



# basic education

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Department:  
Basic Education  
**REPUBLIC OF SOUTH AFRICA**

## SENIOR CERTIFICATE EXAMINATIONS/ NATIONAL SENIOR CERTIFICATE EXAMINATIONS

**ENGINEERING GRAPHICS AND DESIGN P1**

**2021**

**MARKING GUIDELINES**

**MARKS: 100**

**These marking guidelines consist of 7 pages.**

ANSWERS		
1	DRAW/PREPARE SITE PLAN	1
2	INK-ON (PTY) LTD	1
3	2020-11-18	1
4	1 : 300	1
5	www.druloffarch.co.za	1
6	6000	1
7	STAPLE STREET	1
8	5	1
9	METRES (m) and MILLIMETRES (mm)	2
10	DASH LINE/HIDDEN DETAIL	1
11	INCLINE/UP	1
12	EARTH/LIGHTNING CONDUCTOR	1
13	STORMWATER DRAIN	1
14	MH	1
15	BLUE	1
16	SOUTH EAST	2
17	3 or 3 : 48	2
18	See below	3
19		4
20		3
<b>TOTAL</b>		<b>30</b>

**ANSWER 18**  
Show ALL calculations.  
**APPLYING CORRECT FORMULE ✓**

$$= 24,77 + 48 + 20,77$$

$$+ 5,65 + 44$$

$$= 143,19 \checkmark \text{ m } \checkmark$$

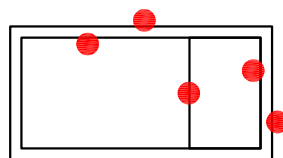
**ANSWER 19**  
Show ALL calculations.  
**APPLYING CORRECT FORMULE ✓✓**

$$= (6 \times 6) + (10,5 \times 12) + (8,75 \times 4,5) +$$

$$(6 \times 6)$$

$$= 237,38 \checkmark \text{ m}^2 \checkmark$$

**ANSWER 20**



● FREEHAND

PAPER 1 QUESTION 1  
GRADE 12  
2021  
MARKING GUIDELINES

**AUXILIARY VIEW:**  
 HEXAGON 1  
 CIRCLE WITH DIVISIONS 1  
 TOTAL 2

ANY RECOGNIZED METHOD CAN BE USED

ASSESSMENT CRITERIA	
1	AUXILIARY VIEW 2
2	FRONT VIEW 5
3	SECTIONAL TOP VIEW 16
4	RIGHT VIEW 13
<b>TOTAL 36</b>	

PAPER 1 QUESTION 2  
 GRADE 12  
 2021  
 MARKING GUIDELINES

PP

HL

GL

VPP

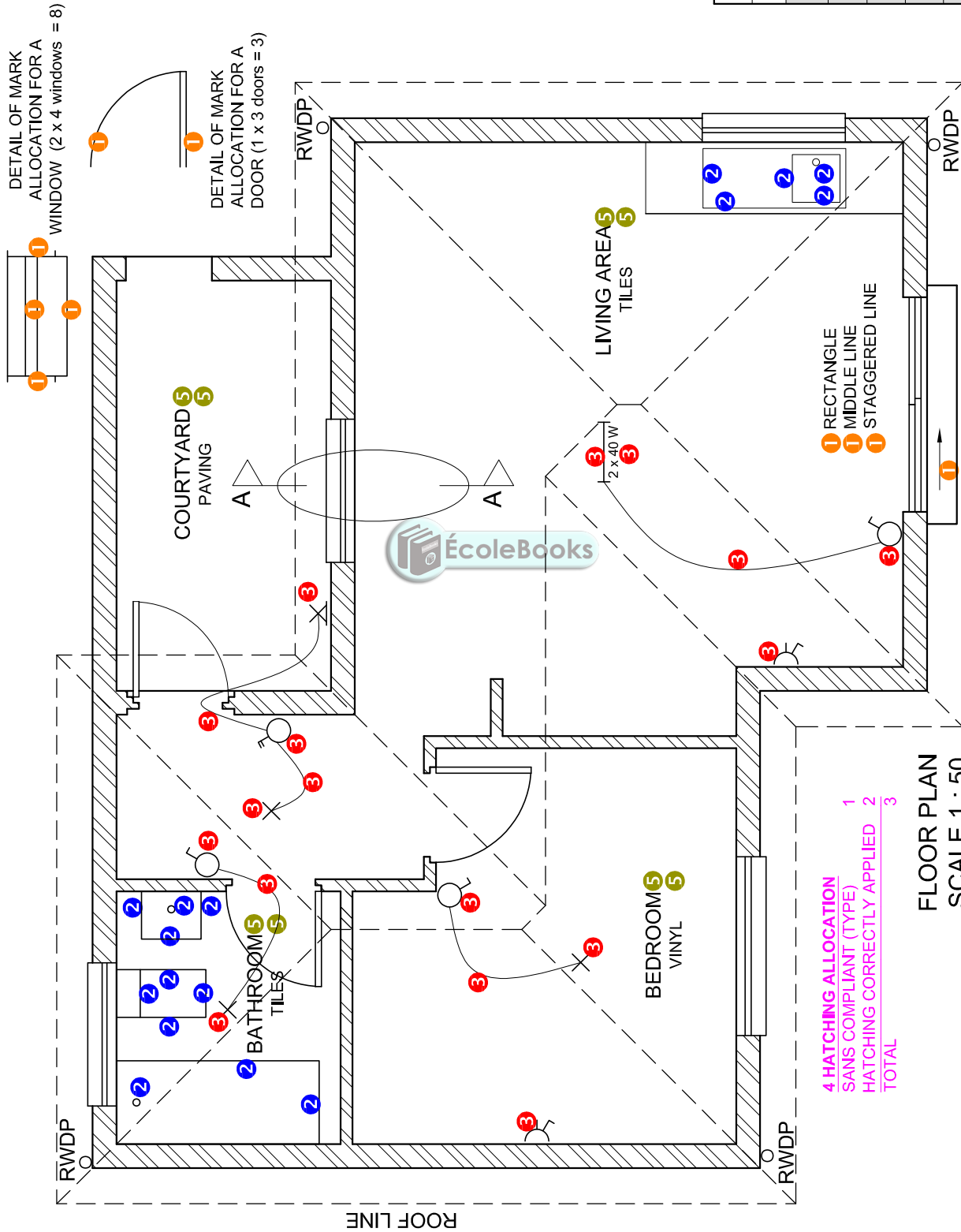
SP

5 CURVE QUALITY

ASSESSMENT CRITERIA

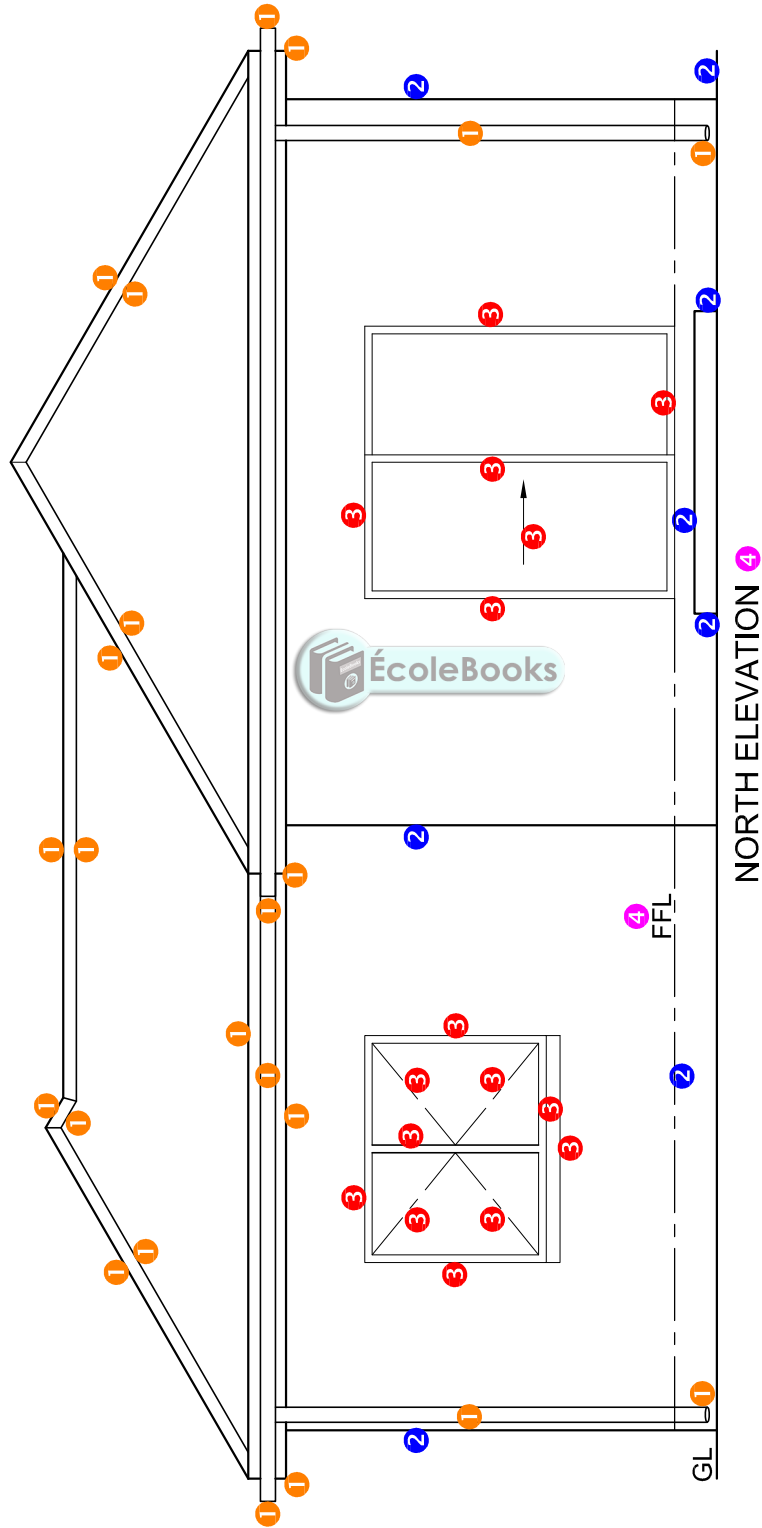
ASSESSMENT CRITERIA		
1	CONSTRUCTION	6
2	LOWER SECTION	15
3	UPPER SECTION	6
4	ROOF	4 $\frac{1}{2}$
5	ARC	7 $\frac{1}{2}$
<b>TOTAL</b>		<b>39</b>

PAPER 1 QUESTION 3  
GRADE 12  
2021  
MARKING GUIDELINES



FLOOR PLAN		POSSIBLE
1	DOORS + WINDOWS	13
2	FIXTURES	8
3	ELECTRICAL	8 1/2
4	HATCHING	3
5	LABELS	4
<b>SUBTOTAL</b>		<b>36 1/2</b>

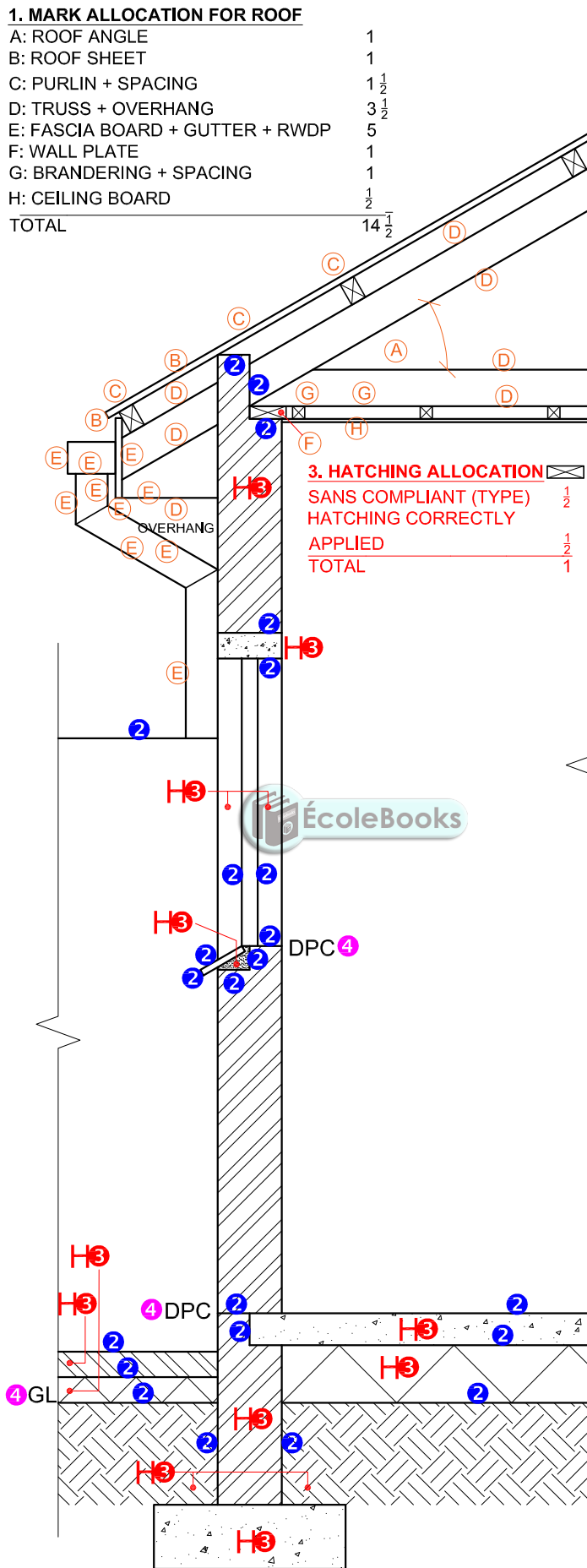
FLOOR PLAN  
SCALE 1 : 50



NORTH ELEVATION 4

NORTH ELEVATION		
1	ROOF + RWDP	11 1/2
2	WALLS + STEP + FFL	4
3	DOOR + WINDOW	8
4	LABELS	1
<b>SUBTOTAL</b>		<b>24 1/2</b>

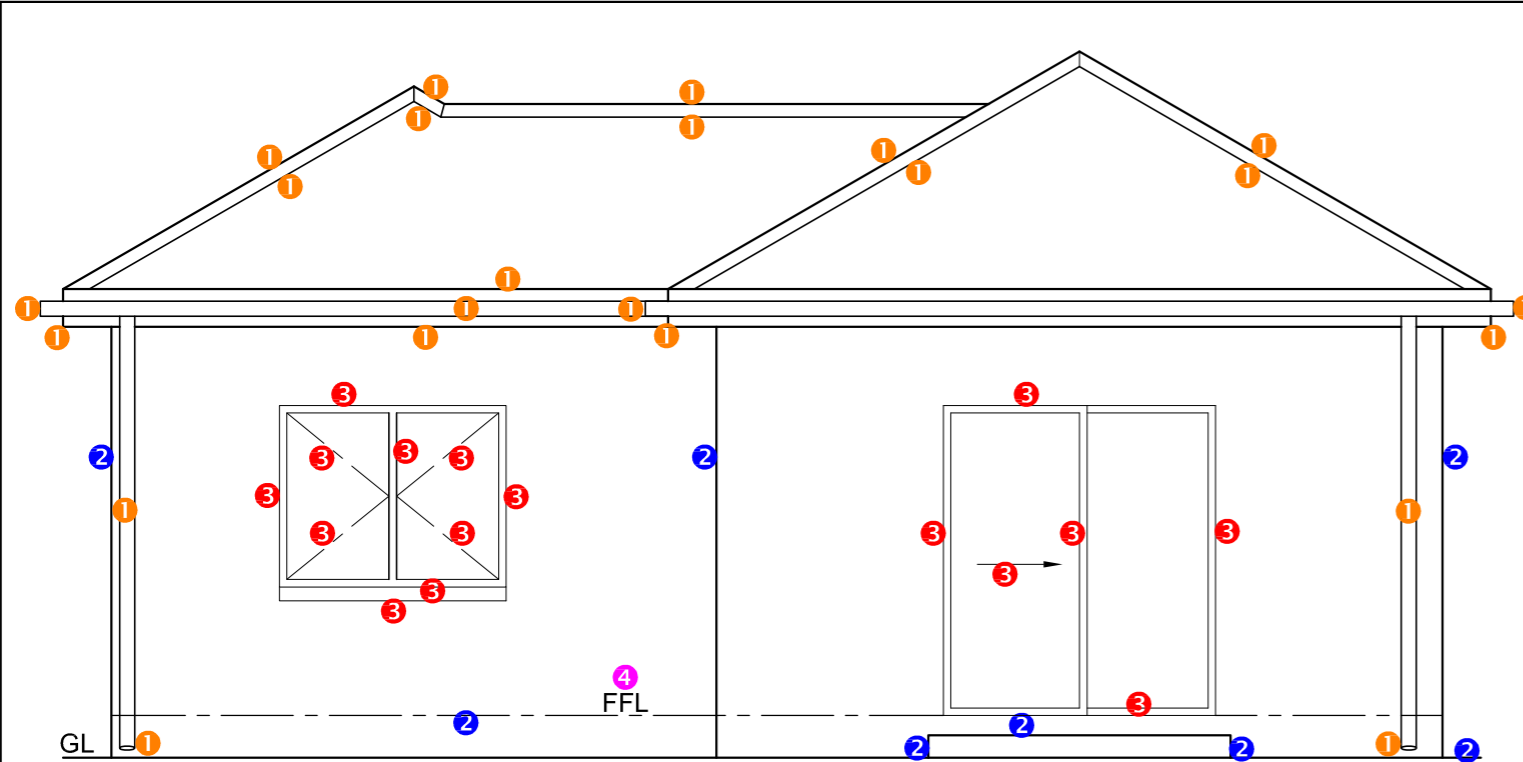
PAPER 1 QUESTION 4  
 GRADE 12  
 2021  
 MARKING GUIDELINES



DETAILED SECTION		
1	ROOF DETAIL	14 1/2
2	SLAB + WALL + WINDOW	11 1/2
3	HATCHING	6 1/2
4	LABELS	1 1/2
<b>SUBTOTAL</b>		<b>34</b>

SECTION A-A  
SCALE 1 : 20

PAPER 1 QUESTION 4  
GRADE 12  
2021  
MARKING GUIDELINES

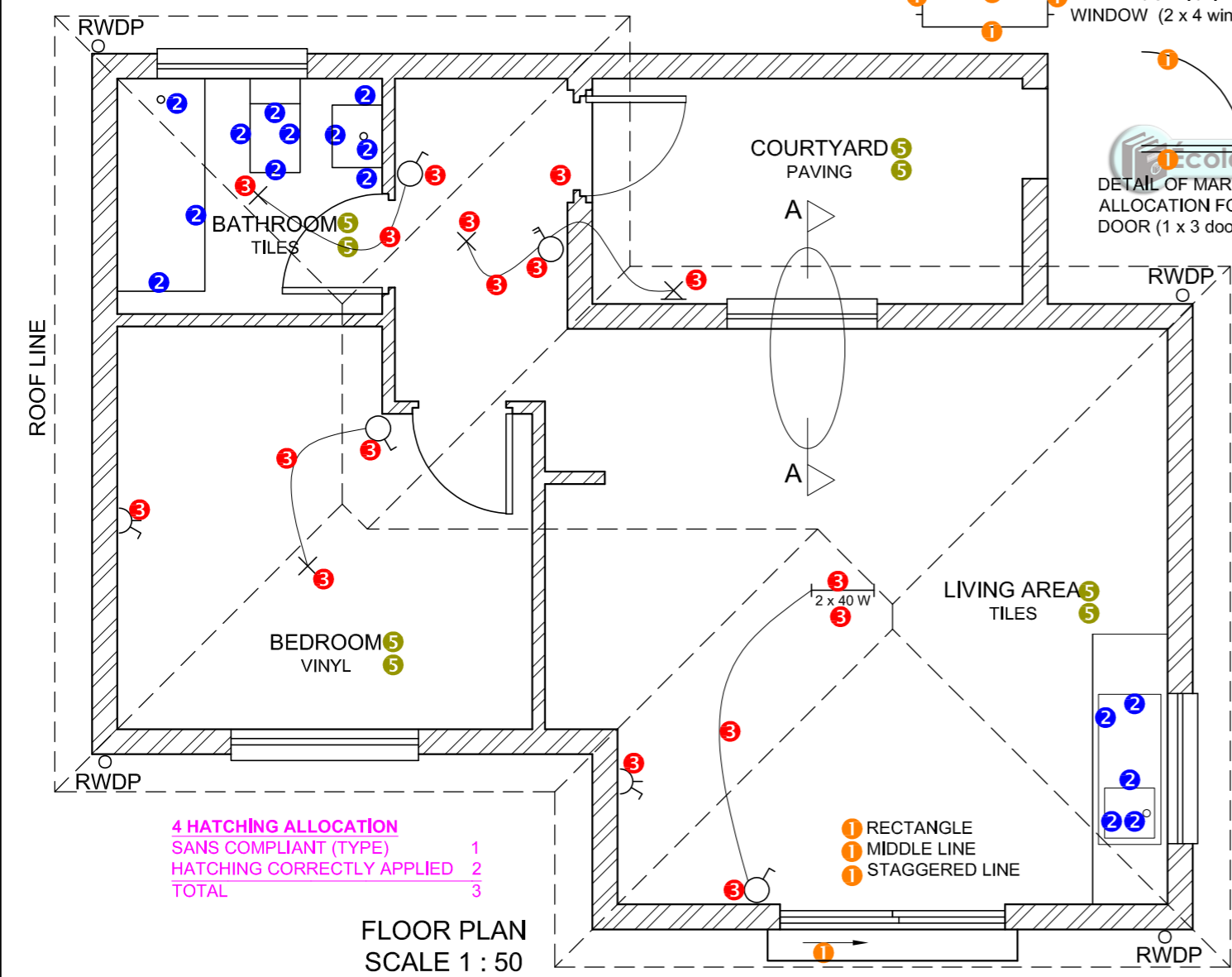


NORTH ELEVATION 4

- 1. MARK ALLOCATION FOR ROOF**
- A: ROOF ANGLE 1
  - B: ROOF SHEET 1
  - C: PURLIN + SPACING 1 1/2
  - D: TRUSS + OVERHANG 3 1/2
  - E: FASCIA BOARD + GUTTER + RWDP 5
  - F: WALL PLATE 1
  - G: BRANDERING + SPACING 1
  - H: CEILING BOARD 1 1/2
  - TOTAL 14 1/2

DETAIL OF MARK ALLOCATION FOR A WINDOW (2 x 4 windows = 8)

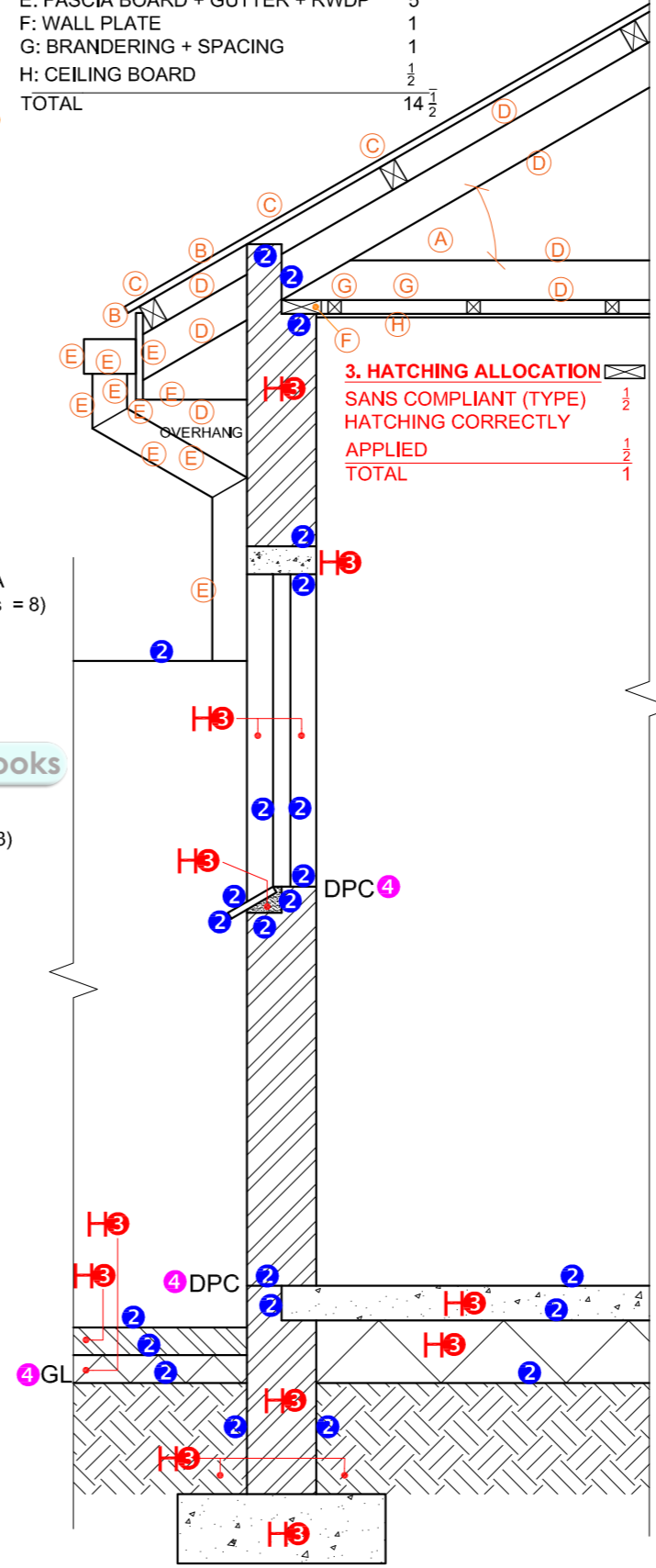
DETAIL OF MARK ALLOCATION FOR A DOOR (1 x 3 doors = 3)



FLOOR PLAN SCALE 1 : 50

**4 HATCHING ALLOCATION**  
 SANS COMPLIANT (TYPE) 1  
 HATCHING CORRECTLY APPLIED 2  
 TOTAL 3

- 1 RECTANGLE
- 1 MIDDLE LINE
- 1 STAGGERED LINE



SECTION A-A SCALE 1 : 20

**3. HATCHING ALLOCATION**  
 SANS COMPLIANT (TYPE) 1/2  
 HATCHING CORRECTLY APPLIED 1/2  
 TOTAL 1

MARK ALLOCATION FOR SECTION OF ROOF	
A	
B	
C	
D	
E	
F	
G	
H	
<b>TOTAL</b>	

FOR OFFICIAL USE ONLY	
INCORRECT SCALE(S) USED	
NON-ALIGNMENT OF VIEWS	
VIEW(S) ROTATED	
SECTION VIEWED INCORRECTLY	
INCORRECT LETTERING	
SC - 1 MARK PENALTY ON EITHER SIDE FOR THE LINES NOT TOUCHING THE BREAK LINES	
<b>TOTAL</b>	

ASSESSMENT CRITERIA				
FLOOR PLAN				
		POSSIBLE	OBTAINED	SIGN MODERATED
1	DOORS + WINDOWS	13		
2	FIXTURES	8		
3	ELECTRICAL	8 1/2		
4	HATCHING	3		
5	LABELS	4		
<b>SUBTOTAL</b>		<b>36 1/2</b>		
NORTH ELEVATION				
1	ROOF + RWDP	11 1/2		
2	WALLS + STEP + FFL	4		
3	DOOR + WINDOW	8		
4	LABELS	1		
<b>SUBTOTAL</b>		<b>24 1/2</b>		
DETAILED SECTION				
1	ROOF DETAIL	14 1/2		
2	SLAB + WALL + WINDOW	11 1/2		
3	HATCHING	6 1/2		
4	LABELS	1 1/2		
<b>SUBTOTAL</b>		<b>34</b>		
<b>TOTAL</b>		<b>95</b>		
PENALTIES (-)				
<b>GRAND TOTAL</b>				
EXAMINATION NUMBER				
EXAMINATION NUMBER				6