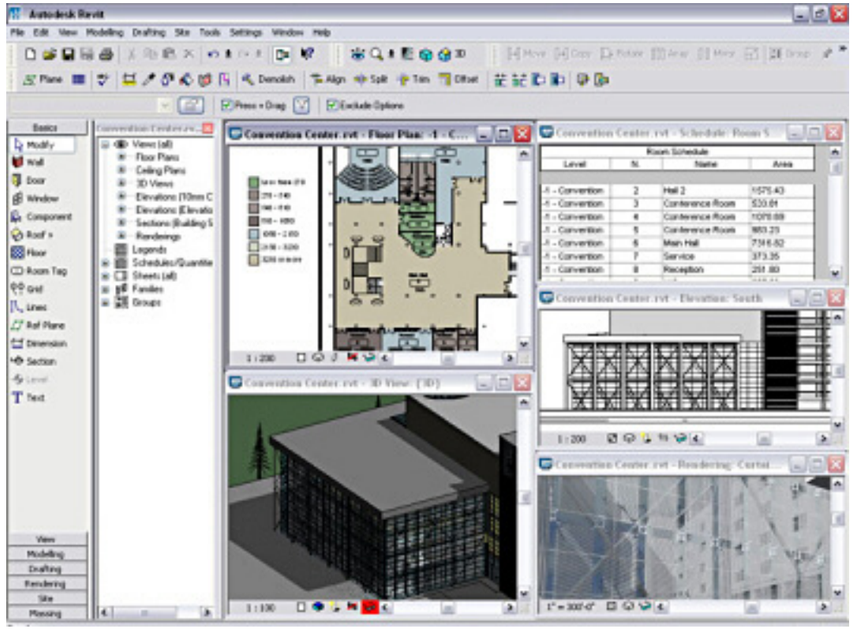
What is Revit?

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 signicant 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.

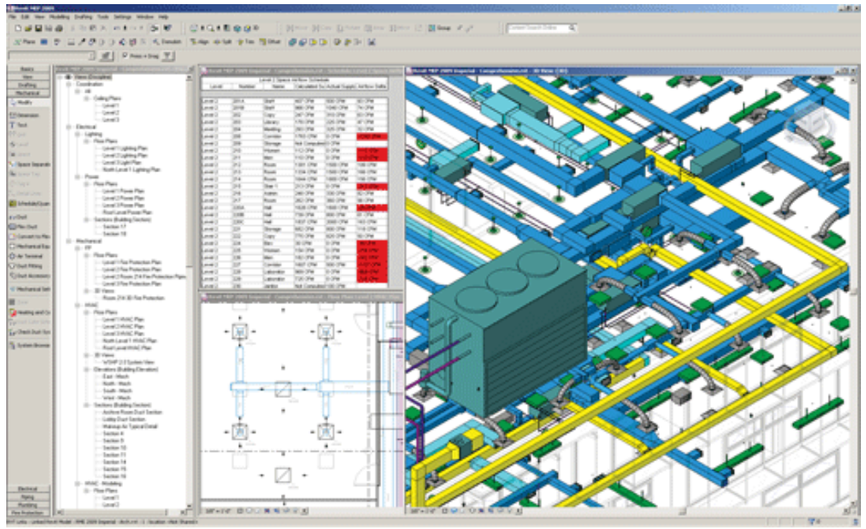


What is BIM?

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.



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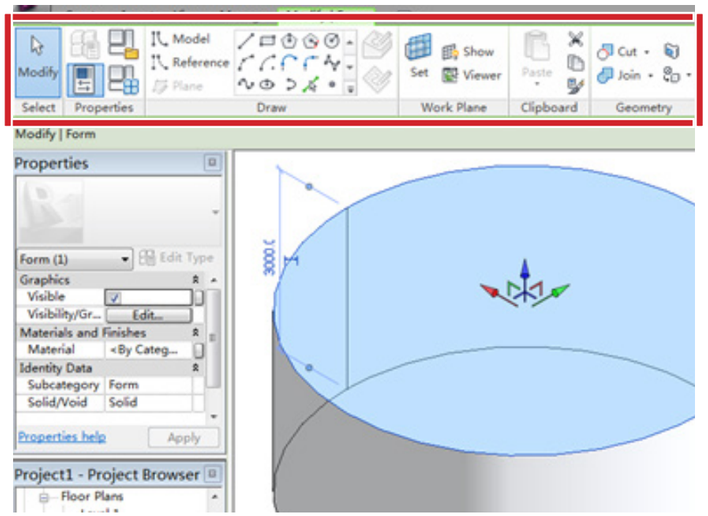
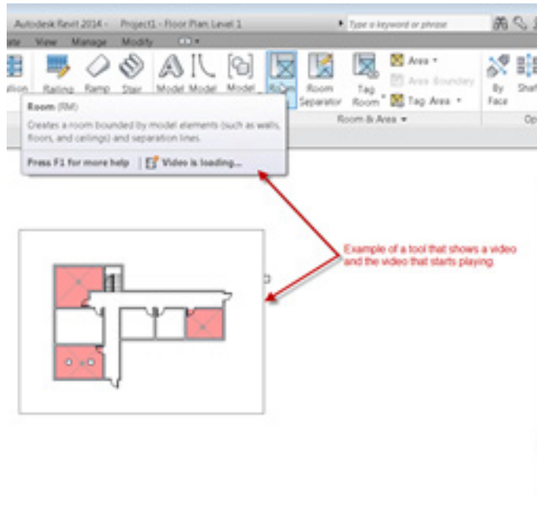
Revit Interface

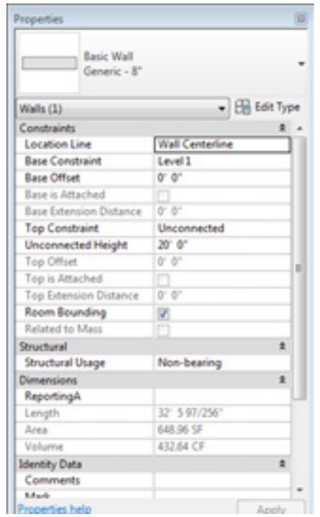


When you first open Revit, It will take you to recently opened files; If you have never opened Revit, it will pull up sample products that AutoDesk provides.

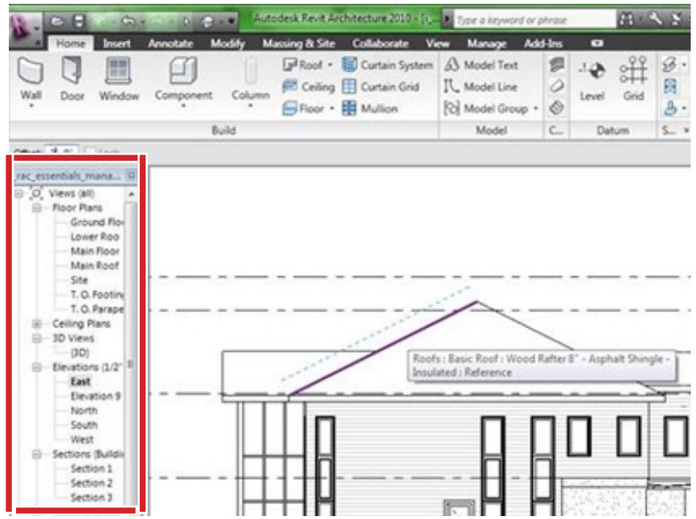
The primary tool bar is called the Ribbon, it is organized into tabs which consists of related tools. You may rearrange the tools and move them to your preferred location.



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

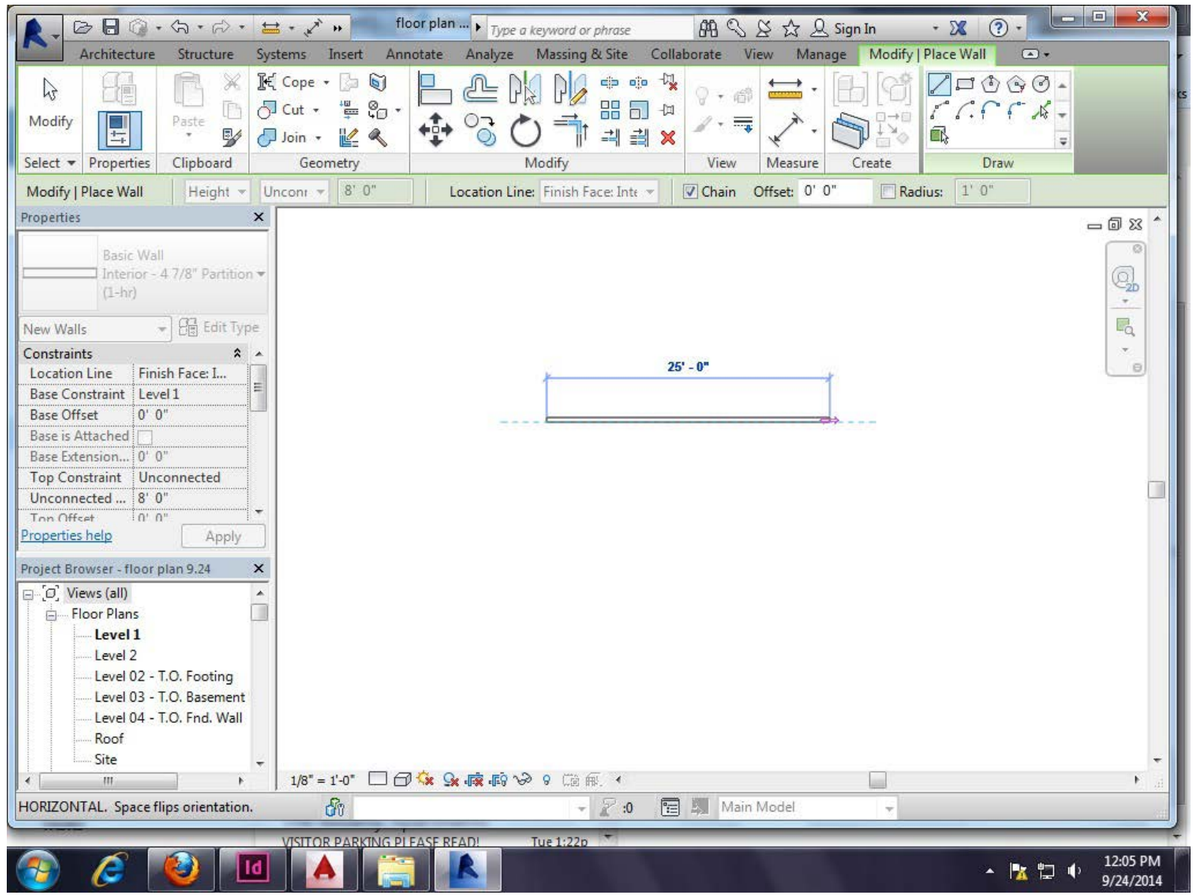


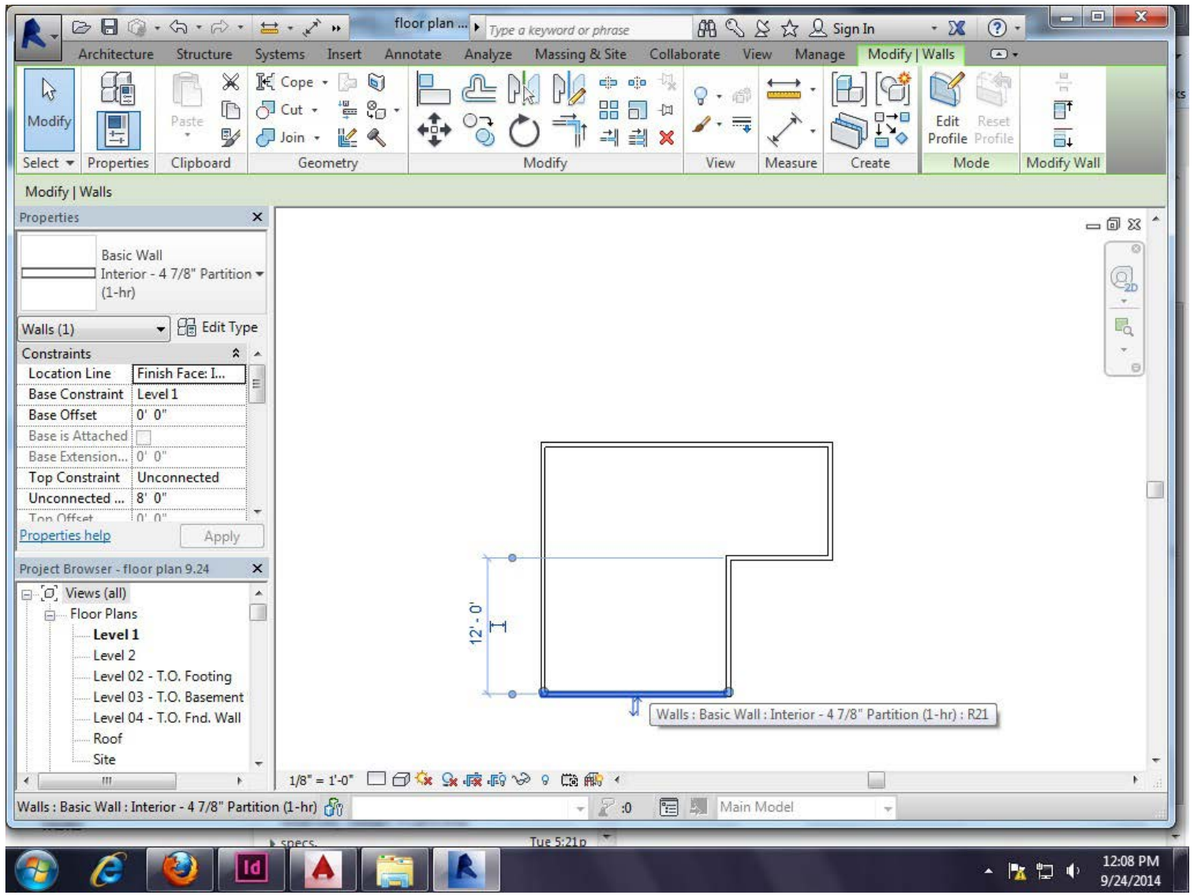
On the left side of the page you will see the product info. The properties dialogue shows information of selected building elements, such as dimensions.



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."



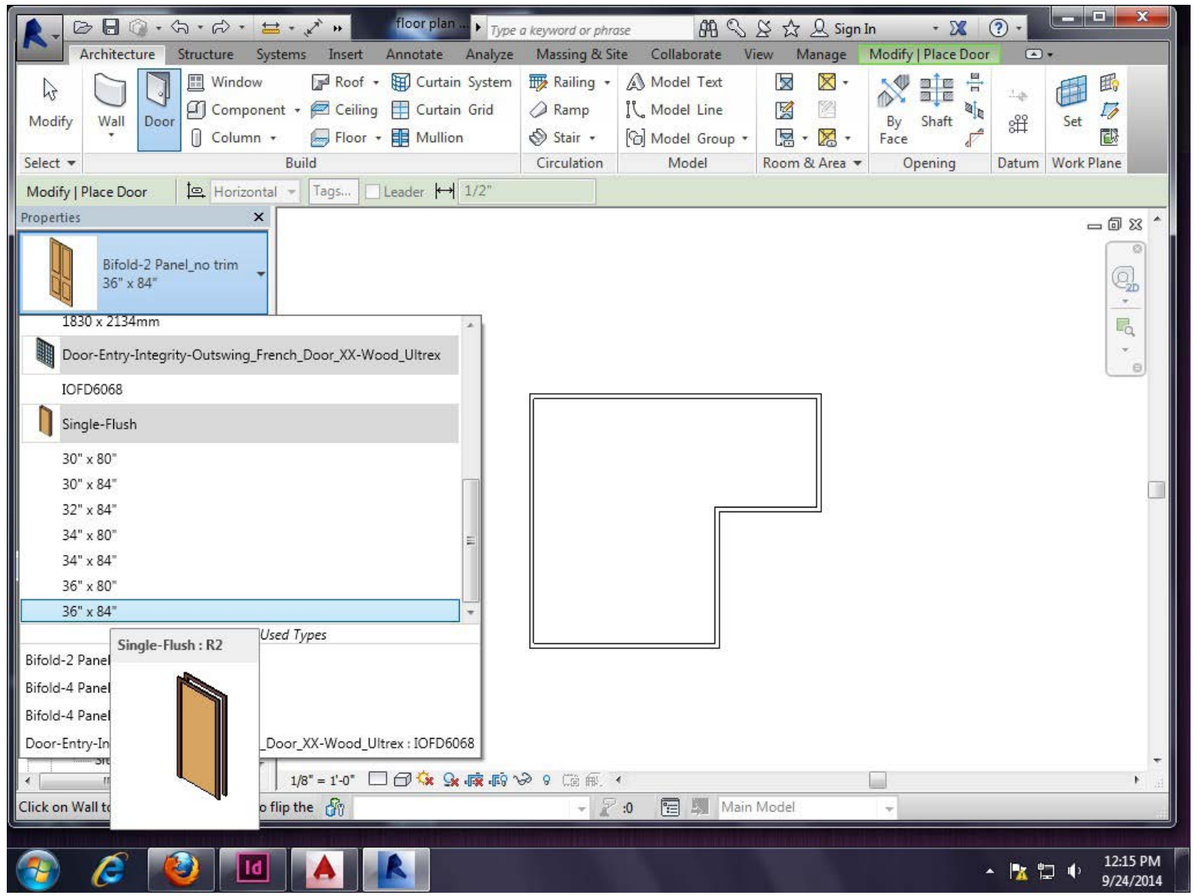


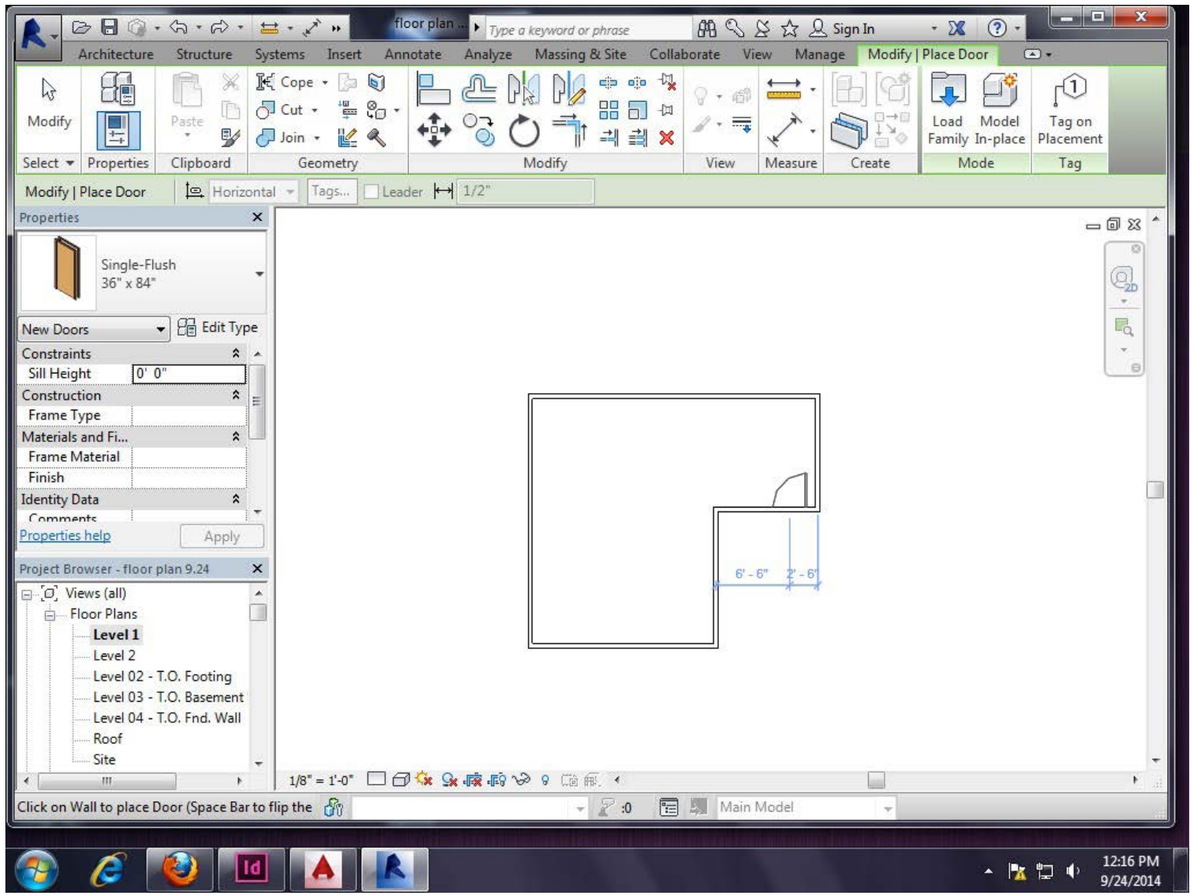
WELCOME TO REVIT! TO START THINGS OFF, YOU'RE GOING TO GO UP TO YOUR TOOL BAR, SELECT THE ARCHITECTURE TAB, AND CHOOSE THE WALL ICON. THERE, YOU'LL CHOOSE WALL: ARCHITECTURAL.

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.

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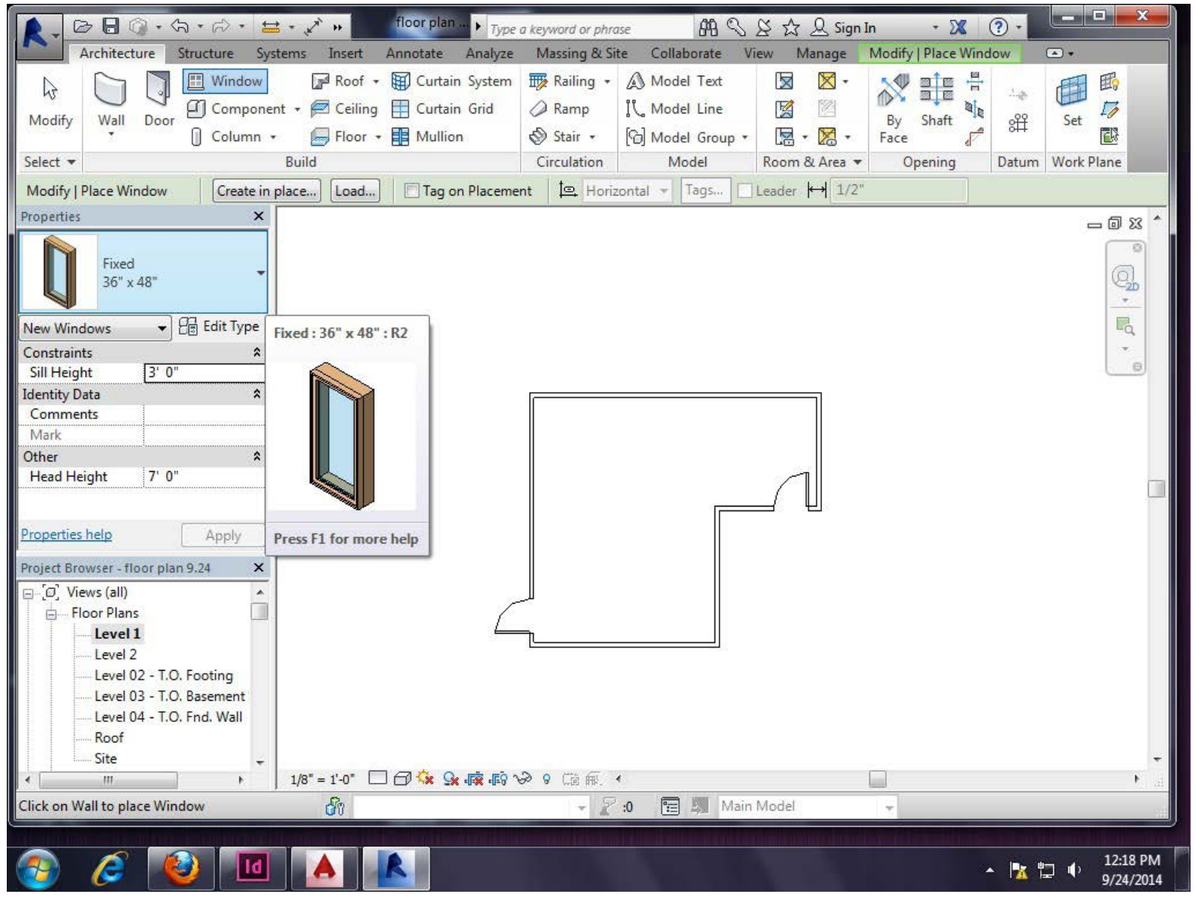
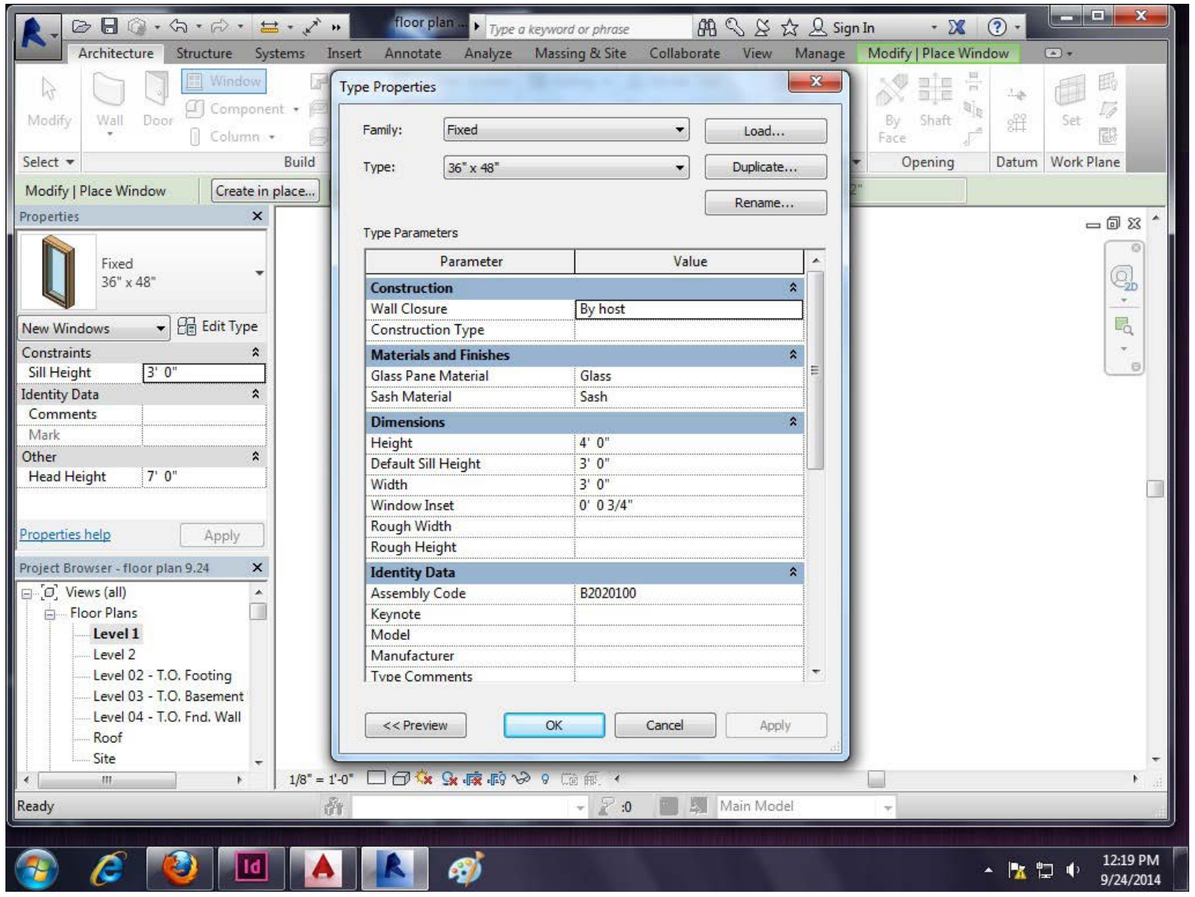


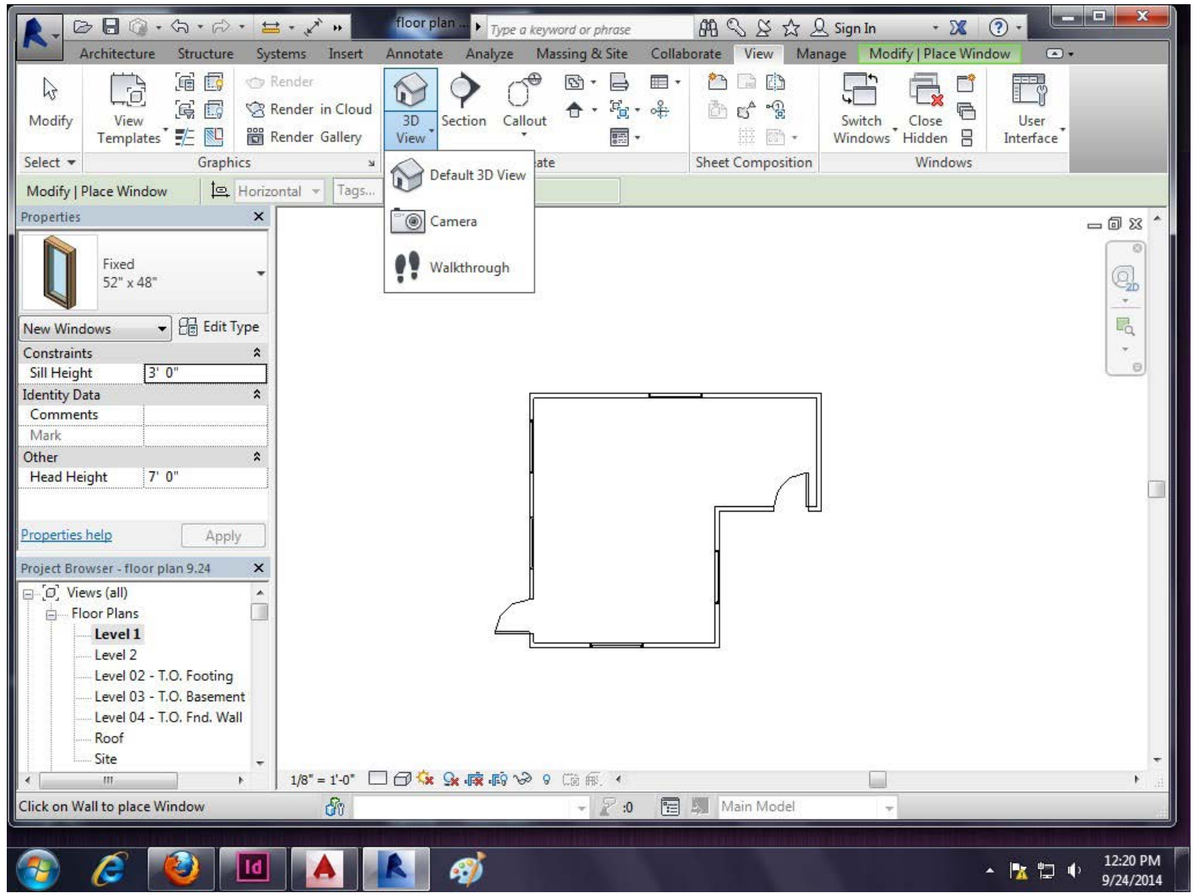
Next we'll add some windows. Like doors and walls, you can choose different types. However, Revit does not appear to have the size of window I need, so let's edit one.

Click the Edit Type button in the Properties Menu.



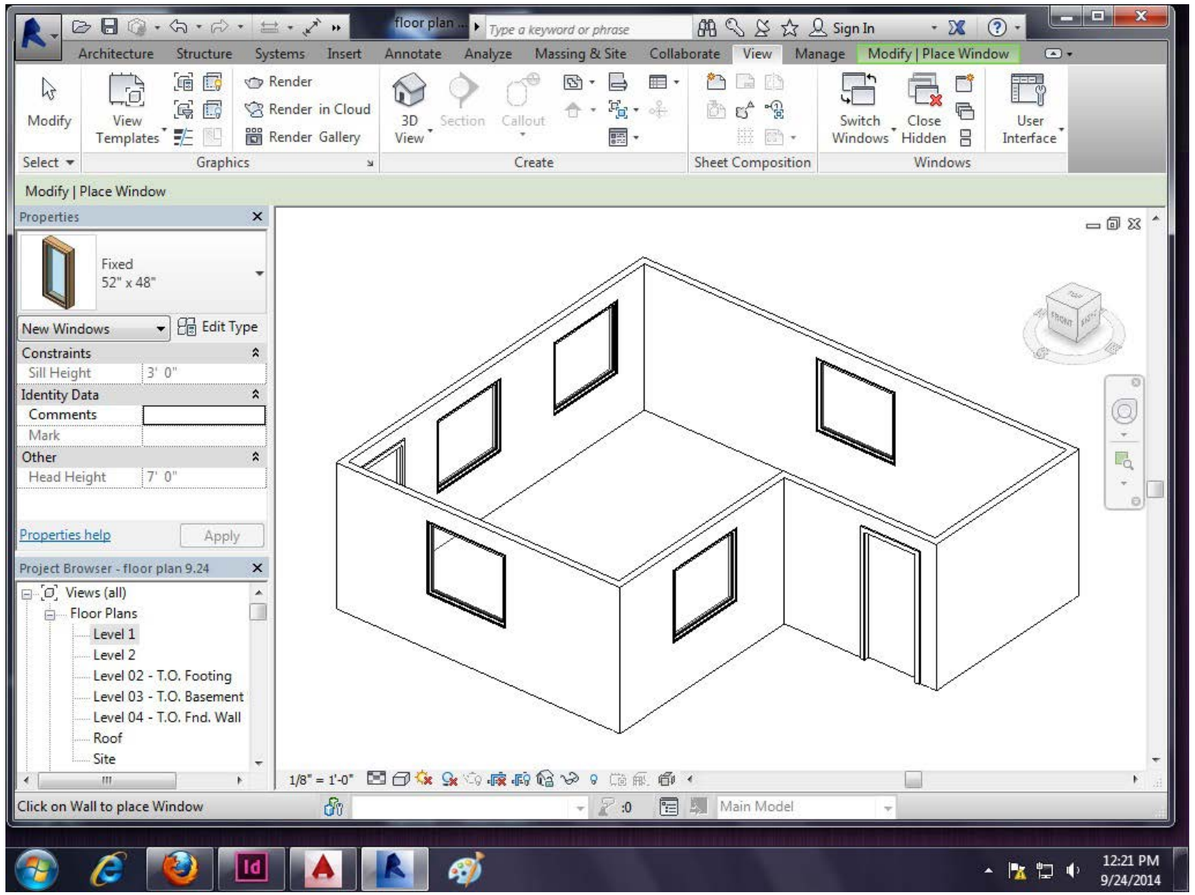
From here, I recommend choosing the closest family available to what you need and then clicking the Duplicate button at the top. This way, the type that's already there can stay the same. Then you'll name your type and hit okay.

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.

Programming

The client is a developer interested in creating an Aging in Place and Universal design community for the Over 55 population in/near Greenville, NC. The developer is interested in creating a high end, luxury environment built on a less luxurious budget.

The tenants of the community are older, retired citizens who still want to lead an active lifestyle and live in an environment that suits their current needs, as well as the requirements they will face as they grow older.

Though there is a range of Over 55 living arrangements that can go from a studio to a large family style home, 1500-2000 square feet is a popular size in other NC communities.

One to two bedrooms and bathrooms is seen in a lot of comparable condos and apartments.

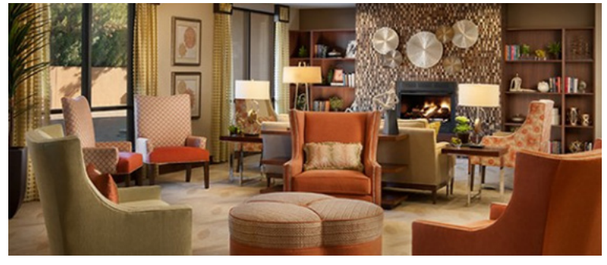
The master bedroom almost always has an attached master suite in the comparable communities while the second bathroom is open to all guests.

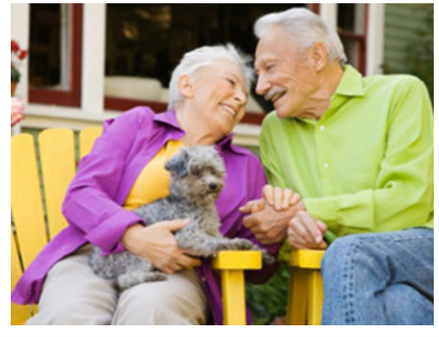
Special features in the unit should include natural light, a view, easy to use technology, and a patio or balcony. The unit should also be low maintenance and energy efficient to save money.

One master suite with an attached bathroom that has enough room for a shower with a bench, maybe a tub with a door, and a closet that is large enough for a wheelchair-bound person to navigate.

Most comparable plans are open in the public areas, though some do include a formal dining area instead of a completely open plan.

The Over 55 population leans more toward traditional architecture and furniture, creating a warm and cozy environment. Though specific styles can vary, there should be a focus on what's most important, such as pictures of family, and collections. Contrasts in colors and lit pathways through wall sconces can help with visibility, but busy patterns should be avoided in cases of dementia. For safety reasons, there should be no glass furniture and furniture should be supportive while the user is sitting and trying to get up.





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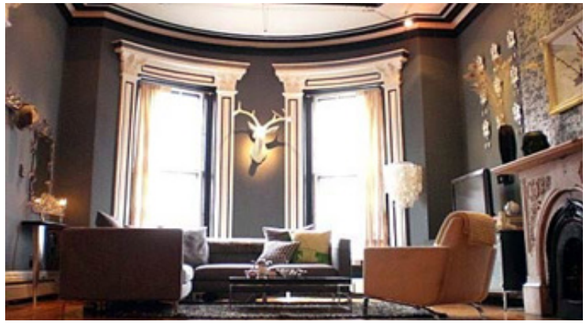
Programming

Many of the Over 55 population are looking to downsize, so I allowed for only the essential spaces while still giving enough room to make them feel like this is a home and not a temporary facility.

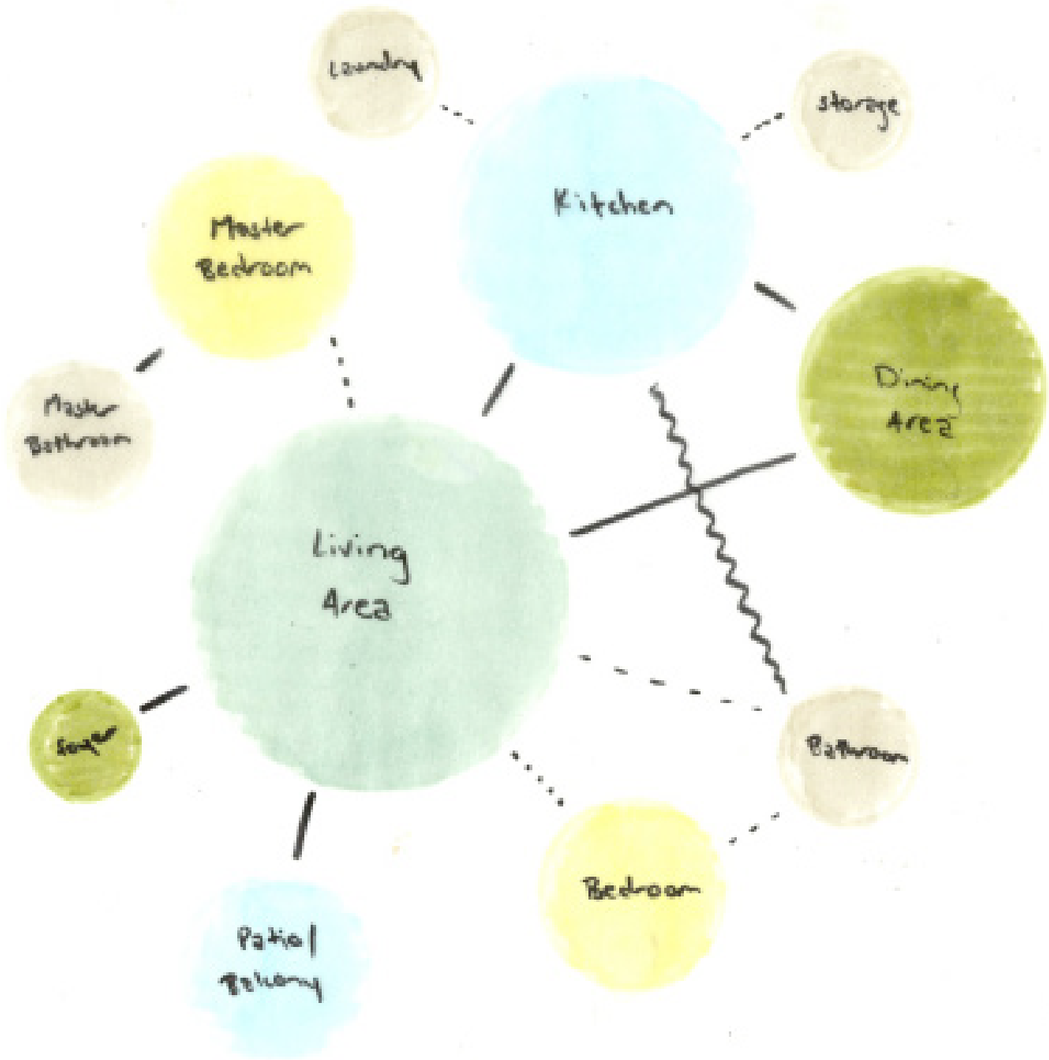
They want to lead active lives and enough room to entertain and have guests over. A range for each area also gives me, the designer, some wiggle room when it comes to space planning.

To get the ranges of square footage, I looked at the spaces provided in comparable NC communities, such as The Carolina Preserve in Cary and Carolina Arbors in Durham.

Spaces	Square Feet
Living Area	380-450
Kitchen	230-300
Dining Area	150-200
Master Bedroom	180-210
Master Bathroom	170-200
Bedroom	160-200
Bathroom	90-110
Laundry Area	40-70
Storage	10-40
Balcony/Porch	100-180
Foyer	20-40
Total:	1530-2000

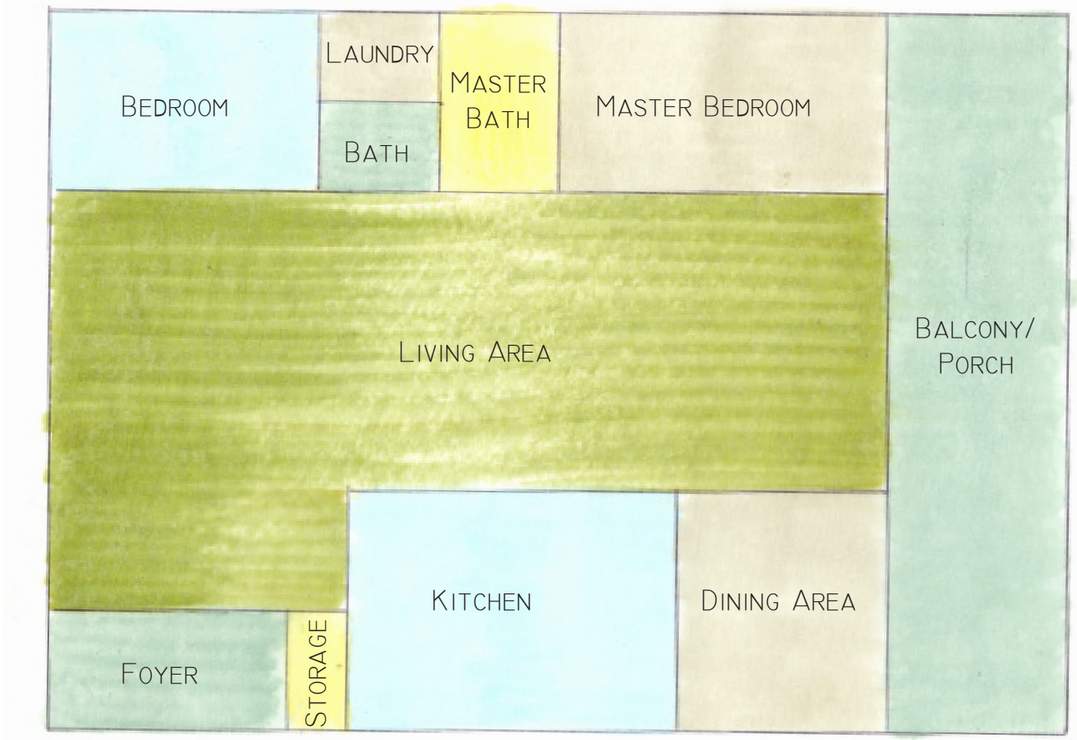


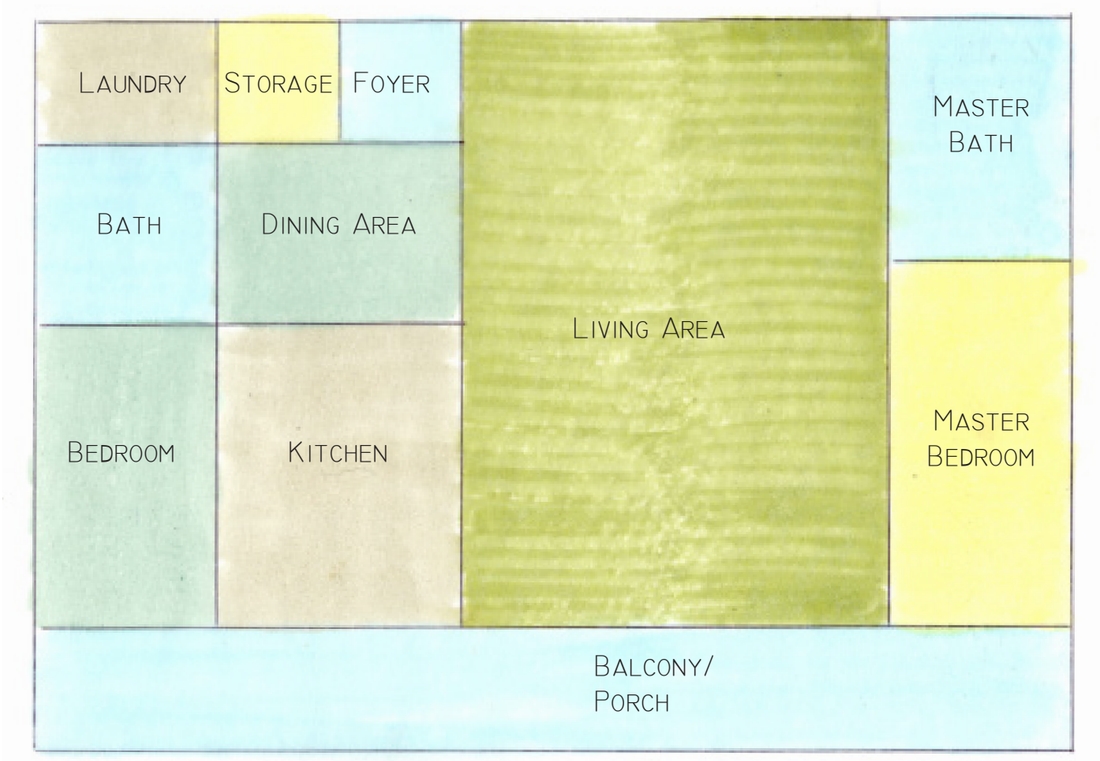
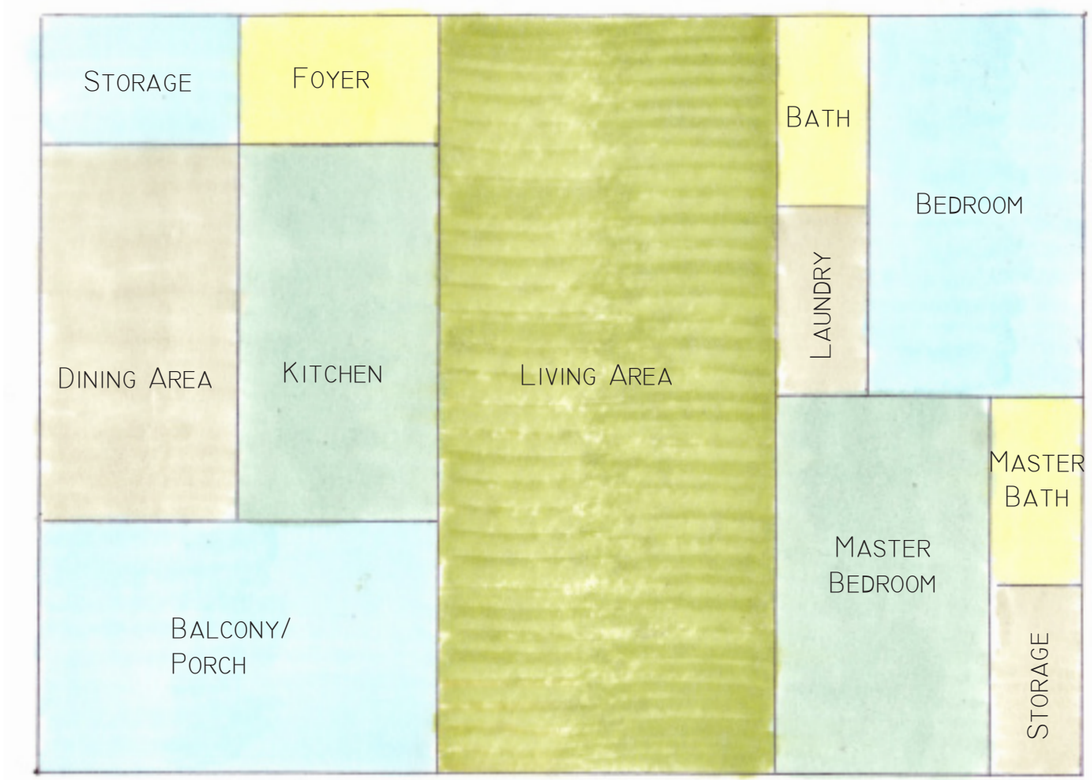
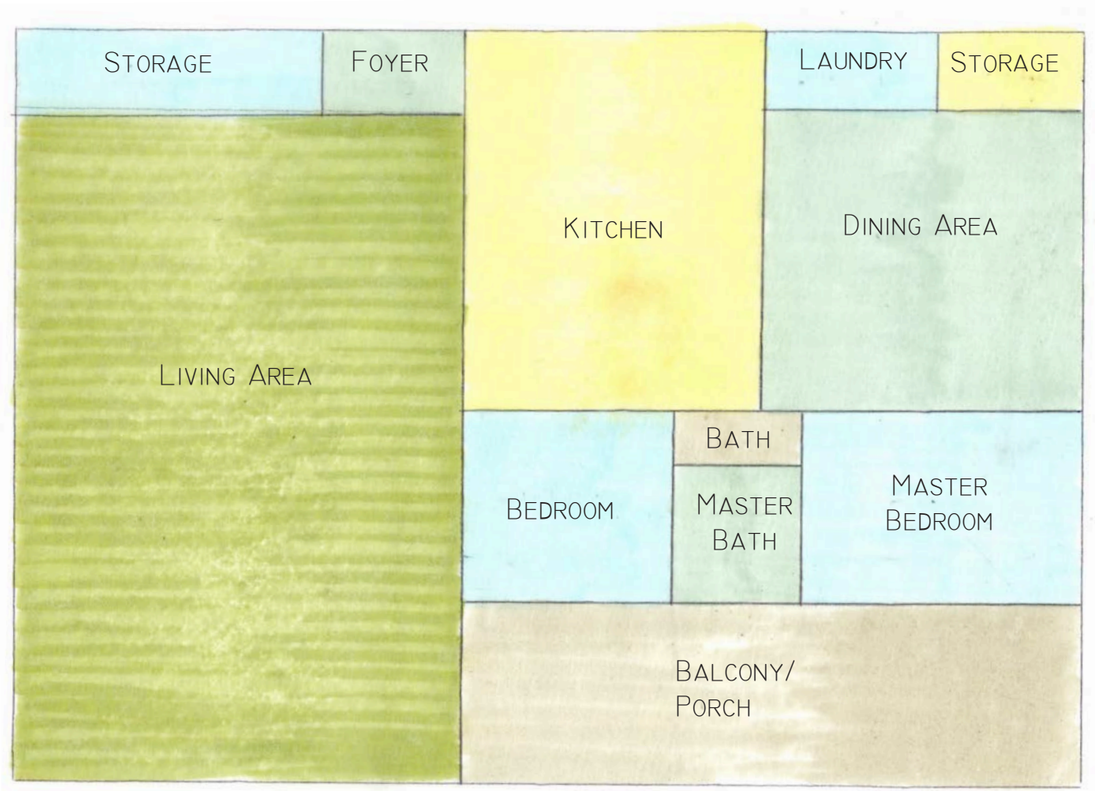
Historical styles like Neoclassical, Georgian, Victorian, and Art Deco can be incorporated into an Over 55 living facility. Historical styles offer the traditionalism that the age group is looking for in their living environment. Intricate molding and wainscoting, furniture pieces, motifs, and materials that reflect different historical precedents can give the unit more character and make the tenants feel like they're at home and not just a run of the mill facility.


Laundry
storage
Master Bedroom
Kitchen
Master Bathroom
Dining Area
Living Area
foyer
Bathroom
Bedroom
Patio / Balcony

master bedroom
master bath
foyer
bedroom
patio
Living Area
bath
Kitchen
Dining area
laundry
storage
major
minor
undesired

Spatial Planning





Spatial Planning