National Homebuilders Registration Council

Presentation

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KZN
• NHBRC UPDATE
• PRIOR TO NHBRC
• NHBRC TECHNICAL SUPPORT
• INSPECTION PROCESS
• GALLERY
• ROOT CAUSES OF POOR QUALITY
There are a number of Acts intending to legislate various aspects of the built environment. Within the NHBRC context we can inter alia refer to:

- **Housing Consumer Protection Measures Act (Act 95 of 1998), Regulations and Code of Conduct**
- **Housing Act (Act 107 of 1997)**
- **Public Finance Management Act (Act 1 of 1999) and as amended by Act 29 of 1999**
- **Consumer Protection Act (Act 68 of 2008)**
- **National Building Regulations and Building Standards Act (Act 103 of 1977)**
- **Social Housing Act (Act 16 of 2008)**
NHBRC’s statutory mandate aligns with a number of Institutional policies which inter alia include:

- **National Housing Code**
- **Outcomes 8 delivery agreements: Sustainable human settlements and improved quality of household life**
What are our key services?

- Registrations
- Standards
- Enrolments
- Inspections
- Complaints
- Remedial Work
- Conciliations
- Fund

NHBRC

PROTECTION

HOME BUILDER

HOUSING CONSUMER
NHBRC SUITE OF PRODUCTS AND SERVICES

- Home builder registration
- Enrolment of new homes
- Inspection of homes under construction
- Forensic Investigations
- Dispute resolution
- Materials Testing
- Alternative Building Technology
- Training of Inspectors
- Training of Home Builders
• An NHBRC registered homebuilder automatically qualifies for training of his employees

• Our training modules are SAQA accredited through CETA and are offered by our outsourced specialist training providers

• Currently training is offered in the Technical and Managerial disciplines namely bricklaying, plastering, painting, plumbing, carpentry, construction management, project management, finance for non-financial managers.
Building Innovation

• NHBRC is at the forefront of promoting innovative building systems to accelerate housing delivery utilising approved Alternative Building Technologies’s

• Eric Molobi Testing Centre opened in Soshanguve, City of Tshwane.

• Introduction of Alternative Building Technologies in KZN
PRIOR TO NHBRC

Unenrolled Property - inadequate foundation design
Unrolled property – inadequate stormwater management
PRIOR TO NHBRC contd..

Late Enrolment – Inadequate Foundation design on 15m Fill
• Non-Enrolment of subsidy homes led to Rectification programs for the purpose of such historically built houses due to:
  – Substandard specifications
  – Failure to perform quality inspections on all aspects of construction – quantity driven
  – Insufficient post occupation support offered by municipalities
  – Poor quality of materials used
Technical Section – KZN

– Headed by Regional Engineer (Pr. Eng.)
– Total of 36 inspectors, engineers and QS’s both internally and with our appointed Outsourced Inspectorate Agencies
– All inspectors equipped with relevant Tools of Trade
– PDA (digital capturing of all inspections)
– Assurance that all units are inspected
The NHBRC Home Building Manuals set out the required technical standard in constructing homes – currently being amended.

Provides the industry with an objective standard to which all homebuilders must comply.

 Allows complete objectivity in inspecting houses.
TECHNICAL STANDARDS

Functional Requirements

National Building Regulations

NHBRC Homebuilding Manual

Deemed-to-Satisfy Rules

SANS 10400

Rational Design

SANS Practice and Standards

Performance Requirements

Fitness-for-Purpose

Agrément Certification
INSPECTION PROCESS

BQIH Form

Building Quality Index for Houses, developed by NHBRC in conjunction with CSIR, so that the home building industry has a standard quality assessment system.

Inspection Tools

- PDA (electronic inspection recording tool)
- Tape Measure
- Spirit Level
- Metal Detector
- Moisture Detector
- Step ladder etc.
The number of inspections conducted per house depends on the size and design of the house. Ranges between minimum of 4 - 8 inspection stages.

The following inspections are carried out:
- Substructure
- Superstructure
- Roof & Practical completion
- Storm water management
- Carpentry
- Plumbing
- Electrical
- Waterproofing
INSPECTION PROCESS

NON-COMPLIANCES

• During inspection, if any deviations are noticed a non-compliance will be issued.
• Notice of non-compliance will clearly detail the deviation and to when the compliance is to be achieved.
• Failure to comply will result in legal actions taken against the defaulting home builder.
Gallery - Poor quality
Poor platform and foundation preparation
Basic Concrete Technology incorrectly applied
Quality of Materials & Products Used

The general problems are:

• The quality of the materials used, in particular the concrete, does not meet the requirements of SANS;
• Samples of concrete taken from the slabs, foundations and blocks indicate strengths far much lower than the required strength
• Concrete cores drilled from the slabs show that as low as 40mm slabs were cast in some of the houses
Typical samples taken for Testing

Poor Mix of Materials

Slab should be 100mm thick
What are the root causes of failure?

- Improper and incorrect soil classification; cutting and pasting of geotechnical reports to cut costs etc.
- Inadequate or inappropriate foundation design as a result.
- Design not carried out by a competent person registered with the Engineering Council of South Africa as a Professional Engineer/Engineering Technologist;
- Construction details not in accordance with set design specifications and standards.
- Lack of quality assurance systems to identify and prevent problems at an early stage of construction.
Causes for Failures (Cont…)

- Late enrolments or non-enrolment of homes with the NHBRC warranty scheme, resulting in houses not being inspected at all;
- General poor workmanship and “cutting corners”;
- Use of inappropriate materials and technologies; and
- Lack of appropriate attention given to structural detailing such as connections of external to internal walls, inadequate provision of lintels and or beams above large openings and large unsupported sections of walls.
- Appointment of inexperienced contractors.
Bad Building Practise:
No edge beam but only slab on the ground as foundation

Good Building Practise:
Edge beam evident and acceptable foundation solution
Bad Building Practise:
No provision for lintels and no brickforce in brickwork

Good Building Practise:
Provision of a metal lintel to redistribute the load
Remedial Works carried out by NHBRC
Quality workmanship under construction
Quality concrete and slab preparation
Nhbrc inspectors involved from the outset of construction
Quality Multi-storey rental stock
QUALITY HOMES
Quality Workmanship
NHBRC Value Proposition

- NHBRC will continue to provide **more training to emerging home builders**. The quality of construction is not yet at the desirable level.
- Home Builders will also be trained on site – during implementation of a project
- **Stakeholder inspectors and technical officials** will be regularly trained
- NHBRC will be more involved in **housing consumer education**, focusing on:-
  - implications of **alterations and additions**
  - importance of proper **maintenance of houses**
  - benefits of the warranty scheme
LEGAL AND ENFORCEMENT

• Fully established legal team and Disciplinary Hearing Process (includes Private Sector representation)
• Disciplinary Hearings held every quarter.
• Over 70 builders have appeared before Disciplinary Committee
• 95% found guilty – section 10 and 14 of HCPMA
• Several successful high court interdicts
• 2 criminal arrests – 1 pending
FORENSIC INVESTIGATION

- Is the Late enrolment of subsidized projects
- Assessment of existing houses or structures
- Report on findings and recommend solutions
CHALLENGES

Current Delivery Process

- Houses standing empty for lengthy periods – Lack of services.
- Installation of services after the construction of top structures.
- Poor post occupation support services to beneficiaries.

Specification for KZN housing units

Plaster and Paint - not a pre-requisite for design approval due to affordability in the quantum and KZN still not being classified as part of the Moisture Coastal Condensation Zone, the level at which we experience heavy rains should be treated the same as the Eastern and Western Cape

The Standard of Roof structures compromising effective design.

Storm water management still not being enforced.

Retaining walls not being prioritised in steep sites. The terrain in this Province being a particularly great concern.
More CHALLENGES

Quantity vs Quality – Main stakeholders are still driven by numbers instead of the manner in which each home is constructed.

Un-enrolled Projects – undeclared late enrolments of projects by unregistered project stakeholders including contractors. In the subsidy sector – 18% of enrolments are late, whilst In non-subsidy (bonded or cash or affordable ) sector – 8.5% are late enrolled.

PHP Projects
- Lack of Construction Management on Site by appointed Project Managers where un-registered contractors are still being procured
- Lack of appointment of experienced Site specific construction managers to manage day to day construction.
- Responsibility and accountability for technical issues arising and occurring.
THANK YOU