BIM FOR ARCHITECTURE

Assignment 1 – A 2-Storey Bungalow House

A) Objective:
To be able to interpret a set of CAD drawings of a 2-storey bungalow house. To convert that set of CAD drawings into a BIM model.

B) Tasks:
Given a set of CAD drawings (plans, sections and elevations), you are to develop and complete a BIM model based on the CAD drawings.

*You are **NOT TO** distribute the file as it is copyrighted by the owner. Any infringement of this will be subject to **legal action**.*

Your submission should have the following items within the BIM model:

- **i.** **Plans**
  - **a. 1st storey plan**
  - **b. 2nd storey plan**
  - **c. Roof plan**
- **ii.** **Elevations**
  - **a. North Elevation**
  - **b. South Elevation**
  - **c. East Elevation**
  - **d. West Elevation**
- **iii.** **Sections**
  - **a. Section A-A**
  - **b. Section B-B**
- **iv.** **3D Views**
  - **a. External view 01 (North-East View)**
  - **b. External view 02 (South West View)**
  - **c. View of Living/Dining**
  - **d. View of Kitchen**
  - **e. View of Master Bedroom**
- **v.** **Schedules**
  - **a. Floor area schedule**

The model must be referenced properly with grid lines and level information. Proper annotation of the model is also necessary. Finishes are not necessary but will be good if you feel confident to undertake this task.

The model should be appropriately populated with furniture and fixtures components, either from
- a) the Revit library,
- b) from non-copyrighted material from the internet, and/or
- c) developed by yourself.

C) Submission Format:

A single Autodesk Revit file. File should not be larger than 50MB. File to be named as follows:
BIMArch_Assg1_Name.rvt

You are to submit your submission in **Autodesk Revit format (rvt) to the Student Portal (Moodle)**.

There will be a penalty of 5 marks per day for late submissions.

As this is a progressive piece of work, any submission after the submission deadline **WILL NOT BE ACCEPTED**.

Plagiarism, or copying work (in whole or in part) from other students, will result in a FAIL grade (ZERO MARKS).

E) Assessment criteria:

Assessment of your BIM model is weighted on accuracy, property details as well as neatness, based on the following categories:

S/No		BIM MODEL	Materials			Components		
			Wall	Floor	3D View	Windows	Doors	Furniture
1	STOREY	Living	2	2	2			
2		Dining	2	2				
3	1ST	Kitchen	2	2	2	5	5	5
4		Bedroom 1	2	2				
5		WC	2	2				
		Car Porch	1	1				
6	STOREY	Master Bedroom	2	2	2			
7		Master Bath	2	2				
8		Bedroom 2	2	2		5	5	5
7	2ND	Walk-In Robe	2	2				
9		Bath	2	2				
		Study	2	2				
10		Balcony		2				
11		External Views			4			
12		Area Schedule	2					
13		Stairs	4					
14		Railings	3					
15		Roof	3					
16		Section A-A	2					
17		Section B-B	2					
		Total	**104**					

Further notes:

If something isn't clear in the CAD drawings, you are to do the following:
a) *Check against local building codes & regulations (ie, tread & riser dimensions for residential staircases). I will put some of the relevant local codes in the server for everyone to access.*
b) *If the above does not apply, make an assumption (ie door material for bedroom).*
c) *Enjoy the process. The destination is important, but the journey is priceless.*
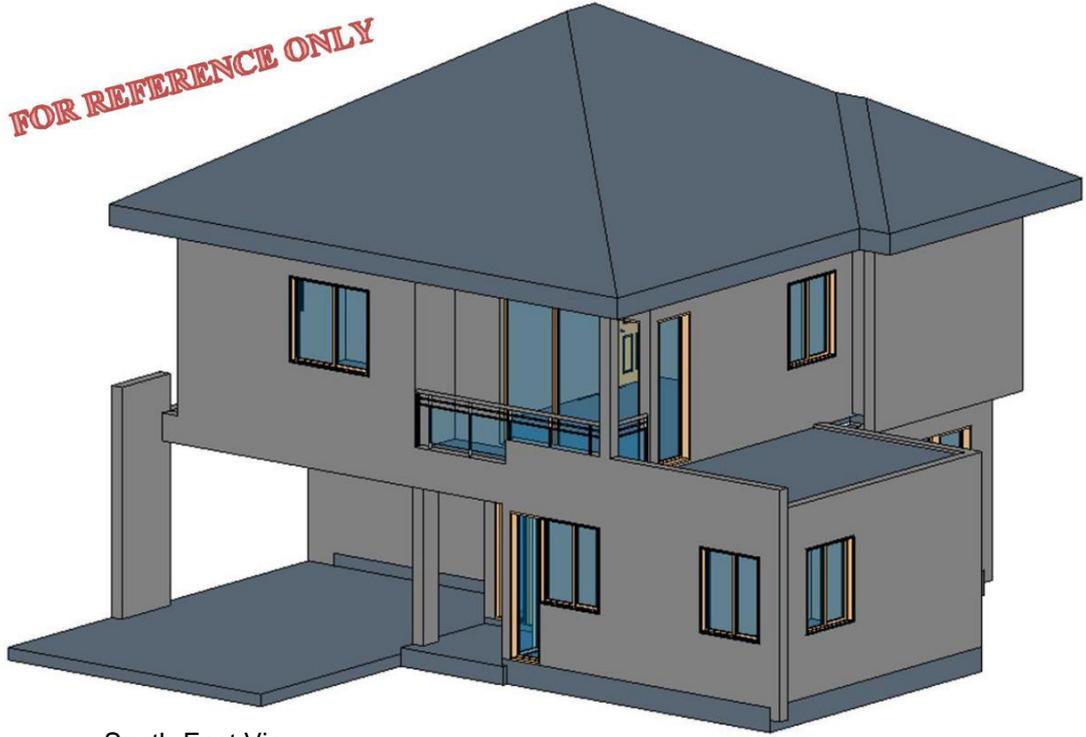
South-East View
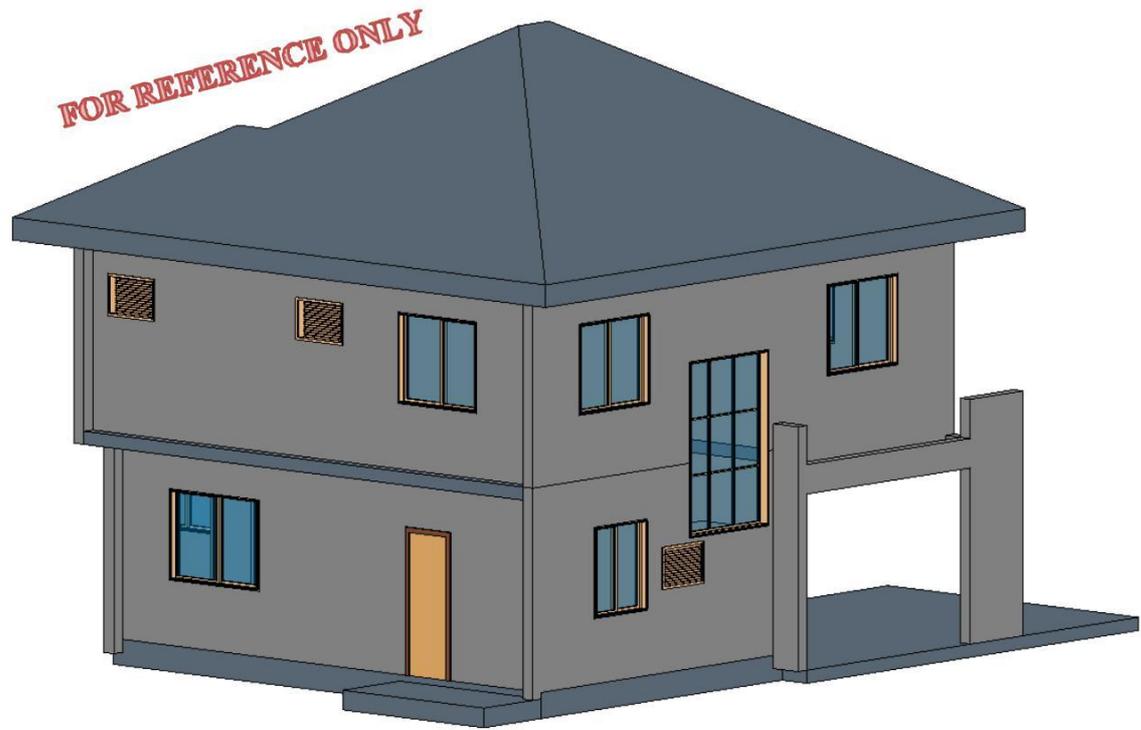
South-West View

North-West View

North-East View

A   B   C   D

4550   4100   3200

RL 100.90

1   D3   W3

Kitchen   W5
RL 101.00
W2   D5
                                      D8
4050
                          Dining
                          RL 101.00
WC
W6   RL 100.95   50 D4   W4
2

                              N   D3

                                    Living   Bedroom 1
5300   RL 101.00   RL 101.00

                          W1 D1   D2   W2
                          RL 100.90
                              W1
3   W1 W2   W2

Car Porch
RL 100.80

1st Storey Plan   N

A   B   C   D

4550   4100   3200

W1

1

W4 W6   W6

W4

4050

Study
RL 104.15

Bath
RL 103.65

WIR
RL 104.15

Master Bath
RL 103.65

D2

D4 50

2

W7

D4

D2

D6

5300

D2

W4

Master Bedroom
RL 104.15

W2

W5

Bedroom 2
RL 104.15

50 D8 W5

3

W4
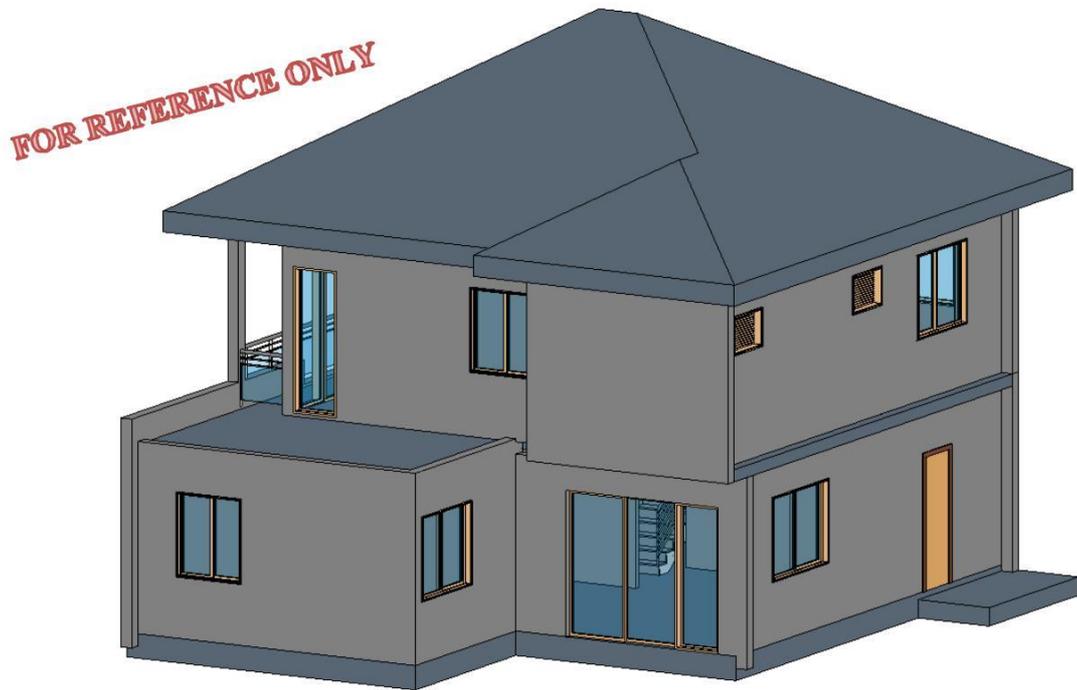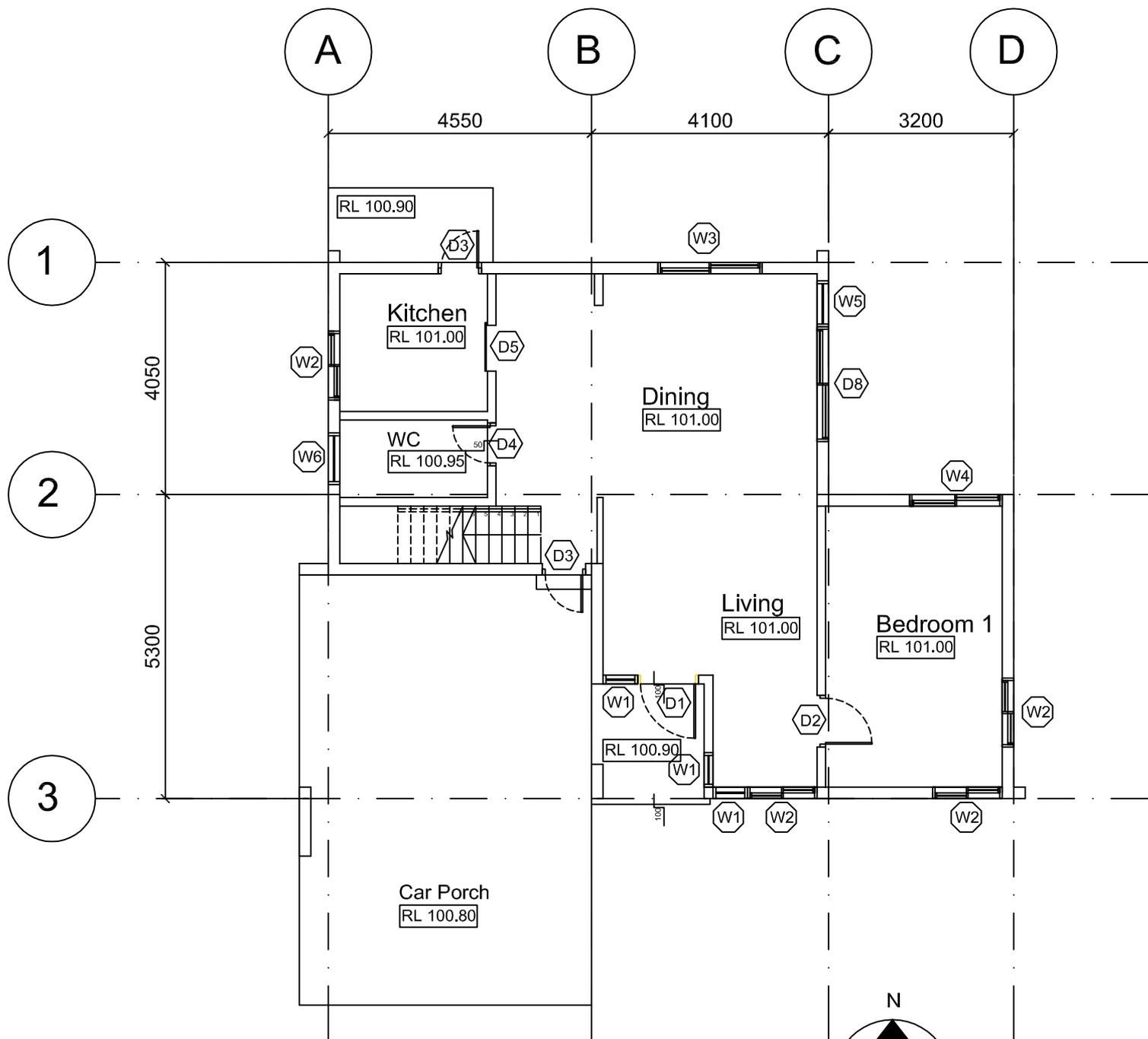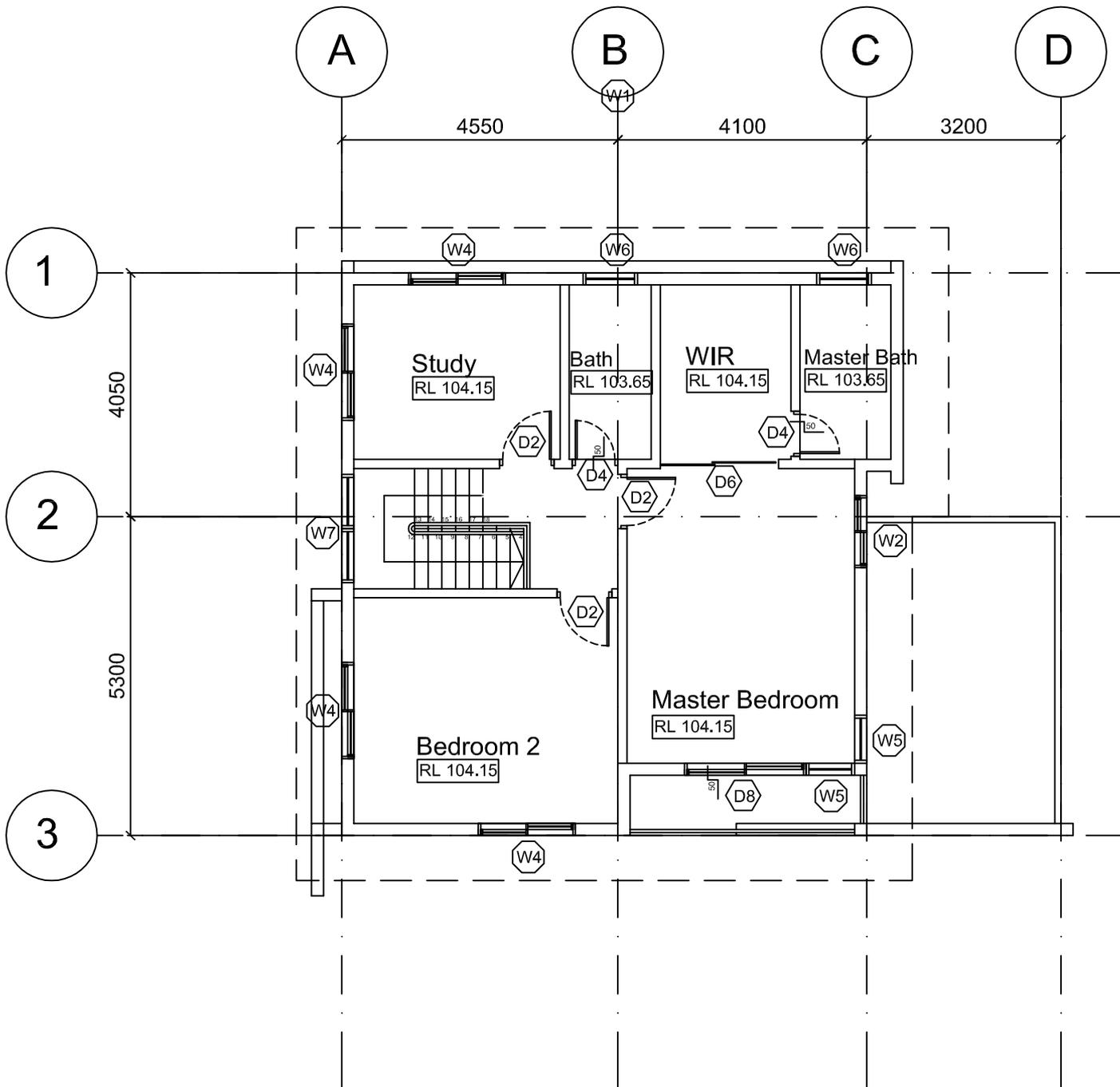
2nd Storey Plan

Roof Plan
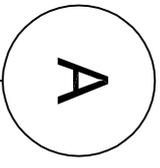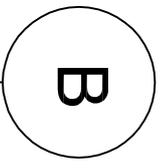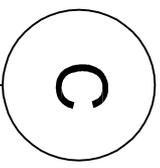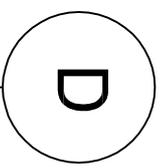
A — 4550 — B — 4100 — C — 3200 — D

1

4050

2

5300

3

North Elevation

1st Storey Level
RL 101.00

2nd Storey Level
RL 104.15

Roof Level
RL 107.05

30°
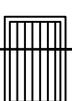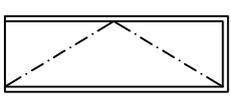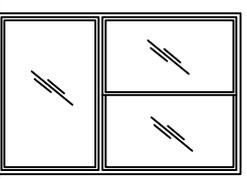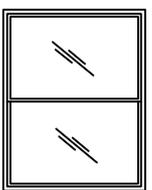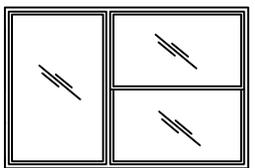
(A) (B) (C) (D)

4550 4100 3200

South Elevation

Roof Level
RL 107.05

2nd Storey Level
RL 104.15

1st Storey Level
RL 101.00

30°

A

B

C

D

4550

4100

3200

East Elevation

30°

5300

4050

1
2
3
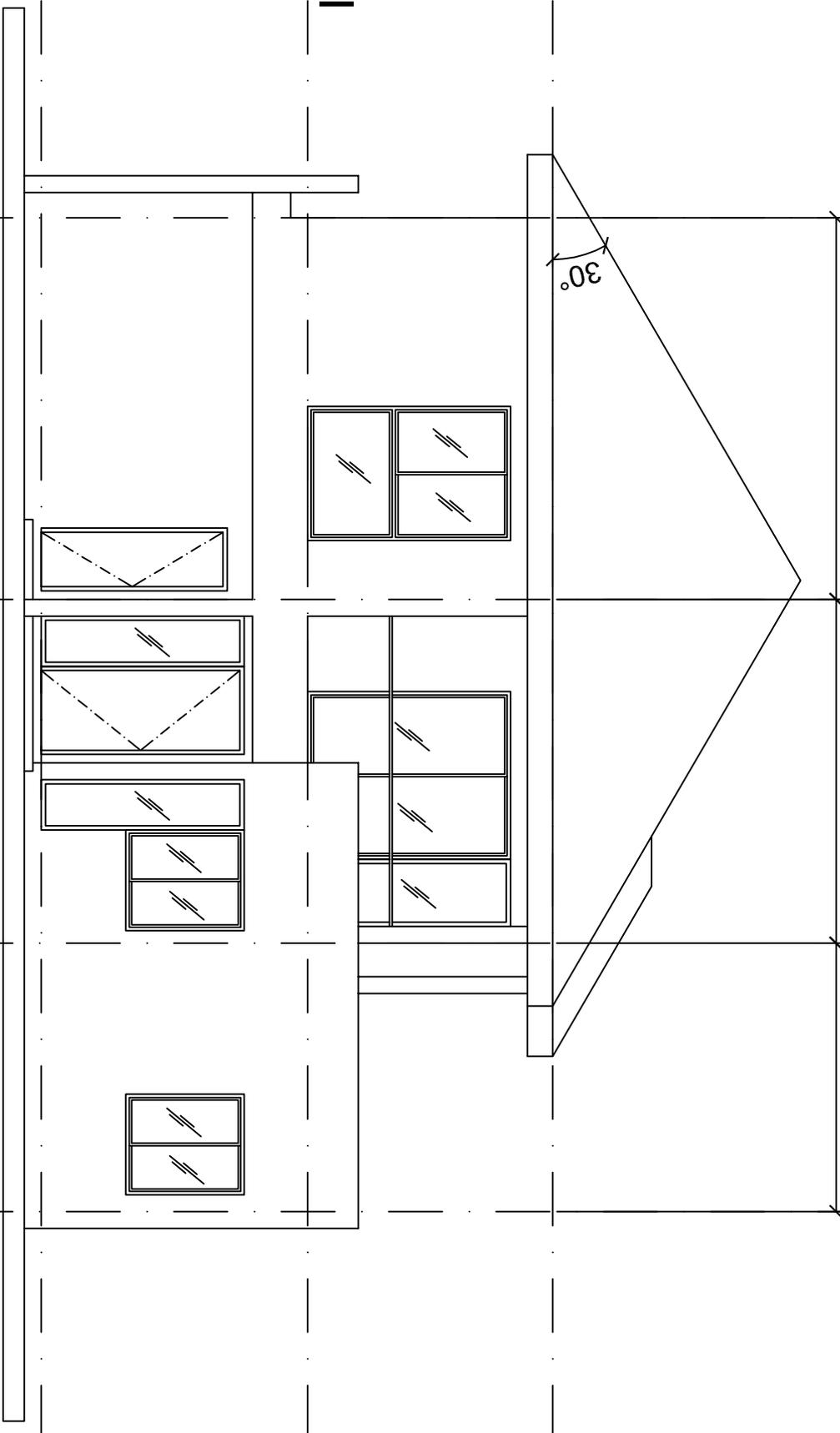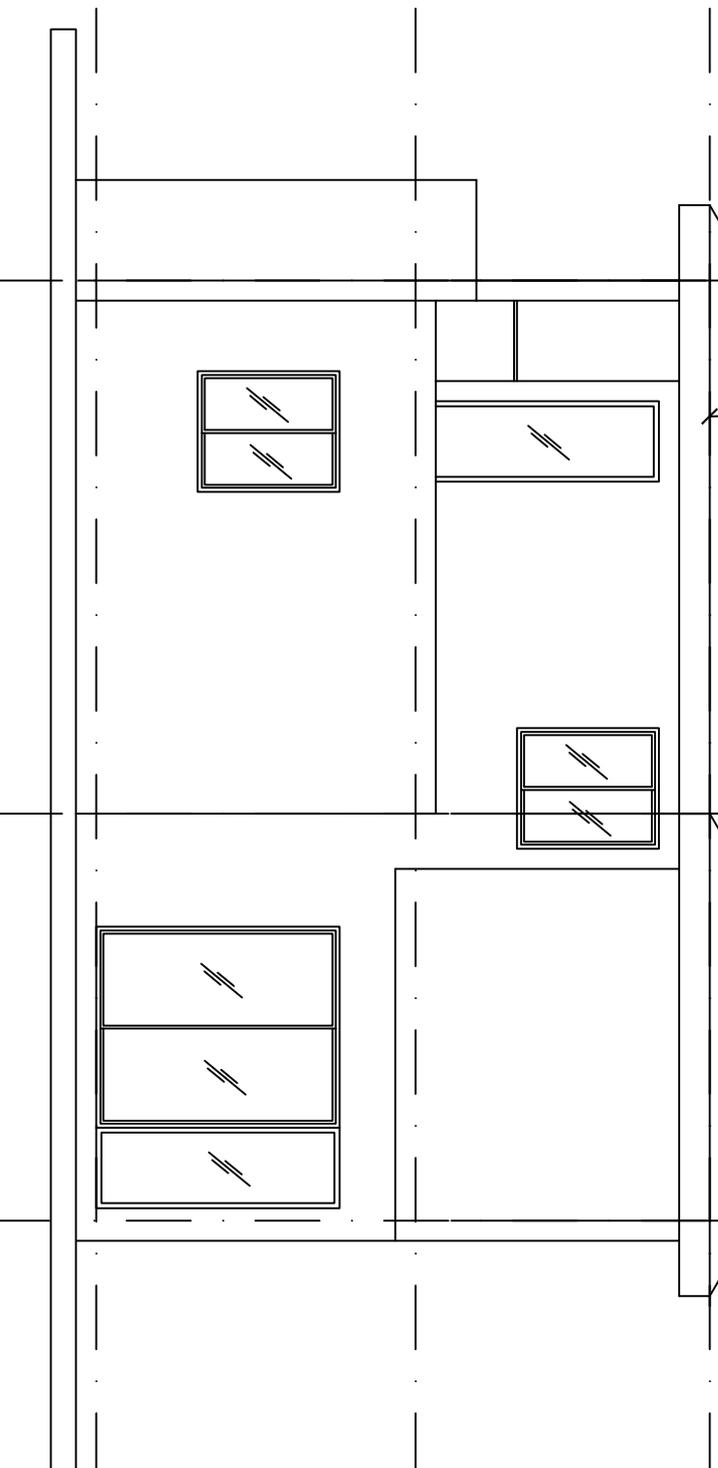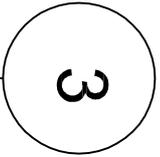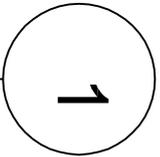
Roof Level
RL 107.05

2nd Storey Level
RL 104.15

1st Storey Level
RL 101.00

West Elevation

Roof Level
RL 107.05

2nd Storey Level
RL 104.15

1st Storey Level
RL 101.00

30°

4050

5300

1

2

3