



HILLCREST HIGH SCHOOL

GRADE 11

**ENGINEERING GRAPHICS AND DESIGN
JUNE EXAMINATIONS 2022
PAPER 1**

**MARKS : 120
TIME : 2 HOURS**

INSTRUCTIONS AND INFORMATION

1. This question paper consists of THREE questions.
2. Answer ALL the questions.
3. ALL drawings are in third-angle orthographic projection, unless otherwise stated.
4. ALL drawings must be prepared using pencil and instruments, unless otherwise stated.
5. ALL answers must be drawn accurately and neatly.
6. ALL the questions must be answered on the QUESTION PAPER, as instructed.
7. ALL the pages, irrespective of whether the question was attempted or not, must be re-stapled in numerical sequence in the TOP LEFT-HAND CORNER ONLY.
8. Time management is essential in order to complete all the questions.
9. Print your name in the block provided on every page.
10. Any details or dimensions not given must be assumed in good proportion.

FOR OFFICIAL USE ONLY					
QUESTION	LEARNERS MARK		MODERATED MARK		
ONE			25		
TWO			35		
THREE			60		
TOTAL	1	2	0		

FINAL CONVERTED MARK	CHECKED BY
100	

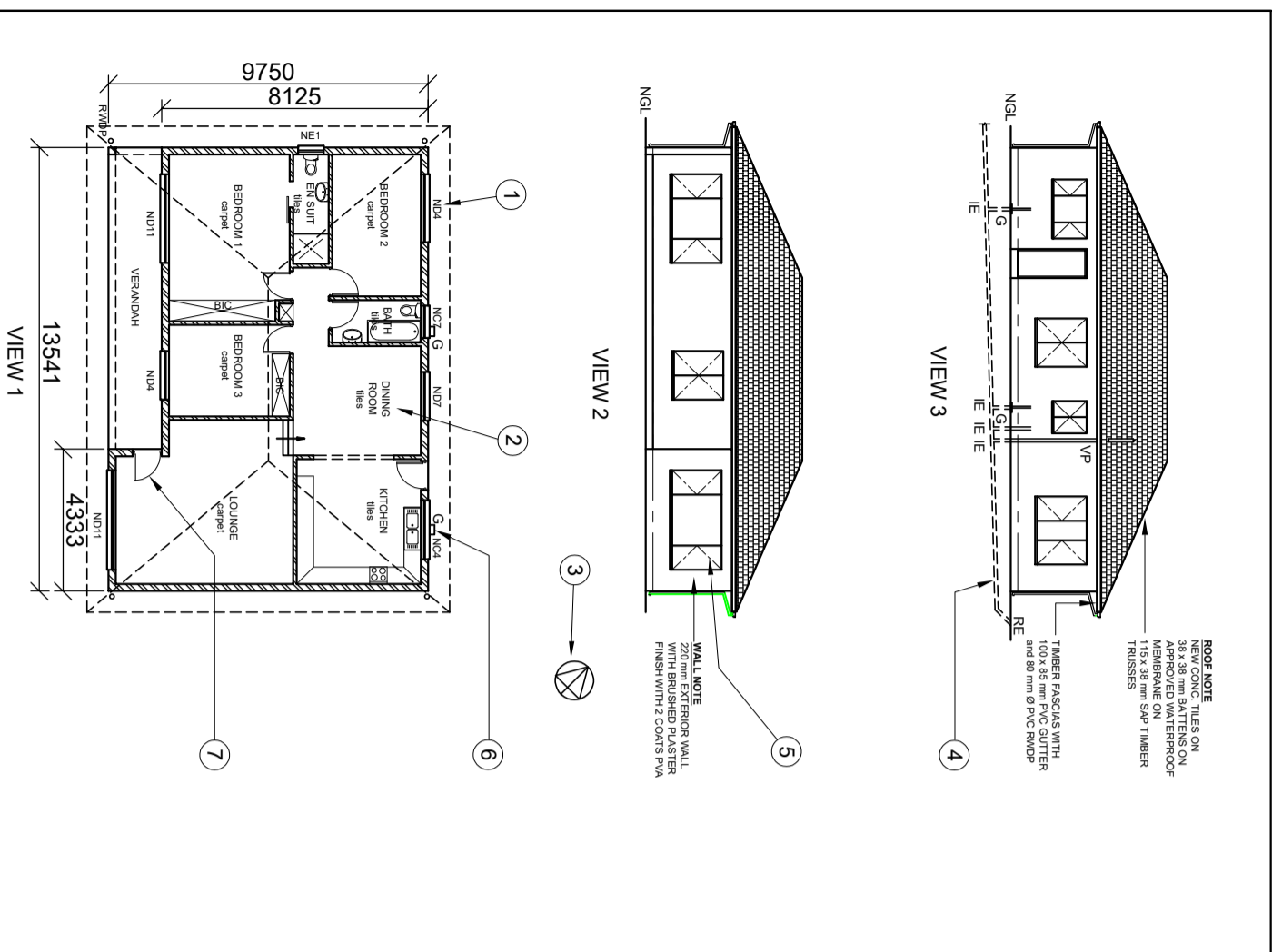
01

QUESTION 1 : ANALYTICAL (CIVIL)

Given:
The working drawings and a title block of a proposed new dwelling and a table of questions.

Instructions:
Complete the table below by neatly printing the answers to the questions, which all refer to the accompanying drawings.

[25]



NOTES:
Contractors must verify all dimensions and levels on site before commencing work. Architects to be immediately notified of any discrepancies.

AUTHOR'S SIGNATURE

CLIENT'S SIGNATURE

REVISION	2	DATE OF REVISION	14-08-2019
INITIALS	DTE	DATE OF PRINT ISSUE	24-08-2019

REVISION DETAIL

ADD EN SUITE

DRAWING TITLE
PROPOSED NEW DWELLING FOR
MRL. TSHABALALA AT 1226 BB
IMBALI PIETEMARITZBURG ON
STAND 7626

PROJECT No	12	DRAWING No	0	0	1	3	5
CODE REF	12-L-SR-2019	DRAWN BY	RAVI	CHECKED BY	TFS		
SCALES	1:100	DATE	10-04-2019	DHUNNI	KHUMALO		

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QUESTIONS

ANSWERS

1	How many windows are shown on the plan?	1
2	What is the reference code for the drawing?	1
3	Who has the house been designed for?	1
4	What does the number 1 represent ?	1
5	What does the name at 2 represent ?	1
6	What does the symbol at 3 represent ?	1
7	What does the line at 4 indicate?	1
8	What does the line at 5 indicate?	1
9	What does the feature at 6 indicate?	1
10	What is the curve at 7 called?	1
11	Label the line that represents the finished floor level.	1
12	What kind of lounge does this house have ?	1
13	What does the abbreviation BIC stand for?	1
14	What does the abbreviation RE stand for?	1
15	What type of cover is on the roof ?	1
16	In the block provided in the title panel, draw, in neat freehand, the front view and top view of the SANS convention for a bath tub.	3
17	What would VIEW 3 be labelled as ?	1
18	What kind of door does the en-suite have ?	2
19	Determine the perimeter of the dwelling in metres (exclude the verandah).	2
20	Determine the total area of the dwelling in m ² , (include the verandah).	2

ANSWER

25

QUESTION 2: TWO POINT PERSPECTIVE

Given:
 Three views of a bachelor flat with car port and the information needed to draw a two-point perspective drawing.

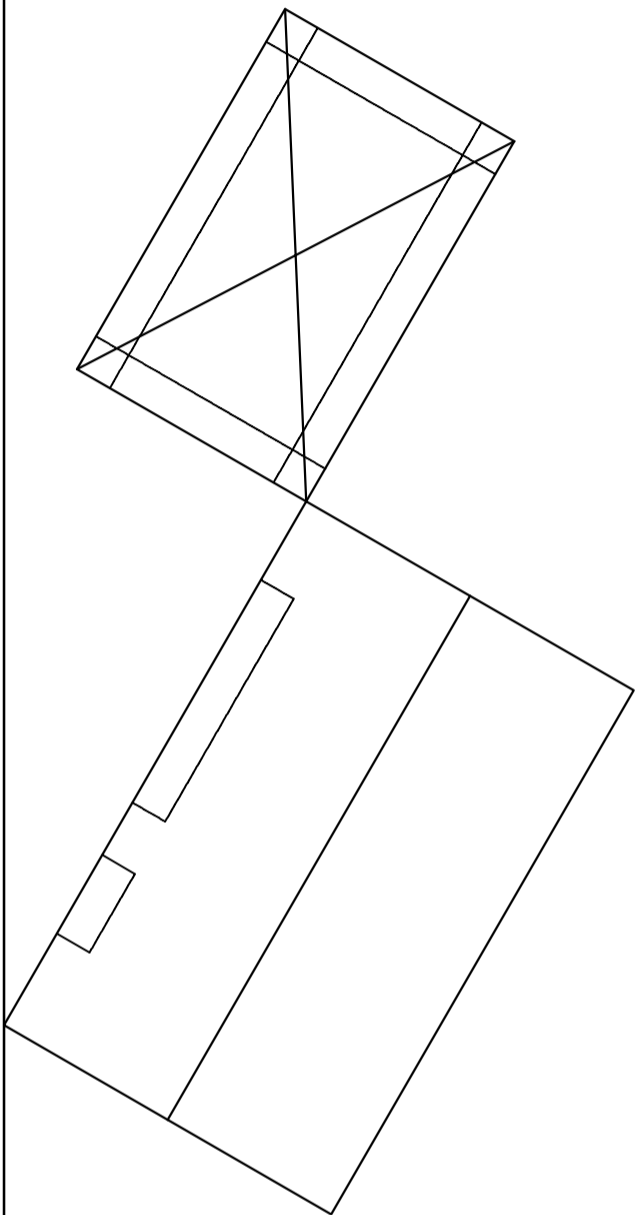
- PP - Picture plane
- HL - Horizon line
- GL - Ground line
- SP - Station point

Instructions:
 Complete the perspective drawing.

- Align the drawing sheet with the ground line (GL).
- Determine and label the vanishing points.
- Show ALL necessary construction.
- Show the wall thickness at the window.
- NO hidden or interior detail is required.

[35]

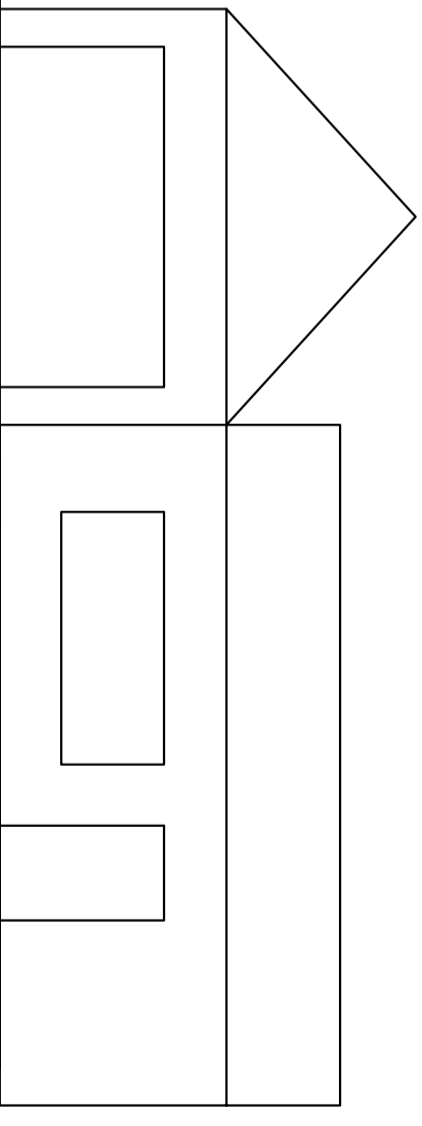
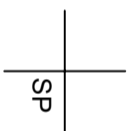
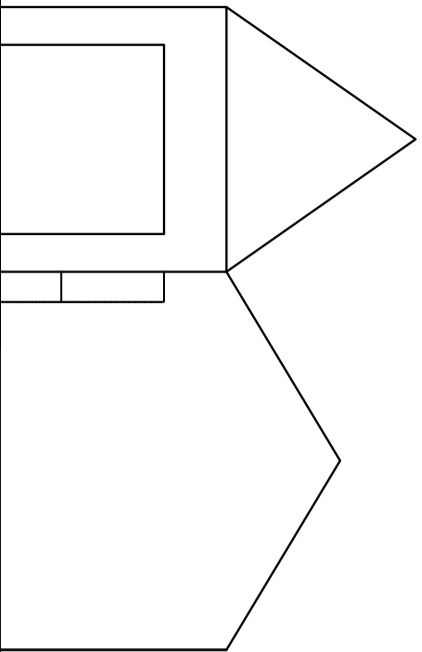
PP



HL

ASSESSMENT CRITERIA			
	POSSIBLE OBTAINED	SIGN	MOD/EARTE
1	VPS + CONSTRUCTIONS	8	
2	ROOF (corners)	9	
3	WALLS (lines)	1 1/2	
4	WINDOWS + DOORS (corners)	6 1/2	
TOTAL		35	

GL



QUESTION 3: CIVIL DRAWING

Given on page 5:

- The incomplete north west elevation of a new **food stall**, showing the walls, the window, door position and dimensions
 - The incomplete floor plans showing the walls, position of the doors, the windows, the fixtures, the electrical features and room designations
 - The incomplete foundation, slab and wall detail
 - A roll up door
 - A door and window schedule
 - A table of electrical symbols
 - A table of fixtures
- The incomplete plan of the new **food stall**, drawn to scale 1 : 50, on page 5. And the starting point A for the sectional elevation.

Instructions:

- Answer this question on page 5.
- Using the given incomplete floor plan, in first-angle orthographic projection, the following views of the new **food stall**:

- **3.1 The complete floor plan, scale 1 : 50.**
- **3.2 A sectional elevation** on cutting plane A-A, scale 1:20.

- ALL drawings must comply with the **guidelines** and **conventions** contained in the SABS 0143.

SPECIFICATIONS:

THE FLOOR PLAN

Add the following features to the drawing:

- ALL the doors and windows
- ALL fixtures as indicated by letters
- ALL electrical features as indicated by numbers
- ALL hatching detail

THE SECTIONAL ELEVATION

Show the following features on the drawing:

- The complete foundation, wall and floor slab
- The window detail with a single lintel above the window
- ALL features to the west of the cutting plane A-A
- ALL hatching detail
- Screed 20mm thick

Label the following:

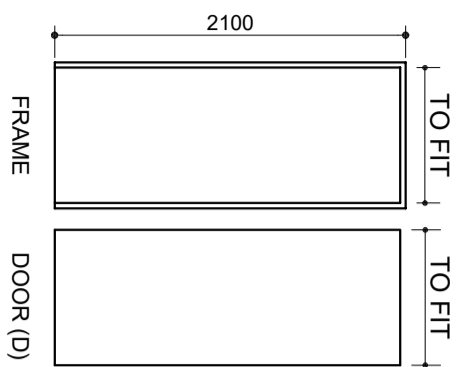
- The room designations and floor finish (tile)
- The sectional elevation
- Using correct abbreviations, label the following features in the correct view: natural ground level, finished floor level and damp-proof course.

NOTE:

- ONLY the substructure hatching may be drawn in freehand.

[60]

DOOR AND WINDOW SCHEDULE



ELECTRICAL SYMBOLS

FIGURES

- A. SHOWER
- B. WATER CLOSET
- C. WASH HAND BASIN

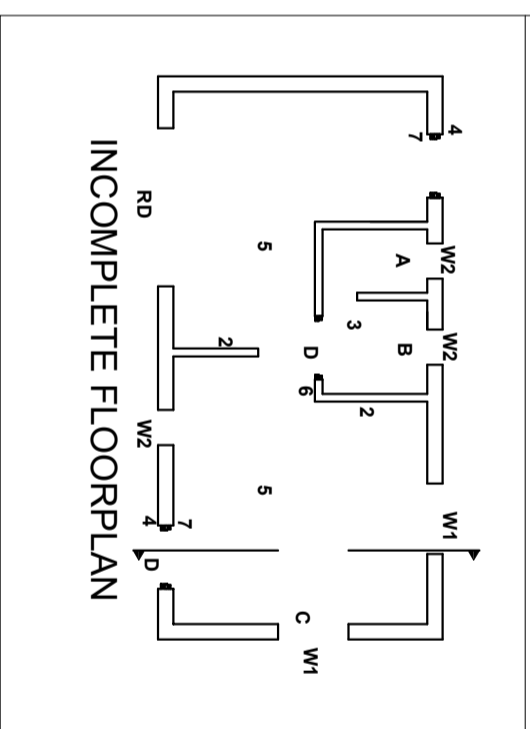
FEATURES

- W1. WINDOW
- W2. WINDOW
- D. DOOR
- RD. ROLL UP DOOR

ELECTRICAL FIGURES

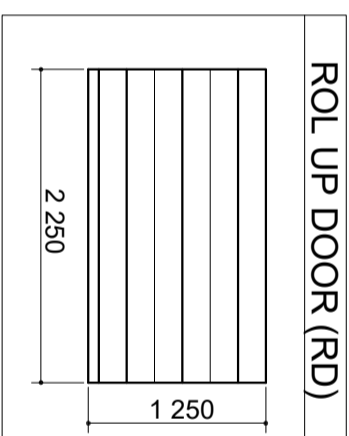
1. SOCKET OUTLET
2. SWITCHED SOCKET OUTLET
3. CEILING LIGHT
4. WALL MOUNTED LIGHT
5. 2 X 40W FLUORESCENT LIGHT
6. LIGHT SWITCH ONE POLE
7. LIGHT SWITCH TWO POLE
8. LIGHT SWITCH THREE POLE

POSITION OF ELECTRICAL FITTINGS AND FIXTURES

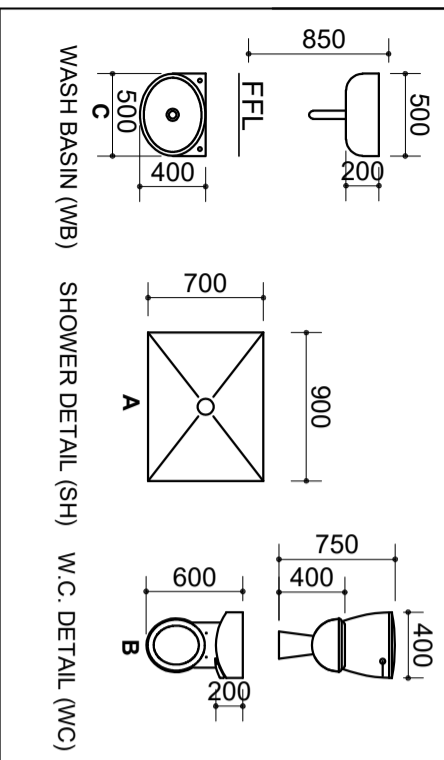


INCOMPLETE FLOORPLAN

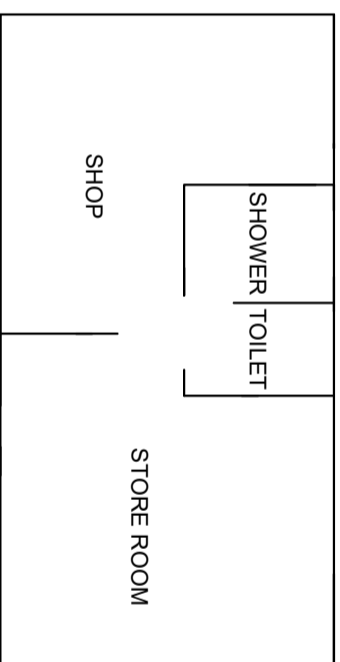
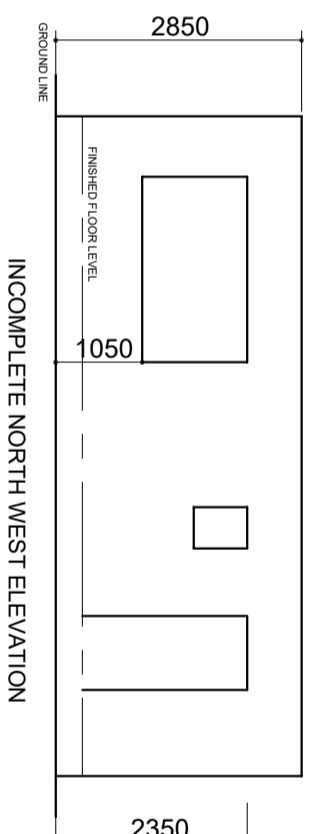
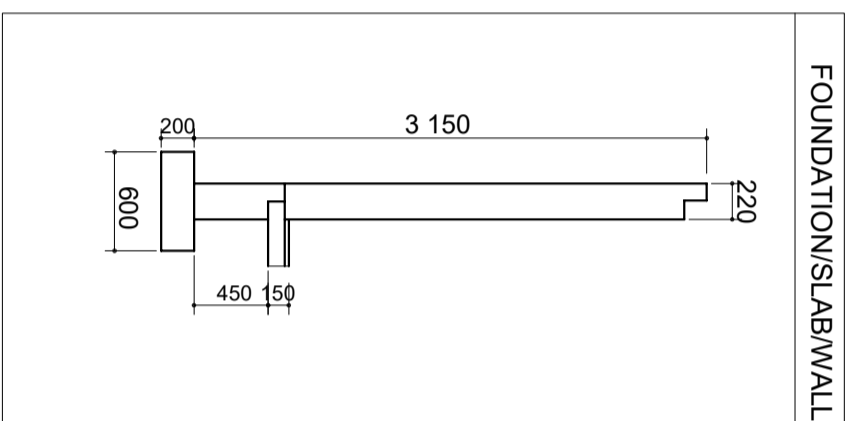
ROL UP DOOR (RD)



DIMENSIONS OF FIXTURES

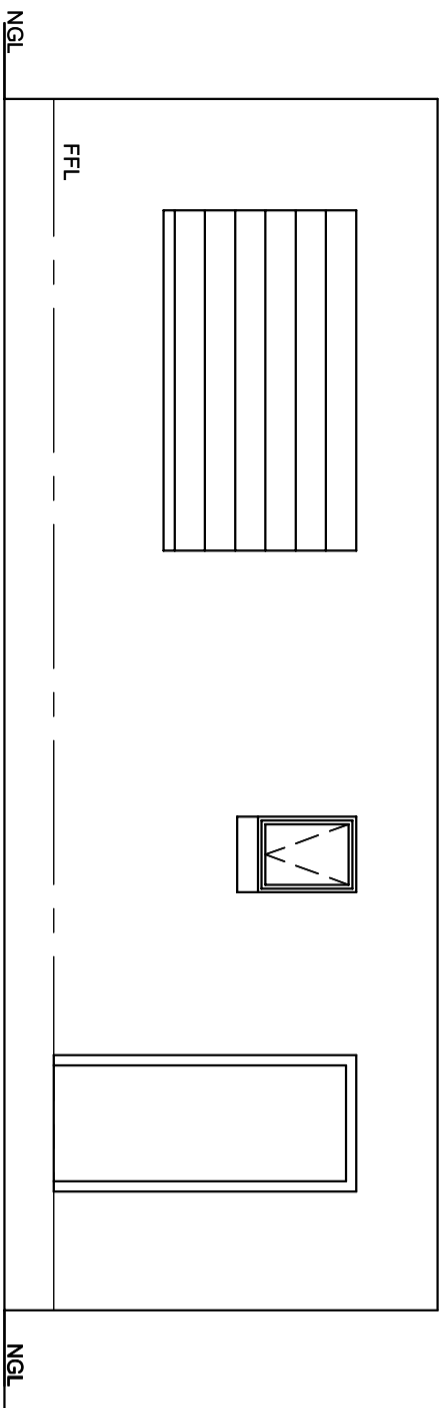


FOUNDATION/SLAB/WALL

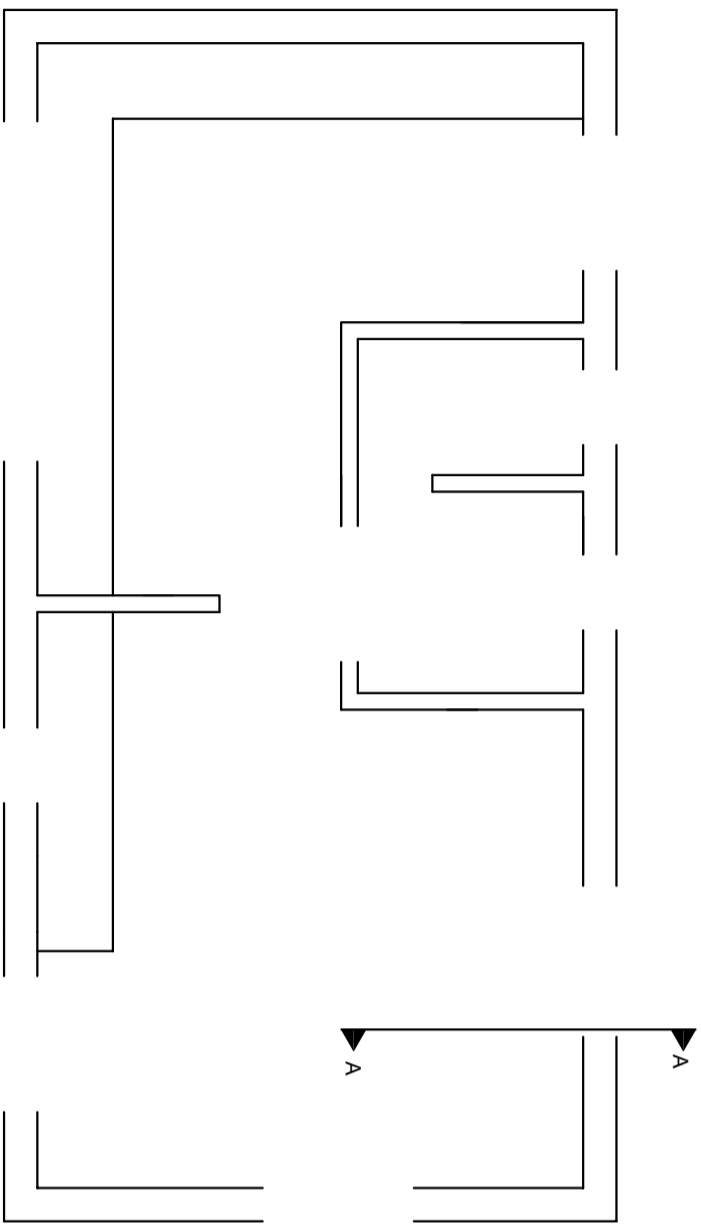


SCHEMATIC FLOOR PLAN





NORTH WEST ELEVATION



A

ASSESSMENT CRITERIA

PLAN		SIGN
1	LABELS	5 1/2
2	ELECTRICAL	7 1/2
3	FIXTURES	3
4	DOORS + WINDOWS	12 1/2
5	HATCHING	8 1/2
SUBTOTAL		37
SECTIONAL ELEVATION		
1	WALLS + CEILING + FOUNDATION	10
2	WINDOW + FIXTURE	5 1/2
3	HATCHING	4 1/2
4	LABELS	3
SUBTOTAL		23
TOTAL		60