

NO.	DESCRIPTION	UNIT	QUANTITY	REMARKS
1	0.98m <sup>2</sup> x 2 = 1.97m <sup>2</sup>	ALUMINIUM CHROME	Even clear laminated glass	
2	0.50m <sup>2</sup> x 1 = 0.50m <sup>2</sup>	ALUMINIUM CHROME	Even clear laminated glass	
3	0.95m <sup>2</sup> x 3 = 2.85m <sup>2</sup>	ALUMINIUM CHROME	Even clear laminated glass	
4	1.43m <sup>2</sup> x 2 = 2.86m <sup>2</sup>	ALUMINIUM CHROME	Even clear laminated glass	
5	1.55m <sup>2</sup> x 3 = 4.77m <sup>2</sup>	ALUMINIUM CHROME	Even clear laminated glass	
6	3.11m <sup>2</sup> x 3 = 9.35m <sup>2</sup>	ALUMINIUM CHROME	Even clear laminated glass	
7	4.90m <sup>2</sup> x 1 = 4.90m <sup>2</sup>	ALUMINIUM CHROME	Even clear laminated glass	
8	5.18m <sup>2</sup> x 2 = 10.36m <sup>2</sup>	ALUMINIUM CHROME	Even clear laminated glass	
9	6.3m <sup>2</sup> x 1 = 6.3m <sup>2</sup>	ALUMINIUM CHROME	Even clear laminated glass	
10	10.08m <sup>2</sup> x 1 = 10.08m <sup>2</sup>	ALUMINIUM CHROME	Even clear laminated glass	
11	2.52m <sup>2</sup> x 1 = 2.52m <sup>2</sup>	ALUMINIUM CHROME	Even clear laminated glass	
12	1.70m <sup>2</sup> x 2 = 3.4m <sup>2</sup>	ALUMINIUM CHROME	Even clear laminated glass	

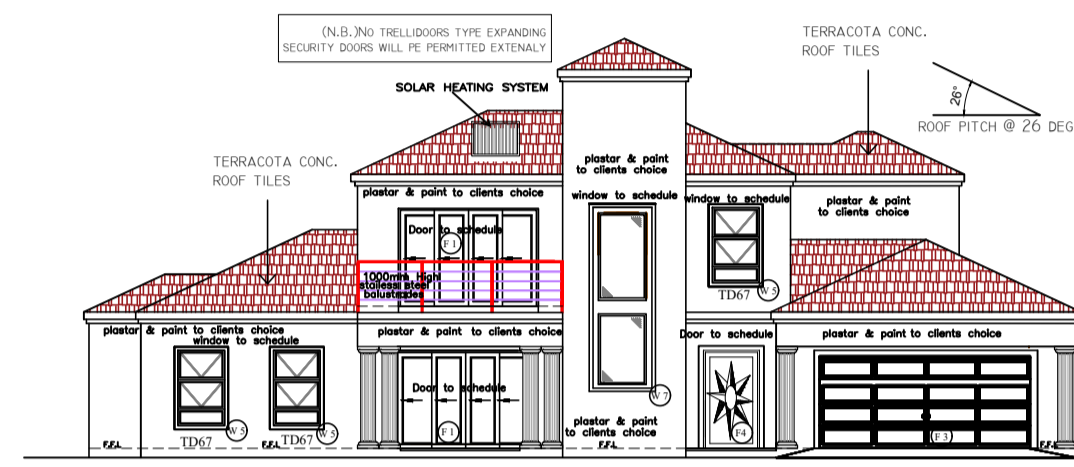
**WINDOW & DOOR SCHEDULE**

**PENETRATION CALCULATION**

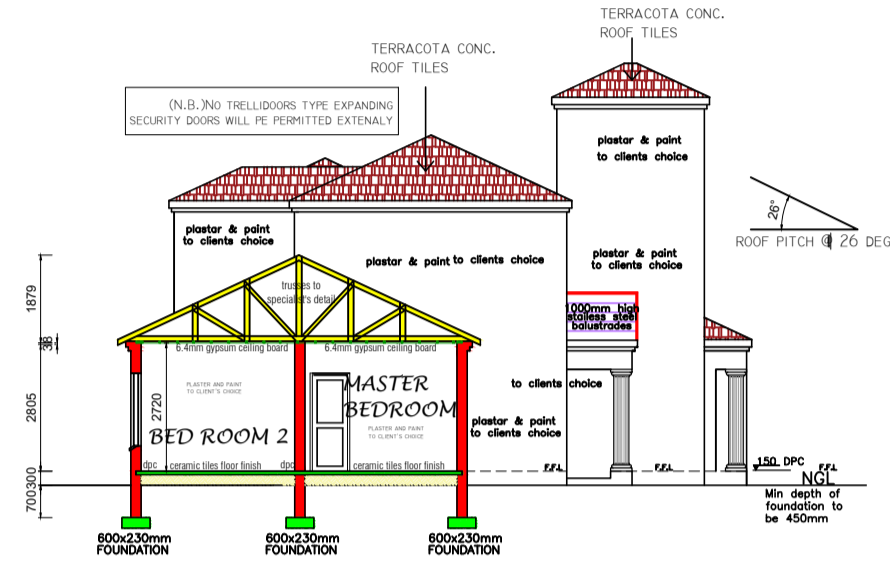
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10.08m <sup>2</sup> x 1 = 10.08m <sup>2</sup>
2.52m <sup>2</sup> x 1 = 2.52m <sup>2</sup>
1.70m <sup>2</sup> x 2 = 3.4m <sup>2</sup>

TOTAL WINDOW AREA = 59.88m<sup>2</sup>  
TOTAL FLOOR AREA = 295.0m<sup>2</sup>  
59.88m<sup>2</sup> / 295.0m<sup>2</sup> x 100 = 20.30%

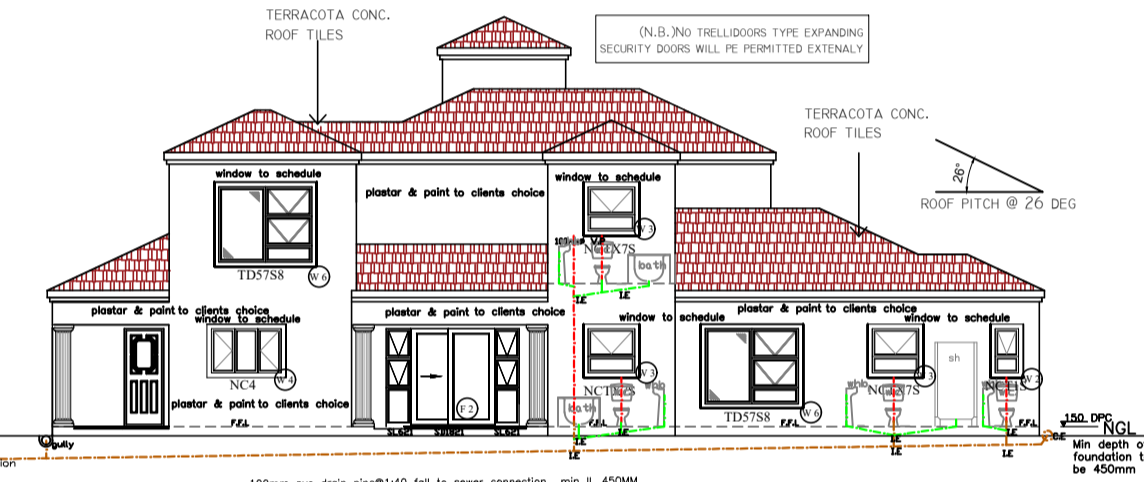
PER SANS 1005:2008 (TABLE 1)  
MINIMUM U-VALUE



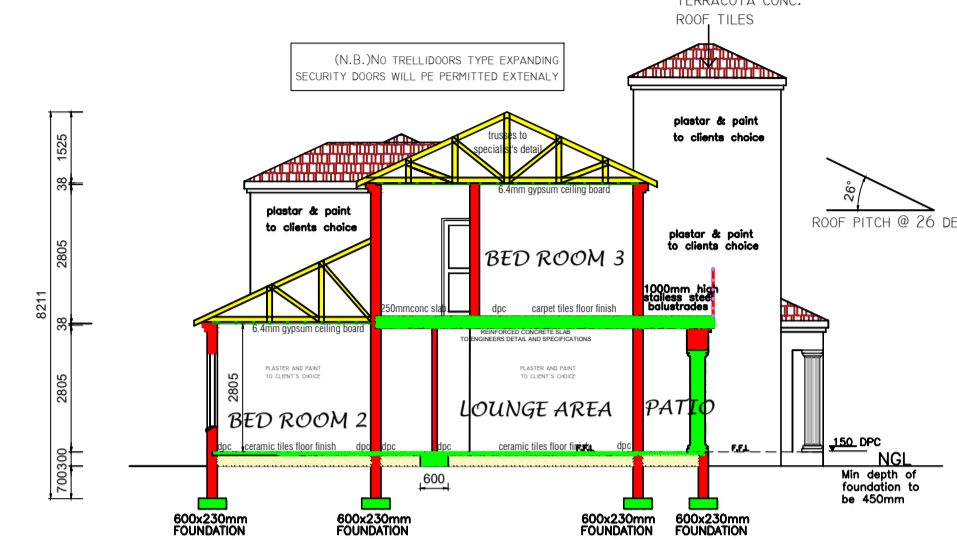
**WEST ELEVATION**  
SCALE 1: 100



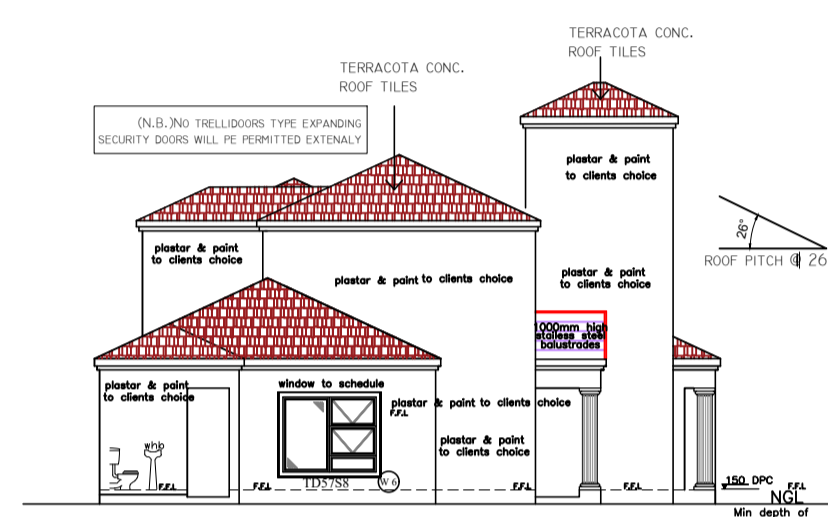
**SECTION A-A**  
SCALE 1: 100



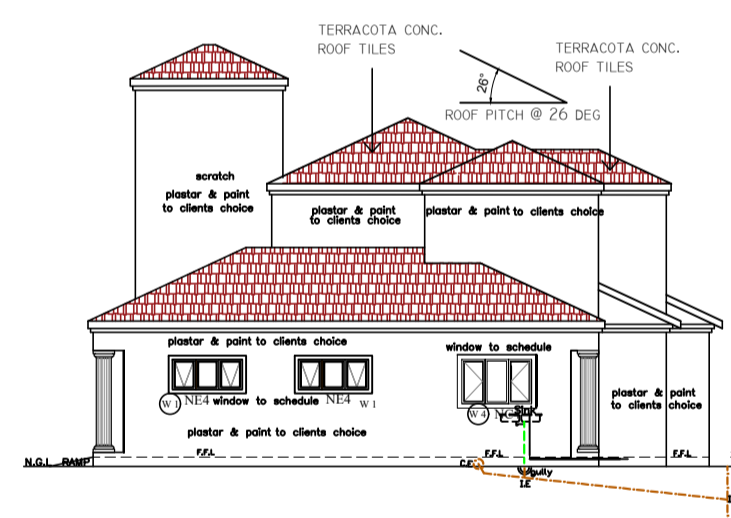
**EAST ELEVATION**  
SCALE 1: 100



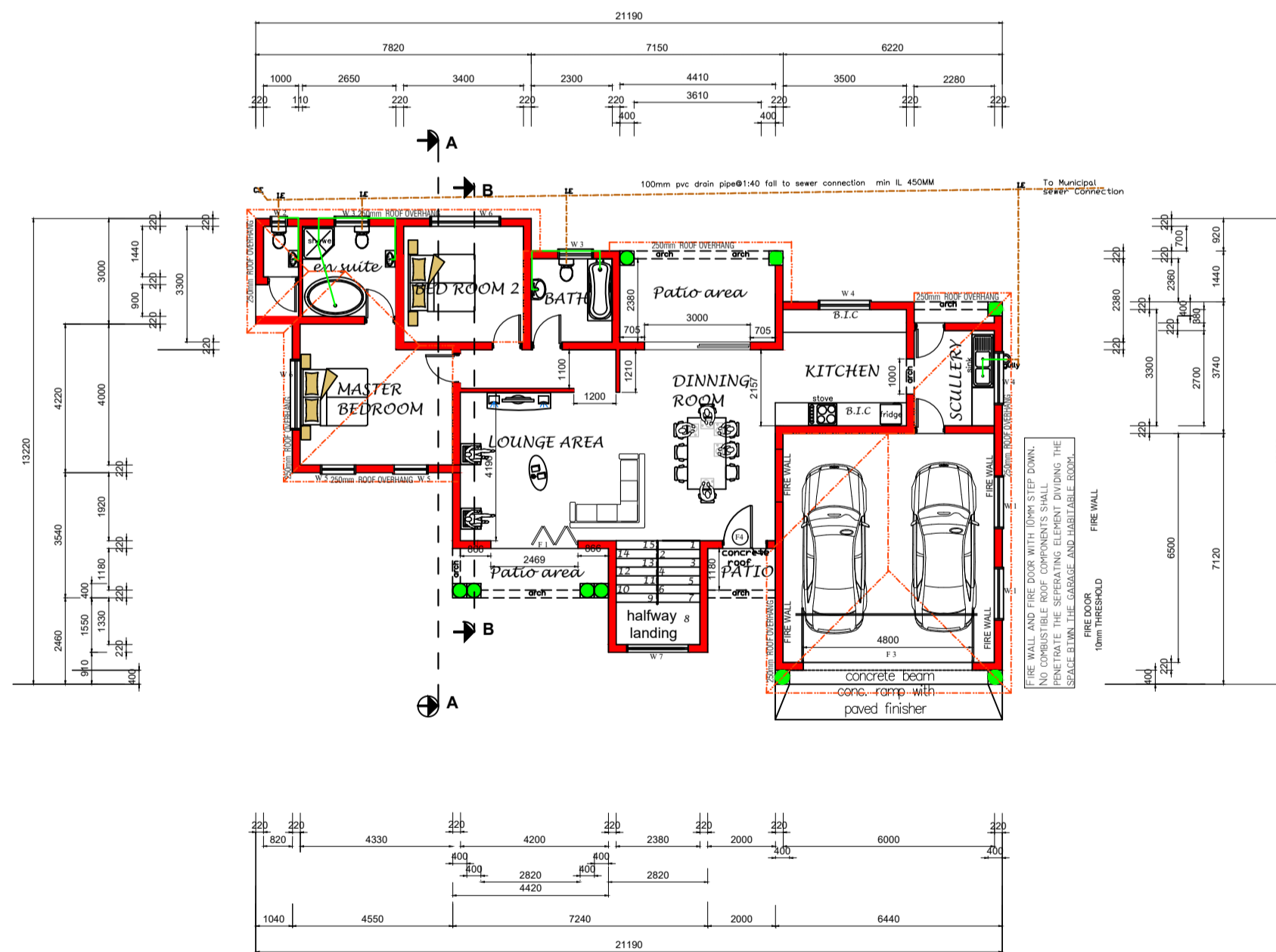
**SECTION B-B**  
SCALE 1: 100



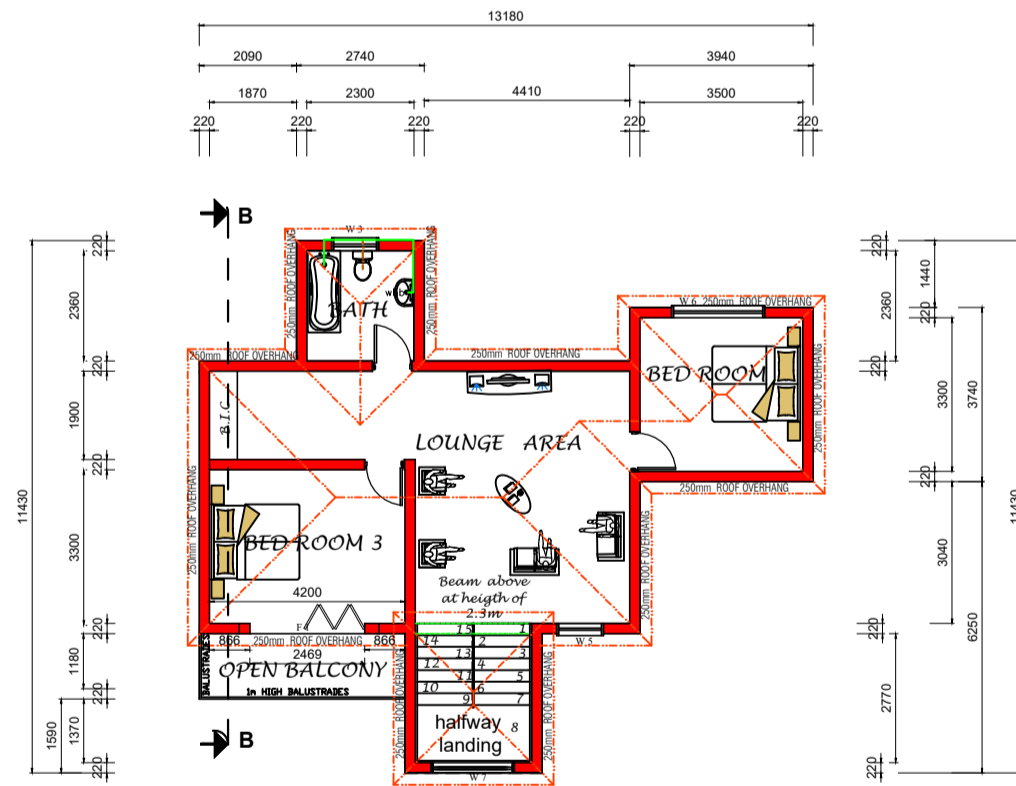
**NORTH ELEVATION**  
SCALE 1: 100



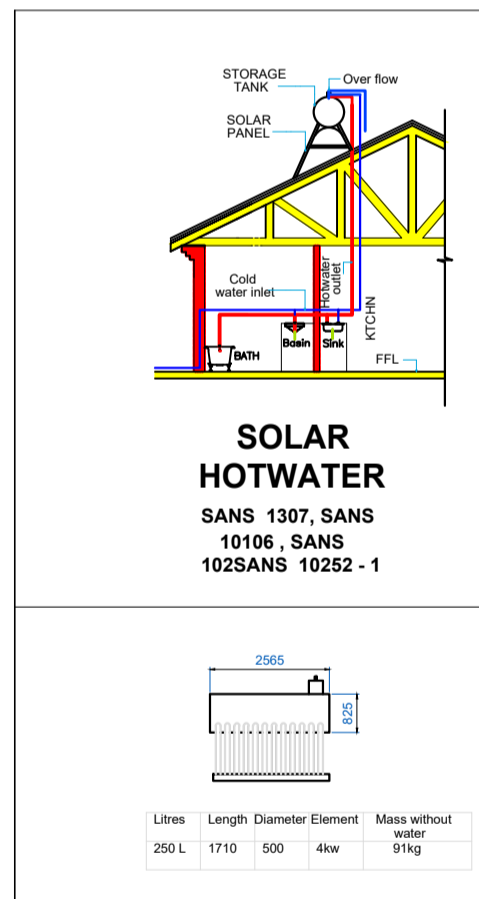
**SOUTH ELEVATION**  
SCALE 1: 100



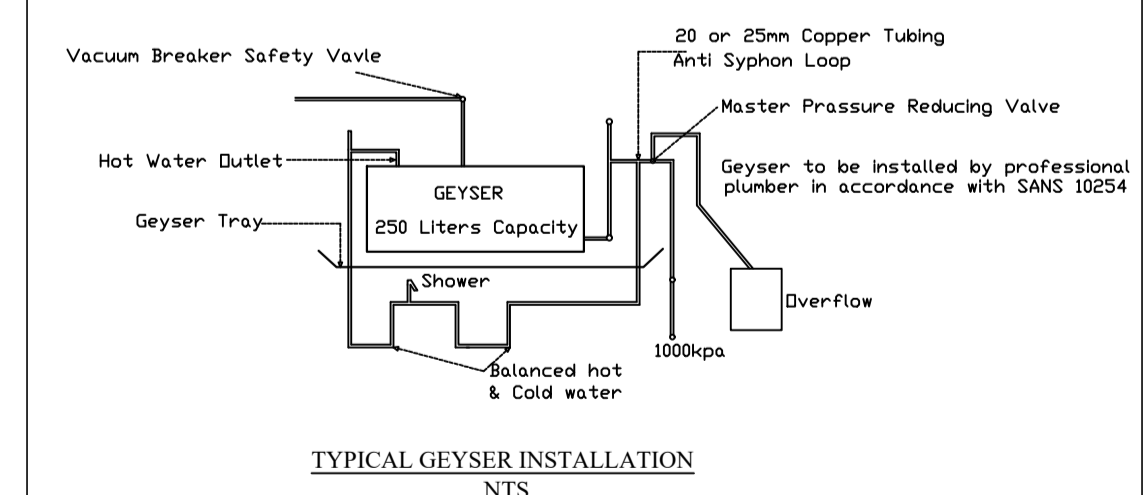
**GROUND FLOOR PLAN**  
SCALE 1:100 CROSS AREA 204.0sqm



**FIRST FLOOR PLAN**  
SCALE 1:100 CROSS AREA 91.0sqm



**SOLAR HOTWATER**  
SANS 1307, SANS 10106, SANS 1025ANS 10252-1



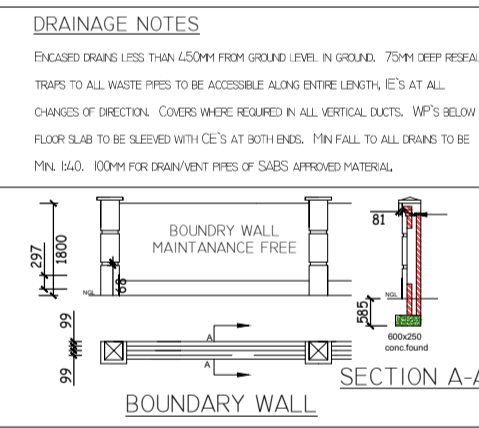
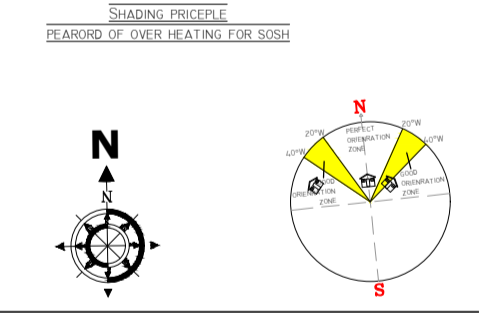
**TYPICAL GEYSER INSTALLATION**  
NTS

**HOT WATER CALCULATION**

CALCULATED AS PER SANS 10252-1:2004  
ESTIMATED DAILY DEMAND 180L  
STORAGE TANK CAPACITY 200L

ALL HOT WATERPIPES MUST BE INSULATED WITH THERMAL INSULATION WITH A THERMAL RESISTIVITY OF AT LEAST 1  
CONCLUSION

THE DESIGN COMPLIES WITH THE REQUIREMENTS SANS 10252-1:2004 AND SANS 10252-1:2004 FOR HOT WATER CALCULATION



**ENERGY CONSUMPTION IN BUILDING**

5 kWh/m<sup>2</sup> x 828.9m<sup>2</sup> = 4144.5 kWh.A  
LIGHTS FROM 1700 - 2200

LAMP 12 WATTS x 151 = 1812 WATTS

1812 WATTS / 828.9 m<sup>2</sup> = 2.19 WH/M<sup>2</sup>

52 (WEEKS) x 7 (DAYS) x 5 (HOURS) = 1820 H.A  
LAMPS = 1812/1000 = 1.812  
1.812 KW x 1820 H.A = 3297.8 (4144.5 kWh.A)

**BUILDING OCCUPANCY CLASSES**

CLASS	DESCRIPTION	ACTIVITY
1	RESIDENTIAL	SLEEPING
2	OFFICE	WORKING
3	RETAIL	SHOPPING
4	EDUCATION	LEARNING
5	HEALTHCARE	TREATMENT
6	INDUSTRIAL	MANUFACTURING
7	RECREATION	LEISURE
8	TRANSPORT	TRAVEL
9	GOVERNMENT	OFFICIAL BUSINESS
10	RELIGIOUS	WORSHIP
11	OTHER	OTHER

**ROOF CONSTRUCTION**

0.2 PREFERABLE  
R = R<sub>1</sub>R<sub>2</sub>R<sub>3</sub>...R<sub>n</sub>R<sub>s</sub> + R<sub>s</sub>

CLAY TILES 0.84W/mk  
FIBRE GLASS 0.04W/mk  
GYPSUM BOARD 0.17W/mk

3.2 = 0.04 + 0.02 + 0.84 + 0.55 + 0.04 + 0.06 + 0.17 + 0.11  
= 0.04 + 0.02 + 0.55 + 0.04 + 0.035 + 0.11  
= 0.04 + 0.42 + 0.14  
= 0.0976

97.6 FIBRE GLASS IS REQUIRED  
THEREFORE 100mm THICK FIBRE GLASS

**MULTECO**  
Engineering and Projects

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DRAWING TITLE: SECTIONS, FLOOR PLANS, ELEVATIONS, WINDOWS & DOOR SCHEDULE

DRAWING NUMBER: 29 / 07 / 2019

ENGINEER'S SIGNATURE

ENGINEER'S REF NUMBER

SHEET 1 OF 2

**PROJECT**

PROPOSED NEW DWELLING HOUSE FOR MR N.A. MAHADA

EFR NO : 253. MELODIE X8 BOUGAINVILLE ESTATE

Owner: [Name]

Signature: [Signature]

Cell: (072) 871 5349  
(072) 562 5833

E-mail: neron.mahada@gmail.com

**AREA SCHEDULE**

GROUND FLOOR	204.0sqm
FIRST FLOOR	91.0sqm
OUTBUILDING	00.0sqm
TOTAL AREA	295.0sqm
SITE AREA	775.0sqm
COVERAGE	26.32%

**FINISHES**

WALLS: 100mm EPS INSULATION, TERRAZOTA CONC. ROOF TILES

FLOORS: 75mm POWER FLOATED CONCRETE SURFACE BED ON GALVANIZED WIRE MESH REINFORCEMENT

CEILING: 100mm GYPSUM BOARD

PAVEMENT: 100mm ASPHALT

**INSULATION**

TYPE OF ACCOMMODATION: SINGLE DAY

NUMBER OF PERSONS: 20

ASSUMED DAILY HOT WATER CONSUMPTION: 25.5 LITRE

ASSUMED ANNUAL HOT WATER RESISTANCE: 0.50

INTERNAL DIAMETER OF HOT WATER SERVICE PIPES: 25mm

MIN. REQUIRED R-VALUE OF PIPE INSULATION: 0.50

MIN. REQUIRED R-VALUE OF HOT WATER VESSEL/TANK INSULATION: 0.50

**PAVEMENT**

100mm ASPHALT

**CONCLUSION**

THE DESIGN COMPLIES WITH THE REQUIREMENTS SANS 10252-1:2004 AND SANS 10252-1:2004 FOR HOT WATER CALCULATION