#### New Feature List



#### PRODUCTIVITY

- Project Browser Previews. Easily navigate your saved views by displaying a preview window in the Project Browser that displays a thumbnail image of the selected view.
- Auto-Save Untitled projects. Projects that have not been named or manually saved for the first time are archived through the Auto-Save rules set up in user Preferences.
- Navigation ALT Mode. While navigating 3D Views, use the right mouse button to swap to the Mouse-Tilt modes, making it quick and dynamic to traverse your scenes.
- Crosshair Display Thickness. Make the crosshair more prominent on-screen by increasing its display size in Preferences.
- Fill Screen to Selected Objects. Use this zoom tool to quickly set the screen view's extent to only those objects that are currently selected.
- Delete Objects for Layouts. Use the delete objects tool to clear unnecessary elements like CAD, Images, Text, and Layout Boxes from your layout documents. These controls make it easier to transition between projects when copying layout files and in developing templates.
- Polyline Solid Defaults. Set up templates to use your preferred attributes for polyline solids; control settings like the material, label, and layer polyline solids are assigned upon creation.
- Multi-Select and Edit Rooms. Select multiple rooms to change their attributes simultaneously; change room type, convert from flat to a vaulted ceiling, set ceiling and floor heights, and modify the platform structure.
- Match Properties on Walls. Use the Select Same Load Same tool to quickly apply properties from one wall to another wall in your design.
- Control Living Area Label's Display. Control that the Living Area is displayed on-screen via General Plan Defaults; if Living Area has been deleted, quickly turn it back on through Plan Defaults.
- Refined Search in Library Browser. Use terms "AND", "OR", and "NOT", and create search groups using parentheses '()' in library searches to refine results.
- Store Text in Library Browser. Add individual, unblocked pieces of text to the Library Browser for easy preservation and reuse in future projects.
- Edit Text in Library Browser. Text objects stored in the User Catalog can be opened and the text modified directly in the library.



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- Edit CAD Blocks. Use the Edit Block tool to temporarily open an edit view window for CAD Blocks in your designs and the Library Browser. After modifications are complete, save edits and choose to apply your changes to all the matching blocks in your work.
- Center CAD in Elevation Views. Use the Center Objects tool in Elevation Views to control the location of CAD objects.
- Copy + Center Objects. Select an object to copy through the Edit Toolbar, and choose the secondary option to center the copies on other objects.
- Trim/Extend CAD in Elevation Views. Use Group Select functions to edit CAD lines in elevation views, just as you would in plan view.
- Slab Defaults. Set up defaults (like labels, layers, and other values) for slab objects so they are optimized for use in your template plans.
- Convert Planes to Polylines. Edit Roof and Ceiling Planes using the Convert to Plain Polyline tool to easily create a CAD line that is duplicate to the plane's shape.
- 3D Shape Editing. Editing controls like thickness, depth, width, and elevation for shape objects make them easy to manipulate. Use the fillet, chamfer, and other edit tools on 3D Shapes.
- Boolean Editing of Solids and Shapes. Perform Union, Intersection, and Subtraction editing on combinations of 3D Solid Shapes and Polyline Solids, and perform these edits on objects created in different planes (plan view vs. elevation).
- Display Controls for Shapes. Designate line weight, line style, and fill for Primitive Shape objects.
- Undo Display States. Use the Undo tool to revert changes to display controls like color, layer set, and reference display.
- Update Plan View on Symbol Resize. After resizing or scaling library symbol objects that use stretch planes, choose to refresh plan view CAD Block to match the item.
- Group Select Electrical Items by Type. Quickly select all electrical items of a single type by activating its tool, then Shift + Marquee Selecting a region that includes the objects.
- GFCI Outlets. Easily access GFCI outlets from the electrical toolbar family, and convert a standard outlet to a GFCI outlet.
- Rope Light Electrical Connections. Draw electrical connections from switches to rope lights to complete circuits and report run distances in schedules.



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- Search Plan Materials. A search bar in the Plan Materials dialog makes finding entries faster than scrolling through the list.
- Update Library Catalogs. Quickly initiate the catalog update process through the 'Update' tool button at the bottom of the library browser dialog.
- Dynamically-Updating Help. The Help viewer automatically updates to show the Help topic for the highlighted object, tool, or dialog. Dynamic help updates can be toggled on or off.

#### <u>DESIGN</u>

- Cabinet Box Construction. Specify whether cabinets include top, bottom, and side pieces of the box. Use these controls to design open side cabinetry and recessed bottom cabinets.
- Extended Cabinet Stiles. Specify left and right extended stiles for cabinets; extended stiles automatically clip when near walls and other cabinets, and can be represented in schedules and materials lists.
- Cabinet Door Overlay Each Edge. Control the side, top, and bottom overlap value for any traditional overlay cabinet door, drawer, or panel.
- Frameless Cabinet Reveal Controls. Specify the reveal amount for a cabinet's front, side, and back; set reveal individually for cabinet separations.
- Cabinet Automatic Double-Doors. Specify the cabinet width threshold at which doors automatically change from double to single.
- Cabinet Door Size. Discover the overall size of cabinet doors and drawers while selected in the cabinet specification dialog.
- Clipped Cabinet Overhang. Automatically clip cabinet counter overhang when it butts against appliances and partitions.
- Flush Cabinet Moldings. Specify that moldings should automatically be flush with the cabinet box or the cabinet doors, drawers, and panels.
- Show Clipped Cabinet Corners in Plan View. When using clipped corners with or without applied pilasters, the cabinet top view boundaries are illustrated in plan view.
- Convert Polyline to Custom Backsplash. Draw CAD in Elevation views that can be converted to a Custom Backsplash using the edit tools.



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- Parametric Pattern Editing. Modify the sizing and offset for the Herringbone and Grid pattern types to accurately match your final installation pattern.
- Material Eyedropper Copy Tool. Quickly select a material in 3D views using the Material Eyedropper tool, then use the Copy edit tool to make a copy on the fly.
- Adjust Material Scoping. When editing a material in a 3D view using the Adjust Materials tool, choose the scope of impact to adjust the material throughout your project, or create a copy on-the-fly for a subset of objects using the material.
- Add to Library from Adjust Material Dialog. After editing a material's properties, quickly save the change with the Add to Library tool.
- Suppress Adjacent Room Molding. When placing cabinets and architectural blocks, choose to ignore room moldings (prevents molding from being cut to make space for the item).
- Reflect and Rotate Molding Profiles. Flip moldings both vertically and rotate at any angle so they can be applied in several different scenarios.

#### **BUILDING CONSTRUCTION**

- Horizontal Roof Framing. Specify roof battens or purlins in the surface structure's assembly layers to automatically generate horizontal framing members on top of trusses or rafters. Define framing member sizes, material, type, spacing, and offset for top and bottom purlins.
- Horizontal Wall Framing. Use the automatic framing tools along with wall definitions to create wall types suited for some Pole Buildings and Timber Framing scenarios. Set up girt spacing within the wall's properties, including distance from the ground.
- Headers at Wall Top. Specify headers to be automatically generated at the wall top plate down with cripples to the window framing below.
- Header Offsets. Set headers to be flush with the wall's interior or exterior and specify the gap between plies.
- Span Headers Over Multiple Openings. Specify the distance of adjacent openings when combining your headers.
- Wall Corner and Intersection Framing. Specify Standard, Reduced Stud (two-stud Advanced Framing Technique), or Laddered options for building wall framing at corners and intersections.



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- Balloon Framing. Set automatic framing tools to generate true balloon framing and offer flexible settings for specifying where to include or exclude this framing technique.
- Regenerate Truss Edit Tool. Quickly rebuild a truss's automatic configuration using the Truss Rebuild edit tool when it is selected.
- Truss Specification Preview. See a preview of trusses in their specification dialog; previews update as parameters change.
- Tray Ceiling Framing. Build framing for tray ceilings using the Build Framing edit tool for individually selected sections and retain framing for certain trays.
- Framing End Profiles. Apply decorative or shaped end profiles to general framing members, similar to rafter tails.
- Cut Framing Along Angles. Design deck planking and other framing in geometric shapes; use the Trim / Extend tools to clip framing ends at an angle.
- Multi-Layered Walls. Create wall assemblies with over ten material layers. Additionally, wall types can be framed independently of the wall material. Adjust the framing type, on-center spacing, and control for a horizontal direction in the wall's specification dialog.
- Framing View Defaults. Camera tool defaults for Framing Overview cameras allow you to configure the look of framing cameras in your Template plans and projects.
- Specify Thickness for Roads. Assign thickness values for Driveways, Sidewalks, and Roads to accurately calculate material volumes.

#### PRESENTATION

- Physically Based Rendering with GPU Ray Tracing. When compatible hardware is available, create PBR views that use real-time ray tracing for enhanced lighting and reflections in your scenes.
- Line Drawing Option for Rendering Techniques. Choose the Draw Lines on Top option in Standard, Duotone, Watercolor, Physically Based, and Clay styles to include the sketched line drawing technique.
- Clay Rendering Technique. Use this technique to produce monochrome "white model" illustrations reminiscent of clay sculpting. Choose to use a single color for the scene, create a custom layer set to group objects into different color families, or show a textureless view using material color values.



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- 360° Exterior Walkthrough. Create an automatic walkthrough path that orbits the exterior of your design.
- Walkthrough Preview Panel. While laying out your walkthrough path, see your changes and editing live before spending time recording the sequence.
- Walkthrough Key Frame Editing. Use key frame editing controls to quickly adjust and modify individual keyframes directly from the preview dialog and the edit toolbar.
- Connect and Disconnect Walkthroughs. Join multiple walkthrough segments as one path and retain the keyframe details from the original pieces. Use the Complete Break tool to break an existing walkthrough into individual parts.
- Create Walkthroughs from Segments. Use existing, longer walkthroughs to record sub-sections as smaller animations without generating a new path.
- Walkthrough Path Attributes. Each walkthrough contains lighting, rendering, and camera settings. Set up individual paths, each with their own look.
- Include Watermarks on Walkthroughs. Brand your walkthrough recordings upon creation using the watermark tools.
- Control Watermark for Cameras. Control whether a watermark is displayed from within Camera Defaults and for individual cameras.
- Color Display for Cameras. Control the display of color or black and white views for saved cameras or within the camera defaults.

#### DRAFTING / PROJECT MANAGEMENT

- Column Bubble Grid Lines. Create a construction line grid with callouts for referencing between floor levels and across elevation views to mark key planes in your project. Dimension and snap to lines, modify callout display, and use layers to control printing.
- Dimension to Cabinet Faces. Draw dimensions in elevation views to illustrate the construction of cabinet face frames and door, drawer, and panel sizes.
- Dimension to Foundation Steps. Snap dimensions to elevation height transitions on stepped foundation walls in plan and elevation views.



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- Multiple Automatic Dimension Defaults. Set up Automatic Exterior Dimension behaviors based on your active dimension defaults. Easily create exterior dimensions for different views, different scales, and different snap locations.
- Dimension Tool Locate Defaults. For each dimension tool, set up location snapping; for example, set the Center Line dimension tool to pick up only walls and fixture centers for kitchen and bath dimension defaults or only pier and post centers for deck or framing defaults.
- Wall Width Dimension Controls. Choose to show or hide wall widths per dimension string, or set up your defaults to your preferred display for each dimension default.
- Automatic Centerline Dimensions. When dimensions snap to the center of an object, it will automatically display the CL dimension indicator.
- Dimension Unit Display Threshold. Set a threshold where dimensions display in inches when the value is less than the specified amount; for example, show dimension as 18" instead of 1' 6".
- Rotate Dimension Text. Use an edit handle to rotate dimension text, or set up your defaults to use specific rotations.
- Angled Dimensions. Set up behaviors for Angled Dimensions within Dimension Default.
- Snap to Dimension Lines. Use object snapping to snap text, CAD, labels, and other dimension lines to existing dimensions on the screen.
- Arrow Fill Color by Layer. Set the fill color for arrowheads to automatically match the layer color.
- Convert Wall Elevations to Section Views. Regardless of the camera tool used to create a Section View, Elevation, or Wall Elevation, it can be edited to behave as the other view types. Expand Wall Elevations to included parts of the scenes beyond a room (like vaulted ceilings or multi-room suites), or crop larger Sections to show smaller spaces.
- Camera View Clipping. Quickly turn ON or OFF side clipping and elevation clipping for elevation and section cameras.
- Show Vaulted Ceilings in Wall Elevation Views. Wall Elevations for rooms with vaulted and sloped ceilings include the full wall height; the elevation can be set to crop at the top of the wall plate using the "Ignore Walls Above" setting.
- Copy Section and Elevation Cameras. Creating a copy of saved Section and Elevation cameras will retain the CAD, Text, Dimensions, and other additions.



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- Export Schedules. Export schedule tables directly to .CSV, .TXT, and .XML formats to easily manipulate them in other applications.
- Specify Schedule Starting Number. Create a series of shorter schedules by specifying the starting number for each schedule in the sequence; break up long schedules for easy layout and printing.
- Molding in Schedules. Report molding polylines and lineal footage in schedules; include molding attached to cabinet in Cabinet Schedules (shown as Crown, Light Rail, Edge Profile, or Toe Kick), and room molding in Room Schedules.
- Cabinet Materials in Schedules. Indicate the differences in cabinet materials through columns in the cabinet schedule.
- Roof Plane Schedules. Include Roof Planes in schedules and list attributes like Surface Area, Projected Area, Materials, and Pitch.
- Skylights in Schedules. Display skylight data (like actual size) in schedules; use a customized schedule to show skylights in Roof or Window schedules.
- Show Total Wall Length in Schedules. Display the total length for any wall type used.
- Cabinet Fixtures and Appliances in Schedules. Control how appliances and fixtures embedded in a cabinet are displayed in schedules.
- Standalone Objects in Schedules. Include individual objects like cabinet doors, hardware, millwork, sprinklers, and shapes in schedules.
- Material List Layer Sets. Define layer sets to control which elements are displayed in individual Material Lists.
- Pricing in Framing Buy Lists. Include pricing data per board when you generate framing linear length and buy lists. Set up separate pricing models for each report type.
- Mulled Units in Materials List. Specify mulled windows and doors to report as a unit or as individual objects in the Materials List.
- Opening Indicators. Display opening indicators for hinged and sliding windows and doors in camera views. Set up default behaviors to configure the indicators to your drawing standards.
- Label Layer Controls. Control on which layer an object's label displays. Keep layers on their own layer, automatically include them on the object's label, or manually assign them to whichever layer you choose.



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- Formatting for Labels. Choose to set your object labels as Left, Right, or Center justified, and turn on or off a border around the text box.
- Calculate Materials for Roads. Include the volume of Roads, Driveways, Sidewalks, and Terrain Walls and Curbs in materials lists.
- Terrain Elevation Labels. Automatic labels for terrain elevation lines, splines, and regions display elevation height.
- Wall Niche Labels. Automatic labels are provided for Wall Niches.
- Wall Hatching Labels. Customize labels for wall hatching segments; easily indicate which part of a wall will be demolished or reinforced shear walls.
- Wall Hatching Defaults. Set up attributes for the Wall Hatching tool in your template plan so that it defaults to look the way you'd like it to for every project.
- Edit Wall Hatching. Copy and Paste wall hatching throughout your design to easily indicate wall areas of note.