CE4002 Assignment 1 (15%)
Modeling (Part 1) and
Scheduling and 4D Simulation (<u>Due with Part 2</u>)
"This is a group assignment!"

PART 1: Modeling Building Elements (Due: To be submitted together with HW1 Part 2)

In the first part of this assignment you are expected to explore basics techniques for creating a building information model of a simple structure - a one storey residence. You will model:
- Exterior and interior walls
- Exterior and interior door and windows
- Floors

You will be given a partial Revit model (HW1_part1_model.rvt) which includes a CAD underlay to show you the locations of the walls and other components you need to create.

- To start modeling open the given file in Revit.
- Open the Ground Floor plan view.
- Create new exterior walls using the Generic 8" (.20 m) wall type. Place the walls by setting the location line to Finish Face:Exterior and tracing the outer edge of the walls shown in the underlay drawing.
- Add new interior walls using the Generic 3" (.08 m) wall type. Place the walls by setting the location line to either the Finish Face:Exterior or Finish Face:Interior and tracing the corresponding edge of the walls shown in the underlay drawing.
- The door and window types and sizes needed are shown in the legend in Figure 1 below.
- Windows/doors must be consistent with walls.
- Set the head height property for all windows to be 2.13 m (7 ft).
- Create Generic 12" floors for rooms shown in Ground Floor view according to CAD underlay.
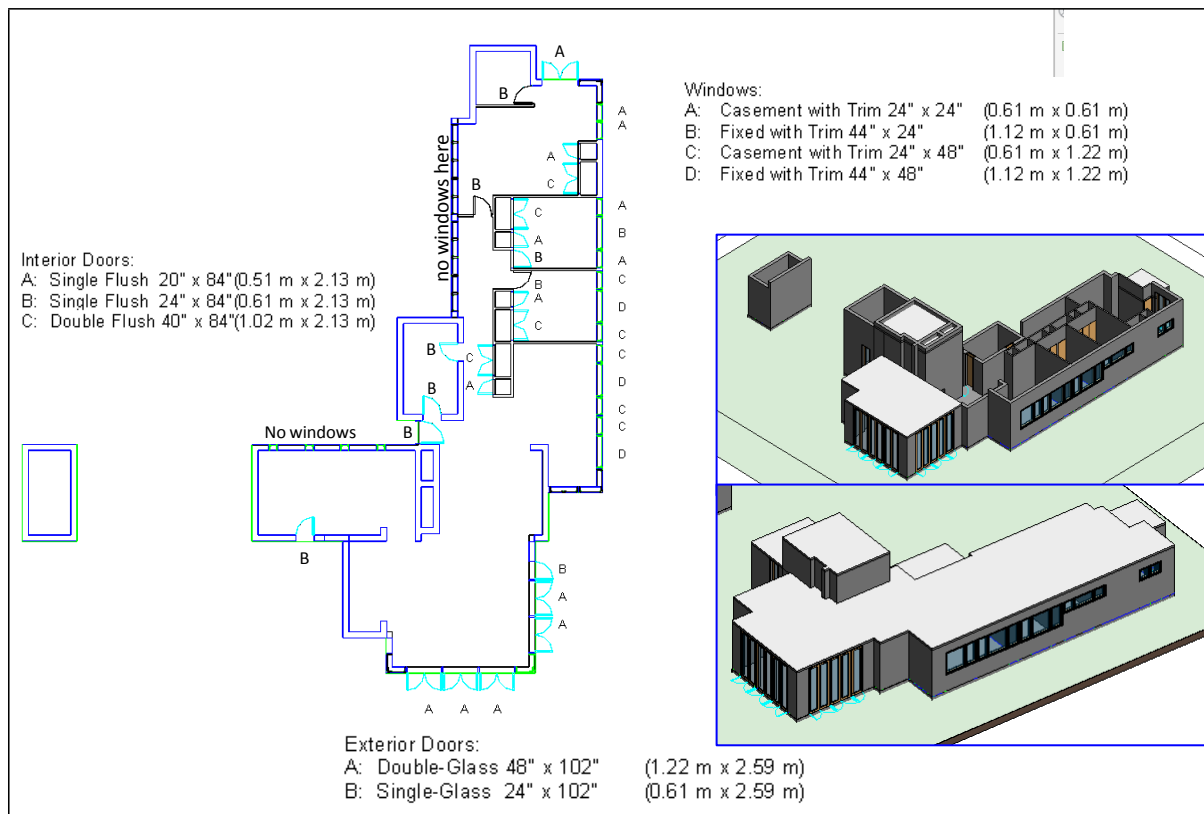- Add GWB on Mtl. Stud Ceiling to Roof plan views.

Figure 1. Window and Door Types

Submit Part 1 of your assignment:

i) Save your Revit model as HW1_part1_model_groupX.rvt.

ii) Create a word or pdf document (HW1_groupX.doc) which includes a **screenshot** of your completed model and brief **answers** to following questions (1 page in total);

1. After completing the model make changes to the model and observe:
   a. In ground floor view move one of the exterior walls to the outer side by 1m. What happens to the other walls and the floor plan?
   b. In East Elevation view move the Workspace Roof elevation to 6.27m, by moving the associated line or by retyping the elevation number. What changes you observe in the model as a result of this modification? If you don't see any changes what might be the reason?
2. How can you connect a wall to other walls?
3. Attach top of the walls to associated ceiling components. What this connection will enable?

Create zip file labeled **HW1.groupX.zip** together with Part 2 of your assignment. (The Part 1 of the assignment will be submitted together with Part 2.)