pages contain one or more elevation views, which are orthographic projections showing one side of the building. These pages are analyzed by the AI for openings, such as doors and windows.

During AI analysis, regions are automatically classified as Floor Plan or Elevation View and their pages are classified accordingly. You can also manually mark pages using the “Manage Pages” section or the page navigation buttons.

Construction Specifications

Annotations

Annotations are interactive objects used to mark pages in project documents. They can be generated by AI analysis or added manually. You can view annotations created by AI or by project collaborators, and accept them as your own to include them in your project. Any changes you make to accepted annotations won't affect the collaborator's project.

Some annotations are used to construct the model and generate the project report, including walls, floor plan openings, elevation view openings, and regions. Floor Plan and Elevation View regions need to be scaled (using a diagram scale or a line of known length) to ensure any annotations within them are correctly scaled.

Hyperlinks help you navigate between pages, typically placed on callouts to link areas of a floor plan to a specific section or elevation view.

Notes and **text comments** are used for document markup.

Materials

Materials are used to construct the different Material Types in your project. Each material has properties, including an ID, description, class (e.g., brick, CMU, mortar), dimensions (length, width, height), price per unit, waste factor, and tax rate. You can view materials in a project by checking document section views, schedules, and project notes, and use them to build material types. Materials are typically shared among organization members within the same region and are imported from an organization material database for each project.

Materials have different versions saved with each edit, so changes won't affect projects that used the material in the past.

Material Databases

A material database contains multiple materials. An organization may have several material databases, typically one for each region or state they occupy, where

material data is the same. Material databases are shared among organization members and can only be edited by one member at a time. Each project uses a single material database as its material source.

When creating a new project, you can either select an existing material database from your organization or create a new one based on an existing database. Then, you'll import the required materials into your project.

Material Types

Material Types represent a collection of materials and specifications, and they are assigned to different annotations, forming the construction of your building. For example, for each type of wall in your project, you create a Wall Type, add the materials, specify parameters, and assign this Wall Type to all corresponding wall annotations on the floor plans. The same process applies to Opening Types, Top of Wall Types, and Vertical Schedule Types.

Material Types can also be copied from other projects or collaborators.

Wall Types

A Wall Type is created for each type of wall in a project. It includes a description, abbreviation, shape, height, base elevation, and materials (e.g., outside, inside, wire, cavity, base, anchor, odd course). Wall Types are assigned to wall annotations on Floor Plan pages.

Wall Config

This setting allows the user to define the essential characteristics of a wall. This includes specifying the name, dimensions, and shape.

Outside

The 'Outside' category is designated for the external aspects of a wall. It encompasses elements critical to weather resistance, insulation, and aesthetic finishing. This setting is pivotal in determining the building's exterior appearance and environmental endurance.

Inside

'Inside' pertains to the interior facets of a wall. Key considerations here include aesthetic appeal, soundproofing capabilities, and thermal insulation.

Wire

In the 'Wire' section, users can incorporate wire mesh or reinforcement into the wall structure. This feature is essential for enhancing the wall's strength, stability, and load-bearing capacity, especially in structurally demanding situations.

Cavity

The 'Cavity' type refers to walls with a hollow space between two layers. This construction method is used to improve thermal insulation, manage moisture, and reduce overall wall weight. Users can adjust cavity dimensions and materials.

Base

'Base' deals with the construction of the wall's lower section. This part often requires distinct construction techniques to adequately support the weight above. It includes options for reinforcement and specialized materials to ensure the wall's structural integrity.

Anchor

The 'Anchor' function provides tools for securely attaching walls to floors, ceilings, or adjacent walls. This feature is crucial for ensuring overall structural stability and is particularly vital in regions susceptible to seismic activity or high winds.

Add Odd Course

'Odd Course' allows for the creation of wall layers (courses) that are non-standard in size or alignment. This option is useful for aesthetic design purposes or for accommodating irregularities in wall dimensions during construction.

Odd Course Types

An Odd Course can be created within a Wall Type and is linked to it. It includes a description, abbreviation, shape, height, base elevation, and materials (e.g., outside, inside, cavity, top, base, anchor, rebar/grout). Odd Course Types are directly assigned to their associated Wall Type.

Odd Course Config

This setting in the Odd Course Types section allows users to define the unique parameters for courses that are non-standard in size or alignment. It involves setting the specific dimensions and materials to accommodate unique design elements or structural requirements.

Outside

'Outside' refers to the external aspects of an odd course. It includes selecting materials and styles that are weather-resistant and complement the building's exterior aesthetics. This setting ensures that the odd course integrates seamlessly with the rest of the wall's facade.

Inside

The 'Inside' category focuses on the interior characteristics of an odd course. This involves choices regarding the inner finish, materials, and features that align with the interior design and functionality, such as insulation or acoustic properties.

Cavity

'Cavity' in odd courses pertains to the incorporation of a hollow space or cavity within the course. This is used for enhanced insulation, moisture control, or to reduce the weight and material usage in the wall construction.

Top

The 'Top' setting relates to the uppermost part of an odd course. It allows users to specify materials and construction methods for the top layer, ensuring it provides adequate protection, support, and aesthetic value to the wall.

Base

'Base' deals with the construction and materials used at the base of an odd course. This is crucial for ensuring the stability and alignment of the course, especially since odd courses may have different structural requirements due to their non-standard design.

Anchor

The 'Anchor' option is for integrating anchoring elements into the odd course. These are essential for securing the course to the rest of the wall structure, providing necessary support and alignment, especially in non-standard construction scenarios.

Rebar/Grout

In 'Rebar/Grout', users can plan for the reinforcement (using rebar) and filling (using grout) of odd courses. This is crucial for enhancing the structural integrity and cohesion of the course, especially important in non-standard or irregular wall sections.

Opening Types

An Opening Type is created for each type of opening in a project (e.g., doors and windows). It includes a description, abbreviation, shape, height, length, base elevation, materials (e.g., outside, inside, lintel/bond beam, caulking, in-fill), and vertical schedule rules. Opening Types are assigned to opening annotations on Elevation View pages and floor plan opening annotations on Floor Plan pages, or they can be added directly to a wall in the Elevation View tab.

Opening Config

This setting in the Opening Type section allows users to define the specific parameters of an opening in a wall. This includes dimensions, shape, and placement. It acts as a guide for creating doorways, windows, or other openings in accordance with design requirements.

Outside

The 'Outside' category focuses on the external aspects of an opening, including the selection of header, steel lintel, front of beam, frame, jamb, and sill. These elements are crucial for complementing the building's exterior aesthetics, ensuring weather resistance, and providing structural support to the opening.

- Header: This is the horizontal support that spans the top of the opening, critical for structural integrity.
- Steel Lintel: Steel lintels are strong, durable supports for openings in masonry walls, available in various profiles to accommodate different structural requirements and aesthetic preferences.
- Front of Beam: Emphasizing aesthetics and structural support, the Front of Beam category involves the visible integration of beams at openings, enhancing the building's facade with materials and designs that align with the architectural style.
- Frame: The external frame supports the entire opening structure and is integral to the building's facade.
- Jamb: The jambs are the vertical sides of the frame on the outside, providing a seal against weather elements.
- Sill: The sill forms the bottom part of the opening, often designed for water drainage and aesthetic appeal.

Inside

'Inside' pertains to the interior characteristics of an opening. This includes internal finishing of the header, BB/Precast/Odd, steel lintel, front of beam, frame, jamb, and sill, focusing on aesthetics and functional features like soundproofing or thermal insulation.

- Header: The interior header is part of the load-bearing structure and can be a decorative element.
- BB/Precast/Odd: This includes interior-specific precast components and bespoke items that enhance the functionality and aesthetics of an opening, providing unique design solutions and improved interior environment quality.

- Steel Lintel: Inside, steel lintels can be concealed or exposed as part of the interior design, potentially serving as a distinctive architectural feature while contributing to structural integrity and insulation.
- Front of Beam: The interior aspect focuses on the aesthetic presentation and functional integration of beams within the space, enhancing the overall architectural design and possibly aiding in sound and thermal insulation.
- Frame: The interior frame is key to the opening's visual integration with the room's design.
- Jamb: Interior jambs are the vertical sides that often house sealing mechanisms for thermal and sound insulation.
- Sill: Inside, the sill may serve as a decorative ledge or element of the window design.

Caulking

In 'Caulking', users plan for the sealing of gaps in openings to prevent air and moisture infiltration, vital for improving energy efficiency and protecting from weather damage.

In-Fill

The 'In-fill' setting relates to the material or structure used to fill the space within an opening, such as glass in windows or panels in doors, with options for various materials and designs.

Vertical Schedule

'Vertical Schedule' allows planning and coordination of multiple openings along the vertical axis, essential for aesthetic harmony and structural balance in multi-story buildings.

Top of Wall Types

A Top of Wall Type is created for each group of materials placed on top of walls in a project. It includes a description, abbreviation, and materials for coping, flashing, anchor bolts, dowels, and fire safeing. Top of Wall Types are assigned to wall annotations on Floor Plan pages and can be visualized in the Top of Wall View.

Top of Wall Config

This setting in the Top of Wall Type section allows users to specify the name of the top portion of a wall.

Coping

'Coping' refers to the protective cap or cover placed on the top of a wall. This feature is essential for preventing water penetration and providing a finished look. Users can choose from various materials to match the building's design and enhance durability.

Flashing

In the 'Flashing' option, users can add a layer of material to the top of the wall to prevent water ingress. Flashing is critical for directing water away from the wall, thus preventing potential damage caused by moisture and ensuring the longevity of the wall.

Anchor Bolt

The 'Anchor Bolt' setting is for incorporating bolts that secure the wall to the roof or other structures. These bolts are pivotal for enhancing the structural stability of the wall, especially in areas prone to high winds or seismic activity.

Dowel

'Dowel' involves the use of cylindrical rods (usually steel) to reinforce the top of the wall. Dowels are inserted into the wall to provide additional structural support and alignment, particularly important in load-bearing walls or where vertical expansion is anticipated.

Fire Safeing

The 'Fire Safeing' feature allows users to include fire-resistant materials or treatments at the top of the wall. This is crucial for enhancing the fire safety of the building, preventing the spread of fire, and complying with building codes and safety regulations.

Vertical Schedule Types

A Vertical Schedule Type is created for each vertical schedule in a project. It includes a description, abbreviation, rebar material and placement rules, grout material, and control joint materials. Vertical Schedule Types are assigned to wall annotations on Floor Plan pages. In the Elevation View tab, you can place individual rebar pieces, adjust their placement, and add or remove grout from specific CMU cells.

Vertical Schedule Config

This setting in the Vertical Schedule Type section allows users to specify the name of the vertical schedule.

Rebar/Grout

'Rebar / Grout' pertains to the reinforcement and filling aspects of vertical structures. Users can specify the type, size, and placement of rebar (reinforcing steel bars) for added strength. The grout option allows for the selection of materials to fill gaps and bind construction elements, enhancing stability and cohesion.

Control Joint

The 'Control Joint' setting is designed for incorporating planned points of weakness in masonry or concrete structures. These joints allow for thermal expansion and contraction, reducing the risk of uncontrolled cracking due to temperature changes or other environmental factors. Users can define the placement and specifications of these joints to ensure structural integrity and longevity.

Corner Types

A Corner Type is created for each type of corner in a project. It includes a description, abbreviation, height, base elevation, and materials (e.g., outside, inside, odd course). Corner Types are assigned to corners (where 2 walls intersect) on Floor Plan pages.

Corner Config

This setting allows the user to define the essential characteristics of a corner. This includes specifying the name and dimensions.

Outside

The 'Outside' category is designated for the external aspects of a corner. It encompasses elements critical to weather resistance, insulation, and aesthetic finishing. This setting is pivotal in determining the building's exterior appearance and environmental endurance.

Inside

'Inside' pertains to the interior facets of a corner. Key considerations here include aesthetic appeal, soundproofing capabilities, and thermal insulation.

Add Corner Odd Course

'Corner Odd Course' allows for the creation of wall layers (courses) for the corner that are non-standard in size or alignment. This option is useful for aesthetic design purposes or for accommodating irregularities in wall dimensions during construction.

Corner Odd Course Types

A Corner Odd Course can be created within a Corner Type and is linked to it. It includes a description, abbreviation, height, base elevation, and materials (e.g.,

outside, inside). Corner Odd Course Types are directly assigned to their associated Corner Type.

Corner Odd Course Config

This setting in the Corner Odd Course Types section allows users to define the unique parameters for courses that are non-standard in size or alignment. It involves setting the specific dimensions and materials to accommodate unique design elements or structural requirements.

Outside

'Outside' refers to the external aspects of an odd course. It includes selecting materials and styles that are weather-resistant and complement the building's exterior aesthetics. This setting ensures that the odd course integrates seamlessly with the rest of the wall's facade.

Inside

The 'Inside' category focuses on the interior characteristics of an odd course. This involves choices regarding the inner finish, materials, and features that align with the interior design and functionality, such as insulation or acoustic properties.

AI (Artificial Intelligence)

Our AI engine semi-automatically extracts annotations, Material Types, page types, and a table of contents from your project documents within minutes. When you create a project, the AI engine immediately begins to analyze your documents, and when finished, will annotate your document, and create Material Types, saving you potentially hours of work.

AI Annotations

Our AI engine can extract Floor Plan and Elevation View regions (and their scales), wall annotations, floor plan opening annotations, elevation view opening annotations, and hyperlink annotations from your documents. AI annotations will not be considered part of your project and will not be included in the project report until you have confirmed them (explained here). You can toggle the visibility of all AI annotations using the checkbox in the AI progress menu.

AI Material Types

Our AI engine can currently extract Opening Types from a document’s door schedule. If a document has a door schedule, Opening Types will be created for each row of the table, with the description, height and length of the door already set. You must confirm each AI Opening Type to make it part of your project, at which point you can edit the Opening Type.

Collaboration (coming soon)

~~Our app allows for collaboration on a project between multiple members of an organization. This can allow for work to be done by different members on different sections of a project or work to be done by one member and verified by another member. This also allows for the ability to outsource work to an external source and then verify and finish the work internally. This is all enabled through connection to our cloud services.~~

~~Collaboration is done by inviting other organization members to an existing project. It is important to note that when organization members are collaborating on a project, they can view each other's work, but they are not able to modify each other's work. Each collaborator can copy another collaborator's work, at which point it becomes their own and they are able to modify it. The collaborator will not be able to see work copied from their own version of the project.~~

Collaborator Annotations (coming soon)

~~You can view a collaborator's Floor Plan and Elevation View regions, wall annotations, floor plan opening annotations, and hyperlink annotations. Much like AI annotations, collaborator annotations will not be considered part of your project and will not be included in the project report until you have confirmed them. If the annotation is assigned a Material Type that you have not accepted into your project, you will be asked to review that Material Type before confirming the annotation.~~

Collaborator Material Types (coming soon)

~~You can copy any type of Material Type from a collaborator. You can review each Material Type and accept it, at which point it will become part of your version of the project and you can begin to edit it, if needed. If either you or the collaborator edits the Material Type after you have accepted it, it will be considered a different Material Type (except for a description change), and it will appear again in the collaborator's Material Type list.~~

Cloud Services

Our app utilizes cloud services, allowing you to access your work from anywhere. All your data will be backed up on the cloud, so you can begin working on a project in the office and continue your work at home just by logging into your account. Your progress is periodically synced to the cloud, or you can manually save your work.

Working Offline

Although our app does connect to cloud services which require internet connection, we also allow you to work offline for an extended period. As long as you remain logged in, you will be able to work on your most recent project. Certain features that require an internet connection, such as AI analysis and collaboration, will be

unavailable, but the core features of the app will be functional. The next time you connect to the internet, your progress will be saved and backed up in the cloud.

Glossary

BIM (Building Information Modeling): A digital representation of physical and functional characteristics of a facility. BIM is a shared knowledge resource for information about a facility, forming a reliable basis for decisions during its lifecycle.

Elevation View: A drawing that shows one side of a building or structure, typically used to provide a specific view of the façade or a side wall.

Section View: A representation of a building or object as if it has been cut through a particular plane. This is used to show internal structures within the building or object.

3D Rendering View: A 3D representation of a building or object. This is used to show the global aspect and shape of the building or object.

Change Order: A document used to record an amendment to the original construction contract, including changes in scope, price, time, or other terms.

API (Application Programming Interface): A set of routines, protocols, and tools for building software applications. In the context of construction software, APIs may be used for integration with other software tools.

Markup Tools: Tools within the software that allow users to annotate drawings or documents.

Scale Box: A tool used to define a 3D zone in which certain views or elements must be contained, often used to standardize the size and shape of views throughout the project.

Clash Detection: The process of identifying where different building systems (e.g., electrical, mechanical, structural) interfere with each other in a building model.

Layer Management: The practice of organizing different elements of a drawing or model on separate layers which can be independently controlled and viewed.

Parametric Modeling: A type of modeling where the geometric shapes are defined by parameters and mathematical formulas, allowing for easy manipulation and changes by adjusting the inputs.

IFC (Industry Foundation Classes): An open, standardized data format used to describe, exchange, and share building and construction information across different software applications. It enables interoperability in Building Information Modeling (BIM) and facilitates collaboration among various stakeholders in construction projects.

Contact Information

For any questions, feedback, or bug report, please refer to our website at revailo.com. You will find a contact form there.

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