NBRB | NATIONAL BUILDING REVIEW BOARD

Safe Building, Better Living

BUILDING CONTROL ACT, 2013

Implementation Guide

JUNE, 2020

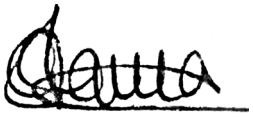
Contents

Foreword

The National Building Review Board (NBRB), a semi-autonomous body, under the Ministry of Works and Transport, was established under section 3 of the Building Control Act, 2013 (the Act) to, monitor building developments in the country and to oversee, inspect and monitor the operations of Building Committees among others.

The Minister of Works and Transport issued the National Building Code, 2019 (the Code) and the Building Control Regulations, 2020 (the Regulations) under sections 46 and 52 of the Act, respectively. The complexity of the Code and Regulations makes it critical for the membership of the Building Committees to have an in-depth understanding of the legal and institutional framework in the implementation of the Act. The guide has been developed to ease the implementation of the building control legal framework. It is my hope that the material contained herein will ease implementation of the Act, Regulations, the Code, as well as the use of building control standard documents, manuals and forms.

Finally, I wish to confer my profound gratitude to Arch. Verna Mbabazi and Arch. Mark Bwambale (Uganda Society of Architects); Eng. Caleb Tugumisirize, Eng. Dr. Abraham Judah Bumalirivu Muwanguzi and Eng Edward Kasule Musisi (Uganda Institution of Professional Engineers); Ms Juliet Komugisa (Ministry of Justice and Constitutional Affairs) and Arch. Jerome Olowo Stowell (NBRB Secretariat) for the credible input and eventual preparation of this implementation guide. I similarly thank their parent institutions for seconding to us such a dedicated team of true technocrats.



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Disclaimer

The material and information contained in this Implementation Guide is for general information and ease of reference only. The information in the Guide is not intended to substitute the laws, Regulations and Code cited in this Guide. Users of the Guide are encouraged to refer to the detailed text of the relevant law in order to make any business, legal or any other decisions.

1. BACKGROUND

Prior to enactment of the Building Control Act, 2013, building operations were regulated by the Public Health Act Cap. 269 and regulations made thereunder. However, the Public Health Act did not comprehensively address the concerns of the construction of buildings and related installations in Uganda, thus the need for a specific law to regulate the construction of buildings.

1.1. The need for a specific law to regulate building operations

The construction of buildings and installations have been carried out in cities, urban centres and rural areas without adequate supervision and monitoring by Government. This has greatly compromised public safety due to failure to ensure structural integrity of buildings, failure to observe building standards and adherence to the law.

The construction of buildings has had numerous challenges including-

(a) Deficiencies in the law. The Public Health Act, Cap. 269 was inadequate to regulate the building sector due to the following-

i. prescription of imperial units instead of SI units;

ii. fines, fees and penalties that do not reflect the current social and economic trends;

iii. reference to some materials that are no longer in use and some which are considered a health hazard;

iv. exclusion of some materials and construction methods that have evolved with change in technology; and

v. no requirement for construction of buildings that allow for special accessibility for persons with disabilities (PWDs).

(b) uncontrolled use of substandard materials resulting in a high rate of construction related accidents;

(c) unplanned human settlements;

(d) inefficient building developments;

(e) Unhygienic, unsafe buildings and general lack of maintenance.

The Building Control Act, 2013 was enacted to address the above challenges and to ensure safety and orderly developments on the limited and highly competitive land available in the country.

1.2. The Building Control Act

The purpose of the Building Control Act, 2013 (Act) is to consolidate, harmonise and amend the law relating to the erection of buildings, to provide for building standards, to establish a National Building Review Board and Building Committees, to promote and ensure planned, decent and safe building structure that are developed in harmony with the environment.

The Building Control Act, 2013, has seven Parts and 3 Schedules as highlighted below-

1. Part I provides for preliminary matters of the Act such as commencement and interpretation of important phrases used in the Act.

2. Part II- establishes the National Building Review Board as a body corporate composed of 16 members representing various institutions such as the Ministry of Works and Transport, Ministry of Lands Housing and Urban Development, Ministry of Health, professional bodies regulating Engineers, Architects, Lawyers, Surveyors and Physical Planners, interalia, as elaborated further under institutional arrangement for implementation of the Act.

3. Part III-deals with the Secretariat and other staff

   The Board is supported by the Secretariat that is headed by the Executive Secretary assisted by other staff. The Executive Secretary is the Chief Executive Officer of the Board and is responsible for the day to day operations of the Board. (s.16).

   The Board has powers to recruit staff under s.17 to assist it in the performance of its functions and also to hire consultants under s.18.

4. Part IV –deals with Finances of the Board in sections 20-27 of the Act.
   The Board is a self-accounting body whose source of funds is monies appropriated by Parliament, fees for services rendered or from grants and donations from well-wishers.

5. Part V establishes the Building Committees
   Section 28 establishes a Building Committee at every district and urban council.

   Section 29 provides for the functions of the Building Committee including-

   i. to scrutinise and approve building plans;
   ii. to issue building permits and occupation permits;
   iii. to ensure that the design and construction of buildings and utilities to which the public is to have access cater for persons with disabilities;
   iv. to review decisions on applications for permits for minor building works submitted to a building control officer under section 39; and
   v. to ensure compliance with the Act.

   More details on the committees are elaborated below under institutional arrangement for implementation of the Act.

6. Part VI- deals with Control of Buildings Operations including powers of the Building Committee to stop building operation under section 40 and power to order remedial action on defective buildings under section 41. Further, under this Part, the Minister has power to prohibit unsafe building methods and materials under section 42. The Building Control Officer is empowered to enter any premises to inspect or carry out tests under s.43. This Part also regulates the grant of occupation permits (s.44) and liability for causing accidents on building construction site (s.45).

It should be noted that it is no longer "business as usual" as the Act prescribes an offence for any person whose negligence, commission or omission causes or leads to the occurrence of an accident on a building construction site, which results in the injury or death of another person, or the destruction of property. Such a person is liable on conviction to a fine not exceeding two hundred eighty eight currency points or to imprisonment not exceeding twelve years or both.

7. Part VII- deals with Miscellaneous matters such as powers of the Minister to issue the National Building Code under section 46 of the Act, reports required under the Act (s.47), power of the Minister to give directions (s.48), delegation of Minister's powers and the extent of delegation (s.49), *note however that the Minister cannot delegate his or her powers to prohibit use of a building method or material, power to issue the National Building Code and Regulations and power to amend the Schedules to the Act. All other powers may be delegated by instrument of delegation.* Part VII also deals with service of notices, power of the Minister to issue regulations (s.52), amendment of Schedules, transition and effect of the Act on existing applicable laws. It should be noted that the Building Control Act, 2013 takes precedence over existing laws that are inconsistent with it.

8. Schedule 1 provides for the value of a currency point which is equivalent to twenty thousand shillings.

9. Seclude 2 provides for meetings and procedure of the Board, including, calling meetings, quorum, disclosure of interest of members and validity of proceedings not affect by vacancy, among other matters.

10. Schedule 3 provides for meetings and procedure of Building Committees, including, calling meetings, quorum, disclosure of interest of members and validity of proceedings not affect by vacancy, among other matters.

1.3. The Building Control Regulations, 2020

Regulations are a type of subsidiary legislation issued by a "delegate of Parliament" to prescribe the detailed procedural requirements necessary for operationalization of an Act of Parliament.

In the case of the Building Control Act, 2013, section 52 empowers the Minister, on the advice of the Board, to make regulations generally for better carrying into effect of the provisions of the Act.

Under that provision, the BCR, 2020 were issued by the Minister and prescribe the following procedural matters -

i. the content of building plans and other documents required to be submitted under the Act;

ii. the procedure and the costs to be paid in respect of any appeal lodged with the Board;

iii. the penalties for breach of the Regulations.

1.4. The National Building Code, 2019

Section 46 of the Act empowers the Minister to issue the National Building Code (NBC). The NBC provides for matters relating to -

- Building Standards
- Structural Design
- Plumbing
- Electrical installations
- Mechanical installations
- Accessibility Standards; and
- Postal Code Numbering.

It should be noted that the Act does not define the word 'Code'. However, according to Blacks Law Dictionary 8th Ed, "a code is a complete system of positive law, carefully arranged and officially promulgated; a systematic collection or revision of laws, rules or regulations. A Code is a compilation not just of existing statutes, but also much of the unwritten law on a subject, which is newly enacted as a complete system of law."

On basis of that construction of the term Code, the NBC has been issued by the Minister compiling existing written standards (such as Public Health Building Rules) and unwritten standards relating to building operations.

The National Building Code has been issued in chapters as follows-

1.4.1. The National Building (Building Standards) Code, 2019.

This provides standards for both private and public buildings in aspects of site laying, building design, building materials, building services, environmental protection and energy efficiency in buildings.

1.4.2.The National Building (Structural Design) Code, 2019

This provides the basis of design, standards for loads, the characteristics of strength of structural materials, geotechnical investigations to ensure that buildings perform satisfactorily during the intended life, sustain all loads and deformations of normal construction and use and afford adequate durability and resistance to the effects of nature; to ensure due regard is given to economy in design, structural safety, serviceability and durability.

1.4.3.The National Building (Standards for Electrical Installations in Buildings) Code, 2019

This provides for standards for electrical installations including designs, methods of installation, fundamental requirements for safety, wiring and wiring accessories, underground cables standards, solar power supply system, fire alarm systems, etc.

1.4.4. The National Building (Accessibility Standards for Persons with Disabilities) Code, 2019

This provides for standards that must be complied with by all buildings accessible by PWDs. E.g. signage used should be international symbol of access- in terms of direction, name of facility, height of lettering, reserved parking slots, number of parking clots, marking, size of slots, location of the parking slots viz a vie entrance of facility (50m) etc.

1.4.5. The National Building (Standards for Mechanical Installations in Buildings) Code, 2019

This deals with standards for plumbing works, drainage works, septic tanks, cess pools and latrines.

1.4.6. The National Building (Post Code Numbering) Code, 2019

This adopts addressing standards which include a description of the different postal and geographical address type to facilitate local government and other agencies, business and postal courier operators in the efficient and effective delivery of postal and other social services.

1.5. Other relevant laws

Other laws that relevant to building operations include-

1.5.1. Constitution

Is the Supreme Law of Uganda upon which all other laws must conform.

1.5.2. The Physical Planning Act, 2010, Act No. 8 of 2010

This Act provides for the establishment of the National Physical Planning Board, its composition, functions and procedure of the Board; it establishes district and urban physical planning committees; provides for the making and approval of physical development plans and for the applications for development permission.

1.5.3. The National Environment Act, 2019, Act No. 5 of 2019

This Act provides for the law relating to environmental management in Uganda and the management of the environment for sustainable development. The Act also establishes the National Environment Management Authority as a coordinating, monitoring, regulatory and supervisory body for all activities relating to environment; provides for emerging environmental issues including climate change, the management of hazardous chemicals and biodiversity offsets. It provides for strategic environmental assessment; how to address environmental concerns arising out of petroleum activities and midstream operations, management of plastics and plastic products. The Act further establishes the Environmental Protection Force; provides for enhanced penalties for offences under the Act.

1.5.4. Land Act, Cap. 227

The Land Act provides for the tenure, ownership and management of land and it amends and consolidates the law relating to tenure, ownership and management of land in Uganda.

1.5.5. Registration of Titles Act, Cap. 230

This Act regulates the transfer of land and registration of titles in Uganda.

1.5.6. Local Governments Act, Cap. 243

This Act provides for the law relating to local governments in line with the Constitution and gives effect to the decentralisation and devolution of functions, powers and services. It provides for decentralisation at all levels of local governments to ensure good governance and democratic participation in, and control of, decision making by the people; it further provides for revenue and the political and administrative setup of local governments; and election of local councils.

1.5.7. Public Health Act, Cap. 281

This Act consolidates the law regarding to preservation of public health in Uganda.

1.5.8. Occupational Health and Safety Act, 2006, Act No. 9 of 2006

This Act consolidates and harmonises the law relating to occupational health and repeals the Factories Act, Cap.220.

1.5.9. The Public Procurement and Disposal of Assets Act, 2003, Act No.1 of 2003

This Act establishes the Public Procurement and Disposal of Public Assets Authority to formulate policies and regulate practices in respect of public procurement and disposal activities. This Act is particularly relevant to public funded projects.

1.5.10. Engineers Registration Act, Cap.271

This Act provides for the establishment of the Engineers Registration Board, its powers and functions and provides for the registration of engineers.

1.5.11. Surveyors Registration Act, Cap.275

This Act provides for the establishment of the Surveyors Registration Board, its powers and functions and provides for the registration of surveyors.

1.5.12. Architects Registration Act, Cap.269

This Act provides for the establishment of the Architects Registration Board, defines the powers and functions of the board and provides for the registration of architects.

1.5.13. The Police Act, Cap. 303

This Act provides for the structure, organisation and functions of the police force, a police disciplinary code of conduct, a Police Welfare Fund, a police tender board among others. Under section 4 of the Act, the police are mandated to among others enforce the laws of Uganda and to prevent and detect crime in the society. As such, the police is an important body in as far as investigation of offences under the Building Control Act, 2013 is concerned. Once the police have investigated any criminal matter, the record of investigation is submitted to the Office of the Director of Public Prosecutions who, under article 120 of the Constitution, is mandate to prosecute criminal matters in courts of law.

2. Institutional Framework for Building Control

The Act establishes the following institutions responsible for its implementation-

1. The National Building Review Board
2. The Building Committee
3. The Office of the Building Control Officer

The institutional framework established under the Act is intended to ensure that construction of buildings from planning to completion and later on maintenance is done in a safe way and in harmony with the environment.

2.1. The National Building Review Board

The NBRB is a semi-autonomous body established under section 3 of the Building Control Act, 2013.

The Board is a representative board composed of sixteen members as follows-

(a) one representative of the department responsible for building works;

(b) one representative of the department responsible for physical planning;

(c) one representative of the ministry responsible for water and environment;

(d) one representative of the department responsible for housing;

(e) a representative of the Ministry responsible for persons with disabilities;

(f) one representative of each of the following professions, nominated for appointment by the relevant professional body or association—

(i) engineers;

(ii) architects;

(iii) physical planners;

(iv) surveyors;

(v) lawyers;

(g) a public health officer from the Ministry responsible for health;

(h) a representative of persons with disabilities nominated for appointment by the National Council for Disability;

(i) a representative of workers nominated for appointment by the national trade union centres;

(j) a representative of Uganda Local Authorities Association of Uganda nominated for appointment by the Uganda Local Governments Association;

(k) a representative of Urban Authorities Association of Uganda nominated for appointment by the Association of Urban Authorities;

(l) one person from the private sector nominated for appointment by the Private Sector Foundation.

2.1.1. Functions of the National Building Review Board

Under section 9 of the Act, the functions of the Board are-

(a) to monitor building developments;

(b) to ensure building standards for design and construction of buildings;

(c) to oversee, inspect and monitor the operations of Building Committees;

(d) to oversee, inspect and monitor the operations of Building Committees;

(e) to hear and determine appeals from persons dissatisfied with the decisions of a Building Committee;

(f) to determine the fees to be charged by urban and district building committees for approval of plans, issue of building permits and occupation permits.

The establishment of the Board to monitor building operations and oversee the operations of the Building Committees at local governments is intended to improve the building operations in Uganda. This is expected to be through coordinating and working with all stakeholders in the sector including professionals at local governments and private sector, developers, contractors, among others by guiding on compliance with the relevant laws and ensuring accountability of any person for noncompliance with the Act.

2.2. Building Committee

Section 28 of the Act establishes a Building Committee at every district and urban authority.

2.2.1. Building Committee at the district

The Building Committee at the district is composed of the following members-

i. Chief Administrative Officer
ii. Town Clerk
iii. Chairperson of the Planning and Development Committee of the District Council
iv. the officer responsible for physical planning
v. the officer responsible for health
vi. the officer responsible for engineering
vii. the officer responsible for land management
viii. the officer responsible for environment management
ix. an officer responsible for architecture
x. a representative of the PWDs nominated by the National Council for Disability at the district level
xi. a member of the district executive committee
xii. an officer from the police department responsible for fire prevention

2.2.2. Building Committee at urban authority

The Building Committee at urban authority is composed of the following members-

i. Town Clerk
ii. Chairperson of the Planning and Development Committee of the District Council
iii. Chairperson of the Urban Planning and Development Committee of the Urban Council
iv. the officer responsible for physical planning
v. the officer responsible for health
vi. the officer responsible for engineering
vii. the officer responsible for land management
viii. the officer responsible for environment management
ix. an officer responsible for architecture
x. a representative of the persons with disabilities nominated by the National Council for Disability at the district level

The Building Committees have all the required professionals as members to ensure that all aspects of building permit application are adequately assessed before permit approval.

2.2.3. Functions of Building Committees

Under section 29 the functions of each Building Committee is-

(a) to scrutinise and approve building plans;

(b) to issue building permits and occupation permits;

(c) to ensure that the design and construction of buildings and utilities to which the public is to have access cater for persons with disabilities;

(d) to review decisions on applications for permits for minor building works submitted to a building control officer under section 39;

(e) to ensure that the Act is complied with; and

(f) to perform any other function assigned to it by the Board

- Building Committees may co-opt professionals to assist in the performance of their duties under s.30. This is an important provision especially for districts and urban councils that may not have all the required professionals to co-opt the professionals in the private sector to assist in the scrutiny of building plans.

- S.31 and Schedule 3 provide for the procedure of the Building Committees including calling of meetings, quorum and decisions, minutes of the meeting, validity of proceedings not affected by vacancy, disclosure of interest by member, interalia.

- It should be noted that under paragraph 2 of Schedule 3, the *quorum for a meeting of a Building Committee is two-thirds of the members including at least one member of the District Executive Committee* in the case of a District Building Committee or one executive member of the Urban Planning and Development Committee in the case of an Urban Building Committee and decisions are made by a majority of the votes of the members present and voting. However, in case of an equality of votes, the person presiding at the meeting has a casting vote in addition to his or her deliberative vote.

- Under paragraph 4 of Schedule 3, the validity of any proceedings of a Building Committee is not affected by a vacancy in its membership or by any defect in the appointment or qualification of a member or by reason that a person not entitled, took part in its proceedings.

- It follows from the above paragraphs, the Building Committee need not have all the members referred to under section 28 of the Act in order to conduct its affairs, presence of two thirds of the members is sufficient.

It should be noted that the Building Committees have been established by the Act, therefore, to operationalise the relevant provisions of the law, the Chief Administrative Officer in the case of a District Building Committee and Town Clerk, in the case of Building Committee at Urban Authority is expected to formally appoint the members, set the terms of reference of the Committees (in accordance with section 29 of the Act) and induct them on their roles.

- Note: the NBRB under section 52 of the Act is required to recommend to the Minister the remuneration and allowances that may be paid to the members of the Committee.

2.3. The Building Control Officer

Section 32 of the Act establishes the office of the Building Control Officer (BCO). The BCO is required to be appointed by the District Service Commission.

Under section 33, the functions of BCOs are-

(a) to make recommendations to a Building Committee;

(b) to forward all applications to the Building Committee for review;

(c) to ensure that any instructions given by a Building Committee are complied with;

(d) to inspect—

i. the erection of any building;
ii. the demolition of any building;
iii. any activity, in respect with sections 35 and 39;

(e) to carry out regular inspection of completed buildings and any duty assigned by the Building Committee.

The qualifications of BCOs and Assistant BCOs are prescribed under the

Building Control Regulations, 2020.

Under regulation 18, a Building Control Officer or Urban Building Control Officer shall be a degree holder in either architecture, engineering, or quantity surveying, with a minimum of five years continuous employment in the construction industry and registered with the relevant professional body.

While an Assistant Building Control Officer shall be a diploma holder in architecture, engineering or quantity surveying, a member of the relevant professional association with a minimum of three years continuous employment in the construction industry.

This institutional framework established under the Act is intended to ensure that construction of buildings from planning to completion and later on maintenance is done in a way that's safe and harmonious with the environment.

2.4. Proof of ownership of land

Regulations 19, 21 and 22 of the Building Control Regulations, 2020 provide for application for a building permit in respect of minor building works, commercial or residential building operations, complex structures and public building operations.

Subsection (2) of regulations 19, 21 and 22 requires an application for building permit to be accompanied by "***proof of ownership of land in accordance with the Land Act, including the certificate of title, power of attorney from the registered proprietor or other satisfactory proof of ownership***".

The Building Control Regulations 2020, clearly guides the Building Control Officer in case of minor building works, and the Building Committee in the case of other classes of buildings regarding proof of land ownership, that is to say, land ownership may be proved by-

(a) a certificate of title;

(b) power of attorney; or

(c) other satisfactory proof of ownership.

2.4.1.Certificate of title

The Constitution and the Land Act, provide for the different forms of land

tenure systems for which certificates of title may be issued. Accordingly, the Building Control Officer and the Building Committee should carefully scrutinise proof of ownership or interest in the land in respect of which an application for a building permit is made before making a decision on the application.

The Constitution

Article 237 of the Constitution provides for land ownership.

Clause (1) provides that Land in Uganda belongs to the citizens of Uganda and shall vest in them in accordance with the land tenure systems provided for in the Constitution.

Clause (3) provides for the land tenure system and states that land in Uganda shall be owned in accordance with the following land tenure systems-

(a) customary;

(b) freehold;

(c) mailo; and

(d) leasehold.

Clause (8) of article 237 protects the security of occupancy on land of lawful or bonafide occupants on mailo land, freehold or leasehold land.

The Land Act

The Land Act, under Part II reechoes the land tenure system under article 237 of the Constitution and provides for a certificate of customary occupancy and a certificate of occupancy for lawful and bonafide occupants (see sections 2-38 of the Land Act).

From the above provisions, registrable interests are clearly elaborated as follows –

(a) customary;

(b) freehold;

(c) mailo;

(d) leasehold;

(e) lawful and bonafide occupancy.

Under section 59 of the Registration of Titles Act, a certificate of title is conclusive proof of land ownership or interest in the land.

It follows therefore that presentation of a certificate of title is conclusive proof of ownership or interest in the land.

The Building Committee or Building Control Officer when confronted with an application for building permit, should scrutinise the title presented and carry out a search on the title by contacting the Ministry responsible for lands to confirm ownership **(*See copies of different types of certificate of title in Annex* 1)**

2.4.2. Power of attorney

Under section 146 of the Registration of Titles Act, a proprietor of land may appoint any person to act for him or her in dealing with his or her land by signing a power of attorney. In such a case, where an application for a building permit is submitted to the Building Committee by another person not being the registered proprietor of the land, the Committee should request for a power of attorney. The power of attorney must be clear as to the extent of authority granted ***(see copy of power of attorney in Annex 2).***

2.4.3. Other satisfactory proof of ownership or interest in land

Other satisfactory proof of ownership may include-

(i) **Agreement**

An agreement in respect of land may also be used as proof of an interest in the land. This may be a sale agreement (before formal transfer in case of titled land) or agreement between owner of land and another to use the latter's land for a specified period of time.

Care must be taken by the Building Committee or Building Control Officer to ensure that the agreement has all the relevant information to prove an interest in the land. Some of the important information to look out for in an agreement to ensure that it is authentic include-the signatures of the parties, clear description of the land in respect of which the application for building permit is sought. The agreement should describe location of the land i.e. village, sub county, district, neighbours in the north, east, west, south or at all the boundaries, the size of the land, and should also indicate the witnesses to the agreement (witnesses should be persons of 18years and

above) ***(See sample agreement in respect of land attached as Annex 3).***

(ii) **Letters of administration/ letters of probate**

Letters of administration or letters of probate may also be used as proof of interest in land where land of a deceased has not yet been transferred into the name of an administrator or executor of an estate of deceased person at the time of application for building permit ***(see copy of letters of administration/ probate in Annex 4).***

3. THE BUILDING PERMIT

S 34(2)

i. A building permit gives the developer permission to carry out building operations on their property as defined in the Act.
ii. A person who carries out a building operation without a permit commits an offence [BCA, Section 34(2)]
iii. A building permit is evidence that a building has been **designed** according to building standards enshrined in the National Building Code, 2019.

3.1. Scrutiny and approval of building plans

S 2; Schedules 2 & 3 – Forms 1&2

i. Building operations are interpreted in the Act and are classified in Schedule 2 of the regulations.
ii. "Minor building works" are interpreted in Section 2 of the Act and Form 1 of Schedule 3 shall apply.
iii. Form 2 of Schedule 3 of the Regulations shall apply for all other operations not falling under (ii) above.

3.1.1. Assessment of Approval Fees

Reg. 38, Schedule 3 – Forms 1&2, Schedule 4

i. Approval Fees in consideration of the scrutiny of plans, permits and inspection shall be assessed in accordance with Regulation 38, Schedule 4 of the Regulation and the latest publication of fees in the Gazette.
ii. BCO should ensure all billable elements of the proposed building development are billed and an invoice prepared for the developer
iii. Invoice should indicate a breakdown of all elements billed for ease of accountability
iv. BCO should use the opportunity to check completeness of applicant's file at this point as per Forms 1 and 2 of Schedule 3 of the Building Control Regulations
v. The BCO should advice on any lacking information to minimize incidences of applicants presenting incomplete applications
vi. The prescribed application fees shall be paid on or before the day an application is submitted to the Building Committee (Regulation 38(3))
vii. Incomplete or improper applications shall be returned to the applicant on presentation. The applicant may resubmit the revised application and shall pay resubmission fees as prescribed in Schedule 4 of the Regulations.

3.1.2. Receipt of Applications

Sections 2, 35, 39; Reg. 8, 19-23, 26, 36 Schedule 2, Schedule 3 – Forms 1&2, Schedule 4

i. Preliminary building permit enquiries may be made in case of complex structures or public buildings. These enquiries are free of charge.

ii. Applications are to be made on Form 1 or 2, in schedule 3 of the regulations, depending on category of building
iii. The Building Committee may receive applications in hard copy or electronic format
iv. The officer receiving application should confirm appropriateness of form used and presence of all required documentation for the particular category of building being proposed.
v. Ensure the professionals authoring any plans possess a current practicing certificate. The BCO shall contact the relevant Professional Registration Boards for updated list of practicing professionals.
vi. Incomplete or improper applications shall be returned to the applicant on presentation.
vii. The applicant may resubmit the revised application and shall pay resubmission fees as prescribed in Schedule 4 of the Regulations. In order to ensure this is feasible and efficient, it is necessary that the committee delegates this function to the BCO or other appropriate officer of the Building Control Authority manning the receiving point for applications
viii. Reasons for return should be noted on the application forms, plans and records of the Building Committee for proper accountability.
ix. Once the applicant has returned the application after rectifying any anomalies previously raised, ensure resubmission fees have been paid before accepting the application.

3.1.3. Registration of Application

Regulations Form 5 – Part II

i. BCs shall establish a building control records system to track their operations and decisions for purposes of accountability. An application to a BC is usually the first step establishing a relationship between an owner of a building development and the BC.
ii. Specific attention shall be given to reporting requirements by the NBRB as prescribed in Form 5 – Part II of the Regulations
iii. For uniformity, the NBRB recommends the following format for application reference: Parish Postcode/Year/Application Number i.e BP/cccc/20--/nnn

3.1.4. Application Scrutiny

S29, 33; Reg. 8 – 17, 19 – 22, Schedule 3 Forms 1& 2

Physical Planning Act 2010, National Environmental Act 2019, Occupational Safety and Health Act 2006, National Physical Planning Standards and Guidelines (NPPSG), The Building Control (Accessibility Standards For Persons With Disabilities) Code, 2019

i. Ensure all required documents contain all design and construction information as is necessary to arrive at proper and informed decisions regarding a particular application
ii. BCs are advised to establish a mechanism to ensure or confirm authenticity of

documents or clearances from other agencies that form part of an application

iii. While examining site plans, ensure to base on the effective area of the site excluding existing easements affecting the land such as roads traversing the land, utility wayleaves/easements, etc. as well as encroachments by neighbouring properties that have not been resolved.
iv. It is important that the applicant's surveyor accurately maps out all this information, as well as existing mature trees while conducting the boundary survey required under R21 and R22 and this information shall be included as appropriate on the context and/or site plan contemplated in R9.
v. The capacity of traversing and neighbouring utilities and the corresponding width of easements shall be as prescribed by applicable law or as advised by the relevant authority as easement extents may vary.
vi. Ensure that there is no material/significant deviation from the site plan approved by PPC and ensure to seek the opinion of the Physical Planner in case of deviations to ascertain materiality.
vii. Check that location, context/block and site plans possess the North arrow as prescribed by regulations and ensure the orientation is consistent on all such drawings.
viii. Check that scales and annotation used conform to the minimum prescribed by the relevant regulation and that information is legible.
ix. Check that conditions in any EIA certificate or TIA clearance are adhered to such as siting of the building, location and orientation of vehicular access and exit points relative to the adjacent network, etc.
x. Subject to PPC approval conditions, any parking planned/designed for the building development shall be located within the site boundaries
xi. In case of presentation of landscape plans, whether voluntarily or as a requirement of the Committee, these shall conform to the regulations.
xii. Detailed checklists are included in Annex 1-4

3.1.5. Building Committee Meetings

S31, Schedule 3; Reg. *23(5), Schedule 3 Form 3 & 5*

i. Meetings shall, as a minimum, adhere to standards prescribed in Schedule 3 of the Act.
ii. The meeting shall consider recommendations from the Building Control Officer as prescribed in Form 3 of Schedule 3 of the Regulations.
iii. Proceedings shall be recorded as prescribed in Form 5 – Part I of Schedule 3 of the Regulations
iv. Monthly reports shall be submitted to the National Building Review Board as per Form 5 – Part II of Schedule 3 of the Regulations

3.1.6. Building Committee Outcome

S33(c), Schedule 3; Reg. *24, Schedule 3 Form 4 – Part II*

i. The Building Committee has thirty days to either issue a building permit to the applicant or to defer or reject the application.
ii. The Building Committee shall notify the Building Control Officer of its decision

as prescribed in Form 4 – Part II of Schedule 3 of the Regulations.

iii. The Building Control Officer shall ensure that any instruction given by the Building Committee in accordance with the Act are complied with.

iv. Incomplete applications shall be returned to the Applicant. The applicant may resubmit the application to the Building Committee and shall pay are submission fees.

3.2. Issuance of the building permit

S29, 36, 38

Reg. 5(1)(d), 24(3), Schedule 3 - Form 4

i. The procedure for issuing building permits shall as prescribed in Section 36 of the Act.

ii. In the case where the Building Committee approves a building permit application, the Chairman shall sign the permit, the building plan and other documents and return one endorsed copy to the applicant.

iii. The form of building permit is prescribed in Form 4(I) of Schedule 3 of the Regulations.

iv. The professionals whose services shall be retained for the purpose of supervising the construction of the building shall be indicated on the building permit. Should the applicant chose to change the supervising team, the Building Committee should be informed.

v. Applicants should be clearly informed about the time limit building operations face as prescribe in Section 38 of the Act.

3.3. Review of permits for minor building works

S2, 39; Reg. 5, 19, Schedule 2, Schedule 3-Form 1

i. Minor building works are interpreted in section 2 of the Act and are classified as category C buildings

ii. Applications for minor building works shall be made to the Building Control Officer as prescribed in Regulation 19 and Form 1 of Schedule 3 of the Regulations

iii. Engagement of professionals for minor building works is optional.

3.4. Transition

S54

Any building or building operation commenced before the coming into force of this Act and which does not conform to the standards prescribed by this Act shall be adjusted so as to bring it in conformity with this Act within a period prescribed by the Minister.

4. BUILDING SITE OPERATIONS AND MANAGEMENT

4.1. Notification of Commencement

Reg. 27

i. A person shall not commence a building operation prior to giving a notice in writing to the Building Committee as prescribed in Reg. 27.
ii. All building operations shall be inspected in order to ensure compliance with the Act.
iii. The Building Committee shall prescribe how inspections of building operations shall be carried out through conditions in the building permit
iv. A report on the inspection of the stages shall be provided using the **inspection booklet attached as Annex 9.**

4.2. Demolition works

Reg. 28

i. A Building Committee must approve all demolition works prior to being undertaken.
ii. A Building Committee shall ensure adherence to all safety precautions during demolition works as prescribed in Reg. 28

4.3. Site Operations

Reg. 29

It is the responsibility of the Building Committee to prescribe how site operations shall be undertaken as prescribed in Reg. 29

4.4. Temporary Builders Sheds

Reg. 30

i. A developer may with the approval of the Building Committee erect temporary builders sheds as prescribed by Reg. 30.
ii. The sheds shall be maintained in good order and condition at all times during the building operations.

4.5. Temporary sanitary facilities

Reg. 31

A person shall not commence any building operations without installing sanitary facilities for personnel at the building site or at a reasonably close location as approved by the Building Committee as prescribed by Reg.31

4.6. Excavations and measures for stability of site

Reg. 32

It is the function of the Building Committee to ensure that excavations are undertaken safely as prescribed by Reg. 32

4.7. Compulsory maintenance.

Reg. 33

All buildings shall be subject to compulsory maintenance as prescribed by Reg. 33

5. THE OCCUPATION PERMIT

S24, 44

i. It is the function of the Building Committee to issue Occupation Permits
ii. Upon the completion of a building, the owner of the building shall notify the Building Committee of the practical completion and apply to the Building Committee for an occupation permit.
iii. The Building Committee shall, within fourteen days after receipt of notification of completion of a building and receipt of an application for an occupation permit, examine the building, and may issue an occupation permit or refuse to issue the occupation permit giving reasons in writing

5.1. Scrutiny and approval of building works

S52; Schedules 3 – Forms 9

i. Application for an Occupation Permit shall be as prescribed in Section 52 of the Act
ii. The application shall be as prescribed in Form 9 of Schedule 3 of the regulations.

5.1.1. Receipt of Applications for Occupation Permits Compliance checks

Sections 44, 52; R6, 34 Schedule 2, Schedule 3 – Forms 9, Schedule 4

i. For purposes of these guidelines, only permitted building operations that have been fully inspected shall be considered. Illegal and non-compliant building operations shall be considered under a separate procedure.
ii. Applications are to be made on Form 9 – Part I or II - in schedule 3 of the regulations, depending on the nature of occupation permit being sought; whether temporary, partial or full.
iii. The professionals whose services were retained for the purpose of supervising the construction of the building shall certify the application.
iv. The officer receiving application should confirm appropriateness of form used and presence of all required documentation for the particular Occupation Permit being sought.
v. Ensure the professionals authoring any documents possess a current practicing certificate. The BCO shall contact the relevant Professional Registration Boards for updated list of practicing professionals.
vi. Incomplete or improper applications shall be returned to the applicant on presentation.

5.1.2. Registration of Application

i. BCs shall establish a building control records system to track their operations and decisions for purposes of accountability.
i. For uniformity, the NBRB recommends the following format for application

reference: Parish Postcode/Year/Application Number i.e OP/ccccc/yyyy/nnn

ii. Specific attention shall be given to reporting requirements by the NBRB as prescribed in Form 5 – Part II of the Regulations

5.1.3. Application Scrutiny

S44; Reg. 6, 34, Schedule 3 Forms 9

i. The BCO shall ensure that the building was built in conformity to the approved plans.
ii. The BCO needs inspect the building works, inspection book and "As Built drawings" to ensure that they do not deviate significantly from the drawings submitted at the Building Permit stage or, if they do, procedures (regarding necessary approvals) and standards were followed.
iii. Ensure all required documents contain all information necessary to arrive at proper and informed decisions regarding a particular application
iv. BCs are advised to establish a mechanism to ensure or confirm authenticity of documents or clearances from other agencies that form part of an application

5.1.4. Building Committee Meeting

S31, Schedule 3; Reg. *23(5), Schedule 3 Form 3 & 5*

i. Meetings shall, as a minimum, adhere to standards prescribed in Schedule 3 of the Act.
ii. The meeting shall consider recommendations from the Building Control Officer as prescribed in Form 3 of Schedule 3 of the Regulations.
iii. Proceedings shall be recorded as prescribed in Form 5 – Part I of Schedule 3 of the Regulations
iv. Monthly reports shall be submitted to the National Building Review Board as per Form 5 – Part II of Schedule 3 of the Regulations

5.1.5. Building Committee Outcome

S33(c), Schedule 3; Reg. 34, 35, 42, Schedule 3 Form 4 – Part II, 9

i. The Building Committee has fourteen days from receipt of an application to either issue an occupation permit to the applicant or to refuse to issue the occupation permit stating their reasons in writing.
ii. The Building Committee shall notify the Building Control Officer of its decision as prescribed in Form 4 – Part II of Schedule 3 of the Regulations.
iii. The Occupation Permit shall be revoked in cases outlined in Regulation 35
iv. The Building Control Officer shall ensure that any instruction given by the Building Committee in accordance with the Act are complied with.

5.1.6. Assessment of Approval Fees

i. Approval Fees in consideration of the scrutiny of plans, permits and inspection shall be assessed in accordance with Regulation 38, Schedule 4 of the Regulation and the latest publication of fees in the Gazette.
ii. The BCO should ensure all billable elements of the proposed building development are billed and an invoice prepared for the developer
iii. Invoice should indicate a breakdown of all elements billed for ease of accountability
iv. The prescribed application fees shall be paid before the Occupation Permits is issued.

5.2. Issuance of the occupation permit

S44; Regulations Schedule 3 - Form 10

i. The procedure for issuing building permits shall be as prescribed in Section 44 of the Act.
ii. In the case where the Building Committee approves an occupation permit application, the Chairman shall sign the permit, the building plan and other documents and return one endorsed copy to the applicant.
iii. The form of Occupation Permit is prescribed in Form 10 of Schedule 3 of the Regulations.

ANNEX 1: TYPES OF CERTIFICATE OF TITLE

THE REPUBLIC OF UGANDA

LEASEHOLD REGISTER

Volume Folio

REGISTRATION OF TITLES ACT

CERTIFICATE OF TITLE

DESCRIPTION OF LAND

The Leasehold land edged red on the plan attached hereto and situate and known as follows:—

~~Street~~ Number:
Road Name:
Township/~~Municipality/City~~:
District: HOIMA Area: APPROX. HECT.

TERM from for ----- years and --- months at the rent and subject to the covenants and conditions contained or implied in Lease Number bound up herewith and to the incumbrances (if any) entered in the Incumbrance Register.

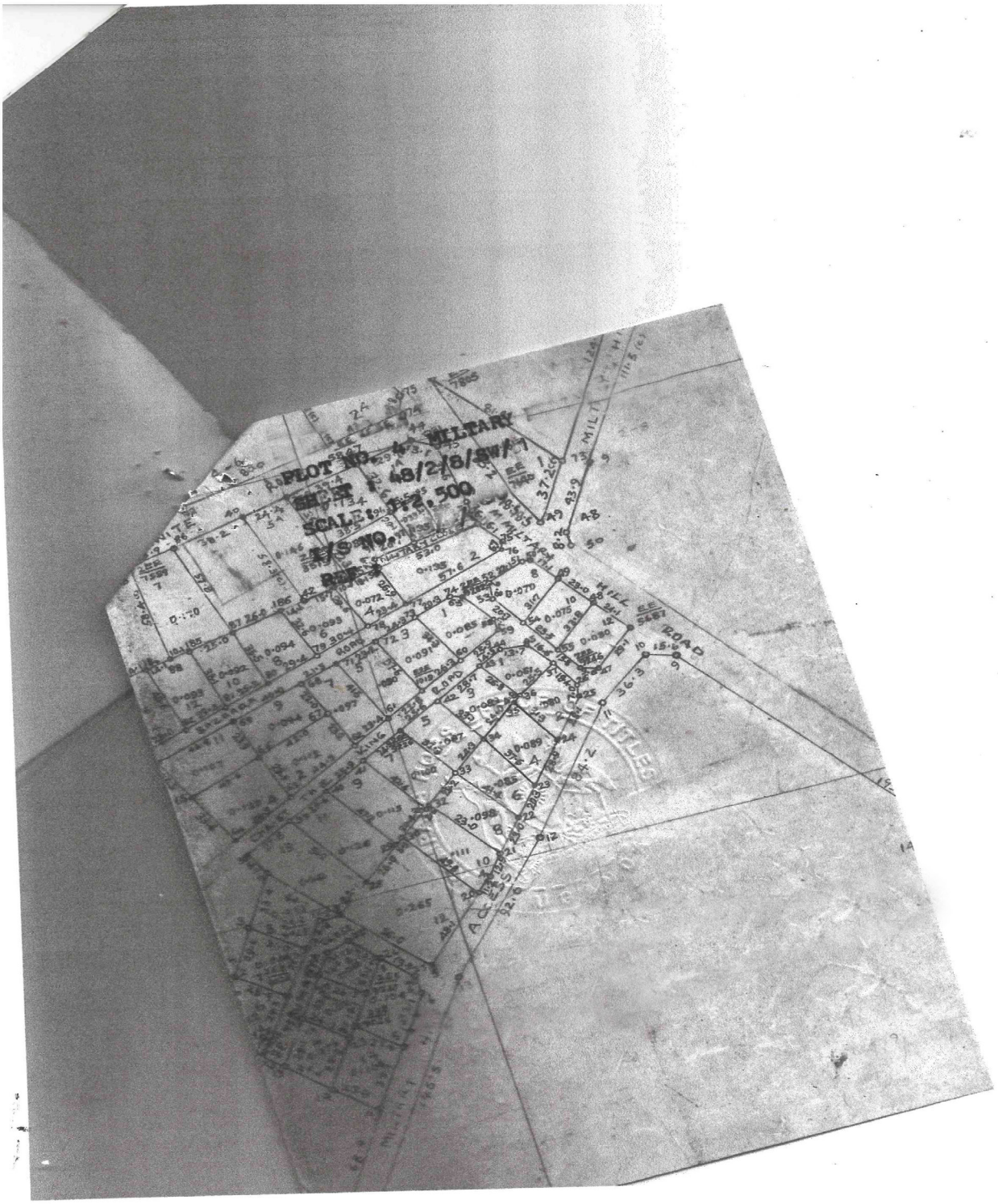
Easements

PROPRIETORSHIP

time est. No.	Name and Address of Proprietor	Signature of Registrar
.2010 .M. 427.		
.5.2011 .20 A.M. 6773.		

Proprietorship—*continued*

Date, time and Inst. No.	Name and Address of Proprietor	Signature of Registrar


MILITARY
PLOT NO. 49/2/6/SW/1
SHEET 1
SCALE 1:2,500
ROAD
HILL

UGANDA

REGISTRATION
OF TITLES
ACT

Certificate of Title

District ..... County .....

Block ..... Plot .....

Office of Titles

.....

COUNTY:

SUB-COUNTY:

UGANDA

THE LAND REGISTER

PART I—PROPERTY

DISTRICT	PLOT No.
BLOCK No.	

AREA IN HECTARES

NAME OR DESCRIPTION:

ALL THAT piece of land situate and described above which is indicated on the Registry Plan by the Block and Plot numbers written hereon.

Easements, rights, etc. appurtenant to the land:

Proprietor's Signature or Mark

REGISTRAR OF TITLES

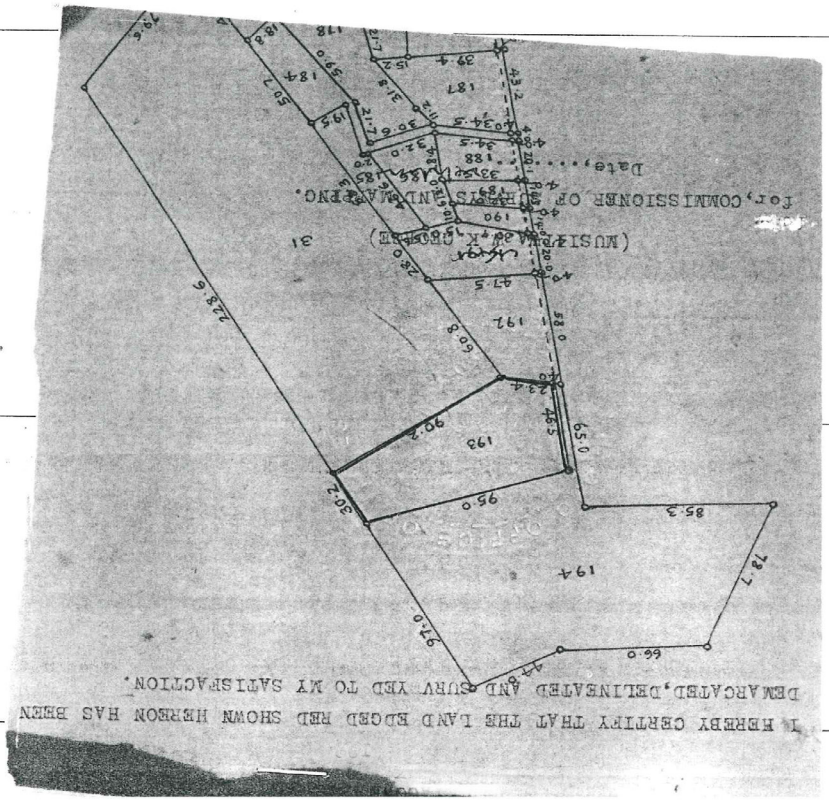
SEAL OF OFFICE

PART II—OWNERSHIP

Date and Time of Registration	Instrument No.	Proprietor's Name and Address	Father's Name (if applicable)	Clan (if applicable)	Registrar's Signature

PART III—INCUMBRANCES

Registrar's Signature	Particulars	Name and Address for service of Mortgage, Creditor, Caveator, etc.	Instrument No.	Date and Time of Registration



ANNEX 2: COPY OF POWER OF ATTORNEY

THE REPUBLIC OF UGANDA

THE REGISTRATION OF TITLES ACT, CAP. 230

POWER OF ATTORNEY

A POWER OF ATTORNEY granted on the 10th day of October 2015 by **.....** of P.o Box 7 Kampala (hereinafter called "the Land Owner") to **.....** of P.o Box 18 Kampala (hereinafter called "the Attorney").

WHEREAS :-

(a) The Land Owner is the registered proprietor of land comprised in Block 10 Plot 15, Nabutiiti, Wakiso District (hereinafter called "the Land").

(b) By a Joint Venture Agreement dated the _____ day of _____

(hereinafter called "the Agreement"), the Attorney and the Land Owner have agreed to pursue a joint venture to construct and complete a residential housing development on the Land (hereinafter called "the Project").

(c) Upon completion of the Project, the Attorney is entitled to certain strata units therein (hereinafter called "the Units").

(d) Under the terms of the Agreement, the Land Owner was entitled to and did assign all his rights, title interest benefits advantages permits, licences and remedies in under or arising out of the Agreement to the Attorney.

(e) Under the terms of the Agreement, the Land Owner has agreed to execute such agreements or deeds as may be required to procure the development of the Project. The Land Owner has also agreed to transfer the Units to the Attorney or such other purchaser of the Units as the Attorney shall direct and pursuant thereto will enter into any options, agreements, deeds or documents as shall be necessary to enable the Attorney to market and sell all of the Units.

Now, the Land Owner HEREBY APPOINTS the Attorney and each of the authorised officers of the Attorney for the time being to be the true and lawful attorney of the Land Owner with full power to substitute, appoint and discharge from time to time one or more attorneys in the name of the Land Owner and on the Land Owner's behalf to execute or do all or any of the following acts, deeds and things :-

1. To make and submit applications and plans to the appropriate government departments, local authorities or other competent authorities and execute, swear or affirm all documents, deeds, plans, instruments and declarations for the purpose of obtaining or securing or renewing any planning permissions, building plan approval, Temporary Occupation Permit or Certificate of Completion or any other licences, approvals, permits or exemptions in connection with or incidental to or arising from or necessary or advisable for the Project and for the construction, erection or affixation of any building or fixture thereon (hereinafter called "the Project Building") or for any demolition or earth clearance works thereon or for

the removal of any soil thereon or therefrom and generally for the construction or earthworks affecting in connection with, related to or arising from the Project and to collect, receive and retain such licences, approval, permits or exemptions and to give a good receipt or acknowledgement therefor.

2. To enter upon and take possession of the Land and to develop the Land for the Project and to carry out all necessary building, engineering and other operations on the Land to construct and complete the Project Building in accordance with the planning permission, building plan approval and any other licences, approvals or permits issued by any relevant competent authorities.

3. To apply for, obtain or secure all necessary governmental approvals, permits or licences for the subdivision (including subdivision) of the Project Building.

4. To apply to the Registrar of Titles for the issue of separate condominium Certificates of Title to the Project Building and for this purpose to sign, execute and lodge the necessary applications at the land office.

5. To take and accept delivery of the duplicate condominium Certificates of Title or other documents of title as soon as the same are issued by the Registrar of Titles and to give good receipts therefor.

6. To deal with all other relevant government authorities for the purpose of negotiating and obtaining the approval of any sale and purchase agreements entered or to be entered into by the Attorney with any sub-purchaser in respect of the sale of the Units as may be required under the law.

7. To sign any Caveats and Withdrawal of Caveats relating to the Land or Project Building as the Attorney shall think fit and to register the said Caveats and Withdrawal of Caveats with the Land Office.

8. To warn off and prohibit and if necessary proceed against in due form of law all trespassers on the Land or the Project Building or any part thereof and to take appropriate steps whether by action or otherwise to abate all nuisances.

9. To receive and give effectual receipts and discharges for all or any moneys which shall or may come to the hands of the Attorney by virtue of the powers herein contained which receipts shall exonerate the person or persons or corporation paying such moneys from seeing to the application thereof or being responsible for the loss or misapplication thereof.

10. To enter into and to sign, seal, execute and perfect as the Land Owner's act and deed and to deliver any contract, option, Sale and Purchase Agreement, conveyance, assignment, transfer, restriction, lease, deed, instrument or assurance whatsoever in respect of the Units.

11. To appear before any Registrar or other official appointed under any Act and register any deed, assurance, contract, transfer or other document relating to the Project and sale of the Units and to pay such fees and to complete any forms and make any declaration which may be necessary for the registration thereof.

12. For the Land Owner and in his name to accept service of any writ of summons, summons plaint, motion, petition or other legal process of any kind in respect of the Project and sale of the Units and to appear and on the Land Owner's behalf to represent in any court and before all judges, magistrates or other judicial quasi-judicial or administrative officers whosoever as the Attorney shall think fit.

13. In connection with any of the foregoing to appoint and engage any Advocate to act for the Land Owner on his behalf for any of the purposes of these presents.

IT IS HEREBY FURTHER DECLARED as follows-

(1) This Power of Attorney shall be irrevocable until the completion of the sale and purchase of the Units in accordance with the terms of the Agreement.

(2) The powers and authorities hereinbefore given to the Attorney shall not be deemed to be limited to such transactions and matters as are hereinbefore expressly mentioned by name but are intended to and shall in all cases extend to all other matters or transactions not hereinbefore precisely mentioned or defined which may by the Attorney be deemed to be requisite and expedient to be done or performed for the purposes of these presents.

AND THE LAND OWNER HEREBY RATIFIES AND CONFIRMS AND PROMISES at all times to allow, ratify and confirm all and whatsoever the Attorney shall lawfully do or cause to be done by virtue hereof including anything which shall be done before revocation of this Deed and the Land Owner declares that as against him and persons claiming under him, anything which the Attorney shall lawfully do or cause to be done in pursuance of this Deed after such revocation as aforesaid shall be valid and effectual in favour of any person claiming the benefit thereof and acting in good faith who before the doing thereof shall not have had express notice of such revocation and the Land Owner hereby agrees to indemnify the Attorney against costs, charges, expenses and losses which the Attorney may incur in the lawful execution of the powers hereby conferred upon the Attorney.

IN WITNESS WHEREOF the parties have appended their signature this _____ day of _____2015.

NAME OF LAND OWNER

_____

NAME OF THE ATTORNEY

_____

I, ... an Advocate and Notary Public of the Republic of Uganda practising in the Republic of Uganda hereby certify that on the _____day of _____, the signature of Katuramu Chrispus was duly affixed to the written instrument at Uganda in my presence.

Witness my hand

_____.

ANNEX 3: SAMPLE AGREEMENT IN RESPECT OF LAND ATTACHED

THE REPUBLIC OF UGANDA

REGISTRATION OF TITLES ACT CAP 230
PRIVATE MAILO REGISTER
BLOCK 132 Plot No 342 Area: 0.0620 Hectares
KYADONDO COUNTY
LAND AT NABUTITI

AGREEMENT FOR SALE OF LAND

THIS AGREEMENT is made this 1st day of April, 2019.

BETWEEN

MR of P.O. Box , Kampala, telephone number (hereinafter called the Vendor, which expression shall include his successors and assignees in title).

AND

of , Kampala, P.O. Box 7183, Kampala, telephone number (hereinafter called the Purchaser, which expression shall include her successors and assigns in title) of the other part.

WHEREAS the Vendor is the registered proprietor of the land described above (hereinafter to as "the property"),

AND WHEREAS the Purchaser is willing and desirous of purchasing the property, measuring 0.0620 Hectares from the Vendor and the Vendor is willing to sell the said property to the Purchaser upon the following terms and conditions;

NOW THEREFORE THIS AGREEMENT WITNESSETH as follows:

The Purchaser hereby purchases this property from the Vendor and the Vendor hereby sells this property to the Purchaser for a consideration of Shs 21,000,000/= (Uganda Shillings Twenty one million only) payable as follows.

a) The first installment of Shs 10,000,000 (Shillings Ten million only) has been paid today the 1st day of April, 2019 through a deposit onto the Vendor's bank account in Centenary Bank. The Vendor hereby acknowledges receipt of this money by appending his signature onto this agreement.

b) The final installment of Shs 11,000,000 (Shillings Eleven million only) is payable by the 1st day of May, 2019.

THE PARTIES FURTHER COVENANT THUS:

1. The Purchaser shall be entitled to vacant possession of Plot 342 after payment of the full purchase price of Shs 21,000,000/= (Uganda Shillings Twenty one million only).
2. The signed transfer forms together with the certificate of title for Plot 342 will be given to the Purchaser by the Vendor after payment of the full purchase consideration.
3. The costs of registering the Purchaser onto the land title shall be borne by the Purchaser.

4. It is hereby agreed that if the Purchaser fails to pay the full purchase price for Plot 342 by the 1st day of May, 2019, the Vendor shall be free to sell this plot to any other party and refund the Purchaser whatever amount she will have paid to the Vendor towards this plot by then less the Broker's commission.

5. The Purchaser shall open boundaries for the above mentioned plot before carrying out any development that is permanent in nature.

6. The Vendor hereby confirms that he has obtained all the necessary consents to sell this land to the Purchaser.

7. The Purchaser shall not permit, cause, suffer or do anything which may become a nuisance or cause annoyance or inconvenience to the occupiers of any neighboring Plots including noise or a bad smell from cattle, Piggery and Poultry.

8. The Vendor warrants that the land is free of any encumbrances of whatsoever description, and undertakes to indemnify the Purchaser to the extent of her payment for the land if the reverse is found to be the case or for any defect in title.

9. It is further agreed that if any action, case or dispute arises related to the land and which is based on any right, duty or obligation prior to this Agreement, the Vendor will fully indemnify the Purchaser against any such claims.

10. Any provision of this agreement, which is or may become illegal, invalid or unenforceable shall be treated as such and severed from the balance of the agreement without invalidating the remaining provisions of this agreement or affecting the validity or enforceability of such remaining clauses.

IN WITNESS WHEREOF the parties hereto have hereunto put their respective hands on the date first above mentioned.

SIGNED by the Vendor:

In the presence of:

SIGNED by the Purchaser:

In the presence of:

In the presence of:

ANNEX 4: COPY OF LETTERS OF ADMINISTRATION/PROBATE

THE REPUBLIC OF UGANDA

LETTERS OF PROBATE

The Administration of Estates (Small Estates) (Special Provisions) (Probate and Administration) Rules. /**Succession Act**

In the Magistrate's Court of Nakawa, Magisterial Area at Nakawa Administration Cause No. 15 of 2005 /**High court of Uganda at .....**

I, ..., magistrate of ..... Magisterial Area,..... make known that on this..... day of ....., ..., the last will of ....., deceased, late of ..... a copy of which is annexed hereto, was proved and registered before me, and that administration of the property and credits of the deceased, and in any way concerning his or her will, was granted to ....., the executor named in the will, he or she having undertaken to administer the property and credits, and to make a full and true inventory of the property and credits to this court within six months from the date of this grant, or within such further time as the court may from time to time appoint, and also to render to this court a true account of the property and credits within one year from the same date, or within such further time as the court may from time to time appoint.

Dated at .....this .....day of ....., ...

Sign & seal of court _____

Magistrate/Judge

THE REPUBLIC OF UGANDA

LETTERS OF ADMINISTRATION.

The Administration of Estates (Small Estates) (Special Provisions) (Probate and Administration) Rules./**Succession Act**

In the Magistrate's Court of ....., Magisterial Area at ..... (..... Administration Cause No. ..... of .....

I,... ..... *(name of judge or magistrate),* magistrate of ..... Magisterial Area, make known that on this ..... day of ....., ..., letters of administration (with or without the will annexed) of the property and credits of ....., of ....., deceased, are granted to ..... the widow of the deceased ..... she having undertaken to administer the property and credits of the deceased, and to make a full and true inventory of the property and credits to this court within six months from the date of this grant or within such further time as the court may from time to time appoint, and also to render to this court a true account of the property and credits within one year from the same date, or within such further time as the court may from time to time appoint. Dated at ..... this ..... day of ....., ...

Signed and sealed.....

ANNEX 5: SCRUTINY OF ARCHITECTURAL PLANS

Title Block *S29, 33, 35* *Reg. 5,9*	Check the title block for the following information: **Architect:** The title block should include the name of the Architect, their registration number, his/her firm (if applicable), valid practicing certificate number, telephone and email contacts, the architect's green stamp signed and dated. These should be verified with the Architects Registration Board. All work should be designed by the Architect. Any plan with information to the contrary/contact information of any person other purporting to have designed or drawn the work other than the Architect should be rejected. **Applicant:** Name, Physical and Postal Address of the applicant. These should be consistent with the details on the land title/proof of ownership of land **Land Owner:** Incase the applicant is not the land owner, include the name, physical and postal address of the land owner and a statement of legal relationship between applicant and land owner **Project Description:** This should include the category of development, Property Description consistent with the land title/proof of ownership, jurisdiction to which application is being made, district. **Scales:** Check that scales and annotation used conform to the minimum prescribed by the relevant regulation and that information is legible.
(a) **Location Plan:**	(i) These shall provide adequate information to enable location of the site without need for further directions. Longitude and Latitudes as determined by Google Maps/ Google Earth are a recommended method of locating property. (ii) The surveyor's report required by the regulations shall include coordinates of the plot/land based on a system prescribed by the Commissioner Surveys and Mapping. (iii) Where house numbers have been allocated by the local authority, these maybe used to facilitate location of the property. (iv) The North Arrow shall be clearly visible. Key landmarks should be indicated.
(b) **Context or Block Plan** *P 21* *P 104*	(i) Should reflect all spatial features within and around the site that place constraints on the site and/or influence the design of the building (ii) Such features include, existing and neighbouring buildings, extents of road reserves and other utility easements affecting the site, location of connection points for utilities, etc. as applicable to the building site (iii) BCO to check that the site does not possess any characteristics that make it a prohibited site and in case there are factors that make the site risky for erection of a building that these have been adequately mitigated (iv) BCO/BC to check that the site does not possess any characteristics that make it a prohibited site and in case there are factors that make the site risky for erection of a building that these have been adequately mitigated
(c) **Site Plan** *P 4 - 21, 60*	(i) Site plans illustrate how the space available for development on the site is to be utilised to provide a building that meets the Design Requirements in the Code, taking into account existing constraints, and opportunities. A site plan shall therefore be based on the information in the context plan.

	(ii) Check that subsoil drainage, control of buildings in swampy sites, plot frontage, building line, plot coverage, space around and in front of building, plot area, car parking, access to utilities, boundary fencing, existing mature trees are in conformity to the Code (iii) Base effective area of the plot excluding existing easements affecting the land such as roads traversing the land, utility way leaves/easements, etc. as well as encroachments by neighbouring properties that have not been resolved. The net effective site shall be of adequate size for the type and size of building development.
P8, P12, Schedule 1 Table 1, P13-15, P114	(iv) Site plans illustrate how the space available for development on the site is to be utilised to provide a building that meets the Design Requirements in the Code, taking into account existing constraints, and opportunities. A site plan shall therefore be based on the information in the context plan. (v) The net effective site shall be of adequate size for the type and size of building development. (vi) The plan must show the outline of the buildings (extents) and their shortest/perpendicular distance from each of the plot boundaries as well as the distance between different buildings on the same site to demonstrate compliance with setback and separation provisions. (vii) The plot coverage should also be appropriate. (viii) Confirm that these conform to the Development permission granted as well as the minimum code standards
P25, P26, P30, P32, P38 *P21* *P46* *P18, Schedule 1 Table 2* *P19* *P20*	(ix) Look out for any encroachments into the setbacks and ensure they are acceptable elements and do not exceed maximum acceptable protrusions (x) The site plan shall show all existing mature trees and in case any are to be cut, the rationale for cutting of any trees shall be clearly explained and the location of new replacement trees to be planted shown on the plan (xi) Vehicular access and exit to the site as well as circulation within the site shall be safe and practical and any ramps shall conform to the minimum standards in the Code (SI 51) (xii) Ensure that services and utilities for the building are properly sited and that the building respects existing utility systems through the site. (xiii) Site plan/s shall indicate the layout of the boundary wall, fence or enclosure (unless need for one is waived by the BC) relative to the plot boundaries and other constraining features (xiv) Wherever boundary walls are required by the BC, the design shall conform to the minimum standards prescribed in the Code (or NPPSG)

(d) **Floor Plans** *NBC: Part III,* *P22 - 117*	(i) Floor plans shall show the dimensions and purpose of every room or part of the building (ii) It is recommended that the BC requires the applicant to declare the design population for the entire building development for ease of assessing adequacy of capacity of utilities/services to support the expected population – which should be commensurate with the floor space provided in the plans to avoid overcrowding. (iii) Floor plans shall show the location and width of wall openings and provide adequate information as to the type/purpose of the opening to facilitate assessment of its appropriateness
P61, P91, P93, P94, P96, P97, P99, P102, P103, P106, P107 *Schedule 1 Table 4* *P41-42, P63, P68* *P48* *P43-45* *P40,P49, P52, P62, P65-66, P69, P72-85, P105,* *P50-51*	(i) All rooms including auxiliary facilities shall conform to the minimum acceptable dimensions and floor area according to the occupancy and population (ii) The maximum population that can be accommodated in the building (design population) shall be derived from the floor area and occupancy(s) of the building development. (iii) This capacity shall be the basis for sizing of related services such as number of sanitary fittings and capacity of sewage treatment installations. (iv) Dimensions of steps and stairs shall be appropriate to the occupancy and design population of the building (v) Note that the provision of escalators in any building does not waive the requirement for stairs (vi) Appropriate banisters and/or guarding shall be provided for safety at stairs, balconies and other areas where there are changes in level (vii) Large, multi-storey and multi-occupancy buildings shall be protected from fire and its effects, designed and divided in accordance with the Code to maximise fire safety and be provided with appropriate alternative means of escape in case of emergencies. (viii) There shall be an adequate number of alternative egress means for a given building. (ix) The location and distribution of such egress means as well as the width of exits shall be in accordance with Code to ensure maximum opportunity for safe and timely egress in emergencies (x) Similarly, an adequate number of staircases or alternative means of egress shall be provided commensurate with the height and capacity of multi-storey buildings taking into account the capacity and size at each floor (xi) These shall be rationally distributed and provided with adequate safety apparatus to mitigate fire spread while allowing for swift egress. (xii) Lifts systems shall be particularly protected against fire and its effects on occupants
Accessibility standards	Ensure that floor plans conform with accessibility standards in circulation areas and sanitary facilities

(e) **Elevations**	(i) Elevations should be adequate in number to show all significant sides of the building (ii) Typical features shown in elevations are the walls, openings and roof. Details of external finishes shall be indicated on the elevations
(f) **Sections**	(i) Sections should be adequate in number and location to show all the significant elements and limiting heights to facilitate judgement of the appropriateness and performance of the design (ii) Typical areas or features to be shown in sections include foundations, walls, floors and beams, openings and the fixtures therein staircases, ramps, atriums, etc. (iii) Ensure that sections truly and accurately represent the area where they are shown to have been cut on the floor plans.
P24, P28, P64, P70, P93(c), P103(2)(a)-(d) & (g) *P26, P39, P41,* *P119 - 120*	(iv) Check that heights of rooms meet the minimum standards for the occupancy type (v) Check headroom/clearances beneath beams, stairs and ramps to ensure adequacy as per code or for the purpose intended (vi) Materials of the different building elements shall conform to Part IV of the Code as applicable. (vii) In case of second hand materials and scenarios were the suitability of a material for purpose is unknown or in doubt, appropriate test certificates shall be attached to the application
(g) **Door & Window Schedules** *P111 – P117* *P113 (1)* *P113(2)* *P114* *P115* *P116* *P117(a)* *P116(d), P117(2)(b)*	***Lighting and Ventilation*** (i) Buildings shall be lighted and ventilated in accordance with P111-P117 of the Code as a minimum. (ii) Use door and window schedules as well as information on the plans to ascertain the adequacy of lighting and ventilation in various spaces. (iii) Ensure effective/net glazed area of minimum 10% floor area for windows of habitable rooms and note the necessary 5% incremental glazed area increment where overhangs greater than 900mm (e.g. canopies and balconies) exist. (iv) Ensure a total openable area (for ventilation) of minimum 5% floor area of the room served including the permanent ventilation openings (v) Look out for windows with space opposite them that does not meet effective lighting and ventilation requirements and ensure such areas are corrected on the plans (vi) Check that all soil water fitment spaces are adequately lit and ventilated (vii) In addition, check that effective cross ventilation has been provided with the opening to room volume ratio as prescribed by Code (viii) For public buildings, ensure the total unobstructed area of ventilation openings divided by the occupancy capacity gives adequate ventilation per occupant. (ix) Ensure that the distribution of the openings in the walls and/or roof will provide effective air flow for the occupants

(h) **Drainage plans: Storm, Foul and Waste Water**	(i) Drainage plans shall be prepared in conformity with the National Building (Standards for Mechanical Installations in Buildings) Code, 2019 and The Public Health (Drainage and Sanitation) Rules. (ii) Typical drainage features to be shown in the site plan include man-holes, soil and waste pipes, connection to sewer or septic tank and soak pits (iii) Drainage features to be shown on ground floor plans include man-holes, gulley traps, soil pipes, soil vent pipes, rain water pipes
(i) **Boundary Wall Plan and Details** *P 19, 20*	Boundary walls shall conform to Paragraphs 19 and 20 of the building standards.
Environmental Consider-ations	(i) Where the BC has adopted sustainable design practices, various pro-visions of Part V of the Code may be applied to buildings. (ii) Attention is specifically drawn to mandatory provisions of this part for application especially in assessing site plans, floor plans, sections and other design information.

ANNEX 6A: SCRUTINY OF STRUCTURAL DRAWINGS (REINFORCED CONCRETE)

Design & Loads Basis of design *NBC, Part II, P 8(1), 8(2)*	(i) Based on ultimate & serviceability limit states (ii) Based on most critical limit state and a check shall be conducted to ensure that the other limit states are not exceeded.
Design approach *NBC, Part II, Sec 11(1), 11(3)*	(i) Idealization of the structural elements or the structure, their connectivity and their load path; (ii) Design value shall be obtained by using the characteristic or representative values in combination with partial and other factors; (iii) Maintain the same code; Either E.C or B.S
Partial safety factors *NBC, Part II, Sec 12(10)*	The design values shall be derived in accordance with Schedule 1.
Self weight & Imposed Loads *NBC, Part III, Sec 13(4)*	(i) General occupancy classes causing imposed loads shall be clearly stated (ii) The minimum imposed loads for the occupancies referred to above are specified in Schedule 2.
Wind Loads *NBC, Part III, Sec 14*	Loads checked as per Schedule 3 & 4
General Lateral loading	For high rise structures i.e. 6+ more storeys, lateral loading design i.e. earthquake & wind must be considered
Other Design Loads *NBC, Part III, Sec 15*	Check for Impact or vibrations producing dynamic loading, lifting or handling equipment such as forklifts, trolleys or cranes operating on the floors of buildings or lateral and uplift forces due to retained soils or ground water inertia sway forces in grandstands.
STRUCTURAL MATERIALS Material types *NBC, Part III, Sec 16(8)*	Natural stone, clay bricks, structural timber, structural steel, concrete blocks and plain or reinforced concrete form the main construction materials for the structures commonly referred to as permanent.
Material strengths *NBC, Part III, Sec 16(9)*	Design strength characteristics should be provided as these influence the components to be designed for as well as the sizes and types of building structures involved.
Reinforced Concrete Materials design values *NBC, Part V, Sec 22(9)*	The partial factors of safety for the various reinforced concrete ingredients shall be as specified in Part II of Schedule 7.
Design properties & strength classes *NBC, Part V, Sec 22(10)*	The design properties and strength classes for concrete, including characteristic compressive strength of concrete for the various grades are prescribed in Schedule 8.
Control of deformation Final deflection *NBC, Part V, Sec 23(2)*	Final deflection of all horizontal members shall not, in general, exceed the value Deflection=Le/200; where, Le = the effective span

For roof or floor construction supporting or attached to non-structural elements including partitions and finishes likely to be damaged by a large deflection *NBC, Part V, Sec 23(3)*	The deflection which occurs after the attachment of the non-structural elements shall not exceed the value Deflection=Le/350. Which should also be less than or equal to 20mm where,Le = the effective span
calculated sag of a beam, slab or cantilever subjected to quasi-permanent loads *NBC, Part V, Sec 23(5)*	Shall not exceed span/250
(a) **Excavation details** *NBC, Part IV, Sec 17(9)*	Geotechnical report for any deep (2m and more depth) excavation is required.
(b) **Foundation details** General: Depth *NBC, Part IV, Sec 17(2)*	Shall be at depths equal to or greater than 1.0 metre
General: Geotechnical engineering tests for; 1) 2-3 stories, in low lying areas. 2) Low rise large, developments and 3) Medium and High rise developments *NBC, Part IV, Sec 17(4)*	Geotechnical testing ensuring stability and safety of buildings and a guide to the classification and bearing capacities of sub soils is shown in Schedule 5.
General: Foundation types *NBC, Part IV, Sec 17(5)*	Foundation, footings or bases shall be strip footings, isolated pads, rafts, piles independently, in combination or in their modified forms
General: Reinforced concrete Grades *NBC, Part IV, Sec 17(6)*	C12/15 if unreinforced, or C20/25 at 28 days if reinforced.
General: Concrete cover *NBC, Part IV, Sec 17(7)*	Cover to all reinforcement shall not be less than 50 mm.
General: Allowable bearing capacity *NBC, Part IV, Sec 17(8)*	Forces transmitted to the soils does not exceed the bearing capacities of the soils
General: Deep excavations (More than 2m) *NBC, Part IV, Sec 17(9)*	Geotechnical investigations shall be carried out before any deep excavation is undertaken to determine the soil characteristics in order to design the most appropriate foundation and footing for the building.
Isolated base depths *NBC, Part IV, Sec 18(1)*	depths of axially loaded unreinforced footings shall be equal to or greater than 300 mm and the projections from the columns or faces shall not be less than the foundation thickness.
Minimum Base sizing	Minimum pad size should be 1.0x1.0x0.3M
Isolated base designed depths and rebars *NBC, Part IV, Sec 18(2)*	The depth of the pads shall be determined in accordance with Part I of Schedule 5 from which also reinforcement percentages shall be obtained.
Isolated base design shear checks *NBC, Part IV, Sec 18(3)*	Shears at faces of columns shall be checked using the procedure indicated in Part II of Schedule 5.
Strip footing design *NBC, Part IV, Sec 19*	Designed as a pad footing in the transverse direction and considering a linear meter in the longitudinal direction.
Raft foundation provision *NBC, Part IV, Sec 20(1)*	On soft natural ground or fill or on subsurface strata containing compressible soils.

Raft foundation design *NBC, Part IV, Sec 20(2-8)*	The design of raft foundations shall be analogous to that of inverted flat slabs, with the column loads known.
Pile foundation design *NBC, Part IV, Sec 21(1-7)*	(i) Based on static load tests, empirical or analytical calculation methods, the results of dynamic load tests (ii) Designed as either friction or end bearing piles.
(c) **Columns details** Design classifications *NBC, Part V, Sec 27(1)*	Short or slender
Clear distance *NBC, Part V, Sec 27(2)*	The clear distance between the end restraints of the columns shall not exceed 60 x least dimension of the column section.
Axial forces *NBC, Part V, Sec 27(3)*	calculated on the assumption that beams and slabs transmitting forces are simply supported.
Short column design *NBC, Part V, Sec 27(5)*	as described in Schedule 13.
Slender column design *NBC, Part V, Sec 27(6)*	Shall be designed as short columns but account shall be taken of additional moments induced in the columns by deflection and that deflection for rectangular or circular columns under ultimate conditions shall be represented by an equation specified in Part I of Schedule 13.
Additional moments *NBC, Part V, Sec 27(7)*	shall be added to the initial moments to give the maximum moments for the ultimate limit state of the columns.
Symmetrically reinforced rectangular sections subjected to biaxial bending *NBC, Part V, Sec 27(8)*	shall be designed to withstand increased moments about the axes given by the equations in Part II of Schedule 13.
Rebar areas *NBC, Part V, Sec 27(9)*	shall be equal or greater than 0.4% but not more than 6% of gross concrete area. At laps total percentage shall not exceed 10%.
Durability requirement *NBC, Part V, Sec 27(10)*	shall be subjected to similar requirements as for reinforced concrete walls, as provided in Part V of Schedule 14.
Fire resistance requirement *NBC, Part V, Sec 27(11)*	As per Table 2 in Schedule 13
(d) **Beam details** Effective depth ratios *NBC, Part V, Sec 26(5)*	Shall be in accordance with Part I Schedule 12.
Limiting total deflections *NBC, Part V, Sec 26(6)*	shall be span/360 or 20 mm whichever is lesser for spans up to 10 metres.
Continuous beams, uniformly loaded with approximately equal spans *NBC, Part V, Sec 26(7)*	shall have design ultimate moments and shears represented by Part II of Schedule 12 except that the characteristic imposed loads shall not exceed the characteristic dead loads.
Shear stress *NBC, Part V, Sec 26(8)*	v = V/bd where, v = Design shear stress = 0.8 (fcu)1/2 or 5 N/mm2 if less
Minimum tension rebars *NBC, Part V, Sec 26(9)*	As per code.

Minimum Compression rebars *NBC, Part V, Sec 26(10)*	As per code.
Durability requirements *NBC, Part V, Sec 26(13)*	Shall in addition to the requirements of (f) fulfil the durability requirements given in Part V of Schedule 14.
Sizing and fire resistance *NBC, Part V, Sec 26(12)*	shall be sized to meet the fire resistance requirements given in Part III of Schedule 12.
(e) **Beam-Column connections**	Beam re-bars to pass within the closed stirrup ring of the columns. Preferable to have wider columns than the beam widths to minimize cranking of the beam re-bars.
(f) **Slab details** Floor types *NBC, Part V, Sec 24(1)*	Floors shall be reinforced concrete solid, ribbed (one way and two way spanning e.g. waffle slabs) or hollow core block slabs
Effective depth *NBC, Part V, Sec 25(2)*	Shall not exceed the limits specified in Schedule 10.
Solid concrete design *NBC, Part V, Sec 25(1-5)*	Design as per the code requirements; effective depths, panel orientations etc
Flat slab design *NBC, Part V, Sec 25(6)*	For the design of flat slabs with at least three spans in both directions and the longest span or shortest span ratio not exceeding 1.2, Table 3 of Schedule 11, shall be applied to obtain the bending moments and shear forces in the slabs and columns except that for flat slabs, which do not meet these conditions, the bending moments shall be calculated by frame analyses.
Ribbed slab characteristics *NBC, Part V, Sec 25(7-8)*	Ribs shall be spaced a distance not more than 1.5 meters and their depth less than 4 x width of ribs or 50 mm, whichever is greater.
Fire resistance requirement *NBC, Part V, Sec 25(10)*	shall have adequate depth and reinforcement cover to provide fire resistance according to Table 5 of Schedule 11.
(g) **Staircases** *NBC, Part V, Sec 24(2)*	Shall be considered as floor slabs subjected to imposed loads applicable to the various occupancy classes as shown in Schedule 2.
(h) **Lift wells** Inherent stability *NBC, Part V, Sec 28(2)*	Against overturning, slidding, etc
height to thickness relationship of walls exposed to different wind pressures *NBC, Part V, Sec 28(3)*	shall be specified in Part I of Schedule 14.
Design strength of walls *NBC, Part V, Sec 28(4)*	strength of walls per unit length shall be obtained from the formula specified in Part II of Schedule 14.
Slenderness ratios of Plain concrete walls *NBC, Part V, Sec 28(5)*	not more than 30, whether the walls are braced or unbraced.

Effective heights *NBC, Part V, Sec 28(6)*	shall be 0.75 x the distance between lateral supports in cases where lateral supports resist both rotations and lateral movements, or equal to the distances between centres of supports in case where lateral supports resist only lateral movements.
NBC, Part V, Sec 28(7)	For unbraced walls under similar end-conditions as in (d), the corresponding effective heights shall be obtained by multiplying the distances between centers of supports with factors of 1.5 and 2.0 respectively.
Design load per unit length *NBC, Part V, Sec 28(8)*	shall be assessed on the basis of linear distribution of loads along the length of the wall, with no allowance for tensile strength.
Shear wall design *NBC, Part V, Sec 28(11)*	designed as vertical cantilevers that are continuous through-out the height of the building.
Fire resistance requirement *NBC, Part V, Sec 28(13)*	In accordance to Part IV of Schedule 14.
Durability requirement *NBC, Part V, Sec 28(14)*	In accordance to Part V of Schedule 14
Rebar areas *NBC, Part V, Sec 28(15)*	vertical reinforcement in walls shall not be less than 0.4% or more than 4% of the gross sections of concrete for any unit length.
Vertical Bar spacing Limits *NBC, Part V, Sec 28(16a)*	shall not exceed 3 times the wall thickness or 400 mm whichever is the lesser; and
Horizontal Bar spacing Limits *NBC, Part V, Sec 28(16b)*	the spacing between two adjacent horizontal bars shall not be greater than 400 mm
(i) **Roof details**	R.c slabs can be provided as roofs over structures and therefore the slab details in (f) above can apply. A smooth gentle slope should be provided to ensure draining away of rain water to a centralized drain off point.
(j) **Retaining structure details** Retaining *NBC, Part V, Sec 29(1)*	Soils, fluids or a combination of both
Types of retaining walls *NBC, Part V, Sec 29(2)*	cantilevered wall, buttressed wall, counterfort wall, propped cantilevered wall; and integrated wall.
Form provided *NBC, Part V, Sec 29(3)*	walls in (b) can take the form of gravity walls, masonry walls or reinforced concrete walls depending on the main materials used in their construction.
Design consideration *NBC, Part V, Sec 29(6)*	(a) function and the consequences of failure, (b) stability of the wall (bearing resistance and resistance against rotation and sliding); (c) economy (consider an economical cross section per unit length of wall); (d) safety; (e) mechanism of transmitting compressive and shearing loads to the foundation and the reaction of the foundation to such loads; and (f) secondary effects of the foundation behaviour on the structure.

ANNEX 6B: SCRUTINY OF STRUCTURAL DRAWINGS (STEEL)

Forms *NBC, Part VI, Sec 30(1)*	be either a single member or an assembly of a number of steel sections connected together
Design considerations *NBC, Part VI, Sec 30(2)*	To facilitate fabrication, erection and future maintenance of the works.
Profiles *NBC, Part VI, Sec 30(3)*	Structural steel to be hot or cold rolled sections of the following profiles I-section, H-section, channel sections, hollow sections, Z-sections, angles, flat bars, plates, or other approved profiles
Standards of conformity *NBC, Part VI, Sec 30(4)*	to conform to Uganda Standard US ISO 630-2: 2011, Structural steels – Part 2.
Steel grades *NBC, Part VI, Sec 30(5)*	General steel grades 43, 50 and 55 used for structural steelwork and to have minimum corresponding design strength specified in Part I of Schedule 15
Applications *NBC, Part VI, Sec 30(6)*	stanchions, beams and joists, trusses, purlins, side rails, portal frames, staircases, floors, billboards, communication masts, pylons, towers and bridges.
(a) **Excavation details**	Geotechnical report for any deep (2m and more depth) excavation is required.
(b) **Foundation details**	Column bases shall be of sufficient size, stiffness and strength to transmit the axial load, bending moments and shear forces in columns to their foundations or other support, without exceeding the load carrying capacity of such supports. The nominal bearing pressure between the base plate and the support may be determined on the basis of a linear distribution of pressure. For concrete foundations, the bearing strength may be taken as, 0.4fcu where fcu is the characteristic concrete strength at 28 days.
(c) **Columns details**	
Design approach *NBC, Part VI, Sec 32(1-7)*	Columns designed as single integral members provided that the main components are effectively restrained against buckling designed to safely transmit axial loads, bending moments and shear to the foundations
Base plate thickness *NBC, Part VI, Sec 32(8)*	base plates loaded concentrically by I, H, Channel, Box or RHS columns shall be given by the equation specified in Part III of Schedule 15.
Encased column consideration *NBC, Part VI, Sec 32(9-11)*	As per the code
(d) **Beam details**	
Limiting deflection values *NBC, Part VI, Sec 31(2)*	shall be; (a) length/180, for cantilever beams, (b) span/360, for beams carrying brittle finishes; and (c) span/200, for other beams.
Shear forces *NBC, Part VI, Sec 31(3)*	shall be limited by the relationship specified in Part II of Schedule 15.
Moment capacities *NBC, Part VI, Sec 31(4)*	shall be determined in Part II of Schedule 15.

(e) **Connections and Joints**	
Design approach *NBC, Part VI, Sec 33(2)*	designed on the basis of a realistic assumption of the distribution of internal forces
Partial factor of safety *NBC, Part VI, Sec 33(3)*	shall be taken as; (a) for resistance of bolted connections gMb = 1.25 (b) resistance of riveted connections gMr = 1.25 (c) resistance of pin connections gMp = 1.25 (d) resistance of welded connections gMw = 1.25 (e) resistance of net sections at bolted holes gM2 = 1.25
Bolt and rivet connections *NBC, Part VI, Sec 34(1-8)*	As per the code
Pin connections *NBC, Part VI, Sec 35(1-7)*	As per the code
Splice connections *NBC, Part VI, Sec 36(1-8)*	As per the code
Welded connections *NBC, Part VI, Sec 37 to 49*	As per the code
Beam to column connections *NBC, Part VI, Sec52(1 & 2)*	designed by the generally known and acceptable application rules and practices by engineers ensuring the connection is able to transfer the stresses from the beam to the column.
Column bases *NBC, Part VI, Sec56(1)*	baseplate size determined either by effective area method or other rational means.
Connection of base plates *NBC, Part VI, Sec58(2-3)*	welds or fasteners shall be provided to transmit all forces and moments.
Anchor bolts design approach *NBC, Part VI, Sec59(1)*	designed to resist the effect of the design loads and shall provide resistance to tension due to uplift forces, and bending moments and shear, where appropriate
Anchoring anchor bolts *NBC, Part VI, Sec59(3)*	shall either be anchored into the foundation by a hook or by a washer plate or by some other appropriate load distribution member embedded in the concrete.
(f) **Slab details**	Steel structures can be provided with r.c slabs, steel framed slabs/platforms (either mesh or full chequered plate grating) or it can be with composite slabs (combination of concrete and steel) supporting system is primarily steel beams.
(g) **Staircases**	Fabricated as a quarter turn, half turn (having flights) or spiral staircase traversing a central steel element post from one level to another. Quarter or full turn staircase should have edge stringer beams to receive fabricated treads and hand rails. Spiral staircases should have a rigid central steel post element strong enough to withstand induced stresses as people move up and down the staircase.

(h) **Lift wells**	Void provisions in the slabs should be made to allow provision of a lift – Size of void to be recommended by specialist lift suppliers and installers. Framed columns and beams at every level strong enough to withstand stresses induced from the lift movements up and down the structure.
(i) **Roof details**	
Forms *NBC, Part VI, Sec60(1)*	shall be constituted by any or combination of among others; trusses, girders, rafters,
Loading considered *NBC, Part VI, Sec60(2)*	designed to sustain the dead loads, imposed loads and wind loads.
recommended minimum roof slopes for the various structures and cladding materials *NBC, Part VI, Sec60(7)*	specified in Part V of Schedule 15.
Structural steel trusses	
Design approach *NBC, Part VI, Sec61(1)*	designed to sustain axial, compression or tension forces or combinations of the loadings acting on the trusses.
Structural steel truss spacing *NBC, Part VI, Sec61(2)*	not exceeding 6.0m with double or mono pitches in accordance with Part II Schedule 15.
Purlins design *NBC, Part VI, Sec 62 (1-3)*	(1) shall be designed for imposed loads not less than 0.50kN/m2 and shall normally have spans L not exceeding 6.0 meters center to center of the main supports. (2) The dimension D, perpendicular to the planes of the cladding, and the dimension B, parallel to planes of the cladding shall be as specified in Part IV of Schedule 15 for different sections of purlins. (3) The empirical values of purlins are specified in Part IV of Schedule 15.
Composite beams *NBC, Part VI, Sec 63*	shall be checked for resistance for lateral-torsional buckling, shear buckling and longitudinal shear.
Composite columns *NBC, Part VI, Sec 64*	checked for the compression resistance, local buckling and shear between the steel and the concrete.
(j) **Retaining structure details**	Steel vertical retaining sheets supported by steel raked members or system. Designed and checked for stability against sliding &structural failure.

ANNEX 6C: SCRUTINY OF STRUCTURAL DRAWINGS (WOOD)

Structural Timber	
Type *NBC, Part VII, Sec 65(1-3)*	structural timber to be organic of either hard or soft wood
Applications *NBC, Part VII, Sec 65(7)*	for roof construction as; trusses, joists, purlins and battens, floors, columns, walls, staircases and bridges
Considered strength classes *NBC, Part VII, Sec 65(4-5)*	SG4, SG8, SG12 and SG16 as per schedule 16. Strength classes SG8 and SG12 are recommended for building construction.
Timber roof trusses	
Spans *NBC, Part VII, Sec 66(1)*	not greater than 10.0m with single or double pitches in accordance with Part V of Schedule 15.
NBC, Part VII, Sec 66(2)	For spans exceeding 10.0m, the designer must carry out a detailed structural analysis to determine the appropriate timber sections and means of enhancing rigidity of the assembly, or adopt more rigid materials such as structural steel.
Elaboration on spanning *NBC, Part VII, Sec 66(4)*	(a) 1.80 metres: for roofs with metal sheets; (b) 1.80 metres: for roofs with concrete/clay tiles, incorporating common rafters spaced at 0.60 metres, centre to centre; and (c) 2.10 metres: for roofs with metal tiles, incorporating common rafters spaced at 0.70 metres, centre to centre.
Connetions *NBC, Part VII, Sec 66(3)*	shall be firmly secured with either nails, screws, bolts and/or timber connectors.
Purlins provision *NBC, Part VII, Sec 66(5)*	shall have a minimum dimension of 75 x 50 mm and shall be spaced at distances not exceeding 1.20 metres centre to centre.

ANNEX 6D: SCRUTINY OF STRUCTURAL DRAWINGS (MASONRY)

Types *NBC, Part VII, Sec 71(3)*	unreinforced, reinforced or pre-stressed
Load bearing clay bricks *NBC, Part VII, Sec 72(1)*	shall conform to Uganda Standard US 102:1995, Standard specification for burnt clay bricks.
Load bearing concrete blocks *NBC, Part VII, Sec 73(1)*	shall be solid blocks with characteristic compressive strength shown in Part VI of Schedule 16.
Natural stone as load bearing masonry *NBC, Part VII, Sec 75(1)*	Natural stone shall be classified as unreinforced masonry for the purpose of its structural use as a material in the building construction.

ANNEX 7: SCRUTINY OF ELECTRICAL DRAWINGS

P14, Schedule 3	The Electrical Code must be read together with other documents which it makes cross-reference to including: • The Building Control Act, 2013, Act No. 10 of 2013. • The Electricity Act, 1999, Cap 145. • National Information Technology Authority Act, 2009, Act No. 4 of 2009. • The Electricity (Safety Code) Regulations, 2003, S.I. No. 22 of 2003. The circuit and layout design drawings should employ NBRB approved electrical symbols and conventions. Any non-standard symbols should be explained in the Key Electrical drawings shall be signed off by a qualified electrical engineer.
Description of Electrical Loads	For buildings in Category A, the electrical engineer shall submit a "Description of Electrical Loads" This shall include • Luminance requirements • Utility power connection for single phase load, three phase load, 11KV load • Heating, Ventilation and Air Conditioning (HVAC) requirements • Electrically operated accessories (gates, pumps etc) • Fire Protection Provisions • Provision of ICT (PABX, LADN, CCTV)
(a) mains and standby power supply; 4,5, 14, 34, 35, 39-49, Schedule 3	This shall form part of the electrical circuit drawing Evaluate aspects such as extending utility power to site, overhead utility line clearances, space for transformers and related switchgear, citing of standby power equipment, green standby electrical power (e.g. photovoltaic systems)
(b) power reticulation;	This shall complete the electrical circuit drawing look out for electrical ducts, lift power supplies, power rooms(sizes and locations) ,transformer room, generator houses or canopies (taking into account noise pollution), earthing and lighting protection, Ratings of isolators and breakers, conduct sizes may be specified in the drawings
(c) lighting layout;	This shall be shown on the architectural drawing and shall show position of light fixtures and lighting switches
(d) small power layout;	This shall be shown on the architectural drawing and shall show the position of - power socket outlets, distribution board, hot water cylinders - Communication sockets - Security elements e.g. alarm keypad and intercom hand sets
(e) fire protection;	Power requirements shall be shown on the electrical circuit drawing. Positioning of the fire fighting elements including sprinklers and smoke detectors will be shown on the fire protection layout drawing

(f) private automatic branch exchange system (PABX);	Power requirements shall be shown on the electrical circuit drawing. Positioning of the communication sockets will be shown on the small power layout drawing
(g) local area data network (structured cabling); P68	Power requirements shall be shown on the electrical circuit drawing. Positioning of the data sockets will be shown on the small power layout drawing
(h) closed circuit television (CCTV).	Power requirements shall be shown on the electrical circuit drawing. Positioning of the cameras and security room will be shown on the small power layout drawing

ANNEX 8: SCRUTINY OF MECHANICAL DRAWINGS

General requirements *R 12* *NBC, Part I, Sec 2*	The drawings shall contain the following where applicable: stairways, ramps, guards & lifts (esp. for raised buildings); lighting, ventilation (all types); heating, fire safety (esp. for public buildings), plumbing, sanitary fitments & drainage works (those with piped water), firefighting, water supply, reticulation and storage
Building methods and materials *R 16*	Those proposed should be the ones approved by the BC, otherwise permission has to be sought
(a) water supply; *NBC, Part II, Sec8 (2, 3); 9(1-2, 7-8); Sec 10(3-5, 15, 17-18); 11(5, 7, 14); 16; 18(12)*	Water supply drawings shall include the position of the water meter, water tank and pipe work (on site layout) and dispensing points on floor plans. • Check for the placement of water meters on the premises; should be easily accessible • Any source of supply from underground sources shall be approved by the Authority (proof shall be produced) • Portable (drinking) & non-portable (not for drinking) water supply to be separate. Portable (drinking) water should not be from unsealed (those which are not covered) tanks/cisterns • Check that the proposed storage of water ensures uninterrupted supply to the users • There should be steady and stable supply; the proposed storage capacity should be equivalent to the building occupancy
(b) water reticulation; *NBC, Part II, Sec 4-7; 17(12-13); 18-20* *Table 5 (Schedule 1); Table 8-10*	
(c) water storage; *NBC, Part II, Sec 10(8, 10,32)* *Table 3 (Schedule 1)*	
(d) ventilation and air conditioning; *NBC, Part IV, Sec89-93*	Ventilation and Air Conditioning drawings shall be prepared for centralized systems and shall show movement of ducts and centralized air conditioning unit. • Air-conditioning or artificial ventilations systems should be included on buildings especially public and proper materials to use be proposed. • There should also be adequate duct openings, coverings and lining in the designs
(e) drainage; *NBC, Part III, Sec55-64* - Water closets, showers, urinals & latrine fitments *NBC, Part III, Sec 24-26* *Part I, Table 1 (Schedule 2)* - Septic tanks and cesspools *NBC, Part III, Sec79-84*	Drainage plans shall show sanitary fitments, plumbing and drainage works • Sanitary fitments should be in relation with planned occupancy • Septic tanks and cesspools should be properly situated on the premises, well-constructed with approvals from NWSC (proof should be availed). • Their capacity should be in line with the planned building usage
(f) fire fighting. *NBC, Part III, Sec118, 122*	Fire fighting drawings shall show the fire fighting plumbing, position of hydrants, tanks and pumps. • Check designs - for safety of occupants and users in case of fire

Lifts; *NBC, Part III, Sec145-151, 155-158*	Lift drawings shall show the lift shaft, lift control room, machine and pulley rooms • All buildings 15 m or more above the ground shall have lifts; lift installation and selection shall follow ISO 4190 parts 1 to 6. The lift construction shall comply with section 69 of the OSH Act, 2006 • Machine & pulley rooms for lifts - should be easily accessible, have adequate size and the door should be clear from any obstacles

ANNEX 9: INSPECTION BOOKLET

BUILDING INSPECTION BOOKLET

June 2020

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1.0 PROJECT DETAILS

1.1	Project Name	
1.2	Developer	
1.3	Lead Consultant/Project Manager	
1.4	Contractor	
1.5	Start Date of Project	
1.6	Expected Completion Date of Project	
1.7	Date of Approval of Building Plans	
1.8	Is approval of building plans still valid? (Tick as appropriate)	Yes No
1.9	Building Permit No.	

2.0 DESCRIPTION OF WORKS
(Give a brief description of the project and its purpose)

2.1	Class of Building (Refer to Annex 1). (Tick as appropriate)	Class A Class B Class C
2.2	Function/purpose of Building	
2.3	Type of Construction	New works Renovations Alterations

3.0 PROJECT TEAM

3.1 DEVELOPERS TEAM

	DESIGNATION	NAME	SIGNATURE
a)	Contract Manager		
b)	Project Manager		
c)	Owners Engineer		
d)	Clerk of Works		
e)	Other, please specify _____		

3.2 CONSULTANTS TEAM

	DESIGNATION	NAME	SIGNATURE
a)	Project Manager		
b)	Architect		
c)	Civil and Structural Engineer		
d)	Mechanical Engineer		
e)	Electrical Engineer		
f)	ICT Specialist		
g)	Quantity Surveyor		
h)	Resident Engineer		
i)	Others, please specify _____ _____ _____ _____		

3.3 CONTRACTORS TEAM

	DESIGNATION	NAME	SIGNATURE
a)	Contract Manager		
b)	Foreman for Civil and Structural Works		
c)	Foreman for Mechanical Works		
d)	Foreman for Electrical Works		
e)	Foreman for ICT Works		
f)	Health and Safety Officer		
g)	Others, please specify _____ _____ _____ _____		

4.0 BUILDING ARCHITECTURE

4.1 BUILDING ARCHITECTURE FOR CLASS A AND B BUILDINGS

OUTCOMES	Acceptable Condition	√	Unacceptable Condition	UNC	Improvement Recommended	IMP	Not Verified	N/V	Not Applicable

ITEM No.	DESCRIPTION	OUTCOMES (Use codes above. Provide comment where appropriate)	QUERY RECTIFIED (Y/N)
4.1.1	**PRE-CONSTRUCTION DOCUMENTATION (NBR)**		
	a) Approved Plans b) Building Permit c) Demolition Permit d) Hoarding Permit e) Land Survey Report f) Construction Drawings and Specifications g) Supervision Agreements h) NEMA Certificate i) Traffic Impact Assessment j) OSH Approval k) ARB Project License Plate l) Inspection Job Card m) Site Instruction Book n) Copies of relevant building codes o) Contractor's work programme p) Relevant Insurance cover q) Site Health and Safety Policy r) Excavation Plan s) Materials Test Certificates t) Supervision Progress Reports u) Site Meeting and Inspection Reports v) Contractor's Method Statement of Work w) Unpriced Bills of Quantities		
4.1.2	**SITE OPERATIONS & PRELIMINARIES**		
4.1.2.1	**Site Operations (Reg. 29, BCR, 2020)** a) Safe and secure fencing. b) Operations confined within site boundaries. c) Site signboard location, complete building team members contact details.		
4.1.2.2	**Demolition Work** a) BC approval. b) Health and safety. c) Public convenience. d) Public safety. e) Building conditions during demolition. f) Demolition method suitability.		
4.1.2.3	**Hoardings to be Erected During Building Operations (P55, NBC Building Standards)** a) Building Committee opinion. b) Building Committee permission.		
4.1.2.4	**Special Hoarding (P56, NBC Building Standards)** a) Application to Building Committee for building works with barricade or hoarding on part of street or public way. b) Proper lighting of barricade/hoarding from sunset to sunrise. c) Conformity with Building Committee requirements. d) Removal as required by Building Committee. e) Consent from Electricity company/ministry for site works nearer than 7 feet to any overhead electric line.		
4.1.2.5	**Advertisements on Hoardings (P58, NBC Building Standards)** a) Building Committee Permission		
4.1.2.6	**Temporary Site Buildings (Reg. 30, BCR, 2020)** a) Builders shed. b) Location approved by BC. c) Condition of sheds. d) Notification by BC. e) Security personnel accommodation compliance with public health, and neighbours consent.		

OUTCOMES	Acceptable Condition	√	Unacceptable Condition	UNC	Improvement Recommended	IMP	Not Verified	N/V	Not Applicable

ITEM No.	DESCRIPTION	OUTCOMES (Use codes above. Provide comment where appropriate)	QUERY RECTIFIED (Y/N)
4.1.2.7	**Sanitary facilities (Reg. 31, BCR, 2020)** a) Location approved by BC. b) Site workers: facilities ratio. c) Non-offensive placement. d) Hygiene. e) Removal after building operations.		
4.1.3	**SITING OF BUILDINGS-(P4, NBC Building Standards)**		
4.1.3.1	**Siting of Buildings** a) Building Committee Approval b) Sanitary Conditions c) Outbuildings Nuisance d) Removal/management of offensive landfill material		
4.1.3.2	**Drainage of Site-(P5, NBC Building Standards)** a) Site subsoil dampness b) Drainage type used		
4.1.3.3	**Control of Buildings in Swampy Sites (P6, NBC Building Standards)** a) Subsoil water level b) Use of pit latrine c) Reinforcement of pit latrine walls		
4.1.3.4	**Plot frontage.(P7, NBC Building Standards)** a) Presence of access road b) Road reserve width		
4.1.3.5	**Building Lines (P8, NBC Building Standards)**		
4.1.3.6	**Access to Lanes and Passages (P9, NBC Building Standards)**		
4.1.3.7	**Paving and Gates to Passages (P10, NBC Building Standards)**		
4.1.3.8	**Paving and Draining of Yards (P11, NBC Building Standards)**		
4.1.3.9	**Plot Coverage (P12, NBC Building Standards)**		
4.1.3.10	**Building Setbacks (P13-P15, NBC Building Standards)** a) Front b) Rear c) Sides		
4.1.3.11	**Plot Area**		
4.1.3.12	**Access to Utilities (P18, NBC Building Standards)**		
4.1.3.13	**Boundary Fencing (P19-P20, NBC Building Standards)** a) Materials b) Transparency c) Sloping site measures d) Razor wire height e) Broken glass f) Electric fencing		
4.1.3.14	**Landscaping and Parking (Reg. 15, BCR, 2020)** a) Site and neighbourhood aesthetics. b) Screening against environmental hazards. c) Hazardous substance or activity containment within building curtilage. d) Use of indigenous flora and local materials. e) Parking provided within site boundaries. f) Number of car parking slots.		
4.1.4	**SUBSTRUCTURE**		

OUTCOMES	Acceptable Condition	√	Unacceptable Condition	UNC	Improvement Recommended	IMP	Not Verified	N/V	Not Applicable

ITEM No.	DESCRIPTION	OUTCOMES (Use codes above. Provide comment where appropriate)	QUERY RECTIFIED (Y/N)
4.1.4.1	a) Type of foundation b) Footings/bases sizes c) Materials used: • masonry • steel reinforcement • aaggregate • cement • sand • DPM • anti-termite treatment • backfill material d) Site safety e) Basements: • lighting • ventilation • drainage • accessibility • fire protection • surface finishes • site safety		
4.1.5	**SUPERSTRUCTURE**		
4.1.5.1	**Floor Height**		
4.1.5.2	a) Materials used • External Walls • Internal walls b) Floor slab construction c) Room sizes d) Natural lighting e) Ventilation f) Roofing g) Flat roofs h) Site safety		
4.1.5.3	**Canopies (P27-P37, NBC Building Standards)** a) Conformity with neighbouring buildings i. Canopy height ii. Pavement width beneath canopy iii. Materials of pavement iv. Canopy width v. Canopy condition vi. Conformity with existing canopies vii. Canopy drainage viii. Water discharge to pavement ix. Canopy soffit sealing x. Canopy loading xi. Canopy fireproofing		
4.1.5.4	**Balconies and Bay Windows Overhanging Streets (P38-P39, NBC Building Standards)** a) Doors and windows not to open outwards.		

OUTCOMES	Acceptable Condition	√	Unacceptable Condition	UNC	Improvement Recommended	IMP	Not Verified	N/V	Not Applicable

ITEM No.	DESCRIPTION	OUTCOMES (Use codes above. Provide comment where appropriate)	QUERY RECTIFIED (Y/N)
4.1.5.5	**Stairs (P41-P42, NBC Building Standards)** a) Building height b) Separate access from upper floors c) Main staircase height (storeys) d) Number of steps in flight e) Landing length f) Number of flights g) Provision for turning h) Width of door opening to landing i) Variation in riser dimensions and tread goings j) Tapered treads • Distance from narrower end of tread • Going • Horizontal angle between successive risers • Variation in goings and riser dimensions k) Winders • Type of dwelling unit • Number of successive winders • Turning angle of winders l) Dwelling houses (single): • Width • Rise • Tread • Headroom • Winders m) Multiple dwellings and warehouses with less than 10 employees • Width • Rise • Tread • Headroom • Winders n) Warehouse buildings with more than 10 employees • Width • Rise • Tread • Headroom • Winders		
4.1.5.6	**Bannisters of Balconies and Stairways (P43, NBC Building Standards)** a) Number of handrails b) Position of handrails c) Continuous outer handrail d) Projection of handrails e) Spacing of bannisters for stairways and balconies f) Safe infilling below handrails g) Balustrade height: • above nosing at staircase rake and • at landings. h) Balustrade strength i) Provision of central handrail where stairway exceeds 2.4 m width j) Stairway ventilation k) Stairway lighting l) Stairway materials fire safety compliance		
4.1.5.7	**Pedestrian guarding for siting. P44 NBC Building Standards** a) Balcony edges b) Floor gallery edges c) Sunken area of building d) Vehicle parks Exceptions: Ramps used for vehicle access and loading bays.		
4.1.5.8	**Vehicle Barriers (P45, NBC Building Standards NBS)**		

OUTCOMES	Acceptable Condition	√	Unacceptable Condition	UNC	Improvement Recommended	IMP	Not Verified	N/V	Not Applicable

ITEM No.	DESCRIPTION	OUTCOMES (Use codes above. Provide comment where appropriate)	QUERY RECTIFIED (Y/N)
4.1.5.9	**Ramps (P46, NBC Building Standards)** a) Vehicle ramp • Gradient • Width • Distance from street boundary b) Pedestrian ramp • Gradient • Width c) Pedestrians and vehicle ramp • Walkway width • Walkway kerb height		
4.1.5.10	**Staircases in Buildings Intended for Separate Occupation (P47, NBC Building Standards)** • Lighting at storey above ground • Ventilation at highest point		
4.1.5.11	**Escalators to be in Addition to Staircases** a) As means of emergency exit		
	Means of escape: a) Height of building (storeys /m)		
4.1.5.12	**Enclosure and Position of Lifts and Motor Rooms (P50, NBC Building Standards)** a) Motor room conditions. b) Lift shaft smoke outlet position, area and fitting materials. c) Motor room ventilation. d) Domestic and public buildings lift enclosure materials.		
4.1.5.13	**Lifts (P51, NBC Building Standards)** a) Compliance with OSH Act, 2006. b) Clear space between lift shaft bottom and lowest point of cage floor. c) Lift shaft pit bottom conditions. d) Lift pit floor drainage. e) Counterbalance safety provisions. f) Lift Inspections Report.		
4.1.6	**PRECAUTIONS AGAINST FIRE (P52, NBC Building Standards)** a) Construction materials b) Number of fire escapes c) Secondary means of access d) Fire resisting floors e) Fire resisting stairs and staircases f) Fire resisting passages g) Placement of refuse bins h) Refuse bin site floor finish and walling i) Roofing and Draining of refuse bin sites		
4.1.7	**SCAFFOLDING (P54, NBC Building Standards)** a) Platforms and gangways scaffolding width and height. b) Toe boards and guard rails on open sides. c) Building committee assessment of damage risk to persons and property. d) Scaffolding above 6m height constructed in approved steel.		
4.1.8	**ASSEMBLY BUILDINGS**		
4.1.8.1	**Arrangements (P59, NBC Building Standards)** a) Occupancy classification type. b) Position of main floor in relation to level of exit street.		
4.1.8.2	**Sites Safety (P60, NBC Building Standards)** a) Building Committee opinion. b) Protection against fire from adjacent properties. c) Building Committee prohibition on use of defective structure.		

OUTCOMES	Acceptable Condition	√	Unacceptable Condition	UNC	Improvement Recommended	IMP	Not Verified	N/V	Not Applicable

ITEM No.	DESCRIPTION	OUTCOMES (Use codes above. Provide comment where appropriate)	QUERY RECTIFIED (Y/N)
4.1.8.3	**Area per Person (P61, NBC Building Standards)**		
4.1.8.4	**Fire Resistance Ratings (P62, NBC Building Standards)** a) Floors b) Walls c) Stairs d) Ceilings e) Doors f) Windows		
4.1.8.5	**Floors and Slope of Floors (P63, NBC Building Standards)** a) Slope of floors b) Passage and Aisle steps dimensions		
4.1.8.6	**Height of Galleries (P64, NBC Building Standards)** a) Clear height of first floor or balcony extending over pit, stalls or area. b) Height between floor of the highest [part of the gallery and lowest part of the ceiling over the part.		
4.1.8.7	**Width of Aisles P65 NBC Building Standards**		
4.1.8.8	**Gangway Around Auditorium (P66, NBC Building Standards NBS)**		
4.1.8.9	**Pit Floor (P67, NBC Building Standards)**		
4.1.8.10	**Stairs in Assembly Buildings (P68, NBC Building Standards)**		
4.1.8.11	**Planning of Lobbies (P69, NBC Building Standards)**		
4.1.8.12	**Stage Space (P70, NBC Building Standards)**		
4.1.8.13	**Ventilation (P71, NBC Building Standards)**		
4.1.8.14	**Doors (P72-P75, NBC Building Standards)** a) Swinging of doors. b) Panic bolts and locks on doors. c) Door fastening prohibited. d) Outlet doors.		
4.1.8.15	**Exits (P76-P82, NBC Building Standards)** a) Notice on Exit Doors. b) Separate exits for each level. c) Width of exits. d) Number of exits. e) Exits to be spaced apart. f) Separate and independent exits.		
4.1.8.16	**Lighting (P83, NBC Building Standards)** Efficient lighting all the time during whole period of use for: a) entrance halls, b) passages, c) staircases, d) gangways and e) other means of approach to public room or building.		
4.1.8.17	**Artificial Lighting (P84, NBC Building Standards)** a) Ensure no darkness in building in the event of accident or power breakdown. b) Two separate systems of electric lighting from two separate supply sources. c) All exit lamps remain lit during building use by public.		

OUTCOMES	Acceptable Condition	√	Unacceptable Condition	UNC	Improvement Recommended	IMP	Not Verified	N/V	Not Applicable

ITEM No.	DESCRIPTION	OUTCOMES (Use codes above. Provide comment where appropriate)	QUERY RECTIFIED (Y/N)
4.1.8.18	**Means of Warning and Escape (P85, NBC Building Standards)** a) Early warnings of fire. b) Appropriate means of escape from building to safety place outside the building. c) Safety place is safely and effectively used at all times.		
4.1.8.19	**Internal Fire Spread (P85, NBC Building Standards)** a) Internal wall lining adequately resists fire spread over its surface(Fire Rating). b) If ignited internal lining has reasonable fire growth rate or heat release rate.		
4.1.8.20	**Temporary Proscenia (P86, NBC Building Standards)** a) Building Committee Permission required. b) Ensure performers safety. c) Ensure audience safety. d) Fire resistance treatment of scenery curtain and temporary proscenium.		
4.1.8.21	**Cinematograph Chambers** a) Cinematograph equipment (P87, **NBC Building Standards**) b) Cinematograph room construction		
4.1.8.22	Owner to cover costs of alterations or additions required by notice issued under the Building Code P88, NBS **NBC Building Standards**.		
4.1.9	**BUSINESS OR INDUSTRIAL BUILDINGS**		
4.1.9.1	**Offices in Shops (P89, NBC Building Standards)** a) Lighting for shop part used as office to be according to Code 111 & 117. b) Exemptions by Building Committee.		
4.1.9.2	**Offices in Industrial Buildings (P90, NBC Building Standards)** a) Lighting for factory or workshop part used as an office to be as per Code 82 and 83. b) Building Committee exemption on parts considered to be adequately lit and ventilated.		
4.1.9.3	**Size of Rooms in Industrial Buildings (P91, NBC Building Standards)** a) Floor area according to Table 4, Schedule 1.		
	Further Requirements (P92, NBC Building Standards) a) Provided more than 20 persons work in shops and offices at any one time, provisions for public buildings and assembly buildings design apply as stated in Codes 59, 60 and 63-66 to the shops and office buildings.		
4.1.9.4	**Division of a Large Multipurpose Building (P40, NBC Building Standards)**		
4.1.10	**SCHOOL BUILDINGS**		
4.1.10.1	**Classrooms (P93, NBC Building Standards)** a) Classroom dimensions to suit number of learners intended for the room. b) 1.1 m minimum aisle width. c) 3 m minimum mean height. d) Measurements as per design population standards in Schedule 1, Table 4.		
4.1.10.2	**Halls (P94, NBC Building Standards)** Minimum 0.5 m^2 floor space per learner.		
4.1.10.3	**Lighting and Ventilation (P95, NBC Building Standards)** a) Classroom lighting in accordance with Code 112 &113. b) Classroom ventilation in accordance with code 115 & 116.		

OUTCOMES	Acceptable Condition	√	Unacceptable Condition	UNC	Improvement Recommended	IMP	Not Verified	N/V	Not Applicable

ITEM No.	DESCRIPTION	OUTCOMES (Use codes above. Provide comment where appropriate)	QUERY RECTIFIED (Y/N)
4.1.10.4	**Accommodation for Boarders (P96, NBC Building Standards)** a) Suitable and sufficient dormitories in addition to classrooms for every boarding school. b) Separate dormitories for each gender. c) Minimum floor area per learner as per Schedule 1, Table 4 considering 2.78 m^2 for learners under 12 years of age. d) 3.7 m^2 for each learner where double decker beds are used. e) Beds placed at least 300 mm from dormitory walls. f) Distance between adjacent beds not less than 1100 mm. g) Unobstructed passage of at least 1100 mm in dormitory with two or more lines of beds. h) Bed fabrication to ease regular disinfestation. i) Dormitory lighting in accordance with Code 111 & 112. j) Dormitories with secure, sufficient and accessible latrines and showers.		
4.1.10.5	**Accommodation for Meals (P97, NBC Building Standards)** a) Separate accommodation required for meals. b) Dining area not to communicate with dormitory except via properly ventilated passage. c) 0.75 m^2 area per learner using dining.		
4.1.10.6	**Kitchens and Water Supply (P98, NBC Building Standards)** Kitchen required for every boarding establishment. a) Suitable size, type and construction. b) Sufficient water supply for washing and bathing of users. c) Sufficient supply of wholesome drinking water always. d) Accessible, uncontaminated water supply where no piped water supply exists.		
4.1.10.7	**Latrine Accommodation (P99, NBC Building Standards)** Proper and sufficient latrine units mandatory for all schools. a) Latrine to learner ratios according to types. a. WCs, 1:15 persons for boarding facilities or 1:25. b. WCs for non-boarding facilities up to 100 persons, 1:40 for above 100 persons. c. Pail closets: i. 1:12 for boarding facilities and ii. 1:12 for non-boarding up to 48 persons. 1: 24 for above 48 persons. d. Urinals: i. 50% reduction in male latrines where latrines are provided, ii. 1 stall/basin:25 males or iii. 560 mm channel length for every 25 males. b) Schools with both boarding and non-boarding learners. c) Separate latrines for learners of each gender. d) Separate latrines for staff, for each gender. e) Privacy and effective screening of latrines of each gender from the other. f) 18 m maximum distance of dormitory from latrine. g) 45 m maximum distance of classroom from latrine.		
4.1.10.8	**Floors (P100, NBC Building Standards)** Impervious floors with every part regularly cleanable.		
4.1.10.9	**Playgrounds (P101, NBC Building Standards)** Open space of sufficient size required and where possible adjacent to every school for playground use by learners.		
4.1.11	**RESIDENTIAL BUILDINGS**		
4.1.11.1	**Size of Rooms Intended to be Used as Dwellings (P102, NBC Building Standards)** a) Superficial area of habitable room at least 9 m^2. b) Area per person at least 3.7 m^2, except: i. at least 7.4 m^2 for additional habitable rooms and ii. At least 3.7 m^2 for ironing rooms.		

OUTCOMES	Acceptable Condition	√	Unacceptable Condition	UNC	Improvement Recommended	IMP	Not Verified	N/V	Not Applicable

ITEM No.	DESCRIPTION	OUTCOMES (Use codes above. Provide comment where appropriate)	QUERY RECTIFIED (Y/N)
4.1.11.2	**Provision of Kitchens, Stores and Bathrooms for each Dwelling (P103, NBC Building Standards)** a) Kitchen area not less than 7.4 m^2 and height of 2.6 m. b) Hotel kitchen meets size parameters in Schedule 1. c) Outside kitchen at least 2.3 m^2 and 2.6 m high. d) Approved smoke extraction. e) Window sizes as per Code 111 & 113. f) Refuse disposal and drainage means. g) Size of cupboard more than 2.8 m^3 to be provided lighting. h) Bathroom size at least 1.5 m^2 and 2.4 m mean height and not less than 2.1 m height. i) Sufficient bathroom lighting as per Code 111 & 113.		
4.1.11.3	**Position of Blocks of Flats and Hotels (P104, NBC Building Standards)** a) Plots should be approved by Building Committee where no zoning exists. b) Number of blocks of flats permitted on the plot. c) Effect of residential plot development on adjoining residential plots.		
4.1.11.4	**Construction of Buildings of More than Two Storeys (P105, NBC Building Standards NBS)** a) Fire escapes required. b) Access to building for public services required. c) Drainage of waste, foul and storm water required. d) Additional escape means and refuse disposal via secondary staircase within 27.4 m from entrances. e) Location of central sites for refuse containers. f) Construction of refuse sites with impervious floor, approved roofing, drainage and fly proofing.		
4.1.11.5	**Kitchens in Flats (P106, NBC Building Standards)** Code 103 (2)(a) and (e) not applicable to communal dining and catering.		
4.1.11.6	**Facilities to be Provided for all Residential Rental Premises Tenants (P107, NBC Building Standards)** a) Latrines (refer to Mechanical Installation standards). b) Lighting in all common circulation areas. c) Water supply. d) Food storage space. e) Kitchen and ablution facilities. f) Waste and foul water drainage.		
4.1.12	**LIGHTING AND VENTILATION**		
4.1.12.1	**Provision of Windows (P111, NBC Building Standards)**		
4.1.12.2	**Area of Windows (P113, NBC Building Standards)**		
4.1.12.3	**Space Opposite Windows (P114, NBC Building Standards)**		
4.1.12.4	**Window and Ventilation Requirements for Soilwater Fitting Apartments (P115, NBC Building Standards)**		
4.1.12.5	**Ventilation of Rooms (P116, NBC Building Standards)**		
4.1.12.6	**Ventilation of Public Buildings (P117, NBC Building Standards)**		
4.1.12.7	**Warehouse Lighting and Ventilation (P112, NBC Building Standards NBS)**		
4.1.13	**BUILDING MATERIALS**		
4.1.13.1	**General Requirements (P118, NBC Building Standards)**		
4.1.13.2	**Testing (P119, NBC Building Standards)**		
4.1.13.3	**Second-hand Material (P120, NBC Building Standards)**		

OUTCOMES	Acceptable Condition	√	Unacceptable Condition	UNC	Improvement Recommended	IMP	Not Verified	N/V	Not Applicable

ITEM No.	DESCRIPTION	OUTCOMES (Use codes above. Provide comment where appropriate)	QUERY RECTIFIED (Y/N)
4.1.13.4	**Other Standards (P121, NBC Building Standards)**		
4.1.13.5	**Water Quality (P122, NBC Building Standards)**		
4.1.13.6	**Sand or Fine Aggregate (P123, NBC Building Standards)** a) Quality b) Size c) Material source		
4.1.13.7	**Coarse Aggregate (P124, NBC Building Standards)** a) Quality b) Size		
4.1.13.8	**Cement (P125, NBS)** Compliance with UNBS Standards.		
4.1.13.9	**Bricks and Blocks (P126, NBC Building Standards)** a) Hardness b) Durability c) Combustibility d) Maturity e) Crushing Resistance f) Size, Shape and Surface		
4.1.13.10	**Stresses in Brick and Block Walling (P127, NBC Building Standards)** a) Bearing Pressure b) Special materials test results		
4.1.13.11	**Mortar (P128, NBC Building Standards)** a) Mix ratio. b) Variational mix ratio authorised by competent person and approved by Building Committee.		
4.1.13.12	**Concrete (P129, NBC Building Standards)** a) Component materials. b) Mix ratios. c) Presence of ash, slag, clinker or similar material in concrete. d) Coke breeze not authorised as ingredient. e) Results of Bearing Pressures on load bearing concrete.		
4.1.13.13	**Slenderness Ratio of Pier (P130, NBC Building Standards)**		
4.1.13.14	**Stresses in Wrought and Cast Iron (P131, NBC Building Standards)**		
4.1.13.15	**Timber (P132-P136, NBS)** a) Quality b) Strength c) Free from defects d) Well seasoned e) Protection from insects and vermin f) Stress Test Results g) Stress Test Results on timber columns h) Special timber Stress Test Results i) Timber column lengths not to exceed thirty times its diameter		
4.1.13.16	**Damp-Proof and Anti-proof Courses (P137, NBC Building Standards)** a) Durability b) Impervious to moisture c) Ability to withstand wall loads and prevent wall movement d) DPM Material e) DPM thickness		
4.1.14	**INSPECTION OF BUILDING WORKS STAGES**		

OUTCOMES	Acceptable Condition	√	Unacceptable Condition	UNC	Improvement Recommended	IMP	Not Verified	N/V	Not Applicable

ITEM No.	DESCRIPTION	OUTCOMES (Use codes above. Provide comment where appropriate)	QUERY RECTIFIED (Y/N)
	Reg. 27, 1-8, BCR, 2020 a) BC Notification of work commencement • 14 days prior for demolitions • 7 days prior for new works • 7 days prior for maintenance works b) Signed BC Notifications c) Approved drawings copy on site d) Building Permit copy e) Request for inspection (Form 7) f) Inspection notice by BC		
4.1.15	**DESIGN AND PLANNING OF BUILDINGS**		
4.1.15.1	**BUILDING OPERATIONS BY MINISTRIES, DEPARTMENTS AND AGENCIES OF GOVERNEMNT**		
4.1.15.1.1	**Design requirement (generally)** a) Functionality • User need suitability • Activities technical requirements • Spatial requirements • Service requirements • Design meets functional goals b) Sustainability • Environmental issues • Resilience to natural disasters c) Economy • Considers whole life cycle cost • Operation costs • Maintenance costs • Life span • Return on Investment d) Performance Requirements • Energy efficiency • Durability • Life-cycle performance • Occupant comfort • Occupant safety e) Safety • Risk foresight • Risk protection • Health measures • Safety measures • Security measures Fire protection		
4.1.15.1.2	**Deviation from Approved Plan (Reg. 39, BCR. 2020)** • Application for deviation • Plot coverage • Building height • Building depth • Structural system • Other dimensions (specify) • Change in usage Non-compliant building operations		

OUTCOMES	Acceptable Condition	√	Unacceptable Condition	UNC	Improvement Recommended	IMP	Not Verified	N/V	Not Applicable

ITEM No.	DESCRIPTION	OUTCOMES (Use codes above. Provide comment where appropriate)	QUERY RECTIFIED (Y/N)
4.1.15.1.3	**Occupation Permit Application (Reg. 34, BCR, 2020)** • As built drawings • Certificates of service installations fitness Certificate of practical completion		

4.2 BUILDING ARCHITECTURE FOR CLASS C BUILDINGS

OUTCOMES	Acceptable Condition	√	Unacceptable Condition	UNC	Improvement Recommended	IMP	Not Verified	N/V	Not Applicable

ITEM No.	DESCRIPTION	OUTCOMES (Use codes above. Provide comment where appropriate)	QUERY RECTIFIED (Y/N)
4.2.1	**Temporary Buildings (P53, NBC Building Standards)** a) Conditions of authorisation b) Period of authorisation required c) Site plan d) Application to erect temporary building. i. Layout drawings clearly indicating structure dimensions, plot boundary lines, roads, sidewalks, distances to adjacent structures, public access route building location, room locations and names. ii. Size. iii. Form. iv. Construction materials and their fire ratings. v. Proposed use of temporary buildings. vi. Lighting. vii. Ventilation. viii. Fire safety measures. ix. Structural details. x. Authorisation: Initial authorisation of 1 year. xi. Approval of extension. e) Certificate of Satisfactory Structural Condition		

Notes:

BCR - Building Control Regulations
NBC - National Building Code
Reg. - Regulation

5.0 CIVIL AND STRUCTURAL WORKS

5.1 CODES OF PRACTICE AND STANDARDS

In the design and supervision of the buildings, it is incumbent on the professional to state the approved codes of practice and standards he used. For purpose of this booklet, he is expected to use:

- The National Building Code 2019,
- Building Control Regulations 2020,
- The Standards by the Uganda National Bureau of Standards marked as US or US-ISO and other marks and
- any approved and relevant documents in practice, such as the British Standards.

5.2 BUILDING ELEMENTS

It is incumbent on the professional to specify the elements designed for, such as reinforced concrete; steel and other metals; masonry and clay products; timbers, composite materials, plastics and any others.

The design and supervision must include all structural elements which must be added in case they are not indicated in this booklet.

5.3 DESIGN REPORT

It is incumbent on the professional to prepare a design report which must include desirable aspects of professional structural design that ensures ***strength, safety*** and ***economy*** as below.

a) Assurance that the building:
   i) achieves an acceptable level of probability that it shall perform satisfactorily during its intended life,
   ii) sustains all loads and deformations of normal construction and use and
   iii) affords adequate durability and resistance to the effects of misuse and fire.

b) The design ensures that due regard is given to economy in design, structural safety, serviceability and durability.

c) The design ensures that the building is designed and constructed in such a way that it is not unreasonably susceptible to damage by effects of fire, explosion, impact or consequences of human error.

d) The design ensures there is use of suitable materials. It should indicate need for quality control and good supervision, which are complementary to design calculations to produce safe, serviceable and durable structures.

e) The design should provide specifications, standards for materials, production, workmanship, maintenance aspects to be complied with and ensure that the design objectives are realised.

f) The report should show how the design has assured that potential damage is avoided by appropriate choice of one or more of the following:
   i) avoiding, eliminating or reducing the hazards to which the structure can be sub-

jected,

ii) selecting a structural form which has low sensitivity to hazards considered,

iii) selecting a structural form and design that can survive adequately the accidental removal of an individual member or a limited part of the structure, or the occurrence of acceptable localised damage,

iv) avoiding, as far as possible, structural systems that can collapse without warning and

v) tying the structural members together.

f) The design report shall show that the structural design is/was based on the most critical limit state (**either the ultimate limit state** or **the serviceability limit state**) and a check should be included to show that the other limit state was not exceeded.

g) The ultimate limit states used shall show how the following have been achieved:
   i) safety of the people and
   ii) safety of the structure and its contents.

h) The ultimate limit state design shall show how the building/structure will withstand:
   i) loss of equilibrium of the structure or any part of it, considered as a rigid body,
   ii) failure by excessive deformation, transformation of the structure or any part of it, including supports and foundations,
   iii) failure caused by fatigue and other time dependent effects and
   iv) failure caused by the effect of earthquakes, segmental and overall robustness of the structure.

i) The serviceability limit states shall show how the building/structure will assure:
   i) the functioning of the structure or structural members under normal use,
   ii) the comfort of people and
   iii) the appearance of the construction works.

j) The serviceability limit states shall show how the building/structure will withstand/resist:
   i) deformation and displacements which affect the appearance or effective use of the structure or cause damage to finishes or non-structural elements,
   ii) vibrations which cause discomfort to people, damage to the structure or to the materials it supports, or which limit its functional effectiveness,
   iii) damage, including cracking, which is likely to affect appearance, durability or the function of the structure adversely,
   iv) observable damage caused by fatigue and other time dependent effects and
   v) damage caused by earthquakes.

k) The design report shall show the design philosophy that includes or fulfills:
   i) idealisation of the structural elements or the structure, their connectivity and their load path,
   ii) boundary conditions that are to be imposed onto the structure and to the individual structural elements,
   iii) material properties,
   iv) weather conditions,

v) probability of change of use of the structure,

vi) determining which method of analysis or analysis software is suitable,

vii) determining which method of design or design checks to adopt,

viii) method of construction likely to be used and

ix) the temporary works and quality of workmanship to be used.

l) The design report shall show how the limit state design was carried out by:

i) setting up structural and load models for relevant ultimate and serviceability limit states that should consider the various design situations and load cases and

ii) verifying that the limit states are not exceeded when design values for actions, material properties and geometrical data are used in the models.

m) The design report shall show how a design value was obtained:

i) by using the characteristic or representative values in combination with partial and other factors or

ii) in exceptional cases, directly except that the values obtained directly should correspond to at least the same degree of reliability for the various limit states.

5.4 CIVIL AND STRUCTURAL WORKS IN CLASS A, B AND C BUILDINGS

OUTCOMES	Acceptable Condition	√	Unacceptable Condition	**UNC**	Improvement Recommended	**IMP**	Not Verified		Not Applicable	
ITEM No.	**DESCRIPTION**						**OUTCOMES (Use codes above. Provide comment where appropriate)**		**QUERY RECTIFIED (Y/N)**	
5.4.1	**PRECONSTRUCTION DRAWINGS AND DOCUMENTS**									
5.4.1.1	a) Approved civil and structural engineering plans, drawings and diagrams Geotechnical Survey Report b) Topological Survey Report c) Structural design report with calculations to prove adequate strength, safety and economy in all the structural elements d) Excavation Plan where applicable e) Detailed methodology for temporary support, where needed f) Specifications covering all civil and structural works									
5.4.2	**CIVIL OR STRUCTURAL PLANS**									
5.4.2.1	Civil or Structural engineering plans, drawings and diagrams shall contain the following, where applicable a) Excavation details b) Foundation details c) Column details d) Beam details e) Beam-Column connections f) Slab details g) Staircases h) Ramps i) Lift wells j) Roof details k) Retaining structural details									
5.4.2.2	Civil or Structural engineering plans, drawings and diagrams shall be drawn to suitable scales but not smaller than 1:100, 1:50, 1:20, 1:5, 1:2 or 1:1									
5.4.2.3	Correct interpretation of Civil or Structural engineering plans, drawings and diagrams									
5.4.2.4	Works executed in accordance with the designed and approved plans									

OUTCOMES	Acceptable Condition	√	Unacceptable Condition	UNC	Improvement Recommended	IMP	Not Verified		Not Applicable	

ITEM No.	DESCRIPTION	OUTCOMES (Use codes above. Provide comment where appropriate)	QUERY RECTIFIED (Y/N)
5.4.3	**STRUCTURAL SYSTEM OF THE BUILDING**		
5.4.3.1	Appropriate structural forms, systems and materials used in different parts of the building e.g. reinforced concrete, pre-stressed concrete, steel, masonry and timber etc		
5.4.3.2	Identification of critical structural elements without redundancies for example long span structures		
5.4.4	**LOADING ON THE STRUCTURE**		
	a) Appropriate loading conditions, indicating the usage at different parts of the building and identifying any misuse, abuse or deviation from intended use. b) Is the loading condition is compatible with the intended purpose of the structure. c) Does the misuse, abuse or deviation from intended use given rise to excessive loading which can adversely affect the building structure?		
5.4.5	**CONSTRUCTION TECHONOLOGY**		
	a) Acceptable Construction methods employed b) Adequate timelines within which to execute proposed works c) Timely execution of already embarked on works		
5.4.6	**CONSTRUCTION MATERIALS**		
	a) Materials on site are in accordance with the standards and specifications used in design. b) Material testing and approvals available on site for example Laboratory concrete cube test for compressive strength after 7 days, 14 days and 28 days and laboratory test for steel, timber or any other materials for the relevant parameters as per code of practice. c) Proper storage of materials to minimize deterioration d) Other Quality control measures in place.		
5.4.7	**EXCAVATIONS (Reg. 14, BCR, 2020)**		
	a) Permit for works exceeding 2 m depth below ground. b) Special Geotechnical conditions handled by engineering design. c) Foundation excavation design. d) Excavation on solid rock e) Safety of nearby buildings f) Implementation of NEMA Conditions		
5.4.8	**UNSTABLE SOILS OR SLOPES (Reg. 16, BCR, 2020)**		
	a) Notification of Building Committee. b) Observed conditions on site or environs likely to cause unstable soils c) Measures to contain differential movements and other effects detrimental to building.		
5.4.9	**MEASURES FOR STABILITY OF SITE (Reg. 32, BCR, 2020)**		
	a) Develper's measures to maintain site stability. b) Structural temporal works approval prior to excavation commencement. c) Adequate temporary support system for the excavation d) Precautionary measures specified by BC implemented e) Open excavations maintained in safe condition. f) Effect of building works on neighboring properties managed evidenced by presence of a dilapidation report to record the existing condition of structures prior to your construction works commencing.		
5.4.10	**SIGNS OF STRCUTURAL DEFECTS AND DETERIORTATION**		
	a) Building tilt/ settlement b) Structural deformation c) Major structural defects (e.g. structural cracks, decayed timber member) d) Minor structural defects e) Non-structural defects f) Recommended remedial actions proposed and implemented		
5.4.11	**ADDITIONS OR ALTERATIONS TO THE STRUCTURE**		

OUTCOMES	Acceptable Condition	√	Unacceptable Condition	UNC	Improvement Recommended	IMP	Not Verified		Not Applicable	

ITEM No.	DESCRIPTION	OUTCOMES (Use codes above. Provide comment where appropriate)	QUERY RECTIFIED (Y/N)
	a) Presence of additions or alterations b) Impact of the additions or alterations to the structure c) Approvals for the additions or alterations obtained in accordance Building Regulation 39		
5.4.12	**TEMPORARY SUPPORT SYSTEMS**		
	a) Adequate temporary support systems for the structural elements such as excavations, slabs etc provided b) Stability of the structural supports from effects of agents of weathering, construction activities in the surrounding areas and other infrastructure ensured		
5.4.12	**INSPECTION STAGES**		
5.4.12.1	**Generally (Reg. 27,9(a), BCR, 2020)** i) Setting out of foundation of buildings. ii) Foundations excavated and level pegs for concreting. iii) Foundations concreted. iv) Trenches for drainage work excavated to levels and gradients. v) Drains laid and joined and ready for testing. vi) Reinforcing steel fixed in position before concreting. vii) Concrete shuttering ready for striking. viii) Walls completed to wall-plate level. ix) Roof frame-work completed before covering. x) Practical completion before occupation.		
5.4.12.2	**RC Structures, Elements (Reg. 27, 9(b), BCR, 2020)** i) Foundations • placement of reinforcement • inspection date • concreting date ii) Retaining walls • placement of reinforcement • inspection date • concreting date iii) Columns • placement of reinforcement • inspection date • concreting date iv) Beams and slabs • placement of reinforcement • inspection date • concreting date		
5.4.12.3	**Structural Steelwork (Reg. 27, 9(c), BCR, 2020)** • Erection date • Inspection date • Cladding date		
5.4.12.4	**Structural Timberwork (Reg. 27, 9(d), BCR, 2020)** • Erection date • Inspection date • Cladding date		
5.4.13	**STRUCTURAL ELEMENTS**		

OUTCOMES	Acceptable Condition	√	Unacceptable Condition	UNC	Improvement Recommended	IMP	Not Verified		Not Applicable	

ITEM No.	DESCRIPTION	OUTCOMES (Use codes above. Provide comment where appropriate)	QUERY RECTIFIED (Y/N)
5.4.13.1	**Foundations** a) Appropriate foundation designed and provided b) The approved foundation design is in agreement with the precise soil conditions c) The approved foundation design is not practicable and therefore there is need to review the design. The amendments made on site are satisfactory or they require approval of the BC. Where BC approval it required, it has been obtained prior to continuation of the works. d) Adequate foundation to sustain both combine dead and imposed loads and transmit the loads without causing failure or impairing the structure. e) Foundation is safe from the aggressive environment such as chemicals f) Foundation at a depth equal or greater than 1m to protect the building against swelling, shrinking and erosion of the sub-soil. g) Setting out of foundation of the works properly executed h) Foundations excavated and level pegs for concreting. i) Foundations concreted, erecting or otherwise, depending on type and material used (concrete, steel, etc).		
5.4.13.2	**Structural framework comprising of columns, beams, slabs, wall (Materials may be structural steel, timber, masonry, reinforced concrete, precast concrete etc)** a) Structural framework executed in accordance with the approved designs and plans. b) Critical elements within the framework identified and appropriately executed in accordance with design c) Connections between the structural elements appropriately executed with adequate sizing and proper placement of the connections. d) Adequate shuttering, propping and striking. e) Appropriate construction technology most especially for reinforced concrete structures allowing concrete to achieve the desired strength prior to subsequent loading. f) Identified defects corrected and their impact on the building ascertained g) Material tests carried and approved out for all key elements		
5.4.13.3	**Ring Beams** a) Ring beam appropriate sized and constructed in accordance with approved plans b) Adequate reinforcement provided c) Adequate formwork provided d) Quality of materials examined through material testing and approval e) Identified defects corrected and their impact on the building ascertained		
5.4.13.4	**Staircases** a) Staircase constructed in accordance with approved plans b) Adequate reinforcement provided c) Adequate formwork provided d) Quality of materials examined through material testing and approval e) Identified defects corrected and their impact on the building ascertained		
5.4.13.5	**Lift/Shaft Walls** a) Lift/Shaft Walls constructed in accordance with approved plans b) Adequate reinforcement provided c) Adequate formwork provided d) Quality of materials examined through material testing and approval e) Identified defects corrected and their impact on the building ascertained		

OUTCOMES	Acceptable Condition	√	Unacceptable Condition	UNC	Improvement Recommended	IMP	Not Verified		Not Applicable	

ITEM No.	DESCRIPTION	OUTCOMES (Use codes above. Provide comment where appropriate)	QUERY RECTIFIED (Y/N)
5.4.13.6	**Retaining Walls** a) Retaining walls constructed in accordance with approved plans b) Adequate reinforcement provided c) Adequate formwork provided d) Adequate temporary support systems provided e) Quality of materials examined through material testing and approval f) Identified defects corrected and their impact on the building ascertained		
5.4.13.7	**Roof** a) Roof structure constructed in accordance with approved plans b) Roof plates are properly bolted to the ring beam and that the rafters are connected to the plate by bolts or acceptable connectors. c) Appropriate roofing sheets used d) Quality of materials examined through material testing and approval e) Identified defects corrected and their impact on the building ascertained f) Appropriate gutters, drop pipes and roof drainage installed g) Erection, connection, jointing or otherwise, depending on material and type used (steel, timber, etc) properly executed h) Waterproofing valleys and any other surfaces provided		
5.4.3.8	**Perimeter Walls** a) Perimeter walls constructed in accordance with approved plans b) Adequate reinforcement provided where necessary c) Adequate formwork provided where necessary d) Quality of materials examined through material testing and approval e) Identified defects corrected and their impact on the building ascertained		
5.4.3.9	**Internal Roads/Drives-Surface Drainage** a) Internal Roads/Drives-Surface drainage provided in accordance with approved plans b) Adequate materials provided and used c) Quality of materials examined through material testing and approval d) Identified defects corrected and their impact on the building ascertained		
5.4.3.10	**Foul Water Drainage and Sewerage** a) Foul Water Drainage and Sewerage constructed in accordance with approved plans b) Adequate materials provided and used c) Quality of materials examined through material testing and approval d) Identified defects corrected and their impact on the building ascertained		

Notes:

Reg. - Regulations
BCR. 2020 - Building Control Regulations. 2020

6.0 BUILDING SERVICES

6.1 MECHANICAL INSTALLATIONS

6.1.1 MECHANICAL INSTALLATIONS IN CLASS A AND B BUILDINGS

OUTCOMES	Acceptable Condition	√	Unacceptable Condition	UNC	Improvement Recommended	IMP	Not Verified		Not Applicable	

ITEM No.	DESCRIPTION	OUTCOMES (Use codes above. Provide comment where appropriate)	QUERY RECTIFIED (Y/N)
6.1.1.1	**DESIGN DRAWINGS AND DOCUMENTS**		
6.1.1.1.1	Approved design drawings.		
6.1.1.1.2	Design Report.		
6.1.1.1.3	Technical Specifications.		
6.1.1.1.4	Unpriced BoQs.		
6.1.1.2	**WATER SUPPLY AND DISTRIBUTION (P4-P23, NBC Standards for Mechanical Installations)**		
6.1.1.2.1	State of joints and connections of pipes.		
6.1.1.2.2	Pipes properly installed.		
6.1.1.2.3	Ensure water good quality.		
6.1.1.2.4	Stop cocks, valves, pipes, ball valves/insulating valves.		
6.1.1.2.5	Pumps and equipment, alternating power supply, availability of automatic control.		
6.1.1.2.6	Air compressors of the reciprocating type, suitability of installation.		
6.1.1.2.7	• Pump properly installed. • Water meter appropriately positioned.		
6.1.1.2.8	Hot water system properly installed. • Allowing for cleaning and disinfection of supply system. • Testing done.		
6.1.1.3	**FIRST FIX MECHANICAL INSTALLATIONS**		
6.1.1.3.1	**SANITARY FITTINGS, PLUMBING AND DRAINAGE WORKS (P24-P88, NBC Standards for Mechanical Installations)**		
6.1.1.3.1.1	Plumbing done well.		
6.1.1.3.1.2	• Eaves gutters of 7 mm^2. • Cross section area to every 7 m^2 of horizontal roofed surface laid to the right gradient.		
6.1.1.3.2	**DRAINAGE WORKS (P55-P78, NBC Standards for Mechanical Installations)**		
6.1.1.3.2.1	Connection to public sewer appropriately one. • Appropriate material used. • Surface water pipes laid properly.		
6.1.1.3.3	**SEPTIC TANKS (P79-P84, NBC Standards for Mechanical Installations)**		
6.1.1.3.3.1	Submission to NWSC the disposal plan from septic tank, dip pipes. Examination of tank ventilation.		
6.1.1.3.4	**CESSPOOLS (P82-P84, NBC Standards for Mechanical Installations)**		

OUTCOMES	Acceptable Condition	√	Unacceptable Condition	UNC	Improvement Recommended	IMP	Not Verified		Not Applicable	

ITEM No.	DESCRIPTION	OUTCOMES (Use codes above. Provide comment where appropriate)	QUERY RECTIFIED (Y/N)
6.1.1.3.4.1	Cesspool not situated within 2m of any spring, well stream of water.		
6.1.1.3.4.2	Cesspool emptying not through any building.		
6.1.1.3.4.3	Cesspool capacity determined by Building Committee to store soil for one month at 135 litres per day.		
6.1.1.3.5	**TESTING AND DRAINAGE WORKS**		
6.1.1.3.5.1	Application to NWSC for sewage testing.		
6.1.1.3.6	**HEATING, VENTILATION AND AIR CONDITIONING (P89-P116, NBC Standards for Mechanical Installations)**		
6.1.1.3.6.1	Air conditioning and ventilation systems done well. • Appropriate materials used. • Ensure there are openings. • Connections and openings are tight to prevent distribution of combustion products under fire.		
6.1.1.4	**SECOND FIX MECHANICAL INSTALLATIONS**		
6.1.1.4.1	**DUCT COVERINGS, LININGS, ADHESIVES AND INSULATIONS (P92, NBC Standards for Mechanical Installations)**		
6.1.1.4.1.1	Ducting appropriately done. • Appropriate materials used. • Adhesives and insulation with flame spread rate below 25. • Underground ducts laid appropriately. • Clean out or pump out connection provided.		
6.1.1.4.2	**FIRE DAMPERS (P94, NBC Standards for Mechanical Installations)**		
6.1.1.4.2.1	Test to ISO 12941.		
6.1.1.4.3	**SMOKE DETECTOR CONTROL (P95, NBC Standards for Mechanical Installations)**		
6.1.1.4.3.1	Air handling system to incorporate smoke detector control when required.		
6.1.1.4.4	**EXHAUST DUCTS AND OUTLETS (P96, NBC Standards for Mechanical Installations)**		
6.1.1.4.4.1	Prevent back draft under wind.		
6.1.1.4.4.2	Check for provision of removal of condensation where this is a problem.		
6.1.1.4.4.3	To discharge to outside.		
6.1.1.4.5	**INTERCONNECTION SYSTEMS**		
6.1.1.4.5.1	In residential occupancy, air from one suite not to circulate in any other suite.		
6.1.1.4.5.2	Exhaust ducts must exhaust through a storage garage.		
6.1.1.4.5.3	Public corridor should not be part of supply return or exhaust air system serving adjuring areas.		
6.1.1.4.6	**FIRE SAFTEY (P117-P122, NBC Standards for Mechanical Installations)**		
6.1.1.4.6.1	To give earliest warning of fire.		
6.1.1.4.6.2	Fire alarm systems designed to avoid false alarm?		
6.1.1.4.6.3	• Alarm system works reliably. • At least two audible sounders installed in building.		

OUTCOMES	Acceptable Condition	√	Unacceptable Condition	UNC	Improvement Recommended	IMP	Not Verified		Not Applicable	

ITEM No.	DESCRIPTION	OUTCOMES (Use codes above. Provide comment where appropriate)	QUERY RECTIFIED (Y/N)
6.1.1.4.6.4	Firefighting equipment installed visible with symbols as required by Building committee.		
6.1.1.4.6.5	Hose reels for firefighting installed in all building of more than 250 m^2.		
6.1.1.4.6.6	Hydrant bonnet colour coded Green orange and red to show discharge rate.		
6.1.1.4.6.7	One hydrant for a maximum of 1000 m^2.		
6.1.1.4.6.8	Hydrant to provide at least 300m hose 16mm internal diameter nozzle.		
6.1.1.4.6.9	Sprinkler system properly installed. • Adequate pressure and how to measure.		
6.1.1.4.6.10	Portable fire extinguishers in approved positions complying to ISO: 111162:26.		
6.1.1.4.6.11	Firefighting lift for building exceeding 18 m.		
6.1.1.4.6.12	Testing and certification of Fire Alarm System.		
6.1.1.5	**LIFTS (P145-P167, NBC Standards for Mechanical Installations)**		
6.1.1.5.1	Building 15 m or more must have provision for lift. • Appropriate lift fitted to standard. • Inspection doors have a minimum height of 1.4 m and 6 mm width. • Emergency doors have a minimum height of 1.8 m and width of 5 mm.		

Notes:

NBC - National Building Code

6.1.2 MECHANICAL INSTALLATIONS IN CLASS C BUILDINGS

OUTCOMES	Acceptable Condition	√	Unacceptable Condition	UNC	Improvement Recommended	IMP	Not Verified		Not Applicable	N/A
ITEM No.	**DESCRIPTION**						**OUTCOMES (Use codes above. Provide comment where appropriate)**		**QUERY RECTIFIED (Y/N)**	
6.1.2.1	**DESIGN DRAWINGS AND DOCUMENTS**									
6.1.2.1.1	Approved design drawings.									
6.1.2.1.2	Design Report.									
6.1.2.1.3	Technical Specifications.									
6.1.2.1.4	Unpriced BoQs.									
6.1.2.2	**WATER SUPPLY AND DISTRIBUTION (P4-P23, NBC Standards for Mechanical Installations)**									
	Water supply appropriately done: • Joints and connections correctly done. • Appropriate materials used. • Water quality maintained. • Appropriate pump-room size and pump properly fitted with power supply. • Appropriate hot water supply. • Testing done.									
6.1.2.3	**FIRST FIX MECHANICAL INSTALLATIONS**									
6.1.2.3.1	**SANITARY FITTINGS, PLUMBING AND DRAINAGE WORKS (P24-P88, NBC Standards for Mechanical Installations)**									
6.1.2.3.1.1	Plumbing done well.									
6.1.2.3.1.2	• Eaves gutters of 7 mm^2. • Cross section area to every 7 m^2 of horizontal roofed surface laid to the right gradient.									
6.1.2.3.2	**DRAINAGE WORKS (P55-P78, NBC Standards for Mechanical Installations)**									
6.1.2.3.2.1	Connection to public sewer appropriately done: • Appropriate material used. • Surface water pipes laid properly.									
6.1.2.3.3	**SEPTIC TANKS (P79-P84, NBC Standards for Mechanical Installations)**									
6.1.2.3.3.1	Submission to NWSC the disposal plan from septic tank, dip pipes. Examination of tank ventilation.									
6.1.2.3.4	**TESTING AND DRAINAGE WORKS**									
6.1.2.3.4.1	Application to NWSC for sewage testing.									

Notes:

NBC - National Building Code

6.2 ELECTRICAL INSTALLATIONS

6.2.1 ELECTRICAL INSTALLATIONS IN CLASS A, B AND C BUILDINGS

OUTCOMES	Acceptable Condition	√	Unacceptable Condition	UNC	Improvement Recommended	IMP	Not Verified		Not Applicable	
ITEM No.	**DESCRIPTION**						**OUTCOMES (Use codes above. Provide comment where appropriate)**		**QUERY RECTIFIED (Y/N)**	
6.2.1.1	**DESIGN DRAWINGS AND DOCUMENTS**									
6.2.1.1.1	**DESIGN DRAWINGS** • Approved design drawings, technical specifications, shop drawings, Bills of Quantities and Design Report on site including: i) mains and standby power supply, ii) power reticulation, iii) lighting layout, iv) small power layout, v) fire detection system and vi) solar PV system. • Approximate position of existing services indicated on drawings.									
6.2.1.2	**FIRST FIX ELECTRICAL INSTALLATIONS**									
6.2.1.2.1	**SUB-STATION AND SWITCH ROOM (P4, NBC Standards for Electrical Installations)** Floor level of sub-station is above the highest flood level of the locality.									
6.2.1.2.2	**CONDUIT (P16, NBC Standards for Electrical Installations)** • Steel conduit is not less than 20 mm diameter. • Conduit boxes have covers. • Heavy gauge, solid drawn or welded steel, galvanized or sheradised conduit with black enamel used externally. • High impact, rigid grade plastic conduit used internally. • Galvanised conduit used in damp areas. • Solid drawn conduit used in flameproof installations. • Fixing screws for conduits, switches and box covers are made of appropriate material. • Conduit terminated at a main switchboard, distribution board, consumer's unit or any metalclad accessory has screwed sockets in good mechanical and electrical contact with the metal case. • A draw box is used where there are more than two right angle bends. • Conduits concealed in the building fabric are arranged as a "looping-in" system without the use of elbows, tees or bends. • Conduits are at least 150 mm away from gas piping, steam and hot water systems. • Expansion couplers used where conduit crosses expansion joints, with an earth wire running between the nearest conduit box from each side of the coupling and solidly bonded at each box.									
6.2.1.2.3	**MOUNTING HEIGHT OF ACCESSORIES (P17, NBC Standards for Electrical Installations)** • Switchgear, distribution boards and consumer's units mounted with lower edge at 2000 mm from finished floor level. • Light switches, other than ceiling switches fixed at 1400 mm from finished floor level to the centre of the switch. • Isolators and switch fuses, other than those mounted on busbar chambers or providing local control fixed at 1400 mm from finished floor level to the underside of the isolator or switch fuse. • Socket outlets in offices and corridors are fixed 300 mm from finished floor level to the underside of the socket outlet.									

OUTCOMES	Acceptable Condition	√	Unacceptable Condition	UNC	Improvement Recommended	IMP	Not Verified		Not Applicable	

ITEM No.	DESCRIPTION	OUTCOMES (Use codes above. Provide comment where appropriate)	QUERY RECTIFIED (Y/N)
6.2.1.2.4	**DUCTS FOR UNDERGROUND CABLES (P26 and P27, NBC Standards for Electrical Installations)** • Ducts provided at points of entry into the buildings. • Where cables cross under roads or paved areas, earthenware ducts are provided as: i) 1 cable, 2 x 100 mm or 150 mm ducts. ii) 2 cables, 3 x 100 mm or 150 mm ducts. iii) 3 cables, 4 x 100 mm or 150 mm ducts. iv) 4 or 5 cables, 6 x 100 mm or 150 mm ducts. v) 6, 7 or 8 cables, 9 x 100 mm or 150 mm ducts. Ducts are clear of gas or water pipes, drains and sewers.		
6.2.1.3	**SECOND FIX ELECTRICAL INSTALLATIONS**		
6.2.1.3.1	**PROTECTIVE DEVICES (P8, NBC Standards for Electrical Installations)** • Every installation and circuit is protected against overcurrent. • There is a suitably located efficient means for cutting off all voltage. • Where one of the conductors of the installation is connected to earth, there is no single pole switch, other than a link for testing purposes, or a switch for controlling a generator.		
6.2.1.3.2	**SWITCHBOARD (P10, NBC Standards for Electrical Installations)** • Switchboards for the control of equipment rated at 240 V/415 V are standing, of uniform height, flush mounted and totally enclosed with a rigid frame. • Each switchboard is controlled by a suitable isolating switch or circuit breaker. • The arrangement of the switchboard is such that: i) all parts which may have to be adjusted or handled are readily accessible, ii) the course of every conductor can be readily traced, iii) conductors that are not arranged for connection to the same system are kept well apart and can readily be distinguished and iv) all bare conductors are placed and protected to prevent accidental short circuits. • The base of the switchboard is effectively sealed. • Ventilation louvres on the switchboard have a mesh gauze of non-corrosive material. • All bolts, nuts, screws, hinges and handles of the switchboard are corrosion resistant. • Cabling access to the switchboard is from the rear. • The switchboard has hinged lockable doors at the front with termite resistance neoprene gaskets and handles. • Doors of the switchboards are electrically bonded to the main frame. • Busbars are made of electro-tinned copper and are of uniform section. • Busbars are run in separate screened compartments. • Surge arresters have been installed on the 240V/415 V busbar of the low voltage switchboard. • Suitably sized compression type cable glands have been provided for all cables. • Glands used for armoured cables have provision for sealing the armour wires. • Lugs have been provided for connection of the cable armouring to earth. • Lamp fittings are pre-lamped from the front of the switchboard and are locked against rotation. • Exposed terminals on the rear of door mounted components are shrouded.		

OUTCOMES	Acceptable Condition	√	Unacceptable Condition	UNC	Improvement Recommended	IMP	Not Verified		Not Applicable	

ITEM No.	DESCRIPTION	OUTCOMES (Use codes above. Provide comment where appropriate)	QUERY RECTIFIED (Y/N)
6.2.1.3.3	**SWITCHGEAR (P10-P11, NBC Standards for Electrical Installations)** • Switches are clearly labelled. • Interlocks are installed. • "ON/OFF" switches and circuit breakers are lockable. • Switchgear to disconnect live conductors, is such that the neutral conductor cannot be disconnected or reconnected before the phase conductors. • Switchgear is of 240 V or 415 V grade, single pole and neutral, double pole and neutral, triple pole and neutral or quad pole and neutral.		
6.2.1.3.4	**ISOLATION (P12, NBC Standards for Electrical Installations)** • Switchboard with exposed bare conductors not located in an area set apart for the purpose, is suitably enclosed. • A clear passageway has been provided for exposed bare conductors. • Insulating stands or screens have been provided.		
6.2.1.3.5	**CABLES (P14, NBC Standards for Electrical Installations)** • Cables are PVC insulated and PVC sheathed. • Cables are of minimum 240 V rating, and not less than 1.5 mm^2. • Cables forming sub-circuits connected to different distribution boards are not drawn in the same conduit. • Surface cables are not installed within 300 mm of galvanized iron roofs. • PVC/XPLE cable are used for outdoors, buried underground and protected by conduit, where rising above the ground. • Not more than one phase of an AC installation is brought into a fitting in the lighting or single phase power circuits, unless indicated otherwise. • Flexible cords are, visible, fire resistant and not less than 0.75 mm^2. • Cable joints are in a terminal block, of suitable current rating. • Flexible cables and conduit wiring connections are in a suitable connector. • Lighting switches are connected in the phase line. • Ceiling switches are not less than 300 mm from the point they control. • Sheathed cables are secured by saddles or clips. • Cables are mounted on timber battens where they cannot be mounted directly on the building. • Holes in walls to where cables pass have sleeves, with bushed or belled ends. • There is no moisture ingress through service cables entering the building. • Cables are colour coded appropriately.		
6.2.1.3.6	**TRUNKING (P15, NBC Standards for Electrical Installations)** • Trunking is secured at appropriate intervals. • The trunking trough is clear of obstructions and continuously open, except when passing through walls and floors. • Each group of cables comprising a circuit, installed in trunking, is half hitched at 600 mm intervals, and the circuit reference is clearly identified.		
6.2.1.3.7	**EXCAVATION FOR UNDERGROUND CABLES (P32, NBC Standards for Electrical Installations)** • Trenches were excavated appropriately to lay underground cables at a minimum depth of 600 mm below finished ground level. • Trenchless excavation is used when crossing roads and pathways unless otherwise approved. • Upon completion of laying and testing of cables, trenches were appropriately covered. • Services near cable routes that were uncovered are adequately supported. • Damaged services have been reinstated.		

OUTCOMES	Acceptable Condition	√	Unacceptable Condition	UNC	Improvement Recommended	IMP	Not Verified		Not Applicable	

ITEM No.	DESCRIPTION	OUTCOMES (Use codes above. Provide comment where appropriate)	QUERY RECTIFIED (Y/N)
6.2.1.3.8	**LAYING UNDERGROUND CABLES (P24, P25, P27, P28, P29 and P31, NBC Standards for Electrical Installations)** • Cables are buried in open ground appropriately prepared, or drawn into earthenware or other ducts when crossing roadways, paths exceeding 1500 mm in width, and on entry into buildings. • Cables were appropriately laid and spaced. • Cables are separated from gas and water mains. • Cables to termination points in sub-stations or buildings enter via glazed earthenware pipes, sealed appropriately. • Cables with a run of more than 1800 mm inside a building are cleated or saddled to walls or ceilings. • Jointing of underground cables is minimised as approved. • Underground cable terminations and joints are appropriately labelled. • Appropriate warning covers and tape are provided over all underground cables except XLPE SWA PVC cables. • Cable ducts sealed appropriately after installation and final tests. • Cable runs are clearly marked. • Armouring is efficiently bonded.		
6.2.1.3.9	**MAINS POWER SUPPLY**		
6.2.1.3.9.1	**FEEDER PILLAR (P33, NBC Standards for Electrical Installations)** • The feeder pillar is a “dwarf type” tailless unit, that is weatherproof, of robust construction, with hinged lockable doors, mounted on a firm base and protected from ingress of rainwater, vermin or termites or other danger within the enclosure. • The fuse ways are clearly identified.		
6.2.1.3.9.2	**EARTHING (P34, NBC Standards for Electrical Installations)** • Appropriate earthing is provided adjacent to supply terminals. • The earth continuity of conduit and trunking installations is reliable and permanent. • All parts not solidly connected to earthing are connected thereto by a solid copper conductor and bonding clamps. • All services entering the installation at earth potential are efficiently bonded to the main earth points. • The resistance of the earth continuity system does not exceed 8 ohms. • All flexible metallic tubing has an insulated earth conductor. • The size of the earth conductor is not less than 4 mm^2.		
6.2.1.3.9.3	**LIGHTNING PROTECTION (P35, NBC Standards for Electrical Installations)** • Lightning protection system provided consisting of 20 x 3 mm copper or aluminium tape sections, with similar clips, test clamps and copper bond earth rods. • The tape from the earth test position to the earth electrode is copper only. • Aluminium and copper junctions are suitably jointed. • The earth resistance does not exceed 10 ohms.		
6.2.1.4	**THIRD FIX ELECTRICAL INSTALLATIONS**		
6.2.1.4.1	**DISTRIBUTION BOARDS AND CONSUMERS UNITS (P5, NBC Standards for Electrical Installations)** Distribution Boards, Consumer’s Units, circuit breakers, fuses and switches are clearly marked.		
6.2.1.4.2	**LIGHTS** RCDs are installed in circuits for security lighting.		
6.2.1.4.3	**SWITCHES (P19, NBC Standards for Electrical Installations)** • Lighting switches are 5 A or 15 A, of insulated pattern, single pole, quick make and slow break for AC circuits, and quick make and quick break for DC circuits, unless otherwise approved. • Ceiling switches are suitably mounted with a pull cords.		

OUTCOMES	Acceptable Condition	√	Unacceptable Condition	UNC	Improvement Recommended	IMP	Not Verified		Not Applicable	

ITEM No.	DESCRIPTION	OUTCOMES (Use codes above. Provide comment where appropriate)	QUERY RECTIFIED (Y/N)
6.2.1.4.4	**SOCKET OUTLETS (P19, NBC Standards for Electrical Installations)** • Single phase socket outlets are 3 pin rectangular, shuttered, unless otherwise approved, with the third pin effectively earthed. • Three phase socket outlets are of 4 pin scraping earth pattern. • Three phase with neutral outlets are of 5 pin scraping earth pattern. • Socket outlets are switched type unless otherwise approved. • RCD protected socket outlets are installed in wet areas.		
6.2.1.4.5	**WATER HEATER OUTLETS** • The water heater is the only equipment connected to the circuit, for water heaters with a capacity of 15 litres or more. • The flexible cord of the water heater is heat resistant. • The water heater has a 20 A Double Pole switch and an overheat protection cut-out.		
6.2.1.5	**TESTING OF ELECTRICTAL INSTALLATIONS (P37, NBC Standards for Electrical Installations)** The tests below were carried out on the complete installation and on each circuit. i) Continuity of bonding conductors ii) Continuity of circuit protective conductors iii) Continuity of ring final circuit conductors iv) Insulation resistance tests v) Insulation of non-conducting floors vi) Polarity vii) Earth fault loop impedance viii) Earth electrode resistance ix) Phase sequence x) Operation of residual current operated devices		
6.2.1.6	**SOLAR PV SYSTEMS**		
6.2.1.6.1	**PHOTOVOLTAIC PANELS (P39-P41, NBC Standards for Electrical Installations)** • The photovoltaic panels have a quality mark. • The photovoltaic panels are positioned to avoid shading. • Where shading is unavoidable, it has been compensated for by reducing the daily energy output in the system design. • The photovoltaic panel is inclined at an angle of between 10 and 20 degrees to the horizontal plane, facing due north or south, for fixed panels.		
6.2.1.6.2	**LIGHTNING PROTECTION FOR PHOTOVOLTAIC PANELS (P42, NBC Standards for Electrical Installations)** • The photovoltaic panels are installed at a point lower than the highest point of the building. • The support frame of the PV panels has a short lightning rod which is the highest point of the building.		
6.2.1.6.3	**PHOTOVOLTAIC PANELS SUPPORT STRUCTURE (P43, NBC Standards for Electrical Installations)** • The photovoltaic panels support structure is durable and weather and corrosion resistant. • The photovoltaic panels structure is securely fixed.		

OUTCOMES	Acceptable Condition	√	Unacceptable Condition	UNC	Improvement Recommended	IMP	Not Verified		Not Applicable	

ITEM No.	DESCRIPTION	OUTCOMES (Use codes above. Provide comment where appropriate)	QUERY RECTIFIED (Y/N)
6.2.1.6.4	**ROOF MOUNTING OF PV PANELS (P44, NBC Standards for Electrical Installations)** • The mounting of PV panels on roofs is done to prevent leakages and corrosion of roofing materials. • Where the solar PV panels form part of the roof, the roof is weathered properly and there is suitable ventilation beneath the solar PV panels.		
6.2.1.6.5	**GROUND MOUNTING OF PV PANELS (P45, NBC Standards for Electrical Installations)** • Ground mounted PV panels are well supported, fenced and not mounted closer than 800 mm from the ground.		
6.2.1.6.6	**BATTERIES (P46-P47, NBC Standards for Electrical Installations)** • Batteries are of deep discharge type and have a long-life cycle. • Each battery is marked with the date of manufacture and installation. • Batteries are installed in enclosed equipment. • At least 20 mm free space has been left between the batteries and the wall and top of the batteries enclosure. • The batteries enclosure is ventilated, securely fixed and made of durable materials, and if made of wood, it is well preserved against insects, termites, rot or acid.		
6.2.1.6.7	**CONTROLLER (P48, NBC Standards for Electrical Installations)** • A controller is installed. • The rated capacity of the controller can handle the maximum short circuit current from the PV array, and the maximum load. • The controller and circuit breakers or fuses bear the manufacturer's PV quality mark. • The controller has a warning and remote alarm (if installed in a room that is not used).		
6.2.1.6.8	**INVERTER** • The inverter has adequate ventilation. • The inverter has clearly labelled DC rated isolation on the DC side. • The inverter has a lockable AC isolator on the AC side. • Where the inverter is sited away from the consumer's unit, a lockable AC isolator is installed next to the consumer's unit. • The inverter has simple separation between the AC and DC side, if not the solar PV array frame is bonded.		
6.2.1.6.9	**CIRCUITS OF SOLAR PV SYSTEMS (P48, NBC Standards for Electrical Installations)** • There is a warning of low battery for non-essential circuits. • The system is protected against damage due to accidental short-circuits. • The peak demand of each circuit does not exceed 80% of the rated capacity of the fuse or circuit breaker. • Each fuse or circuit-breaker is clearly marked. • All equipment is rated at a minimum of 1.15 times the maximum voltage, and 1.25 times the maximum current produced in the system.		
6.2.1.6.10	**CONDUIT (P59, NBC Standards for Electrical Installations)** • Surface mounted conduit with single wire conductors is installed appropriately. • PVC conduit is used under floors. • Steel conduit is used where heavy or unpredictable loads may occur. • Under floor conduit is not less than 20 mm diameter.		
6.2.1.6.11	**CONDUCTORS (P54, P60, NBC Standards for Electrical Installations)** • The correct type of cables are used for the DC and AC installation and they are correctly labelled and colour coded. • The rated current carrying capacity at 35°C is not exceeded. • Minimum cross section area of the conductors is 2.5 mm^2. • The cables from the solar PV panels are tied to the array frame, for a roof mounted installation. • The cables are installed appropriately.		

OUTCOMES	Acceptable Condition	√	Unacceptable Condition	UNC	Improvement Recommended	IMP	Not Verified		Not Applicable	

ITEM No.	DESCRIPTION	OUTCOMES (Use codes above. Provide comment where appropriate)	QUERY RECTIFIED (Y/N)
6.2.1.6.12	**VOLTAGE DROP (P60, NBC Standards for Electrical Installations)** • The voltage across any system component is not less than 5% of the battery terminal voltage, and not less than 10.5 V. • The voltage drop between the PV panels and batteries does not exceed 1.0 V or 5%, measured at maximum charging current.		
6.2.1.6.13	**CABLE CONNECTIONS (P62, NBC Standards for Electrical Installations)** • Cables are connected using junction boxes, block connectors or soldering joints with insulating sleeves. • The rated capacity through the cable joints is not less than that of the circuit to which they are a part of.		
6.2.1.6.14	**UNDERGROUND CABLES AND CONDUITS (P63, NBC Standards for Electrical Installations)** • Underground cables are at least 600 mm below the surface and are clearly marked. • Underground cables are used across all areas with vehicular traffic • The underground cables and conduits can withstand vertical loads. • Suspended cables are mounted so that the lowest point is at least 2700 mm above ground level. • Cables are suitably held in position. • Ultra violet resistant cables are used outdoors. • Attachments of cables or conduit are made with appropriate fasteners. • Cable holes through the roof are drilled at the top of corrugations, sealed and waterproofed with ultra violet-resistant silicon sealant or its equivalent. • Cables passed through roofs are contained in roof-entry boxes. • Cables fixed through or passing through flammable are shielded in non-flammable conduits. • Fittings are fastened to suitable supports.		
6.2.1.6.15	**LIGHTS (P65, NBC Standards for Electrical Installations)** • A metal lamp fitting or shield is installed on lamps next to thatched or flammable ceiling materials. • Lamps with enclosures or detractors can be opened. • RCDs are installed in circuits for security lighting.		
6.2.1.6.16	**SOCKETS (P66, NBC Standards for Electrical Installations)** • It is not possible to reverse the polarity of the socket outlets. • 240 VAC mains sockets are used where a 240 V outlet is provided from a DC-AC inverter. • Circuit breakers and earthing are provided. • Installations that have DC sockets are wired so that the large diameter pin in the plug is always positive. • All positive connections are made with red insulated wire and negative connections are made with black insulated wire. • RCD protected socket outlets are installed in wet areas.		
6.2.1.6.17	**SWITCHES (P67, NBC Standards for Electrical Installations)** • Standard switches for 240 VAC are not used as an alternative to special switches for 12 VDC, 24 VDC and 48 VDC, except as approved. • All switches are rated at twice their expected load current. • All switches include a clear visual indication of their state.		
6.2.1.6.18	**LABELLING OF COMPONENTS OF SOLAR PV SYSTEMS (P54, NBC Standards for Electrical Installations)** All solar PV equipment is suitably and legibly labelled.		
6.2.1.6.19	**WARNING ON SOLAR PV INSTALLATIONS** The warnings below are provided: • dual supply, indicating the isolation point for the solar PV system and the mains power supply, • live DC cable, • PV junction boxes and • battery enclosure.		

OUTCOMES	Acceptable Condition	√	Unacceptable Condition	UNC	Improvement Recommended	IMP	Not Verified		Not Applicable	

ITEM No.	DESCRIPTION	OUTCOMES (Use codes above. Provide comment where appropriate)	QUERY RECTIFIED (Y/N)
6.2.1.6.20	**TESTING OF SOLAR PV SYSTEM (P55, NBC Standards for Electrical Installations)** The tests below have been carried out on the DC side of the solar PV installation. a) Voltage drops (BS 7671:2018, Appendix 4). (b) Open circuit voltage (V_{OC}). c) Short circuit current (I_{SC}). d) Solar irradiance. e) Insulation resistance.		
6.2.1.6.21	**WARRANTIES AND COMPONENTS OF SOLAR PV SYSTEM (P56, NBC Standards for Electrical Installations)** a) Light bulbs, 1 year. b) Batteries, 1 year. c) PV modules, 5 years. d) Wiring to PV modules, 5 years. e) Controller, 3 years. f) Inverter, 3 years.		
6.2.1.7	**FIRE DETECTION AND ALARM SYSTEM** • An automatic fire detection and alarm system is installed in: i) buildings in which people sleep, ii) covered shopping complexes and large or complex places of assembly, iii) buildings with phased evacuation, iv) in compensation for a reduction in standards of certain other fire protection measures, v) in lieu of vision between an inner room and its associated access room or vi) as a means of automatically operating other fire protection measures. • The fire detection and alarm system includes manual call points and point detectors. • There is a fire alarm control and indicating panel. • There is a zone plan next to the fire alarm control and indicating panel. • The fire detection and alarm system has been tested.		

OUTCOMES	Acceptable Condition	√	Unacceptable Condition	UNC	Improvement Recommended	IMP	Not Verified		Not Applicable	

ITEM No.	DESCRIPTION	OUTCOMES (Use codes above. Provide comment where appropriate)	QUERY RECTIFIED (Y/N)
6.2.1.8	**EMERGENCY LIGHTING** Emergency lighting is installed in the following areas: i) each exit door, ii) escape routes, iii) intersections of corridors, iv) outside each final exit, v) on external escape routes, vi) on emergency escape signs, vii) stairways so that each flight receives adequate light, viii) changes in floor level, ix) windowless toilets and toilet accommodation exceeding 8 m^2, x) at fire fighting equipment, xi) at fire alarm call points, xii) at equipment that would need to be shut down in an emergency, xiii) in lifts and xiv) in rooms of area greater than 60 m^2.		
6.2.1.9	**AS-BUILT DRAWINGS** As-built drawings are provided for all electrical installations.		

Notes:

NBC - National Building Code

6.3 ICT INSTALLATIONS IN CLASS A AND B BUILDINGS

OUTCOMES	Acceptable Condition	√	Unacceptable Condition	UNC	Improvement Recommended	IMP	Not Verified		Not Applicable	

ITEM No.	DESCRIPTION	OUTCOMES (Use codes above. Provide comment where appropriate)	QUERY RECTIFIED (Y/N)
6.3.1	**DESIGN DRAWINGS** There are approved design drawings on site of the following: a) Private Automatic Exchange System (PABX), b) Local area data network (structured cabling), c) Closed Circuit Television (CCTV) and d) Access Control.		
6.3.2	**POWER SUPPLY** • Buildings containing essential ICT rooms have a local duplicated supply of mains power. • Several small ICT rooms use a shared secondary electricity distribution system. • Distribution boards for mains power supply, standby power supply and uninterruptible power supply are located in separate cabinets. • Distribution Boards supplying essential ICT rooms have each circuit breaker installed in a separate case, isolated from the busbar. The cable connections for each circuit breaker are isolated from each other. • Distribution Boards in ICT rooms have plug-in circuit breakers. • Distribution Boards in ICT rooms have 10% spare circuits and 30% free space. • Overvoltage protection is installed in the Distribution Boards supplying power to essential ICT rooms. • ICT rooms have emergency shut-down switches for mains power supply and UPS. The switches are protected to prevent unintentional disconnection. • The distance between electricity distribution boards and active or passive ICT equipment is at least 1000 mm. • All electrical installations in ICT rooms have colour coded labels. • All circuits are labelled with a circuit number.		
6.3.3	**STANDBY POWER** • Major buildings with essential ICT rooms have diesel generators providing standby power with an output of at least 1½ to 2 times the calculated load. • If the generator is to supply other loads, this is allowed for. • The generator has an outdoor diesel tank with at least 72 hours capacity.		
6.3.4	**UPS POWER SUPPLY** • A centralised online UPS is installed to supply ICT rooms. • The UPS is electrically isolated during normal inverter operation and in static bypass mode of operation. • For UPS installations of greater than 50 kVA, the distribution boards for the mains power supply, standby power supply and UPS power are located in another room away from the server room, UPS room or battery room, but adjacent to these rooms. • The UPS has manual bypass switching. • The UPS has static bypass switching.		
6.3.5	**UPS AND BATTERY ROOM** • UPS installations of greater than 50 kVA and with long discharge time are located in a dedicated UPS and battery room. • The UPS and battery room has a cooling system. • The UPS and battery room with a high load level of up to 1500 kg/m² is located in the basement of the building. • The battery room is ventilated.		
6.3.6	**POWER DISTRIBUTION UNITS (PDUs)** • Power Distribution Units are installed in equipment racks connected to power sockets on cable trays.		

OUTCOMES	Acceptable Condition	√	Unacceptable Condition	UNC	Improvement Recommended	IMP	Not Verified		Not Applicable	

ITEM No.	DESCRIPTION	OUTCOMES (Use codes above. Provide comment where appropriate)	QUERY RECTIFIED (Y/N)
6.3.7	**CONDUIT AND CABLING** • ICT rooms and conduit paths for IT cables are located at a safe distance from installations which emit electric fields. • All cable penetrations for EMC cables are limited to a small area of the wall. • Separate conduit paths or racks are installed for electric power supply, generic cabling and patch cords in server rooms, Equipment Rooms (ERs) and Telecommunication Rooms (TRs). • In larger server rooms, telephony/data cables are laid on racks beneath the ceiling and power cables are laid on racks beneath a raised floor. • Cable installations beneath raised floors do not block circulation of cooling air. • The height of the raised floor is a minimum of 400 mm. • The sub-floor of the raised floor was lowered so that the raised floor is at the same height as the floors in adjacent rooms. • The raised floor can withstand the weight of the ICT equipment. • If a raised floor could not be installed because of limited ceiling height, cooling racks and chambers have been installed. • All operating computer equipment cables, distribution networks cables and backbone cables are installed on racks accessed from the front. • The smallest clearance at all surfaces on racks and cabinets where access is required is 1200 mm. • Telephone cables are high conductivity copper conductors of 3 kg or 9 kg per mile weight and are polythene insulated PVC sheathed overall. • Telecommunication cables have surge protection installed and are earthed. • Outdoor cables are laid in conduit. If more than one cable is installed in a conduit, these are pulled simultaneously. • Manholes are provided for accessing the cables. Distances between manholes are short. • The bottom of the trench in which the conduit is laid is free from stones and sharp edges. • The foundation of the trench in which the conduit is laid is at least 100 mm deep and is composed of appropriate fill material. • The area where the conduit lies is appropriately backfilled. • Cable entry is through rooms that are a safe distance from power cables or transformers, have easy access to the pathway to the ICT room and have floor drains. • All cabling that penetrates fire barriers is fireproofed. • All cables are labelled. • Trunking or conduit containing signal cables and power cables cross each other at right angles.		
6.3.8	**ICT ROOMS** • There is a free space of 1200 mm between all rack surfaces to which access is required. • ICT rooms containing active equipment are not used as store rooms. • Store rooms containing inflammable materials are not located adjacent to ICT rooms. • Water pipes running through ICT rooms are for supply of cooling installations only. • Floor drains in ICT rooms are fitted with non-return valves. • Humidity sensors are installed in floors close to cooling units and near water pipes running through the ICT room and drains in ICT rooms. • Water pipes running through ICT rooms and pipes serving cooling units in ICT rooms are insulated. The pipes are at the same earth potential as the ICT installations. • ICT rooms are air tight. • An early detection fire detection system is installed in ICT rooms. • Fire extinguisher systems are installed in ICT rooms.		
6.3.9	**CEILING HEIGHT IN ICT ROOMS** • The minimum ceiling height in ICT rooms is 2600 mm from the floor to the underside of cable racks and light fittings. • There is at least 400 mm clearance from the tops of cable racks for patch cables, to the underside of any ceiling mounted installation in ICT rooms.		
6.3.10	**LIGHTING IN ICT ROOMS** • Lights are installed to illuminate the outsides, insides and between racks. • Emergency lighting is installed. • The light intensity on the horizontal plane is 500 – 800 lux, and on the vertical plane is 200 lux.		

OUTCOMES	Acceptable Condition	√	Unacceptable Condition	UNC	Improvement Recommended	IMP	Not Verified		Not Applicable	

ITEM No.	DESCRIPTION	OUTCOMES (Use codes above. Provide comment where appropriate)	QUERY RECTIFIED (Y/N)
6.3.11	**EARTHING OF ICT ROOMS** • Floor coverings in ICT rooms are earthed. The resistance between any point in the floor covering and earth is between 1 and 10 MΩ. • Racks, cabinets, chassis, ventilation installations, room cooling units, pipes, cable racks and floors of ICT rooms have the same earth potential. • All ICT rooms have their own earth rail for connecting the conductive structural and equipment surfaces. • There is a dedicated mesh earth bonding network in essential ICT rooms. • In small ICT rooms where no mesh earth bonding network is installed, an insulated earth cable is provided. • Patch panels are earthed appropriately.		
6.3.12	**ACCESS CONTROL SYSTEM** • Access Control System has 24 hour battery backup. • Access Control system connected to UPS.		
6.3.13	**CCTV** • CCTV has 24 hour battery backup. • CCTV connected to UPS.		
6.3.14	**AS-BUILT DRAWINGS**		

Notes:

NBC - National Building Code

ANNEX 1: CLASSES OF BUILDINGS

Class A Building: Buildings with high social impact or located in sensitive ecosystem.

1) Hospitals (Medical Centres, Clinics, etc.)
2) Schools
3) Churches
4) Shopping Malls and Arcades
5) Multi-storeyed Buildings – more than 12 m high (Offices, Accommodation and Mixed Use)

Class B Buildings

1) Multi-storeyed Buildings – less than 12 m high (Offices, Accommodation and Mixed Use)
2) Single-storeyed Buildings (Offices, Accommodation and Mixed Use)

Class C Buildings

1) Temporary Buildings/Structures – more than 30 m^2 (Tents, Marquees, Farmhouses, Sheds, Garages, Hoardings, etc.)
2) Minor Buildings – less than 30 m^2 (Stalls, etc.)

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