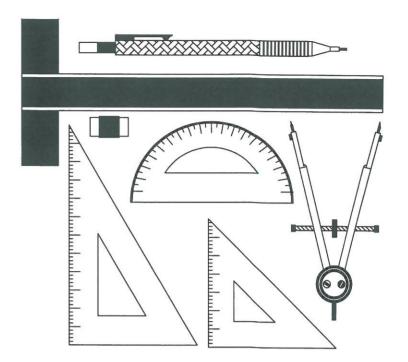


MARKING MEMORANDUM



NATIONAL SENIOR CERTIFICATE EXAMINATION

2017

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										

QUESTION 1

CIVIL **ANALYTICAL**

SMITH, ZULU & Co ARCHITECTS

"designing the future" TEL: (044) 7612233 www.smithzulu

P.O.BOX 1683 **GEORGE** 6530

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www.smithzulu.co.za office@smithzulu.co.za 23 COPPER STREET

info@smithzulu.co.za

GEORGE 6529

PROPOSED ADDITION FOR A.B. VILLIERS GOLD STREET ERF 1100

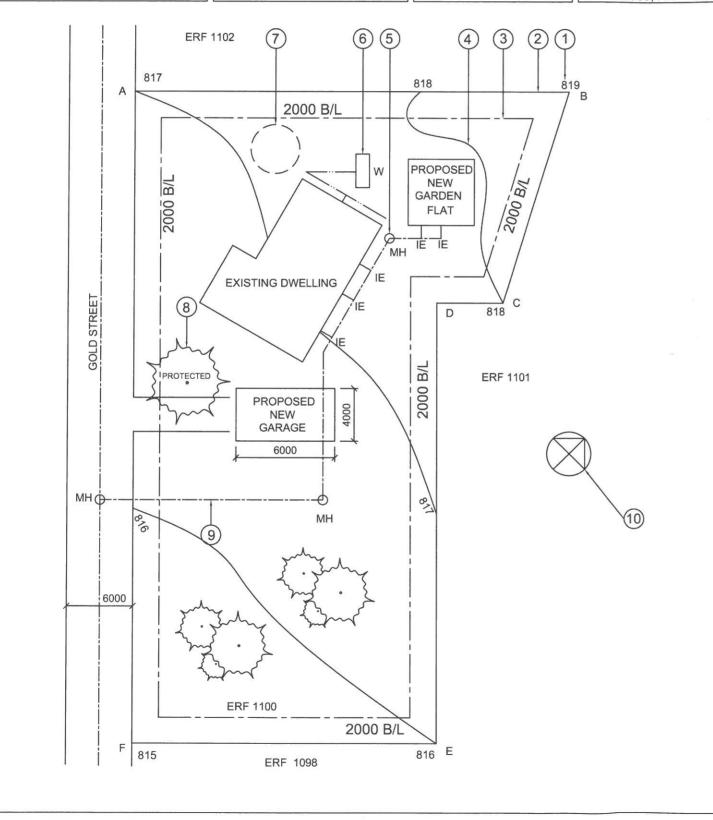
GEORGE SOUTH

APPROVED BY: H.V. SMITH REFERENCE: 1002/VILLIERS

DRAWN BY: PATRICK LOUW DATE: 12 FEBRUARY 2017
CHECKED BY: T.B. ZULU DR ADI 10670

AB NLLIERS SIGNED: MR A.B. VILLIERS

LAND SURVEYOR'S CERTIFICATE
SIDE LENGTHS
AB = 33000, BC = 16700 CD = 5000, DE = 36000 EF = 22000, FA = 42000



STUDY THE ADJACENT DRAWING AND INFORMATION AND ANSWER	THE QUESTIONS THAT FOLL	OW:			
1.1 What type of civil drawing is shown?	SITE PLAN	1			
1.2 What elevation faces the Gold Street?	SOUTH WEST ELEVATION	1			
1.3 Who checked the drawing?	T B ZULU	1			
1.4 In which town is the architect's office located?	GEORGE	1			
1.5 On what erf number will the proposed additions be erected?	1100	1			
1.6 What is the feature at 1 called?	CORNER / BEACON HEIGHT	1			
1.7 What is the feature at 2 called?	BOUNDARY LINE	1			
1.8 What is the feature at 3 called?	BUILDING LINE	1			
1.9 What is the feature at 4 called?	CONTOUR LINE	1			
1.10 What is the feature at 5 called?	MAN HOLE	1			
1.11 What is the feature at 6 called?	WATER TANK	1			
1.12 What is the feature at 7 called?	TREE TO BE REMOVED	1			
1.13 What is the feature at 8 called?	PROTECTED TREE	1			
1.14 What is the feature at 9 called?	SEWAGE / SEWER LINE	1			
1.15 Which direction would you face when reversing out of the garage?	NORTH EAST	1			
1.16 How many metres would Mr Villiers walk if he walked the boundary?	154.7	1			
1.17 By how many metres is the highest corner above the lowest?	4	1			
1.18 What is the closest Mr Villiers is allowed to build to Gold Street? 2000mm / 2m					
1.19 In the space below, determine the area of the proposed new garage in m? Area = length x breadth = 6m x 4m = 24m² Answer:					
EVAMINIATIO	20 MARKS				
EXAMINATION	ON NOWREK				

ANSWER SHEET 1

QUESTION 2

INTERPENETRATION & DEVELOPMENT

The figure below shows the INCOMPLETE Front View and the Top View of an **EQUILATERAL TRIANGULAR DUCT** penetrated by an **CIRCULAR PIPE** drawn in First-angle Orthographic Projection. The auxiliary view of the circular pipe is also shown in the Top View.

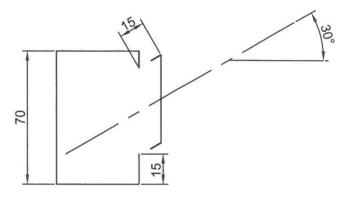
Draw the following:

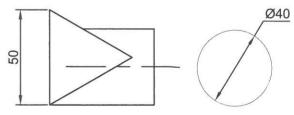
- 2.1 the complete FRONT view clearly showing the curve of interpenetration. Show all hidden detail.
- 2.2 the complete TOP view.
- 2.3 the development of the two surfaces of the triangular duct that are being penetrated, clearly showing the curve of interpenetration. Show all construction.

ASSESSMENT CRITERIA

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

- draw the given views
- complete the front view
- show necessary construction
- develop and label the triangular duct





GIV 5 17

CON 3 DEV 15

40 MARKS

EXAMINATION NUMBER

= 5

17

= 14

= 3

= 15

40

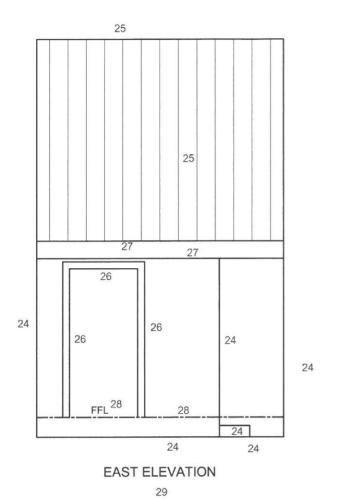
ANSWER SHEET 2

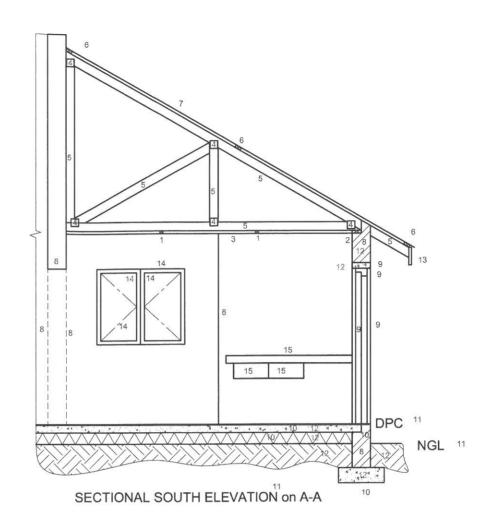
Given Front View:

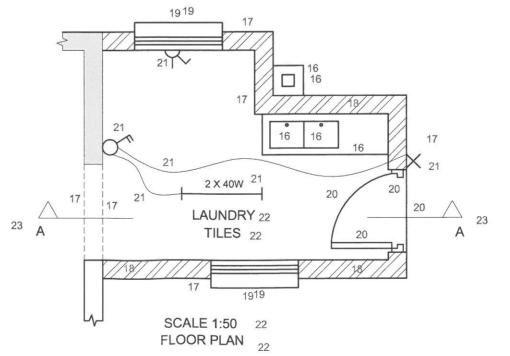
Construct

Development

Hidden Detail







QUESTION 4 CIVIL DRAWING

Assessment Criteria

S	ectional South E	lev	ation
1	Ceiling Battens	2	
2	Wall Plates	1	
3	Ceiling Board	1	
4	Truss Plates	5	
5	Roof Truss	6	
6	Purlins	3	
7	Roof	1	
8	Walls	5	
9	Door	4	
10	Floor & Foundation	4	
11	DPC & Labels	3	
12	Hatching	7	
13	Fascia Board	1	
14	Window	4	
15	Double Sink	3	
S	Subtotal	50	

16	Plumbing	5
17	Walls	6
18	Hatching	3
19	Windows	4
20	Door	4
21	Electrical	6
22	Labels	4
23	Cutting Plane	2
S	Subtotal	34

	East Elevation								
24	Walls & Gully	6							
25	Roof Detail	2							
26	Door		3						
27	Fascia Board	2							
28	Floor Finish Lev	2							
29	Label	1							
S	Subtotal		16						
T	OTAL	100							

100 MARKS

EXAMINATION NUMBER									
					,				