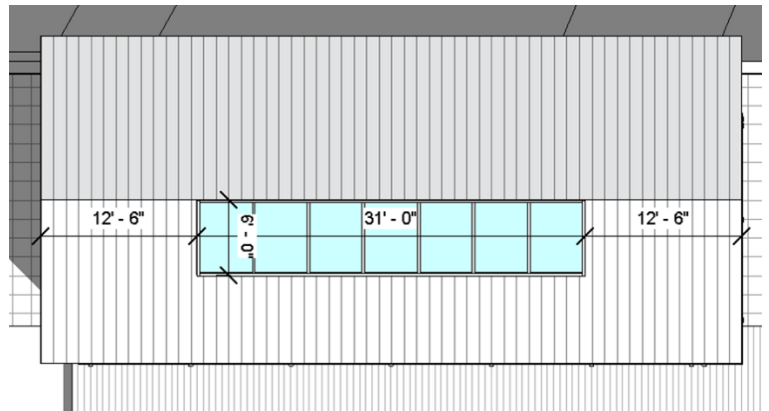


Challenge exercise: Create a glazed roof and use room data

Create a glazed roof and create and assign material to it. Complete the assignment by creating a Room Schedule with an embedded Furniture Schedule.

Learning Objectives:

- Create a glazed roof.
- Create a room data schedule.
- Create materials.
- Assign materials.



Complete the required activities:

Task 1: Create a glazed roof

1. Starting in the accompanying file (**Glazed Roof.rvt**), create a glazed roof inset into the existing roof of the residence block.
 - A vertical opening must first be placed in the existing roof to the dimensions in the plan shown.
 - The glazed roof can be created either by footprint or by extrusion.
 - It must use the Skylight Glazing: Skylight roof type and have six gridlines spaced evenly along the length of the roof.

2. Create and assign a new curtain panel type to all the panels in the glazed roof.
 - The new panel type must be called Blue Glazed and should be created by duplicating the existing Glazed panel.
 - Create a new material by duplicating the Glass material. Name it **Glass Blue**. Replace the appearance asset on the Glass Blue material with the Light Blue Reflective glazing appearance asset from the Autodesk Appearance Asset library. Set the Graphics Shading to Use Render Appearance.
 - Assign this material to the Blue Glazed curtain panel type.
3. Place the mullion type 2.5 x 5 rectangular on all gridlines and borders of the glazed roof.

Task 2: Create a room data schedule

Create a Room Schedule with an embedded Furniture Schedule.

1. Name the schedule **Room Data Schedule**.
2. Include the fields Name, Area, Level, and Comments. Name and Comments must be set to hidden fields.
3. Filter the schedule by the Comments field and set to Does not Equal No Data
4. Sort the schedule by Name and check for a Header and Blank Line.
5. Include Grand Totals: and format the Area field to calculate a total.
6. For the embedded schedule include the fields Count, Family and Type.
7. Sort by Family and then by Type.
8. Set the schedule to count identical families rather than list every instance.

<Room Data Schedule>		
A	B	C
Area	Level	
Count	Family	Type
Bedroom 1		
122.30 SF	Second Floor	
1	Bed-Shaker	Double 56" x 78"
1	Dresser	48" x 72" x 24"
Bedroom 2		
115.33 SF	Second Floor	
1	Bed-Shaker	Double 56" x 78"
1	Dresser	48" x 72" x 24"
Dining		
221.64 SF	First Floor	
6	Chair-Breuer	Chair-Breuer
2	Sofa	72"
1	Table-Coffee	31" x 28" x 24"
1	Table-Dining Round w Chairs	60" Diameter
Hall		
184.51 SF	First Floor	
1	Console Table	48" L x 16" W x 32" H
Kitchen		
89.56 SF	First Floor	
Lounge		
482.84 SF	First Floor	
1	Console Table	78" L x 16" W x 32" H
2	Eames Lounge chair	Eames Lounge chair
5	Shelving	Bookcase - Dark Finish
1	Table-Coffee	31" x 28" x 24"
1	Table-Coffee	36" x 72" x 18"
Mezzanine		
290.68 SF	Second Floor	
3	Chair - Eames - LCW - Plywood Lou	FURNITURE_Eames LCW
1	Console Table	72" L x 36" W x 32" H
1	Console Table	78" L x 16" W x 32" H
1	Eames Lounge chair	Eames Lounge chair

This exercise should be completed in 40 minutes

Assessment Criteria

The completed exercise is available for comparison in the file **Glazed Roof Finished.rvt**.

Task 1: Create a glazed rooflight – (50% - 5% for point below)

- Check for dimensional accuracy in creating the opening in the existing roof.
- The opening could be created by either editing the boundary of the existing roof or by placing a vertical opening. The vertical opening is the preferred method.
- Check that the glazed roof fills the opening and there are no gaps around the edges.
- Check roof constraints.

- If created by footprint, it must have the Roof level as its Base Level. The slope must be 10 degrees and a Base Offset from Level must be specified to align it with the existing roof. The Base Offset from Level value is not specified in the exercise description but should be around 6 inches.
- If created by extrusion it must have the Roof level as its Reference Level. Check the roof's Work Plane to make sure it is either associated to the existing roof or a new reference plane has been created.
- The roof must be the Skylight sloped glazing type and have 6 number gridlines on Grid 1.
- The curtain panels in the roof must be a new panel type named Blue Glazed.
- The Blue Glazed panel types must have a new material named **Glass Blue** assigned.
- The Glass Blue material must have the Light Blue Reflective appearance asset applied.
- Use Render Appearance must be checked on the Graphics Shading tab.
- The roof must have the 2.5 x 5" rectangular mullion type placed on all gridlines and borders.

Task 2: Create a room data schedule – (50% - 5% for point below)

Visually comparing against the Room Data Schedule in the **Glazed Roof Finished.rvt** model will show any errors. If errors are noticed, check the below points to discover where they have been made.

- The name in the project browser or schedule title should be **Room Data Schedule**
- Scheduled fields should be Name, Area, Level and Comments.
- The Name and Comments fields must be set to be hidden fields on the Formatting tab.
- The schedule should be filtered by the Comments field and set to Does not Equal No Data to filter out rooms that have no furniture objects, such as the Bathroom and Ensuite.
- On the Sorting/Grouping tab the Sort By field must be set to Name with Header and Blank Line checked. Grand totals: should also be checked.
- On the Format tab the Area field should be set to Calculate totals.
- An Embedded Schedule must be included for the Furniture category.
- The Embedded Schedule Properties must include the fields Count, Family, and Type.
- The Sorting/Grouping tab must have the Sort By: field set to Family and Then by: set to Type.
- Itemize every instance should be deselected.