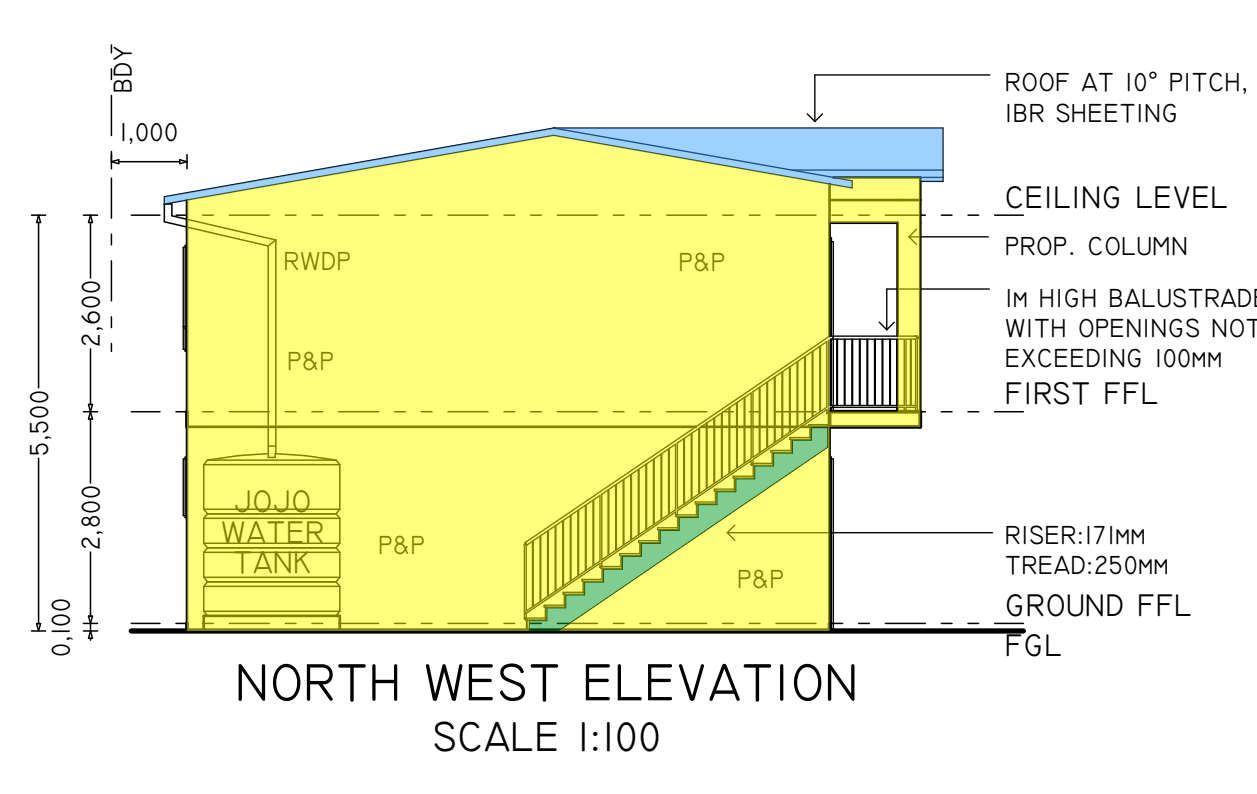
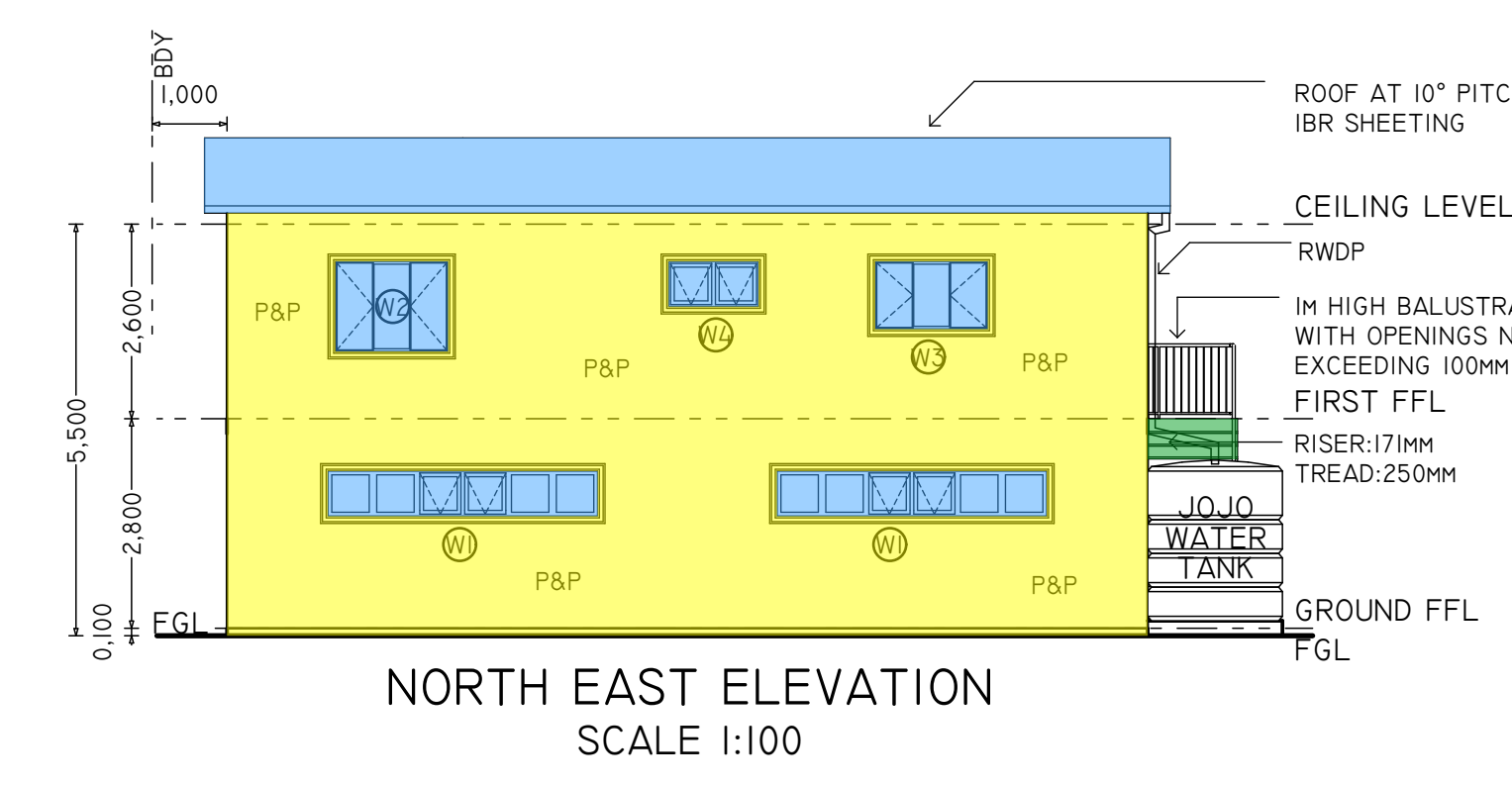


**AREA SCHEDULE**

SITE AREA:	1 316,000M <sup>2</sup>
EX. AREA:	300 520M <sup>2</sup>
PROP. AREA:	225 500M <sup>2</sup>
TOTAL AREA:	525 620M <sup>2</sup>
COVERED:	658 000M <sup>2</sup>
PERMITTED (50%):	329 000M <sup>2</sup>
EX. COVERAGE:	300 520M <sup>2</sup>
PROP. COVERAGE:	120 750M <sup>2</sup>
TOTAL:	421 070M <sup>2</sup>

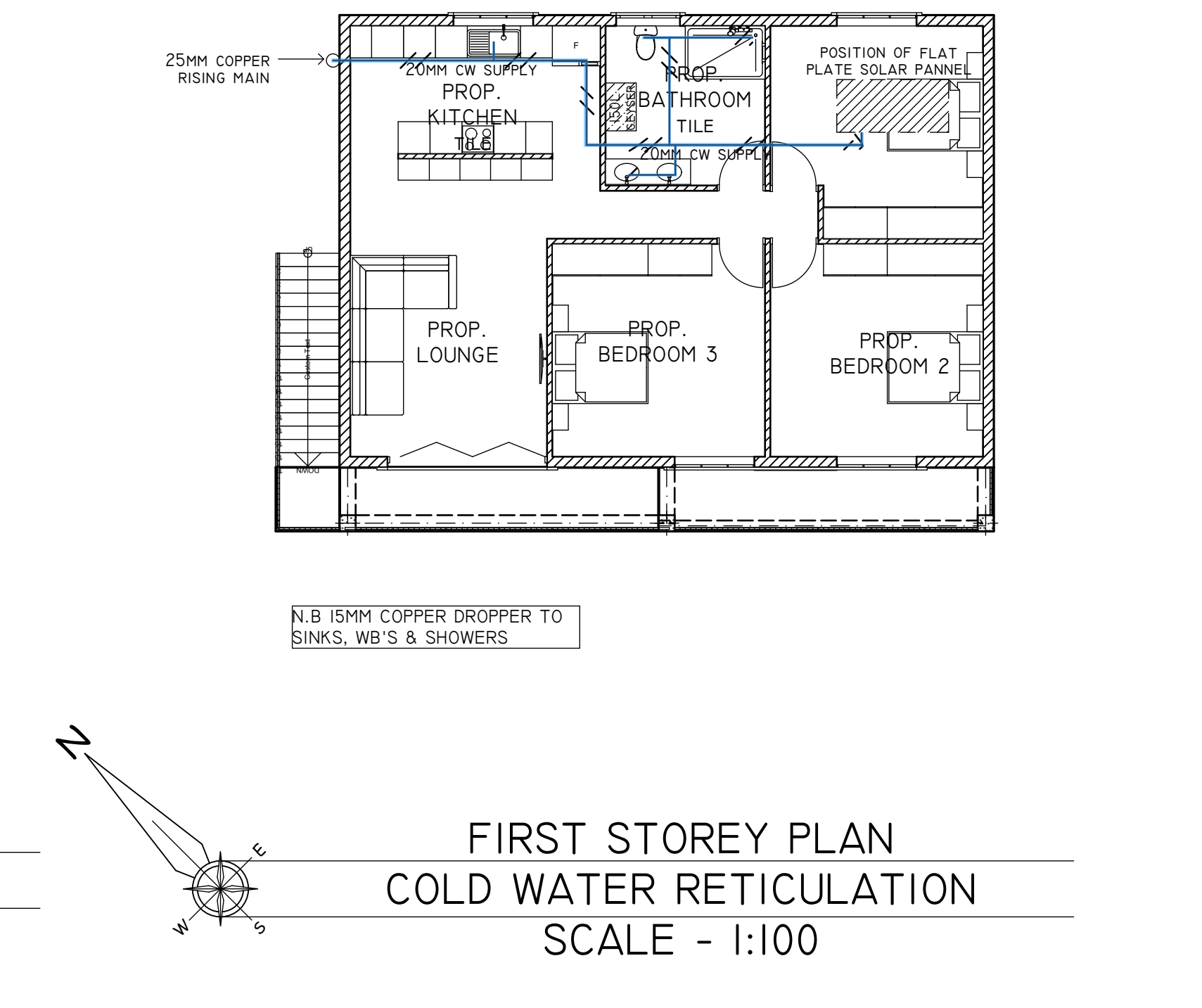
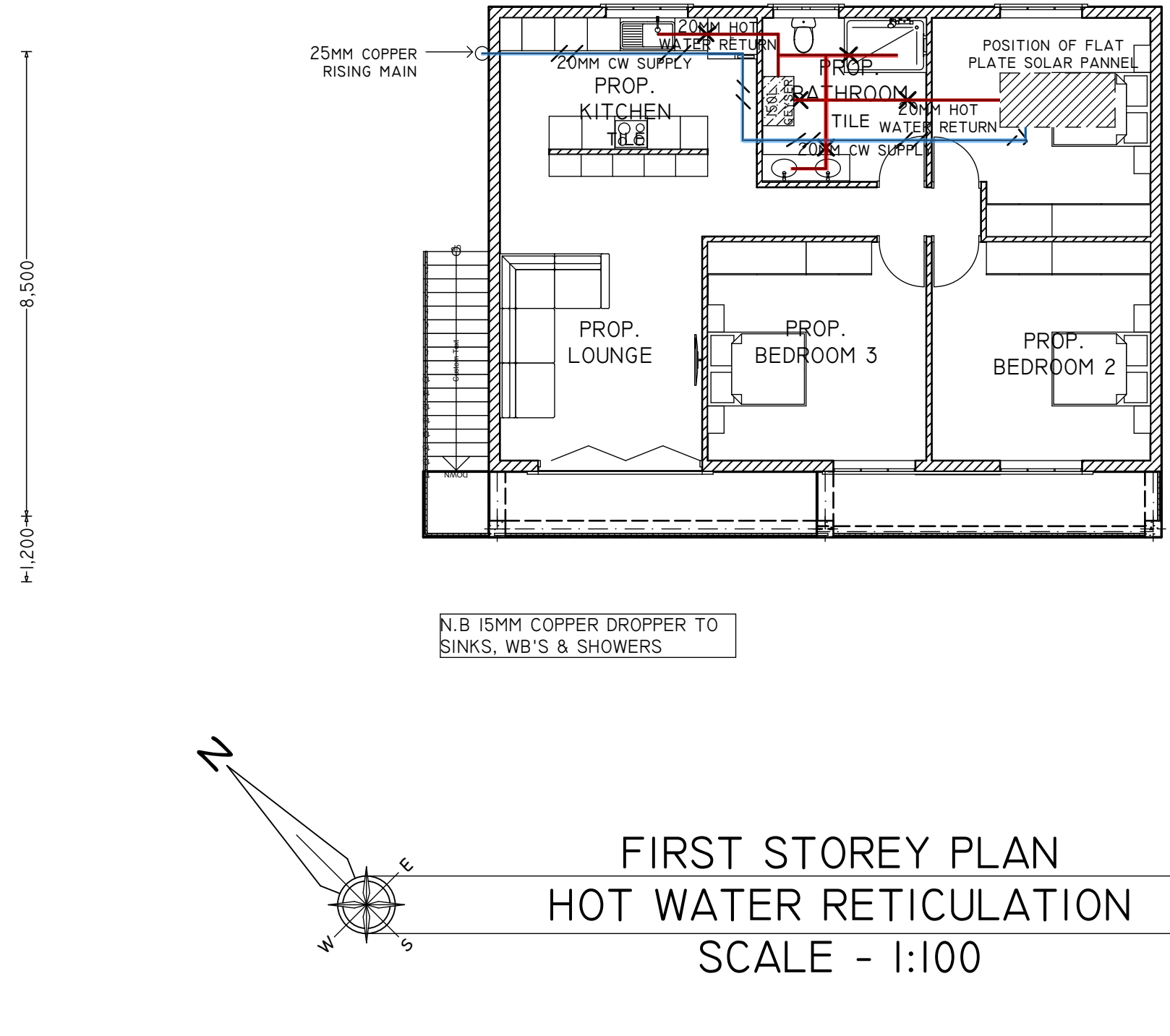
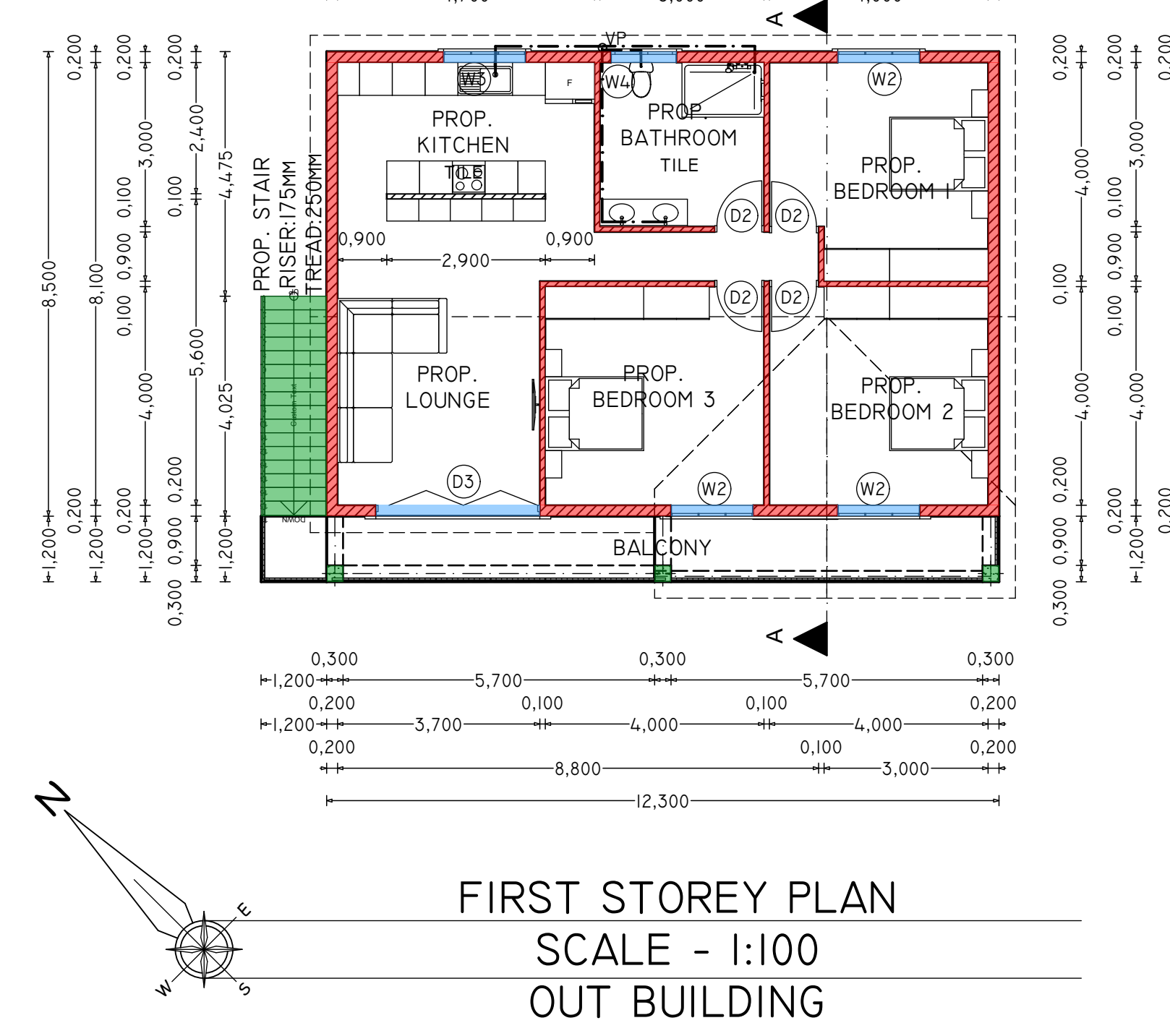
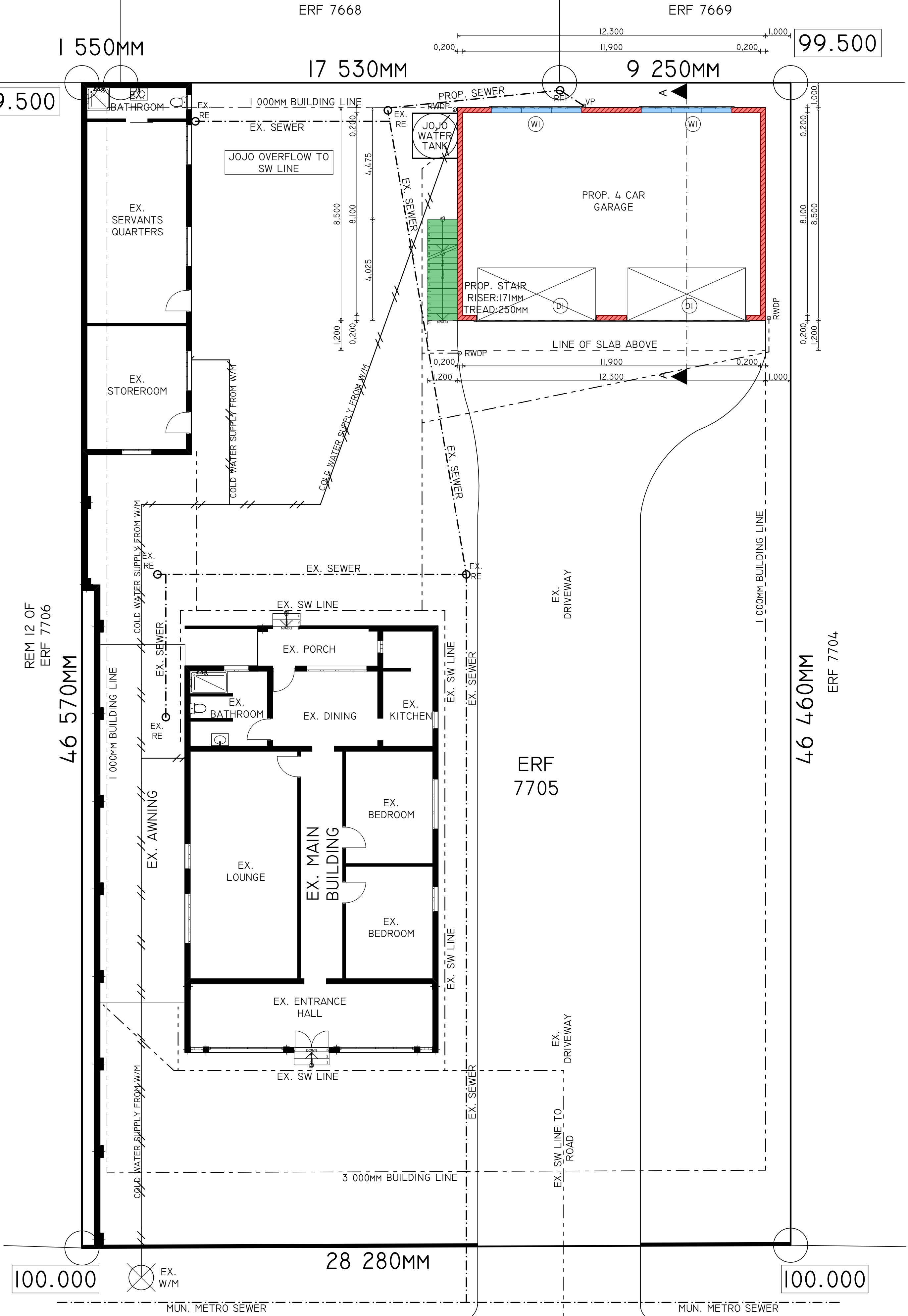
**STORMWATER CALCULATIONS**  
COVERED AREA = 120 750M<sup>2</sup>  
THEREFORE - (0.20 x 750M<sup>2</sup>/L) x 1.67  
= 5.00M<sup>3</sup> WATER STORAGE TANK REQUIRED  
1 X 5000L JOJO TANKS SPECIFIED WITH OVERFLOW TO GULLEY PIPE

**CONSTRUCTION NOTES:**  
(UNLESS DETAILED OTHERWISE)  
ALL MATERIALS TO BE SABS APPROVED  
ROOF: CONCRETE ROOF TILES WITH PVC UNDERLAY ON PREFABRICATED 154MM x 54MM TIMBER TRUSSES AT 700 C/C. ROOF PITCH 17.5 DEGREES.  
CONCRETE SLAB - (IF USED IN DESIGN)  
REINFORCED CONCRETE ROOF SLAB SCREENED TO FALL TO RAINWATER OUTLETS AND WATERPROOFED WITH DERIGUM - BY SPECIALIST OR BY APPROVED APPLICATOR.  
WALLS: TWO COURSES OF BRICKWORK TO BE REINFORCED WITH BRICFIBRE IN SOLID CEMENT MORTAR AND JOINTS BOTH AT WINDOW CILL & WALLPLATE LEVELS. PLASTER & PAINT BOTH INTERNALLY AND EXTERNALLY.  
FLOOR: 100MM THICK CONCRETE FLOOR SLAB REINFORCED WITH BRC MESH ON USB BLACK UNDERLAY ON WELL CONSOLIDATED & POISONED EARTH. SOIL POISONING IN ACCORDANCE WITH RECOMMENDATIONS OF SABS D124. FIRST FLOOR SLAB & ALL BEAMS TO ENGINEERS DETAIL.  
FOUNDATIONS: FOUNDATIONS TO ALL WALLS - 90/100MM x 200MM MIN. 100/100/230MM x 750MM x 250MM MIN.  
DRAINAGE: ANY DAMAGED FITTINGS TO BE REPLACED. ALL GULLY SURROUNDS & MANHOLE COVERS TO BE 75MM ABOVE GROUND LEVEL. SEWER CONNECTIONS TO BE EXPOSED BEFORE COPING WORK. I.E. S TO ALL BENDS & JUNCTIONS. SOIL PIPES TO BE 100MM DIAMETER PVC & WASTE PIPES TO BE 50MM DIAMETER PVC.  
STRUCTURAL WORK: ALL STRUCTURAL WORK TO ENGINEER'S DESIGN & DETAIL.  
LOCAL AUTHORITY: THE CONTRACTOR IS RESPONSIBLE FOR ALL LOCAL AUTHORITY NOTICES. WHERE LOCAL AUTHORITY OR GOVERNMENT REGULATIONS REQUIRE MORE STRINGENT SPECIFICATIONS THAN SHOWN HEREIN, THEY ARE TO BE FOLLOWED WITH PRIOR CONSENT FROM THE OWNER. THE CONTRACTOR IS TO INSPECT THE OFFICIAL APPROVED COPIES OF THE DRAWINGS TO ENSURE THAT ALL AMENDMENTS HAVE BEEN TAKEN INTO ACCOUNT. ALL NER AND SABS STANDARDS AND SPECIFICATIONS ARE TO BE ADHERED TO AS A MINIMUM STANDARD.  
GENERAL NOTES: ALL BEACONS TO BE EXPOSED. ALL EXCAVATIONS TO BE SUPERVISED AND CERTIFIED BY A GEOTECHNICAL ENGINEER. EXCAVATED EARTH TO BE REMOVED FROM SITE. ALL PVC RAINWATER GOODS TO BE USED. ALL RAINWATER PIPES TO GULLY. ALUMINIUM WINDOWS AND DOORS. ALL EXISTING DOORS AND WINDOWS TO BE REPLACED WITH ALUMINIUM DOORS AND WINDOWS. ALL FINISHES TO MATCH EXISTING. ALL LEVELS & DIMENSIONS TO BE CHECKED ON SITE PRIOR TO COMMENCEMENT OF BUILDING WORKS. ALL DISCREPANCIES PERTAINING TO PLANS & SPECIFICATIONS TO BE REFERRED TO AUTHOR OF PLANS. ALL WORK TO COMPLY WITH NATIONAL BUILDING REGULATIONS AND LOCAL AUTHORITY BYLAWS. ALL BOUNDARY BEACONS TO BE EXPOSED PRIOR TO COMMENCEMENT OF ANY WORK. EXTREME CARE TO BE TAKEN WHEN EXCAVATING IN THE VICINITY OF CABLES. OWNER / CONTRACTOR TO BE RESPONSIBLE FOR THE PROTECTION OF ALL MUNICIPAL SERVICES. ALL FITTINGS, FINISHES, MATERIALS TO BE TO OWNER'S SATISFACTION.



**DOOR SCHEDULE / WINDOW SCHEDULE**

DESCRIPTION	D1	D2	D3	W1	W2	W3	W4
DIMENSIONS	4800mm x 2100mm	900mm x 2100mm	3000mm x 2100mm	3600mm x 600mm	1500mm x 1200mm	1500mm x 900mm	1200mm x 600mm
QUANTITY	2	4	1	2	3	1	1
GLAZING (T/m <sup>2</sup> )			Toughened Safety Glass	Toughened Safety Glass	Toughened Safety Glass	Toughened Safety Glass	Toughened Safety Glass
GLAZING (Thickness)			6mm	6mm	6mm	6mm	6mm
AREA (m <sup>2</sup> )	10.08	1.89	6.3	2.16	1.8	1.35	0.72



**Energy Efficiency in Buildings**  
Maximum Energy Demand & Consumption

Occupancy: H4  
Design Occupancy Time: 24 Hours per day / 7 Days per week  
Climatic Zone: 5

**Maximum Energy Demand & Consumption - Design Assumption for Building Classification**

Maximum Energy Demand:	Non-specified	W/m <sup>2</sup>
Maximum Energy Consumption:	Non-specified	KWh/m <sup>2</sup>

**Building Total Net Floor Area:**  
First Storey: 93.66 m<sup>2</sup>  
Total Net Floor Area: 93.66 m<sup>2</sup>

**Building - Total Floor Area:**  
Total Floor Area: 104.55 m<sup>2</sup>

**Services -**

Building Floor Area	104.55 m <sup>2</sup>
Total Floor Area of Building	104.55 m <sup>2</sup>

**Lighting and Power**

Max. Energy Demand:	522.75 W	Permissible
Max. Energy Consumption per Annum:	522.75 kWh	Permissible

Lamp power (W) rating: 11  
No. of lamps: 10  
Hours in use / day: 7.0  
Total lamp energy demand (W): 110  
Energy demand acceptable.

Total lamp energy demand (W/m<sup>2</sup>): 1.05  
Available energy demand - Lights: 413 W  
Total annual energy consumption - Lights (kWh): 280.28  
Energy consumption acceptable.

Total energy consumption - Lights (kWh/m<sup>2</sup>): 1.87  
Available annual energy consumption - Lights (kWh): 242.47

**Hot Water Services**

Type of Accommodation? Dwelling houses - Medium rental: 115-140 L/capita/day

Assumed Hot Water Consumption?	10.0 L	Per Day
Assumed Daily Hot Water Consumption:	60.0 L	
Assumed Annual Hot Water Consumption:	21.84 m <sup>3</sup>	
50% of Annual Hot Water Consumption:	10.92 m <sup>3</sup>	

Daily Hot Water Consumption: 30.0 L  
L - To be provided by means other than electrical resistance heating

**Insulation Requirements:**

Internal diameter of Hot Water Service Pipe?	≤ 80 mm
Minimum Required R-value for Pipe Insulation?	1.0
Hot Water Vessels / Tanks:	2.0

Minimum Required R-value for Vessel / Tank? 2.0  
Additional insulation to manufacturer's insulation may be required to achieve this value.

**Floor Construction -**

Concrete slab-on-ground?	Yes
In-slab heating to be provided?	No
Suspended floor?	Yes
Suspended floor as building envelope?	Yes
In-slab heating to be provided?	No

**Floor Insulation Requirements -**

Slab-on-ground?	No
Perimeter insulation required?	No
Under-floor insulation required?	No
Insulation of partial or unenclosed exterior perimeter required?	No
Perimeter & under-floor insulation required?	No

**External Wall Construction -**

SANS 10400-XA Required R-value

Wall Type?	Masonry
Minimum R-value required:	0.35

Compliant masonry walling: Refer SANS 10400-XA (4.4.3) & SANS 204 - Table 4 and Advisory Note.  
Double-skin masonry wall, no cavity, plastered internally or rendered externally, or Single-leaf masonry wall, nominal wall thickness not < 140 mm, plastered internally and rendered externally.

SANS 204 Required CR-value

Minimum CR-value required:	60
Advisory Note:	Applicable to masonry walls only in terms of SANS 204
Double brick wall types:	No cavity
CR-value:	40

**Roofs Assemblies -**

SANS 10400-XA Required R-value

Minimum Total R-value required:	2.70
Direction of heat flow:	Down

Construction Type R-value

Basic roof assembly:	Metal sheeting type
R-value for roof covering material:	0.36
R-value for ceiling:	0.05
Required added R-value for insulation:	2.29

SANS 204 Required R-value

Roof venting?	Unventilated
Basic roof construction?	Metal cladding @ 2-12° pitch w/ sloped ceiling above rafter
Basic R-value for Roof:	DOWN
Direction of heat flow:	0.03
Outdoor air film (R <sub>sa</sub> ):	0.00
Metal cladding:	0.22
Roof air space:	0.06
Plasterboard, gypsum (10 mm, 850 kg/m <sup>3</sup> ):	0.16
Indoor air film (still air):	0.17
Total R-value:	0.47

Thermal Insulation

Minimum added R-value of insulation required:	2.23
Generic insulation product added?	Flexible mineral/rockwool
Density of generic insulation added:	60 - 120 kg/m <sup>3</sup>
Thickness of generic insulation required:	75 mm

**Fenestration - Buildings with Natural Environmental Control**

Constants

Conductance (C <sub>g</sub> )	1.40
Solar Heat Gain (C <sub>g,sol</sub> )	0.11

Max. Conductance / Solar Heat Gain

First Storey	Net Floor Area of Storey / Room: m <sup>2</sup> 93.66	Max. Conductance (C <sub>g</sub> ) for Storey / Room: 131.124	Acceptable & refer SANS 204 (4.3.4)
First Storey	Fenestration Area of Storey / Room: m <sup>2</sup> 13.770	Max. Solar Heat Gain (C <sub>g,sol</sub> ) for Storey / Room: 10.303	Acceptable & refer SANS 204 (4.3.4)
First Storey	% Fenestration Area to Net Floor Area: % 14.702		

Achieved Aggregate Conductance / Solar Heat Gain

First Storey	Conductance (C <sub>g</sub> ) for Storey / Room: 108.783	Conductance (C <sub>g</sub> ) for Storey / Room: 22.341	Acceptable & refer SANS 204 (4.3.4)
First Storey	Solar Heat Gain (C <sub>g,sol</sub> ) for Storey / Room: 6.906	Solar Heat Gain (C <sub>g,sol</sub> ) for Storey / Room: 3.387	Acceptable & refer SANS 204 (4.3.4)

NOTE !! NO FURTHER CALCULATION REQUIRED.

**TABLE 1 - FENESTRATION : NATURALLY VENTILATED BUILDING - Allowance made for 75 fenestration elements**

Storey Level	Identif. No.	No. of Units	Width (m)	Height (m)	Area	U-value	SHGC	Orientation	Project ion (P) (m)	Shading		Factor (r (E))	Condu ctance	SHG	
										Height (H) (m)	Height (G) (m)				
First Storey	W2	1,000	1,500	1,200	1,800	7.9	0.81	North East	0,600	1,700	0,500	0,353	0,490	14,220	0,714
First Storey	W3	1,000	1,500	0,900	1,350	7.9	0.81	North East	0,600	1,400	0,500	0,429	0,450	10,665	0,492
First Storey	W4	1,000	1,200	0,600	0,720	7.9	0.81	North East	0,600	1,100	0,500	0,545	0,410	5,688	0,239
First Storey	W2	2,000	1,500	1,200	3,600	7.9	0.81	South West	1,200	1,700	0,500	0,708	0,560	28,440	1,633
First Storey	D3	1,000	3,000	2,100	6,300	7.9	0.81	South West	1,200	2,600	0,500	0,462	0,750	49,770	3,827
												1,167			

REVISION 3:  
REVISION 2:  
REVISION 1:

PROJECT: PROP. SECOND DWELLING

ADDRESS: 56 BLYTHSWOOD ROAD  
ERF 7705 DURBAN  
FEL NO: 031 205 8919

CADASTRAL DESCRIPTION: SITE CLASS

INDUSTRIAL ROBBEN AND ENGINEERING  
CLIENT: SUPPLERS, E.C.

SIGNATURE: \_\_\_\_\_

SHEET: 30 SCALE: AS SHOWN DWG NO.: AUTHOR: S. REDDY

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