

4.4. QUALITY GUIDELINES
4.4.1. HOUSING CODE

The Housing National Code sets out the National Housing Policy of South Africa in one comprehensive document and is not intended to replace the key legislation and laws relating to the National Housing Policy. It is rather, a statement of present policy and provides an overview and confirmation of the existing policy that is in place. With the continually changing National Housing Policy, the Housing Code will change. Housing development within the Code is defined as follows:

- " (vi) **"housing development"** means the establishment and maintenance of habitable, stable and sustainable public and private residential environments to ensure viable households and communities in areas allowing convenient access to economic opportunities, and to health, educational and social amenities in which all citizens and permanent residents of the Republic will, on a progressive basis, have access to-
- (a) permanent residential structures with secure tenure, ensuring internal and external privacy and providing adequate protection against the elements; and
 - (b) potable water, adequate sanitary facilities and domestic energy supply' (National Housing Code: Annexure A, Chapter 3, Part 2: 1 - 2).

| CATEGORY | FINANCE (R16 000 SUBSIDY) | SERVICE (MINIMUM LEVEL) | MEC EMPOWERED TO PERMIT DEVIATIONS | |
|-----------------------|---------------------------------|---|---------------------------------------|--|
| Municipal Services | Maximum R7 500 | Land acquisition and township establishment | | |
| | | Water: single metered standpipe per erf | | |
| | | Sanitation: VIP per erf | | |
| | | Roads: Access to erf with graded road | | |
| | | Stormwater: lined open channels | | |
| | | Street Lighting: Highmast security lighting (subject to conditions) | | |
| Top Structure | Residual of R8 500 | Top Structure: 30m ² (gross floor area) | | |

Summary of Norms and Standards in respect of Permanent Residential Structures (National Housing Code: 120)

4.4.1.1. NORMS AND STANDARDS

These are the norms and standards set out and quoted from the Housing Code - Annexure A, Chapter 3, Part 2:

FORM

The buildings must be simple in form and straightforward to construct.

STRUCTURAL DESIGN

Any building and any structural element or component thereof must be designed to provide strength, stability, serviceability and durability for the life of the structure, in accordance with accepted principles of engineering design and construction practice.

MATERIALS AND COMPONENTS

All materials and components used in the dwelling and in any associated structures must be:

- durable and suitable for the purpose for which they are used,
- installed or used, in accordance with the manufacturers' instructions.

DIMENSIONS

The minimum size of the completed structure shall be not less than thirty square metres. Any room or space must have dimensions that will ensure that such room or space is fit for the purpose for which it is intended.

THE SITE AND SITE PREPARATION

Before finally approving the site a geological survey must be conducted to determine the suitability of the founding conditions. The site works must be compatible with the aim of producing affordable housing within the cost constraints imposed by the subsidy scheme. The ground in the vicinity of the building must be levelled before construction commences. This must be done with due attention to the need to control and dispose of rainwater runoff. The finished ground levels must direct water away from the building.

In areas where termite infestation is known to be a problem, the soil within the site must be treated in accordance with the recommendations set out in SABS O124 - Application of certain soil insecticides for the protection of buildings.

THE FOUNDATIONS

The foundation of any building must be designed to safely transmit all the loads from the building to the ground without causing or being subjected to excessive movements.

In favourable ground conditions the foundations must be designed to reduce as far as practically possible, the depth of excavation, the height of the foundation walls and the cost of unnecessarily large footings.

Any variation from the foundations required by the Deemed-to-satisfy rules of the NBR must be the subject of a rational design by a Professional Engineer.

In problematic ground conditions a Professional Engineer must design the foundations and advise on the articulation of the superstructure, if this is deemed necessary.

CONCRETE

Concrete must be of the grade specified or of a higher grade.

CEMENT

The correct cement for the purpose intended must be clearly specified and it must comply with the requirements of SABS ENV 197-1 common cements and SABS 413-1 Masonry Cements. Masonry cement must not be used in concrete. Masonry cement MC 22,5X must not be used in shell bedding mortar. Cement for use in concrete, mortar or plaster shall be chosen in accordance with Table 1.

FLOORS

Any floor of any building shall be:

- *strong enough to support its own weight and any loads to which it is likely to be subjected without undue distortion or distress;*
- *water resistant in the case of the floor of any kitchen, shower room, bathroom or room containing a WC;*
- *provided with adequate under-floor ventilation in the case of a suspended timber floor;*
- *so constructed that any moisture present in the ground or filling is prevented from penetrating the slab in the case of a concrete floor slab that is supported on ground or filling.*

DAMP PROOF COURSES (DPC) AND MEMBRANES (DPM)

These items must be provided and installed in accordance with SABS 021: Waterproofing of buildings. The horizontal DPC must be installed at not less than 150mm above the level of the surrounding ground. The horizontal DPC must not be plastered over.

WALLS

Any wall shall be:

- *capable of safely sustaining any loads to which it is likely to be subjected and in the case of a structural wall, shall be capable of safely transferring these loads to the supporting foundations;*
- *so constructed that it will adequately resist the penetration of water into any part of the building where it would be detrimental to the health of the occupants or to the durability of the building;*
- *provided with the means to fix any roof truss, rafter or beam to the wall in a secure manner that will ensure that any forces to which the roof may normally be subjected will be transmitted to the wall supporting it; and*
- *of combustibility and fire resistance characteristics appropriate to the use of the wall.*

ROOFS

The roof of any building shall:

- *be so constructed that it will resist any forces to which it is likely to be subjected;*
- *be durable and waterproof;*
- *not allow the accumulation of any rainwater upon its surface;*
- *be constructed to provide adequate height in any room immediately beneath the roof/ceiling assembly;*
and
- *have a fire resistance appropriate to its use.*

DOORS

The correct type and quality of doors must be specified, supplied and properly hung in the appropriate opening.

GLAZING

Any glazing shall be of glass or plastics and be fixed in a manner and position that will ensure that it will:

- *safely sustain any wind loads to which it is likely to be subjected; and*
- *not allow the penetration of water to the interior of the building.*

LIGHTING AND VENTILATION

Any habitable room, bathroom, shower-room and room containing a WC shall be provided with a means of lighting and ventilation which will enable such room to be used, without detriment to health and safety or causing any nuisance, for the purpose for which it is designed. All dwellings shall be provided with the means of ventilation and natural lighting set out in the table below.

| DESCRIPTION | FLOOR AREA OF DWELLING | |
|---|--|---|
| | _45M ² | _45M ² |
| Minimum window area (light area) for each habitable room, including kitchens | 5% of floor area | Greater of 10% of floor area or 0,2m ² |
| Minimum area of openable windows or controllable ventilation openings for each habitable room, including kitchens.* | 5% of floor area with one opening having an area of at least 0,1m ² . | Greater of 0,2m ² or 5% of floor area. |

**Not more than half the number of the ventilation openings shall occur on one side of the dwelling (refer to section on thermal efficiency).*

DRAINAGE AND SANITATION

Drainage installations shall be:

- designed and constructed so that the installation is capable of carrying the hydraulic design load and of discharging it into a common drain, connecting sewer or sewer provided to accept such discharge;
- watertight;
- capable of sustaining the loads and forces that it may normally be subjected to;
- protected against any damage wherever this is necessary; and
- capable of being cleaned and maintained through the means of access provided.

Drains shall be laid strictly in accordance with the requirements of the municipality. French drains and septic tanks shall be constructed to a size and design approved by the municipality. Non waterborne means of sanitation must comply with the requirements of Section 7.4 of SABS 0252-2: Water supply and drainage of buildings; Part 2: Drainage Installations for buildings, all to the requirements of the municipality. Where waterborne sewage disposal is not available, no person shall construct a pit latrine without the permission of the municipality.

STORM WATER

The design shall provide for suitable means for the control and disposal of accumulated storm water. Storm water drains shall comply with the requirements of the municipality.

ENVIRONMENTALLY EFFICIENT HOUSING

Water Supply

The design of the water supply and the specification of devices such as taps, showers and toilets must be in accordance with the aims of the National Water Conservation Campaign.

Before specifying water saving devices such as low-flow showerheads, the designer must satisfy himself that they will function satisfactorily with the available water pressure.

Water saving measures that are undertaken, must be compatible with imperatives that the water supply and the sewerage disposal systems must be safe and hygienic, and be capable of operating efficiently with only normal and reasonable maintenance.

Thermal efficiency

Designs for affordable housing must take cognisance of the need for the resultant dwellings to be thermally efficient' (National Housing Code: Annexure A, Chapter 3, Part 2: 1 - 18).