

NORTH EAST ELEVATION scale 1:100

Tiles

LIVING ROOM

-____<u>P11512</u>______roof line

FLOOR PLAN

Scale 1:100

Area = $40.0 \, \text{M}^2$

NORTH WEST ELEVATION scale 1:100

ENERGY CONSUMPTION: LIGHTING

ENERGY DEMAND

DO COMPLY

CALCULATION:

Total Watt / Nett floor area = ****W/m²

65 W / 35.20 m² = 1.846 W/m² [<5 W/m²]

13W CF **Total Nett Floor Area** 35,20 m² 40,00 m² Total Floor Area Design Occupancy Time 24hrs per day / 7 days per week

SANS 10400XA COMPLIANCE

CALCULATIONS: DEEM TO SATISFY

NORTH

REF NR.	WIDTH	HEIGHT	AREA	QTY	TTL AREA
PT1515	1.500m	1.500m	2.25 m ²	1	2.25 m ²
PT99	0.900m	0.900m	0.81 m ²	2	1.62 m ²
PT1512	1.500m	1.200m	1.80 m ²	2	3.60 m ²
		•	•		
		Total	Glazing		7.47 m ²

CHECK FOR COMPLIANCE WITH SANS 10400XA

CALCULATIONS

Building Orientation

Climatic Zone

Nett Floor Area: 35.20 m² Glazing Area: 7.47 m²

(glazing area / nett floor area) x 100 = ****% [<15%] (7.47 m² /35.20 m²) x 100 = 21.22% [>15%]

Do Not comply with max 15% as per SANS 10400XA

Where the total area of the glazing elements of a storey is greater than 15% of the nett floor area of the storey the requirements contained in SANS 204 shall be complied with.

HOT WATER SERVICES

Daily hot water usage		
Type of accomodation	Dwelling houses - Medium rental : 115-140 L/capita/day	
No. of persons	4 per day	
Assumed daily hot water consumption	560 L	
Assumed annual hot water consumption	203.84 kL - based on daily design occupancy per week	
50% of annual hot water consumption	101.92 kL - To be provided by means other than electrical heating	

Conclusion:

Vessel/ Tank

Dwelling to be provided with min 280L water vesel. Electrical and Solar heating system combination, installled by specailist and shall comply with SANS 1307, 10106, 10254 and SANS 10252-1

Insulation Requirements:	
Internal diameter of Hot water pipe	= 80
Min required R - value for Pipe insulation	1.0
Hot water Vesseld / Tanks:	
Min required R - value for	

ALLOWED:

Lights in dwelling

OCCUPANCY CLASSIFICATION OF BUILDING DISCRIPTION QTY TOTAL **TOTAL:** 65 W

ALLOWED: 5 kWh/m².a [a =1 (year)] 5 kWh/m².a x nett floor area = ****kWh.a 5 kWh/m^2 .a x $35.20\text{m}^2 = 176.00 \text{ kWh.a}$ Max Allowed = 176,00 kWh.a

ENERGY CONSUMPTION

CALCULATION:

ASSUMPTIONS: Assume lights lamps are on from 17:00 -22:00 each day/year , that is 5 h/day -52 (weeks) x 7 (days) x 5 (hours) = 1820 h.a

-65 W = 0.065 kW0.065 kW x 1820 h.a = 118.30 kWh.a [< 176.00 kWh.a]

DO COMPLY

ROOF ASSEMBLY:

SANS 10400 XA:	
Occupancy	H4
Design Occupancy Time	24hrs per day / 7 days per week
Climate Zone	Springs
Minimum R-value required	3.20 m ² K/W
Direction of heat flow	Up
CALCULATION	

CALCULATION Basic Roof Assembly Concrete tiles R- value for Metal Sheeting 0.3 m²K/W 0.05 m²K/W R-Value of Ceiling

TOTAL R - Obtained 0.35 m²K/W Obtained R-Value =>Minimum R-value required Do Not Comply with SANS 10400 XA

Additional Insulation required With at least R-Value of 2.85 m²K/W

SANS 204:

Roof venting	Unventilated
Basic Roof Construction	Concrete tiles @ 17-20° pitch w/ plasterboard ceiling
Direction of heat flow	Up
Min R- value insulation required	2.85 m ² K/W
Additional Thermal Insulation	Flexible fibre glass blanket

Conclusion:

It's recommended that a Flexible fibre glass blanket, with a thickness of 115 mm needs to be installed in order to achieve the additional min R-value of 2.85 m²K/W

10-18 kg/m²

Roof pitch 26°

Profiled cement tiles on 38x38

branders on SABS-approved

underlay on 152x52mm s.w

Buildings with a floor area of less than 500 m2, with a concrete slab-on-ground, shall have insulation installed around the vertical edge of its perimeter which shall:

a) have an R-value of not less than 1,0,

b) resist water absorption in order to retain its thermal insulation properties, and

c) be continuous from the adjacent finished ground level

1) to a depth of not less than 300 mm, or

2) for the full depth of the vertical edge of the concrete slab-on-ground

∕ 1X13W CF_ KITCHEN 1X13W CF 🖪 Bath 🕽 **LIVING ROOM** 1X)13W, CF MAIN **BEDRM BEDRM** 1 1X13W CF 1X13W CF

FLOOR PLAN Scale 1:100 Area = 40.0 M^2

Hot Water Supply (As per SANS 10400 XA:2011)

4.5.2.1 A min. of 50 % by volume of the annual average hot water heating requirement shall be provided by means other than electrical resistance heating, including, but not limited to, solar heating, heat pumps, heat recovery from other systems or processes. 4.5.2.2 The solar water heating systems shall comply with SANS 1307 and SANS 10106, based on the thermal performance determined in accordance with the provisions of SANS 6211-1 and SANS 6211-2. The installation thereof shall comply with SANS 10254. 4.5.2.3 Hot water usage should be minimized and the system maintained in accordance with the requirements given in SANS 10252-1

4.5.2.4 All exposed pipes to and from the hot water cylinders and central heating systems shall bein sulated with pipe insulation material with an R-value in accordance with table 13. 4.5.2.5 Insulation shall a) be protected against the effects of weather and sunlight. b) be able to withstand the temperatures within the piping, and c) achieve the minimum total R-value given in table 25

Thermal Insulation: (As per SANS 10252-1: 2012)

Table 13 - Minimum R-value of pipe insulation

<u> </u>		
1	2	
Internal diameter of pipe mm	Minimum R-value*	
≤ 80 mm	1,00	
> 80 mm	1,50	
* Determined with a hot of 60 °C and an ambien	•	

4.5.2.6 Hot water vessels and tanks shall be insulated with a material achieving a minimum R-value of 2.0.

NOTE To achieve this value, insulation in addition to the manufacturers' installed insulation may be required. 4.5.2.7 Insulation on vessels, tanks and piping containing cooling water shall be protected by a

vapour barrier on the outside of the insulation. 4.5.2.8 The piping insulation requirements do not apply to space heating water piping

a) located within the space being heated where the piping is to provide the heating to that space,

Surface Bed

Ground Level

Compacted Soi

Strip Foundation

b) encased within a concrete floor slab or in masonry.

These pipes shall comply with SANS 10252-1. 4.5.2.9 Piping to be insulated includes all flow and return piping, cold water supply piping within 1 m of the connection to the heating or cooling system and pressure relief piping within 1 m of

ACCORDING TO SANS 10400- Part H

General Slab Insulation Detail

ENGINEERS SPECIFICATION

Scale 1:25

WATER SYSTEM LEGEND: **COLD WATER HOT WATER**

- 2. SANS 204
- **ENERGY DEMAND** ENERGY CONSUMPTION
- 5. EXTERNAL WALL CONSTRUCTION
- 6. ROOF ASSEMBLY

ALL CALCULATIONS ARE BASED ON THE DRAWING DESIGNS AND WINDOWS SCHEDULES.

EFFECT ON THE CALCULATIONS.

BEFORE ANY CHANGES. THE PLANNED CHANGES MUST BE RECALCULATED TO ENSURE COMPLIANCE WITH SANS 10400XA AND SANS 204 AND OTHER REFERED SANS COMPLIANCE REQUIRMENTS

RESPONSIBILITY THE OWNER ACCEPTS ALL RESPONSIBILITY FOR NONE COMPLIANCE TO SANS 10400XA AND SANS 204. SHOULD THERE BE ANY DEVIATION FROM THE DESIGNED PLAN. ONCE THE PLAN IS APPROVED BY THE LOCAL MUNICIPALITY

THE COMPLETED FORMS TO BE SUBMITTED TO THE LOCAL MUNICIPALITY

CALCULATION SHEET

- 1. SANS 10400 XA 3. ENERGY CONSUMPTION: LIGHTING
- I. HOT WATER SERVICES/ SUPPLY
- 5.1 ALTERNATIVE WALL CONSTRUCTION
- 7. UNDER FLOOR HEATING

All partition work to comply with SABS 082 on NBR. 4. Building Standard Notes: All works must comply to the National Building Regulations and applicable SABS and NHBRC

ANY CHANGE ON SITE WILL HAVE AN

construction and submission of tenders. If in doubt ask the Architect. · Contractors are to ensure that all details shown on this drawing are compliance with local authority Contractors are to locate and identify existing services on site and to protect these from damage

throughout the duration of the works. 5. Glazing Notes:

- All glazing to comply with NBR (SANS10400 - Part N) SABS 0137 & AAMSA.

- All drawings must be read in conjunction with one another

- Notes reflected on drawings apply for the entire project and works

GENERAL NOTES:

building works without approved building plans.

No construction may proceed on site prior to the approval of drawings by the local authority. Any building

- Contractor to verify all levels, heights and dimensions on site and to check same against the drawings

before putting any work in hand. Levels are approximate and must be verified by the Contractor prior

pricing and construction. Relative floor levels will be determined after installation of master datum.

- Any discrepancies on drawings must be pointed out by the Contractor to the Architect prior to

- Contractor is responsible for correct setting out of the buildings, all external walls with particular reference to boundaries, building lines, etc. Any errors, discrepancies or omissions to be reported to the

- The following certificates of compliance to SABS and NBR standards may be required from the

- All finishing products such as windows frames, roof, tiles, cornices, etc must be approved by the

- Quality of all materials and workmanship to comply with the relevant SABS and SANS specifications and

shall conform to the Standards specified in the Standard Preambles in the Bill of Quantities available for

- Contractor is to build in approved DPC's whether or not these are shown on drawings to all external

walls at each floor, beam or parapet level and to all window, door, grill or other opening in external walls.

- Drawings may not be scaled for construction purposes. Figured dimensions to be used at all times.

- Any discrepancies on drawings must be pointed out by the Contractor to the Architect prior to

- All product used must comply with SABS standards and Local Authority Requirements.

specific approval is obtained from the Architect alternative type of bricks.

- Conditions: The civil/structural engineer is responsible for soil test.

- Contractor responsible to engage Building Inspector on each Construction Stage, to get full satisfaction in compliance with Local Authority by-law and regulations. - Burnt clay bricks only shall be used unless

work that commences prior to the building plan approval is completely at the owner's own risk. - The Architect may not be held responsible for any loss or damage whatsoever that may result from

1. Contractor Notes:

Architect immediately.

2. Certificates required:

FOUNDATION CERTIFICATE: Engineer.

TRAFFIC and ROAD MARKINGS: Engineer.

CONCRETE SLABS: Specialist Sub-contracto

WATERPROOFING: Specialist Sub-contractor

GLAZING: Specialist Sub-contractor.

3. Materials and Finishes Notes:

Architect before ordering and installation

perusal at the Architect's office

PLUMBING AND DRAINAGE: Specialist Sub-contractor.

FLECTRICAL INSTALLATION: Specialist Sub-contractor

FIRE SAFETY CERTIFICATE: Specialist and/or Council.

ROOF STRUCTURE: Specialist Sub-contractor and/or Engineer.

Max. Size Pane Nominal glass thickness

- Any pane of class installed in any door shall be safety class and shall have a nominal thickness of not less than 6mm and doors not likely to be apparent to any person approaching them shall bear markings.

Any glass lower than 500mm from floor finish shall be safety glass. Any window at staircases must be 6. Flashing Notes: Provide 0.6mm flashing at all parapets and areas where the roof line changes. 7. Brickwork Expansion Joints Notes: Refer to Engineer for brickwork expansion joints.

8. Revisions: Refer to drawing list for latest revisions on drawings. Any queries arising from all the above must be reported to the Architect for clarification before any work in

EXTERNAL WALL CONSTRUCTION SANS 10400 Table 3 - Minimum CR-value, in hours, for external Wall type Masonry: Single masonry wall, 150 mm Bricks plastered internally and externally - 12 mm Plaster Minimum CR-value

Minimum R-value required 0.35 CALCULATION

	Conductivity (W/m.°C)	Thickness (m)	Resistivity (m²K/W)
External Plasterwork	0.6	0.015	0.03
Brickwork	0.7	0.230	0.33
Internal Plaster	0.6	0.015	0.03
Total R-value Achived			0.39

Conclusion:

Wall complies with minimum R-value of 0.35 for external walls

> **ENTRANCE** no obstruction

> > PTN 1 of

ERF No.

COCKATOO STREET 16,00M

12.66 M boundary \

3,0m B/Line

RESIDENCE

ERF No.

1,0m B/Line

PTN 3 of

ERF No.

1077

scale 1:200

12,34 M boundary L.A sewei

A 14.07.2022 ISSUED FOR COUNCIL APPROVAL REV No DATE : DESCRIPTION: SIZE ON ORIGINAL DRAWING 100 mm client

Client Approval

REVISIONS

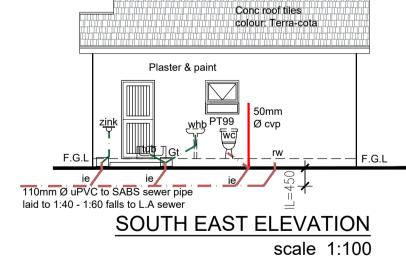


Proposed Residence On Portion 2 of ERF 1077, Sharon Park Lifestyle Estate, Extension 2, Springs

FOR APPROVAL

Plans, Elevations & Sections

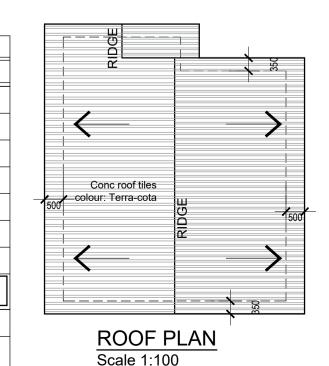
REG. NO. DT (SACAP) ST2553 DRWG No. as shown TP134-01 Date Oct 2022

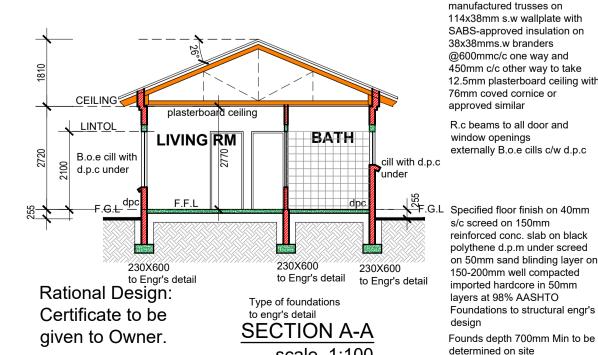




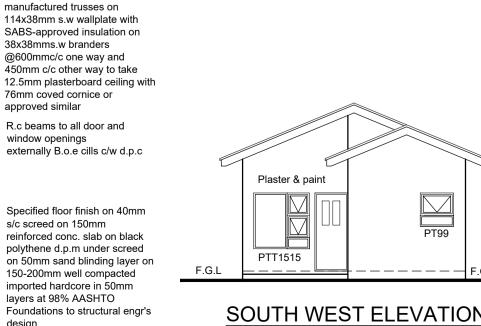
Stand Area = 249 M²

Coverage = 16.1 %





scale 1:100



30mm thick Isoboard

Insulation according -

to engineer

