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DEPARTMENT OF HUMAN SETTLEMENTS

POLICY FOR THE USE OF INNOVATIVE BUILDING TECHNOLOGIES IN LOW-COST HOUSING DEVELOPMENTS IN THE NORTH WEST PROVINCE 2024

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EDICT OF GOVERNMENT

To promote public education and public safety, equal justice for all, a better-informed citizenry, the rule of law, world trade, and world peace, this policy guideline is hereby made available on a non-commercial basis, as it is the right of all humans to know and speak the laws that govern them.

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ANNEXURES

ABBREVIATIONS

ABBREVIATION	FULL DESCRIPTION
BBBEE	Broad-Based Black Economic Empowerment
BOQ	Bill of Quantities
CAT	Conditional Assessment Tool
CIBD	Construction Industry Development Board
COC	Certificate of Compliance
CONQUAS	Construction Quality Assessment System
CSIR	Council for Scientific and Industrial Research
DHS	Department of Human Settlements
FIDIC	International Federation of Consulting Engineers (French)
GCC	General Conditions of Contract for Construction Works
GBCSA	Green Build Council of South Africa
GPS	Global Positioning System
HOD	Head of Department
HSDG	Human Settlements Development Grant
HSS	Housing Subsidy System
IBT	Innovative Building Technologies
IDoW	Identification of Work
JBCC	Joint Building Contracts Committee
LCC	Lifecycle Costing
LGHS	Local Government and Human Settlements
MEC	Member of the Executive Council
NBR	National Building Regulations
NDHS	National Department of Human Settlements
NHBRC	National Home Builders Registration Council
NRCS	National Regulator for Compulsory Specifications
PPPFA	Preferential Procurement Policy Framework Act, Act 5 of 2000, as amended
PROCSA	Professional Consultants Services Agreement
PSC	Professional Services Contract
PSSC	Professional Services Short Contract
RFP	Request for Proposal
SABS	South African Bureau of Standards

SACPCMP	South African Council for Project and Construction Management Professions
SAIA	South African Institute of Architects
SANAS	South African National Accreditation System
SANS	South African National Standards
SBD	Standard Bidding Document
SCM	Supply Chain Management
SIA	Social Impact Assessment
TOR	Terms of Reference
VAT	Value Added Tax
VE	Value Engineering

DEFINITIONS

CONCEPT	FULL DESCRIPTION
Agrément Certificate	The Agrément Certificate refers to a certificate confirming the fitness-for-purpose of a non-standardised system, element or component and the conditions issued by the Board of Agrément. As it relates to Innovate Building and Sanitation Technologies, the National Building Regulations and Building Standards Act, Act 103 of 1977, as amended, follows a performance-based method of compliance, where non-standardised construction needs to satisfy the functional regulations through Agrément certification. In most cases, where the properties are not known, a preferable Agrément Certificate will be required that evaluates the performance aspects thoroughly. The Agrément certification will validate the system in terms of performance (fire, structure, water penetration and rising dampness); habitability (thermal performance and energy usage, condensation, acoustics, and durability); and the quality management system.
Appropriately qualified Professional Expert	Appropriately qualified Professional Expert refers to a professional person with the necessary qualifications and relevant experience to provide the required input.
Appropriate technology	Appropriate technology refers to the sustainable application or operation of technology to meet national imperatives within the local institutional, financial, social, cultural, ethical, economic and environmental requirements and constraints experienced by the authority or consumer responsible for the technology.
Basic services	Basic services refer to services such as electricity, water, sanitation, refuse, and waste removal which are critical services to improve the quality of the lives of people in South Africa, the government has committed itself to providing a basic amount of free water and electricity to the poor, which are most-referred to as free basic services.
Beneficiary	Beneficiary refers to a person who received a housing benefit.
Bill of Quantities	Bill of Quantities refers to the cost analysis completed by a Professional Quantity Surveyor who provides a detailed cost breakdown. The Contractor is paid an amount for the item of work in the bill, which is the rate for the work multiplied by the quantity completed.

Broad-based Black Economic Empowerment	Broad-based Black Economic Empowerment refers to Guidelines of the South African government that encourage companies to help transform the country and encourage broad-based activities that benefit black people. Compliance is measured through a scorecard which is based on various elements and a company is measured out of a maximum of one hundred (100) points. The elements on which a company is measured relate to ownership (this measures the percentage of shares in the business that are owned by black people); management control (this measures the percentage of directors, top management and employees that are black); skills development (this measures the amount of money spent on training of black employees); enterprise and supplier development (this measures the amount of money the company spends on helping other black-owned enterprises grow); and socio-economic development (this measures the amount of time the company spends on assisting charitable organisations or charitable activities).
Building	Building refers to construction works that provide shelter for its occupants or contents as one of its main purposes, usually partially or fully enclosed and designed to stand permanently in one place.
Certification body	A certification body refers to a member of a Council-approved certification scheme who provides certification services through certifiers in their employ.
Certificate of Compliance	A certificate of compliance refers to a certificate with a unique number obtainable from an approved scheme issued by a certifier in terms of such a scheme.
Certifier	Certifier refers to a member of a Council-approved certification scheme who is in good standing and who is employed by the certification body appointed by the home builder to issue certificates or certificates of compliance with the NHBRC Technical Requirements.
Certificate Holder	Certificate Holder refers to a person or an entity in whose name an Agrément Certificate is issued.
Code	Code refers to the National Housing Code as contemplated in Section 1 of the Housing Act, Act 107 of 1997, as amended, and Part 2, Section 4, subsection (6) states that the Code shall be binding on the provincial and local spheres of government.
Compliance method	Compliance method refers to the application of design and construction rules or compliance with referenced standards to achieve performance requirements.
Component	Component refers to a product manufactured as a distinct unit to serve a specific function or function.

Competent Person	Competent Person refers to a Competent Person whose credentials are accepted by the National Home Builders Registration Council (NHBRC) and is admitted to the Council's list of Competent Persons. A Competent Person is a registered person in terms of the Engineering Professions Act, Act 114 of 1990, or a person registered in terms of the Natural Scientific Professions Act, Act 106 of 1993, as amended by Act 27 of 2003.
Contractor	The contractor refers to the party responsible for constructing the whole house and the housing project such as the Innovative Building Technology (IBT) certificate holder/licensee who will have respective responsibilities, depending on the type of contractual agreement. The IBT system owner/licensee must be registered as a home building/contractor with the National Home Builders Registration Council (NHBRC) and the Construction Industry Development Board (CIDB) and have relevant experience, financial capability and track record of good quality work to roll-out the required number of houses (they can sub-contract the other system of the house such as the foundations, roof, services and finishes).
Conditional Assessment Tool	Conditional Assessment Tool refers to the National Home Builders Registration Council (NHBRC) tool used to assess the conditions of innovative building technologies (IBT) that have been built and graded according, which appear in the dynamic IBT database.
Deemed to satisfy	Deemed to satisfy refers to the Code of Practice for the application of the National Building Regulations with deemed to satisfy rules which are applicable for house construction in South Africa as found in SANS 10400. The Code of Practice for the construction of dwelling houses per the National Building Regulations specifically covers the deemed to satisfy rules for housing and includes conventional housing, incremental housing and informal housing. It is the National Home Builders Registration Council that enforces National Building Regulation requirements for home builders in the home building industry.
Delegation	Delegation refers in terms of the Housing Act, Act 107 of 1997, as amended, Part 3, Section 7, Sub-sections (1), (2), (3) and (5): (1) Every provincial government, through its MEC, must after consultation with the provincial organisations representing municipalities as contemplated in section 163(a) of the Constitution, do everything in its power to promote and facilitate the provision of adequate housing in its province within the framework of national housing policy.

	(2) For subsection (1) every provincial government must through its MEC: (a) determine provincial policy with respect to housing development; (b) promote the adoption of provincial legislation to ensure effective housing delivery; (c) take all reasonable and necessary steps to support and strengthen the capacity of municipalities to effectively exercise their powers and perform their duties with respect to housing development; (d) co-ordinate housing development in the province; (e) take all reasonable and necessary steps to support municipalities in the exercise of their powers and the performance of their duties with respect to housing development; (f) when a municipality cannot or does not perform a duty imposed by this Act, intervene by taking any appropriate steps by section 139 of the Constitution to ensure the performance of such duty; and (g) prepare and maintain a multi-year plan in respect of the execution of the province of every national housing programme and every provincial housing programme, which is consistent with national housing policy and section 3(2)(b), by the guidelines that the Minister approves for the financing of such a plan with money from the Fund. (3) An MEC must: (a) administer every national housing programme and every provincial housing programme which is consistent with national housing policy in section 3(2)(b), and for this purpose may, by that programme and the prescripts contained in the Code, approve: (I) any projects in respect thereof; and (II) the financing thereof out of money paid into the provincial housing development fund as contemplated in section 12(2); (b) determine provincial housing development priorities by national housing policy; (c) apply procurement policy in respect of housing development determined by the Minister in terms of section 3(2)(c); and

	(d) administer the assets contemplated in section 14. (4) (a) The MEC must establish a panel of not more than six persons to advise the MEC on any matter relating to housing development. (5) The MEC may, subject to conditions he or she may deem appropriate in any instance: (a) delegate any power conferred on him or her by this Act; or (b) assign any duty imposed upon him or her by this Act, to an officer or employee of the department responsible for the administration of housing matters in a province, either in her or her capacity or by the rank he or she holds or the post he or she occupies: Provided that the delegation or assignment does not prevent the person, who made the delegation or assignment from exercising that power or performing that duty to himself or herself.
Department	Department refers to the North West Department of Human Settlements.
Design life	Design life refers to the period for which the structural system, element or component performs above the specified level of structural safety and serviceability performance.
Design working life	Design working life refers to the assumed period for which a home or a part thereof is to be used for its intended purposes without major repair being necessary.
Developer	Developer refers to the organ/institution planning and implementing human settlement developments. In the case of the North West Province, the Department of Human Settlements remains the Developer, unless a local municipality has been assigned/accredited under the Housing Act, Act 107 of 1997, as amended, and the Municipal Accreditation Framework.
Drainage installation	Drainage installation refers to an assembly of pipes, fittings, and apparatus such as septic tanks, conservancy tanks and fresh drains, which are used to collect, convey, store, or treat the discharge from receptacles associated with a home to which water is supplied and from which wastewater or foul water is discharged.
Dwelling unit	A dwelling unit refers to a single unit providing complete, independent living facilities for one or more people including permanent provisions for living, sleeping, eating, cooking and sanitation which may be separated from or linked horizontally or vertically to other units.
Element	Element refers to a major functional part of a building.

Emerging Contractor	Emerging Contractor refers to emerging contractors as defined by the Guidelines of government statutes which can qualify to be a licensee to promote empowerment in technical skills.
End-user education	End-user education refers to consumer education on alternative or innovative building technologies and their associated service rights, responsibilities, facility operation and maintenance, environmental conservation and demand management including how to reduce, reuse, and recycle.
Engineer	An Engineer refers to a Competent Person who is registered in terms of the Engineering Professions Act, Act 46 of 2000, and holds an indemnity insurance prescribed by the National Home Builders Registration Council to cover the design and construction of innovative building and sanitation technologies.
Extraordinary human settlement development conditions	Extraordinary human settlement development conditions refer to site characteristics which necessitate that some measures over and above the "norm" are required to ensure satisfactory housing outcomes and therefore require intensive precautionary measures to ensure a durable product with investment value. Extraordinary human settlement development conditions relate to climatic, topographic (natural ground slope of a site) and geotechnical (inherent geology) conditions.
Factual data	Factual data refers to materials, statistics, and properties that can be seen, measured, or identified using accepted or standardised criteria, classifications, and tests.
Fire resistance	Fire resistance refers to the shortest period for which an element or component complies with requirements for stability, integrity and insulation when tested under SANS 10177-2 *Fire testing of materials, components and elements used in buildings – Part 2: Fire resistance tests for building elements.*
Fit for purpose	Fit for purpose refers to the ability of a system, element, or component to be consistently developed, manufactured, applied, and installed such that it fulfils its intended purpose.
Foundation	The foundation refers to the foundational structure with the primary function to provide adequate support to the structures they carry, which implies sufficient load-bearing capacity to safely resist the effects of the various combinations of permanent and transient loads transmitted to the founding strata, without excessive deformation, which could otherwise compromise the integrity of the structure or impair its use. The safe or allowable bearing pressure is, therefore, a function of the ultimate load-bearing capacity of the

	ground at the founding level and the load-settlement characteristics of the underlying layers.
General Conditions of Contract for Construction Works	General Conditions of Contract for Construction Works (GCC) refers commonly to GCC 2004, is a form of contract that consists of 58 clauses that establish the general risks, liabilities and obligations of the contracting parties and the administrative procedures for the administration of the contract, i.e., the general conditions of the contract.
Geotechnical site investigations	Geotechnical site investigations refer to the process of evaluating the geotechnical character of a site in the context of existing proposed works or land usage, which may include: a) Evaluation of the geology and hydrogeology of the site. b) Examination of existing geotechnical information on the site. c) Excavating or boring in soil or rock and the systematic description of the soil and rock profiles. d) Determining the depth of any fill that might be present. e) *In-situ* assessment of geotechnical properties of materials. f) Recovery of samples of soil or rock for examination, identification, recording, testing or display. g) Testing of soil or rock samples to quantify properties relevant to the purposes of the investigation. h) Evaluation of geotechnical properties of tested soils. i) Reporting the results. j) Solutions (where relevant) and conclusions.
Geotechnical solutions	Geotechnical solutions refer to a solution designed to reduce total ground movements to levels which can be tolerated by the surface beds if any, and structural system.
Global positioning system	Global positioning system refers to a device capable of receiving time and special information from a constellation of geostationary satellites and translating these degrees of latitude, longitude, and elevation linked to a universal coordinate system.
Greenfield site	Greenfield site refers to an undeveloped site earmarked for a new human settlement development project.
Hazard	Hazard refers to the inherently dangerous quality of a substance, procedure, or event.
High sensitivity site	High sensitivity site refers to a site that is identified as a site of special significance in terms of requiring an Environmental Impact Assessment (EIA) in terms of the National Environmental Management Act, Act 107 of 1998; as

	amended, or a Heritage Impact Assessment (HIA) in terms of the National Heritage Resources Act, Act 25 of 1999; or a Social Impact Assessment (SIA) in terms of the Local Government Municipal Systems Act, Act 32 of 2000.
Home	Home refers to a meaning assigned in the Housing Consumer Protection Measures Act, Act 95 of 1998, as amended: a) excluding: a. any building which is constructed with less than two-thirds of the floor area designed for residential purposes; b. homes that are co-owned in terms of the Share Blocks Control Act, Act 59 of 1980 or Property Time-Sharing Control Act, Act 75 of 1983; c. any home forming part of an informal settlement; d. any temporary building as contemplated in the National Building Regulations issued in terms of the National Building Regulations and Building Standards Act, Act 103 of 1977; and e. a shack or caravan. b) including: a. a unit to be occupied for residential purposes as contemplated in the definition of "social housing" in Section 1 of the Social Housing Act, Act 16 of 2008; b. a residential section registered in terms of the Sectional Titles Act, Act 95 of 1986, and any common building; c. a unit as contemplated in the Housing Development Schemes for Retired Persons Act, Act 65 of 1988; d. a unit forming part of a housing programme contemplated in the National Housing Code issued in terms of the Housing Act, Act 107 of 1997, as amended; e. the private drainage system from the home up to the municipal connection or up to and including a conservancy or septic tank; f. water services from the point of supply to the point of discharge at fixtures and appliances; g. any ancillary buildings such as storerooms, covered walkways, garages, and common facilities; h. any retaining wall necessary to ensure the structural integrity of the home; and i. any adjacent building or wall on common property that has the potential to damage the home should it for any reason collapse.

Housing development	Housing development is defined in terms of Housing Act, Act 107 of 1997, as amended, as 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, education and social amenities in which all citizens and permanent residents of the Republic will, on a progressive basis, have access to permanent residential structures with secure tenure, ensuring internal and external privacy and providing adequate protection against the elements, and potable water, adequate sanitary facilities and domestic energy supply.
Identified land parcel	Identified land parcel refers to a tract of land, comprising of one or more farm portions or erven registered in a Deeds Registry, identified for housing development under the subsidy scheme.
Infrastructure delivery	Infrastructure delivery refers to the combination of all planning, technical, administrative, and managerial actions associated with the construction, supply, renovation, rehabilitation, alteration, maintenance, operation, or disposal of infrastructure.
Infrastructure procurement	Infrastructure procurement refers to the procurement of goods and services including any combination thereof associated with the acquisition, renovation, rehabilitation, alteration, maintenance, operation, or disposal of infrastructure.
Innovation	Innovation refers to the introduction of something new as derived from the Latin word "Novus" meaning "new"; an innovation is something new bringing along positive elements bettering what existed previously.
Innovative Building Technologies	Innovative Building Technologies refers to innovative or alternative building technologies associated with non-standardised construction. The Housing Consumers Protection Measures Act, Act 95 of 1988, as amended, stipulates what non-standardised construction means to which IBT relates, which is defined as any form of building that utilises building systems, methods, materials, elements, or components which are not fully covered by existing standards and specifications or codes of practice and/or which are not described or referred to in the "deemed to satisfy" rules of the National Building Regulations.
Innovative Building Technologies Analyzer	Innovative Building Technologies Analyzer refers to a tool used by officials, planners and designers that can compare several Innovate Building Technology Systems, considering 14 climatic zones. The categories that can be rated are energy performance, distance from suppliers, economies of scale, local labour forces, lead-time flexibility, accessibility, durability,

	acoustics, consideration, and fire. This must be used in conjunction with the SANS 10400-XA:2021 wherein the Energy Zones are classified.
Innovative Building Technologies Database	Innovative Building Technologies Database refers to the National Home Builders Registration Council (NHBRC) database of innovative building systems (foundations, walls and/or roofs), which have an active Agrément Certificate or NHBRC rational design approval and have demonstrated adequate performance on the ground, based on a defined set of criteria.
Innovative Building Technologies projects	Innovative Building Technologies projects refer to building projects that in this context require the construction of new houses and temporary houses and a whole team of professionals to be appointed.
In situ	*In situ* refers to the original place.
International Federation of Consulting Engineers	The International Federation of Consulting Engineers (FIDIC) refers to a family of contracts for the civil/mechanical engineering sector and the contracts are normally divided into two parts, with the first part consisting of general conditions and the second part consisting of conditions of application to be used in a project.
Joint Building Contracts Committee	The Joint Building Contracts Committee refers to a series of contracts for the building industry, structures for use by both the private and public sectors. When the employer is a government institution, the document will require an Addendum to be compiled of all the substitutions that are required to be standard clauses as published.
Licensee	Licensee refers to a person or an entity that is certificated by Agrément South Africa under a certificate holder.
Lifecycle costing and value engineering optimisation	Lifecycle costing (LCC) refers to a method of economic analysis for all costs related to building, operating, and maintaining an energy conservation measure for a building or building system over its entire life. The following factors/costs are considered in the Lifecycle costing approach : 1) Initial costs: purchase, acquisition, and construction. 2) Financing costs: fees, interest, and insurance. 3) Operating costs: fuel, service charges, and distribution charges. 4) Maintenance costs: repairs – routine and breakdown. 5) Replacement costs: parts or whole products, and installation labour. 6) Residual value: resale value, salvage value, or disposal costs. 7) Non-monetary benefits or costs: environmental: environmental health and safety. In addition to the LCC, critical is controlling costs and optimizing performance is value engineering (VE). VE is a systematic and structured approach

	designed to optimize value (initial value and long-term investment) and improve projects, products, and processes. This is an effective method for evaluating and improving economic costs and building performance. The VE approach analyses the requirements of a project to achieve the desired function at the lowest total cost over the lifetime of the project, identifying several approaches and analysing them based on different criteria relevant to the project often achieves savings in the initial and lifecycle costs.
Listed Competent Person	A Listed Competent Person refers to a competent person whose credentials are accepted by the Council of Geoscience and/or the National Home Builders Registration Council and is admitted to the Council's list of competent persons.
Mixed-used development	Mixed-use development refers to the development of structures and communities that contain a mixture of residential, business and retail uses.
Municipality	Municipality refers to a municipality as contemplated in Section 155 of the Constitution of the Republic of South Africa, Act 108 of 1996.
National Building Regulations	National Building Regulations refers to building regulations as set out under the National Building Regulations and Buildings Standards Act, Act 103 of 1977, as amended, of which regulations include mandatory performance requirements that support the objectives of the Act which is to ensure the safety and health of people living or working in any building. It contains SANS 10400 which contains prescriptive rules given for any form of construction that is deemed to satisfy.
National Department	National Department refers to the National Department of Human Settlements.
National Home Builders Registration Council	The National Home Builders Registration Council (NHBRC) is a statutory body with the responsibility to provide protection in terms of the Housing Consumers Protection Measures Act, Act 95 of 1998, as amended. Its mandate is to provide protection for all new housing consumers against defined building defects and to regulate the home building industry. Its major objectives in line with the above-mentioned Act are: a) To represent the interests of housing consumers by providing warranty protection against defects in new homes. b) To regulate the home building industry. c) To protect housing consumers in respect of the failure of home builders to comply with their obligations in terms of the Act. d) To establish and promote ethical standards in the home building industry.

	e) To improve structural quality in the interests of housing consumers and the home-building industry. f) To promote housing consumer rights and provide housing consumer information. g) To communicate with and assist home builders to register in terms of the Act. h) To assist home builders, through training and inspection, to achieve and maintain satisfactory technical standards of home building.
NEC3 Contract	NEC3 Contracts refers to a form of integrated and multi-disciplinary sets of contracts for Engineering and Contracting projects covering both construction and associated professional services. However, should an Architect be appointed to lead, contractually one will use the full Professional Services Contract (PSC) for all. If the Architect is appointed to solely carry out architectural duties, the Professional Services Short Contract (PSSC) should be used as well as for other individual professional appointments.
Non-conforming products	Non-conforming products refer to products and materials that do not meet South African National Standards (SANS) or Agrément South Africa's performance requirements.
Non-standardised construction	Non-standardised construction refers to any form of building that utilises building systems, methods, materials, elements or components that are not fully covered by existing standards and specifications or codes of practices and/or are not described or referred to in the "deemed to satisfy" rules of the National Building Regulations and that does not fall within the scope and requirements of an existing South African Bureau of Standards (SABS) standard specification.
Passive design	Passive design refers to a design approach that uses natural elements, often sunlight to heat, cool or light a building.
Performance considerations	Performance considerations of IBTs relate to the performance factors of durability, resilience, energy efficiency, sustainability/green building, disaster resilience, health/indoor and outdoor air quality, water efficiency, and low maintenance.
Precautionary measures	Precautionary measures refer to preventative measures required to ensure a durable product with investment value.
Principal Agent	Principal Agent refers to an entity appointed by the employer with full authority and obligation to act in terms of the Joint Building Contracts Committee (JBCC) Agreement. There is no mandatory requirement of who should be the Principal Agent, however, a tertiary qualification in a building-related field is

	deemed appropriate as well as the ability to manage people and the project in terms of relevant experience.
Principal Consultant	Principal Consultant refers to a person or entity appointed by the employer to manage and administer the services of all other consultants.
Procurement	Procurement is defined in the Housing Act, Act 107 of 1997, as amended, to be the process by which organs of state procure goods, services, and works from, dispose of movable property, hire or let anything, or grant rights to the private sector. This definition should be read in conjunction with the Public Procurement Act, Act 28 of 2024, wherein it defines procurement as the acquisition of goods and services for construction, repair, or maintenance of infrastructure or capital assets; the acquisition of goods and services; the acquisition of infrastructure or capital assets; and the letting or disposal of assets by a procuring institution.
Project Manager	The Project Manager refers to a person appointed by a Provincial Department of Human Settlements who deals with programming, time control and other management aspects related to project management.
Rational Design Approval	Rational Design Approval refers to rational design approval by a Competent Person and involves a process of reasoning and calculation, which may include a design based on the use of standard or other suitable documents. It is the system owner's (who is registered with the Engineering Council of South Africa in a professional category) responsibility to provide rational design calculations that satisfy National Building Regulations, and the report must contain design assumptions, detailed calculations, references to necessary design standards and detailed design drawings and the structural design calculations must demonstrate structural integrity and stability as well as connection details. Critical topics that must also be included in the submission should cover the strength and stability of structural performance, fire resistance, water penetration, condensation, thermal abilities, and acoustics, as well as a construction process manual and quality control manual. The National Home Builders Registration Council Technical Division reviews rational designs and once it demonstrates compliance with the National Building Regulations, a letter of approval is issued to the system owner. The performance of alternative or innovative systems is reviewed annually and letters of approval are renewed, provided that the National Home Builders Council have not received any reports of system failure.

Reliability	Reliability refers to the ability of a structure or a structural element to fulfill the specified requirements, including the design working life, for which it has been designed.
Risk management	Risk management refers to the identification, assessment and prioritisation of risks followed by coordinated and economical application or strategy of resources to minimise, monitor, and control the probability and/or impact of unfortunate events or to maximise the realisation of opportunities.
Risk management strategy	Risk management strategy refers to an approach or set of principles according to which plans are built to reduce risk.
South African National Accreditation System	South African National Accreditation System refers to a single National Accreditation Body that gives formal recognition that Laboratories, Certification Bodies, Inspection Bodies, Proficiency Testing Scheme Providers, and Good Laboratory Practice test facilities are competent to carry out specific tasks.
Site	A site refers to the area or place where construction is being carried out.
South African National Accreditation System	South African National Accreditation System refers to a single National Accreditation Body that gives formal recognition that Laboratories, Certification Bodies, Inspection Bodies, Proficiency Testing Scheme Providers, and Good Laboratory Practice test facilities are competent to carry out specific tasks.
Standard	A standard refers to a document that provides for common and repeated use, rules, guidelines or characteristics for products, services, or processes and production methods, including terminology, symbols, packaging, marking or labelling requirements as they apply to a product, service, process, or production method.
Structural system	A structural system refers to the system of constructional elements and components of a home which is provided to resist the loads acting upon it and to transfer such load to the ground upon which the home is founded.
Technical Assessment Tool	Technical Assessment Tool refers to a tool used for scoring Innovative Building Technology systems on the database in terms of technical performance.
Technical Services Advisor	Technical Services Advisor refers to an employee of the provincial Department of Human Settlements who is at the level of Assistant Director or Deputy Director or Director responsible for Technical Services in terms of Housing Planning.
Variation calculator	Variation calculator refers to an electronic calculator that has been developed for use when calculating the adjustment of the subsidy amount. The formulas

	used in the calculator are based on the extraordinary development conditions and the subsidy amount available during a specific financial year. Following the adjustment of the subsidy amount, an updated calculator is made available by the National Department of Human Settlement. To facilitate the evaluation of project applications, the Variation Manual is supported by an automatic variation amount calculator. This calculator operates through the software programme Microsoft Word Excel and is available from the National Department of Human Settlement. The calculator will be annually adjusted by the Department in line with the building cost index. It is important to note that although the calculator can be used to determine variation amounts required for the adjustment of the project cost at project application stages, the actual variation amount must be determined based on a professional assessment of the extraordinary development conditions and the costing of the precautionary measures designed by the professionals. A geotechnical calculator was developed for the Department, in line with the National Department's variation calculator, in 2004, by Sonderland and Schutte Consulting Engineers, to be used by the Department for the calculation of geotechnical variations, which remains in use in the Department until such time deemed otherwise by the Accounting Officer of the Department.

1. INTRODUCTION

It is the legislative mandate of the Department of Human Settlements (DHS) to ensure that beneficiaries of low-cost housing developments are provided with quality housing that provides an investment value for beneficiaries in the long run. Human dignity, quality of life, and environmental security at the household level are key to developing sustainable and viable human settlements. The housing sector is a fundamental and strategic sector that is linked with improving the standard of living and it depends highly on technological innovation as a constant driving force to provide quality housing at scale but at minimum cost simultaneously.

It is generally not known that innovative and non-standardised building technologies need more analysis and special engineering to ensure health, safety, and safe environments due to their technical complexities as compared to the conventional use of bricks and mortar, hence innovative building technologies are subject to well-designed systems that follow systematic approval and selection processes. Good governance in terms of public procurement is critical in the implementation of innovative building technologies to ensure that the delivery of quality products remains the key ingredient to the procurement of experienced and certificated innovative building expert developers. Employing innovative ideas in the building of low-cost housing at scale will assist in addressing the huge housing backlog and will through innovative and sustainable solutions create jobs, improve low-carbon designs, include social responsibility, and upliftment.

Employing innovative building technologies has its desirous advantages, of which the desirous benefits determine whether government or prospective homeowners will choose non-standardised construction as a preferable option. The major benefits of innovative building technologies are classified into four categories of economic factors whereby it proves to have improved upfront costs, improved market values, and improved profitability in the long run through life cycle costing or cost-benefit analysis of the total building; construction factors whereby it eases construction, it lowers maintenance, and improves the rate of construction and reduces labour costs; environmental factors as it

improves energy efficiency, improves embodied energy and ensure less wastage; and social factors as it is socially acceptable through architectural enhancement.

Innovative building technologies are relevant, especially from the housing subsidy perspective as the government is concerned with the huge backlog in housing delivery and the increasing slum conditions that seem non-eradicable. Its relevance is found in improving the quality of houses by finding ways that the poor can access affordable housing. More so, in the context of South Africa, innovative building technologies offer a new means of combating the carbon footprint of human activities and settlement development, producing in the building industry, on resources and the natural environment.

Deemed to satisfy and fit-for-use protocols for innovative building technologies have been developed through Agrément South Africa and the National Home Builders Council in respect of innovative building technologies in line with all relevant and applicable legislation. In the planning, inclusion, and implementation of innovative building technologies in low-cost housing or human settlement developments, it becomes imperative to observe these protocols to ensure that the Department approves the use of the best quality cost-effective innovative building technologies which are safe, healthy, easily maintainable, affordable, socially and culturally acceptable.

The objective of this Policy is to assist the Department of Human Settlements in planning, budgeting, and constructing good quality innovative build subsidised houses with innovative building designs through the application of legislation and guidelines/frameworks guiding innovative building technologies.

The Policy for the Use of Innovative Building Technologies in Low-cost Housing Developments in the North West Province was initially approved by the Member of the Executive Council in 2019, however, due to various legislative changes and policy shifts. The reviewed Policy is effective from the date of approval by the Member of the Executive Council thereby repealing the Policy that was approved in 2019.

2. PURPOSE AND OBJECTIVES OF THE POLICY

The purpose of this Policy serves as a guide concerning the application and implementation of quality innovative building technologies in low-cost human settlement development housing programme options and serves as an aiding decision-making tool for the Department to make well-informed selections.

Innovative Building Technologies must be selected in terms of their performance, quality, benefits, and functionality, such as improved construction turnaround time, lifecycle costing, bulk upfront costs, energy efficiency, sustainability principles, maintenance plans, environmental soundness, reliability, serviceability, and so on, ergo the purpose of this Policy.

3. SCOPE OF APPLICABILITY OF THE POLICY

This Policy applies to the decisions, the application, and the implementation of innovative building technologies in national housing programmes that are implemented in the North West Province.

4. ENFORCEMENT

The risk of not complying with the guidelines in this Policy in conjunction with relevant legislation ultimately bears negative consequences of development and a legal risk of employing innovative building technologies in the development of low-cost housing policy programmes, which can range from being accountable to justifying actions or decisions made incorrectly and therefore knowingly accepting legal responsibility for loss of life. The risks need to be managed, and the responsibility thereof lies with the accountable officials.

5. GUIDING PRINCIPLES

This Policy is founded on the following principles:

5.1. Creating an environment where the right to access adequate, safe, healthy, and dignified housing is upheld in respect of all citizens of the North West Province.

5.2. Creating integrated, viable, sustainable, healthy, and safe human settlement environments.

5.3. Creating homes that are safe and healthy for human consumption.

5.4. Creating an enabling environment where applicable legislation, rules, and regulations are observed and implemented to ensure the health and safety of beneficiaries of housing programmes.

6. STRATEGIC INTENT

The strategic intent of this Policy is to:

6.1. Ensure the best innovative building technologies are employed in low-cost human settlement developments at scale within acceptable cost, effectively, and efficiently.

6.2. Ensure that the use of innovative building technologies in low-cost housing developments is healthy, safe, environmentally sound, simple to use, affordable, culturally, and socially acceptable, and requires minimum operation and maintenance.

6.3. Promote the use of innovative building technologies in the delivery of low-cost human settlement developments.

6.4. Ensure uniform implementation of the guidelines to all aspects of employing innovative building technologies for low-cost human settlement developments.

6.5. Ensure good governance in public procurement as it relates to innovative building technologies for low-cost human settlement developments.

7. LEGISLATIVE MANDATE

The following legislative, policy, and strategic frameworks are the primary enabling legislation insofar as they pertain to the use of innovative building technologies in the housing sector, and should therefore not be read and applied in isolation, but as part of an array of primary and secondary enabling legislative, policy, and strategic frameworks, and those legislative, policy and strategic frameworks that are not mentioned herein should be consulted, if needs be:

7.1. Accreditation for Conformity Assessment, Calibration and Good Laboratory Practice Act, Act 19 of 2006

The South African National Accreditation System (SANAS) is responsible for carrying out accreditations in respect of conformity assessments mandated through the Accreditation for Conformity Assessment, Calibration, and Good Laboratory Practice Act, Act 19 of 2006. It is a single National Accreditation Body that gives formal recognition that Laboratories, Certification Bodies, Inspection Bodies, Proficiency Testing Scheme Providers, and Good Laboratory Practice test facilities are competent to carry out specific tasks.

7.2. Agrément South Africa Act, Act 11 of 2015, as amended

Agrément South Africa is an entity of the National Department of Public Works. It is affiliated with the World Federation of Technical Assessment Organisations with its mandate being within the built environment domain. As such, the legislation and mandates that impact the built environment and public works guide the functioning and operations of Agrément South Africa. Agrément South Africa is an independent organisation that evaluates the fitness of non-standardised building and construction products and systems by applying performance-based criteria in its assessment procedures.

Where a system or product is assessed to be fit for purpose, the Board of Agrément of South Africa grants a certificate. These certificates are technical documents that describe

the system, summarise the assessed performance, list the uses for which the subject of the certificate has been assessed to be fit, give the conditions and requirements that must be met if the assessed performance is to be attained, and state which regulations are deemed to be satisfied by the subject of the certificate.

As far as building systems are concerned, they assess aspects of structural strength and stability, behaviour in fire, water penetration, thermal performance, durability and maintenance required, the likelihood of condensation forming on the inside of the building, acoustic performance, and the applicant's quality system. In the case of products such as roofing materials, piping, road products, etc., the criteria appropriate to the subject and its intended use are applied. The subject of a certificate is reappraised if there are changes to the subject, the Agrément criteria, or to the relevant regulations.

It is critical that prior any product with an Agrément certificate is used, to check whether the certificate is still valid. All valid certificates are listed on the Agrément website. Agrément certificates are used to demonstrate compliance with regulations as specified in the certificate. Certificates facilitate acceptance and/or approval by designers and specifiers, regulatory authorities, mortgage lenders and financial institutions, and community-support organisations. Certification, ergo, supports a certificate holder's confidence in the technical merits of the product. Certificates are technical documents that contain an authoritative assessment of the product or the system's performance, give the uses for which the product or system has been assessed to be fit, summarise the level of performance that may be expected, and list the precautions that must be taken when using the product or system if the assessed performance is to be attained. Agrément certificates are only granted to applicants who have implemented an approved Quality Management System. Such a Quality Management System must follow ISO 9001.

7.3. Broad-Based Black Economic Empowerment Act, Act 53 of 2003, as amended

It is the main objective of the Broad-Based Black Economic Empowerment Act, Act 53 of 2003, as amended, to promote economic transformation to enable meaningful participation of black people in the economy to achieve a substantial change in the racial composition of ownership and management structures and the skilled occupations of existing and new enterprises thereby increasing the extent to which communities, workers, cooperatives and other collective enterprises own and manage existing and new enterprises by increasing their access to economic activities, infrastructure and skills training, as well as to increase the extent to which black women own and manage existing and new enterprises. The Act promote investment programmes and access to finance that led to broad-based and meaningful participation in the economy by black people to achieve sustainable development and general prosperity.

7.4. Building Regulations and Building Standards Act, Act 103 of 1977, as amended

The Building Regulations and Building Standards Act, Act 103 of 1977, as amended, provides for the promotion of uniformity in law relating to the construction of buildings and the prescribing of building standards. The Regulations consist of the following parts, ALL equally applicable to human settlement developments for government: Part A: Administration; Part B: Structural Design; Part C: Dimensions; Part D: Public Safety; Part E: Demolition Work; Part F: Site Operations; Part G: Excavations; Part H: Foundations; Part J: Floors; Part K: Walls; Part L: Roofs; Part M: Stairways; Part N: Glazing; Part O: Lighting and Ventilation; Part P: Drainage; Part Q: Non-waterborne means of Sanitary Disposal; Part R: Stormwater Disposal; Part S: Facilities for Disabled Persons; Part T: Fire Protection; Part U: Refuse Disposal; Part V: Space Heating; Part W: Fire Installations.

The National Building Regulations are concerned with the protection of property and general safety, health, and convenience of the public regarding the building of homes, the design and construction of homes which are not harmful to the health or well-being of users and occupiers and ensuring that certain solutions that are adopted for homes

contribute positively to environmental sustainability. South African National Standards (SANS) establishes the level of performance (quantitative requirements) and "deemed to satisfy" provisions and how functional requirements established in the regulations may be satisfied by the application of a set of rules, national assessments or rational designs by a Competent Person and Agrément certification. All applicable SANS regulations should be consulted in conjunction with this Policy.

Application for approval of building plans must be made to a local authority which applies in line with this Act and Regulations when considering applications. Compliance with the Act and Regulations may be demonstrated by meeting the relevant deemed to satisfy rules of the current SANS Code of Practice 10400: The application of the National Building Regulations when using conventional methods of construction, or a valid Agrément certificate when using non-standardised or innovative building systems, or a rational design by a Competent Person.

7.5. Constitution of the Republic of South Africa, Act 108 of 1996

The Constitution of the Republic of South Africa Act 108 of 1996, in Section 10, prescribes that everyone has an inherent right to dignity and the right to have their dignity respected and protected, which is critical in implementing Section 26 which prescribes that everyone has the right to access adequate housing and that the state (DHS) must take reasonable legislative measures within its available resources to achieve this progressive right.

Emphasis is placed on adequate housing as adequate housing is inclusive of safe housing, meaning that all reasonable precautions should be taken where human settlements are developed such that the safety of beneficiaries is guaranteed, as it also states in Section 24(a) that *everyone has the right to an environment that is not harmful to their health or well-being* and Section 152(1)(d) states that *the objective of local government is to promote health and safety of its inhabitants.*

7.6. Consumer Protection Act, Act 86 of 2008, as amended

The Consumer Protection Act, Act 86 of 2008, as amended, provides for the protection of the interests of consumers and for that purpose makes provision for the establishment of consumer councils and other authorities for the settlement of consumers' disputes and matters connected therewith. This Act has an impact particularly on the design of homes as it gives every consumer a right to receive goods (tangible objects) that are not only reasonably suitable for purposes for which they are generally intended but also comply with any applicable standards as set out under the Standards Act, Act 8 of 2008, in conjunction with this Act.

7.7. Construction Industry Development Board Act, Act 38 of 2000, as amended

The Construction Industry Development Board, Act 38 of 2000, as amended, provides for the establishment of the Construction Industry Development Board (CIDB) to implement an integrated strategy for the reconstruction, growth, and development of the construction industry and creates a register of contractors that are linked to the best practice contractor recognition scheme and a register of projects linked to best practice project assessment scheme.

The Construction Industry Development Board, Act 38 of 2000, as amended, prohibits contractors from undertaking, carrying out or completing any construction works or portions thereof in respect of a public sector contract unless the contractor is registered with and has a valid registration issued by the CIDB; and further requires every organ of state to apply the register of contractors to its procurement processes and as such may not aware a construction works contract to an unregistered contractor or to a registered contractor who does not possess the required contractor grading designation. The prescripts of the Construction Industry Development Board, Act 38 of 2000, as amended, are therefore very important in that the government must ensure that contractors are registered and graded insofar it pertains to ensuring adherence to technical norms and standards and ensuring that contractors "do things right from the beginning".

The Construction Industry Development Board launched the Construction Quality Assessment System (CONQUAS) in 1989 with the main purpose of introducing a standard quality assessment system for construction projects; making quality assessment objectives; and enabling the assessments to be carried out systematically within reasonable cost and time.

7.8. Engineering Profession Act, Act 46 of 2000, as amended

The Engineering Professions Act, Act 46 of 2000, as amended, establishes the Engineering Council of South Africa which provides for the registration of professionals, candidates, and specified categories in engineering professions. The Act further provides for the regulation of the relationship between the Engineering Council of South Africa and the Council for the Built Environment. Of importance is the mandatory requirement of Principal Agents and the professional teams that are appointed, that they are registered with the Engineering Council of South Africa and that their registrations are valid and current when bidding to participate in the implementation of innovative building technologies in low-cost housing developments.

7.9. Housing Act, Act 107 of 1997, as amended

The Housing Act, Act 107 of 1997, as amended, is the primary piece of legislation for the housing mandate in South Africa and it legally entrenches policy principles outlined in the 1994 White Paper on Housing which provides for sustainable housing development processes, laying down general principles for housing development in all spheres of government, defining functions of national, provincial and local governments in relations to housing development; and it lays a foundation for the financing of national housing programmes.

In terms of this Act, Section 1 (vi), housing development can be seen as 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 country will on a progressive basis have access to permanent residential structures with secure tenure, ensuring internal and external privacy and providing adequate protection against all the elements and potable water, adequate sanitary facilities and domestic energy supply.

Part 3, Section 7, Sub-sections (1), (2), (3) and (5), delegate provincial policy-making functions in terms of human settlement development in a Province to the Member of the Executive Council (MEC) for Human Settlements. It further provides for the Housing Code setting out principles, guidelines, norms, and standards which apply to the government's various housing assistance programmes that have been introduced since 1994.

7.10. **Housing Code, 2009**

The National Housing Code, 2009, sets out the underlying principles, guidelines, norms and standards which apply to the government's various housing assistance programmes that were introduced since 1994. The main purpose is to provide an easy-to-understand overview of the various housing subsidy instruments available to assist low-income households to access adequate housing.

7.11. **Housing Consumer Protection Measures Act, Act 95 of 1998, as amended**

The Housing Consumer Protection Measures Act, Act 95 of 1998, as amended, requires the NHRBC to publish a Home Building Manual, which contains the Technical Requirements (2014) prescribed by the Minister and guidelines established by the NHBRC to satisfy such requirements. The NHBRC Home Building Manual, amongst others, describes the roles and responsibilities of different role players assigned in terms of the primary pieces of legislation governing the design and construction of homes, i.e., the National Building Regulations and Building Standards Act, Act 103 of 1977, as amended; the Housing Consumer Protection Measures Act, Act 95 of 1998, as amended; and the Occupational Health and Safety Act, Act 85 of 1993, as amended. The NHBRC

Technical Requirements include standards in line with the prescripts of the National Standards Act, Act 8 of 2008, i.e., performance requirements, evaluation, geotechnical investigations to determine foundation parameters, development of land underlain by dolomite, greenfield developments, approved certification schemes, and a Council list of Competent Persons.

7.12. National Treasury Standard for Infrastructure Procurement and Delivery Management, 2016

This Policy establishes a control framework for the planning, design and execution of infrastructure projects and infrastructure procurement as it relates to institutional arrangements, demand management, acquisition management, contract management, logistics management, disposal management, risk management, and providing minimum requirements for infrastructure procurement. It is of great importance that the Department adheres to these guidelines in all instances of procurement that are related to infrastructure management.

7.13. National Regulator for Compulsory Specifications Act, Act 5 of 2008, as amended

The National Regulator for Compulsory Specifications Act, Act 5 of 2008, as amended, enables the National Regulator for Compulsory Specifications (NRCS) to issue compulsory specifications, especially technical requirements that require conformity of a product or service to health, safety or environmental protection requirements of a standard, or specific provision/s of a standard.

7.14. Public Procurement Act, Act 28 of 2024, repealed the Preferential Procurement Policy Framework Act, Act 5 of 2000, as amended

The Public Procurement Act, Act 28 of 2024, repealed the Preferential Procurement Policy Framework Act, Act 5 of 2000, as amended.

7.15. **Standards Act, Act 8 of 2008**

The Standards Act, Act 8 of 2008, provides for the development, promotion, and maintenance of standardisation, quality in connection with, and rendering of related conformity assessment services to ensure the provision of an internationally recognized standardisation system that continues to support the needs of South African enterprises. The South African Bureau of Standards (SABS) is a statutory body that was established in terms of this Act as the national standardisation institution of South Africa which is mandated to develop, promote and maintain South African national standards, promote quality in connection with commodities, products and services, and render conformity assessment services.

It becomes necessary to differentiate between the SABS and the Board of Agrément South Africa, of which the latter is an independent body under a ministerial delegation of authority from the Minister of Public Works. Agrément South Africa assesses and certifies fitness for purposes of systems, elements and components intended for use in the construction of buildings and infrastructure which fall outside the scope of existing standards established by the SABS. Fitness for purpose in this context means the ability of the system, element or component to be consistently developed, manufactured, applied and installed such that it fulfils its intended purposes.

7.16. **Value-Added Tax Act, Act 89 of 1991, as amended**

The Value Added Tax (VAT) Act, Act 89 of 1991, as amended, provides for tax that is levied on the supply by a vendor of goods or services in the course and furtherance of any enterprise carried on by a vendor. VAT is an indirect tax based on the consumption of goods and services in the economy. It is a tax added to the cost of a product or service and is levied to generate revenue for the government.

7.17. Guidelines on Geotechnical Site Investigations in relation to Extraordinary Human Settlement Development Conditions and Applicable Variations, LGHS, 2018

The purpose of these Guidelines is to serve as guidelines in respect of extraordinary human settlements development conditions which may influence the design and economic appraisal of geotechnical site investigations performed by consultants who are Competent Persons appointed by the Department. It further provides a basis for decision-making regarding the application of variations in terms of extra-ordinary human settlement development conditions as well as provides for the correct processes that should be followed to determine whether variations and which variations should be applied or not as precautionary measures in the development of human settlements to ensure the delivery of the highest quality of housing products that are acceptable to beneficiaries and that will ensure durable products with investment value.

The main objective of these Guidelines is to ensure that correct measures are applied through Competent Persons in cases where human settlement developments are taking place in areas where extraordinary development conditions are evident. To comply with this objective Developers must investigate the proposed development site through Competent Persons for any extra-ordinary development conditions as identified in the Guidelines before submission of the application; the investigation and confirmation of the existence of extra-ordinary human settlement development conditions must be done by appropriately qualified Competent Persons; all precautionary measures must be confirmed and designed by appropriately qualified Competent Persons; the construction and/or installation of the precautionary measures must be supervised by appropriately qualified Competent Persons and the departmental Technical Services Advisor; the responsible appropriately qualified Competent Persons and the departmental Technical Services Advisor must certify in writing compliance with the design and construction specifications of the precautionary measures before any payment of milestones; and any housing subsidy project application that includes an application for an adjustment of the subsidy amount due to extra-ordinary development conditions will require quantitative

verification in the form of a comprehensive report by an appropriately qualified Competent Persons to the specifications of the National Home Builders Regulation Council (NHBRC).

7.18. Guidelines on Housing Development Project Processes, LGHS, 2018

This Policy seeks to, in line with the purpose of the policy, provide guidelines, and procedures concerning housing development processes which are project-based to ensure that all human settlement projects are implemented uniformly, effectively, and efficiently, ensuring optimum utilisation and minimal wastage of state resources. The purpose of this Policy is to assist with the development and implementation of quality contract and project management plans for housing projects that will be undertaken by the Department, ensure that quality is an integral part of every housing project, reduce re-work and/or extensions on/of housing projects, compliance with all relevant sector-related norms, standards and legislative prescripts ensure that houses meet the satisfaction of the beneficiaries of low-cost housing options as the customers of the Department.

7.19. Guidelines for implementing Housing Consumer Education in the North West Province, 2022/2023

The purpose of the Housing Consumer Education Guideline is to establish a clear vision and a coherent yet integrated framework instrument that can guide housing consumer education and awareness interventions. The Housing Consumer Education Guideline seeks to ensure and achieve uniformity and standardisation in the implementation of housing consumer education by the Department of Human Settlements and other implementing agents throughout the North West Province.

8. ROLES AND RESPONSIBILITIES

8.1. National Department of Human Settlements

8.1.1. Sets national policy in terms of technical requirements and publishes subsidy quanta with applicable variations under the authority of the Minister for Human Settlements from time to time as it pertains to human settlement delivery.

8.2. Provincial Department of Human Settlements

8.2.1. Only the MEC for the Department can approve the use of innovative building technologies in housing development programmes and relevant approval must be sought from the MEC through inclusion in the Department's Human Settlements Business Plan and proper submission to the MEC for approval.

8.2.2. The Department must observe and comply with all relevant and applicable legislation about innovative building technologies to ensure quality standard products are delivered at a value for money.

8.2.3. The Department must ensure that communities that will be receiving innovative building technologies are trained in all aspects of the innovative building technology as well as maintenance of such technologies, inclusive of their rights and responsibilities as housing consumers through the IBT system holder/certificate holder/licensee at cost of the IBT system holder/certificate holder/licensee. This should commence before the project is implemented, during project implementation, and just before the handover takes place, and the Department must keep a record of each beneficiary having received innovative building technology consumer education.

8.2.4. The Department must appoint a Champion, who should be a Technical Expert in Human Settlement Development, for the implementation of this Policy, who will be working together with the relevant sections in the Department to ensure that quality innovative building technologies are implemented on scale, as well as a direct liaison with the MEC in the implementation of this Policy.

8.2.5. The Department, Supply Chain Management (SCM), must at the tender process for the application of innovative building technologies consult with the relevant protocols and databases and provide proof of consultation to ensure decisions are made based on technical and functional assessments of such technologies to ensure that poor performing technologies are not considered for inclusion in low-cost housing developments. The Department, through SCM, must before any tender is awarded, check that the Agrément certificate is still valid.

8.2.6. All Supply Chain Management bid evaluation and adjudication panels should include a Human Settlement Technical Services expert as it pertains to tenders related to innovative building technologies. The Department must invite experts from NHBRC and Agrément to be part of all bid committees.

8.2.7. The Department's Professional Team, which will be evaluating already-implemented IBT systems in the province for future IBT projects, will be headed by a Technical Expert from the Human Settlements division and will comprise a panel of a Housing Inspector, an Engineer, an official from Supply Chain Management. The Department must invite experts from NHBRC and Agrément to be part of this Professional Team.

8.3. Municipalities

8.3.1. Municipalities are obliged to ensure that the health and safety of inhabitants living within its jurisdiction is ensured in line with Section 152(1)(d) of the Constitution of South Africa, Act 108 of 1996, meaning that Municipalities must put in place risk prevention mechanisms to deal with the health and safety of its inhabitants.

8.3.2. Municipalities are obliged to ensure that all buildings are constructed in terms of the National Building Regulations and Building Standards Act, Act 103 of 1977, as amended, and the National Building Regulations.

8.4. Agrément South Africa

8.4.1. Certifies non-standardised construction products through technical assessments that verify whether products and systems are fit for purpose. Construction products that have been assessed as fit for purpose are granted certificates by the Board of Agrément South Africa.

8.4.2. Agrément South Africa will reappraise products when certificate holders make changes to the products, when there are changes to applicable regulations, or when there are changes in the assessment criteria that affect the products.

8.4.3. Where there is non-compliance, Agrément South Africa can affect suspensions, withdrawals, reactivations, cancellations, and inactivation of certificate holders.

8.4.4. The Agrément South Africa maintains a Dynamic Database on all certifications and can be accessed on its website. All certificates can be obtained from this website.

8.5. National Home Building Regulations Council (NHBRC)

8.5.1. NHBRC defines regulatory and procurement interventions to promote and improve the quality of IBT and advises stakeholders on the performance of IBT. The NHBRC guides the effective and efficient implementation of IBTs that are of high quality, approved and accredited systems, and that prove to have value for money.

8.5.2. NHBRC maintains the NHBRC Accredited Database of Innovative Building Technologies Developers for the construction of houses using innovative building technologies.

8.5.3. The NHBRC promotes the implementation of IBTs at scale throughout low-cost housing human settlement developments.

9. POLICY GUIDELINES

SECTION 1: GUIDELINES FOR IMPLEMENTING INNOVATIVE BUILDING TECHNOLOGIES

9.1. Budgeting for the implementation of innovative building technologies (IBTs)

9.1.1. A minimum of five percent (5%) of the total Human Settlements Development Grant (HSDG) allocation to new structures (foundations, walls, roofs, finishes and services) must be set aside for the use of IBTs and thereafter be incrementally increased on its merits and this ring-fencing must take place at a provincial level.

9.1.2. The Department must therefore ensure that a minimum of five percent (5%) is included in the HSDG business plan annually and linked with the budget of the HSDG.

9.2. Demand, feasibility and preferential implementation of IBTs

9.2.1. Development of IBT structures must only commence when municipalities have completed township establishment and confirmed infrastructure for water, roads, stormwater drainage, and electricity; and the services must be verified by Engineers to ensure IBT structures are completed in compliance with performance requirements.

9.2.2. It must be verified that proper preparation has been done which comprises a demand analysis and feasibility studies on the location and type of development to foster well-planned communities. The desired achievement in settlement formation must be clarified and outlined by the

Council for Scientific and Industrial Research (CSIR) Guidelines for Human Settlement Planning and Design Volumes 1 and 2.

9.2.3. IBT can only be implemented in national housing programmes that are being implemented by the province which were identified through relevant consultation processes, and the Department must follow processes outlined in this Policy that will improve the overall quality of low-income IBT structures and ensure social acceptability.

9.3. Procurement processes in respect of IBTs

9.3.1. All Supply Chain Management bid evaluation and adjudication panels must include a Human Settlement Technical Services expert as they pertain to tenders related to innovative building technologies.

9.3.2. It is preferable that a priced document or a target cost pricing strategy is selected. The target cost could be the best option as it provides better collaboration between the employer and consultant because they have a degree of risk regarding cost. The target cost is estimated and upon completion, the difference between the target cost and the actual cost is paid.

9.3.3. The Construction Industry Development Board (CIDB) have recommended forms of contract such as:

9.3.1.1. FIDIC (French acronym for the International Federation of Consulting Engineers) 1999.

9.3.1.2. General Conditions of Contract for Construction Works (GCC2004).

9.3.1.3. JBCC (Joint Building Construction Committee) Series 2000.

9.3.1.4. NEC3 family of standard contracts.

9.3.4. FIDIC, GCC2004, and NEC3 are recommended for all construction and engineering contracts. JBCC Series 2000 is recommended for low-cost housing developments as it mainly consists of building works, but this Policy does not preclude using other forms of contracts for low-cost housing developments.

9.3.5. In terms of JBCC contracts, two main types of appointment can be considered:

9.3.5.1. The Department can follow a package deal approach and appoint a professional as the Principal Consultant and Principal Agent who in turn appoints the consultants/team. Payments are made through the Principal Consultant who will have to negotiate special indemnity insurance for carrying the risk of liability, should any consultant be negligent. The Principal Consultant can enter into a Joint Practice agreement with all other consultants.

9.3.5.2. The Department can appoint and pay consultants individually. Professionals are responsible for their work to the employer in terms of the best-practice principles of the relevant professional councils. The Principal Consultant and Agent take responsibility for their contractual role in terms of the JBCC and coordinate the consultants accordingly.

9.3.6. A standard client/consultant document is used to confirm the agreement:

9.3.6.1. Make use of the Professional Consultants Services Agreement (PROCSA) or consensus agreement composed and accepted by the constituent/professional bodies, of which the agreement regulates the terms of engagement between the client and the consultants.

9.3.6.2. Make use of the South African Institute of Architects (SAIA) agreement that sets out the services and related conditions of the agreement between the client and the architect.

9.3.7. There are two types of building works contracts prescribed by the JBCC Series 2000. The Minor Works Agreement is recommended for projects up to approximately R3m; and above that amount, the Principal Building Contract is prescribed; of which contract is signed between the Department of the Principal Agent and Contractor.

9.3.8. The scope of works for the Principal Consultant/Agent is clarified in the client/architect agreements, in the PROCSA agreement or in specially formulated legal agreements. There are six work stages prescribed by PROCSA, as follows:

9.3.8.1. Stage 1: Inception: Establish client requirements and preferences, assess user's needs and options, appointment of necessary consultants and establish project brief and project objectives.

9.3.8.2. Stage 2: Concept and viability: Finalize the project concept and feasibility.

9.3.8.3. Stage 3: Design Development: Develop the concept design into a final stage and define the parameters for scope, time and quality.

9.3.8.4. Stage 4: Tender documentation and procurement: Prepare procurement and construction documentation and ensure that appropriate procurement strategies are in place for the effective execution of the project.

9.3.8.5. Stage 5: Construction: Manage, administer and monitor contract processes and procedures to ensure effective execution of work.

9.3.8.6. Stage 6: Close-out: Complete project close-out and handover.

9.3.9. The request for proposal/tender must include the following (Section 2 of this Policy outlines the recommended format of a request for proposal/tender invitation):

9.3.9.1. A definition of what IBT is and why they are used in human settlement developments.

9.3.9.2. General requirements for the IBT project, i.e., the site, the house description, specific requirements on sustainability, site sensitivity, location, social investigation, and budget.

9.3.9.3. Project overview, i.e., the objective, scope of works, terms of reference for building works, budget, appointment of professionals and the whole team, context, professional works required, documentation, project management, required output, and project schedule.

9.3.9.4. Technical data required to be submitted by the bidder.

9.3.9.5. Technical evaluation criteria.

9.3.9.6. All types of certifications that will be required to be submitted with the bid by bidders.

9.3.9.7. Proof of bidders' experience should be provided, and the proof of experience would differ according to the scale of the IBT project.

9.3.9.8. The Department must indicate any special extraordinary geotechnical conditions that may have an impact on the delivery of low-cost housing as it pertains to IBTs.

9.3.10. At the tender briefing meeting, the Department must invite a technical expert from the NHBRC and Agrément SA to be present. The meeting should not commence without their presence.

9.3.11. At the tendering stage, when the appointment of a contractor occurs for new building projects, they must be registered with the CIDB, NHBRC, and Agrément SA. CIDB-registered contractors are graded in terms of financial and work capability and NHBRC provides a status for contractors in terms of the quality of work on the relevant scale of the housing project completed, and Agrément SA and NHBRC provides for the certification of IBT license holders and licensees.

9.3.12. For any building work, the Department should obtain relevant guarantees and warranties, and the Department should request from the contractor's Contractors All Risk Insurance Covers which refers to the ability to carry the project financially, registration, experience and reference.

9.3.13. A warranty should be provided by the IBT manufacturer that applies after the defect's liability period.

9.3.14. The contractor in an IBT project must be an IBT certificate holder or licensee who must in essence prove his/her capability in delivering good quality homes for the relevant scale of the project, which are durable, require minimum maintenance and provide a proper maintenance plan.

9.3.15. The Department must verify the IBT contractors/certificate holders/licensees against the NHBRC IBT Database and the Agrément Dynamic Database and the systems must be verified against IBT performance standards. The categories for multi-criteria that are rated are energy performance, distance from suppliers, economies of scale, local labour forces, lead time flexibility, accessibility, durability, acoustics, condensation, and fire.

9.3.16. A better cost evaluation must be ascertained by requesting a lifecycle cost analysis compared to conventional bricks and mortar.

9.3.17. It is necessary to add the necessity of passive design solutions.

9.3.18. A licensee must not be used if the licensee does not have the relevant experience to complete a relevant scaled project. IBT certificate holders must be graded as contractors in terms of their experience.

9.3.19. An IBT certificate holder/licensee who cannot carry out a project financially must provide proof of obtaining financial assistance to be able to complete the project.

9.3.20. To prevent large-scale projects from not being completed, projects must be divided into phases of smaller-scale projects, and they should appoint more than one IBT system.

9.3.21. Should the IBT certificate holder/licensee not be able to complete the project for financial or capacity reasons, the project should be finished according to the contractual requirements (extent of work to be completed and handing over of maintenance manuals) after which the Department has a right to appoint another IBT system owner to continue with the project.

9.3.22. National Treasury supports the deviation from normal tender procedures on the condition that all accredited IBT developers are requested to participate in each bid/quotation for the construction of homes through innovative building technologies.

9.3.23. All sub-contractors MUST be certified with Agrément and must have a valid active certificate for any work that is sub-contracted where IBT systems are implemented or used.

9.3.24. Compliance with the Construction Regulations, 2014, is compulsory, and the awarded bidder must submit a construction permit to the Department before the commencement of any construction works.

9.4. Procedure when accepting tenders based on the Agrément certification

9.4.1. Obtain a copy of the full certificate. Certificates are technical documents and contain essential information on the assessed performance and installation and/or erection requirements of the subject. Copies of all certificates are obtained from the website of Agrément South Africa.

9.4.2. Verify whether the certificate is "active" or "inactive".

9.4.3. Verify who is going to erect the subject or install the product. Compliance with the conditions of the certificate may only be claimed by the certificate holder or his/her licensee who is registered with Agrément South Africa. A certificate holder's name is printed on the certificate. Verify licensees also with Agrément South Africa.

9.4.4. The certificate number should be stated on the contract to be able to benefit from the protection that the certificate offers.

9.4.5. Verify whether any variations have been approved by Agrément South Africa. Certificate holders claiming to comply with a certificate are obliged to inform the client (the Department) of any deviations from the certificate.

9.4.6. Verify what is stated on the certificate to ensure that whatever is going to be provided is in line with the uses for which the subject is stated to be fit, and the conditions of the certificate.

9.4.7. Post tender acceptance: check that the contractor is adhering to the conditions of the certification, of which the Department can consult Agrément to verify compliance.

9.4.8. If the Department expresses unsatisfactory service, it can approach Agrément South Africa to investigate problems arising from non-compliance with the certificate.

9.5. Identification of well-performing IBTs and making suitable appointments

9.5.1. The NHBRC IBT Database and the Agrément Dynamic Database must be used to make suitable selections that comprise building systems with an active Agrément Certificate, and which have passed the NHBRC technical performance assessment of IBT systems. The value of using this database is that special conditions may apply to poorer-performing systems.

9.5.2. Selections must be made from the NBHRC IBT Database and the Agrément Dynamic Database for procurement processes in terms of national procurement policies. Selections of IBTs must conform to performance standards and be sustainable in the South African context.

9.5.3. To be able to determine the short-listed IBT systems, the Department must use the IBT Analyser and the Agrément Dynamic Database at the procurement stage and attach print-out/s from the Database/Analyser as it pertains to the short-listed IBT systems that are deemed to satisfy and fit-for-purpose.

9.5.4. The Department, i.e., Supply Chain Management, must obtain updates on the NHBRC IBT Analyser and the Agrément Dynamic Database every time the Department selects IBT systems during procurement processes.

9.6. Planning approvals and enrolment of IBTs

9.6.1. All new housing developments, and for housing developments that contain IBTs, must be enrolled with the NHBRC directly after the plans have been approved by the local authority and at least fifteen (15) working days before construction commences.

9.6.2. All plans, specifications, and certificates for any building to be built for the government or on behalf of the government, must be lodged with the local authority for its comment and approval before the commencement of construction.

9.6.3. No construction can commence without the submission of a construction permit to the Department before the commencement of construction.

9.7. Social acceptability of IBTs

9.7.1. The Department must, after identification of IBT projects, before going out on tender, obtain social acceptability certificates/letters from qualifying beneficiaries of IBTs in low-cost human settlement developments wherein they clearly state that they have been consulted before construction and that they accept being provided housing opportunities through the implementation of IBTs.

9.7.2. Short-listed IBT certificate holders, before appointment, should have constructed IBT dwellings in the province before tendering for a project, and proof to this extent should be presented by all bidders of IBT at the bidding stage.

9.7.3. The Department's Professional Team must inspect the built IBT houses as an aiding instrument to decide on the most suitable system for a relevant community. A report from the evaluators must be included in the tender evaluation and adjudication processes. The Professional Team must consult the NHBRC Conditional Assessment Tool (CAT) to:

9.7.3.1. Monitor the condition of "as-built" IBT homes and analyse the quality of construction.

9.7.3.2. Ascertain the risks to the Department, the NHBRC, and the homeowner, i.e., assess the general performance to establish the degradation of selected IBTs every three (3) years.

9.7.3.3. Assist Inspectors and stakeholders with information to be aware of IBT issues and apply preventative measures.

9.7.3.4. Create a platform for IBT system owners to improve their construction processes by developing a dynamic database.

9.7.4. The Department's Professional Team will be headed by a Technical Expert from the Human Settlements division appointed by the Head of Department (HOD) and will comprise a panel of a Chief Housing Inspector, an Engineer, and an official from Supply Chain Management. This team must invite an expert from the NHBRC and Agrément to be part of this team and participate in all its activities.

9.8. Developing skills in IBTs

9.8.1. On appointment, the IBT certificate holder, at his/her own cost and in conjunction with the NHBRC, should arrange training sessions on IBTs two (2) weeks before construction for the following parties:

9.8.1.1. Officials from the Department and the Local Municipality who will be monitoring/inspecting the progress of the project such as project manager/s and departmental/municipal/NHBRC inspectors.

9.8.1.2. At least two (2) and a maximum of five (5) emerging/general contracting companies from the province, with the possibility of becoming an IBT system certificate holder or licensee.

9.8.2. Proof of training should be submitted to the Department when submitting the last milestone for payment. Proof includes:

9.8.2.1. Attendance registers for training.

9.8.2.2. Credentials for training attendees.

9.9. Accountability of IBT certificate holders as the contractor

9.9.1. The IBT certificate holder/licensee appointment for any government low-cost housing project is accountable for the quality of any scale housing project. It is the certificate holder's/licensees' responsibility to prove and have the applicable capacity to deliver IBTs at scale.

9.9.2. If at the discretion of Agrément SA, the IBT certificate holder or licensee, as the contractor, is not abiding by the general and technical requirements as stipulated in its certificate, disciplinary action processes can be taken, which can include the suspension of the IBT certificate holder/licensee and/or the IBT certificate holder/licensee losing its certification.

9.10. Reducing the risks of poor standard construction of IBTs

9.10.1. Only IBT systems should be built or utilised, which provide a post-construction warranty cover for the IBT over and above the NHBRC warranty cover and latent defects liability period in a housing development programme project.

9.10.2. NHBRC inspectors should inspect each IBT house at least five (5) times during construction concerning the casting of foundations, wall construction, roof erection, services, finishes, and completion (as it is aligned with the Housing Subsidy System [HSS]) to:

9.10.2.1. Inspect the technical requirements in terms of the National Building Regulations and standards and keep a record thereof.

9.10.2.2. Check that the IBT certificate holder's Engineer/s has completed his/her inspections at the above-mentioned stages

and verified the inspections and necessary instructions by signing the site instruction book at each site visit.

9.10.2.3. The NHBRC will develop an inspection checklist per the IBT system that is used per project for the inspection of milestones. The NHBRC will share this inspection checklist with the department's Housing Inspectors to be able to jointly inspect the above-mentioned milestones. It is the responsibility of the Department to liaise with the NHBRC to request and obtain these checklists.

9.10.3. Short-listed IBT certificate holders must provide a Quality Management Plan and Project Plan to ensure consistency for the relevant scale of the project at the procurement stage.

9.10.4. Short-listed IBT certificate holders must provide a Fire Plan to ensure fire hazards are minimised to a maximum.

9.10.5. Completion and occupancy certificates must be provided in line with the National Building Regulations and Building Standards Act, Act 103 of 1977, as amended, Section 14.

9.11. Preventing the use of non-conforming products as it relates to IBTs

9.11.1. Professionals should provide specifications of materials that refer to specific SANS standards. Where no SANS standard exists, thorough specifications should be provided, ensuring the quality of materials, e.g., dimensions, description, performance requirements (strength and fire rating), fixing methods and finishes.

9.11.2. Materials and products should comply with the performance requirements of the National Building Regulations and the National Regulator of Compulsory Specifications (NRCS).

9.11.3. Other innovative technologies related to energy use, water use, sanitation solutions, and waste disposal that are incorporated into the design of the low-income homes, must satisfy the functional regulations through South African standards, Agrément certification and certification by a certification body or relevant Competent Person.

9.11.4. A list of generally known poor quality products must be obtained from the NHBRC and the Agrément SA by the Department's Supply Chain Management to exclude poor performers from the onset and confirmation must be attached to the tender evaluation documentation to ensure that no poor performers are adjudicated tenders as it poses a risk from the onset.

9.12. Community service plans

9.12.1. A housing consumer education and awareness plan regarding IBTs should be included at the bidding stage to ensure that social acceptability is obtained even before the project commences.

9.12.2. A community service plan for maintenance should be provided for each residential project and IBT system, that will ensure the general maintenance, and additions will be provided for the post-construction phase, according to an agreed-upon period.

9.12.3. A strategy should be developed on who and how the maintenance of IBTs should occur and must include:

9.12.3.1. Each beneficiary must receive a proper maintenance manual, of which the beneficiary must be workshopped before handover, clarifying the processes to be followed for maintaining (rectifying defects, replacing materials and adding onto) an IBT home.

9.12.3.2. An additional warranty cover must be provided by the IBT certificate holder over and above the NHBRC warranty and latent defects liability period.

9.12.3.3. The IBT system owner must provide a sustainable disposal plan for materials to be recycled or reused.

9.12.3.4. The services for maintaining IBT systems should be accessible to all human settlement developments.

9.12.4. Innovative building technologies housing consumer education, which will also include the manuals on the operation and maintenance of innovative building technologies, costs must be borne by the IBT system holder/certificate holder/licensee, and all housing consumer education must be conducted in the presence of NHBRC, Agrément SA, and Technical Experts in Human Settlement Development.

SECTION 2:PRO FORMA TEMPLATE OF REQUEST FOR A TENDER PROPOSAL

(Numbering in the following section deviates from the normal Guidelines numbering for purposes of quoting the recommended tender proposal and sample/s extracted from the NHBRC – everything in italics should be determined before the request for tender proposal is drafted to insert relevant information in the request for tender proposal)

Tender name: Appointment of a suitable service provider for an Innovative Building Technology (IBT) Housing Project for inclusion at a *(insert NAME OF HOUSING DEVELOPMENT PROJECT AND UNDER WHICH PROGRAMME THE PROJECT FALLS)*

Tender number: .....

Closing date: .....

Closing time: .....

1. Terms and conditions

Bidders submitted a bid in response to this Request for Proposal (RFP) or Terms of Reference (TOR) are deemed to do so, on the basis that they acknowledge and accept the terms of conditions as provided in this section. *The Department is to specify any other terms and conditions if not covered by the Request for Proposal or Terms of Reference.*

2. Background

2.1. This project will make use of innovative building technologies (IBT) as a method of solving typical issues encountered in government low-cost subsidised houses. It will be used to improve some or all the following factors of which relevant proof needs to be provided and attached with the bid response:

- 2.1.1. Economics to include the market value, upfront costs and life cycle costing.
- 2.1.2. Construction to include the rate of construction, ease of construction, and lower maintenance.
- 2.1.3. Environmental issues include energy efficiency, embodied energy, and less waste.
- 2.1.4. Social acceptability plans must be included.

2.2. Although the construction industry interchangeably uses the terminology of either alternative or innovative building technology to describe the new technology of building, this tender focuses on the term innovative building technology (IBT), which is more inclusive of all innovation in artefacts or processes. It is also stipulated in the Housing Consumer Protection Measures Act, Act 95 of 1998, as amended, what non-standardised construction means to which IBT relates, which is defined as any form of building that utilises building systems, methods, materials, elements or components which are not fully covered by existing standards and specifications or codes of practice and/or which are not described or referred to in "deemed to satisfy" rules of the National Building Regulations. IBTs are also often contrasted with conventional/standard building systems, which can be defined as a building system, method, materials, elements or components, fully covered by existing standards and specifications or codes or practices. An innovation can, for example, include standard material but has an innovative method of putting it together.

2.3. IBTs must be certified by Agrément South Africa and can include products or systems (foundation, wall, roof and services). The Agrément certification will validate the system in terms of performance

(fire, structure, water penetration. and rising dampness); habitability (thermal performance, energy usage, condensation, acoustics, and durability); and the Quality Management System.

2.4. In cases of the IBTs being more standard (e.g., SANS 10082 for timber frame building and SANS 517 for light steel frame building or where the behaviour of a particular IBT system is known) a rational design must be provided as approved by the NHBRC.

2.5. When compared to conventional building systems (brick and mortar and light steel frame structures according to standards), the innovation in the low-cost house should provide benefits for which proof must be provided.

3. General requirements for the IBT project

To be formulated by the Department and inserted into this section: *These are the requirements for the IBT project which must be specified by the Department related to the context of this project, which includes background information to complete the project incorporating factors such as the site, houses, specific requirements on sustainability, site sensitivity, social investigation completed, budget and cost-benefit analysis:*

3.1. All analysis and impact assessments must be completed by the Department and must be provided before a development can start such as the suitability of the site; infrastructure; geotechnical report/s; social, environmental and heritage impact assessments; feasibility studies on integrated development, etc. A summary of all these impact assessments must be included under the general requirements for the project by the Department.

3.2. The scale of the housing project, housing type/s; location; number of houses; and other homeowner requirements must be provided under the general requirements for the project by the Department.

3.3. The Department should include the extent of sustainability principles that must be adhered to. This can include requirements such as energy efficiency (SANS 10400XA:2021), renewable energy, passive design, water, waste, embodied energy, and food.

3.4. The Department should indicate the level of sensitivity of the site, which is a site with a special social, environmental or heritage significance such as declared protected areas and urban conservation areas, as the Professional Team that is appointed, is appointed according to the complexity of a project which can include scale and site sensitivity in terms of the relevant Profession's Acts.

3.5. *The Department, having completed the investigation into the social and/or cultural requirements specific to a community, needs to be included in the specifications.*

3.6. *A fire protection plan and specifications must be completed and included by the Department to prevent any fire hazards from occurring. to occur.*

3.7. *The anticipated budget for the project may not exceed the prescribed amount, which includes the amount for individual houses or total costs (exclusive of VAT), whichever is relevant.*

3.8. *The Department must request a report on the cost benefits of a specific IBT such as using a life-cycle costing method. The cost benefits must focus on the savings in terms of upfront costs, energy efficiency, labour and running costs.*

4. Project Overview

4.1. Objective of the project

4.1.1. The purpose of this tender is for the service provider to design, manage and construct low-cost houses using innovative building technologies that provide relevant benefits as compared to standards brick and mortar. These benefits must be validated to justify the use of the system for a specific project.

4.1.2. The service provider will be the Principal Agent who will oversee all the project work stages from inception to completion according to professional best practices and the JBCC.

4.2. Scope of works (Terms of Reference)

The scope of works/terms of reference for this project is divided into four (4) parts, and entails the work for the tender submission of the Principal Agent and the following:

4.2.1. Part 1: Appointment of all required professionals to JBCC:

4.2.1.1. The entire professional team needs to be proposed by the Principal Agent at the tender stage and on employment appointed for the design and construction of IBT houses to comply with all professional registration councils. Proof of registration and experience must be attached.

4.2.1.2. A copy of all the signed contractual agreements between the Principal Agent and the professionals must be submitted with this tender proposal response.

4.2.1.3. Professional indemnity insurance must be provided by all appointed professionals.

4.2.1.4. The Principal Agent (the bidder) will appoint a building contractor and project manager to manage the project and professional work and construction processes according to the JBCC within one (1) month of bid adjudication.

4.2.1.5. Any other required professionals/specialists not mentioned in this document need to be motivated for approval by the Department. These new appointments will be approved based on professional registrations and relevant experience. Proof must be attached of registration and experience.

4.2.2. Part 2: Evaluation of the context including the location, social aspects and culture, and environmental aspects:

4.2.2.1. This entails first investigating all town planning requirements, geotechnical investigations, site layouts, infrastructure and orientations of the integrated development project. A report on all the investigations' outcomes must be attached.

4.2.2.2. The social and cultural preferences of the identified community must be investigated, and a report should be attached.

4.2.2.3. To establish if any other outstanding impact assessments must be commissioned or completed, i.e., social, environmental and heritage impact assessments, which should be costed.

4.2.2.4. Bidder must include all sustainability principles for the low-cost housing project.

4.2.2.5. Including the infrastructure layout and analysis as it pertains to geotechnical conditions/investigations and the influence it will have on the design of the low-cost houses.

4.2.3. Part 3: Completing all work on documentation and procurement:

4.2.3.1. The preliminary design concept must be submitted at the tender stage and developed further on the appointment of the relevant bidder of which the design concept must contribute to the social acceptability and durability of the IBT use for the applicable low-cost housing development project.

4.2.3.2. A preliminary cost estimate of the low-cost housing development project must be included, and all cost savings must be identified. A clear and concise cost-benefit analysis must be provided and must be compared to conventional brick and mortar, which can include, amongst others, savings related to upfront costs, the rate of construction, labour costs and/or life-cycle cost savings.

4.2.3.3. A rational housing consumer education and awareness plan as it pertains to IBTs must be included at the tender stage.

4.2.3.4. A rational training plan (of which training must include at least two (2) weeks of training before, during and after construction) must also be submitted as part of the tender which is aimed at departmental/local government officials, community

members and emerging contractors (as it pertains to potential licensees). This training plan must be accompanied by a comprehensive construction manual (which includes amongst others construction methods, processes, detailing, fixing methods, equipment to be used and specifications) and this training plan must be attached to the training plan that is submitted at the tender stage.

4.2.3.5. The drawings as well as construction drawings must be completed for approval by the Local Municipality on the approval design.

4.2.3.6. The NHBRC enrollment must be completed for the warranty covers which include 3-month workmanship, 1-year roof leakage, and a 5-year structural warranty.

4.2.3.7. The tender process for appointing a building contractor must be followed and all JBCC contracts must be signed and submitted to the Department and the building contractor must be a registered IBT system holder/licensee.

4.2.3.8. A Bill of Quantities must be completed based on the working drawings according to which the contractor bids are compared.

4.2.4. Part 4: Project management from inception to the close out of the project:

4.2.4.1. The entire project will be managed by the Principal Agent (the Bidder) or the appointed Project Manager.

4.2.4.2. The Department that appointed the Principal Agent, who is the client, must attend all site meetings to monitor progress.

4.2.4.3. The Principal Agent must complete all the minutes of meetings and signed minutes must be kept and distributed to the Department and the respective Local Municipality.

4.2.4.4. The Principal Agent must provide the Department with monthly progress reports which must be submitted within the first five (5) days of a new month after the month in which it is being reported.

4.2.4.5. Any deviation/s from municipal-approved working drawings must be fully motivated for the Department to approve before the commencement of any new work based on deviation/s.

4.2.4.6. Variation orders, which must be limited to the maximum, must be approved by the Department before any commencement of any new work based on variation/s.

4.3. Required outputs/deliverables

The following outputs have been identified as deliverables after the IBT low-cost housing project:

4.3.1. Fully completed high-quality IBT houses according to the agreed upon and signed JBCC contract.

4.3.2. Fully completed post-construction processes on the defect's liability period according to the JBCC contract until final close-out.

4.3.3. Guarantees for the construction of the project as well as all warranties for the innovative materials/products/systems used in the project.

4.3.4. Additional warranties must be provided by the IBT system owner/s for the innovative building technologies for houses after the latent defects liability period.

4.3.5. The maintenance manual on general maintenance and additions must be handed to all beneficiaries of IBT houses and all such beneficiaries must be trained in the maintenance manual. The maintenance manual must contain a list of all contact details of accessible IBT service providers.

4.3.6. The Occupational Certificate must be obtained from the Local Municipality.

4.3.7. All building certificates for professional works and services must be obtained.

4.3.8. Completed "as-built" drawings must be provided to the Department and the Local Municipality.

4.3.9. A construction permit must be obtained from the Department of Labour and submitted to the Department before any construction can commence. Ergo, no construction permit deems the appointed bidder to be in contravention of the Construction Regulations, 2014, and the contract can be cancelled.

4.4. Project schedule

4.4.1. The Principal Agent (the Bidder) must provide the Department with a Project Plan for appointment which must include all the professional work stages and construction phases and preliminary plans for the project.

4.4.2. The Department expects the project to be completed within the set period as agreed with the Principal Agent in the form of a contract within the approved costs from the date of appointment. No extensions will be considered.

5. Technical data to be submitted by the bidder

5.1. General information

5.1.1. The Department requires the services of interested and competent service providers who are experienced in the construction of IBT homes to take on the role of a Principal Agent to manage the project and construct the house/s.

5.2. Requisites of the Principal Agent Consultant/Service Provider

5.2.1. The service provider will act as the Principal Agent who will manage the project or will appoint an experienced Project Manager to manage the project.

5.2.2. The Principal Agent will be a fully registered, experienced and qualified professional in terms of the JBCC contract or if performing the role of Project Manager, must be fully registered with the South African Council for Project and Construction Management Professions (SACPCMP) with relevant qualifications.

5.2.3. The Principal Agent will appoint all relevant agents and the main contractor (of which contractor must be a licensee of IBT) and payments will be made through the Principal Agent/alternatively, the Department will make all appointments and make payments, but the Principal Agent will coordinate the project.

5.2.4. The Principal Agent must have sufficient experience in the management of projects for IBT houses on a scale from inception to completion with a proven track record, which must be submitted with the bid response.

5.3. Documents to be submitted (additional to documents already mentioned throughout the tender/request for proposal)

5.3.1. Before responding to this tender/request for proposal, during the past five (5) years, the bidder must have acted as a Principal Agent for at least two (2) low-cost housing projects whereby IBT systems were implemented/incorporated into the low-cost housing projects for a total value per project exceeding *Rx million inclusive of VAT (Department to determine the amount as part of tender specifications)*. The bidder must submit a summary of the projects in the prescribed template below:

Projects completed in the low-cost housing industry in the past five (5) years				
Name of project	**Project description**	**Contract value including VAT**	**Client name**	**Client contact details**
Total		**R**		

5.3.2. Additionally, the bidder must provide the project details of the two projects as mentioned in Section 5.3.1. that were completed in the past five (5) years in the template below. For each of the two (2) fully completed projects, "happy letters" of successful completion of the projects must be provided by the client/s on the client/s letterheads and signed off by an

authorized delegated employee of the client/s which must also be signed off by a Commissioner of Oaths:

Name of project:	
Name of client:	
Contact person:	
Role of the contact person in the project:	
Contact details (all applicable telephone numbers):	
Project commencement date:	
Project completion date:	
Contract amount inclusive of VAT:	
Summary of the project (maximum of 200 words):	
Please attach a letter from the client indicating the successful completion of the project as per the client's brief and this letter must be signed off by a Commissioner of Oaths.	

5.3.3. In terms of the capability of the project team, the bidder must also attach a summary detail of each of the project professionals in the template below:

Full names	Role in the project	Current academic qualifications	The key area of specialization	Years of experience	Professional Registration
Principal Agent					
Project Manager					
Architect					
Civil Engineer					
Structural Engineer					
Geotechnical Engineer					
Fire Consultant					
Quantity Surveyor					
Health and Safety Manager					

5.3.3.1. The bidder must attach certified copies that are not older than three (3) months of all academic and professional registrations.

5.3.3.2. In addition, the bidder must attach in respect of each professional, an abridged/summarized curriculum vitae which highlights specific, and relevant qualifications and experience.

5.3.4. The bidder must submit a document outlining the proposed approach to the project in terms of the design concept, cost estimates, suitable IBT system/s in context, detailed training programme, a detailed housing consumer awareness and education programme, contractual agreement/s, payment/s and site meeting/s.

5.3.5. The bidder must submit a project plan with proposed dates and milestones of which the project plan must indicate key tasks, activities and deliverables.

5.3.6. The bidder must also include a summary of a proposed fee structure, which must include:

5.3.6.1. Professional fees.

5.3.6.2. Project stages/phases.

5.3.6.3. Estimates for construction stage/phase.

5.3.6.4. Disbursements.

5.3.6.5. Cost escalations.

6. Technical and price evaluation criteria

6.1. In line with the Department's Supply Chain Management Guidelines and Procedures, the bid evaluation process shall be carried out in three (3) stages:

6.1.1. Stage 1: Supply chain compliance checks and mandatory requirements are stipulated in Section 13 of this tender request for proposal and bidders must ensure that all compliance checks and mandatory requirements are met in full.

6.1.2. Stage 2: Functional evaluation: All bids must comply with Stage 1 compliance checks and meet all mandatory requirements to qualify for functional evaluation and those bids which fail to comply with all requirements of Stage 2 will be invalidated or disqualified from the process. The following values will be applicable when evaluating bids:

Key:	5	=	Excellent
	4	=	Very good
	3	=	Good
	2	=	Average
	1	=	Poor
	0	=	Non-compliant

Item #	Evaluation criteria		Weight
1.1.	**Construction Industry Relevance**	Section 1.1. assesses the bidder's experience in acting as a Principal Agent for low-cost housing developments as it pertains to IBTs:	
	Refer to Section 5.3.1. of this tender request for a proposal	During the past five (5) financial years, the bidder must have completed at least two (2) IBT housing projects. For total project/s value, including VAT, exceeding the value of the specific project which is tendered for will be 5 *(Department to determine and specify value)*: *<R m* — *Score 0* *≥R m but < R m* — *Score 1* *≥R m but < R m* — *Score 2* *≥R m but < R m* — *Score 3* *≥R m but < R m* — *Score 4* *≥R m* — *Score 5*	20 points
	Refer to Section 5.3.2. of this tender request for a proposal	Two (2) IBT low-cost housing projects completed as per the client brief. Points will be allocated as follows: • If two (2) or more projects were completed as per the client brief and requirements – Score = 5. • If only one (1) project was completed as per the client brief and requirements – Score = 2. • If no projects were completed successfully – Score 0. *These points must be awarded based on information provided by the bidder and the "happy letter" signed by the client and the Department reserves the right to contact the client to obtain further information.*	15 points
1.2.	**Professional Capability**	Section 1.2. will be used to assess professional capability for which relevant experience must be in low-cost housing developments as it pertains to IBTs. The project team must demonstrate expertise in the areas of Principal Agent, Architect, Engineers (Civil and Structural), Quantity Surveyor, Fire Consultant, and Health and Safety Manager.	
	Refer to Section 5.3.2. of this tender request for a proposal	The Principal Agent must be registered as a Civil Engineer – Pr.Eng.; Architect – Pr.Arch.; Quantity Surveyor – Pr.QS; and/or Project Manager – Pr.CPM/Pr.CM: • Score = 5 • Anything else/no registration = 0	5 points
		The Project Manager must be registered as a Project Manager – Pr.CPM/Pr.CM with the SACPCMP: • Score = 5	5 points

		• Anything else/no registration = 0	
		The Architect must be registered as an Architect – Pr.Arch with the SACAP or the IDoW: • Score = 5 • Anything else/no registration = 0	5 points
		Engineers must be registered as Civil Engineer/Geotechnical Engineer/ Structural Engineer – Pr.Eng. with ECSA: • Score = 5 • Anything else/no registration = 0	10 points
		The Fire Consultant must be registered as a Technical Engineer – Pr.Tech.Eng. with a Degree in Fire technology and at least 5 years' experience and must be registered with ECSA: • Score = 5 • Anything else/no registration = 0	5 points
		The Quantity Surveyor must be registered as a Quantity Surveyor – Pr.QS with SACQSP: • Score = 5 • Anything else/no registration = 0	5 points
1.3.	**Project proposal tender submission – refer to Section 5.4. of this tender request for proposal**	Quality of tender proposal submission – the provision of a tender submission that demonstrates the service required by the Department, including the evaluation, and fees whereby points will be allocated based on the panel's assessment of the adequacy of the tender submission documents and score a 5 = Excellent; 4 = Very good; 3 = Good; 2 = Average; 1 = Poor; or 0 = Non-compliant.	20 points
		Project Plan – the bidder must provide a detailed project plan that demonstrates an understanding of the project and is within the stipulated time frame. The project plan that is provided must indicate the project delivery dates/milestones in months with specific dates and score a 5 if compliant and score 0 for non-compliance.	15 points

6.1.3. Stage 3: Technical/functional assessment pass mark:

6.1.3.1. Total possible score = 100 – after considering the functional pre-qualifying criteria, a bidder is considered to have passed Stage 2 (functional

requirements), and if the total score is equal to or greater than 80 points, bids will be then further evaluated.

6.1.3.2. The contract will be awarded in terms of Regulation 4 of the Preferential Procurement Regulations in line with the Preferential Procurement Guidelines Framework Act, Act 5 of 2000, as amended, and bids will be adjudicated in terms of the relevant preference points and hereby an example is provided for the 90/10 preference point system in terms of which points are awarded to the bidders based on of 90/10 preference point system (for the acquisition of services, works and goods within a Rand value less than R1 million and all applicable taxes included:

$P_s = 90\ (1 - \frac{P_t - Pmin}{Pmin})$

Whereas:

P_s = Points scored for the comparative price of the bid or offer under consideration.

P_t = Comparative price of bid or offer under consideration.

$Pmin$ = Comparative price of lowest acceptable bid or offer.

6.1.3.3. The points scored will be rounded off to the nearest decimal places.

6.1.3.4. The points will be awarded to the bidder for attaining BBBEE status level 1 of contribution according to the following table and points scored for price will be added to the points scored for BBBEE status level to obtain the bidder's total points scored out of 100 points:

BBBEE Level	90/10
Level 1	10
Level 2	9
Level 3	8
Level 4	5
Level 5	4
Level 6	3
Level 7	2
Level 8	1
Non-compliant contributor	0

6.2. Prices must be fixed for the duration of the contract, if fees are not fixed, please indicate the percentage as per industry norms and standards and the escalation period.

7. Tender request for proposal submission instructions

The Department must determine the submission instructions and include them in this section.

8. Availability of the tender request for the proposal document

The Department must determine the availability of the tender request for proposal and include it in this section.

9. Tender request for proposal closing date

The Department must determine the closing date for the tender request for proposal and include it in this section.

10. Validity period of bids

The Department must determine the validity period of bids and include it in this section.

11. Administrative enquiries

The Department must determine who in the Department will be responsible for administrative queries and include them in this section.

12. Submissions of bids/proposals

The Department must determine where bids/proposals must be submitted in the Department and included in this section.

13. Checklist for compliance and mandatory requirements and Standard Bidding Forms (SBD) forms

The Department must determine the compliance checklist, mandatory requirements and SBD forms and include them in this section.

SECTION 3: NHBRC IBT ANALYSER

(Numbering in the following section continues from Section 1.1.)

9.13. The NHBRC IBT Database is a custom-made software tool based on a more comprehensive user manual completed by the CSIR, called the IBT Analyser, which assists with a comparison of several building systems, taking into context the climate, energy zones, the region of the proposed site, and the performance

characteristics of the systems to identify the innovative technology deemed most suitable and appropriate under a set of user-defined criteria and thereby enhance selection and decision-making processes, and therefore, the Department must use it in the selection processes of awarded tender bids to suitable IBT system holders or licensees.

9.14. The NHBRC IBT Database must be used to make suitable selections that comprise building systems together with an active Agrément Certificate. The NHBRC IBT Database should not be used without obtaining an active Agrément Certificate. Ergo, selections must be made from the NBHRC IBT Database AND the Agrément Dynamic Database for procurement processes in terms of national procurement policies. All the systems of the NHBRC IBT Database are Agrément certified.

9.15. The Department, i.e., Supply Chain Management, must collate updates on the NHBRC IBT Database and the Agrément Dynamic Database every time the Department selects IBT systems during procurement processes.

9.16. All low-cost housing options **must** be constructed per the NHBRC Guidelines for Building an Energy-Efficient Home. The Guidelines must be used in conjunction with the SANS 10400-XA:2021, which includes the Energy Zones. The Guidelines prescribe:
https://www.nhbrc.org.za/wp-content/uploads/2020/10/IBT-Energy-Efficiency-Guidelines.pdf

9.16.1. Orientation.
9.16.2. External walls.
9.16.3. Fenestration.
9.16.4. Shading.
9.16.5. Roof assembly.
9.16.6. Under-floor heating.
9.16.7. Services – light and power.
9.16.8. Hot water.

10. IMPLEMENTATION, AWARENESS, COMMUNICATION, AND DISSEMINATION

10.3. The Policy will be implemented by the North West Department of Human Settlements in conjunction with applicable stakeholders and role-players.

10.4. Communication, awareness, and dissemination of the Policy will be done through the North West Department of Human Settlements Directorate for Housing Research and Policy Development in conjunction with applicable role-players.

11. MONITORING AND EVALUATION

11.3. Monitoring and evaluating compliance with the Policy remain the most critical areas to ensure effective implementation of the Policy.

11.4. The Sub-Directorate of Monitoring and Evaluation under the Chief Directorate of Housing Needs, Research, Planning, and Technical Services in the North West Department of Human Settlements will be responsible for monitoring and evaluating compliance with the Policy.

12. THE COMMENCEMENT DATE OF THE POLICY

This policy shall come into effect from the date of approval.

13. REVIEW OF THE POLICY

This Policy will be reviewed as and when changes are made in national legislation about innovative building technologies and tendering processes for the construction of low-cost housing options.

14. APPROVAL

Policy Developers:

MS K MALOKA
DEPUTY DIRECTOR:
HOUSING POLICY DEVELOPMENT

14/6/2024
DATE

MS HH DU PLESSIS
DIRECTOR:
HOUSING RESEARCH AND
POLICY DEVELOPMENT

14/10/2024
DATE

Recommended:

MR T PHETLHU
CHIEF DIRECTOR:
HOUSING NEEDS, RESEARCH, PLANNING, AND
TECHNICAL SERVICES

16/10/24
DATE

Recommended:

MS MK MAHLOBO
HEAD OF DEPARTMENT

16/01/2025
DATE

Approved:

MEC GO MOLAPISI

16/01/2025
DATE

15. REFERENCES

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ANNEXURE A

Use the appropriate departmental letterhead

HAPPY LETTER TO TAKE OCCUPATION OF A HOUSE THAT WAS CONSTRUCTION WITH INNOVATIVE BUILDING TECHNOLOGIES

Project name	
Project number	
Site number	
Developer	

1. I, the undersigned ..... (names and surname of the approved beneficiary*), hereby declare that I accept and take possession of the above property and that the structure has been completed under the specifications stipulated in the sale agreement between myself and the seller/developer.

2. I hereby confirm that I had received housing consumer education prior to occupation of a house that used innovative building materials and that I had received a maintenance manual from the Developer/Contractor on how to upkeep and maintain a structure that used innovative building materials.

3. I further confirm that I understand the eight (8) year pre-emptive clause which is implemented in line with the Housing Act, Act 107 of 1997, as amended, and that as per the said clause, I will not alienate the above-mentioned property.

Signed at ..... on ..... day of ..... 20 ....

Names of beneficiary	**Identity number**	**Signature**

Left thumbprint of the beneficiary	Right thumbprint of the beneficiary

Also, the above is confirmed by:

Developer names	Signature	Date
Inspector names	Signature	Date
Municipal representative	Signature	Date

* This Happy Letter should ONLY be signed by the approved beneficiary. Attach approval.