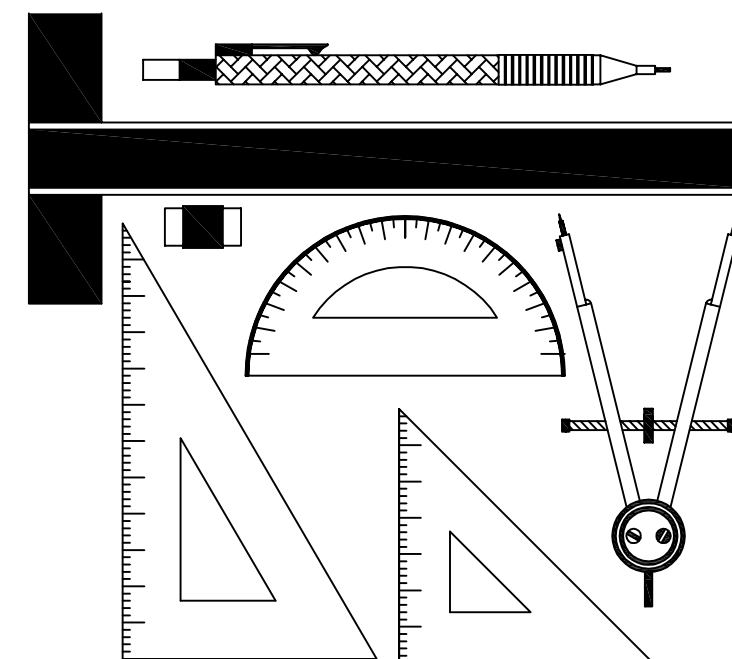




NATIONAL SENIOR CERTIFICATE EXAMINATION
2016

ENGINEERING GRAPHICS AND DESIGN
PAPER 1

MARKS: 200
TIME: 3 HOURS



PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY

1. This question paper consists of **6 pages** including the cover page and **4 questions**.
2. **All** questions must be answered.
3. Unless specified otherwise, all questions are in **First-angle Orthographic Projection**.
4. Unless specified otherwise, all questions are to be completed to a **scale of 1:1**.
5. **All** answer sheets must be re-stapled in numerical order, even questions that are not attempted/blank.
6. All **construction work** must be shown.
7. Print your **examination number** neatly on each page.
8. Use only the **answer sheets** provided.
9. Your drawings should reflect **neatness** and **accuracy**.
10. All dimensions or detail not given may be **assumed** in **good proportion**.
11. Your drawings should comply with SANS 10143.

FOR OFFICIAL USE ONLY					
QUESTION	SECTION	MARK	MODERATED	MAXIMUM	CODE
1	CIVIL ANALYTICAL			20	
2	INTERPENETRATION & DEVELOPMENT			40	
3	TWO-POINT PERSPECTIVE			40	
4	CIVIL DRAWING			100	
SYMBOL	TOTAL			200	
				100	

FINAL CONVERTED MARK	CHECKED BY
100	

EXAMINATION NUMBER

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QUESTION 1

CIVIL
ANALYTICAL

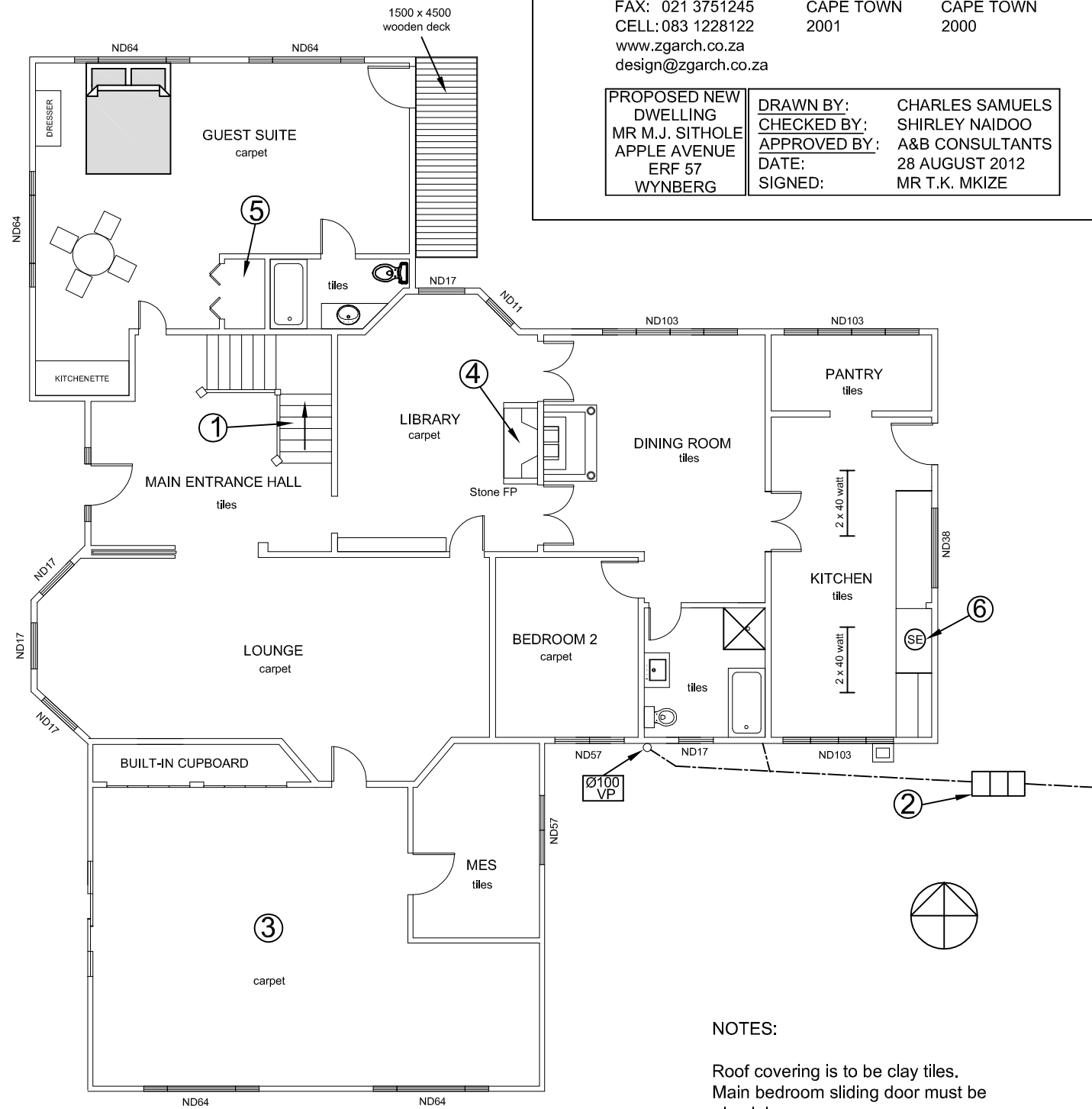
Z G Architects
"where the future is drawn"



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PROPOSED NEW DWELLING
 MR M.J. SITHOLE
 APPLE AVENUE
 ERF 57
 WYNBERG

DRAWN BY: CHARLES SAMUELS
 CHECKED BY: SHIRLEY NAIDOO
 APPROVED BY: A&B CONSULTANTS
 DATE: 28 AUGUST 2012
 SIGNED: MR T.K. MKIZE



NOTES:
 Roof covering is to be clay tiles.
 Main bedroom sliding door must be aluminium.
 Exterior walls to be face brick.
 Interior walls to be standard clay brick.

STUDY THE ADJACENT DRAWING AND ANSWER THE QUESTIONS THAT FOLLOW:

- | | |
|---|---|
| 1.1 What type of civil drawing is shown? | 1 |
| 1.2 How many bathrooms does this dwelling have? | 1 |
| 1.3 What is the diameter of the ventilation pipe? | 1 |
| 1.4 Who is the owner of the property ERF 57? | 1 |
| 1.5 In which city is the architect's office found? | 1 |
| 1.6 In which elevation would you see the main entrance door? | 1 |
| 1.7 What is the feature at 1 called? | 1 |
| 1.8 What is the feature at 2 called? | 1 |
| 1.9 What is the room designation indicated by the number 3? | 1 |
| 1.10 What does the abbreviation 'FP', as indicated at feature 4, stand for? | 1 |
| 1.11 Suggest what the feature indicated by arrow 5 might be. | 1 |
| 1.12 What is the feature at 6 called? | 1 |
| 1.13 How many ND17 windows are shown on this drawing? | 1 |
| 1.14 How many 40 watt fluorescent tubes are used in the kitchen? | 1 |
| 1.15 How many rooms have a tile floor finish? | 1 |
| 1.16 How many external doors are shown on this drawing? | 1 |
| 1.17 What type of brick must be used for the exterior walls? | 1 |
| 1.18 What is the area of the wooden deck in square metres? | 1 |
| 1.19 In the space below, draw, in NEAT freehand, the PLAN VIEW and ELEVATION VIEW of the SABS convention for a wall-mounted urinal. | 2 |

PLAN VIEW	ELEVATION VIEW

20 MARKS

EXAMINATION NUMBER

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ANSWER SHEET 1

QUESTION 3

TWO-POINT PERSPECTIVE

The figure shows the three views of an apartment. Draw a neat two-point perspective view of the dwelling.

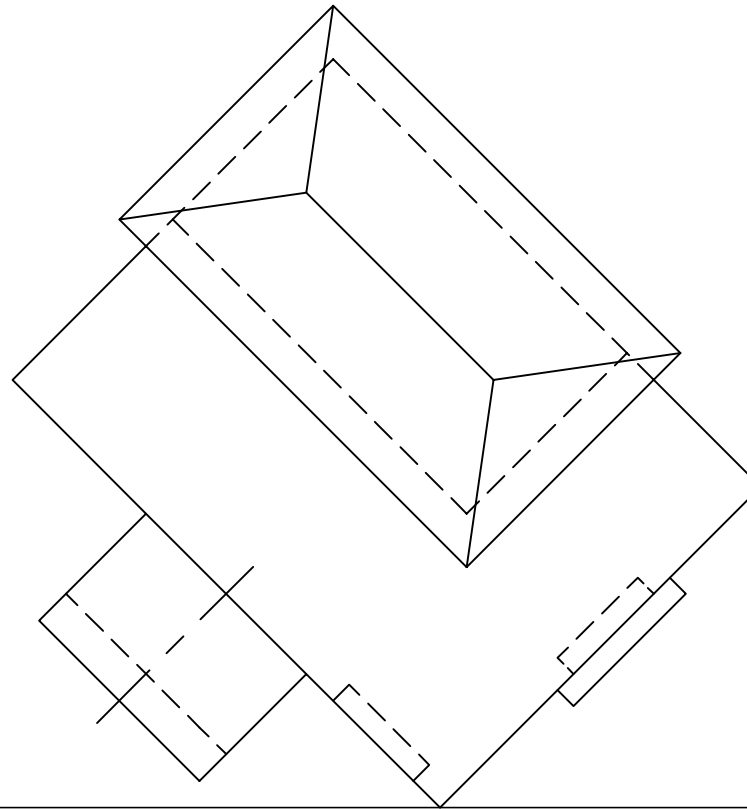
- PP - Picture Plane
- HL - Horizon Line
- GL - Ground Line
- SP - Station Point

Show the wall thickness where applicable. Neatly label the vanishing points RVP and LVP. NO HIDDEN DETAIL IS REQUIRED.

ASSESSMENT CRITERIA

You will be assessed on your ability to do the following:

- determine and label the vanishing points 2
- determine the two-point perspective view 38

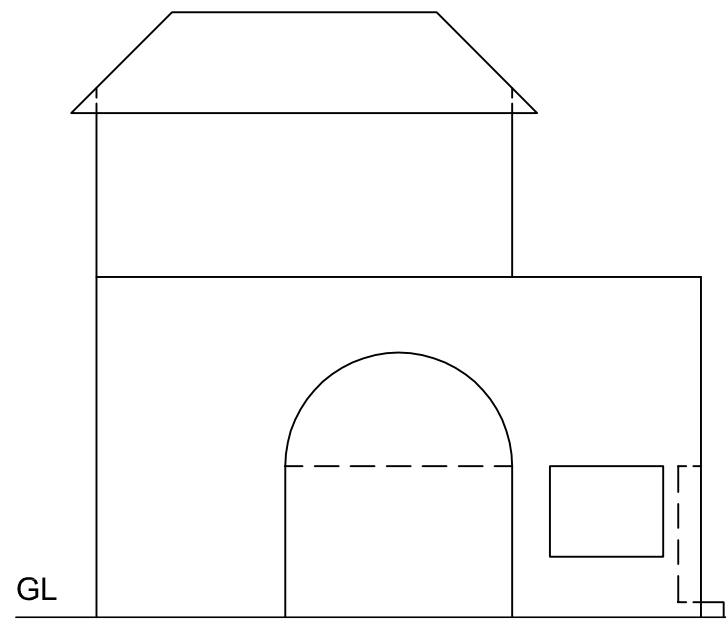


PP

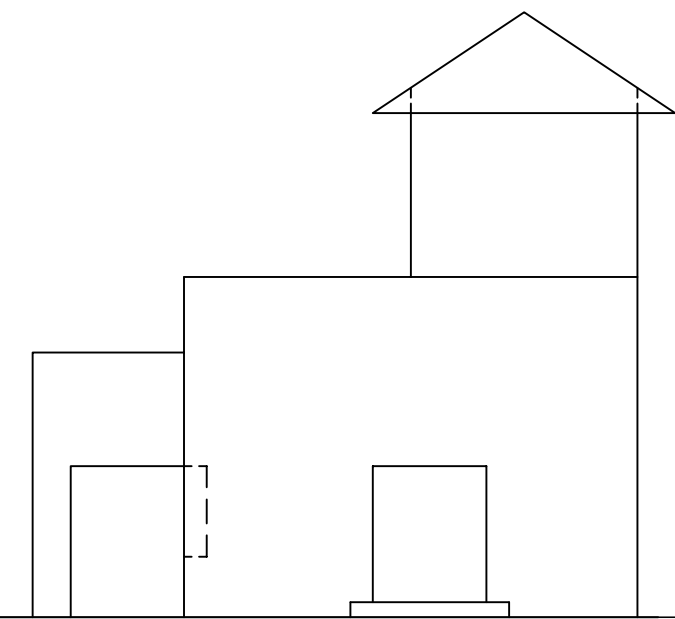
PP

HL

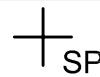
HL



GL



GL



PTS	23	
PTS	6	
Arc	9	
VPS	2	

40 MARKS

EXAMINATION NUMBER

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ANSWER SHEET 3

QUESTION 4

CIVIL
DRAWING

Assessment Criteria

Sectional South Elevation

1	Ceiling Battens	2	
2	Wall Plates	2	
3	Ceiling Board	1	
4	Truss Plates	4	
5	Roof Truss	5	
6	Purlins	4	
7	Roof	1	
8	Walls	4	
9	Window	5	
10	Floor & Foundation	6	
11	DPC	2	
12	Hatching	10	
13	Fascia Board	3	
14	Roof Detail	1	
15	Walls - elevation	3	
16	Labels	2	
17	Outside window	4	
18	External Door Position	2	

Subtotal		61	
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Floor Plan

19	External Plumbing	7	
20	Walls	5	
21	Hatching	4	
22	Windows	4	
23	Door	4	
24	Internal Plumbing	3	
25	Electrical	4	
26	Labels	4	
27	Cutting Plane	2	
28	Cupboard	2	

Subtotal		39	
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TOTAL		100	
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MH

100 MARKS

EXAMINATION NUMBER

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ANSWER SHEET 4