Title 24 2013 Compliance Software:

CBECC-Com

"California Building Energy Code Compliance for Commercial Buildings"

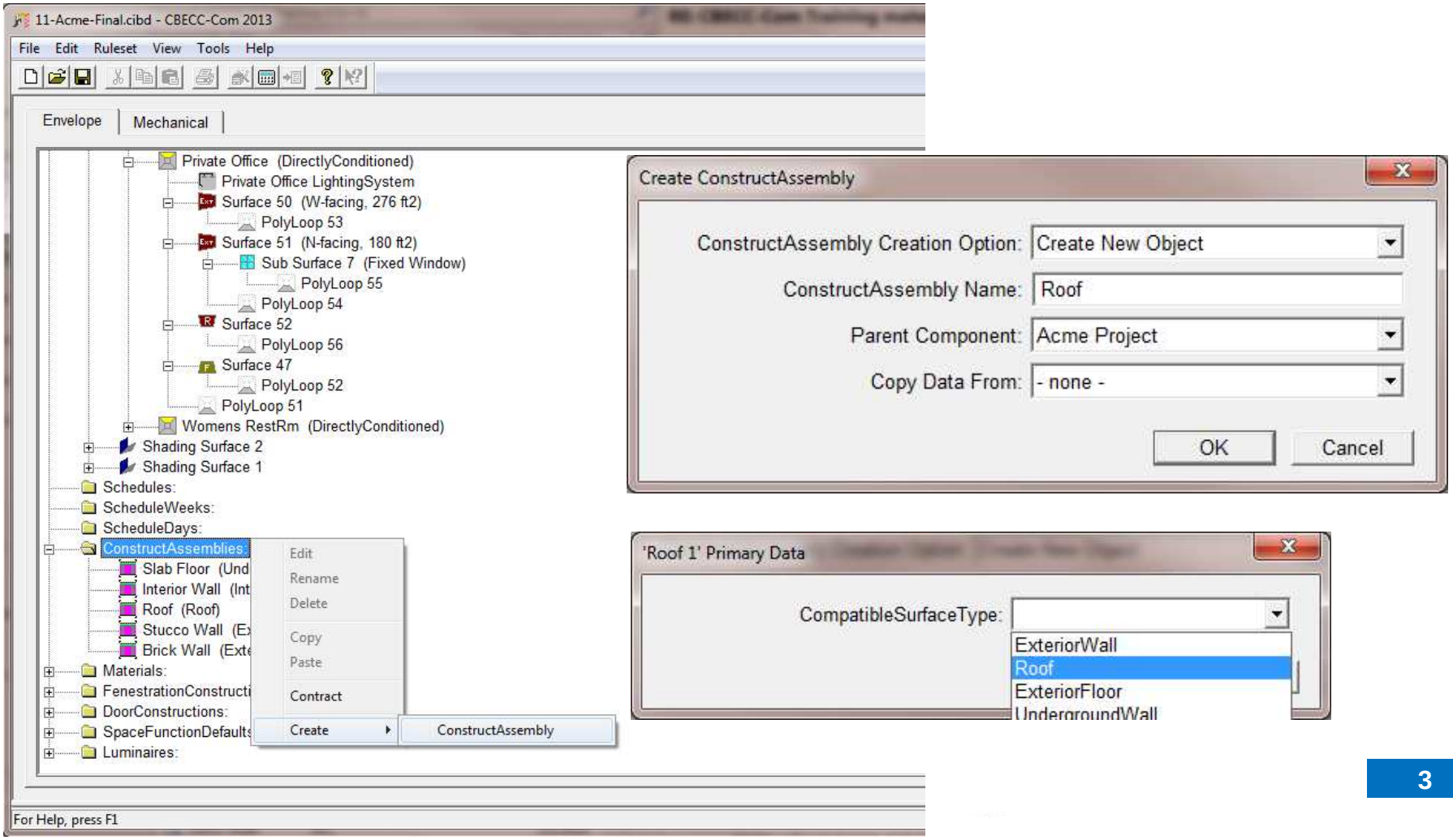
Defining and Assigning Constructions

- Objective: **Develop Opaque Constructions**

1. Assemble Opaque Constructions
   - Roof
   - Exterior Wall (2)
   - Interior Wall
   - Floor
2. Define Floor Slab Materials
3. Define Other Needed Materials

Training Module 4: Opaque Construction Data

- **Right-click on ConstructAssemblies then select Create > ConstructAssembly**
- **A new dialog box opens – fill in the ConstructAssembly Name and then click OK**
- **Choose the CompatibleSurface Type from the available options in the drop down menu.**



Training Module 4: Construction Assembly Details

Construction Assembly	Material Layers (Outside to Inside)	Category	Solar Properties
Roof	1. Metal Standing Seam - 1/16 in 2. Expanded Polystyrene -EPS - 4 1/16 in 3. Metal Deck – 1/16 in 4. Gypsum Board – ½ in	-Roofing -Insulation Board -Bldg Board and Siding -Bldg Board and Siding	Solar Reflectance: 0.60 Thermal Emittance: 0.70
Stucco Wall	1. Stucco - 7/8 in 2. Expanded Polystyrene -EPS - 3 1/2 in 3. Metal Frame with R 19 4. Gypsum Board - 1/2 in	-Plastering Materials -Insulation Board -Composite (Metal Wall 24inoc, depth-5.5in, R-19 insulation) -Bldg Board and Siding	
Brick Wall	1. Brick – 140 lb/ft^3- 3 5/8 in 2. Expanded Polystyrene -EPS - 3 1/2 in 3. Metal Frame with R 19 4. Gypsum Board - 1/2 in	-Masonry Materials -Insulation Board -Composite (Metal Wall 24inoc, depth-5.5in, R-19 insulation) -Bldg Board and Siding	
Interior Wall	1. Gypsum Board - 1/2 in 2. Metal Stud Space 3. Gypsum Board - 1/2 in	-Bldg Board and Siding -Air -Bldg Board and Siding	
Floor Slab	Unheated Slab on Grade with 12 in Vertical R5 Insulation		

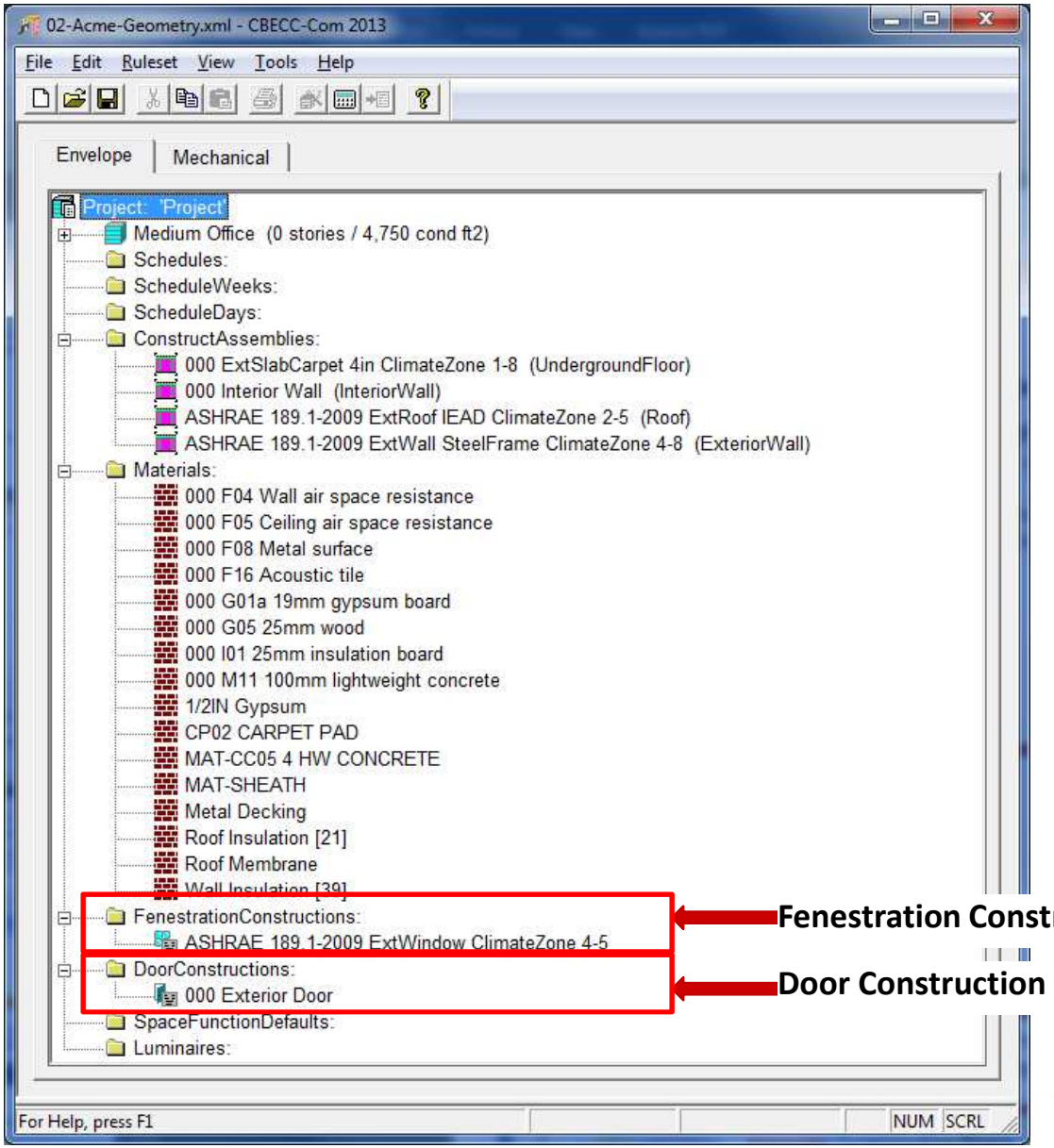
Training Module 4: Envelope Details

Space Name	Construction Assembly		
	Exterior Wall	Fenestration	Roof
Conference West	Stucco Wall, Brick Wall	Fixed Window	Roof
Lobby	Stucco Wall, Brick Wall	Lobby Window, Exterior Door	Roof
Men RR	-	-	Roof
Open Office North	Stucco Wall	Fixed Window	Roof
Open Office South	Stucco Wall	Fixed Window	Roof
Private Office North	Stucco Wall	Fixed Window	Roof
Women RR	-	-	Roof

- Objective: **Define Fenestration Constructions, Assign Constructions to Surfaces**

1. Develop Window Constructions
2. Develop Door Constructions
3. Assign Constructions

Training Module 5: Fenestration Construction Data

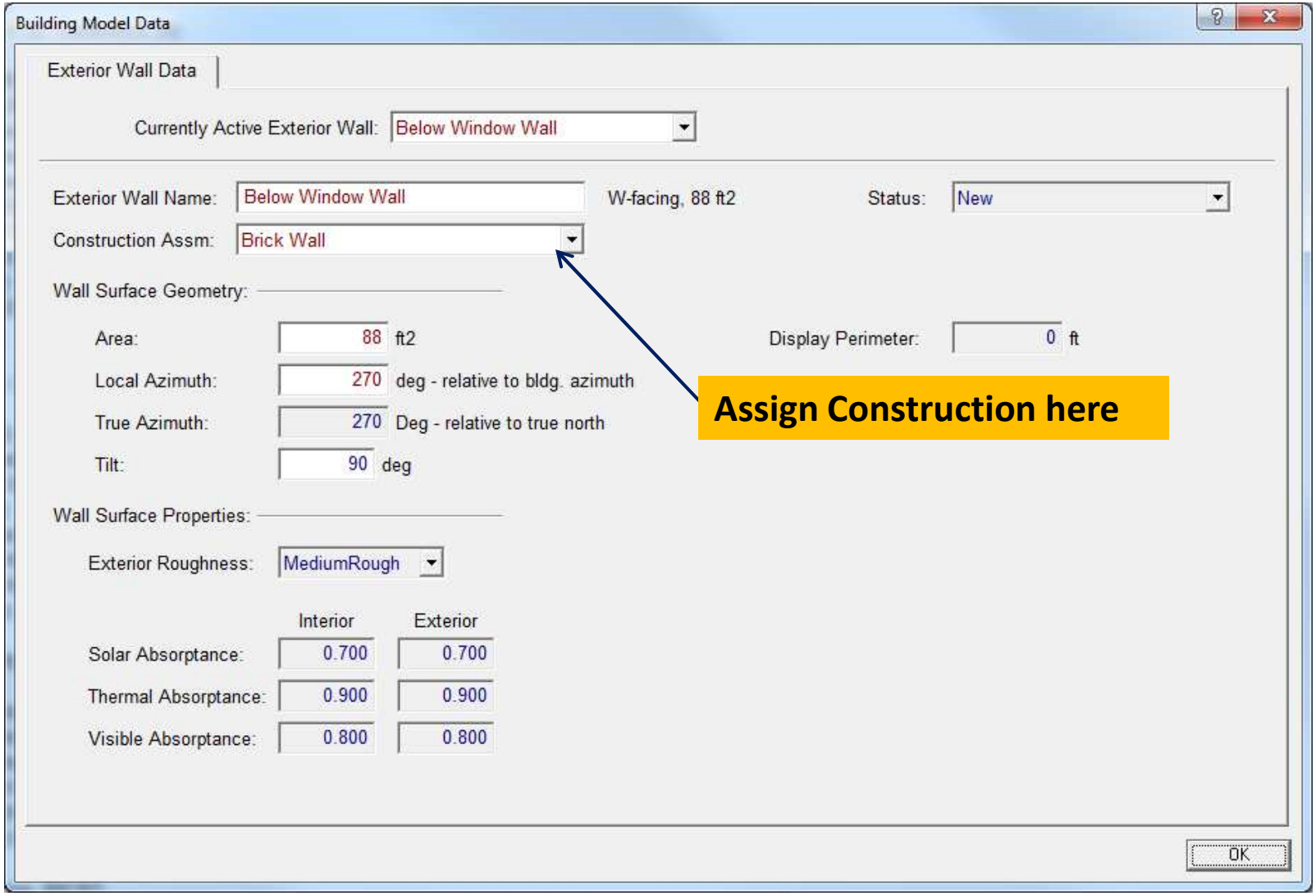


Training Module 5: Fenestration Details

Name	Type	Certification Method	Thermal Property
Fixed Window	Vertical Fenestration (Manufactured)	NFRC Rated	U-Factor: 0.360 SHGC: 0.250 Visible Trans: 0.500
Lobby Window	Vertical Fenestration (Manufactured)	NFRC Rated	U-Factor: 0.320 SHGC: 0.250 Visible Trans: 0.550
Exterior Door	Swinging	NFRC Rated	U-Factor: 0.50

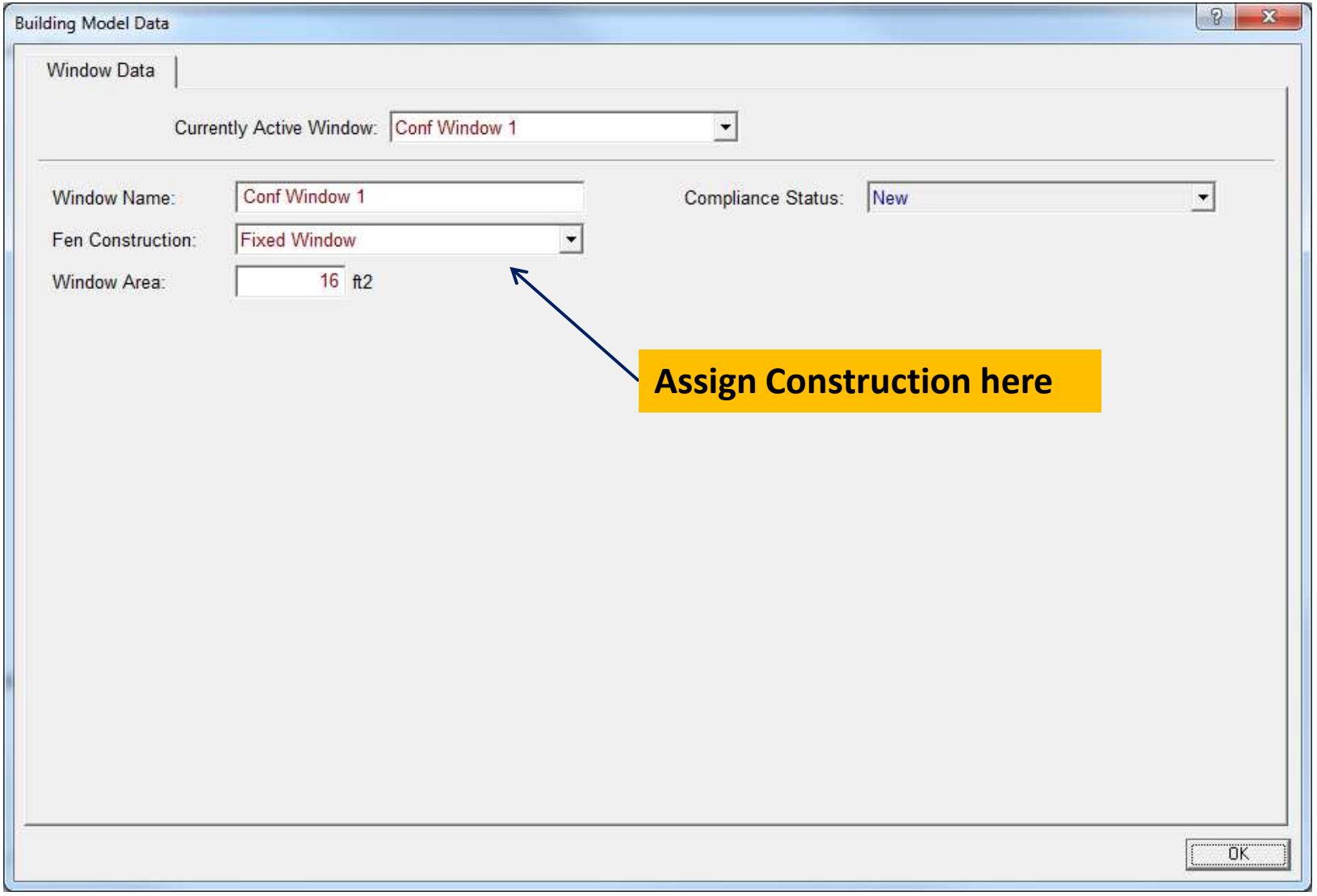
Training Module 5: Assign Constructions (Exterior Wall example)

- **Double-click on any Exterior Wall to open the Exterior Wall Data dialog box to assign constructions**



Training Module 5: Assign Constructions (Window example)

- **Double-click on any Window to open the Window Data dialog box to assign constructions**



Training Module 5: Door & Window Type Schedule (for Simplified Geometry Approach)

Space Name	External Wall Name	Window Name	Type
Open Office South	Open Office South Ext EWall	Open Office South E Window	Fixed Window
	Open Office South Ext SWall	Open Office South S Window	Fixed Window
Lobby	Lobby Ext SWall	Lobby SWindow	Lobby Window
	Lobby Ext EWall	Lobby EWindow	Lobby Window
	Lobby Ext Swall	Lobby SDoor	Exterior Door
Open Office North	Open Office North Ext NWall	Open Office North N Window	Fixed Window
	Open Office North Ext EWall	Open Office North E Window	Fixed Window
Private Office	Private Office Ext NWall	Private Office Window	Fixed Window
Conference	Conference Ext WWall	Conf Window 1	Fixed Window
	Conference Ext WWall	Conf Window 2	Fixed Window
	Conference Ext WWall	Conf Window 3	Fixed Window