HANDBOOK NO. 3

THE NATIONAL BUILDING CODE, 2024

BUILDINGS MATERIALS AND CONSTRUCTION

NATIONAL CONSTRUCTION AUTHORITY

1.0 OVERVIEW

This handbook covers the following parts of the National Building Code:

Part IV - Preparation of Construction Sites
Part V - Building Materials
Part XXIII - Disaster Risk Management on Construction Sites

2.0 PART IV- PREPARATION OF CONSTRUCTION SITES

This part comprises paragraphs 47 to 57 of the Code.

The provisions outlined in this part detail the requirements for the preparation of construction sites. They ensure public safety, environmental protection, and compliance with structural integrity standards during construction activities. Key provisions include the establishment of boundaries, management of public facilities, and maintenance of site hygiene.

2.1 Key Points: -

a. Boundary Installation
Owners must install and maintain boundaries to protect the public from construction activities.

b. Deposit for Public Utilities
Owners must pay a deposit or provide security to the approving authority to cover potential damages to public facilities during construction.

c. Soil Stability and Site Preparation
Owners must address unstable soil conditions and ensure proper site clearance and drainage.

d. Dust and Noise Control
Provisions limit dust and noise disturbances during specific hours and require measures to mitigate these issues.

e. Sanitary Facilities
Owners must provide sanitary facilities for construction personnel, ensuring hygiene and compliance with health standards.

2.2 Detailed Breakdown

a. Protection of Construction Site

Boundary Requirements: Owners must install a boundary to prevent public access, which must remain intact until construction is complete. Access to the site requires owner approval.

Liability: Owners are required to indemnify the approving authority against any claims related to the boundary.

b. Damage to Public Facilities

Deposit Requirement: If construction may impact public utilities, owners must pay a deposit or provide security to the approving authority to cover repair costs for potential damages.

Surplus Refunds: Any remaining deposit after repairs will be refunded, while owners are liable for any excess costs.

c. Site Stability and Preparation

Soil and Slope Stability: Owners must respond to notifications by the approving authority about unstable soil or slopes by submitting an engineer's assessment and proposed measures.

Site Clearance: Prior to laying foundations, sites must be cleared of debris and contaminated materials, with drainage provided for waterlogged areas.

d. Environmental Control Measures

Dust and Noise Management: Owners must implement measures to limit dust and noise during construction, adhering to specified operational hours to minimize disturbances.

Compliance with Provisions: Activities that may disturb public peace are restricted during weekends and public holidays, with exceptions for urgent situations.

e. Sanitary and Safety Provisions

Facilities for Workers: Owners are mandated to provide sanitary facilities and changing rooms for construction workers, with a minimum ratio of one facility per thirty workers and provided separately for each of the sexes

Maintenance of Hygiene: Facilities must be kept clean and hygienic and may not be sited offensively. These temporary facilities must be removed upon project completion.

f. Waste Management

Debris Removal: Owners must remove surplus materials and waste from construction sites, with authorities able to enforce clean-up through written notices.

g. Contractor's Shed

Temporary Structures: A contractor's shed must be constructed for site operations, ensuring safety measures are in place when near live wires. The shed must be removed

once construction is completed.

2.3 Important Considerations

The Provisions specify operational hours for construction activities to mitigate disturbances, particularly on weekends and public holidays.
Soil quality must comply with KS ISO 11074, and testing methods must follow KS 999 standards.

The approving authority can demand compliance and may investigate if construction does not adhere to the Provisions outlined.

2.4 Conclusion

This part emphasizes on the necessity for safety, environmental protection, and public health in construction practices. Owners are held accountable for maintaining site boundaries, managing public utility impacts, and ensuring sanitary conditions for workers. Compliance with these Provisions is crucial for successful construction project management and community safety.

3.0 PART V - BUILDING MATERIALS

This part comprises paragraphs 58 to 59 of the Code.

It outlines the provisions governing the use of building materials in construction works. It specifies the standards required for materials to ensure they are suitable, adequately prepared, and properly applied. It also addresses using used materials, emphasizing compliance with performance requirements.

3.1 Key Points

a. Material Suitability
All construction materials must be appropriate for their intended purpose.

b. Preparation Standards
Materials must be adequately mixed or prepared to function effectively.

c. Application Methods
Materials should be applied or fixed in a manner that ensures they perform their designated functions.

d. Compliance with Standards
The use of materials and methods must adhere to the established standards and codes of practice.

e. Performance of Used Materials Used materials can only be utilized if they meet the performance requirements set by relevant standards.

3.2 Detailed Breakdown

a. Material Suitability

The regulation stipulates that construction materials must be of suitable nature and quality for their intended use. This requirement ensures that the materials can withstand the stresses and conditions they will encounter during their lifecycle.

b. Preparation Standards

Materials must be adequately mixed or prepared. This means that the processes involved in creating the materials should follow specific guidelines to ensure that they can effectively perform their functions. This section emphasizes the importance of proper preparation in achieving the desired performance outcomes.

c. Application Methods

The provisions require that materials be applied, used, or fixed in a manner that allows them to adequately perform their intended functions. This includes considerations of installation techniques and the conditions under which materials are applied, ensuring that they are used effectively in construction.

d. Compliance with Standards

All materials and methods used in construction must conform to the standards and codes of practice developed under the Standards Act. In cases where multiple standards exist, compliance with the latest edition and any published amendments is necessary. This requirement reinforces the importance of using up-to-date practices to ensure safety and effectiveness in construction.

e. Performance of Used Materials

The use of previously utilized materials is restricted to those that meet the performance requirements set by relevant standards under the Standards Act. This clause ensures that reused materials do not compromise the integrity or safety of construction projects.

f. Important Considerations

The provisions emphasize the importance of quality and suitability in construction materials, which directly impacts the safety and durability of buildings.

Compliance with the latest standards is crucial; this ensures that construction practices evolve with advancements in technology and safety protocols.

The performance requirements for used materials serve to maintain high standards in construction, preventing the use of subpar or potentially hazardous materials.

3.3 Conclusion

The provisions surrounding building materials are designed to ensure safety, quality, and compliance in construction practices. By mandating that materials be suitable, properly prepared, and correctly applied, the provisions aim to uphold high standards in the construction industry. Furthermore, the emphasis on adherence to established

standards and the careful use of reused materials highlights the importance of maintaining integrity and performance in all construction works. Overall, these provisions are critical in ensuring that construction projects are safe, durable, and reliable.

4.0 PART XXIII - DISASTER RISK MANAGEMENT ON CONSTRUCTION SITES

This part comprises paragraphs 462 to 495 of the Code.
It outlines comprehensive provisions for disaster risk management on construction sites in Kenya. It emphasizes the responsibilities of owners, contractors, and other stakeholders to ensure health and safety throughout all phases of construction, from planning to execution. The guidelines aim to minimize risks associated with construction activities and ensure compliance with safety standards.

Further, it also emphasizes the importance of inspections, emergency preparedness, and the implementation of safety measures to protect workers from hazards such as drowning, vehicle movement, fire, and inadequate air quality.

4.1 Key Points

a. General Principles of Disaster Prevention
All stakeholders must consider disaster prevention principles throughout the project lifecycle.

b. Coordination of Activities
There is a strong emphasis on the coordination of activities among all parties involved to ensure health and safety.

c. Preconstruction Information
Owners are required to provide contractors with essential preconstruction information, including site conditions and safety issues.

d. Health and Safety File
Owners must maintain a health and safety file that documents all relevant safety information related to the project.

Safety Measures on Site: Specific measures are mandated to ensure safe working conditions, including scaffolding, ladders, and site access.

e. Inspection Reporting
Engineers must report safety concerns immediately and submit a detailed report within 24 hours.

f. Drowning Prevention
Measures must be implemented to prevent falls into water and ensure effective rescue operations.

g. Traffic Management
Construction sites must be organized to ensure safe movement for pedestrians and vehicles.

h. Emergency Preparedness
Owners are required to develop and implement emergency plans and ensure clear emergency exits.

i. Health and Safety Measures
Adequate air quality, temperature control, and firefighting equipment must be maintained on site.

4.2 Detailed Breakdown
1. General Principles of Disaster Prevention
All individuals involved in a construction project are obligated to integrate disaster prevention strategies into their work processes. This includes understanding potential hazards and implementing measures to mitigate risks.

2. Coordination of Activities
Effective communication and coordination among all parties—such as owners, contractors, and subcontractors— are crucial. This coordination should focus on safeguarding the health and safety of all personnel engaged in or affected by the construction activities.

3. Preconstruction Information
Owners must ensure that contractors receive timely and comprehensive preconstruction information, which covers:

1. Site conditions and potential hazards.
2. Intended use of the structure as a workplace.
3. Timeframes for planning and preparation.
4. Existing health and safety issues.

4. Health and Safety File
A health and safety file is mandatory for all projects, containing:

1. Descriptions of construction activities.
2. Identifie hazards and mitigation strategies.
3. Structural safety principles. iv. Details of hazardous materials and equipment maintenance.

The file must be accessible for inspection and updated regularly, especially after project completion.

5. Safety Measures on Site
The provisions specify numerous safety measures, including:
Scaffolding: Must be erected under supervision and inspected by an engineer to ensure safety.
Ladders: Must be constructed from sound materials and maintained in good condition.
Working Platforms: Requirements for width and safety measures to prevent falls. iv. Guarding: Required for elevated platforms to prevent falls of personnel and materials.

6. Inspection Reporting
Engineers conducting inspections must inform the requesting party immediately if

safety concerns arise and prepare a report within 24 hours.
Reports must be maintained at the construction site until project completion and for three months thereafter, available for review by the approving authority.

7. Drowning Prevention

Construction sites with potential drowning hazards must implement measures to prevent falls, minimize drowning risks, and ensure prompt rescue capabilities.

Safe transport methods over water must be established, ensuring vessels are not overcrowded.

8. Traffic Management

Contractors must design construction sites to allow safe movement for both pedestrians and vehicles, with clearly defined traffic routes.

Traffic routes should be adequately signed, maintained, and regularly checked to prevent accidents.

Separation between pedestrians and vehicles is essential, with provisions for warning systems where necessary.

9. Emergency Preparedness

Owners must create emergency plans that include evacuation procedures tailored to the specific site characteristics and potential hazards.

Emergency routes and exits must lead directly to safe areas, remain unobstructed, and be clearly marked with appropriate signage.

10. Health and Safety Measures

Construction sites must ensure sufficient fresh air and maintain reasonable indoor temperatures.

Workers must be provided with protective clothing against adverse weather conditions.

Adequate firefighting equipment and alarm systems must be installed, maintained, and accessible, with workers trained in their use.

Construction sites must have sufficient lighting, both natural and artificial, to maintain visibility and safety.

4.3 Important Considerations

Contractors are prohibited from commencing work unless the owner is aware of their responsibilities under the safety code.

Specific safety protocols must be followed for scaffolding, ladders, and working platforms, including dimensions and materials used.

In cases of demolition and the use of explosives, clear plans must be prepared and approved by the relevant authorities to ensure safety.

Engineers are mandated to communicate safety concerns promptly and provide written documentation of inspections.

Specific measures for drowning prevention include the provision of rescue equipment and safe transport protocols.

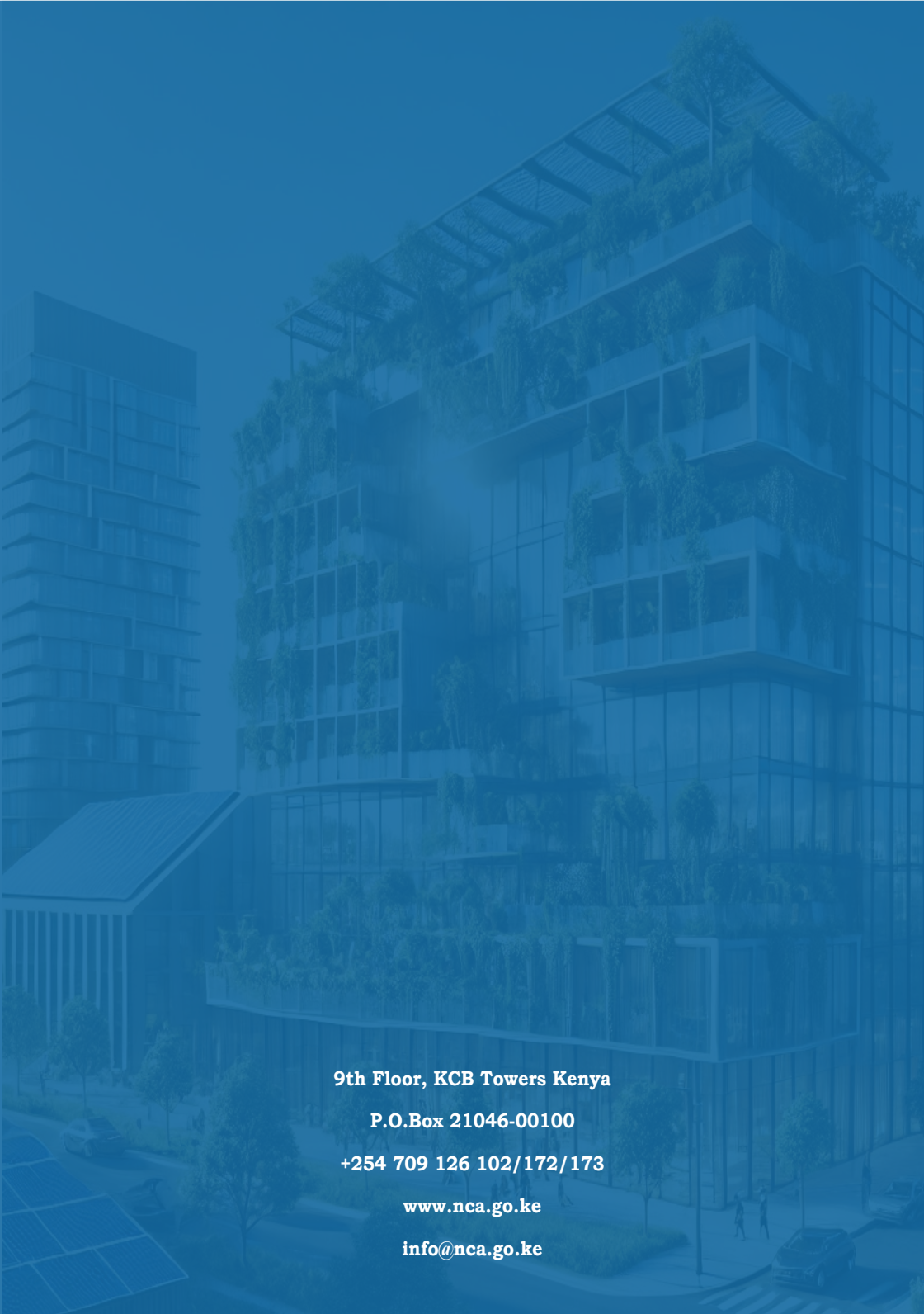
Provisions require that traffic routes are designed to prevent accidents and ensure clear visibility for pedestrians and vehicle operators.

Emergency plans must consider the number of individuals on site and the nature of work being conducted.

Health and safety provisions address air quality, temperature control, and the necessity of firefighting measures, emphasizing the need for regular maintenance and training.

4.4 Conclusion

The outlined provisions serve to create a safer construction environment by mandating a structured approach to disaster risk management. Key responsibilities are placed on owners and contractors to ensure that all safety measures are in place, communicated effectively, and adhered to throughout the construction process. By fostering a culture of safety and coordination, these guidelines aim to significantly reduce the risks associated with construction activities in Kenya.



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