

IDSN 4500

UNIVERSAL DESIGN

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RESEARCH

AUTODESK REVIT 2014

WHAT IS REVIT?

Revit is a Building Information Management (BIM) program that allows users to design a building, as well as its structure, in 3D, annotate the model with 2D drafting elements, and access building information from the building models database.

AutoDesk has become a significant player in the BIM market due to Revit, which became popular because of government contracting. Revit has a number of features:

- Parametric components
- Bidirectional associativity
- Worksharing, including interference checks
- Construction modeling
- The creation of building schedules

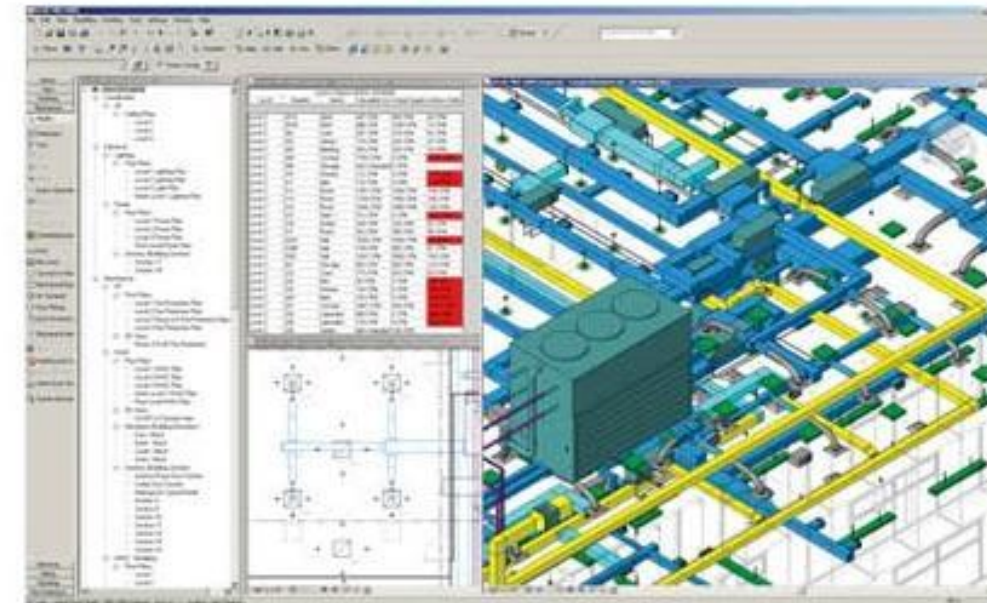
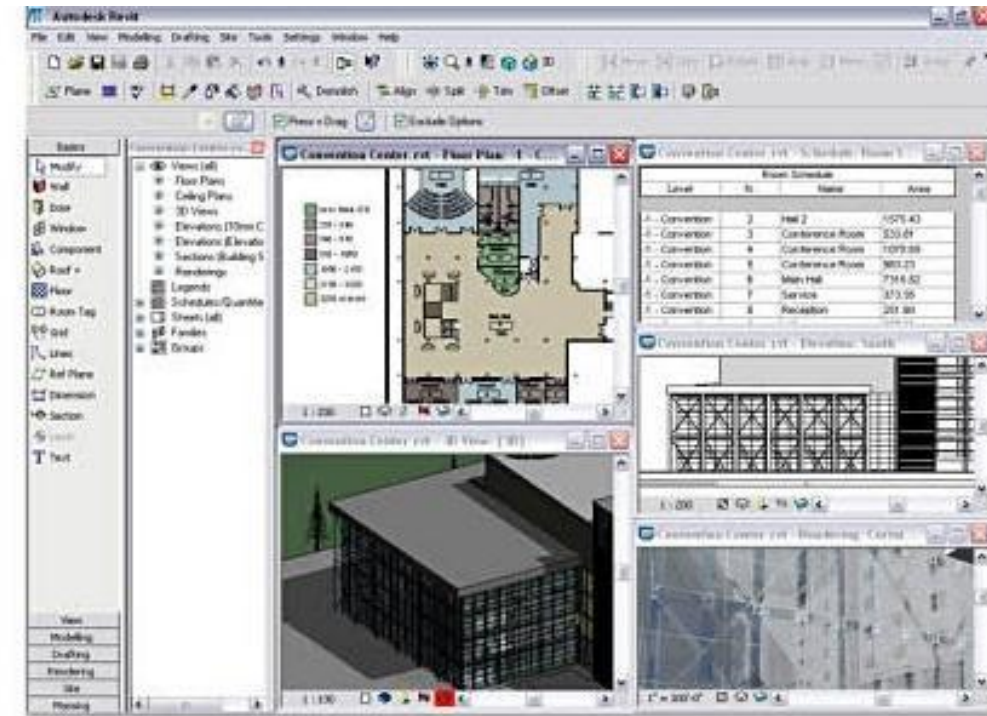
When using Revit, you are drafting and building a detailed, 3D model simultaneously.

What is BIM?

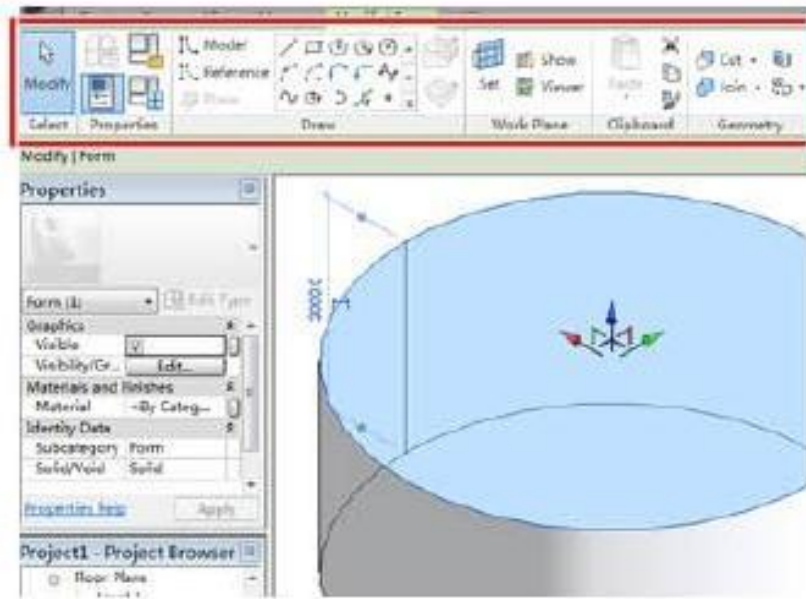
Building information modeling (BIM) is a new way of approaching the design and documentation of building projects.

BIM models and manages not just graphics, but also information - Information that allows the automatic generation of drawings and reports, design analysis, schedule simulation, and facilities management.

It also supports a distributed team so that people, tools, and tasks can effectively share this information throughout the building lifecycle, thus eliminating data redundancy, data re-entry, data loss, miscommunication, and translation errors.

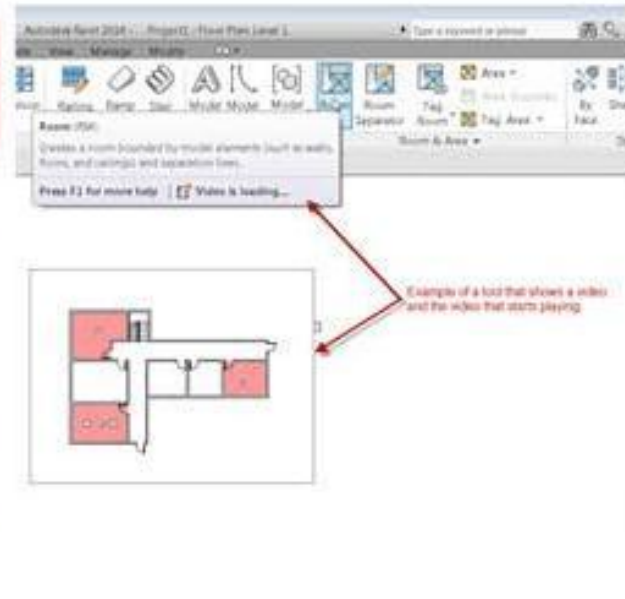


REVIT INTERFACE



When you first open Revit, It will take you to recently opened files; If you have never opened Revit, it will pull up sample products that AutoDesk provides.

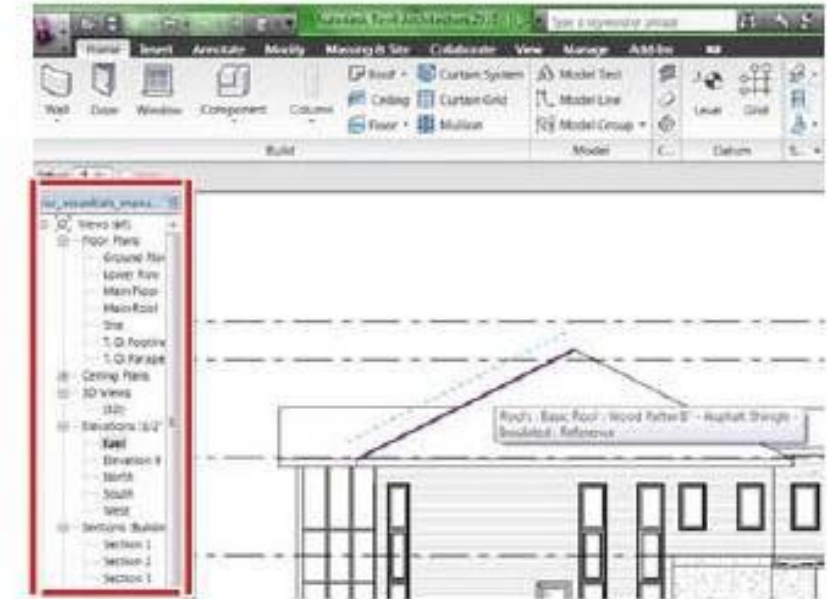
The primary tool bar is called the Ribbon, it is organized into tabs which consists of related tools. You may rearrange the tools and move them to your preferred location.



When you hover over tools, a description of the tool pops up.



On the left side of the page you will see the product info. The properties dialogue shows information of selected building elements, such as dimensions.



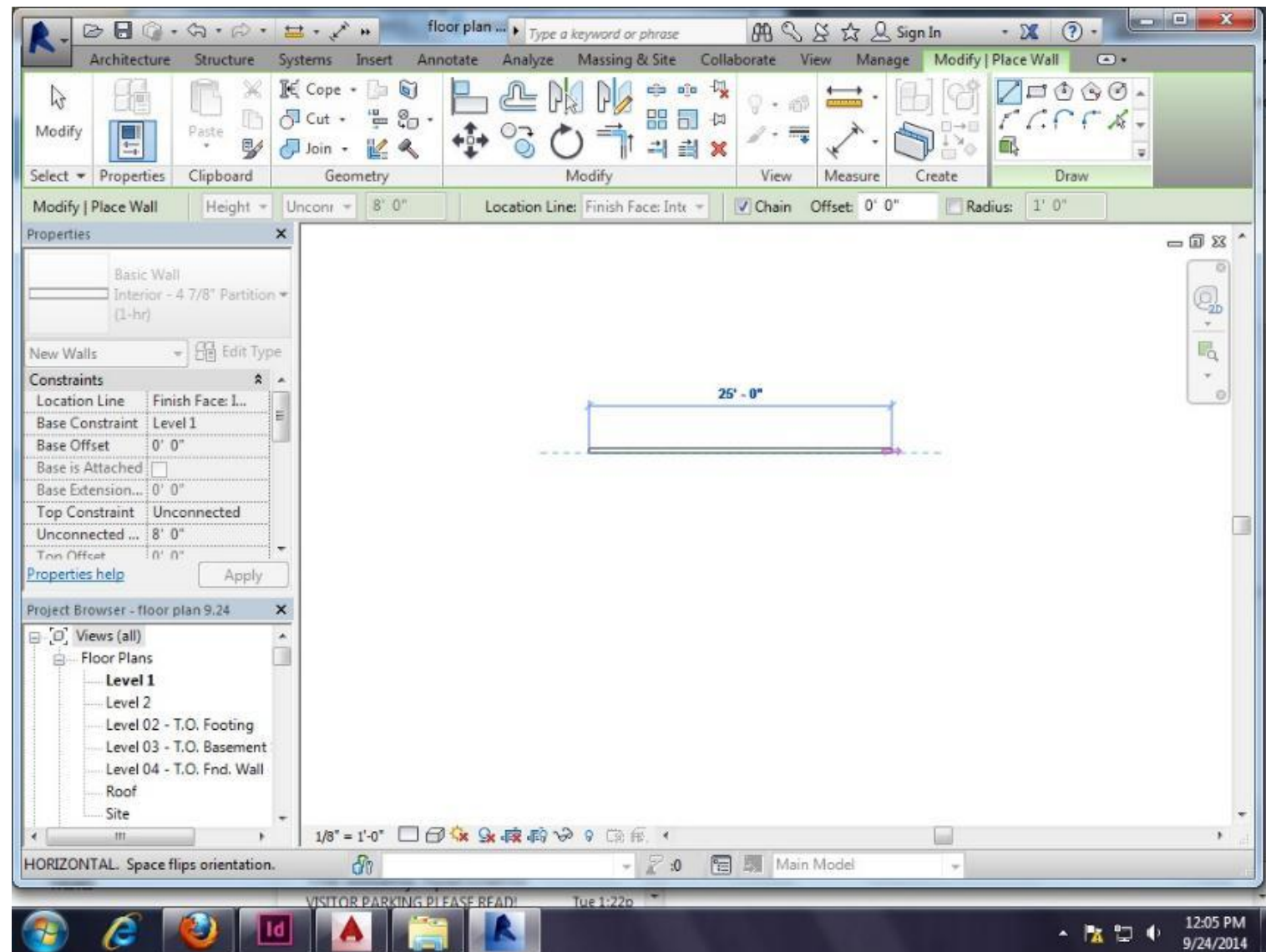
The Project browser gives lists of all the different sheets in your project, such as schedules, elevations, and plans.

In the project browser you can create new sheets, legends or schedules by right clicking and selecting "create new sheet."

USING REVIT

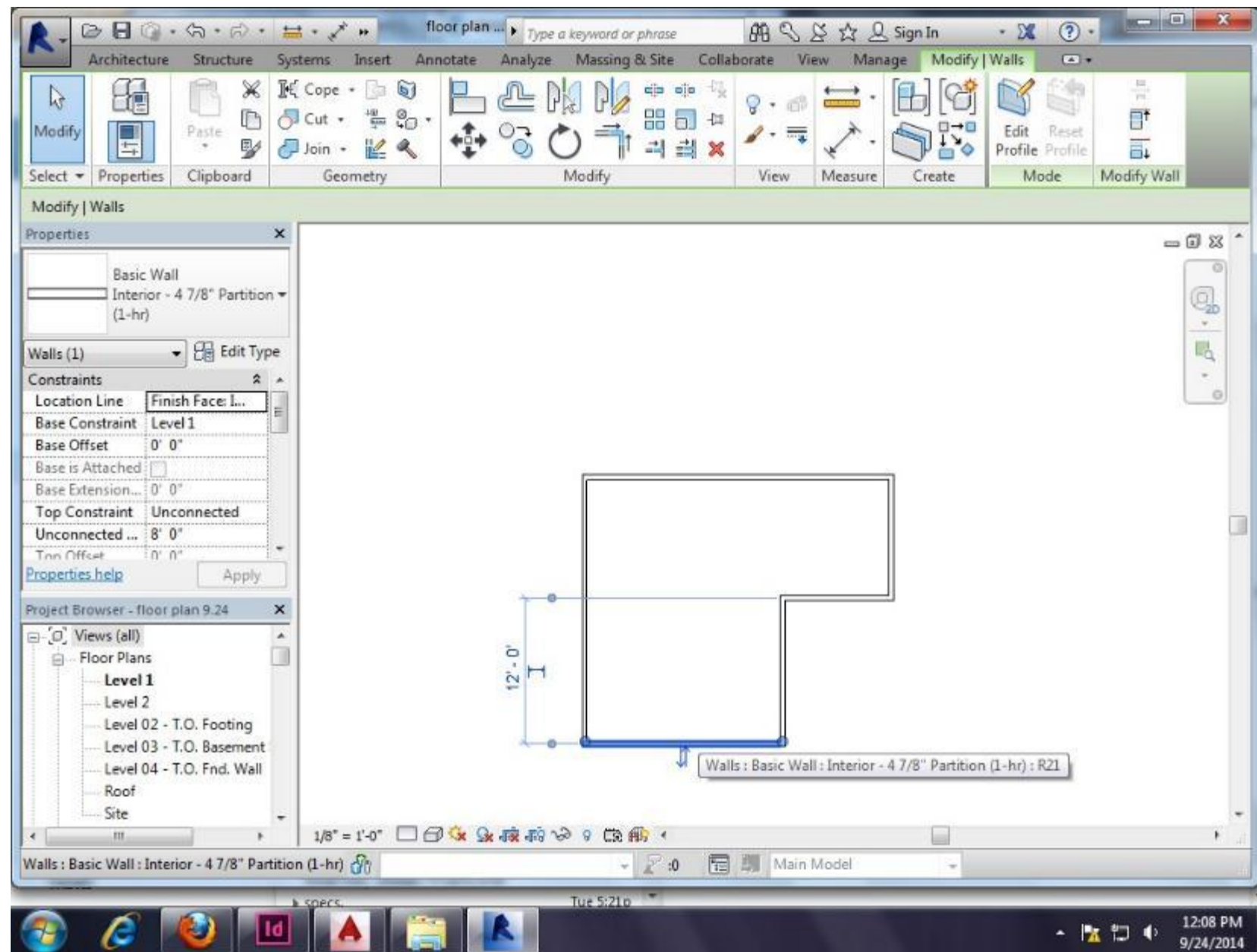
WELCOME TO REVIT! TO START THINGS OFF, YOU'RE GOING TO GO UP TO YOUR TOOL BAR, SELECT THE ARCHITECTURE TAB, AND CHOOSE THE WALL ICON. THERE, YOU'LL CHOOSE WALL: ARCHITECTURAL.

THERE WILL BE A DROP DOWN MENU ON THE LEFT SIDE OF THE SCREEN UNDER THE PROPERTIES MENU, YOU CAN USE THIS TO CHANGE THE TYPES WALL YOU'RE USING.



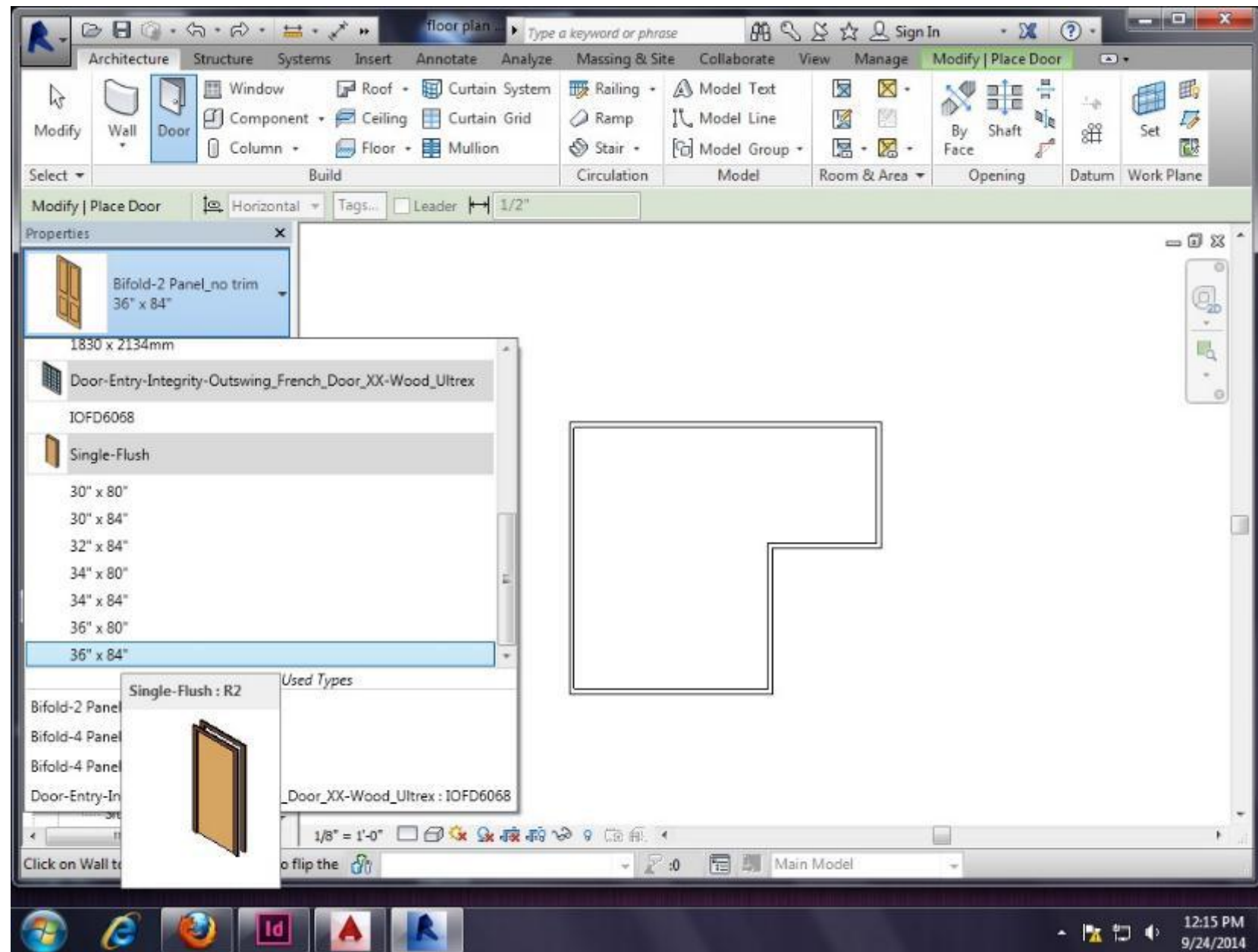
NOW THAT THERE ARE A FEW WALLS UP, LET'S LOOK AT WHAT HAPPENS WHEN WE CLICK A WALL. REVIT WILL SHOW US THE DIMENSIONS FROM ONE WALL TO ANOTHER. YOU CAN GRAB THE BLUE DOTS OF THE DIMENSION LINE AND MOVE THEM TO SEE OTHER DIMENSIONS.

IT IS ALSO POSSIBLE TO FLIP ITEMS WHEN YOU HAVE SELECTED THEM: NOTICE THE TWO BLUE ARROWS ON THE SCREEN, JUST CLICK THOSE AND THE ITEM WILL FLIP AROUND.



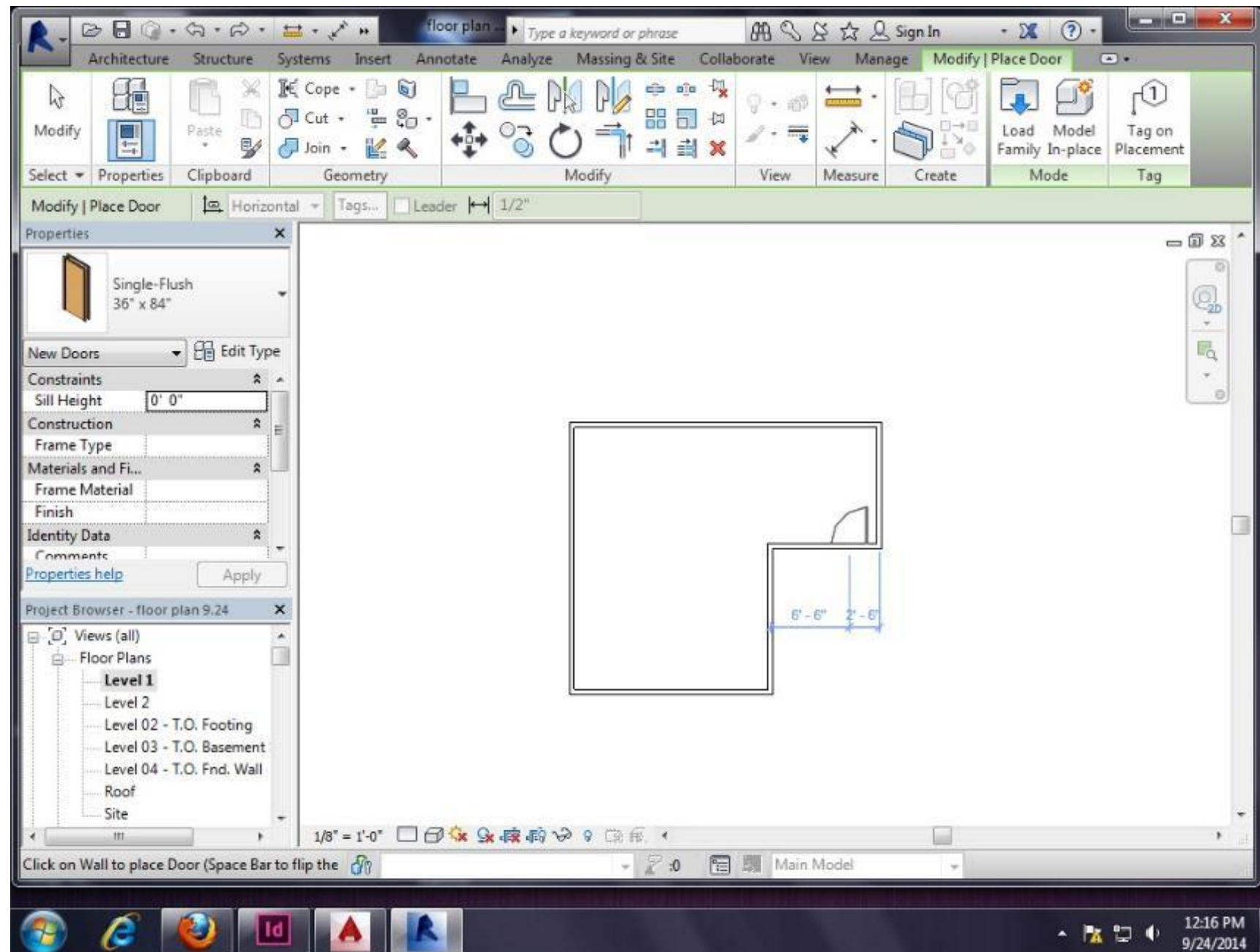
NOW THAT WE HAVE OUR SPACE, IT'S TIME TO ADD SOME DOORS. SELECT THE DOOR ICON ON THE RIBBON AND THEN BRING UP THE DROP DOWN MENU IN THE PROPERTIES MENU. LIKE THE WALLS, THERE ARE ALREADY PRELOADED TYPES TO CHOOSE FROM.

AS YOU CAN SEE, I HAVE DOWNLOADED A TYPE: FRENCH DOORS. THIS IS CALLED A FAMILY AND YOU CAN DOWNLOAD THEM ONLINE. FAMILIES ARE ALSO EDITABLE IN CASE THEY'RE NOT ALREADY EXACTLY WHAT YOU NEED.



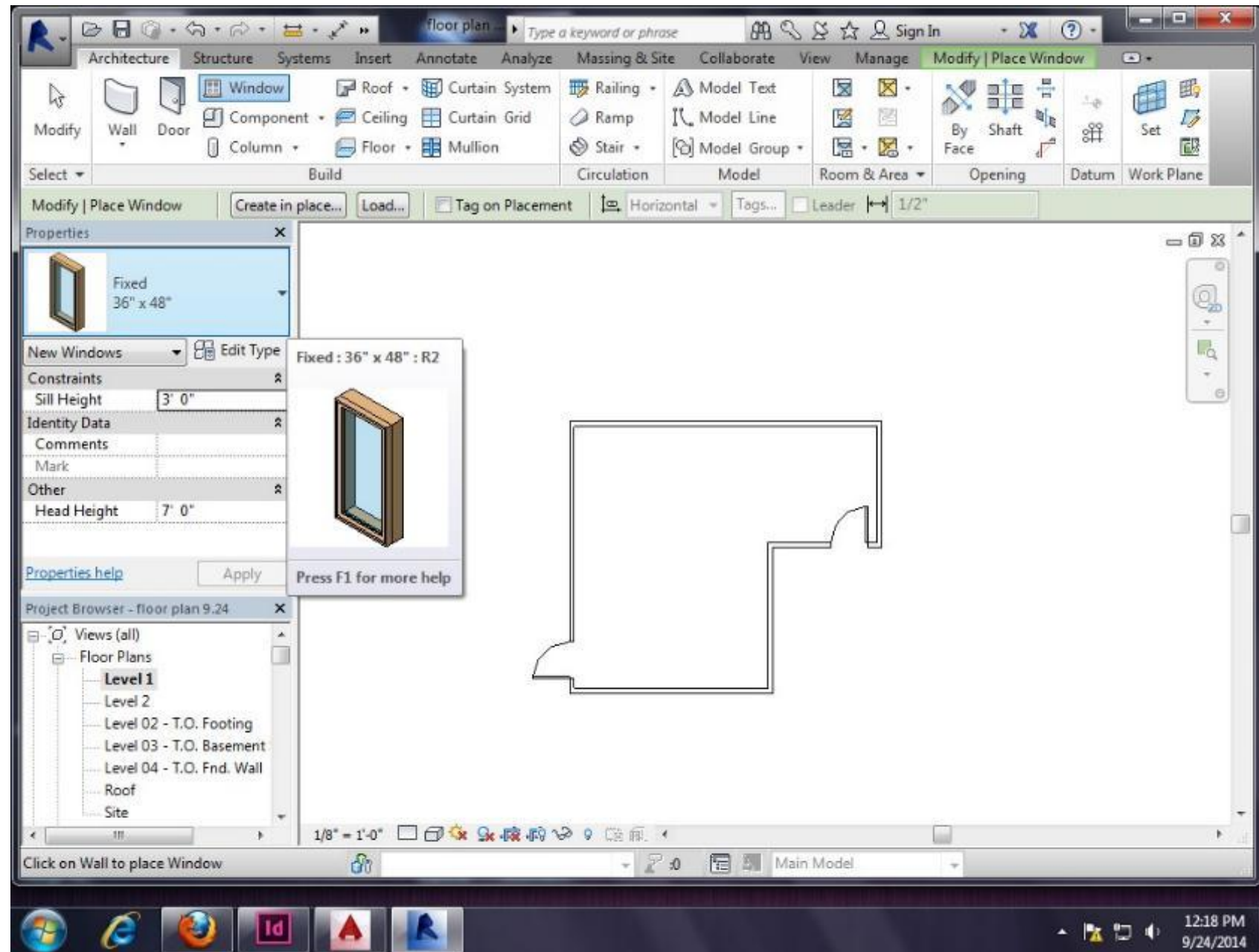
AFTER YOU'VE CHOSEN THE DOOR TYPE, YOU CAN PLACE IT INTO ANY EXISTING WALL. WHEN PLACING, IT WILL GIVE YOU THE DIMENSIONS ON EITHER SIDE.

THE TWO BLUE FLIP ARROWS ALSO COME UP WHEN YOU SELECT YOUR DOOR ONCE IT'S PLACED, MAKING IT EASY TO CHANGE DOOR SWINGS.



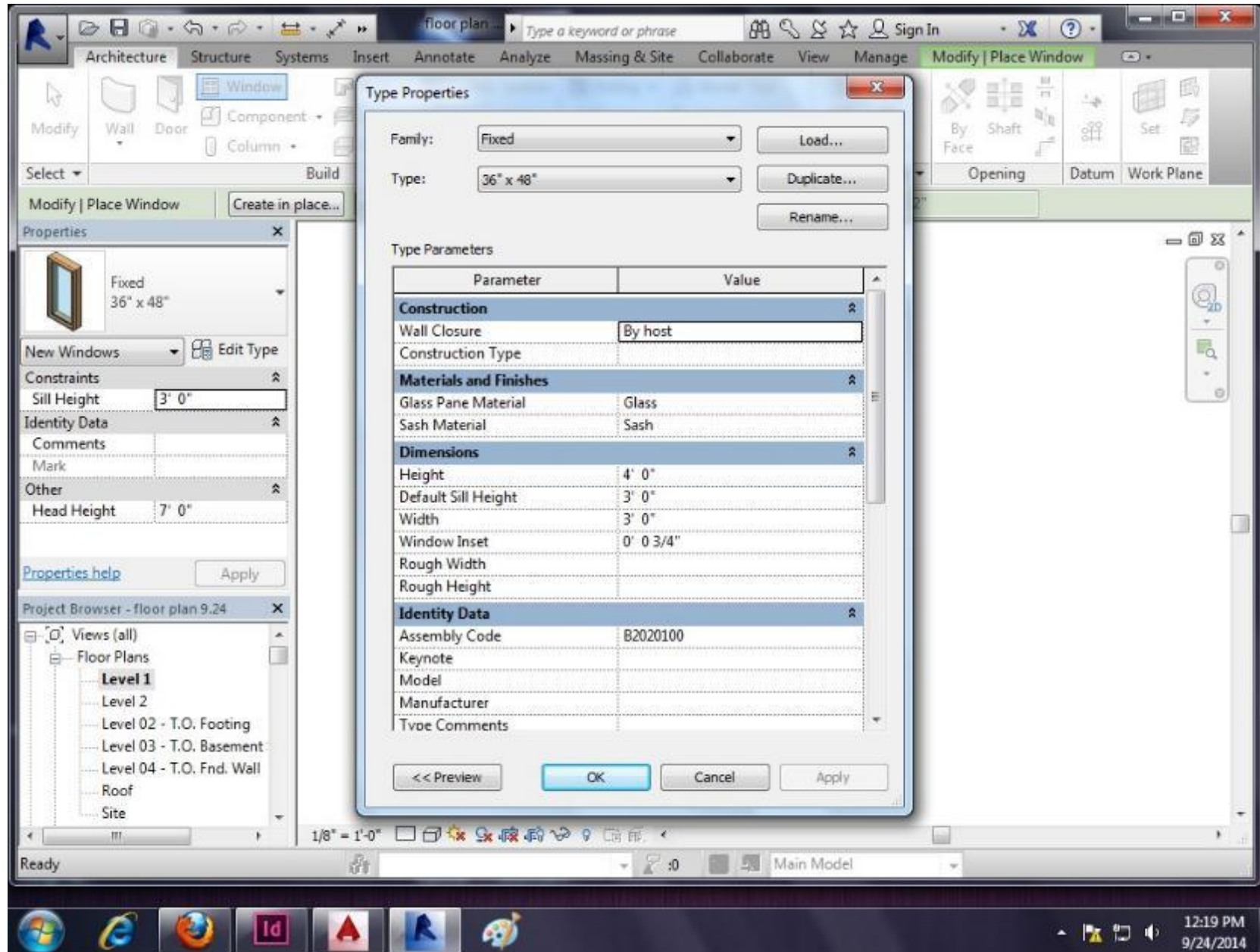
NEXT WE'LL ADD SOME WINDOWS. LIKE DOORS AND WALLS, YOU CAN CHOOSE DIFFERENT TYPES. HOWEVER, REVIT DOES NOT APPEAR TO HAVE THE SIZE OF WINDOW I NEED, SO LET'S EDIT ONE.

CLICK THE EDIT TYPE BUTTON IN THE PROPERTIES MENU.



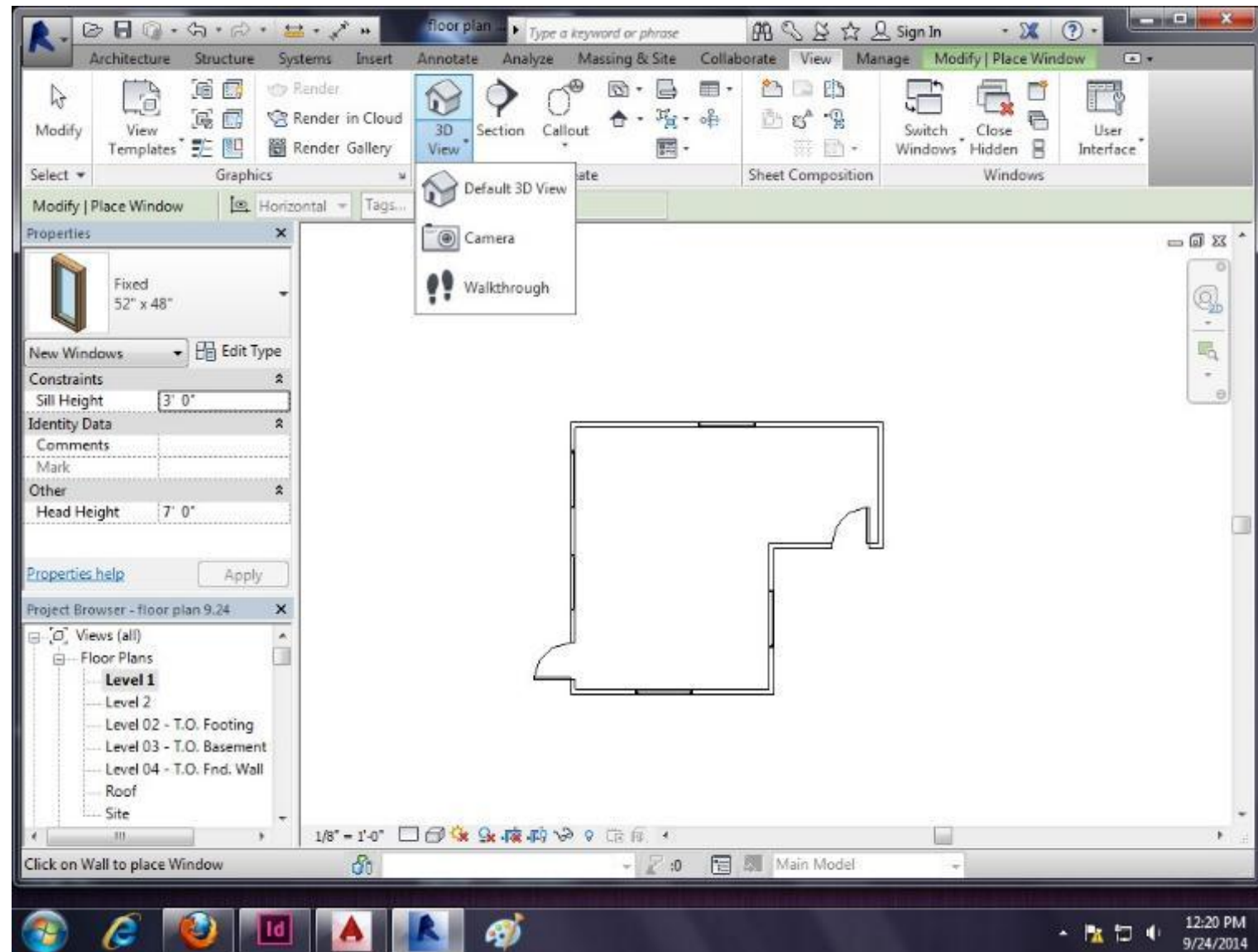
FROM HERE, I RECOMMEND CHOOSING THE CLOSEST FAMILY AVAILABLE TO WHAT YOU NEED AND THEN CLICKING THE DUPLICATE BUTTON AT THE TOP. THIS WAY, THE TYPE THAT'S ALREADY THERE CAN STAY THE SAME. THEN YOU'LL NAME YOUR TYPE AND HIT OKAY.

IN THE EDIT TYPE MENU YOU CAN ALTER THE MATERIALS OF THE ITEM AND THE DIMENSIONS. LET'S MAKE THIS 36"x48" WINDOW 52"x48".



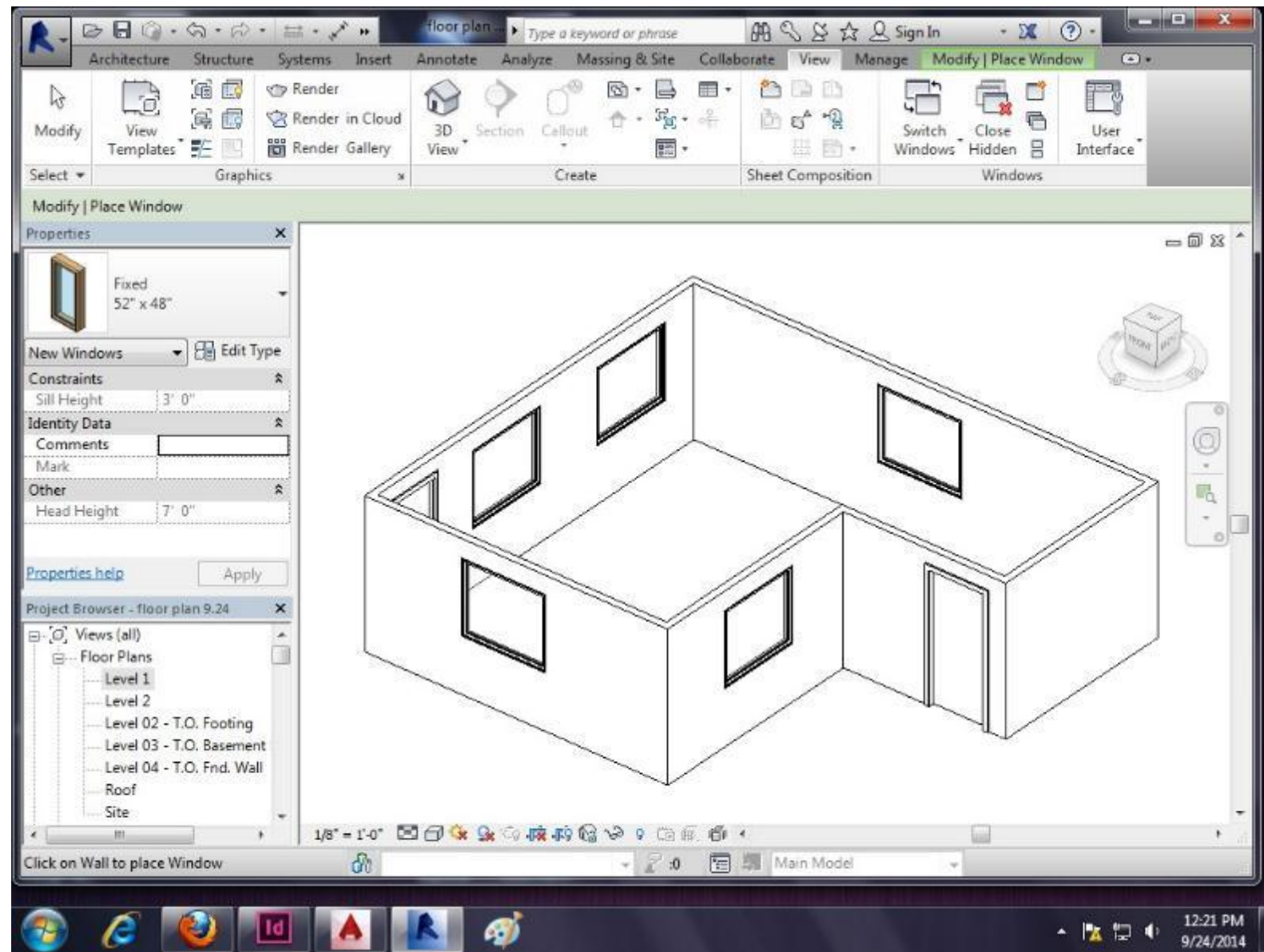
NOW WE HAVE A SPACE WITH DOORS AND WINDOWS, BUT I WANT TO SEE WHAT IT LOOKS IN 3D.

CLICK THE VIEW TAB IN THE RIBBON AND THEN CLICK THE 3D VIEW BUTTON. THERE ARE A COUPLE DIFFERENT OPTIONS, BUT LET'S CHOOSE THE DEFAULT.



IT'S OUR SPACE! EVERYTHING IS STILL EDITABLE IN THE 3D VIEW.

TO GO BACK TO THE FLOOR PLAN, YOU WILL CHOOSE "LEVEL 1" UNDER THE PROJECT BROWSER MENU.





DESIGN PROJECT

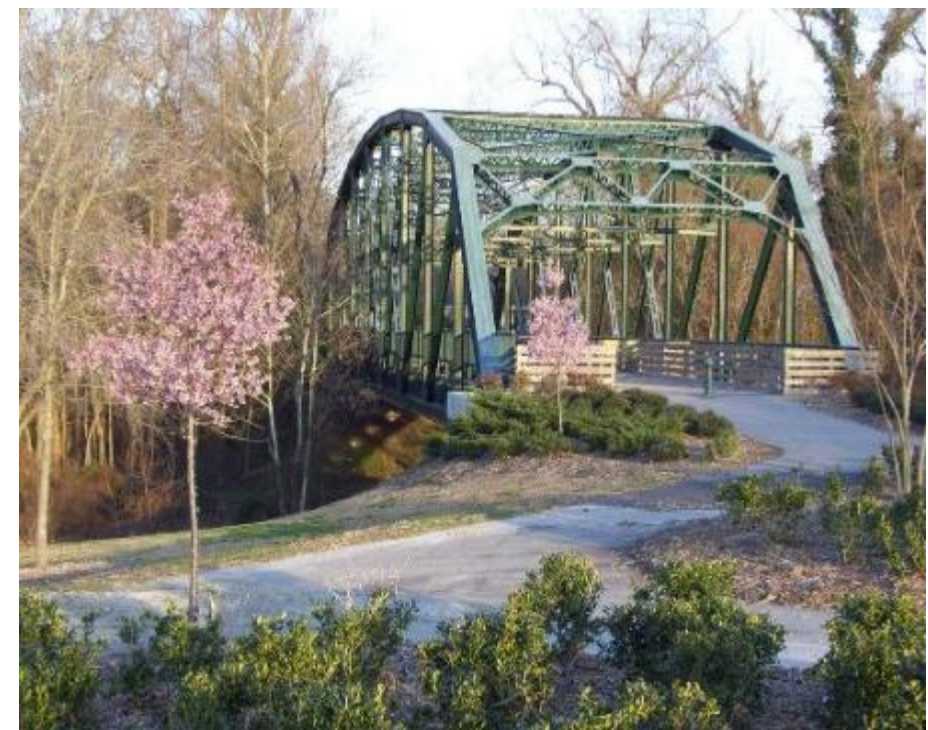
UNIVERSIAL DESIGN CONDOMINIUM

CLIENT PROFILE

AN ESTABLISHED DEVELOPER IS LOOKING TO HIRE DESIGNERS TO ASSIST WITH THE CONSTRUCTION OF NEW LUXURY CONDOS IN THE AREA. THESE CONDOS ARE LOOKING TO BRING IN PEOPLE TO THE GREENVILLE COMMUNITY AND ARE TARGETING THE RETIRED 55+ ACTIVE AUDIENCE. THE DEVELOPERS WOULD LIKE TO CONSIDER THE FOLLOWING IN THEIR NEW DEVELOPMENT AND CLIENTELE:

CLIENTELE:

- SOCIAL LIFESTYLE
- PARTICIPATION IN COMMUNITY EVENTS
 - REGULARLY EXERCISE
- CONDOMINIUM COMPLEX:
 - 1500-3000 SQUARE FOOT CONDO UNITS
 - TWO BEDROOMS
 - TWO BATHROOMS
 - SPACIOUS LAYOUTS
 - LOW MAINTENANCE
 - EFFICIENT APPLIANCES
 - ONSITE LAUNDRY
 - OPTION FOR OUTDOOR LIVING SPACES (BALCONY/PATIO)



SPATIAL DIVISION AND REASONING

APPROXIMATE SQUARE FOOTAGE OF EACH SPACE

FOYER ~ 50-100 sq ft

LIVING ROOM ~ 250-450 sq ft

DINING ROOM ~ 200-300 sq ft

KITCHEN ~ 250-350 sq ft

MASTER BEDROOM ~ 200-350 sq ft

MASTER BATHROOM ~ 150-250 sq ft

GUEST BEDROOM ~ 150-200 sq ft

GUEST BATHROOM ~ 100-150 sq ft

LAUNDRY ROOM ~ 80-150 sq ft

TOTAL SQUARE FOOTAGE: ~1,430 – 2,300 sq ft

MORE DETAILED AND FINISHED ROOM SIZES WILL BE DETERMINED AS THE PROJECT ADVANCES

ROOM SIZES REFERENCED FROM

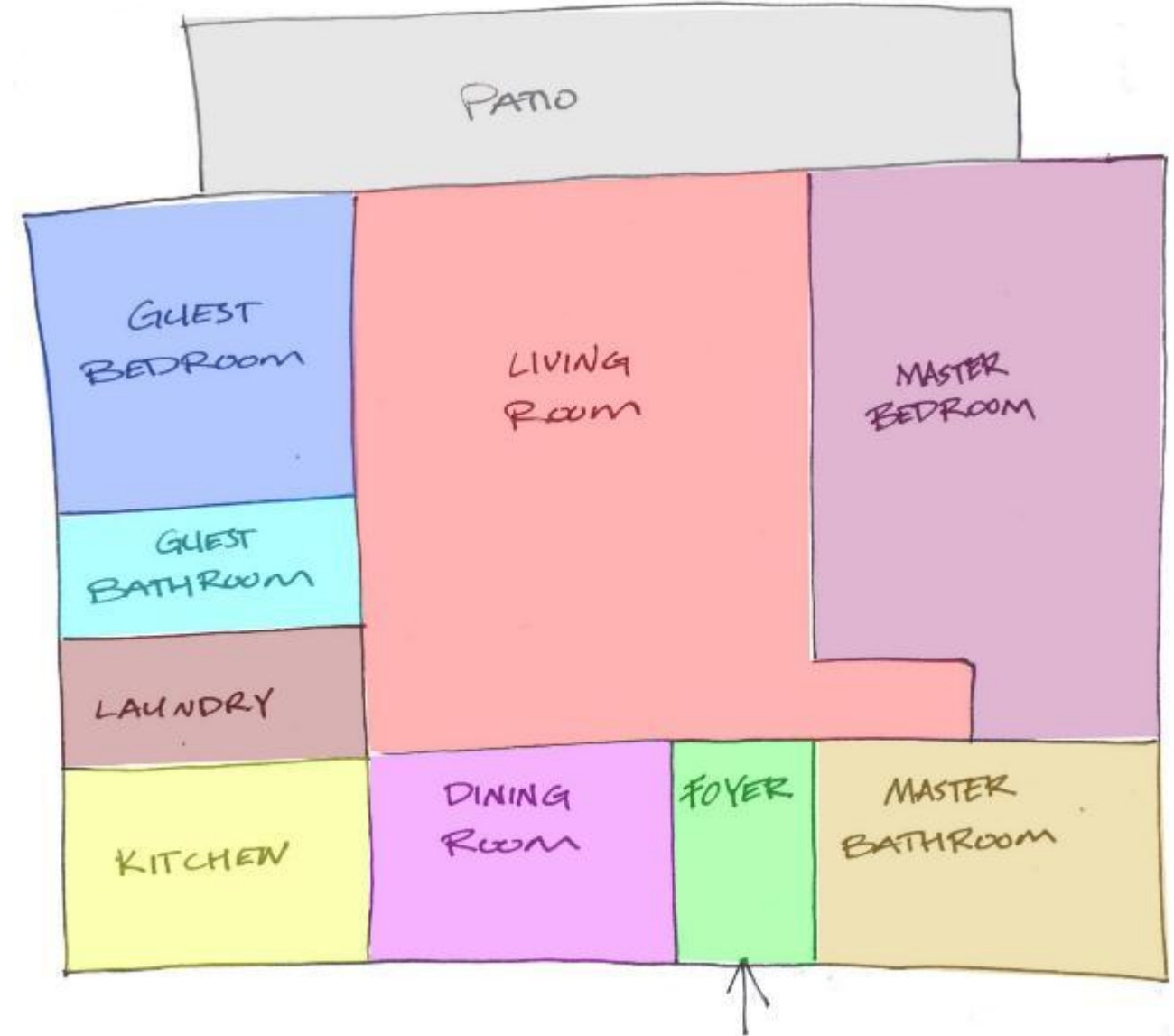
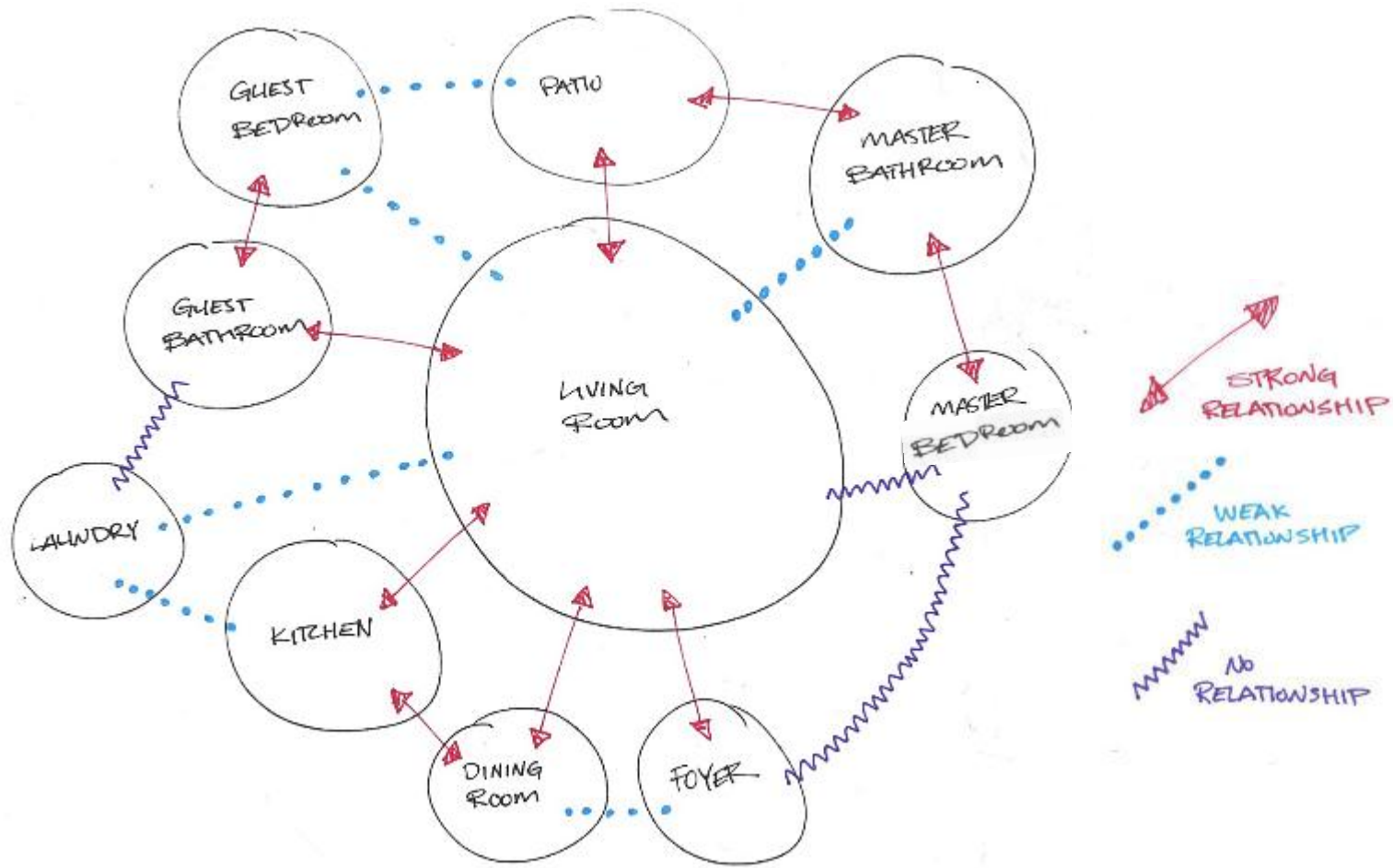
THE SQUARE FOOTAGE OF THESE SPACES ALLOWS FOR COMFORTABLE LIVING WHILE STILL MAINTAINING AN EFFICIENT USE OF SPACE. THIS ALLOCATION OF SPACE ALLOWS MORE ROOM FOR ENTERTAINING AND HAVING GUESTS IN THE COMMON SPACES OF THE HOUSE BUT STILL GIVES THE PRIVATE QUARTER'S SIZABLE ROOMS. LAUNDRY ROOMS WILL BE PROVIDED SO THAT RESIDENTS DO NOT HAVE TO LEAVE THEIR HOMES TO COMPLETE THIS CHORE. THE SIZE OF THE ROOMS IN THESE UNITS IS COMPARABLE TO OTHER UNITS IN THE AREA OFFERING SIMILAR AMENITIES. HISTORICAL PRECEDENTS WILL BE INCORPORATED INTO THE DESIGN THROUGH THE APPROPRIATE SELECTION OF FURNITURE AND FIXTURES.

DESIGN INSPIRATION



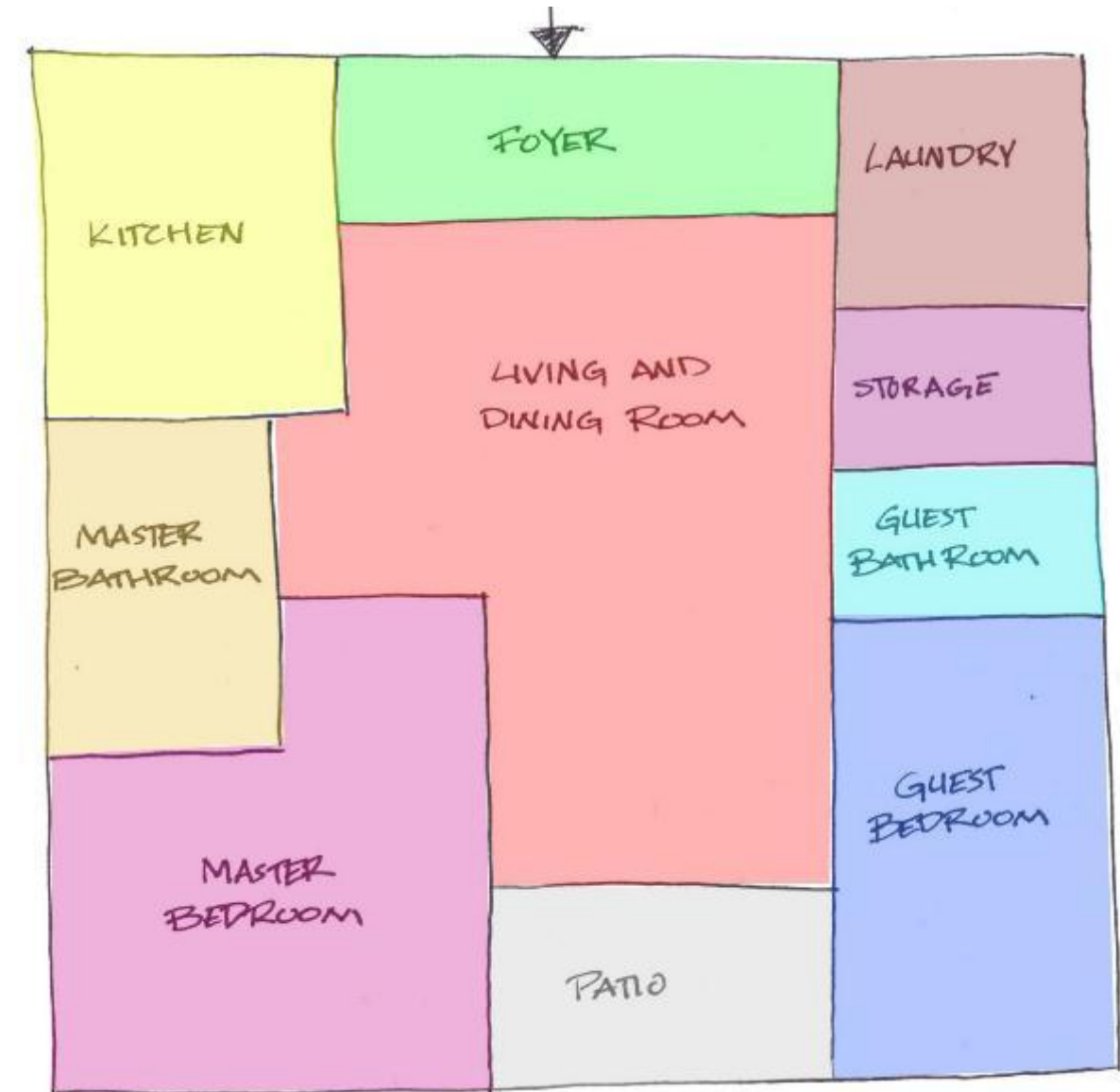
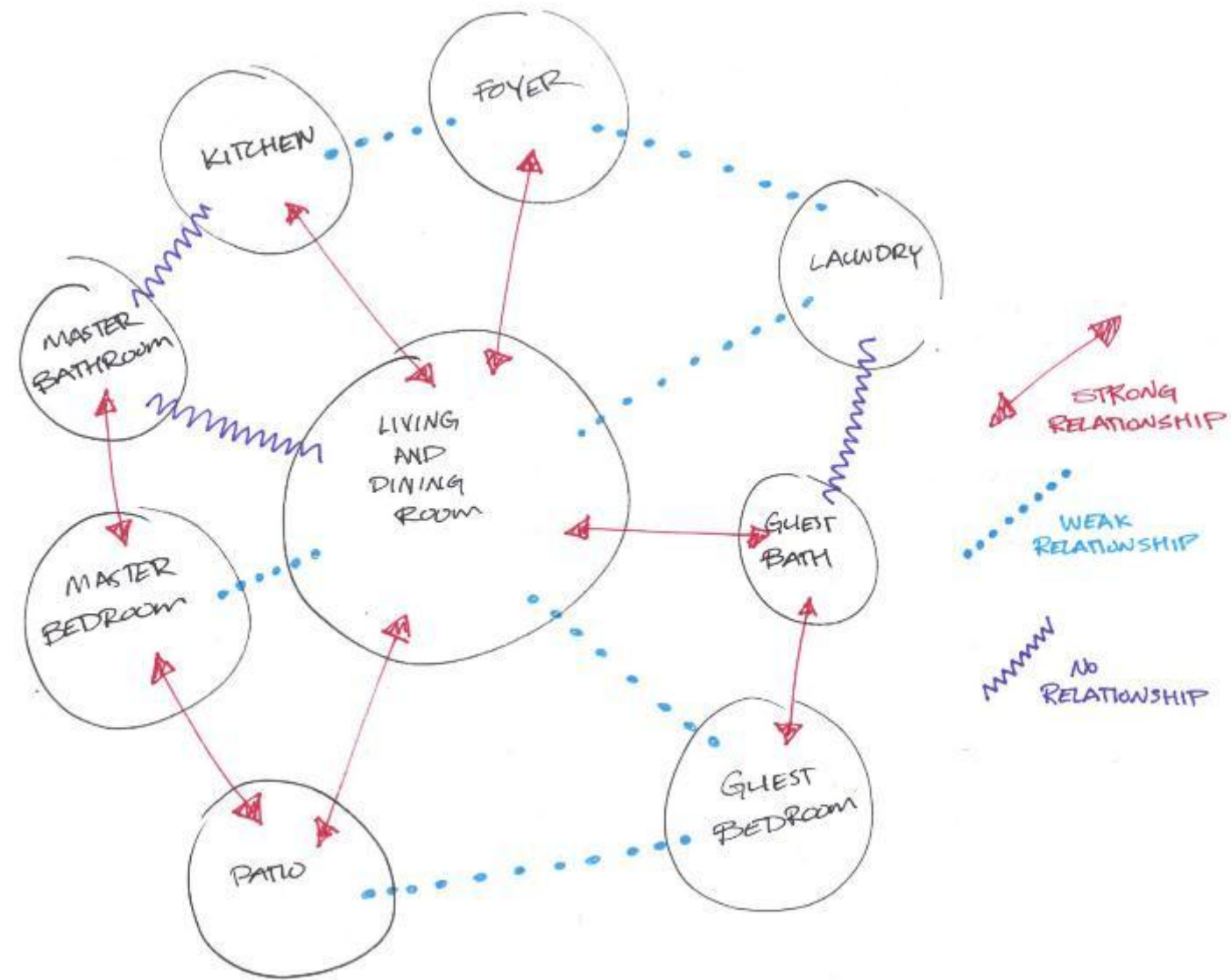
BUBBLE AND BLOCKING DIAGRAMS

OPTION I *NOT TO SCALE



BUBBLE AND BLOCKING DIAGRAMS

OPTION 2 *NOT TO SCALE



BUBBLE AND BLOCKING DIAGRAMS

OPTION 3 *NOT TO SCALE

