



Province of the
EASTERN CAPE
DEPARTMENT OF EDUCATION

**NATIONAL SENIOR CERTIFICATE
NASIONALE SENIOR SERTIFIKAAT**

**GRADE 12
GRAAD 12**

**ENGINEERING GRAPHICS AND DESIGN P1
INGENIEURSGRAFIKA EN -ONTWERP V1**

**SEPTEMBER 2023
PREPARATORY EXAMINATION / VOORBEREIDINGSEKSAMEN
MARKING GUIDELINE / NASIENRIGLYN**

MARKS / PUNTE: 200 / 2 = 100

TIME / TYD: 3 hours / uur

**This marking guideline consists of 7 pages.
Hierdie nasienriglyn bestaan uit 7 bladsye.**

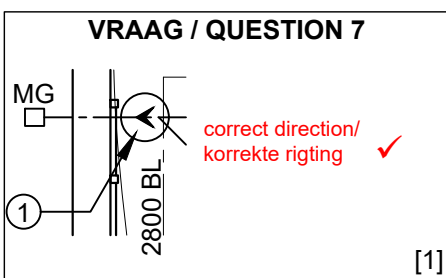
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PAPER 1
QUESTION 1: ANALYTICAL
 Gr. 12
 SEPTEMBER 2023
 MARKING GUIDELINE

VRAESTEL 1
VRAAG 1: ANALITIES
 Gr. 12
 SEPTEMBER 2023
 NASIENRIGLYN

QUESTION 1 ANSWERS		
1	LEAH	1
2	ROTHERHAM	1
3	SITE- 1144-23	1
4	3,6m	1
5	2023-03-01	1
6	ONE	1
7	SKETCH BELOW	1
8	PALISADE FENCING	1
9	RED	1
10	2 800 mm or 2,8 m	1
11	2	1
12	1,8 m	2
13	NEW PLAN IS OVER THE BL	2
14	NORHT-EAST	2
15	CALCULATION BELOW	4
16	CALCULATION BELOW	4
17	SKETCH BELOW	4
TOTAL		29

VRAAG 1 ANTWOORDE		
1	LEAH	1
2	ROTHERHAM	1
3	ERF- 1144-23	1
4	3,6m	1
5	2023-03-01	1
6	EEN	1
7	SKETS ONDER	1
8	PALISSADE HEINING	1
9	ROOI	1
10	2 800 mm of 2,8 m	1
11	2	1
12	1,8 m	2
13	NUWE PLAN IS OOR DIE BL	2
14	NOORD-OOS	2
15	BEREKENINGE ONDER	4
16	BEREKENINGE ONDER	4
17	SKETS ONDER	4
TOTAAL		29



VRAAG / QUESTION 15
 Toon alle berekeninge / Show all calculations

calculation: (+)(-) ✓	$23 \times 4 = 92 \text{ m}$	berekening: (+)(-) ✓
correct values ✓	$3 \times 4 = 1,2 \text{ m}$	korrekte waardes ✓
correct answer ✓	$= \underline{93.2 \text{ m}}$	korrekte antwoord ✓
correct unit ✓		korrekte eenheid ✓

OR / OF

$$(0.4 \times 26) + (3,6 \times 23) = 10,4 \text{ m} + 82,8 \text{ m}$$

$$= \underline{93.2 \text{ m}}$$

[4]

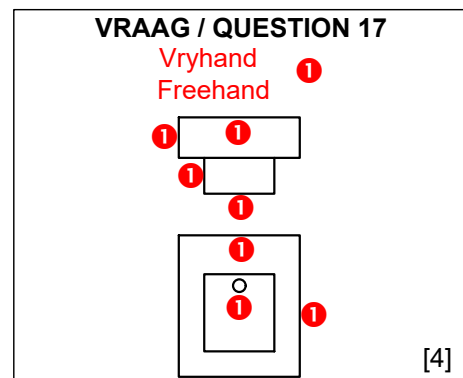
VRAAG / QUESTION 16
 Toon alle berekeninge / Show all calculations

$(l \times b) + (l \times b) + (l \times b)$	FORMULA / FORMULE ✓
$(5.6 \times 6) + (2 \times 2.8) + (2.8 \times 0.8)$	CORRECT VALUES ✓
$= 33.6 + 5.6 + 2.24$	CORRECT ANSWER ✓
$= \underline{41.44 \text{ m}^2}$	CORRECT UNIT m^2 ✓

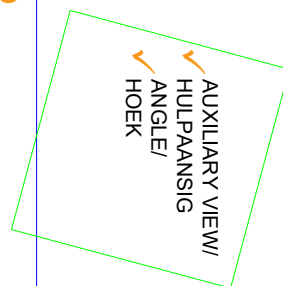
OR / OF

$(7.6 \times 6.8) - ((3.2 \times 2) + (4.8 \times 0.8))$	KORREKTE WAARDES ✓
$= 51.68 - (6.4 + 3.84)$	KORREKTE ANTWOORD ✓
$= \underline{41.44 \text{ m}^2}$	KORREKTE EENHEID m^2 ✓

[4]



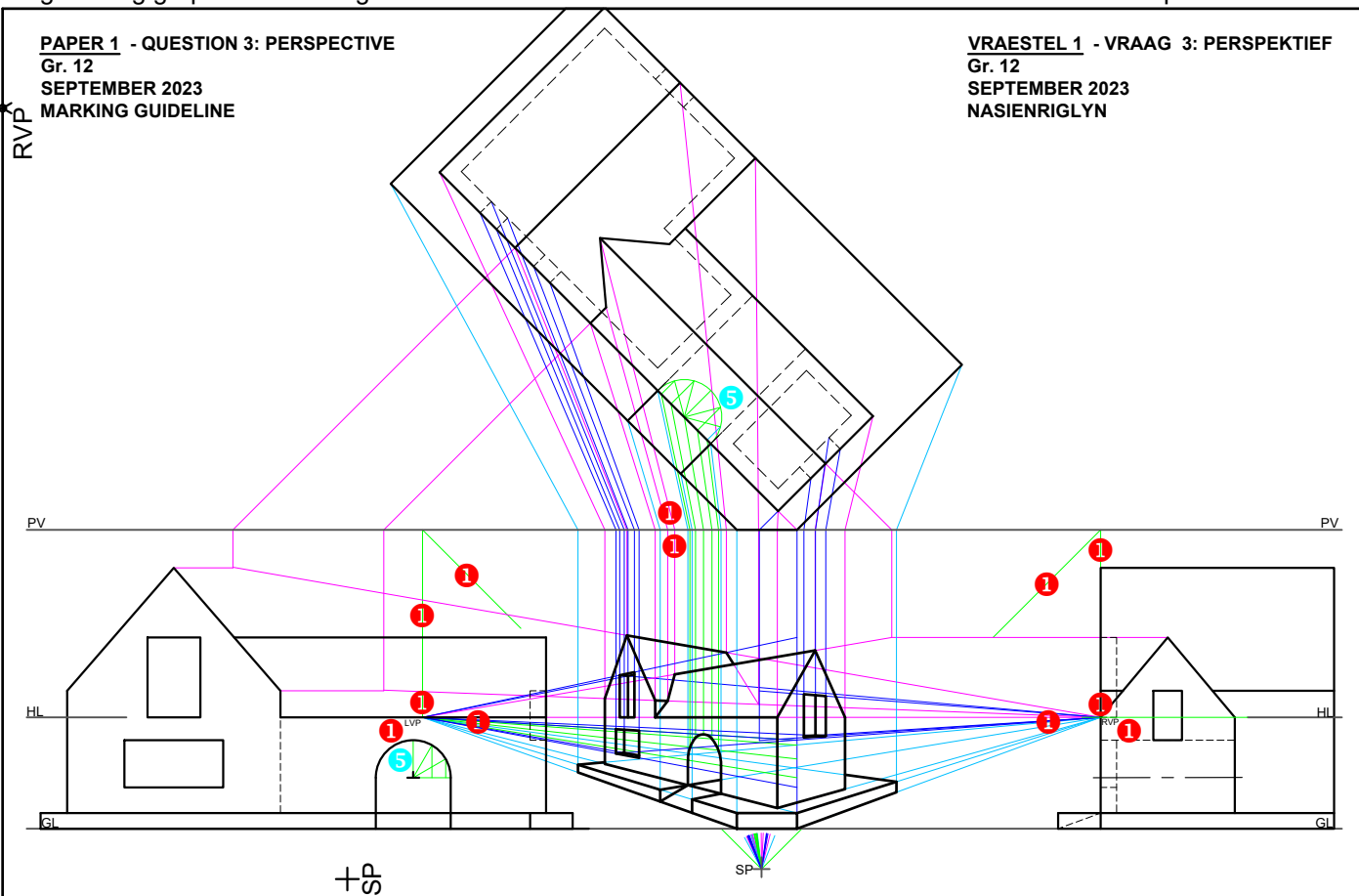
VRAESTEL 1
VRAAG 2: INTERPENETRASIE EN ONTWIKKELING
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ASSESSMENT CRITERIA / ASSESSERINGSKRITERIA		
1	TOP VIEW BO-AANSIG	10 $\frac{1}{2}$
2	FRONT VIEW VOORAANSIG	17
3	DEVELOPMENT ONTWIKKELING	10 $\frac{1}{2}$
PENALTY / PENALISERING (-)		
TOTAL TOTAL		38

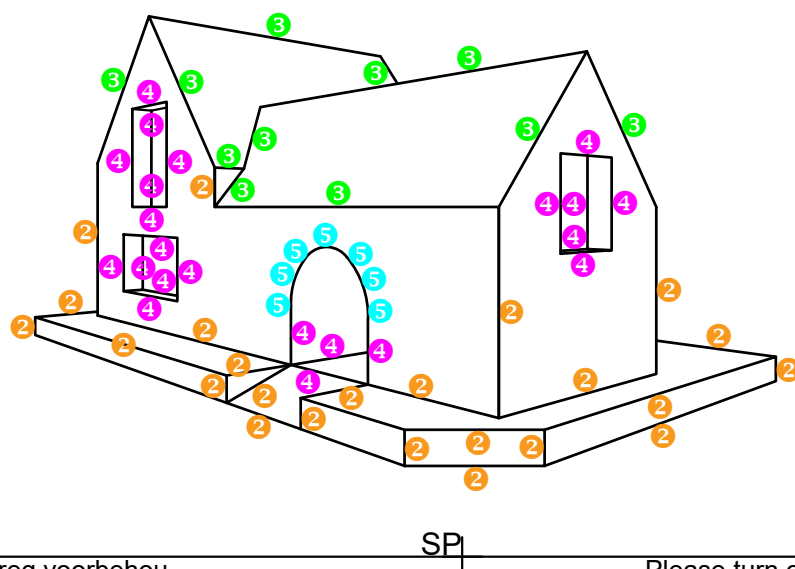
PAPER 1 - QUESTION 3: PERSPECTIVE
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VRAESTEL 1 - VRAAG 3: PERSPEKTIEF
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ASSESSMENT CRITERIA		
1	CONSTRUCTION + VP's	6
2	WALLS + PORCH	12
3	ROOF	5½
4	WINDOWS + DOOR	11
5	ARCH + CONSTRUCTION	4½
TOTAL		39

ASSESSERINGSKRITERIA		
1	KONSTRUKSIE EN VP'te	6
2	MURE + STOEP	12
3	DAK	5½
4	VENSTERS + DEUR	11
5	BOOG EN KONSTRUKSIE	4½
TOTAAL		39



PAPER 1 - QUESTION 4: FLOOR PLAN

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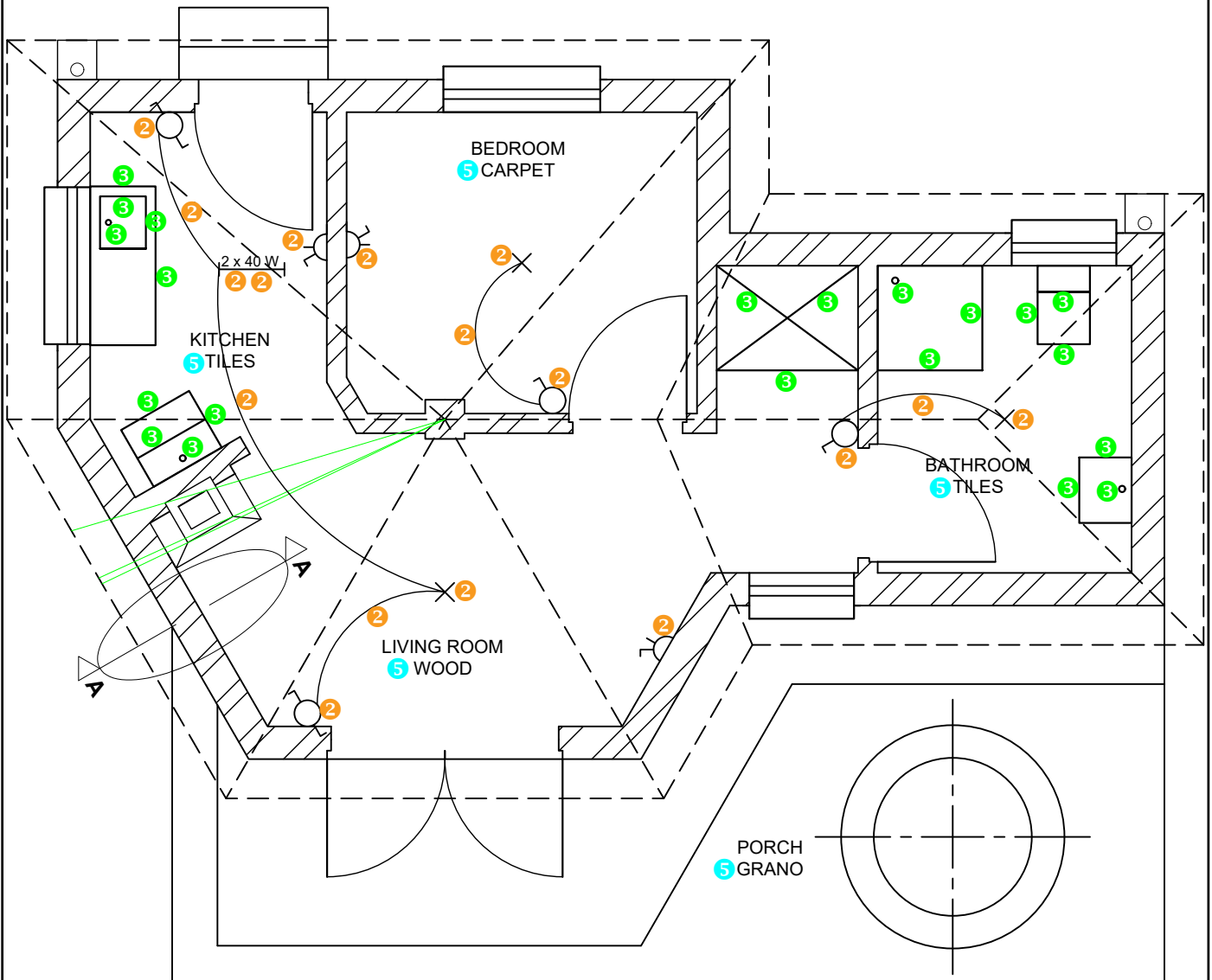
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VRAESTEL 1 - VRAAG 4: VLOERPLAN

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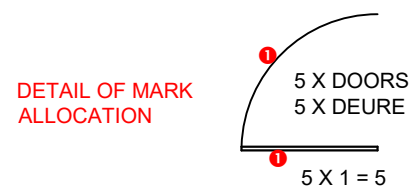
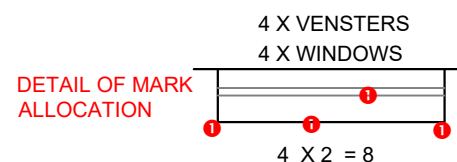
FLOOR PLAN
SCALE 1 : 50

Hatching: All hatched ✓4 ✓4
SANS compliant ✓4
Instruments must be used

Arsering: Alles gearseer ✓4 ✓4
Voldoen aan SANS riglyne ✓4
Moet instrumente gebruik

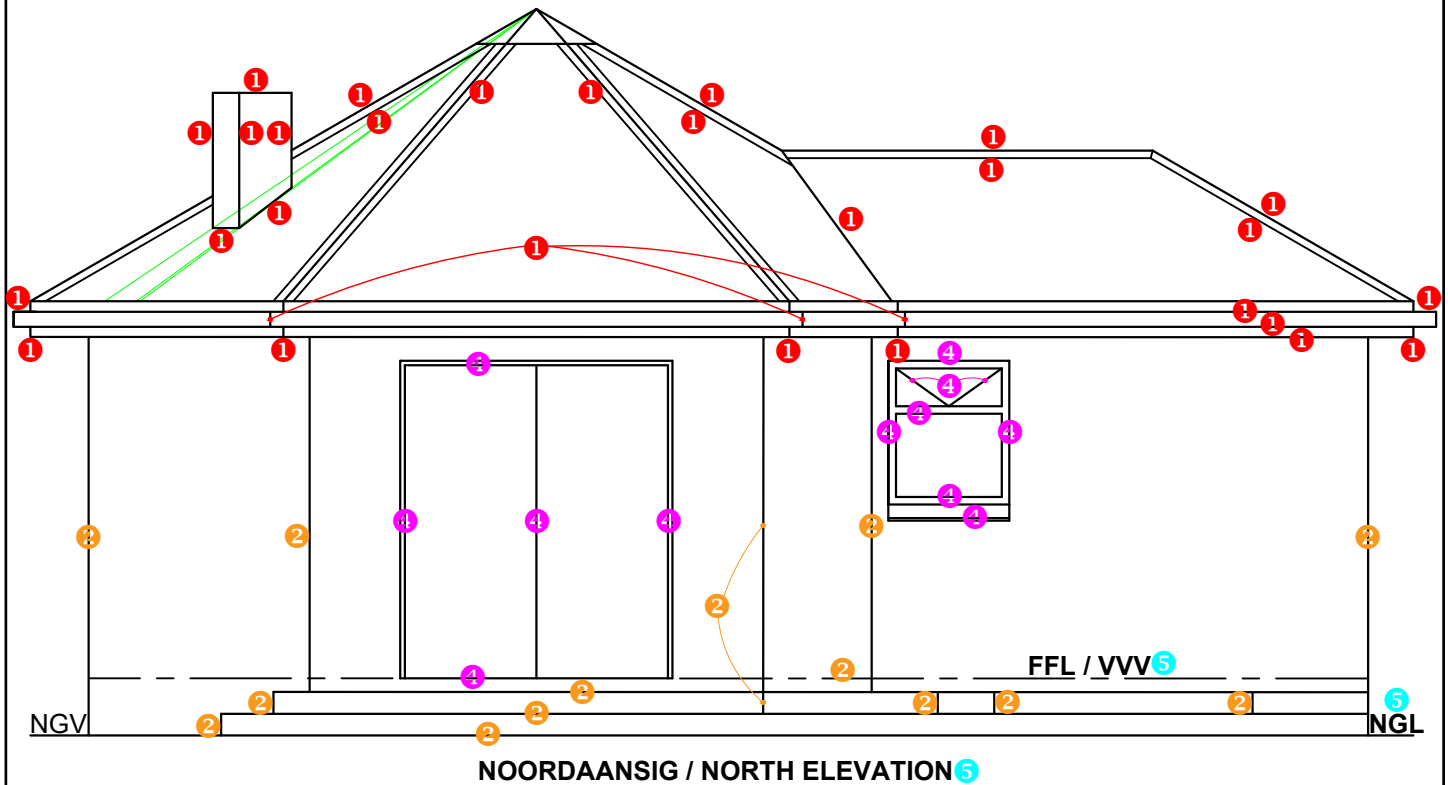
ASSESSMENT CRITERIA		
FLOOR PLAN		
1	DOORS + WINDOWS	13
2	ELECTRICAL	8 $\frac{1}{2}$
3	FIXTURES	10 $\frac{1}{2}$
4	HATCHING	3
5	LABELS	2 $\frac{1}{2}$
SUB TOTAL		37 $\frac{1}{2}$

ASSESSERINGSKRITERIA		
VLOERPLAN		
1	DEURE + VENSTERS	13
2	ELEKTRIES	8 $\frac{1}{2}$
3	TOEBEHORE	10 $\frac{1}{2}$
4	ARSERING	3
5	BYSKRIFTE	2 $\frac{1}{2}$
SUBTOTAAL		37 $\frac{1}{2}$



PAPER 1 - QUESTION 4: ELEVATION
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VRAESTEL 1 - VRAAG 4: ELEVASIE
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ASSESSERINGSKRITERIA		
NOORDAANSIG		
1	DAK + FASSIE + GEUT + VORSES + SKOORSTEEN	14
2	MURE + STOEP + TRAPPE + VUURPUT + VVV	7
3	DEUR + VENSTER	6
4	BYSKRIFTE	1 $\frac{1}{2}$
SUBTOTAAL		28 $\frac{1}{2}$

ASSESSMENT CRITERIA		
NORTH ELEVATION		
1	ROOF + FACIA + GUTTER + COVERS + CHIMNEY	14
2	WALLS + PORCH + STEPS + FIRE PIT + FFL	7
3	DOOR + WINDOW	6
4	LABELS	1 $\frac{1}{2}$
SUB TOTAL		28 $\frac{1}{2}$

PAPER 1 - QUESTION 4: SECTION

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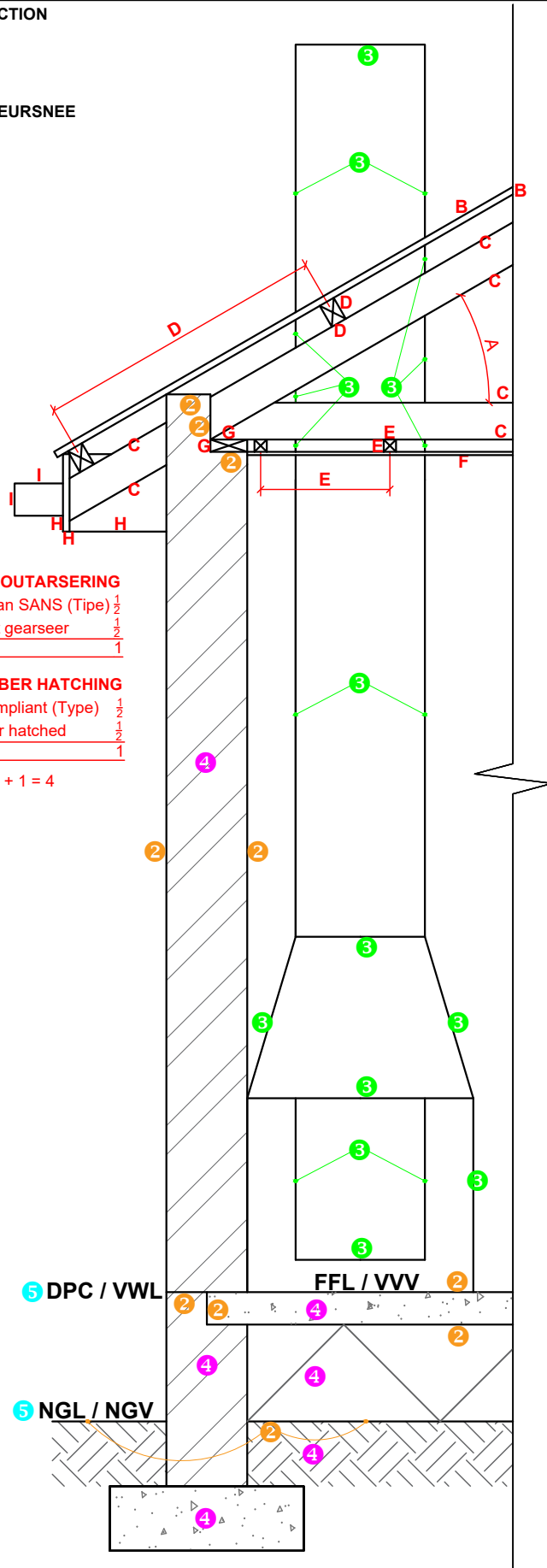
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VRAESTEL 1 - VRAAG 4: DEURSNEE

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**HOUTARSERING**

- ④ Voldoen aan SANS (Tipe) $\frac{1}{2}$
 ④ ALLE hout gearseer $\frac{1}{2}$
TOTAAL 1

TIMBER HATCHING

- ④ SANS Compliant (Type) $\frac{1}{2}$
 ④ ALL timber hatched $\frac{1}{2}$
TOTAL 1

$$3 + 1 = 4$$

⑤ DPC / VWL

⑤ NGL / NGV

FFL / VVV

DETAILED SECTION A-A**SCALE 1 : 20****GEDETAILEERDE SNIT A-A****SKAAL 1 : 20****ROOF DETAIL: MARK ALLOCATION
DAKBESONDERHEDE:
PUNTETOEKENNING**

A	ROOF ANGLE / DAKHELLING	1
B	ROOF SHEET / DAKPLAAT	1
C	ROOF TRUSS / DAKKAP	3
D	PURLIN + SPACING / DAKLAT + SPASIE	1 $\frac{1}{2}$
E	BRANDING + SPACING / PLAFONLATTE + SPASIE	1 $\frac{1}{2}$
F	CEILING BOARD / PLAFON	$\frac{1}{2}$
G	WALL PLATE / MUURPLAAT	1
H	FACIA BOARD / FASSIEBORD	1 $\frac{1}{2}$
I	GUTTER / GEUT	1
TOTAL / TOTAAL		12

ASSESSERINGSKRITERIA**DEURSNEE-AANSIG**

1	DAKBESONDER- HEDE	12
2	FONDASIE + MURE + VLOER	5
3	KAGGEL + SKOORSTEEN	6
4	ARSERING	4
5	BYSKRIFTE	1
SUBTOTAAL		28

ASSESSMENT CRITERIA**DETAILED SECTION**

1	ROOF DETAIL	12
2	FOUNDATION + WALLS + FLOOR	5
3	FIREPLACE + CHIMNEY	6
4	HATCHING	4
5	LABELS	1
SUB TOTAL		28