



Mongezi Msomi





## WHY JOHN AND AMY SHOULD BUILD A TIMBER HOUSE

- The CO2 emission of the global construction Sector was contributing 23% of the CO2 emissions produced by global economic activities in 2009, according to L. Haung, Norwegian University of Science and Technology, 2018 and it has continued to rise at 1% per year for the past 10 years.

- Timber absorbs carbon as it grows and stores that carbon when harvested, eliminating it from the atmosphere.

- Timber is sustainable and the use of it does not compromise the needs of the future generations, but rather helps conserve them.

- „Sustainable development is to reduce the absolute poverty of the world’s poor through providing lasting and secure livelihoods that minimize resource depletion, environmental degradation, cultural disruption and social instability. Since the Brundtland Commission Report in 1987 (WCED, 1987), the 2000 United Nations (UN) Millennium“

- Nothings is as constant as change in an emerging nation such as South Africa particularly in a sustainable development manner, and our values are changing through sustainable development.

- Materialism, consumerism, wasting natural resources, pollution, less use of recyclables and irresponsibility are finally giving way to new natural way of living with a human act of reconnecting with nature in a modern fashion.

- Timber construction is prefabricated, easy and fast to assemble in comparison to conventional construction methods.

- It gets delivered on site CNC cut and ready to be installed just like cupboards.

- Timber provides a contemporary aesthetic and an environmentally sustainable design.

- Due to a decrease in demand for paper products, it makes sense to use surplus timber to create sustainable buildings, Stretton says.

- Timber construction is also relatively simple and straightforward, requiring simple tools

- Timber is a renewable material that provides a healthier indoor environment, it is also about half the weight of concrete, it is light and thus, reduces transport costs and emissions, craning and encourages local labour.

## ELEMENTS OF THE DESIGN

- Non-conventional orientation
- Landscape | Garden
- Water tanks (water purification systems for consumable water and for irrigation)
- Courtyard (Gathering, connection space) | Entertainment
- Inside outside connection
- Linkages
- Luxurious yet sustainable living

## CONCEPT Iziko | The Hearth

Iziko is an isiZulu | isiXhosa word meaning a Hearth. It is a typical African homestead, that usually occupies a central space where a cheerful fire burn.

It symbolizes both a hub of cultural activity and central place for gathering family and friends.

Traditionally, a social center of a home, a place associated with warmth, kinship and ancestral spirits. Here, food is prepared, stories are told, and knowledge passed from one generation to the next.

Similarly, how the timber how has been derived from Iziko in a modern fashion with its strong social, sustainable and cultural interaction.

## STORY

The Timber House is nestled in forest hills in the KwaZulu Natal Midlands on the outskirts of a small town know as Ixopo as a sustainable family home.

A contemporary aesthetic and a social-sustainable balance have been given to the Timber House Design.

This provides a minimalistic and charming gesture with multi-functional pergola and clerestory features on both dwellings. The living quarters are situated around the inner courtyard.

The design has a non-conventional special layout oriented diagonally for easy flowing circulation that blends well with the geographic orientation, maximizing indirect north light into the living spaces.

The large terrace offers a beautiful space that’s both a hub of cultural activity and central place for gathering family and friends.

In tackling the Timber House design, several water collection points have been incorporated for irrigation and daily house hold usage.

Focus on providing imperatives such as, human well-being, economic efficiency and most importantly environmental integrity has been emphasized on the design.

John and Amy are an environmentally conscious family and are empathetic to the current status core of the global environmental crisis.

Subsequently as a smart and environmentally considerate client they have proposed that their design incorporates specialized and sustainable building materials such as CLT and NOVATOP as to create inventive ways of dealing with spaces and construction in their new home.

In addition, they suggested an exciting design that sets itself apart from the current practices, with entertainment areas, livings and relaxation spaces that have an inside outside connection.

This is due to their appreciation of nature and to create a subconscious awareness to their family and friends that will eventually visit their home.

## EXTERIOR WOOD SURFACE TREATMENT SPECIFICATIONS AND DETAILS:

INTERIOR WALLS- 116 Novatop solid wall

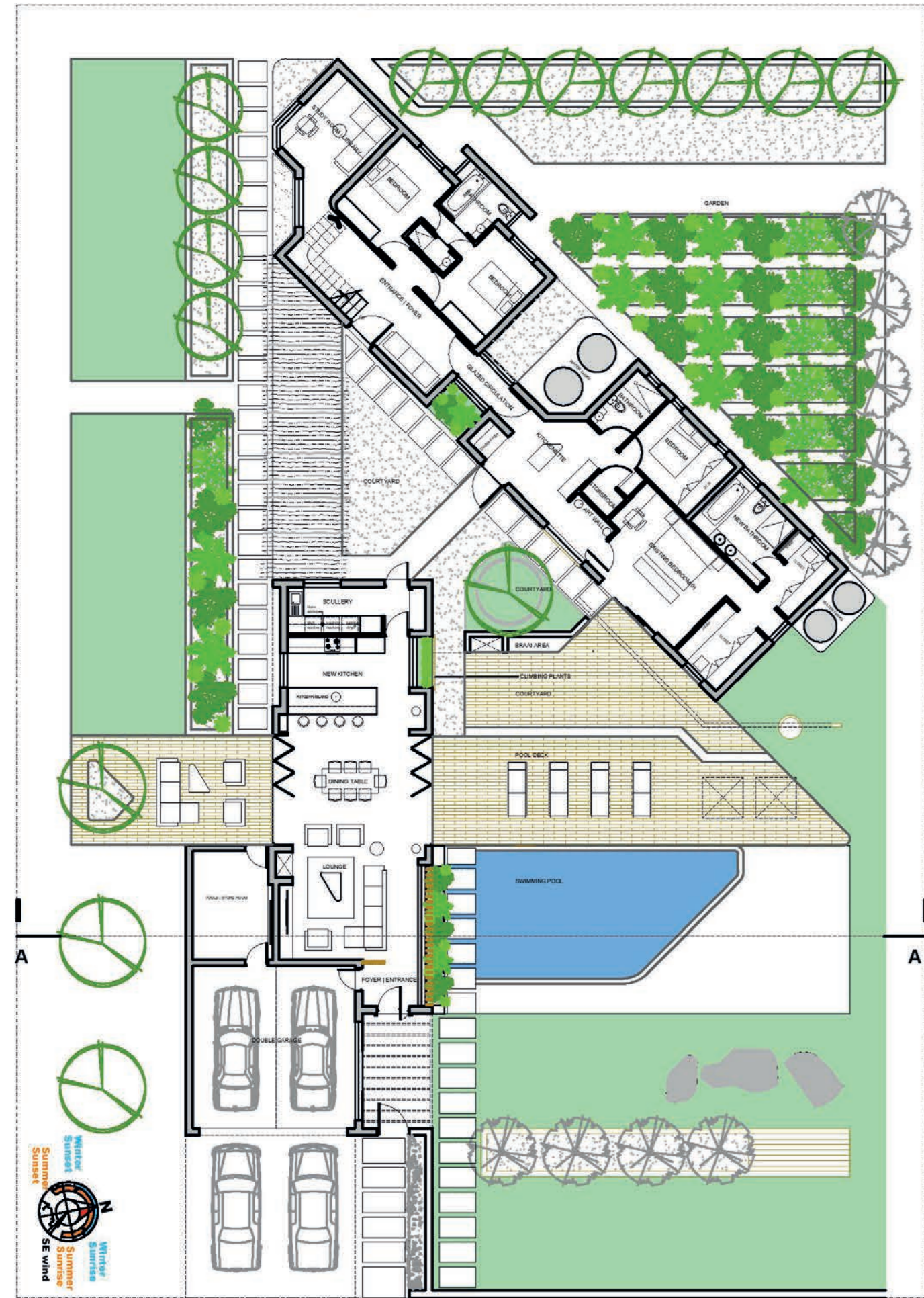
EXTERIOR WOOD - Exterior wood paints

- 100% acrylic latex non reflective flat paint.
- Acrylic Latex resists the corrosive effects of sunlight better than oil-based paint and it last longer.

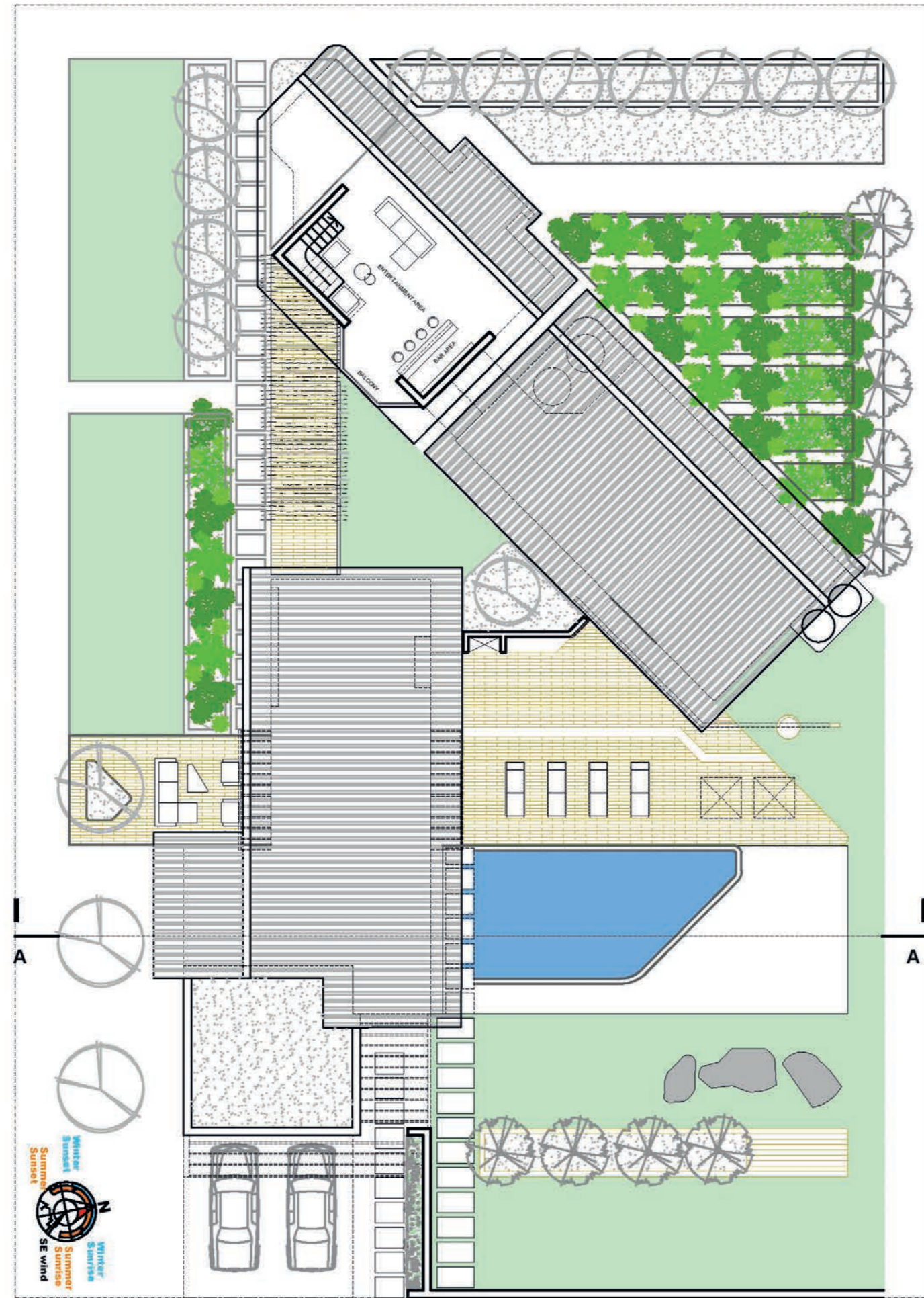
WOOD SURFACE TREATMENT

- Pre-Treatment, penetrating primer oil.
- Undercoat - Alkyd undercoat
- Top Coat - 2 Coats of acrylic latex.





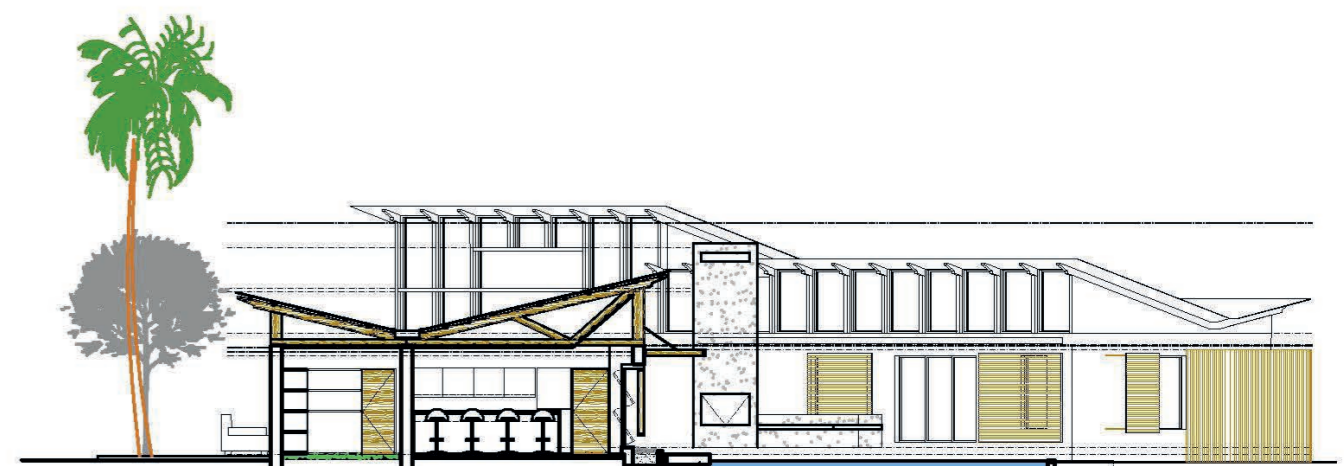
GROUND FLOOR PLAN



FIRST FLOOR | ROOF PLAN



EAST ELEVATION  
SCALE 1:100



SECTION A-A  
SCALE 1:100



EAST ELEVATION  
SCALE 1:100

**SPECIFICATION**

**TIMBER DECK:**  
NOVA TOP general independent floor decking consists of 4.27 mm thick NOVA TOP subfloor panels with horizontal and longitudinal ribs spaced at 200 mm centres with width of ribs 30 mm to engineer's specification.

**CORRUGATED ROOF:**  
Galvalume 0.35mm thick, A102 Coated Corrugated Irons Roof Sheeting. Sealed to substructure using joints at 1500mm centres and to ridge and eave profiles at 600 centres, with 'Clouties' (check timber half-bling screws. Seals to be fixed with 3' fasteners per sheet per profile, in accordance with the manufacturer's recommendation.

**CEILING:**  
Acoustic and/or acoustic panels (Baffle or Marking panels) fixed with Acoustic clips with 100mm grommets.  
Floor with Acoustic clips with 100mm grommets.  
The maximum length of the clips is 20 mm.  
Anchoring with clips with the profile Marking where the Marking of the grommet is only 4 mm and extends into a groove cannot be used.

**INTERNAL WALLS:**  
This internal wall panels are 200.0 mm or 240.0 mm (Nominal) dimension manufactured in length of up to 6000 mm and width of up to 2400 mm. The wall panels consist of 44 mm of 240 mm thick NOVA TOP subfloor Low thermal mass with 12.5 mm Optimum board, installed externally with 80 mm Insulgrout and grove. (Preformed concrete base) 1240 mm high and 50 mm x 50 mm vertical ridges with spacing of 200 mm. The vertical ridges are 10 mm in nominal base of the Panelform Concrete board units which vertical depth is 10 mm to be attached.

**INTERNAL WALLS:**  
Internal wall panels consist of 84 mm thick NOVA TOP subfloor panel fixed to 100 mm x 50 mm x 1.5 mm galvanized steel U-channel studs at 600 mm centres incorporating a 100 mm thick Insulgrout and grove Panelform Concrete board (PC board) 1 board with 12.5 mm Optimum board.

**INTERNAL WALLS:**  
Internal wall panels consist of 84 mm thick NOVA TOP subfloor panel fixed to 100 mm x 50 mm x 1.5 mm galvanized steel U-channel studs at 600 mm centres incorporating a 100 mm thick Insulgrout and grove Panelform Concrete board (PC board) 1 board with 12.5 mm Optimum board.

**DOORS AND WINDOWS:**  
Roof panels are made of hollow ribbed NOVA TOP subfloor panels fixed with insulgrout and steel fasteners of NOVA TOP subfloor panels (see with 100' or maximum weight ceiling). Windows and door frames are installed into pre-cut openings in accordance with good building practices.

**PLUMBING AND ELECTRICITY:**  
Plumbing can be pre-fixed or surface mounted onto the composite panels. Electrical conduits are surface mounted.

**GROUND FLOORS AND FOUNDATIONS:**  
Local standard 200 Mpa ready foundation wall with standard site foundation. Standard T10 Open concrete surface slab with 20mm cover. Reinforced timber floor slab on all floors (floors and living spaces) existing ground.











